

# **Directional Cartridges**

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DLVB	2-way, solenoid-operated directional, Digital Logic Valve - pilot
DLDA	2-way, solenoid-operated directional spool
DLDB	Value Series, 2-way, solenoid-operated directional spool valve - 3600 psi (250
DTDA	2-way, direct-acting, solenoid-operated directional poppet4 valve
DTDB	Value Series, 2-way, solenoid-operated directional poppet - valve 3600 psi (2505 bar)
DTCA	2-way, direct-acting, solenoid-operated directional poppet valve with
DFCA	2-way, 2 stage, solenoid-operated directional poppet valve - flow 1
DFDA	2-way, 2 stage, solenoid-operated directional poppet valve - flow 1
DFEA	2-way, 2 stage, solenoid-operated directional poppet valve - flow 19
DFFA	2-way, 2 stage, solenoid-operated directional poppet valve - flow 1
DFCB	2-way, 2 stage, solenoid-operated directional poppet valve - flow 211
DFDB	2-way, 2 stage, solenoid-operated directional poppet valve - flow 2
DFEB	2-way, 2 stage, solenoid-operated directional poppet valve - flow 2
DFFB	2-way, 2 stage, solenoid-operated directional poppet valve - flow 214
DACC	2-way, 2 stage, solenoid-operated directional poppet15 valve
DAAA	2-way, solenoid-operated directional spool valve - pilot
DAAL	2-way, solenoid-operated directional spool valve - pilot
DLDAZ	2-way, solenoid-operated directional spool valve with position
DTCAZ	2-way, direct-acting, solenoid-operated directional poppet valve with overlap and
DLDAS	2-way, soft shift, solenoid-operated directional spool



DTDAS	2-way, direct-acting, soft shift, solenoid-operated directional poppet	21
DAALS	2-way, soft shift, solenoid-operated directional spool valve - pilot	22
HDDA	2-way, solenoid-operated directional poppet valve - after	23
DWDM	3-way, manually-operated, directional poppetvalve	24
DMDA	3-way, solenoid-operated directional spool valve	25
DMDB	Value Series, 3-way, solenoid-operated directional spool valve - 3600 psi (250 bar)	26
DWDA	3-way, direct-acting, solenoid-operated directional poppet	27
DWDB	Value Series, 3-way, direct-acting, solenoid-operated directional poppet valve - 3600 psi (250 bar)	
DBAA	3-way, solenoid-operated directional spool valve - pilot	29
DBAL	3-way, solenoid-operated directional spool valve - pilot	30
DMDAZ	3-way, solenoid-operated directional spool valve with position	31
DMDM	3-way, manually-operated, directional spool	32
DMDAS	3-way, soft shift, solenoid-operated directional spool	33
DBALS	3-way, soft shift, solenoid-operated directional spool valve - pilot	34
DNDA	4-way, 2-position, solenoid-operated directional spool	35
DNDB	Value Series, 4-way, 2-position, solenoid-operated directional spool valve - 3600 psi (250 bar)	36
DNCA	4-way, 2-position, solenoid-operated directional spool valve with closed	37
DNDC	4-way, 3-position, solenoid-operated directional spool	38
DNCAZ	4-way, 2-position, solenoid-operated directional spool valve with closed transition and position switch	
DNDAS	4-way, 2-position, soft shift, solenoid-operated directional spool valve	40



DNDY	2-position, 6-way, solenoid-operated directional spool41 valve
DNDYS	2-position, 6-way, soft shift, solenoid-operated directional spool
DTDM	2-way, manually-operated, directional poppet43 valve
DTCM	2-way, manually-operated, directional poppet valve with
DAAH	2-way, hydraulically-operated, spool directional valve - pilot
DBAH	3-way, hydraulically-operated, spool directional valve - pilot
DLDM	2-way, manually-operated, directional spool
DAAP	2-way, air-operated, spool directional valve - pilot
DBAP	3-way, air-operated, spool directional valve - pilot
DFCA8	2-way, poppet directional valve with integral T-8A control cavity - control 150 2
DFDA8	2-way, poppet directional valve with integral T-8A control cavity - control 151 2
DFEA8	2-way, poppet directional valve with integral T-8A control cavity - control 152
DFFA8	2-way, poppet directional valve with integral T-8A control cavity - control 153 2
DAAM	2-way, manually-operated, spool directional valve - pilot54 capacity
DFCB8	2-way, poppet directional valve with integral T-8A control cavity - control 255
DFDB8	2-way, poppet directional valve with integral T-8A control cavity - control 2
DFEB8	2-way, poppet directional valve with integral T-8A control cavity - control 257
DPBP	3-way, pilot operated, directional valve with drain to port 4 (1 to 2 open, 3
DPCP	3-way, pilot operated, directional valve with drain to port 4 (1 to 2 open, 3
DRBP	3-way, direct-acting, directional valve with drain to port 4 (1 to 2 open, 360 blocked)



DVBP	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control61 cavity (1 to 2 open, 3 blocked)
DVCP	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBPX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 to 2 open, 363 blocked)
FTCG	3-way, 2-position, proportional directional
FTDG	3-way, 2-position, proportional directional
CSAN	Insert style, single ball shuttle valve with signal at port66 2
CSZN	Insert style, single ball shuttle valve with signal at port67
DBAM	3-way, manually-operated, spool directional valve - pilot
DRBR	3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 269 blocked)
DRBRX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (3 to 4 open,
DRCR	3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 271 blocked)
FTCB	3-way, 3-position, proportional directional
FTDB	3-way, 3-position, proportional directional
FTCH	3-way, 3-position, proportional directional valve with center bleed74 down
FTDH	3-way, 3-position, proportional directional valve with center bleed
FTEH	3-way, 3-position, proportional directional valve with center bleed
FTFH	3-way, 3-position, proportional directional valve with center bleed77 down
FTHH	3-way, 3-position, proportional directional valve with center bleed
СХАА	Free flow nose to side check valve - pilot
СХВА	Free flow nose to side check



CXDA	Free flow nose to side check valve	
CXFA	Free flow nose to side check valve	
СХНА	Free flow nose to side check valve	
СХЈА	Free flow nose to side check valve	
СХКА	Free flow nose to side check valve	
CXZA	Free flow nose to side check valve	
CXAD	Free flow side to nose check valve	
CXCD	Free flow side to nose check valve	
CXED	Free flow side to nose check valve	
CXGD	Free flow side to nose check valve	
CXID	Free flow side to nose check valve	
CXBG	Flush mount, free flow nose to sic valve	le check92
CNBC	Free flow nose to side check valv orifice	e with bypass93
CNDC	Free flow nose to side check valv orifice	e with bypass94
CNFC	Free flow nose to side check valv orifice	e with bypass95
CNHC	Free flow nose to side check valv orifice	e with bypass96
CNJC	Free flow nose to side check valv orifice	e with bypass97
CNKC	Free flow nose to side check valv orifice	e with bypass98
CDAP	Mechanically-operated, back-to-b valve	ack check
CDAQ	Mechanically-operated, back-to-b valve	ack check



CXDC	Free flow nose to side check valve with port 3 blocked	
CXFC	Free flow nose to side check valve with port 3 blocked	
СХНС	Free flow nose to side check valve with port 3 blocked	
СХЈС	Free flow nose to side check valve with port 3 blocked	
CXCE	Free flow side to nose check valve with port 3 blocked	
CXEE	Free flow side to nose check valve with port 3 blocked	
CXGE	Free flow side to nose check valve with port 3 blocked	
CXIE	Free flow side to nose check valve with port 3 blocked	
CNCD	Free flow side to nose check valve with bypass orifice blocked	e and port 3109
CNED	Free flow side to nose check valve with bypass orifice blocked	e and port 3110
CNGD	Free flow side to nose check valve with bypass orifice blocked	e and port 3111
CNID	Free flow side to nose check valve with bypass orifice blocked	e and port 3112
DKDC	Normally closed, balanced poppet, logic element - pilo open	ot-to
DKDS	Normally closed, balanced poppet, logic element - pilo open	ot-to114
DKFC	Normally closed, balanced poppet, logic element - pile open	ot-to
DKFS	Normally closed, balanced poppet, logic element - pile open	ot-to
DKHC	Normally closed, balanced poppet, logic element - pilo open	ot-to
DKHS	Normally closed, balanced poppet, logic element - pilo open	ot-to
DKJC	Normally closed, balanced poppet, logic element - pilo open	ot-to
DKJS	Normally closed, balanced poppet, logic element - pilo	ot-to



DKDD	Normally closed, balanced poppet, logic element - vent-to- open	
DKDR	Normally closed, balanced poppet, logic element - vent-to- open	
DKFD	Normally closed, balanced poppet, logic element - vent-to- open	
DKFR	Normally closed, balanced poppet, logic element - vent-to- open	
DKHD	Normally closed, balanced poppet, logic element - vent-to- open	
DKHR	Normally closed, balanced poppet, logic element - vent-to- open	
DKJD	Normally closed, balanced poppet, logic element - vent-to- open	
DKJR	Normally closed, balanced poppet, logic element - vent-to- open	
DODC	Normally open, balanced poppet, logic element - pilot-to- close	
DODS	Normally open, balanced poppet, logic element - pilot-to- close	
DOFC	Normally open, balanced poppet, logic element - pilot-to- close	
DOFS	Normally open, balanced poppet, logic element - pilot-to- close	
DOHC	Normally open, balanced poppet, logic element - pilot-to- close	
DOHS	Normally open, balanced poppet, logic element - pilot-to- close	
DOJC	Normally open, balanced poppet, logic element - pilot-to- close	
DOJS	Normally open, balanced poppet, logic element - pilot-to- close	
DODD	Normally open, balanced poppet, logic element - vent-to- close	
DODR	Normally open, balanced poppet, logic element - vent-to- close	
DOFD	Normally open, balanced poppet, logic element - vent-to- close	
DOFR	Normally open, balanced poppet, logic element - vent-to- close	



DOHD	Normally open, balanced poppet, logic element - vent-to- close
DOHR	Normally open, balanced poppet, logic element - vent-to- close
DOJD	Normally open, balanced poppet, logic element - vent-to- close
DOJR	Normally open, balanced poppet, logic element - vent-to- close
LODC	Pilot-to-close, spring biased closed, unbalanced poppet logic145 element
LOFC	Pilot-to-close, spring biased closed, unbalanced poppet logic146 element
LOHC	Pilot-to-close, spring biased closed, unbalanced poppet logic147 element
LOJC	Pilot-to-close, spring biased closed, unbalanced poppet logic
LOKC	Pilot-to-close, spring biased closed, unbalanced poppet logic149 element
LODA	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source150 from port 1
LOFA	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source151 from port 1
LOHA	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOJA	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOKA	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source154 from port 1
LODB	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source155 from port 2
LOFB	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOHB	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOJB	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOKB	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LODD	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source



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LOFD	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOHD	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source162 from port 1 or 2
LOJD	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source163 from port 1 or 2
LOKD	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source164 from port 1 or 2
LODA8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source165 from port 1 and integral T-8A control cavity
LOFA8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source166 from port 1 and integral T-8A control cavity
LOHA8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source167 from port 1 and integral T-8A control cavity
LOJA8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source168 from port 1 and integral T-8A control cavity
LOKA8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source169 from port 1 and integral T-8A control cavity
LODB8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source170 from port 2 and integral T-8A control cavity
LOFB8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source171 from port 2 and integral T-8A control cavity
LOHB8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOJB8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
LOKB8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source
СКВВ	Pilot-to-open check valve with standard
CKBG	Flush mount pilot-to-open check valve with sealed
СКСВ	Pilot-to-open check valve with standard
CKEB	Pilot-to-open check valve with standard
CKGB	Pilot-to-open check valve with standard
CKIB	Pilot-to-open check valve with standard



LODD8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source		
LOFD8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source		
LOHD8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source		
LOJD8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source		
LOKD8	Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source		
CKBD	Pilot-to-open check valve with sealed		
CKCD	Pilot-to-open check valve with sealed		
CKED	Pilot-to-open check valve with sealed		
CKGD	Pilot-to-open check valve with sealed		
CKID	Pilot-to-open check valve with sealed		
LODO	Pilot-to-close, spring biased open, unbalanced poppet logic		
LOFO	Pilot-to-close, spring biased open, unbalanced poppet logic		
LOHO	Pilot-to-close, spring biased open, unbalanced poppet logic		
LOJO	Pilot-to-close, spring biased open, unbalanced poppet logic		
LOKO	Pilot-to-close, spring biased open, unbalanced poppet logic		
CVCV	Vented pilot-to-open check		
CVEV	Vented pilot-to-open check		
CVGV	Vented pilot-to-open check		
CVIV	Vented pilot-to-open check		
LOFOZ	Pilot-to-close, spring biased open, unbalanced poppet logic element with position		



LOHOZ	Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch	201
LOJOZ	Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch	
LOKOZ	Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch	
CKCV	Vented pilot-to-open check valve - atmospherically	204
CKEV	Vented pilot-to-open check valve - atmospherically	205
CKGV	Vented pilot-to-open check valve - atmospherically	206
CKIV	Vented pilot-to-open check valve - atmospherically	207
CNCE	Pilot-to-open check valve with bypass	208
CNEE	Pilot-to-open check valve with bypass	209
CNGE	Pilot-to-open check valve with bypass	210
LKDC	Pilot-to-open, spring biased closed, unbalanced poppet logic	211
LKFC	Pilot-to-open, spring biased closed, unbalanced poppet logic	212
LKHC	Pilot-to-open, spring biased closed, unbalanced poppet logic	213
LKJC	Pilot-to-open, spring biased closed, unbalanced poppet logic	214
LKFCZ	Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch	215
LKHCZ	Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch	216
LKJCZ	Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch	217
LOFCZ	Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch	218
LOHCZ	Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch	219
LOJCZ	Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch	



LOKCZ	Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch	221
LOECZ	Pilot-to-close, spring biased closed, unbalanced poppet logic element with metering notches and position switch	222
LOGCZ	Pilot-to-close, spring biased closed, unbalanced poppet logic element with metering notches and position switch	223
DKDR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	224
DKFR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	225
DKHR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	226
DKJR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	227
СОВА	Pilot-to-close check	228
COBG	Pilot-to-close check valve	229
CODA	Pilot-to-close check valve	230
COFA	Pilot-to-close check	231
СОНА	Pilot-to-close check valve	232
COJA	Pilot-to-close check valve	233
СОКА	Pilot-to-close check valve	234
DKDP	Normally closed, balanced poppet, logic element - pressure	235
DKFP	Normally closed, balanced poppet, logic element - pressure	236
DKHP	Normally closed, balanced poppet, logic element - pressure	237
DKJP	Normally closed, balanced poppet, logic element - pressure	238
CNFE	Pilot-to-close check valve with bypassorifice	239
CNHE	Pilot-to-close check valve with bypassorifice	240



CNJE	Pilot-to-close check valve with bypass
CODD	20:1 ratio, pilot-to-close check
COFO	120:1 ratio, pilot-to-close check243 valve
DODR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
DOFR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
DOHR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
DOJR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
FTCK	3-way, 3-position, proportional directional valve with center bleed down and load
FTDK	3-way, 3-position, proportional directional valve with center bleed down and load
FTEK	3-way, 3-position, proportional directional valve with center bleed down and load
FTFK	3-way, 3-position, proportional directional valve with center bleed down and load
DODP	Normally open, balanced poppet, logic element - pressure
DOFP	Normally open, balanced poppet, logic element - pressure
DOHP	Normally open, balanced poppet, logic element - pressure
DOJP	Normally open, balanced poppet, logic element - pressure
CSAA	Single ball shuttle valve with signal
CSAW	Single ball shuttle valve with signal
CSAC	Single ball shuttle valve with signal at port258 2
CSAD	Single ball shuttle valve with signal at port259 2
CSAY	Single ball shuttle valve with signal at port260 2



CSAZ	Single ball shuttle valve with signal at port261 2
CDAA	Back-to-back check/shuttle valve with signal
CDAC	Back-to-back check/shuttle valve with signal at port263 2
CDAD	Back-to-back check/shuttle valve with signal at port264 2
CSAB	Single ball shuttle valve with signal at port265 3
CSAX	Single ball shuttle valve with signal at port266 3
CDAB	Back-to-back check/shuttle valve with signal at port267 3
DSCH	Low side, 3-position, hot oil shuttle
DSEH	Low side, 3-position, hot oil shuttle
DSGH	Low side, 3-position, hot oil shuttle270 valve
DSIH	Low side, 3-position, hot oil shuttle
DSDD	Low side, 3-position, hot oil shuttle valve with delayed272 shift
DSFD	Low side, 3-position, hot oil shuttle valve with delayed273 shift
DSCL	Direct-acting, low side, 3-position, shuttle
DSCS	High side, 3-position, shuttle
DSES	High side, 3-position, shuttle
DSGS	High side, 3-position, shuttle
DSIS	High side, 3-position, shuttle
DSCO	Spring offset, 2-position, high side shuttle
DSEO	Spring offset, 2-position, high side shuttle



DSGO	Spring offset, 2-position, high side shuttle
DSIO	Spring offset, 2-position, high side shuttle
DSCY	3-way, 2-position, vent-to-shift diverter valve, normally
DSEY	3-way, 2-position, vent-to-shift diverter valve, normally
DSGY	3-way, 2-position, vent-to-shift diverter valve, normally
DSIY	3-way, 2-position, vent-to-shift diverter valve, normally
DSCX	3-way, 2-position, vent-to-shift diverter valve, normally
DSEX	3-way, 2-position, vent-to-shift diverter valve, normally
DSGX	3-way, 2-position, vent-to-shift diverter valve, normally
DSIX	3-way, 2-position, vent-to-shift diverter valve, normally
DDDG	3-way, 2-position, pilot-to-shift, directional
DDFG	3-way, 2-position, pilot-to-shift, directional
DDHG	3-way, 2-position, pilot-to-shift, directional
DPBA	2-way, pilot operated, directional valve with internal drain to port 3 - normally
DPCA	2-way, pilot operated, directional valve with internal drain to port 3 - normally
DRBA	2-way, direct-acting, directional valve with internal drain to port 3 - normally
DVBA	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DVCA	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DPBB	2-way, pilot operated, directional valve with internal drain to port 3 - normally
DPCB	2-way, pilot operated, directional valve with internal drain to port 3 - normally



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DRBB	2-way, direct-acting, directional valve with internal drain to port 3 - normally
DVBB	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DVCB	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DPBM	2-way, pilot operated, directional valve with drain to port 4 - normally
DPCM	2-way, pilot operated, directional valve with drain to port 4 - normally
DRBM	2-way, direct-acting, directional valve with drain to port 4 - normally
DVBM	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DVCM	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBMX	2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally
DRAY	2-way, pilot-to-shift directional valve with drain to port 4 - normally
DPBN	2-way, pilot operated, directional valve with drain to port 4 - normally
DPCN	2-way, pilot operated, directional valve with drain to port 4 - normally
DRBN	3-way, direct-acting, directional valve with drain to port 4 - normally
DVBN	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DVCN	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBNX	2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally
DRAX	2-way, pilot-to-shift directional valve with drain to port 4 - normally
DPBC	3-way, pilot operated, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DPCC	3-way, pilot operated, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DRBC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3



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DRCC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3			
DVBC	open) 3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A			
DVCC	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A			
DPBD	3-way, pilot operated, directional valve with internal drain to port 3 (1 to 2 open, 3			
DPCD	3-way, pilot operated, directional valve with internal drain to port 3 (1 to 2 open, 3			
DRBD	3-way, direct-acting, directional valve with internal drain to port 3 (1 to 2 open, 3			
DVBD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A			
DVCD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A			
DPBO	3-way, pilot operated, directional valve with drain to port 4 (1 blocked, 2 to 3			
DPCO	3-way, pilot operated, directional valve with drain to port 4 (1 blocked, 2 to 3			
DRBO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3			
DRCO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3			
DVBO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control			
DVCO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control			
DRBOX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 blocked, 2 to			
DNDM	4-way, manually-operated, directional spool			
DCCF	4-way, 2-position, pilot-to-shift directional			
DCDF	4-way, 2-position, pilot-to-shift directional			
DCEF	4-way, 2-position, pilot-to-shift directional			
DCFF	4-way, 2-position, pilot-to-shift directional			



DCCD	4-way, 2-position, pilot-to-shift, detented, directiona valve	al341
DCDD	4-way, 2-position, pilot-to-shift, detented, directiona valve	al342
DCED	4-way, 2-position, pilot-to-shift, detented, directiona valve	al343
DCFD	4-way, 2-position, pilot-to-shift, detented, directiona valve	al344
DCCC	4-way, 3-position, pilot-to-shift directional	
DCDC	4-way, 3-position, pilot-to-shift directional	
DCEC	4-way, 3-position, pilot-to-shift directional	
DCFC	4-way, 3-position, pilot-to-shift directional	
DDDC	4-way, 3-position, pilot-to-shift directional	
DDFC	4-way, 3-position, pilot-to-shift directional	
DDHC	4-way, 3-position, pilot-to-shift directional	
FTCC	4-way, 3-position, meter in proportional directional valve	
FTDC	4-way, 3-position, meter in proportional directional valve	
FTEC	4-way, 3-position, meter in proportional directional valve	
FTFC	4-way, 3-position, meter in proportional directional valve	
FTHC	4-way, 3-position, meter in proportional directional valve	
СХВМ	Insert style, free flow nose to side check	



### Cavity Information

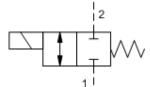
Series	Ports	Cavities
Series Z Cartridges	2-Port	T-382A
3/8-24 UNF Cartridge Thread		
5 mm Valve Hex Size		
11 - 14 Nm Valve Installation Torque		
Series P Cartridges	2-Port	T-8A
M16 Cartridge Thread	2-Port (Deep)	T-8DP
22.2 mm Valve Hex Size	3-Port	T-9A
7 - 33 Nm Valve Installation Torque		
Series 0 Cartridges	2-Port	T-162A
M16 Cartridge Thread	2-Port (Deep)	T-162DP
L9.1 mm Valve Hex Size	3-Port	T-163A
25,4 mm Valve Hex Size		
7 - 33 Nm Valve Installation Torque		
Series 1 Cartridges	2-Port	T-10A
M20 Cartridge Thread	2-Port	T-13A
22.2 mm Valve Hex Size	3-Port	T-11A
41 - 47 Nm Valve Installation Torque	4-Port	T-21A
	4-Port	T-31A
	6-Port	T-61A
Series 2 Cartridges	2-Port	T-3A
L"-14 UNS Cartridge Thread	2-Port	T-5A
8,6 mm Valve Hex Size	3-Port 4-Port	T-2A T-22A
51 - 68 Nm Valve Installation Torque	4-Port	T-32A
	4-Port (Dual path)	T-52AD
	6-Port	T-52A
	6-Port	T-62A
Series 3 Cartridges	2-Port	T-16A
V36 Cartridge Thread	3-Port	T-17A
31,8 mm Valve Hex Size	4-Port	T-23A
203 - 217 Nm Valve Installation Torque	4-Port	T-33A
·	4-Port (Dual path) 6-Port	T-53AD T-53A
	6-Port	T-53A T-63A
	UPP OIL	1-00A
Series 4 Cartridges	2-Port	T-18A
M48 Cartridge Thread	2-Port (Undercut)	T-18AU
11,3 mm Valve Hex Size	3-Port	T-19A
74 - 508 Nm Valve Installation Torque	3-Port (Undercut) 4-Port	T-19AU
	4-Port 4-Port (Undercut)	T-24A T-24AU
	4-Port (Ondercut)	T-34A
	4-Port (Dual path)	T-54AD
	6-Port	T-54A
	6-Port	T-64A



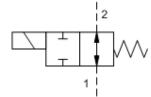
2-way, solenoid-operated directional, Digital Logic Valve - pilot capacity SERIES P / CAPACITY: 1 L/min. / CAVITY: T-8A



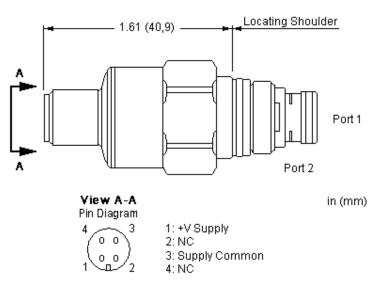
snhy.com/DLVB



X-Control, C-Spool



X-Control, H-Spool



This high-speed, low-power, solenoid-operated, 2-way, 2-position cartridge is a direct-acting, balanced-spool, pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot-operated and ventable valves to provide integrated pilot control.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@350 bar	
Switching Frequency 13 Hz		
Response Time - Normally Closed Spool	12 ms	
Response Time - Normally Open Spool	9 ms	
Seal kit - Cartridge	Buna: 990708007	
Seal kit - Cartridge	Viton: 990708006	

### **CONFIGURATION OPTIONS**

### Model Code Example: DLVBXCNM12

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) CONNECTOR	(M)
X Standard	C Normally Closed	N Buna-N	<b>M</b> M12 4 pin	
	H Normally Open	E EPDM	VOLTAGE	(12)
		V Viton	12 12 VDC	
			Standard Material/Coa	itina

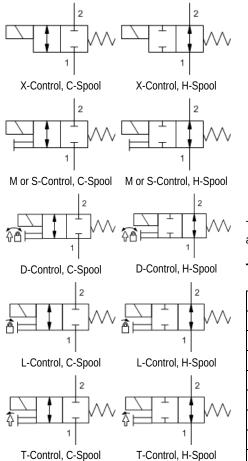
Standard Material/Coating *ILH* Mild Steel, Zinc-Nickel 24 24 VDC

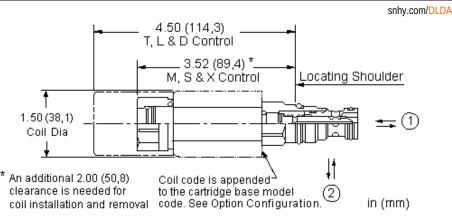


MODEL

2-way, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 45 L/min. / CAVITY: T-13A







This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The valve is available in either a normally open or normally closed configuration.

#### **TECHNICAL DATA**

Maximum Operating Pressure 350 bar		
Response Time - Typical 50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt) 80 cc/min.@210 bar		
Switching Frequency	15000 cycles/hr	
Manual Override Force Requirement	33 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm	
Seal kit - Cartridge	Buna: 990413007	
Seal kit - Cartridge	EPDM: 990413014	
Seal kit - Cartridge	Viton: 990413006	

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DLDAXCN

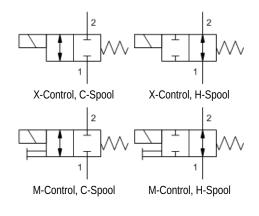
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
M Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override				V Viton		224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Overrid	е					712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	è					724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional coil options are available

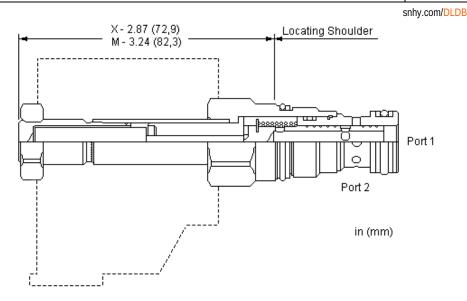
#### MATERIAL/COATING

Standard Material/Coating

## sun hydraulics

MODEL DLDB Value Series, 2-way, solenoid-operated directional spool valve - 3600 psi (250 bar) SERIES 1 / CAPACITY: 45 L/min. / CAVITY: T-13A





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The valve is available in either a normally open or normally closed configuration.

#### **TECHNICAL DATA**

Maximum Operating Pressure 250 bar		
Response Time - Typical 50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt) 50 cc/min.@210 bar		
Switching Frequency 15000 cycles/hr		
Manual Override Force Requirement 66 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm	
Seal kit - Cartridge	Buna: 990010007	
Seal kit - Cartridge	Viton: 990010006	

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

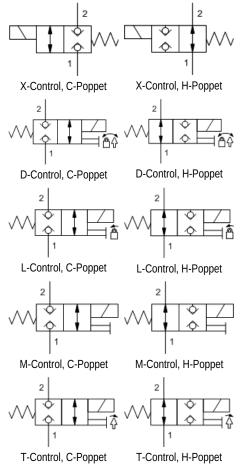
#### Model Code Example: DLDBXCN

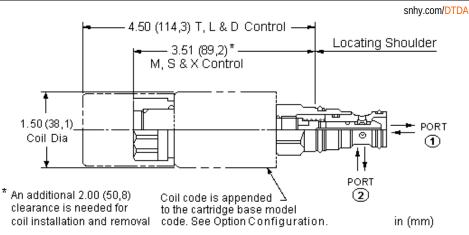
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>
X No Manual Override	C Normally Closed	N Buna-N	No coil
M Manual Override	H Normally Open	V Viton	* Additional coil options are available



2-way, direct-acting, solenoid-operated directional poppet valve SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-13A







This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is available in either a normally open or normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

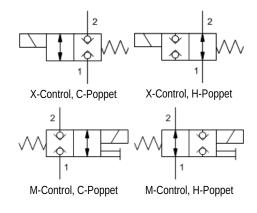
### Model Code Example: DTDAXCN

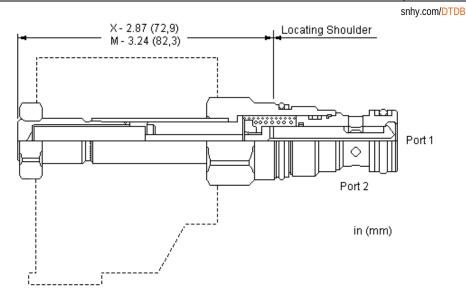
CONTROL	(X)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	е			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override						712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override						724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional coil options are available

## sun hydraulics

MODEL DTDB







This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is available in either a normally open or normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

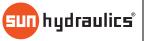
#### **TECHNICAL DATA**

Maximum Operating Pressure	250 bar		
Response Time - Typical	50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@210 bar		
Switching Frequency	15000 cycles/hr		
Manual Override Force Requirement	66 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm		
Seal kit - Cartridge	Buna: 990413007		
Seal kit - Cartridge	EPDM: 990413014		
Seal kit - Cartridge	Polyurethane: 990413002		
Seal kit - Cartridge	Viton: 990413006		

#### **CONFIGURATION OPTIONS**

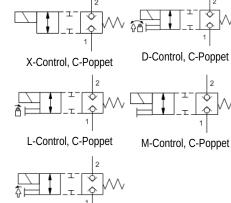
#### Model Code Example: DTDBXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
X No Manual Override	C Normally Closed	N Buna-N	No coil
M Manual Override	H Normally Open	E EPDM	* Additional coil options are available
		V Viton	·

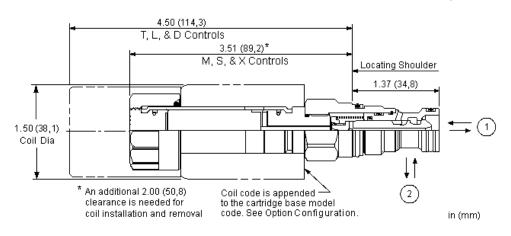




snhv.com/DTCA



T-Control, C-Poppet



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

### **TECHNICAL DATA**

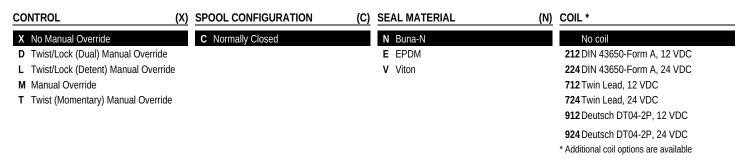
Maximum Operating Pressure	350 bar		
Response Time - Typical	50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Switching Frequency	15000 cycles/hr		
Manual Override Force Requirement	33 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm		
Seal kit - Cartridge	Buna: 990413007		
Seal kit - Cartridge	Polyurethane: 990413002		
Seal kit - Cartridge	Viton: 990413006		

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

### Model Code Example: DTCAXCN







snhy.com/DFCA

PORT

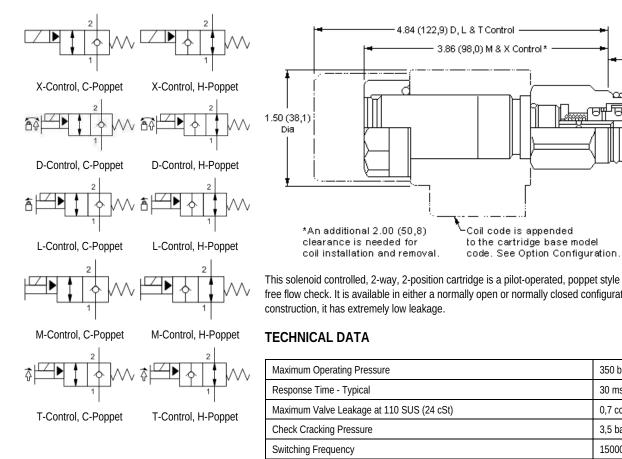
 $(\mathbf{n})$ 

in (mm)

Locating Shoulder

PORT 2

ਸ



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

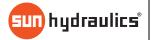
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

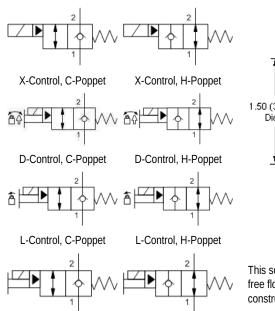
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFCAXCN

CONTROL	(X)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Overrid	е			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override						712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	)					724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional coil options are available

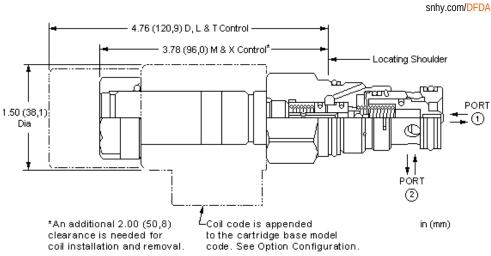






M-Control, H-Poppet

T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

M-Control, C-Poppet

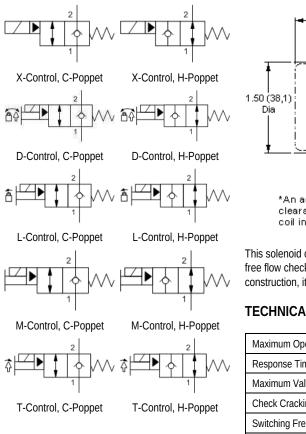
T-Control, C-Poppet

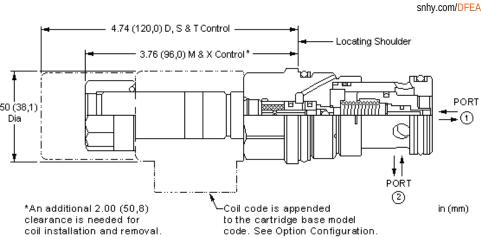
#### Model Code Example: DFDAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *	
X No Manual Override	C Normally Closed	N Buna-N	No coil	
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VD	C
L Twist/Lock (Detent) Manual Overrid	e	V Viton	224 DIN 43650-Form A, 24 VD	C
M Manual Override			712 Twin Lead, 12 VDC	
T Twist (Momentary) Manual Overrid	9		724 Twin Lead, 24 VDC	
			912 Deutsch DT04-2P, 12 VD0	2
			924 Deutsch DT04-2P, 24 VDC	C
			* Additional coil options are availab	ole









This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Response Time - Typical	30 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Check Cracking Pressure	3,5 bar		
Switching Frequency	15000 cycles/hr		
Seal kit - Cartridge	Buna: 990016007		
Seal kit - Cartridge	Viton: 990016006		

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

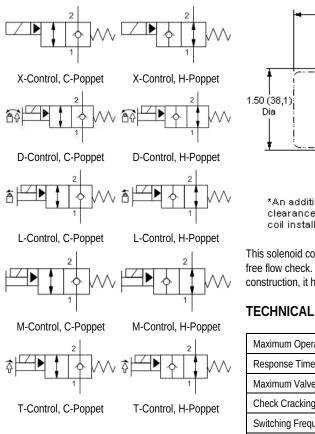
#### **CONFIGURATION OPTIONS**

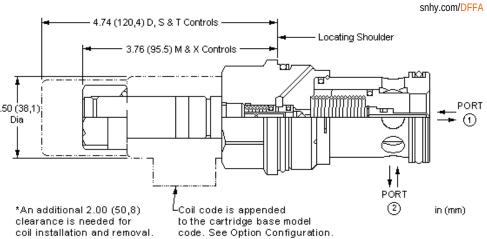
#### Model Code Example: DFEAXCN

CONTROL	X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override					724 Twin Lead, 24 VDC
					912 Deutsch DT04-2P, 12 VDC
					924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available









This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Viton: 990018006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

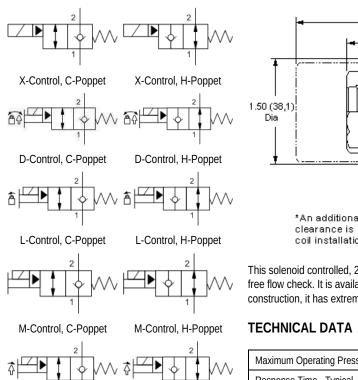
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFFAXCN

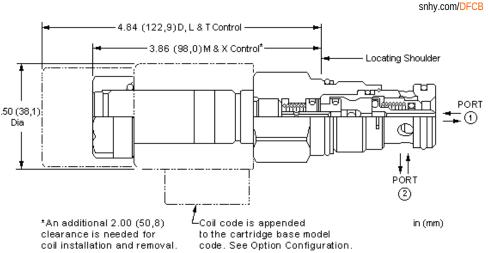
CONTROL	(X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		V Viton		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	)				224 DIN 43650-Form A, 24 VDC
M Manual Override					712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override					724 Twin Lead, 24 VDC
					912 Deutsch DT04-2P, 12 VDC
					924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available







T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

T-Control, C-Poppet

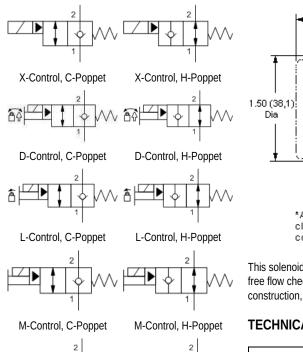
#### Model Code Example: DFCBXCN

CONTROL	(X)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		H Normally Open		V Viton		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Overrid	е					224 DIN 43650-Form A, 24 VDC
M Manual Override						712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	e					724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional coil options are available

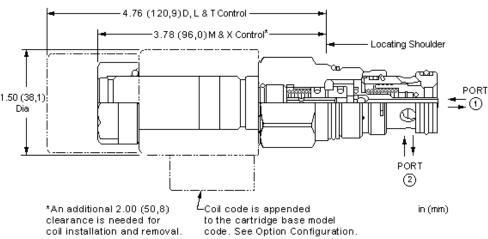




snhy.com/DFDB



T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

T-Control, C-Poppet

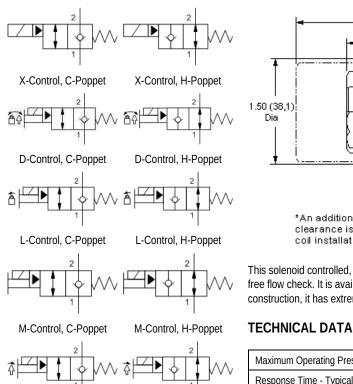
#### Model Code Example: DFDBXCN

CONTROL	(X)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Overrid	е			V Viton		224 DIN 43650-Form A, 24 VDC
Manual Override						712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	9					724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional coil options are available

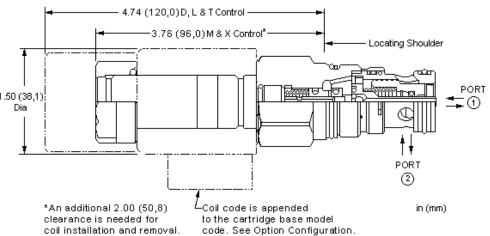




snhy.com/DFEB



T-Control, H-Poppet



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Viton: 990016006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

T-Control, C-Poppet

#### Model Code Example: DFEBXCN

CONTROL	(X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		V Viton		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Overrid	е				224 DIN 43650-Form A, 24 VDC
M Manual Override					<b>712</b> Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	2				724 Twin Lead, 24 VDC
					912 Deutsch DT04-2P, 12 VDC
					924 Deutsch DT04-2P, 24 VDC
MATERIAL/COATING					* Additional coil options are available

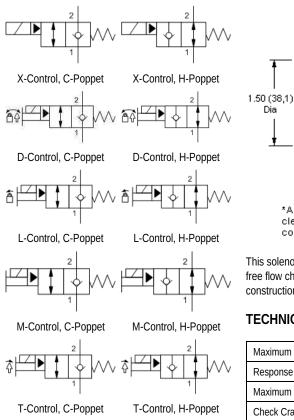
#### MATERIAL/COATING

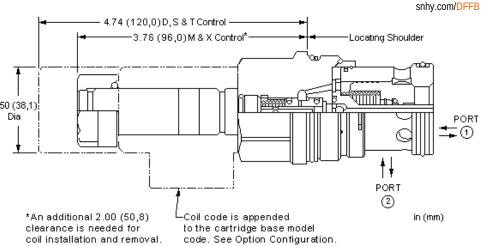
Standard Material/Coating

IAP Stainless Steel, Passivated









This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

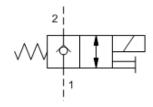
#### **CONFIGURATION OPTIONS**

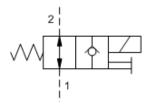
#### Model Code Example: DFFBXCN

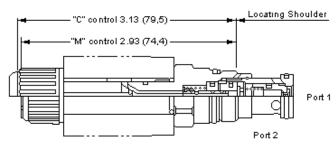
CONTROL (2	X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override					724 Twin Lead, 24 VDC
					912 Deutsch DT04-2P, 12 VDC
					924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available











in (mm)

This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	30 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990313014
Seal kit - Cartridge	Viton: 990310006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

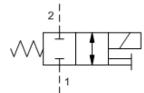
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DACCMCN

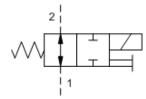
CONTROL	(M)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *	
M Manual Override		C Normally Closed		N Buna-N		No coil	
C Concealed Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC	
				V Viton		224 DIN 43650-Form A, 24 VDC	
						<b>712</b> Twin Lead, 12 VDC	
						724 Twin Lead, 24 VDC	

\* Additional coil options are available

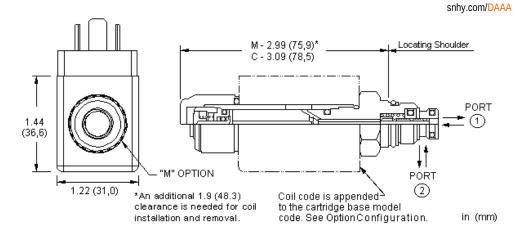




M or S-Control, C-Spool



M or S-Control, H-Spool



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Response Time - Typical	30 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Switching Frequency	15000 cycles/hr		
Manual Override Force Requirement	66 N/100 bar @ Port 1		
Seal kit - Cartridge	Buna: 990008007		
Seal kit - Cartridge	EPDM: 990308114		
Seal kit - Cartridge	Polyurethane: 990008002		
Seal kit - Cartridge	Viton: 990008006		

NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

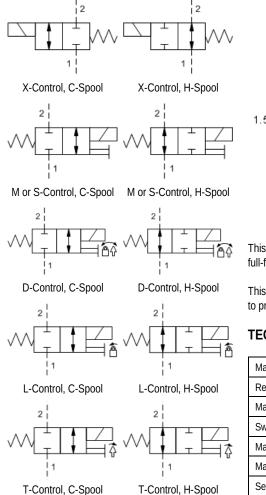
#### **CONFIGURATION OPTIONS**

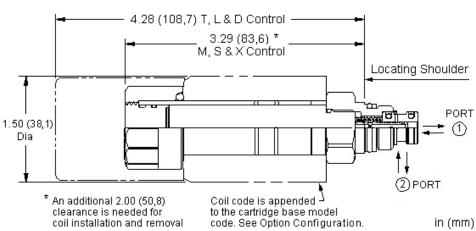
### Model Code Example: DAAAMCN

CONTROL	(M)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *	_
M Manual Override		C Normally Closed		N Buna-N		No coil	
C Concealed Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC	
				V Viton		224 DIN 43650-Form A, 24 VDC	
						712 Twin Lead, 12 VDC	
						724 Twin Lead, 24 VDC	
						* Additional coil options are available	



snhy.com/DAAL





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is available in either a normally open or normally closed configuration.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	EPDM: 990008014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

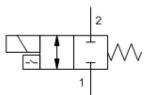
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

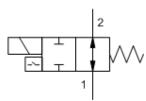
#### **CONFIGURATION OPTIONS**

## Model Code Example: DAALXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	е			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override						712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override						724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional coil options are available

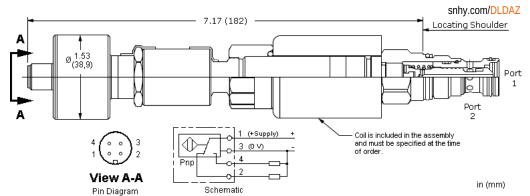


Z-Control, C-Spool



Z-Control, H-Spool





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The valve is available in either a normally open or normally closed configuration.

