PNEUMAX

SERIES HP

ISO 15552 HYDRO-PNEUMATIC SPEED CONTROL CYLINDERS

Series HP

- Bores Ø80 and Ø100
- Strokes up to 750 mm, every 50 mm
- According to ISO 15552 standard

HP series hydro-pneumatic speed control cylinders are made by combining an ISO 15552 pneumatic cylinder and an internal hydraulic circuit that controls the movement.
They are ideal for all applications where precise and constant speed regulation is required in one or both directions.
The cylinders are completely configurable thanks to the skip and stop valves and have the option of decentralized adjustment, and in this new version the design has been optimised and the hydraulic tank improved.
All ISO fixing devices can be used (Intermediate trunnion, Ecolight series 1390 ... 1392).

Construction characteristics

Barrel	aluminium alloy anodised
Hydraulic piston seal (hydraulic side)	PUR
Pneumatic piston seal (pneumatic side)	oil resistant NBR rubber
Rod and cushion seal	PUR
Magnetic piston	aluminium
Oil tank	bright painted drawn steel
Piston rod	steel tube chrome plated
End caps	anodized aluminium
Cushion adjustment screws	brass

Operational characteristics

Pneumatic media	filtered and lubricated air
Hydraulic media	filtered 1μ hydraulic oil
SKIP & STOP valve minimum operating pressure	3,5 bar
Max. pressure	8 bar
Environment temperature	-5 °C ... +70 °C
Cushioning lenght	Ø80= 20 mm - Ø100= 25 mm
Standard stroke	from 50 to 750 mm, every 50 mm (strokes exceeding 750 mm are only available after technical evaluation)

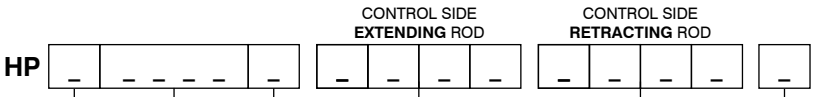
Speed

Bore	Adjustment type	Integrated, multi-turn		Integrated, precise multi-turn		Decentralized, mono-turn		Decentralized, multi-turn	
		EXTENDING rod	RETRACTING rod	EXTENDING rod	RETRACTING rod	EXTENDING rod	RETRACTING rod	EXTENDING rod	RETRACTING rod
Ø80	Minimum adjustable speed (mm/min.)	30		20		/		20	
	Maximum adjustable speed, needle fully open (mm/sec.)	330	220	280	150	280	110	430	150
	Maximum speed without adjustments (mm/sec.)	560	230	560	230	/		/	
	Maximum speed with SKIP open (mm/sec.)	700	350	700	350	640	290	700	220
Ø100	Minimum adjustable speed (mm/min.)	20		15		/		20	
	Maximum adjustable speed, needle fully open (mm/sec.)	205	185	230	120	190	90	260	120
	Maximum speed without adjustments (mm/sec.)	350	200	350	200	/		/	
	Maximum speed with SKIP open (mm/sec.)	460	270	460	270	420	230	480	210

Attention: all indicated speeds were measured with cylinder in horizontal position, supplied at 8 bar, valve G1/2", tubes Ø14, without load on the rod, at 20°C.

Thrust forces

Bore	Force (N)	Pressure (bar)							
		1	2	3	4	5	6	7	8
Ø80	Out	462	924	1386	1848	2310	2772	3234	3696
	In	399	797	1196	1594	1993	2391	2790	3188
Ø100	Out	739	1479	2218	2957	3696	4436	5175	5914
	In	614	1228	1842	2457	3071	3685	4299	4913



