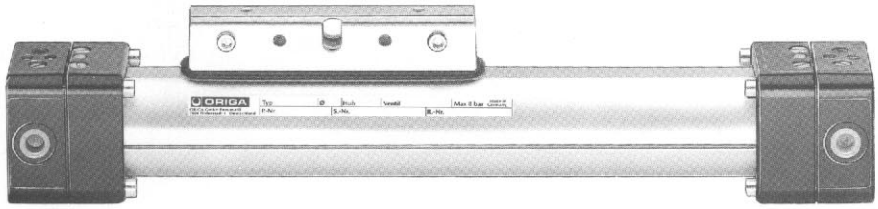
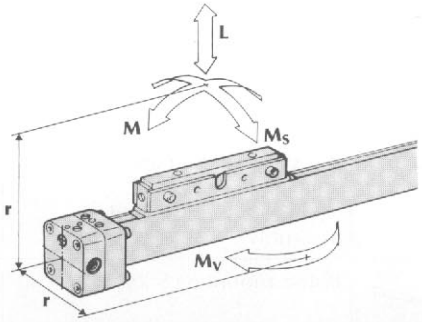
Series P 120

Diameters 40, 50, 63 and 80 mm
Optional stroke lengths up to 12,000 mm.



Technical Data

Loads, forces, moments

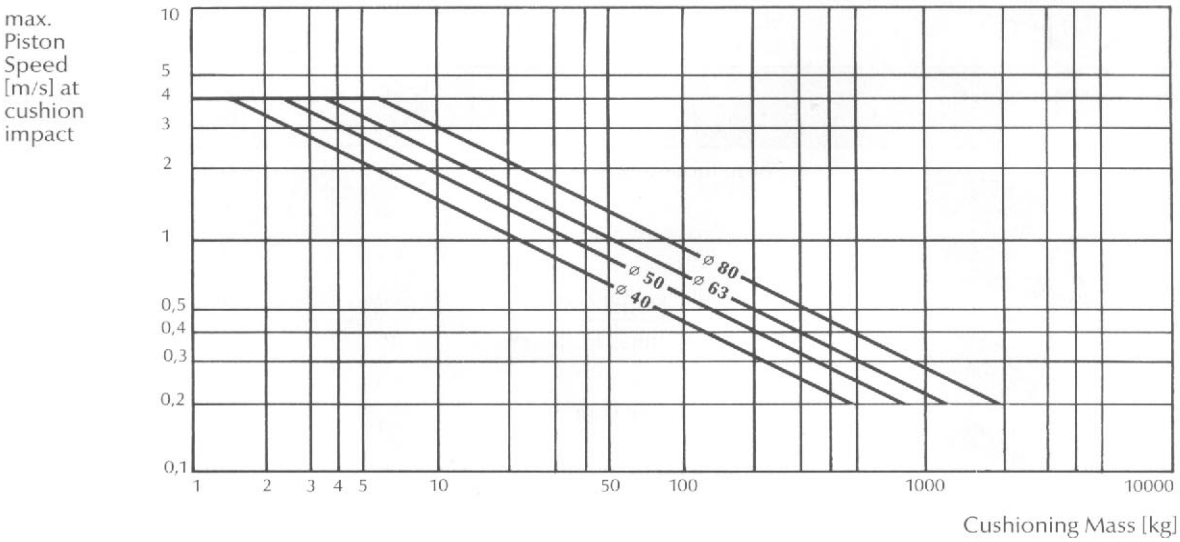


$M = F \cdot r$
$M_S = F \cdot r$
$M_V = F \cdot r$

Cyl. Ø	effective Force [N] at 6 bar	Cushion Length [mm]	Max. Allowed Bending Moment [Nm] Type P 120 S M	M_S	Type P 120 L M	M_S	Max. Allowed Torque [Nm] Type P 120 S M_V	Type P 120 L M_V	Max. Allowed Load [N] L
40	640	32	60	4	135	8	8	25	750
50	1000	32	115	7	230	14	15	40	1200
63	1550	40	200	8	450	16	24	75	1650
80	2600	44	360	16	720	32	48	140	2400

