

Since 1981

Devoted to the Commitments



Pneumatic Cylinders

AIR Cylinder as per ISO 15552 & VDMA 24562

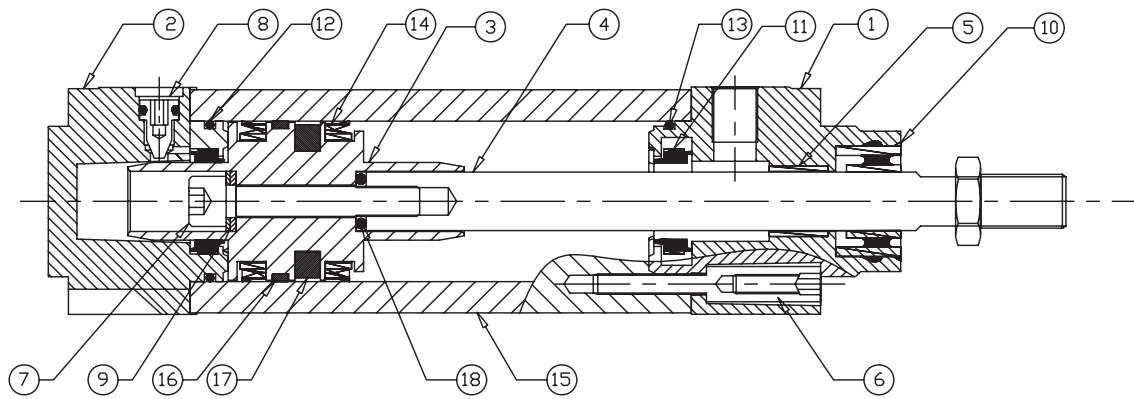
Hydro Pneumatic Controls

An ISO 9001-2008 Certified Company



AIR Cylinder as per ISO 15552 & CETOP RP 52 P

Construction



Sectional View

Material of Construction

Part	Material	Part No.	Part	Material	Part No.
Cylinder Tube	Anodised Aluminium	15	Cushioning Screw	M. S.	8
Covers	Aluminium	1, 2	Cushioning Seal	NBR	11
Piston rod	Stainless Steel 410 / EN8	4	Rod Seal	Polyurethane	10
Piston	Aluminium	3	O Ring	NBR	18
Cover Seals	NBR	12, 13	Cover Bolts	Galvanized Steel	6
Lip Seals	NBR	14	Permanent Magnet	-	17
Piston rod guide	Self Lubricating High Polymer	5	SHC Screw	HGA Steel	7
Washer	M. S.	9	Piston Guide	High Polymer	16

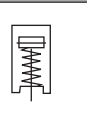
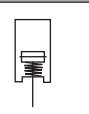
Features

- ◆ According to ISO 15552 & VDMA 24562
- ◆ Cylinder tube of extruded profile aluminium
- ◆ Cushioning adjustable at both ends, high energy absorption with PU
- ◆ Lubrication not necessary (maintain once started oil mist lubrication)
- ◆ Compressed air dried to a pressure dew point 3 °C - 5 °C admissible
- ◆ Operating medium: Compressed air, filtered to minimum 50 µm
- ◆ Operating pressure range 1-10 bar
- ◆ Operating Temperature range - 20 °C to + 70 °C
- ◆ Life 20,000 km, with PU Seals
- ◆ Minimum operating pressure 0.3 bar
- ◆ Speed 3 m/ sec maximum

Force, AIR Consumption for Double Acting Cylinder

Double acting cylinder			Force (N)									
Bore	Piston Rod	∅	Pressure (bar)									
			1	2	3	4	5	6	7	8	9	10
32	12	←	80	160	240	320	400	480	560	640	720	800
		→	69	138	207	276	345	414	483	552	621	690
40	16	←	126	252	378	504	630	756	882	1008	1134	1260
		→	105	211	311	422	528	633	739	844	950	1055
50	20	←	196	392	588	788	980	1176	1372	1568	1764	1960
		→	165	330	495	660	825	990	1155	1320	1485	1650
63	20	←	312	624	936	1248	1560	1872	2184	2496	2808	3120
		→	281	562	843	1124	1405	1686	1967	2248	2529	2810
80	25	←	503	1006	1509	2012	2515	3018	3521	4024	4527	5030
		→	453	903	1359	1812	2265	2718	3171	3624	4077	4530
100	25	←	785	1570	2355	3140	3925	4710	5495	6280	7065	7850
		→	736	1473	2209	2946	3682	4419	5156	5892	6639	7365
125	32	>	1227	2453	3680	4906	6133	7359	8586	9812	11039	12265
		<	1146	2292	3439	4585	5731	6877	8023	9169	10316	11462
160	40	>	2010	4019	6029	8038	10048	12058	14067	16077	18086	20096
		<	1884	3768	5652	7536	9420	11304	13188	15072	16956	18840
200	40	>	3140	6280	9420	12560	15700	18840	21980	25150	28260	31400
		<	3015	6029	9043	12058	15072	18086	21101	24115	27130	30144