The position switch provides confirmation that the valve is in the spring biased position.

\* Additional coil options are available

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Viton: 990413006

**NOTES** An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

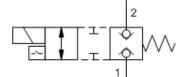
**CONFIGURATION OPTIONS** 

Model Code Example: DLDAZCN224

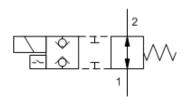
SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>	(224)
C Normally Closed	N Buna-N	224 DIN 43650-Form A, 24 VDC	
H Normally Open	V Viton	212 DIN 43650-Form A, 12 VDC	
		912 Deutsch DT04-2P, 12 VDC	
		924 Deutsch DT04-2P, 24 VDC	

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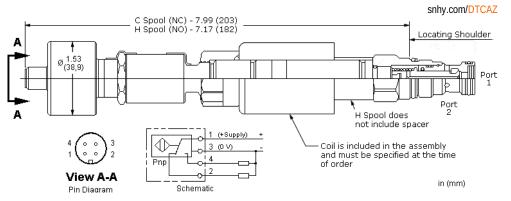




Z-Control, C-Poppet



Z-Control, H-Poppet



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. Due to the poppet-style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

The position switch provides confirmation that the valve is in the non-energized position.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

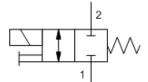
#### Model Code Example: DTCAZCN224

SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *	(224)
C Normally Closed	N Buna-N	224 DIN 43650-Form A, 24	VDC
H Normally Open	E EPDM	212 DIN 43650-Form A, 12 V	VDC
	V Viton	912 Deutsch DT04-2P, 12 V	DC
		924 Deutsch DT04-2P, 24 V	DC

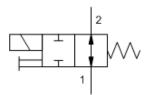


MODEL DLDAS

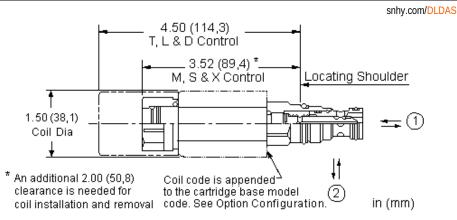




M or S-Control, C-Spool



M or S-Control, H-Spool



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Viton: 990413006

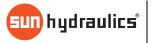
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

## **CONFIGURATION OPTIONS**

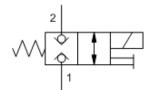
#### Model Code Example: DLDASCN

SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>
C Normally Closed	N Buna-N	No coil
H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
	V Viton	224 DIN 43650-Form A, 24 VDC
		<b>712</b> Twin Lead, 12 VDC
		724 Twin Lead, 24 VDC
		912 Deutsch DT04-2P, 12 VDC
		924 Deutsch DT04-2P, 24 VDC

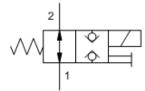


MODEL DTDAS





M-Control, C-Poppet



M-Control, H-Poppet

snhy.com/DTDAS 4.50 (114,3) T, L & D Control -Locating Shoulder 3.51 (89,2)\*-M, S & X Control 1.50 (38,1) PORT Coil Dia Ø ∩ PORT \* An additional 2.00 (50,8) 2 Coil code is appended clearance is needed for to the cartridge base model coil installation and removal code. See Option Configuration. in (mm)

This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration. Due to its poppet-style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	EPDM: 990413014
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

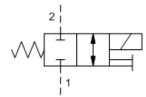
## Model Code Example: DTDASCN

POPPET CONFIGURATION	(C) SEAL MA	ATERIAL	(N) <u>C</u>	OIL *
C Normally Closed	N Buna	-N		No coil
H Normally Open	E EPDM	Λ		212 DIN 43650-Form A, 12 VDC
	V Viton		:	224 DIN 43650-Form A, 24 VDC
			-	<b>712</b> Twin Lead, 12 VDC
			-	724 Twin Lead, 24 VDC
			9	912 Deutsch DT04-2P, 12 VDC
			9	924 Deutsch DT04-2P, 24 VDC
			+	Additional acil antiona are available

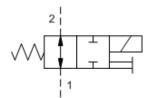




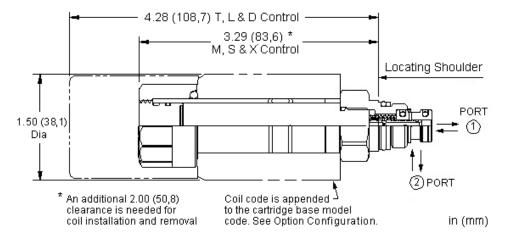
snhy.com/DAALS



M or S-Control, C-Spool



M or S-Control, H-Spool



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The valve is available in either a mally closed configuration

ated and ventable valves

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

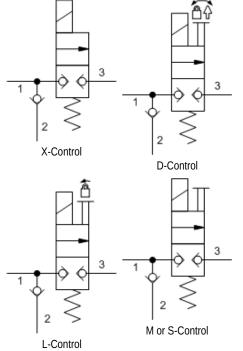
#### **CONFIGURATION OPTIONS** Model Code Example: DAALSCN SPOOL CONFIGURATION (C) SEAL MATERIAL (N) COIL \* C Normally Closed N Buna-N No coil H Normally Open E EPDM 212 DIN 43650-Form A, 12 VDC V Viton 224 DIN 43650-Form A, 24 VDC 712 Twin Lead, 12 VDC 724 Twin Lead, 24 VDC 912 Deutsch DT04-2P, 12 VDC 924 Deutsch DT04-2P, 24 VDC

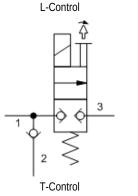
TECHNICAL DATA
This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operate to provide integrated pilot control.
normally open or normally closed conliguration.



Model HDDA







#### snhy.com/HDDA 5.36 (136,1) D, L & T Controls 4.38 (111,3) \* X, M & S Controls Locating Shoulder Conspand P 1.50 (38,1) Coil Dia 3 2 \* An additional 2.00 (50,8) Coil code is appended clearance is needed for to the cartridge base model Outlet Inlet coil installation and removal code. See Option Configuration. in (mm)

This solenoid-after check cartridge is a hybrid valve incorporating a direct acting solenoid poppet valve teed in after the check function. The check valve flow is from the inlet (port 2) to the system (port 1). With the solenoid deenergized flow from (port 2) to (port 3) is blocked. This combination valve is typically used in lift/lower applications and can be integrated directly into the actuator.

## TECHNICAL DATA

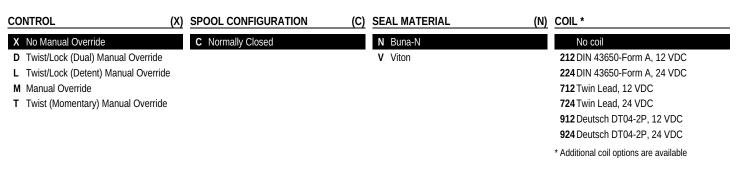
Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	2 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

## **CONFIGURATION OPTIONS**

## Model Code Example: HDDAXCN

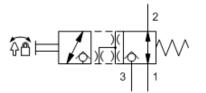




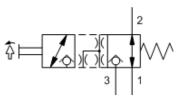




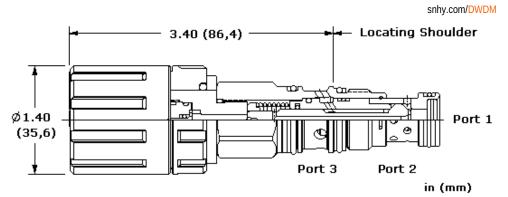
L-Control, A-Poppet



D-Control, A-Poppet



T-Control, A-Poppet



This manually operated, 2-position, 3-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is normally open between port 1 and port 2 with port 3 blocked. Operating the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque 1,2 Nm	
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

## CONFIGURATION OPTIONS

#### Model Code Example: DWDMLAN

CONTROL (L	POPPET CONFIGURATION (A	A) SEAL MATERIAL (N	)
L Twist/Lock (Detent) Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	
D Twist/Lock (Dual) Manual Override		V Viton	

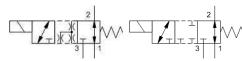
T Twist (Momentary) Manual Override

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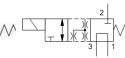
# sun hydraulics

3-way, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 45 L/min. / CAVITY: T-11A





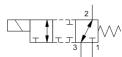
X-Control, A-Spool



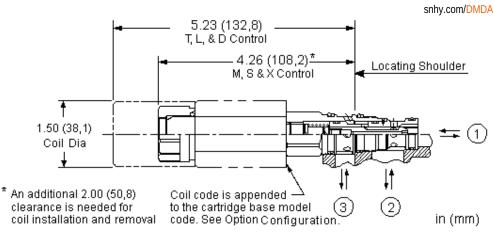
X-Control, B-Spool

X-Control, P-Spool

X-Control, N-Spool



X-Control, R-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Response Time - Typical 50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar	
Switching Frequency 15000 cycles/hr		
Manual Override Force Requirement	33 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm	
Seal kit - Cartridge	Buna: 990411007	
Seal kit - Cartridge	EPDM: 990411014	
Seal kit - Cartridge	Viton: 990411006	

NOTES • Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

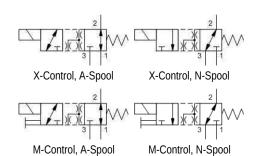
#### Model Code Example: DMDAXAN

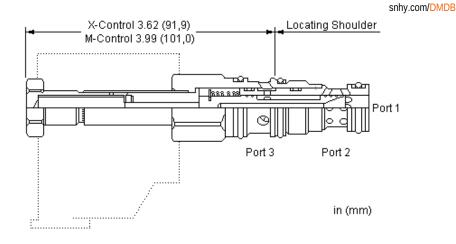
CONTROL	(X) SPOOL CONFIGURATION (A)	SEAL MATERIAL (N)	COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil
M Manual Override	N Normally Open 2 to 3, Closed 1 to 2	E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override	B Normally Open 1 to 2, Closed 2 to 3,	V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
	R Normally Open 2 to 3, Closed 1 to 2,		912 Deutsch DT04-2P, 12 VDC
	Closed Transition		924 Deutsch DT04-2P, 24 VDC
			* Additional coil options are available



MODEL DMDB Value Series, 3-way, solenoid-operated directional spool valve - 3600 psi (250 bar) SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-11A







This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure 250 bar	
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency 15000 cycles/hr	
Manual Override Force Requirement 66 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990811007
Seal kit - Cartridge	Viton: 990811006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

## Model Code Example: DMDBXAN

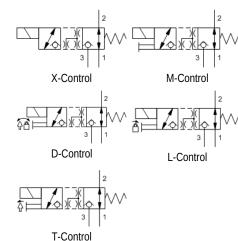
CONTROL	(X) SPOOL CONFIGURATION	(A) SEAL MATERIAL	(N) COIL *	
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil	
M Manual Override	N Normally Open 2 to 3, Closed 1 to 2	V Viton	* Additional coil options are available	

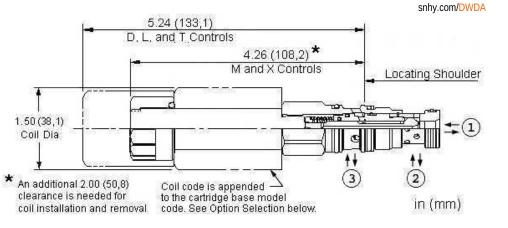


MODEL

3-way, direct-acting, solenoid-operated directional poppet valve SERIES 1 / CAPACITY: 30 L/min. / CAVITY: T-11A







This solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is normally open between port 1 and port 2 with port 3 blocked. Energizing the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency 15000 cycles/hr	
Manual Override Force Requirement 33 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

## Model Code Example: DWDAXAN

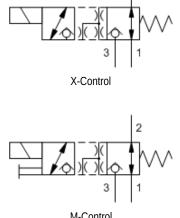
CONTROL	(X)	POPPET CONFIGURATION (A)	<u>)</u> SE	AL MATERIAL	(N)	COIL *
X No Manual Override		A Normally Open 1 to 2, Closed 2 to 3	Ν	Buna-N		No coil
M Manual Override (Standard)			E	EPDM		212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override			v	Viton		224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	е					712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override						724 Twin Lead, 24 VDC
						912 Deutsch DT04-2P, 12 VDC
						924 Deutsch DT04-2P, 24 VDC
						* Additional acil antiona are available

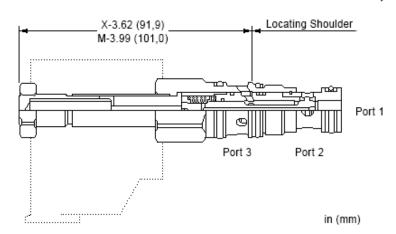


MODEL **DWDB** 



snhy.com/DWDB





M-Control

This solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is normally open between port 1 and port 2 with port 3 blocked. Energizing the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	250 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@210 bar
Switching Frequency 15000 cycles/hr	
Manual Override Force Requirement 66 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990811007
Seal kit - Cartridge	Viton: 990811006

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS	Model Code Exa	ample: DWDBXAN	
CONTROL	(X) POPPET CONFIGURATION (A)	SEAL MATERIAL (N)	COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil

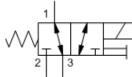
M Manual Override

V Viton

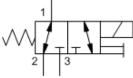




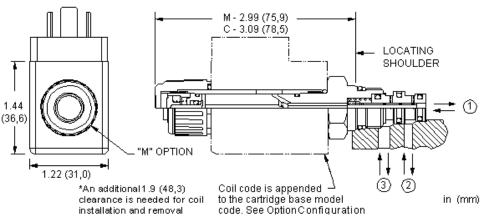
snhy.com/DBAA



M or S-Control, C-Spool



M or S-Control, H-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical 30 ms	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990309014
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

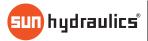
An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal. NOTES

#### **CONFIGURATION OPTIONS**

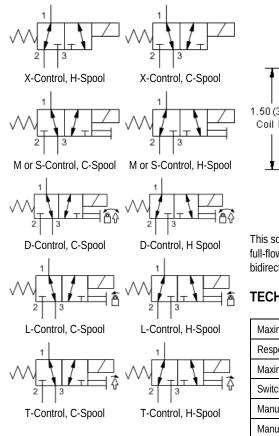
## Model Code Example: DBAAMCN

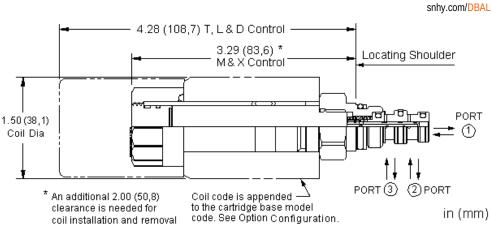
CONTROL	(M)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *	
M Manual Override		C Normally Open 1 to 3, Closed 1 to 2	)	N Buna-N		No coil	
C Concealed Manual Override		H Normally Open 1 to 2, Closed 1 to 3	3	E EPDM		212 DIN 43650-Form A, 12 VDC	
				V Viton		224 DIN 43650-Form A, 24 VDC	
						712 Twin Lead, 12 VDC	
						724 Twin Lead, 24 VDC	

(36,6)









This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990309114
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

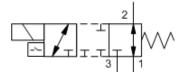
• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

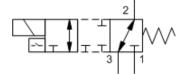
## Model Code Example: DBALXHN

CONTROL	(X) SPOOL CONFIGURATION (H)	) SEAL MATERIAL (N	) COIL *
X No Manual Override	H Normally Open 1 to 2, Closed 1 to 3	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	C Normally Open 1 to 3, Closed 1 to 2	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	e	V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override			712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override			724 Twin Lead, 24 VDC
			912 Deutsch DT04-2P, 12 VDC
			924 Deutsch DT04-2P, 24 VDC
			* Additional coil options are available

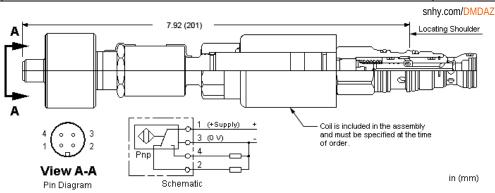




Z-Control, B-Spool



Z-Control, R-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

The position switch provides confirmation that the valve is in the spring biased position.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

NOTES An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

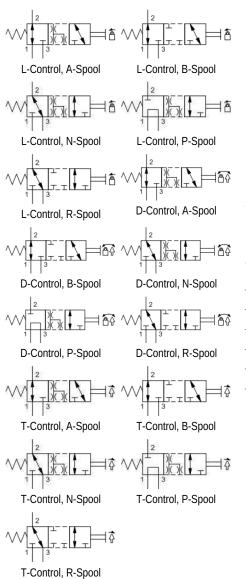
#### **CONFIGURATION OPTIONS**

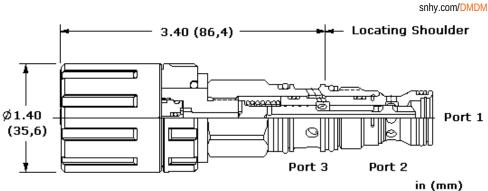
#### Model Code Example: DMDAZBN224

SPOOL CONFIGURATION (B)	SEAL MATERIAL	(N) COIL *	(224)
B Normally Open 1 to 2, Closed 2 to 3,	N Buna-N	224 DIN 43650-Form A, 24 VDC	
Closed Transition	E EPDM	212 DIN 43650-Form A, 12 VDC	
R Normally Open 2 to 3, Closed 1 to 2,	V Viton	912 Deutsch DT04-2P, 12 VDC	
Closed Transition		924 Deutsch DT04-2P, 24 VDC	









This manually operated, 2-position, 3-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006



## Model Code Example: DMDMLAN

CONTROL	(L)	SPOOL CONFIGURATION	(A)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	е	A Normally Open 1 to 2, Closed 2 to 3		N Buna-N	
<ul><li>D Twist/Lock (Dual) Manual Override</li><li>T Twist (Momentary) Manual Override</li></ul>		<b>B</b> Normally Open 1 to 2, Closed 2 to 3, Closed Transition		V Viton	
		N Normally Open 2 to 3, Closed 1 to 2			
		P Normally Open 1 to 3, Closed 1 to 2			
		R Normally Open 2 to 3, Closed 1 to 2, Closed Transition			

**TECHNICAL DATA** 



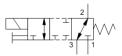




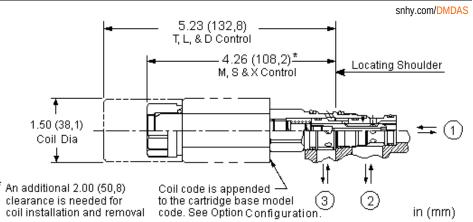
M or S-Control, N-Spool M or S-Control, A-Spool



M or S-Control, B-Spool M or S-Control, P-Spool



M or S-Control, R-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

## **CONFIGURATION OPTIONS**

2

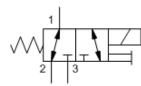
## Model Code Example: DMDASNN

SPOOL CONFIGURATION (N)		SE	SEAL MATERIAL (N)		COIL *
Ν	Normally Open 2 to 3, Closed 1 to 2	Ν	Buna-N		No coil
Α	Normally Open 1 to 2, Closed 2 to 3	Ε	EPDM		212 DIN 43650-Form A, 12 VDC
в	Normally Open 1 to 2, Closed 2 to 3,	v	Viton		224 DIN 43650-Form A, 24 VDC
	Closed Transition				<b>712</b> Twin Lead, 12 VDC
Ρ	Normally Open 1 to 3, Closed 1 to 2				724 Twin Lead, 24 VDC
R	Normally Open 2 to 3, Closed 1 to 2,				912 Deutsch DT04-2P, 12 VDC
	Closed Transition				924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available

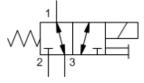




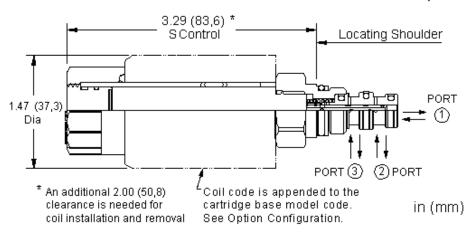
snhy.com/DBALS



M or S-Control, H-Spool



M or S-Control, C-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full flow valves. It also includes the soft shift feature which greatly reduces system shock due to valve actuation. This valve is either normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	66 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990309014
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

## **CONFIGURATION OPTIONS**

#### Model Code Example: DBALSHN

SPOOL CONFIGURATION (H)	SEAL MATERIAL	(N) COIL *
H Normally Open 1 to 2, Closed 1 to 3	N Buna-N	No coil
C Normally Open 1 to 3, Closed 1 to 2	E EPDM	212 DIN 43650-Form A, 12 VDC
	V Viton	224 DIN 43650-Form A, 24 VDC
		712 Twin Lead, 12 VDC
		724 Twin Lead, 24 VDC
		912 Deutsch DT04-2P, 12 VDC
		924 Deutsch DT04-2P, 24 VDC
		* Additional coil options are available

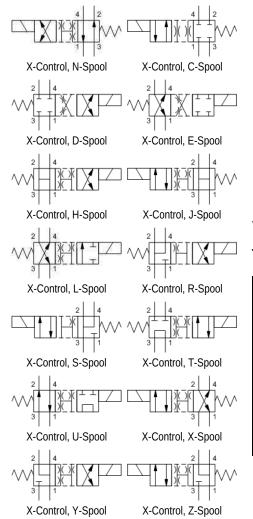


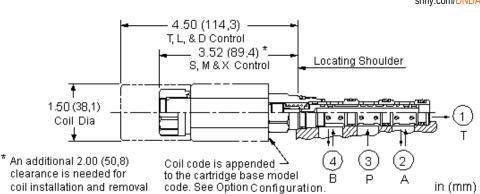
MODEL DNDA

4-way, 2-position, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-31A



snhy.com/DNDA





This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	50 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar
Switching Frequency	15000 cycles/hr
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

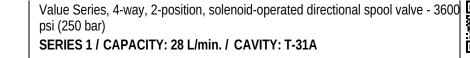
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

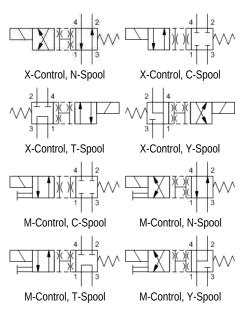
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDAXNN

CONTROL (X)	SPOOL CONFIGURATION (N)	SEAL MATERIAL (M	I) COIL *
X No Manual Override	N Through, Shift to Cross	N Buna-N	No coil
M Manual Override	C Closed, Shift to Through	E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override	D Closed, Shift to Cross	V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	E Cross, Shift to Closed		712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	H Open, Shift to Cross		724 Twin Lead, 24 VDC
	J Open, Shift to Through		912 Deutsch DT04-2P, 12 VDC
	L Cross, Shift to P to A, B and T Blocked		924 Deutsch DT04-2P, 24 VDC
	R Regen, Shift to Cross		* Additional coil options are available
	S Regen, Shift to Through		·
	T Tandem, Shift to Through		
	U Through, Shift to Tandem		
	X Cross, Shift to Through		
	Y Motor, Shift to Cross		
	Z Motor, Shift to Through		



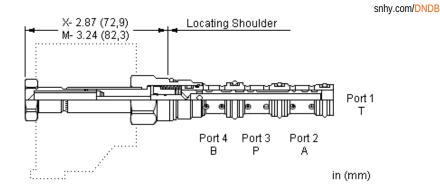




iun hydraulics

MODEL

DNDB



This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

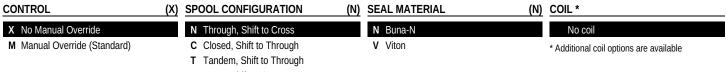
Maximum Operating Pressure	250 bar		
Response Time - Typical	50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar		
Switching Frequency	15000 cycles/hr		
Manual Override Force Requirement	66 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm		
Seal kit - Cartridge	Buna: 990431007		
Seal kit - Cartridge	Viton: 990431006		

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

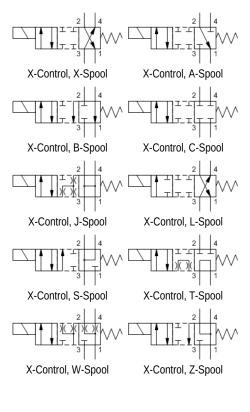
#### Model Code Example: DNDBXNN

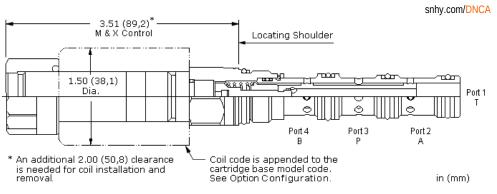


Y Motor, Shift to Cross









This solenoid-operated, 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Response Time - Typical	50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar		
Switching Frequency	15000 cycles/hr		
Manual Override Force Requirement	33 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm		
Seal kit - Cartridge	Buna: 990431007		
Seal kit - Cartridge	EPDM: 990431014		
Seal kit - Cartridge	Viton: 990431006		

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNCAXXN

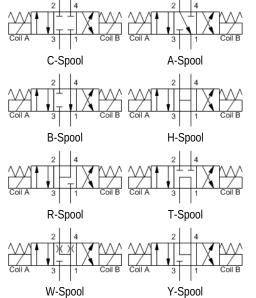
CONTROL	X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) COIL *
X No Manual Override	X Cross, Shift to Through	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	C Closed, Shift to Through	E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	A to T, Shift to Through	V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override	<b>B</b> B to T, Shift to Through		712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	J Open, Shift to Through		724 Twin Lead, 24 VDC
	L Cross, Shift to P to A, B and T Block	ked	912 Deutsch DT04-2P, 12 VDC
	S Regen, Shift to Through		924 Deutsch DT04-2P, 24 VDC
	T Tandem, Shift to Through		* Additional coil options are available
	W A and B Bleed to T, Shift to Through	1	

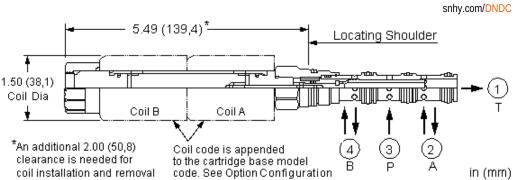
Z Motor, Shift to Through



4-way, 3-position, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 20 L/min. / CAVITY: T-31A







This direct acting, solenoid-operated, 4-way, 3-position spool valve is spring centered to the neutral position. When coil A is energized, the flow is from port 3 (P) to port 2 (A) and from port 4 (B) to port 1 (T). When coil B is energized, the flow is from port 3 to port 4 and from port 2 to port 1.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Response Time - Typical	50 ms	
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar	
Switching Frequency	15000 cycles/hr	
Seal kit - Cartridge	Buna: 990431007	
Seal kit - Cartridge	EPDM: 990431014	
Seal kit - Cartridge	Viton: 990431006	

**NOTES** The two coils used in this assembly are interchangeable with one another, but once installed and wired, the coil closest to the hex body is considered Coil A, and the coil closest to the coil nut is Coil B.

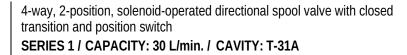
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDCXCN

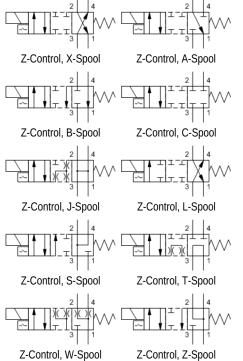
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Blocked Center		N Buna-N		No coil
		A A to T Center		E EPDM		212 DIN 43650-Form A, 12 VDC
		B to T Center		V Viton		224 DIN 43650-Form A, 24 VDC
		H Open Center				712 Twin Lead, 12 VDC
		R Regen Center				724 Twin Lead, 24 VDC
		T Tandem Center				912 Deutsch DT04-2P, 12 VDC
		W A and B Bleed to T Center				924 Deutsch DT04-2P, 24 VDC
		Y A and B to T Center				* Additional coil options are available

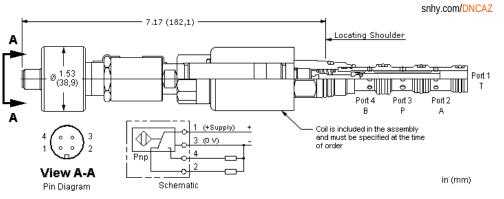


MODEL **DNCAZ** 









This solenoid-operated, 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

The position switch provides confirmation that the valve is in the spring biased position.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Response Time - Typical	50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar		
Switching Frequency	15000 cycles/hr		
Seal kit - Cartridge	Buna: 990431007		
Seal kit - Cartridge	Viton: 990431006		

#### **CONFIGURATION OPTIONS**

W A and B Bleed to T, Shift to Through

Z Motor, Shift to Through

#### Model Code Example: DNCAZXN224

SP	OOL CONFIGURATION (X)	SE	AL MATERIAL	(N)	COIL *	(224)
Х	Cross, Shift to Through	Ν	Buna-N		224 DIN 43650-Form A, 24 VDC	
С	Closed, Shift to Through	۷	Viton		212 DIN 43650-Form A, 12 VDC	
Α	A to T, Shift to Through				912 Deutsch DT04-2P, 12 VDC	
В	B to T, Shift to Through				924 Deutsch DT04-2P, 24 VDC	
J	Open, Shift to Through				* Additional coil options are available	
L	Cross, Shift to P to A, B and T Blocked				·	
S	Regen, Shift to Through					
Т	Tandem, Shift to Through					

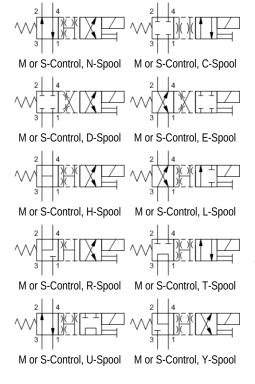
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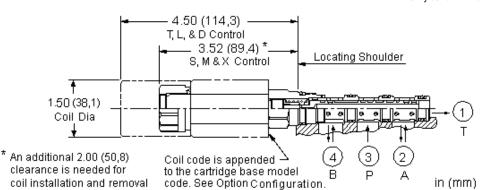


MODEL DNDAS 4-way, 2-position, soft shift, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 15 L/min. / CAVITY: T-31A









This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar	
Manual Override Force Requirement	33 N/100 bar @ Port 1	
Manual Override Stroke	2,5 mm	
Seal kit - Cartridge	Buna: 990431007	
Seal kit - Cartridge	EPDM: 990431014	
Seal kit - Cartridge	Viton: 990431006	

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

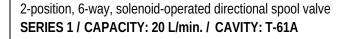
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDASNN

SPOOL CONFIGURATION	(N) SEAL MATERIAL	(N) COIL *
N Through, Shift to Cross	N Buna-N	No coil
C Closed, Shift to Through	E EPDM	212 DIN 43650-Form A, 12 VDC
D Closed, Shift to Cross	V Viton	224 DIN 43650-Form A, 24 VDC
E Cross, Shift to Closed		712 Twin Lead, 12 VDC
H Open, Shift to Cross		724 Twin Lead, 24 VDC
L Cross, Shift to P to A, B and T Blo	cked	912 Deutsch DT04-2P, 12 VDC
R Regen, Shift to Cross		924 Deutsch DT04-2P, 24 VDC
T Tandem, Shift to Through		* Additional coil options are available
U Through, Shift to Tandem		·

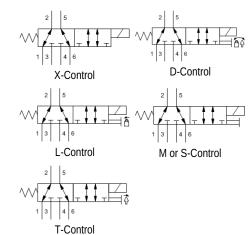


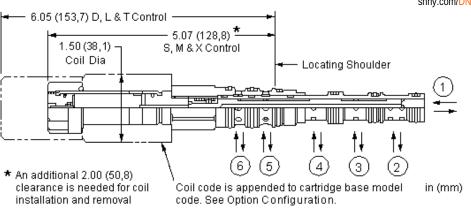
MODEL DNDY





snhy.com/DNDY





This solenoid-operated 6-way, 2-position cartridge is a direct-acting, balanced spool valve. The typical use for this valve is to select between two separate circuits. The de-energized condition connects P and T to the first circuit and when energized connects P and T to the second circuit.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Response Time - Typical	50 ms		
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar		
Switching Frequency	15000 cycles/hr		
Manual Override Force Requirement	33 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm		
Seal kit - Cartridge	Buna: 990461007		
Seal kit - Cartridge	EPDM: 990461014		
Seal kit - Cartridge	Viton: 990461006		

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

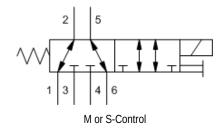
#### Model Code Example: DNDYXXN

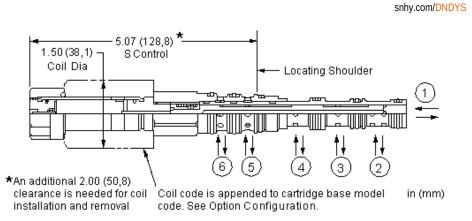
CONTROL	(X) SPOOL CONFIGURATION	(X)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	Χ -		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override			E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Overrid	e		V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					712 Twin Lead, 12 VDC
T Twist (Momentary) Manual Override	2				724 Twin Lead, 24 VDC
					912 Deutsch DT04-2P, 12 VDC
					924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available



MODEL







This solenoid-operated 6-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The typical use for this valve is to select between two separate circuits. The de-energized condition connects P and T to the first circuit and when energized connects P and T to the second circuit.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990461007
Seal kit - Cartridge	Viton: 990461006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDYSXN

SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) <u>COIL *</u>
Χ -	N Buna-N	No coil
	E EPDM	212 DIN 43650-Form A, 12 VDC
	V Viton	224 DIN 43650-Form A, 24 VDC
		712 Twin Lead, 12 VDC
		724 Twin Lead, 24 VDC
		912 Deutsch DT04-2P, 12 VDC
		924 Deutsch DT04-2P, 24 VDC
		* Additional coil options are available

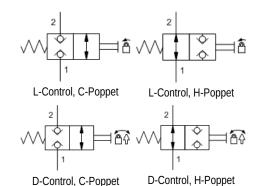
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2

T-Control, C-Poppet

2-way, manually-operated, directional poppet valve SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-13A

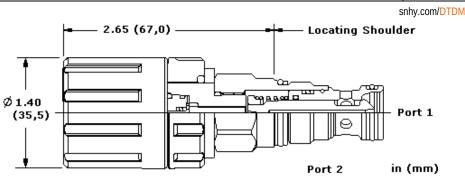




2

T-Control, H-Poppet

4



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

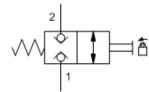
## **CONFIGURATION OPTIONS**

#### Model Code Example: DTDMLCN

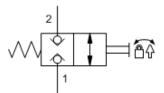
CONTROL (L)	POPPET CONFIGURATION	(C) SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Closed	N Buna-N	
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	
T Twist (Momentary) Manual Override		V Viton	

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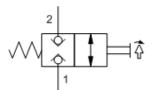




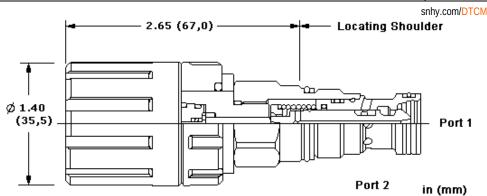
L-Control, C-Poppet



D-Control, C-Poppet



T-Control, C-Poppet



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is only available in a normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

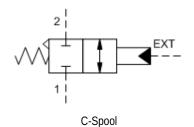
## **CONFIGURATION OPTIONS**

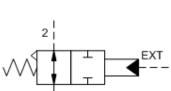
## Model Code Example: DTCMLCN

CONTROL (L)	SPOOL CONFIGURATION (C	C)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Closed		N Buna-N	
D Twist/Lock (Dual) Manual Override			V Viton	

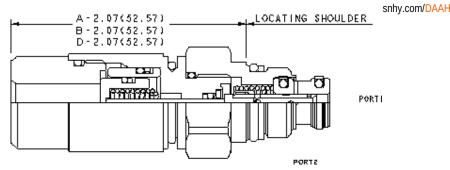
T Twist (Momentary) Manual Override







H-Spool



These pilot-stage, directional, 2-position, 2-way valves are hydraulically operated, spring-return cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990508007
Seal kit - Cartridge	Viton: 990508006

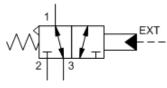
## **CONFIGURATION OPTIONS**

1

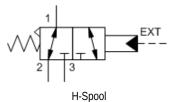
## Model Code Example: DAAHBCN

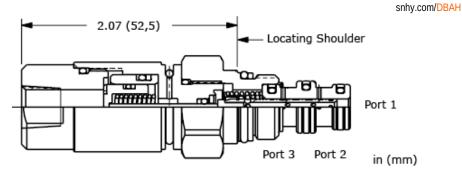
CONTROL	(B)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
B External 4-SAE Port		C Normally Closed		N Buna-N		Standard Material/Coating
A External 1/8 NPTF Port		H Normally Open		V Viton		IAP Stainless Steel, Passivated





C-Spool





These pilot-stage, directional, 2-position, 3-way valves are hydraulically operated, spring-return cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3. These cartridges are designed for pilot flow applications.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990509007
Seal kit - Cartridge	Viton: 990509006

## **CONFIGURATION OPTIONS**

## Model Code Example: DBAHBCN

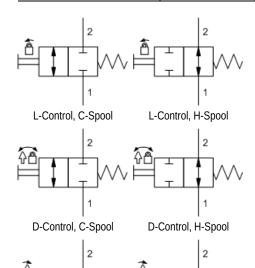
CONTROL	B) SPOOL CONFIGURATION (C)	SEAL MATERIAL (N)
B External 4-SAE Port	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N
A External 1/8 NPTF Port	H Normally Open 1 to 2, Closed 1 to 3	V Viton

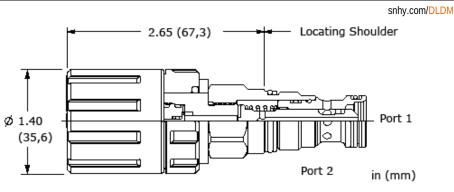
D External 1/8 BSPP Port

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This manually operated, 2-position, 2-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

## **CONFIGURATION OPTIONS**

T-Control, C-Spool

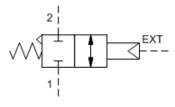
## Model Code Example: DLDMLCN

CONTROL	(L) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Closed	N Buna-N	
D Twist/Lock (Dual) Manual Override	H Normally Open	V Viton	

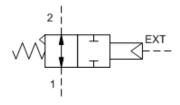
T Twist (Momentary) Manual Override

T-Control, H-Spool

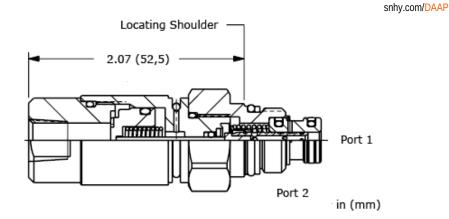




C-Spool



H-Spool



These pilot-stage, directional, 2-position, 2-way valves are pneumatically operated, spring-return cartridges and are available in either normally open or normally closed configurations. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

## **TECHNICAL DATA**

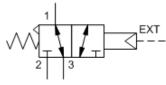
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990508007
Seal kit - Cartridge	Viton: 990508006

#### **CONFIGURATION OPTIONS**

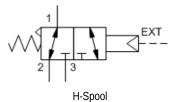
## Model Code Example: DAAPFCN

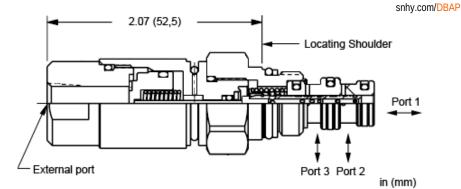
CONTROL	(F)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
F External 1/8 NPTF Port		C Normally Closed		N Buna-N		Standard Material/Coating
E External 4-SAE Port		H Normally Open		V Viton		IAP Stainless Steel, Passivated
P External 1/8 BSPP Port						





C-Spool





These pilot-stage, directional, 2-position, 3-way valves are pneumatically operated, spring-return cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Minimum Pilot Pressure to Operate	1,5 [+ port 1 press./100] bar
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990509007
Seal kit - Cartridge	Viton: 990509006

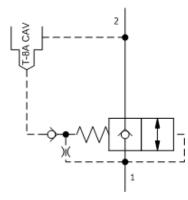
## **CONFIGURATION OPTIONS**

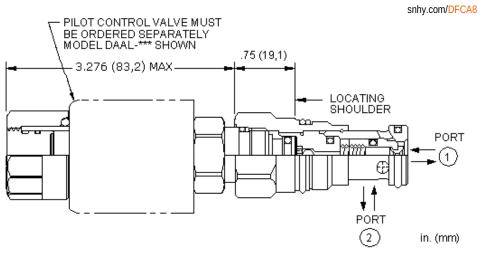
## Model Code Example: DBAPFCN

CONTROL	(F) SPOOL CONFIGURATION (C	) SEAL MATERIAL	(N)	MATERIAL/COATING
F External 1/8 NPTF Port	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N		Standard Material/Coating
E External 4-SAE Port	H Normally Open 1 to 2, Closed 1 to 3	E EPDM		IAP Stainless Steel, Passivated
P External 1/8 BSPP Port		V Viton		

un hydraulics | MODEL DFCA8 2-way, poppet directional valve with integral T-8A control cavity - control 1-2 SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DFCA8DN

CRACKING	PRESSURE

D 50 psi (3,5 bar)

(D) SEAL MATERIAL N Buna-N

V Viton

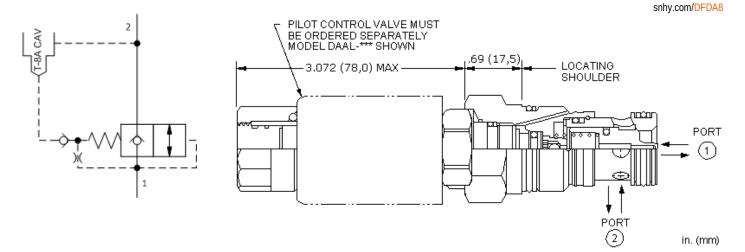
(N) MATERIAL/COATING Standard Material/Coating

IAP Stainless Steel, Passivated



MODEL DFDA8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Check Cracking Pressure	3,5 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

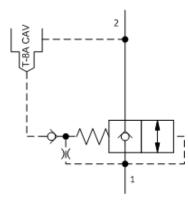
#### Model Code Example: DFDA8DN

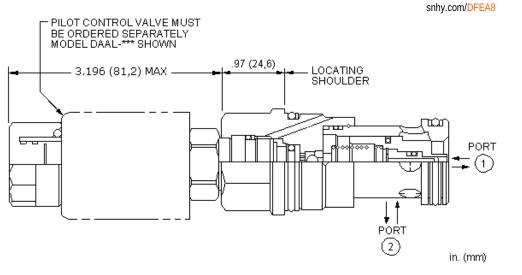
CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating
		V Viton		IAP Stainless Steel, Passivated



