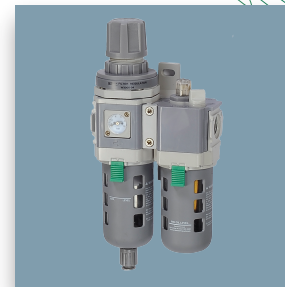


Pneumatics



Pneumatics



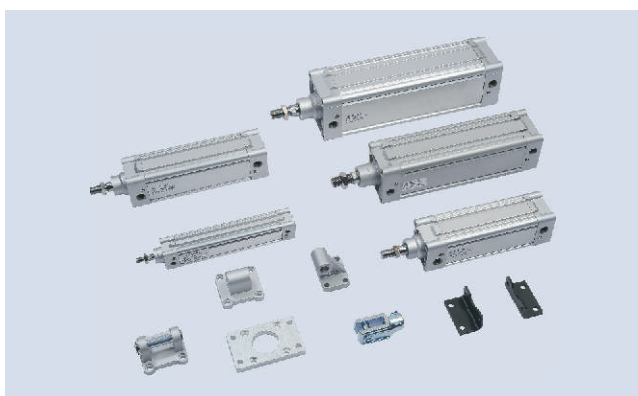
PNEUMATIC CYLINDERS



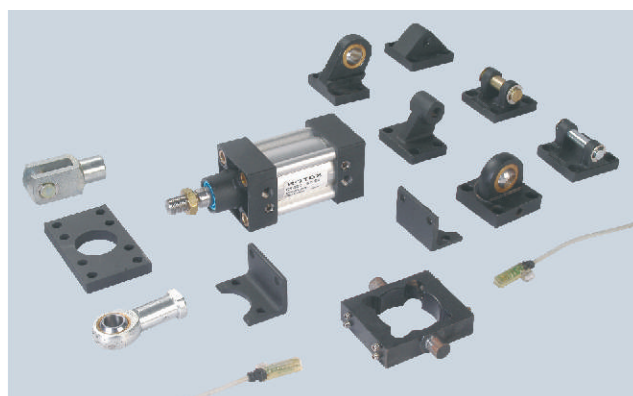
Ø8 -Ø25 PNEUMATIC CYLINDER



Ø32 -Ø160 CYLINDER



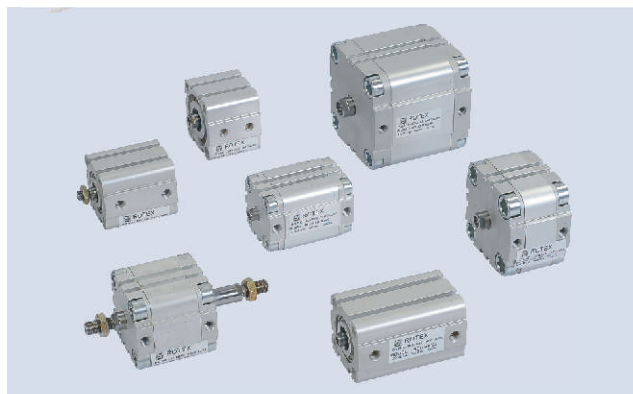
Ø32 -Ø100 SQUARE PROFILE CYLINDER



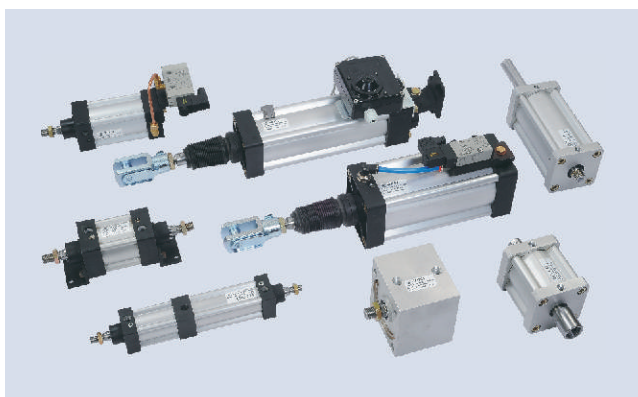
CYLINDER MOUNTINGS



F.R.L.



COMPACT CYLINDER



SPECIAL CUSTOM BUILT CYLINDER

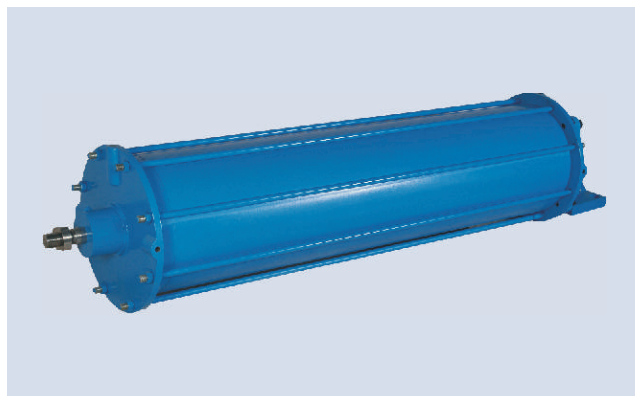


COMPACT CYLINDER NON ROTATING

PNEUMATIC CYLINDERS



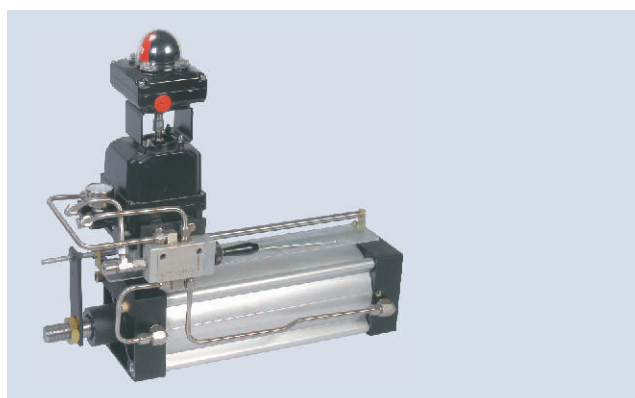
Ø200 -Ø350 PNEUMATIC CYLINDER



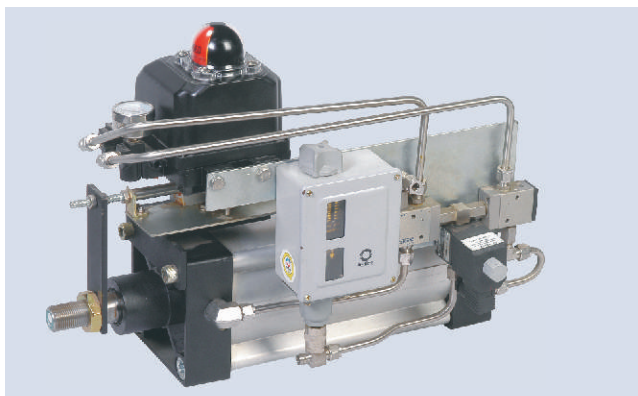
Ø400 -Ø1100 CYLINDER



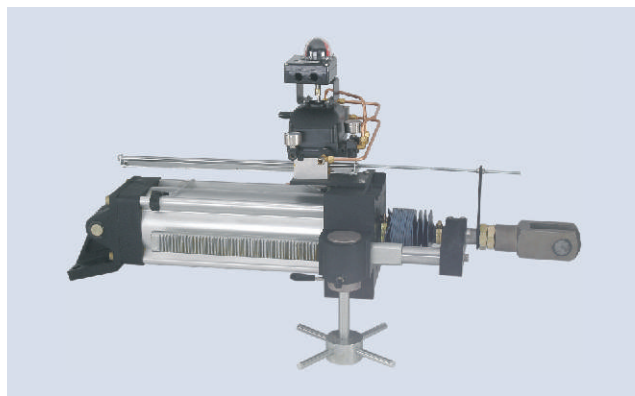
SPECIAL CUSTOM BUILT CYLINDER



POWER CYLINDER



POWER CYLINDER



POWER CYLINDER



POWER CYLINDER



POWER CYLINDER

INDEX

CHAPTER	CONTENTS	PAGE NUMBER
1	A. PNEUMATIC CYLINDER	
	Series CNA/ CNB, Air Cylinder Ø8-Ø25	6-12
	Model-2YTD, Reed Switch for Ø8-Ø25	13
	Series SPC Air Cylinder Ø32-Ø100	14-23
	Model-PNT Reed Switch for Ø32-Ø100	24
	Series SCN, Air Cylinder Ø32-Ø160	25-36
	Model-CNT, Reed Switch for Ø32-Ø160	37
	Series C, Air Cylinder Ø200-Ø350 Series CC, Air Cylinder Ø200-Ø350	38-45
	Series C, Air Cylinder Ø400-Ø1000	46-51
2	Series SDVU, Compact Cylinder Ø12-Ø100	52-53
	Series SDVUL, Non Rotating Compact Cylinder Ø12-Ø100	54-62
	Model PNT, Reed Switch for Compact Cylinder Ø12-Ø100	63
3	Regulating Cylinder Ø32-Ø1100	64-69
	Series PE, Pet Cylinder	70
	Series KN, Knocker Cylinder	71
	Series 3PA, 3 Position Cylinder	72
	Series PS, Power Cylinder with Solenoid Valve Ø32-Ø1100	73-75
4	B. SOLENOID VALVE	
	Quick Reference Chart	76-83
5	3/2 SOLENOID VALVE 10mm, 15mm, 22mm	
	Series FM, 10mm, 3/2 Direct Acting	84
	Series GM, 15mm, 3/2 Direct Acting	85
	Series DE, 22mm, 3/2 Direct Acting	86
	Series DM, 22mm, 3/2 Subbase Mounted	87
	Subbase VL, for DM Valve	88
	Series DSA, 22mm, 3/2 Spool Valve	89-90
	Subbase DL, for DSA	91
	Series DAF, 1/4" High flow 3/2 Spool double Solenoid Valve	92-93
	Subbase CL, for DAF 2	94
	Series DAF, 1/2" 3/2 Spool Valve	95-96
	Subbase KL, for DAF4	97
6	5/2 SOLENOID VALVE 10mm, 15mm	
	Series YQS, 10mm 5/2 Single Solenoid Valve	98
	Series YQS, 15mm 5/2 Single Solenoid Valve	99
	Series YQS, 10mm, 5/2 Spool double Solenoid Valve	100
	Series YQS, 15mm, 5/2 Spool double Solenoid Valve	101
	Series YQS, 10mm, 5/3 Solenoid Valve	102
	Series YQS, 10mm, 5/3 Subbase Mounted	103
	Series YQS, 15mm, 5/3 Double Solenoid Valve	104-105
	Series YQS, 10mm, 5/3 Subbase Manifold	106
	Series YQS, 15mm, 5/3 Subbase	107-109

INDEX

CHAPTER	CONTENTS	PAGE NUMBER
7	SOLENOID VALVE 22mm	
	Series VAD, 5/2 Spool Single Solenoid Valve	110
	Series VAD, 5/2 Double Solenoid Valve	111
	Subbase BP, for VAD	112
	Series VAJ, 5/2 Spool Single Solenoid Valve	113
	Series VAJ, 5/2 Spool Single Solenoid Valve	114
	Series VAF, 5/2 Spool Single Solenoid Valve	115
	Series VAF, 5/2 Spool Double Solenoid Valve	116-117
	Subbase VP, for VAF	118
	Series VAG, 5/2 Subbase Solenoid Valve	119
	Subbase MP, for VAG	120
	Series VAF, 5/2 Single Solenoid Valve	121-122
	Series VAF, 5/3 Double Solenoid Valve	123
	Subbase VF, for VAF	124-125
	Series IVG, 5/2, 5/3 Spool Solenoid Valve, ISO 5599/ 1	126-127
	Series IVG, 5/2, 5/3 Spool Solenoid Mounting Valve, ISO 5599/ 3	128-129
	Series VAD, 5/2, NAMUR & Spool Solenoid Valve	130
8	CARTRIDGE SOLENOID VALVE 18mm	
	Series YXE, Super High Flow Valve	131-142
9	HAND OPERATED SPOOL VALVE	
	Series DSA/ VA 125, 225 Push Button 1/8", 1/4"	143
	Series DSA / VA 149, 249 Selector Switch 1/8", 1/4"	143
	Series SDAJ 201 B/S 3/2 Push-Pull Type 1/4"	144
	Series SVAJ 201 B/S 5/2 Push-Pull Type 1/4"	145
	Series DAF 204, 205 3/2 Hand Lever 1/4", 3/8"	146
	Series VAF 204, 205 5/2 Hand Lever 1/4", 3/8"	147
	Series VAF 223, 253, 273 5/3 Hand Lever 1/2", 3/8"	148
	Series VAF 206, 256, 276 5/3 Hand Lever 1/4", 3/8"	149
	Series DAF 404, 405 3/2 Hand Lever 1/2"	150
	Series VAF 404, 405 5/2 Hand Lever 1/2"	151
	Series VAF 406, 456, 476 5/3 Hand Lever 1/2"	152
	Series VAF 423, 453, 473 5/3 Hand Lever 1/2"	153
	Series RAQ 206, 256, 276 4/2, 4/3 Rotary Valve 1/4"	154
	Series ALR-3, ALR-5, Airlock Relay 1/4", 1/2"	155
	Series SENALR-3, SENALR-5 Airlock Relay 1/4", 1/2"	156
10	MECHANICALLY OPERATED VALVE	
	DSA 101, VA101, DSA 107, VA107, DSA117, VA117	157
11	F.R.L.	
	Introduction to FRL	158-159
	C1000, 2000, 3000, 4000, 8000 F+R+L	160
	C1010, 2010, 3010, 4010, 8010 FR+L	164
	W1000, 2000, 3000, 4000, 8000 FR	168
	F1000, 2000, 3000, 4000, 8000 F	172
	R1000, 2000, 3000, 4000, 8000 R	176
	L1000, 2000, 3000, 4000, 8000 L	180
	FRL Accessories	184
12	ACCESSORIES	
	NRV, Quick Exhaust, Flow Control, PU tube	185
	Silencer, Ball Valve, Hand Slide	186

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

SERIES CNA/ CNB

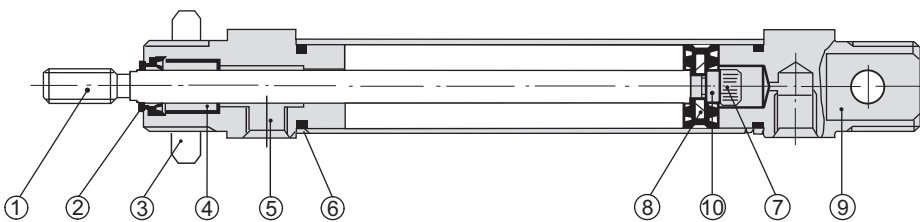
SERVICEABLE CYLINDER



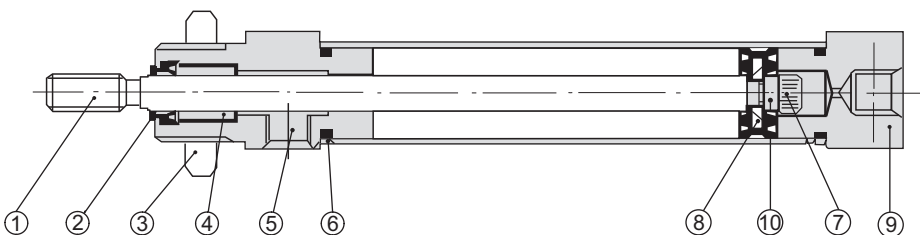
FEATURES

- According to ISO 6432 & CETOP RP 52 P
- Shock resistant rubber buffers at both ends
- 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 50µm
- Operating pressure range 1-10 bar
- Operating Temperature range -20 °C to +70 °C
- Cylinder can be dismantled for servicing
- Life 2,000 km
- Speed 3 m/sec maximum
- Minimum operating pressure 0.5 bar
- Polyurathane seals

CONSTRUCTION : CYLINDER TYPE CNA



CONSTRUCTION : CYLINDER TYPE CNB



MATERIAL OF CONSTRUCTION

PART	MATERIAL	PART No.
Cover	Aluminium Anodized	5,9
Tube	Aluminium Anodized	6
Piston Rod	Stainless Steel SS 410	1
Piston Rod Guide	Self Lubricating High Polymer	4
Seal	Polyurathane	2,8
Buffer	Shock resistant rubber	8
Nut, Bolt, Washer	Galvanized Steel	3,7,10

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

SERIES CNA/ CNB

FORCE, AIR CONSUMPTION FOR DOUBLE ACTING CYLINDER

Double acting Cylinder			Force (N)									
Ø Bore	Ø Piston Rod		Pressure (bar)									
			1	2	3	4	5	6	7	8	9	10
8	4		5 3.7	10 7.5	15 11.3	20 15	25 18.8	30 22.6	35 26.3	40 30.1	45 33.9	50 37.7
12	6		11.3 8.4	22.6 16.9	33.9 25.4	45.2 33.9	56.5 42.4	67.5 50.8	79.1 59.3	90.4 67.8	101.7 76.3	113 84.8
16	6		20.1 17.2	40.2 34.5	60.3 51.8	80.4 69.1	100.5 86.3	120.6 103.6	140.7 120.9	160.8 138.2	180.9 155.5	201 172.7
20	8		31 26	62 52	94 79	125 105	157 131	188 158	219 184	251 211	282 237	314 263
25	10		49 41	98 82	147 123	196 164	245 206	294 247	343 288	392 329	441 371	491 412

Single acting Cylinder		Force (N)
Ø Bore		
12	8	14
16	8	14
20	15	28
25	18	34

Remark

The given spring forces are intended only for the return of the piston rod.

Air consumption	dm³ A.N.R./cm stroke	A.N.R.= Dm³ under Norm-conditions								1dm³= 1 litre
Ø Bore	Pressure (bar)									
	1	2	3	4	5	6	7	8	9	10
8	0.001	0.0015	0.002	0.0025	0.003	0.0035	0.004	0.0045	0.005	0.0055
12	0.0023	0.0034	0.0046	0.0057	0.0068	0.008	0.009	0.01	0.012	0.013
16	0.004	0.006	0.008	0.01	0.012	0.014	0.016	0.018	0.02	0.022
20	0.006	0.009	0.012	0.016	0.019	0.022	0.025	0.028	0.031	0.035
25	0.010	0.015	0.020	0.025	0.029	0.034	0.039	0.044	0.049	0.054

Cylinder Ø 25mm bore having 250mm stroke. At 6 bar, as per chart 0.034 dm³/ cm. Stroke = 25 cm, one cycle will be forward & return stroke will be 50 cm, Air consumption will be 0.034x50=1.7cm³ at 6 bar (Or 1.7 litre of free Air).

Note :

Special Spring return cylinders can be manufactured for application, where in larger spring forces are needed. Please consult ROTEX. We need working forces for your application force F1 when the spring is not compressed & F2 when spring is compressed Ideally we need either F1 or F2.

Consider you want to operate gate valve which needs the force of 100N. Add factor of safety 30%, so load required is 130N. Let us assume gate valve needs fail safe close. So the spring force minimum has to be 130N. Air maximum has to be 130N, the total force needed is 260N. Choosing Ø 25 Cylinder, with F1= 130N, F2 =170N (This is factory chosen), you will get at 6 bar Air maximum 294-130 = 160N. Air maximum is 294-170 = 124N.

ROTEX can produce such special cylinders for your applications.

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

SERIES CNA/ CNB

ORDERING CODE

	TYPE	MODEL	REED OPTION	SPECIAL CYLINDER	BORE	STROKE
	1	2	3	4	5	6
1	TYPE	CNA CNB	Male Clevis Flat Cover	5	BORE	8 12 16 20 25
2	MODEL	D E EA	Double Acting Single Acting, Spring at Rod Side Single Acting, Spring at Rear Cover			
3	REED OPTION	- MAE	Non Magnetic Magnetic	6	STROKE	Refer Table below
4	SPECIAL	- BG DS ZR ZRM SU	Standard Bellow Double Ended Piston Rod SS 304 Material Piston Rod SS 316 Material Piston Rod Other To define special models			

Multiple options possible

ORDERING CODE

CYLINDER MOUNTINGS

A1	Pedestal
C	Front Flange
P	Counter Hinge Rear

PISTON ROD MOUNTINGS

F	Flexible Joint
T	Fork
W	Ball and socket joint
LN	Extra lock nut

STANDARD STROKE

DOUBLE ACTING (D)			SINGLE ACTING (E/EA)	
BORE (mm)	STANDARD STROKE (mm)	MAX. STROKE (mm)	BORE (mm)	MAX. STROKE (mm)
8	25, 50, 75, 100	100	8	25
12	25, 50, 75, 100	100	12	50
16	25, 50, 75, 100	200	16	50
20	25, 50, 75, 100, 150, 200	1000	20	100
25	25, 50, 75, 100, 150, 200, 250, 300	2000	25	250

*Other Stroke on request

ORDERING EXAMPLE

CYLINDER

- CNA - D-MAE-25/50
25mm diameter double acting magnetic cylinder with stroke 50 mm

2YTD-25 Reed Switches
C-25 Flange Mounting

Reed switches & mountings to be ordered separately

ORDERING EXAMPLE

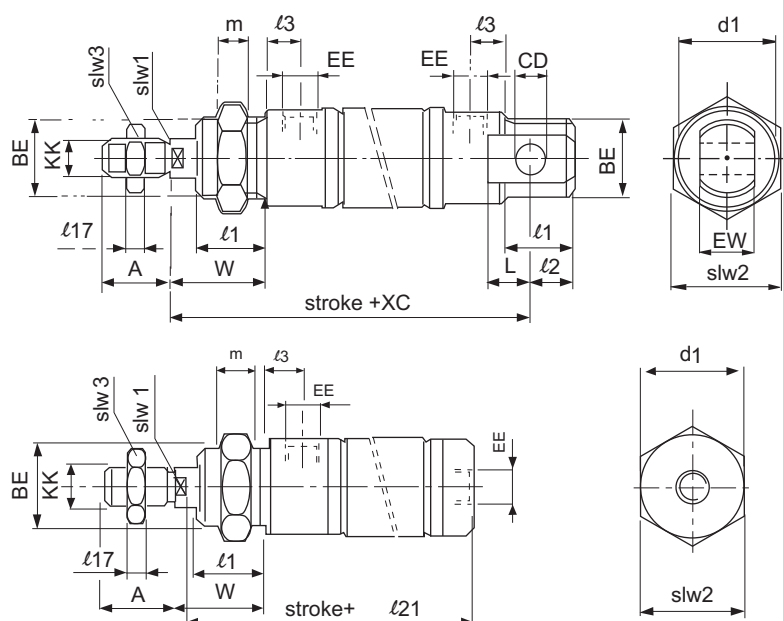
MOUNTINGS

P-20
Rear trunion for Ø20 cylinder
Please note, the mountings will be supplied loose along with the cylinder

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

SERIES CNA/ CNB

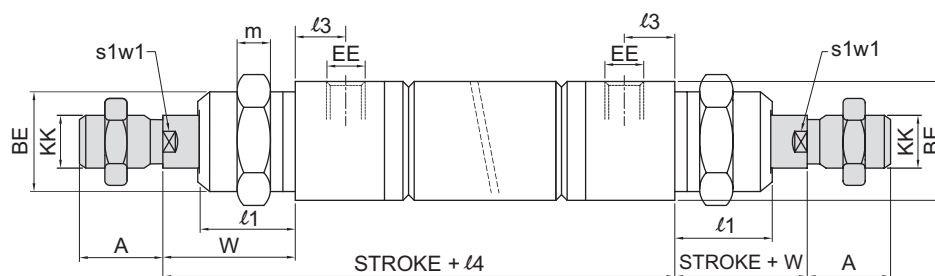
DIMENSIONS (mm)



Ø	A	BE		EE		KK	L	W	XC		d1	l1	l2	l3	l17	l21		m	slw1	slw2	slw3
									OO	MAE						OO	MAE				
8	12	M12 x 1,25	4	M5 x 0,8	8	M4 x 0,7	6	16	64	85	15	12	10	5	3,2	59,5	80,5	6	-	19	10
12									75	97			14			68	90				
16	16	M16 x 1,5	6	M5 x 0,8	12	M6 x 1	9	22	82	101,5	19	17	13	5	4	71,5	91	8	-	24	13
20						M8 x 1,25		24	95	103		20	12			82,5	90,5		7		
25	20	M22 x 1,5	8	G 1/8	16	M10 x 1,25	12,5	28	104	114	28	22	14	8	5	87,5	97,5	8	9	27	17

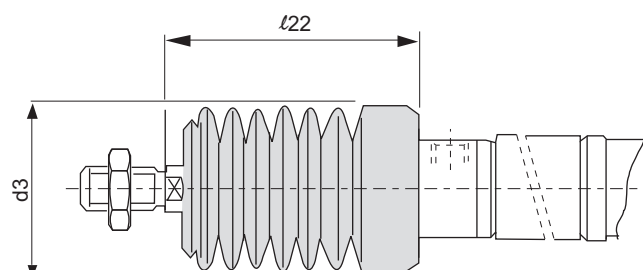
SPECIAL VERSIONS

DS - DOUBLE ENDED PISTON ROD



Ø	A	BE	EE	KK	W	l1	l3	l4		m	slw1
								OO	MAE		
20	20	M22 X 1,5	G1/8	M8 X 1,25	24	20	8	87	95	11	9
25	20	M22 X 1,5	G1/8	M10 X 1,25	28	22	8	96	106	11	9

BG - BELLOW FOR CYLINDER Ø20 - Ø25



Ø Bore	5-150 l22	151-300 l22	301-450 l22	d3
20	78	136	194	Ø46
25	82	140	198	Ø46

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

SERIES CNA/ CNB

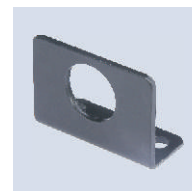
MOUNTING OVERVIEW



W - Ball and socket



GA - Female rear hinge for Ø 25 only



A1 - Pedestal



T - Fork



MP 3 - Male cardan
for Ø 25 only



C - Front Flange



F - Flexible Joint



P - Counter Hinge rear



A1 - Pedestal Mounting



C - Front Flange



FCV - Flow Control



50010 - Straight Fitting



50030 - Male Elbow T



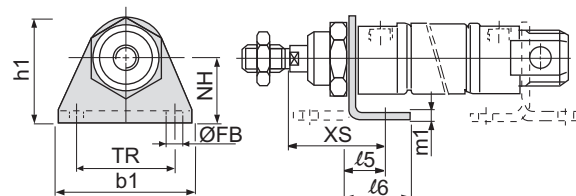
55115 - Male Elbow

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

SERIES CNA/ CNB

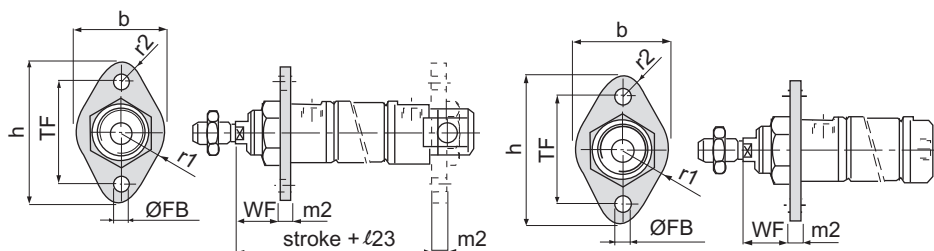
CYLINDER MOUNTINGS

A1 - PEDESTAL



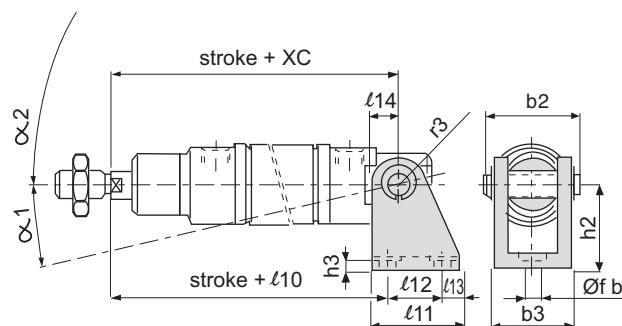
MODELS	FB H13	NH ±0,3	TR js14	XS	B1 max.	h1 max.	l5	l6	l7		l8		m1
									OO	MAE	OO	MAE	
A-8	4,5	16	25	24	35	25	11	20	73	94	68	89	3
A-12				32					86	108	78	100	
A-16	5,5	20	32	36	42	30	14	20	92	111,5	84	103,5	3
A-20									103	111	95	103	
A-25	6,6	25	40	40	54	40	16	25	112	122	100	110	4

C - FRONT FLANGE



MODELS	FB H13	TF js14	WF	M2	b max.	h max.	l 23	
							OO	MAE
C-8	4,5	30	13	3	20	40	62	83
C-12			18				72	94
C-16	5,5	40	19	4	25	53	78	97,5
C-20							87	95
C-25	6,6	50	23	5	40	66	96	106

P - COUNTER HINGE REAR

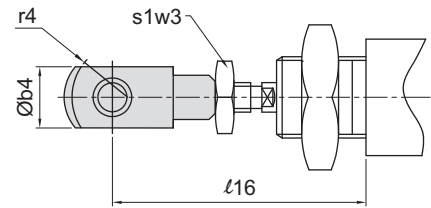
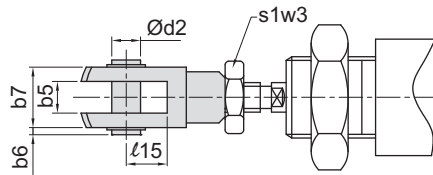
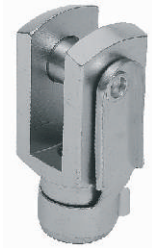


MODELS	XC		b2	b3 64	h2 85	h3	l10		l11	l12 js14	l13	l14	r3	fb H13	α1 max.	α max.
	OO	MAE					OO	MAE								
P-8	75	97	27	23	18	2	77	98	40	13	8,5	5	5	6,6	50°	180°
P-12	82	101,5					88	110								
P-16	95	103	31	23	18	2	95	114,5	40	13	8,5	5	5	6,6	50°	180°
P-20							91	99								
P-25	104	114	36	30	30	8	100	110	32	20	6	10	10	6,6	13°	170°

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

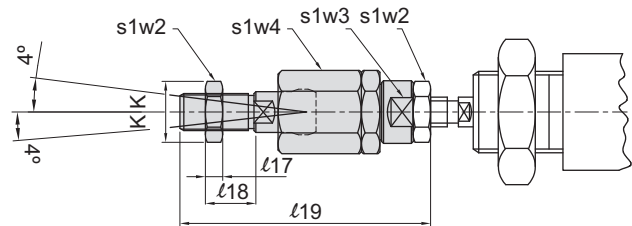
SERIES CNA/ CNB

T - FORK



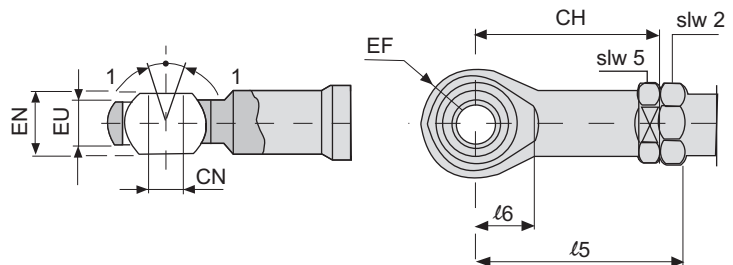
MODELS	b4	b5 B12	b6	b7	d2 d7	l15	l16 min. - max.	r4	slw3
T-8	8	4	1,5	14	4	8	35 - 38	5	7
T-12									
T-16	12	6	1,5	18	6	12	51 - 55	8	10
T-20	16	8	2	23	8	16	63 - 69	11	13
T-25	20	10	2	28	10	20	76 - 80	13	17

F - FLEXIBLE JOINT



MODELS	KK	l17	l18	l19 min. - max.	slw3	slw4	slw2
F-12	M6x1	3,2	10	40 - 44	10	13	7
F-16							
F-20	M8x1,25	4	12	55 - 61	13	17	10
F-25	M10x1,25	5	20	78 - 82	17	30	19

W - BALL AND SOCKET JOINT



Ø	CH	CN	EF	EN	EU	l5 min. max.	l6	slw2	slw5	α1
32	43	10	14	14	10,5	51 - 55	16	17	17	4°
40	50	12	16	16	12	60 - 63	17	19	19	4°
50	64	16	21	21	15	77 - 80	22	24	27	4°
63	64	16	21	21	15	77 - 80	22	24	27	4°
80	77	20	25	25	18	93 - 97	26	30	32	4°
100	77	20	25	25	18	93 - 97	26	30	32	4°
125	110	30	35	37	25	132 - 138	35	41	41	4°
160	125	35	40	43	28	154 - 160	40	50	50	4°

CYLINDER Ø 8 - Ø 25 AS PER ISO 6432 & CETOP RP 52 P

REED SWITCH FOR CYLINDER Ø 8 - Ø 25

MODEL 2YTD



FEATURES

- Steel body, with adjustable angular & linear positions
- High glow LED, suitable for outdoor application
- IP65 Construction
- Universally for AC/ DC supply. DC connection is polarity sensitive

APPLICATION

- The position of the piston of the ROTEX cylinder can be detected by installing a Reed Switch. The switch is a non contact Reed type design and is in Normally Open position. The switch closes when it approaches the magnetic field, a permanent magnet fitted on the piston rod

TECHNICAL SPECIFICATION

Medium	Magnetic field
Design	Non contact Reed Switch, Electronics & LED
Mounting	Clamp fixed on cylinder, adjustment by screw
Connection	2 wire cable Standard : 1 metre
Supply voltage	10V -220V DC, 10V - 220V AC

Max. switching current	200 mA for DC. 20 mA for AC
Max. speed	3 m/ sec
Cyclic speed	800 Hz
Switching life	10 ⁸ Cycle
Cable length	M2 :- 2 metre : M3 :- 3 metre
Temperature range	- 40 °C to 60 °C
Repeatability	± 0.1 mm

Note : MAE to be selected in cylinder ordering code, for Magnetic cylinder

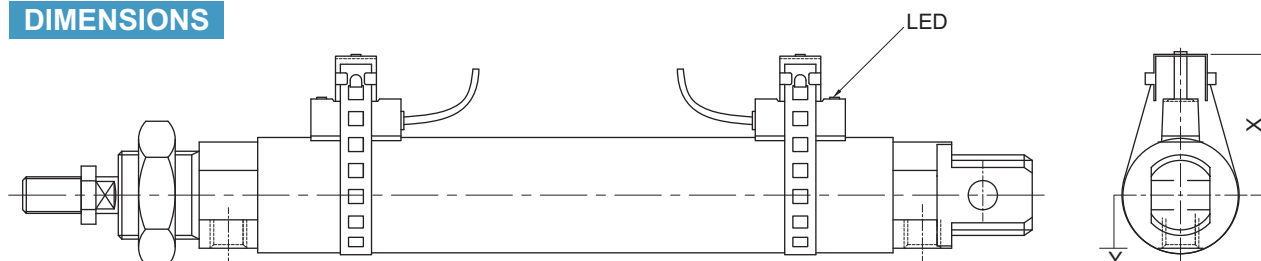
ORDERING CODE

- 2YTD - M2 - 25 Reed Switch with 2 metre cable for Cylinder Ø 25
2YTD - 20 Reed Switch with 1 metre cable for Cylinder Ø 20

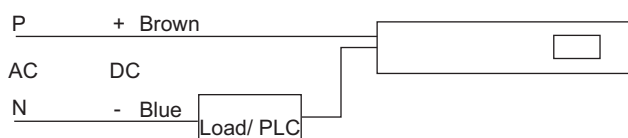
MOUNTING BRACKET

Each Reed Switch is supplied with its mounting bracket, wherever applicable

DIMENSIONS



CONNECTION



Bore	X mm	Y mm
Ø8	23	1
Ø12	26	1
Ø16	28	1
Ø20	30	1
Ø25	33	1

CYLINDER Ø 32 - Ø 100 AS PER ISO 15552 and VDMA 24562

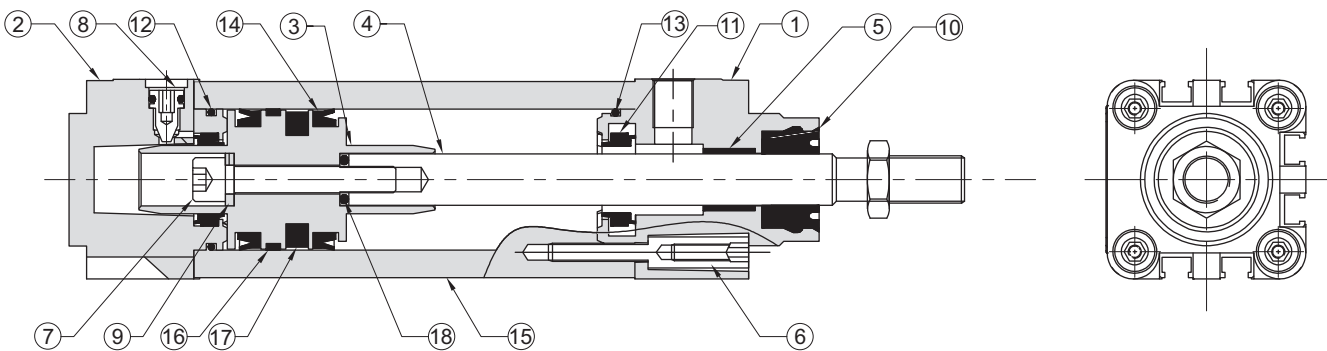
SERIES SPC



FEATURES

- According to ISO 15552 & VDMA 24562
- Cylinder tube from extruded profile Aluminium
Micro honed for extremely low friction
- Cylinder barrel treated for special anodizing
to reduce friction
- Cushioning adjustable at both ends,
high energy absorption due to special profile
- 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
- Minimum pressure to move 0.1 bar
- Speed 3 m/ sec maximum
- Permanent Magnet is standard

CONSTRUCTION



MATERIAL OF CONSTRUCTION

PART	MATERIAL	PART No.	PART	MATERIAL	PART No.
Cylinder Tube	Anodized Aluminium	15	Cushioning Screw	Steel	8
Cover	Aluminium	1, 2	Cushioning Seal	NBR	11
Piston Rod	Stainless Steel (SS 410)	4	Rod Seal	Polyurethane	10
Piston	Aluminium	3	O Ring	NBR	18
Cover Seal	NBR	12, 13	Cover Bolt	Galvanized Steel	6
Lip Seal	NBR	14	Permanent Magnet	-	17
Piston Rod Guide	Self Lubricating High Polymer	5	SHC Screw	HGA Steel	7
Washer	Steel	9	Piston Guide	High Polymer	16

CYLINDER Ø 32 - Ø 100 AS PER ISO 15552 and VDMA 24562

SERIES SPC

FORCE, AIR CONSUMPTION FOR DOUBLE ACTING CYLINDER

Double acting Cylinder			Force (N)									
Ø Bore	Ø 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

Remark 1

Max. 0.1 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			
Ø Bore	Spring Forces (N)		
			
32	30	80	Remark The given spring forces are intended only for the return of the piston and piston rod.
40			
50	75	130	
63			For model E and EA spring forces remains same, cushioning not available on spring side, flow control not possible on spring side.
80	150	320	
100			

Other spring forces can be provided. Consult ROTEX

Air consumption		dm ³ A.N.R./cm stroke		A.N.R.= dm ³ under Norm-conditions						1dm ³ =1 litre	
Ø	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	

Note :

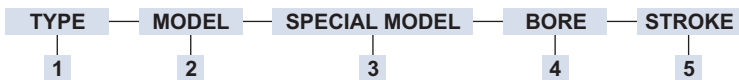
Special Spring return cylinder can be manufactured for application, where in larger spring forces are needed. Please consult ROTEX. We need working forces for your application. Force F1 when the spring is not compressed & F2 when spring is compressed Ideally we need either F1 or F2.

Consider you want to operate gate valve which needs the force of 1000N. Add factor of safety 30%. So load required is 1300N. Let us assume gate valve needs fail safe close. So the spring force minimum has to be 1300N Air maximum has to be 1300N. The total force needed is 2600N. Choosing Ø 80 Cylinder with F1 =1300N, F2 = 1700N (This is factory chosen), you will get at 6 bar air Maximum 3018-1700 = 1318N. Air maximum is 3018-1300 = 1718N. ROTEX can produce such special cylinders for your applications.

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

SERIES SPC

ORDERING CODE



1	TYPE	SPC			
2	MODEL	D	Double Acting	4	BORE Ø
		E	Single Acting, Spring at Rod Side		32
		EA	Single Acting, Spring at Rear Cover		40
					50
					63
					80
					100
					125
					160
3	SPECIAL	-	Standard	5	STROKE
		AV	Viton Seals		3000mm
		SBG	Bellow		Max. D
		CL	Polyurethane Coating		100mm
		DS	Double ended Piston Rod		Max. E
		ZRM	SS 316 Material Piston Rod		100mm
		SU	Other. To define special models		Max. EA

ORDERING CODE

CYLINDER MOUNTINGS

-	4x Internal Thread Front and Rear
SMS1	2 Pedestal
SMF1	Front Flange
SMF2	Rear Flange
SGA	Female Hinge Rear
LG	Cardan Counter Hinge
SMP2	Female Hinge Rear
LB2	Male Counter Hinge
SMP3	Rear Trunnion Cardan
SMP4	Male Hinge Rear
SMT4	Central Trunnion
MT5	Front Trunnion
MT0	Front Hinge for MT4 and MT5

PISTON ROD CONNECTION

-	Outer Thread
F	Flexible Joint
S	Fork
W	Ball and Socket Joint
LN	Extra Lock Nut

ORDERING EXAMPLE

- SPC-D-0-00-0-32/ 100
Double acting Cylinder with 32mm bore and 100mm stroke
- SPC-E-S-AV-MF1-40/ 175
Single acting Cylinder with 40mm bore and 175mm stroke, Spring at Rod Side, with fork on the Piston Rod, Viton seals for high temperature application and front flange mounting

ORDERING EXAMPLE

MOUNTINGS

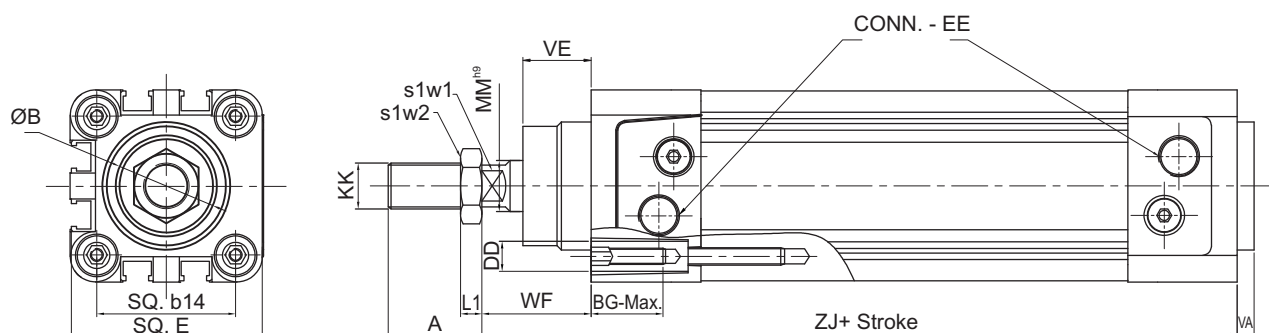
MP2-40

Rear Trunnion for 40 mm bore Cylinder

* Please note, the mountings will be supplied loose along with cylinder

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

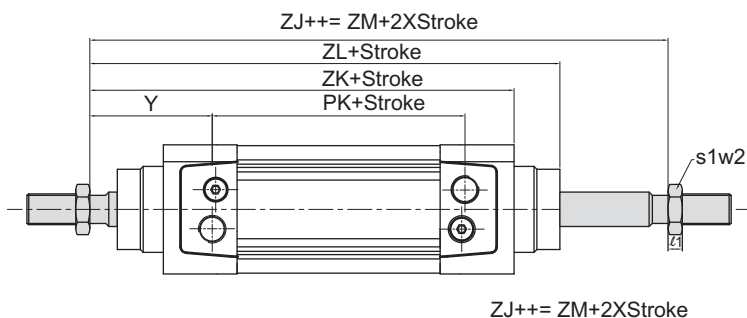
SERIES SPC



Ø	A	ØB	BG max.	DD	E max.	EE	KK	MM	b14	VA	VE	WF	ZJ	L1	slw1	slw2
32	22	30	16	M6	44.5	G 1/8	M10x1.25	12	32.5	4	18.5	26	125	6	10	17
40	24	35	16	M6	53	G 1/4	M12x1.25	16	38	4	21.5	31	136	8	14	19
50	32	40	20	M8	63	G 1/4	M16x1.5	20	46.5	4	27	37	144	8	17	24
63	32	45	21	M8	74	G 3/8	M16x1.5	20	56.5	3	29.5	37	159	8	17	24
80	40	45	22	M10	92	G 3/8	M20x1.5	25	72	4	35	51	176	10	22	30
100	40	55	22	M10	109	G 1/2	M20x1.5	25	89	4	28	57	193	10	22	30

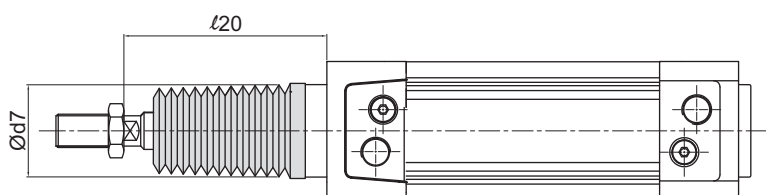
DIMENSION FOR SPECIAL MODELS

DS - DOUBLE ENDED PISTON ROD



Ø	PK	T	ZK	ZL	ZM
32	73	40	128	146	154
40	73	54	149	170	179
50	76	59	158	185	195
63	87	56	162	189	199
80	92	74	194	227	240
100	110	69	197	235	248

SBG - BELLOWS



Ø	l at stroke			Bellow Max. Ø
	5-250	251-500	501-750	
Bore				d7
32	126	226	326	Ø50
40	130	230	330	Ø50
50	137	237	337	Ø50
63	137	237	337	Ø50
80	146	246	346	Ø60
100	150	250	350	Ø60

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

SERIES SPC

MOUNTING OVERVIEW



F - Flexible Joint



W - Ball and Socket Joint



S - Fork



SGA - Female Hinge Rear



SMP3 - Rear Trunion Cardan



LG - Cardan Counter Hinge



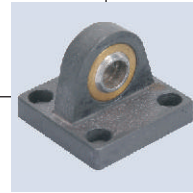
SGA - Female Hinge Rear



LB2 - Male Counter Hinge



SGA - Female Hinge Rear



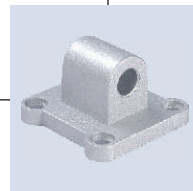
SMP3 - Rear Trunion Cardan



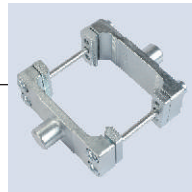
SMP2 - Female Hinge Rear



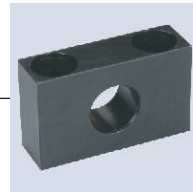
SMP2 - Female Hinge Rear



SMP4 - Male Hinge Rear



SMT4 - Central Trunion



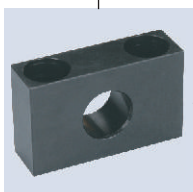
MTO - Fronter Hinge
for MT4 and MT5



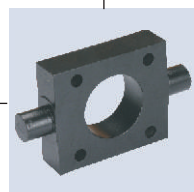
SMS1 - 2 Pedestals



SMF1/ SMF2 - Front Flange



MTO - Fronter Hinge
for MT4 and MT5



MT5 - Front Trunion



FCV - Flow Control



Straight Fitting



Male Elbow T

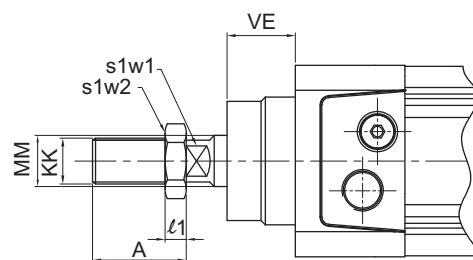
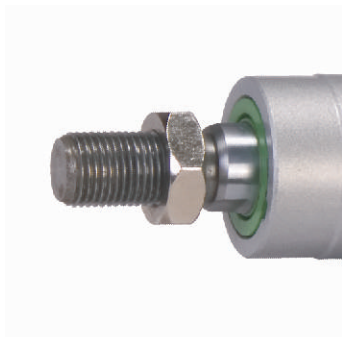


Male Elbow

MOUNTINGS FOR CYLINDER Ø 32 - Ø 100

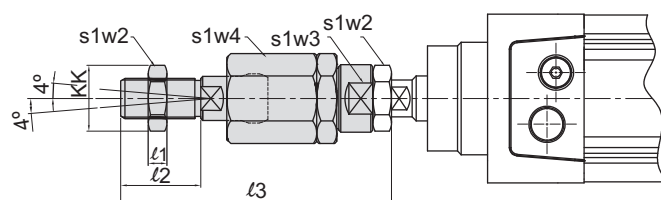
PISTON ROD CONNECTION

OUTER THREAD WITH LOCKNUT



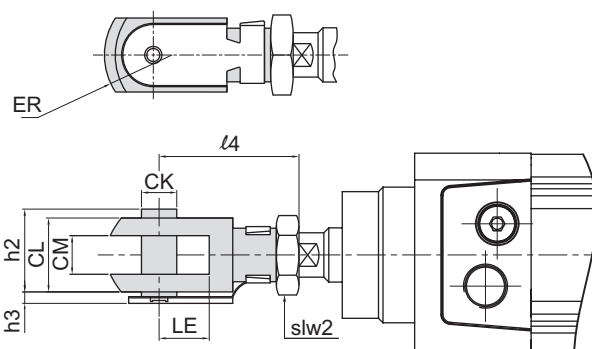
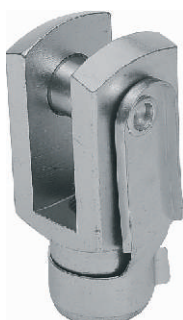
Ø	A 0/ 0.5	KK	MM h9	slw1
32	22	M10 x 1.25	12	10
40	24	M12 x 1.25	16	13
50	32	M16 x 1.5	20	17
63	32	M16 x 1.5	20	17
80	40	M20 x 1.5	25	22
100	40	M20 x 1.5	25	22

F - FLEXIBLE JOINT



Ø	KK	l1	l2	l3 min. - max.	slw2	slw3	slw4
32	M10 x 1,25	5	20	78 - 82	17	19	30
40	M12 x 1,25	6	24	85 - 88	19	19	30
50	M16 x 1,5	8	32	116 - 119	24	30	41
63	M16 x 1,5	8	32	116 - 119	24	30	41
80	M20 x 1,5	10	40	136 - 140	30	30	41
100	M20 x 1,5	10	40	136 - 140	30	30	41

S - FORK + PIN

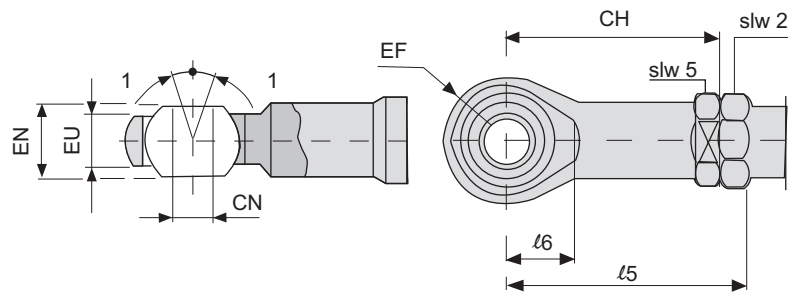


Ø	CK h11	CL	CM +0.15, 0.5	ER max.	LE Min.	h2	h3	l4	slw2
32	10	20	10	13	20	28	2	48 - 52	18
40	12	24	12	17	24	35	3	58 - 61	21
50	16	32	16	21	32	45	3	77 - 80	27
63	16	32	16	21	32	45	3	77 - 80	27
80	20	40	20	27	40	55	4	96 - 100	33
100	20	40	20	27	40	55	4	96 - 100	33

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

SERIES SPC

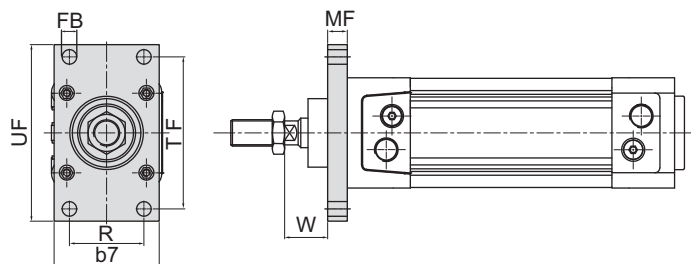
W - BALL AND SOCKET JOINT



Ø	CK	CL	CM	ER	LE	l 4	slw2
32	10	20	10	13	20	48 - 52	18
40	12	24	12	17	24	58 - 61	21
50	16	32	16	21	32	77 - 80	27
63	16	32	16	21	32	77 - 80	27
80	20	40	20	27	40	96 - 100	33
100	20	40	20	27	40	133 - 138	41

CYLINDER MOUNTINGS

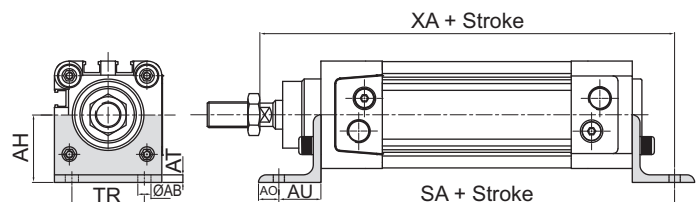
SMF1 - MF 1 - MF 2 FRONT/ REAR FLANGE



MODEL	FB H13	MF	R JS14	TF JS14	UF max.	ZF	b7 max.
MF-32	7	10	32	64	80	131	50
MF-40	9	10	36	72	90	146	54
MF-50	9	12	45	90	110	156	65
MF-63	9	12	50	100	120	171	75
MF-80	12	15	63	126	150	190	100
MF-100	14	15	75	150	172	205	120
MF-125	16	20	90	180	220	245	140
MF-160	18	20	115	230	275	280	175

MF is same for front & back mounting

SMS1 - 2 PEDESTALS



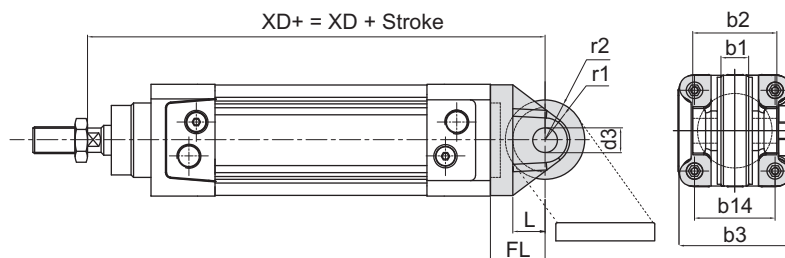
MODEL	AB H13	AH ±0,5	AO	AT	AU	SA	TR ±0,3	XA
MS1-32	7	32	6	4	24	143	32	145
MS1-40	9	36	7	5	28	162	36	164
MS1-50	9	45	8	6	32	171	45	176
MS1-63	9	50	8	6	32	186	50	191
MS1-80	12	63	14	6	41	211	63	216
MS1-100	14	71	14	6	41	222	75	231
MS1-125	16	90	20	8	45	253	90	272
MS1-160	18	115	20	10	60	302	115	323

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

SERIES SPC

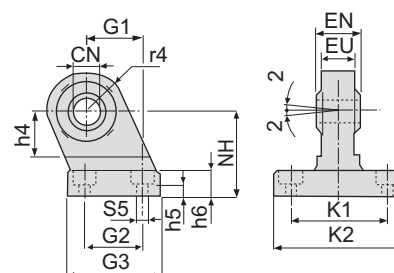
CYLINDER MOUNTINGS

SGA - FEMALE HINGE REAR



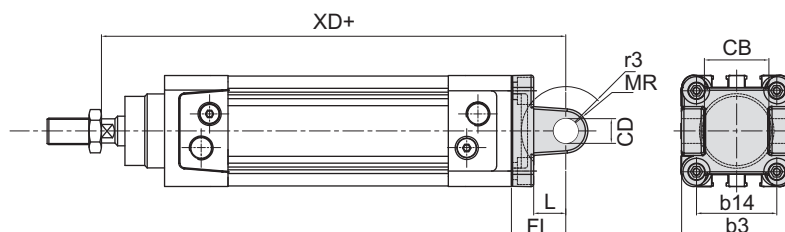
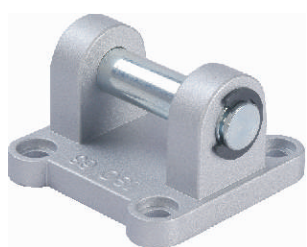
Ø	FL	L	b1	b2	b3	d3	b14	r1	r2	XD
32	22	13	14	34	45	10	32.5	10	16	147
40	25	17	16	40	54	12	38	12	17	161
50	27	16	21	45	65	16	46.5	14	21	171
63	32	20	21	51	75	16	56.5	16	22	191
80	36	23	25	56	93	20	72	18	27	212
100	41	25	25	75	110	20	89	21	30	234

LG - CARDAN COUNTER HINGE



Ø	CN H7	EN 0/0.1	EU max.	G1 JS14	G2 JS14	G3 max.	K1 JS14	K2 max.	NH JS15	S5 H13	h4 min.	h5	h6 max.	r4 max.	α2
32	10	14	10.5	21	18	33	38	52	32	5.5	22	2.4	8	16	7
40	12	16	12	24	12	37	41	55	36	5.5	20	4.4	10	17	6
50	16	21	15	33	30	47	50	66	45	6.6	22	5.3	12	22	8
63	16	21	15	37	35	52	52	68	50	6.6	27	5.3	12	27	7
80	20	25	18	47	40	62	66	87	63	9	31	5.1	14	27	10
100	20	25	18	55	50	72	76	97	71	9	38	6.1	15	30	9

SMP2 - FEMALE HINGE REAR

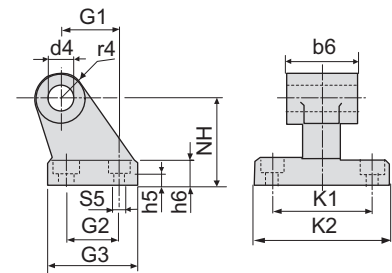


Ø	FL	L	CD	CB	MR	b3	r3	XD
32	22	13	10	26	11	45	12	147
40	25	15	12	28	13	54	15	161
50	27	16	12	32	13	65	15	171
63	32	20	16	40	17	75	20	191
80	36	23	16	50	17	93	20	212
100	41	23	20	60	22	110	25	234

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

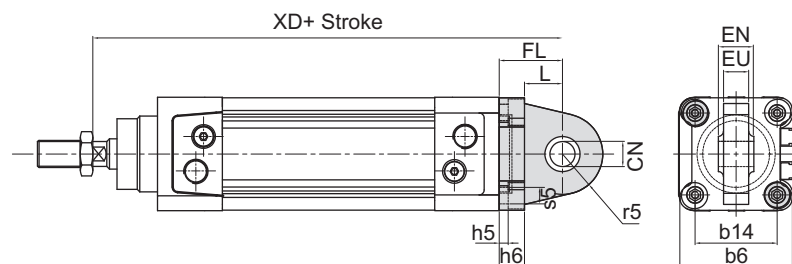
SERIES SPC

LB2 - MALE COUNTER HINGE



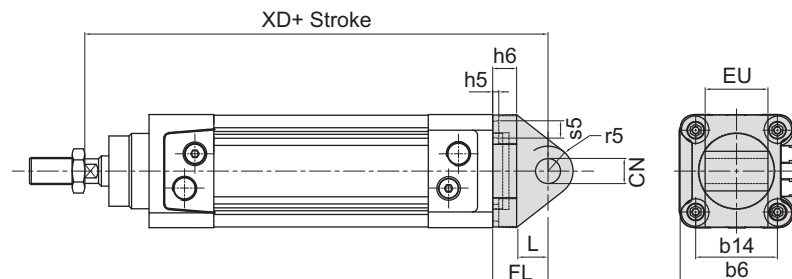
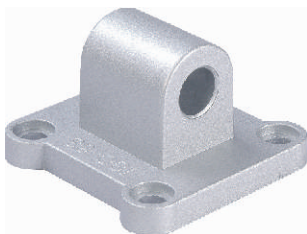
Ø	G1 JS14	G2 JS14	G3 max.	K1 Js14	K2 max.	NH JS15	S5 H13	b6 0/-4.0	d4 H9	h5	h6 max.	r5 Max.
32	21	18	31	38	51	32	5,5	25.8	10	2.3	8	10
40	24	22	35	41	54	36	5,5	27.8	12	4.3	10	11
50	33	30	45	50	65	45	6,6	31.8	12	5.2	12	13
63	37	35	50	52	67	50	6,6	39.8	16	5.2	12	15
80	47	40	60	66	86	63	9	49.8	16	5	14	15
100	55	50	70	76	96	71	9	59.8	20	6	15	19

SMP3 MALE CARDAN HINGE REAR



Ø	FL	L	EU	EN	CN	h6	S5	h5	r5	b14	b6	XD
32	22	13	10	14	10	10	7	3.5	16	32.5	45	147
40	25	15	12	16	12	10	7	3.5	18	38	54	161
50	27	16	16	21	16	12	9	3.5	22	46.5	65	171
63	32	20	16	21	16	12	9	5.5	27	56.5	75	191
80	36	23	20	25	20	13	11	2.5	27	72	93	212
100	41	25	18	25	20	15	11	4.5	30	89	110	234

SMP4 MALE HINGE REAR

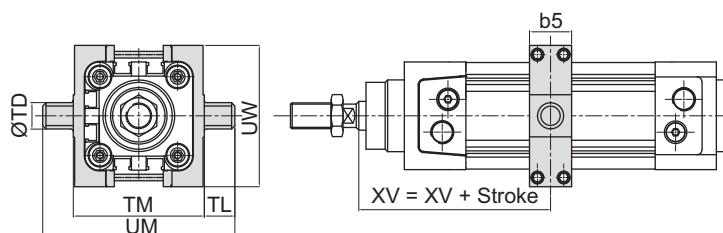
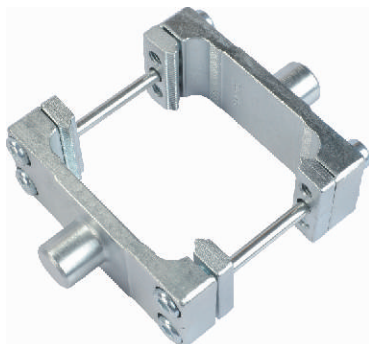


Ø	FL	L	EU	CN	h6	S5	h5	r5	b14	b6	XD
32	22	12	25	10	10	6	3.5	10	32.5	45	147
40	25	14	27	12	9	7	2	10	38	54	161
50	27	15	31	12	12	9	3	13	46.5	65	171
63	32	19	39	16	12	9	3	15	56.5	75	191
80	36	22	49	16	14	10	5	15	72	93	212
100	41	24	59	20	15	10	6	19	89	110	234

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

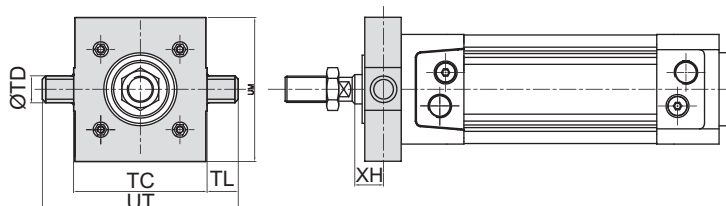
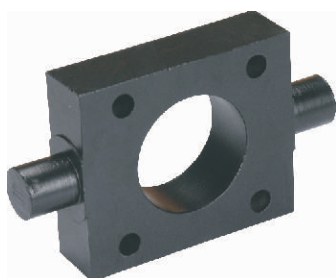
SERIES SPC

SMT4 - CENTRAL TRUNNION



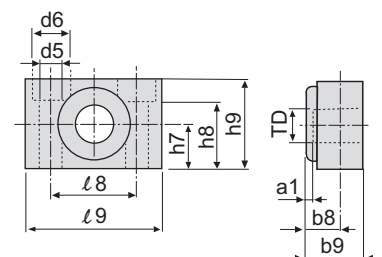
Ø	TD e9	TL h14	TM h14	UM	UW max.	XV min. max.	b5 Max.
32	12	12	54	79	65	57 - 89+	16
40	16	16	63	95	71	74 - 104+	21
50	16	16	75	107	92	81 - 106+	21
63	20	20	90	130	102	82 - 108+	26
80	20	20	110	150	122	102 - 126+	31
100	25	25	132	182	143	107 - 129+	41

MT5 - FRONT TRUNNION



Ø	TC h14	TL e9	TL h14	UN	UT	XH	r6
40	63	16	16	60	95	20	1.5
50	75	16	16	65	107	25	1.6
63	90	20	20	75	130	25	1.6
80	110	20	20	100	150	32	1.6
100	132	25	25	110	182	32	2

MTO - COUNTER HINGE FOR MT4 & MT5



Ø	a1	B8	b9	d5	d6	h7	h8	h9	8	9	TD H8
40	1.7	12	21	9	15	18	27	36	36	55	16
50	1.7	12	21	9	15	18	27	36	36	55	16
63	1.7	13	23	11	18	20	29	40	42	65	20
80	1.7	13	23	11	18	20	29	40	42	65	20
100	2	16	28.5	14	20	25	37	50	50	75	25

CYLINDER Ø 32 - Ø 100 AS PER ISO 6431 & CETOP RP 52 P

REED SWITCH FOR Ø 32 - Ø 100

MODEL PNT



APPLICATION

- The position of the piston of the ROTEX cylinder can be detected by installing a Reed Switch. The switch is a non contact Reed type design and is in Normally Open position. The switch closes when it approaches the magnetic field. A permanent magnet is fitted on the piston rod

FEATURES

- Resin body, with adjustable linear positions
- High glow LED, suitable for outdoor application
- IP65 Construction
- Universal for AC/ DC

TECHNICAL SPECIFICATION

Medium	Magnetic field
Design	Non contact Reed Switch, electronics, & LED
Mounting	Clamp fixed on cylinder, adjustment by screw
Connection	2 wire cable (Std.1 m.)
Supply voltage	10V -220V DC, 10V -220V AC

Max. switching current	200 mA for DC. 20 mA for AC.
Max. speed	3 m/ sec
Cyclic speed	800 Hz
Switching life	10 ⁸ Cycle
Cable connection	option 2m :- M2 3m :- M3
Temperature range	- 40 °C to 60 °C
Repeatability	± 0.1mm

ORDERING CODE

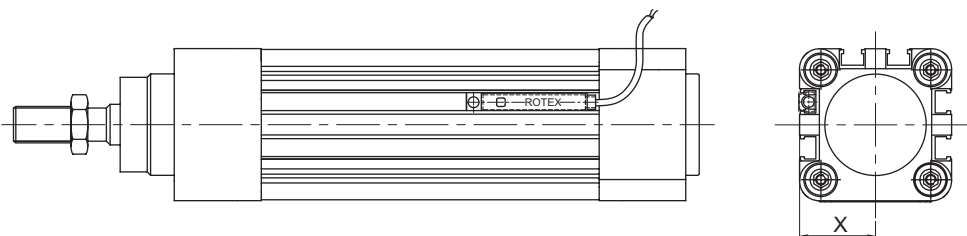
PNT - M2 -32 Reed Switch for 32 mm Bore Cylinder with 2 metre cable

PNT - 40 Reed Switch for 40 mm Bore Cylinder with 1 metre cable

MOUNTING BRACKET

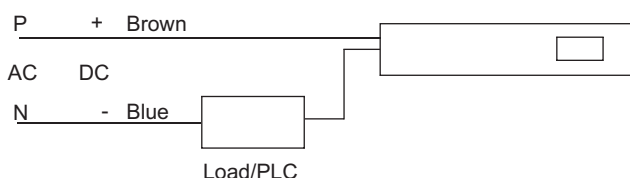
Each reed switch is supplied with its mounting bracket, wherever applicable

DIMENSIONS



CLY. DIA	Max - X
32	23
40	27
50	32
63	37.5
80	46.5
100	55

CONNECTION



CYLINDER Ø 32 - Ø 160 AS PER ISO 15552 AND VDMA 24562

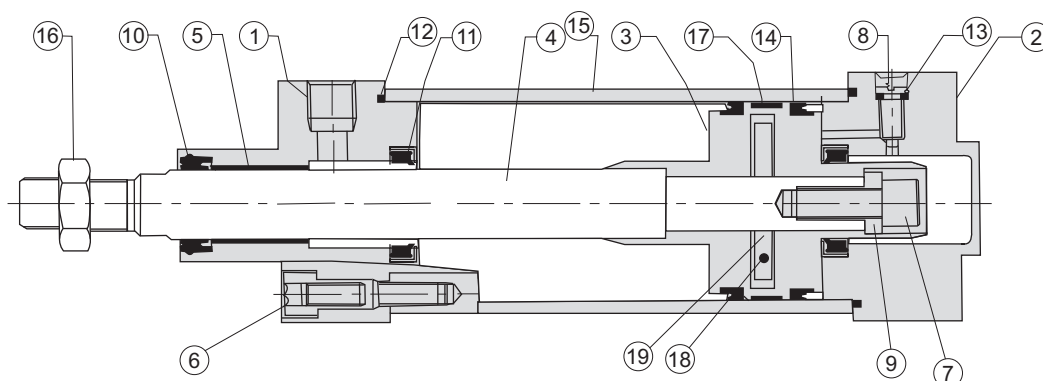
SERIES SCN



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 50µm
- Operating pressure range 1-10 bar
- Operating Temperature range - 20 °C to + 70 °C
- Life 4000 km, with PU Seals
- Minimum operating pressure 0.3 bar
- Speed 3 m/ sec maximum

CONSTRUCTION



MATERIAL OF CONSTRUCTION

PART	MATERIAL	PART No.	PART	MATERIAL	PART No.
Cylinder Tube	Anodized Aluminium	15	Cushioning Screw	Brass	8
Cover	Aluminium Die Cast	1, 2	Cushioning Seal	Polyurathane	11
Piston rod	Stainless Steel (1.4104),	4	Rod Seal	Polyurathane	10
Piston	Aluminium Die Cast	3	Magnet	-	18
Seal	Polyurathane	12, 13, 14, 19	Nut, Bolt, Washer	Galvanized Steel	6,7,9,16
Piston rod guide	Self Lubricating High Polymer	5	Piston guide	PTFE	17

CYLINDER Ø 32 - Ø 160 AS PER ISO 15552 AND VDMA 24562

SERIES SCN

FORCE, AIR CONSUMPTION FOR DOUBLE ACTING CYLINDER

Double acting Cylinder			Force (N)									
Ø Bore	Ø 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		1228	2455	3682	4909	6136	7364	8591	9817	11045	12272
			1147	2294	3441	4587	5734	6881	8028	9174	10321	11468
160	40		2011	4022	6032	8043	10053	12064	14075	16085	18096	20107
			1885	3770	5655	7540	9425	11310	13195	15080	16965	18850

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			
Ø Bore	Spring Forces (N)		
32	30	80	
40			
50	75	130	
63			
80	150	320	
100			
125	200	490	
160			

Remark
The given spring forces are intended only for the return of the piston and piston rod.