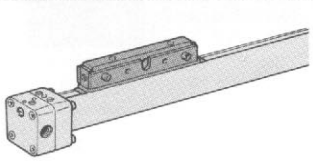
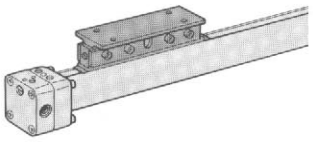
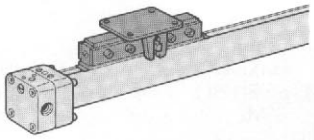
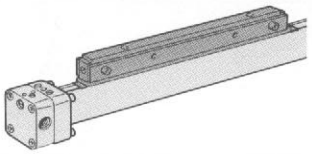
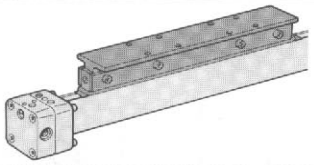
Values are based on light shock free duty and should not be exceeded during piston acceleration.
Side bending moments should be avoided.
Operating pressure max. 8 bar.

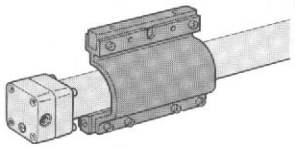
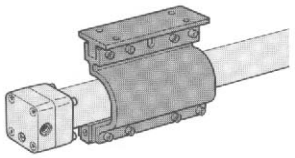
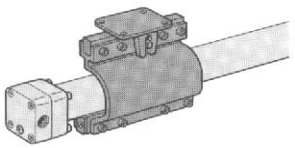
Cushioning Diagram

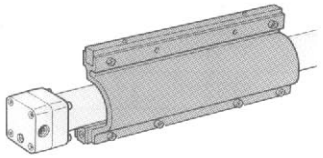
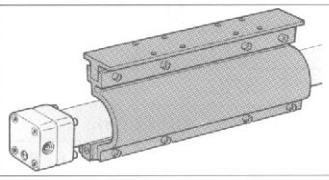


For piston speeds of more than 1 m/s, viton seals are recommended.
If the approved limits are exceeded additional shock absorbers are advisable.
For piston speeds of less than 0,2 m/s slow speed lubrication is recommended.
Maximum seal life will be achieved when piston speeds do not exceed 1 m/s.

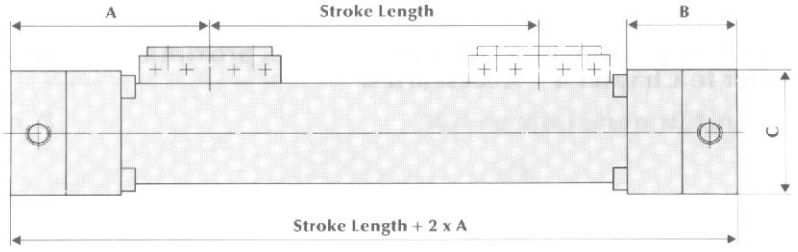
Piston Mountings

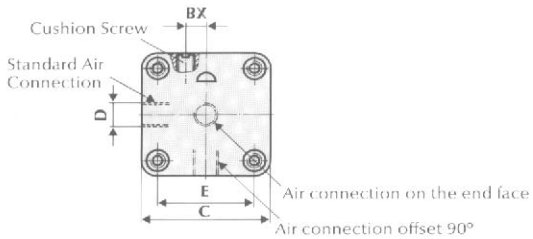
Standard Piston Mountings			Cyl. ⌀	Cylinder weight [kg] for 0 stroke	Increase 100 mm stroke	Ident No.
Type P 120 S/20		Piston mounting S/20 Anodised aluminium Mounted during cylinder assembly.	40	3,3	0,36	4000
			50	5,8	0,52	5000
			63	9,3	0,80	6000
			80	16,1	1,28	8000
Type P 120 S/22		Piston mounting S/22 Anodised aluminium Mounted during cylinder assembly.	40	3,4	0,36	4100
			50	5,9	0,52	5100
			63	9,5	0,80	6100
			80	16,7	1,28	8100
Type P 120 S/25		Piston mounting S/25 Cast iron Carrier pin hardened steel for floating connection.	40	3,6	0,36	4200
			50	6,3	0,52	5200
			63	10,3	0,80	6200
			80	17,3	1,28	8200
Type P 120 L/26		Piston mounting L/26 Anodised aluminium Mounted during cylinder assembly.	40	5,0	0,36	4300
			50	8,1	0,52	5300
			63	13,9	0,80	6300
			80	23,2	1,28	8300
Type P 120 L/28		Piston mounting L/28 Anodised aluminium Mounted during cylinder assembly.	40	5,2	0,36	4400
			50	8,4	0,52	5400
			63	14,6	0,80	6400
			80	24,4	1,28	8400