MODEL DFEA8 2-way, poppet directional valve with integral T-8A control cavity - control 1-2 SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

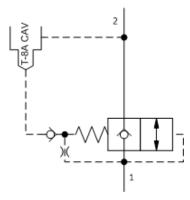
#### Model Code Example: DFEA8DN

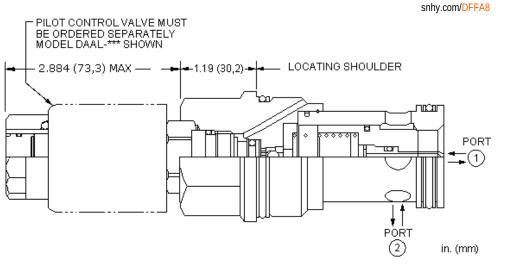
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	



MODEL DFFA8 2-way, poppet directional valve with integral T-8A control cavity - control 1-2 SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-18A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar	
Pilot Control Cavity T-8A		
Pilot Control Valve Installation Torque 27 - 33 Nm		
Seal kit - Cartridge Buna: 990018007		
Seal kit - Cartridge	EPDM: 990018014	
Seal kit - Cartridge	Polyurethane: 990018002	
Seal kit - Cartridge	Viton: 990018006	

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFFA8DN

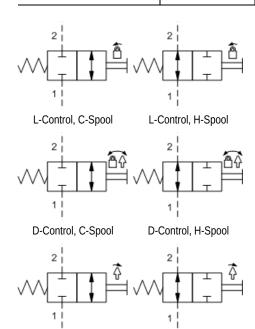
CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
	E EPDM	<b>IAP</b> Stainless Steel, Passivated
	V Viton	

# un hydraulics

2-way, manually-operated, spool directional valve - pilot capacity SERIES P / CAPACITY: 1 L/min. / CAVITY: T-8A

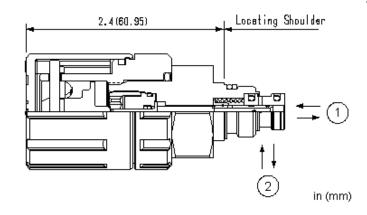


snhy.com/DAAM





T-Control, H-Spool



These pilot-stage, directional, 2-position, 2-way valves are manually operated cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

#### **TECHNICAL DATA**

Maximum Operating Pressure 350 bar		
ximum Valve Leakage at 110 SUS (24 cSt) 0,7 cc/min.@350 bar		
Operating Torque	1,2 Nm	
Seal kit - Cartridge	Buna: 990108007	
Seal kit - Cartridge	Viton: 990108006	

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DAAMLCN

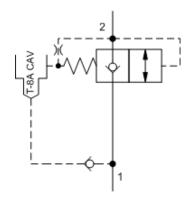
CONTROL (L)	SPOOL CONFIGURATION	(C) S	SEAL MATERIAL (N)
L Twist/Lock (Detent) Manual Override	C Normally Closed		N Buna-N
D Twist/Lock (Dual) Manual Override	H Normally Open		V Viton

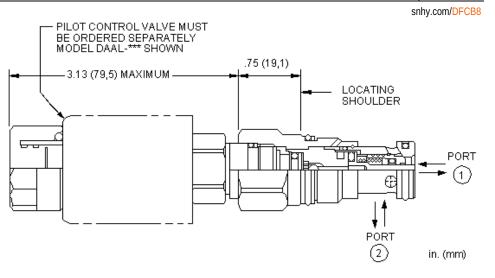
T Twist (Momentary) Manual Override



MODEL DFCB8 2-way, poppet directional valve with integral T-8A control cavity - control 2-1 SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

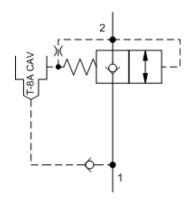
Model Code Example: DFCB8DN

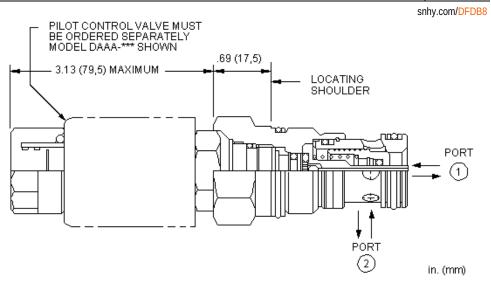
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



MODEL DFDB8







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Response Time - Typical	see pilot control ms
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DFDB8DN

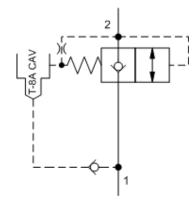
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

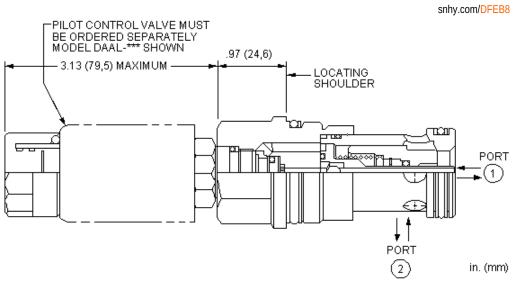


MODEL DFEB8

# 2-way, poppet directional valve with integral T-8A control cavity - control 2-1 SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Response Time - Typical	see pilot control ms	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar	
Pilot Control Cavity T-8A		
Pilot Control Valve Installation Torque	27 - 33 Nm	
Seal kit - Cartridge	Buna: 990016007	
Seal kit - Cartridge	Polyurethane: 990016002	
Seal kit - Cartridge	Viton: 990016006	

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFEB8DN

(N)

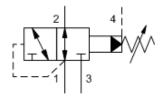
CRACKING PRESSURE

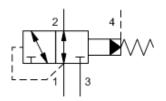
(D) SEAL MATERIAL

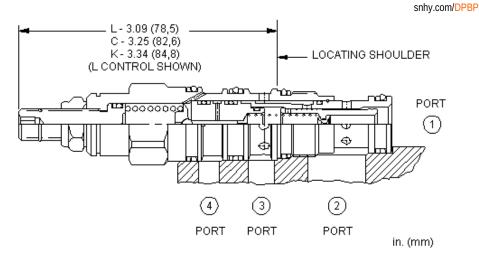
**D** 50 psi (3,5 bar)

N Buna-N V Viton









Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# **TECHNICAL DATA**

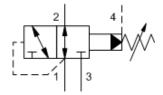
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

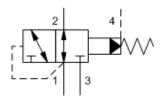
# **CONFIGURATION OPTIONS**

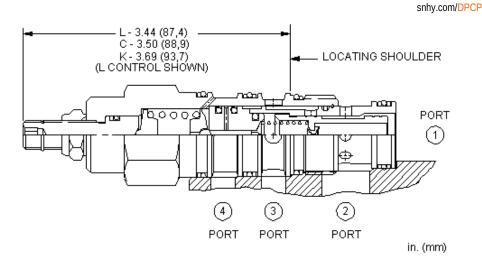
# Model Code Example: DPBPLAN

CONTROL	(L)	ADJUSTMENT RANGE (A	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	<ul><li>N Buna-N</li><li>E EPDM</li><li>V Viton</li></ul>		Standard Material/Coating /LH Mild Steel, Zinc-Nickel
		<ul> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>J 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting</li> </ul>			
		W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting			









Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# **TECHNICAL DATA**

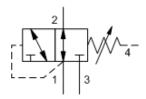
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

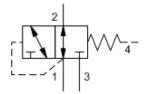
#### **CONFIGURATION OPTIONS**

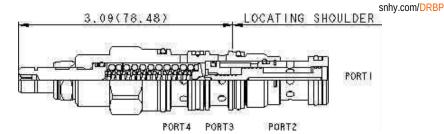
#### Model Code Example: DPCPLAN

CONTROL (L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N     Buna-N       E     EPDM       V     Viton









Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

# **CONFIGURATION OPTIONS**

#### Model Code Example: DRBPLAN

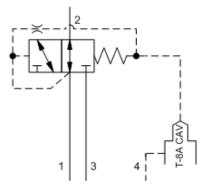
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (bar) Standard Setting</li> </ul>	si (14 (14	N Buna-N V Viton	

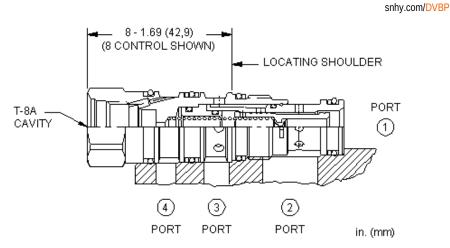
W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting



MODEL DVBP







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

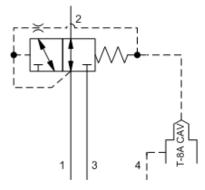
CONFIGURATION OPTIONS	Model Code E	xample: DVBP8FN
CONTROL (8	MINIMUM CONTROL PRESSURE (F	SEAL MATERIAL (N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N

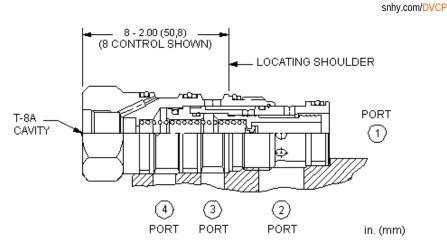
V Viton



MODEL DVCP 3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	Т-8А
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

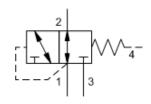
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

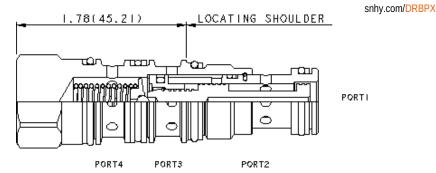
CONFIGURATION OPTIONS		Model Code	e Ex	ample: DVCP8FN	
CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		<b>F</b> 100 psi (7 bar)		N Buna-N	
				V Viton	



MODEL DRBPX 3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







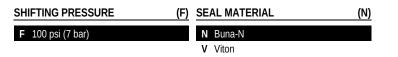
Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### TECHNICAL DATA

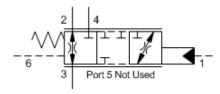
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

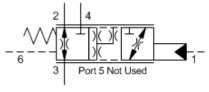
#### Model Code Example: DRBPXFN



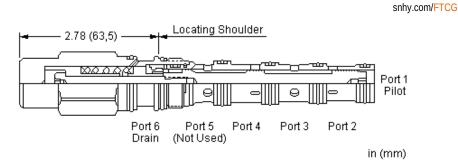




C-Spool



R-Spool



This valve is a 3-way, 2-position proportional directional valve. In the spring-biased position, a metered path is open between 2 and 3 with port 4 blocked. Pilot pressure at port 1 creates a metering orifice between 3 and 4 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes. The spring chamber is drained through port 6 and port 5 is not used.

Depending on the spool specified, ports 2, 3, and 4 are either closed or restricted during transition.

#### **TECHNICAL DATA**

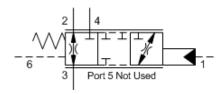
Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

#### **CONFIGURATION OPTIONS**

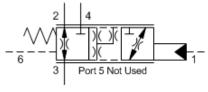
#### Model Code Example: FTCGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Standard Pilot	C Closed Crossover	N Buna-N	
	R Restricted Crossover	V Viton	

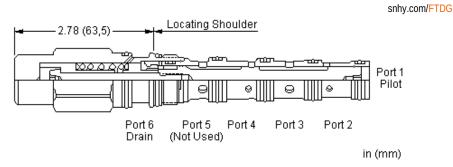








R-Spool



This valve is a 3-way, 2-position proportional directional valve. In the spring-biased position, a metered path is open between 2 and 3 with port 4 blocked. Pilot pressure at port 1 creates a metering orifice between 3 and 4 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes. The spring chamber is drained through port 6 and port 5 is not used.

Depending on the spool specified, ports 2, 3, and 4 are either closed or restricted during transition.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: FTDGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Standard Pilot	C Closed Crossover	N Buna-N	
	R Restricted Crossover	V Viton	



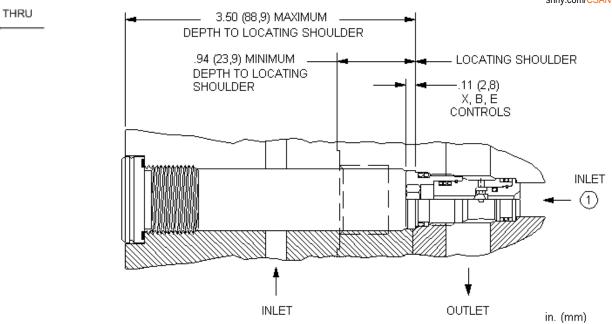
0

2

MODEL CSAN



snhy.com/CSAN



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

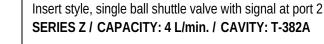
Model Code Example: CSANXXN

CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N)
X Not Adjustable	Χ -	N Buna-N	
		V Viton	

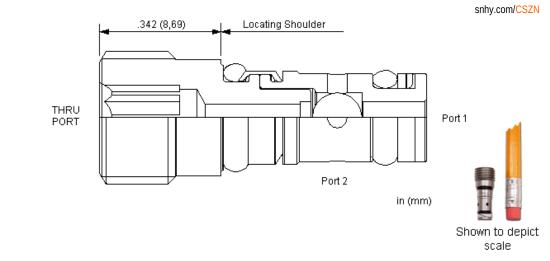


THRU

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The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Valve Internal Hex Size	4 mm
Seal kit - Cartridge	Buna: 990382007
Seal kit - Cartridge	Viton: 990382006

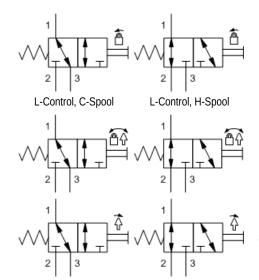
#### **CONFIGURATION OPTIONS**

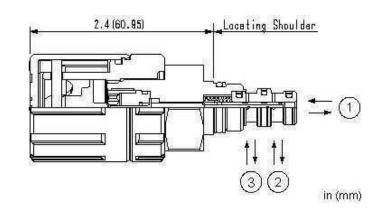
# Model Code Example: CSZNXXN

CONTROL	(X)	ADJUSTMENT RANGE (X	<u>()</u>	SEAL MATERIAL	(N)
X Not Adjustable		Χ -		N Buna-N	
				V Viton	



snhy.com/DBAM





These pilot-stage, directional, 2-position, 3-way valves are manually operated cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3. These cartridges are designed for pilot flow applications. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990109007
Seal kit - Cartridge	EPDM: 990009014
Seal kit - Cartridge	Viton: 990109006

#### **CONFIGURATION OPTIONS**

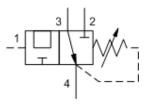
#### Model Code Example: DBAMLCN

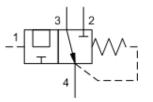
CONTROL	(L) SPOOL CONFIGURATION (C	) <u>SEAL MATERIAL (N)</u>
L Twist/Lock (Detent) Manual Override	c Normally Open 1 to 3, Closed 1 to 2	N Buna-N
D Twist/Lock (Dual) Manual Override	H Normally Open 1 to 2, Closed 1 to 3	E EPDM
T Twist (Momentary) Manual Override		V Viton

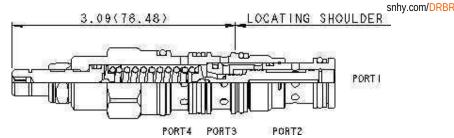
# sun hydraulics D

MODEL DRBR 3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A









Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

# Model Code Example: DRBRLNN

# CONTROL

#### L Standard Screw Adjustment

- $\textbf{C} \hspace{0.1in} \text{Tamper Resistant Factory Set}$
- ${f K}$  Handknob
- O Handknob with Panel Mount

(L) ADJUSTMENT RANGE

# (N) SEAL MATERIAL

V Viton

#### (N) MATERIAL/COATING

Standard Material/Coating

IAP Stainless Steel, Passivated

bar) Standard Setting
E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting

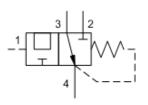
N 60 - 800 psi (4 - 55 bar), 200 psi (14

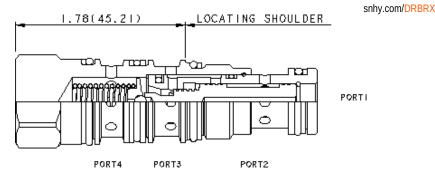
S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting



MODEL DRBRX 3-way, direct-acting, fixed setting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### TECHNICAL DATA

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

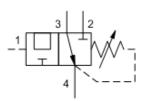
#### Model Code Example: DRBRXFN

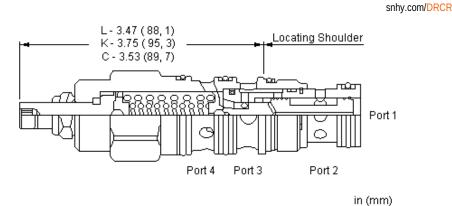
SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
<b>F</b> 100 psi (7 bar)		N Buna-N	
		V Viton	



MODEL DRCR







Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@210 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRCRLNN

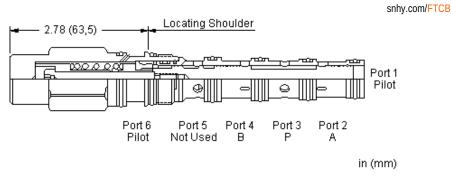
CONTROL	(L)	ADJUSTMENT RANGE (N)	SEAL MATERIAL	(N)
L Standard Screw Adjustment		N 60 - 800 psi (4 - 55 bar), 200 psi (14	N Buna-N	
C Concealed Manual Override		bar) Standard Setting	V Viton	
K Handknob		E 200 - 400 psi (14 - 28 bar), 200 psi (14 bar) Standard Setting		
		S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting		



MODEL FTCB 3-way, 3-position, proportional directional valve SERIES 2 / CAPACITY: 28 L/min. / CAVITY: T-52A



2 4 -6 3 Port 5 Not Used



This valve is a 3-way, 3-position proportional directional valve. Ports 2, 3, and 4 are closed in the center position. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

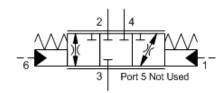
#### CONFIGURATION OPTIONS

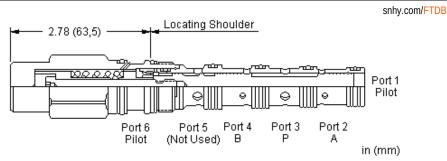
#### Model Code Example: FTCBXCN

CONTROL	() SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		V Viton	









This valve is a 3-way, 3-position proportional directional valve. Ports 2, 3, and 4 are closed in the center position. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

#### **CONFIGURATION OPTIONS**

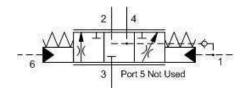
#### Model Code Example: FTDBXCN

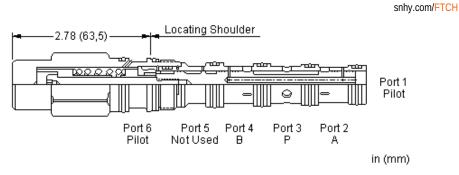
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N	<b>)</b>
X Not Adjustable		C Normally Closed		N Buna-N		
				V Viton		-



MODEL FTCH 3-way, 3-position, proportional directional valve with center bleed down SERIES 2 / CAPACITY: 28 L/min. / CAVITY: T-52A







This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

#### **CONFIGURATION OPTIONS**

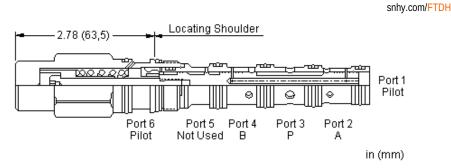
#### Model Code Example: FTCHXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		V Viton	



MODEL FTDH





This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

#### **CONFIGURATION OPTIONS**

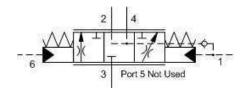
#### Model Code Example: FTDHXCN

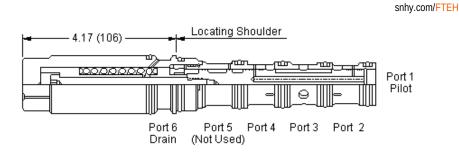
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	



MODEL FTEH 3-way, 3-position, proportional directional valve with center bleed down SERIES 3 / CAPACITY: 60 L/min. / CAVITY: T-53A







This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

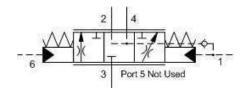
#### CONFIGURATION OPTIONS

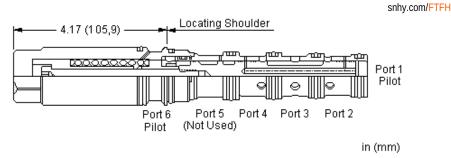
#### Model Code Example: FTEHXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	









This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

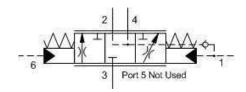
#### **CONFIGURATION OPTIONS**

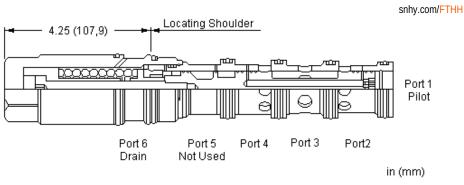
#### Model Code Example: FTFHXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		V Viton	









This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Port 5 is not used.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar
Pilot Volume Displacement	4,3 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: FTHHXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		14.16	

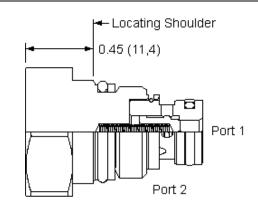
V Viton



2



snhy.com/CXAA



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Viton: 990608006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXAAXBN

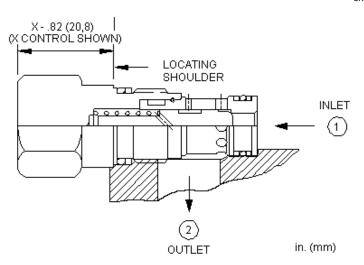
CONTROL	(X) CRACKING PRESSURE	(B)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>B</b> 15 psi (1 bar)		N Buna-N		Standard Material/Coating
	<b>F</b> 100 psi (7 bar)		E EPDM		IAP Stainless Steel, Passivated
	<b>Z</b> 1 psi (0,07 bar)		V Viton		ILH Mild Steel, Zinc-Nickel



2



snhy.com/CXBA



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.		
Seal kit - Cartridge	Buna: 990162007		
Seal kit - Cartridge	EPDM: 990162014		
Seal kit - Cartridge	Polyurethane: 990162002		
Seal kit - Cartridge	Viton: 990162006		

# CONFIGURATION OPTIONS

#### Model Code Example: CXBAXCN

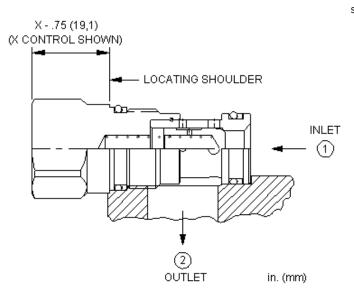
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM		IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton		ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			





snhy.com/CXDA





Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.		
Seal kit - Cartridge	Buna: 990010007		
Seal kit - Cartridge	EPDM: 990010014		
Seal kit - Cartridge	Polyurethane: 990010002		
Seal kit - Cartridge	Viton: 990010006		

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXDAXCN

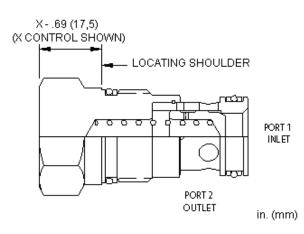
CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				



2



snhy.com/CXFA



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.	
Seal kit - Cartridge	Buna: 990203007	
Seal kit - Cartridge	EPDM: 990203014	
Seal kit - Cartridge	Viton: 990203006	

# **CONFIGURATION OPTIONS**

#### Model Code Example: CXFAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

**E** 75 psi (5 bar)

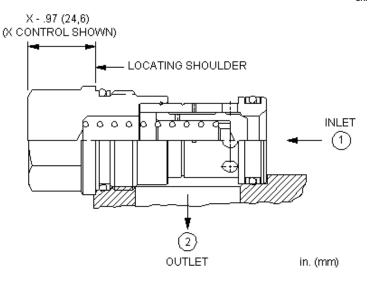




snhy.com/CXHA



2



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.		
Seal kit - Cartridge	Buna: 990016007		
Seal kit - Cartridge	EPDM: 990016014		
Seal kit - Cartridge	Polyurethane: 990016002		
Seal kit - Cartridge	Viton: 990016006		

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXHAXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	<b>E</b> 75 psi (5 bar)				

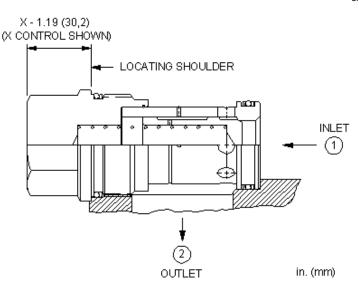




snhy.com/CXJA



2



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.		
Seal kit - Cartridge	Buna: 990018007		
Seal kit - Cartridge	EPDM: 990018014		
Seal kit - Cartridge	Polyurethane: 990018002		
Seal kit - Cartridge	Viton: 990018006		

#### **CONFIGURATION OPTIONS**

# Model Code Example: CXJAXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				
	<b>F</b> 100 psi (7 bar)				

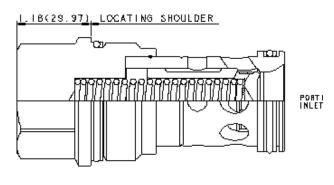
G 150 psi (10,5 bar)



2



snhy.com/CXKA



PORT2 OUTLET

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

G 150 psi (10,5 bar)

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

#### **CONFIGURATION OPTIONS**

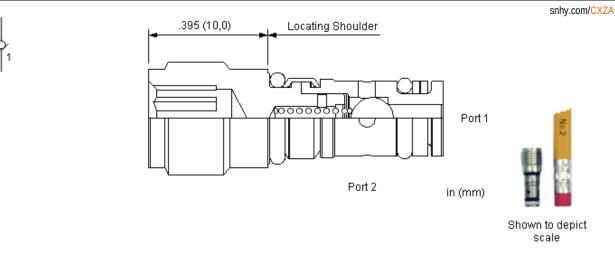
#### Model Code Example: CXKAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	E EPDM	<b>/AP</b> Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton	ILH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			
	<b>F</b> 100 psi (7 bar)			



2





Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	5 mm
Seal kit - Cartridge	Buna: 990382007
Seal kit - Cartridge	Viton: 990382006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXZAXCN

CONTROL (X)	CRACKING PRESSURE (C)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	<ul> <li>C 30 psi (2 bar)</li> <li>A 4 psi (0,3 bar)</li> <li>B 15 psi (1 bar)</li> </ul>	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated

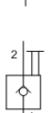


MODEL CXAD

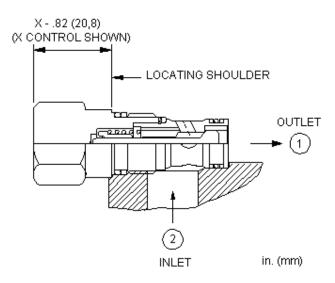
# Free flow side to nose check valve CAPACITY: 30 L/min. / CAVITY: T-162A



snhy.com/CXAD



2



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.	
Seal kit - Cartridge	Buna: 990162007	
Seal kit - Cartridge	EPDM: 990162014	
Seal kit - Cartridge	Polyurethane: 990162002	
Seal kit - Cartridge	Viton: 990162006	

#### **CONFIGURATION OPTIONS**

# Model Code Example: CXADXCN

CONTROL	(X) NOMINAL CONTROL PRESSURE (C)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	<b>A</b> 4 psi (0,3 bar)	E EPDM	IAP Stainless Steel, Passivated
	<b>D</b> 50 psi (3,5 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>E</b> 75 psi (5 bar)		

**Z** 1 psi (0,07 bar)

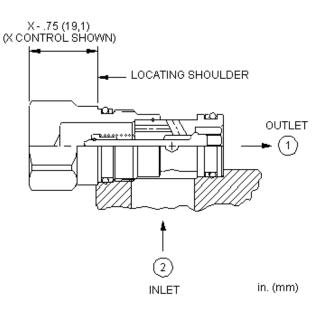
Created on 11/04/2016 © 2016 Sun Hydraulics Corporation See www.sunhydraulics.com for detailed product information





snhy.com/CXCD





Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

#### **TECHNICAL DATA**

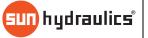
F 100 psi (7 bar)

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.	
Seal kit - Cartridge	Buna: 990010007	
Seal kit - Cartridge	EPDM: 990010014	
Seal kit - Cartridge	Polyurethane: 990010002	
Seal kit - Cartridge	Viton: 990010006	

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXCDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Override	A 4 psi (0,3 bar)	E EPDM	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

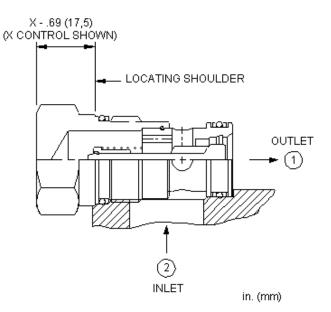




snhy.com/CXED



2



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

#### CONFIGURATION OPTIONS

# Model Code Example: CXEDXCN

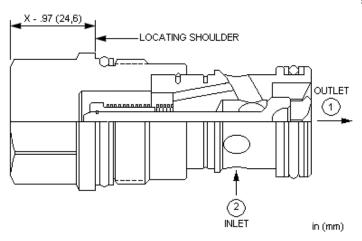
CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				



snhy.com/CXGD



2



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXGDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	<b>/LH</b> Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

E 75 psi (5 bar)

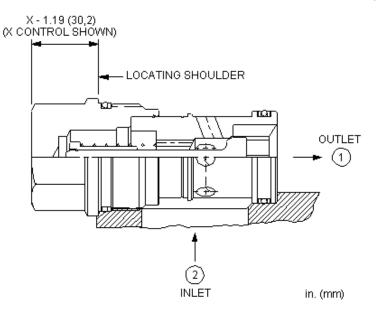




snhy.com/CXID



2



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

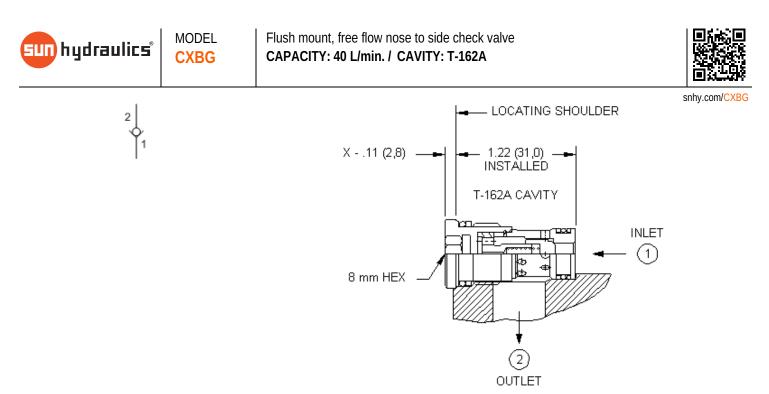
# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXIDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		
	<b>E</b> 75 psi (5 bar)		



in. (mm)

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

# **TECHNICAL DATA**

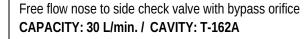
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXBGXAN

CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A 4 psi (0,3 bar)	N Buna-N	Standard Material/Coating
	<b>B</b> 15 psi (1 bar)	V Viton	<b>/AP</b> Stainless Steel, Passivated
	<b>C</b> 30 psi (2 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

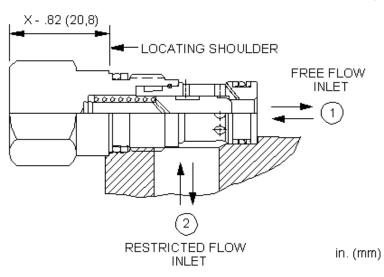






snhy.com/CNBC





Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 1,6 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

# **CONFIGURATION OPTIONS**

## Model Code Example: CNBCXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking P .062 in. (0,4 - 1,6 mm)</li> <li>A 4 psi (0,3 bar) Cracking F 062 in. (0,4 - 1,6 mm)</li> <li>B 15 psi (1 bar) Cracking P .062 in. (0,4 - 1,6 mm)</li> <li>D 50 psi (3,5 bar) Cracking .016062 in. (0,4 - 1,6 m)</li> </ul>	Pressure, .016 ressure, .016 - Pressure,	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated
		<ul> <li>F 75 psi (5 bar) Cracking P .062 in. (0,4 - 1,6 mm)</li> <li>F 100 psi (7 bar) Cracking 062 in. (0,4 - 1,6 mm)</li> </ul>				

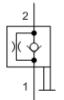


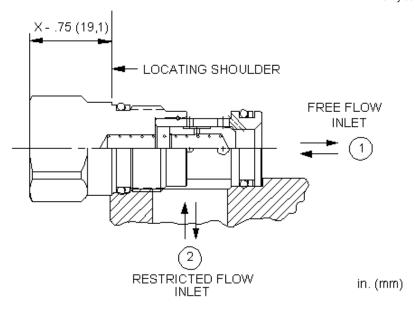
MODEL CNDC



snhy.com/CNDC







Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

## **TECHNICAL DATA**

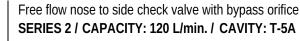
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 2,7 mm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CNDCXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable L Manual Load Release		<ul> <li>C 30 psi (2 bar) Cracking Pressure .107 in. (0,4 - 2,7 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure107 in. (0,4 - 2,7 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure .107 in. (0,4 - 2,7 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure .016107 in. (0,4 - 2,7 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure .107 in. (0,4 - 2,7 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure .107 in. (0,4 - 2,7 mm)</li> </ul>	e, .016 , .016 - re, , .016 -	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

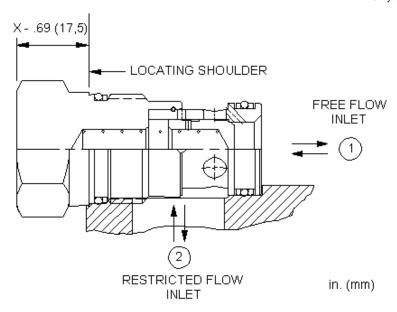






snhy.com/CNFC





Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,2 mm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CNFCXCN

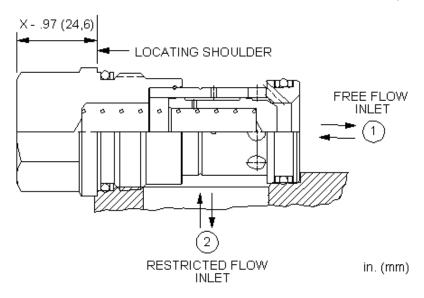
CONTROL (X	X) <u>SETTIN</u>	IG RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	A 4 p 1 B 15 .12 D 50 .01 E 75 .12 F 100	psi (2 bar) Cracking Pressure, .0: 7 in. (0,4 - 3,2 mm) si (0,3 bar) Cracking Pressure, .0 27 in. (0,4 - 3,2 mm) psi (1 bar) Cracking Pressure, .0: 7 in. (0,4 - 3,2 mm) psi (3,5 bar) Cracking Pressure, 6127 in. (0,4 - 3,2 mm) psi (5 bar) Cracking Pressure, .0: 7 in. (0,4 - 3,2 mm) 0 psi (7 bar) Cracking Pressure, .1 27 in. (0,4 - 3,2 mm)	016 16 - 16 -	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel











Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 6,4 mm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

# Model Code Example: CNHCXCN

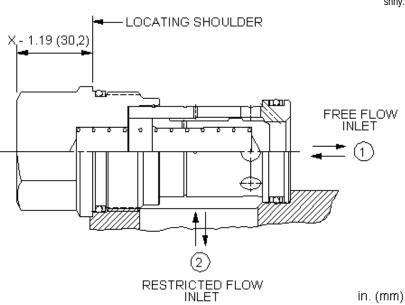
CONTROL	(X)	SETTING RANGE	C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressure, .016 .252 in. (0,4 - 6,4 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .016 252 in. (0,4 - 6,4 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure, .016 .252 in. (0,4 - 6,4 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure, .016 .252 in. (0,4 - 6,4 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016 252 in. (0,4 - 6,4 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016 252 in. (0,4 - 6,4 mm)</li> </ul>	6 5 - 5 -	N Buna-N E EPDM V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel





snhy.com/CNJC





Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 9 mm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

## Model Code Example: CNJCXCN

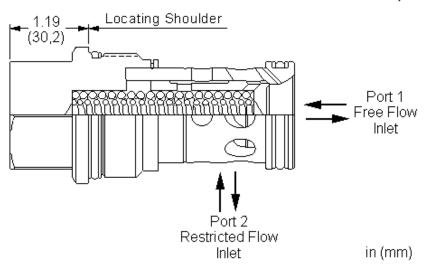
CONTROL	(X) SETTING RANGE (C)	SEAL MATERIAL	N) MATERIAL/COATING
X Not Adjustable		N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



MODEL CNKC



snhy.com/CNKC



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 9 mm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

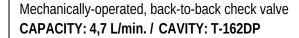
# Model Code Example: CNKCXAN

CONTROL	(X) S	SETTING RANGE	(A)	SEAL MATERIAL	(N)
X Not Adjustable		A 4 psi (0,3 bar) Cracking Pressure, . 354 in. (0,4 - 9 mm)	016	N Buna-N V Viton	
	_	B 15 psi (1 bar) Cracking Pressure, .0 .354 in. (0,4 - 9 mm)	)16 -		
		C 30 psi (2 bar) Cracking Pressure, .0 .354 in. (0,4 - 9 mm)	)16 -		
		D 50 psi (3,5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)			
		E 75 psi (5 bar) Cracking Pressure, .0 .354 in. (0,4 - 9 mm)	)16 -		
		<b>F</b> 100 psi (7 bar) Cracking Pressure, 354 in. (0,4 - 9 mm)	.016		
		<b>G</b> 150 psi (10 bar) Cracking Pressure .016354 in. (0,4 - 9 mm)	,		
		Z 1 psi (0,07 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)			

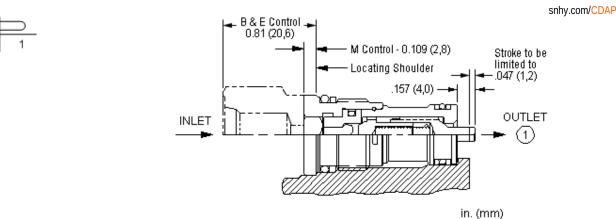


THRU

MODEL





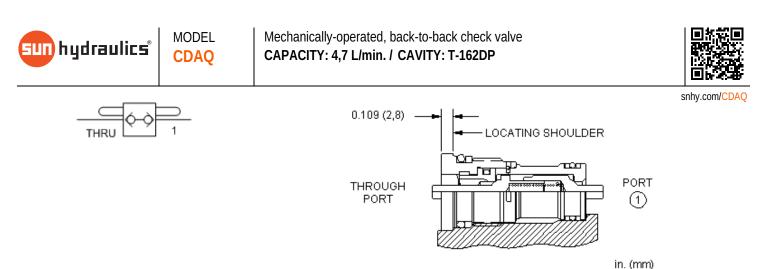


The phaser check is a pair of checks, back-to-back, with the poppet at port 1 mechanically actuated. The valve is meant to be installed into the piston of a cylinder. When the cylinder reaches the end of its stroke the poppet in the phaser check is shoved off its seat allowing flow through the piston. This allows two cylinders to get back into phase.