Other spring forces can be provided, consult ROTEX

For model E and EA spring forces remains same, cushioning not available on spring side, flow control not possible on spring side.

Air consumption		dm ³ A.N.R./cm stroke		A.N.R.= dm ³ under Norm-conditions						1dm ³ =1 litre	
Ø	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	

Note :

Special Spring return cylinder can be manufactured for application, where in larger spring forces are needed. Please consult ROTEX. We need working forces for your application force F1 when the spring is not compressed & F2 when spring is compressed Ideally we need either F1 or F2.

Consider you want to operate gate valve which needs the force of 1000N. Add factor of safety 30%. So load required is 1300N. Let us assume gate valve needs fail safe close. So the spring force minimum has to be 1300N Air maximum has to be 1300N the total force needed is 2600N. Choosing Ø 80 Cylinder with F1 =1300N, F2 = 1700N (This is factory chosen), you will get at 6 bar air Maximum 3018-1700 = 1318N. Air maximum is 3018-1300 = 1718N.

ROTEX can produce such special cylinder for your applications.

CYLINDER Ø 32 - Ø 160 AS PER ISO 6432 & CETOP RP 52 P

SERIES SCN

ORDERING CODE

	TYPE	MODEL	REED OPTION	SPECIAL CYLINDER	BORE	STROKE
	1	2	3	4	5	6
1	TYPE	SCN		5	BORE	32
2	MODEL	D	Double Acting			40
		E	Single Acting, Spring at Rod Side			50
		EA	Single Acting, Spring at Rear Cover			63
						80
3	REED OPTION	OO	Non Magnetic			100
		MAE	Magnetic			125
						160
4	SPECIAL	-	Standard			
		BG	Bellow	6	STROKE	2000
		DS	Double Ended Piston Rod			300
		ZR	SS 304 Material Piston Rod			300
		ZRM	SS 316 Material Piston Rod			
		SU	Other, To define special models			
			Multiple options possible			

ORDERING CODE

CYLINDER MOUNTINGS

O	4x Internal Thread Front and Rear
MS1	2 Pedestals
MF1	Front Flange
MF2	Rear Flange
GA	Female Hinge Rear
LG	Cardan Counter Hinge
MP2	Female Hinge Rear
LB2	Male Counter Hinge
MP3	Rear Trunnion Cardan
MP4	Male Hinge Rear
MT4	Central Trunnion
MT5	Front Trunnion
MT0	Counter Hinge for MT4 and MT5

PISTON ROD MOUNTINGS

F	Flexible Joint
T	Fork
W	Ball and Socket Joint
LN	Extra lock Nut

ORDERING EXAMPLE

- SCN - D-MAE-32/ 250
32 mm diameter double acting magnetic cylinder with stroke 250 mm

Reed switch & mounting to be ordered separately
- SCN-D-MAE-DS-50/200
50 mm diameter double acting, double rod magnetic cylinder with stroke 200mm
- SCN-D-OO-BG-DS-63/100
63 mm diameter double acting double rod with bellow and stroke 100 mm

ORDERING EXAMPLE

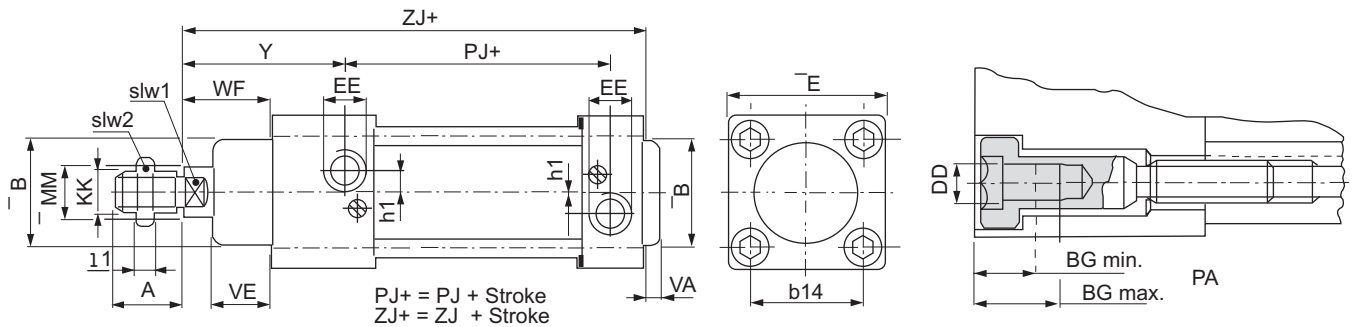
MOUNTINGS

MP2-40 Rear trunnion for 40 bore cylinder
 CNT-32 x 2 2 Reed Switches for bore 32 Cylinder
 MF-32 Flange Mounting for bore 32 Cylinder
 * Please note, the mountings may be supplied loose along with cylinder

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

SERIES SCN

DIMENSIONS (mm)

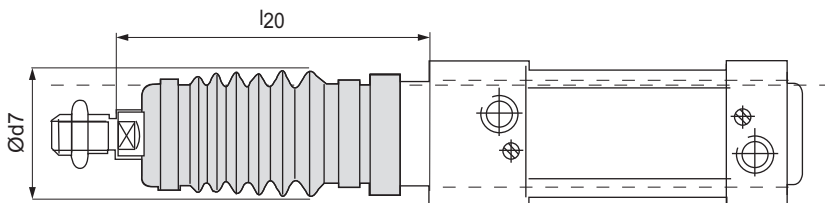


*For E and EA valid for strokes up to and Inclusive of 50 mm

CYL.	A	B	BG max	DD	E max	EE	KK	MM	PJ	B14	VA	VE	WF	Y	ZJ	H1	L1	SLW1	SWL2
32	22	30	14	M6	49	G1/8	M10x1.25	12	66	32.5	7	18	30	44.5	125	5	5	10	17
40	24	35	14	M6	56	G1/4	M12x1.25	16	80.5	38	5	20	30	43	136	5.5	6	13	19
50	32	40	16	M8	67	G1/4	M16x1.5	20	65	46.5	5	27	37	58	144	7	8	17	24
63	32	45	16	M8	76	G3/8	M16x1.5	20	85	56.5	7	27	37	55.5	159	11	8	17	24
80	40	45	21	M10	99	G3/8	M20x1.5	25	83	72	5	33	47	70	176	11	10	22	30
100	40	55	21	M10	116	G1/2	M20x1.5	25	104	89	5	38	53	71	193	13	10	22	30
125	54	60	54	M12	140	G1/2	M27x2	32	98	110	5	48	65	97.5	228	13	12	28	41
160	72	65	32	M16	175	G3/4	M36x2	40	109	140	6	60	81	117.5	263	18	14	36	55

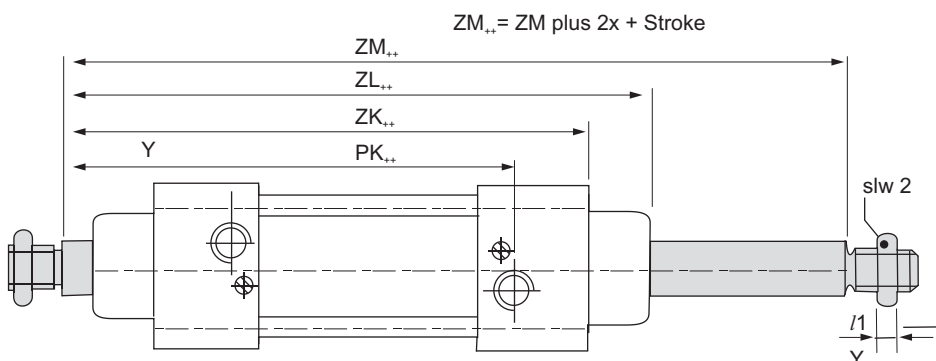
SPECIAL VERSIONS OF CYLINDER

BELLOW (BG) FOR CYLINDER Ø32 - Ø160



Ø Bore	Bellows Max. Ø d7	5 - 250	251 - 500	501 - 750
32	Ø50	126	226	326
40	Ø50	130	230	330
50	Ø50	137	237	337
63	Ø50	137	237	337
80	Ø60	146	246	346
100	Ø60	150	250	350
125	Ø83	164	264	364
160	Ø83	187	287	387

DIMENSIONS FOR SPECIAL MODELS Ø 32-160



Ø	PK	Y	ZK	ZL	ZM
32	73	40	128	146	154
40	73	54	149	170	179
50	76	59	158	185	195
63	87	56	162	189	199
80	92	74	194	227	240
100	110	69	197	235	248
125	96	83	225	273	290
160	108	102	260	310	340

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

SERIES SCN

MOUNTING OVERVIEW



F - Flexible Joint



W - Ball and Socket Joint



S - Fork



GA - Female Hinge Rear



MP3 - Rear Trunion Cardan



LG - Cardan Counter Hinge



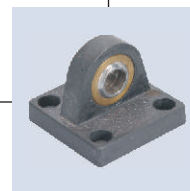
GA - Female Hinge Rear



LB2 - Male Counter Hinge



GA - Female Hinge Rear



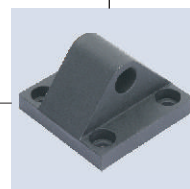
MP3 - Rear Trunion Cardan



MP2 - Female Hinge Rear



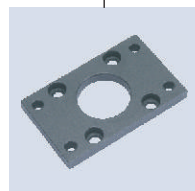
MP2 - Female Hinge Rear



MP4 - Male Hinge Rear



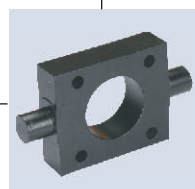
MS1 - 2 Pedestals



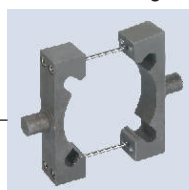
MF 1 - Front/ Rear Flange



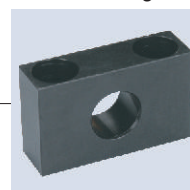
MTO - Fronter Hinge for MT4 and MT5



MT5 - Front Trunion



MT4 - Central Trunion



MTO - Fronter Hinge for MT4 and MT5



FCV - Flow Control



50010 - Straight Fitting



50030 - Male Elbow T



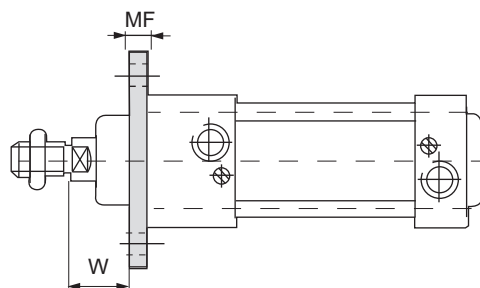
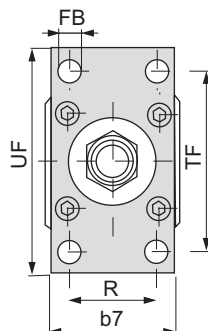
55115 - Male Elbow

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

SERIES SCN

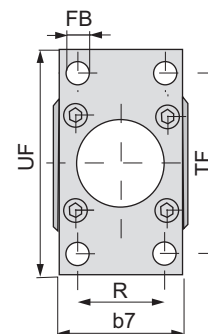
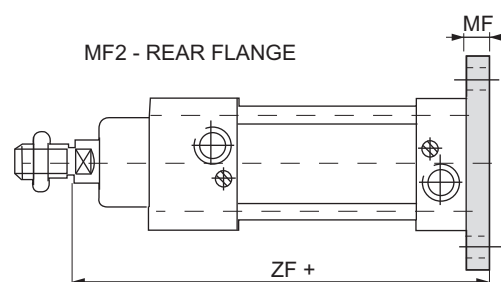
CYLINDER MOUNTINGS

MF 1 - MF 2 - FRONT FLANGE

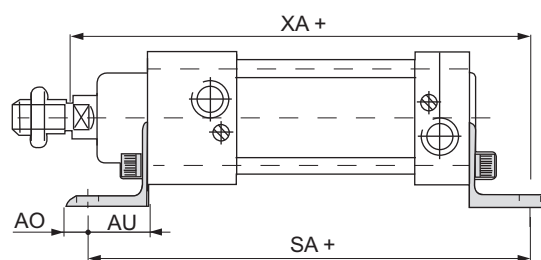
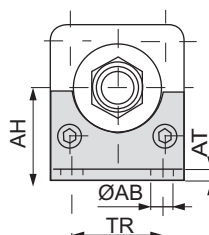


MODEL	FB H13	MF	R JS14	TF JS14	UF max.	ZF	b7 max.
MF - 32	7	10	32	64	80	131	50
MF - 40	9	10	36	72	90	146	54
MF - 50	9	12	45	90	110	156	65
MF - 63	9	12	50	100	120	171	75
MF - 80	12	15	63	126	150	190	100
MF - 100	14	15	75	150	172	205	120
MF - 125	16	20	90	180	220	245	140
MF - 160	18	20	115	230	275	280	175

MF is same for front & back mounting



MS1 - PEDESTAL

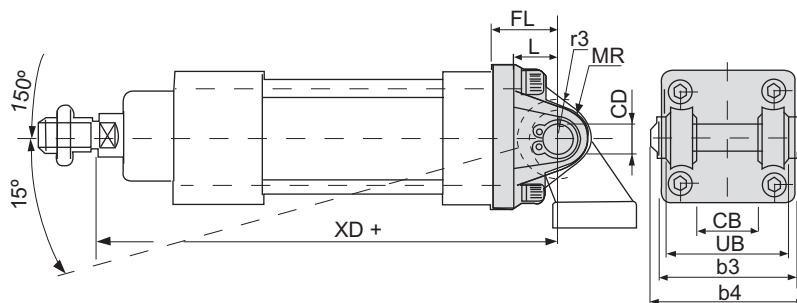


MODEL	AB H13	AH ±0,5	AO	AT	AU	SA	TR ±0,3	XA
MS1- 32	7	32	6	4	24	143	32	145
MS1- 40	9	36	7	5	28	162	36	164
MS1- 50	9	45	8	6	32	171	45	176
MS1- 63	9	50	8	6	32	186	50	191
MS1- 80	12	63	14	6	41	211	63	216
MS1-100	14	71	14	6	41	222	75	231
MS1-125	16	90	20	8	45	253	90	272
MS1-160	18	115	20	10	60	302	115	323

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

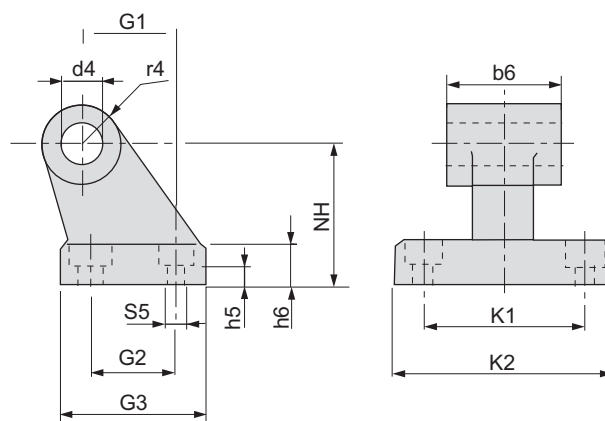
SERIES SCN

MP2 - FEMALE HINGE REAR



MODEL	CB D10	CD h9	FL	L	MR max.	UB d12	XD	b3 max.	b4 max.	r3 max.
MP2 - 32	26	10	22	13	11	45	143	50	52	12
MP2 - 40	28	12	25	15	13	52	161	56	60	15
MP2 - 50	32	12	27	16	13	60	171	66	68	15
MP2 - 63	40	16	32	20	17	70	191	78	79	20
MP2 - 80	50	16	36	23	17	90	211	96	99	20
MP2 - 100	60	20	41	25	22	110	231	114	120	25
MP2 - 125	70	25	50	30	26	130	277	140	140	26
MP2 - 160	90	30	55	35	31	170	318	180	205	31

LB2 - MALE COUNTER HINGE

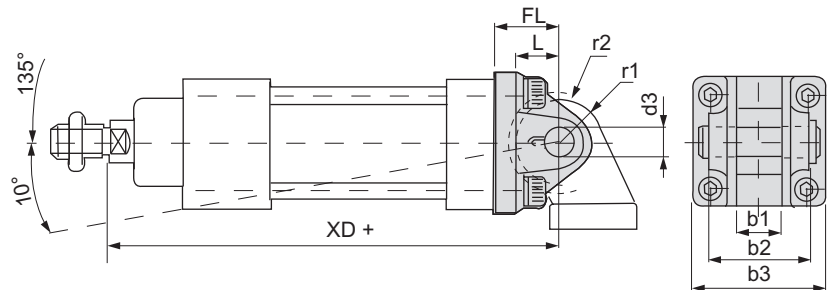


MODEL	G1 JS14	G2 JS14	G3 max.	K1 JS14	K2 max.	NH JS15	S5 H13	b6 0/-0,4	d4 H9	h5	h6 max.	r5 max.
LB2 - 32	21	18	31	38	51	32	5,5	25,8	10	2,3	8	10
LB2 - 40	24	22	35	41	54	36	5,5	27,8	12	4,3	10	11
LB2 - 50	33	30	45	50	65	45	6,6	31,8	12	5,2	12	13
LB2 - 63	37	35	50	52	67	50	6,6	39,8	16	5,2	12	15
LB2 - 80	47	40	60	66	86	63	9	49,8	16	5	14	15
LB2 - 100	55	50	70	76	96	71	9	59,8	20	6	15	19
LB2 - 125	70	60	90	94	124	90	11	70	25	18	20	22,5
LB2 - 160	97	88	126	118	156	115	14	90	30	23	25	31

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

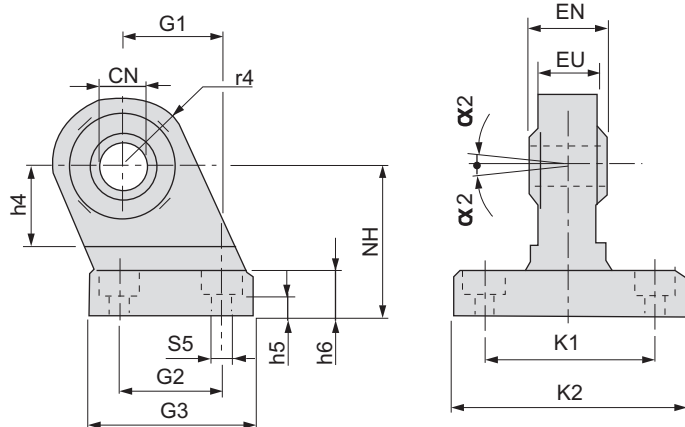
SERIES SCN

GA - FEMALE HINGE REAR



MODEL	FL	L	XD	b1 D10	b2 d12	b3 max.	d3 F7	r1 max.	r2 min.
GA - 32	22	13	143	14	34	50	10	10	16
GA - 40	25	17	161	16	40	56	12	12	17
GA - 50	27	16	171	21	45	66	16	14	21
GA - 63	32	20	191	21	51	78	16	16	22
GA - 80	36	23	211	25	65	96	20	18	27
GA - 100	41	25	231	25	75	116	20	21	30
GA - 125	50	30	277	37	97	140	30	30	40
GA - 160	55	31	318	43	122	180	35	36	44

LG - CARDAN COUNTER HINGE FOR GA

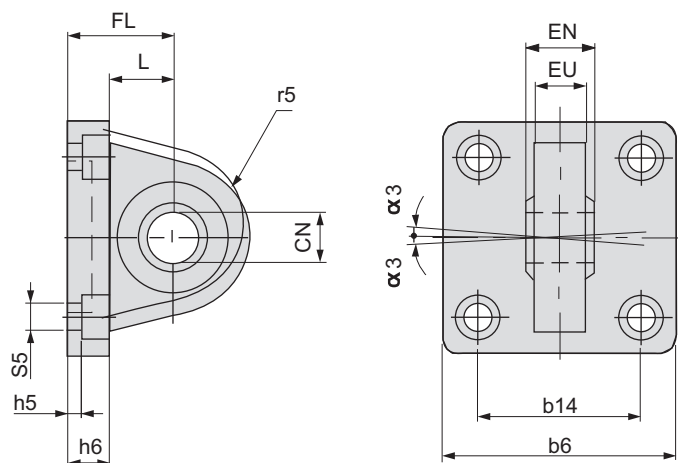


MODEL	CN H7	EN 0 / - 0,1	EU	G1 max.	G2 JS14	G3 JS14	K1 max.	K2 JS14	NH max.	S5 JS15	h4 H13min.	h5 max.	h6 max.	r4 max.	α2
LG - 32	10	14	10,5	21	18	33	38	52	32	5,5	22	2,4	8	16	7°
LG - 40	12	16	12	24	22	37	41	55	36	5,5	20	4,4	10	17	6°
LG - 50	16	21	15	33	30	47	50	66	45	6,6	22	5,3	12	22	8°
LG - 63	16	21	15	37	35	52	52	68	50	6,6	27	5,3	12	27	7°
LG - 80	20	25	18	47	40	62	66	87	63	9	31	5,1	14	27	10°
LG - 100	20	25	18	55	50	72	76	97	71	9	38	6,1	15	30	9°
LG - 125	30	37	25	70	60	90	94	124	90	11	40	9	20	40	4°
LG - 160	35	43	28	97	88	126	118	156	115	14	45	12	25	44	4°

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

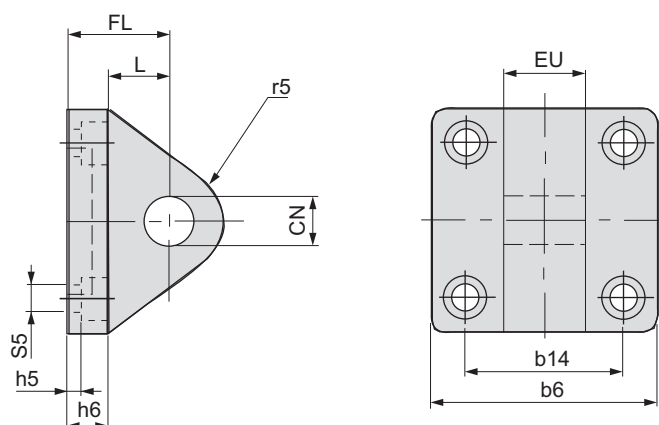
SERIES SCN

MP3 - MALE CARDAN HINGE REAR



MODEL	FL	L	EU	EN	CN	h6	S5	h5	r5	b14	b6	α3
MP3 - 32	22	13	10	14	10	8	7	2,4	16	32,5	47	7°
MP3 - 40	25	15	12	16	12	10	7	4,5	18	38	54	6°
MP3 - 50	27	16	16	21	16	12	9	5,3	22	46,5	64	8°
MP3 - 63	32	20	16	21	16	12	9	5,3	27	56,5	76	7°
MP3 - 80	36	23	20	25	20	14	11	5,1	27	72	92	10°
MP3 -100	41	25	18	25	20	15	11	6,9	30	89	111	9°
MP3 -125	50	30	30	37	30	20	13	9	40	110	135	4°
MP3 -160	55	31	35	43	35	25	17	12	44	140	170	4°

MP4 - MALE HINGE REAR

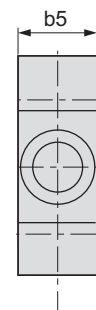
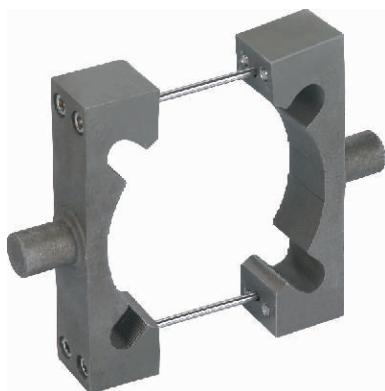


MODEL	FL	L	EU	CN	h6	S5	h5	r5	b14	b6
MP4 - 32	22	12,0	25,0	10	8	6	2,7	10	32,5	50
MP4 - 40	25	14,0	27,0	12	8,7	7	2,7	10	38	55
MP4 - 50	27	15,0	31	12	12	9	5,3	13	46,5	65
MP4 - 63	32	19,0	39	16	12	9	5,3	15	56,5	77
MP4 - 80	36	22	49	16	14	10	5,1	15	72	95
MP4 -100	41	24	59	20	15	10	6,1	19	89	110
MP4 -125	50	29	70	25	20	13	9	22	110	135
MP4 -160	55	34	90	32	25	17	12	31	140	180

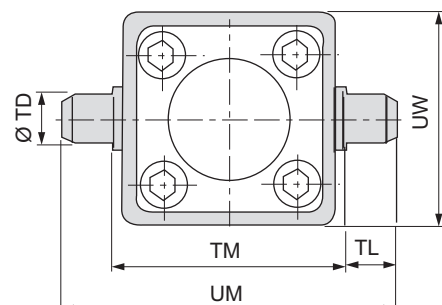
CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

SERIES SCN

MT4 - CENTRAL TRUNNION

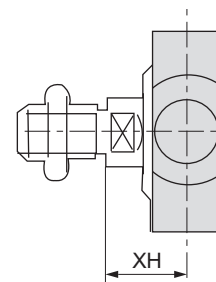
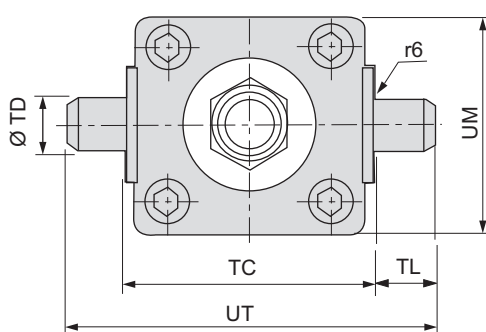
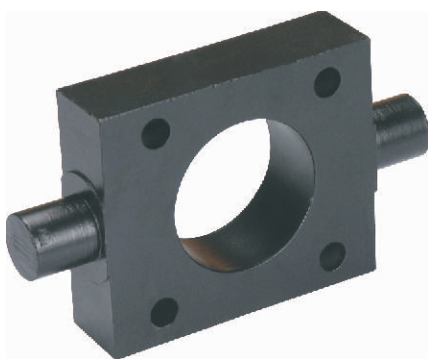


$$XV = XV + \text{Stroke}$$



MODEL	TD e9	TL h14	TM h14	UM	UW max.	XV min. max.	b5 max.
MT4 - 32	12	12	54	79	65	57 - 89+	16
MT4 - 40	16	16	63	95	71	74 - 104+	21
MT4 - 50	16	16	75	107	92	81 - 106+	21
MT4 - 63	20	20	90	130	102	82 - 108+	26
MT4 - 80	20	20	110	150	122	102 - 126+	31
MT4 - 100	25	25	132	182	143	107 - 129+	41
MT4 - 125	25	25	160	210	152	120 - 149+	30
MT4 - 160	32	32	200	264	192	148 - 171+	40

MT5 - FRONT TRUNNION

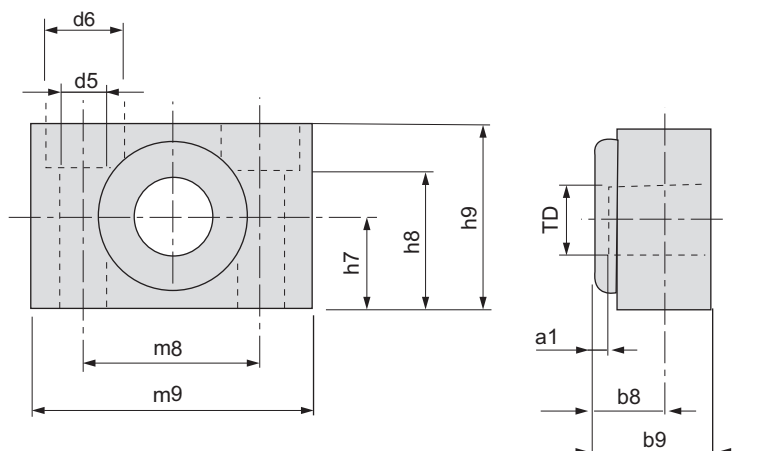


MODEL	TC h14	TD e9	TL h14	UN	UT	XH	r6
MT5 - 40	63	16	16	60	95	20	1,5
MT5 - 50	75	16	16	65	107	25	1,6
MT5 - 63	90	20	20	75	130	25	1,6
MT5 - 80	110	20	20	100	150	32	1,6
MT5 - 100	132	25	25	110	182	32	2
MT5 - 125	160	25	25	146	210	40	2
MT5 - 160	200	32	32	184	264	55	2,5

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

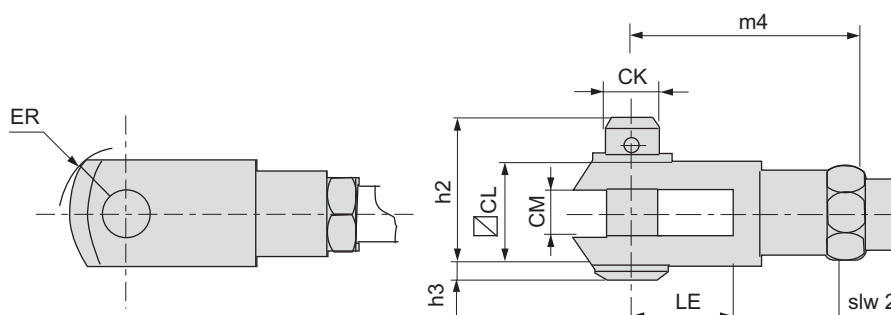
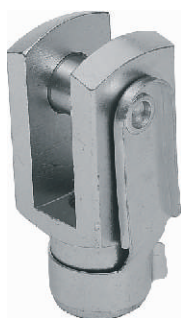
SERIES SCN

MTO - COUNTER HINGE FOR MT4 & MT5



MODEL	a1	b8	b9	d5	d6	h7	h8	h9	m8	m9	TD H8
MTO-40	1,7	12	21	9	15	18	27	36	36	55	16
MTO-50	1,7	12	21	9	15	18	27	36	36	55	16
MTO-63	1,7	13	23	11	18	20	29	40	42	65	20
MTO-80	1,7	13	23	11	18	20	29	40	42	65	20
MTO-100	2	16	28,5	14	20	25	37	50	50	75	25
MTO-125	2	16	28,5	14	20	25	37	50	50	75	25
MTO-160	2,5	21,5	40	18	26	30	42,5	60	60	92	32

S - FORK + PIN

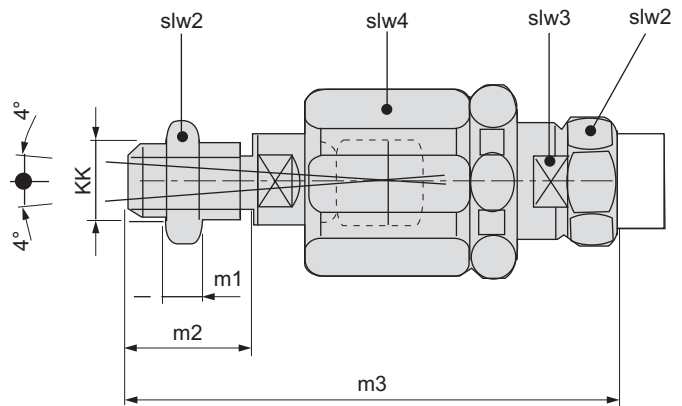


MODEL	CK h11	CL	CM +0,15 +0,5	ER max.	LE min.	h2	h3	m4 min. max.	slw2
S-32	10	20	10	13	20	28	2	48 - 52	18
S-40	12	24	12	17	24	35	3	58 - 61	21
S-50	16	32	16	21	32	45	3	77 - 80	27
S-63	16	32	16	21	32	45	3	77 - 80	27
S-80	20	40	20	27	40	55	4	96 - 100	33
S-100	20	40	20	27	40	55	4	96 - 100	33
S-125	30	55	28	38	56	72	5	133 - 138	41
S-160	35	70	36	46	72	87	6	170 - 178	55

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

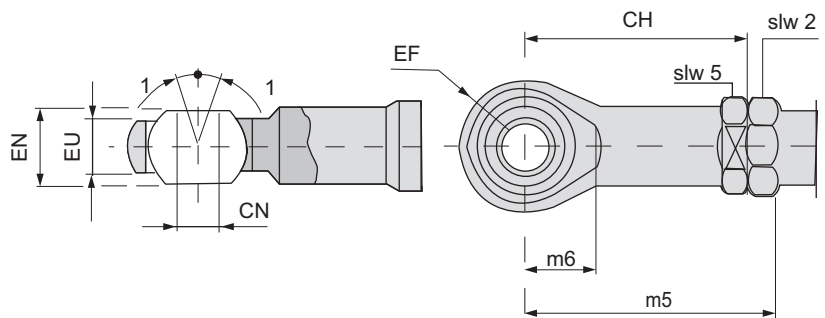
SERIES SCN

F - FLEXIBLE MOUNTING



MODEL	KK	l1	l2	l3 min. - max.	slw2	slw3	slw4
F-32	M10 x 1,25	5	20	78 - 82	17	19	30
F-40	M12x 1,25	6	24	85 - 88	19	19	30
F-50	M16 x 1,5	8	32	116 - 119	24	30	41
F-63	M16 x 1,5	8	32	116 - 119	24	30	41
F-80	M20 x 1,5	10	40	136 - 140	30	30	41
F-100	M20 x 1,5	10	40	136 - 140	30	30	41
F-125	M27 x 2	13,5	54	169 - 174	41	54	62
F-160	M36 x 2	18	72	281 - 287	55	75	80

W - BALL & SOCKET JOINT



MODEL	CH	CN h9	EF max.	EN h12	EU	l5 min. max.	l6	slw2	slw5	α1
W-32	43	10	14	14	10,5	51 - 55	16	17	17	4°
W-40	50	12	16	16	12	60 - 63	17	19	19	4°
W-50	64	16	21	21	15	77 - 80	22	24	27	4°
W-63	64	16	21	21	15	77 - 80	22	24	27	4°
W-80	77	20	25	25	18	93 - 97	26	30	32	4°
W-100	77	20	25	25	18	93 - 97	26	30	32	4°
W-125	110	30	35	37	25	132 - 138	35	41	41	4°
W-160	125	35	40	43	28	154 - 160	40	50	50	4°

CYLINDER Ø 32 - Ø 160 AS PER ISO 6431 VDMA 24562

REED SWITCH FOR CYLINDER

MODEL CNT



FEATURES

- Polycarbonate body, with adjustable angular & linear position
- High glow LED, suitable for outdoor application
- IP65 Construction
- Universal for AC / DC

APPLICATION

- The position of the piston of the ROTEX cylinder can be detected by installing a Reed Switch. The switch is a non contact Reed type design and is in Normally Open position. The switch closes when the magnetic field approaches it. A permanent magnet is fitted on the piston rod
- MAE to be selected in cylinder ordering code, for Magnetic cylinder

TECHNICAL SPECIFICATION

Medium	Magnetic field
Design	Non contact Reed Switch, Electronics & LED
Mounting	Clamp fixed on cylinder, adjustment by screw
Connection	2 wire cable Standard : 1 metre
Supply voltage	10V -220V DC, 10V -220V AC

Max. Switching current	200 mA for DC. 20 mA for AC.
Max. speed	3 m/ sec
Cyclic speed	800 Hz
Switching life	10 ⁸ Cycle
Cable length	M2 :- 2 metre : M3 :- 3 metre
Temperature range	- 40°C To + 60°C
Repeatability	± 0.1 mm

ORDERING CODE

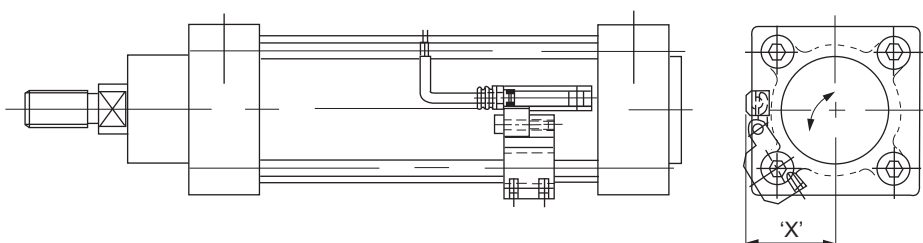
CNT - M2 -32 Reed Switch with 2 metre cable for cylinder Ø32

CNT - 40 Reed Switch with 1 metre cable for cylinder Ø40

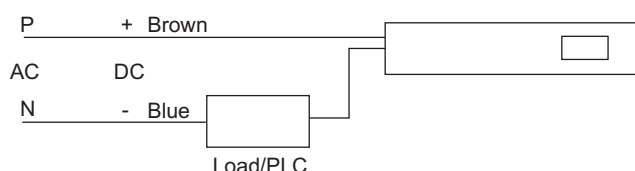
MOUNTING BRACKET

Each reed switch is supplied with its mounting bracket, as applicable

DIMENSIONS



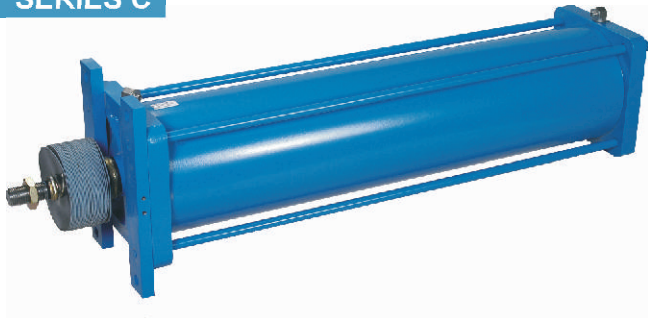
CONNECTION



CYLINDER Ø 200 - Ø 350

SERIES CC

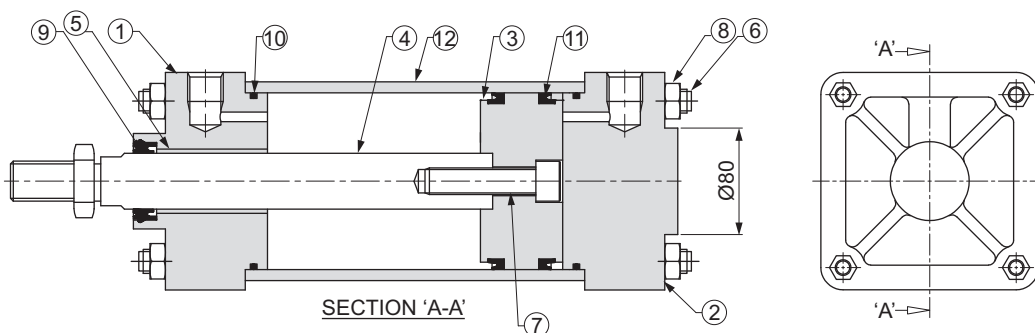
SERIES C



FEATURES

- Heavy duty, Complete in steel and cast iron construction, Epoxy painted
- Long Life
- Life time lubricated
- Cushioning facility available in series CC
- Heavy duty mounting manufactured in steel & Cast Iron
- The Piston & Piston Rod are guided by rigid bearings
- Piston Rod burnished Stainless steel
- Size Ø200, Ø250 and to Ø300 can be available with aluminium tube with permanent magnet

C - SERIES WITHOUT CUSHIONING

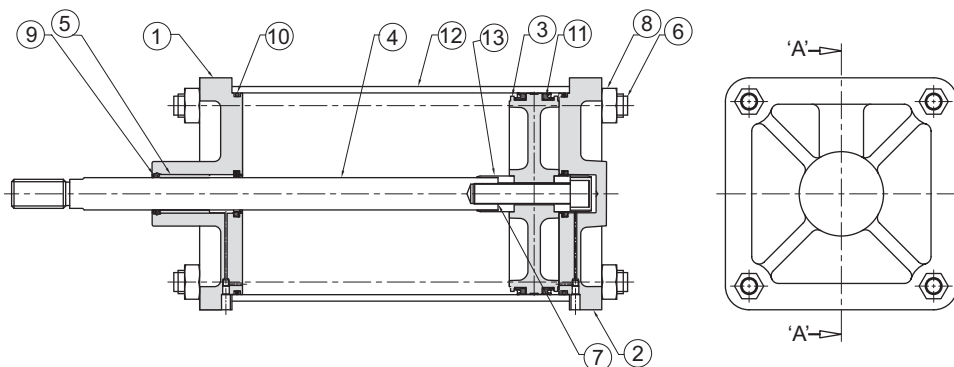


MATERIAL OF CONSTRUCTION

PART	MATERIAL	PART No.
Cylinder Tube	Steel	12
Seal	NBR	10,11
Rod Seal	NBR	9
Nut	HGA Steel	8
SHC Screw	HGA Steel	7

PART	MATERIAL	PART No.
Tie Rod	Mild Steel	6
Bush	Self Lubricating High Polymer	5
Piston Rod	SS 410	4
Piston	C.I. Casting	3
Cover	C.I. Casting	1,2

CC - SERIES WITH CUSHIONING



MATERIAL OF CONSTRUCTION

PART	MATERIAL	PART No.
Cylinder Tube	Steel	12
Cushioning Plug	Aluminium	13
Seal	NBR	10,11
Rod Seal	NBR	9
Nut	HGA Steel	8
SHC Screw	HGA Steel	7

PART	MATERIAL	PART No.
Tie Rod	Mild Steel	6
Bush	Self Lubricating High Polymer	5
Piston Rod	SS 410	4
Piston	C.I. Casting	3
Cover	C.I. Casting	1,2

CYLINDER Ø 200 - Ø 350

SERIES CC

SERIES C

FORCE, AIR CONSUMPTION FOR DOUBLE ACTING CYLINDER

Double acting Cylinder		Force (N)									
		Pressure (bar)									
Ø Bore		1	2	3	4	5	6	7	8	9	10
200	←	3140	6284	9426	12568	15710	18852	21994	25136	28278	31420
	→	3016	6032	9048	12065	15081	18097	21114	24130	27146	30163
250	←	4909	9818	14727	19636	24545	29454	34363	39272	44181	49090
	→	4783	9567	14351	19134	23918	28702	33485	38269	43053	47836
300	←	7070	14140	21210	28280	35350	42420	49490	56560	63630	70700
	→	6943	13887	20831	27775	34719	41662	48606	55550	62494	69438
350	←	9622	19244	28866	38488	48110	57732	67354	76976	86598	96220
	→	9496	18993	28490	37986	47483	56980	66476	75973	85470	94966

Remark 1

Max. 0.2 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			
Ø Bore	Spring Forces (N)		Remark
			
200/250	400	700	The given spring forces are intended only for the return of the piston and piston rod. For model E and EA spring forces remains same, cushioning not available on spring side, flow control not possible on spring side.
300/350	1100	1600	

Other spring forces can be provided, consult ROTEX

Air consumption	Dm ³ A.N.R./cm stroke			A.N.R.= dm ³ under Norm-conditions						1dm ³ =1 litre
Ø Bore	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
200	0.628	0.942	1.256	1.571	1.885	2.199	2.513	2.827	3.142	3.456
250	0.981	1.472	1.963	2.454	2.945	3.436	3.927	4.418	4.909	4400313
300	1.413	2.120	2.827	3.534	4.241	4.948	5.655	6.362	7.069	7.776
350	1.924	2.886	3.848	4.811	5.773	6.735	7.697	8.660	9.622	10.584

Note :

Special Spring return cylinders can be manufactured for application, where in larger spring forces are needed. Please consult ROTEX. We need working forces for your application force F1 when the spring is not compressed & F2 when spring is compressed Ideally we need either F1 or F2.

Consider you want to operate gate valve which needs the force of 10000N. Add factor of safety 30%. So load required is 13000N. Let us assume gate valve needs fail safe close. So the spring force minimum has to be 13000N Air maximum has to be 13000N. The total force needed is 26000N. Choosing Ø 250 Cylinder with F1= 13000N F2= 17000N (This is factory chosen), you will get at 6 bar air Maximum 29454-17000 = 12454N. Air maximum is 29454-13000 = 16454N. ROTEX can produce such special cylinder for your applications.

CYLINDER Ø 200 TO Ø 350

SERIES CC

SERIES C

ORDERING CODE

	TYPE	MODEL	SPECIAL CYLINDER	BORE	STROKE
	1	2	3	4	5
1	TYPE	C	Standard Cylinder		
		CC	Cylinder with Cushioning		
2	MODEL	D	Double Acting		
		E	Single Acting, Spring at Rod Side		
		EA	Single Acting, Spring at Rear Cover		
3	SPECIAL	-	Standard		
		BG	Bellow		
		DS	Double Ended Piston Rod		
		ZR	SS 304 Material Piston Rod		
		ZRM	SS 316 Material Piston Rod		
		SU	Other, To define special models		
			*Multiple options possible		
4	BORE	200			
		250			
		300			
		350			
5	STROKE	3000	Max. D		
		500	Max. E		
		500	Max. EA		

ORDERING CODE

CYLINDER MOUNTINGS

-	Standard Tie Rods
MS1	2 Pedestals
MF1/MF2	Front Flange or Rear Flange
MP2	Female Hinge Rear
MP3	Rear Trunnion Cardan
LB2	Male Counter Hinge
MT4	Central Trunnion
MT5	Front Trunnion
MT0	Front Hinge for MT4 and MT5

PISTON ROD MOUNTINGS

-	Outer Thread
F	Flexible Joint
S	Fork
W	Ball and Socket Joint
LN	Extra Lock Nut

ORDERING EXAMPLE

1. C -D-200/ 500
200 mm diameter double acting cylinder with stroke 500 mm

ORDERING EXAMPLE

MOUNTINGS

MP2-300
Cylinder Ø300, Mounting Female Hinge Rear

* Please note, the mountings may be supplied loose along with the cylinder

CYLINDER Ø 200 - Ø 350

SERIES CC

SERIES C

MOUNTING OVERVIEW



F - Flexible Joint



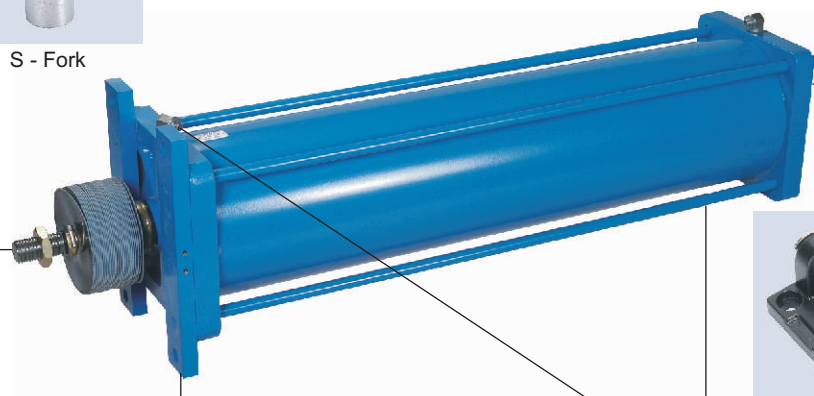
W - Ball and Socket Joint



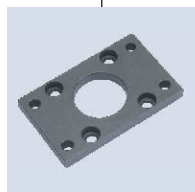
GA - Female Hinge Rear



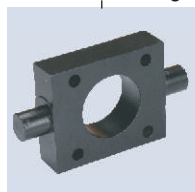
S - Fork



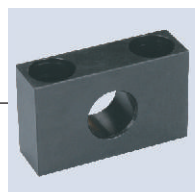
MS - 1 Pedestals



MF1 - Front Flange



MT5 - Front Trunnion



MTO - Fronter Hinge
for MT4 and MT5



LG - Cardan Counter Hinge



GA - Female Hinge Rear



GA - Short Swivel



LB2 - Male Counter Hinge



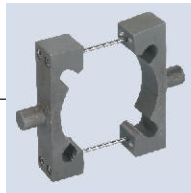
MP2 - Female Hinge Rear



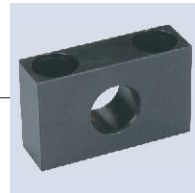
MP2 - Female Hinge Rear



MP4 - Male Hinge Rear



MT4 - Central Trunnion



MTO - Fronter Hinge
for MT4 and Mt5



Flow Control



Straight Fitting



Male Elbow T



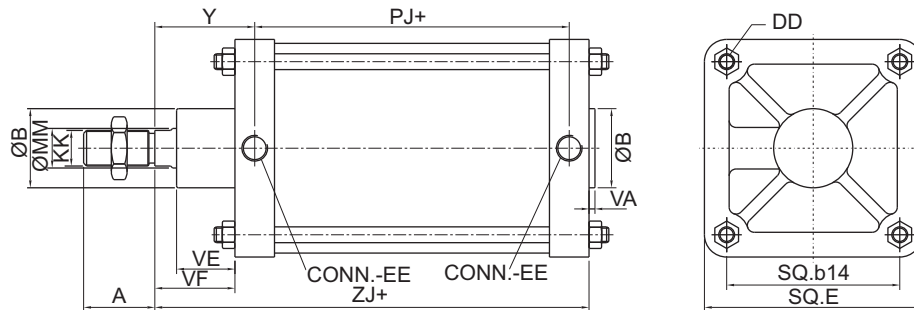
Male Elbow

CYLINDER Ø 200 - Ø 350

SERIES CC

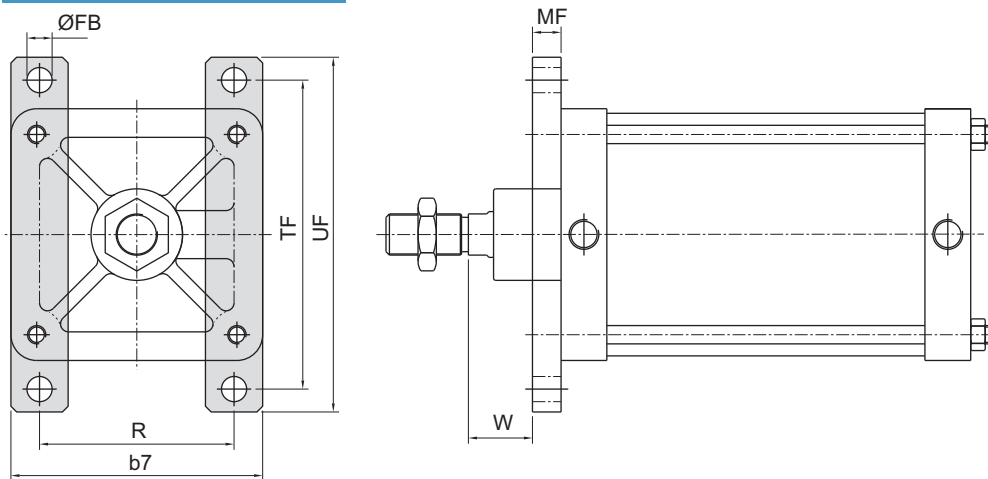
SERIES C

CYLINDER MOUNTINGS



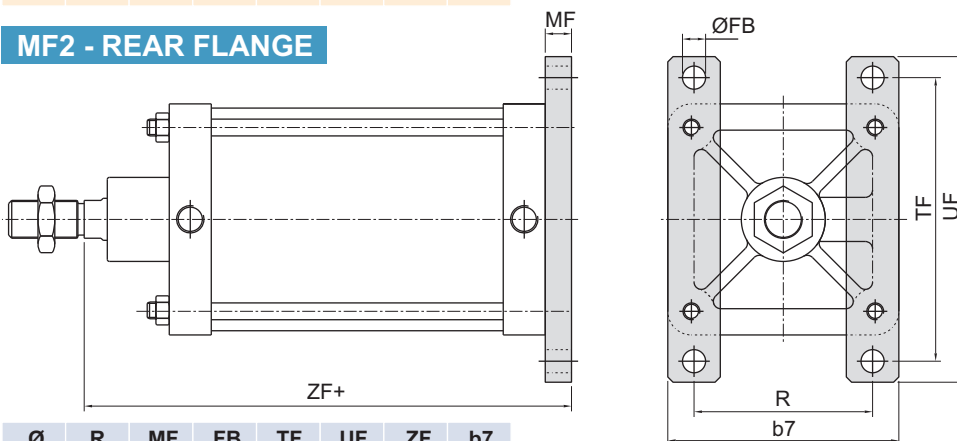
Ø	A	B	DD	E	EE	KK	MM	PJ	b14	VA	VE	WF	Y	ZJ	SLW
200	72	80	M16	220	G3/4"	M36x2	40	118	175	6	59	81	101	239	36
250	72	80	M20	290	G3/4"	M36x2	40	128	226	6	59	81	101	250	36
300	72	90	M24	330	G3/4"	M36x2	40	139	255	6	59	81	108	272	36
350	72	90	M24	380	G3/4"	M36x2	40	148	300	6	59	81	108	308	36

MF1 - FRONT FLANGE



Ø	R	MF	FB	TF	UF	W	b7
200	170	25	22	270	310	57	220
250	226	25	22	340	390	57	290
300	275	26	30	380	430	52	330
350	300	35	32	450	520	50	370

MF2 - REAR FLANGE



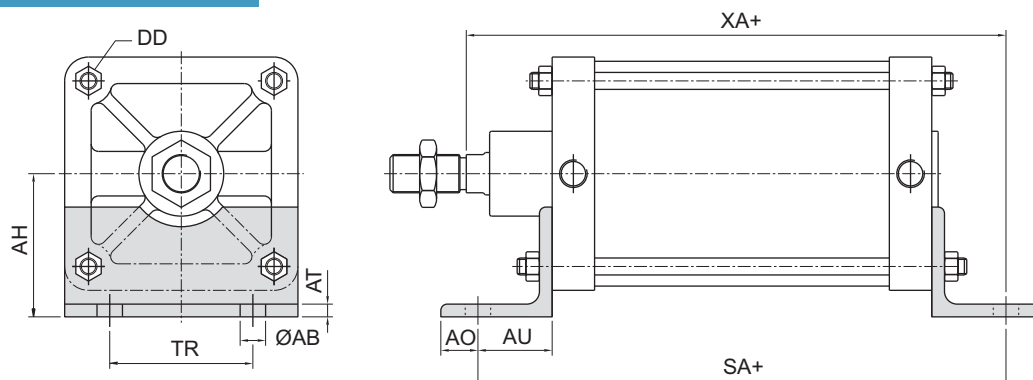
Ø	R	MF	FB	TF	UF	ZF	b7
200	170	25	22	270	310	-	220
250	226	25	22	340	390	-	290
300	275	26	30	380	430	-	330
350	300	35	32	450	520	-	370