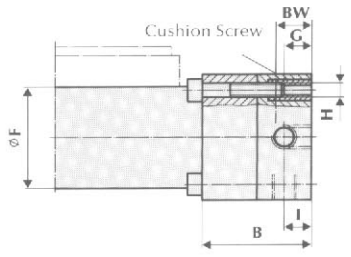
Supplementary Piston Mountings			Cyl. ⌀	Weight [kg]	Ident No.
For Type P 120 S/20 These mountings transfer power to the back of the cylinder and allow an installation method which protects the bands from excessive foreign particles (Sand, welding sparks, etc.).		Piston mounting No. 30 Anodised aluminium Screws (8.8 galvanized)	40	0,9	4510
			50	1,6	5510
			63	2,4	6510
			80	4,3	8510
		Piston mounting No. 32 Anodised aluminium Screws (8.8 galvanized)	40	1,0	4520
			50	1,7	5520
			63	2,6	6520
			80	4,9	8520
		Piston mounting No. 35 Cast iron Carrier pin hardened steel Screws (8.8 galvanized).	40	1,2	4530
			50	2,2	5530
			63	3,4	6530
			80	5,5	8530

Supplementary Piston Mountings			Cyl. ø	Weight [kg]	Ident No.
For Type P 120 L/26 These mountings transfer power to the back of the cylinder and allow an installation method which protects the bands from excessive foreign particles (Sand, welding sparks, etc.).		Piston mounting No. 36 Anodised aluminium Screws (8.8 galvanized)	40 50 63 80	1,7 3,4 5,2 8,8	4540 5540 6540 8540
		Piston mounting No. 38 Anodised aluminium Screws (8.8 galvanized)	40 50 63 80	1,9 3,8 5,9 10,0	4550 5550 6550 8550

Overall Dimensions



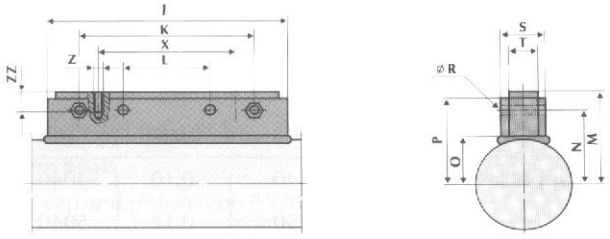




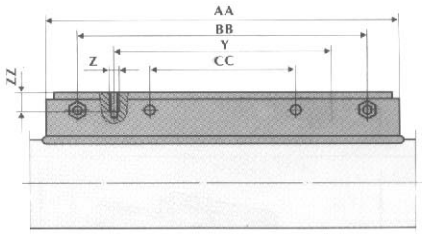
Note: These end cap dimensions change when integrated control valves are used!

Cyl. ø	A (P 120 S)	A (P 120 L)	B	C	D	E	F	G	H	I	BW	BX
40	150	250	60	72	G1/4	54	58	15	M6	15	15	11
50	175	275	70	90	G1/4	70	71	15	M6	17,5	17,5	12
63	215	365	80	106	G3/8	78	88	20	M8	20	20	15
80	260	410	100	132	G1/2	96	112	25	M10	25	25	16