# **TECHNICAL DATA**

Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

# CONFIGURATION OPTIONS Model Code Example: CDAPMCN CONTROL (M) CRACKING PRESSURE (C) SEAL MATERIAL (N) M Mechanical Actuation C 30 psi (2 bar) N Buna-N B External 1/4 BSPP Port V Viton E External 4-SAE Port V Viton



111. (1181)Y

The phaser check is a pair of checks, back-to-back, with both poppets mechanically actuated. The valve is meant to be installed into the piston or rod of a cylinder. When the cylinder reaches the end of its stroke the poppet in the phaser check is shoved off its seat allowing flow through the piston. This allows two cylinders to get back into phase.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

**NOTES** A special tool is required to install this cartridge. Use part number 998-101 to order this tool.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CDAQMCN

CONTROL	(M)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
M Mechanical Actuation		<b>C</b> 30 psi (2 bar)		N Buna-N	
				V Viton	

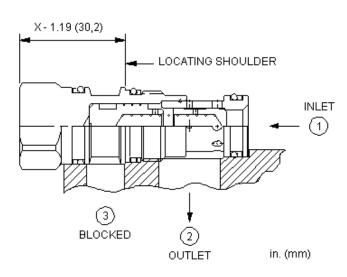


MODEL CXDC



snhy.com/CXDC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## CONFIGURATION OPTIONS

# Model Code Example: CXDCXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	_	A 4 psi (0,3 bar)		V Viton		<b>IAP</b> Stainless Steel, Passivated
		<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel
		<b>D</b> 50 psi (3,5 bar)				
		E 75 psi (5 bar)				
		F 100 psi (7 bar)				
		7 1  poi (0.07  hor)				

Z 1 psi (0,07 bar)

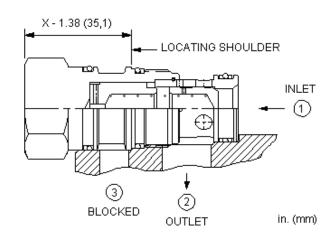


MODEL CXFC



snhy.com/CXFC





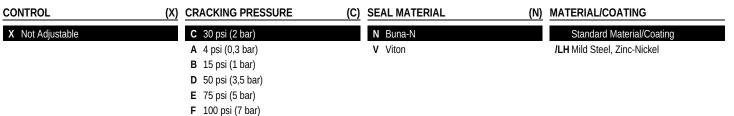
Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXFCXCN



**Z** 1 psi (0,07 bar)

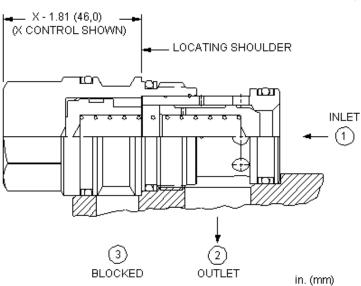


MODEL CXHC



snhy.com/CXHC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXHCXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
		A 4 psi (0,3 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
		<b>B</b> 15 psi (1 bar)				
		<b>D</b> 50 psi (3,5 bar)				
		E 75 psi (5 bar)				
		<b>F</b> 100 pci (7 bor)				

**F** 100 psi (7 bar)

Z 1 psi (0,07 bar)

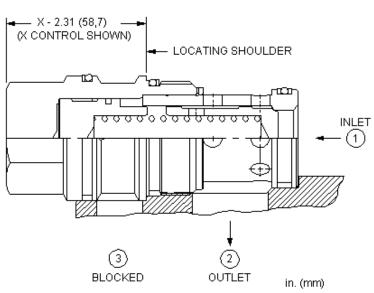


MODEL CXJC



snhy.com/CXJC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CXJCXCN

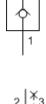
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	
	A 4 psi (0,3 bar)	V Viton	
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	<b>F</b> 100 psi (7 bar)		
	Z 1 psi (0,07 bar)		



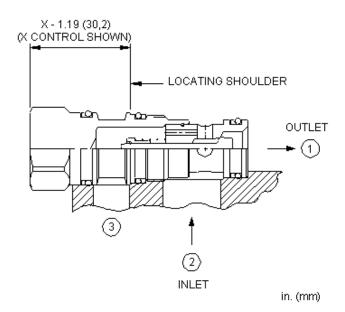
MODEL CXCE



snhy.com/CXCE







Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXCEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coatin	g
	A 4 psi (0,3 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	
	<b>B</b> 15 psi (1 bar)			
	<b>D</b> 50 psi (3,5 bar)			

E 75 psi (5 bar)

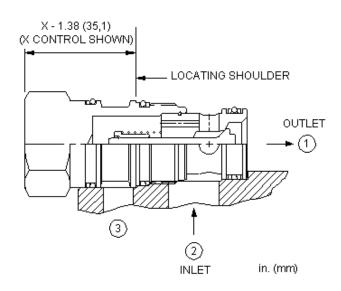


MODEL CXEE



snhy.com/CXEE





Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXEEXCN

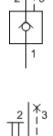
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Co	pating
	A 4 psi (0,3 bar)	V Viton	IAP Stainless Steel, Pass	sivated
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nick	el
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

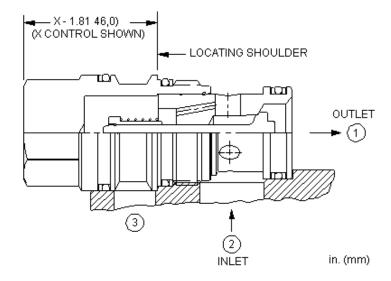


MODEL CXGE



snhy.com/CXGE





Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CXGEXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		V Viton		IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				

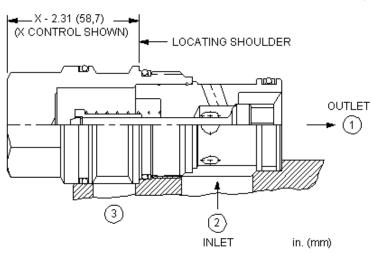


MODEL CXIE



snhy.com/CXIE





Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

# **TECHNICAL DATA**

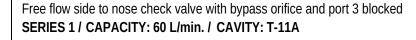
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# CONFIGURATION OPTIONS

## Model Code Example: CXIEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)		ILH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			
	<b>F</b> 100 psi (7 bar)			

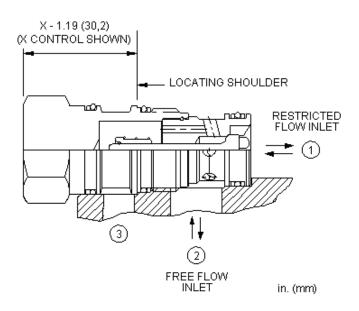






snhy.com/CNCD





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,9 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CNCDXCN

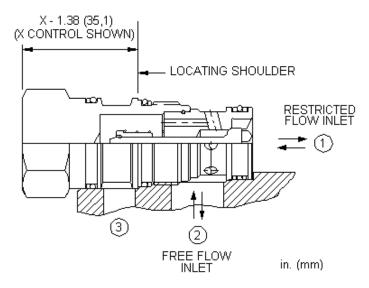
CONTROL (X)	SETTING RANGE (C)	SEAL MATERIAL	N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016153 in. (0,4 - 3,9 mm)	<ul><li>N Buna-N</li><li>V Viton</li></ul>	Standard Material/Coating /AP Stainless Steel, Passivated



MODEL CNED



snhy.com/CNED



Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,4 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CNEDXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL (N	) MATERIAL/COATING
X Not Adjustable		C 30 psi (2 bar) Cracking Pressure, .01	- 6	N Buna-N	Standard Material/Coating
		.135 in. (0,4 - 3,4 mm)		V Viton	<b>IAP</b> Stainless Steel, Passivated
					/LH Mild Steel, Zinc-Nickel

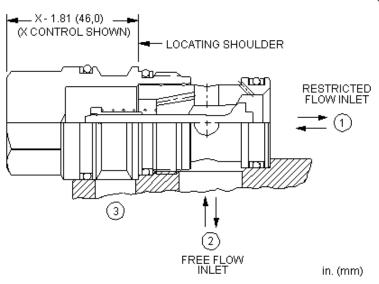


MODEL CNGD



snhy.com/CNGD





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CNGDXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL (N	MATERIAL/COATING
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressure, .(.218 in. (0,4 - 5,5 mm))</li> <li>A 4 psi (0,3 bar) Cracking Pressure,</li></ul>	016 016 - 016 -	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated

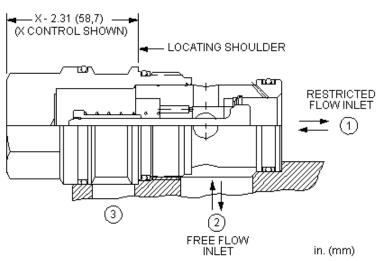


MODEL CNID



snhy.com/CNID





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# CONFIGURATION OPTIONS

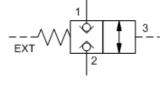
# Model Code Example: CNIDXCN

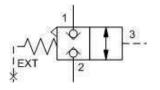
CONTROL	(X)	SETTING RANGE (C)	<u>;) s</u>	SEAL MATERIAL	N)	MATERIAL/COATING
X Not Adjustable		C 30 psi (2 bar) Cracking Pressure, .016 -	-	N Buna-N		Standard Material/Coating
		.218 in. (0,4 - 5,5 mm)		V Viton		IAP Stainless Steel, Passivated

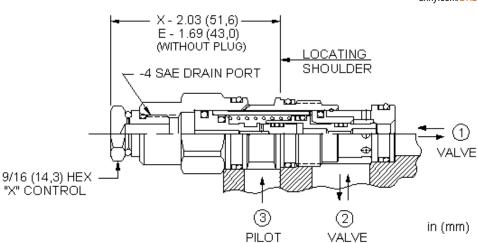












This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Viton: 990311006

## **CONFIGURATION OPTIONS**

## Model Code Example: DKDCEHN

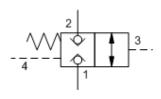
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
E External 4-SAE Drain Port		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating
X Standard Pilot, Atmospheric Vent				E EPDM		
				V Viton		

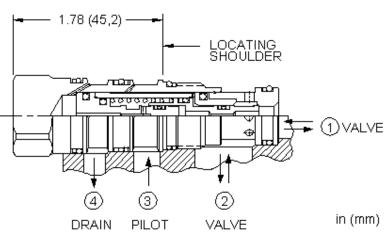


MODEL DKDS



snhy.com/DKDS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

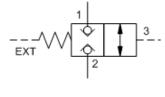
# Model Code Example: DKDSXHN

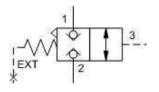
CONTROL ()	) MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot	H 400 psi (28 bar)	N Buna-N	Standard Material/Coating
		E EPDM	IAP Stainless Steel, Passivated
		V Viton	ILH Mild Steel, Zinc-Nickel

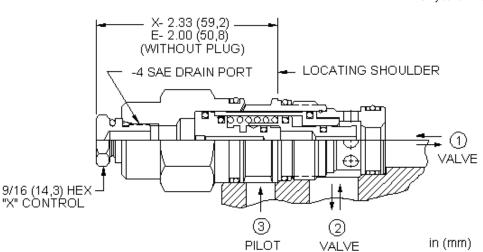




snhy.com/DKFC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

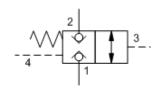
# Model Code Example: DKFCEHN

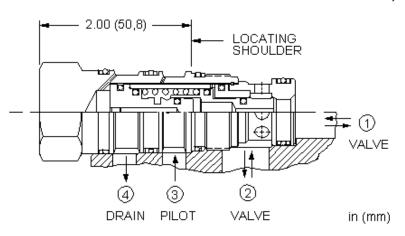
<u>cc</u>	NTROL (E	) MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
Е	External 4-SAE Drain Port	H 300 psi (20 bar)		N Buna-N	
Х	Standard Pilot, Atmospheric Vent			V Viton	





snhy.com/DKFS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

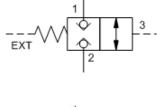
## Model Code Example: DKFSXHN

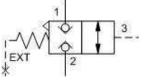
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 300 psi (20 bar)		N Buna-N		Standard Material/Coating
				E EPDM		IAP Stainless Steel, Passivated
				V Viton		/LH Mild Steel, Zinc-Nickel

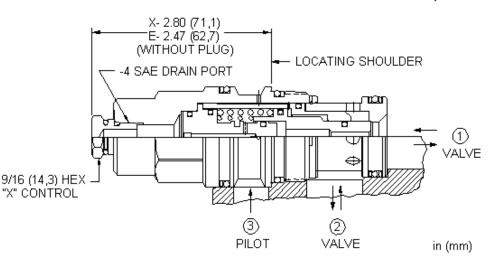




snhy.com/DKHC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

# Model Code Example: DKHCEHN

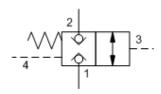
CONTROL (E	) MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent			V Viton	

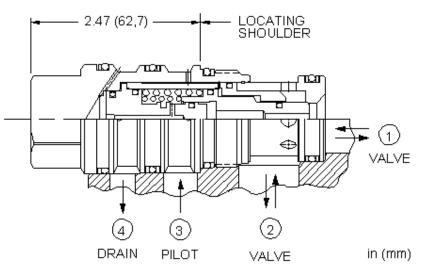


MODEL DKHS



snhy.com/DKHS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

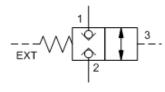
# **CONFIGURATION OPTIONS**

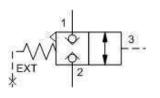
# Model Code Example: DKHSXHN

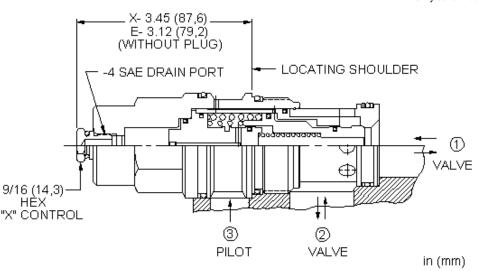
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Standard Pilot		H 300 psi (20 bar)		N Buna-N		Standard Material/Coating	
				E EPDM		IAP Stainless Steel, Passivated	
				V Viton		ILH Mild Steel, Zinc-Nickel	



snhy.com/DKJC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

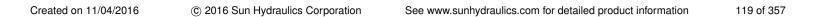
#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

## Model Code Example: DKJCEHN

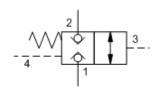
CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)	N Buna-N	
X Standard Pilot, Atmospheric Vent		E EPDM	
		V Viton	

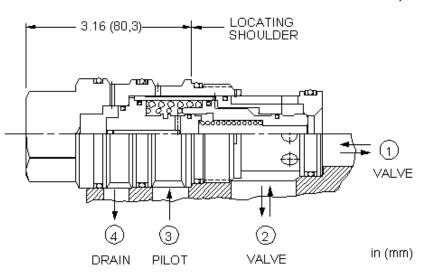






snhy.com/DKJS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

#### **CONFIGURATION OPTIONS**

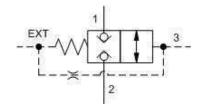
# Model Code Example: DKJSXHN

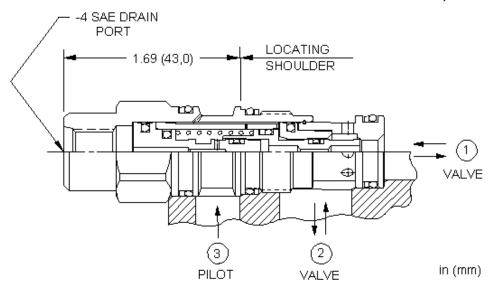
CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating
		E EPDM	IAP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel





snhy.com/DKDD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

# Model Code Example: DKDDEHN

CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 400 psi (28 bar)		N Buna-N	

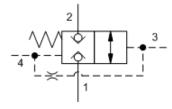
V Viton

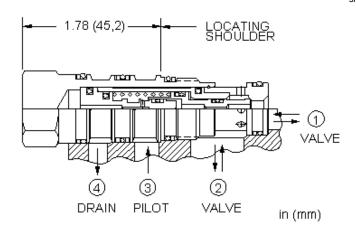


MODEL DKDR



snhy.com/DKDR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

# Model Code Example: DKDRXHN

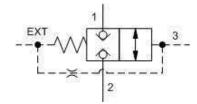
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Vent to Operate		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating	
				V Viton		IAP Stainless Steel, Passivated	
						ILH Mild Steel, Zinc-Nickel	

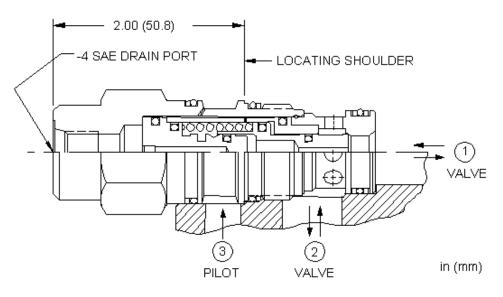


MODEL DKFD



snhy.com/DKFD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

# Model Code Example: DKFDEHN

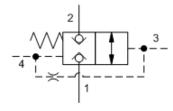
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

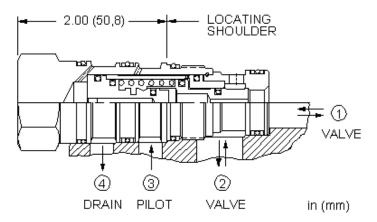


MODEL DKFR



snhy.com/DKFR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

## CONFIGURATION OPTIONS

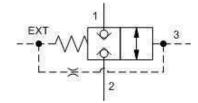
# Model Code Example: DKFRXHN

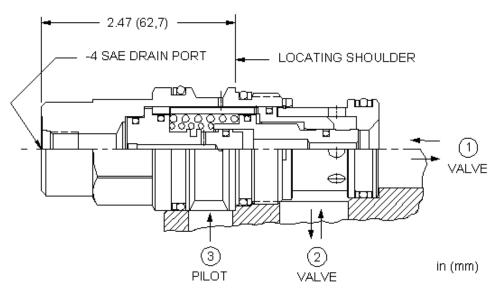
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate		H 300 psi (20 bar)		N Buna-N	
				V Viton	





snhy.com/DKHD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

### **CONFIGURATION OPTIONS**

## Model Code Example: DKHDEHN

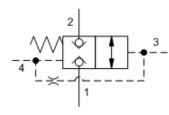
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

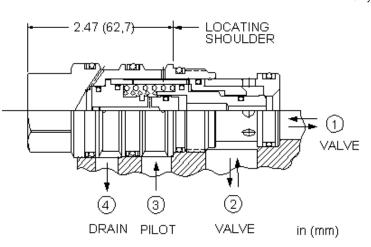


MODEL DKHR



snhy.com/DKHR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Seal kit - Cartridge	Buna: 990023007		
Seal kit - Cartridge	Polyurethane: 990023002		
Seal kit - Cartridge	Viton: 990023006		

#### **CONFIGURATION OPTIONS**

### Model Code Example: DKHRXHN

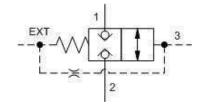
CONTROL (X	) MINIMUM PILOT PRESSURE (H	SEAL MATERIAL (N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N
		V Viton

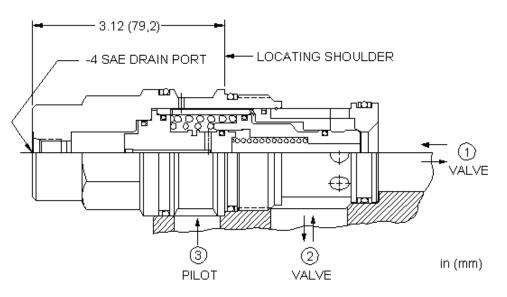


MODEL DKJD



snhy.com/DKJD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

### **CONFIGURATION OPTIONS**

## Model Code Example: DKJDEHN

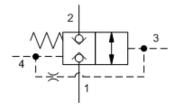
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

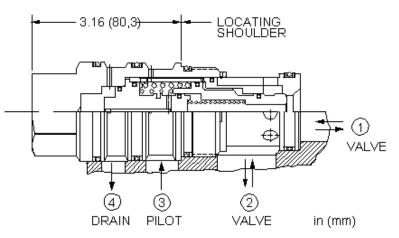


MODEL DKJR



snhy.com/DKJR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Seal kit - Cartridge	Buna: 990024007		
Seal kit - Cartridge	Polyurethane: 990024002		
Seal kit - Cartridge	Viton: 990024006		

### **CONFIGURATION OPTIONS**

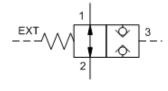
## Model Code Example: DKJRXHN

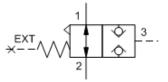
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate		H 300 psi (20 bar)		N Buna-N	
				V Viton	

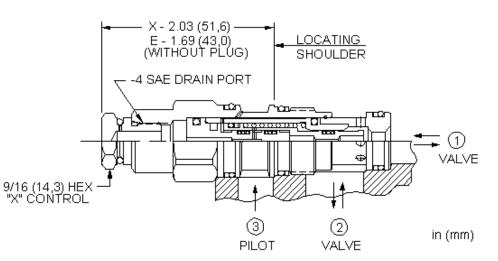




snhy.com/DODC







This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

# **TECHNICAL DATA**

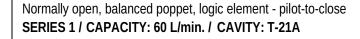
Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Viton: 990311006

## **CONFIGURATION OPTIONS**

## Model Code Example: DODCEHN

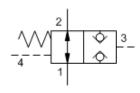
CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
E External 4-SAE Drain Port	H 400 psi (28 bar)	N Buna-N	Standard Material/Coating
X Standard Pilot, Atmospheric Vent		V Viton	/AP Stainless Steel, Passivated

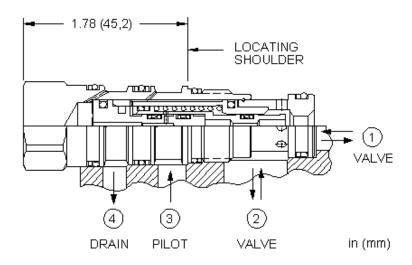






snhy.com/DODS





This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	0,16 cc		
Pilot Passage into Valve	0,8 mm		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	EPDM: 990021014		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

### **CONFIGURATION OPTIONS**

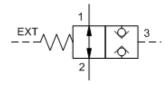
# Model Code Example: DODSXHN

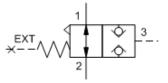
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating
				E EPDM		<b>IAP</b> Stainless Steel, Passivated
				V Viton		/LH Mild Steel, Zinc-Nickel

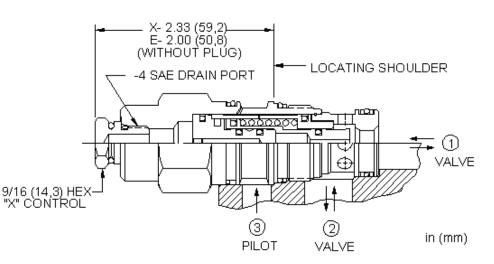




snhy.com/DOFC







This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	0,33 cc		
Seal kit - Cartridge	Buna: 990202007		
Seal kit - Cartridge	Polyurethane: 990002002		
Seal kit - Cartridge	Viton: 990202006		

### **CONFIGURATION OPTIONS**

## Model Code Example: DOFCEHN

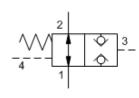
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent				V Viton	

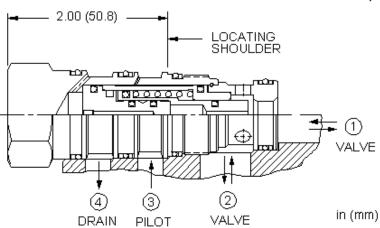


MODEL DOFS



snhy.com/DOFS





This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

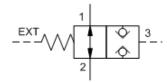
## **CONFIGURATION OPTIONS**

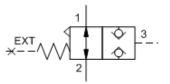
## Model Code Example: DOFSXHN

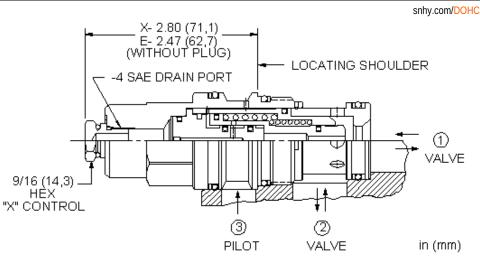
CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating	
		E EPDM	<b>/AP</b> Stainless Steel, Passivated	
		V Viton	/LH Mild Steel, Zinc-Nickel	











This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

## **TECHNICAL DATA**

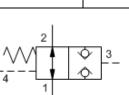
Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	0,82 cc		
Seal kit - Cartridge	Buna: 990017007		
Seal kit - Cartridge	Polyurethane: 990017002		
Seal kit - Cartridge	Viton: 990017006		

## **CONFIGURATION OPTIONS**

# Model Code Example: DOHCEHN

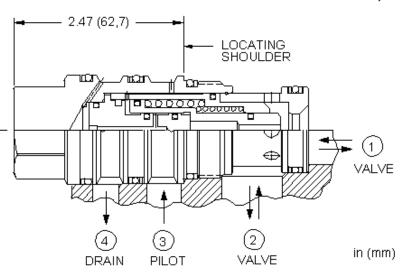
CONTROL (E	) MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent			V Viton	







snhy.com/DOHS



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	0,82 cc		
Seal kit - Cartridge	Buna: 990023007		
Seal kit - Cartridge	EPDM: 990023014		
Seal kit - Cartridge	Polyurethane: 990023002		
Seal kit - Cartridge	Viton: 990023006		

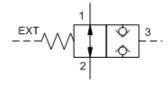
## **CONFIGURATION OPTIONS**

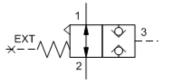
# Model Code Example: DOHSXHN

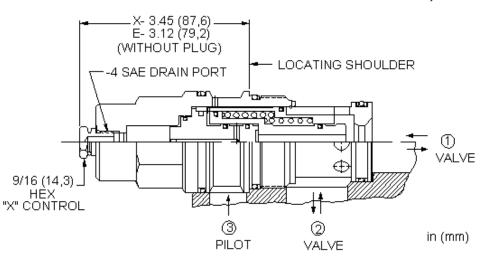
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 300 psi (20 bar)		N Buna-N		Standard Material/Coating
				E EPDM		IAP Stainless Steel, Passivated
				V Viton		



snhy.com/DOJC







This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

# **TECHNICAL DATA**

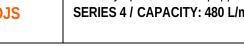
Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	2,8 cc		
Seal kit - Cartridge	Buna: 990019007		
Seal kit - Cartridge	Polyurethane: 990019002		
Seal kit - Cartridge	Viton: 990019006		

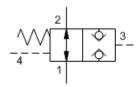
## **CONFIGURATION OPTIONS**

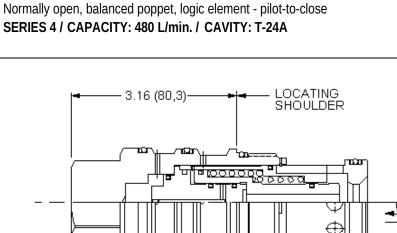
## Model Code Example: DOJCEHN

CONTROL	E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)	N Buna-N	
X Standard Pilot, Atmospheric Vent		V Viton	



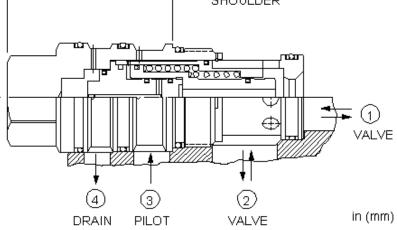








snhy.com/DOJS



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	2,8 cc		
Seal kit - Cartridge	Buna: 990024007		
Seal kit - Cartridge	EPDM: 990024014		
Seal kit - Cartridge	Polyurethane: 990024002		
Seal kit - Cartridge	Viton: 990024006		

### **CONFIGURATION OPTIONS**

# Model Code Example: DOJSXHN

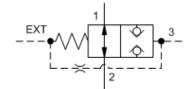
CONTROL	(X) <u>MIN</u>	IMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	Н	300 psi (20 bar)		N Buna-N		Standard Material/Coating
				E EPDM		IAP Stainless Steel, Passivated
				V Viton		/LH Mild Steel, Zinc-Nickel

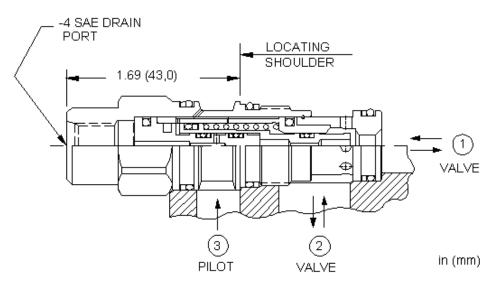


MODEL DODD



snhy.com/DODD





This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,16 cc
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

(N)

CONFIGURATION OPTION	Model Code Example: DODDEHN				
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	
E External 4-SAE Drain Port		H 400 nsi (28 har)		N Buna-N	

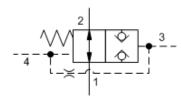
V Viton

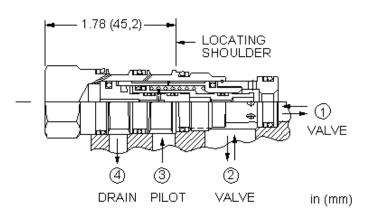


MODEL DODR



snhy.com/DODR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

### **CONFIGURATION OPTIONS**

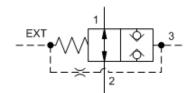
## Model Code Example: DODRXHN

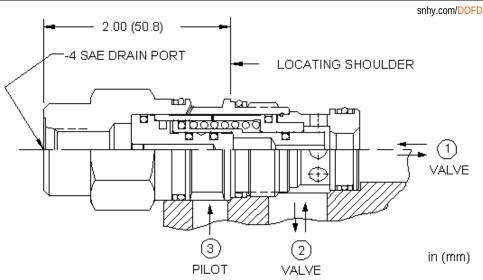
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Vent to Operate		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating
				V Viton		/LH Mild Steel, Zinc-Nickel



MODEL DOFD







This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Pilot Volume Displacement	0,33 cc		
Seal kit - Cartridge	Buna: 990202007		
Seal kit - Cartridge	Polyurethane: 990002002		
Seal kit - Cartridge Viton: 990202006			

**CONFIGURATION OPTIONS** 

## Model Code Example: DOFDEHN

CONTROL E External 4-SAE Drain Port

H 300 psi (20 bar)

(E) MINIMUM PILOT PRESSURE

(H) SEAL MATERIAL N Buna-N

(N)

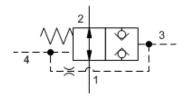
V Viton

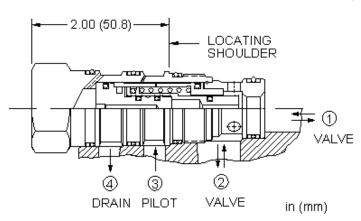


MODEL DOFR



snhy.com/DOFR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

### CONFIGURATION OPTIONS

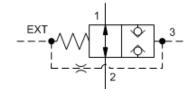
## Model Code Example: DOFRXHN

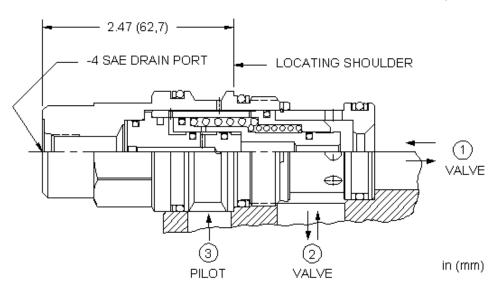
CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	





snhy.com/DOHD





This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

(N)

CONFIGURATION OPTION	Model Code Example: DOHDEHN				
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	

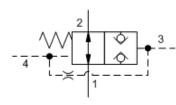
V Viton

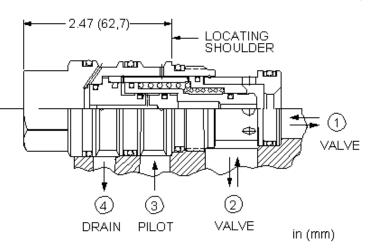


MODEL DOHR



snhy.com/DOHR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

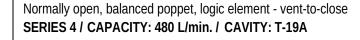
Minimum Pilot Pressure Required to Shift Valve	20 bar	
Maximum Operating Pressure	350 bar	
Control Pilot Flow	See Performance Data	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar	
Seal kit - Cartridge	Buna: 990023007	
eal kit - Cartridge Polyurethane: 990023002		
Seal kit - Cartridge	Viton: 990023006	

## **CONFIGURATION OPTIONS**

## Model Code Example: DOHRXHN

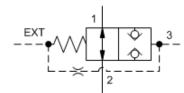
CONTROL ()	() MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)		N Buna-N	
			V Viton	

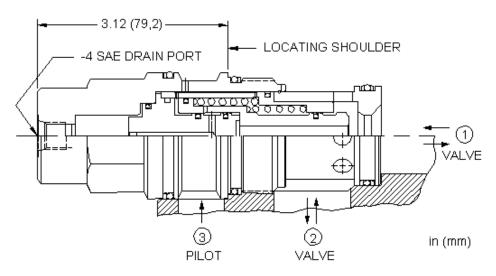






snhy.com/DOJD





This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

## Model Code Example: DOJDEHN

CONTROL	(E)	MINIMUM PILOT PRESSURE (H	H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

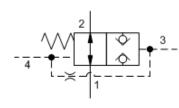
Created on 11/04/2016 © 2016 Sun Hydraulics Corporation See www.sunhydraulics.com for detailed product information 143 of 357

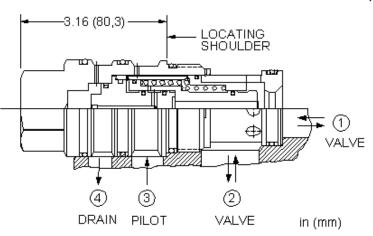


MODEL DOJR



snhy.com/DOJR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

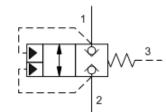
### **CONFIGURATION OPTIONS**

## Model Code Example: DOJRXHN

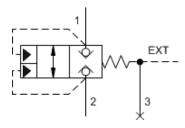
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate		H 300 psi (20 bar)		N Buna-N	
				V Viton	

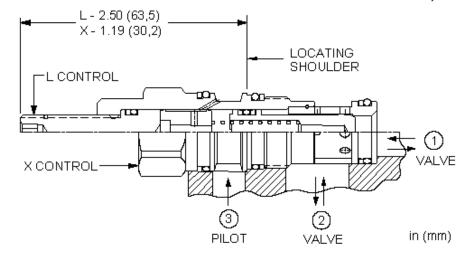


snhy.com/LODC



iun hydraulics"





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

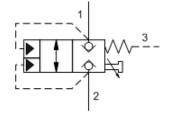
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Pilot Passage into Valve	0,8 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

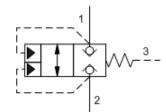
# Model Code Example: LODCXDN

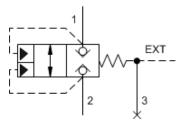
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		V Viton		<b>IAP</b> Stainless Steel, Passivated

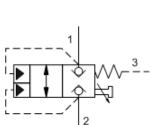
IAP Stainless Steel, Passivat ILH Mild Steel, Zinc-Nickel

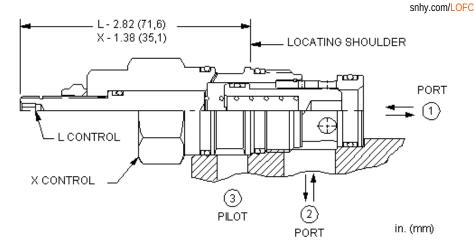












These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

# Model Code Example: LOFCXDN

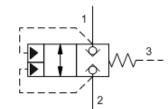
CONTROL	(X)	CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating
				E EPDM		IAP Stainless Steel, Passivated
				V Viton		

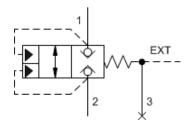


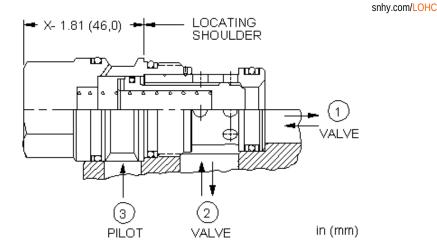
MODEL

Pilot-to-close, spring biased closed, unbalanced poppet logic element SERIES 3 / CAPACITY: 380 L/min. / CAVITY: T-17A









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

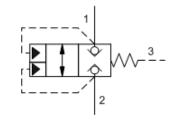
## **CONFIGURATION OPTIONS**

# Model Code Example: LOHCXDN

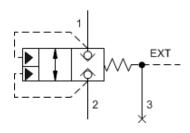
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating	
		E EPDM	<b>/AP</b> Stainless Steel, Passivated	
		V Viton	/LH Mild Steel, Zinc-Nickel	

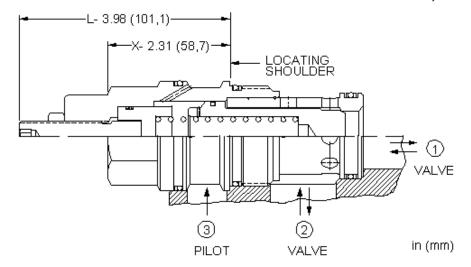






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These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

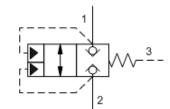
## Model Code Example: LOJCXDN

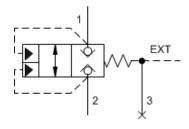
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/CO	ATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Ma	aterial/Coating
		V Viton	/AP Stainless St	eel, Passivated

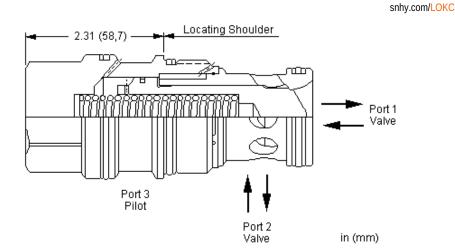


MODEL LOKC









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

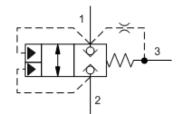
# Model Code Example: LOKCXDN

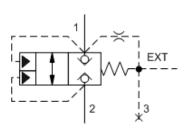
CONTROL	(X)	CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating	
				E EPDM		IAP Stainless Steel, Passivated	
				V Viton		ILH Mild Steel, Zinc-Nickel	

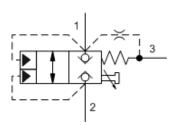


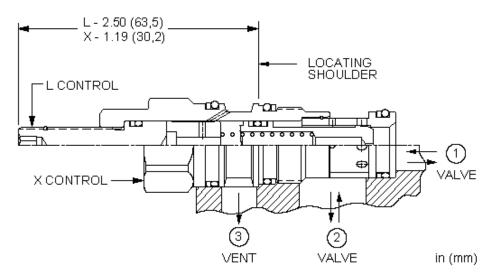


snhy.com/LODA









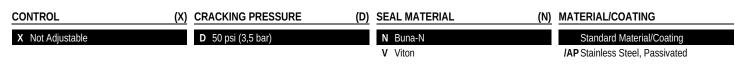
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

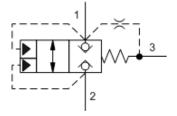
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

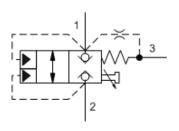
### Model Code Example: LODAXDN

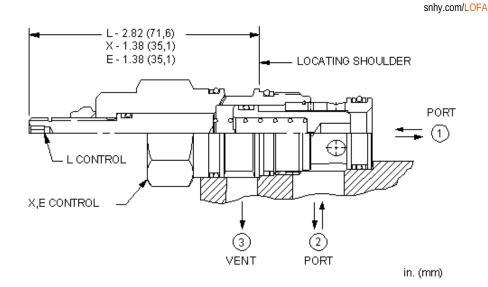






un hydraulics





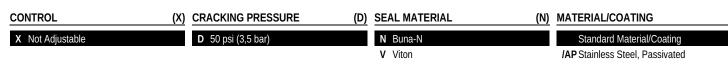
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

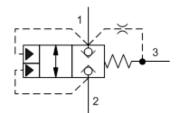
## **CONFIGURATION OPTIONS**

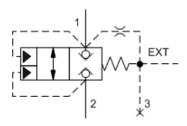
## Model Code Example: LOFAXDN

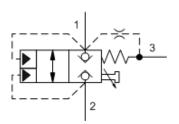


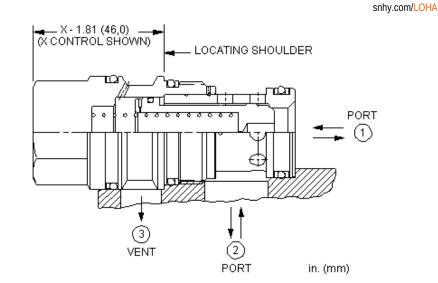












These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

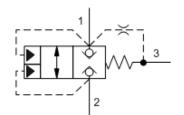
## **CONFIGURATION OPTIONS**

## Model Code Example: LOHAXDN

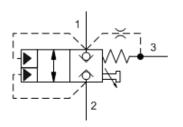
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Co	ating
		V Viton	IAP Stainless Steel, Pass	ivated

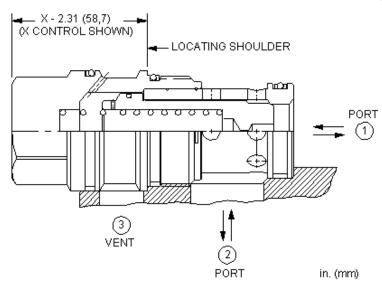


snhy.com/LOJA



un hydraulics





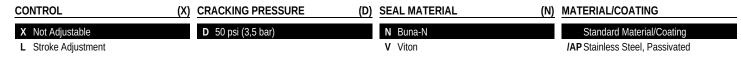
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

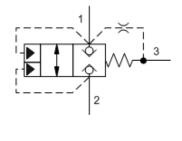
## Model Code Example: LOJAXDN

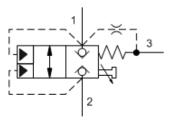


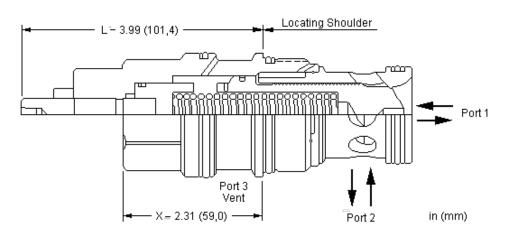




snhy.com/LOKA







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

### **CONFIGURATION OPTIONS**

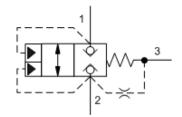
# Model Code Example: LOKAXDN

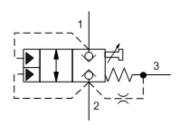


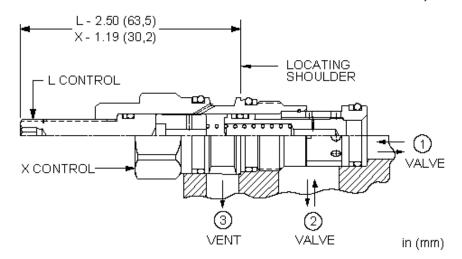




snhy.com/LODB







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

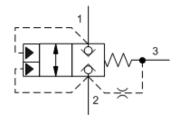
### **CONFIGURATION OPTIONS**

### Model Code Example: LODBXDN

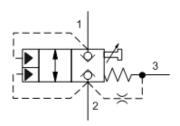
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	<b>IAP</b> Stainless Steel, Passivated

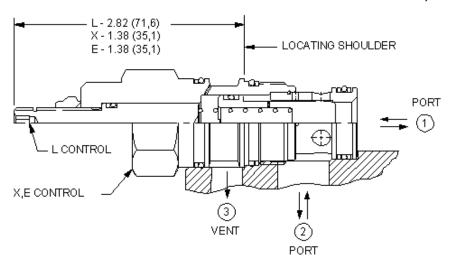


snhy.com/LOFB



<mark>un</mark> hydraulics"





These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

### **CONFIGURATION OPTIONS**

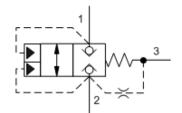
## Model Code Example: LOFBXDN

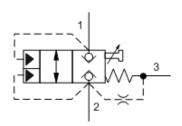
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	<b>IAP</b> Stainless Steel, Passivated

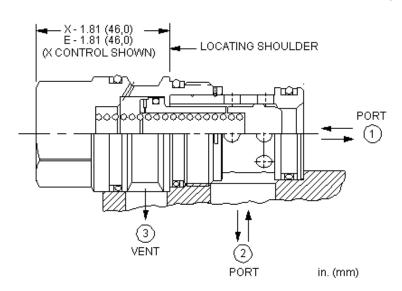




snhy.com/LOHB







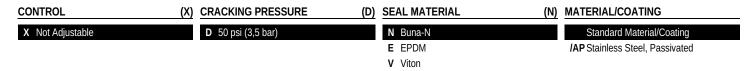
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

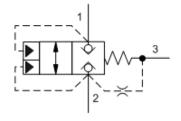
### **CONFIGURATION OPTIONS**

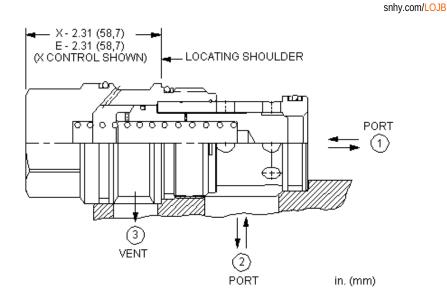
### Model Code Example: LOHBXDN











These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

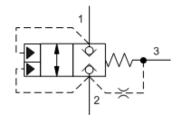
## **CONFIGURATION OPTIONS**

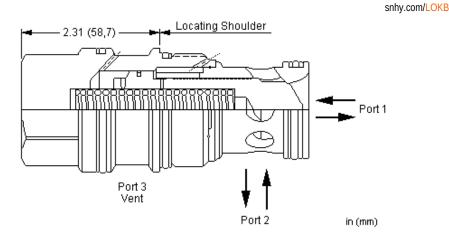
# Model Code Example: LOJBXDN

CONTROL	(X) CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating
			V Viton		IAP Stainless Steel, Passivated









These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

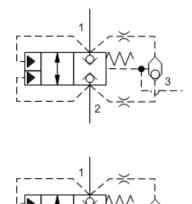
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

# Model Code Example: LOKBXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	<b>AP</b> Stainless Steel, Passivated

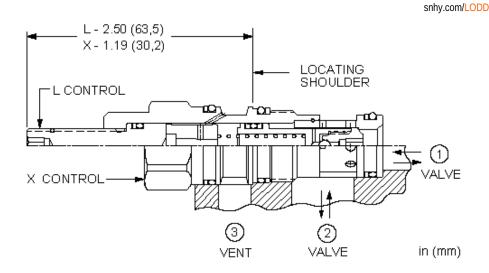




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MODEL

LODD



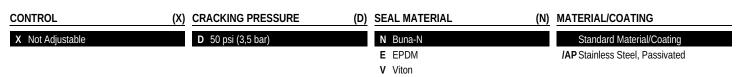
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

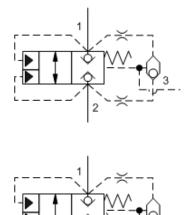
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

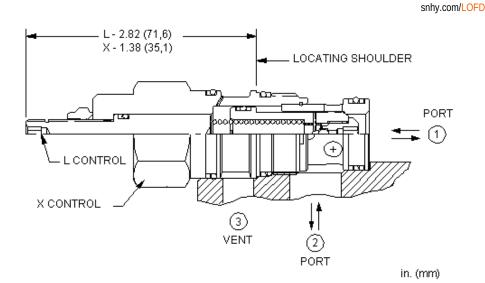
## **CONFIGURATION OPTIONS**

## Model Code Example: LODDXDN









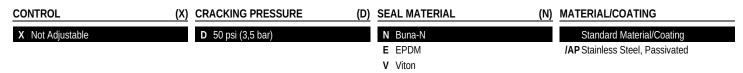
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