Remark 1 Max. 1 bar is necessary to deal with the mechanical friction **Remark 2** To obtain a uniform speed, the load degree is not to be chosen over 60%

Single Acting Cylinder				
Spring Forces (N)			Remark The given spring forces are intended only for the return of the piston and piston rod.	Other spring forces can be provided, consult HPC
∅ Bore				
32 / 40	30	80	For model E and EA spring forces remains same, cushioning not available on spring side, flow control not possible on spring side.	
50 / 63	75	130		
80 / 100	50	320		

Air consumption - dm ³ A.N.R./cm stroke A.N.R.= dm ³ under Norm-conditions										
∅	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
32	0.017	0.025	0.033	0.041	0.049	0.057	0.065	0.073	0.081	0.089
40	0.026	0.038	0.05	0.063	0.076	0.088	0.1	0.113	0.126	0.139
50	0.04	0.059	0.079	0.099	0.118	0.138	0.158	0.177	0.197	0.22
63	0.063	0.094	0.125	0.156	0.188	0.219	0.25	0.281	0.312	0.343
80	0.101	0.151	0.202	0.252	0.302	0.352	0.403	0.453	0.503	0.554
100	0.158	0.236	0.315	0.393	0.472	0.55	0.629	0.708	0.786	0.865
125	0.246	0.369	0.492	0.615	0.738	0.861	0.984	1.107	1.230	1.353
160	0.403	0.604	0.805	1.006	1.207	1.408	1.609	1.81	2.011	2.212
200	0.628	0.942	1.256	1.57	1.884	2.198	2.512	2.826	3.14	3.454

AIR Cylinder as per ISO 6431 & CETOP RP 52 P

Ordering Code



1 Type	2 Model	3 Piston Rod Connection	4 Special Model	5 Special Mounting	6 Bore	7 Stroke
1 Type	HPC					
2 Model	D	Double Acting				
	SAF	Single Acting, Spring at Rod Side				
	SAR	Single Acting, Spring at Rear Cover				
3 Piston Rod Conn.	O	Outer Thread				
	S	Flexible Connection Piece				
	F	Fork				
	LN	Extra Lock Nut				
4 Sp. Model	OO	Standard				
	AV	Viton Seals				
	BG	Bellows				
	CL	Polyurethane Coating				
	DS	Double-ended Piston Rod				
	MAE	Piston with Permanent Magnet Ring				
	RS 1	One Reed Switch				
	RS 2	Two Reed Switches				
	ZR	304/ 316 Material Piston Rod 1.4305 (18/ 8)				
	SU	Other, to define special models				
5 Cylinder Mount.	O	4x Internal Thread Front and Rear				
	MS1	2 Pedestals				
	MF1	Front Flange				
	MF2	Rear Flange				
	GA	Rear Hinge Cardan				
	LG	Counter Hinge for GA				
	MP2	Rear Hinge				
	LB 2	Counter Hinge for MP2				
	MP 3	RearTrunnion Cardan				
	MP 4	Rear Hinge				
	MT 4	Central Trunnion				
	MT 5	Front Trunnion				
	MT0	Bearing for MT4 and MT5`				
6	BORE	32 / 40 / 50 / 63 / 80 / 100 / 125 / 160 / 200				
7	STROKE	3500mm	Max. D			
8		300mm	Max. E			
		300	Max. EA			



Fork (F)



Flexible Connection Piece (S)



Rear Hinge (MP2)



Pedestals (MS)



Rear Hinge (MP3)



Central Trunnion (MT 4)



Flange (MF)



Counter Hinge for MP2 (LB 2)



Rod End (RE)

Ordering Example HPC-D-0-00-0-63 / 150 Double acting Cylinder with 63 mm Bore and 150mm stroke

Ordering Example Mountings : MP2-50 Rear trunnion for 50 dia cylinder