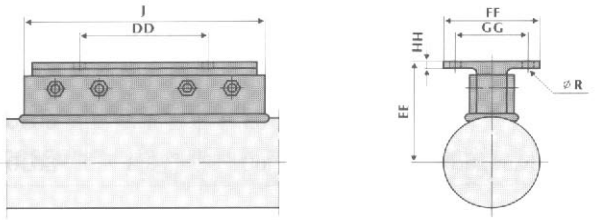
Piston Mounting No. S/20



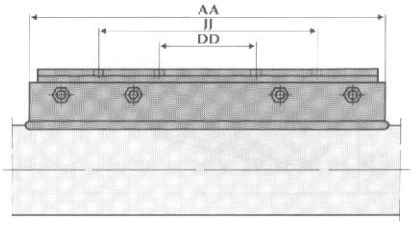
No. L/26



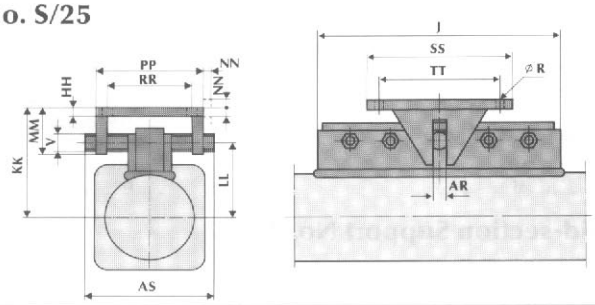
No. S/22



No. L/28

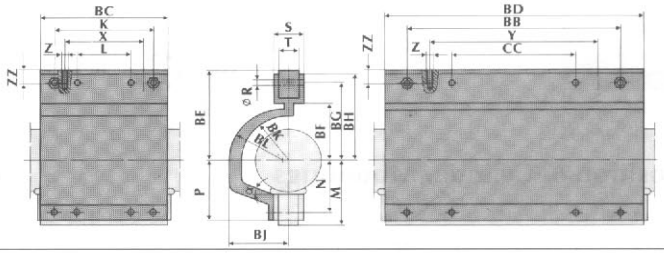


No. S/25



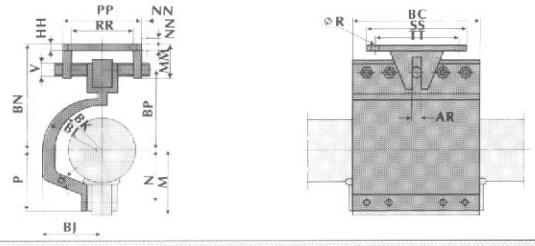
Supplementary piston mountings

No. 30

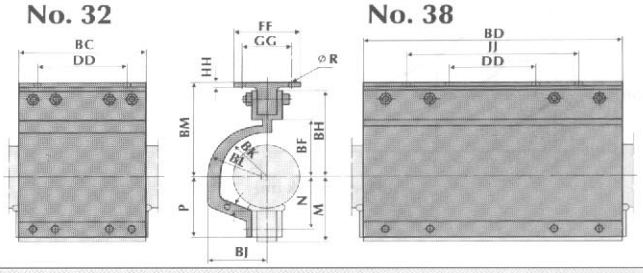


No. 36

No. 35



No. 32

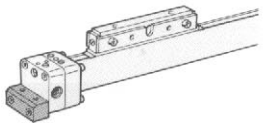
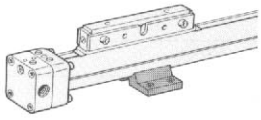
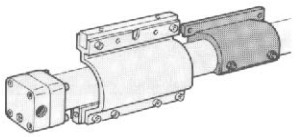


No. 38

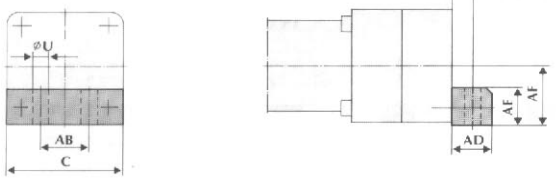
Cyl. ⌀	J	K	L	M	N	O	P	R	S	T	V	X	Y	Z	AA
40	150	110	55	61	49	32,5	57	7	28	18	12	90	180	M6	300
50	180	140	70	69	57	39	65	7	28	18	12	110	240	M6	380
63	220	180	90	83	68	48	78	9	30	19	16	140	300	M8	480
80	280	240	120	101	83	60	95	11	32	20	20	180	360	M10	560

Cyl. ⌀	AR	AS	BB	BC	BD	BE	BF	BG	BH	BJ	BK	BL	BM	BN	BP	CC
40	8	84	240	138	288	85	58,5	73	81	53	42	48	90	99	75	120
50	8	84	320	168	368	97	70	85	93	62	50	56	102	111	87	160
63	10	90	400	208	468	117	82	102	112	77	62	71	123	134	104,5	200
80	13	110	480	268	548	143	102	125	137	96	78	88	150	163	128	240

