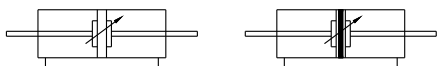


ISO / VDMA PROFILE CYLINDERS

DAP / DAP....S - Double acting.



DAPD / DAPD....S - Double ended.



DAPJ / DAPJ....S - Double ended adj. stroke.



Application

VDMA / ISO cylinders are available from 32 mm to 200 mm bore sizes, with PTFE bushing and adj. cushioning. They can be used in different automation application requiring precision with economy & aesthetics. Full range of mounting accessories, stroke adj. nut, piston and sensor high temperature version available on request.

Technical Specifications

Bore size (mm)	32	40	50	63	80	100	125	160	200
Action	Double Acting Type								
Fluid	Compressed Air (to Filter 40μ colander)								
Mounting Type	Basic, Foot, Flange, Trunion, Clevis								
Pressure Range (Kgf/cm ²)	1.0 ~ 9.0								
Proof Pressure (Kgf/cm ²)	13.5								
Temperature range °C	0 ~ 70								
Speed range mm/sec	50 ~ 800								
Cushion type	Variable cushion								
Port size (BSP)	G1/8	G1/4	G3/8	G1/2	G3/4				

Cylinder size and std. stroke lengths

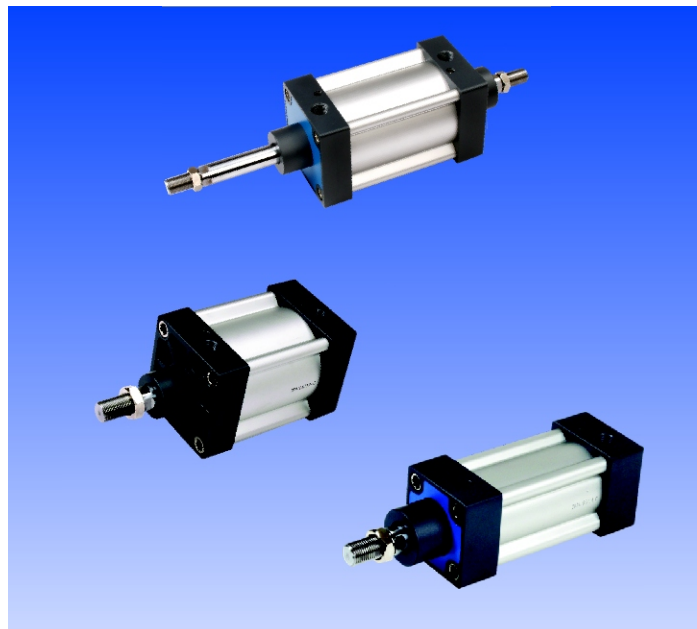
Bore size (mm)	Standard stroke DAP														Maximum stroke		Available stroke										
	DAPD / DAPJ														DAP	DAPD/DAPJ	DAP	DAPD/DAPJ									
32	25	50	75	80	100	125	150	160	175	200	250	300					500	200	800	300							
40	25	50	75	80	100	125	150	160	175	200	250	300	350	400					800	200	1000	300					
50	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500					1000	200	1500	300			
63	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500					1000	200	1500	300			
80	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600					1000	300	1500	400		
100	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600					1000	300	1500	400		
125	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800					1000	300	1500	400
160	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800					1000	300	1500	400
200	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	600	700	800					1000	300	1500	400

Note : Consult us for non-standard stroke.

Material Specifications

Bore size (mm)	32	40	50	63	80	100	125	160	200
Front & back cover Barrel & piston	Aluminium alloy								
Rod	High carbon steel hard chrome plated								
Rod packing & 'o' ring Cushion body, Gasket & Rod 'O' rings, Barrel gasket	NBR								
Wearing ring & bushing	PTFE								
Cushion body & needle	Brass								
Magnet	Non metallic								
Cushion patch	Mild steel								