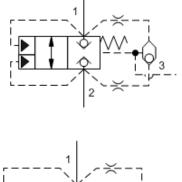
#### **CONFIGURATION OPTIONS**

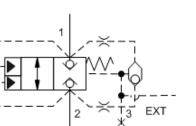
# Model Code Example: LOFDXDN

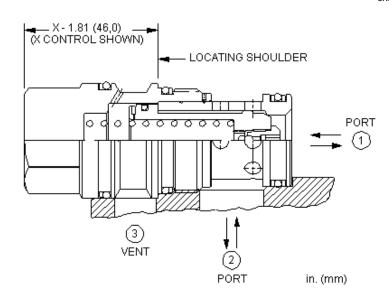




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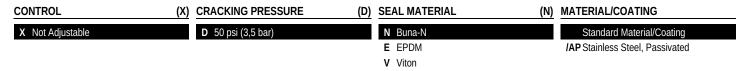
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

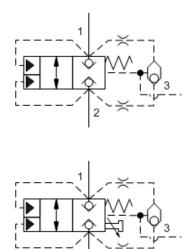
# **CONFIGURATION OPTIONS**

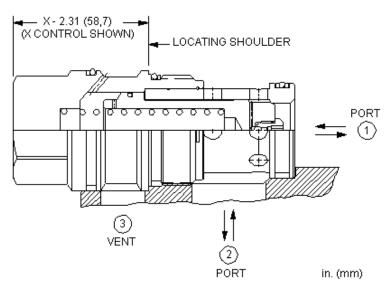
# Model Code Example: LOHDXDN





snhy.com/LOJD





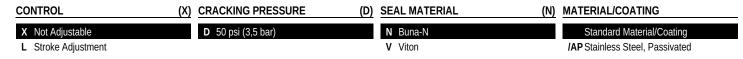
These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

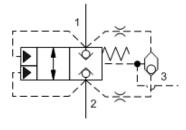
# Model Code Example: LOJDXDN

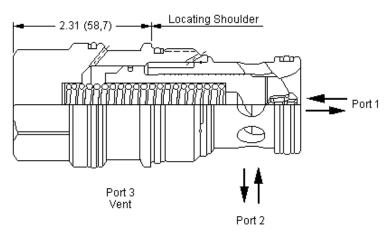






snhy.com/LOKD





in (mm)

These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

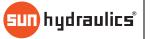
# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### CONFIGURATION OPTIONS

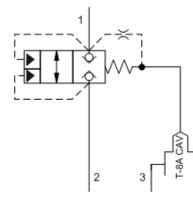
#### Model Code Example: LOKDXDN

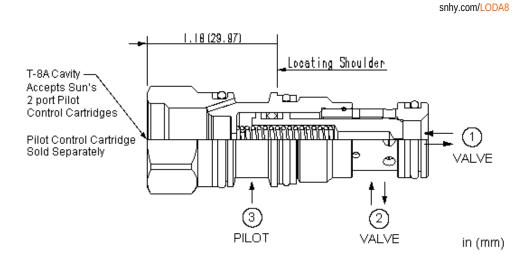
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	
		V Viton	



Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 1 / CAPACITY: 95 L/min. / CAVITY: T-11A







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LODA8DN

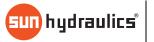
CRACKING PRESSURE

**D** 50 psi (3,5 bar)

(D) SEAL MATERIAL N Buna-N (N) MATERIAL/COATING Standard Material/Coating

V Viton

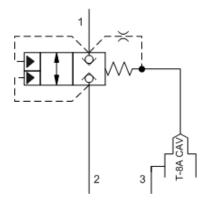
IAP Stainless Steel, Passivated

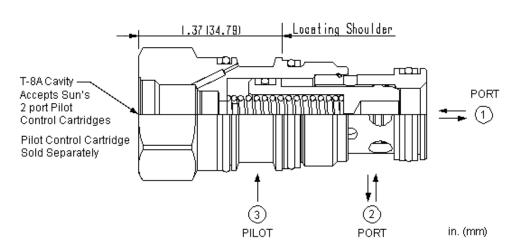


Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 2 / CAPACITY: 200 L/min. / CAVITY: T-2A



snhy.com/LOFA8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### CONFIGURATION OPTIONS

#### Model Code Example: LOFA8DN

(N)

CRACKING PRESSURE

**D** 50 psi (3,5 bar)

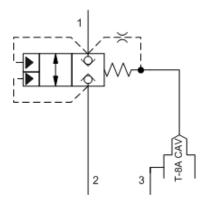
(D) SEAL MATERIAL N Buna-N V Viton

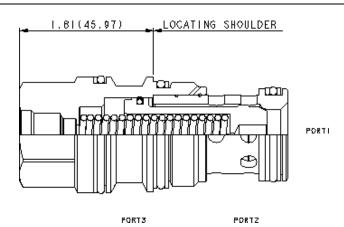


Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 3 / CAPACITY: 380 L/min. / CAVITY: T-17A



snhy.com/LOHA8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: LOHA8DN

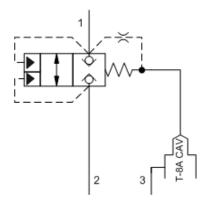
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

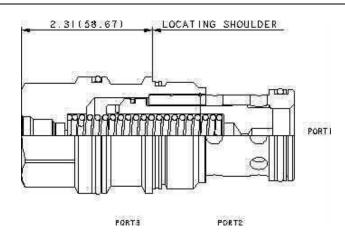


MODEL LOJA8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 4 / CAPACITY: 760 L/min. / CAVITY: T-19A



snhy.com/LOJA8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

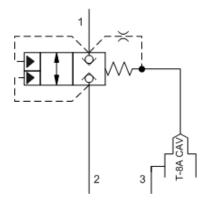
Model Code Example: LOJA8DN

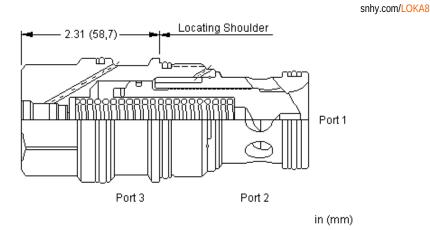
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



MODEL LOKA8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 4 / CAPACITY: 1100 L/min. / CAVITY: T-19AU







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

# CONFIGURATION OPTIONS

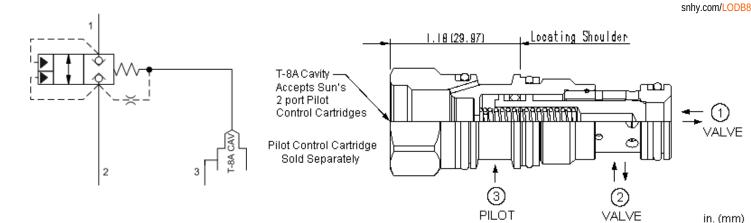
Model Code Example: LOKA8DN

CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 1 / CAPACITY: 95 L/min. / CAVITY: T-11A





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

# **CONFIGURATION OPTIONS**

Model Code Example: LODB8DN

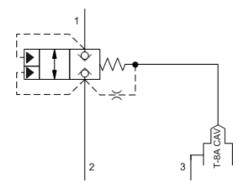
BIAS PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

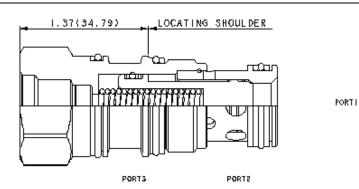


Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 2 / CAPACITY: 200 L/min. / CAVITY: T-2A



snhy.com/LOFB8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: LOFB8DN

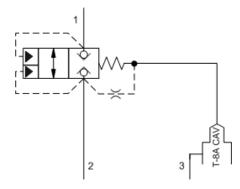
CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		N Buna-N	
		V Viton	

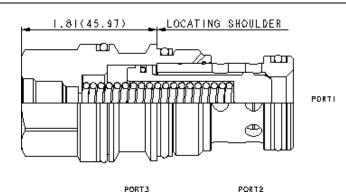


MODEL LOHB8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 3 / CAPACITY: 380 L/min. / CAVITY: T-17A



snhy.com/LOHB8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

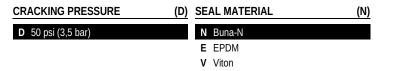
#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOHB8DN

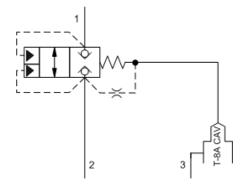


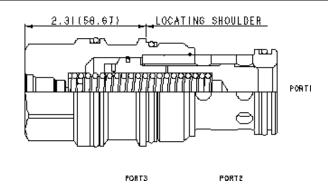


Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 760 L/min. / CAVITY: T-19A



snhy.com/LOJB8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

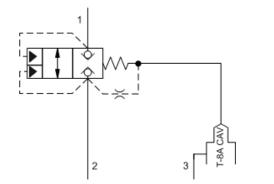
Model Code Example: LOJB8DN

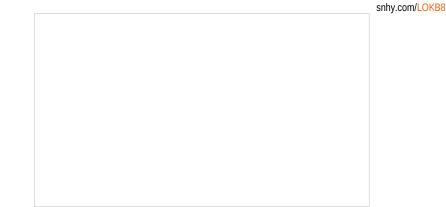
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



# Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 1100 L/min. / CAVITY: T-19AU







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

# **CONFIGURATION OPTIONS**

Model Code Example: LOKB8DN

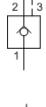
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

# sun hydraulics

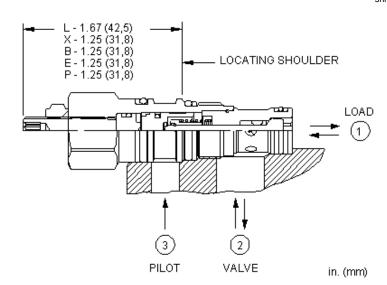
MODEL CKBB



snhy.com/CKBB







This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CKBBXCN

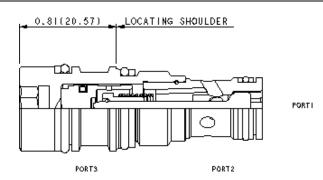
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
L Manual Load Release	<b>E</b> 75 psi (5 bar)	V Viton		<b>IAP</b> Stainless Steel, Passivated
				ILH Mild Steel, Zinc-Nickel





snhy.com/CKBG





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt) 0,07 cc/min.	
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKBGXCN

CONTROL (>	BIAS PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adustable, Standard Hydraulic Pilo	t <b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	E 75 psi (5 bar)		V Viton		IAP Stainless Steel, Passivated

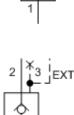
# sun hydraulics

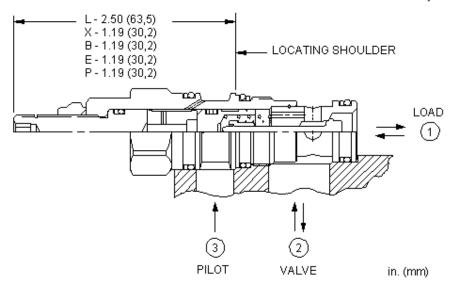
MODEL CKCB

# Pilot-to-open check valve with standard pilot SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-11A



snhy.com/CKCB





This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKCBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

- E 75 psi (5 bar)
- **F** 100 psi (7 bar)



snhy.com/CKEB



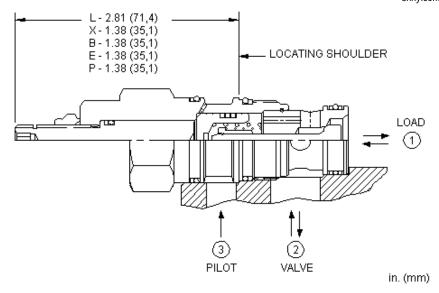
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<mark>un</mark> hydraulics"

MODEL

**CKEB** 





This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CKEBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

E 75 psi (5 bar)F 100 psi (7 bar)

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# sun hydraulics

MODEL CKGB

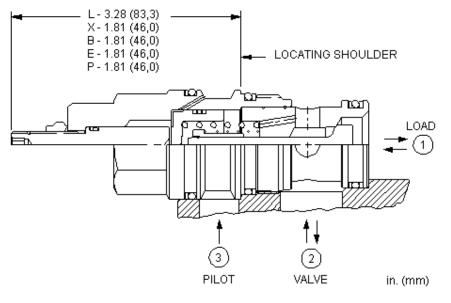
# Pilot-to-open check valve with standard pilot SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-17A



snhy.com/CKGB







This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

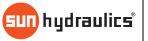
# **CONFIGURATION OPTIONS**

# Model Code Example: CKGBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	<b>/AP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

- **E** 75 psi (5 bar)
- F 100 psi (7 bar)

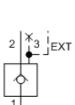




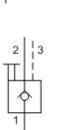
MODEL CKIB

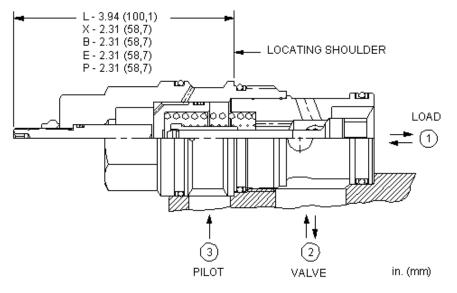


snhy.com/CKIB



3





This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio 3:1	
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt) 0,07 cc/min.	
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CKIBXCN

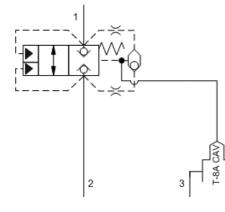
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM		<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			

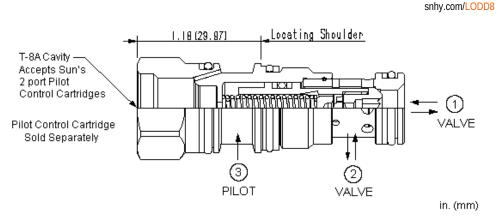
- E 75 psi (5 bar)
- F 100 psi (7 bar)



Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 1 / CAPACITY: 95 L/min. / CAVITY: T-11A







This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

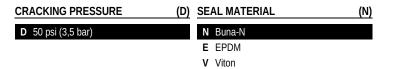
# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	0,66 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

# **CONFIGURATION OPTIONS**

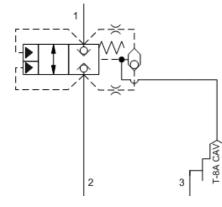
# Model Code Example: LODD8DN

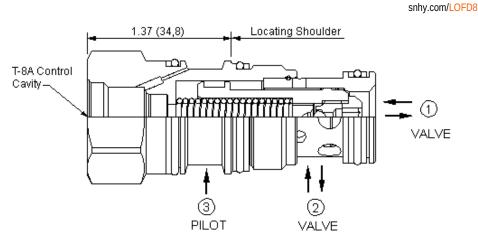




MODEL LOFD8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 2 / CAPACITY: 200 L/min. / CAVITY: T-2A







This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	1,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOFD8DN

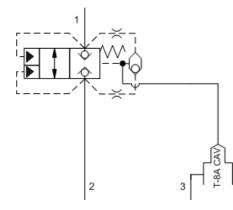
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	

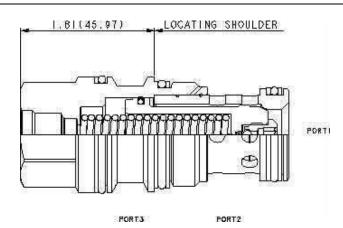


MODEL LOHD8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 3 / CAPACITY: 380 L/min. / CAVITY: T-17A



snhy.com/LOHD8





This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	4,1 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,8 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

# **CONFIGURATION OPTIONS**

#### Model Code Example: LOHD8DN

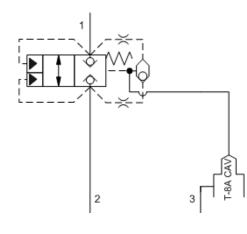
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	

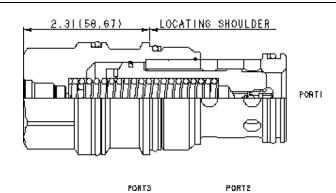


MODEL LOJD8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 760 L/min. / CAVITY: T-19A



snhy.com/LOJD8





This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

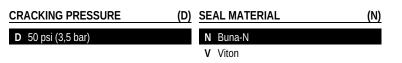
# **TECHNICAL DATA**

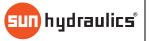
Maximum Operating Pressure	350 bar
Pilot Volume Displacement	6,9 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

# **CONFIGURATION OPTIONS**

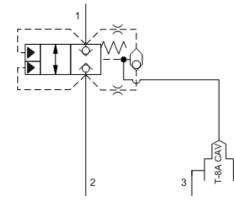
Model Code Example: LOJD8DN

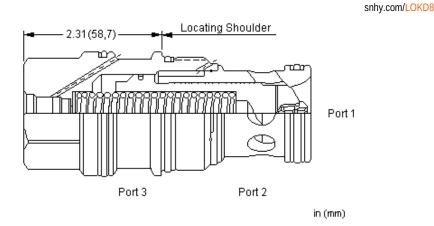




MODEL LOKD8 Vent-to-open, spring biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 1100 L/min. / CAVITY: T-19AU







This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Volume Displacement	7,7 cc
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	0,9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOKD8DN

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		N Buna-N	
		M	

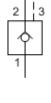
V Viton



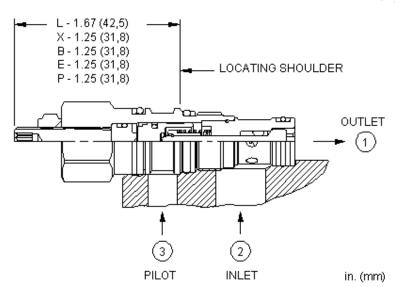
MODEL CKBD



snhy.com/CKBD







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKBDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating	
L Manual Load Release	E 75 psi (5 bar)	E EPDM		IAP Stainless Steel, Passivated	
		V Viton		ILH Mild Steel, Zinc-Nickel	

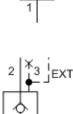


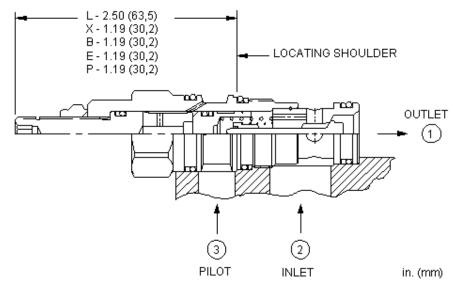
MODEL CKCD

# Pilot-to-open check valve with sealed pilot SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-11A



snhy.com/CKCD





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKCDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	IAP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	<b>E</b> 75 psi (5 bar)		

**F** 100 psi (7 bar)

**G** 150 psi (10,5 bar)

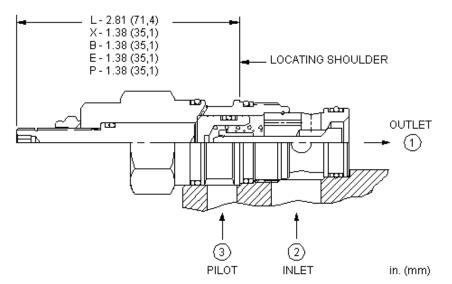


snhy.com/CKED



3





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

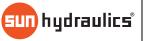
Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CKEDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MAT	ERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP	Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		/LH	Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

F 100 psi (7 bar)

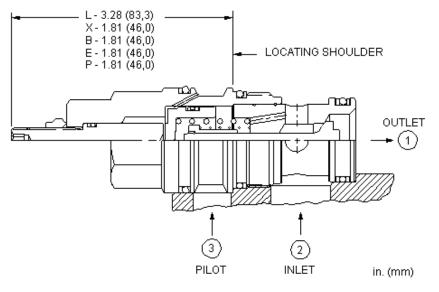




snhy.com/CKGD



3



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CKGDXCN

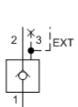
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	<b>/LH</b> Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 mai (5 har)		

E 75 psi (5 bar)

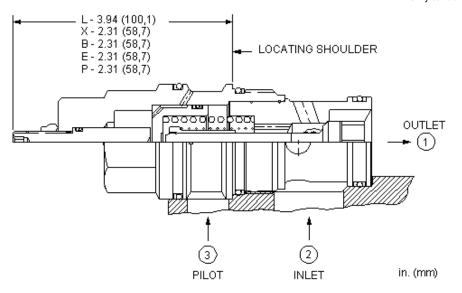
F 100 psi (7 bar)



snhy.com/CKID



3



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

# **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CKIDXCN

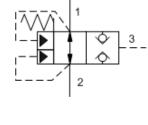
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coati	ng
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	IAP Stainless Steel, Passiva	ited
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

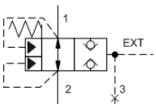
**F** 100 psi (7 bar)

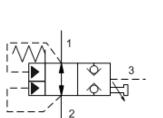


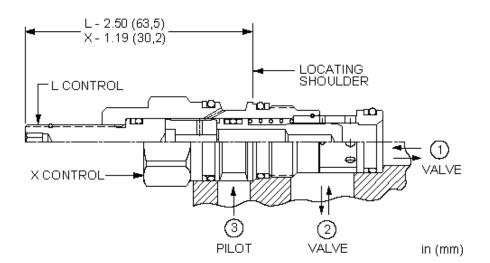


snhy.com/LODO









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	0,66 cc
Pilot Passage into Valve	0,8 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

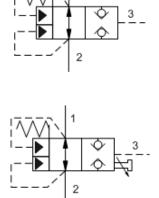
#### **CONFIGURATION OPTIONS**

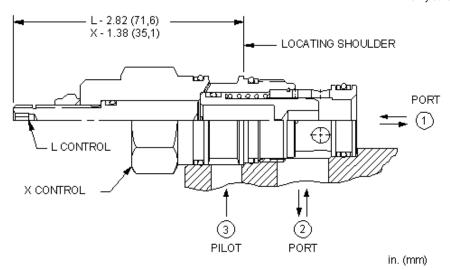
# Model Code Example: LODOXDN

CONTROL	(X)	MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating	
				E EPDM		IAP Stainless Steel, Passivated	
				V Viton		/LH Mild Steel, Zinc-Nickel	



snhy.com/LOFO





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

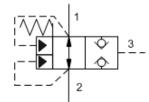
# **CONFIGURATION OPTIONS**

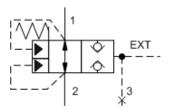
# Model Code Example: LOFOXDN

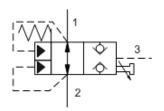
CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		V Viton		<b>/AP</b> Stainless Steel, Passivated

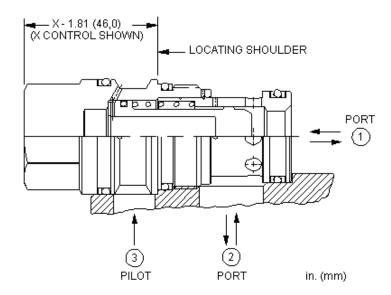


snhy.com/LOHO









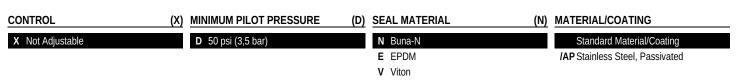
These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

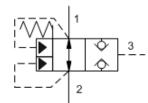
#### **CONFIGURATION OPTIONS**

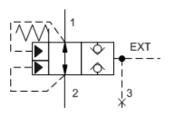
#### Model Code Example: LOHOXDN

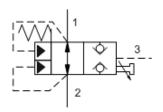


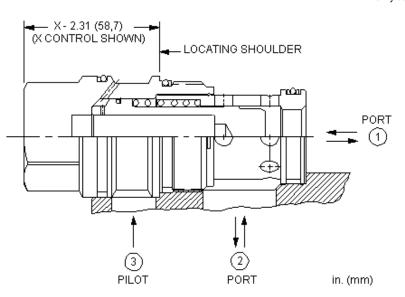


snhy.com/LOJO









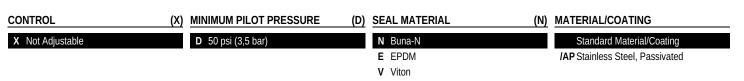
These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

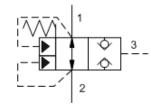
#### **CONFIGURATION OPTIONS**

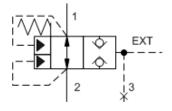
#### Model Code Example: LOJOXDN

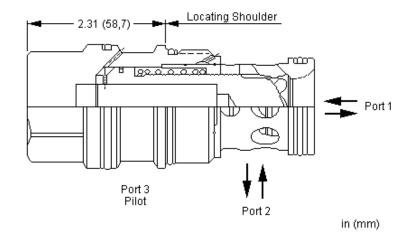




snhy.com/LOKO







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

# Model Code Example: LOKOXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) <u>M</u> ATI	ERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		V Viton	/AP:	Stainless Steel, Passivated



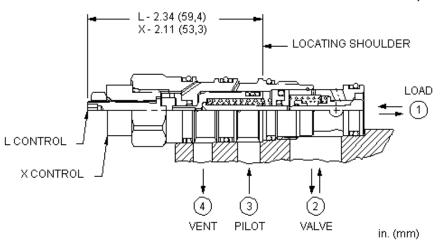
MODEL CVCV



snhy.com/CVCV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

# **TECHNICAL DATA**

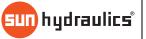
Pilot Ratio	3:1		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

# **CONFIGURATION OPTIONS**

# Model Code Example: CVCVXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
L Manual Load Release		A 4 psi (0,3 bar)		V Viton		IAP Stainless Steel, Passivated
		<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel
		<b>D</b> 50 psi (3,5 bar)				
		E 75 psi (5 bar)				

F 100 psi (7 bar)

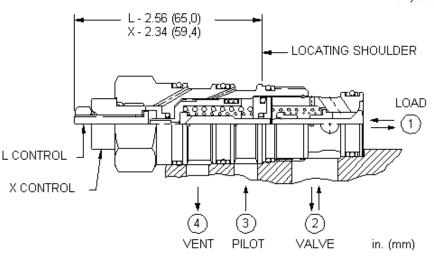


MODEL



snhy.com/CVEV





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

## **TECHNICAL DATA**

F 100 psi (7 bar)

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

## Model Code Example: CVEVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

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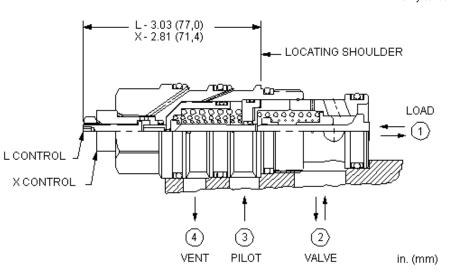


MODEL CVGV



snhy.com/CVGV





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CVGVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

F 100 psi (7 bar)

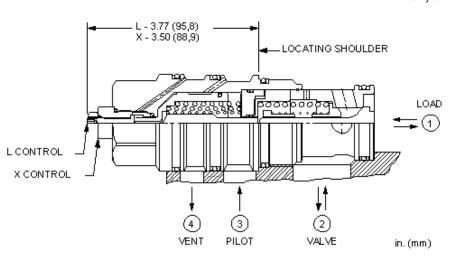


MODEL



snhy.com/CVIV





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,9 cc
Pilot Passage into Valve	2,3 mm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

## **CONFIGURATION OPTIONS**

# Model Code Example: CVIVXCN

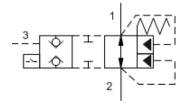
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	IAP Stainless Steel, Passivated	<b>/AP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			

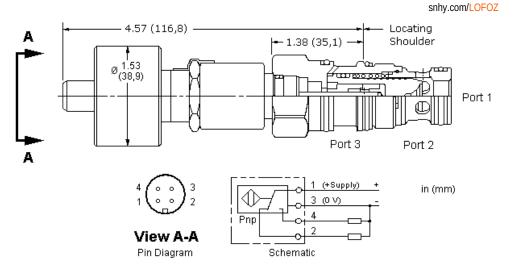
- E 75 psi (5 bar)
- F 100 psi (7 bar)



MODEL LOFOZ Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch SERIES 2 / CAPACITY: 200 L/min. / CAVITY: T-2A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

## Model Code Example: LOFOZDN

(N)



**D** 50 psi (3,5 bar)

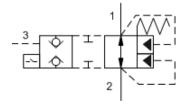
(D) SEAL MATERIAL N Buna-N

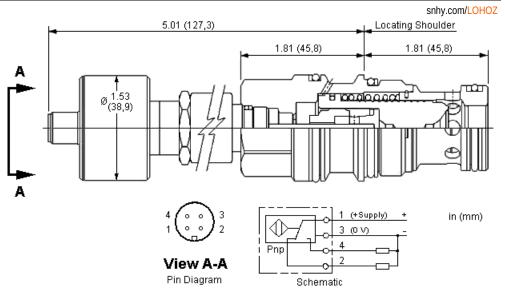
V Viton



MODEL LOHOZ Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch SERIES 3 / CAPACITY: 380 L/min. / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990117006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOHOZDN

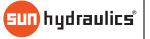
(N)

CRACKING PRESSURE

**D** 50 psi (3,5 bar)

(D) SEAL MATERIAL N Buna-N

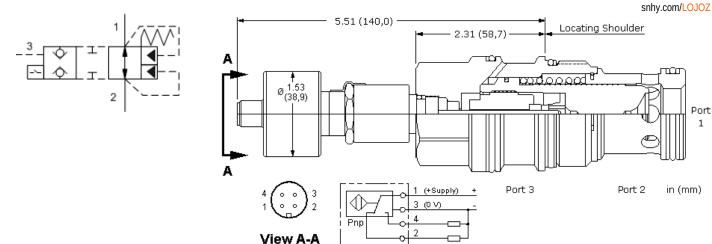
V Viton



MODEL LOJOZ Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 760 L/min. / CAVITY: T-19A



1



Schematic

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

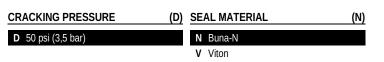
#### **TECHNICAL DATA**

Pin Diagram

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

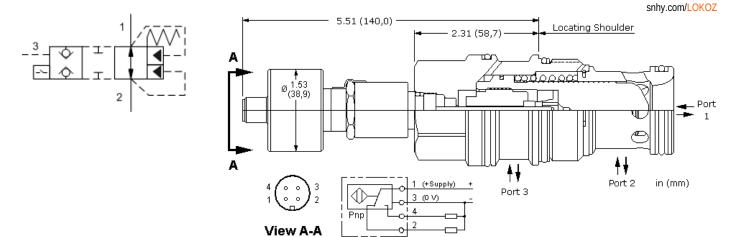
#### Model Code Example: LOJOZDN





MODEL LOKOZ Pilot-to-close, spring biased open, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 1100 L/min. / CAVITY: T-19AU





Schematic

These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

## **TECHNICAL DATA**

Pin Diagram

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

## Model Code Example: LOKOZDN

CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

# un hydraulics

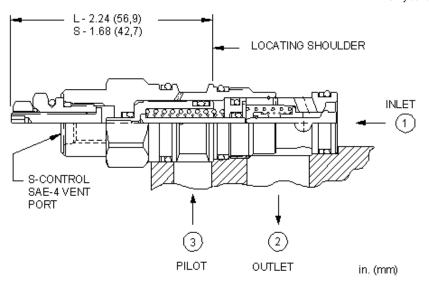
MODEL **CKCV** 



snhy.com/CKCV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990311006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKCVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Standard Pilot, Atmospheric Vent	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
S External 4-SAE Vent Port	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)		ILH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 pci (5 bar)			

E 75 psi (5 bar) F 100 psi (7 bar)

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# un hydraulics

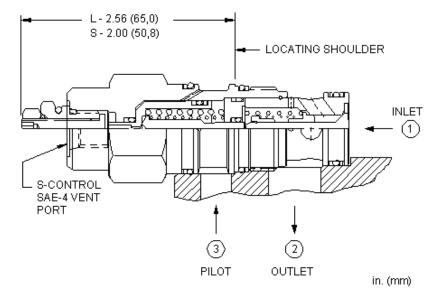
MODEL **CKEV** 



snhy.com/CKEV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKEVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)
X Standard Pilot, Atmospheric Vent	<b>C</b> 30 psi (2 bar)	N Buna-N	
S External 4-SAE Vent Port	A 4 psi (0,3 bar)	V Viton	
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

F 100 psi (7 bar)

# sun hydraulics

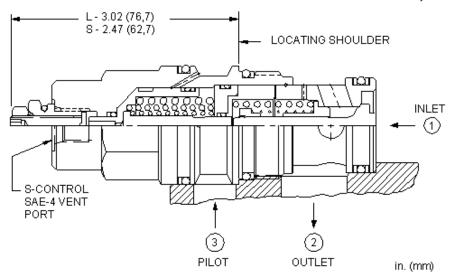
MODEL CKGV



snhy.com/CKGV

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This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKGVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot, Atmospheric Vent	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
S External 4-SAE Vent Port	A 4 psi (0,3 bar)	V Viton		<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)			
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

**F** 100 psi (7 bar)

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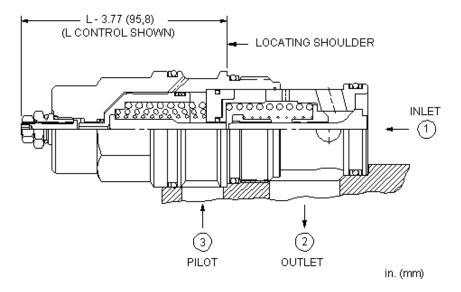
MODEL CKIV



snhy.com/CKIV



EXT



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

#### Model Code Example: CKIVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot, Atmospheric Vent	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
S External 4-SAE Vent Port	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		

- E 75 psi (5 bar)
- F 100 psi (7 bar)



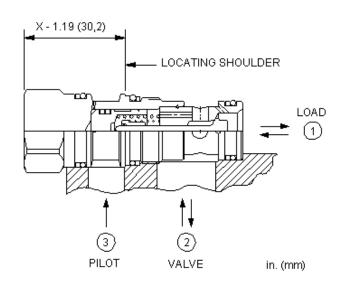
MODEL CNCE

# Pilot-to-open check valve with bypass orifice SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-11A



snhy.com/CNCE





This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

### **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,9 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

## Model Code Example: CNCEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressure .153 in. (0,4 - 3,9 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure 153 in. (0,4 - 3,9 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure .153 in. (0,4 - 3,9 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure .016153 in. (0,4 - 3,9 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure .153 in. (0,4 - 3,9 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure .153 in. (0,4 - 3,9 mm)</li> </ul>	e, .016 e, .016 - re, e, .016 -	N Buna-N V Viton	

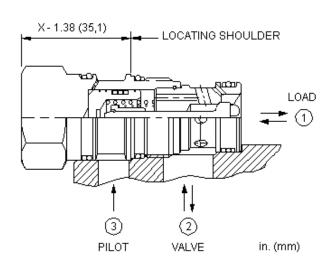


MODEL



snhy.com/CNEE





This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,4 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

## Model Code Example: CNEEXCN

X Not Adjustable       C 30 psi (2 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)       N Buna-N         V Viton       A 4 psi (0,3 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)       V Viton         B 15 psi (1 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)       B 15 psi (1 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)         D 50 psi (3,5 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)       E 75 psi (5 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)         E 75 psi (5 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)       E 75 psi (5 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)	CONTROL (X	SETTING RANGE (C)	SEAL MATERIAL	(N)
135 in. (0,4 - 3,4 mm)	X Not Adjustable	<ul> <li>.135 in. (0,4 - 3,4 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .016 <ul> <li>.135 in. (0,4 - 3,4 mm)</li> </ul> </li> <li>B 15 psi (1 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016</li> </ul>		



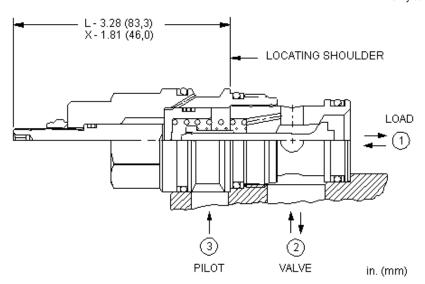
MODEL CNGE



snhy.com/CNGE







This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range. An 'L' control option is available to manually release the load. See Option Selection below.

#### **TECHNICAL DATA**

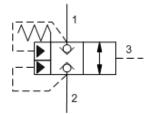
Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

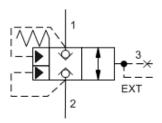
## Model Code Example: CNGEXCN

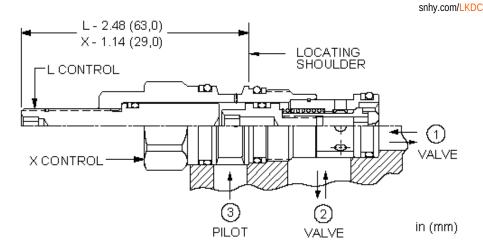
CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pri. 218 in. (0,4 - 5,5 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pri. 218 in. (0,4 - 5,5 mm)</li> <li>B 15 psi (1 bar) Cracking Pri. 218 in. (0,4 - 5,5 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pri. 016 - 218 in. (0,4 - 5,5 mm)</li> <li>E 75 psi (5 bar) Cracking Pri. 218 in. (0,4 - 5,5 mm)</li> <li>F 100 psi (7 bar) Cracking Pri. 218 in. (0,4 - 5,5 mm)</li> </ul>	essure, .016 essure, .016 - Pressure, m) essure, .016 -	N Buna-N V Viton	
		218 in. (0,4 - 5,5 mm)			





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These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Pilot Passage into Valve	0,8 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

## Model Code Example: LKDCXDN

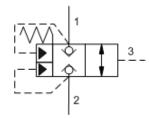
CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		V Viton		IAP Stainless Steel, Passivated

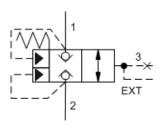
/LH Mild Steel, Zinc-Nickel



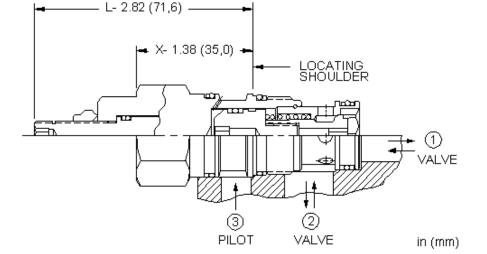


snhy.com/LKFC





2



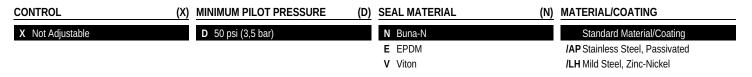
These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	0,98 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

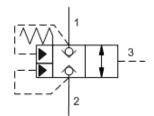
## **CONFIGURATION OPTIONS**

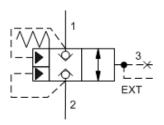
## Model Code Example: LKFCXDN

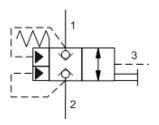


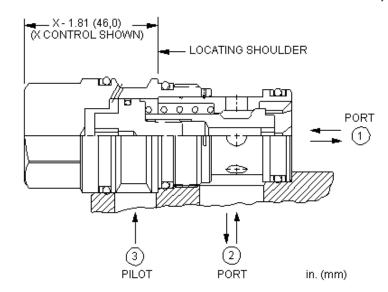


snhy.com/LKHC









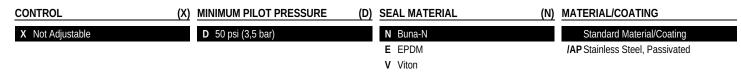
These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	2,5 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

## Model Code Example: LKHCXDN

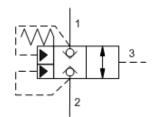


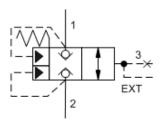
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MODEL LKJC

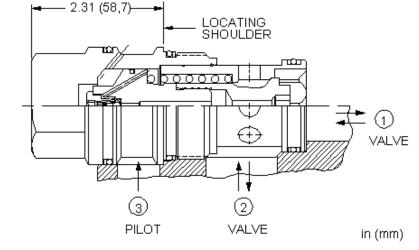


snhy.com/LKJC





2



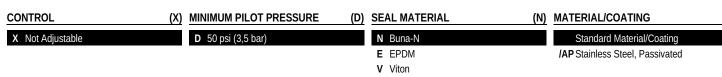
These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@70 bar
Pilot Volume Displacement	4,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### CONFIGURATION OPTIONS

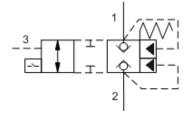
# Model Code Example: LKJCXDN

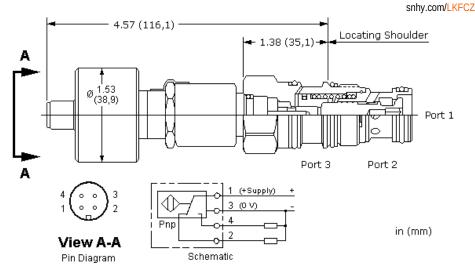




MODEL LKFCZ Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch SERIES 2 / CAPACITY: 80 L/min. / CAVITY: T-2A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

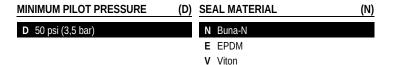
This valve incorporates a position switch to provide confirmation that the valve is closed.

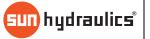
#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	0,98 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

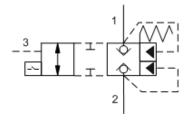
#### Model Code Example: LKFCZDN

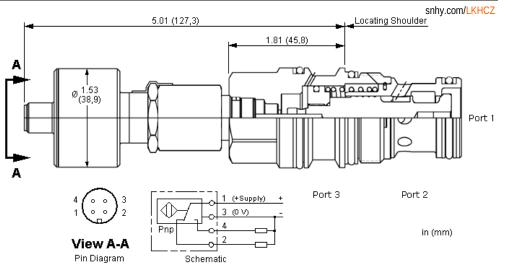




MODEL LKHCZ Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch SERIES 3 / CAPACITY: 160 L/min. / CAVITY: T-17A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

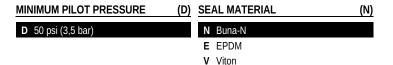
This valve incorporates a position switch to provide confirmation that the valve is closed.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.	
Pilot Volume Displacement	2,5 cc	
Pilot Passage into Valve	1,50 mm	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar	
Seal kit - Cartridge	Buna: 990017007	
Seal kit - Cartridge	EPDM: 990017014	
Seal kit - Cartridge	Polyurethane: 990017002	
Seal kit - Cartridge	Viton: 990017006	

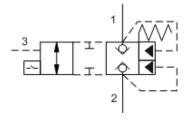
#### **CONFIGURATION OPTIONS**

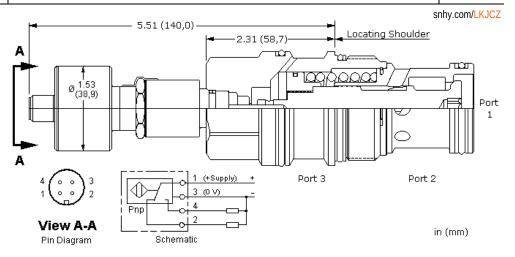
#### Model Code Example: LKHCZDN





MODEL LKJCZ Pilot-to-open, spring biased closed, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 320 L/min. / CAVITY: T-19A





These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

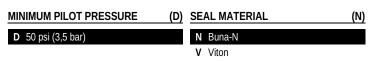
This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

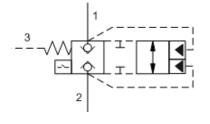
#### Model Code Example: LKJCZDN

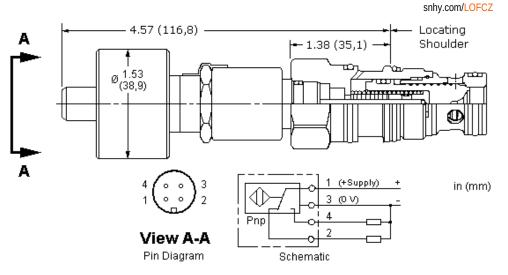




MODEL LOFCZ Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch SERIES 2 / CAPACITY: 200 L/min. / CAVITY: T-2A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOFCZDN

(N)

NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL

**D** 50 psi (3,5 bar)

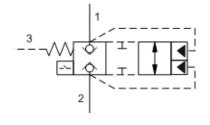
N Buna-N

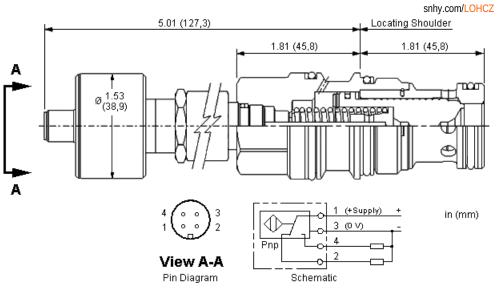
V Viton



MODEL LOHCZ Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch SERIES 3 / CAPACITY: 380 L/min. / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

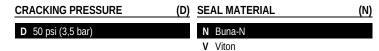
This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

## Model Code Example: LOHCZDN



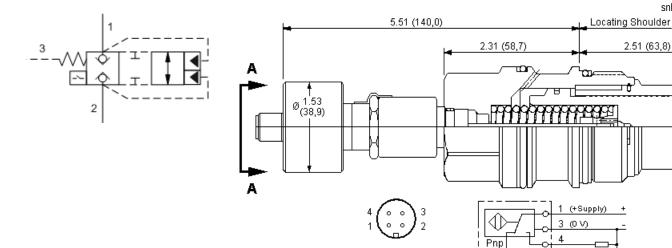


MODEL LOJCZ Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 760 L/min. / CAVITY: T-19A



snhy.com/LOJCZ

in (mm)



These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

Schematic

This valve incorporates a position switch to provide confirmation that the valve is closed.

