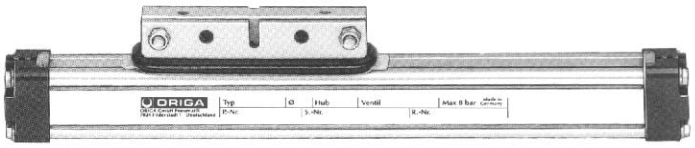
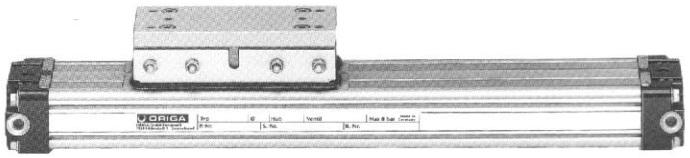
The Product Range

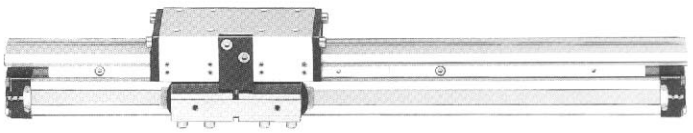
Series P 210 – ø 10, 16, 25, 32 mm



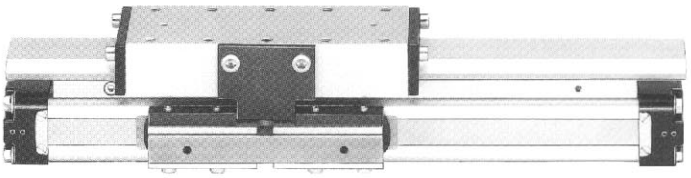
Series P 220 –ø 2 x 25, 2 x 32 mm
Duplex Cylinder



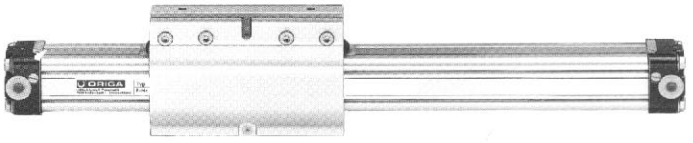
Series P 230 –ø 16, 25, 32 mm
Cylinder with Guide



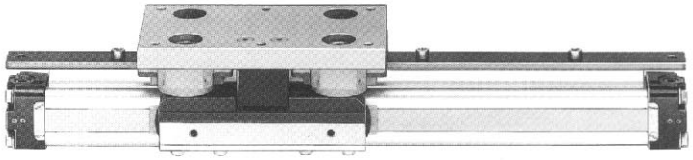
Series P 235 –ø 25, 32 mm
Cylinder with Guide
and Integrated Brake



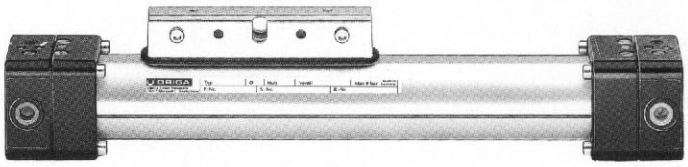
Series P 240 –ø 25, 32 mm
Cylinder with Brake



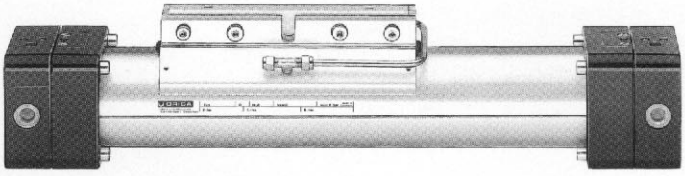
Series S-PS –ø 25, 32 mm
Cylinder with Roller Guide



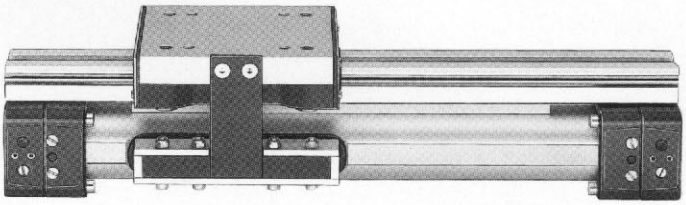
Series P 120 –ø 40, 50, 63, 80 mm



Series P 140 –ø 40, 50, 63, 80 mm
Cylinder with Brake



Series P 130 –ø 40 mm
Cylinder with Roller Guide



Free of charge product information is available on computer disc for use with C.A.D. System, format IGES, DXF, AUTOCAD.DWG.