Airmatic



Model Ordering Code Instruction

DAP - 50 X 50 -	- LB -	F -	S - *
Bore x Stroke.	Mounting type :	Piston Rod Joint type :	Sensor Accessories
Blank - Std Stroke Adj. - for DAPJ 10-10mm 20-20mm 30-30mm	Blank - Basic LB - Foot mounting FA - Front flange FB - Rear flange CA - Rear trunion - Single CB - Rear trunion - Double TC - Centre trunion TC - M - Centre clevis	I - I Knuckle Y - Y Knuckle F - Floating joint U - Universal joint	IH - Bend RS-U - Switch
Types		Sensing type :	
DAP - Double acting		Blank - without magnet	
DAPD - Double ended		S - with magnet	
DAPJ - Double ended adj. stroke			

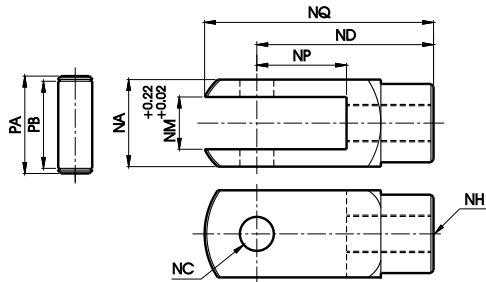
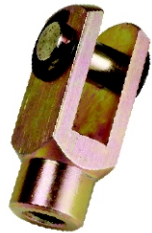
* For sensor switch / band please refer page 6

ISO/VDMA PROFILE CYLINDERS

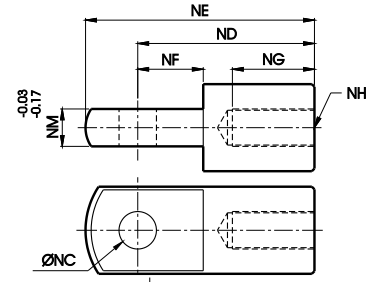
Dimensions of Accessories

Ø32 - Ø200

Y-KNUCKLE (Y)

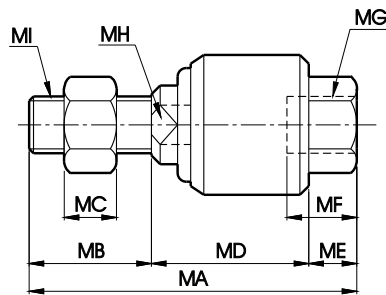


I-KNUCKLE (I)



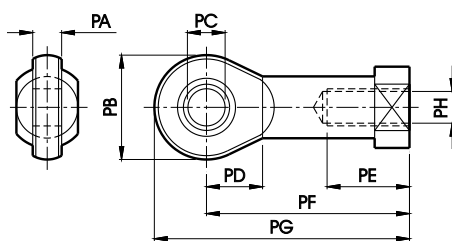
ITEM BORE SIZE (MM)	NA	NC	ND	NE	NG	NH	NM	NP	NQ	PA	PB
32	19	10	40	52	20	M10 X 1.25	10	20	52	26.2	20
40	25.4	12	48	67	20	M12 X 1.25	12	24	62	32.8	26.5
50 / 63	32	16	64	89	23	M16 X 1.5	16	32	83	39.3	33
80 / 100	44.4	20	80	112	30	M20 X 1.5	20	40	105	53.3	45
125	55	30	110	155	56	M27 X 2	30	54	148	64	55.6
160 / 200	70	35	144	201	72	M36 X 2	35	72	191	80	70.6

FLOATING JOINT (F)



ITEM BORE SIZE (MM)	MA	MB	MC	MD	ME	MF	MG	MH	MI
32	73	20	6	45	8	26	M10 X 1.25	12	M10 X 1.25
40	77	24	7	46	7	26	M12 X 1.25	12	M12 X 1.25
50/63	106	32	8	62	12	34	M16 X 1.5	19	M16 X 1.5
80/100	122	40	10	68	14	42	M20 X 1.5	19	M20 X 1.5
125	147	54	13.5	77	16	40	M27 X 2	24	M27 X 2
160/200	251	72	18	161	18	78	M36 X 2	36	M36 X 2

UNIVERSAL JOINT (U)