CYLINDER Ø 200 - Ø 350

SERIES CC

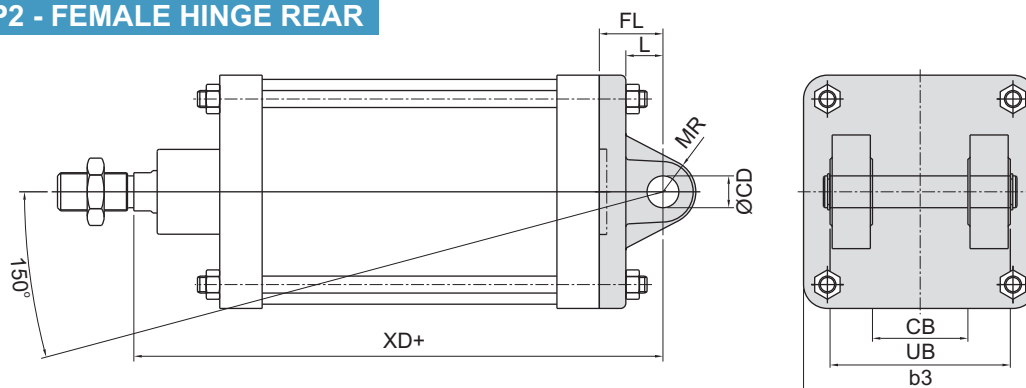
SERIES C

MS1 - PEDESTAL



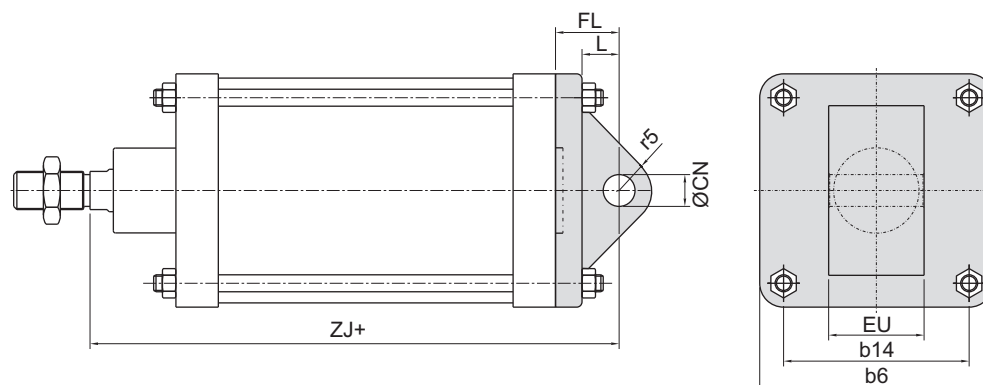
Ø	AB	AH	AO	AT	AU	SA	TR	XA
200	24	135	35	12	70	298	135	309
250	28	165	40	20	75	318	165	325
300	32	200	45	20	80	350	290	352
350	35	240	55	25	95	387	320	403

MP2 - FEMALE HINGE REAR



Ø	CB	ØCD	FL	L	MR	UB	XD	b3
200	90	30	60	35	31	170	299	220
250	110	40	70	45	41	200	320	290
300	120	45	80	50	50	220	352	330
350	150	45	92	60	50	260	400	380

MP4 - MALE HINGE REAR



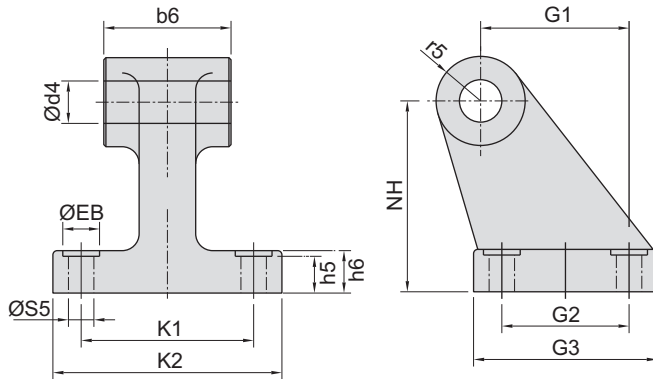
Ø	FL	L	EU	b6	ØCN	r5	b14	XD
200	60	35	90	220	30	31	175	299
250	70	45	110	290	40	41	226	320
300	80	50	120	330	45	50	255	352
350	92	60	150	380	45	50	300	400

CYLINDER Ø 200 - Ø 350

SERIES CC

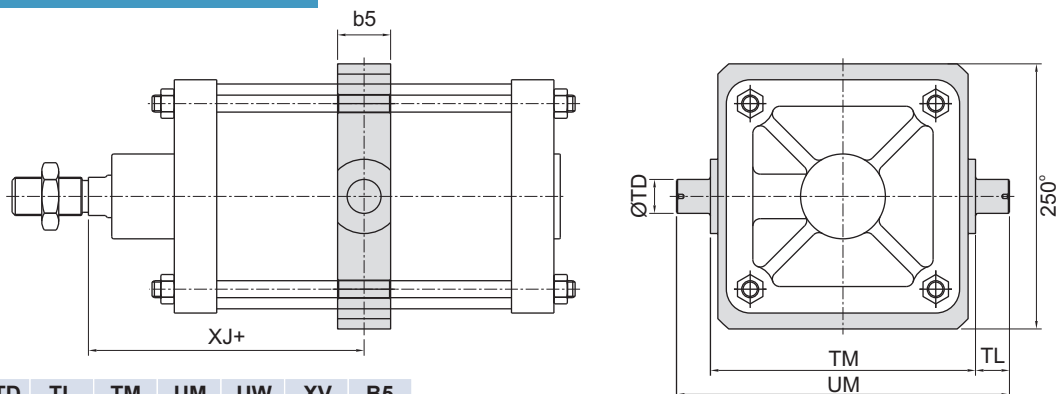
SERIES C

LB2 - MALE COUNTER HINGE



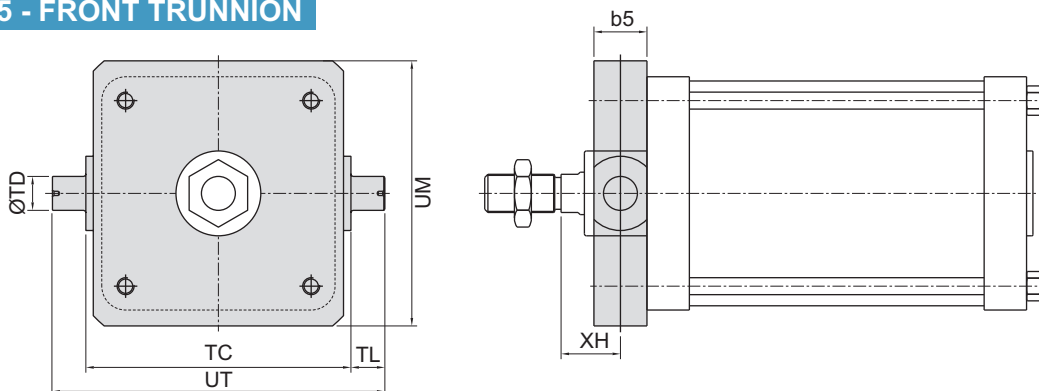
Ø	G1	G2	G3	K1	K2	NH	S5	b6	d4	h5	h6	r5	EB
	JS14	JS14	max	JS14	max	JS14	h13	0/0.4	H9	max.	max	max.	min.
200	105	90	130	122	162	135	18	90	30	26	30	31.5	26
250	128	110	160	150	200	165	22	110	40	30.5	35	40	33
300	150	122	186	170	234	200	26	120	45	35.5	40	45	40
350	165	140	200	190	260	220	26	150	45	34	40	47	40

MT4 - CENTRAL TRUNNION



Ø	ØTD	TL	TM	UM	UW	XV	B5
200	32	32	250	314	250	260	50
250	40	40	320	400	320	270	60
300	45	45	390	480	390	290	70
350	50	50	450	550	450	310	80

MT5 - FRONT TRUNNION



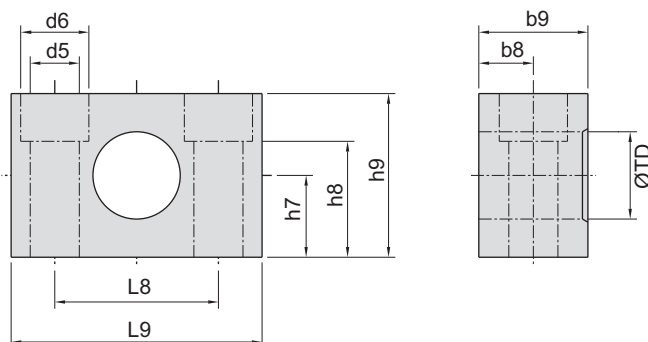
Ø	ØTD	TL	TM	UM	UW	XV	B5
200	32	32	250	314	250	260	50
250	40	40	320	400	320	270	60
300	45	45	390	480	390	290	70
350	50	50	450	550	450	310	80

CYLINDER Ø 200 - Ø 350

SERIES CC

SERIES C

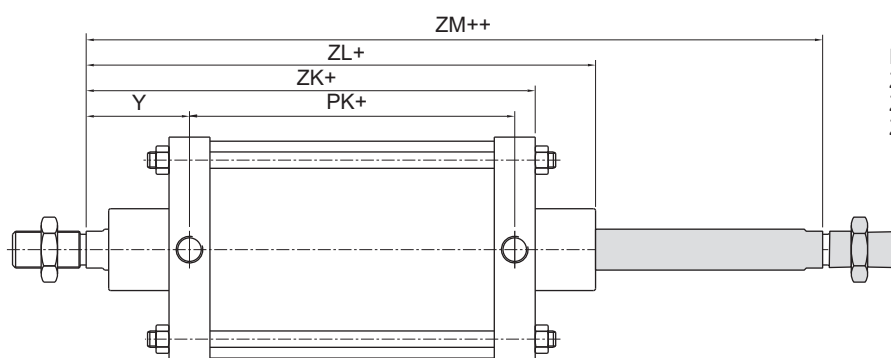
MTO - COUNTER HINGE FOR MT4 & MT5



Ø	B8	B9	D5	D6	H7	H8	H9	L8	L9	TD
200	20	40	18	25	30	42.5	60	60	92	32
250	25	50	22	32	35	48	70	90	140	40
300	30	60	22	32	40	58	80	100	150	45
350	35	70	26	38	45	66	90	110	170	50

SPECIAL CYLINDER Ø 200-Ø 350

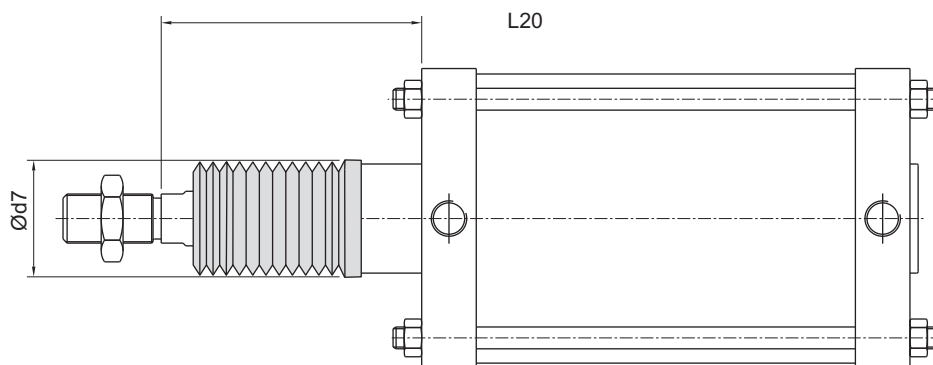
DS - Double Ended Piston Rod



PK + = PK + STROKE
ZK + = ZK + STROKE
ZL + = ZL + STROKE
ZM + = ZM PLUS 2 x STROKE

Ø	PK	Y	ZK	ZL	slw
200	118	101	239	298	36
250	128	101	250	309	36
300	139	108	272	331	36
350	148	108	308	367	36

BG - Bellow on Piston Rod



Ø	L20 at stroke			Below maxØ
	5-500	501-1000	1001-1500	239
200	191	301	411	521
250	191	301	411	521
300	191	301	411	521
350	191	301	411	521

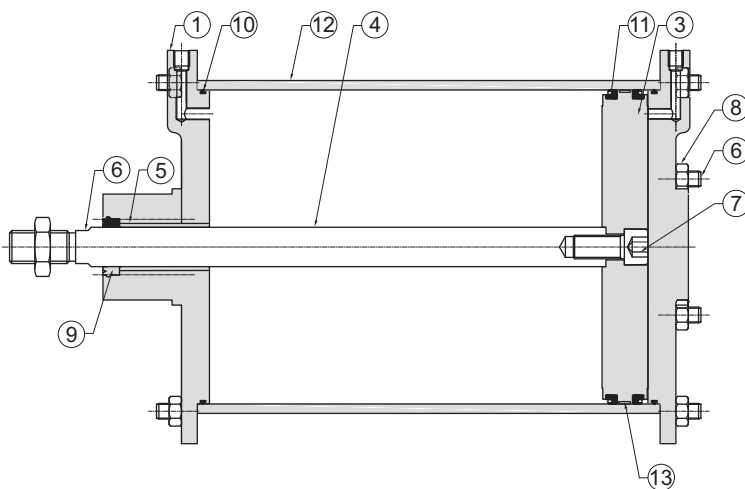
CYLINDER Ø 400 - Ø 1100

SERIES C



FEATURES

- Heavy duty, Complete construction in C.I. and Steel epoxy painted
- Long Life
- Life time lubricated
- Cushioning facility available on request
- Heavy duty mounting manufactured in Steel and Cast Iron
- The piston and piston rod are guided by rigid bearing
- Piston rod burnished Stainless Steel



MATERIAL OF CONSTRUCTION

PART	MATERIAL	PART No.
Piston Guide	PTFE	13
Cylinder Tube	Steel	12
Seal	NBR	10,11
Rod Seal	NBR	9
Nut	Steel	8
SHC Screw	HGA Steel	7
Tie Rod	Steel	6
Bush	Self Lubricating High Polymer	5
Piston Rod	SS 410	4
Piston	C.I. Casting	3
Cover	C.I. Casting	1,2

CYLINDER Ø 400 - Ø 1100

SERIES C

FORCE, AIR CONSUMPTION FOR DOUBLE ACTING CYLINDER

Double acting Cylinder		Force (N)									
		Pressure (bar)									
Cylinder Size		1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
400	←	12568	25136	37704	50272	62840	75408	87976	100544	113112	125680
	→	12371	24743	37114	49486	61858	74229	86601	98973	111344	123716
500	←	19637	39275	58912	78550	98187	117825	137462	157100	176737	196375
	→	19354	38709	58064	77418	96773	116128	135483	154837	174192	193547
600	←	28278	56556	84834	113112	14139	169668	197946	226224	254502	282780
	→	27893	55786	83679	111572	139465	1673358	195251	223144	251037	278931
700	←	38489	76979	115468	153958	192447	230937	269426	307916	346405	384895
	→	38489	76209	114313	152418	190523	228627	266732	304836	342941	381046
800	←	50272	100544	150816	201088	251360	301632	351904	402176	452448	502720
	→	50272	100544	150816	201088	251360	301632	351904	402176	452448	502720
900	←	63625	127251	190876	254502	318127	381753	445378	509004	572629	636255
	→	63122	126245	189368	252491	315613	378736	441859	505483	569107	632711
1000	←	78550	157100	235650	314200	392750	471300	549850	628400	706950	785500
	→	77764	155529	233293	311058	388822	466587	544351	622116	700000	777664
1100	←	950455	1900910	2851365	3801820	4752275	5702730	6653185	7603640	8554095	9504550
	→	94966	1899339	2849009	3798678	4748348	5698017	6647687	7597357	8547027	949666

Remark 1

Max. 0.2 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			
Ø Bore	Spring Forces (N)		
			
400/500	2000	3000	Remark The given spring forces are intended only for the return of the piston and piston rod. Other spring forces can be provided, consult ROTEX For model E and EA spring forces remains same, cushioning not available on spring side, flow control not possible on spring side.
600/700/800	4000	6000	
900/1000/1100	7000	11000	

Air consumption	dm ³ A.N.R./cm stroke			A.N.R.= dm ³ under Norm-conditions						1dm ³ =1 litre
Cylinder Size	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
400	2.513	3.770	5.027	6.284	7.540	8.797	10.054	11.311	12.568	13.824
500	3.927	5.891	7.855	9.818	11.782	13.746	15.71	17.673	19.637	21.601
600	5.655	8.483	11.311	14.139	16.966	19.7946	22.622	25.450	28.278	31.105
700	7.697	11.546	15.395	19.244	23.093	26.942	30.791	34.640	38.489	42.338
800	10.054	15.081	20.108	25.136	30.163	35.190	40.217	45.244	50.272	55.299
900	12.725	19.087	25.450	31.812	38.175	44.537	50.900	57.262	63.625	69.988
1000	15.71	23.565	31.42	39.275	47.13	54.985	62.84	70.695	78.55	86.405
1100	19.009	28.513	38.018	47.522	57.027	66.531	76.036	85.540	95.045	104.550

Note :

Special Spring return cylinders can be manufactured for application, where in larger spring forces are needed. Please consult ROTEX. We need working forces for your application force F1 when the spring is not compressed & F2 when spring is compressed Ideally we need either F1 or F2.

Consider you want to operate gate valve which needs the force of 100000N. Add factor of safety 30%. So load required is 130000N. Let us assume gate valve needs fail safe close. So the spring force minimum has to be 130000N. Air maximum has to be 130000N. The total force needed is 260000N. Choosing Ø 800 Cylinder with F1= 100000 N F2= 170000 N (This is factory chosen) you will get at 6 bar, air Minimum 301632 - 170000 = 131632 N. Air maximum is 301632 - 130000 = 171632 N.

ROTEX can produce such special cylinder for your applications.

CYLINDER Ø 400 TO Ø 1100

SERIES C

ORDERING CODE

	TYPE	MODEL	SPECIAL CYLINDER	BORE	STROKE	
	1	2	3	4	5	
1	TYPE	C		4	BORE	400
2	MODEL	D	Double Acting			500
		E	Single Acting, Spring at Rod side			600
		EA	Single Acting, Spring at Rear Cover			700
						800
3	SPECIAL	-	Standard			900
		BG	Bellow			1000
		DS	Double Ended Piston Rod			1100
		ZR	SS 304 Material Piston Rod			
		ZRM	SS 316 Material Piston Rod	5	STROKE	3000
		SU	Other, To define special models			500
			*Multiple options possible			500
						Max. D
						Max. E
						Max. EA

ORDERING CODE

CYLINDER MOUNTINGS

-	Standard Tie Rods
MS1	2 Pedestals
MF1	Front Flange
MF2	Rear Flange
MP2	Female Hinge Rear
LB2	Male Cardan Hinge Rear

PISTON ROD MOUNTINGS

-	Standard Tie Rods
S	Fork with Pen
LN	Extra Lock Nut

ORDERING EXAMPLE

1. C -D-400/ 1500
400 mm diameter double acting cylinder with stroke 1500 mm

MOUNTING

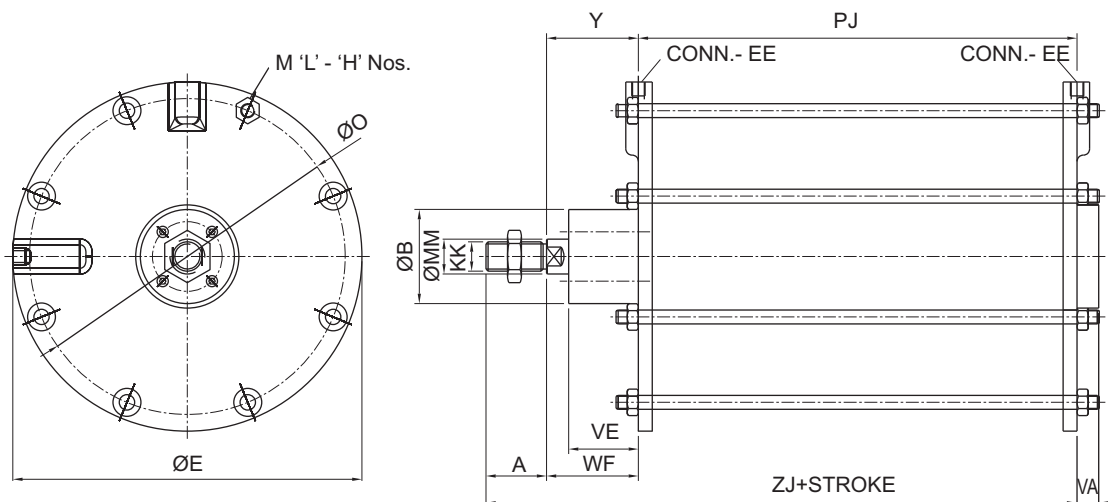
- MP 2- 400
Ø 400 Cylinder, Rear Clevis
- S - 400
Ø 400 Cylinder, Rod Clevis

Please note, the mountings may be supplied loose along with cylinder

CYLINDER Ø 400 TO Ø 1100

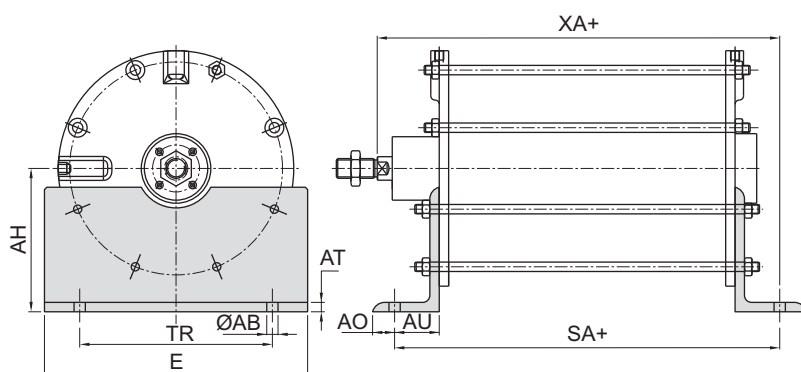
SERIES C

CYLINDER MOUNTINGS



Bore	A	B	ØE	EE	KK	MM	PJ	ØO	VA	VE	WF	Y	ZJ	L	H
400	84	135	500	G3/4"	M42x2	50	132	453	30	132	160	175	381	M20	8
500	96	135	600	G3/4"	M48x2	60	132	553	30	140	170	190	440	M20	8
600	108	150	710	G1"	M56x3	70	140	660	40	150	185	201	496	M24	8
700	108	150	870	G1"	M56x3	70	150	780	40	150	185	208	530	M24	8
800	130	170	970	G1-1/2"	M70x3	80	160	880	50	165	205	230	580	M24	8
900	130	170	1100	G1-1/2"	M70x3	80	160	1000	50	165	205	230	580	M24	8
1000	160	200	1200	G2"	M90x3	100	180	1100	60	185	235	260	605	M30	8
1100	160	200	1300	G2"	M90x3	100	180	1200	60	185	235	260	605	M30	8

MS1 - PEDESTAL

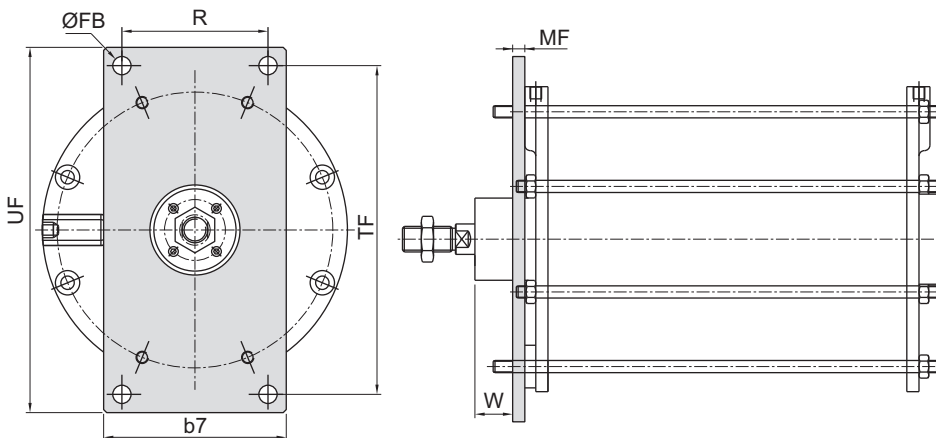


Ø	ØAB	AH	AQ	AT	AU	TR	XA	SA	E
400	35	340	55	35	110	400	390	340	540
500	35	390	58	35	115	500	430	375	640
600	42	440	60	40	120	610	478	413	750
700	42	550	72	40	145	770	537	497	910
800	45	615	82	45	165	870	580	540	1015
900	45	680	85	45	170	1000	585	550	1145
1000	48	730	87	50	175	1100	575	515	1250
1100	48	780	90	50	180	1200	580	525	1350

CYLINDER Ø 400 TO Ø 1100

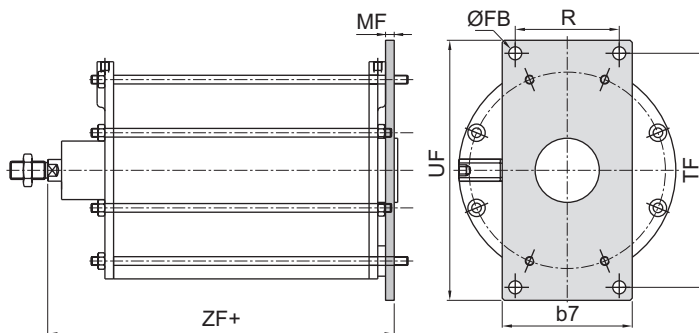
SERIES C

MF1 - FRONT FLANGE



Ø	R	MF	ØFB	TF	UF	W	B7	ZF+
400	270	35	35	540	650	75	350	315
500	308	35	35	620	750	105	390	350
600	360	40	42	720	850	100	450	398
700	450	40	42	900	1070	100	600	432
800	500	45	45	1000	1190	115	635	460
900	550	45	45	1100	1320	115	700	460
1000	600	50	48	1200	1420	125	760	450
1100	650	50	48	1300	1520	125	820	450

MF2 - REAR FLANGE

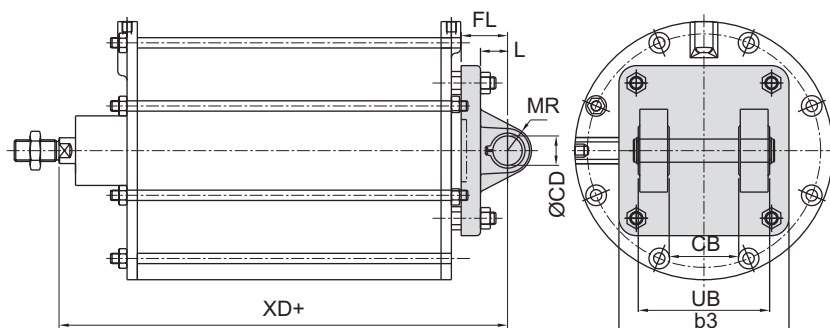


Ø	R	MF	ØFB	TF	UF	W	B7	ZF+
400	270	35	35	540	650	75	350	315
500	308	35	35	620	750	105	390	350
600	360	40	42	720	850	100	450	398
700	450	40	42	900	1070	100	600	432
800	500	45	45	1000	1190	115	635	460
900	550	45	45	1100	1320	115	700	460
1000	600	50	48	1200	1420	125	760	450
1100	650	50	48	1300	1520	125	820	450

CYLINDER Ø 400 TO Ø 1100

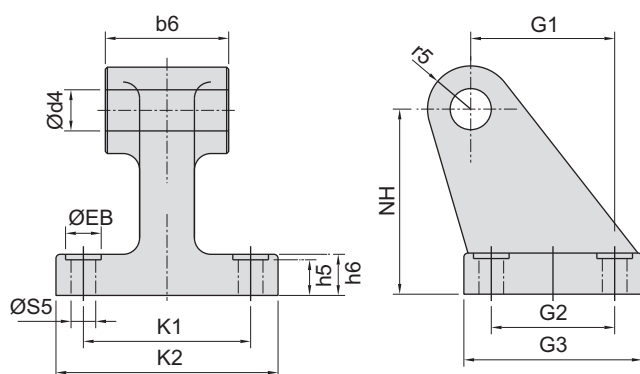
SERIES C

MP2 - FEMALE HINGE REAR



Ø	CB	ØCD	FL	L	MR	UB	XD	b3	PC
400	140	50	105	70	52	240	362	320	250
500	200	50	105	70	52	320	397	400	330
600	230	60	120	80	62	380	450	475	400
700	250	60	120	80	62	450	490	550	470
800	340	70	135	90	72	450	525	640	560
900	400	70	135	90	72	610	525	710	630
1000	400	80	150	100	82	650	540	770	680
1100	500	80	150	100	82	740	540	850	770

LB2 - COUNTER HINGE FOR MP2



Ø	G1	G2	G3	K1	K2	NH	S5	b6	d4	h5	h6	r5	EB
	JS14	JS14	max.	JS14	max.	JS14	h13	0/0.4	H9		max.	max.	Min.
400	250	240	300	250	320	350	32	139.8	140	31	45	50	48
500	330	320	380	330	400	400	32	199.8	200	31	45	50	48
600	398	385	450	400	470	450	35	229.8	230	34	50	60	53
700	470	455	520	470	550	560	35	249.8	250	34	50	60	53
800	560	545	610	560	640	625	38	339.8	340	37	55	70	57
900	630	615	680	630	710	690	38	399.8	400	37	55	70	57
1000	680	660	730	680	770	740	41	399.8	400	39	60	80	61
1100	760	740	810	770	850	790	41	499.8	500	39	60	80	61

COMPACT CYLINDER Ø 12 mm TO 100 mm

SERIES SDVU

MALE SHAFT

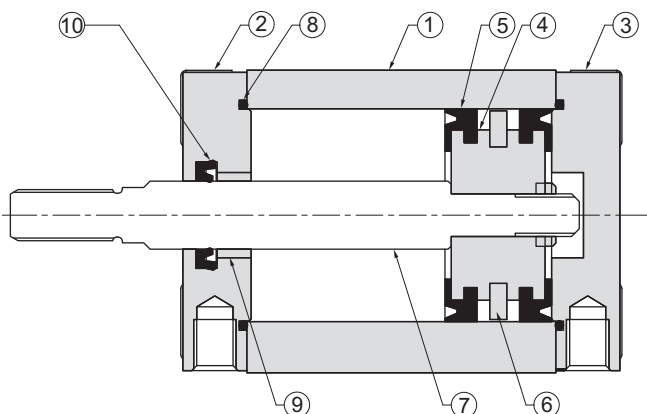


FEATURES

- Compact/ Short stroke cylinder
- 50% reduced size against other series
- Permanent magnet on the cylinder piston
- High speed, non rotating option available
- Male/ Female option available
- End plate shock absorber
- Noiseless end stopping

2

CONSTRUCTION



MATERIAL OF CONSTRUCTION

PART No.	PART	QTY.
11	Hex. Socket Screw	8
10	Rod Seal	1
9	Bush	1
8	Cover Seal	2
7	Hex. Nut	1
6	Piston Rod	1
5	Magnet	1
4	Piston Seal	2
3	Rear Cover	1
2	Front Cover	1
1	Body	1

COMPACT CYLINDER Ø 12 mm TO 100 mm

SERIES SDVU

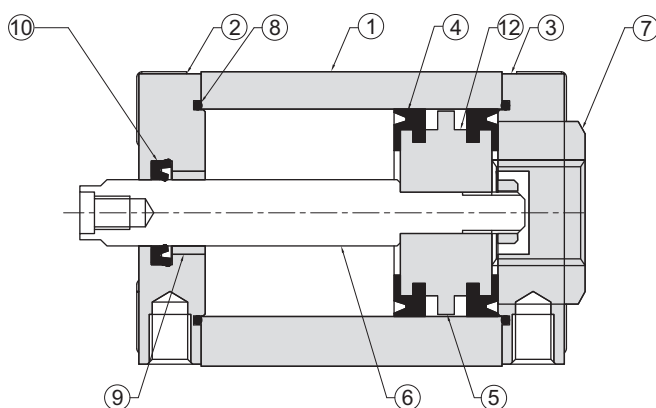
FEMALE SHAFT



FEATURES

- Compact/ Short stroke cylinder
- 50% reduced size against other series
- Permanent magnet on the cylinder piston
- High speed, non rotating option available
- Male/ Female option available
- End pad shock absorber
- Noiseless end stopping

CONSTRUCTION



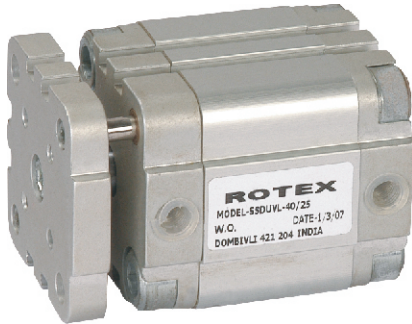
MATERIAL OF CONSTRUCTION

PART No.	PART	QTY.
11	Hex. Socket Screw	8
10	Rod Seal	1
9	Bush	1
8	Cover Seal	2
7	Hex. Nut	1
6	Piston Rod	1
5	Magnet	1
4	Piston Seal	2
3	Rear Cover	1
2	Front Cover	1
1	Body	1

COMPACT CYLINDER Ø 12 mm TO 100 mm

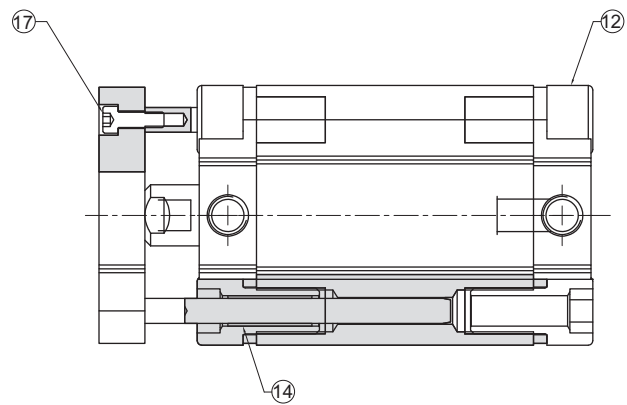
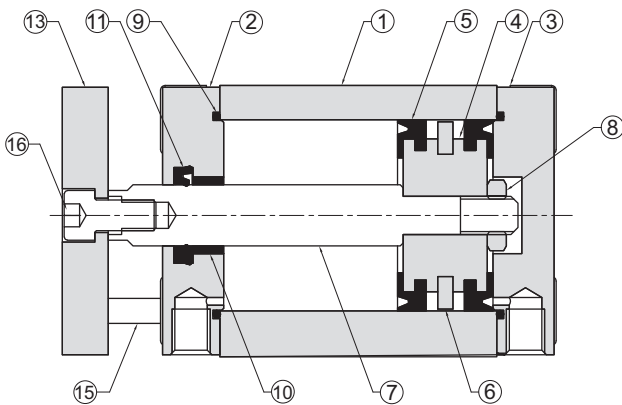
SERIES SDVUL

NON ROTATING/ GUIDED



FEATURES

- Compact/ Short stroke cylinder
- 50% reduced size against other series
- Permanent magnet on the cylinder piston
- High speed, non rotating option available
- Male/ Female option available
- Non rotating, guided by bronze bushes
- larger load carrying capacity
- End pad shock absorber
- Noiseless end stopping



MATERIAL OF CONSTRUCTION

PART No.	PART	QTY.
16	Hex. Socket Screw	2
15	Hex. Socket Screw	1
14	Guide Rod	2
13	Bush	2
12	Guide Flange	1
11	Hex. Socket Screw	8
10	Rod Seal	1
9	Bush	1
8	Cover Seal	2
7	Hex. Nut	1
6	Piston Rod	1
5	Magnet	1
4	Piston Seal	2
3	Rear Cover	1
2	Front Cover	1
1	Body	1

COMPACT CYLINDER Ø 12 mm TO 100 mm

SERIES SDVU

SERIES SDVUL

ORDERING CODE

	TYPE	MODEL	ROD END	BORE	STROKE
	1	2	3	4	5
1	TYPE	SDVU SDVUL	Standard Guided		
2	MODEL	D E EA	Double Acting Single Acting, Spring at Rod Side Single Acting, Spring at Rear Cover		
3	ROD END	- M F	Guided Cylinder Male Female		
4	BORE	12 16 20 25 32 40 50 63 80 100			
5	STROKE	Refer Table below			

Double Acting (D)

BORE (mm)	STANDARD STROKE (mm)
12	5,10,15,20,25,30,40
16	5,10,15,20,25,30,40
20	5,10,15,20,25,30,40,50
25	5,10,15,20,25,30,40,50
32	5,10,15,20,25,30,40,50,60,80,125,150
40	5,10,15,20,25,30,40,50,60,80,125,150,200
50	5,10,15,20,25,30,40,50,60,80,125,150,200
63	5,10,15,20,25,30,40,50,60,80,125,150,200
80	5,10,15,20,25,30,40,50,60,80,125,150,200
100	5,10,15,20,25,30,40,50,60,80,125,150,200

Single Acting (E/EA)

BORE (mm)	STANDARD STROKE (mm)
12	5,10
16	5,10,15,20,25
20	5,10,15,20,25
25	5,10,15,20,25
32	5,10,15,20,25
40	5,10,15,20,25
50	5,10,15,20,25
63	5,10,15,20,25
80	5,10,15,20,25
100	5,10,15,20,25

Other strokes available on request

ORDERING EXAMPLE

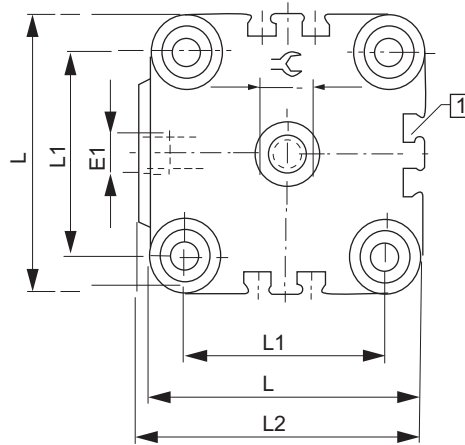
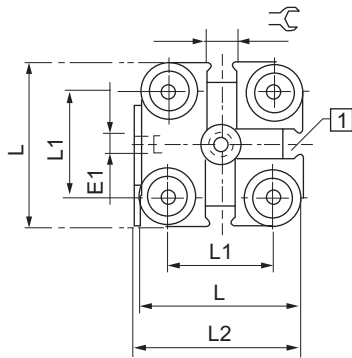
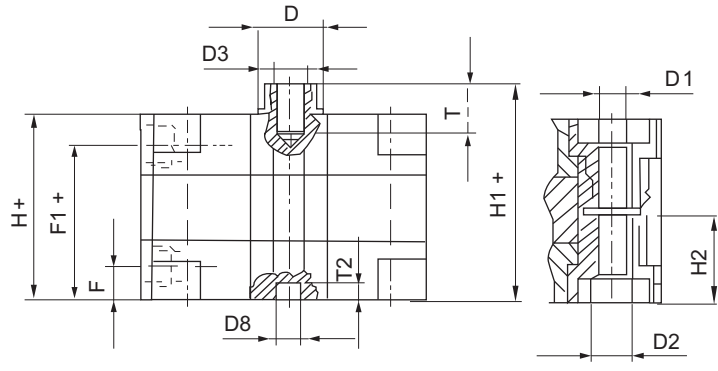
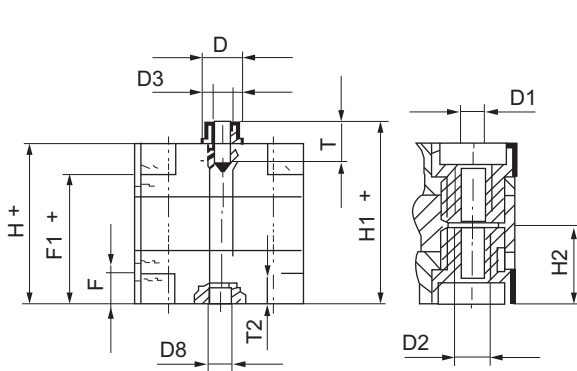
- SDVU-D-F-32/50
32 mm diameter double acting magnetic cylinder with female rod & stroke 50 mm
- SDVUL-D-50/100
50 mm diameter double acting magnetic guided cylinder with 100 mm stroke

COMPACT CYLINDER Ø 12 mm TO 100 mm

SERIES SDVU

TYPE SDVU-12 TO 25-P-A

TYPE SDVU-32 TO 100-P-A



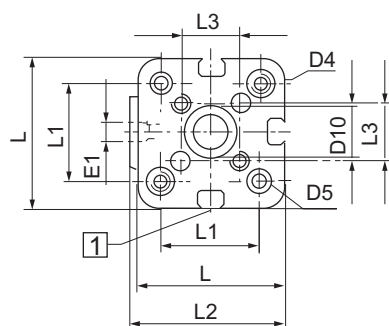
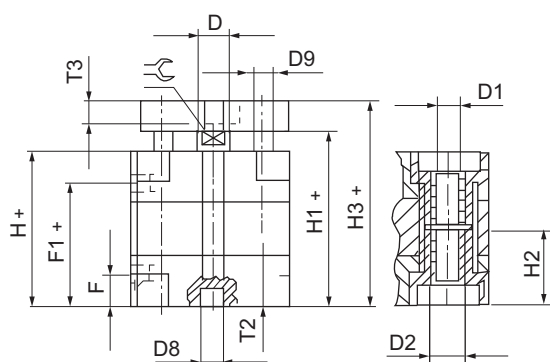
DIMENSIONS (mm)

Bore Ø	D	D1	D2	D3	D4	D5	D8	D9	D10	E1	F	F1	H	H1	H2	H3	L	L1	L2	L3	L8	SW	T	T2	T3
12	6	3.2	M4	M3	3	M3	6	4	6	M5	6.5	28.5	35	42.5	16	47.5	29	18	30	9.9	16	5	6	4	3.5
16	8	3.2	M4	M4	3	M3	6	4	8	M5	6.6	28.5	35	43.5	16	48.5	29	18	30	9.9	16	7	8	4	3.5
20	10	4.2	M5	M5	4	M3	6	6	10	M5	8	31	39	46	18.5	54	36	22	37.5	12	18	8	8	4	3.5
25	10	4.2	M5	M5	5	M4	6	6	14	M5	8	31	39	46	18.5	54	40	26	41.5	15.6	18	8	8	4	4.5
32	12	5.2	M6	M6	5	M4	6	6	17	G1/8	6.5	35.5	42	49	21.5	59	50	32	52	19.8	20	10	10	4	5.5
40	12	5.2	M6	M6	5	M4	6	6	17	G1/8	7.5	38	45.5	54	21.5	64	60	42	62.5	23.3	20	10	10	4	5.5
50	16	6.2	M8	M8	6	M6	6	8	22	G1/8	7.5	38	45.5	55.5	23.5	67.5	68	50	71	29.7	20	13	12	4	7
63	16	8.5	M10	M8	6	M6	8	8	22	G1/8	7.5	43.5	51	61.5	28.5	73.5	87	62	91	35.4	25	13	12	4	7
80	20	8.5	M10	M10	8	M8	8	12	28	G1/8	9.5	52.5	62	75	28.5	89	107	82	111	46	25	17	16	4	9
100	25	8.5	M10	M12	10	M8	8	12	30	G1/4	10.5	57.5	68	83.5	28.5	97.5	128	103	133	56.6	25	22	20	4	9

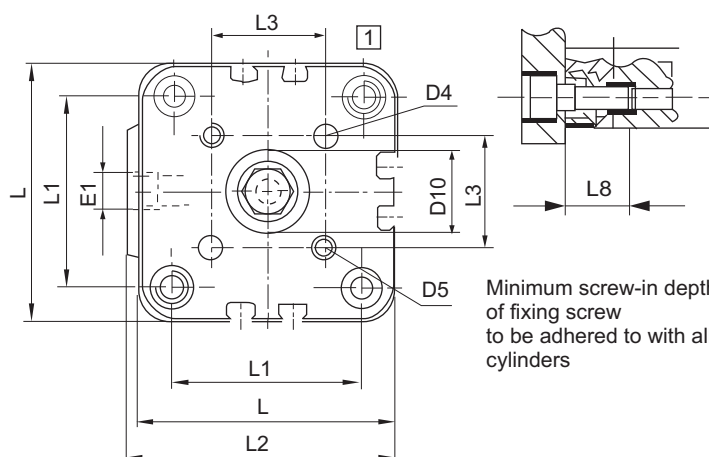
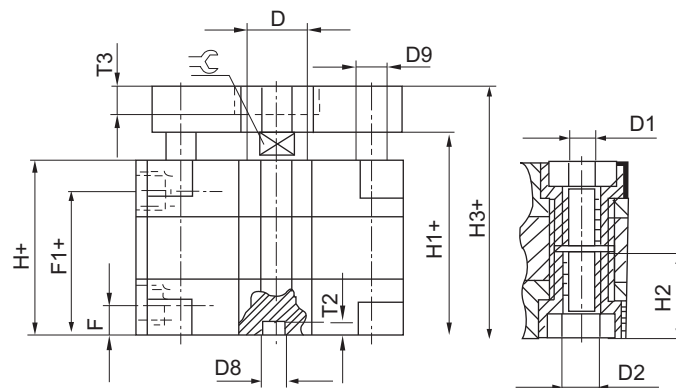
COMPACT CYLINDER Ø 12 mm TO Ø100 mm

SERIES SDVUL

TYPE SDVUL-12 TO 25-P-A



TYPE SDVUL-32 TO 100-P-A



2

DIMENSIONS (mm)

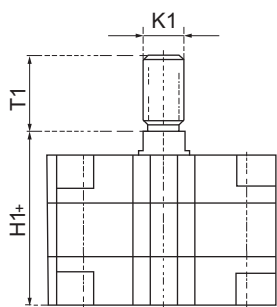
Bore Ø	D	D1	D2	D3	D4	D5	D8	D9	D10	E1	F	F1	H	H1	H2	H3	L	L1	L2	L3	L8	SW	T	T2	T3
12	6	3.2	M4	M3	3	M3	6	4	6	M5	6.5	28.5	35	42.5	16	47.5	29	18	30	9.9	16	5	6	4	3.5
16	8	3.2	M4	M4	3	M3	6	4	8	M5	6.6	28.5	35	43.5	16	48.5	29	18	30	9.9	16	7	8	4	3.5
20	10	4.2	M5	M5	4	M3	6	6	10	M5	8	31	39	46	18.5	54	36	22	37.5	12	18	8	8	4	3.5
25	10	4.2	M5	M5	5	M4	6	6	14	M5	8	31	39	46	18.5	54	40	26	41.5	15.6	18	8	8	4	4.5
32	12	5.2	M6	M6	5	M4	6	6	17	G1/8	6.5	35.5	42	49	21.5	59	50	32	52	19.8	20	10	10	4	5.5
40	12	5.2	M6	M6	5	M4	6	6	17	G1/8	7.5	38	45.5	54	21.5	64	60	42	62.5	23.3	20	10	10	4	5.5
50	16	6.2	M8	M8	6	M6	6	8	22	G1/8	7.5	38	45.5	55.5	23.5	67.5	68	50	71	29.7	20	13	12	4	7
63	16	8.5	M10	M8	6	M6	8	8	22	G1/8	7.5	43.5	51	61.5	28.5	73.5	87	62	91	35.4	25	13	12	4	7
80	20	8.5	M10	M10	8	M8	8	12	28	G1/8	9.5	52.5	62	75	28.5	89	107	82	111	46	25	17	16	4	9
100	25	8.5	M10	M12	10	M8	8	12	30	G1/4	10.5	57.5	68	83.5	28.5	97.5	128	103	133	56.6	25	22	20	4	9

COMPACT CYLINDER Ø 12 mm TO 100 mm

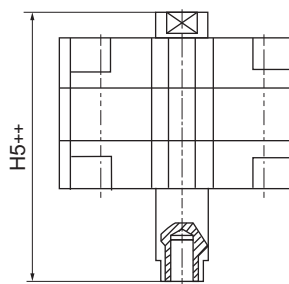
SERIES SDVU

SERIES SDVUL

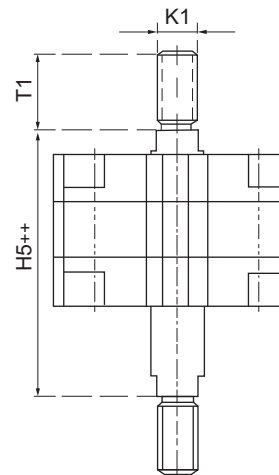
SDVU-A-P



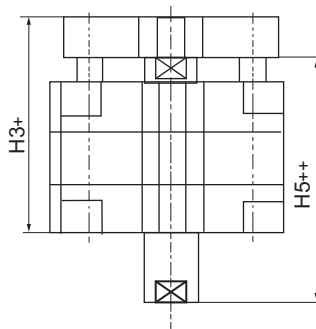
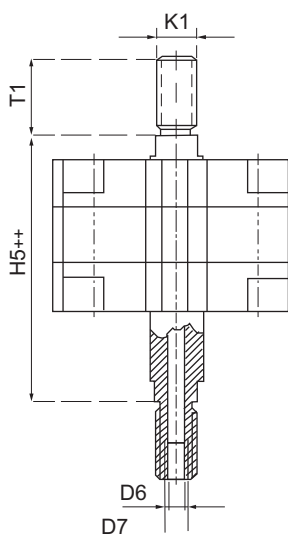
Type SDVU-P-A-S



Type SDVU-A-P-A-S



Type SDVU-A-P-A-S-DS



+ = Plus stroke length
++ = Plus 2 x stroke length

DIMENSIONS (mm)

Bore Ø	B	D Ø	D6 Ø	D7	H1	H3	H5	K1	T1
12	5.5	6	2.3	-	42.5	48.5	47	M6	16
16	7	8	3.2	-	42.5	48.5	47	M8	20
20	9	10	3.8	-	42.5	50.5	47	M10x1.25	22
25	9	10	3.8	-	45	53	50.5	M10x1.25	22
32	10	12	4.5	-	50.5	60.5	56.5	M10x1.25	22
40	10	12	4.5	-	52	62	58.5	M10x1.25	22
50	12	16	6	-	53	65	60.5	M12x1.25	24
63	12	16	6	-	57.5	69	65	M12x1.25	24
80	16	20	8.0	G1/8	64	78	72	M16x1.5	32
100	20	25	11.7	G1/4	76.5	90.5	86.5	M20x1.5	40

COMPACT CYLINDER Ø 12 mm TO Ø100 mm

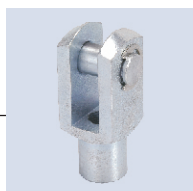
SERIES SDVU

SERIES SDVUL

MOUNGING OVERVIEW



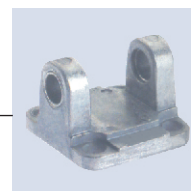
F - Flexible Joint



T - Fork



DMP3



DMP2



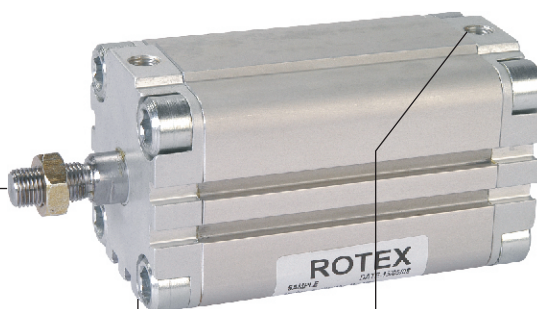
W - Ball and Socket Joint



DWM



DLB2 - Carden



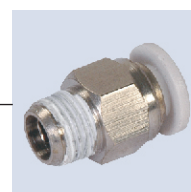
DMF



DMS



FCV - Flow Control



50010 - Straight Fitting



50030 - Male Elbow T



55115 - Male Elbow

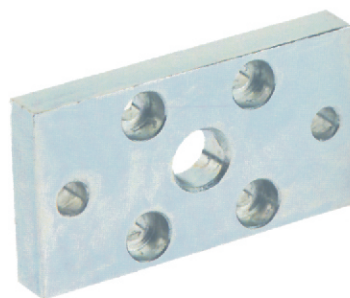
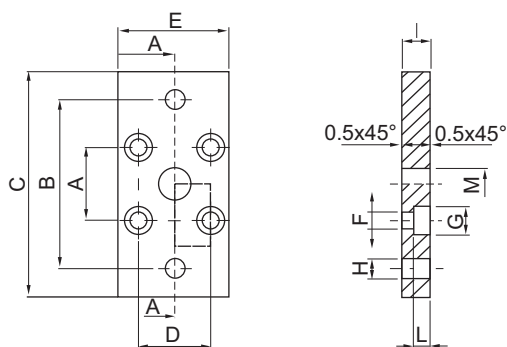
COMPACT CYLINDER Ø12 mm TO Ø100 mm

SERIES SDVU

SERIES SDVUL

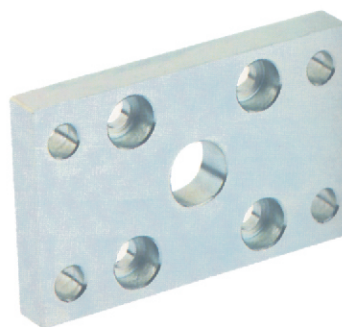
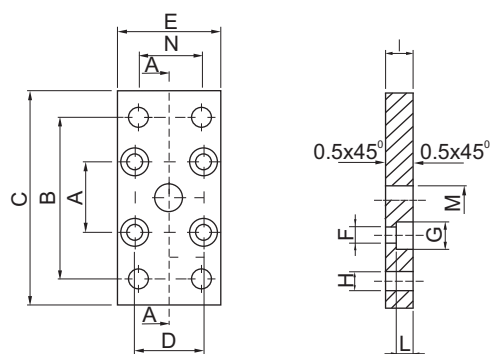
COMPACT CYLINDER MOUNTINGS

DMF - FRONT/ REAR FLANGE



Ømm	A	B	C	D	E	F	G	H	I	L	M
12-16	18	43	55	18	29	4.5	9	5.5	10	5.4	10
20	22	55	70	22	36	5.5	10	6.6	10	5.4	12
25	26	60	76	26	40	5.5	10	6.6	10	5.4	12

DMF - FRONT/ REAR FLANGE



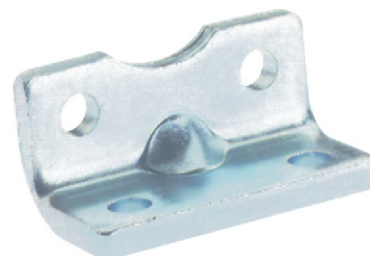
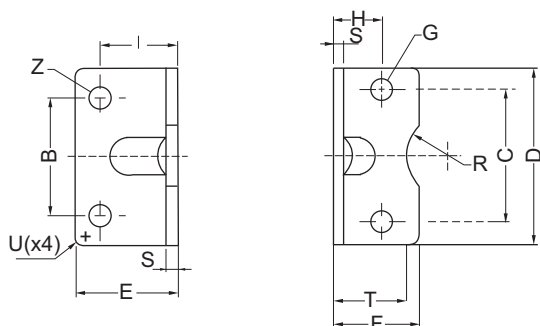
Ømm	A	B	C	D	E	F	G	H	I	L	M	N
32	32	65	80	32	50	6.6	11	7	10	6.4	14	36
40	42	82	102	42	60	6.6	11	9	10	6.4	14	36
50	50	90	110	50	68	9	15	9	12	8.6	18	45
63	62	110	130	62	87	11	15	9	15	10.6	18	50
80	82	135	160	82	107	11	18	12	15	10.6	23	63
100	103	163	190	103	128	11	18	14	15	10.6	28	75

COMPACT CYLINDER Ø12 mm TO Ø100 mm

SERIES SDVU

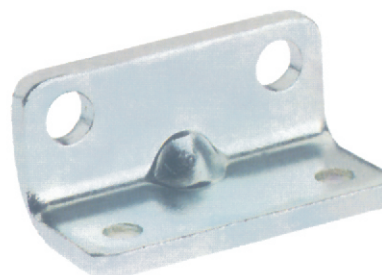
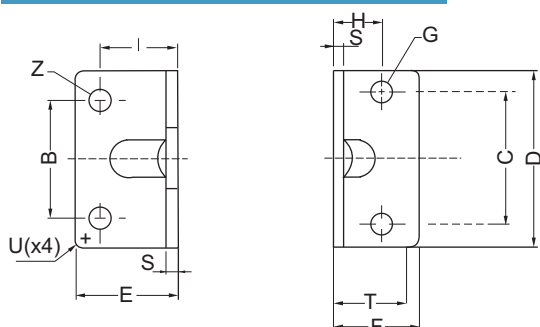
SERIES SDVUL

DMS - LOW RISE PEDESTAL



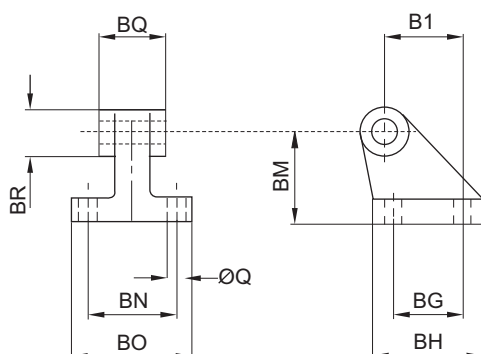
Ømm	C	B	D	E	F	G	H	I	S	T	R	U	Z
12-16	18	18	30	17.5	17.5	4.4	13	13	3	15	9	2	5.5
20	22	22	36	22	22	5.4	16	16	4	17	10	2	6.6
25	26	26	40	22	23	5.4	17	16	4	19	11	2	6.6
32	32	32	50	26	24	6.6	16	18	5	20	12	2	6.6

DMSL - LOW RISE PEDESTAL



Ømm	C	B	D	E	F	G	H	I	S	U	Z
40	42	42	60	28	29.5	6.6	21.5	20	5	5	9
50	50	50	68	32	30	9	22	24	6	5	9
63	62	62	84	39	39	9	28.5	27	6	5	11
80	82	82	102	36.5	36.5	11	24.5	30	8	5	11
100	103	103	123	38.5	38.5	11	26.5	33	8	5	13.5

DLB2 - COUNTER HINGE FOR MP2



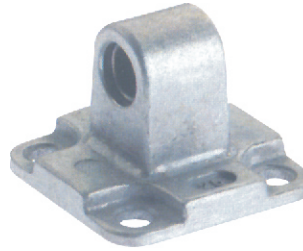
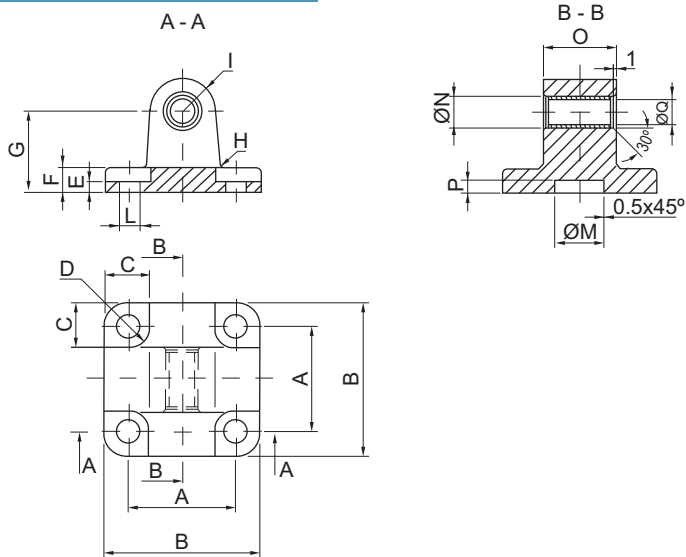
Ømm	Q	BG	BH	BI	BM	BN	BO	BQ	BR
32	6.6	18	31	21	32	38	51	26	20
40	6.6	22	35	24	36	41	54	28	22
50	9	30	45	33	45	50	65	32	26
63	9	35	50	37	50	52	67	40	30
80	11	40	60	47	63	66	86	50	30
100	11	50	70	55	71	76	96	60	38

COMPACT CYLINDER Ø12 mm TO Ø100 mm

SERIES SDVU

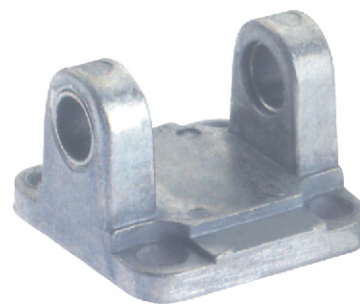
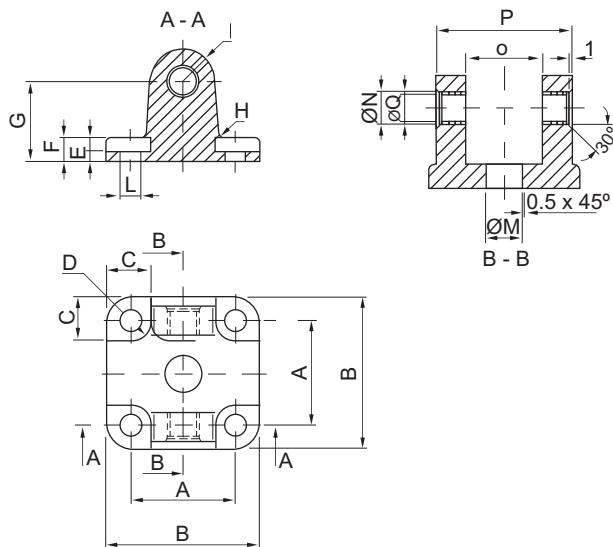
SERIES SDVUL

DMP3 - MALE HINGE



Ømm	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
12-16	18	27	10	4.5	2.6	6	16	2	6	4.5	10	8	12	3	6
20	22	34	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8
25	26	38	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8

DMP2 - FEMALE HINGE



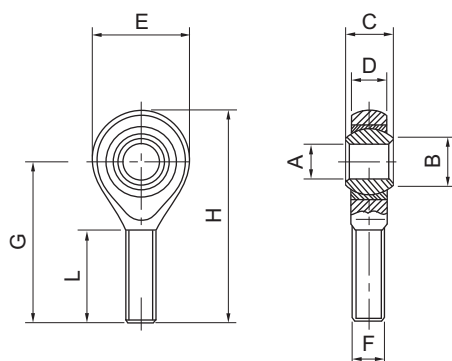
Ømm	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
32	32	48	13.5	5.5	5.5	9	22	2.5	10	6.6	14	12	26	45	10
40	42	58	13.5	5.5	5.5	9	25	2.5	12.5	6.6	14	14	28	52	12
50	50	66	15.5	7.5	6.5	11	27	2.5	12.5	9	18	14	32	60	12
63	62	83	18	7.5	6.5	11	32	4	15	9	18	18	40	70	16
80	82	102	19	9	1	13	36	4	15	11	23	18	50	90	16
100	103	123	19	9	10	15	41	4	20	11	28	23	60	110	20

COMPACT CYLINDER Ø12 mm TO Ø100 mm

SERIES SDVU

SERIES SDVUL

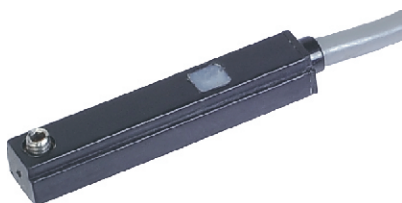
DWM - MALE ROD ENDS



Ømm	A	B	C	Ø	D	E	F	G	H	L
20-25	5	7.5	8	11.11	7.5	18	M5X0.8	33	42	19
32-40	6	8.9	9	12.7	7.5	20	M6X1	36	46	21
50-63	8	10.4	12	15.88	9.5	24	M8X1.25	42	54	25
80	10	12.9	14	19.05	11.5	30	M10X1.5	48	63	28
100	12	15.4	16	22.23	12.5	34	M12X1.75	54	71	32

REED SWITCH FOR Ø 12 - Ø 100

MODEL PNT



APPLICATION

- The position of the piston of the ROTEX cylinder can be detected by installing a Reed Switch. The switch is a non contact Reed type design and is in Normally Open position. The switch closes when it approaches the magnetic field. A permanent magnet is fitted on the piston rod

FEATURES

- Resin body, with adjustable linear positions
- High glow LED, suitable for outdoor application
- IP65 Construction
- Universal for AC/ DC

TECHNICAL SPECIFICATION

Medium	Magnetic field	Max. switching current	200 mA for DC. 20 mA for AC.
Design	Non contact Reed Switch, electronics, & LED	Max. speed	3 m/ sec
Mounting	Clamp fixed on cylinder, adjustment by screw	Cyclic speed	800 Hz
Connection	2 wire cable (Std.1 m.)	Switching life	10 ⁸ Cycle
Supply voltage	10V -220V DC, 10V -220V AC	Cable connection	Option 2m :- M2 3m :- M3
		Temperature range	- 40 °C to 60 °C
		Repeatability	± 0.1mm

ORDERING CODE

PNT - M2 -32 Reed Switch for 32 mm bore Cylinder with 2 metre cable
PNT - 40 Reed Switch for 40 mm bore Cylinder with 1 metre cable

PNEUMATIC POWER CYLINDER - PNEUMATIC REGULATING

FEATURE

Precision Linear Pneumatic Positioner is fitted with reversible cam which acts as a position feed back. The Linear Positioner which is mounted on a subbase, converts an ON OFF linear cylinder to regulating. The power cylinder can be integrated with standard mountings and various accessories. The positioner is high quality, flapper nozzle type.