Bore	
E	Ø80
F	Ø100

Stroke	
	from 50 to 750, every 50 mm

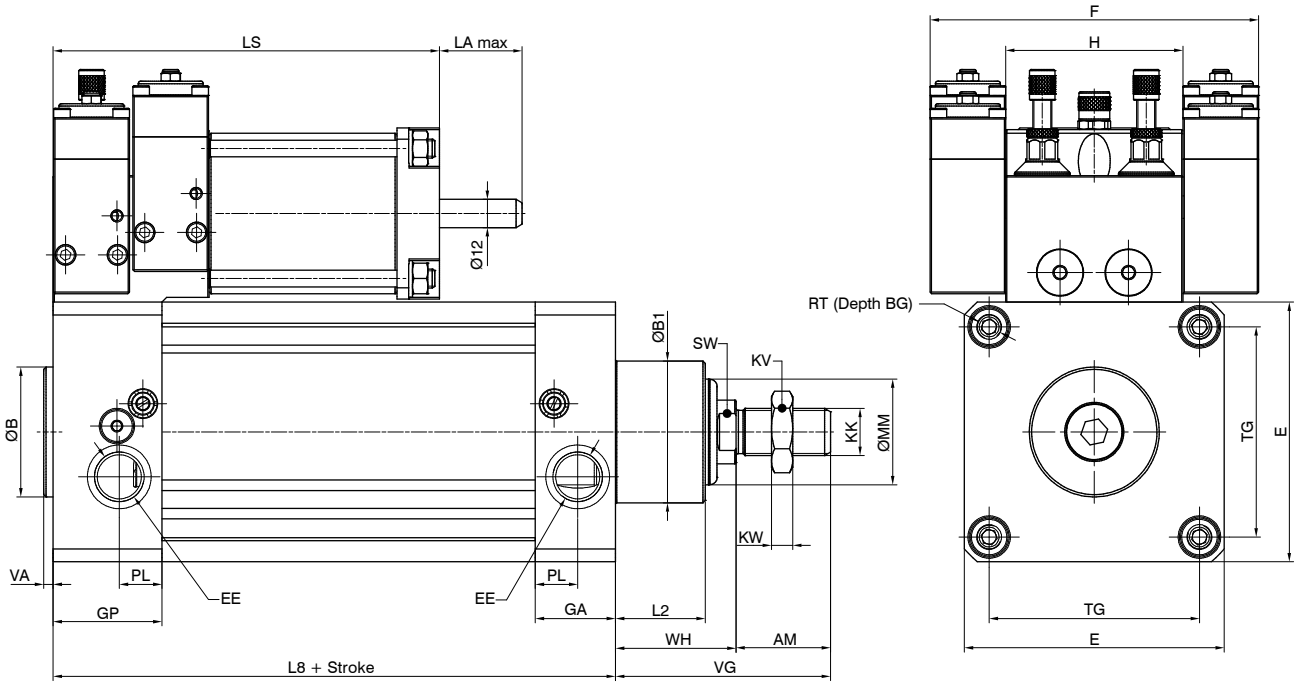
Position of cylinders ports	
0	Front and rear, left side
A	Front and rear, bottom
B	Front and rear, right side
C	Front bottom, rear left side
D	Front right side, rear left side
E	Front left side, rear bottom
F	Front left side, rear right side
G	Front right side, rear bottom

Adjustment type	
0	None
S	Integrated, multi-turn
F	Integrated, precise multi-turn
M	Decentralized, mono-turn
R	Decentralized, multi-turn
Tubes length	
0	Integrated adjustment
A	500 mm
B	750mm
C	1000 mm
D	1250 mm
E	1500 mm
F	1750 mm
G	2000 mm
Stop function	
0	None
A	Normally closed
B	Normally open
Skip function	
0	None
A	Normally closed
B	Normally open

Adjustment type	
0	None
S	Integrated, multi-turn
F	Integrated, precise multi-turn
M	Decentralized, mono-turn
R	Decentralized, multi-turn
Tubes length	
0	Integrated adjustment
A	500 mm
B	750mm
C	1000 mm
D	1250 mm
E	1500 mm
F	1750 mm
G	2000 mm
Stop function	
0	None
A	Normally closed
B	Normally open
Skip function	
0	None
A	Normally closed
B	Normally open

Tubes orientation	
0	Integrated adjustment
A	Upward orientation
B	Rear orientation
C	Front orientation