Special Programm

Series P 260 – ø 16, 25, 32 mm
Clean room cylinder
Optional stroke length upto 1,200 mm.
(Longer strokes available on request.)

Series P 150 – ø 40 mm (Other diameters on request)
Special cylinder for door applications
(Bi-parting pistons)
Optional stroke lengths upto 6,000 mm.
(Longer strokes available on request.)

High speed cylinder – ø 16, 25, 32 mm
with PLC Interface for
position control and
position error reading.
Optional Stroke lengths upto 7,000 mm.
(Longer strokes available on request.)

Tandem cylinder (two of pistons) – ø 10, 16, 25, 32, 40, 50, 63, 80 mm
Optional stroke lengths upto 7,000 mm.
(Longer strokes available on request).

Additional guide carriages for Tandem-version – ø 16, 25, 32 mm
For Series P 230, P 235 and S-PS
(Super-Powerslide)

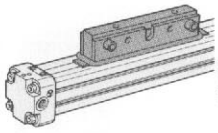
Position measuring system for ø25, 32, 40, 50, 63, 80 mm
with optional stroke lengths
The incremental output signal
can for instance be installed
as a variable end position.
(Retrofit available.)

Should you require further information on these series, please contact our Technical Sales.

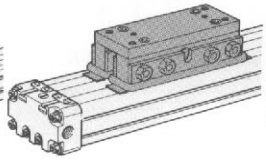
Technical summary

Diameters 10, 16, 25, 32, 40, 50, 63, and 80 mm
Optional stroke length depending on diameter from 7,000 to 12,000 mm.