SPECIFICATIONS

Accuracy	± 1%
Repeatability	± 0.5%
Hysteresis	± 0.2%
Dead band	± 0.1%
Input	3-15 psi

All specifications are related to full scale

PNEUMATIC CYLINDER

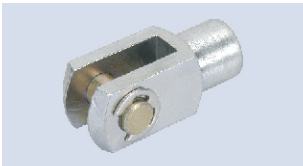
Standard	ISO 6431 (UPTO Ø160 mm)
Diameter	Ø32 to Ø1100
Stroke	50 mm to 1800 mm
Max. pressure	10 bar

LEVER FEED BACK

As a standard ROTEX provides Lever Feed Back. The lever movement being sinusoidal. The percentage opening behaves in similar fashion. The correction can be done either at DCS level or by correcting the internal cam on the positioner.

OPTION ON ACCESSORIES

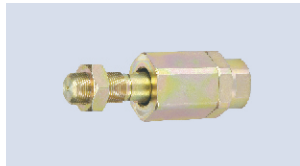
FORK 'S'



RODEND 'W'



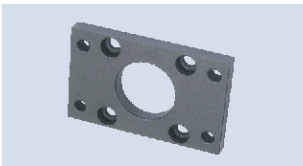
FLEXIBLE COUPLING 'F'



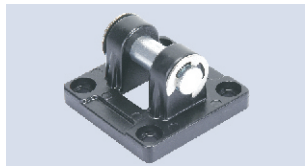
FOOT 'MS1'



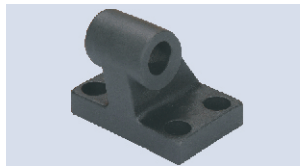
FLANGE 'MF1'



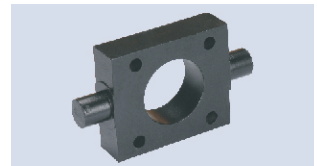
REAR TRUNION 'MP2'



CLEVIS LB2'



TRUNION 'MT5'



ELECTRO PNEUMATIC POWER CYLINDER



FEATURE

Electropneumatic positioner is fitted with a reversible cam. The cam acts as a feedback. Positioner accepts 4-20 mA input. The current directly operates flapper nozzle.

SPECIFICATIONS

Accuracy	± 1%
Repeatability	± 0.5%
Hysteresis	± 0.2%
Dead band	± 0.1%
Input	4-20 mA

All specifications are related to full scale

PNEUMATIC CYLINDER

Standard	ISO 6431 (UPTO ø160 mm)
Diameter	Ø32 to Ø1100
Stroke	50 mm to 1800 mm
Max. pressure	10 bar

REVERSIBLE CAM

ROTEX features on demand Reversible Cam construction. The profile can be easily dismantled and reversed on line. The repeatability and the functional accuracy does not change.

OPTION ON ACCESORIES

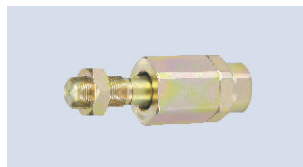
FORK 'S'



RODEND 'W'



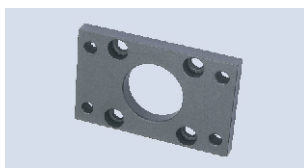
FLEXIBLE COUPLING 'F'



FOOT 'MS1'



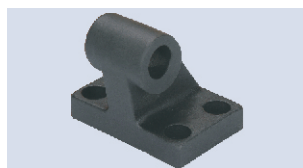
FLANGE 'MF1'



REAR TRUNION 'MP2'



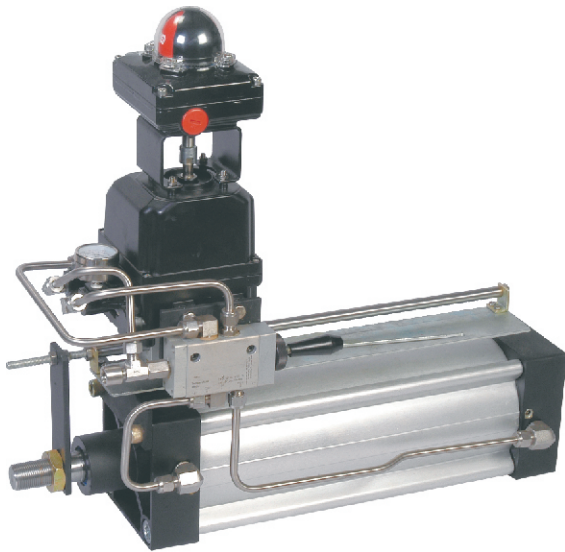
CLEVIS LB2'



TRUNION 'MT5'



ROTEX HIGH PERFORMANCE POWER CYLINDER IS INTEGRATED WITH HIGH QUALITY AND EXCELLENT DESIGN FEATURES WITH NEARLY UNLIMITED DURABILITY.



FEATURES

All the power cylinders can be supplied with optional accessories shown in this catalogue. Some accessories are factory fitted. Some can be installed at the later stage. It is highly recommended that you consult ROTEX for complete installation, application, etc. Air lock relays are more practical to be considered during various power failure made.

POWER CYLINDER

Rotex power cylinder can be installed in various corrosive environments by selecting suitable material. Bellows and guards can be provided for physical protection.

MATERIAL OF CONSTRUCTION

Cover	:	Aluminium, CS	Rod seal	:	Polyurathane
		SS 304	Cushioning	:	Optional
Tube	:	Aluminium, CS	Bellows	:	Neoprene
		SS 304			
Piston seal	:	NBR, Viton			

Cylinder Mountings as per ISO 6431 and ISO 6432. All accessories can be installed or dismantled without removing cylinder covers.

OPTIONS

MANUAL OVERRIDE

- Latch wheel for auto/ manual
- Self locking on external force
- Safety key for excessive load
- Strokes upto 1800 mm
- Shaft made of special wear resistant steel for long life
- Type M01, M04, M06, HYMO



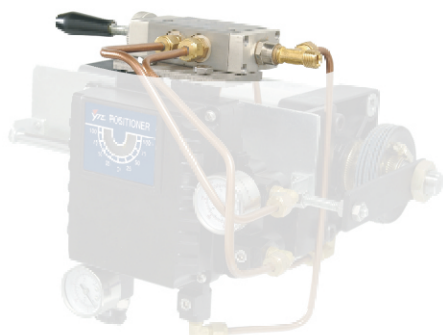
MANUAL OVERRIDE

Manual Override is used to operate the cylinder in an air failure mode. The latch wheel engages the lead nut. The handwheel rotates the Lead Screw. When the Screw rotates, the nut along with the arm moves the piston rod.

MATERIAL OF CONSTRUCTION

Body	:	Cast iron
Shaft	:	High-grade steel
Bearing	:	Sintered bronze

PROPORTIONATE POWER CYLINDER



AIRLOCK RELAY

- 5/2 airlock relay
 - Type ALR5F set at 3.5 bar
 - Type ALR5A Adjustable 3-10 bar
 - Type ALR5S for signal failure
- Zero leakage
- Auto release
- Bypass for manual operation
- Can be installed directly on 5/2 and 5/3 single or double solenoid ROTEK valve
- Choose option from page 155 to 156

FILTER REGULATOR

- 40µ standard filtration
- Autodrain on request
- Built in pressure gauge for easy reading
- Bowl with protection cover
- Size 1/4", 3/8", 1/2", 3/4 and 1"



JUNCTION BOX

- Provides 2 x 1/2"NPT input connection
- 6-way connector strip for connection
- Switches are prewired with cable glands
- Housing, pressure diecast, Epoxy powder coated
- SS 316/ CF8M on request



POSITIONER

RYT - 1200R

- Cam operated feed back
- Reversible type, can be reversed at site
- Sensitivity 0.1%
- Repeatability 0.15%
- Input 3 - 15 psi

RYT - 1000R with built in I/P convertor With input 4 - 20 mA.

RYT Smart 2500R

- Sensitivity 0.1%
- Auto setup
- Programmable stops from 4 - 20 mA.

POSITIONER

MODEL	RYT 1200R	RYT 1000R
Feed back	Spring	Spring
Control	Pneumatic	Electronic
Signal	0,2-1 bar or 3-15 psi	4-20 mA or 0-10 V
Nominal flow	600 NI/ min	600 NI/ min
Consumed flow	< 15NI/ min	< 15NI/ min
Sensitivity	< 0.005 bar	< 0.1 mA
Weight	1.0 kg	1.0 kg
Operating Temperature	-10 °C~70 °C	-10°C~70 °C

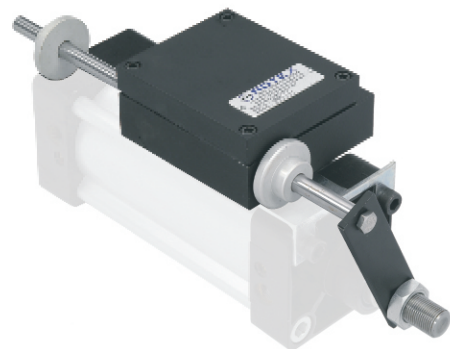
EXTRA OPTIONS



POSITION TRANSMITTER

PTR01/ CTR01/ DRT01

- 2 Wire system
- 24 V DC Max. 29 V DC
- Intrinsically safe, IP65
- Linearity 0.5% Full scale
- Zero and span can be adjusted
- SMART transmitter available
- Life > 1 million cycle
- Inductive/ capacitance or digital



LIMIT SWITCH

DLLW...

- IP65, Aluminium die cast body
- M20X1.5, 1/2" NPT twin cable entry
- Switching element
 - Micro switch : Honeywell, Cherry Max. 10 Amp.
 - Proximity : P & F, NAMUR (Intrinsic safe)
- Easy to set cam. Cover need not be opened to set cams
- Independent to stroke of power cylinder
- Terminal strip for easy cabling
- Explosion proof and IP67 available

LIMIT SWITCH

Rotex limit switch can be installed on cylinder directly.

Switching elements can be microswitch or proximity switch.

MATERIAL OF CONSTRUCTION

Body	: Aluminium Die Cast
Cam	: Aluminium, SS 304
Cam pin	: SS 304
Gasket	: Neoprene

SIZES

32 mm to 500 mm, non cushioned
type stroke up to 1500 mm.

ORDERING CODE

	CYLINDER	MOUNTING	DIAMETER	STROKE
	1	2	3	4
1	CYLINDER	SPC SCN C		
2	MOUNTING	PISTON ROD CYLINDER MOUNTING SPECIAL	※ ※ SU	
3	DIAMETER	Ø32 etc etc Ø1100	※ ※ ※ ※	
4	STROKE	STROKE	※	※ Choose necessary data from the respective chapters.

* Choose from the series

ORDERING CODE FOR ACCESSORIES

MANUAL OVERRIDE

Cylinder Bore	Model	Type
Ø32-Ø100	M01	Latch delatch gearbox with hand wheel Ø100
Ø125	MI03	Latch delatch gearbox with hand wheel Ø125
Ø160-Ø200	M04	Latch delatch gearbox with hand wheel Ø200
Ø250-Ø350	M06	Latch delatch gearbox with hand wheel Ø400
Ø400-Ø600	HYM01	Hydraulic override with hand pump and changeover valve circuit
Ø700-Ø900	HYM02	Hydraulic override with hand pump and changeover valve circuit
Ø1000-Ø1100	HYM03	Hydraulic override with hand pump and changeover valve circuit

AIR LOCK RELAY

Refer to page 155 to 156

FILTER REGULATOR

Refer to Chapter FRL page 159 to 185

POSITION TRANSMITTER

TYPE	RANGE	CODE
Inductive	Upto 1 km	PTR01
Capacitance	Upto 2 km	CTR01
Digital	Upto 20 km	DTR01

PET CYLINDER

ROTEX HOLLOW CYLINDERS IDEALLY SUITED FOR PET INDUSTRIES PROVIDING
HIGH LIFE, MODULAR SYSTEM

SERIES PE



FEATURES

- Burnished stretch rod
- PTFE Seal for piston
- PU seal for stretch rod
- 60 million life guaranteed
- Reed switch option available
- Pressure up to 20 bar

PET CYLINDER

Suitable For Blow Moulding & Pet Bottle Machine Manufacturing. Modular construction allows ease in alignment & various ISO mountings can be easily adopted.

ORDERING CODE

	TYPE	REED OPTION	NOSE MOUNTING	STRETCH ROD	BORE	STROKE
	1	2	3	4	5	6
1	TYPE	PE	Pet Cylinder			
2	REED OPTION	OO	Non magnetic			
		MAE	Magnetic			
3	NOSE MOUNTING	N1	Ø12 for Cyl. Ø50 and Ø63			
		N2	Ø16 for Cyl. Ø80 and Ø100			
4	STRETCH ROD	S1	Rod Ø 12 mm, Length 800 mm			
		S2	Rod Ø 12 mm, Length 900 mm			
		S3	Rod Ø 16 mm, Length 800 mm			
		S4	Rod Ø 16 mm, Length 1000 mm			
5	BORE	50				
		63				
		80				
		100				
6	STROKE	60				

ORDERING CODE

PE - N1 - S1 - 50/60. Hollow Cylinder bore Ø50 stroke 60 having front seal Ø50 & stroke rod Ø12, 800 mm long (Duly burnished. End of stretch rod to be machined as per need by customer)
Mountings & Reed switches to be ordered separately

KNOCKER CYLINDER

SUPER KNOCKER CYLINDER, DIRECT MOUNTING. SOLENOID VALVE DIRECTLY MOUNTED

SERIES KN



FEATURES

- Life guaranteed 10 million cycle
- Flange mounting or foot mounting
- Cylinder with ISO Dimension
- Spring return
- Frequency up to 30 Stroke/ min
- Knocker forces can be largely varied by increasing or decreasing weight of knocker
Consult Rotex
- Ex d, ATEX versions available

KNOCKER CYLINDER

Knocking can be adjusted by just adjusting/ rotating screw. Force can be varied by air pressure. Knocker can be fitted with all accessories, as per ISO. 3/2 high flow Rotex solenoid valve is a standard supply.

ORDERING CODE

	TYPE	COIL VOLTAGE	BORE	STROKE
	1	2	3	4
1	TYPE	KN	Knocker Cylinder	
2	SOLENOID VOLTAGE	24	V DC	
		48	V AC	
		110		
		220		
3	BORE	63		
		80		
4	STROKE	50		

ORDERING EXAMPLE

KN - 220VAC - 63/ 50, 63 mm bore diameter Knocker cylinder with 3/2, DAF213, 1/4" BSP high flow valve having solenoid voltage 220VAC

INSTALLATION

Recommended distance from surface to knocker head is 40 mm. Adjustment can be made by adjusting knocker head on piston rod
Lock nut should be fully tightened against knocker head

3 POSITION CYLINDER

MULTIPLE APPLICATION, WITH EXCELLENT INTERNAL STOPPERS TO PROVIDE

3 POSITION AT END

SERIES 3PA

FEATURES

- Compact assembly
- Highly accurate 3 position
- ISO dimensions on mountings
- Reed switch options available
- Stroke limited to max. 100 mm
- No Cushioning



3 POSITION CYLINDER

Widely used in packaging industries for having multiple positions. Compact body allows mounting within a small working area. Cushioning is not possible.

ORDERING CODE

	TYPE	REED OPTION	BORE	STROKE
	1	2	3	4
1	TYPE	3PA	3 Position Cylinder	
2	REED OPTION	OO	Non Magnetic	
		MAE	Magnetic	
3	BORE	32		
		40		
		50		
		63		
		80		
		100		
4	STROKE	2nd position	3rd position	
		50	25	
		100	25	
		100	50	

ORDERING EXAMPLE

3PA - MAE - 40/ 50+25

40 mm bore magnetic cylinder with total stroke 50 mm & stops at 0 - 25 - 50 mm.

Note : Mounting and Reed Switches to be ordered separately.

POWER CYLINDER WITH SOLENOID VALVE

ROTEX POWER CYLINDER IS IDEALLY SUITED IN CRITICAL APPLICATIONS AND CAN CONFIGURE WITH MULTIPLE OPTIONAL DEVICES WITHOUT LIMITATIONS

SERIES PS



FEATURES

- Can be mounted with any NAMUR valve, with some limitations, or solenoid valve can be tubed to the ports
- Can be mounted in any position in a very compact area
- All accessories of SPC/ SCN/ SCNC/ SCNCC, etc. Can be installed except centre trunnion with some limitations, or solenoid valve can be tubed to the ports. All dimensions as per ISO standards
- Eliminates the mounting brackets for solenoid valves And accessories

POWER CYLINDER

Built in Solenoid valve helps in minimizing installation cost. The power cylinder can be mounted in open using ROTEX weather proof Solenoid valves.

SOLENOID VALVE

5/2 single solenoid, double solenoid with a wide range of NAMUR solenoid valve can be mounted. All versions of solenoid options are available. NAMUR valve provides ease in interchangeability. Use Ex d, & Ex ia versions from fluid control range.

ACCESSORIES

Accessories like air filter regulators, air lock relays etc. can be installed. Contact ROTEX for such application

ORDERING CODE

COMPLETE CYLINDER CODE		+	COMPLETE SOLENOID VALVE CODE	
1			2	
1	COMPLETE CYLINDER CODE			Use this catalogue for the same
2	COMPLETE SOLENOID VALVE CODE			Use this catalogue and fluid control systems catalogue for the same

ORDERING EXAMPLE

PS - D - MP2 + LB2 - 100 /300 +VAD 213 - N - C - 220VAC
5/2 NAMUR single solenoid valve, 220 V AC is mounted on the cylinder Ø100 with rear trunnion & cardan having a stroke of 300 mm

The selection of solenoid valve can be done through the chapters on ROTEX solenoid valves in this book. For outdoor application/ dusty environment the solenoid valves preferred is poppet type and the same can be selected from the Catalogue on poppet valves.

PNEUMATIC VALVES



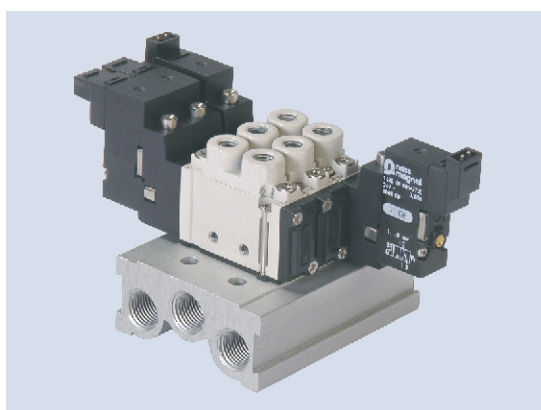
10 mm HIGH FLOW



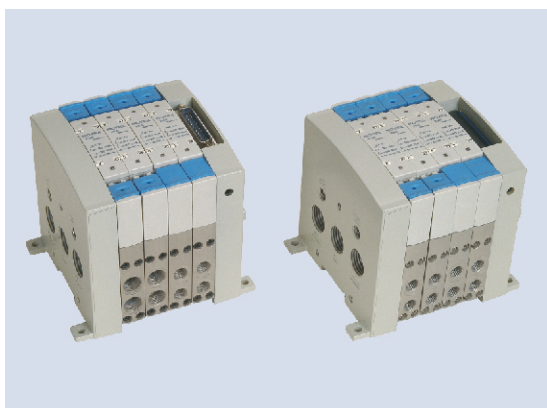
15 mm CONTACT VALVES



10 mm 3/2



10 mm SUBBASE



CARTRIDGE 15 mm



CARTRIDGE 15 mm

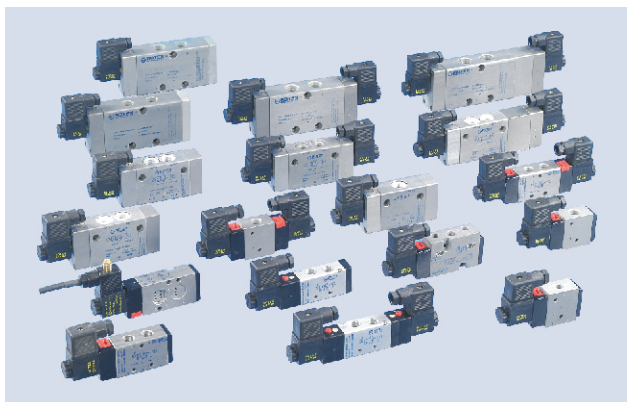


NAMUR 5/2

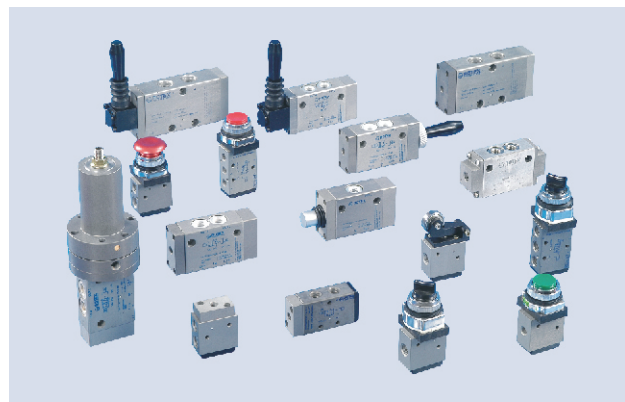


AIR LOCK RELAY

PNEUMATIC VALVES



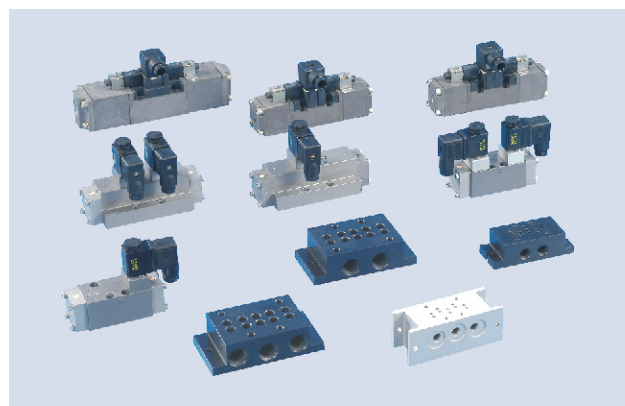
SOLENOID VALVES 22 mm



SPECIAL VALVES



SUBBASE MOUNTED VALVES



ISO 5599- 1/3 VALVES



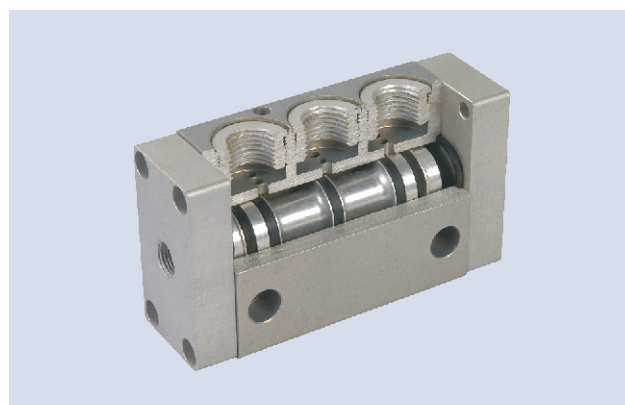
MANUAL VALVES



ROTARY HAND VALVE



PTFE GLYDRING 22 mm



PTFE GLYDRING 28 mm

SELECTION CRITERIA FOR SOLENOID VALVE

Select the type of valve from the chart based upon:

1. Operation mode desired.
2. Required orifice/ flow rate
3. Operating pressure range
4. Connection

3/2 DIRECT ACTING SOLENOID VALVE 10 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
FM013	1/8"	1.3	NC	0	8	86
FM063	1/4"	1.3	NC	0	8	86
FM163	1/8"	1.3	NO	0	8	86
FM263	1/4"	1.3	NO	0	8	86
FM113	SUBBASE	1.3	NC	0	8	86
FM163	SUBBASE	1.3	NO	0	8	86

3/2 DIRECT ACTING SOLENOID VALVE 15 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
GM013	1/8"	4.5	NC	0	8	87
GM063	1/4"	4.5	NC	0	8	87
GM213	1/4"	6.7	NC	0	8	87
GM413	1/2"	10	NC	0	8	87

3/2 DIRECT ACTING SOLENOID VALVE 22 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DE113	1/8"	1.3	NC	0	10	88
DE213	1/4"	1.3	NC	0	10	88
De163	1/8"	1.3	NO	0	10	88
DE263	1/4"	1.3	NO	0	10	89
DM113	SUBBASE	1.3	NC	0	10	89
DM163	SUBBASE	1.3	NO	0	10	89

3/2 SPOOL TYPE DUAL SOLENOID VALVE, IMPULSE TYPE

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DSA114	1/8"	4.5	NC	2	10	92
DSA214	1/4"	4.5	NC	2	10	92
DAF214	1/4"	6.7	NC	2	10	95
DAF414	1/2"	10	NC	2	10	97

SELECTION CRITERIA FOR SOLENOID VALVE

PILOT OPERATED VALVE

3/2 SPOOL TYPE SOLENOID VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DSA113	1/8"	4.5	NC	2.5	10	91
DSA213	1/4"	4.5	NC	2.5	10	91
DAF213	1/4"	6.7	NC	3.0	10	94
DAF263	1/4"	6.7	NO	3.0	10	94
DAF413	1/2"	10	NC	3.0	10	97
DAF463	1/2"	10	NO	3.0	10	97

3/2 SPOOL TYPE DOUBLE SOLENOID VALVE, IMPULSE TYPE

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DSA114	1/8"	4.5	NC	2.0	10	92
DSA214	1/4"	4.5	NC	2.0	10	92
DAF214	1/4"	6.7	NC	2.0	10	95
DAF414	1/2"	10	NC	2.0	10	98

5/2 SINGLE SOLENOID VALVE 10 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YQS0120	M5	1.8	5/2	1.0	8	100
YQSM0120	SUBBASE	1.8	5/2	1.0	8	100

5/2 SINGLE SOLENOID VALVE 15 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YQS1120	G 1/8"	3.0	5/2	1.0	8	101
YQSM1120	SUBBASE	3.0	5/2	1.0	8	101

5/2 DOUBLE SOLENOID VALVE 10 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YQS0220	M5	1.8	5/2	1.0	8	102
YQSM0220	SUBBASE	1.8	5/2	1.0	8	102

5/2 DOUBLE SOLENOID VALVE 15 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YQS1220	1/8"	3.0	5/2	1.0	8	103
YQSM1220	SUBBASE	3.0	5/2	1.0	8	103

SELECTION CRITERIA FOR SOLENOID VALVE

5/2 PILOT OPERATED SOLENOID VALVE

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE 10 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YQS0231	M5	1.8	Centre Exhaust	1.5	8	104
YQS0232	M5	1.8	Centre Off	1.5	8	104
YQS0233	M5	1.8	Centre Pressure	1.5	8	104
YQSM0231	SUBBASE	1.8	Centre Exhaust	1.5	8	105
YQSM0232	SUBBASE	1.8	Centre Off	1.5	8	105
YQSM0233	SUBBASE	1.8	Centre Pressure	1.5	8	105

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE 15 mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YQS1231	G 1/8"	3.0	Centre Exhaust	1.8	8	106
YQS1232	G 1/8"	3.0	Centre Off	1.8	8	3106
YQS1233	G 1/8"	3.0	Centre Pressure	1.8	8	106
YQSM1231	SUBBASE	3.0	Centre Exhaust	1.8	8	107
YQSM1232	SUBBASE	3.0	Centre Off	1.8	8	107
YQSM1233	SUBBASE	3.0	Centre Pressure	1.8	8	107

5/2 SPOOL TYPE SOLENOID VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAD113	1/8"	4.5	2	10	112
VAD213	1/4"	4.5	2	10	112
VAJ 213	1/4"	6	1	10	115
VAF213	1/4"	6.7	2	10	117
VAG213	SUBBASE	4.5	2	10	121
VAF413	1/2"	10	2	10	123

5/2 SPOOL TYPE DOUBLE SOLENOID VALVE, IMPULSE TYPE

MODEL No.	PORT CONNECTION	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAD114	1/8"	4.5	2	10	113
VAD214	1/4"	4.5	2	10	113
VAJ214	1/4"	6	1	10	116
VAF214	1/4"	6.7	2	10	118
VAG214	1/4"	4.5	2	10	121
VAF414	1/2"	10	2	10	124

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE, CENTRE EXHAUSTED

MODEL No.	PORT CONNECTION	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF215	1/4"	6.7	2	10	119
VAF415	1/2"	10	2	10	125

SELECTION CRITERIA FOR ROTEX SOLENOID VALVE

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE, CENTRE OFF

MODEL No.	PORT CONNECTION	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF255	1/4"	6.7	2	10	119
VAF455	1/2"	10	2	10	125

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE, CENTRE Pressurized

MODEL No.	PORT CONNECTION	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF275	1/4"	6.7	2	10	119
VAF475	1/2"	10	2	10	125

5/2 SPOOL TYPE SOLENOID VALVE WITH MOUNTING AS PER ISO 5599/ 1

MODEL No.	PORT CONNECTION	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
IVG113	SUBBASE	6.7	2	10	128
IVG114	SUBBASE	6.7	2	10	128
IVG155	SUBBASE	6.7	2	10	128
IVG313	SUBBASE	10	2	10	130
IVG314	SUBBASE	10	2	10	130
IVG355	SUBBASE	10	2	10	130

ISO Series valves are to be selected only when the application calls for.

5/2 NAMUR

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAD213NC	NAMUR	4.5mm	Single Solenoid	2.5	10.0	132
VAD214NC	NAMUR	4.5mm	Double Solenoid	2.5	10.0	132

CARTRIDGE SOLENOID VALVE 18mm

MODEL No.	PORT CONNECTION	ORIFICE mm	FUNCTION	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
YXE120	SEE OPTION	7.0	5/2 Single coil	2.5	8.0	133
YXE220	SEE OPTION	7.0	5/2 Double coil	2.0	8.0	133
YXE231	SEE OPTION	7.0	5/3 Centre off	3.5	8.0	133
YXE232	SEE OPTION	7.0	5/3 Centre pressure	3.5	8.0	133
YXE233	SEE OPTION	7.0	5/3 Centre exhaust	3.5	8.0	133
YXE321	SEE OPTION	7.0	3/2 NC/NC combination	2.5	8.0	133
YXE322	SEE OPTION	7.0	3/2 NC/NO combination	2.5	8.0	133
YXE323	SEE OPTION	7.0	3/2 NO/NO combination	2.5	8.0	133
YXE421	SEE OPTION	7.0	2/2 NC/NC combination	2.5	8.0	133
YXE422	SEE OPTION	7.0	2/2 NC/NO combination	2.5	8.0	133
YXE423	SEE OPTION	7.0	2/2 NO/NO combination	2.5	8.0	133

SELECTION CRITERIA FOR MANUAL VALVE

HAND OPERATED SPOOL VALVE

3/2 PUSH BUTTON/ SELECTOR SWITCH TYPE SPOOL VALVE

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DSA125	1/8"	3	0	10	145
DSA149	1/8"	3	0	10	145
DSA225	1/4"	4.5	0	10	145
DSA249	1/4"	4.5	0	10	145

3/2 - 5/2 PUSH PULL VALVE

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	FUNCTION	TYPE	MAXIMUM OPERATING PRESSURE bar	PAGE No.
SDAJ201B	1/4"	6.7	Manual Return	3/2	8	146
SDAJ201S	1/4"	6.7	Air/ Spring return	3/2	8	146
SVAJ201B	1/4"	6.7	Manual Return	5/2	8	147
SVAJ201S	1/4"	6.7	Air/ Spring return	5/2	8	147

3/2 HAND LEVER OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DAF204	1/4"	6.7	0	10	148
DAF205	1/4"	6.7	0	10	148
DAF404	1/2"	10	0	10	N8
DAF405	1/2"	10	0	10	N8

5/2 PUSH BUTTON/SELECTOR SWITCH TYPE SPOOL VALVE

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VA125	1/8"	3	0	10	N3
VA149	1/8"	3	0	10	N3
VA225	1/4"	4.5	0	10	N3
VA249	1/4"	4.5	0	10	N3

5/2 HAND LEVER OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF204	1/4"	6.7	0	10	149
VAF205	1/4"	6.7	0	10	149
VAF404	1/2"	10	0	10	N9
VAF405	1/2"	10	0	10	N9

SELECTION CRITERIA FOR MANUAL VALVE

5/3 HAND LEVER OPERATED SPOOL VALVE, CENTREL EXHAUSTED

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF206	1/4"	6.7	0	10	N7
VAF223	1/4"	6.7	0	10	N6
VAF406	1/2"	10	0	10	N10
VAF423	1/2"	10	0	10	N11

5/3 HAND LEVER OPERATED SPOOL VALVE, CENTRE OFF

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF256	1/4"	6.7	0	10	N7
VAF253	1/4"	6.7	0	10	N6
VAF456	1/2"	10	0	10	N10
VAF453	1/2"	10	0	10	N11

5/3 HAND LEVER OPERATED SPOOL VALVE, CENTRE Pressurized

MODEL No.	PORT CONNECTION BSP/NPT	ORIFICE mm	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
VAF276	1/4"	6.7	0	10	N7
VAF273	1/4"	6.7	0	10	N6
VAF476	1/2"	10	0	10	N10
VAF473	1/2"	10	0	10	N11

4/2 - 4/3 ROTARY VALVE

MODEL No.	FUNCTION	PORT CONNECTION BSP/NPT	ORIFICE mm	FUNCTION	MAXIMUM OPERATING PRESSURE bar	PAGE No.
RAQ206	4/3	1/4"	6	Centre Exhaust	10	154
RAQ276	4/3	1/2"	6	Centre Pressurized	10	154
RAQ256	4/3	1/2"	6	Centre Off	10	154

3/2 WAY SINGLE AIR, SPRING RETURN SPOOL VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	OPERATING PRESSURE bar	PILOT PRESSURE bar
DSA110	1/8"	3	0-10	2
DSA210	1/4"	3	0-10	2
DAF210	1/4"	6.7	0-10	3
DAF410	1/2"	10	0-10	2

SELECTION CRITERIA FOR AIR OPERATED VALVE

AIR OPERATED SPOOL VALVE

3/2 WAY DOUBLE AIR SPOOL VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	OPERATING PRESSURE bar	PILOT PRESSURE bar
DSA111	1/8"	3	0-10	2
DSA211	1/4"	3	0-10	2
DAF211	1/4"	6.7	0-10	2
DAF411	1/2"	10	0-10	2

5/2 WAY SINGLE AIR, SPRING RETURN SPOOL VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	OPERATING PRESSURE bar	PILOT PRESSURE bar
VA110	1/8"	3	0-10	2
VA210	1/4"	3	0-10	2
DAF210	1/4"	6.7	0-10	3
DAF410	1/2"	10	0-10	2

5/2 WAY DOUBLE AIR SPOOL VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	OPERATING PRESSURE bar	PILOT PRESSURE bar
VA111	1/8"	3	0-10	2
VA211	1/4"	3	0-10	2
VAF211	1/4"	6.7	0-10	3
VAF410	1/2"	10	0-10	2

5/2 WAY DOUBLE AIR WITH DIFFERENTIAL PRESSURE SPOOL VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	OPERATING PRESSURE bar	PILOT PRESSURE bar
VA162	1/8"	3	0-10	2
VA262	1/4"	3	0-10	2
VAF262	1/4"	6.7	0-10	2
VAF462	1/2"	10	0-10	2

5/2 WAY DOUBLE AIR WITH DIFFERENTIAL PRESSURE SPOOL VALVE

MODEL No.	FUNCTION	PORT CONNECTION	ORIFICE mm	OPERATING PRESSURE bar	PILOT PRESSURE bar
VAF212	Central Exhausted	1/4"	6.7	0-10	2
VAF252	Central Off	1/4"	6.7	0-10	2
VAF272	Central Pressurized	1/4"	6.7	0-10	2
VAF412	Central Exhausted	1/2"	10	0-10	2
VAF452	Central Off	1/2"	10	0-10	2
VAF472	Central Pressurized	1/2"	10	0-10	2

SELECTION CRITERIA FOR AIR OPERATED VALVES

AIR LOCK RELAY

MODEL No.	PORT CONNECTION	ORIFICE mm	SENSITIVITY	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
ALR32	1/4"	6.7	3.0	3	10	155
ALR34	1/2"	10.0	3.0	3	10	155
ALR42	1/4"	6.7	3.0	3	10	155
ALR44	1/2"	10.0	3.0	3	10	155

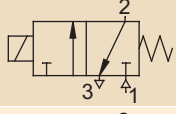
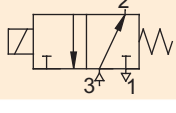
AIR LOCK RELAY

MODEL No.	PORT CONNECTION	ORIFICE mm	SENSITIVITY	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
SENALR32	1/4"	6.7	0.3	3	10	156
SENALR34	1/2"	10.0	0.3	3	10	156
SENALR42	1/4"	6.7	0.3	3	10	156
SENALR44	1/2"	10.0	0.3	3	10	156

MECHANICALLY OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION	ORIFICE mm	OPERATION	RETURE	MINIMUM OPERATING PRESSURE bar	MAXIMUM OPERATING PRESSURE bar	PAGE No.
DSA101	1/8"	3.0	Pin	Spring	0	10	157
VA101	1/8"	3.0	Pin	Spring	0	10	157
DSA101D	1/8"	3.0	Pin	Pin	0	10	157
VA101D	1/8"	3.0	Pin	Pin	0	10	157
DSA107	1/8"	3.0	Lever	Spring	0	10	157
VA107	1/8"	3.0	Lever	Spring	0	10	157
DSA107A	1/8"	3.0	Lever	Air	0	10	157
VA107A	1/8"	3.0	Lever	Air	0	10	157
DSA117	1/8"	3.0	Bearing Lever	Spring	0	10	157
VA117	1/8"	3.0	Bearing Lever	Spring	0	10	157
DSA117A	1/8"	3.0	Bearing Lever	Air	0	10	157
VA117A	1/8"	3.0	Bearing Lever	Air	0	10	157
DSA127	1/8"	3.0	Sensitive Lever	Air Spring	0	10	157
DSA120	1/8"	3.0	Air 5-20 mbar	Air Spring	0	10	157
DSA129	1/8"	3.0	Delay Air (Timer Off)	Spring	0	10	157
DSA132	1/8"	3.0	Air	Air	0	10	157
DSA139	1/8"	3.0	Delay Air(Timer On)	Spring	0	10	157
DSA162	1/8"	3.0	Air	Air	0	10	157

3/2 DIRECT ACTING SOLENOID VALVE MANIFOLD MOUNTED

MODEL No.	PORT CONNECTION	FUNCTION	WIDTH	SYMBOL
FM013	SUBBASE	NORMALLY CLOSED	10 mm	
FM063	SUBBASE	NORMALLY OPEN	10 mm	



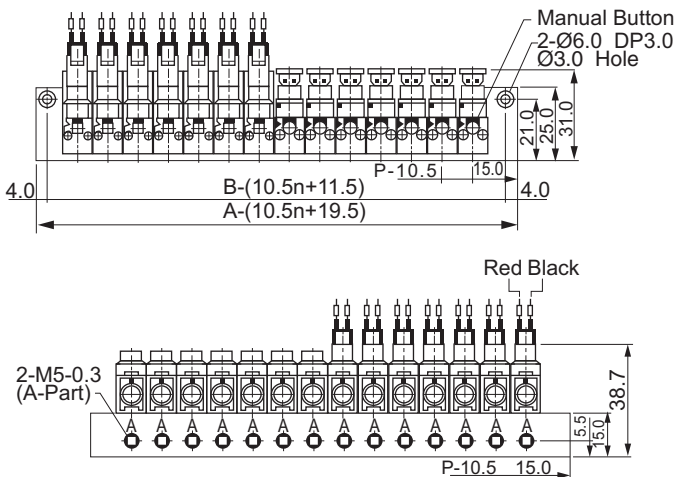
FEATURES

- 10 mm Solenoid Valve
- Manifold mounted
- Compact design
- Solenoid continuous duty rated
- Lubrication not required
- Maximum speed 1800 cycles/ min.

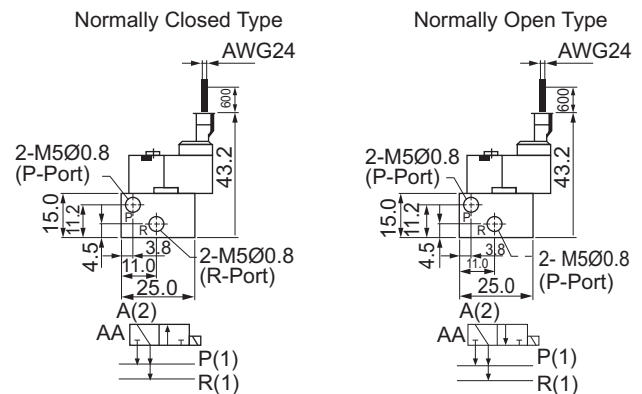
TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	1-8 bar
Mounting	Directly on manifold	Temperature range	5 °C - 60 °C
Orifice	0.6 mm	Response time-@5 bar	10 ms or Less
Flow factor (kv)	0.21 l/ min	Operating voltage	12V DC/ 24V DC
Flow rate (Qn)	15 l/ min	Power consumption	0.65 W
		Material of construction	Techno polymer

DIMENSIONS



3-PORT MANIFOLD BLOCK DIMENSION

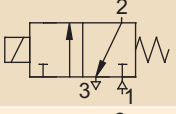
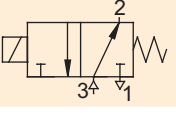


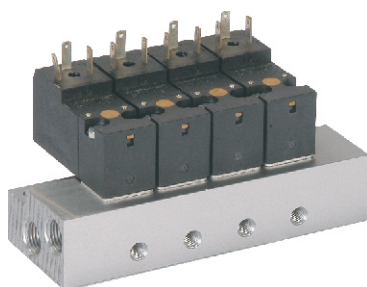
A/ B: DIMENSIONS													
N/ ITEM	2	3	4	5	6	7	8	9	10	11	12	13	14
B	32.5	43.0	53.5	64.0	74.5	85.0	95.5	106.0	116.5	127.0	137.5	148.0	158.5
A	40.5	51.0	61.5	72.0	82.5	93.0	114.0	124.5	135.0	145.5	156.0	166.5	166.5

ORDERING EXAMPLE

FM013-SB-24V-DC 3/2 Normally Closed, 24V DC, 10mm Width

3/2 DIRECT ACTING SOLENOID VALVE MANIFOLD MOUNTED

MODEL No.	PORT CONNECTION	FUNCTION	WIDTH	SYMBOL
GM013	SUBBASE	NORMALLY CLOSED	15 mm	
GM063	SUBBASE	NORMALLY OPEN	15 mm	



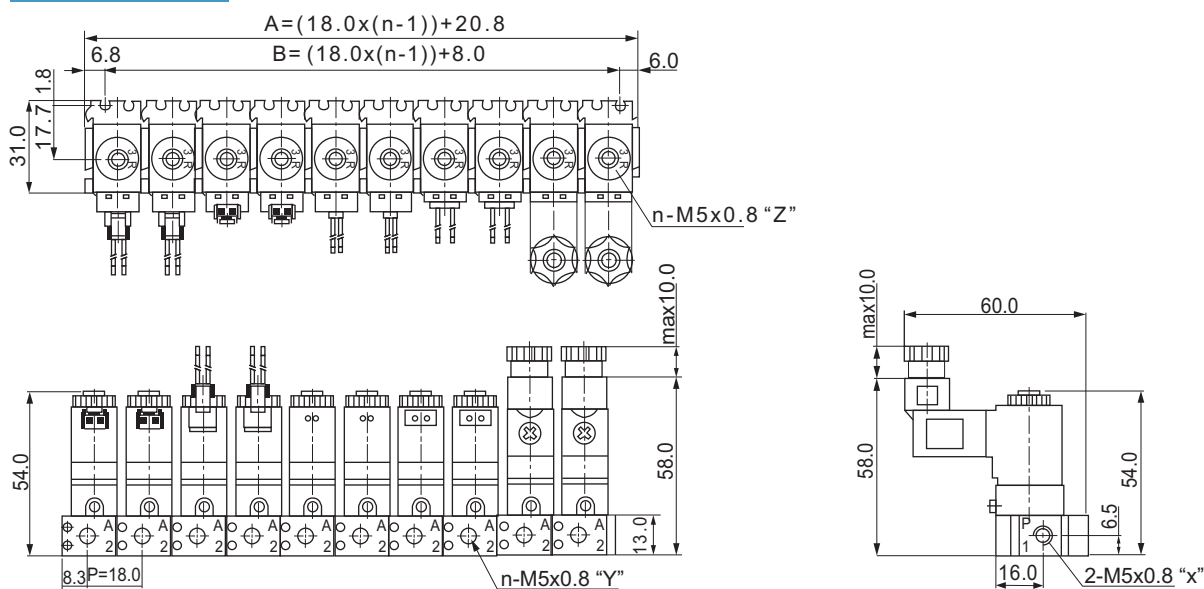
FEATURES

- 15 mm Solenoid Valve
- Manifold mounted
- Compact design
- Solenoid continuous duty rated
- Lubrication not required
- Maximum speed 600 cycles/ min.

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered	Temperature range	5°C - 60°C
	lubricated or unlubricated	Response time-@5 bar	20 ms or Less
Mounting	Directly on manifold	Operating voltage	12,24,110V DC
Orifice	1.1 mm	Power consumption	24,110,220V AC, DC 2.5 W/ AC 3.5 VA
Flow factor (kv)	0.35 l/min	Material of construction	Techno polymer
Flow rate (Qn)	25 l/min		
Operating pressure range	0-8 bar		

DIMENSIONS



A/ B: DIMENSIONS									
N/ ITEM	2	3	4	5	6	7	8	9	10
A	38.8	56.8	74.8	92.8	110.8	128.8	146.8	164.8	182.8
B	26.0	44.0	62.0	80.0	98.0	116.0	134.0	152.0	170.0

ORDERING EXAMPLE

GM013-SB-24V-DC 3/2 Subbase mounted, 24V DC 15mm Width Solenoid Valve

3/2 DIRECT ACTING SOLENOID VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DE113	G1/8"	NORMALLY CLOSED	
DE213	G1/4"		
DE163	G1/8"	NORMALLY OPEN	
DE263	G1/4"		



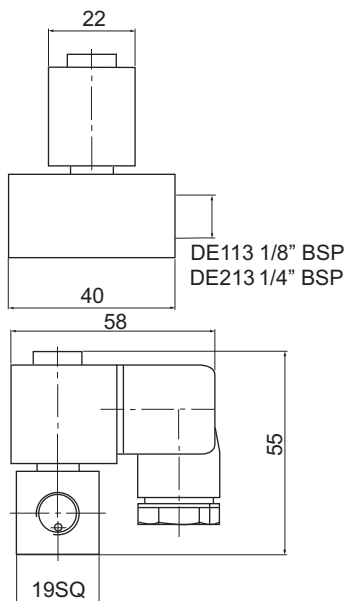
FEATURES

- Direct Acting
- Mounts in any position
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 2000 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	0-10 bar
Mounting	Directly on manifold	Temperature range	-10 °C to +70 °C
Orifice	1.3 mm	Response time-@5 bar	On time 12msec, off time 13 msec
Flow factor	Kv= 0.025m ³ / hr, kv= 0.42 l/ min	Operating voltage	Refer page 125
Flow rate (Qn)	27.5 l/ min	Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



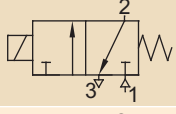
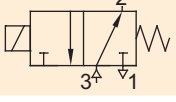
ORDERING CODE

MODEL	PORT	VOLTAGE	CURRENT
1	2	3	4
1	MODEL	DE	113 Normally Closed 1/8"
		DE	213 Normally Closed 1/4"
		DE	163 Normally Open 1/8"
		DE	263 Normally Open 1/4"
2	PORT	1Q	1/8" BSP
		1N	1/8" NPT
		2Q	1/8" BSP
		2N	1/4" NPT
3	VOLTAGE		12, 24, 48, 110, 220, 240
4	CURRENT	AC	50 Hz or 60 Hz
		DC	

ORDERING EXAMPLE

DE113 - 1G - 24V - DC 3/2 Direct Acting, 1/8" B10
24V DC Solenoid Valve

3/2 DIRECT ACTING SOLENOID VALVE MANIFOLD MOUNTED

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DM113	SUBBASE	NORMALLY CLOSED	
DM163	SUBBASE	NORMALLY OPEN	



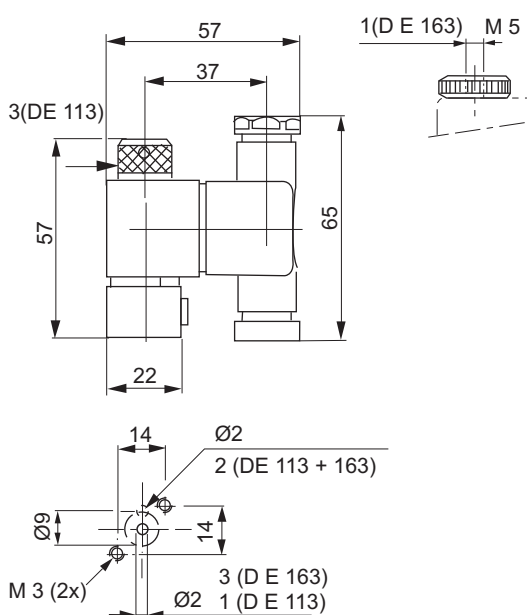
FEATURES

- Manifold mounted, ease of maintenance
- Direct Acting
- Mounts in any position
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 2000 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	0-10 bar
Mounting	Directly on manifold	Temperature range	-10 °C to + 70 °C
Orifice	1.3 mm	Response time-@5 bar	On time 12 msec, off time 13 msec
Flow factor	$K_v = 0.025 m^3 / hr$, $k_v = 0.42 l / min$	Operating voltage	Refer page 125
Flow rate (Qn)	27.5 l / min	Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	PORT	VOLTAGE	CURRENT	BODY MATERIAL	MANUAL OVERRIDE
1	2	3	4	5	6
1	MODEL		DM	113 Normally Closed 1/8"	
			DM	213 Normally Closed 1/4"	
			DM	163 Normally Open 1/8"	
			DM	263 Normally Open 1/4"	
2	PORT		1Q	1/8" BSP	
			1N	1/8" NPT	
			2Q	1/8" BSP	
			2N	1/4" NPT	
3	VOLTAGE			12, 24, 48, 110, 220, 240	
4	CURRENT		AC	50 Hz or 60 Hz	
			DC		
5	BODY MATERIAL		×	Aluminium	
			B2	Brass	
			B5	SS 316	
6	MANUAL OVERRIDE		×	Nil	
			M2	Screwdriver	

VL (SUBBASE) MANIFOLD FOR DM SERIES VALVE

5



FEATURES

- Ease of maintenance
- Solenoid capable of turning 180°
- Compact design
- Blanking plate can be installed or removed as per need according to future requirements. In case customer wish to add extra valve
- Inlet & Outlet on manifold

ORDERING CODE

MODEL	NO. OF VALVES	INLET	OUTLET	
1	2	3	4	
1	MODEL	VL		
2	NO. OF VALVES	TYPE	MAX. VALVES	
		VL	12	
3	INLET	SIZE	BSP	NPT
		1/8", 1/4"	1R, 2R	1N, 2N
4	OUTLET	SIZE	BSP	NPT
		1/8", 1/4"	1R, 2R	1N, 2N

ORDERING EXAMPLE

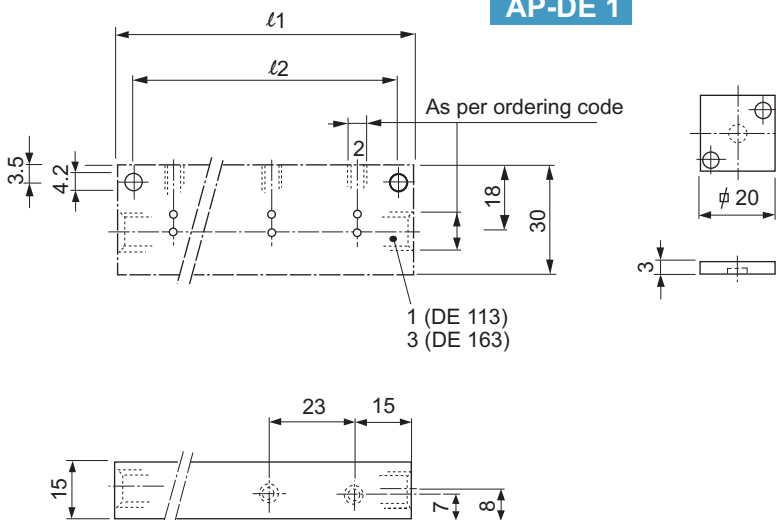
VL - 10 - 1R - 1R

10 number of DMI113 on manifold with 1/8" BSP inlet & BSP outlet.