View A-A Pin Diagram

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	6,9 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

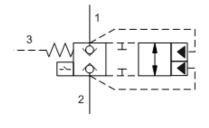
## Model Code Example: LOJCZDN

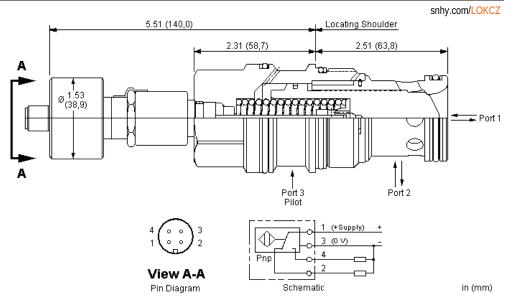




MODEL LOKCZ Pilot-to-close, spring biased closed, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 1100 L/min. / CAVITY: T-19AU







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

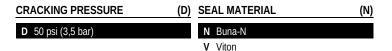
This valve incorporates a position switch to provide confirmation that the valve is closed.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	7,7 cc
Pilot Passage into Valve	2,3 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

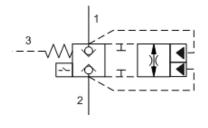
#### Model Code Example: LOKCZDN

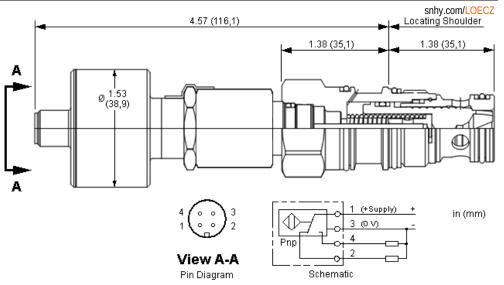




MODEL LOECZ Pilot-to-close, spring biased closed, unbalanced poppet logic element with metering notches and position switch SERIES 2 / CAPACITY: 45 L/min. / CAVITY: T-2A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	1,1 cc
Pilot Passage into Valve	0,9 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

## Model Code Example: LOECZDN

(N)

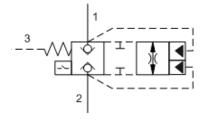
NOMINAL CONTROL PRESSURE	(D)	SEAL MATERIAL	
			_

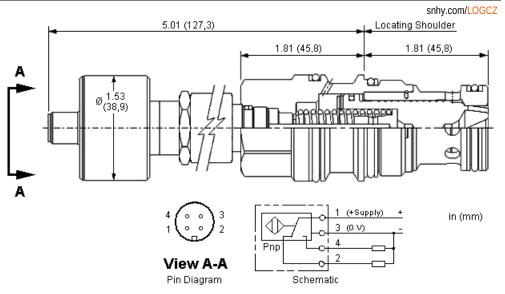
**D** 50 psi (3,5 bar)



MODEL LOGCZ Pilot-to-close, spring biased closed, unbalanced poppet logic element with metering notches and position switch SERIES 3 / CAPACITY: 160 L/min. / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

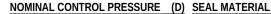
#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Pilot Volume Displacement	4,1 cc
Pilot Passage into Valve	1,50 mm
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

## Model Code Example: LOGCZDN

(N)

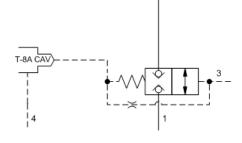


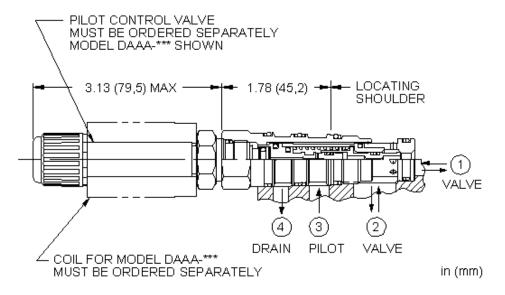
**D** 50 psi (3,5 bar)

2



snhy.com/DKDR8





This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure 350 bar	
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### CONFIGURATION OPTIONS

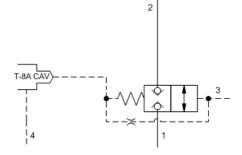
#### Model Code Example: DKDR8HN

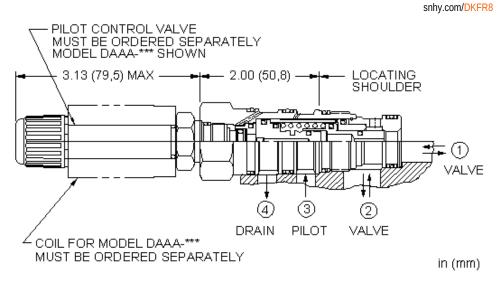
(N)

MINIMUM PILOT PRESSURE (H) SEAL MATERIAL

H 400 psi (28 bar)







This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

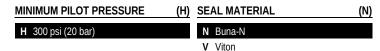
## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## CONFIGURATION OPTIONS

## Model Code Example: DKFR8HN

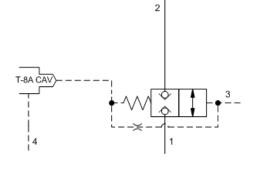


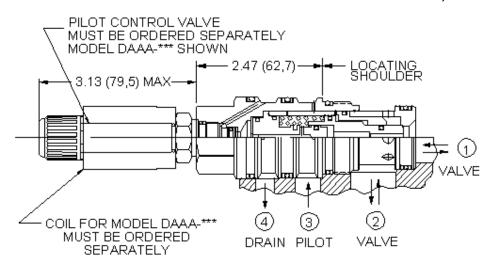
sun hydraulics"

MODEL DKHR8



snhy.com/DKHR8





This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

## Model Code Example: DKHR8HN

(N)

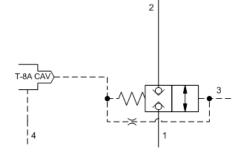
MINIMUM CONTROL PRESSURE (H) SEAL MATERIAL

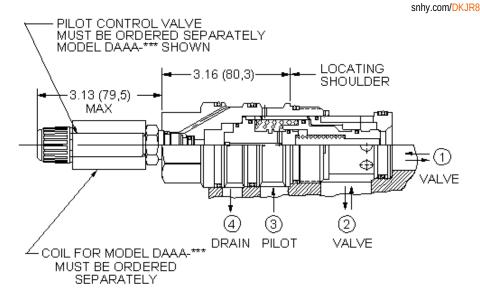
H 300 psi (20 bar)



MODEL DKJR8







This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

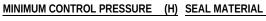
Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DKJR8HN

(N)



H 300 psi (20 bar)

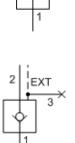


MODEL COBA

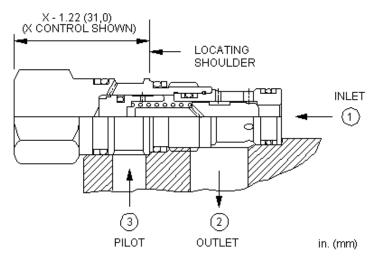
# Pilot-to-close check valve CAPACITY: 40 L/min. / CAVITY: T-163A



snhy.com/COBA



3



This valve is a spring biased closed, pilot-to-close check cartridge that has a 3:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 3:1. This valve is most often used in regeneration circuits.

## **TECHNICAL DATA**

Pilot Ratio	3:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

## **CONFIGURATION OPTIONS**

## Model Code Example: COBAXCN

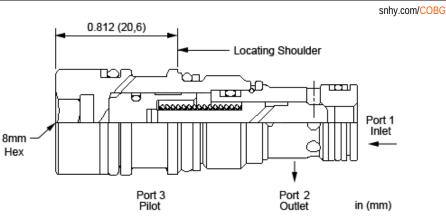
CONTROL	X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
B External 1/4 BSPP Pilot Port, Port 3	<b>D</b> 50 psi (3,5 bar)	E EPDM		IAP Stainless Steel, Passivated
blocked	E 75 psi (5 bar)	V Viton		ILH Mild Steel, Zinc-Nickel
	<b>F</b> 100 psi (7 bar)			



MODEL COBG







This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

## **TECHNICAL DATA**

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

## **CONFIGURATION OPTIONS**

# Model Code Example: COBGXCN

CONTROL (X	) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adustable, Standard Hydraulic Pilo	t <b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	<b>D</b> 50 psi (3,5 bar)		V Viton		IAP Stainless Steel, Passivated
	E 75 psi (5 bar)				
	<b>F</b> 100 psi (7 bar)				

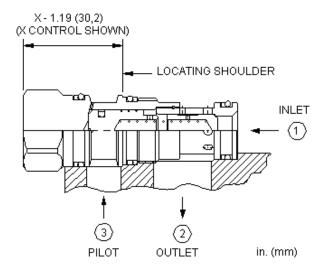


MODEL CODA



snhy.com/CODA





This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

### **TECHNICAL DATA**

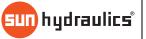
F 100 psi (7 bar)G 150 psi (10,5 bar)

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

## Model Code Example: CODAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	<b>E</b> 75 psi (5 bar)			

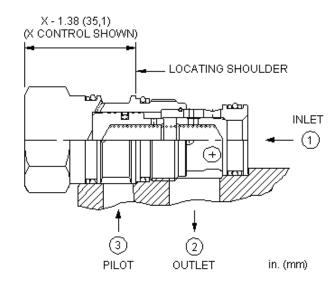


MODEL COFA



snhy.com/COFA





This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

### **TECHNICAL DATA**

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

## Model Code Example: COFAXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		<b>/AP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				
	<b>F</b> 100 psi (7 bar)				

**J** 135 psi (9,5 bar)



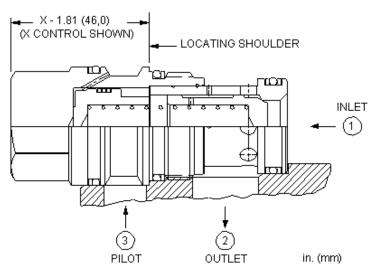
MODEL COHA



snhy.com/COHA



2 iext



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

# **TECHNICAL DATA**

G 150 psi (10,5 bar)

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

## Model Code Example: COHAXCN

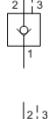
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		ILH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	<b>E</b> 75 psi (5 bar)		
	<b>F</b> 100 psi (7 bar)		

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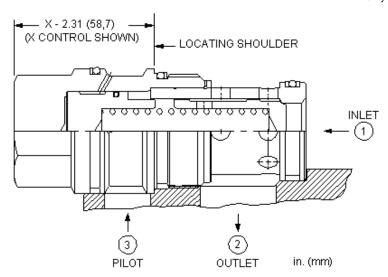




snhy.com/COJA







This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

# **TECHNICAL DATA**

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

# Model Code Example: COJAXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		V Viton		<b>IAP</b> Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				
	<b>F</b> 100 psi (7 bar)				

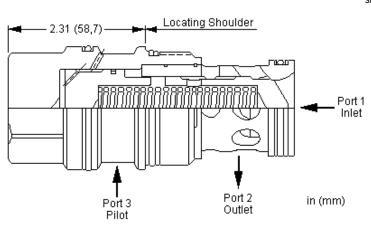
**G** 150 psi (10,5 bar)





snhy.com/COKA





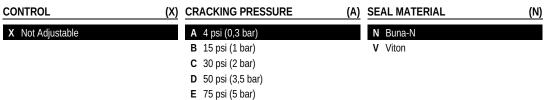
This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

## **TECHNICAL DATA**

Pilot Ratio	1.8:1
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## CONFIGURATION OPTIONS

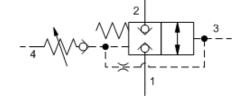
# Model Code Example: COKAXAN

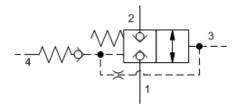


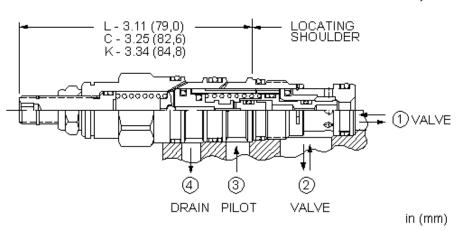
F 100 psi (7 bar)











This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

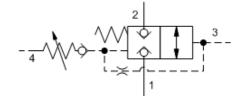
#### **CONFIGURATION OPTIONS**

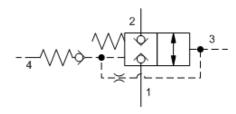
# Model Code Example: DKDPLAN

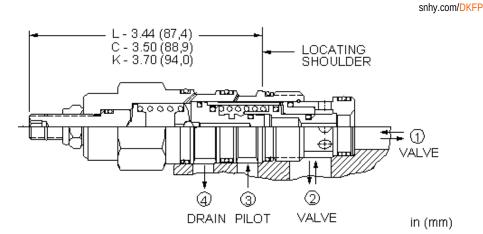
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N	MATERIAL/COATING
L Standard Screw Adjustment		A 400 - 3000 psi (28 - 210 bar), 1000 psi	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		(70 bar) Standard Setting	V Viton	IAP Stainless Steel, Passivated
K Handknob		<b>B</b> 400 - 1500 psi (28 - 105 bar), 1000 psi		
		(70 bar) Standard Setting		

W 400 - 4500 psi (28 - 315 bar), 1000 psi (70 bar) Standard Setting









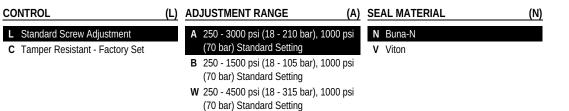
This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

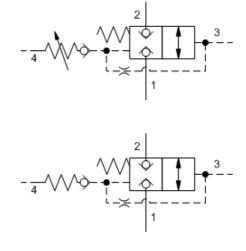
# **CONFIGURATION OPTIONS**

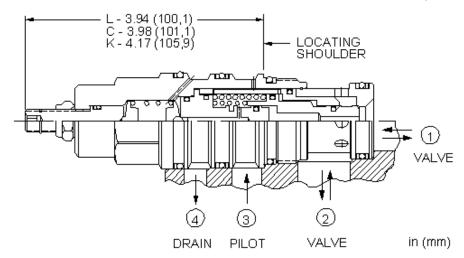
#### Model Code Example: DKFPLAN





snhy.com/DKHP





This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

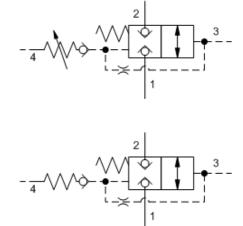
# **CONFIGURATION OPTIONS**

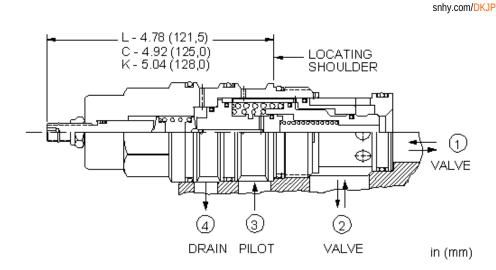
## Model Code Example: DKHPLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment		A 200 - 3000 psi (14 - 210 bar), 1000 p	osi	N Buna-N	
C Tamper Resistant - Factory Set		(70 bar) Standard Setting		V Viton	
K Handknob		B 200 - 1500 psi (14 - 105 bar), 1000 p (70 bar) Standard Setting	osi		
		D 200 - 800 psi (14 - 55 bar), 400 psi ( bar) Standard Setting	28		
		M 200 4500 mai (14 215 har) 1000 m	:		

W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting







This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

## **CONFIGURATION OPTIONS**

# Model Code Example: DKJPLAN

(A) SEAL MATERIAL

N Buna-N

V Viton

#### CONTROL

# L Standard Screw Adjustment

- C Tamper Resistant Factory Set
- K Handknob

A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting B 200 - 1500 psi (14 - 105 bar), 1000 psi

(L) ADJUSTMENT RANGE

# (70 bar) Standard Setting

W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting

Standard Material/Coating
IAP Stainless Steel, Passivated

(N)

MATERIAL/COATING

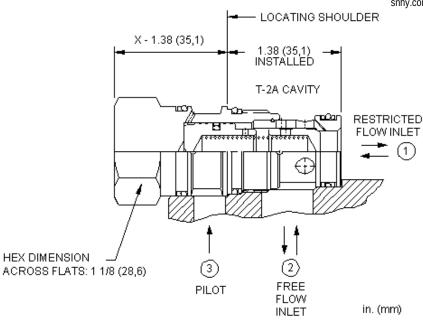
Passivated



MODEL CNFE







This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

Pilot Ratio	1.8:1
Orifice Range	0,4 - 3,2 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

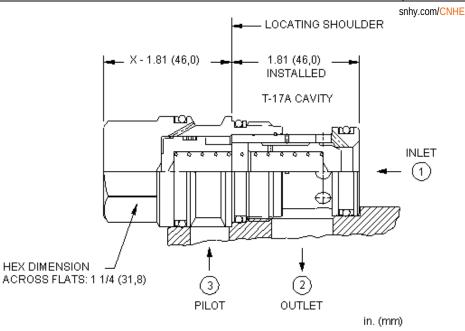
### Model Code Example: CNFEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressu .127 in. (0,4 - 3,2 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressu 127 in. (0,4 - 3,2 mm)</li> </ul>		<ul><li>N Buna-N</li><li>V Viton</li></ul>	
		<ul> <li>B 15 psi (1 bar) Cracking Pressu .127 in. (0,4 - 3,2 mm)</li> <li>D 50 psi (3,5 bar) Cracking Press .016127 in. (0,4 - 3,2 mm)</li> </ul>			
		<ul> <li>E 75 psi (5 bar) Cracking Pressu .127 in. (0,4 - 3,2 mm)</li> <li>F 100 psi (7 bar) Cracking Press</li> </ul>			
		127 in. (0,4 - 3,2 mm)			



MODEL CNHE





This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

### **TECHNICAL DATA**

Orifice Range	0,4 - 6,4 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

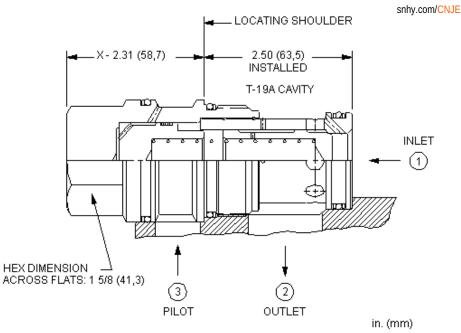
#### Model Code Example: CNHEXCN

CONTROL	X) SETTING RANGE	(C) SEAL MATERIAL	(N)
X Not Adjustable	<ul> <li>C 30 psi (2 bar) Cracking Pressu. 252 in. (0,4 - 6,4 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressu. 252 in. (0,4 - 6,4 mm)</li> <li>B 15 psi (1 bar) Cracking Pressu. 252 in. (0,4 - 6,4 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressu. 016252 in. (0,4 - 6,4 mm)</li> </ul>	V Viton ure, .016 ure, .016 -	
	<ul> <li>F 75 psi (5 bar) Cracking Presst.</li> <li>.252 in. (0,4 - 6,4 mm)</li> <li>F 100 psi (7 bar) Cracking Press.</li> <li>.252 in. (0,4 - 6,4 mm)</li> </ul>		



MODEL CNJE





This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

### **TECHNICAL DATA**

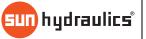
Orifice Range	0,4 - 9 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CNJEXCN

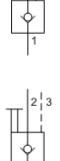
CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking P .354 in. (0,4 - 9 mm)</li> <li>A 4 psi (0,3 bar) Cracking F 354 in. (0,4 - 9 mm)</li> <li>B 15 psi (1 bar) Cracking P .354 in. (0,4 - 9 mm)</li> <li>D 50 psi (3,5 bar) Cracking P .016354 in. (0,4 - 9 mm)</li> <li>E 75 psi (5 bar) Cracking P .354 in. (0,4 - 9 mm)</li> <li>F 100 psi (7 bar) Cracking 354 in. (0,4 - 9 mm)</li> </ul>	ressure, .016 - Pressure, .016 - ressure, .016 - Pressure, n) ressure, .016 -	N Buna-N V Viton	
		354 in. (0,4 - 9 mm)			

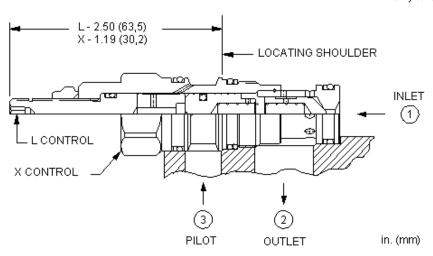
Created on 11/04/2016 © 2016 Sun Hydraulics Corporation See www.sunhydraulics.com for detailed product information 241 of 357





snhy.com/CODD





This valve is a spring biased closed, pilot-to-close check cartridge that has a 20:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 20:1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

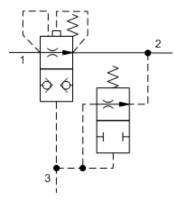
# Model Code Example: CODDXDN

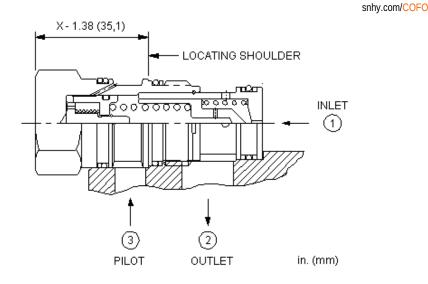
CONTROL	(X) CRACKING PRESSURE	(D)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot	<b>D</b> 50 psi (3,5 bar)		N Buna-N	Standard Material/Coating
	H 200 psi (14 bar)		V Viton	IAP Stainless Steel, Passivated



MODEL COFO







This valve is a pilot-to-close check cartridge that has a 120:1 pilot ratio. The valve is designed specifically to discharge an accumulator when the pump is turned off. With no pressure at the pump port (port 3), the valve is open between the accumulator (port 1) and tank (port 2). 60 psi (4 bar) at port 3 will close the valve for accumulator pressures up to 5000 psi (350 bar). When pump pressure at port 3 is below 300 psi (20 bar) there is a leak path from port 3 to tank (port 2) to ensure accumulator discharge when the pump is turned off. When pump pressure is above 300 psi (20 bar) the leak path closes for efficiency.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

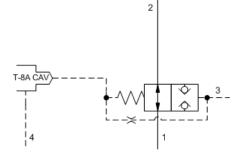
#### Model Code Example: COFOXDN

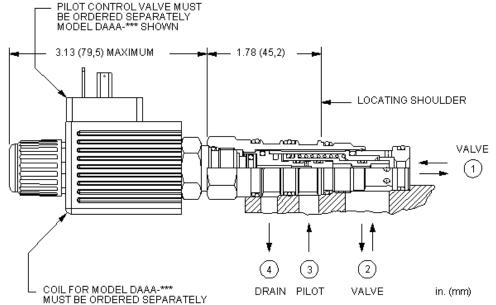
CONTROL	(X)	MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)
X Standard Pilot		<b>D</b> 60 psi (4 bar)		N Buna-N	
				V Viton	





snhy.com/DODR8





This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

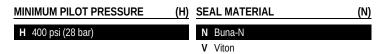
# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	28 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

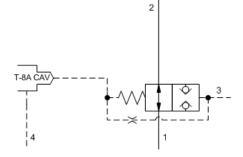
#### **CONFIGURATION OPTIONS**

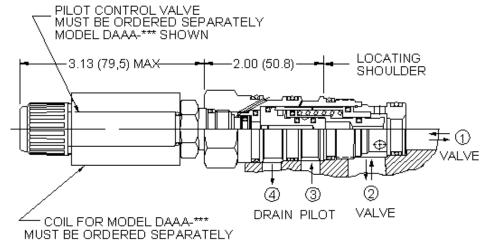
#### Model Code Example: DODR8HN





snhy.com/DOFR8





This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

H 300 psi (20 bar)

#### Model Code Example: DOFR8HN

(N)

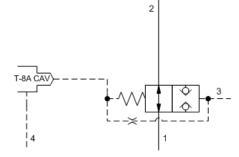
#### MINIMUM PILOT PRESSURE (H

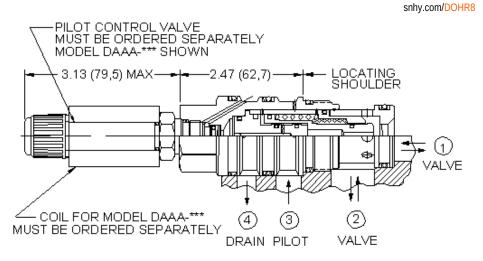
(H) SEAL MATERIAL N Buna-N

V Viton

un hydraulics

MODEL DOHR8





This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

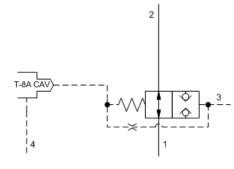
Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

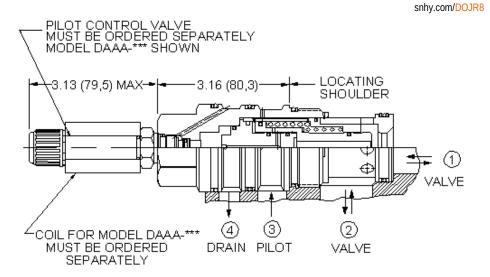
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DOHR8HN

MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
H 200 psi (14 bar)		N Buna-N	
		V Viton	

un hydraulics





This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve 20 bar		
Maximum Operating Pressure	350 bar	
Control Pilot Flow	See Performance Data	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar	
Pilot Control Cavity	T-8A	
Pilot Control Valve Installation Torque	27 - 33 Nm	
Pilot Control Valve Hex Size	22,2 mm	
Seal kit - Cartridge	Buna: 990024007	
Seal kit - Cartridge	Polyurethane: 990024002	
Seal kit - Cartridge	Viton: 990024006	

NOTES Co

H 300 psi (20 bar)

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

## Model Code Example: DOJR8HN

(N)

MINIMUM PILOT PRESSURE

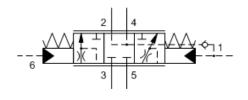
(H) SEAL MATERIAL

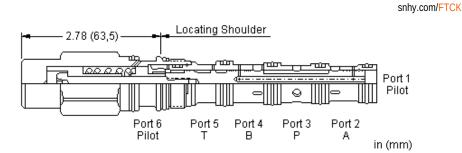
N Buna-N V Viton



MODEL **FTCK** 

3-way, 3-position, proportional directional valve with center bleed down and load sense SERIES 2 / CAPACITY: 28 L/min. / CAVITY: T-52A





This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve 3,5 bar		
Pilot Pressure Required for Full Shift at Rated Flow 20 bar		
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.	
Pilot Volume Displacement	0,66 cc	
Hysteresis	±2%	
Seal kit - Cartridge	Buna: 990052007	
Seal kit - Cartridge	Viton: 990052006	

#### **CONFIGURATION OPTIONS**

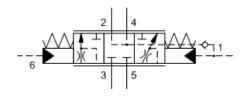
## Model Code Example: FTCKXCN

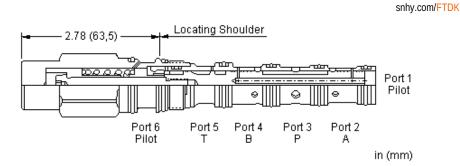
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		V Viton	



MODEL **FTDK** 

3-way, 3-position, proportional directional valve with center bleed down and load sense SERIES 2 / CAPACITY: 70 L/min. / CAVITY: T-52A





This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve 5,5 bar		
Pilot Pressure Required for Full Shift at Rated Flow 20 bar		
Maximum Operating Pressure 350 bar		
aximum Valve Leakage at 110 SUS (24 cSt) 30 cc/min.		
Pilot Volume Displacement	0,66 cc	
Hysteresis	±2%	
Seal kit - Cartridge	Buna: 990052007	
Seal kit - Cartridge	Viton: 990052006	

## **CONFIGURATION OPTIONS**

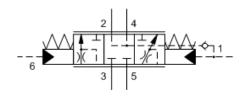
## Model Code Example: FTDKXCN

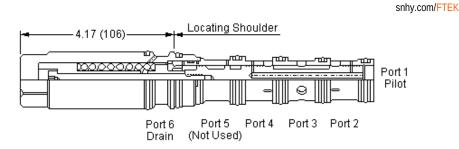
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		V Viton	



MODEL **FTEK** 

3-way, 3-position, proportional directional valve with center bleed down and load sense SERIES 3 / CAPACITY: 60 L/min. / CAVITY: T-53A





This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

## **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve 3,5 bar		
Pilot Pressure Required for Full Shift at Rated Flow 24 bar		
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.	
Pilot Volume Displacement	0,66 cc	
Hysteresis	±2%	
Seal kit - Cartridge	Buna: 990053007	
Seal kit - Cartridge	Viton: 990053006	

## **CONFIGURATION OPTIONS**

## Model Code Example: FTEKXCN

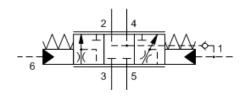
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
		V Viton	

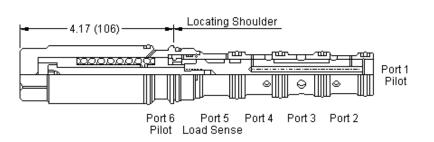


MODEL **FTFK** 



snhy.com/FTFK





This valve is a 3-way, 3-position proportional directional valve. Port 3 is closed in the center position and port 2 and port 4 are drained to port 1. Pilot pressure at port 1 creates a metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Load sense is available at port 5 when the spool is shifted to either port 2 or 4.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve 4 bar			
Pilot Pressure Required for Full Shift at Rated Flow 20 bar			
Maximum Operating Pressure 350 bar			
Maximum Valve Leakage at 110 SUS (24 cSt) 30 cc/min.			
Pilot Volume Displacement 0,66 cc			
Hysteresis	±2%		
Seal kit - Cartridge Buna: 990053007			
Seal kit - Cartridge	Viton: 990053006		

#### **CONFIGURATION OPTIONS**

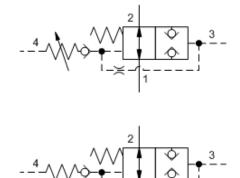
## Model Code Example: FTFKXCN

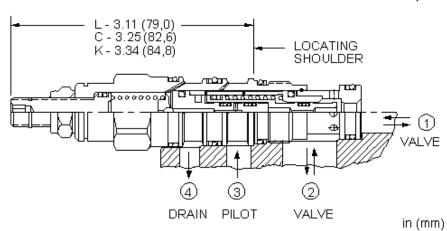
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
				V Viton	





snhy.com/DODP





This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve 28 bar			
Maximum Operating Pressure	350 bar		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

#### **CONFIGURATION OPTIONS**

# Model Code Example: DODPLAN

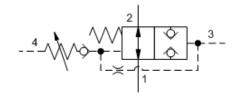
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (M	N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 400 - 3000 psi (28 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton		Standard Material/Coating IAP Stainless Steel, Passivated

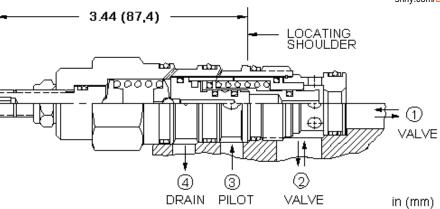
**W** 400 - 4500 psi (28 - 315 bar), 1000 psi (70 bar) Standard Setting





snhy.com/DOFP





This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar		
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990022007		
Seal kit - Cartridge	Polyurethane: 990022002		
Seal kit - Cartridge	Viton: 990022006		

#### **CONFIGURATION OPTIONS**

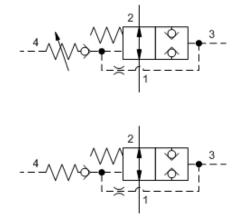
### Model Code Example: DOFPLAN

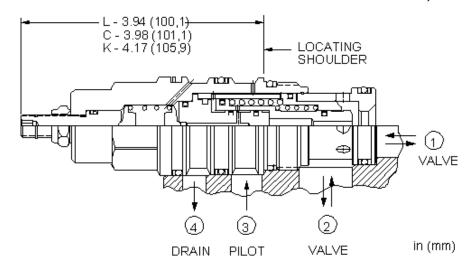
CONTROL	(L) ADJUSTMENT RANGE (A) SEAL MA	IATERIAL (N) MATERIAL/COATING	
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 psi N Buna	a-N Standard Material/Coating	
	(70 bar) Standard Setting V Viton	n IAP Stainless Steel, Passivated	
	B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting		
	W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting		





snhy.com/DOHP





This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Maximum Operating Pressure	350 bar
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

#### **CONFIGURATION OPTIONS**

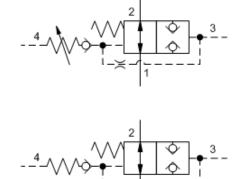
### Model Code Example: DOHPLAN

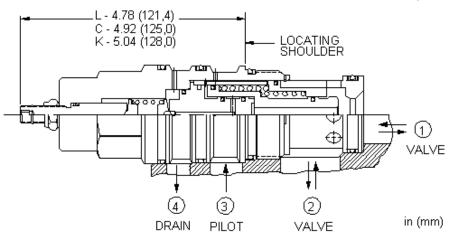
CONTROL	(L)	ADJUSTMENT RANGE (A)	)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting</li> </ul>		N Buna-N V Viton		Standard Material/Coating IAP Stainless Steel, Passivated

W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting









This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar	
Maximum Operating Pressure	350 bar	
Control Pilot Flow	See Performance Data	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990024007	
Seal kit - Cartridge	Polyurethane: 990024002	
Seal kit - Cartridge	Viton: 990024006	

#### **CONFIGURATION OPTIONS**

# Model Code Example: DOJPLAN

CONTROL	(L) ADJUSTMENT RANGE (	(A) SEAL MATERIAL (N)	MATERIAL/COATING
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 ps	si <b>N</b> Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	(70 bar) Standard Setting	V Viton	<b>IAP</b> Stainless Steel, Passivated
K Handknob	<b>B</b> 200 - 1500 psi (14 - 105 bar), 1000 ps	si	
	(70 bar) Standard Setting		

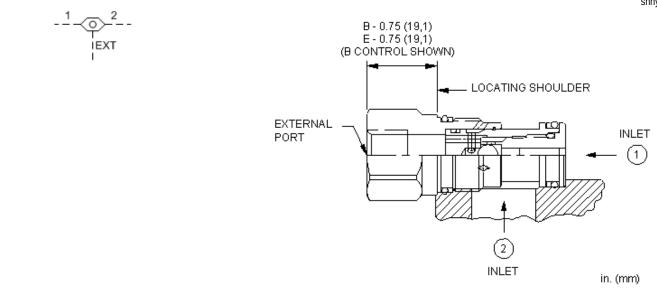
**D** 200 - 800 psi (14 - 55 bar)

W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting





snhy.com/CSAA



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990010007	
Seal kit - Cartridge	Polyurethane: 990010002	
Seal kit - Cartridge	Viton: 990010006	

## **CONFIGURATION OPTIONS**

## Model Code Example: CSAAEXN

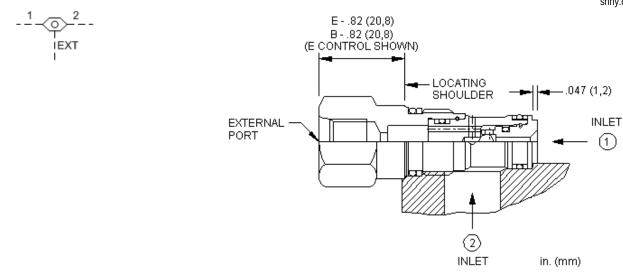
CONTROL	(E) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING	(N) MATERIAL/COATING
E External 4-SAE Port	Χ -	N Buna-N	Standard Material/Coating	Standard Material/Coating
B External 1/4 BSPP Port		V Viton	<b>/AP</b> Stainless Steel, Passivated	IAP Stainless Steel, Passivated
			/LH Mild Steel, Zinc-Nickel	/LH Mild Steel, Zinc-Nickel



MODEL CSAW



snhy.com/CSAW



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990162007	
Seal kit - Cartridge	Polyurethane: 990162002	
Seal kit - Cartridge	Viton: 990162006	

### **CONFIGURATION OPTIONS**

## Model Code Example: CSAWBXN

CONTROL	(B) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port	Χ-	N Buna-N	Standard Material/Coating
E External 4-SAE Port		V Viton	<b>IAP</b> Stainless Steel, Passivated



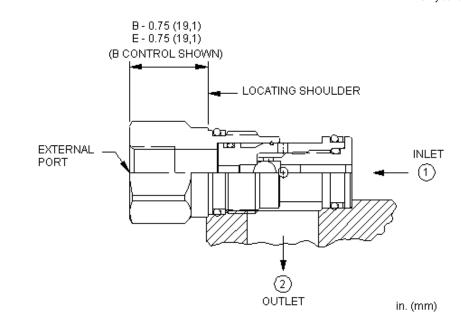
MODEL CSAC

EXT

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snhy.com/CSAC



The single ball shuttle connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990010007	
Seal kit - Cartridge	Polyurethane: 990010002	
Seal kit - Cartridge	Viton: 990010006	

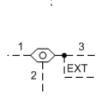
## **CONFIGURATION OPTIONS**

## Model Code Example: CSACBXN

CONTROL	(B) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N)	MATERIAL/COATING
B External 1/4 BSPP Port	Χ-	N Buna-N		Standard Material/Coating
E External 4-SAE Port		V Viton		IAP Stainless Steel, Passivated



snhy.com/CSAD

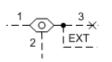


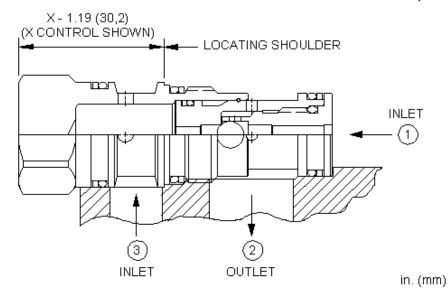
2

3

**CSAD** 

<mark>sun</mark> hydraulics"





The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990011007	
Seal kit - Cartridge	EPDM: 990011014	
Seal kit - Cartridge	Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006	

### **CONFIGURATION OPTIONS**

## Model Code Example: CSADXXN

CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		Χ -		N Buna-N		Standard Material/Coating
A Auxiliary External -4 SAE Port				E EPDM		<b>IAP</b> Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port				V Viton		ILH Mild Steel, Zinc-Nickel



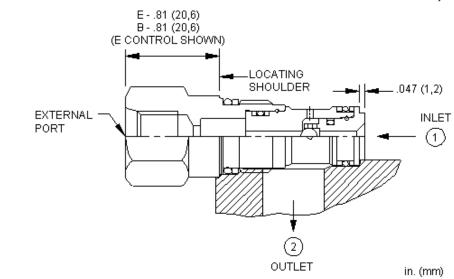
MODEL CSAY

EXT

₽<u>2</u>



snhy.com/CSAY



The single ball shuttle connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

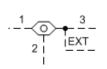
## Model Code Example: CSAYBXN

CONTROL	(B)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)
B External 1/4 BSPP Port		Χ -		N Buna-N	
E External 4-SAE Port				V Viton	



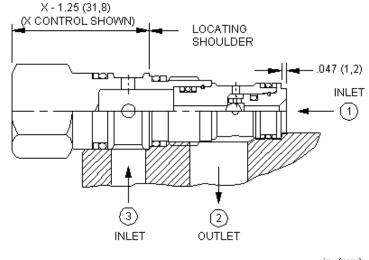


snhy.com/CSAZ



3

2



in. (mm)

The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990163007	
Seal kit - Cartridge	Polyurethane: 990163002	
Seal kit - Cartridge	Viton: 990163006	

### **CONFIGURATION OPTIONS**

### Model Code Example: CSAZXXN

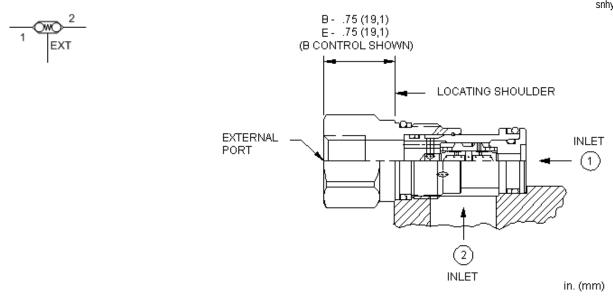
CONTROL	(X)	ADJUSTMENT RANGE	(X) S	SEAL MATERIAL	N)	MATERIAL/COATING
X Not Adjustable		Χ -		N Buna-N		Standard Material/Coating
				V Viton		IAP Stainless Steel, Passivated
						/LH Mild Steel, Zinc-Nickel



MODEL CDAA



snhy.com/CDAA



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

### **CONFIGURATION OPTIONS**

## Model Code Example: CDAABBN

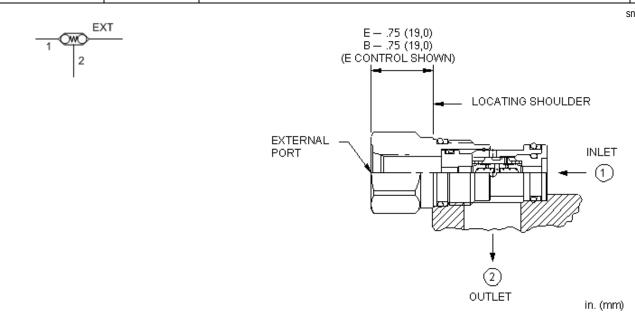
CONTROL	(B) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port	<b>B</b> 15 psi (1 bar)	N Buna-N	Standard Material/Coating
E External 4-SAE Port		V Viton	IAP Stainless Steel, Passivated



MODEL CDAC



snhy.com/CDAC



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

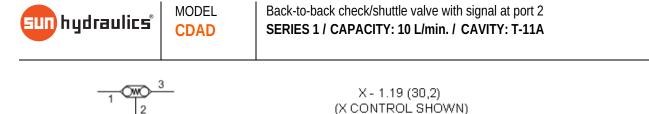
### **TECHNICAL DATA**

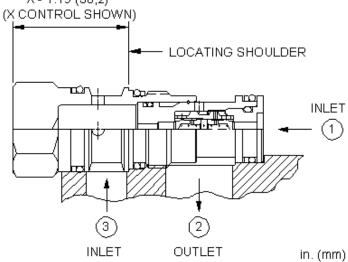
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990010007	
Seal kit - Cartridge	Polyurethane: 990010002	
Seal kit - Cartridge	Viton: 990010006	

#### **CONFIGURATION OPTIONS**

# Model Code Example: CDACBBN

CONTROL	(B) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port	<b>B</b> 15 psi (1 bar)	N Buna-N	Standard Material/Coating
E External 4-SAE Port		V Viton	IAP Stainless Steel, Passivated





snhy.com/CDAD

The back-to-back check valve combines two simple check valves into a single cartridge. It connects the work port with the higher pressure to the signal or common port. The signal is sensed at port 2.