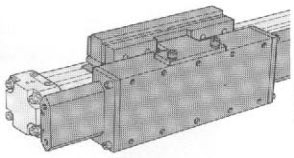
P 210/20



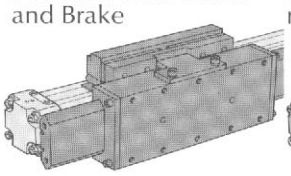
P 220/21 Duplex



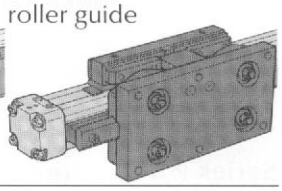
P 230/20 with Guide



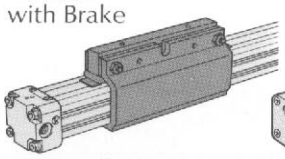
P 235/20 with Guide and Brake



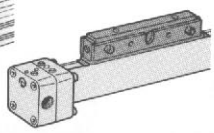
S-PS with roller guide



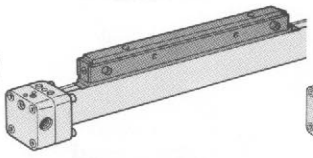
P 240/20 with Brake



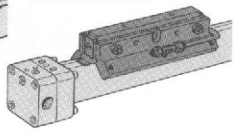
P 120 S/20



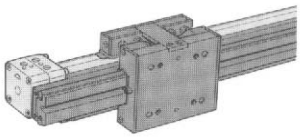
P 120 L/26



P 140 S/20 with Brake



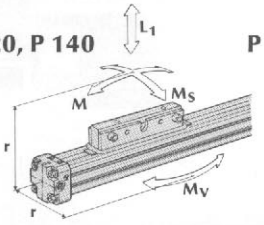
P 130 S/20 with Roller Guide



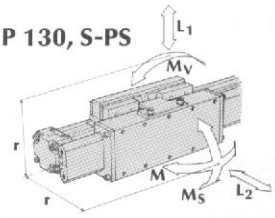
Loads, forces and moments

P 210, P 220, P 240, P 120, P 140

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



P 230, P 235, P 130, S-PS

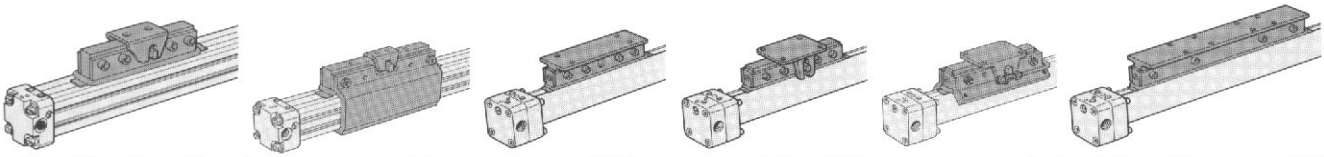


Series	Cyl. ø	effective Force [N] at 6 bar	Max. Allowed Load [N] L_1 S*	L_1 D*	L_2 S*	L_2 D*	Max. Allowed Bending Moment [Nm] M S*	M D*	M_S S*	M_S D*	Max. Allowed Torque [Nm] M_V S*	M_V D*	Max. Braking Force [N] at 6 bar**
P 210	10	32	20	20	-	-	1	1	0,2	0,2	0,3	0,3	-
	16	78	120	120	-	-	4	4	0,3	0,3	0,5	0,5	-
	25	250	300	300	-	-	15	15	1,0	1,0	3	3	-
	32	420	450	450	-	-	30	30	2,0	2,0	5	5	-
P 220	2x25	480	600	600	-	-	30	30	10	10	6	6	-
	2x32	820	900	900	-	-	60	60	20	20	10	10	-
P 230	16	78	325	325	325	325	11	11	6	6	11	11	-
	25	250	675	675	675	675	34	34	14	14	34	34	-
	32	420	925	925	925	925	60	60	29	29	60	60	-
P 235	25	250	675	675	675	675	34	34	14	14	34	34	205-275
	32	420	925	925	925	925	60	60	29	29	60	60	340-575
S-PS	25	250	1175	1175	1175	1175	51	51	11	11	51	51	-
	32	420	2350	2350	2350	2350	136	136	51	51	136	136	-
P 240	25	250	300	300	-	-	15	15	1,0	1,0	3	3	205-275
	32	420	450	450	-	-	30	30	2,0	2,0	5	5	340-575
P 120 S	40	640	750	750	-	-	60	60	4	4	8	8	-
	50	1000	1200	1200	-	-	115	115	7	7	15	15	-
	63	1550	1650	1650	-	-	200	200	8	8	24	24	-
	80	2600	2400	2400	-	-	360	360	16	16	48	48	-
P 120 L	40	640	750	750	-	-	135	135	8	8	25	25	-
	50	1000	1200	1200	-	-	230	230	14	14	40	40	-
	63	1550	1650	1650	-	-	450	450	16	16	75	75	-
	80	2600	2400	2400	-	-	720	720	32	32	140	140	-
P 140 S	40	640	750	750	-	-	60	60	4	4	8	8	600-675
	50	1000	1200	1200	-	-	115	115	7	7	15	15	875-1050
	63	1550	1650	1650	-	-	200	200	8	8	24	24	1350-1800
	80	2600	2400	2400	-	-	360	360	16	16	48	48	3400-4000
P 140 L	40	640	750	750	-	-	135	135	8	8	25	25	600-675
	50	1000	1200	1200	-	-	230	230	14	14	40	40	875-1050
	63	1550	1650	1650	-	-	450	450	16	16	75	75	1350-1800
	80	2600	2400	2400	-	-	720	720	32	32	140	140	3400-4000
P 130 S	40	640	2500	2000	1800	1500	110	80	50	30	110	110	-