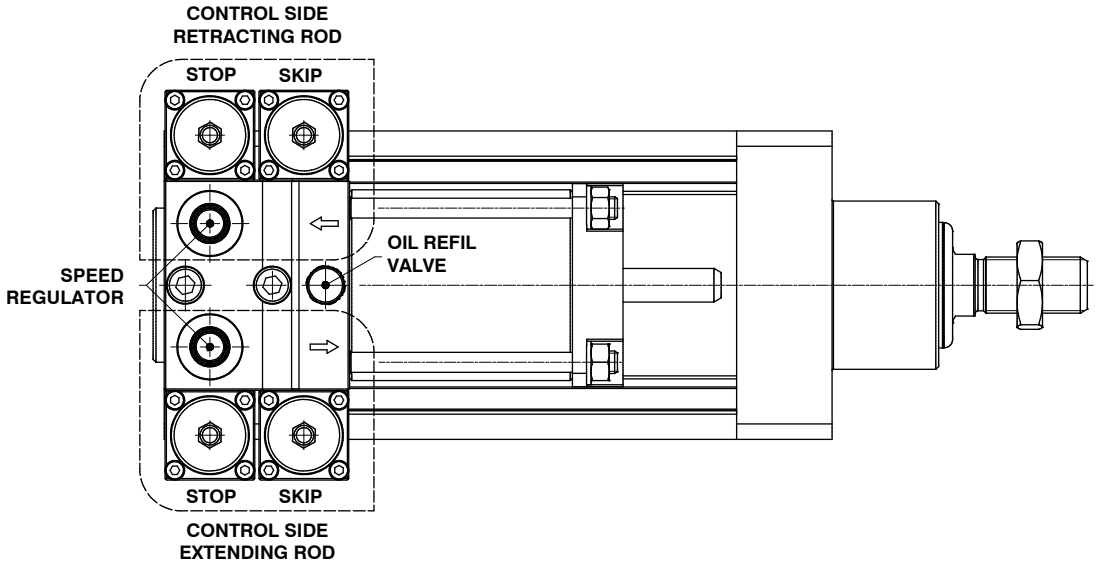
Base cylinder dimensions



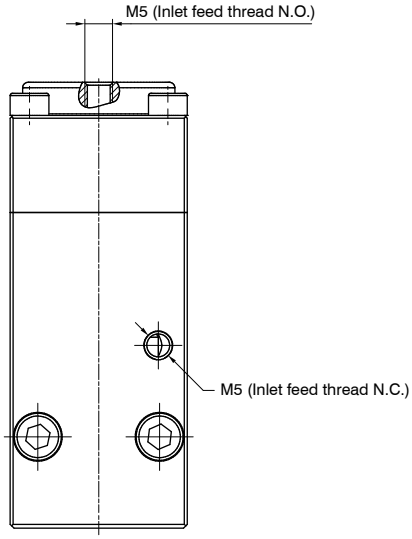
Bore	AM	B (d 11)	B1 (d 11)	BG	E	EE	F	GA	GP	H	KK	KV	KW	L2	L8	MM	PL	RT	SW	TG	VA	VG	WH
Ø80	40	45	45	16	95	G3/8"	139	34	46	75	M20x1,5	30	9	30	128	35	12	M10	22	72	4	86	46
Ø100		55	60		110	G1/2"								38	138	45	18			89		91	51

Strokes	LS	LA max
0 ... 150	163.5	35
151 ... 350	232.5	61
351 ... 450	316.5	109
451 ... 750	366.5	123

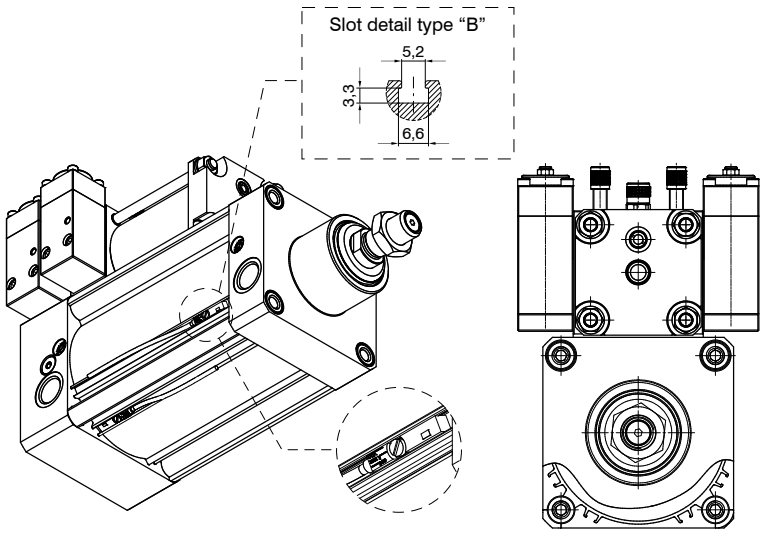
Valves and speed control regulators position