DIMENSIONS

VL

AP-DE 1



MODEL	L1	L2
VL-01	30	23
VL-02	53	46
VL-03	76	69
VL-04	99	92
VL-05	122	115

3/2 SPOOL TYPE SOLENOID VALVE

MODEL NO.	PORT CONNECTION	FUNCTION	SYMBOL
DSA113	G1/8"	NORMALLY CLOSED	
DSA213	G1/4"		



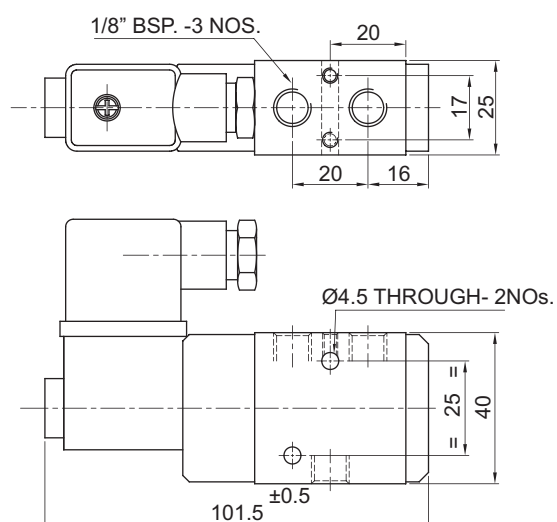
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change the position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance due to low strokes
- Maximum speed 1000 cycles/ min
- Ports BSP standard, NPT on request

TECHNICAL SPECIFICATION

Model	DSA113	DSA213	Flow rate (Qn)	290 ℓ/ min	462 ℓ/ min
Media	Compressed air, 50 um, filtered lubricated or unlubricated		Operating pressure range	2-10 bar	
Mounting	Through holes in housing, also suitable for mounting on manifold		Temperature range	-10 °C to +70 °C	
Orifice	3 mm	4.5 mm	Response time-@5 bar	On time 20 msec, off time 22 msec	
Flow factor (kv)	kv= 4 ℓ/ min,	kv= 7 ℓ/ min	Manual Override	Screw driver type	
Connection	1/8"	1/4"	Operating voltage	Refer page 125	
			Power consumption	Refer page 125	
			Material of construction	Aluminium	

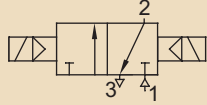
DIMENSIONS

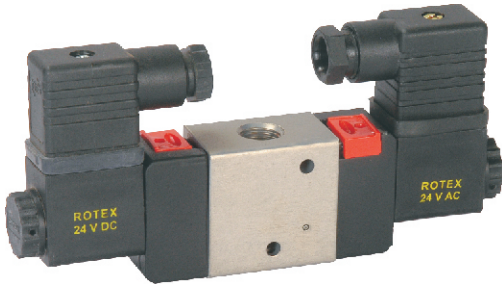


ORDERING CODE

MODEL	CONNECTION	VOLTAGE	CURRENT
1	2	3	4
1	MODEL	DSA 113 DSA213	
2	CONNECTION	1/8" BSP 1G 1/8" NPT 1N 1/4" BSP 2G 1/4" NPT 2N	
3	VOLTAGE	12, 24, 48, 110, 220, 240	
4	CURRENT	AC DC	

3/2 SPOOL TYPE SOLENOID VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DSA114	G1/8"	BISTABLE	
DSA214	G1/4"		



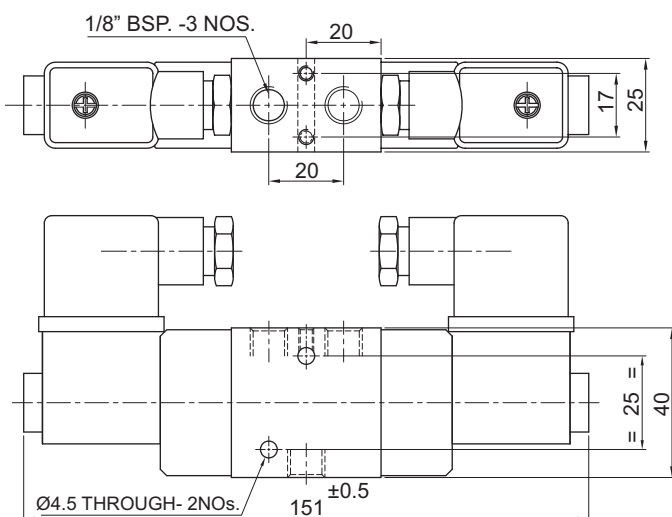
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change the position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

Model	DSA114	DSA214	Flow rate (Qn)	290 l/ min	462 l/ min
Media	Compressed air, 50 um, filtered lubricated or unlubricated		Operating pressure range	2-10 bar	
Mounting	Through holes in housing, also suitable for mounting on manifold		Temperature range	-10 °C to +70 °C	
Orifice	3 mm	4.5 mm	Response time-@5 bar	On time 20 msec, off time 22 msec	
Flow factor (kv)	Kv= 4 l/ min	kv= 7 l/ min	Manual Override	Screw driver type	
Connection	1/8"	1/4"	Operating voltage	Refer page 125	
			Power consumption	Refer page 125	
			Material of construction	Aluminium	

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE	CURRENT
1	2	3	3
1	MODEL	DSA 114 DSA 214	
2	CONNECTION	1/8" BSP 1G 1/8" NPT 1N 1/4" BSP 2G 1/4" NPT 2N	
3	VOLTAGE	12, 24, 48, 110, 220, 240	
4	CURRENT	AC DC	

DL (SUB BASE) MANIFOLD FOR DSA SERIES VALVES



FEATURES

- Ease of maintenance
- Inlet & exhaust on the manifold.
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve
- Connecting plug preferred position top and vertical

ORDERING CODE

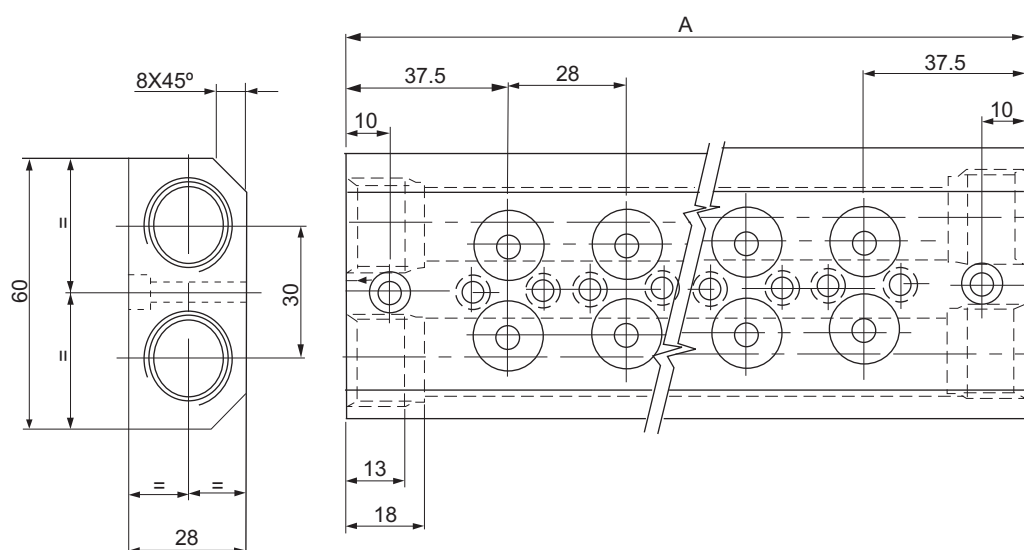
MODEL	NO. OF VALVES	INLET
1	2	3

1	MODEL	DL		
2	NO. OF VALVES	TYPE	MAX. VALVES	
		DL	12	
3	INLET	SIZE	BSP	NPT
		1/8", 1/4",	1G, 2G,	1N, 2N,
		3/8", 1/2"	3G, 4G	3N, 4N

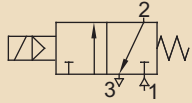
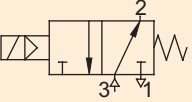
ORDERING EXAMPLE

DL - 06 - 4G.
6 Nos. of DSA 113 valve on manifold with
Inlet & exhaust 1/2" BSP

DIMENSIONS



3/2 SPOOL TYPE HIGH ORIFICE SOLENOID VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DAF213	G1/4"	NORMALLY CLOSED	
DAF263	G1/4"	NORMALLY OPEN	



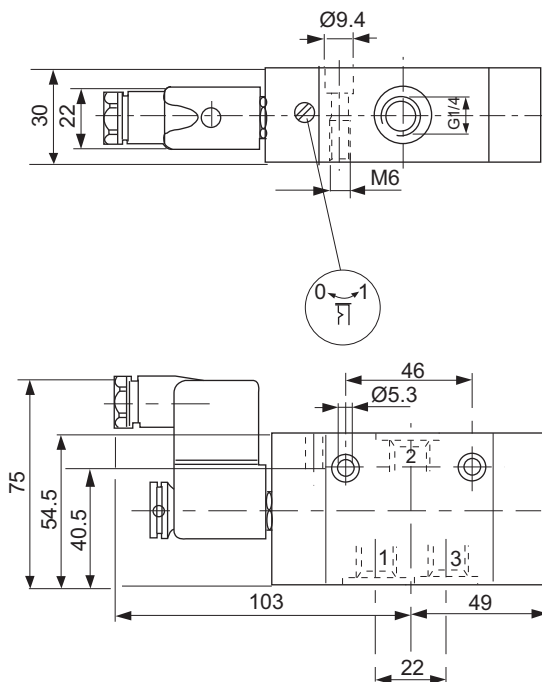
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Noiseless performance
- Maximum speed 800 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered Lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	-5 °C to +70 °C
Orifice	6.7 mm	Response time-@5 bar	On time 28 msec, off time 36 msec
Flow factor (kv)	Kv= 0.90m ³ hr, kv= 15 l/ min	Manual Override	Push type & rotate to lock
Flow rate (Qn)	990 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

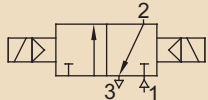
DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	COIL VOLTAGE	CURRENT
1	2	3	4
1	MODEL	DAF 213 DAF 263	
2	CONNECTION	1/8" BSP 1G 1/8" NPT 1N 1/4" BSP 2G 1/4" NPT 2N	
3	COIL VOLTAGE	12, 24, 48, 110, 220, 240	
4	CURRENT	AC DC	

3/2 SPOOL TYPE SOLENOID VALVE

MODEL NO.	PORT CONNECTION	FUNCTION	SYMBOL
DAF214	G1/4"	BISTABLE	



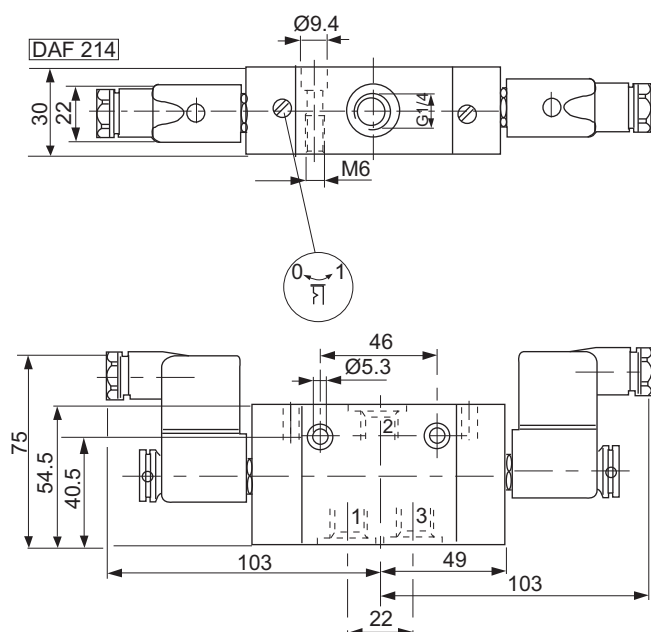
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to Change the position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 800 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	-5 °C to +70 °C
Orifice	6.7 mm	Response time-@5 bar	On time 28 msec, off time 36 msec
Flow factor (kv)	Kv= 0.90m ³ hr, kv= 15 l/ min	Manual Override	Push type & rotate to lock
Flow rate (Qn)	990 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE	CURRENT
1	2	3	4
1	MODEL	DAF 214	
2	CONNECTION	1/8" BSP 1G 1/8" NPT 1N 1/4" BSP 2G 1/4" NPT 2N	
3	VOLTAGE	12, 24, 48, 110, 220, 240	
4	CURRENT	AC DC	

CL (SUBBASE) MANIFOLD FOR DAF 1/4" SERIES VALVES



FEATURES

- Ease of maintenance
- Inlet & exhaust on the manifold
- Solenoid capable of turning 180°
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve

ORDERING CODE

MODEL — NO. OF VALVES — INLET/ EXHAUST

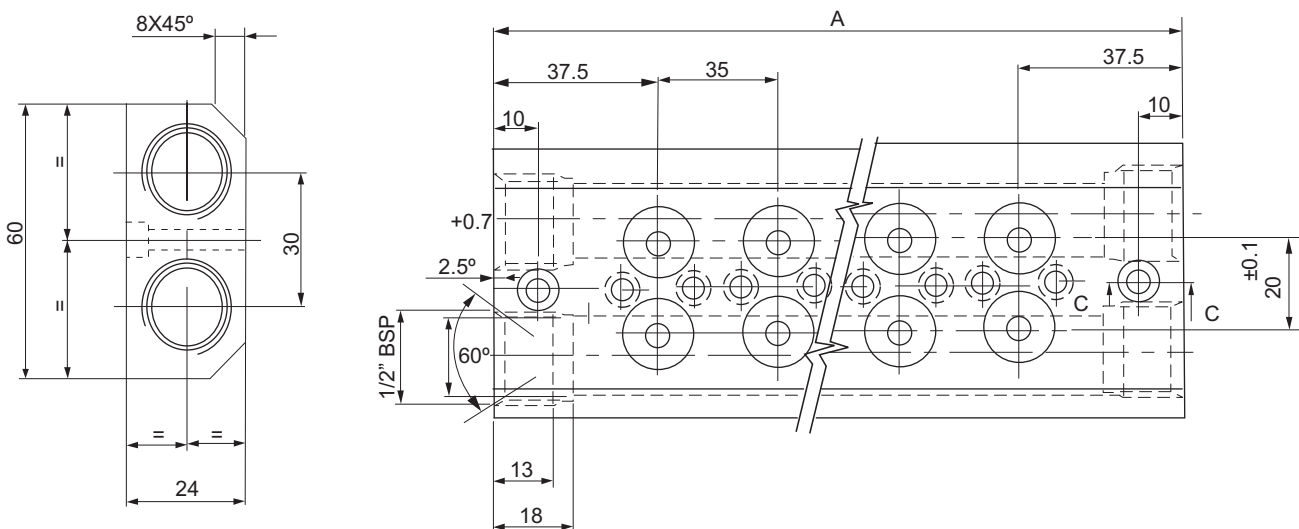
1 2 3

1	MODEL	CL		
2	NO. OF VALVES	TYPE	MAX. VALVES	
		CL	12	
3	INLET/ EXHAUST	SIZE	BSP	NPT
		1/8", 1/4",	1G, 2G,	1N, 2N,
		3/8", 1/2"	3G, 4G	3N, 4N

ORDERING EXAMPLE

CL - 04 - 4G.
4 Nos. 3/2 DAF 213 with manifold inlet 1/2" BSP

DIMENSIONS



3/2 SPOOL TYPE SOLENOID VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DAF413	G1/2"	NORMALLY CLOSED	
DAF463	G1/2"	NORMALLY OPEN	



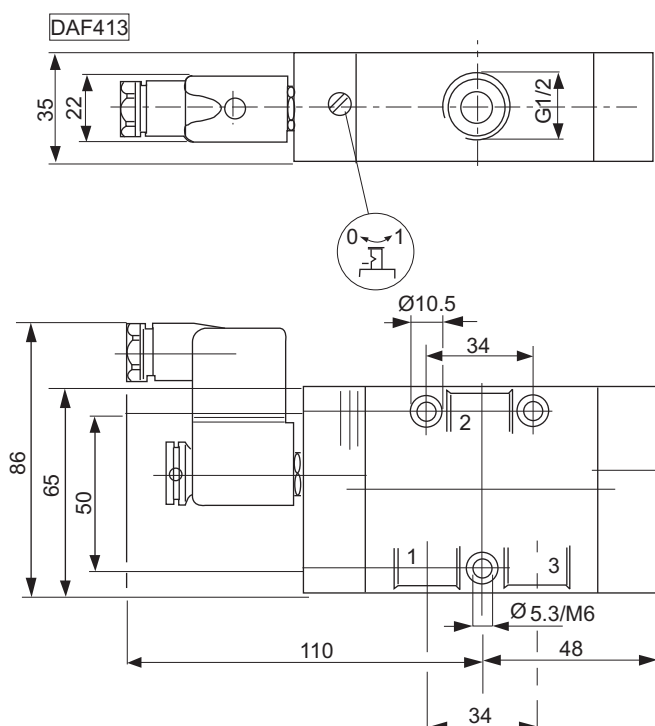
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change the Position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 500 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. Filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	- 5 °C to +70 °C
Orifice	10 mm	Response time-@5bar	On time 32 msec, Off time 48 msec
Flow factor	Kv = 2 m³/ hr, kv = 33 l/ min	Manual override	Push type & rotate to lock
Flow rate (Qn)	2200 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE	CURRENT
1	2	3	4
1	MODEL	DAF 413 DAF 463	
2	CONNECTION	TYPE 1/2" BSP 1/2" NPT	CODE 4G 4N
3	VOLTAGE	12, 24, 48, 110, 220, 240	
4	CURRENT	AC DC	

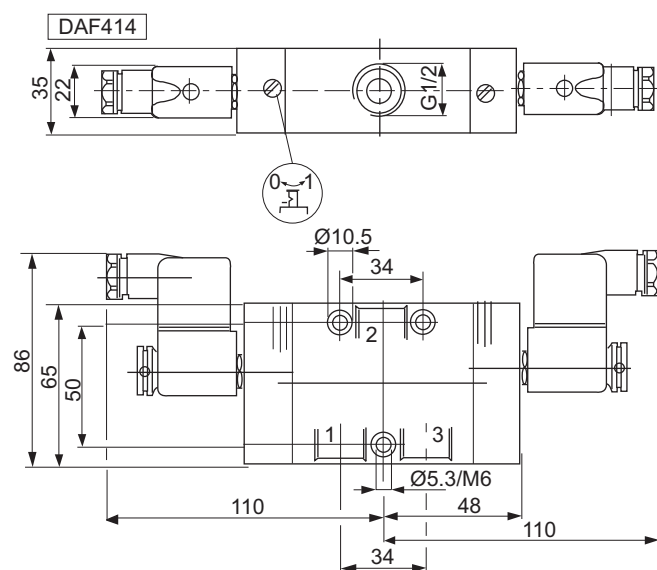
MODEL NO.	PORT CONNECTION	FUNCTION	SYMBOL
DAF414	G1/2"	NORMALLY CLOSED	



- Mounts in any position
- Solenoid cover can be turned by 180° to change the Position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 500 cycles/ min

Media	Compressed air, 50µm. Filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
		Temperature range	- 5 °C to +70 °C
Mounting	Through holes in housing, also suitable for mounting on manifold	Response time-@5bar	On time 32 msec, Off time 48 msec
		Manual override	Push type & rotate to lock
Orifice	10 mm	Operating voltage	Refer page 125
Flow factor	Kv = 2 m³/ hr, kv = 33 ℓ/ min	Power consumption	Refer page 125
Flow rate (Qn)	2200 ℓ/ min	Material of construction	Aluminium

MODEL	CONNECTION	VOLTAGE	CURRENT
1	2	3	4
1	MODEL	DAF 414	
2	CONNECTION	TYPE	CODE
		1/2" BSP	4G
		1/2" NPT	4N
3	VOLTAGE	12, 24, 48, 110, 220, 240	
4	CURRENT	AC	
		DC	



FEATURES



- Ease of maintenance
- Inlet & exhaust on the manifold
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve

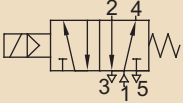
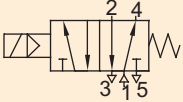
MODEL	NO. OF VALVES	INLET/ EXHAUST
1000	4	2/2
1200	4	2/2
1500	4	2/2
1800	4	2/2
2000	4	2/2
2200	4	2/2
2400	4	2/2
2600	4	2/2
2800	4	2/2
3000	4	2/2
3200	4	2/2
3400	4	2/2
3600	4	2/2
3800	4	2/2
4000	4	2/2
4200	4	2/2
4400	4	2/2
4600	4	2/2
4800	4	2/2
5000	4	2/2
5200	4	2/2
5400	4	2/2
5600	4	2/2
5800	4	2/2
6000	4	2/2
6200	4	2/2
6400	4	2/2
6600	4	2/2
6800	4	2/2
7000	4	2/2
7200	4	2/2
7400	4	2/2
7600	4	2/2
7800	4	2/2
8000	4	2/2
8200	4	2/2
8400	4	2/2
8600	4	2/2
8800	4	2/2
9000	4	2/2
9200	4	2/2
9400	4	2/2
9600	4	2/2
9800	4	2/2
10000	4	2/2

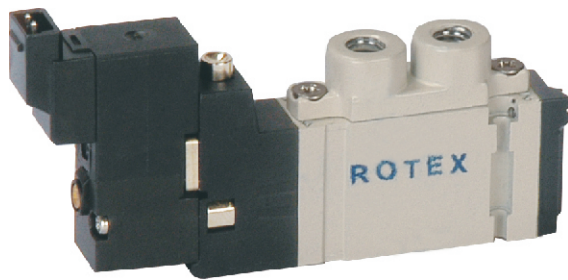
1	2	3		
1	MODEL	KL		
2	NO. OF VALVES	TYPE	MAX. VALVES	
		KL	12	
3	INLET/ EXHAUST	SIZE	BSP	NPT
		1/2", 3/4"	4G, 6G,	4N, 6N,

4 Nos DAF4 valves on manifold inlet 1/2" BSP

[illegible]

5/2 SPOOL TYPE SINGLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS0120	M5	10 mm	
YQSM0120	Subbase Mounted, all ports in manifold	10 mm	



FEATURES

- 10 mm Solenoid Valve Ø4 quick connector
- Body ported/ Manifold mounted
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 1000 cycles/ min

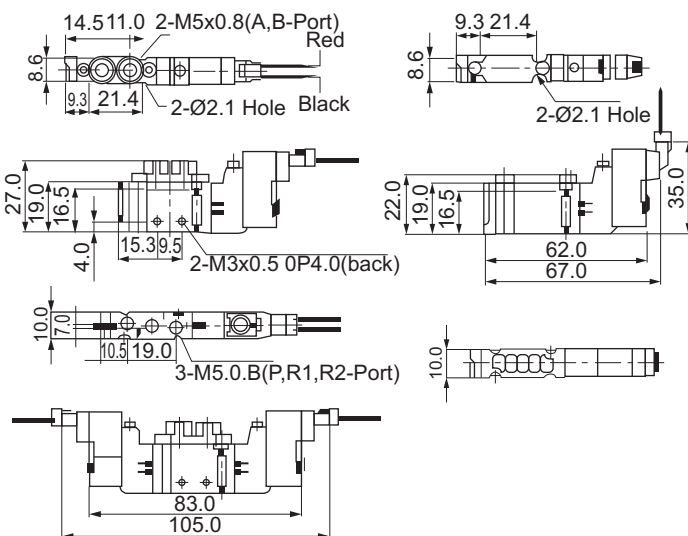
TECHNICAL SPECIFICATION

MODEL	YQS0120
Media	Compressed air, 50 um, filtered lubricated or unlubricated
Mounting	Through tapping in housing, also suitable for mounting on manifold
Orifice	1.8 mm
Flow factor (kv)	1.82 l/ min
Flow rate (Qn)	130 l/ min

MODEL	YQS0120
Operating pressure range	2-7 bar
Temperature range	5 °C - 60 °C
Response time-@5 bar	20 ms or Less
Operating voltage	12V DC/ 24V DC
Power consumption	0.65 W
Material of construction	Techno polymer

DIMENSIONS

YQS0120 10 mm.



ORDERING CODE

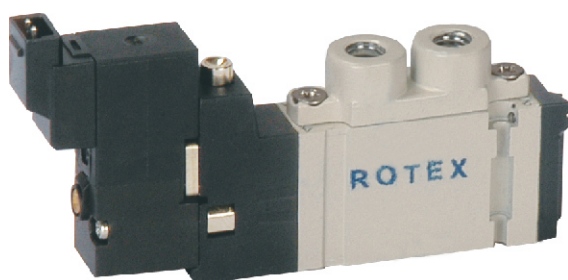
MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQS0120 All connection on body Single Solenoid YQSM0120 All Ports are in the Subbase Single Solenoid
2	CONNECTION	M5 M5 Connection T4 4 mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

ORDERING EXAMPLE

YQS0120-M5-24 V DC 5/2 Solenoid Valve
10mm width, 24V DC port M5

5/2 SPOOL TYPE SINGLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS1120	G1/8"	15 mm	
YQSM1120	Subbase Mounted, all ports in manifold	15 mm	



FEATURES

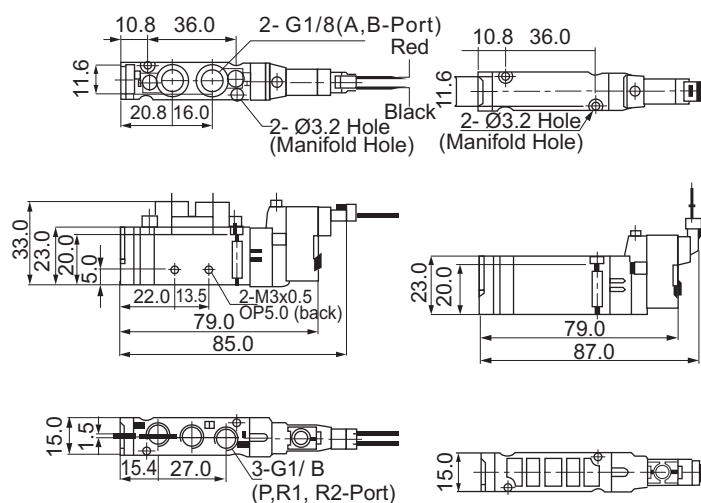
- 15 mm Solenoid Valve Ø4 quick connector
- Body ported/ Manifold mounted
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

MODEL	YQS1120	MODEL	YQS1120
Media	Compressed air, 50 µm, filtered lubricated or unlubricated	Operating pressure range	2-7 bar
Mounting	Through tapping in housing, also suitable for mounting on manifold	Temperature range	5 °C - 60 °C
Orifice	3.0 mm	Response time-@5 bar	25 ms or Less
Flow factor (kv)	6.3 l/ min	Operating voltage	12V DC/ 24V DC
Flow rate (Qn)	450 l/ min	Power consumption	0.65 W
		Material of construction	Techno polymer

DIMENSIONS

YQS1120 15 mm.



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQS1120 All connection on body Single Solenoid YQSM1120 All Ports are in the Subbase Single Solenoid
2	CONNECTION	M5 1/8" BSP 1G 1/8" BSP T4 4mm tubing connector T6 6mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

5/2 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS0220	M5	10 mm	
YQSM0220	Subbase Mounted, all ports in manifold	10 mm	



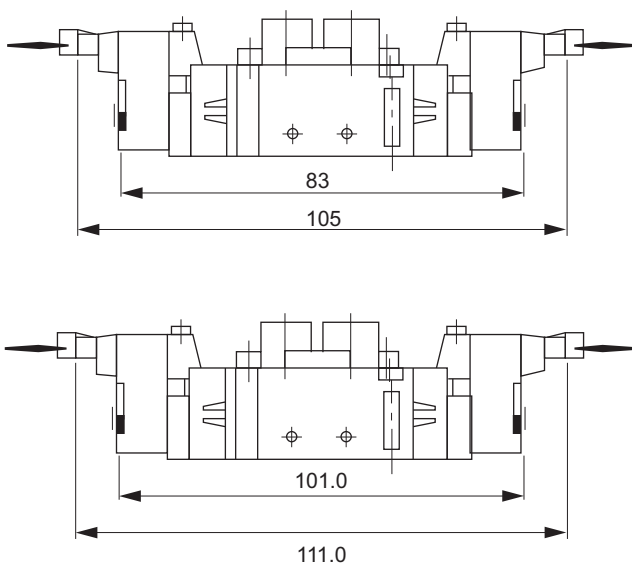
FEATURES

- 10 mm Solenoid Valve Ø4 quick connector
- Body ported/ Manifold mounted
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

MODEL	YQS0220	MODEL	YQS0220
Media	Compressed air, 50 um, filtered	Operating pressure range	2-7 bar
	Lubricated or unlubricated	Temperature range	5 °C - 60 °C
Mounting	Through tapping in housing, also suitable for mounting on manifold	Response time-@5 bar	20 ms or Less
Orifice	1.8 mm	Operating voltage	12V DC/ 24V DC
Flow factor (kv)	1.82 l/ min	Power consumption	0.65 W
Flow rate (Qn)	130 l/ min	Material of construction	Techno polymer

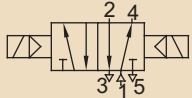
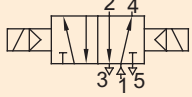
DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQS0220 All connection on body Double Solenoid
	YQSM0220 All Ports are in the Subbase Single Solenoid	
2	CONNECTION	M5 M5 Connection
	T4 4 mm tubing connector	
3	VOLTAGE	12 VDC, 24 VDC

5/2 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS1220	G1/ 8"	15 mm	
YQSM1220	Subbase Mounted, all ports in manifold	15 mm	



FEATURES

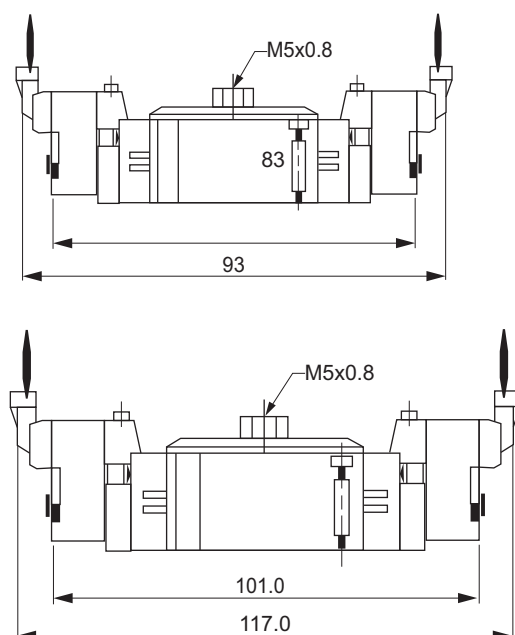
- 15 mm Solenoid Valve Ø4 quick connector
- Body ported/ Manifold mounted
- Compact design
- Extremely small strokes hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

MODEL	YQS1220
Media	Compressed air, 50 um, filtered lubricated or unlubricated
Mounting	Through tapping in housing, also suitable for mounting on manifold
Orifice	3.0 mm
Flow factor (kv)	6.3 l/ min
Flow rate (Qn)	450 l/ min

MODEL	YQS1220
Operating pressure range	2-7 bar
Temperature range	5 °C - 60 °C
Response time-@5 bar	25 ms or Less
Operating voltage	12V DC/ 24V DC
Power consumption	0.65 W
Material of construction	Techno polymer

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQS1220 YQSM1220
		All connection on body Double Solenoid All Ports are in the Subbase Single Solenoid
2	CONNECTION	M5 1G T4 T6
		M5 connection 1/8" BSP 4 mm tubing connector 6 mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS0231	M5	10 mm	
YQS0232	M5	10 mm	
YQS0233	M5	10 mm	



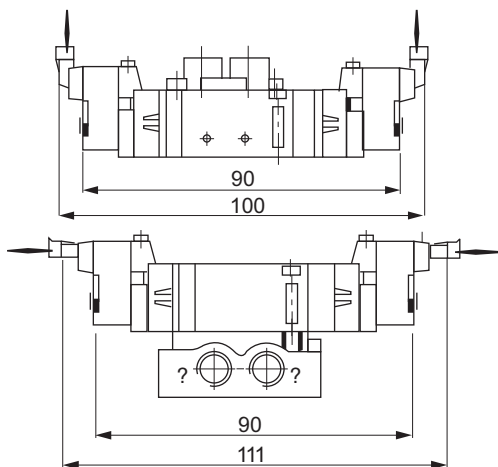
FEATURES

- 10 mm Solenoid Valve
- Body ported/ Manifold mounted
- Pressure die cast Aluminium body
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 480 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	2.5-7 bar
Mounting	Through tapping in housing, also suitable for mounting on manifold	Temperature range	5°C - 60°C
Orifice	1.8 mm	Response time-@5 bar	30 ms or Less
Flow factor (kv)	1.54 l/ min	Operating voltage	12V DC/ 24V DC
Flow rate (Qn)	110 l/ min	Power consumption	0.65 W
		Material of construction	Techno polymer

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQS0231 All ports in body YQS0232 All ports in body YQS0233 All ports in body
2	CONNECTION	M5 M5 connection T4 4 mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE SUBBASE TYPE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQSM0231	Subbase mounted, all ports in manifold	10 mm	
YQSM0232	Subbase mounted, all ports in manifold	10 mm	
YQSM0233	Subbase mounted, all ports in manifold	10 mm	



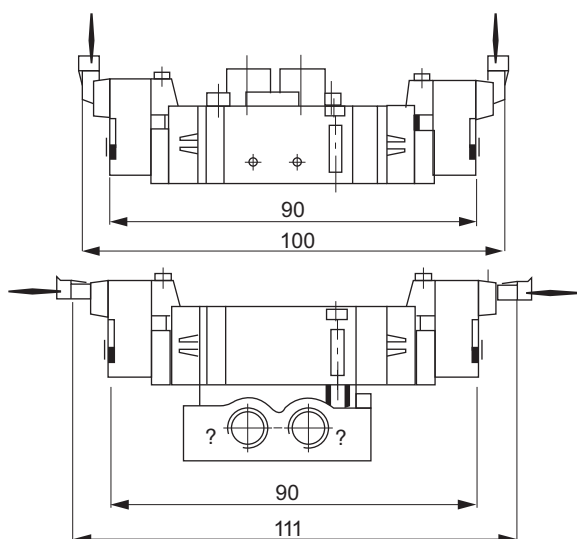
FEATURES

- 10 mm Solenoid Valve
- Body ported/ Manifold mounted
- Pressure die cast Aluminium body
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 480 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 μ m, filtered\ lubricated or unlubricated	Operating pressure range	2.5-7 bar
Mounting	Through tapping in housing, also suitable for mounting on manifold	Temperature range	5 °C - 60 °C
Orifice	1.8 mm	Response time-@5 bar	30 ms or Less
Flow factor (kv)	1.54 ℓ / min	Operating voltage	12V DC/ 24V DC
Flow rate (Qn)	110 ℓ / min	Power consumption	0.65 W
		Material of construction	Techno polymer

DIMENSIONS

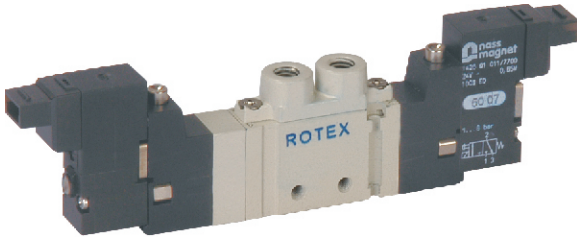


ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQSM0231 All ports are in subbase
		YQSM0232 All ports are in subbase
		YQSM0233 All ports are in subbase
2	CONNECTION ON SUBBASE	M5 M5 connection
		T4 4 mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS1231	G1/8"	15 mm	
YQS1232	G1/8"	15 mm	
YQS1233	G1/8"	15 mm	



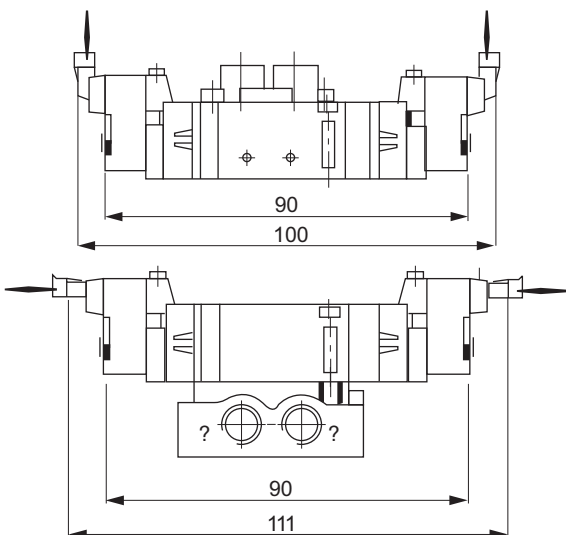
FEATURES

- 15 mm Solenoid Valve
- Body ported/ Manifold mounted
- Pressure die cast Aluminium body
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 480 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	2.5-7 bar
Mounting	Through tapping in housing, also suitable for mounting on manifold	Temperature range	5 °C - 60 °C
Orifice	1.8 mm	Response time-@5 bar	30 ms or Less
Flow factor (kv)	1.54 l/ min	Operating voltage	12V DC/ 24V DC
Flow rate (Qn)	110 l/ min	Power consumption	0.65 W
		Material of construction	Techno polymer

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQS1231 All ports on body YQS1232 All ports on body YQS1233 All ports on body
2	CONNECTION ON SUBBASE	M5 M5 connection 1G 1/8" BSP T4 4 mm tubing connector T6 6 mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE SUBBASE TYPE

MODEL No.	PORT CONNECTION	WIDTH	SYMBOL
YQS1231	Subbase mounted, all ports in manifold	15 mm	
YQS1232	Subbase mounted, all ports in manifold	15 mm	
YQS1233	Subbase mounted, all ports in manifold	15 mm	



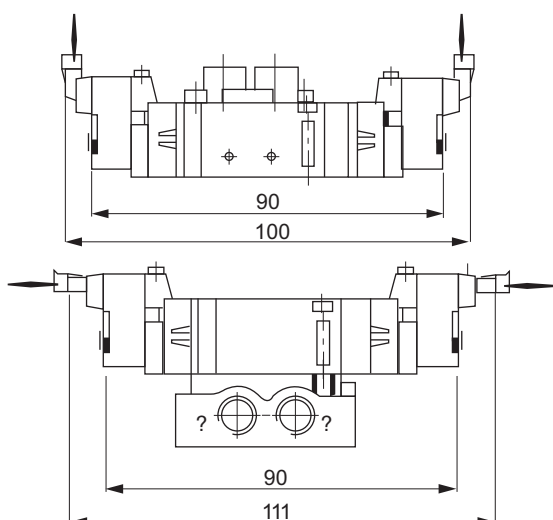
FEATURES

- 15 mm Solenoid Valve
- Body ported/ Manifold mounted
- Pressure die cast Aluminium body
- Compact design
- Extremely small stroke hence long life
- Solenoid continuous duty rated
- Special seals for long life
- Lubrication not required
- Maximum speed 480 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 um, filtered lubricated or unlubricated	Operating pressure range	2.5-7 bar
Mounting	Through tapping in housing, also suitable for mounting on manifold	Temperature range	5 °C - 60 °C
Orifice	1.8 mm	Response time-@5 bar	30 ms or Less
Flow factor (kv)	1.54 l/ min	Operating voltage	12V DC/ 24V DC
Flow rate (Qn)	110 l/ min	Power consumption	0.65 W
		Material of construction	Techno polymer

DIMENSIONS



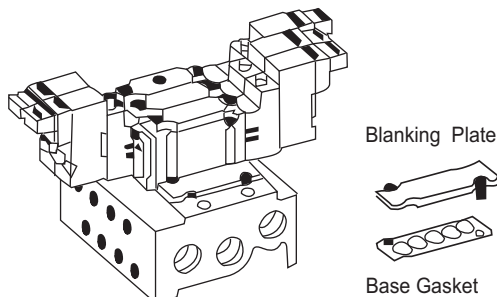
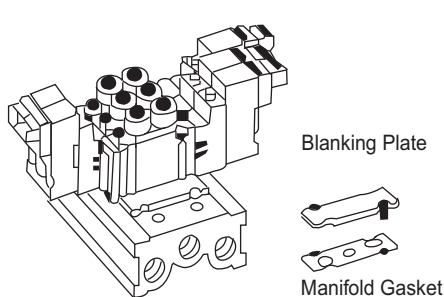
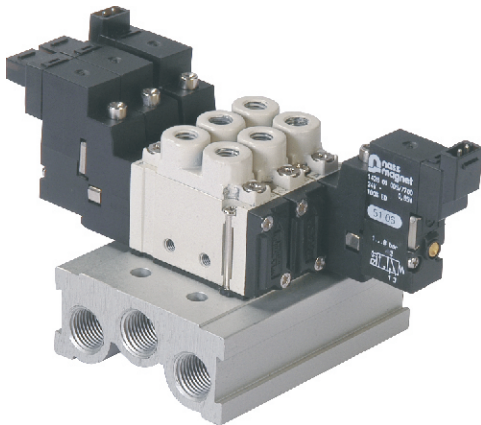
ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	YQSM1231 All ports are in subbase YQSM1232 All ports are in subbase YQSM1233 All ports are in subbase
2	CONNECTION ON SUBBASE	M5 M5 connection 1G 1/8" BSP T4 4 mm tubing connector T6 6 mm tubing connector
3	VOLTAGE	12 VDC, 24 VDC

SUBBASE FOR YQS 10 mm

MODEL Q0

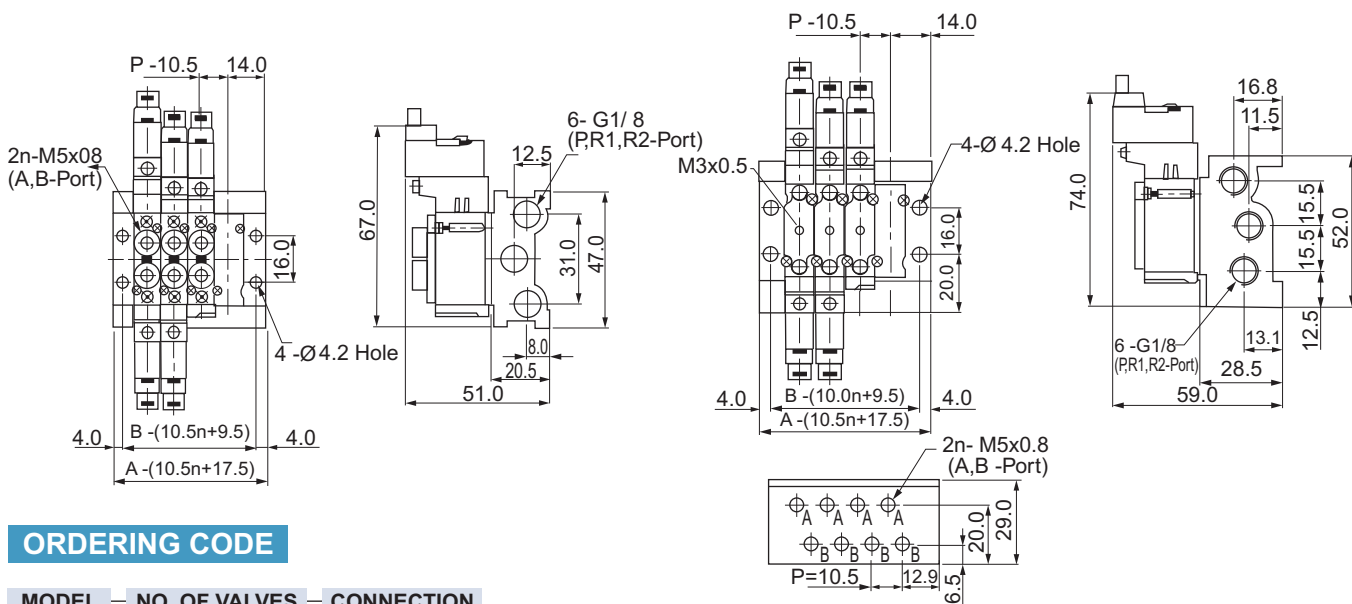
MODEL QM0



PORT MANIFOLD DIMENSIONS					
DIM	2	4	6	8	10
B	30.5	51.5	72.5	93.5	114.5
A	38.5	59.5	80.5	101.5	122.5

PORT MANIFOLD DIMENSIONS					
DIM	2	4	6	8	10
B	28.5	49.5	70.5	91.5	112.5
A	35.5	56.5	77.5	98.5	119.5

PORT MANIFOLD DIMENSIONS					
DIM	2	4	6	8	10
B	43.0	75.5	107.0	139.0	171.0
A	56.0	88.0	120.0	152.0	184.0



ORDERING CODE

MODEL — NO. OF VALVES — CONNECTION

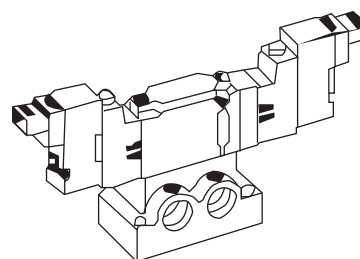
1 2 3

1	MODEL	Q0	Inlet/ Exhaust on subbase	
		QM0	All ports on subbase	
2	NO. OF VALVES	TYPE	MAX VALVES	
		Q0	20	
		QM0	20	
3	CONNECTION	MODEL	INLET/ EXHAUST	OUTLETS
		Q0	1G 1/8" BSP	--- ---
		QM0	1G 1/8" BSP	M5 M5

SUBBASE FOR YQS 15 mm

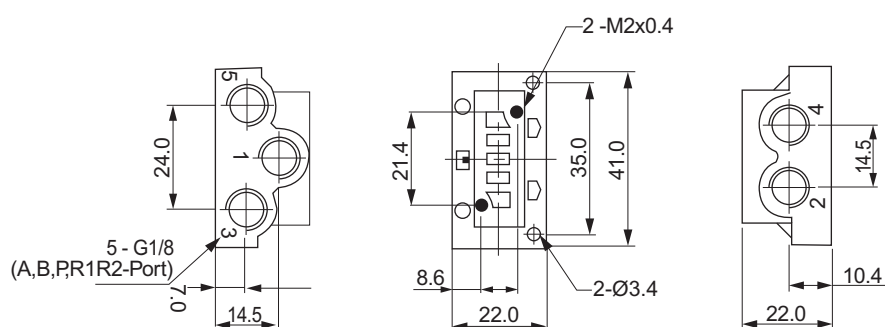
MODEL Q0

MODEL QM0



SINGLE SUBBASE

MODEL QM0



ACCESSORIES



MODEL BQSO2



MODEL BQSO3
1/8" BSP Connection



MODEL BQSO4
M5 Connection

MODEL BQS01



Blanking Plate
(Material : STS304)



Manifold Gasket.
(Material : NBR)

MODEL BQS02



Blanking Plate
(Material : STS304)



Manifold Gasket

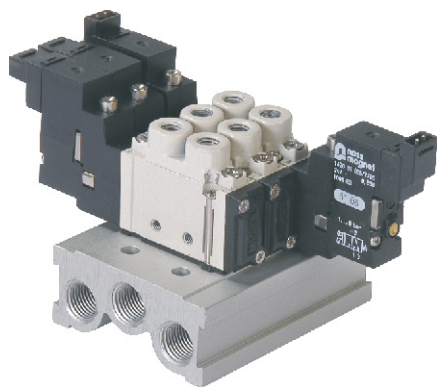


Base Gasket.
(Material : NBR)

SUB BASE FOR YQS 15 mm

MODEL Q1

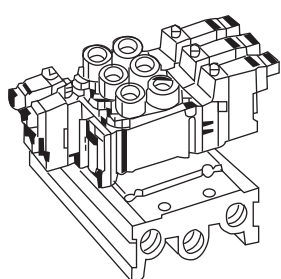
MODEL QM1



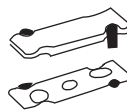
PORT MANIFOLD DIMENSIONS					
DIM	2	4	6	8	10
B	40.0	72.0	104.0	136.0	168.0
A	53.0	85.0	117.0	148.0	181.0

PORT MANIFOLD DIMENSIONS					
DIM	2	4	6	8	10
B	40.0	72.0	104.0	136.0	168.0
A	53.0	85.0	117.0	148.0	181.0

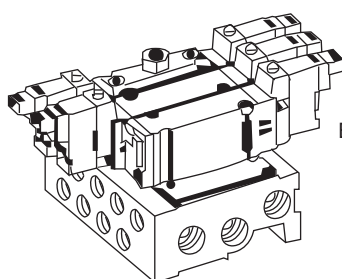
DOUBLE MODULAR DIMENSIONS					
DIM	2	4	6	8	10
B	43.0	75.5	107.0	139.0	171.0
A	56.0	88.0	120.0	152.0	184.0



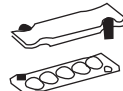
Blanking Plate



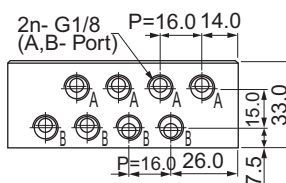
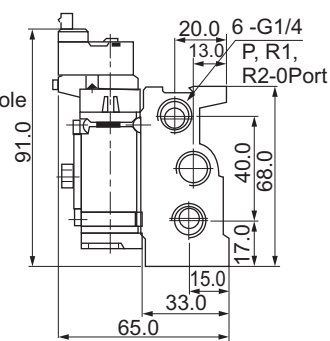
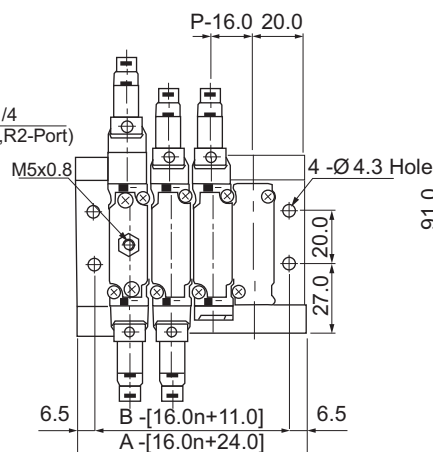
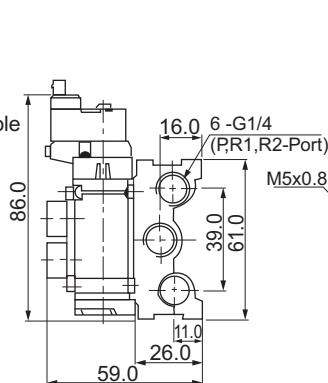
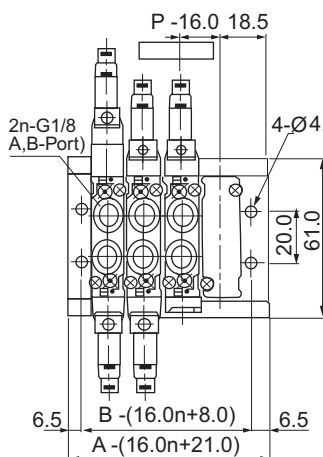
Manifold Gasket



Blanking Plate



Base Gasket

**ORDERING CODE**

MODEL	NO. OF VALVES	CONNECTION
1	2	1/2"
2	2	1/2"
3	2	1/2"
4	2	1/2"
5	2	1/2"
6	2	1/2"
7	2	1/2"
8	2	1/2"
9	2	1/2"
10	2	1/2"
11	2	1/2"
12	2	1/2"
13	2	1/2"
14	2	1/2"
15	2	1/2"
16	2	1/2"
17	2	1/2"
18	2	1/2"
19	2	1/2"
20	2	1/2"
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89	2	1/2"
90	2	1/2"
91	2	1/2"
92	2	1/2"
93	2	1/2"
94	2	1/2"
95	2	1/2"
96	2	1/2"
97	2	1/2"
98	2	1/2"
99	2	1/2"
100	2	1/2"

1
2
3

1	MODEL	Q1	Inlet/ Exhaust on subbase
		QM1	All ports on subbase

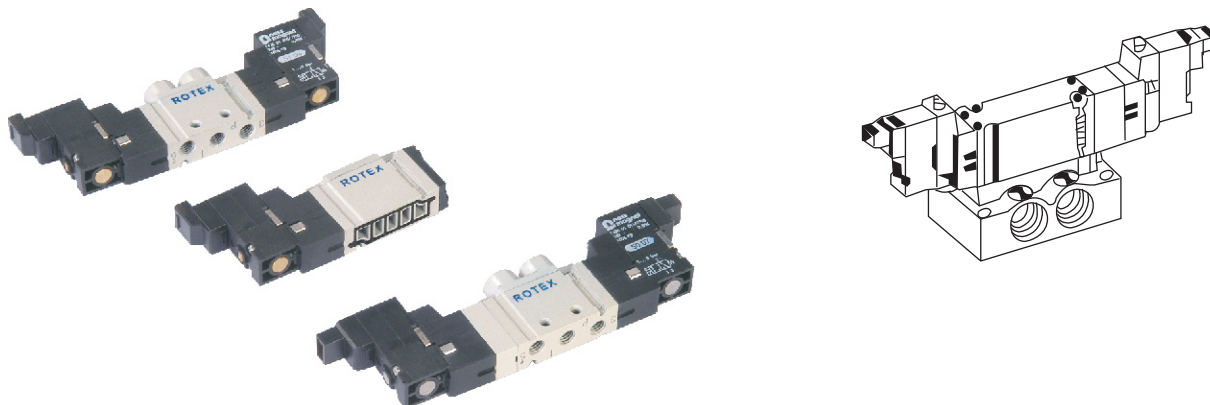
2	NO. OF VALVES	TYPE	MAX VALVES
		Q1	20
		QM1	18

3	CONNECTION	MODEL	INLET/EXHAUST	OUTLETS
		Q1	2G 1/4" BSP	--- ---
		QM1	2G 1/4" BSP	1G 1/8" BSP

SUB BASE FOR YQS 15 mm

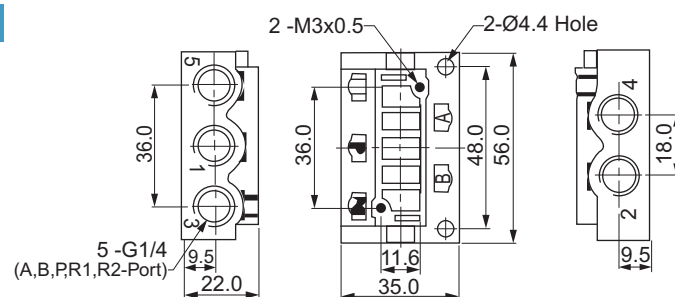
MODEL Q1

MODEL QM1



SINGLE SUBBASE

MODEL QM1



ACCESSORIES



MODEL BQS12



MODEL BQS03
1/8" BSP Connector



MODEL BQS14
M5 Connection

MODEL BQS11



Blanking Plate
(Material : STS304)



Manifold Gasket.
(Material : NBR)

MODEL BQS12



Blanking Plate
(Material:STS304)



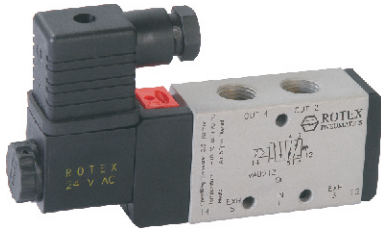
Manifold Gasket



Base Gasket.
(Material:NBR)

5/2 SPOOL TYPE SINGLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAD113	G1/8" R1/8"	
VAD213	G1/4" R1/4"	



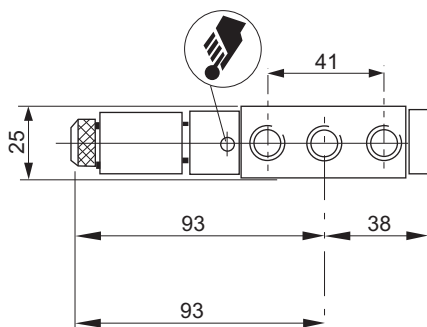
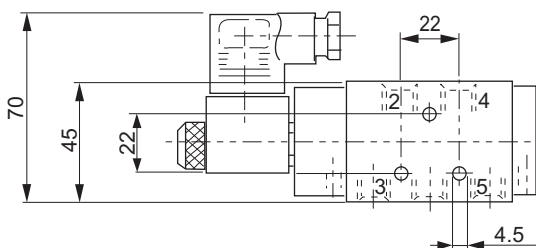
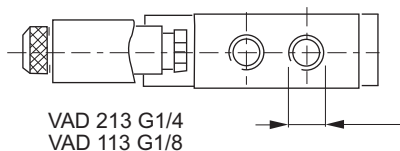
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change the position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

Model	VAD113	VAD213	Operating pressure range	2-10 bar
Media	Compressed air, 50 µm. Filtered lubricated or unlubricated		Temperature range	-10 °C to +70 °C
Mounting	Through holes in housing, also suitable for mounting on manifold		Response time-@5bar	On time 20 msec, off time 22 msec
Orifice	3.0 mm	4.5 mm	Manual override	Screw driver type
Flow factor	kv=3 ℓ/ min	kv=7 ℓ/ min	Operating voltage	Refer page 125
Flow rate (Qn)	290 ℓ/ min	462 ℓ/ min	Power consumption	Refer page 125
			Material of construction	Aluminium

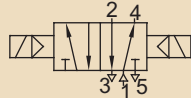
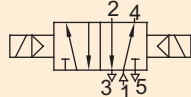
DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAD 113 1/8"
		VAD 213 1/4"
2	CONNECTION	1G 1/8" BSP
		1N 1/8" NPT
		2G 1/4" BJP
		2N 1/4" NPT
3	VOLTAGE	AC, DC 6, 12, 24, 48, 110, 220, 240

5/2 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAD114	G1/8"	
VAD214	G1/4"	



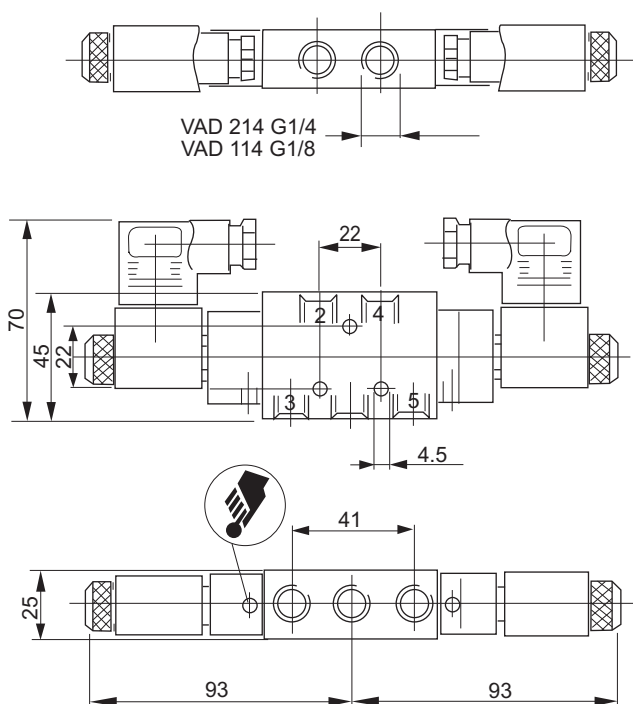
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change the position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

Model	VAD113	VAD213	Operating pressure range	2-10 bar
Media	Compressed air, 50 µm. Filtered lubricated or unlubricated		Temperature range	-10 °C to +70 °C
Mounting	Through holes in housing, also suitable for mounting on manifold		Response time-@5bar	On time 20 msec, off time 22 msec
Orifice	3.0 mm	4.5 mm	Manual override	Screw driver type
Flow factor	kv=3.0 l/ min	kv=7 l/ min	Operating voltage	Refer page 125
Flow rate (Qn)	290 l/ min	462 l/ min	Power consumption	Refer page 125
			Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAD 114 1/8"
		VAD 214 1/4"
2	CONNECTION	1G 1/8" BSP
		1N 1/8" NPT
		2G 1/4" BJP
		2N 1/4" NPT
3	VOLTAGE	AC, DC 6, 12, 24,
		48, 110, 220, 240

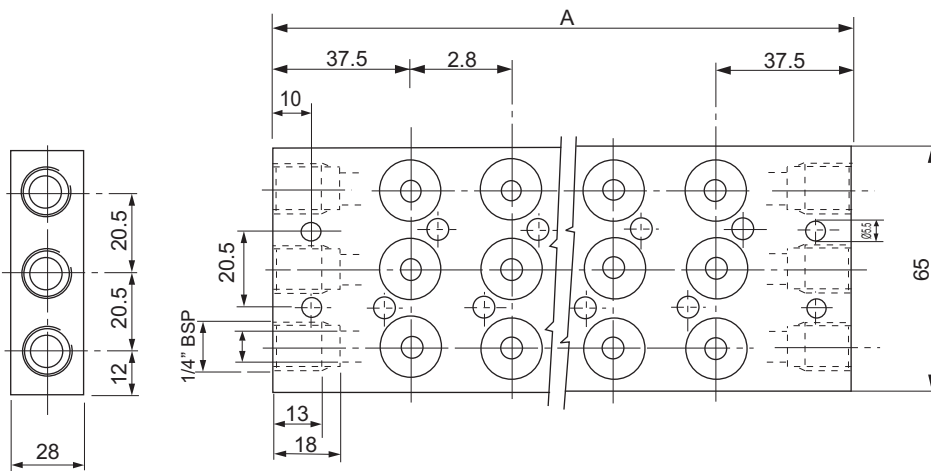
BP (SUB BASE) MANIFOLD FOR VAD SERIES VALVE



FEATURES

- Solenoid valve, air operated valve, hand operated valve & their combination can be mounted on this manifold
- Both inlet & exhaust on manifold hence Exhaust can be brought out to atmosphere from panel
- Mounting foot available
- Twin inlet option available on request
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve

DIMENSIONS



ORDERING CODE

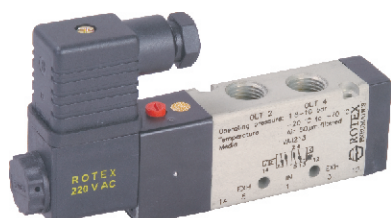
MODEL	NO. OF VALVES	INLET/ EXHAUST
1	2	3
1	MODEL	BP
2	NO. OF VALVE	14
3	INLET/ EXHAUST	NPT
		2N
		3N

ORDERING EXAMPLE

BP - 10 - 3N indicates 10 solenoid valves VAD 213, VAD214, etc.... on gang with 3/8" NPT as inlet & exhaust

5/2 SPOOL TYPE SINGLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAJ213	1/4"	



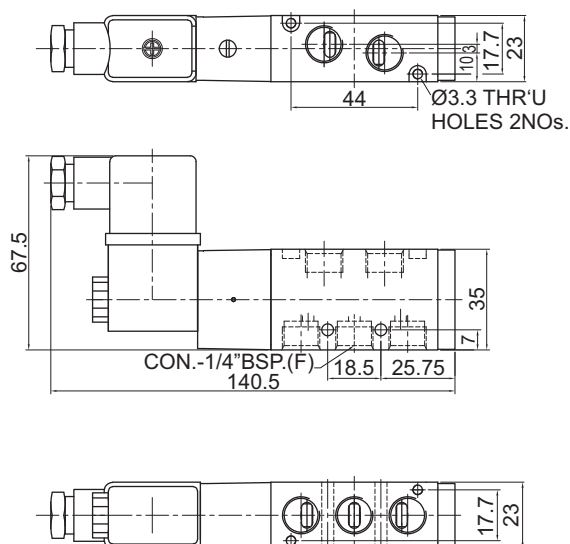
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change. The position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

Model	VAJ213	VAJ213	Operating pressure range	1-10 bar
Media	Compressed air, 50 µm. Filtered		Temperature range	-10 °C to +70 °C
	lubricated or unlubricated		Response time-@5bar	On time 20 msec, off time 22 msec
Mounting	Through holes in housing, also		Manual override	Screw driver type
	suitable for mounting on manifold		Operating voltage	Refer page 125
Orifice	3.0 mm	6.0 mm	Power consumption	Refer page 125
Flow factor (kv)	kv=3.0 l/ min	kv=18 l/ min	Material of construction	Aluminium
Flow rate (Qn)	290 l/ min	800 l/ min		

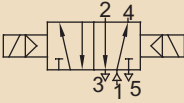
DIMENSIONS



ORDERING CODE

MODEL		CONNECTION		VOLTAGE	
1		2		3	
1	MODEL		VAJ 213		5/2, 1/4"
2	CONNECTION		2G	1/4" BSP	
			2N	1/4" NPT	
3	VOLTAGE		AC	6, 12, 24,	
			DC	48, 110,	
				220, 240	

5/2 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAJ214	1/4"	



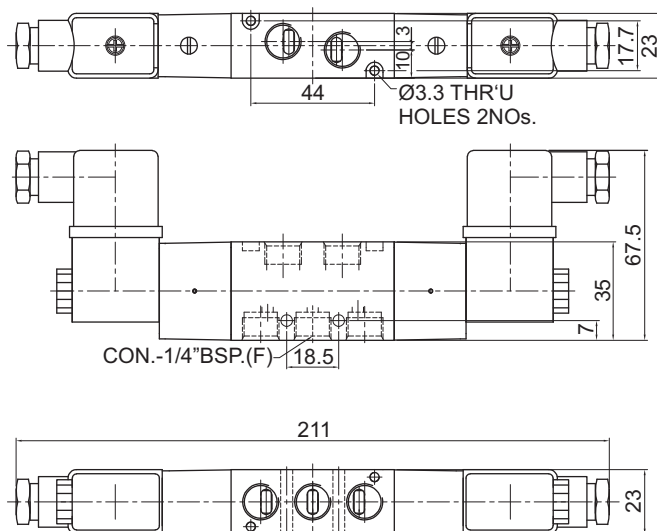
FEATURES

- Mounts in any position
- Solenoid cover can be turned by 180° to change. The position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

Model	VAJ214	VAJ214	Operating pressure range	1-10 bar
Media	Compressed air, 50 µm. filtered lubricated or unlubricated		Temperature range	-10 °C to +70 °C
Mounting	Through holes in housing, also suitable for mounting on manifold		Response time-@5bar	On time 20 msec, off time 22 msec
	3.0 mm	6.0 mm	Manual override	Screw driver type
Flow factor (kv)	kv=3.0 l/ min	kv=18 l/ min	Operating voltage	Refer page 125
Flow rate (Qn)	290 l/ min	800 l/ min	Power consumption	Refer page 125
			Material of construction	Aluminium

DIMENSIONS



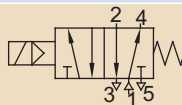
ORDERING CODE

MODEL		CONNECTION		VOLTAGE	
1		2		3	
1	MODEL	VAJ 214		5/2, 1/4"	
2	CONNECTION	2G		1/4" BSP	
		2N		1/4" NPT	
3	VOLTAGE	AC		6, 12, 24,	
		DC		48, 110,	
				220, 240	

ORDERING EXAMPLE

VAJ214 - 2G - 24V - DC

5/2 SPOOL TYPE SINGLE SOLENOID HIGH ORIFICE VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAF213	G1/4"	
VAF313	G3/8"	



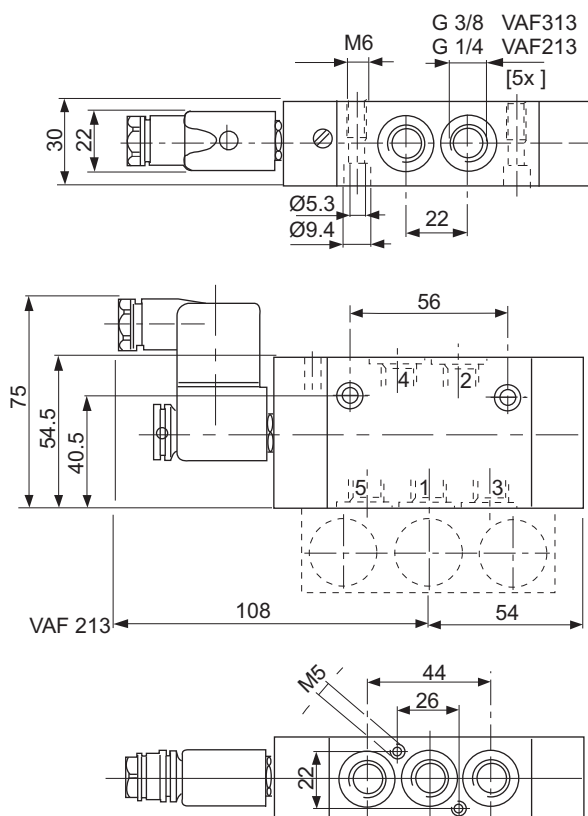
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 800 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50 µm. Filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+5 °C to +70 °C
Orifice	6.7 mm	Response time-@5bar	On time 28 msec, off time 36 msec
Flow factor	Kv=0.9m³ / hr, kv = 15 l/min	Manual override	Push type & rotate to lock
Flow rate (Qn)	990 l/min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAF 213 5/2, 1/4"
		VAF 313 5/2, 3/8"
2	CONNECTION	2G 1/4" BSP
		2N 1/4" NPT
		3G 3/8" BSP
		3N 3/8" NPT
3	VOLTAGE	AC 6, 12, 24,
		DC 48, 110,
		220, 240

