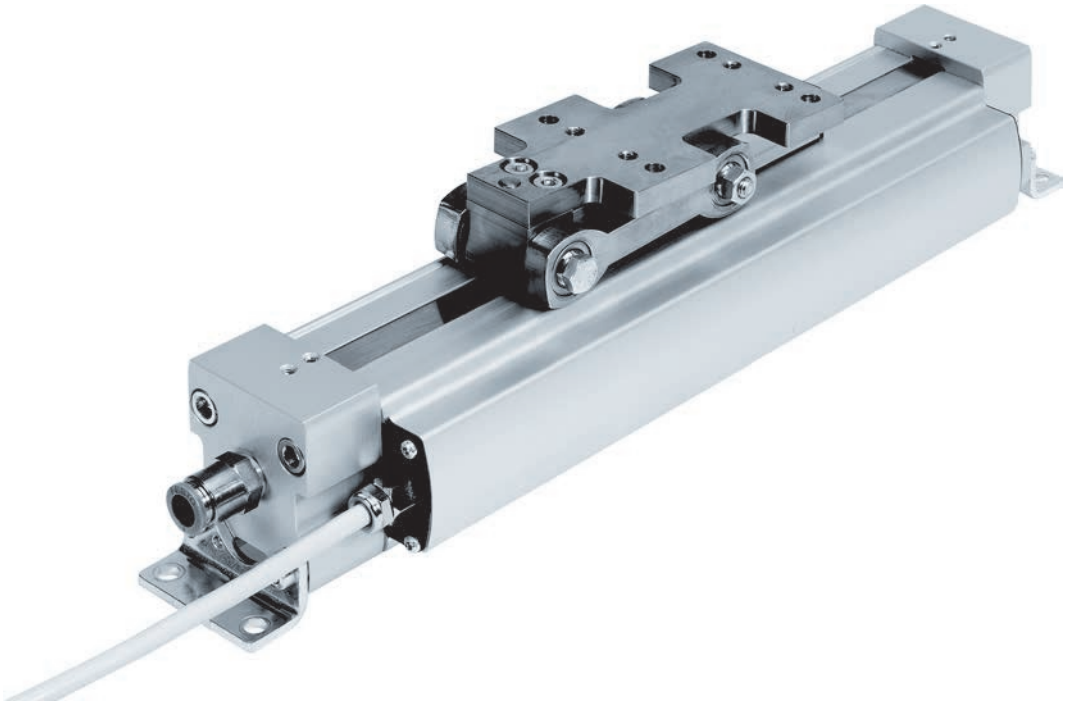
2 Servo-pneumatic positioning systems



+ Linear drives with displacement encoder
+ Semi-rotary drives with displacement encoder
+ Axis controller
+ Displacement encoders
+ Proportional valves
+ Sensor interfaces

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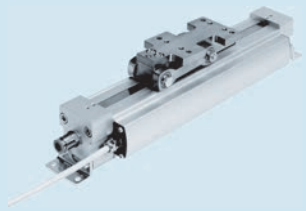
Highlights



DDLI

Linear drive with displacement encoder

+ Based on linear drive DGC-K
+ With contactless measuring displacement encoder

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Software tool

Soft Stop		Soft Stop virtually makes the impossible possible. Travel times are reduced by as much as 30% for pneumatic drives and vibration is also greatly reduced. The selection program performs all of the necessary calculations.	This tool can be found • either in the electronic catalogue by clicking on the blue button "Engineering" • or on the DVD under Engineering Tools.

Linear drives with displacement encoder

Type	 Linear drive, integrated displacement encoder DDLI	 Standard cylinder, integrated displacement encoder DDPC	 Standard cylinder with displacement encoder DNCI	 Linear drive with displacement encoder DGCI
Piston diameter	25 mm, 32 mm, 40 mm, 63 mm	100 mm, 80 mm	32 mm, 40 mm, 50 mm, 63 mm	18 mm, 25 mm, 32 mm, 40 mm, 63 mm
Theoretical force at 6 bar, advancing	295 ... 1870 N	3016 ... 4712 N	415 ... 1870 N	153 ... 1870 N
Max. load, horizontal	30 ... 180 kg	300 ... 450 kg	45 ... 180 kg	1 ... 180 kg
Max. load, vertical	10 ... 60 kg	100 ... 150 kg	15 ... 60 kg	1... 60 kg
Stroke	100 ... 2000 mm	10 ... 2000 mm	10 ... 2000 mm	100 ... 2000 mm
Description	• Without guide • With contactless measuring displacement encoder • Based on linear drive DGC-K • Suitable for positioning with axis controller CPX-CMAX • With end-position controller CPX-CMPX, SPC11 suitable for end-position control • Supply ports on end face • Can be used as a measuring cylinder	• Cylinder to ISO 15552 • With contactless measuring displacement encoder • Can be used as a measuring cylinder • Suitable for positioning with axis controller CPX-CMAX • Suitable for end-position control with end-position controller CPX-CMPX or SPC11 • Piston rod variants • Fixed cushioning	• Cylinder to ISO 15552 • With integrated displacement encoder for relative analogue, contactless measuring • Suitable for servopneumatic applications with axis controller CPX-CMAX, end-position controller CPX-CMPX or SPC11 and measuring module CPX-CMIX • Piston rod with male thread • Piston rod variants	• With guide • With displacement encoder for absolute and contactless measuring • Suitable for servopneumatic applications with axis controller CPX-CMAX, end-position controller CPX-CMPX or SPC11 and measuring module CPX-CMIX • Supply ports optionally on end face or front
➔ Page/online	**ddli**	**ddpc**	**dnci**	**dgci**