**Oiled surface - dry surface. Values are based on light shock free duty and should not be exceeded during piston acceleration.
Side bending moments should be avoided. S*=static, D*=dynamic

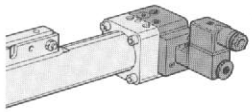
Additional Piston Mountings

P 210/25 **P 240/25** **P 120 S/22** **P 120 S/25** **P 140 S/25** **P 120 L/28**

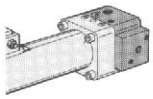


Accessories

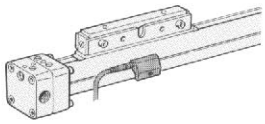
Electrical control valves VOE



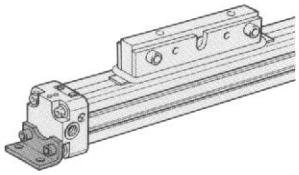
Pneumatic control valves VOP



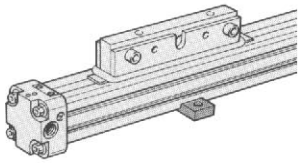
Proximity switches RS + IS



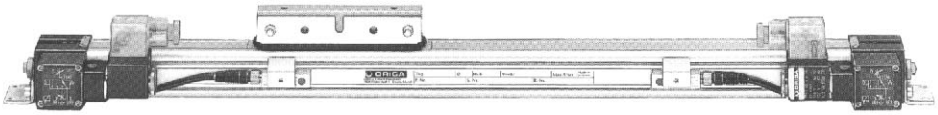
End cap mounting



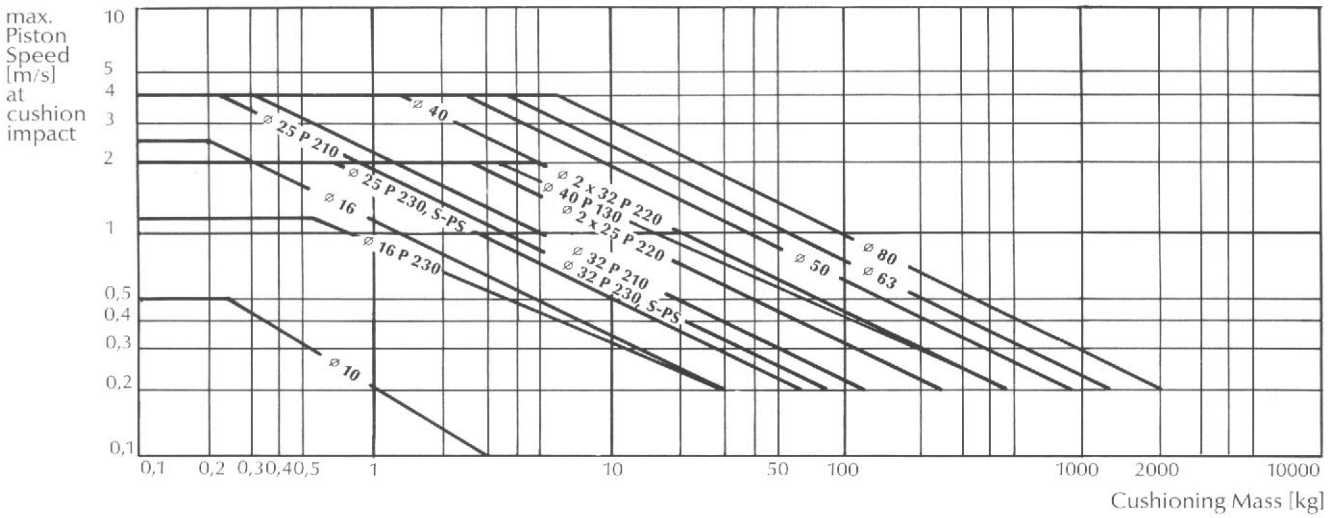
Mid-section support



Example of a complete cylinder with valves, proximity switches, end cap mountings and mid-section support.



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.