ORDERING EXAMPLE

VAF213 - 2G - 24V -DC
VAF213 - 2N - 110V - 60Hz - 22

5/2 SPOOL TYPE DOUBLE SOLENOID HIGH ORIFICE VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAF214	G1/4"	
VAF314	G3/8"	



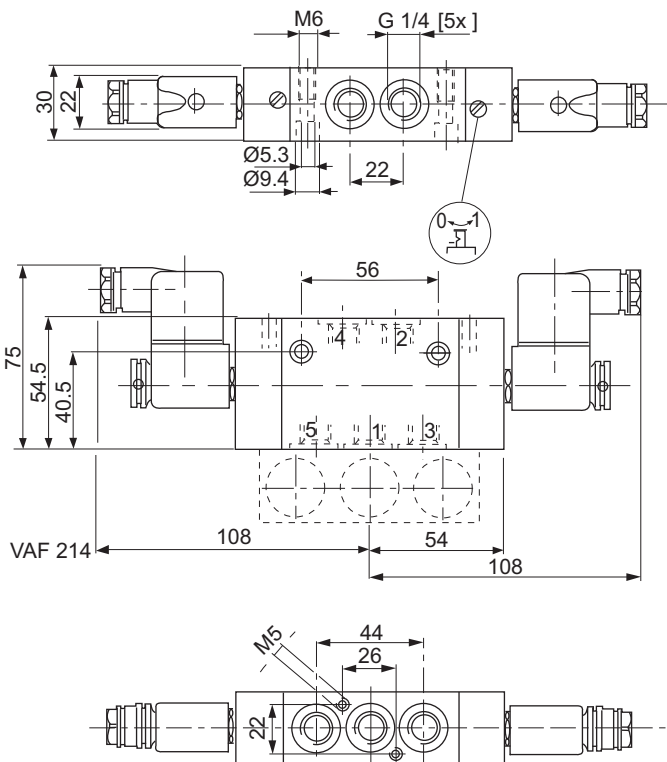
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 800 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+5 °C to +70 °C
Orifice	6.7 mm	Response time-@5bar	On time 28 msec, off time 36 msec
Flow factor	Kv=0.9m ³ / hr, kv = 15 l/ min	Manual override	Push type & rotate to lock
Flow rate (Qn)	990 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAF 214 5/2, 1/4"
		VAF 314 5/2, 3/8"
2	CONNECTION	2G 1/4" BSP
		2N 1/4" NPT
		3G 3/8" BSP
		3N 3/8" NPT
3	VOLTAGE	AC 6, 12, 24,
		DC 48, 110,
		220, 240

ORDERING EXAMPLE

VAF214 - 2G - 24V -DC
VAF214 - 2N - 110V - 60Hz - 22

5/3 SPOOL TYPE DOUBLE SOLENOID HIGH ORIFICE VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAF215 (Central Exhausted) VAF315	G1/4" G3/8"	
VAF255 (Central OFF) VAF355	G1/4" G3/8"	
VAF275 (Central Pressurized) VAF375	G1/4" G3/8"	



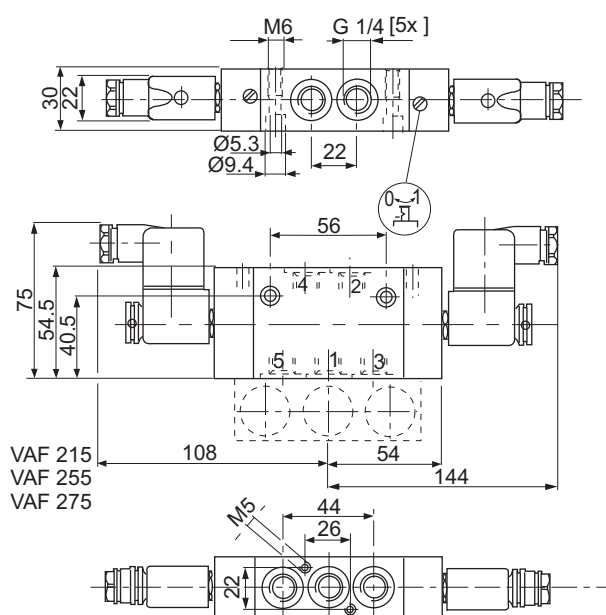
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 800 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+ 5 °C to + 70 °C
Orifice	6.7 mm	Response time-@5bar	On time 28 msec, off time 36 msec
Flow factor	Kv=0.9m³ / hr, kv = 15 l/ min	Manual override	Push type & rotate to lock
Flow rate (Qn)	990 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAF 215 5/3, CENTRAL EXHAUST VAF 315 5/3, CENTRAL EXHAUST VAF 255 5/3, CENTRE OFF VAF 355 5/3, CENTRE OFF VAF 275 5/3, CENTRAL PRESSURE VAF 375 5/3, CENTRAL PRESSURE
2	CONNECTION	2G 1/4" BSP 2N 1/4" NPT 3G 3/8" BSP 3N 3/8" NPT
3	VOLTAGE	AC 6, 12, 24, DC 48, 110, 220, 240

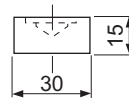
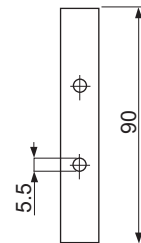
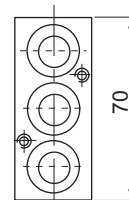
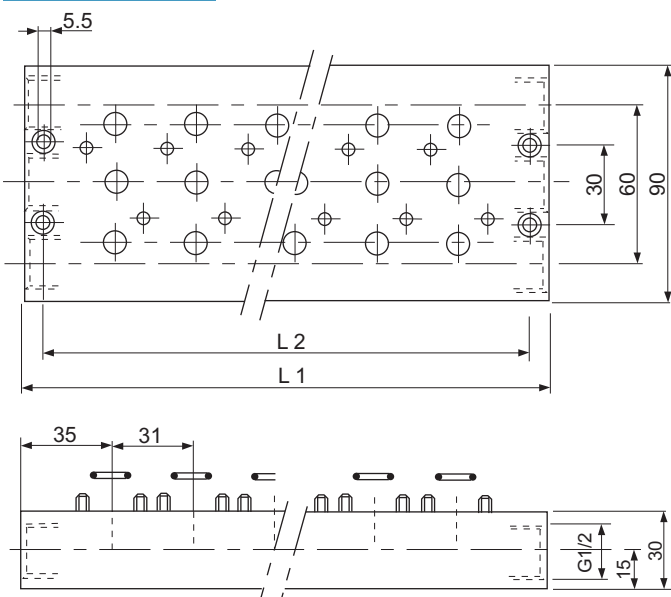
VP (SUB BASE) MANIFOLD FOR VAF SERIES VALVES



FEATURES

- Ease of maintenance
- Inlet & exhaust on the manifold
- Solenoid is capable of turning 180°
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve
- Air operated, hand operated, solenoid
Operated in any combination can be mounted on "VP" Gang

DIMENSIONS



No. of Valves	L1	L1
VP 02	101	85
VP 03	132	116
VP 05	194	178
VP 09	318	302

ORDERING CODE

MODEL	NO. OF VALVES	INLET/ EXHAUST
1	2	3

1	MODEL	VP
2	NO. OF VALVE	TYPE VP
		MAX VALVES 14
3	INLET/ EXHAUST	SIZE *1/4"
		BSP 2G
		NPT 2N
		*3/8"
		3G
		3N
		1/2"
		4G
		4N

*Adopted

ORDERING EXAMPLE

VP - 06 - 4G
Six nos VAF 2 on manifold with inlet 1/2" BSP

5/2 SPOOL TYPE SOLENOID VALVE SUB BASE TYPE

MODEL No.	PORT CONNECTION	SYMBOL
VAG213	SUBBASE	
VAG214	SUBBASE	



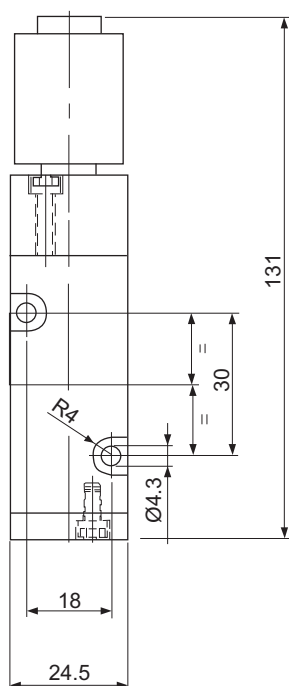
FEATURES

- All ports on manifold, hence reduces cost of tubing & ease of maintenance
- Mounts in any position
- Solenoid cover can be turned by 180° to change position of manual override
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- High performance PTFE Glydring seals
- Noiseless performance
- Maximum speed 1000 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50um. filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+ 10 °C to + 70 °C
Orifice	4.5 mm	Response time-@5bar	On time 20 msec, off time 22 msec
Flow factor	Kv=0.42m ³ / hr, kv = 7 l/ min	Manual override	Screw driver type
Flow rate (Qn)	462 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



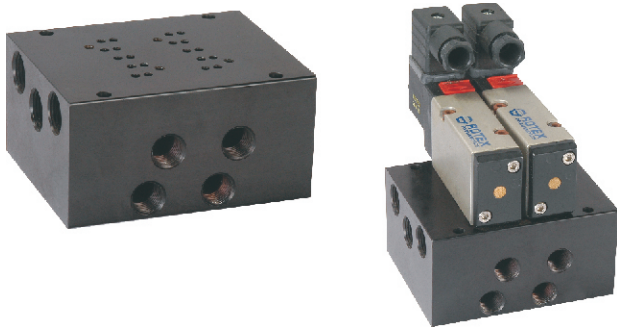
ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAG 213 5/2 SINGLE SOLENOID VAG 214 5/2 DOUBLE SOLENOID
2	CONNECTION	VAG 213 SUBBASE VAG 214 SUBBASE
3	VOLTAGE	AC 6, 12, 24, DC 48, 110, 220, 240

ORDERING EXAMPLE

VAG213 - SB - 24V -DC
VAG213 - SB - 110V - 60Hz - 22

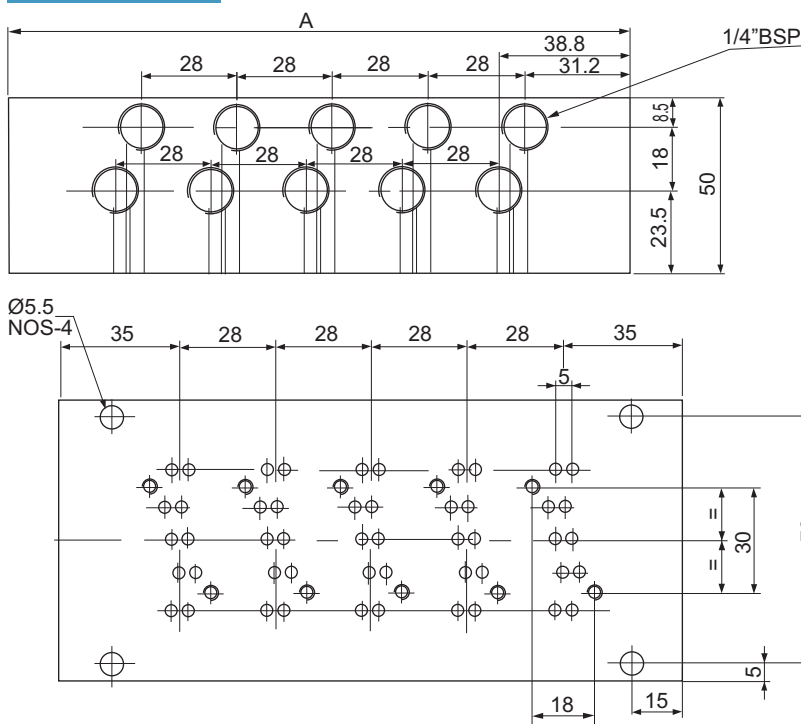
MP (SUB BASE) MANIFOLD FOR VAG SERIES VALVES



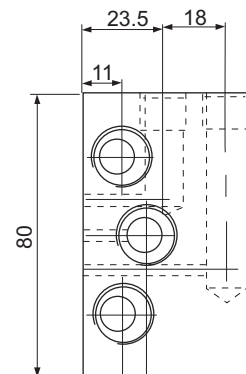
FEATURES

- All ports on manifold
- Ease of maintenance
- Inlet & exhaust on the manifold allows easy Tubing
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve

DIMENSIONS



POS NO.	MANIFOLD	TOTAL LENGTH A
04	MP 05	182
03	MP 04	154
02	MP 03	126
01	MP 02	98



ORDERING CODE

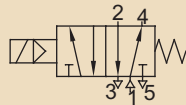
MODEL	NO. OF VALVES	INLET	OUTLET
1	2	3	4

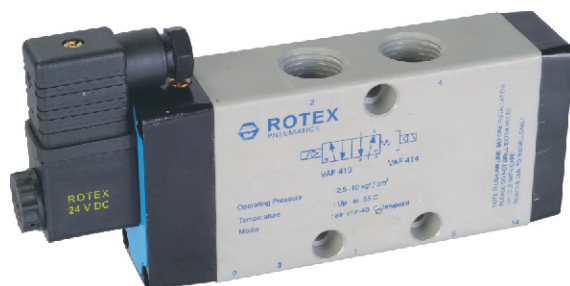
1	MODEL	MP		
2	NO. OF VALVE	TYPE	MAX VALVES	
		MP	14	
3	INLET	SIZE	BSP	NPT
		1/8"	1G	1N
		1/4"	2G	2N
		3/8"	3G	3N
4	OUTLET	SIZE	BSP	NPT
		1/8"	1G	1N
		1/4"	2G	2N

ORDERING EXAMPLE

MP - 6 - 3G - 2G - 6 Nos VAG Series with inlet.
3/8" BSP & outlet 1/4" BSP

5/2 SPOOL TYPE SINGLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAF413	G1/2"	



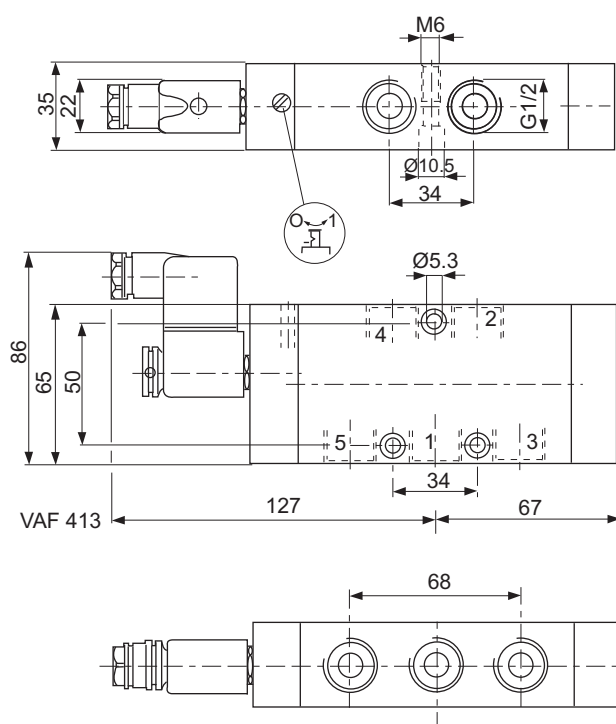
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 500 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air 50µm. filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+5¼ °C to +70¼ °C
Orifice	10 mm	Response time-@5 bar	On time 32 msec, Off time 48 msec
Flow factor	Kv=2m³/ hr, kv = 33 l/ min	Manual override	Push type & rotate to lock
Flow rate (Qn)	2200 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL		CONNECTION		VOLTAGE	
1		2		3	
1	MODEL		VAF 413		5/2, 1/2"
2	CONNECTION		4G	1/2"BSP	
			4N	1/2"NPT	
3	VOLTAGE		AC	6, 12, 24,	
			DC	48, 110,	
				220, 240	

ORDERING EXAMPLE

VAF413 - 4G - 24V - DC
VAF413 - 4N - 110V - 60Hz - 22

5/2 SPOOL TYPE SINGLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAF414	G1/2"	



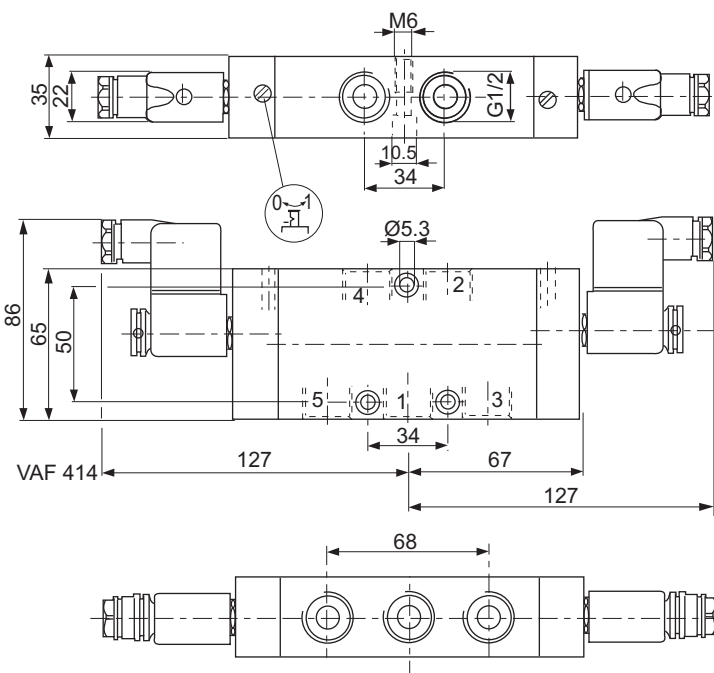
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 500 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+5° C to +70 °C
Orifice	10 mm	Response time-@5bar	On time 32 msec, Off time 48 msec
Flow factor	Kv=2 m ³ / hr, kv = 33 l/ min	Manual override	Push type & rotate to lock
Flow rate (Qn)	2200 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL		CONNECTION		VOLTAGE	
1		2		3	
1	MODEL	VAF 414		5/2, 1/2"	
2	CONNECTION	4G	1/2"BSP		
		4N	1/2"NPT		
3	VOLTAGE	AC	6, 12, 24,		
		DC	48, 110,		
			220, 240		

ORDERING EXAMPLE

VAF414 - 2G - 24V -DC

VAF414 - 2N - 110V - 60Hz - 22

5/3 SPOOL TYPE DOUBLE SOLENOID VALVE

MODEL No.	PORT CONNECTION	SYMBOL
VAF415 (Central Exhausted)	G1/2"	
VAF455 (Central Off)	G1/2"	
VAF475 (Central Pressurized)	G1/2"	



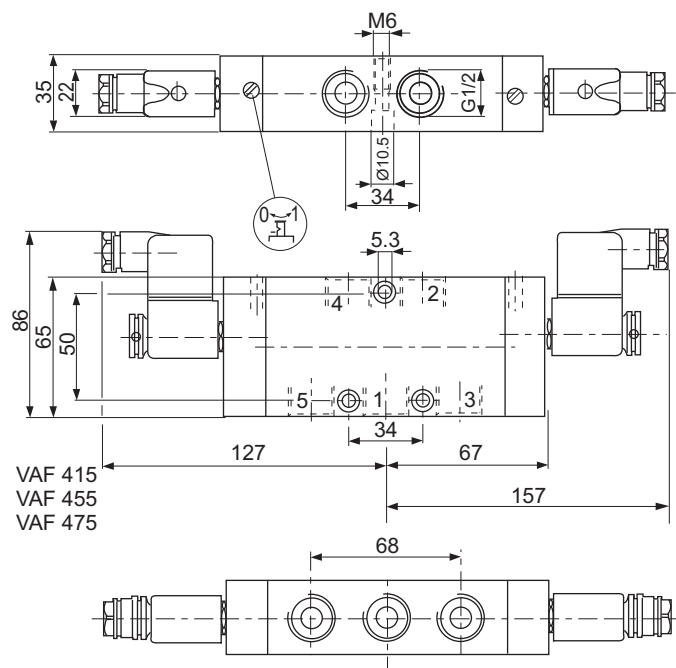
FEATURES

- Mounts in any position
- High performance PTFE Glydring seals
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 500 cycles/ min

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. Filtered, lubricated or unlubricated	Operating pressure range	2-10 bar
Mounting	Through holes in housing, also suitable for mounting on manifold	Temperature range	+ 5 °C to +70 °C
Orifice	10 mm	Response time-@5bar	On time 32 msec, Off time 48 msec
Flow factor	Kv=2 m ³ / hr, kv = 33 l/ min	Manual override	Push type & rotate to lock
Flow rate (Qn)	2200 l/ min	Operating voltage	Refer page 125
		Power consumption	Refer page 125
		Material of construction	Aluminium

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	VOLTAGE
1	2	3
1	MODEL	VAF 415 5/3 CENTRAL EXHAUST VAF 455 5/3 CENTRAL OFF VAF 475 5/3 CENTRAL PRESSURE
2	CONNECTION	4G 1/2"BSP 4N 1/2"NPT
3	VOLTAGE	AC 6, 12, 24, DC 48, 110, 220, 240

VF (SUB BASE) MANIFOLD FOR VAF 1/2" SERIES VALVE



FEATURES

- Ease of maintenance
- Inlet & exhaust on the manifold
- Blanking plate can be installed or removed as per need according to future requirements, in case customer wish to add on extra valve
- Air operated, hand operated, solenoid Operated in any combination can be mounted on "VP" Gang

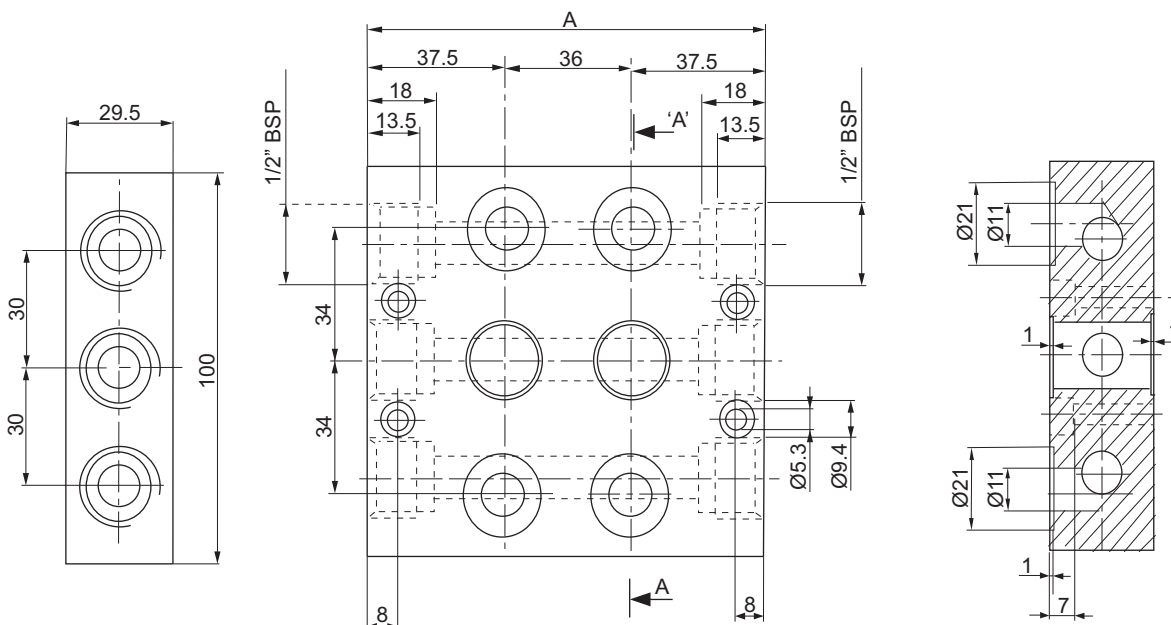
ORDERING CODE

MODEL	a	b
VF	NO. OF VALVES	INLET
	TYPE MAX VALVES	SIZE BSP NPT
	VF 12	1/2" 4G 4N
		3/4" 6G 6N

ORDERING EXAMPLE

VF- 04 - 6G 4 Nos VAF 4 having inlet 3/4" BPS

DIMENSIONS



POS NO.	MANIFOLD	TOTAL LENGTH A
04	VF 05	219
03	VF 04	183
02	VF 03	147
01	VF 02	111

SOLENOID SIZE - 0 FOR DE, DM, DSA, DAF, VAD, VAF, VAG

WEATHER PROOF IP67



FEATURES

- Plug in type
- DIN plug
- IP67
- Voltage & current variation available
- Mounted coil in a high techno polymer

EX PROOF IP67



FEATURES

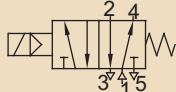
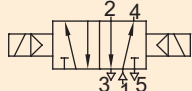
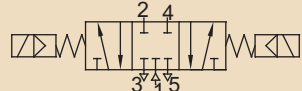
- Flying lead
- External earthing
- CESI certified
- Ex m type Solenoid
- Cable length 1 meter standard
- Optional cable length up to 10 meters

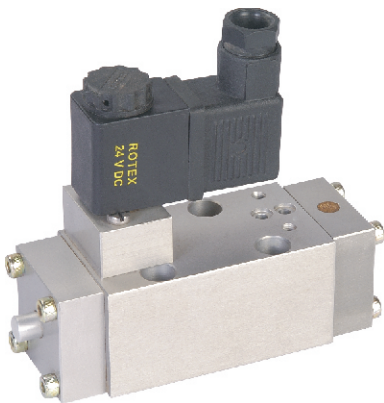
DIRECT VOLTAGE	ALTERNATE VOLTAGE	INRUSH POWER	NOMINAL / HOLDING POWER	
12 V =			5,5	W
24 V =			4,8	W
110 V =			5	W
220 V =			5,4	W
	12V /50/ 60 Hz	11,7/10,1 VA	9,2 / 8	VA
	24V /50/ 60 Hz	11,5/9,9 VA	9,2 / 7,7	VA
	42V /50/ 60 Hz	11,3/9,7 VA	8,8 / 7,2	VA
	48V /50/ 60 Hz	11,9/4 VA	8,5 / 6,9	VA
	110V /50/ 60 Hz	11,9,4 VA	8,5 / 6,9	VA
	220V /50/ 60 Hz	11,5/9,9 VA	9,2 / 7,7	VA
	380V /50/ 60 Hz	10,5/8,9 VA	8 / 6,4	VA
LV 24V =			2,5	W

SPECIFICATION

Ambient Temperature	-15 °C to + 50 °C
Voltage Tolerance	±10%
Relative operating time	100%
IP Protection	According to DIN 40050 : IP65 in Connection with plug.
Weight	Solenoid : 0.06 kg Plug : 0.02 kg

5/2 & 5/3 SPOOL TYPE SOLENOID VALVE WITH MOUNTING AS PER ISO 5599/1

MODEL No.	PORT CONNECTION	SYMBOL
IVG113	SUBBASE	
IVG114	SUBBASE	
IVG155	SUBBASE	



FEATURES

- Subbase design for fast installation & removal
- Solenoid capable of turning 360°
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 800 cycles/ min.

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. Filtered, lubricated or unlubricated
Mounting	Through holes in housing on subbase as per ISO 5599/ 1
Orifice	6.7 mm
Flow factor	Kv=0.9 m ³ / hr, kv = 15 l/ min
Flow rate (Qn)	990 l/ min
Operating pressure range	2-10 bar
Temperature range	+5 °C to +70 °C
Response time-@5 bar	On time 28 msec, Off time 36 msec
Manual override	Push button type
Operating voltage	Refer page 125
Power consumption	Refer page 125
Material of construction	Aluminium

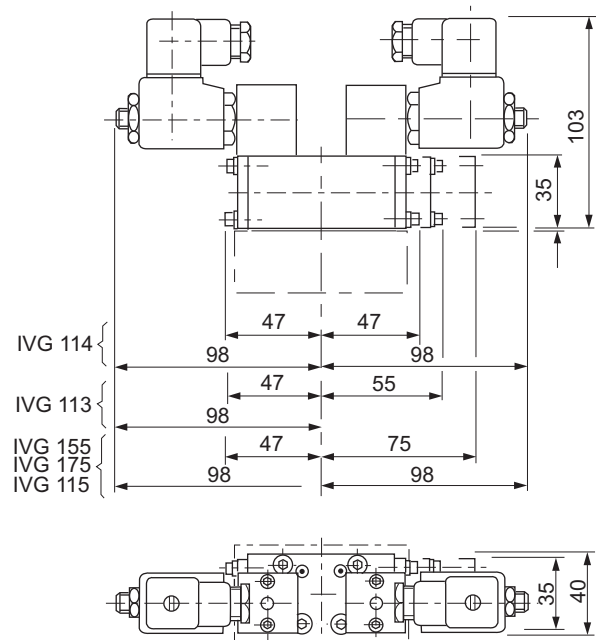
ORDERING CODE

For option available : Refer page K-1

ORDERING EXAMPLE

IVG113 - SB - 24V - DC
IVG155 - SB - 110V - 60Hz - 22

DIMENSIONS



ISO - 1 (SUBBASE) MANIFOLD FOR IVG1 SERIES VALVE

FEATURES

- Individual valve mounted on base
- Two port connection base IG-1-D should be at the end of block
- Gang up to 20 block possible, for higher configuration inlet pressure has to be given to both end
- All ports on manifold
- ISO-1, ISO 5599/1 dimension for international standardization

ORDERING EXAMPLE

IG - 1 - C - 5 Nos.

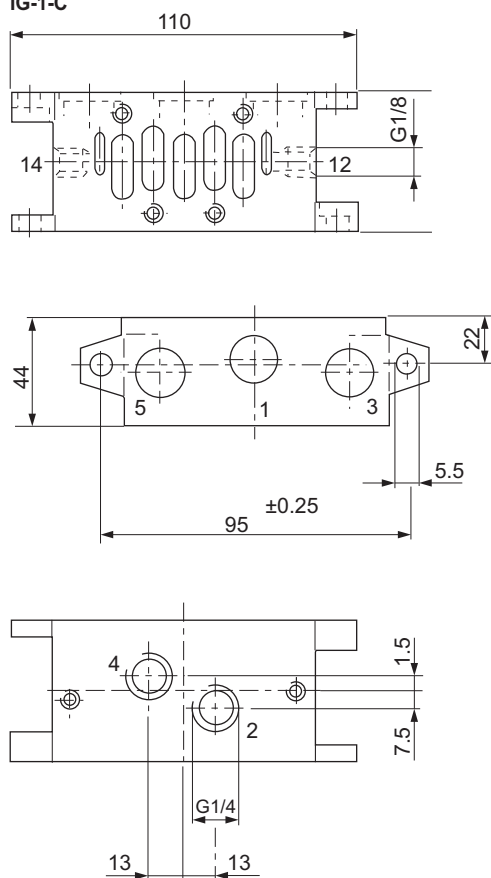
IG - 1 - D - 2 Nos.

will have five base for IVG 1 valve & two side for port connections.

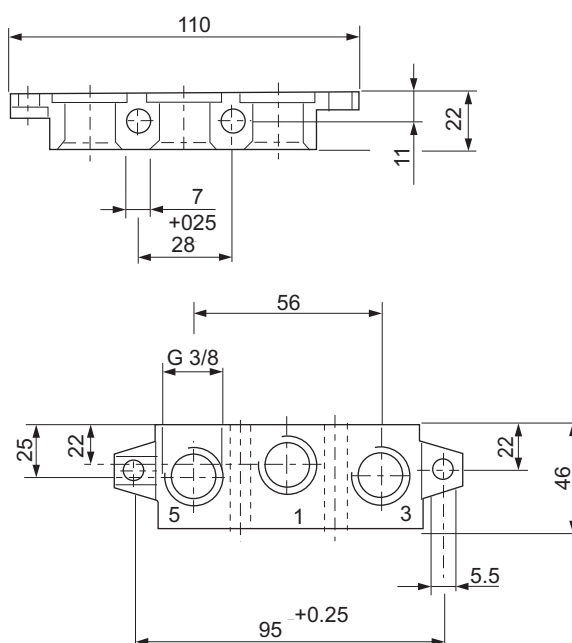
NOTE : IG - 1 - D minimum two numbers are required for port connections.

DIMENSIONS

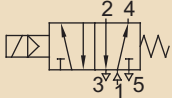
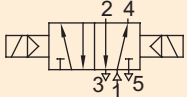
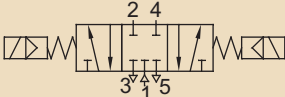
IG-1-C

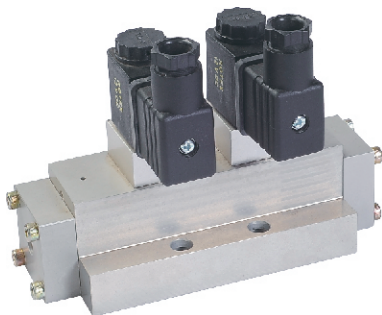


IG-1-D



5/2 & 5/3 SPOOL TYPE SOLENOID VALVE WITH MOUNTING AS PER ISO 5599/3

MODEL No.	PORT CONNECTION	SYMBOL
IVG313	SUBBASE	
IVG314	SUBBASE	
IVG355	SUBBASE	



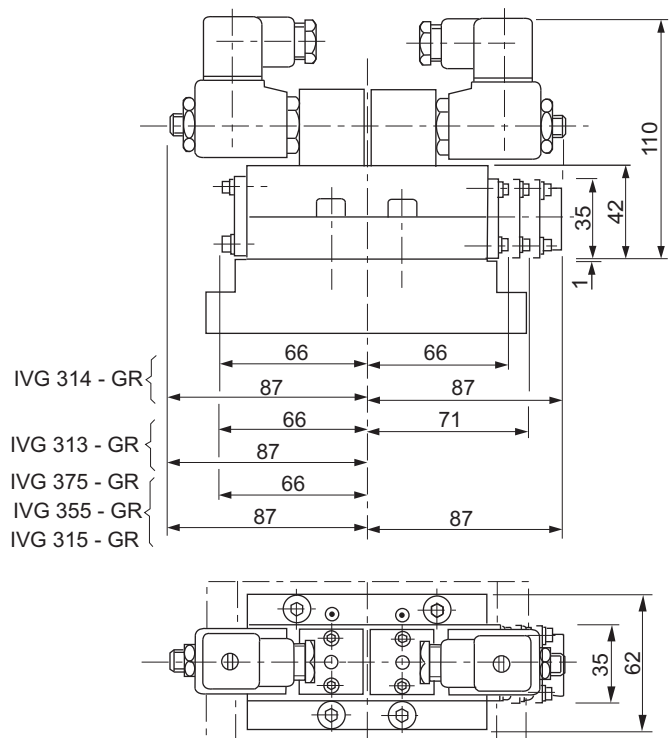
FEATURES

- Subbase design for faster installation & removal
- Solenoid capable of turning 360^{1/4}
- Solenoid continuous duty rated
- Noiseless performance
- Maximum speed 800 cycles/ min.
- Valve as per ISO 5599/3

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing on subbase as per ISO 5599/ 3
Orifice	10 mm
Flow factor	Kv=2 m ³ / hr, kv = 33 l/ min
Flow rate (Qn)	2200 l/ min
Operating pressure range	2-10 bar
Temperature range	+ 5 ^{1/4} C to + 70 ^{1/4} C
Response time-@5 bar	On time 32 msec, Off time 48 msec
Manual override	Push button type
Operating voltage	Refer page 125
Power consumption	Refer page 125
Material of construction	Aluminium

DIMENSIONS



ORDERING EXAMPLE

IVG313 - SB - 24V - DC
IVG355 - SB - 110V - 60Hz - 22

ISO-3 (SUBBASE) MANIFOLD FOR IVG3 SERIES VALVE



FEATURES

- Individual Valve can be mounted on base
- Two port connection base must at the end of subbase
- Gang upto 20 block possible for higher combinations
- Inlet pressure has to be given to both side
- All ports on manifold



ORDERING EXAMPLE

IG - 3 - C - 5 Nos.

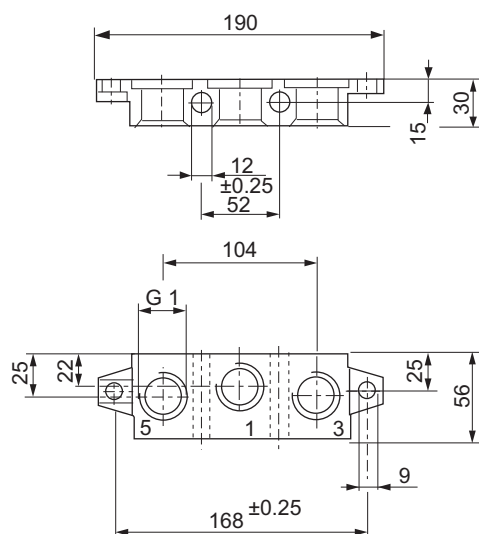
IG - 3 - D - 2 Nos.

Will have 5 base for IVG 3 Valve with two sides for port connection

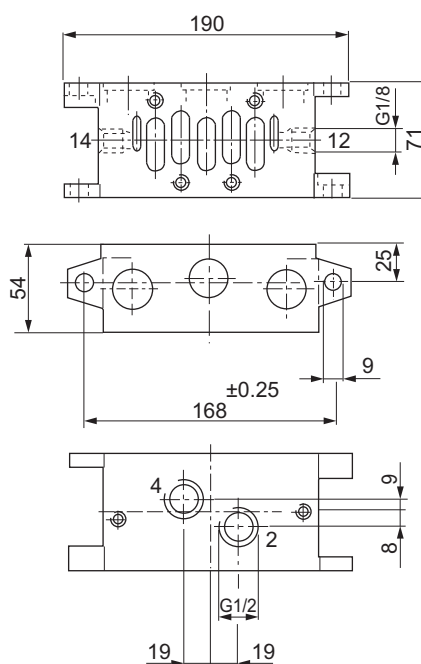
NOTE : IG - 1 - D minimum two numbers are required for port connection

DIMENSIONS

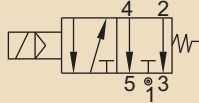
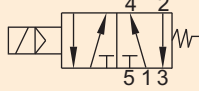
IG - 3 - D



IG - 3 - C



5/2 NAMUR SPOOL TYPE SOLENOID VALVE

TYPE	FLOW RATE	PRESSURE	TYPE	SYMBOL
VAD213-NC	Kv 10	3-10 bar	3/2	
VAD214-NC	Kv 10	3-10 bar	5/2	



FEATURES

- High flow NW 5.3, Kv=10
- Long lasting PTFE Seals
- Temperature -20 °C to 70 °C
- Lubrication is not necessary
- Media :- Dry or lubricated air, filtered to 50µm
- Manual override with lock facility
- 5/2 - 3/2 double Solenoid version available
- IP67 Solenoid, Ex version on request
- Corrosion resistant Anodized Aluminium
- All voltage rating available
- Cover can be turned 180° to change position of the manual override

ORDERING CODE

VALVE CODE

INLET	OUTLET	OUTLET	EXHAUST	EXHAUST	PILOT VENT
1	2	4	3	5	7

VAD213-NC VAD214-NC	a	b	c	d	e
	ORIFICE	PORT CONNECTION	BODY & INTERNAL	MANUAL OVERRIDE	SEAL
	5.3	SIZE BSP NPT	BODY INTERNAL CODE	Push & Turn to lock *	NBR+PTFE *
		1/4" 2G 2R	Aluminium Standard *		EPDM+PTFE S1
			Aluminium Brass B9		Viton+PTFE S2
			Aluminium SS304 B1		NEOPRENE+PTFE S3

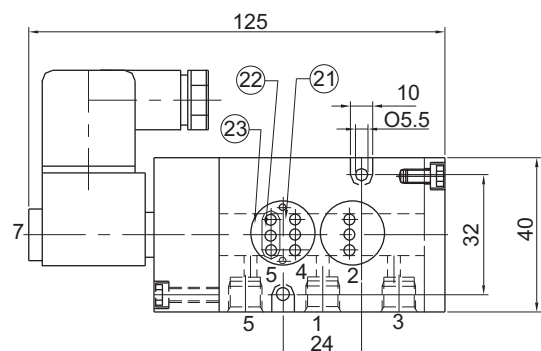
SOLENOID CODE

VOLTAGE	CURRENT	a	b	c
12	50Hz	CONSTRUCTION	INSULATION	SPECIAL VERSION
24	60Hz	GENERAL PURPOSE/WEATHER PROOF	CLASS F *	Nil *
48	DC	FLAMEPROOF SOLENOID IP 67	CLASS H H	Manual Reset MR
110		Cable entry		Ammonia AM
125		TYPE IP67		Intrinsically Safe IS
220		Plug in PG9 *		Refinery PC
240		Plug in PG9 with LED 26		Temp. Class T6
		JUNCTION BOX WITH LED		Low Power LW
		IIA, IIB (Side entry) 34 35		
		IIC (Side entry) 36 37		
		INTRINSICALLY SAFE IP67		
		NOTE : voltage 24V DC only		
		E EX ia (Side entry) 62 63		

Ø Not to be specified while ordering

ORDERING EXAMPLE

TYPE - VAD 213-N-C Single solenoid
VAD 214-N-C Double solenoid



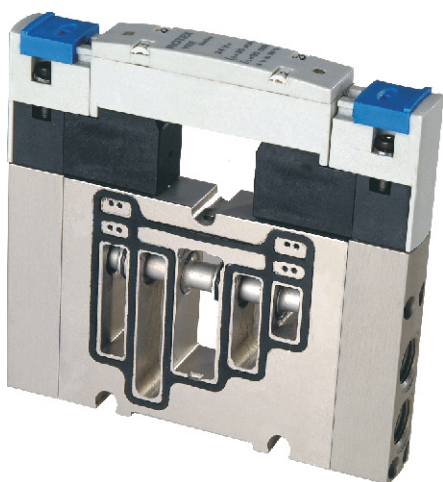
YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

CARTRIDGE SOLENOID



TECHNICAL FEATURES

- High flow 1100 lit/min, kv=16, Cv=1.12
- Number of valves can be in any combination. Maximum valves limited to 22 Solenoids
- There are no limitations to the number of valves due to its modular construction. It is more dependent on the flow rate of each valve. The total flow rate cannot exceed 6000 lit/min. The total flow rate is the flow rate maximum at any given time when multiple valves are operated simultaneously
- Easy recognition for the valves. All the valves are numbered and can be altered as per the wiring diagram of the customer
- The protection is as per IP65
- Life expectancy is more than 60 million cycles
- Easy installation
- Multi air pressure ports. Up to 3 different pressure ports. The valves are available with a blocking cartridge. This allows the customer to have two or three different air sources
- Interface with CANOPEN, DEVICENET, PROFIBUS and ASI available
- Air inlet and exhaust are provided on both the sides for the tubing convenience
- Pilot exhaust is common for easy porting. The pilot exhaust is properly gasketed and is then brought to the end plates for tubing. This ensures no oil leaks inside the panel. The noise level also gets reduced due to the tubing
- No lubrication is required. YXE is life time lubricated



TECHNICAL FEATURES

- Long life EMATAL anodized body. Spool is hard anodized, with high life seals. The body is treated with special anodizing treatment with Titanium Oxide and Moly Oxide for high resistance to corrosion. The Moly gives self lubricating property for high life. The seals are floating for most of the stroke. The seals are designed for self compensation.
- Spring less valves. Spool returns with air. These features make the valve have a small response time and a long life. The single solenoid valves are provided with the spring only to ensure that the spool is in home position on air failure.
- Multi version possible in the same size. 5/2 single or double solenoid, all versions of 5/3 and two 3/2 valves can be available in the same body. The construction of the main valve body does not change. Hence the customer can order a kit to change from one version to another. Similarly 2/2 version can be chosen.
- Coil Voltage, 12 V, 24V, 110V, DC or 48 V, 110 V, 220 V AC, 50 Hz or 60 Hz
- Intrinsically safe option available. 1200 operations / min.
- Valves can be converted to dual flow by converting all valves to external air, inlet in 3 & 5 & exhaust in 1

YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

GENERAL SPECIFICATION :

Function	:	5/2 monostable and bistable 5/3 center off, pressurized, exhaust 3/2 both NC or NO/ NC, or both NO 2/2 both NC or NO/ NC, or both NO
Fluids	:	Air or Neutral gases filtered to 50µm lubricated or not
Operating Pressure	:	2 to 8 bar for bistable version 2.5 to 8 bar for monostable version -0.95 to 8 bar for external air pressure (min. 3.5 bar) 3.5 to 8 bar for 5/3 version
Temperature Range	:	-5 °C to 55 °C.
External Pressure	:	3.5 bar or minimum as applicable for the valve type.
Connection	:	1/8, 1/4, 1/2 BSP or NPT or Direct pipe fittings. See port connection option for the details.
Manual Override	:	Impulse or Slide and Lock.
Solenoid	:	AC or DC, 12V to 220V, 50 Hz or 60 Hz. See solenoid options for the details.
Power	:	DC Max. 1.2 W. AC inrush 4.7 VA, hold on 3.5 VA, 1.9 W. For intrinsically safe 0.7 W.
Flow Rate	:	

	Qv l/ min	kv	cv
8 mm internal tube	1100	16.0	1.12
6 mm internal tube	900	13.0	0.91
4 mm internal tube	485	7.0	0.50

MATERIAL OF CONSTRUCTION

Body, Covers	:	High grade Aluminium EMATAL treated.
Side Cover	:	Pressure die cast Aluminium Epoxy Painted.
Spool	:	High grade Aluminium Hard Anodized.
Seals	:	NBR, PU, PE, SILICON.
Other Parts	:	High Grade Engineering Plastic.

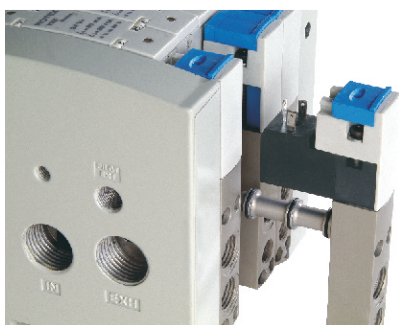
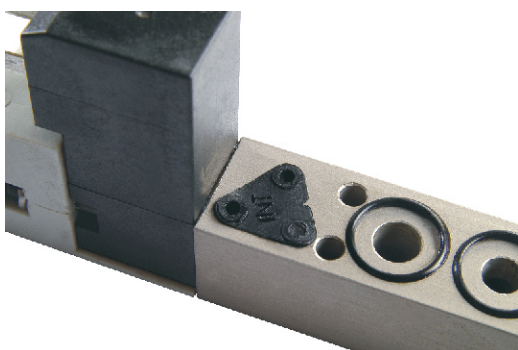
FEATURES

EXTERNAL AIR

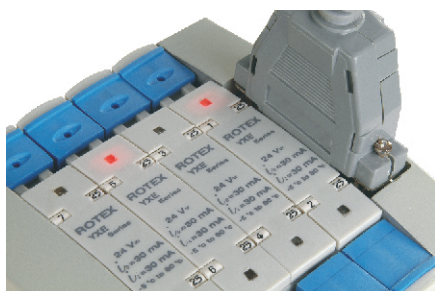
For low pressure & vacuum application, YXE valves can be converted to external air. just rotate the seal. All or any one valve can be converted to external air by rotating the cover seal. The seals are marked with internal and external signs for ease of conversion.

EASY MAINTENANCE

Fully serviceable by the end user. All the parts are fully interchangeable. All the soft parts are replaceable and can be serviced at the customer's end. No special techniques are required to maintain the products.



YXE SERIES : SUPER HIGH FLOW VALVE ISLAND



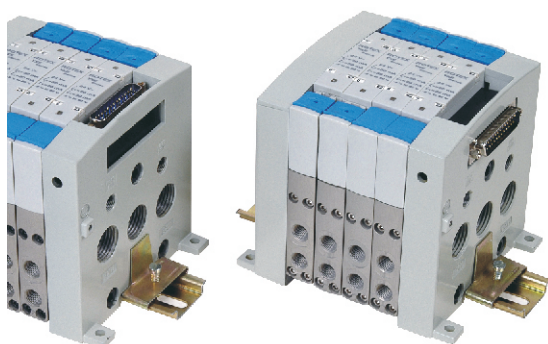
FEATURES

LIGHT INDICATION

High glow LED for better indication. All LED are covered by an optical lens. This enables the indication to be seen clearly in day light where as in the panel the glow looks optimised.

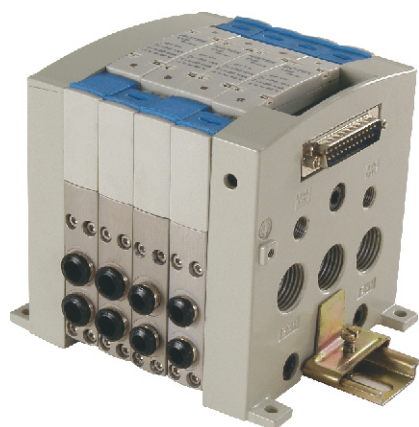
D - CONNECTOR

Standard 25 pin D connector is used for solenoid connection, which can be adjusted in two positions. The D connector male fits on the female D connector with the water proof gasket. For top entry and side entry, the gaskets are different. Customer can change the direction of interface from top to side.



INSTANT TUBE CONNECTOR

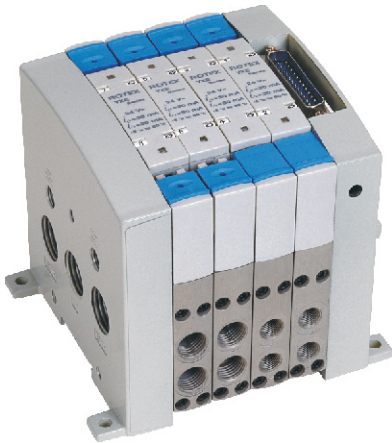
YXE can be supplied with built in pipe connectors which can be used for direct pipe mounting. Thus the valves are directly suited for tubing. The valve island can have multiple options on the ports.



MULTIPLE PORTS

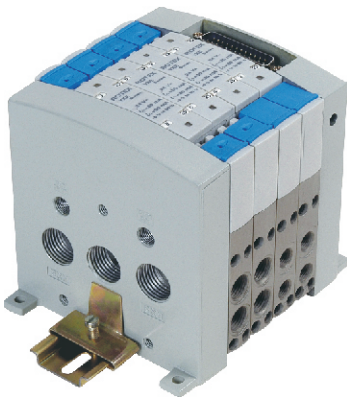
Can be used for 1/8" or 1/4" BSP or NPT. One Island can have 1/8" or 1/4" ports on different valves.

YXE SERIES : SUPER HIGH FLOW VALVE ISLAND



FOOT MOUNTING

Foot mounting is available as a standard feature. In case of field mounting the foot mounting can be used.



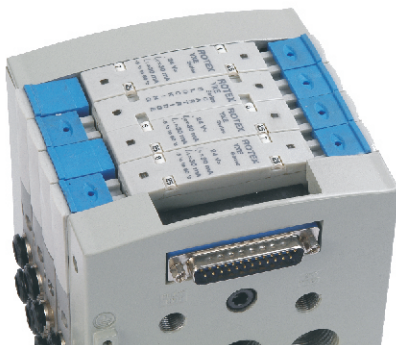
DIN RAIL

DIN rail mounting is available as a standard feature. The mounting and lock for the DIN rail is standard. Click mounting makes the mounting on the panel easy.



CARTRIDGE FLEXIBILITY

Extra valve blocks can be added or one or more can be removed. The valve can be added at the customer's end. The wiring is done for all the pins. The customer can choose the option of replacing the complete harness.



MULTIPLE INLETS

Two different pressure or vacuum inlets can be given by using Blocking Cartridge, where the Exhaust & pilot ports are common and are not blocked. Twin pressure can either be vacuum or low pressure as desired. Middle port can be used for pressure gauge connection.

YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

ACCESSORIES



FEMALE CORD

Cord with 25 Pin female D-connector can be used for wiring YXE island to PLC/ controller
Cord is available in length of 1 m, 3 m & 5 m
Optionally one side D connector & one side cut end available

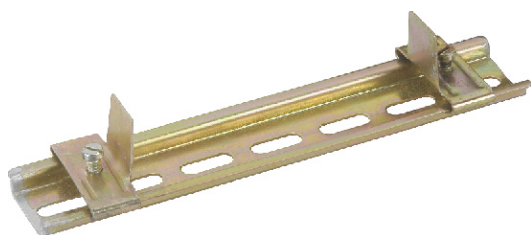
OPTION	CODE
1 m cable	O1M
3 m cable	O3M
5 m cable	



BLOCKING CARTRIDGE

Multiple Air Supply can be provided by using Blocking Cartridge. Blocking cartridge allows twin supply using both Inlets on end plates.

OPTION	CODE
1/8" BSP/NPT	B1G for 1/8" BSP, B1R for NPT.
1/4" BSP/NPT	B2G for 1/4" BSP, B2R for NPT.
4 mm tubing	BT4
6 mm tubing	BT6
8 mm tubing	BT8



DIN RAIL AND STOPPERS

STANDARD 1 m lengths are available with end stoppers.

MODEL	CODE
DIN-EN50022 rail 1 m.	DRS1



SINTERED BRONZE SILENCERS

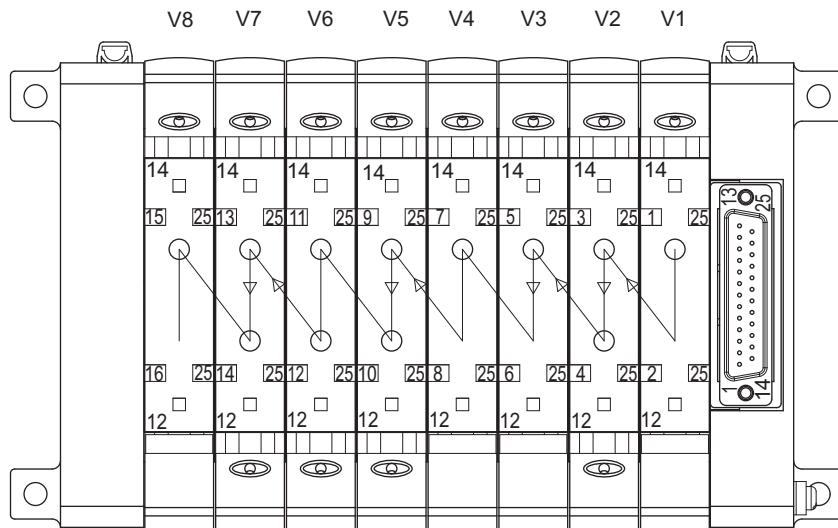
It is recommended to tube the exhaust ports outside the panel. In case of open installation all the exhaust ports should be provided with sintered bronze silencers.

MODEL	CODE
1/8" BSP	1 As
1/4" BSP	2 As
1/2" BSP	4 As

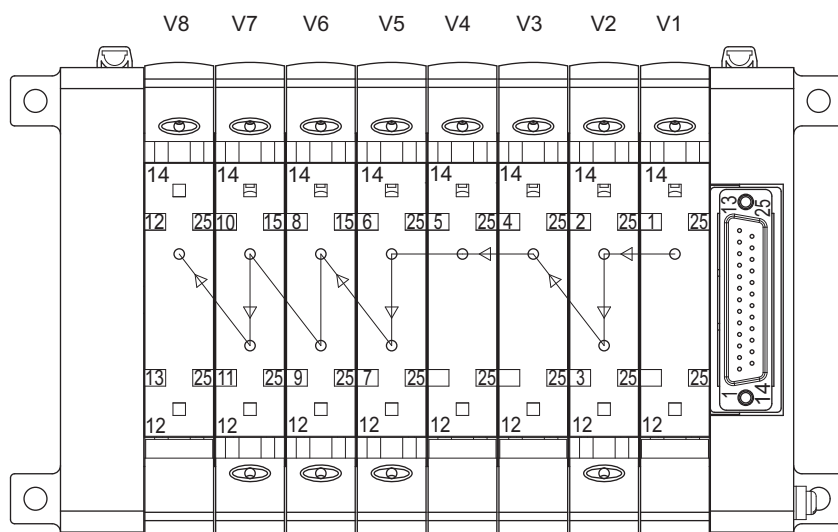
YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

WIRING METHODOLOGY

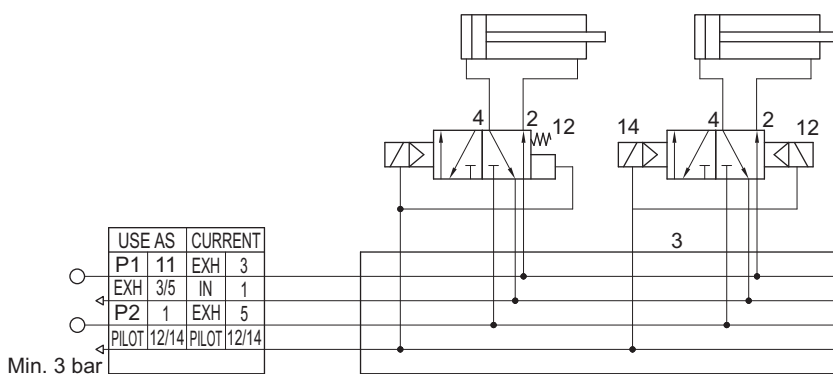
METHOD: ADDRESSING WITH STANDARD PINNING
CODE: SO



METHOD: ADDRESSING WITH OPTIMISED PINNING
CODE: WO

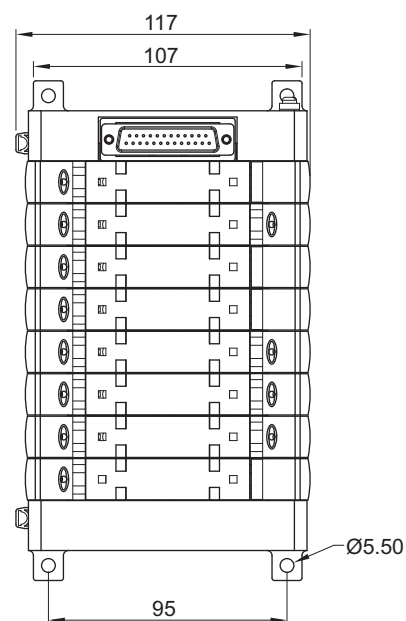
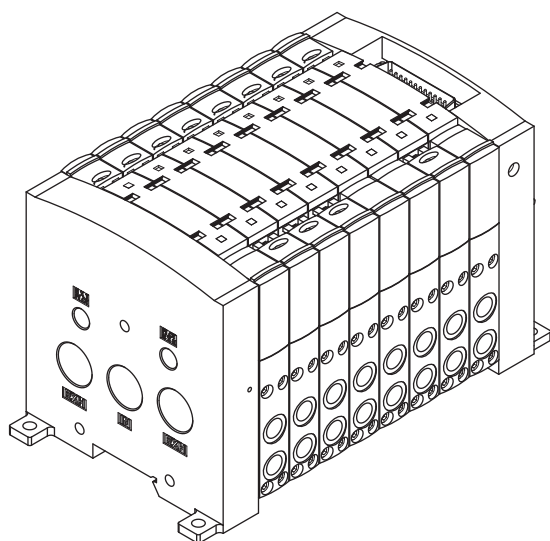
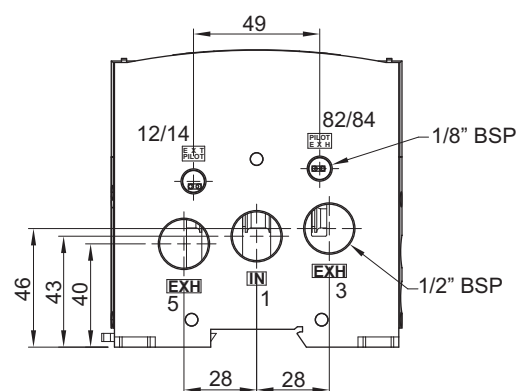
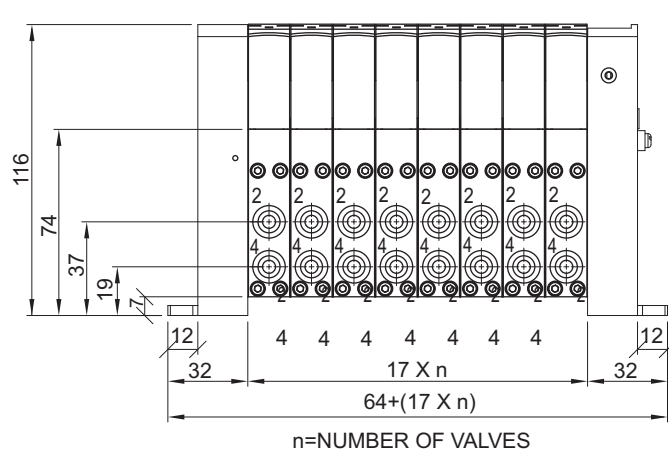


DUAL AIR SUPPLY



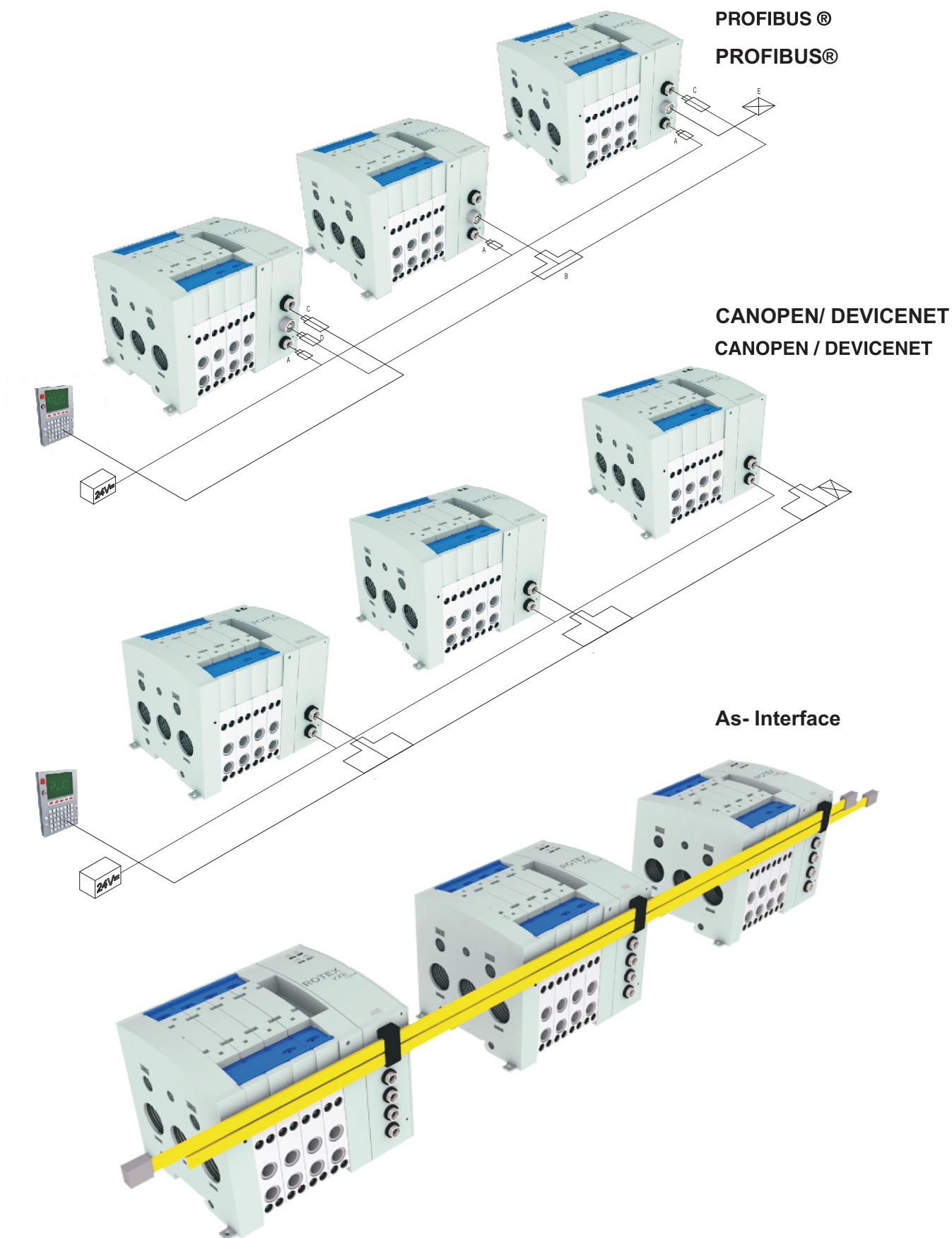
YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

DIMENSIONS



YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

FIELDBUS

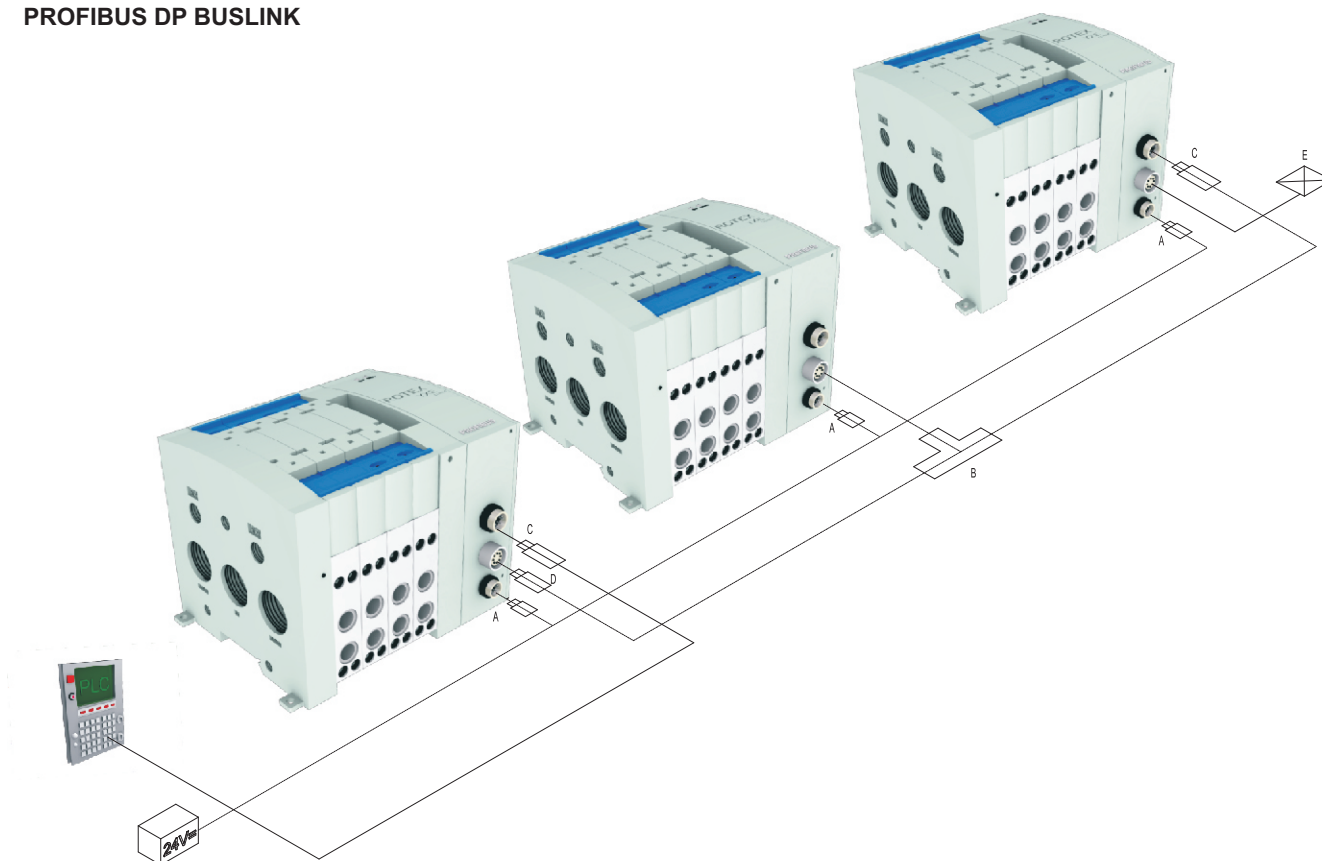


YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

YXE VALVE ISLAND WITH PROFIBUS-DP

The YXE island is designed to overcome the lengthy wiring. It is easy to operate, maintain and control. Solenoid valves island is configured to exchange data through fieldbus using PROFIBUS-DP protocol. The fieldbus connectivity is achieved by using Rs. 485 interface.