ITEM BORE SIZE (MM)	PA	PB	PC	PD	PE	PF	PG	PH
32	14	28	10	15	20	43	57	M10 X 1.25
40	16	32	12	17	22	50	66	M12 X 1.25
50/63	21	42	16	22	28	64	85	M16 X 1.5
80/100	25	50	20	26	33	77	102	M20 X 1.5
125	37	70	30	36	51	110	145	M27 X 2
160/200	43	80	35	41	56	125	165	M36 X 2

Model Ordering Code Instruction

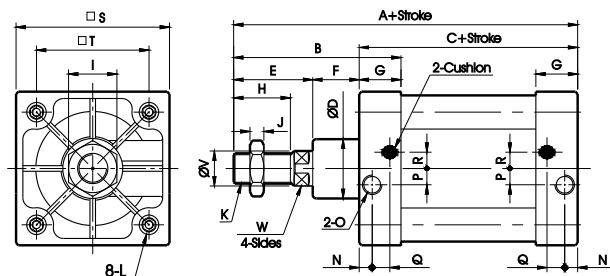
F	-	32	-	DAP
JOINT TYPE		BORE SIZE		
I	-	32	-	Ø32
Y	-	40	-	Ø40
F	-	50	-	Ø50 / 63
U	-	80	-	Ø80 / 100
		125	-	Ø125
		160	-	Ø160 / 200

ISO/VDMA PROFILE CYLINDERS

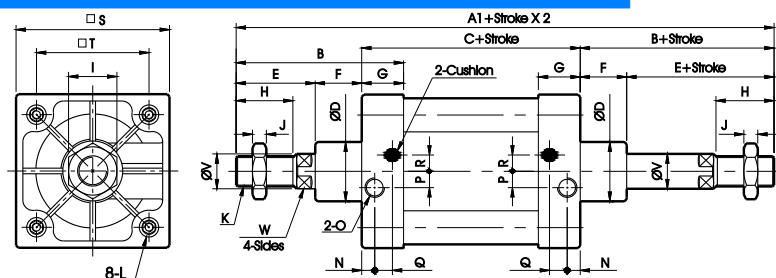
Dimensions of Basic Type

Ø32 - Ø200

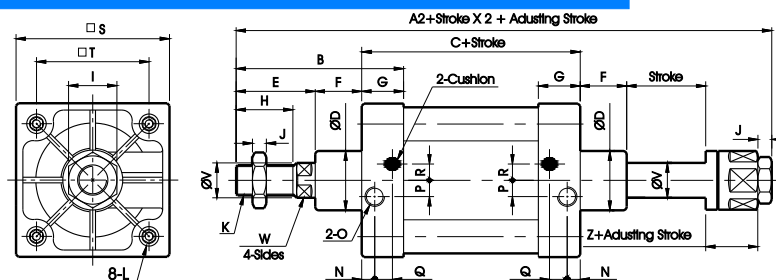
SINGLE ROD AND DOUBLE ACTING (DAP)



DOUBLE ROD AND ACTING (DAPD)



DOUBLE ROD AND ACTING CYLINDER WITH ADJ. STROKE (DAPJ)



ITEM BORE SIZE (MM)	A	A1	A2	B	C	D	E	F	G	H	I	J	K
32	142	190	187	48	94	30	30	18	27.5	22	17	6	M10 X 1.25
40	159	213	207	54	105	35	34	20	32	24	19	7	M12 X 1.25
50	175	244	233	69	106	40	42	27	31	32	24	8	M16 X 1.5
63	190	259	250	69	121	45	40	29	33	32	24	8	M16 X 1.5
80	214	300	286	86	128	45	53	33	33	40	30	10	M20 X 1.5
100	229	320	308	91	138	55	55	36	37	40	30	10	M20 X 1.5
125	279	398	372.5	119	160	60	74	45	46	54	41	13.5	M27 X 2
160	332	484	448	152	180	65	94	58	50	72	55	18	M36 X 2
200	347	514	472	167	180	75	100	67	50	72	55	18	M36 X 2