## **TECHNICAL DATA**

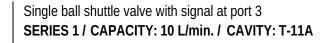
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.	
Seal kit - Cartridge	Buna: 990011007	
Seal kit - Cartridge	Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006	

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CDADXBN

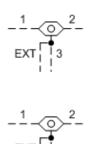
CONTROL	(X) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>B</b> 15 psi (1 bar)	N Buna-N	Standard Material/Coating
		V Viton	IAP Stainless Steel, Passivated





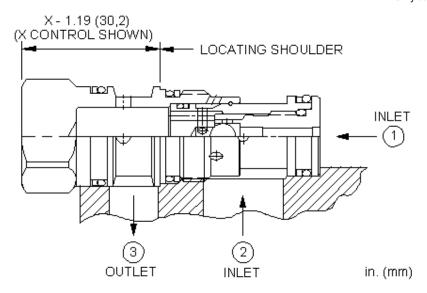


snhy.com/CSAB



2

3



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 3.

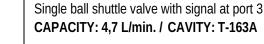
# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

# Model Code Example: CSABXXN

CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		Χ -		N Buna-N		Standard Material/Coating
A Auxiliary External -4 SAE Port				E EPDM		<b>/AP</b> Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port				V Viton		ILH Mild Steel, Zinc-Nickel



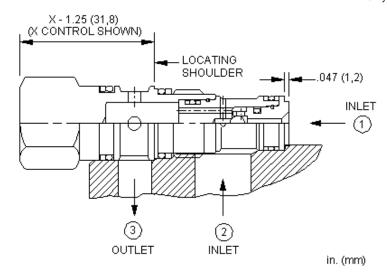


snhy.com/CSAX



3





The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 3.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

## **CONFIGURATION OPTIONS**

# Model Code Example: CSAXXXN

CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		Χ -		N Buna-N		Standard Material/Coating
				V Viton		IAP Stainless Steel, Passivated
						/LH Mild Steel, Zinc-Nickel

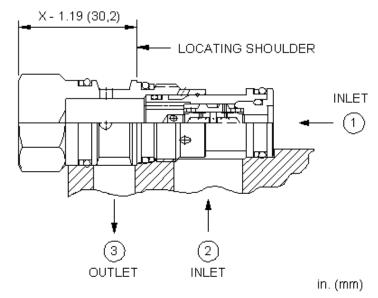












The back-to-back check valve combines two simple check valves into a single cartridge. It connects the work port with the higher pressure to the signal or common port. The signal is sensed at port 3.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

# Model Code Example: CDABXBN

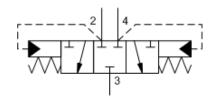
CONTROL	(X) CRACKING PRESSURE	(B)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>B</b> 15 psi (1 bar)		N Buna-N		Standard Material/Coating
A Auxiliary External -4 SAE Port			V Viton		IAP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port					/LH Mild Steel, Zinc-Nickel

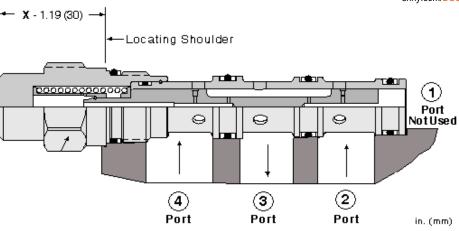
Created on 11/04/2016 © 2016 Sun Hydraulics Corporation See www.sunhydraulics.com for detailed product information 267 of 357











Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

## CONFIGURATION OPTIONS

## Model Code Example: DSCHXHN

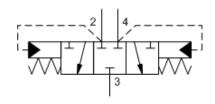
CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N)
X Not Adjustable	H 200 psi (14 bar)	N Buna-N	
	<b>G</b> 150 psi (10,5 bar)	V Viton	

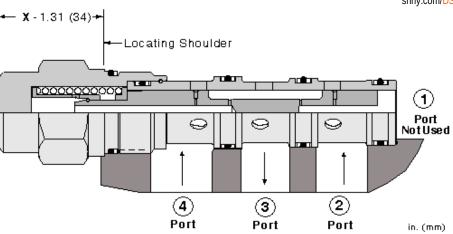


MODEL DSEH









Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

#### **CONFIGURATION OPTIONS**

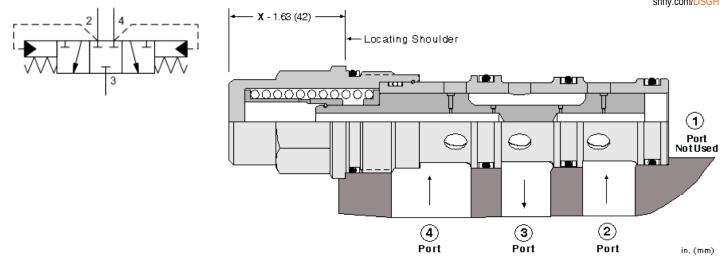
# Model Code Example: DSEHXHN

CONTROL	(X)	SHIFTING PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		H 200 psi (14 bar)		N Buna-N		Standard Material/Coating	
		<b>G</b> 150 psi (10,5 bar)		V Viton		IAP Stainless Steel, Passivated	
						ILH Mild Steel, Zinc-Nickel	









Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Flow	0,75 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

# **CONFIGURATION OPTIONS**

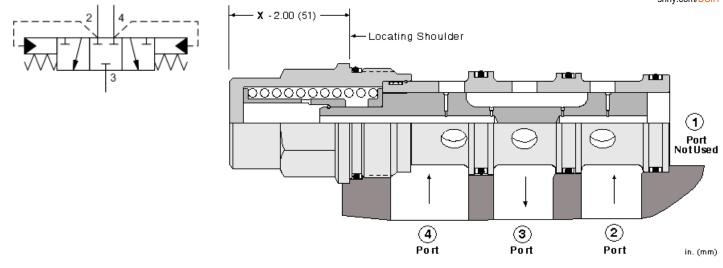
# Model Code Example: DSGHXHN

CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	H 200 psi (14 bar)	N Buna-N	Standard Material/Coating	
	<b>G</b> 150 psi (10,5 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	









Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Flow	0,75 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

# **CONFIGURATION OPTIONS**

# Model Code Example: DSIHXHN

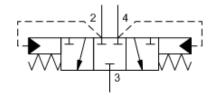
CONTROL ()	() SHIFTING PRESSURE	(H) SEAL MATERIAL (N	) MATERIAL/COATING
X Not Adjustable	H 200 psi (14 bar)	N Buna-N	Standard Material/Coating
	<b>G</b> 150 psi (10,5 bar)	V Viton	/LH Mild Steel, Zinc-Nickel

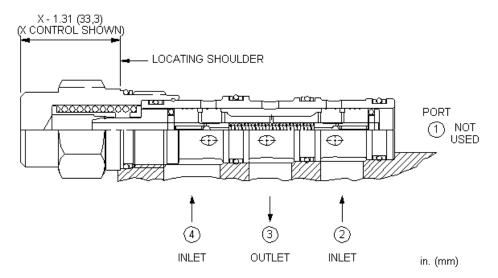


MODEL DSDD



snhy.com/DSDD





Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

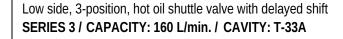
#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

# **CONFIGURATION OPTIONS**

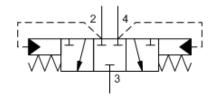
#### Model Code Example: DSDDXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL (I	I) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
		V Viton	IAP Stainless Steel, Passivated





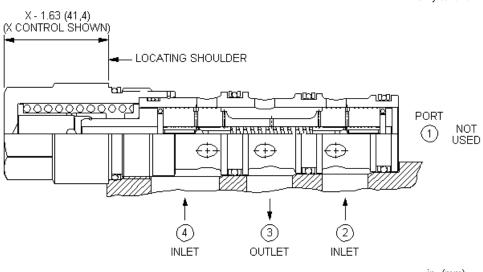
snhy.com/DSFD



<mark>un</mark> hydraulics"

MODEL

**DSFD** 



in. (mm)

Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

#### **TECHNICAL DATA**

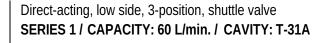
Maximum Operating Pressure	350 bar
Pilot Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

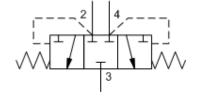
#### Model Code Example: DSFDXEN

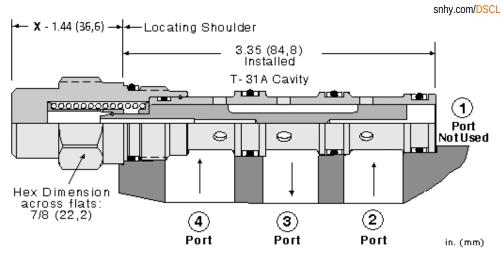
CONTROL	(X) SHIFTING PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
		V Viton	/LH Mild Steel, Zinc-Nickel











Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

# **CONFIGURATION OPTIONS**

# Model Code Example: DSCLXGN

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	<b>G</b> 150 psi (10,5 bar)	N Buna-N	
	<b>C</b> 30 psi (2 bar)	V Viton	
	<b>E</b> 75 psi (5 bar)		
	<b>F</b> 100 psi (7 bar)		

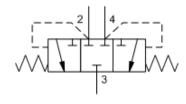
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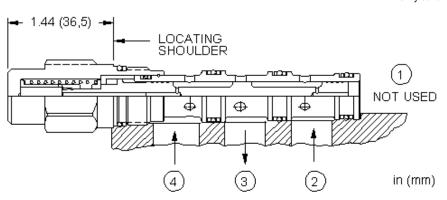


MODEL DSCS



snhy.com/DSCS





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

# **TECHNICAL DATA**

Maximum Operating Pressure 350 bar			
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar		
Seal kit - Cartridge	Buna: 990031007		
Seal kit - Cartridge	Polyurethane: 990031002		
Seal kit - Cartridge	Viton: 990031006		

# **CONFIGURATION OPTIONS**

#### Model Code Example: DSCSXGN

CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	<b>G</b> 150 psi (10,5 bar)	N Buna-N	
	<b>C</b> 30 psi (2 bar)	V Viton	
	<b>E</b> 75 psi (5 bar)		

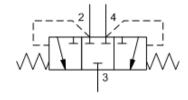
- **F** 100 psi (7 bar)
  - 100 psi (7 bar)

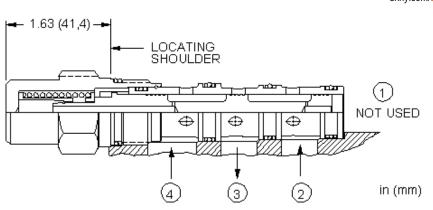
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snhy.com/DSES





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar	
Seal kit - Cartridge	Buna: 990032007	
Seal kit - Cartridge	Polyurethane: 990032002	
Seal kit - Cartridge	Viton: 990032006	

# **CONFIGURATION OPTIONS**

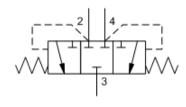
# Model Code Example: DSESXGN

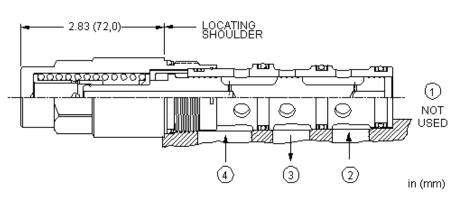
CONTROL	(X) SHIFTING PRESSUR	E (G) SEAL MATERIAL	(N)
X Not Adjustable	<b>G</b> 150 psi (10,5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		





snhy.com/DSGS





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

#### **TECHNICAL DATA**

Maximum Operating Pressure 350 bar			
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar		
Seal kit - Cartridge	Buna: 990033007		
Seal kit - Cartridge	EPDM: 990033014		
Seal kit - Cartridge	Polyurethane: 990033002		
Seal kit - Cartridge	Viton: 990033006		

# **CONFIGURATION OPTIONS**

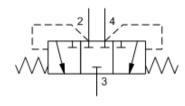
# Model Code Example: DSGSXGN

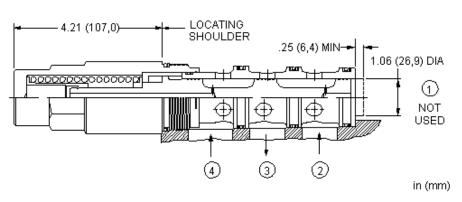
CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	<b>G</b> 150 psi (10,5 bar)	N Buna-N	
	<b>C</b> 30 psi (2 bar)	E EPDM	
	<b>E</b> 75 psi (5 bar)	V Viton	
	<b>F</b> 100 psi (7 bar)		











High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar		
Seal kit - Cartridge	Buna: 990034007		
Seal kit - Cartridge	Polyurethane: 990034002		
Seal kit - Cartridge	Viton: 990034006		

# **CONFIGURATION OPTIONS**

# Model Code Example: DSISXGN

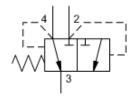
CONTROL (X)	SHIFTING PRESSURE (G)	SEAL MATERIAL (N	<u>v)</u>
X Not Adjustable	<ul> <li>G 150 psi (10,5 bar)</li> <li>C 30 psi (2 bar)</li> <li>E 75 psi (5 bar)</li> </ul>	N Buna-N V Viton	

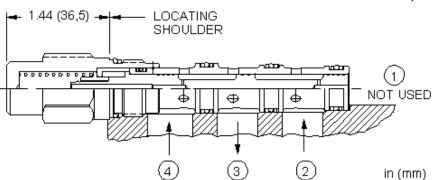
**F** 100 psi (7 bar)





snhy.com/DSCO





Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar	
Seal kit - Cartridge	Buna: 990031007	
Seal kit - Cartridge	Polyurethane: 990031002	
Seal kit - Cartridge	Viton: 990031006	

### **CONFIGURATION OPTIONS**

#### Model Code Example: DSCOXEN

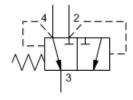
CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N		Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton		IAP Stainless Steel, Passivated

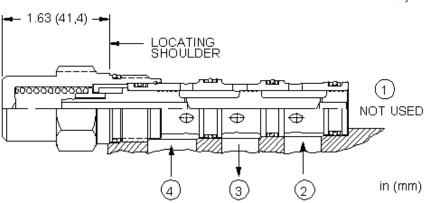


MODEL DSEO



snhy.com/DSEO





Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

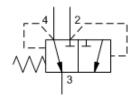
# **CONFIGURATION OPTIONS**

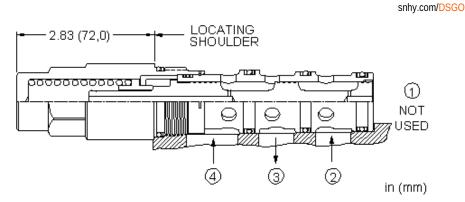
#### Model Code Example: DSEOXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton	IAP Stainless Steel, Passivated









Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

# **CONFIGURATION OPTIONS**

#### Model Code Example: DSGOXEN

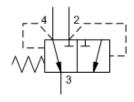
CONTROL (X	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)		N Buna-N	
	<b>C</b> 30 psi (2 bar)		V Viton	

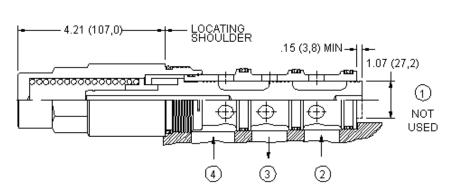


MODEL DSIO



snhy.com/DSIO





Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSIOXEN

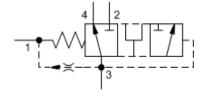
CONTROL (X	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)		N Buna-N	
	<b>C</b> 30 psi (2 bar)		V Viton	

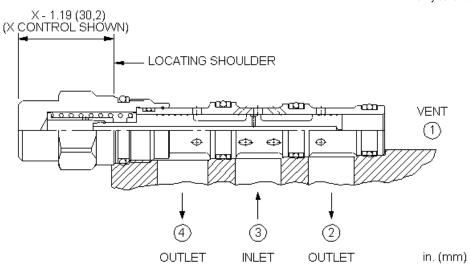


MODEL DSCY



snhy.com/DSCY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSCYXEN

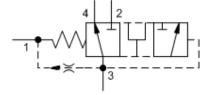
CONTROL	(X) <u>MIN</u>	NIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable	E	75 psi (5 bar)		N Buna-N	
	С	30 psi (2 bar)		V Viton	
	D	50 psi (3,5 bar)			

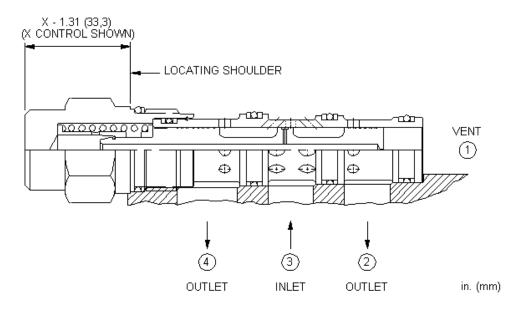


MODEL DSEY



snhy.com/DSEY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSEYXEN

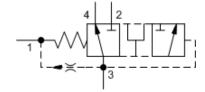
CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton	IAP Stainless Steel, Passivated
	<b>D</b> 50 psi (3,5 bar)		

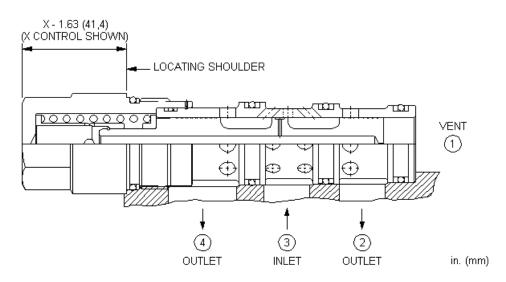


MODEL DSGY



snhy.com/DSGY





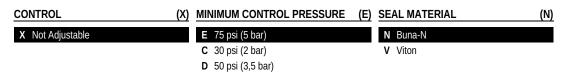
This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSGYXEN

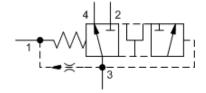


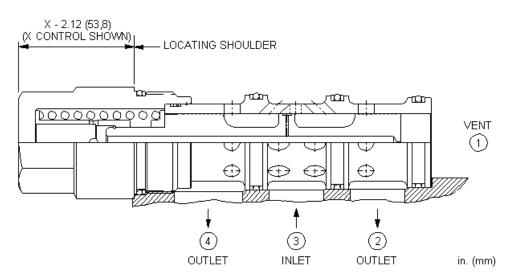


MODEL DSIY



snhy.com/DSIY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

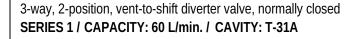
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSIYXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE (	E) <u>SEAL MATERIAL</u> (N	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton	IAP Stainless Steel, Passivated
	<b>D</b> 50 psi (3,5 bar)		

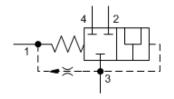


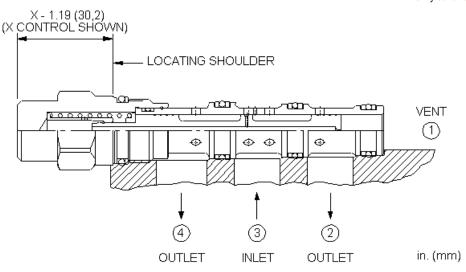
MODEL DSCX





snhy.com/DSCX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSCXXEN

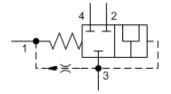
CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

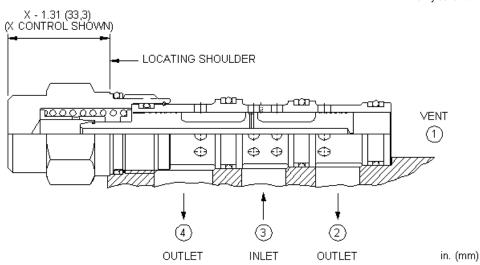


MODEL DSEX



snhy.com/DSEX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,38 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSEXXEN

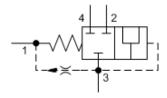
CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

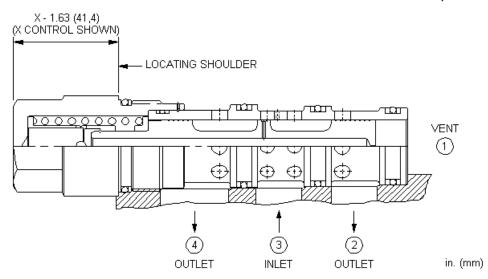


MODEL DSGX



snhy.com/DSGX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

# **CONFIGURATION OPTIONS**

#### Model Code Example: DSGXXEN

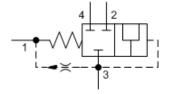
CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

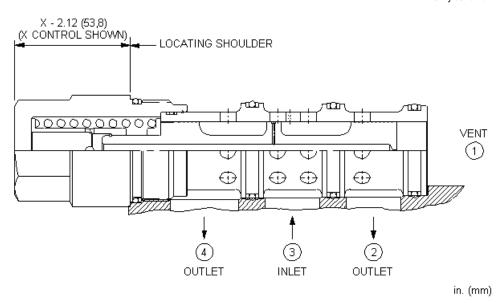


MODEL DSIX



snhy.com/DSIX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,60 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

# **CONFIGURATION OPTIONS**

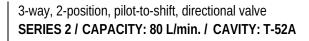
### Model Code Example: DSIXXEN

CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

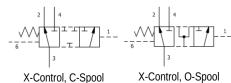


3

X-Control, Y-Spool

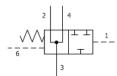




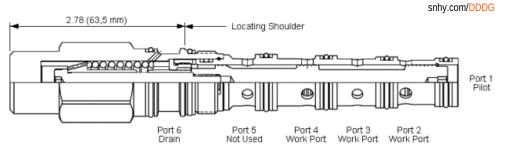


X-Control, C-Spool

X-Control, R-Spool



X-Control, Z-Spool



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	10 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

# **CONFIGURATION OPTIONS**

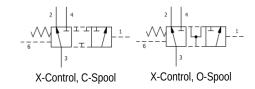
# Model Code Example: DDDGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	C Closed Crossover	N Buna-N	Standard Material/Coating	
	O Open Crossover	V Viton	<b>/AP</b> Stainless Steel, Passivated	
	R Restricted Crossover		/LH Mild Steel, Zinc-Nickel	
	Y All Ports Blocked			

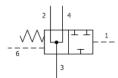
Z All Ports Open

X-Control, Y-Spool

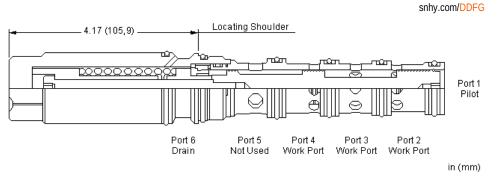








X-Control, Z-Spool



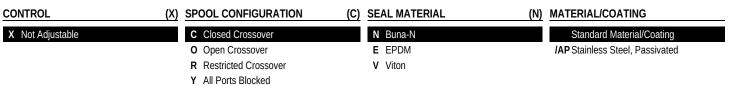
Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	11 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,1 cc
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

# **CONFIGURATION OPTIONS**

# Model Code Example: DDFGXCN



Z All Ports Open

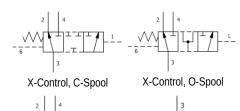


X-Control, Y-Spool

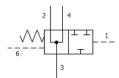
# 3-way, 2-position, pilot-to-shift, directional valve SERIES 4 / CAPACITY: 320 L/min. / CAVITY: T-54A



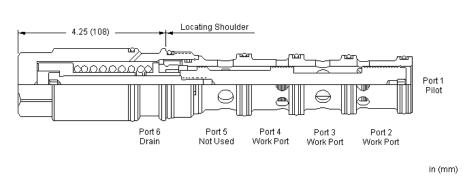
snhy.com/DDHG



X-Control, R-Spool



X-Control, Z-Spool



Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	20 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar
Pilot Volume Displacement	4,4 cc
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

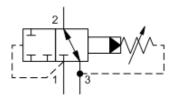
# **CONFIGURATION OPTIONS**

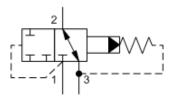
# Model Code Example: DDHGXCN

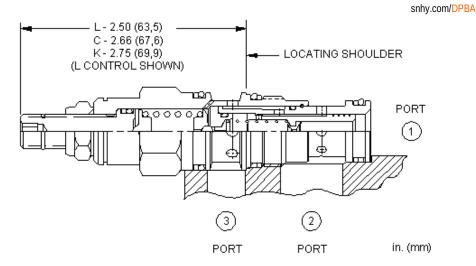
CONTROL	(X) SPOOL CONFIGURATION	ON (C) SEAL MATERIAL	(N)
X Not Adjustable	C Closed Crossover	N Buna-N	
	O Open Crossover	V Viton	
	R Restricted Crossover		
	Y All Ports Blocked		

Z All Ports Open

MODEL DPBA







Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

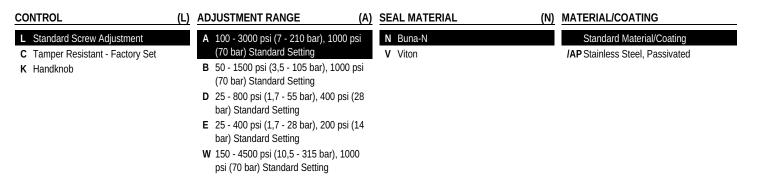
# **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

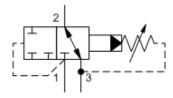
# CONFIGURATION OPTIONS

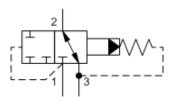
# Model Code Example: DPBALAN

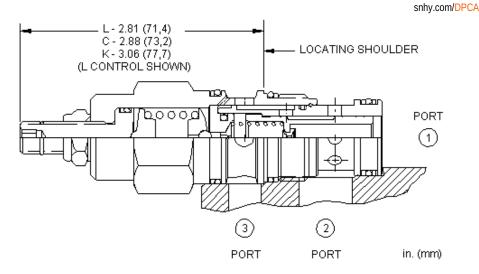


MODEL DPCA









Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

# **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

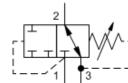
NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

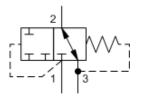
# CONFIGURATION OPTIONS

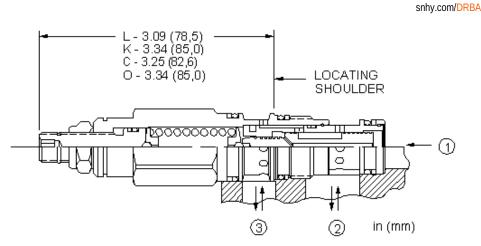
# Model Code Example: DPCALAN

L Standard Scrow Adjustment A 100, 2000 psi /7, 210 bar), 1000 psi N Runa N	CONTROL (	L) ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
C Standard Sciew AdjustmentA 100 - 3000 psi (7 - 210 bal), 1000 psiN builderNStandard Sciew AdjustmentC Tamper Resistant - Factory Set(70 bar) Standard SettingV VitonIAP Stainless Steel, PassivatedB 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard SettingC 150 - 6000 psi (10,5 - 420 bar), 3000 psi (210 bar) Standard SettingV VitonIAP Stainless Steel, PassivatedC 150 - 6000 psi (10,5 - 420 bar), 400 psi (210 bar) Standard SettingD 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard SettingE 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard SettingW 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting	K Handknob	<ul> <li>(70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>C 150 - 6000 psi (10,5 - 420 bar), 3000 psi (210 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 100 - 4500 psi (7 - 315 bar), 1000 psi</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated









Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

# **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

# **CONFIGURATION OPTIONS**

# Model Code Example: DRBALAN

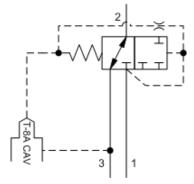
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 p (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (1 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (1 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 p</li> </ul>	i .4 .4	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated
		(70 bar) Standard Setting				

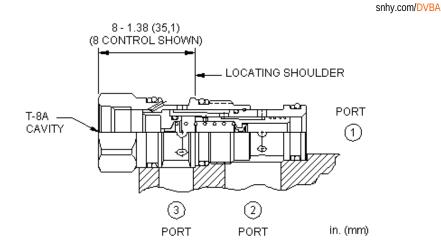


MODEL

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally open SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DVBA8FN

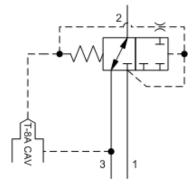
CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		<b>F</b> 100 psi (7 bar)		N Buna-N	
				V Viton	

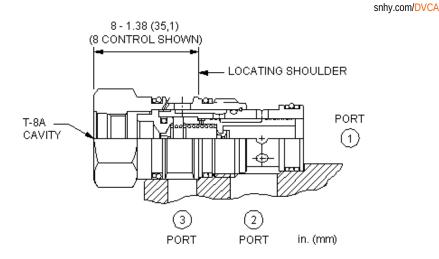


MODEL

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally open SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

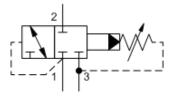
#### CONFIGURATION OPTIONS

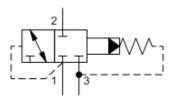
#### Model Code Example: DVCA8FN

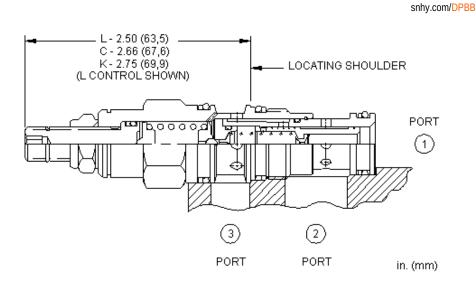
CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		<b>F</b> 100 psi (7 bar)		N Buna-N	
				V Viton	











Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

# **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

# **CONFIGURATION OPTIONS**

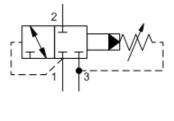
# Model Code Example: DPBBLAN

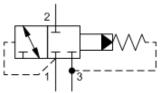
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14</li> </ul>	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated
		bar) Standard Settipg W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting			

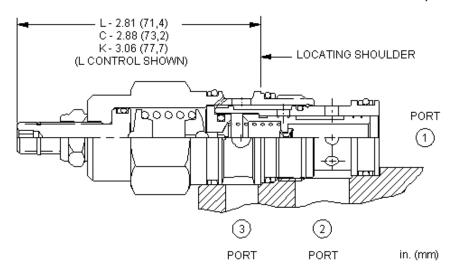




snhy.com/DPCB







Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES

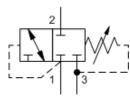
S For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

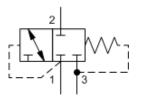
# **CONFIGURATION OPTIONS**

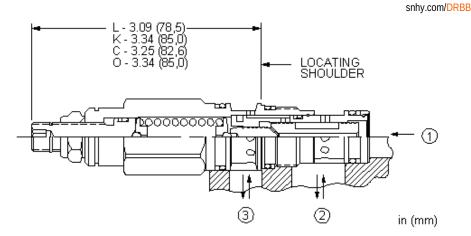
# Model Code Example: DPCBLAN

CONTROL	(L) ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi	N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set	(70 bar) Standard Setting	V Viton		<b>IAP</b> Stainless Steel, Passivated
K Handknob	<ul> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> </ul>			
	<ul> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> </ul>			
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14			
	w 130 Standard Stating 315 bar), 1000 psi (70 bar) Standard Setting			









Normally closed, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBBLAN

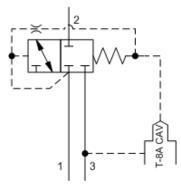
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul><li>L Standard Screw Adjustment</li><li>C Tamper Resistant - Factory Set</li></ul>		A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting	<ul><li>N Buna-N</li><li>V Viton</li></ul>		Standard Material/Coating IAP Stainless Steel, Passivated
K Handknob		B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting			
		D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting			
		E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			
		S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting			
		W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting			

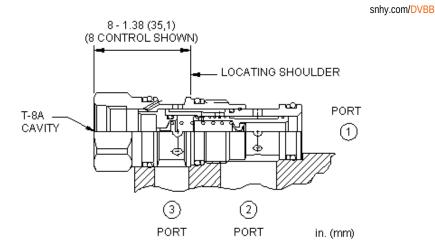


MODEL

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally closed SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

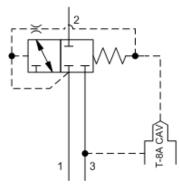
# CONFIGURATION OPTIONS Model Code Example: DVBB8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity F 100 psi (7 bar) N Buna-N V

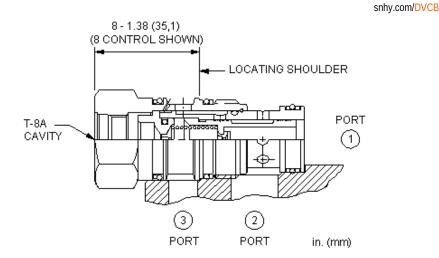


MODEL

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally closed SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

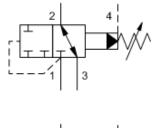
#### **CONFIGURATION OPTIONS**

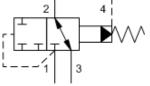
#### Model Code Example: DVCB8FN

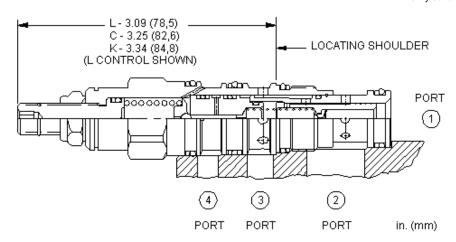
CONTROL	(8) MINIMUM CONTROL PRESSURE	E (F)	SEAL MATERIAL	(N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)		N Buna-N	
			V Viton	



snhy.com/DPBM







Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

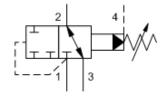
# Model Code Example: DPBMLAN

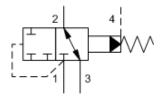
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Víton	
		1 ( )		

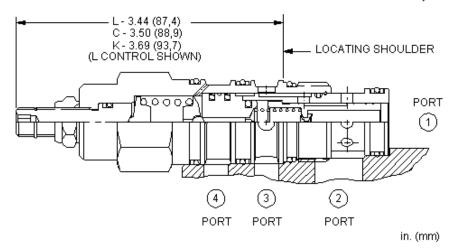












Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

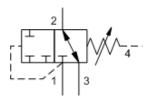
#### **CONFIGURATION OPTIONS**

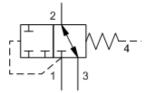
#### Model Code Example: DPCMLAN

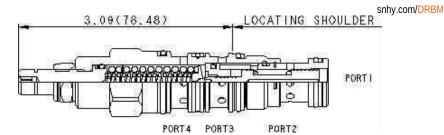
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> </ul>		A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting		N Buna-N V Viton	
K Handknob		B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting	si		
		D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting	8		
		E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting	4		
		W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting			

2-way, direct-acting, directional valve with drain to port 4 - normally open SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A









Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel. NOTES

#### **CONFIGURATION OPTIONS**

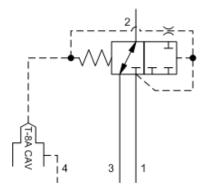
#### Model Code Example: DRBMLAN

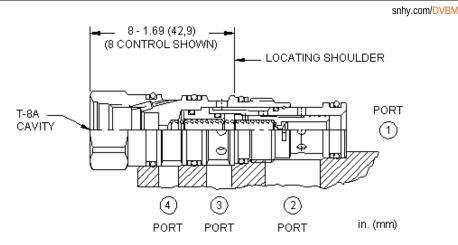
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (bar) Standard Setting</li> </ul>	si (14 (14	N Buna-N V Viton	

W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting









This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

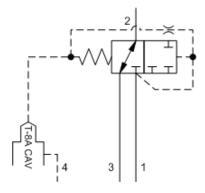
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

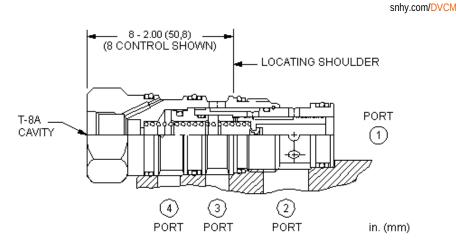
## CONFIGURATION OPTIONS Model Code Example: DVBM8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) 8 T-8A Cavity F 100 psi (7 bar)



MODEL DVCM





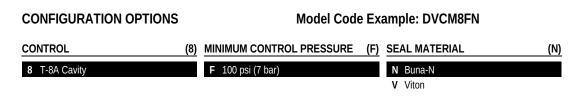


This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

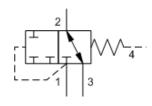
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

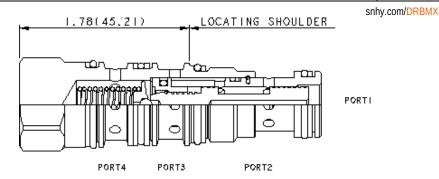
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.





MODEL DRBMX 2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally open SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A





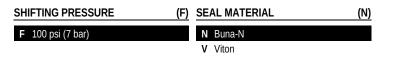
Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

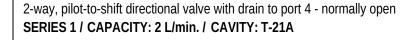
Factory Pressure Settings Established at	15 L/min.		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBMXFN

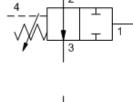


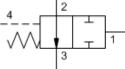


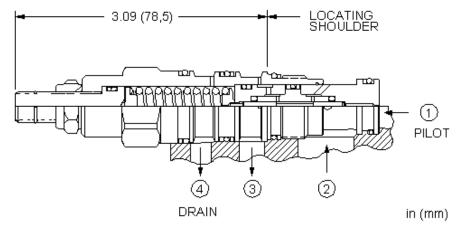




snhy.com/DRAY







The normally-open, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to block port 2 from port 3.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at Reseat	20 drops/min.		
Reseat	>85% of setting		
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

#### **CONFIGURATION OPTIONS**

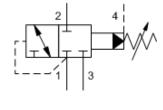
#### Model Code Example: DRAYLAN

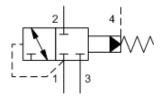
CONTROL	(L)	ADJUSTMENT RANGE (A	4)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		A 1000 - 3000 psi (70 - 210 bar), 1000 ps	si	N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set		(70 bar) Standard Setting		V Viton		<b>IAP</b> Stainless Steel, Passivated
		<b>C</b> 2000 - 6000 psi (140 - 420 bar), 2000				
		psi (140 bar) Standard Setting				

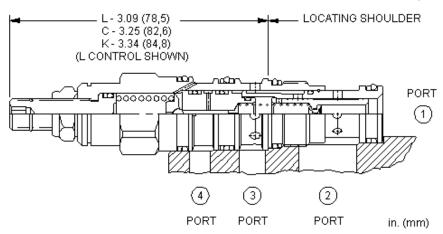
Created on 11/04/2016 © 2016 Sun Hydraulics Corporation See www.sunhydraulics.com for detailed product information











Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	0,11 - 0,16 L/min.		
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar		
Adjustment - Number of Clockwise Turns to Increase Setting 5			
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

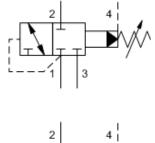
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPBNLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 p (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi bar) Standard Setting</li> </ul>	psi	N Buna-N V Viton	
		<ul> <li>bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi bar) Standard Setting</li> </ul>			
		<ul> <li>J 25 - 1500 psi (1,7 - 105 bar), 1000 (70 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 100 psi (70 bar) Standard Setting</li> </ul>			



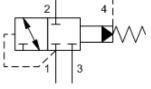


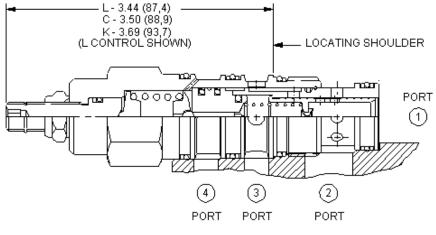


un hydraulics°

MODEL

**DPCN** 





in. (mm)

Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	0,16 - 0,25 L/min.		
Maximum Valve Leakage at 110 SUS (24 cSt) 15 cc/min.@70 bar			
Adjustment - Number of Clockwise Turns to Increase Setting	5		
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990022007		
Seal kit - Cartridge	Polyurethane: 990022002		
Seal kit - Cartridge	Viton: 990022006		

(N)

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCNLAN

### CONTROL

- L Standard Screw AdjustmentC Tamper Resistant Factory Set
- K Handknob
- ADJUSTMENT RANGE
   (A

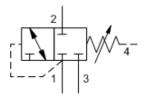
   A 100 3000 psi (7 210 bar), 1000 psi (70 bar) Standard Setting
   (A
  - B 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
  - D 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
  - E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
     W 150 4500 psi (10,5 315 bar), 1000
  - psi (70 bar) Standard Setting

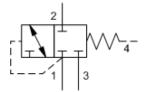
#### (A) SEAL MATERIAL .000 psi N Buna-N

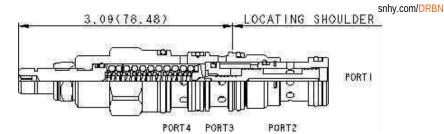
V Viton

3-way, direct-acting, directional valve with drain to port 4 - normally closed SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A









Normally closed, direct-acting, 3-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBNLAN

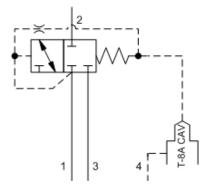
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>C 500 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated

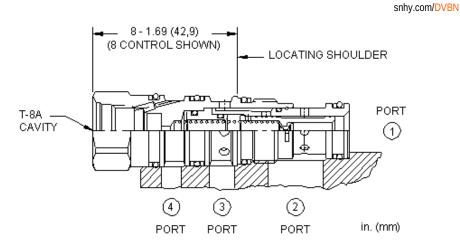
**S** 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting

W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting







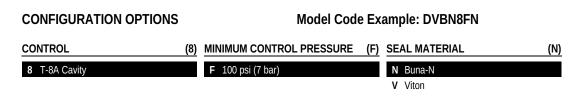


This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

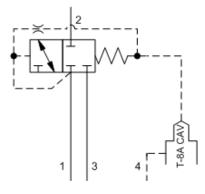
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

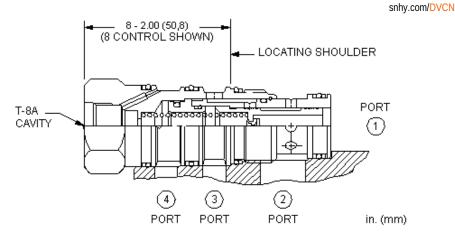
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.