PROFIBUS DP BUSLINK



COMMUNICATION CHARACTERISTIC

Protocol	:	PROFIBUS-DP, DIN 19245-part 3-EN 50170.
Transmission	:	Shielded and twisted pair.
FIELDBUS Structure	:	Line or tree using repeaters.
Max. no. of solenoid valves	:	63
Max. no. Of valves per island	:	16
FIELDBUS cable length	:	1200 m at 9.6 kbps and 100 m at 12 Mbps.
Island addressing	:	Rotary Switch on the board.

ELECTRICAL CHARACTERISTIC

Supply Voltage	:	24V DC $\pm$ 10% with maximum 15% ripple.
FIELDBUS consumption	:	< 150 mA
Solenoid consumption	:	1.2 W
Protection	:	IP55
Supply connection (24 V)	:	M8 Socket 4 pin male.
FIELDBUS connection	:	IN 5 pin M12 -B male. OUT 5 pin M12 -B male.
Earthing	:	On the valve Island.
Electromagnetic compatibility	:	CE, directive EMC 89/ 336/ EEC.

YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

PNEUMATIC ELEMENTS

All the options are available as specified. All the pressure ranges are applicable as specified. It is recommended to use all the parts as specified by ROTEX.

All the valve islands are supplied duly tested for FIELDBUS.

Kindly specify the special characteristics as required.

PROFIBUS-DP connection.

The right side of the YXE valve island as viewed from top will be as shown.

The valve island is provided with two M 12 connectors for communication and one M 8 connector for power supply

wiring with T-connector

Wiring with 2XM12 connector.

TYPE	ACCESSORY		CODE
A		M 8 connector with 4 core cable for 24 V DC supply for FIELDBUS and OUTPUTS. 5 m open end	PM8F5
B		T connector M 12-B for network.	TM12B
C		FIELDBUS output cable, M 12-B connector 5 pin, male for the PROFIBUS for 6-8 mm cable.	PMM12AM
D		FIELDBUS output cable, M 12-B connector 5 pin, female for the PROFIBUS for 6-8 mm cable.	PM12AF
E		Terminating Sgunt for the end of the tree.	PSB
F		Configuration software for PROFIBUS-DP (GDS)	DVDP

ELECTRICAL CONNECTION

M 12 CONNECTORS- CODEB

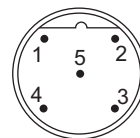
PIN	SIGNAL NAME	DESCRIPTION
1	VS	Shunt
2	DA	Data line A
3	DG	Data Ground
4	DB	Data line B
5	S	Shield

The shield has to be externally connected if not provided within the connector.

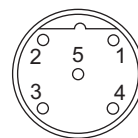
All the connectors have the facilities for shielding.

Extra cable can provide the same effect.

ELECTRICAL CONNECTION FOR PROFIBUS M12-B CONNECTORS



VIEW FROM SCREW SIDE OF MALE CONNECTOR.

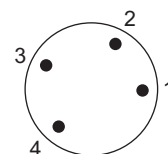


VIEW FROM SCREW SIDE OF FEMALE CONNECTOR.

M 8 CONNECTOR

Power supply cables are to be connected as follow.

PIN	DESCRIPTION
1	+24 V DC for the FIELDBUS
2	+24V DC for the Solenoid valves
3	Data Ground
4	0 V Ground

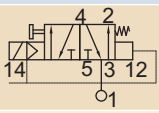
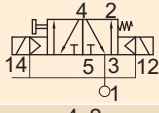
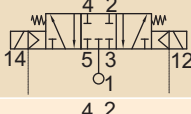
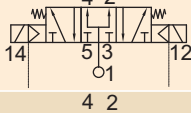
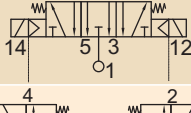
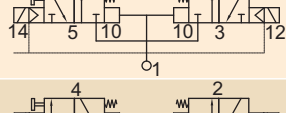
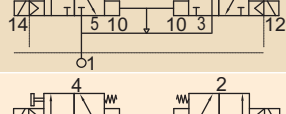
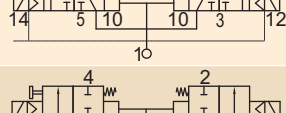


POWER SUPPLY VIEW FROM MALE PIN SIDE

YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

SELECTION CRITERIA FOR VALVES

ORDERING CODE

TYPE	SYMBOL	MIN. OP. PRESSURE, bar	ORDERING CODE	OPTION WITH EXTERNAL AIR
5/2 SINGLE COIL		2.5	YXE 120	-A
5/2 DOUBLE COIL		2.0	YXE 220	-A
5/3 CENTRE OFF		3.5	YXE 231	-A
5/3 CENTRE PRESSURE		3.5	YXE 232	-A
5/3 CENTRE EXHAUST		3.5	YXE 233	-A
3/2 NC/NC COMBINATION		2.5	YXE 321	-A
3/2 NC/NO COMBINATION		2.5	YXE 322	-A
3/2 NO/NO COMBINATION		2.5	YXE 323	-A
2/2 NC/NC COMBINATION		2.5	YXE 421	-A
2/2 NC/NO COMBINATION		2.5	YXE 422	-A
2/2 NO/NO COMBINATION		2.5	YXE 423	-A

OPTION FOR PORT CONNECTION

OUTLET CONNECTION

OPTION	CODE
1/8" BSP/ NPT	1G for BSP, 1R for NPT
1/4" BSP/ NPT	2G for BSP, 2R for NPT
4 mm tubing	T4
6 mm tubing	T6
8 mm tubing	T8

YXE SERIES : SUPER HIGH FLOW VALVE ISLAND

SELECTION CRITERIA FOR VALVES

INTEL/ EXHAUST CONNECTIONS

OPTION	CODE
1/2" BSP/ NPT	4G for BSP, 4R for NPT
8 mm tubing	T8
10 mm tubing	T10
12 mm tubing	T12

PILOT EXHAUST/ PILOT COMBINATION

OPTION	CODE
1/8" BSP/ NPT	1G for BSP, 1R for NPT
4 mm tubing	T4

SOLENOID VOLTAGE OPTION

12 V DC	24 V AC
24 V DC	48 V AC
48 V DC	110 V AC
110 V DC	220 V AC

D CONNECTOR OPTION

OPTION	CODE
For top entry	T
For side entry	S

OPTION FOR BLOCKING CARTRIDGE

OPTION	CODE
1/8" BSP/ NPT	B1G for 1/8 BSP, B1R NPT
1/4" BSP/ NPT	B2G for 1/4" BSP, B2R for 1/4" NPT
4 mm tubing	BT4
6 mm tubing	BT6
8 mm tubing	BT8

WIRING OPTION

OPTION	CODE
STANDARD PINNING	SO
OPTIMIZED PINNING	WO

PUSH BUTTON/ SELECTOR SWITCH OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DSA125/DSA225 (PushButton)	G1/8"/G1/4"	3/2 NORMALLY CLOSED	
DSA149/DSA249 (SelectorSwitch)	G1/8"/G1/4"	3/2 NORMALLY CLOSED	
VA125/VA225 (PushButton)	G1/8"/G1/4"	5/2	
VA149/VA249 (SelectorSwitch)	G1/8"/G1/4"	5/2	



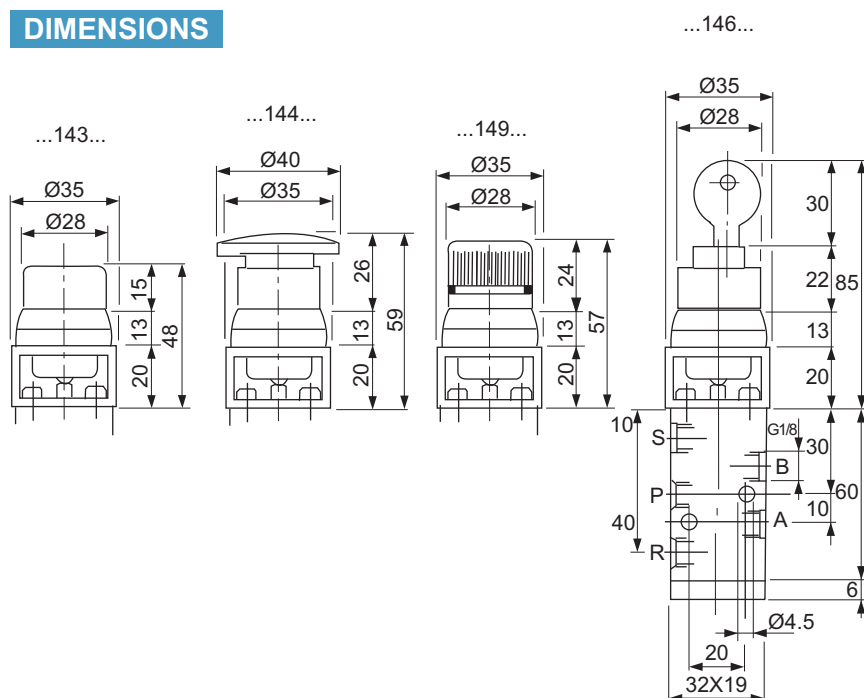
FEATURES

- Suitable for Panel mounting
- Light Weight

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated	Operating pressure range	0-10 bar
Mounting	Through holes in housing	Temperature range	+ 5 °C to + 70 °C
Orifice	3 mm	Actuation force	+ 46 N
Flow factor	Kv=0.17 m³ / hr, kv = 2.8 ℓ/ min	Weight	0.25 kg
Flow rate	187 ℓ/ min	Material of construction	Aluminium

DIMENSIONS

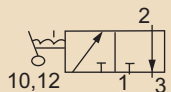
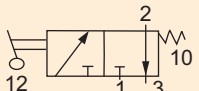


ORDERING EXAMPLE

DSA125 - 1G

DSA125 - 1N

3/2 PUSH - PULL SPOOL VALVE

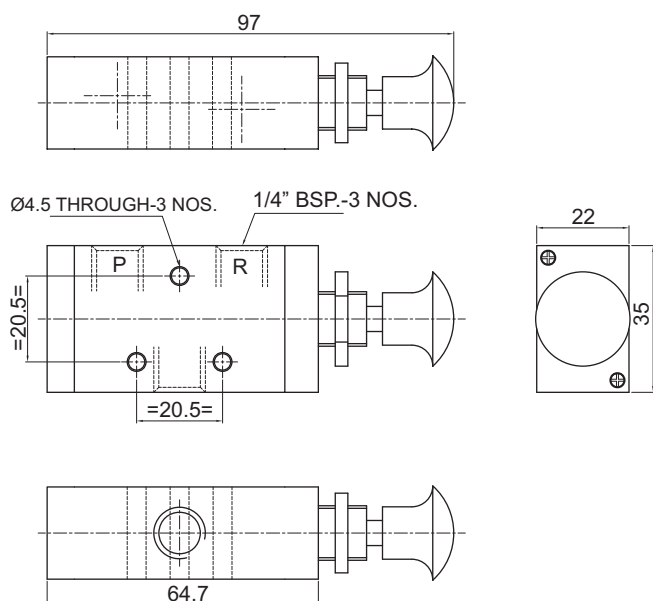
MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
SDAJ201B	G1/4"	Manual Return	
SDAJ201S	G1/4"	Air/ Spring	



FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting

DIMENSIONS



ORDERING CODE

MODEL	CONNECTION	COLOUR
1	2	3

1	MODEL	SDAJ201B	
		SDAJ201S	
2	CONNECTION	1/4" BSP	2G
		1/4" NPT	2N
3	COLOUR	GREEN	G
		RED	R
		BLACK	K

ORDERING EXAMPLE

SDAJ201S - 2G - R

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	6.7 mm
Flow factor	Kv=0.90 m³ / hr, kv = 15 l/ min
Flow rate	990 l/ min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	+ 4N
Weight	0.5 kg
Material of construction	Aluminium

5/2 PUSH - PULL SPOOL VALVE

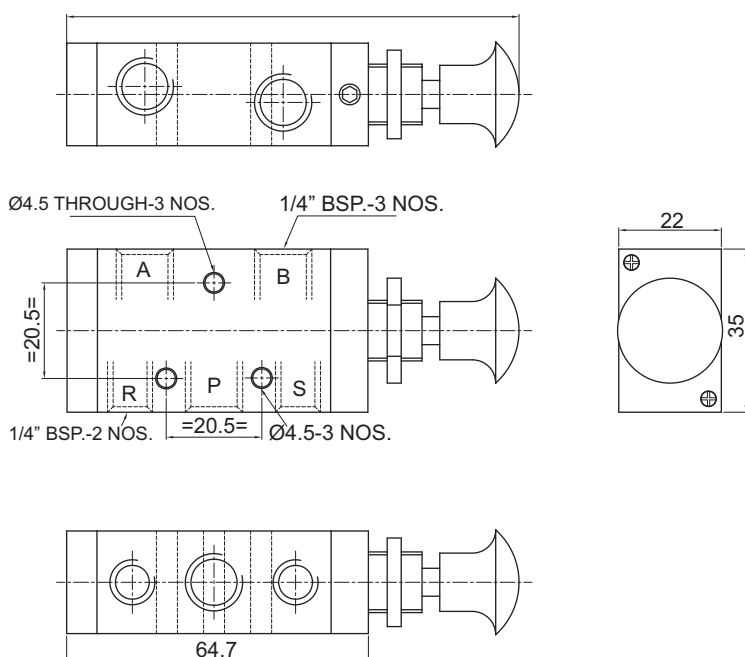
MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
SVAJ201B	G1/4"	Manual Return	
SVAJ201S	G1/4"	Air/ Spring	



FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting

DIMENSIONS



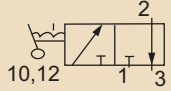
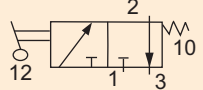
ORDERING CODE

MODEL	CONNECTION	COLOUR
1	2	3
1	MODEL	SVAJ201B SVAJ201S
2	CONNECTION	1/4" BSP 2G 1/4" NPT 2N
3	COLOUR	GREEN G RED R BLACK K

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	6.7 mm
Flow factor	Kv=0.90 m ³ / hr, kv = 15 l/min
Flow rate	990 l/min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 7N
Weight	0.6 kg
Material of construction	Aluminium

3/2 HAND LEVER OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DAF204	G1/4"	Manual Return	
DAF205	G1/4"	Spring Return	



FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting
- Handle can be turned by 90°, 180°, 270°, 360°

TECHNICAL SPECIFICATION

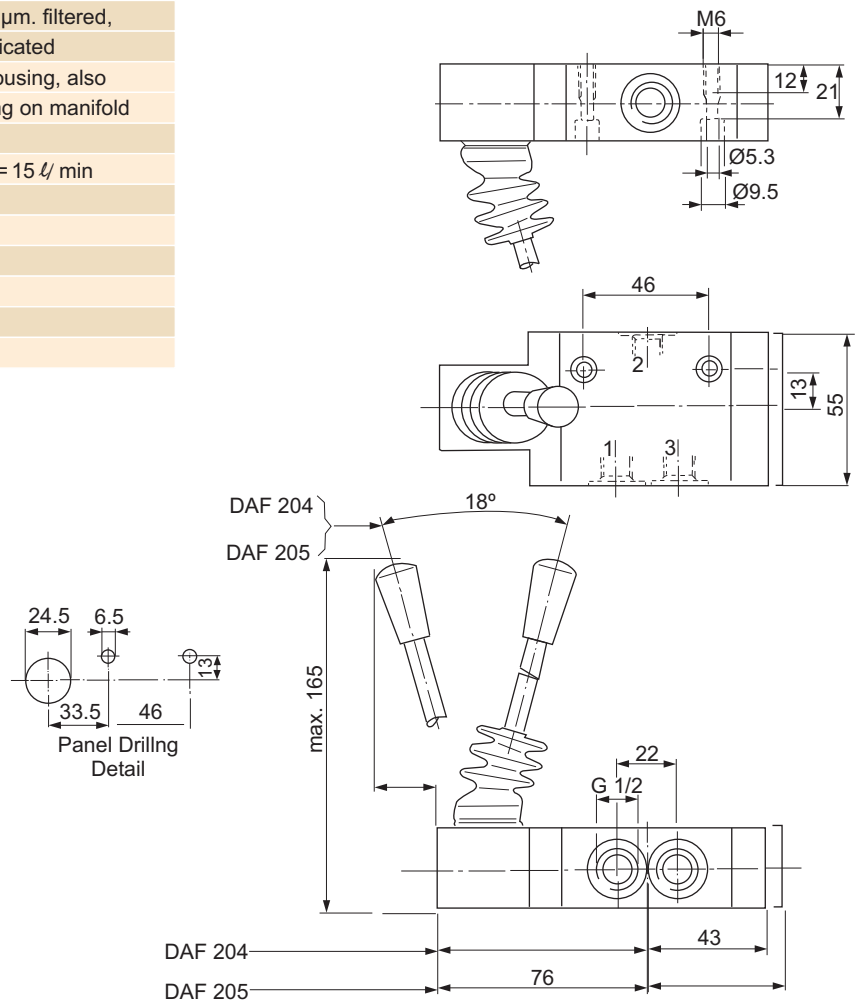
Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	6.7 mm
Flow factor	Kv=0.90 m³ / hr, kv = 15 l / min
Flow rate	990 l / min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	+ 4N
Weight	0.5 kg
Material of construction	Aluminium

ORDERING EXAMPLE

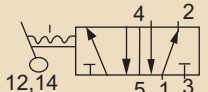
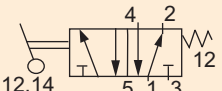
DAF204 - 2G

DAF204 - 2N

DIMENSIONS



5/2 HAND LEVER OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
VAF204	G1/4"	Manual Return	
VAF205	G1/4"	Spring Return	



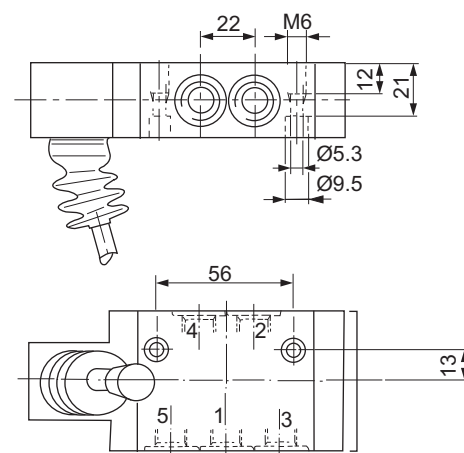
FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting

TECHNICAL SPECIFICATION

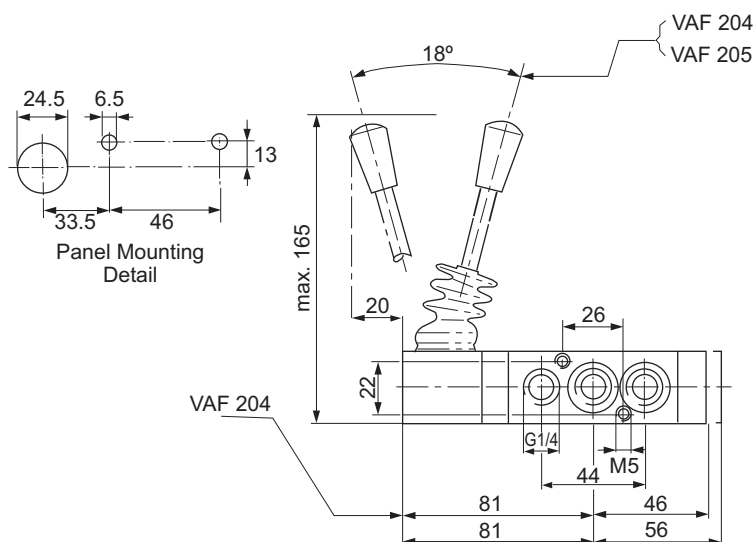
Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	6.7 mm
Flow factor	Kv=0.90 m ³ / hr, kv = 15 l / min
Flow rate	990 l / min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 7N
Weight	0.6 kg
Material of construction	Aluminium

DIMENSIONS



ORDERING EXAMPLE

Standard Version	VAF204 - 2G
Special Version	VAF204 - 2N - AV



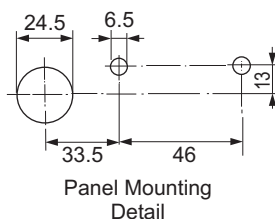
MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
VAF223	G1/4"	Centre Exhausted	
VAF253	G1/4"	Centre Off	
VAF273	G1/4"	Centre Pressurized	



- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting
- Handle can be turned by 90°, 180°, 270°, 360°

Media	Compressed air, 50µm. filtered,
	lubricated or unlubricated
Mounting	Through holes in housing, also
	suitable for mounting on manifold
Orifice	6.7 mm
Flow factor	Kv=0.90 m ³ / hr, kv = 15 4/ min
Flow rate	990 4/ min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 17N
Weight	0.95 kg
Material of construction	Aluminium

Standard Version	VAF223 - 2G
Special Version	VAF253 - 2N - AV



9

9

9

- 9

9

9

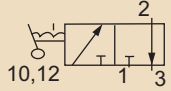
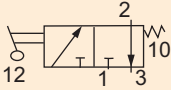
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9

9



5/3 HAND LEVER OPERATED SPOOL VALVE MANUAL RETURN

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
DAF404	G1/2"	Manual Return	
DAF405	G1/2"	Spring Return	



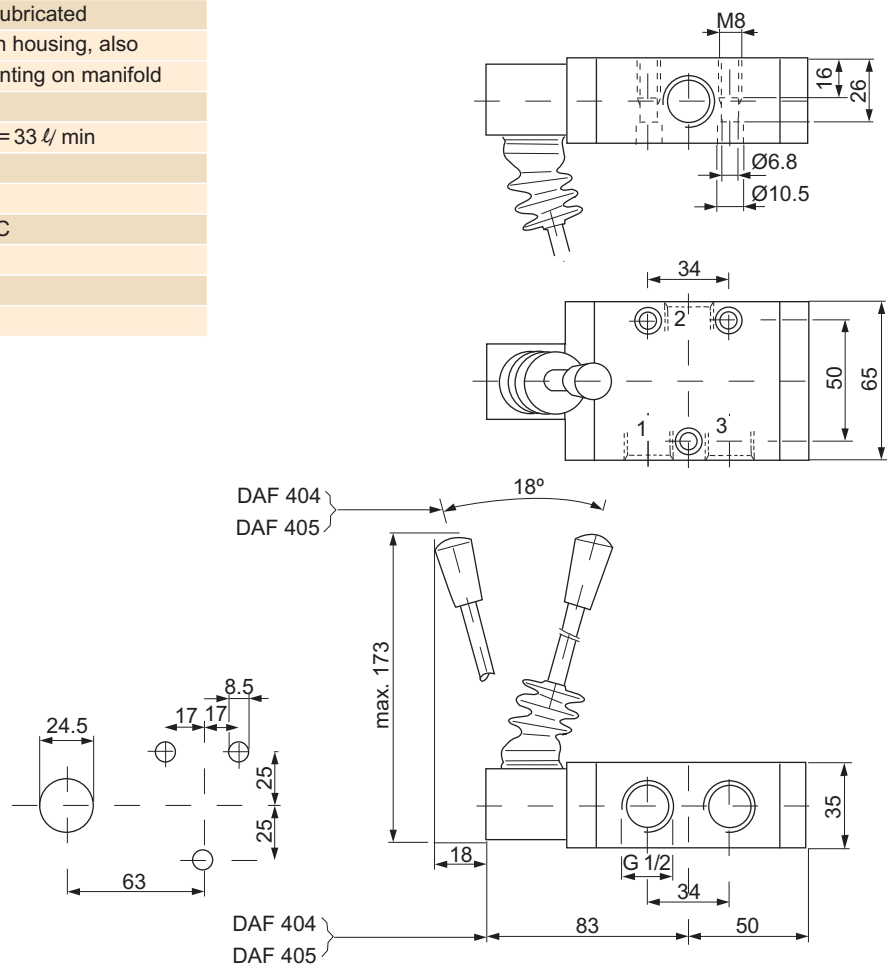
FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting
- Handle can be turned by 90°, 180°, 270°, 360°

TECHNICAL SPECIFICATION

Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	10 mm
Flow factor	Kv=2 m ³ / hr, kv = 33 l/ min
Flow rate	2200 l/ min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 4N
Weight	0.8 kg
Material of construction	Aluminium

DIMENSIONS



ORDERING EXAMPLE

Standard Version DAF404 - 4N

5/3 HAND LEVER OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
VAF404	G1/2"	Manual Return	
VAF405	G1/2"	Spring Return	



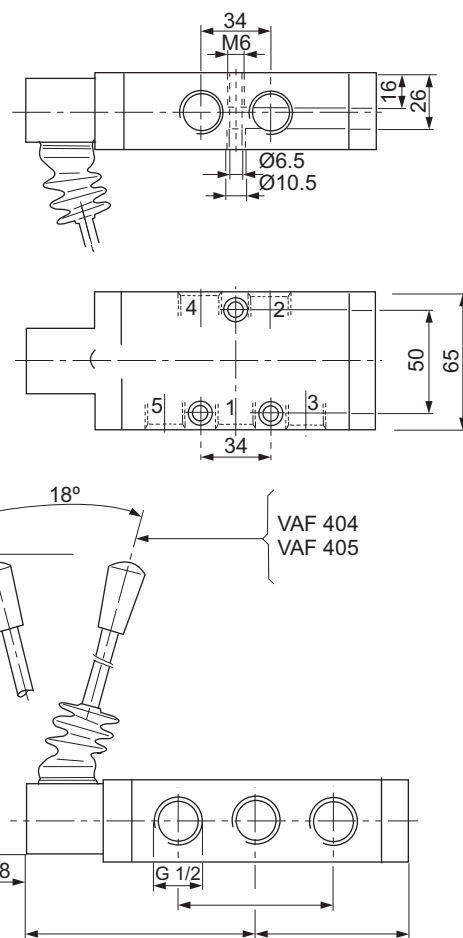
FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting
- Handle can be turned by 90°, 180°, 270°, 360°

TECHNICAL SPECIFICATION

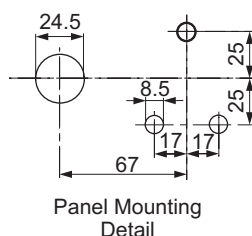
Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	10 mm
Flow factor	Kv=2 m ³ / hr, kv = 33 l / min
Flow rate	2200 l / min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 4N
Weight	0.9 kg
Material of construction	Aluminium

DIMENSIONS

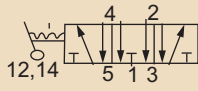
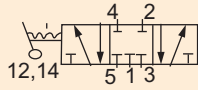
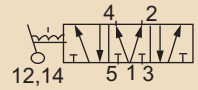


ORDERING EXAMPLE

Standard Version	VAF404 - 4G
Special Version	VAF404 - 4N - AV



5/3 HAND LEVER OPERATED SPOOL VALVE

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
VAF406	G1/2"	Centre Exhausted	
VAF456	G1/2"	Centre Off	
VAF476	G1/2"	Centre Pressurized	



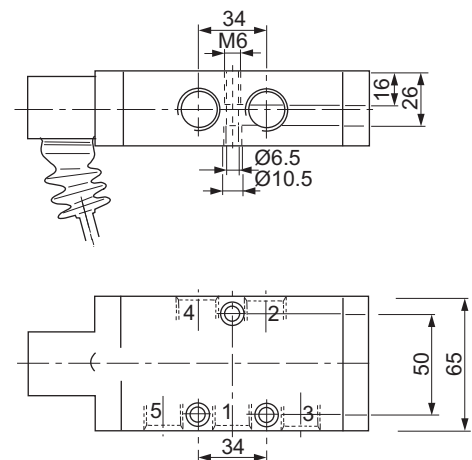
FEATURES

- Mounts in any position
- Rugged spool design
- Suitable for manifold mounting
- Handle can be turned by 90°, 180°, 270°, 360°

TECHNICAL SPECIFICATION

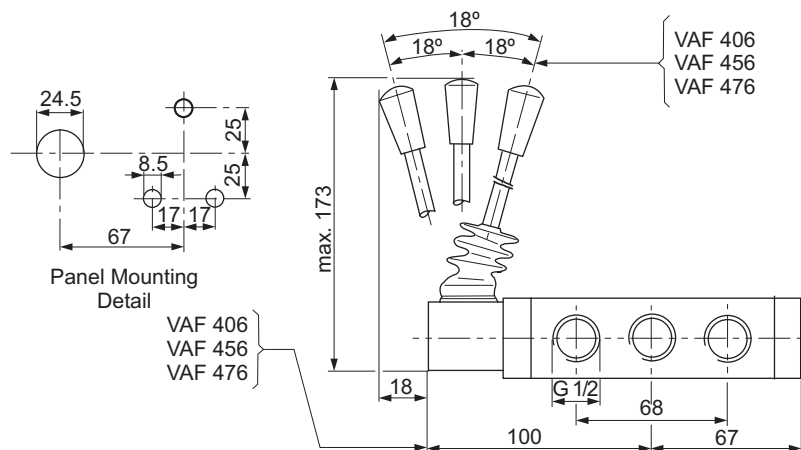
Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	10 mm
Flow factor	Kv=2 m ³ / hr, kv = 33 l/ min
Flow rate	2200 l/ min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 9N
Weight	0.95 kg
Material of construction	Aluminium

DIMENSIONS



ORDERING EXAMPLE

Standard Version VAF404 - 4G
 Special Version VAF404 - 4N - AV



9

9

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- 9

9

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9

9

MODEL No.	PORT CONNECTION	FUNCTION	SYMBOL
RAQ206	G1/4"	Centre Exhausted	
RAQ256	G1/4"	Centre Off	
RAQ276	G1/4"	Centre Pressurized	



- Mounts in any position
- Rugged ceramic disc design
- Suitable for manifold mounting
- Ports orientation to handle position can be changed on request

Media	Compressed air, 50µm. filtered, lubricated or unlubricated
Mounting	Through holes in housing, also suitable for mounting on manifold
Orifice	6.7 mm
Flow factor	Kv=0.90 m³ / hr, kv = 15 l/ min
Flow rate	990 l/ min
Operating pressure range	0-10 bar
Temperature range	+ 5 °C to + 70 °C
Actuation force	± 9N
Weight	0.8 kg
Material of construction	Aluminium

The diagram illustrates the relationship between the **MODEL** and **CONNECTION** attributes. **MODEL** is associated with three part numbers: RAQ206, RAQ256, and RAQ276. **CONNECTION** is associated with two thread types: 1/4" BSP and 1/4" NPT, each with a corresponding quantity (2G and 2N respectively).

	MODEL	CONNECTION
1	RAQ206	1/4" BSP
	RAQ256	1/4" NPT
	RAQ276	
2		2G
		2N

RAQ256 - 2G

AIR LOCK RELAY

3/2 & 5/2 VERSION

ALR - 3, ALR - 5



FEATURES

- For control valve application
- Sensitivity 3 bar to cutoff only
- Most suited for critical applications
- No External bleed
- 3 way & 4 way versions available where all ports are blocked
- Super compact in size
- Application most suited for air failure safe conditions complete

ORDERING CODE

TYPE	CONNECTION	BODY MATERIAL
1	2	3
1	TYPE	3way ALR-3 4way ALR-5
2	CONNECTION	SIZE 1/4" 1/2" BSP 2G 4G NPT 2N 4N
3	BODY MATERIAL	Aluminium ✖ Brass B1 SS 304 B2

ORDERING EXAMPLE

ALR - 3 - 2G
3 way airlock relay 1/4" BSP
ALR - 5 - 4N - B2,
All lock relay 1/2" NPT, SS 304 connection
5/2 having 4 ports for connection

CONNECTION

CASE - 1

Air lock relay 3/2 ALR is connected between actuator & solenoid valve. On absence of pressure it locks actuator in position & unless pressure resumes it maintains position (Assumption that actuator & fittings have no leakage)

CASE - 2

Air lock relay 3/2 ALR-3 is connected before solenoid valve. On absence of Pressure actuator remains in position depending upon solenoid valve position. Under energized condition & on the event of air failure actuator remains actuated, on de energisation, the actuator closes.

CASE - 3

5/2 air lock relay ALR-5 is installed between solenoid valve, or positioner output & actuator ports. On event of air pressure failure, air lock relay maintains pressure locked condition. Positioner change does not reflect cylinder movement, but external forces can change actuator position.

AIR LOCK RELAY

3/2 & 5/2 VERSION

SENALR - 3, SENALR - 5



FEATURES

- For control valve application
- Sensitivity 0.5 bar
- Most suited for critical applications
- No External bleed
- Adjustable from 3.0 to 10.0 bar
- 3 way & 4 way versions available where all ports are blocked
- Super compact in size
- Dual diaphragms for high sensitivity
- Application most suited to perform emergency shut down on pressure fluctuation with in 0.5 bar

ORDERING CODE

TYPE	CONNECTION	BODY MATERIAL
1	2	3
1 TYPE	3way SENALR-3 4way SENALR-5	
2 CONNECTION	SIZE 1/4" 1/2"	
	BSP 2G 4G	
	NPT 2N 4N	
3 BODY MATERIAL	Aluminium *	
	Brass B1	
	SS 304 B2	

ORDERING EXAMPLE

SENALR - 3 - 2G
3 way airlock relay 1/4" BSP
SENALR - 5 - 4N - B2,
All lock relay 1/2" NPT, SS 304 connection
5/2 having 4 ports for connection

CONNECTION

CASE - 1

Air lock relay 3/2 SENALR is connected between actuator & solenoid valve. On drop of pressure below set pressure it locks actuator in position & unless pressure resumes it maintains position (Assumption that actuator & fittings have no leakage)

CASE - 2

Air lock relay 3/2 SENALR-3 is connected before solenoid valve. On drop of Pressure below set pressure actuator remains in position depending upon solenoid valve position. Under energized condition & on the event of air failure actuator remains actuated, on de energisation, the actuator closes.

CASE - 3

5/2 air lock relay SENALR-5 is installed between solenoid valve, or positioner output & actuator ports. On event of drop pressure below set pressure, air lock relay maintains pressure locked condition. Positioner change does not reflect cylinder movement, but external forces can change actuator position.

ME MECHANICALLY OPERATED VALVE

G 1/8,

G1/4

3/2

OR

5/2

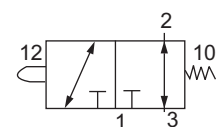
OPERATION

RETURN

MODEL



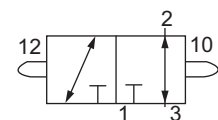
DSA101



Pin

Spring

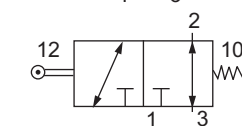
DSA 101
VA 101



Pin

Pin

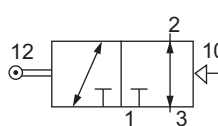
DSA 101 D
VA 101 D



Lever

Spring

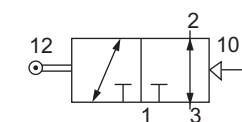
DSA 107
VA 107



Lever

Air

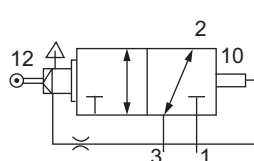
DSA 107 A
VA 107 A



Bearing
Lever

Spring

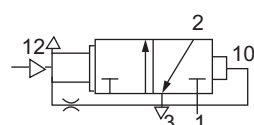
DSA 117
VA 117



Bearing Lever

Air

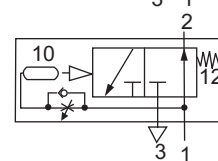
DSA 117 A
VA 117 A



Air
5-20 mbar

Air spring

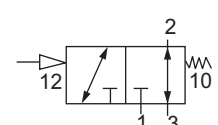
DSA 120



Delay air
(Timer Off)

Spring

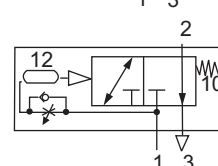
DSA 129



Air

Air

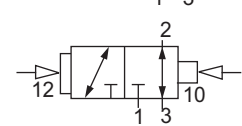
DSA 132



Delay air
(Timer On)

Spring

DSA 139



Air

Air

DSA 162



DSA117



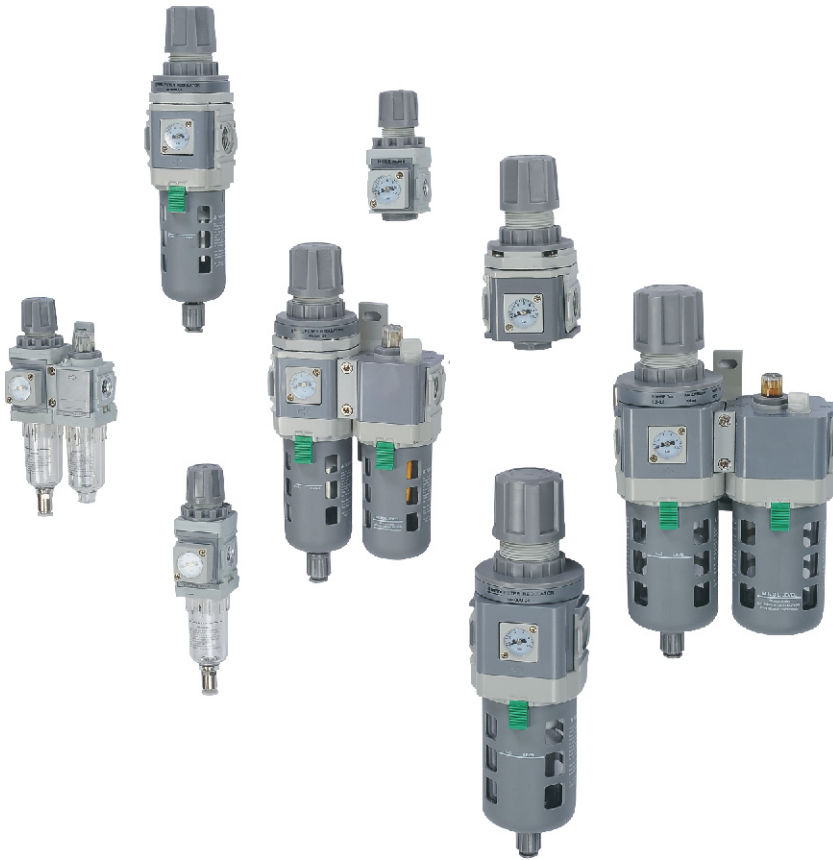
DSA101-SU

10

AIR PREPARATION SYSTEM

SERIES F, R, L, W, C

MODULAR FRL SYSTEM



FEATURES

- Modular system, Extremely user friendly
- Mounting bracket as a standard provided along with joints
- Flush square gauge, protects the systems for damages
- On line refilling of lubricator
- 40µm filtration standard, 5µm on request
- Plastic guard for bowls
- Precision regulation
- Drain can be terminates by PU tubing
- Oil filter provided as a standard in lubricator bowl
- Oilmist is extremely fine ensures long distance travel

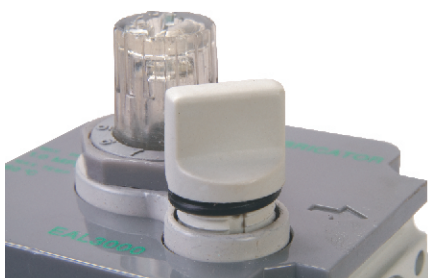
HIGH GRADE FILTERS

- Highest efficiency in the series
- High flow filter with multi layer Grains
- High efficient Air swivel for moisture removal
- Ease of Maintenance
- Element is seated on the edges
- Can be cleaned by detergent

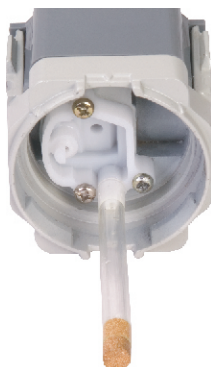


ONLINE LUBRICATION

- On line lubrication
- Precise setting of lubrication
- Bowl can be refilled on line by opening refill screw completely
- Refill screw can be opened partially as shown and than the complete bowl can be removed to refill



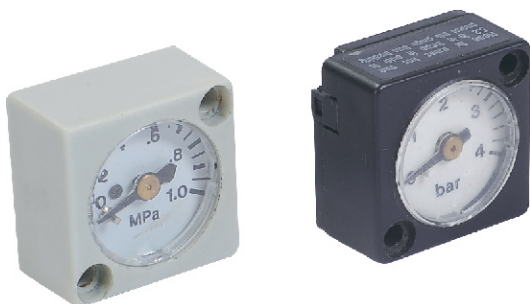
AIR PREPARATION SYSTEM



FEATURES

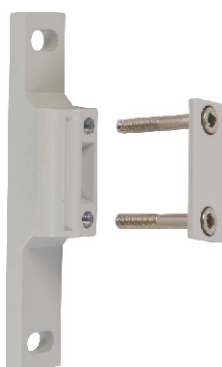
OIL FILTER

- Fine filter to avoid chocking of lubrication path
- High quality of flow rates are maintained due to filtrations
- Specially profiled screw ensures the fine controls
- Consistency in oil flow is maintained by low pressure nonreturn valve



PRESSURE GAUGE

- Flush pressure gauge
- 25 mm smallest gauge
- Sensitive to vibration
- Rigidly mounted on two screws with 'O' rings No. PTFE sealant used
- Gauge available in bar/ MPa.



MOUNTING AND JOINING KIT

- Ease of use
- Quick change clamp
- Assembly can be used to multiply the units
- Aluminium pressure die cast for heavy use
- Available from series 1000 till 8000



C CLAMP

- Rigid mounting bracket
- In built anti rotation locks
- Can be mounted in 0 - 180°
- High grade steel with plating to last long

AIR PREPARATION SYSTEM

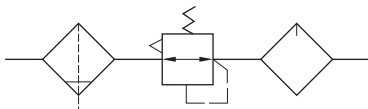
C SERIES F+R+L



FEATURES

- Compact size, light weight, good performance, easy to use, Charming appearance
- It adopts the modular connection, it may be used individually or by combination with easy installation. The embedded pressure gauge shortens the mounting time
- Semi-auto drain (water discharged automatically while air turned off) and fully auto drain for your selection
- The precision air regulator has fine flow-pressure characteristics. The knob with self - locking function is fit for any seismic environment
- The lubricator utilizes the novel drops control mechanism to fulfill the oil adding with air on. The inside flow sensor ensures the low atomizing flow, thin oil mist particles and long transmission distance

SYMBOL



SPECIFICATION

Model		C1000/C2000		C3000			C4000			C8000	
Operating Pressure	MPa	1.0									
Max Pressure	Mpa	1.5									
Operating Temperature	°C	0.60									
Filtration	Pm	5 or 40									
Set Pressure	Mpa	0.05-0.85									
Minimum Air Flow for 5 Oil Drop	ℓ / min. (ANR)	15	30			65			190		
Overflow Pressure	Mpa	Set Pressure+0.05									
Max Oil Level	ml	20	85			170			-		
Waste Bowl Capacity	ml	12	45			80			-		
Oil Recommended		Turbine Oil NO. 1 (ISO VG 32) (NO Spindle oil is allowed)									
Port Thread	G	1/8	1/4	1/4	3/8	1/2	3/8	1/2	3/4	3/4	1
Maximum Air flow	m³/ min. (ANR)	0.35	0.6	1.2	1.7	1.9	2.5	2.5	2.8	6.0	6.0

* The flow measurement is done at 7 bar Inlet, 5 bar set pressure at $\Delta P = 1$ bar

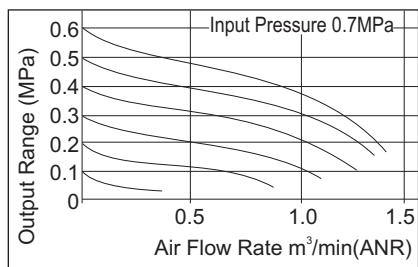
Caution Note :

1. The bpwl should not be disassembled/ assembled under pressure
2. The minimum drop flow refers to the drop flow of 5 drops of oil every minute on the basis of the pressure set at 0.5MPa

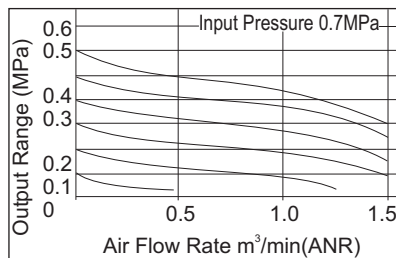
AIR PREPARATION SYSTEM

FLOW CHARACTERISTIC

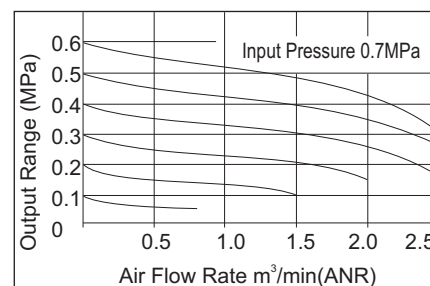
C1000-01



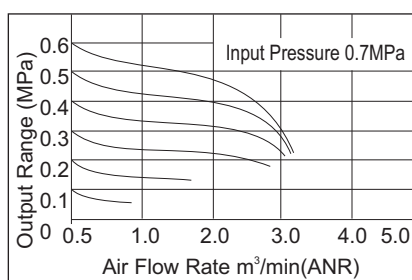
C2000-02



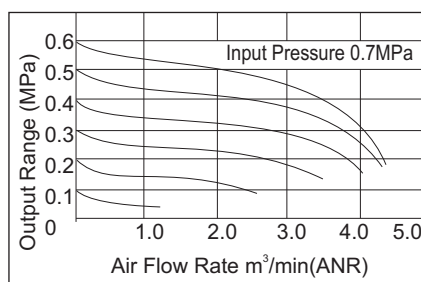
C3000-02



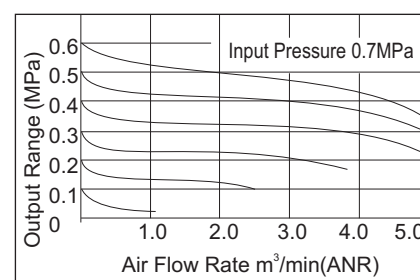
C3000-03



C4000-04



C4000-06



* 0.7MPa, 0.5MPa, 0.1MPa

* At 0.5MPa set pressure, 0.7 Mpa Input side pressure, 0.1MPa pressure drop

ORDERING CODE

	MODEL	SIZE	CONNECTION	DRAIN	FILTRATION	GAUGE
	1	2	3	4	5	6
1	MODEL	C	Filter, Regulator, Lubricator combined unit with Gauge			
2	SIZE	1000	Combination of F1000 + R1000 + L1000 (Use bracket B110)			
		2000	Combination of F2000 + R2000 + L2000 (Use bracket B110)			
		3000	Combination of F3000 + R3000 + L3000 (Use bracket B310)			
		4000	Combination of F4000 + R4000 + L4000 (Use bracket B410)			
		8000	Combination of F8000 + R8000 + L8000 (Use bracket B810)			
3	CONNECTION	01 1/8	Only for 1000			
		02 1/4	Only for 2000, 3000			
		03 3/8	Only for 3000, 4000			
		04 1/2	Only for 4000			
		06 3/4"	Only for 4000, 8000			
		08 1"	Only for 8000			
4	DRAIN	×	Semi Auto			
		A	Auto			
5	FILTRATION	×	40 µm			
		S	5 Micron			
6	GAUGE	×	Standard gs27			
		R	40 mm round Gauge			
		B	Black, with 1/4" connection			

ORDERING EXAMPLE

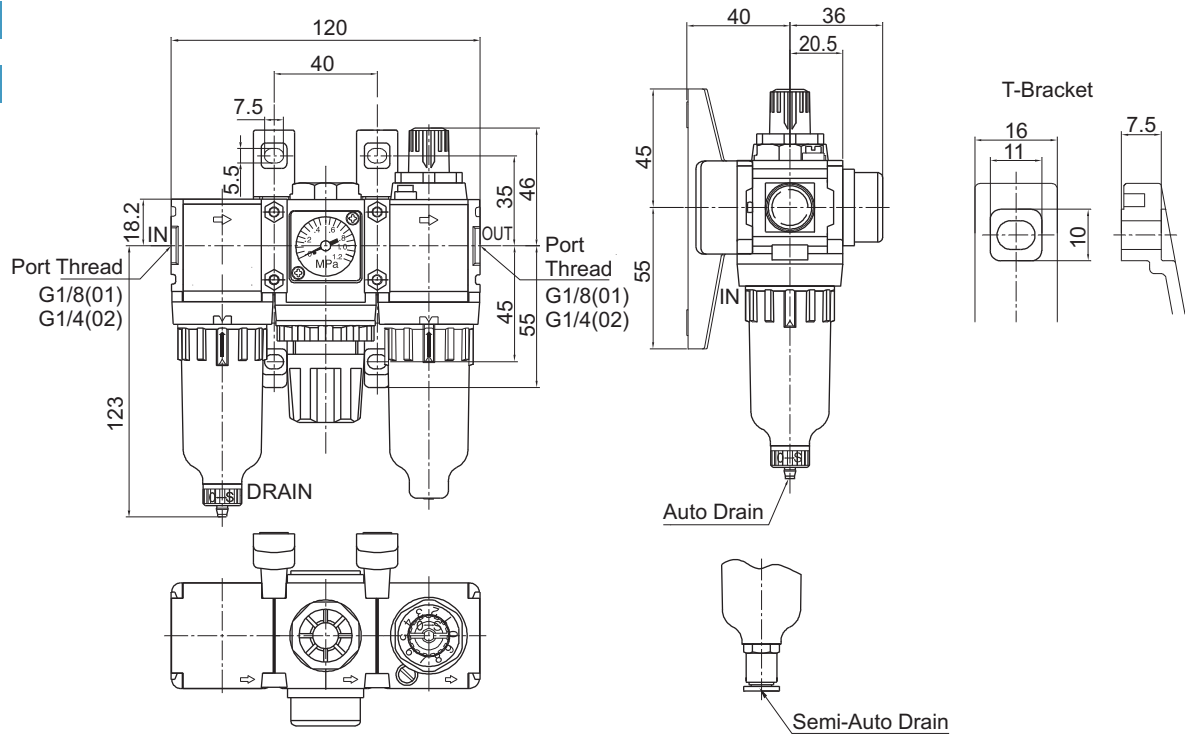
C3000 - 03 - R, 3/8" combo unit with 40 mm round Gauge, Semi Auto drain 40µm filtration

AIR PREPARATION SYSTEM

DIMENSIONS

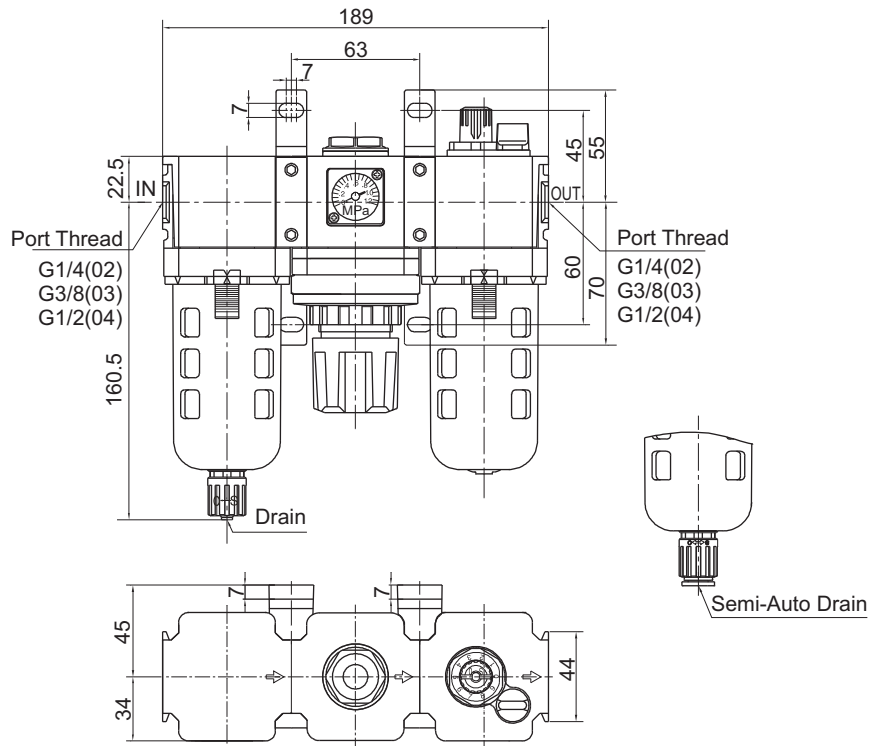
C1000

C2000



Note : Automatic drain can insert IDØ4 PU tube at drain outlet
Semi-Auto drain can insert IDØ6 PU tube at drain outlet.

C3000

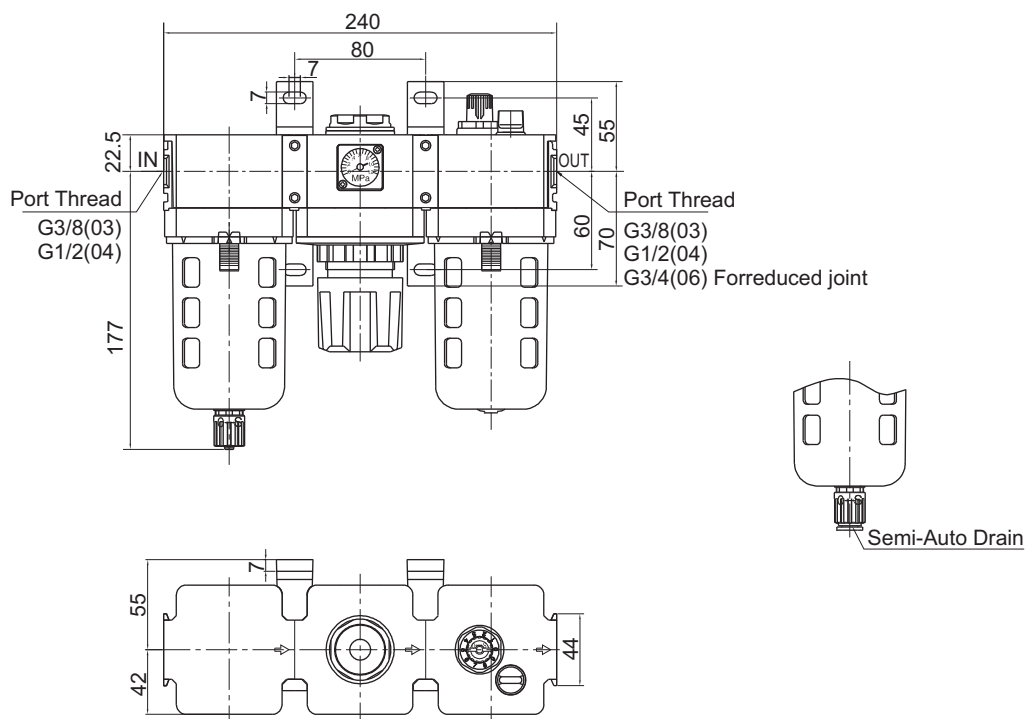


Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet
Semi-Auto drain can insert IDØ8PU tube at drain outlet.