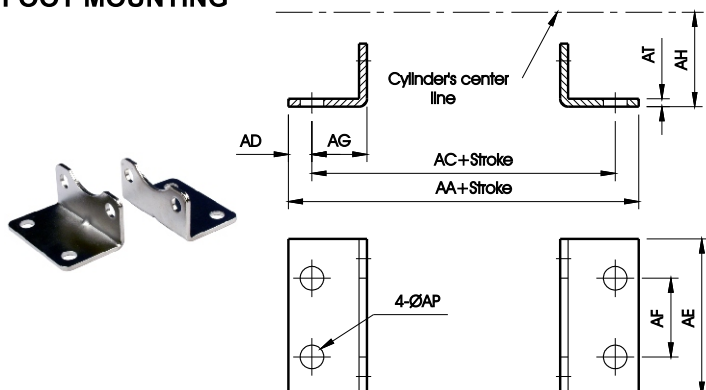
ITEM BORE SIZE (MM)	L	N	O	P	Q	R	S	T	V	W	Z
32	M6	13.5	G1/8	4	7.5	7	47	32.5	12	10	21
40	M6	16	G1/4	6	9.5	9	53	38	16	13	21
50	M8	18.5	G1/4	8.5	6.7	9	65	46.5	20	17	23
63	M8	19	G3/8	6	7.7	9	75	56.5	20	17	23
80	M10	19	G3/8	10	5	13.5	95	72	25	22	29
100	M10	18	G1/2	12.5	10	14.5	115	89	25	22	29
125	M12	23	G1/2	14	12	14	140	110	32	27	35
160	M16	25	G3/4	15	12	20	180	140	40	36	40
200	M16	25	G3/4	15	12	20	220	175	40	36	40

* The dimensions of with magnet type & without magnet type are same.

ISO/VDMA PROFILE CYLINDERS

Dimensions of Foot Mounting Type (LB)

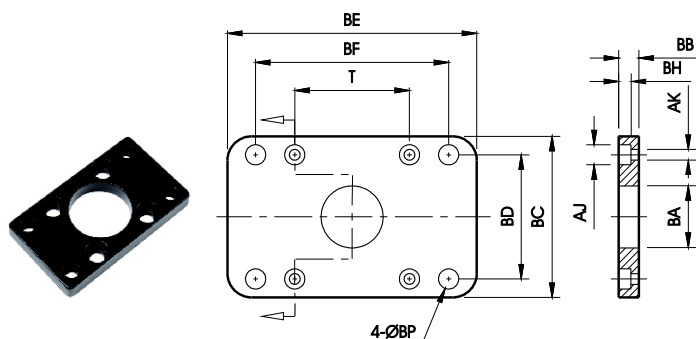
FOOT MOUNTING



BORE SIZE (MM)	32	40	50	63	80	100	125	160	200
ITEM									
AA	158	179	190	209	248	258	290	340	380
AC	142	161	170	185	210	220	250	300	320
AD	8	9	10	12	19	19	20	20	30
AE	48	53	63	73	98	115	140	180	220
AF	32	36	45	50	63	75	90	115	135
AG	24	28	32	32	41	41	45	60	70
AH	32	36	45	50	63	71	90	115	135
AP	7	9	9	9	12	14	16	18	22
AT	3	3	3	3	4	4	8	8	9

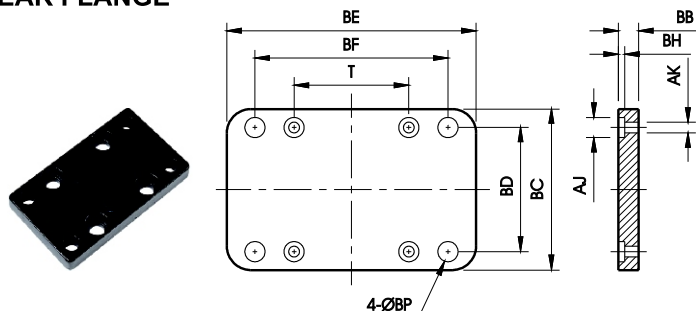
Dimensions of Front / Rear Flange (FA/FB)