This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

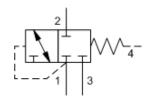
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

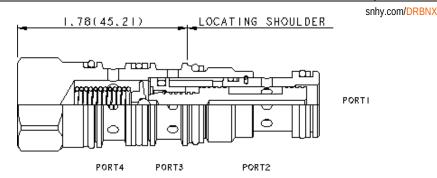
# CONFIGURATION OPTIONS Model Code Example: DVCN8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity F 100 psi (7 bar) N Buna-N V Viton



MODEL DRBNX 2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally closed SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







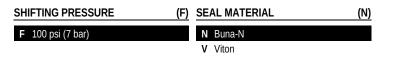
Normally closed, direct-acting, 3-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

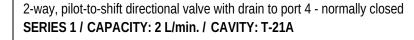
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBNXFN

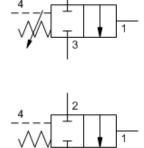


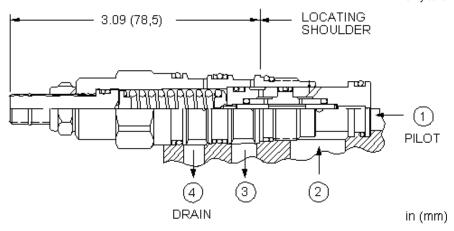






snhy.com/DRAX





The normally-closed, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to connect port 2 to port 3.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at Reseat	20 drops/min.		
Reseat	>85% of setting		
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006		

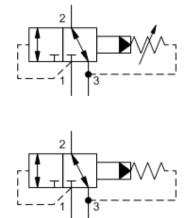
#### **CONFIGURATION OPTIONS**

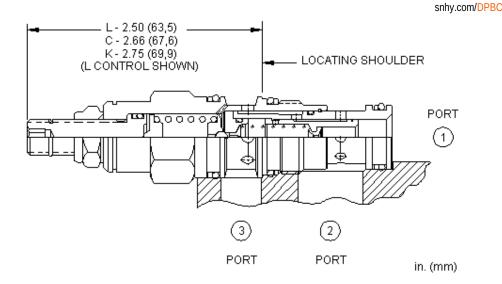
#### Model Code Example: DRAXLAN

CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N	MATERIAL/COATING
L Standard Screw Adjustment		A 1000 - 3000 psi (70 - 210 bar), 1000 psi	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		(70 bar) Standard Setting	V Viton	<b>IAP</b> Stainless Steel, Passivated
		C 2000 - 6000 psi (140 - 420 bar), 2000		
		psi (140 bar) Standard Setting		









Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

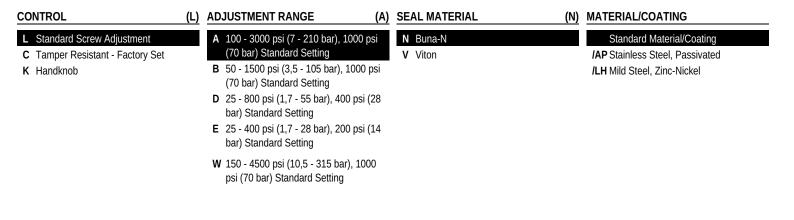
#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

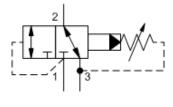
NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

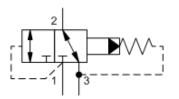
#### **CONFIGURATION OPTIONS**

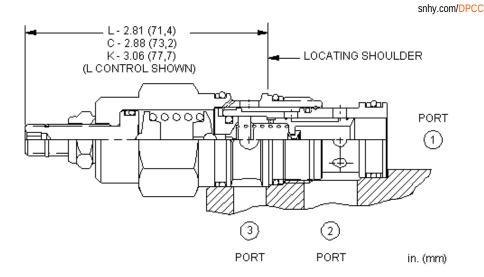
#### Model Code Example: DPBCLAN











Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES

For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

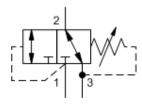
#### Model Code Example: DPCCLAN

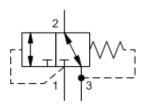
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated
		<ul> <li>H 35 - 3000 psi (2,4 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>		

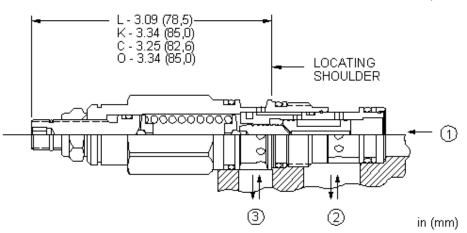




snhy.com/DRBC







Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

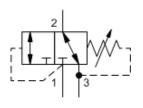
#### Model Code Example: DRBCLAN

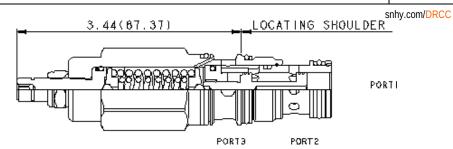
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (1 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (1 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	i L4 L4	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Polyurethane: 990002002

#### **CONFIGURATION OPTIONS**

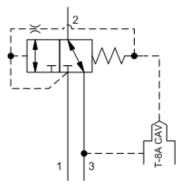
#### Model Code Example: DRCCLAN

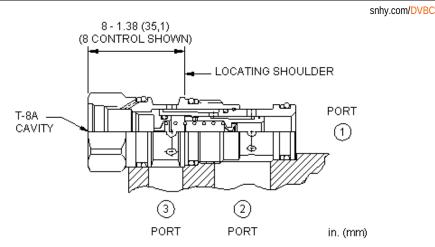
CONTROL	(L) AC	DJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment	B	<ul> <li>750 - 3000 psi (50 - 210 bar), 1000 pti (70 bar) Standard Setting</li> <li>300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting</li> <li>200 - 800 psi (14 - 55 bar), 400 psi (bar) Standard Setting</li> <li>100 - 400 psi (7 - 28 bar), 200 psi (1 bar) Standard Setting</li> <li>50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting</li> </ul>	si (28 .4	N Buna-N V Viton		Standard Material/Coating /LH Mild Steel, Zinc-Nickel



3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

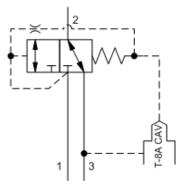
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

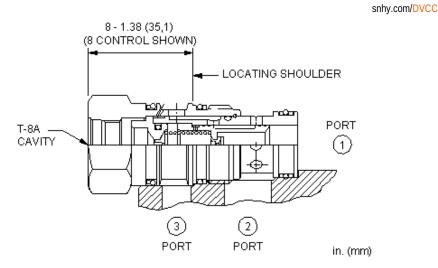
# CONFIGURATION OPTIONS Model Code Example: DVBC8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) 8 T-8A Cavity F 100 psi (7 bar) N Buna-N V V viton



3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

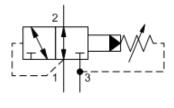
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

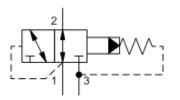
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

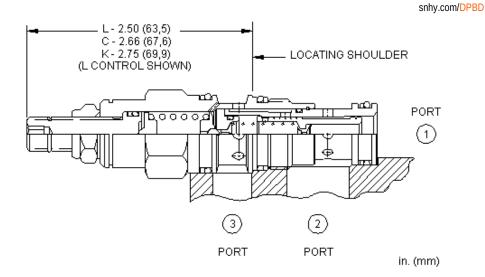
CONFIGURATION OPTIONS	S Model Code Example: DVCC8FN		
CONTROL (8	MINIMUM CONTROL PRESSURE (	F) SEAL MATERIAL (N)	
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N	
		V Viton	

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Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow 0,11 - 0,16 L/min.	
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

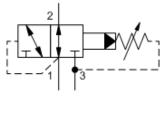
#### **CONFIGURATION OPTIONS**

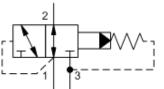
#### Model Code Example: DPBDLAN

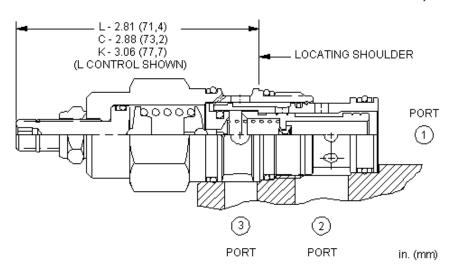
CONTROL (L	L) ADJUSTMENT RANGE (A)	SEAL MATERIAL (	N) MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>K 75 - 1500 psi (5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



snhy.com/DPCD







Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

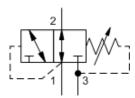
Factory Pressure Settings Established at	15 L/min.	
Maximum Operating Pressure	350 bar	
Control Pilot Flow 0,16 - 0,25 L/min.		
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar	
Adjustment - Number of Clockwise Turns to Increase Setting	5	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990202007	
Seal kit - Cartridge	Polyurethane: 990002002	
Seal kit - Cartridge	Viton: 990202006	

#### **CONFIGURATION OPTIONS**

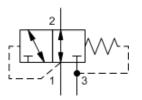
#### Model Code Example: DPCDLAN

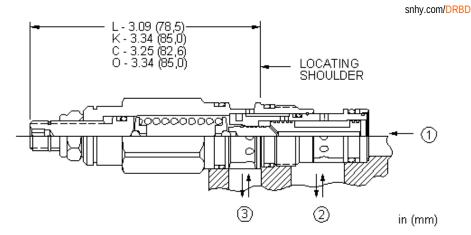
CONTROL	(L)	ADJUSTMENT RANGE (A	A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>		N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated





iun hydraulics





Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

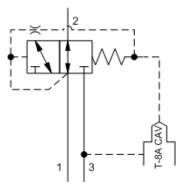
#### Model Code Example: DRBDLAN

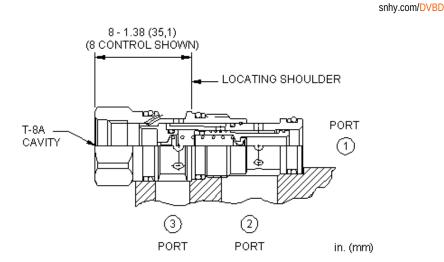
CONTROL	(L) ADJUSTMENT RANGE (A	) SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-11A







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

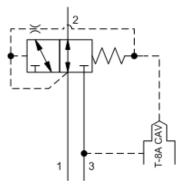
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

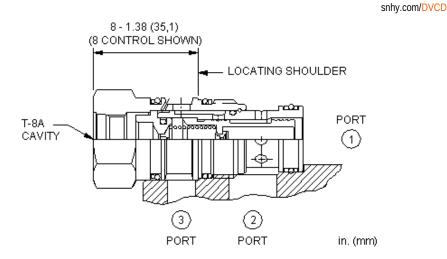
## CONFIGURATION OPTIONS Model Code Example: DVBD8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity F 100 psi (7 bar) N Numa-N V Viton



3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-2A







This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

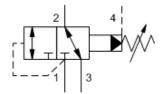
### CONFIGURATION OPTIONS

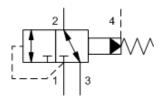
Model Code Example: DVCD8FN

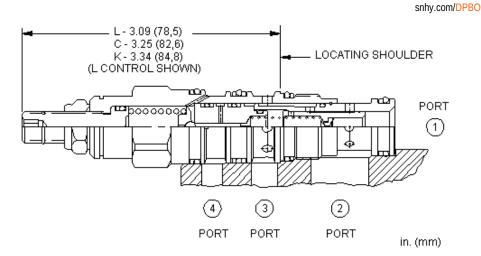
CONTROL	(8) MINIMUM CONTROL PRESSUF	RE (F) SEAL MATERIAL	(N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N	
		V Viton	











Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

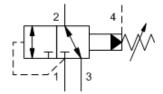
Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

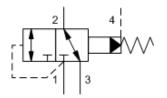
#### **CONFIGURATION OPTIONS**

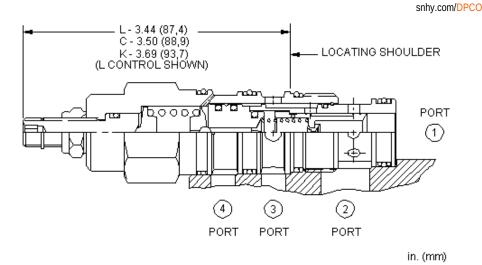
#### Model Code Example: DPBOLAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul><li>L Standard Screw Adjustment</li><li>C Tamper Resistant - Factory Set</li></ul>		A 100 - 3000 psi (7 - 210 bar), 1000 ps (70 bar) Standard Setting	si	N Buna-N V Viton	
K Handknob		B 50 - 1500 psi (3,5 - 105 bar), 1000 p (70 bar) Standard Setting	si		
		D 25 - 800 psi (1,7 - 55 bar), 400 psi (2 bar) Standard Setting	28		
		E 25 - 400 psi (1,7 - 28 bar), 200 psi (1 bar) Standard Setting	14		
		J 25 - 1500 psi (1,7 - 105 bar), 1000 p (70 bar) Standard Setting	si		
		<b>W</b> 150 - 4500 psi (10,5 - 315 bar), 1000	0		
		psi (70 bar) Standard Setting			









Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.		
Maximum Operating Pressure	350 bar		
Control Pilot Flow	0,16 - 0,25 L/min.		
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar		
Adjustment - Number of Clockwise Turns to Increase Setting 5			
Locknut Hex Size	15 mm		
Locknut Torque	9 - 10 Nm		
Seal kit - Cartridge	Buna: 990022007		
Seal kit - Cartridge	Polyurethane: 990022002		
Seal kit - Cartridge	Viton: 990022006		

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCOLAN

N Buna-N

V Viton

<u> </u>	(-)		500	
L	Standard Screw Adjustment		А	10
С	Tamper Resistant - Factory Set			(70

K Handknob

CONTROL

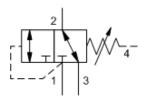
- (A) SEAL MATERIAL (L) ADJUSTMENT RANGE - 3000 psi (7 - 210 bar), 1000 psi bar) Standard Setting
  - B 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
  - D 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
  - E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting
  - W 150 4500 psi (10,5 315 bar), 1000 psi (70 bar) Standard Setting

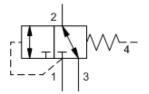
#### (N) MATERIAL/COATING

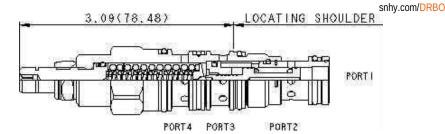
Standard Material/Coating

IAP Stainless Steel, Passivated









Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.		
Maximum Operating Pressure 350 bar			
Maximum Valve Leakage at 110 SUS (24 cSt) 30 cc/min.			
Adjustment - Number of Clockwise Turns to Increase Setting	5		
Locknut Hex Size 15 mm			
Locknut Torque 9 - 10 Nm			
Seal kit - Cartridge	Buna: 990021007		
Seal kit - Cartridge Polyurethane: 990021002			
Seal kit - Cartridge	Viton: 990021006		

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

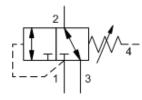
#### Model Code Example: DRBOLAN

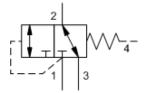
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 p (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi bar) Standard Setting</li> </ul>	si (14 (14	N Buna-N V Viton	

W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting









L - 3.47 (88,1) K - 3.75 (95,3) C - 3.53 (89,7)	╼	- LOCATING SH	OULDER
			PORT
(4) PORT	↓ ③ PORT	↓ 2 PORT	in. (mm)

Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt) 30 cc/min.			
Adjustment - Number of Clockwise Turns to Increase Setting 5			
Locknut Hex Size 15 mm			
Locknut Torque 9 - 10 Nm			
Seal kit - Cartridge	Buna: 990022007		
Seal kit - Cartridge Polyurethane: 990022002			
Seal kit - Cartridge	Viton: 990022006		

#### **CONFIGURATION OPTIONS**

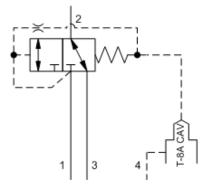
#### Model Code Example: DRCOLAN

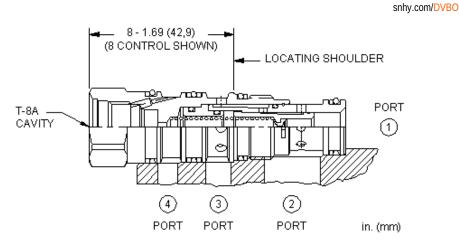
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N	I)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> </ul>	N Buna-N V Viton	



3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 28 L/min. / CAVITY: T-21A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

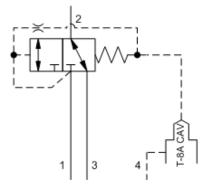
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

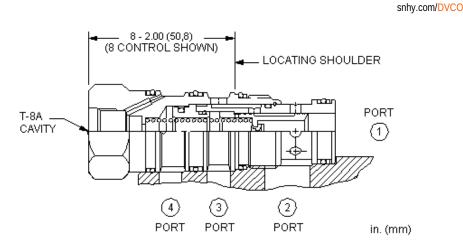
# CONFIGURATION OPTIONS Model Code Example: DVBO8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) 8 T-8A Cavity F 100 psi (7 bar) N V Vition



3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-22A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,11 - 0,16 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

(N)

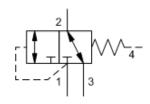
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

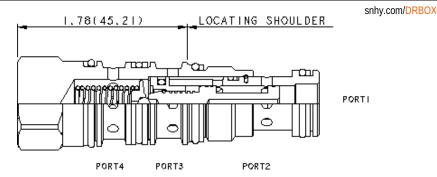
CONFIGURATION OPTIONS	Model Code	e Example: DVCO8FN
CONTROL (8	) MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL
8 T-8A Cavity	F 100 psi (7 bar)	N Buna-N
		E EPDM
		V Viton



MODEL DRBOX







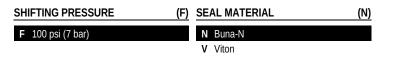
Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### TECHNICAL DATA

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

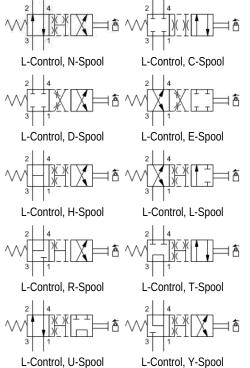
#### **CONFIGURATION OPTIONS**

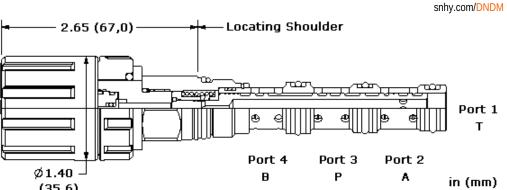
#### Model Code Example: DRBOXFN



### <mark>sun</mark> hydraulics"







This manually operated, 2-position, 4-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

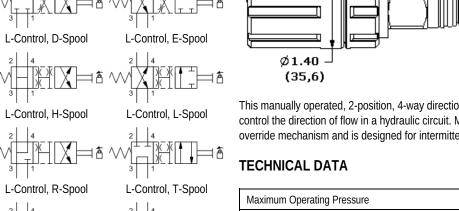
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar
Operating Torque	1,2 Nm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

#### **CONFIGURATION OPTIONS**

### Model Code Example: DNDMLNN

#### CONTROL (L) SPOOL CONFIGURATION (N) SEAL MATERIAL (N) L Twist/Lock (Detent) Manual Override N Through, Shift to Cross N Buna-N D Twist/Lock (Dual) Manual Override C Closed, Shift to Through E EPDM T Twist (Momentary) Manual Override D Closed, Shift to Cross V Viton E Cross, Shift to Closed H Open, Shift to Cross L Cross, Shift to P to A, B and T Blocked

- R Regen, Shift to Cross
- T Tandem, Shift to Through
- U Through, Shift to Tandem
- Y Motor, Shift to Cross





X-Control, X-Spool

X-Control, B-Spool

X-Control, H-Spool

X-Control, T-Spool

X-Control, Y-Spool

2

MODEL DCCF

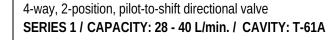
X-Control, A-Spool

X-Control, C-Spool

X-Control, R-Spool

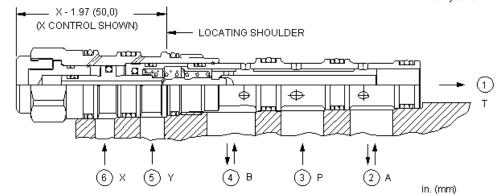
X-Control, W-Spool

2









Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	12 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

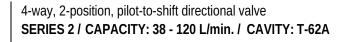
#### CONFIGURATION OPTIONS

#### Model Code Example: DCCFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	X P to B and A to T Center	N Buna-N	Standard Material/Coating
	A to T Center	V Viton	<b>/AP</b> Stainless Steel, Passivated
	B B to T Center		ILH Mild Steel, Zinc-Nickel
	C Blocked Center		
	H Open Center		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center		

Y A and B to T Center









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in. (mm)

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3

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10,5 bar

0,98 cc

30 cc/min.@70 bar

Buna: 990062007

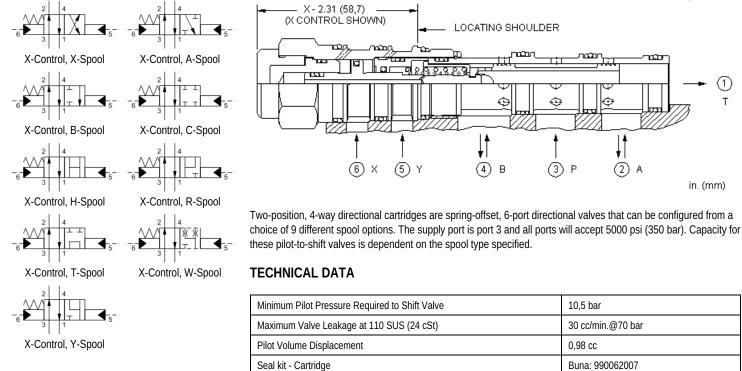
Viton: 990062006

Polyurethane: 990062002

¢

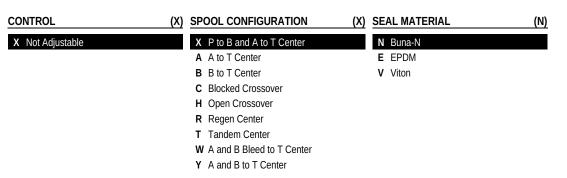
ļţ

4 в



**CONFIGURATION OPTIONS** 

#### Model Code Example: DCDFXXN



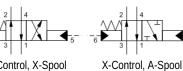
Seal kit - Cartridge

Seal kit - Cartridge

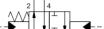








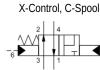
X-Control, X-Spool



2

X-Control, B-Spool



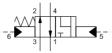


X-Control, W-Spool

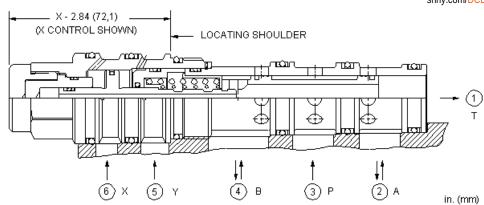




X-Control, T-Spool



X-Control, Y-Spool



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

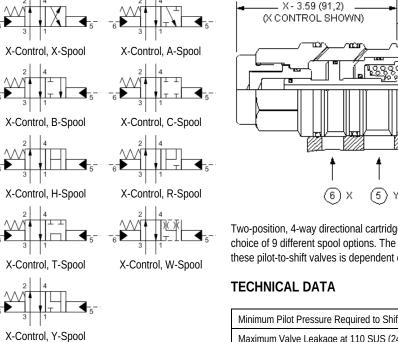
#### **CONFIGURATION OPTIONS**

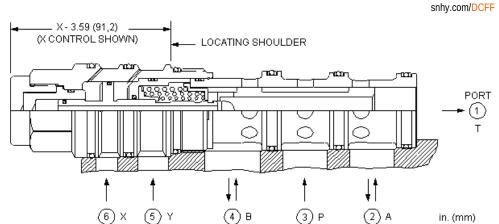
#### Model Code Example: DCEFXXN

CONTROL	(X)	SPOOL CONFIGURATION	(X)	SEAL MATERIAL	(N)
X Standard Pilot		X P to B and A to T Center		N Buna-N	
		A to T Center		V Viton	
		B to T Center			
		C Blocked Center			
		H Open Center			
		R Regen Center			
		T Tandem Center			
		W A and B Bleed to T Center			
		Y A and B to T Center			









Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

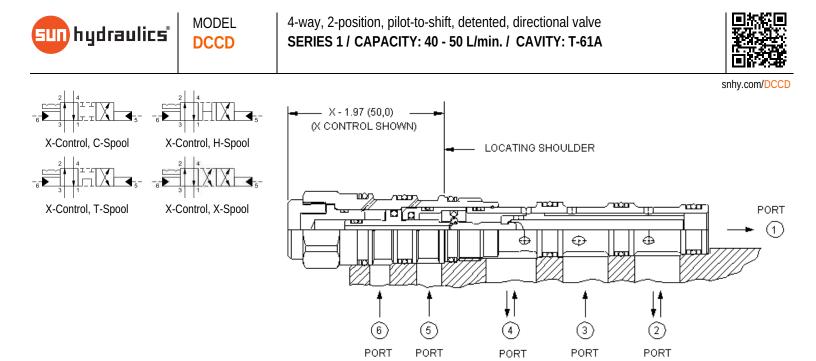
Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	6,9 cc
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

#### CONFIGURATION OPTIONS

#### Model Code Example: DCFFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N)
X Standard Pilot	X P to B and A to T Center	N Buna-N	
	A to T Center	V Viton	
	B B to T Center		
	C Blocked Center		
	H Open Center		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center		

Y A and B to T Center



in. (mm)

Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	12 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

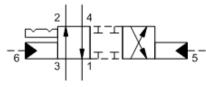
# **CONFIGURATION OPTIONS**

# Model Code Example: DCCDXCN

# CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N) MATERIAL/COATING X Standard Pilot C Blocked Crossover N Buna-N Standard Material/Coating H Open Crossover V Viton /AP Stainless Steel, Passivated

- T Tandem Crossover
- X P to B and A to T Crossover

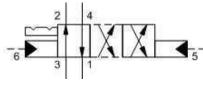




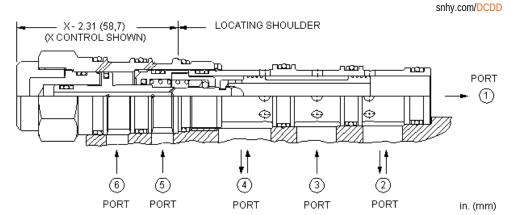
X-Control, C-Spool



X-Control, H-Spool



X-Control, X-Spool



Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	10,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,0 cc
Seal kit - Cartridge	Buna: 990062007
Seal kit - Cartridge	Polyurethane: 990062002
Seal kit - Cartridge	Viton: 990062006

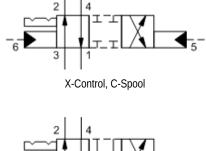
# CONFIGURATION OPTIONS

# Model Code Example: DCDDXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	C Blocked Crossover	N Buna-N		Standard Material/Coating
	H Open Crossover	V Viton		IAP Stainless Steel, Passivated
	X P to B and A to T Crossover			

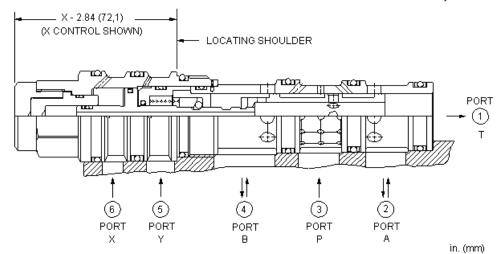


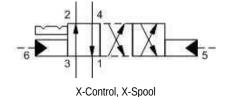
snhy.com/DCED





X-Control, H-Spool





Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	9 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar		
Pilot Volume Displacement	5,6 cc		
Seal kit - Cartridge	Buna: 990063007		
Seal kit - Cartridge	Polyurethane: 990063002		
Seal kit - Cartridge	Viton: 990063006		

### **CONFIGURATION OPTIONS**

### Model Code Example: DCEDXCN

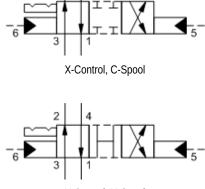
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover	N Buna-N	Standard Material/Coating
	H Open Crossover	V Viton	<b>IAP</b> Stainless Steel, Passivated
	X P to B and A to T Crossover		

Δ

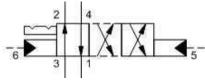
2



snhy.com/DCFD



X-Control, H-Spool



\_\_\_\_\_ X - 3.59 (91,2) \_\_\_\_ (X CONTROL SHOWN) LOCATING SHOULDER PORT 00000 (1)  $\subset$ ţ† ļţ 6 (5) (4) 3 2 PORT PORT PORT PORT PORT in. (mm)

X-Control, X-Spool

Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	14 cc
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

### **CONFIGURATION OPTIONS**

# Model Code Example: DCFDXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL (N)
X Standard Pilot	C Blocked Crossover	N Buna-N
	H Open Crossover	V Viton
	X P to B and A to T Crossover	

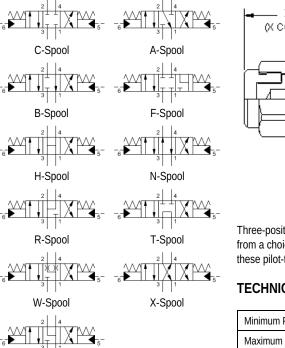
# sun hydraulics

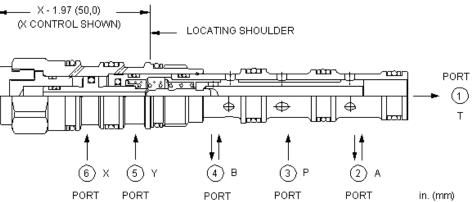
MODEL DCCC

# 4-way, 3-position, pilot-to-shift directional valve SERIES 1 / CAPACITY: 28 - 40 L/min. / CAVITY: T-61A



snhy.com/DCCC





Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	12 bar		
Maximum Operating Pressure	350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar		
Pilot Volume Displacement	0,33 cc		
Seal kit - Cartridge	Buna: 990061007		
Seal kit - Cartridge	Polyurethane: 990061002		
Seal kit - Cartridge	Viton: 990061006		

### **CONFIGURATION OPTIONS**

Y-Spool

### Model Code Example: DCCCXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Standard Pilot		C Blocked Center		N Buna-N		Standard Material/Coating	
		A A to T Center		V Viton		IAP Stainless Steel, Passivated	
		B to T Center				ILH Mild Steel, Zinc-Nickel	
		F Closed Center, A and B to T					
		H Open Center					
		N P to A and B to T Center					
		R Regen Center					

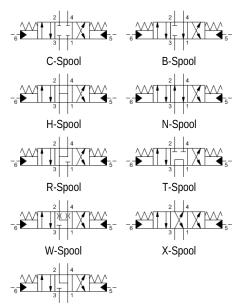
T Tandem Center

W A and B Bleed to T Center

Y A and B to T Center

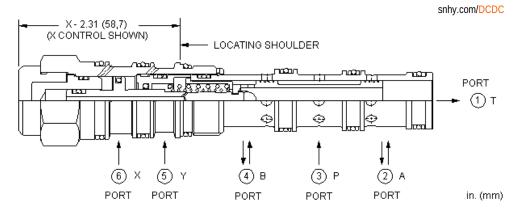
# MODEL4-way, 3-position, pilot-to-shift directional valveDCDCSERIES 2 / CAPACITY: 38 - 120 L/min. / CAVITY: T-62A





<mark>sun</mark> hydraulics"

Y-Spool



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	10,5 bar	
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar	
Pilot Volume Displacement	0,98 cc	
Seal kit - Cartridge	Buna: 990062007	
Seal kit - Cartridge	Polyurethane: 990062002	
Seal kit - Cartridge	Viton: 990062006	

### **CONFIGURATION OPTIONS**

### Model Code Example: DCDCXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		C Blocked Center		N Buna-N		Standard Material/Coating
		A A to T Center		E EPDM		IAP Stainless Steel, Passivated
		B to T Center		V Viton		
		H Open Center				
		N P to A and B to T Center				
		R Regen Center				

T Tandem Center

W A and B Bleed to T Center

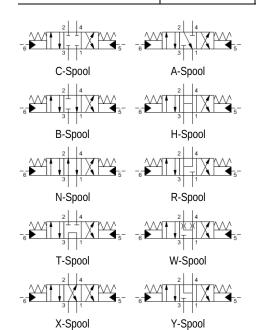
Y A and B to T Center

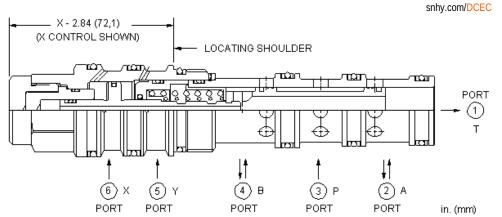
# un hydraulics MC

MODEL DCEC

# 4-way, 3-position, pilot-to-shift directional valve SERIES 3 / CAPACITY: 95 - 380 L/min. / CAVITY: T-63A







Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

W A and B Bleed to T CenterY A and B to T Center

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	2,8 cc
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	EPDM: 990063014
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

### CONFIGURATION OPTIONS

### Model Code Example: DCECXCN

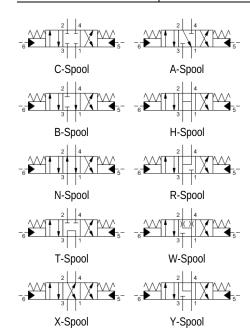
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		C Blocked Center		N Buna-N		Standard Material/Coating
		A to T Center		E EPDM		<b>/AP</b> Stainless Steel, Passivated
		B to T Center		V Viton		
		H Open Center				
		N P to A and B to T Center				
		R Regen Center				
		T Tandem Center				

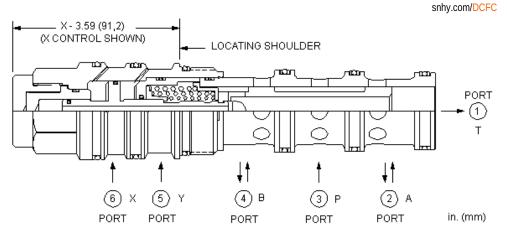
# sun hydraulics

MODEL DCFC

# 4-way, 3-position, pilot-to-shift directional valve SERIES 4 / CAPACITY: 200 - 760 L/min. / CAVITY: T-64A







Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	9 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	6,9 cc
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	EPDM: 990064014
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

### **CONFIGURATION OPTIONS**

### Model Code Example: DCFCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIA	AL (N) MATERIAL/COATING
X Standard Pilot	C Blocked Center	N Buna-N	Standard Material/Coating
	A to T Center	E EPDM	<b>IAP</b> Stainless Steel, Passivated
	B to T Center	V Viton	
	H Open Center		
	N P to A and B to T Center		
	R Regen Center		

T Tandem Center

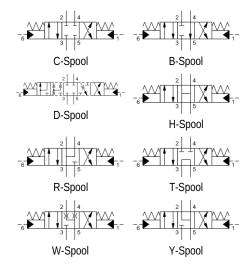
- W A and B Bleed to T Center
- Y A and B to T Center

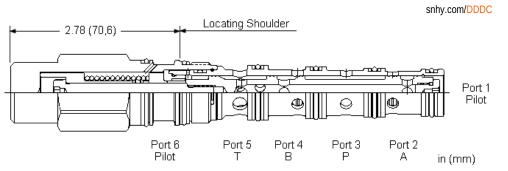


MODEL

4-way, 3-position, pilot-to-shift directional valve SERIES 2 / CAPACITY: 80 L/min. / CAVITY: T-52A







Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	10,5 bar	
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar	
Pilot Volume Displacement	0,82 cc	
Seal kit - Cartridge	Buna: 990052007	
Seal kit - Cartridge	Viton: 990052006	

### **CONFIGURATION OPTIONS**

### Model Code Example: DDDCXCN

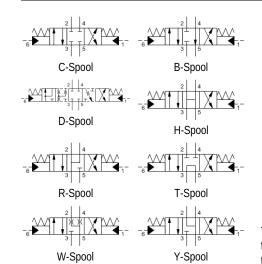
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Blocked Center	N Buna-N	Standard Material/Coating
	B B to T Center	V Viton	<b>IAP</b> Stainless Steel, Passivated
	D Blocked Center, Regen, P to B a T	and A to	
	H Open Center		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center, Restr	rictive	
	Y A and B to T Center		

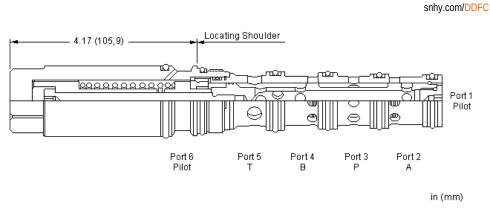
# sun hydraulics

MODEL DDFC

# 4-way, 3-position, pilot-to-shift directional valve SERIES 3 / CAPACITY: 160 L/min. / CAVITY: T-53A







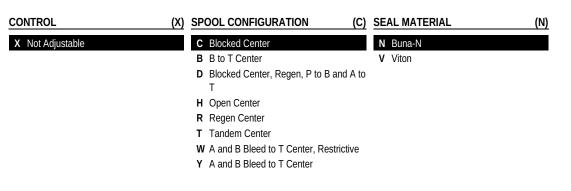
Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	14 bar	
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@70 bar	
Pilot Volume Displacement	1,8 cc	
Seal kit - Cartridge	Buna: 990053007	
Seal kit - Cartridge	Viton: 990053006	

### CONFIGURATION OPTIONS

# Model Code Example: DDFCXCN

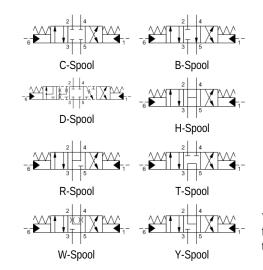


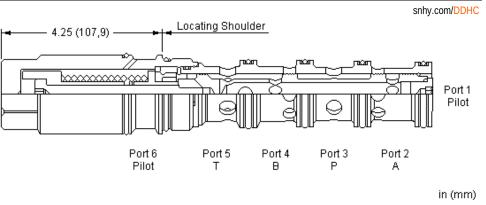


MODEL

4-way, 3-position, pilot-to-shift directional valve SERIES 4 / CAPACITY: 320 L/min. / CAVITY: T-54A







Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	14 bar	
Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar	
Pilot Volume Displacement	4,3 cc	
Seal kit - Cartridge	Buna: 990054007	
Seal kit - Cartridge	Viton: 990054006	

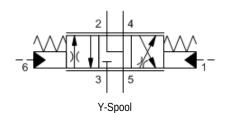
**CONFIGURATION OPTIONS** 

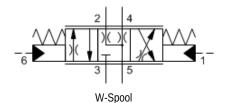
# Model Code Example: DDHCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Blocked Center	N Buna-N	
	B B to T Center	V Viton	
	D Blocked Center, Regen, P to T	3 and A to	
	H Open Center		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center, R	estrictive	
	Y A and B Bleed to T Center		



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Locating Shoulder 2.78 (63,5) Port 1 Pilot 0 0 Port 6 Port 5 Port 4 Port 2 Port 3 Pilot в Т Ρ A in (mm)

This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

### **TECHNICAL DATA**

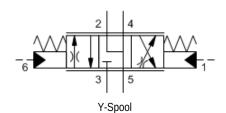
Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,66 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

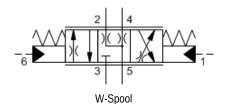
### CONFIGURATION OPTIONS

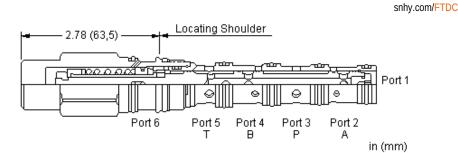
### Model Code Example: FTCCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	Y A and B to T Center	N Buna-N	Standard Material/Coating	
	W A and B Bleed to T Center	V Viton	IAP Stainless Steel, Passivated	









This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.
Pilot Volume Displacement	0,66 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

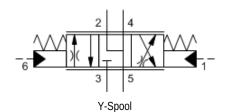
### **CONFIGURATION OPTIONS**

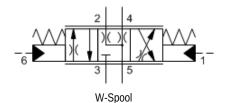
### Model Code Example: FTDCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	Y A and B to T Center		N Buna-N		Standard Material/Coating
	W A and B Bleed to T Center		V Viton		IAP Stainless Steel, Passivated



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Locating Shoulder 4.17 (105,9) XXXXXXXXXX Port 1 C Q Pilot Port 2 Port 6 Port 5 Port 4 Port 3 Т Р Pilot в A in (mm)

This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

### **TECHNICAL DATA**

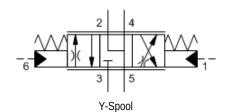
Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

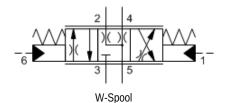
### **CONFIGURATION OPTIONS**

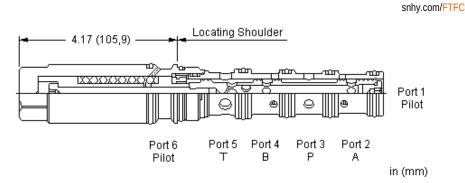
### Model Code Example: FTECXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center	N Buna-N	Standard Material/Coating
	W A and B Bleed to T Center	V Viton	IAP Stainless Steel, Passivated









This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	41 cc/min.@70 bar
Pilot Volume Displacement	1,8 cc
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

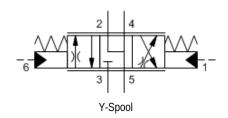
### **CONFIGURATION OPTIONS**

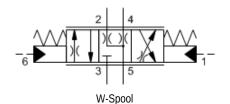
# Model Code Example: FTFCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center	N Buna-N	Standard Material/Coating
	W A and B Bleed to T Center	V Viton	<b>IAP</b> Stainless Steel, Passivated



snhy.com/FTHC





Locating Shoulder 4.25 (107,9) Port 1 Pilot Port 6 Port 5 Port 4 Port 3 Port 2 Pilot Т в Р А in (mm)

This valve is a 4-way, 3-position proportional directional valve. Work ports 2 and 4 are drained to 5 in the center position and port 3 is closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between ports 3 and 4 that is proportional to the pressure at 1. Piloting 6 opens 3 to 2. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at ports 1 and 6 directly oppose each other.

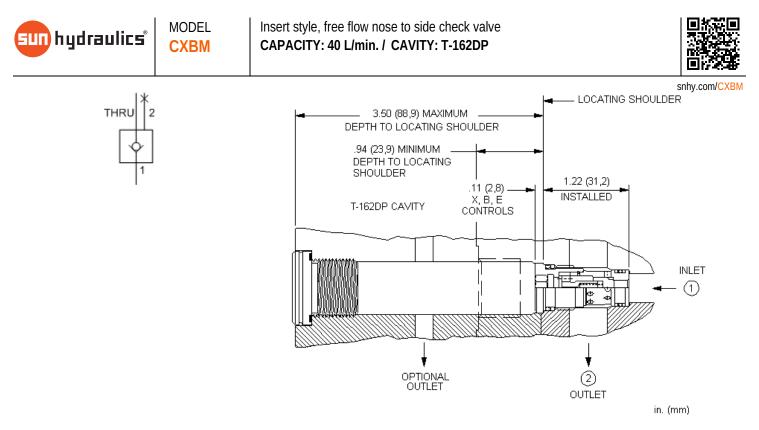
### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar
Pilot Volume Displacement	4,3 cc
Maximum Pilot Pressure	35 bar
Hysteresis	±2%
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

### **CONFIGURATION OPTIONS**

### Model Code Example: FTHCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	Y A and B to T Center W A and B Bleed to T Center	N Buna-N V Viton	Standard Material/Coating IAP Stainless Steel, Passivated	



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,07 cc/min.
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

### **CONFIGURATION OPTIONS**

# Model Code Example: CXBMXAN

CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 4 psi (0,3 bar)	N Buna-N	
	<b>B</b> 15 psi (1 bar)	E EPDM	
	<b>C</b> 30 psi (2 bar)	V Viton	



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