SKIP and STOP valves inlet feed position

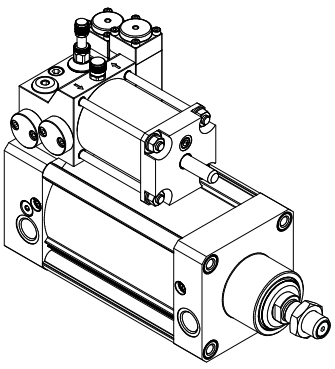


Sensors

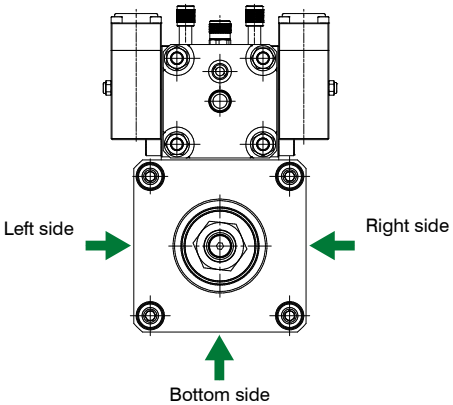


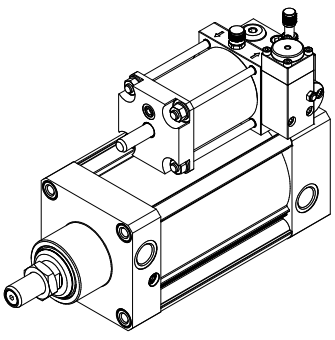
Sensors for type “B” slots (SQ-SU Series) can be used directly in the four slots available on the barrel

Position of cylinders ports

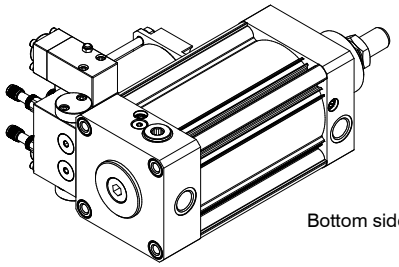


Left side



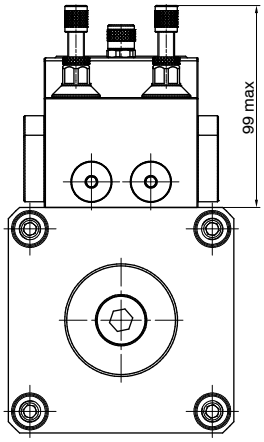


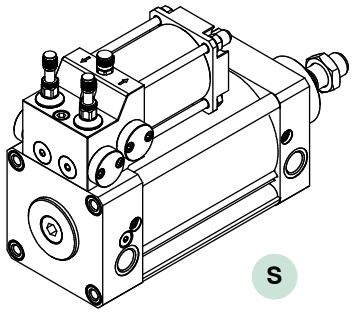
Right side



Bottom side

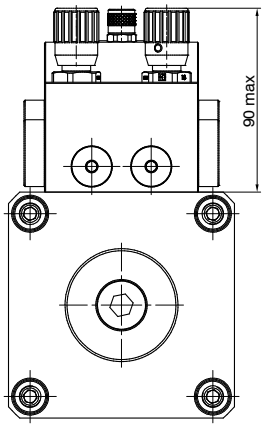
Integrated adjustment mode, overall dimensions