FRONT FLANGE



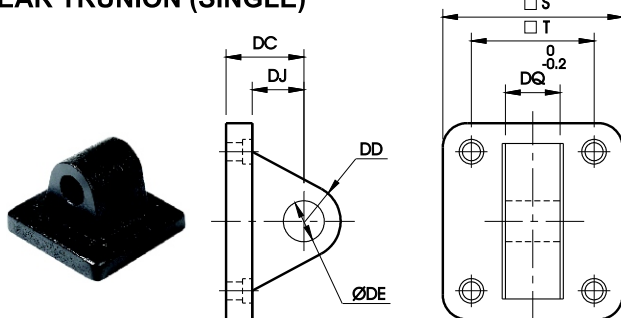
BORE SIZE (MM)	32	40	50	63	80	100	125	160	200
ITEM									
AJ	10.5	10.5	14	14	17	17	17	20	20
AK	7	7	9	9	10.5	10.5	10.5	12.5	12.5
BA	30.3	35.3	40.3	45.3	45.3	55.3	60.3	65.3	75.3
BB	10	10	12	12	16	16	20	20	25
BC	50	55	65	75	100	120	140	180	220
BD	32	36	45	50	63	75	90	115	135
BE	80	90	110	125	154	186	224	280	320
BF	64	72	90	100	126	150	180	230	270
BH	6.5	6.5	8.5	8.5	10.5	10.5	10.5	12.5	12.5
BP	7	9	9	9	12	14	16	18	22
T	32.5	38	46.5	56.5	72	89	110	140	175

REAR FLANGE



Dimensions of Rear Trunion - Single - (CA)

REAR TRUNION (SINGLE)

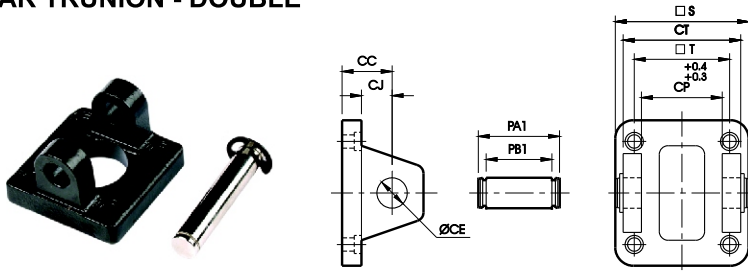


BORE SIZE (MM)	32	40	50	63	80	100	125	160	200
ITEM									
S	47	53	65	75	95	115	140	180	220
T	32.5	38	46.5	56.5	72	89	110	140	175
DC	22	25	27	32	36	41	50	55	60
DD	9	12	12	15	15	20	25	30	30
DE	10	12	12	16	16	20	25	30	30
DJ	13	16	17	22	22	27	33	35.5	37
DQ	25.8	27.8	31.7	39.7	49.7	59.7	69.7	89.7	89.7

ISO/VDMA PROFILE CYLINDERS

Dimensions of Rear Trunion - Double - (CB)

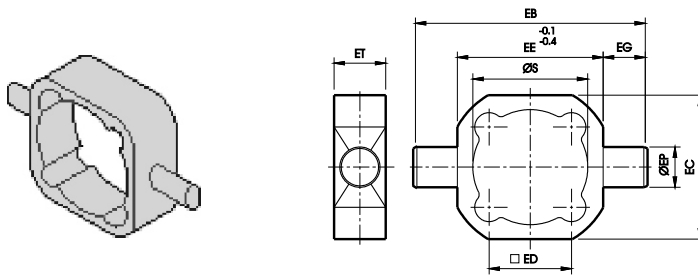
REAR TRUNION - DOUBLE



BORE SIZE (MM)	32	40	50	63	80	100	125	160	200
ITEM									
CC	22	25	27	32	36	41	50	55	60
CE	10	12	12	16	16	20	25	30	30
CJ	13	16	17	22	22	27	31	35.5	36
CP	26	28	32	40	50	60	70	90	90
CT	45	52	60	70	90	110	130	170	170
PA1	52	60	68	79	99	119	139	181	181
PB1	46.5	53.5	61.5	71.5	91.5	111.5	131.5	171.5	171.5
S	47	53	65	75	95	115	140	180	220
T	32.5	38	46.5	56.5	72	89	110	140	175