Cyl. ⌀	DD	EE	FF	GG	HH	JJ	KK	LL	MM	NN	PP	RR	SS	TT	ZZ	α
40	80	66	60	45	6	160	75	51	32	±3.5	70	55	90	75	12	22°
50	100	74	60	45	6	200	83	59	32	±3.5	70	55	90	75	12	18°
63	130	89	80	60	7	260	100	70	39	±3	90	70	120	100	16	15°
80	180	108	100	75	8	360	122	86	48	±4	110	85	150	125	20	15°

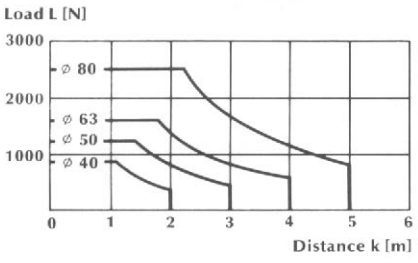
Cylinder Mountings			Cyl. ⌀	Weight [kg]	Ident No.
		End cap mounting No. 3	40	0,1	4010
		Aluminium	50	0,2	5010
			63	0,3	6010
		Screws (8.8 galvanized)	80	0,6	8010
Soley for support of cylinder Axial forces cannot be transferred		Mid-section support No. 8	40	0,10	4040
		Aluminium	50	0,12	5040
			63	0,17	6040
			80	0,33	8040
Soley for support of cylinder Axial forces cannot be transferred		Mid-section support No. 9	40	0,6	4030
		Aluminium	50	1,1	5030
			63	1,7	6030
		Screws (8.8 galvanized)	80	3,3	8030

End cap Mounting No. 3

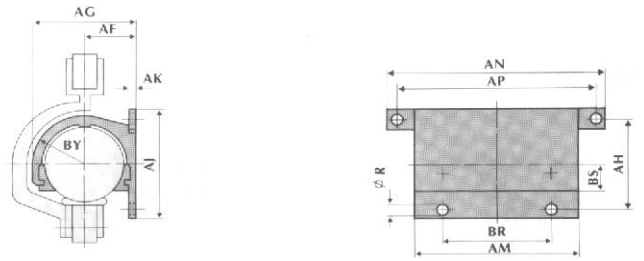


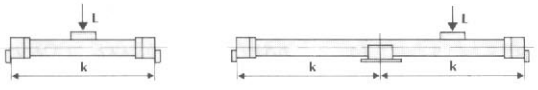
Mid-section Support No. 8

Position of Cylinder Mountings



Mid-section Support No. 9





Cyl. ⌀	C	R	U	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AM	AN	AP	BR	BS	BY	DO	DP
40	72	7	9	30	12,5	24	24	38	76	70	85	8	120	160	145	80	21	38	45	60
50	90	7	9	40	12,5	24	30	48	92	80	95	8	120	160	145	80	26	46	45	60
63	106	9	11	48	15	30	40	57	114	95	114	10	160	210	190	100	32	57	45	65
80	132	11	14	60	17,5	35	50	72	144	120	144	12	200	260	235	120	40	72	55	80

End Cap Options

Air Connection in End Cap (see illustration of end cap on page 3.6/3)	**Ident No.**			
Cylinder ø	**40**	**50**	**63**	**80**
offset by 90°	4751	5751	6751	8751
End face	4752	5752	6752	8752

Optional Features

Viton Seals	**Ident No.**			
End cap and piston type P 120/S	4771	5771	6771	8771
End cap and piston type P 120/L	4772	5772	6772	8772
Stainless Steel Parts	**Ident No.**			
Screws (V2 A/1541)	4781	5781	6781	8781
Carrier pin and bush for type P 120 S/25	4782	5782	6782	8782
Lubrication	**Ident No.**			
Grease lubrication for slow speed < 0.2 m/s	4791	5791	6791	8791

Accessories: Electrical VOE or pneumatic VOP control valves, proximity switches RS or IS – Please refer to Chapter 4 – Accessories.