Swivel modules with displacement encoder

Type	 Swivel module with angular displacement encoder DSMI-B
Piston diameter	25 mm, 40 mm, 63 mm
Torque at 6 bar	5 ... 40 Nm
Max. mass moment of inertia, horizontal	0.03 ... 0.6 kgm²
Max. mass moment of inertia, vertical	0.03 ... 0.6 kgm²
Swivel angle	0 ... 272°
Description	• With rotary vane • Integrated rotary potentiometer • Suitable for servopneumatic applications with axis controller CPX-CMAX, end-position controller CPX-CMPX or SPC11 and measuring module CPX-CMIX • Compact design
➔ Page/online	**dsmi**

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Axis controller

Type	 Axis controller CPX-CMAX	 End-position controller CPX-CMPX	 End-position controller SPC11
No. of axis strings	1	1	1
Axes per string	1	1	1
Description	• Axis controller as CPX module, supports pneumatic drives with piston rod, rodless drives and semi-rotary drives • Force and position control • Use with all fieldbus/Ethernet and CEC controllers available on CPX • Easy commissioning thanks to auto identification function • Rapid commissioning and comprehensive diagnostics with the parameterisation software FCT	• Electronic end-position control for pneumatic drives • Soft Stop for smooth braking and quick acceleration • Use with all fieldbus/Ethernet available on CPX • Easy commissioning with Festo plug and work • Approx. 30% shorter travel times and 30% less air consumption than with comparable standard pneumatics	• Quickly and smoothly into the end position with two additional intermediate positions • Electronic end-position cushioning • Quick and easy commissioning: configure, teach, done • Supports pneumatic drives with piston rod, rodless drives and semi-rotary drives
➔ Page/online	cpx-cmax	cpx-cmpx	spc11

Displacement encoders

Type	 Displacement encoder MLO-POT-TLF	 Displacement encoder MLO-POT-LWG	 Displacement encoder MME-MTS-TLF
Stroke	225 ... 2000 mm	100 ... 750 mm	225 ... 2000 mm
Measuring principle of displacement encoder	Analogue	Analogue	digital
Output signal	Analogue	Analogue	CAN protocol type SPC-AIF
Displacement resolution	0.01 mm	0.01 mm	0 ... 0.01 mm
Description	• Conductive plastic potentiometer • Absolute measurement with high resolution • High travel speed and long service life • Several mounting options on pneumatic linear drives DGPL • Plug-in connections	• Connecting rod potentiometer • Absolute measurement with high resolution • Long service life • High protection class • Plug-in connections	• Measuring principle: magnetostrictive • Contactless with absolute measurement • High travel speed • System product for servopneumatic positioning technology and Soft Stop
➔ Page/online	mlo	mlo	mme

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Proportional valves

Type	 Proportional directional control valve VPWP	 Proportional directional control valve MPYE
Valve function	5/3-way proportional directional control valve, closed	5/3-way, closed
Pneumatic connection 1	G1/8, G1/4, G3/8	G1/8, G1/4, G3/8, M5
Operating pressure	0 ... 10 bar	0 ... 10 bar
Nominal flow rate	350 ... 2000 l/min	100 ... 2000 l/min
Description	• Regulated piston spool valve • Digital actuation • Integrated pressure sensors for monitoring function and force control • With auto identification • Diagnostic function • Integrated digital output, e.g. for a clamping/brake unit • Suitable for servopneumatic applications with CPX-CMAX and CPX-CMPX	• Regulated piston spool valve • Analogue actuation • Setpoint input as analogue voltage signal (0 ... 10 V) • Suitable for servopneumatic applications with SPC11
➔ Page/online	vpwp	mpye

Sensor interfaces

Type	 Sensor interface CASM	 Measured-value transducer DADE
Diagnostic function	Display via LED	Display via LED
Electrical connection displacement encoder	5-pin, 8-pin, socket, M12	8-pin, socket, M12
Electrical connection Control interface	5-pin, M9, plug	
Control interface	CAN bus with Festo protocol, digital, without terminating resistor	
Description	• For actuating pneumatic positioning drives with the latest closed-loop pneumatics such as CPX-CMAX, CPX-CMPX and CPX-CMIX • Short cables for analogue signals, secure digitised bus transmission • Convenient plug and work concept with auto identification and comprehensive diagnostics • High protection class IP67	• For standard cylinder DNCI, DDPC • Converts sensor signals into voltage or current signals • Mounting via through-holes • Diagnostic display via LED
➔ Page/online	casm	dade