Dimensions of Centre Trunion - (TC)

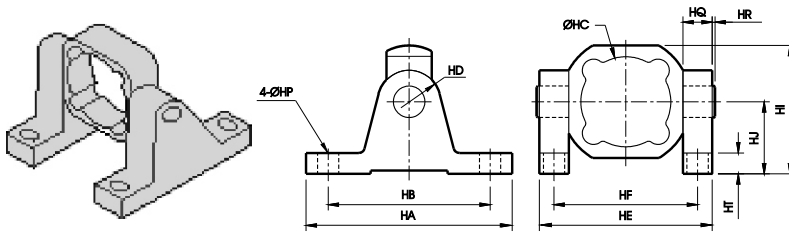
CENTRE TRUNION



BORE SIZE (MM)	32	40	50	63	80	100
ITEM						
EB	100	113	125	140	160	182
EC	50	58	70	80	100	126
ED	32.5	38	46.5	56.5	72	89
EE	50	63	75	90	110	132
EG	25	25	25	25	25	25
EP	12	16	16	20	20	25
ET	20	24	28	28	28	28
S	36	45	55	68	86	106

Dimensions of Centre Clevis - (TC - M)

CENTRE CLEVIS



BORE SIZE (MM)	32	40	50	63	80	100
ITEM						
HA	110	110	110	120	120	120
HB	80	80	80	80	80	80
HC	36	45	55	58	86	106
HD	22	22	22	22	22	22
HE	96	109	121	136	156	178
HF	73	86	98	113	133	155
HI	68.5	76.5	82	86	113	130
HJ	43.5	47.5	47	46	63	67
HQ	23	23	23	23	23	23
HR	2	2	2	2	2	2
HT	12	12	12	12	14	14
HP	12	12	12	12	14	14

Model Ordering Code Instruction

LB

-

32

T

T

ACCESSORIES TYPE

- LB - Foot mounting
- FA - Front flange
- FB - Rear flange
- CA - Rear trunion - single
- CB - Rear trunion - double
- TC - Centre trunion
- TC-M - Centre Clevis

BORE SIZE

- 32 - Ø32
- 40 - Ø40
- 50 - Ø50
- 63 - Ø63
- 80 - Ø80
- 100 - Ø100
- 125 - Ø125
- 160 - Ø160
- 200 - Ø200

Spare Service Kit

Double Acting

- Bore
- Ø32
- Ø40
- Ø50
- Ø60
- Ø80
- Ø100
- Ø125
- Ø160
- Ø200

Kit No

- DAP - 32 SK
- DAP - 40 SK
- DAP - 50 SK
- DAP - 60 SK
- DAP - 80 SK
- DAP - 100 SK
- DAP - 125 SK
- DAP - 160 SK
- DAP - 200 SK

Service cylinder kit consists of Rod packing & Gasket, Piston, 'O' rings, Tube gaskets, Cushion packings & gaskets.

ISO/VDMA PROFILE CYLINDERS

Criteria for selection : Cylinder Thrust

$$F \text{ (Cylinder Thrust Kg)} = P \text{ (Pressure Kg/cm}^2\text{)} \times A \text{ (Piston area cm}^2\text{)}$$