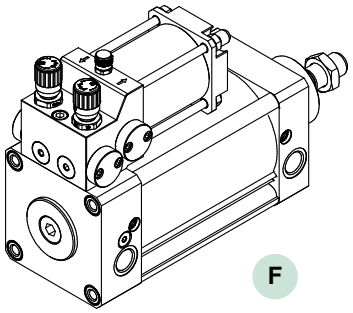




S

Integrated adjustment, multi-turn

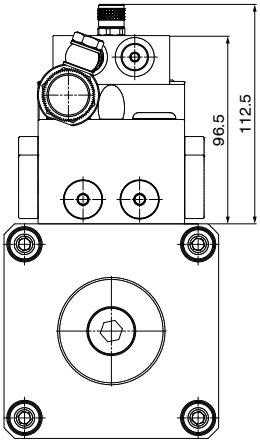


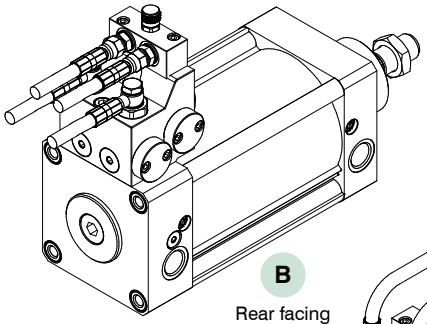


F

Integrated adjustment, precise multi-turn

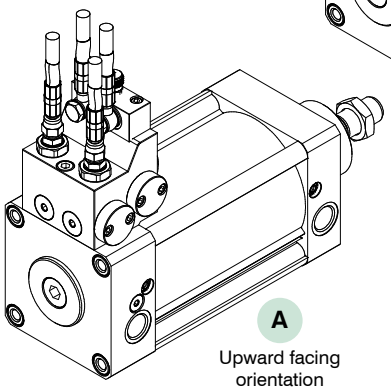
Decentralized adjustment mode, overall dimensions, tubes orientation





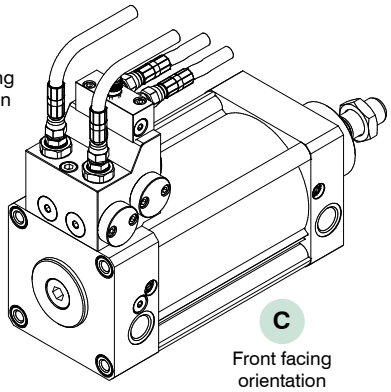
B

Rear facing orientation



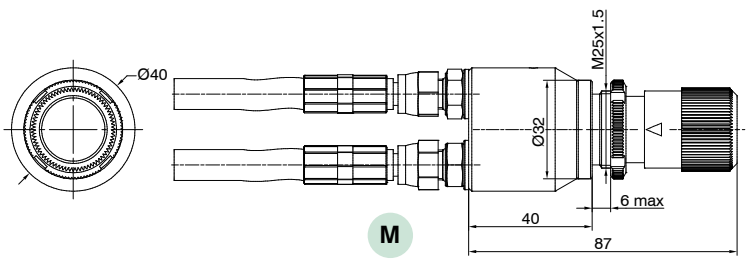
A

Upward facing orientation



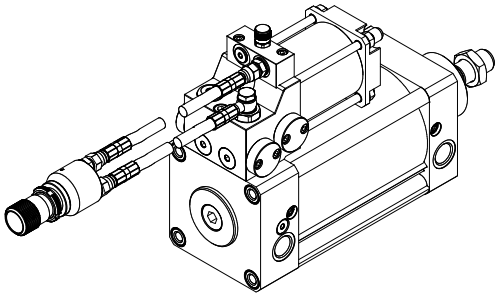
C

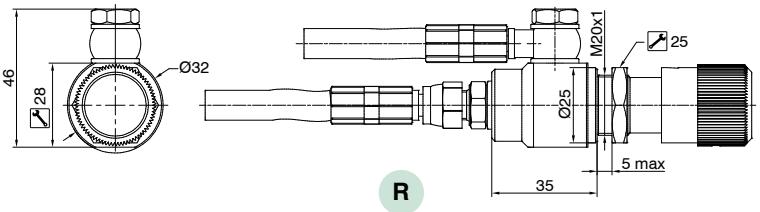
Front facing orientation



M

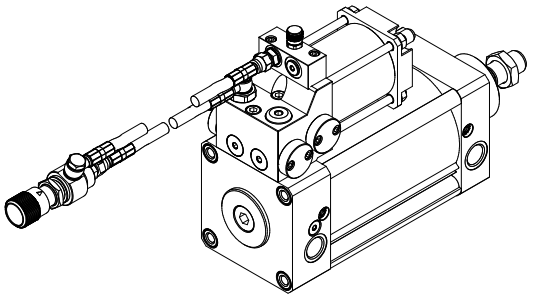
Decentralized adjustment, mono-turn





R

Decentralized adjustment, multi-turn



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