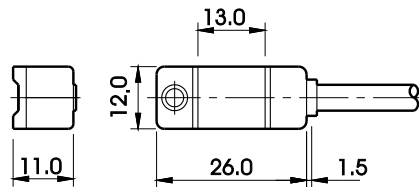
Bore size (mm)	Rod size (mm)	Acting type		Pressure area (cm ²)	Operating pressure Kg/cm ²								
					1	2	3	4	5	6	7	8	9
32	12	Double acting	Push side	8.04	8.04	16.08	24.12	32.16	40.20	48.24	56.28	64.32	72.36
			Pull side	6.90	6.90	13.80	20.70	27.60	34.50	41.40	48.30	55.20	62.10
40	16	Double acting	Push side	12.56	12.56	25.12	37.68	50.24	62.80	75.36	87.92	100.24	113.04
			Pull side	10.55	10.55	21.10	31.65	42.20	52.75	63.30	73.85	84.40	94.95
50	20	Double acting	Push side	19.63	19.63	39.26	58.89	78.52	98.15	117.78	137.41	157.04	176.67
			Pull side	16.49	16.49	32.98	49.47	65.96	82.45	98.94	115.43	139.92	148.41
63	20	Double acting	Push side	31.17	31.17	62.34	93.51	124.68	155.85	187.02	218.19	249.36	280.53
			Pull side	28.03	28.03	56.06	84.09	112.12	140.15	168.18	196.21	224.24	252.27
80	25	Double acting	Push side	50.26	50.26	100.52	150.78	201.04	251.30	301.56	351.82	402.08	452.34
			Pull side	45.36	45.36	90.72	136.08	181.44	226.80	272.16	317.52	362.88	408.24
100	25	Double acting	Push side	78.53	78.53	157.06	235.59	314.12	392.65	471.18	549.71	628.24	706.77
			Pull side	71.47	71.47	142.94	214.41	285.88	357.35	428.82	500.29	571.76	643.23
125	32	Double acting	Push side	122.72	122.72	245.44	368.16	490.88	613.60	736.32	859.04	981.76	1104.48
			Pull side	114.68	114.68	229.36	344.04	458.72	573.40	688.08	802.76	917.44	1032.12
160	40	Double acting	Push side	201.06	201.06	402.12	603.18	804.24	1005.30	1206.36	1407.42	1608.48	1809.54
			Pull side	188.49	188.49	376.98	565.47	753.96	942.45	1130.94	1319.43	1507.92	1696.41
200	40	Double acting	Push side	314.16	314.16	628.32	942.48	1256.64	1570.80	1884.96	2199.12	2513.28	2827.44
			Pull side	301.57	301.57	603.14	904.71	1206.28	1507.85	1809.42	2110.99	2412.56	2714.14

Mounting and using

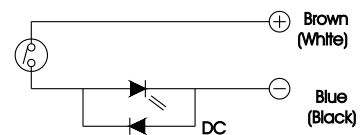
- * Select appropriate size of fittings at the time of installation to avoid starvation of air. Shield the cylinder to avoid damage, if dusty material is falling on it. Clean tube & fittings first, before servicing the cylinder.
- * Compressed air must be filtered (at-least 40 micron filtration) for general application.
- * Do not use cylinder to its extreme capacity. Changing to next higher size cylinder is advisable.
- * For temperature applications, select cylinders suitable for high temperature applications.
- * Minimize / avoid side loading of cylinder to increase its life.
- * Cushioning should be adjusted at no load condition first. Tighten the cushioning screw first and open gradually to suit the requirement. Avoid direct impact.

Accessories - Sensor Switch

RS-U



Hookup



Sensor switch type	Operating voltage range	Operating current range	Response time	Shock resistance	Vibration resistance	Temperature range	Environmental protection	Indicator lamp	Lead time	Cycle life time
RS-U	DC:5V~24V AC:5V~380V	DC:5~60mA AC:5~50mA	1 ms max	300 m/S ² (30G)	10~55Hz	0~60°C	IP-67	LED	2M	5X10 ⁶ Times

Model Ordering Code Instruction

RS	-	U	IH	-	32
Sensor Switch		Type	Sensor switch		Bore size
Model			holder		
RS		U - Lamp in up position	Type IH		32 - Ø 32
					40 - Ø 40
					50 - Ø 50
					63 - Ø 63
					80 - Ø 80
					100 - Ø 100
					125 - Ø 125
					160 - Ø 160
					200 - Ø 200

Shah Pneumatics

28-30, NAVKETAN IND. ESTATE, MAHAKALI CAVES ROAD, ANDHERI (E), MUMBAI - 400093, INDIA.

Ph:- +91-22-66951090 Fax:- +91-22-26875317

Email:- shahpneu@bom3.vsnl.net.in

Website:- www.shah-pneumatics.com