AIR PREPARATION SYSTEM

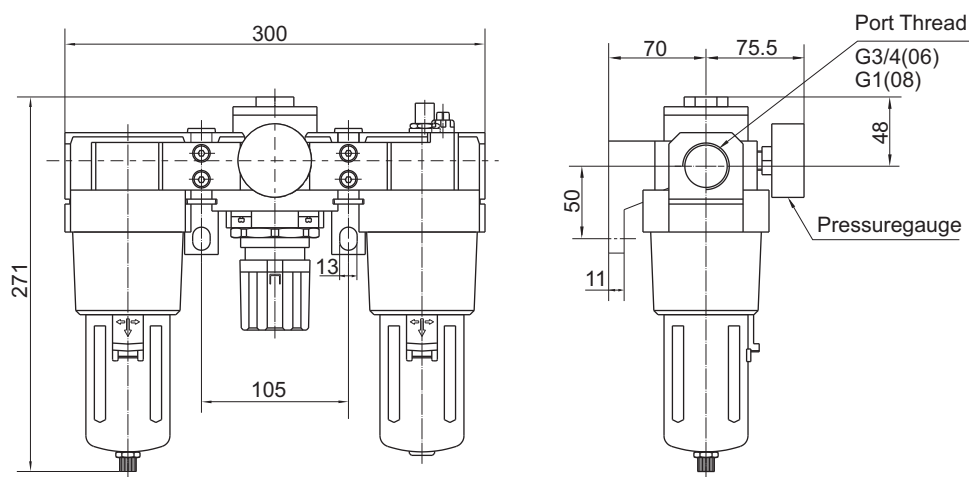
DIMENSIONS

C4000



Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

C8000



AIR PREPARATION SYSTEM

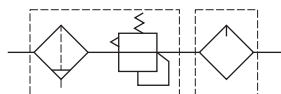
C SERIES FR+L



FEATURES

- Compact size, light weight, good performance, easy use, charming appearance
- It adopts the modular connection, it may be used individually or by combination with easy installation. The embedded pressure gauge shortens the mounting time
- Semi-auto drain (water discharged automatically while air turned off) and fully auto drain for your selection
- The precision air regulator has fine flow-pressure characteristics. The knob with self-locking function is fit for any seismic environment
- The lubricator utilizes the novel drops control mechanism to fulfill the oil adding with air on. The inside flow sensor ensures the low atomizing flow, thin oil mist particles and long transmission distance

SYMBOL



SPECIFICATION

Model		C1010/C2010		C3010			C4010			C8010	
Operating Pressure	MPa	1.0									
Max Pressure	Mpa	1.5									
Operating Temperature	°C	0.60									
Filtration	Pm	5 or 40									
Set Pressure	Mpa	0.05-0.85									
Minimum Air Flow for 5 Oil Drop	ℓ/ min. (ANR)	15		30			65			190	
Overflow Pressure	Mpa	Set Pressure+0.05									
Max Oil Level	ml	20		85			170			-	
Waste Bowl Capacity	ml	12		45			80			-	
Oil Recommended		Turbine Oil NO. 1 (ISO VG 32) (NO Spindle oil is allowed)									
Port Thread	G	1/8	1/4	1/4	3/8	1/2	3/8	1/2	3/4	3/4	1
Maximum Air flow	m³/ min. (ANR)	0.35	0.6	1.2	1.7	1.9	2.5	2.5	2.8	6.0	6.0

* The flow measurement is done at 7 bar Inlet, 5 bar set pressure at $\Delta P = 1$ bar

AIR PREPARATION SYSTEM

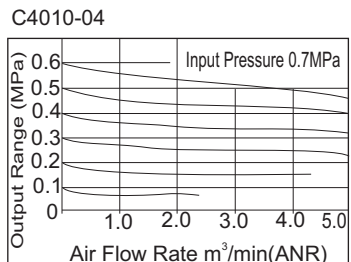
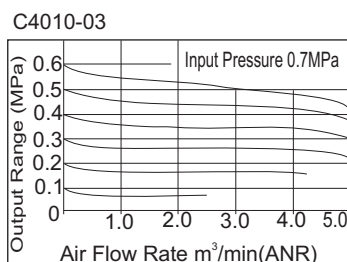
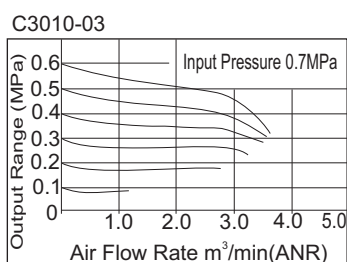
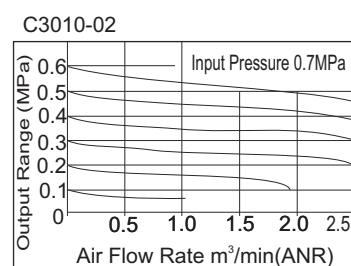
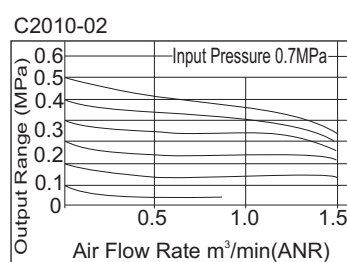
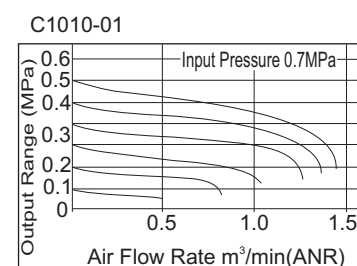
ORDERING CODE

	MODEL	SIZE	CONNECTION	DRAIN	FILTRATION	GAUGE
	1	2	3	4	5	6
1	MODEL	C	Filter, Regulator, Lubricator combined unit with Gauge			
2	SIZE	1010	Combination of F1000 + R1000 + L1000 (Use bracket B110)			
		2010	Combination of F2000 + R2000 + L2000 (Use bracket B110)			
		3010	Combination of F3000 + R3000 + L3000 (Use bracket B310)			
		4010	Combination of F4000 + R4000 + L4000 (Use bracket B410)			
		8010	Combination of F8000 + R8000 + L8000 (Use bracket B810)			
3	CONNECTION	01 1/8	Only for 1010			
		02 1/4	Only for 2010, 3010			
		03 3/8	Only for 3010, 4010			
		04 1/2	Only for 4010			
		06 3/4"	Only for 4010, 8010			
		08 1"	Only for 8010			
4	DRAIN	※	Semi Auto			
		A	Auto			
5	FILTRATION	※	40μm			
		S	5 Micron			
6	GAUGE	※	Standard GS27			
		R	40 mm round Gauge			
		B	Black, with 1/4" connection			

ORDERING EXAMPLE

C3010 - 03 - R, 3/8" combo unit with 40 mm round Gauge, Semi Auto drain 40μm filtration with 3/8" lubricator

FLOW CHARACTERISTIC

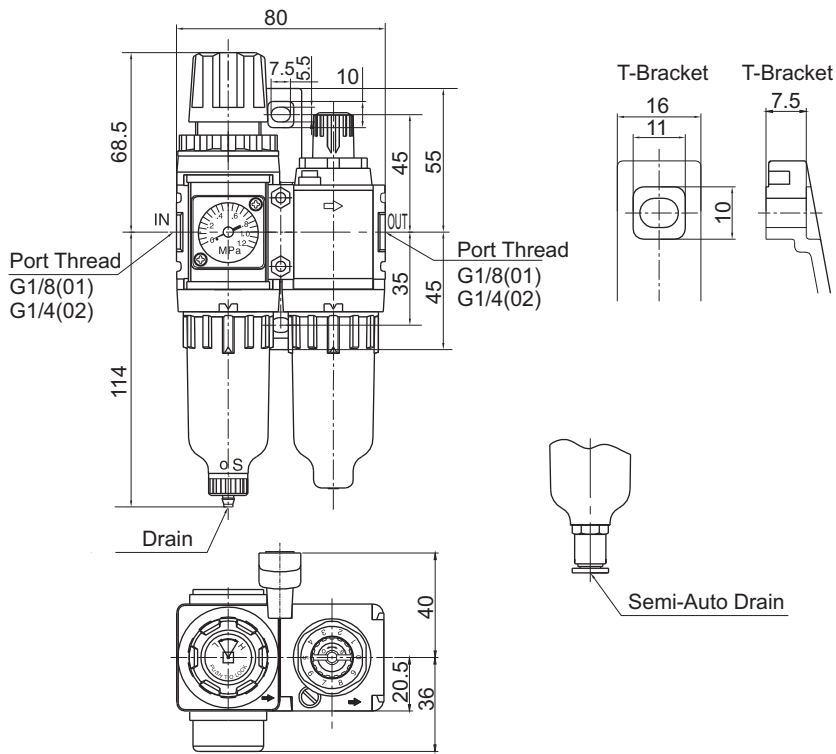


AIR PREPARATION SYSTEM

DIMENSIONS

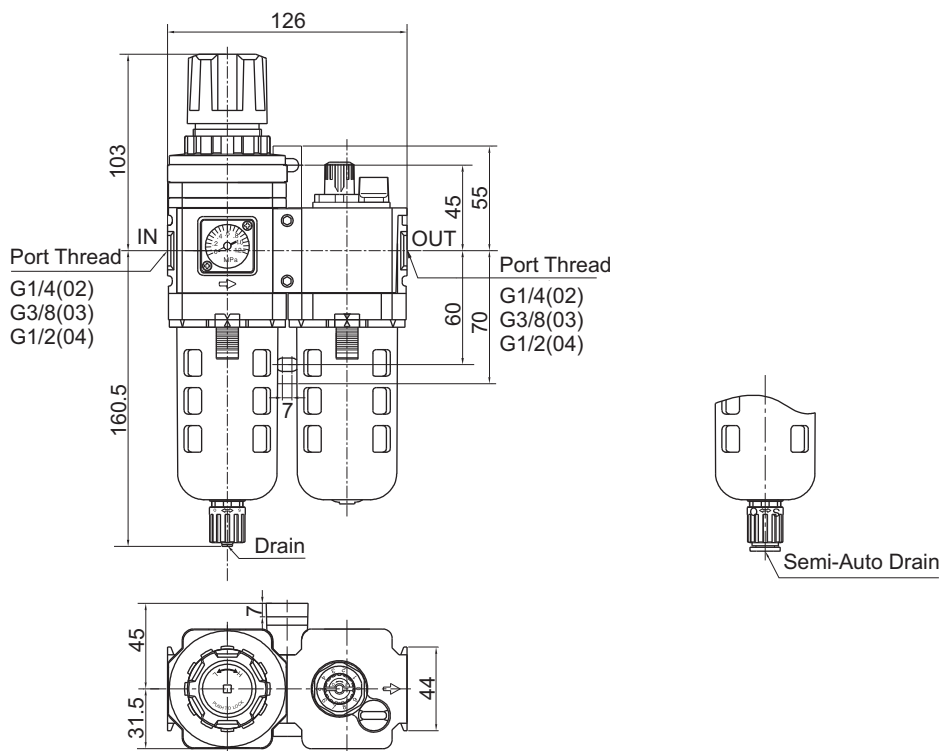
C1010

C2010



Note : Manual drain or automatic drain can insert IDØ4 PU tube at drain outlet Semi-Auto drain can insert IDØ6PU tube at drain outlet.

C3010

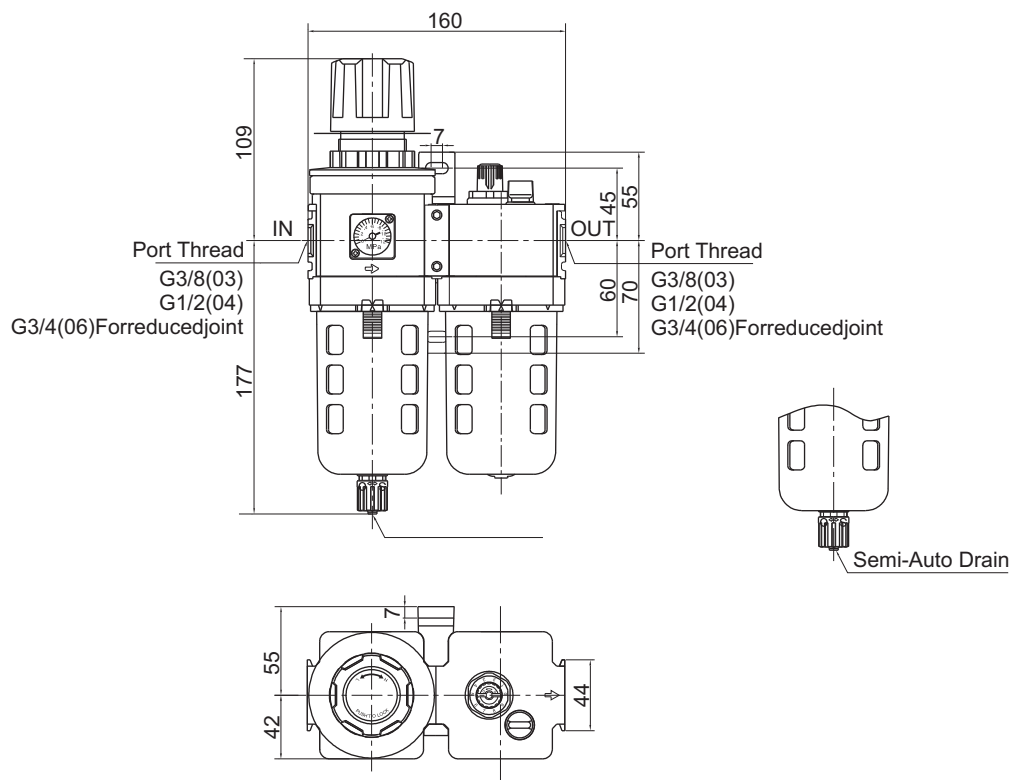


Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

AIR PREPARATION SYSTEM

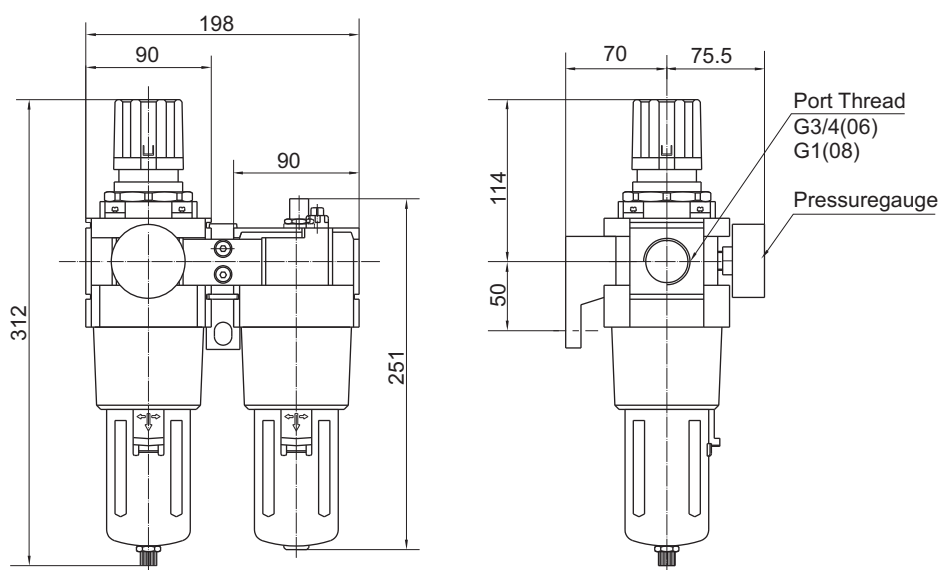
DIMENSIONS

C4010



Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

C8010



AIR PREPARATION SYSTEM

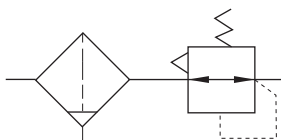
W SERIES FILTER REGULATOR



FEATURES

- Compact size, light weight, good performance, easy use, charming appearance
- It adopts the modular connection, it may be used individually or by combination with easy installation. The embedded pressure gauge shortens the mounting time
- Semi-auto drain (water discharged automatically while air turned off) and fully auto drain for your selection
- The precision air regulator has fine flow-pressure characteristics. The knob with self-locking function is fit for any seismic environment

SYMBOL



SPECIFICATION

Model		W1000/ W2000		W3000			W4000			W8000	
Operating Pressure	MPa			1.0							
Max Pressure	Mpa			1.5							
Operating Temperature	°C			0.60							
Filtration	µm			5 or 40							
Set Pressure	Mpa			0.05-0.85							
Overflow Pressure	Mpa			Set Pressure+0.05							
Waste Bowl Capacity	cm3										
Port Thread	G	12		45			80				
		1/8	1/4	1/4	1/2	3/8	3/8	1/2	3/4	3/4	1
Air flow m3 /min.		0.6	1.2	2.2	2.5	3.0	3.5	4.5	5.0	6.0	6.0

Caution Note :

Assemble and disassemble the Plastic bowl and bowl guard when it is confirmed that there is no load in control system.

AIR PREPARATION SYSTEM

ORDERING CODE

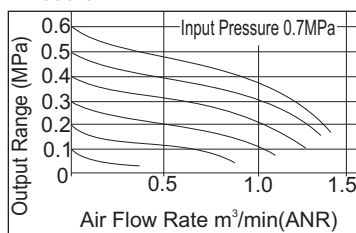
	MODEL	SIZE	CONNECTION	DRAIN	FILTRATION	GAUGE
	1	2	3	4	5	6
1	MODEL	W	Filter, Regulator, Lubricator combined unit with Gauge			
2	SIZE	1000	Combination of F1000 + R1000 + L1000 (Use bracket B110)			
		2000	Combination of F2000 + R2000 + L2000 (Use bracket B110)			
		3000	Combination of F3000 + R3000 + L3000 (Use bracket B310)			
		4000	Combination of F4000 + R4000 + L4000 (Use bracket B410)			
		8000	Combination of F8000 + R8000 + L8000 (Use bracket B810)			
3	CONNECTION	01 1/8	Only for 1000			
		02 1/4	Only for 2000, 3000			
		03 3/8	Only for 3000, 4000			
		04 1/2	Only for 4000			
		06 3/4"	Only for 4000, 8000			
		08 1"	Only for 8000			
4	DRAIN	×	Semi Auto			
		A	Auto			
5	FILTRATION	×	40μm			
		S	5 Micron			
6	GAUGE	×	Standard GS27			
		R	40 mm round Gauge			
		B	Black, with 1/4" connection			

ORDERING EXAMPLE

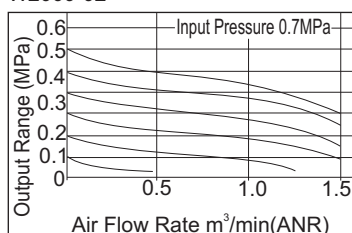
W3000 - 03 - R, 3/8" combo unit with 40 mm round Gauge, Semi Auto drain 40μm filtration

FLOW CHARACTERISTIC

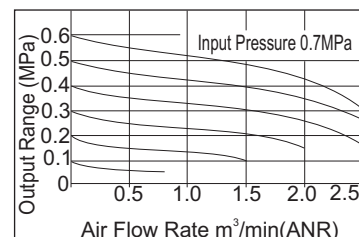
W1000-01



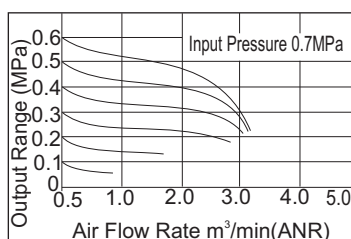
W2000-02



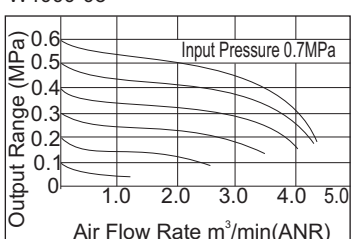
W3000-02



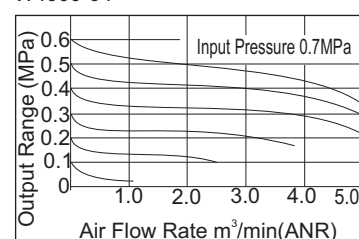
W3000-03



W4000-03



W4000-04

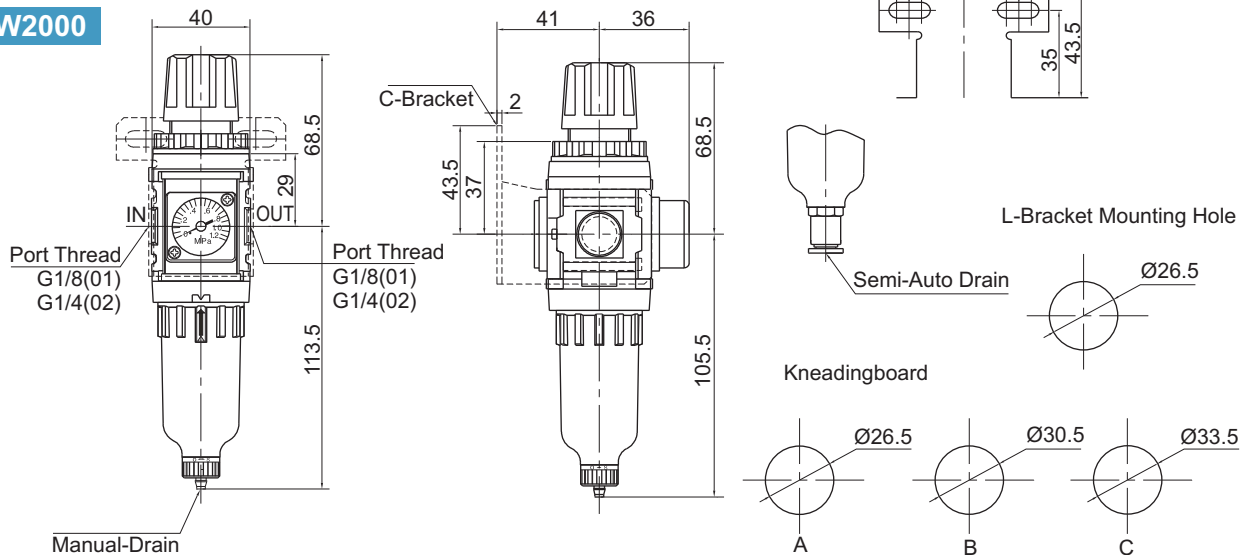


AIR PREPARATION SYSTEM

DIMENSIONS

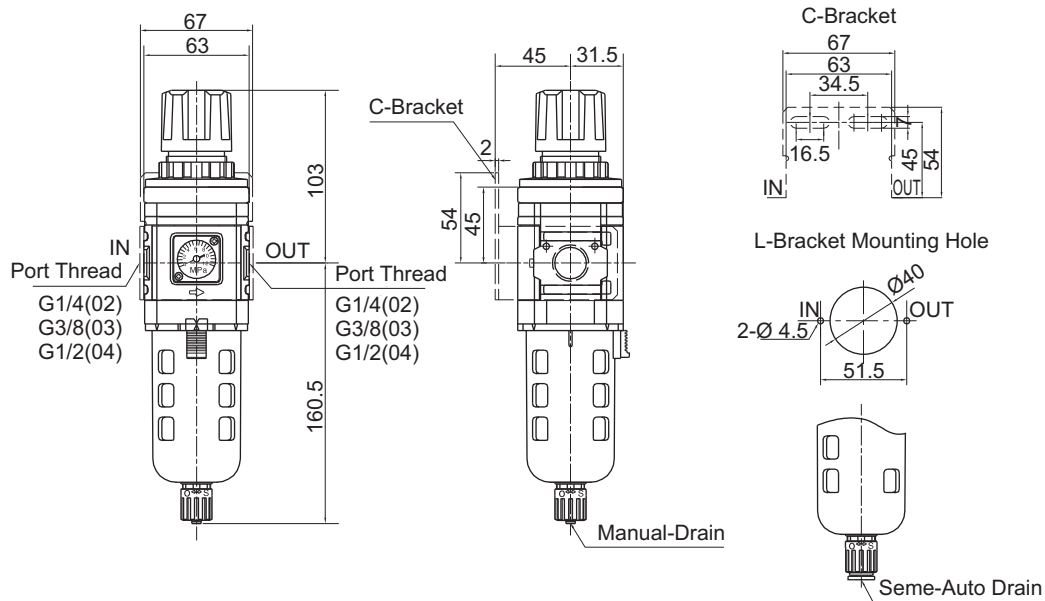
W1000

W2000



Note : Manual drain or automatic drain can insert IDØ4 PU tube at drain outlet Semi-Auto drain can insert IDØ6PU tube at drain outlet.

W3000

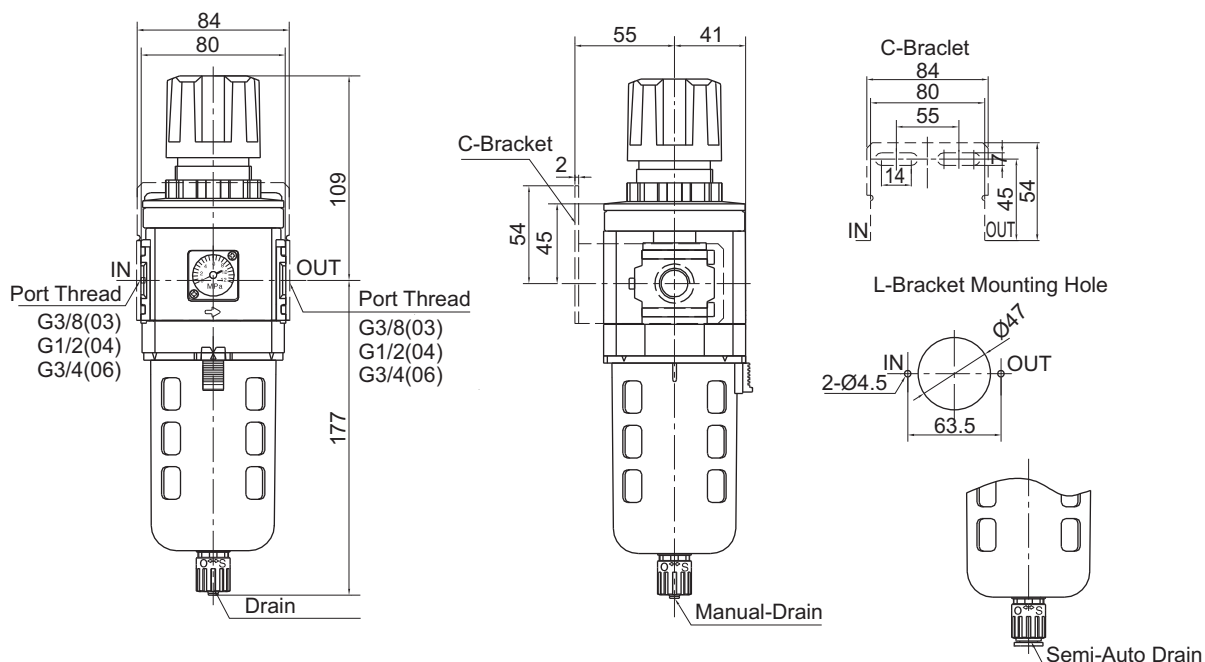


Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

AIR PREPARATION SYSTEM

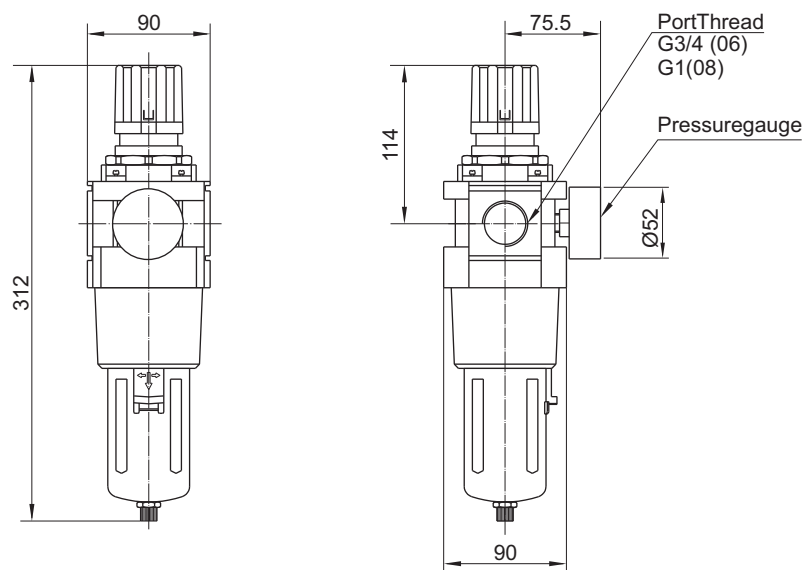
DIMENSIONS

W4000



Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

W8000



AIR PREPARATION SYSTEM

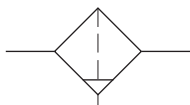
SERIES F



FEATURES

- Compact size, light weight, good performance, easy use, charming appearance
- It adopts the modular connection, it may be used individually or by combination with easy installation. The embedded pressure gauge shortens the mounting time
- Semi-auto drain (water discharged automatically while air turned off) and fully auto drain for your selection
- The precision air regulator has fine flow-pressure characteristics. The knob with self - locking function is fit for any seismic environment

SYMBOL



SPECIFICATION

Model		F1000/ F2000		F3000			F4000			F8000	
Operating Pressure	MPa			1.0							
Max Pressure	Mpa			1.5							
Operating Temperature	°C			0.60							
Filtration	µm			5 or 40							
Waste Bowl Capacity	cm3	12		45			80				
Port Thread	G	1/8	1/4	1/4	3/8	1/2	3/8	1/2	3/4	3/4	1
		0.9	1.8	2.8	3.5	4.0	4.0	5.0	5.5	7.0	7.0

Caution Note : Assemble and disassemble the Plastic bowl and bowl guard when it is confirmed that there's no load in control system.

AIR PREPARATION SYSTEM

ORDERING CODE

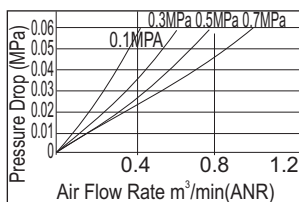
	MODEL	SIZE	CONNECTION	DRAIN	FILTRATION	GAUGE
	1	2	3	4	5	6
1	MODEL	F	Filter, Regulator, Lubricator combined unit with Gauge			
2	SIZE	1000	Combination of F1000 + R1000 + L1000 (Use bracket B110)			
		2000	Combination of F2000 + R2000 + L2000 (Use bracket B110)			
		3000	Combination of F3000 + R3000 + L3000 (Use bracket B310)			
		4000	Combination of F4000 + R4000 + L4000 (Use bracket B410)			
		8000	Combination of F8000 + R8000 + L8000 (Use bracket B810)			
3	CONNECTION	01 1/8"	Only for 1000			
		02 1/4"	Only for 2000, 3000			
		03 3/8"	Only for 3000, 4000			
		04 1/2"	Only for 4000			
		06 3/4"	Only for 4000, 8000			
		08 1"	Only for 8000			
4	DRAIN	※	Semi Auto			
		A	Auto			
5	FILTRATION	※	40μm			
		S	5 Micron			
6	GAUGE	※	Standard Gs27			
		R	40mm round Gauge			
		B	Black, with 1/4" connction			

ORDERING EXAMPLE

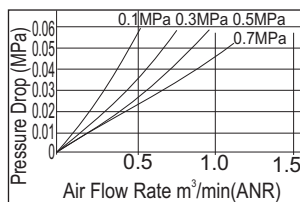
F3000 - 03 - R, 3/8" filter unit with 40 mm round Gauge, Semi Auto drain 40μm filtration

FLOW CHARACTERISTIC

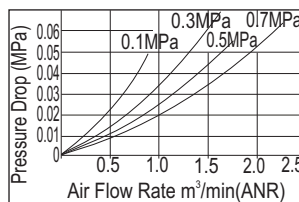
F1000-01



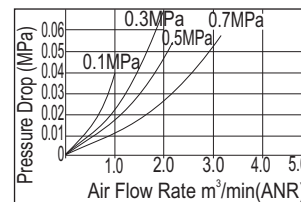
F2000-02



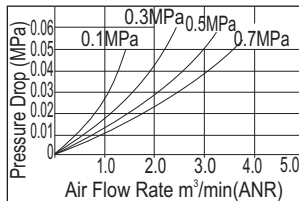
F3000-02



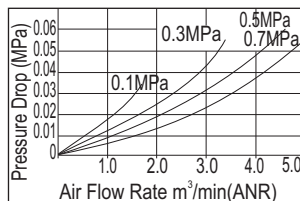
F3000-03



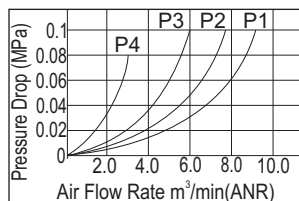
F4000-03



F4000-04



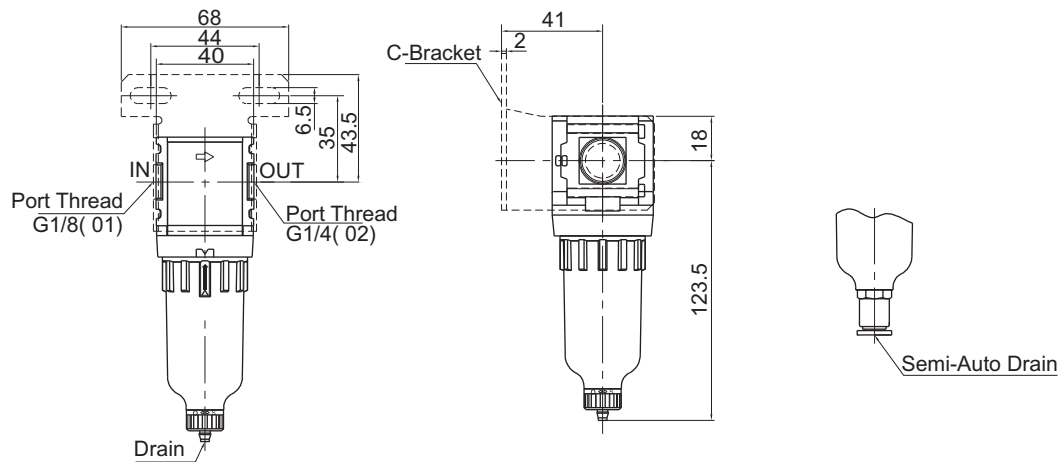
F8000-06-08



AIR PREPARATION SYSTEM

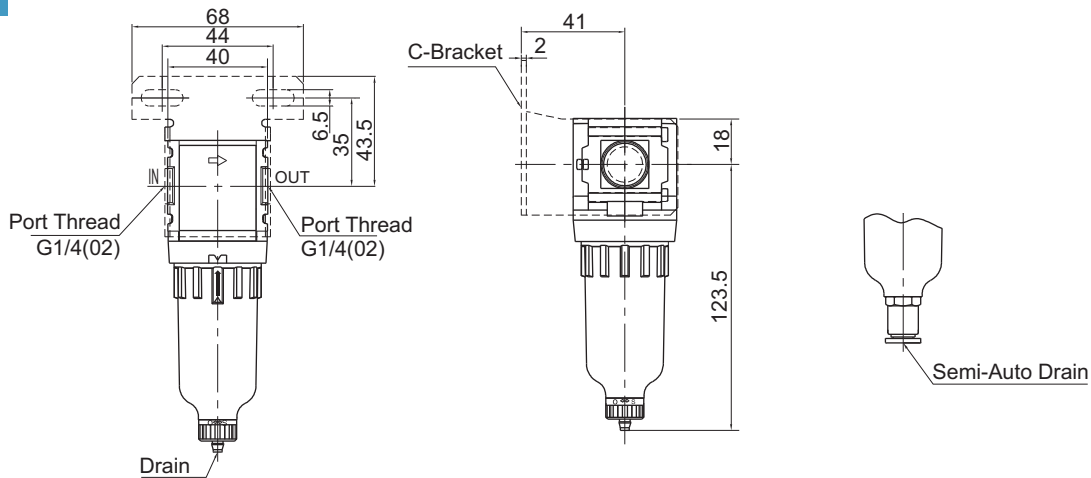
DIMENSIONS

F1000



Note : Manual drain or automatic drain can insert IDØ4 PU tube at drain outlet Semi-Auto drain can insert IDØ6PU tube at drain outlet.

F2000

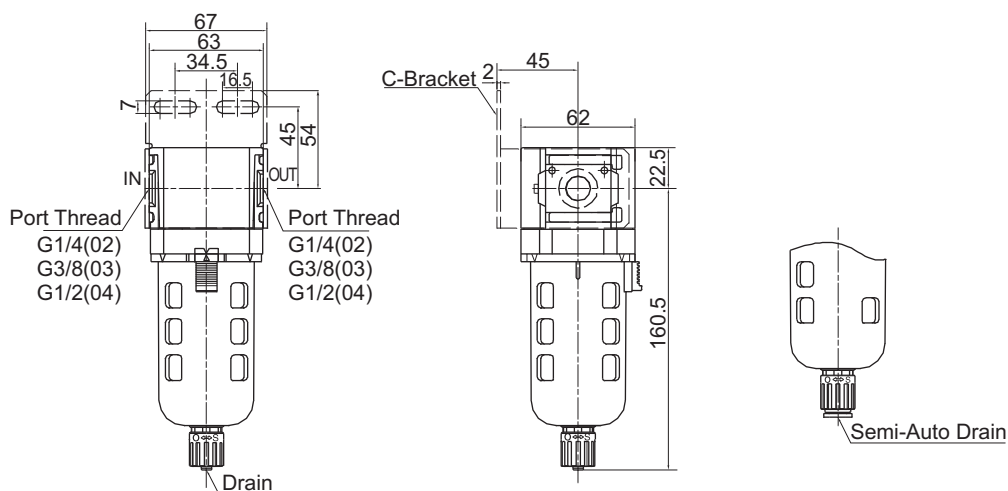


Note : Manual drain or automatic drain can insert IDØ4 PU tube at drain outlet Semi-Auto drain can insert IDØ6PU tube at drain outlet.

AIR PREPARATION SYSTEM

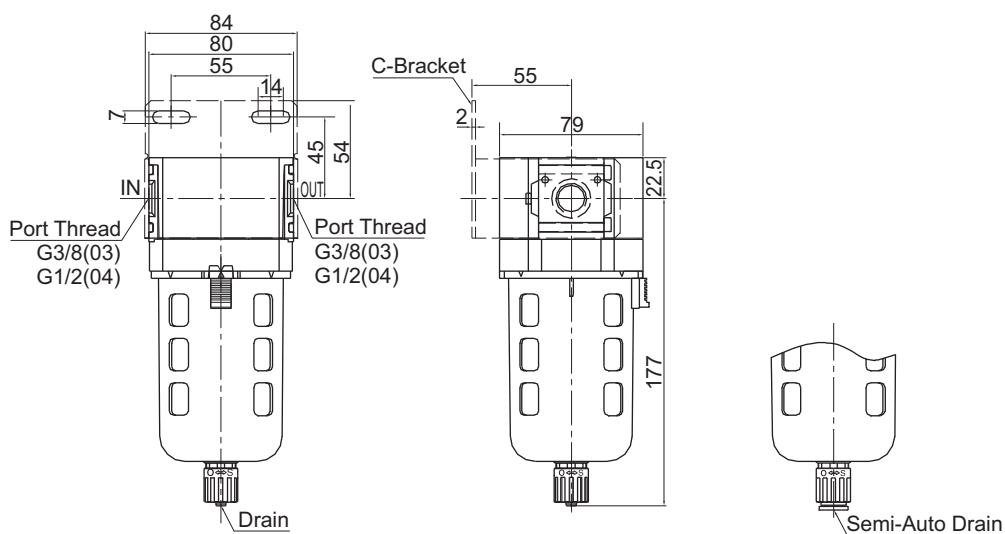
DIMENSIONS

F3000

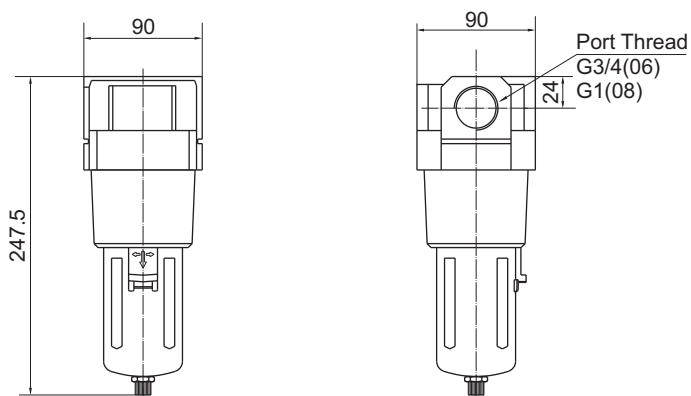


Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

F4000



F8000



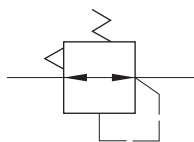
Note : Manual drain or automatic drain can insert IDØ5 PU tube at drain outlet Semi-Auto drain can insert IDØ8PU tube at drain outlet.

AIR PREPARATION SYSTEM

R SERIES REGULATOR



SYMBOL



SPECIFICATION

Model		R1000/ R2000		R3000			R4000			R8000	
Operating Pressure	MPa			1.0							
Max Pressure	Mpa			1.5							
Operating Temperature	°C			0.60							
Set Pressure	Mpa			0.05-0.85							
Overflow Pressure	Mpa			Set Pressure+0.05							
Port Thread	G	1/8	1/4	1/4	3/8	1/2	3/8	1/2	3/4	3/4	1
Air flow m ³ / min.		0.6	1.1	2.1	2.8	3.5	4.0	5.0	6.0	8.0	8.0

Operating temperature range : 0.60°C

At 0.7MPa supply pressure, 0.5MPa set pressure, 0.1 MPa pressure drop

AIR PREPARATION SYSTEM

ORDERING CODE

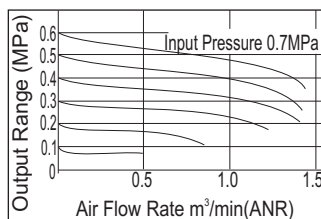
	MODEL	SIZE	CONNECTION	GAUGE	RANGE
	1	2	3	4	5
1	MODEL	R			
2	SIZE	1000			
		2000			
		3000			
		4000			
		8000			
3	CONNECTION	01 1/8"	Only for 1000		
		02 1/4"	Only for 2000, 3000		
		03 3/8"	Only for 3000, 4000		
		04 1/2"	Only for 4000		
		06 3/4"	Only for 4000, 8000		
		08 1"	Only for 8000		
4	GAUGE	×	Black with 1/4" connection		
		S	Square gauge GS27		
		R	40 mm round gauge		
5	RANGE	×	0 - 8 bar		
		2	0 - 2 bar		
		4	0 - 4 bar		

ORDERING EXAMPLE

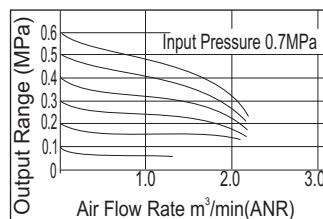
R - 2000 - 02 - 2, 1/4" Regulator, without pressure gauge 0 - 2 bar range

FLOW CHARACTERISTIC

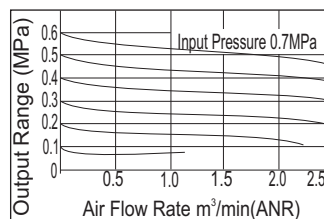
R1000-01



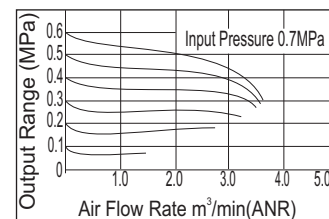
R2000-02



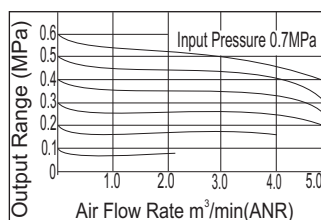
R3000-02



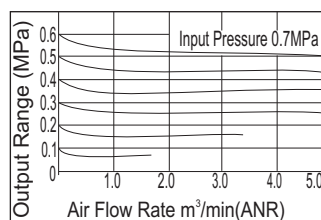
R3000-03



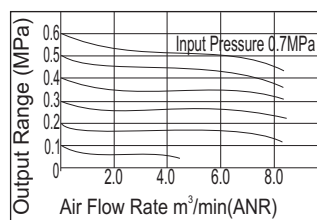
R4000-03



R4000-04

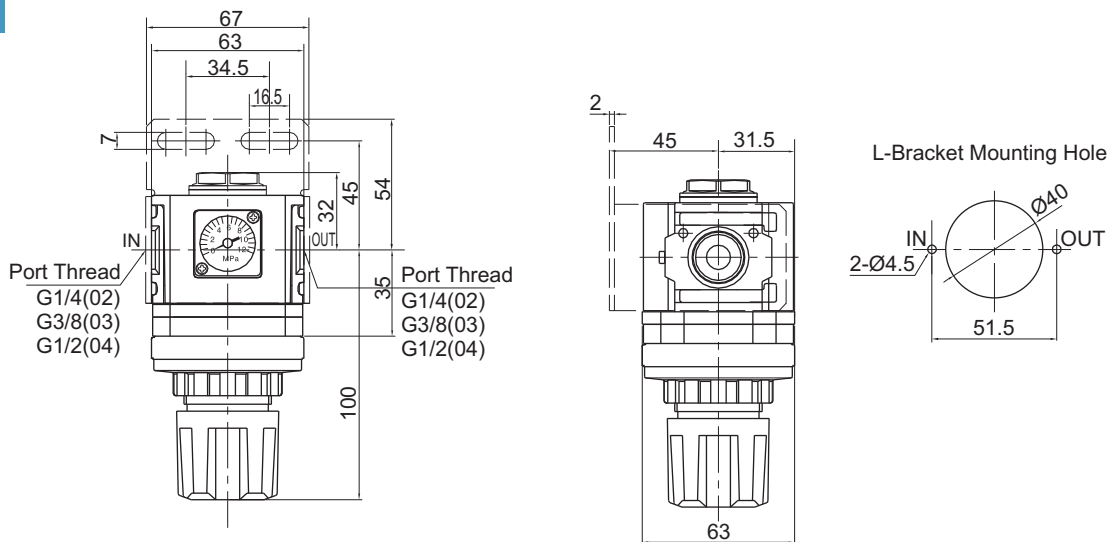
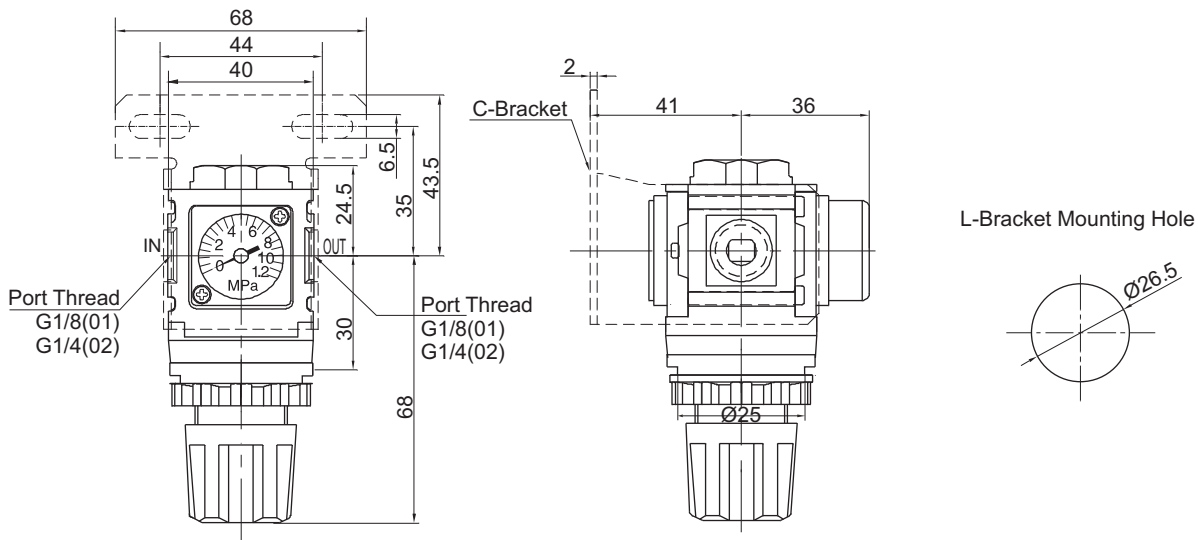


R8000-06/08



DIMENSIONS

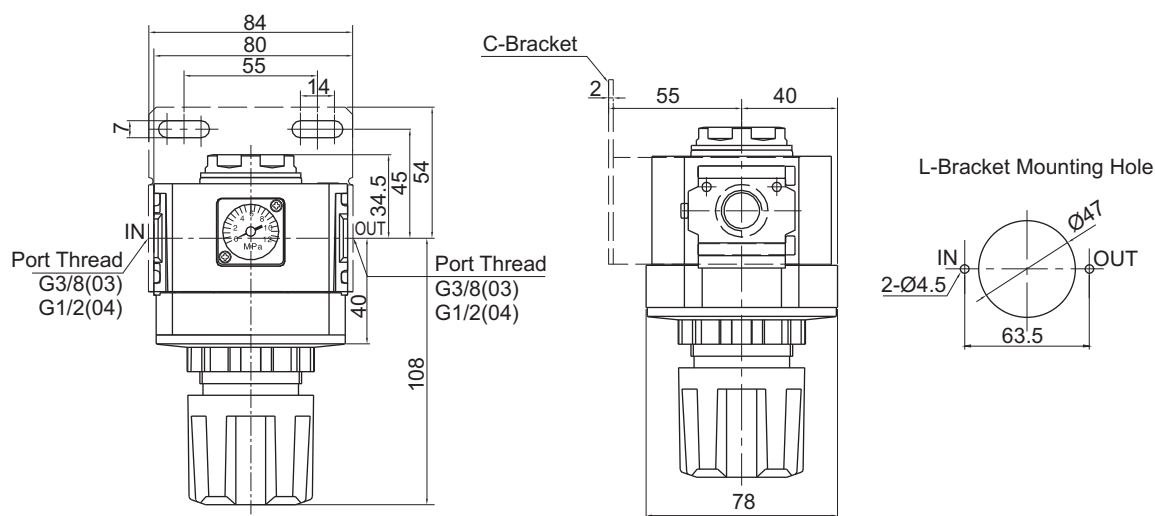
R2000



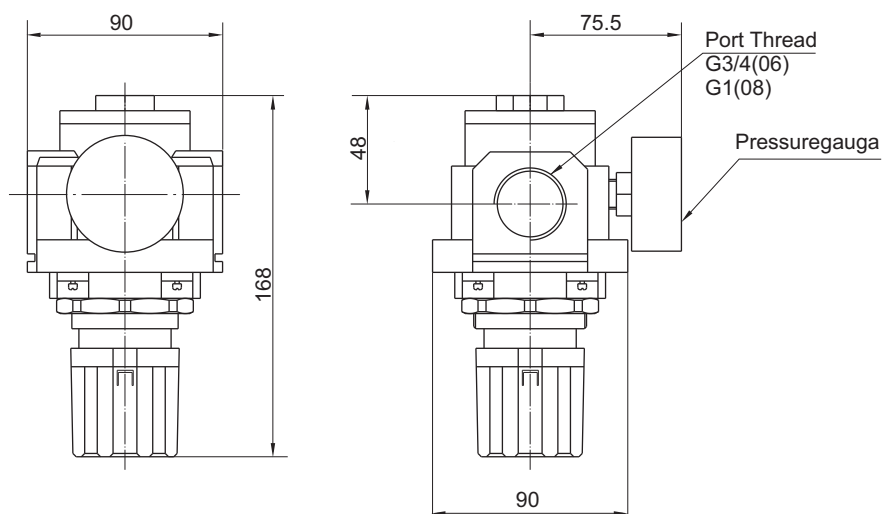
AIR PREPARATION SYSTEM

DIMENSIONS

R4000

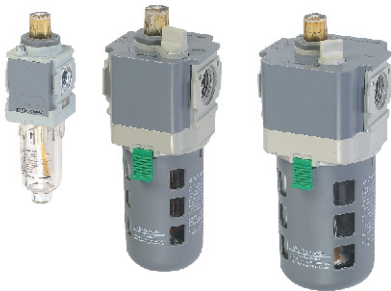


R8000



AIR PREPARATION SYSTEM

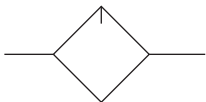
L SERIES LUBRICATOR (R)



FEATURES

- Compact size, light weight, good performance, easy use, charming Appearance
- The lubricator utilizes the novel drops control mechanism to fulfill the oil adding with air on. The inside flow sensor ensures the low atomizing flow, thin oil mist particles and long transmission distance
- On line lubrication
- Precise setting of lubrication
- Bowl can be refilled on line by opening refill screw completely
- Refill screw can be opened partially as shown and then the complete bowl can be removed to refill
- Fine filter to avoid chocking of lubrication path
- High quality of flow rates are maintained due to filtrations
- Specially profiled screw ensures the fine controls
- Consistency in oil flow is maintained by low pressure nonreturn valve

SYMBOL



SPECIFICATION

Model		L1000/ L2000		L3000			L4000			L8000	
Operating Pressure	MPa			1.0 (10.2)							
Max Pressure	Mpa			1.5 (15.3)							
Operating Temperature	0C			0.60							
Min Flow For Oil Drop	m ³ / min(ANR)	0.015		0.03						0.085	
Max Oil Level		20		85						170	
Oil Recommended				Turbine Oil No. 1 (ISO VG32)							
Port Thread	G	1/8	1/4	1/4	3/8	1/2	3/8	1/2	3/4	3/4	1
		0.7	1.4	1.6	2.6	3.8	4.8	5.1	6.3	7.0	7.0

Caution Note :

1. Assemble and disassemble the Plastic bowl and bowl guard when it is confirmed that there's nol load on the object.
2. The minimum drop flow refers to the drop flow of 5 turbine oil every minute on the basis of the pressure set at 0.5MPa

AIR PREPARATION SYSTEM

ORDERING CODE



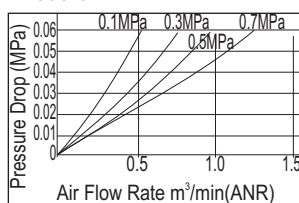
1	MODEL	L
2	SIZE	1000 2000 3000 4000 8000
3	CONNECTION	01 1/8" Only for 1000 02 1/4" Only for 2000, 3000 03 3/8" Only for 3000, 4000 04 1/2" Only for 4000 06 3/4" Only for 4000, 8000 08 1" Only for 8000

ORDERING EXAMPLE

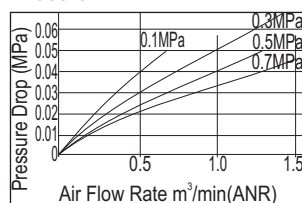
L4000 - 04, 1/2" lubricator

FLOW CHARACTERISTIC

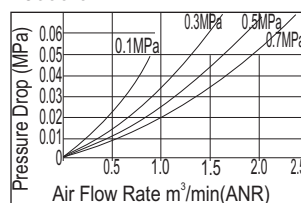
L1000-01



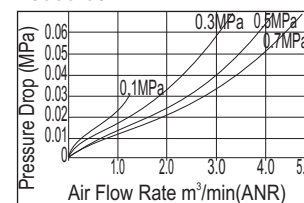
L2000-02



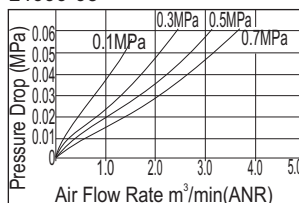
L3000-02



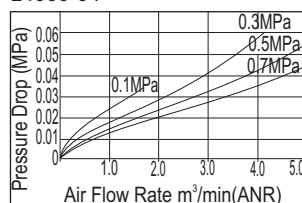
L3000-03



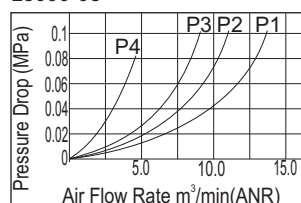
L4000-03



L4000-04



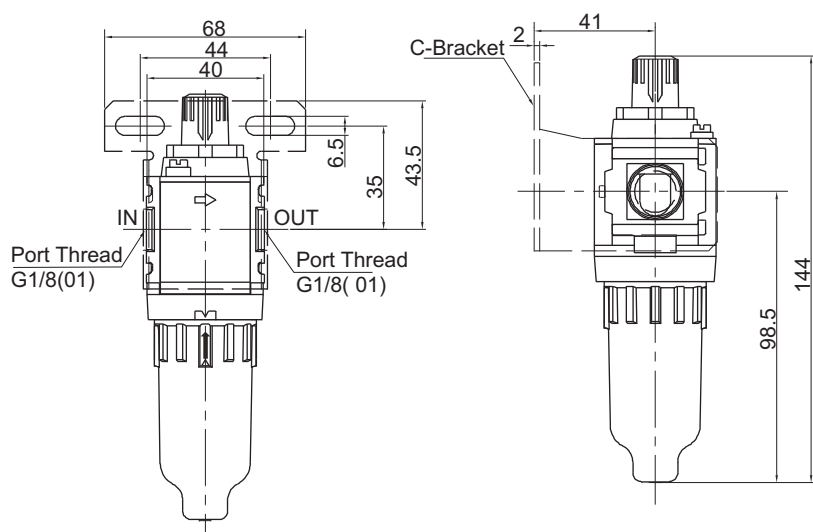
L8000-08



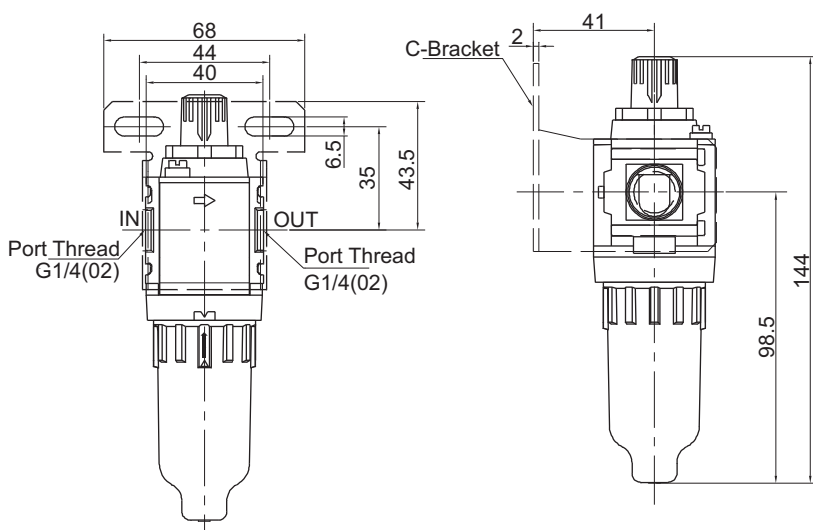
AIR PREPARATION SYSTEM

DIMENSIONS

L1000



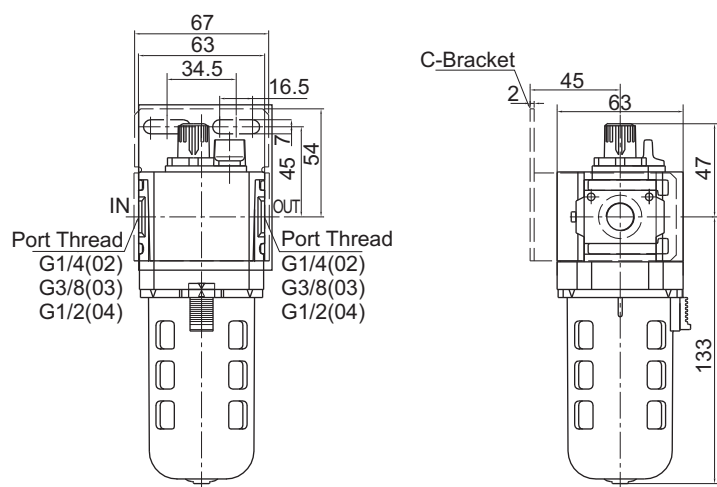
L2000



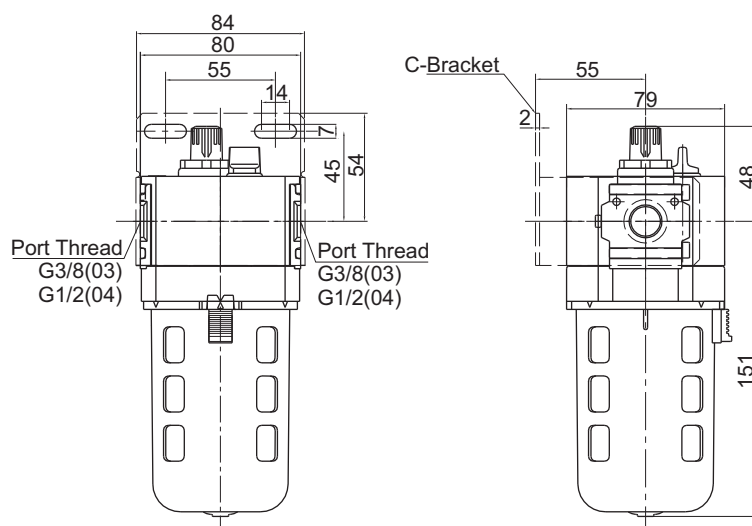
AIR PREPARATION SYSTEM

DIMENSIONS

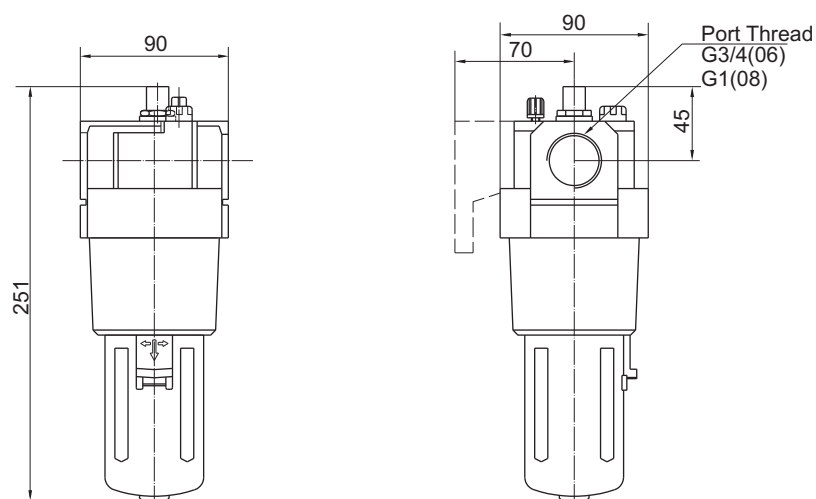
L3000



L4000

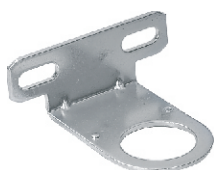


L8000

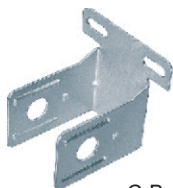


AIR PREPARATION SYSTEM

MOUNTING BRACKET



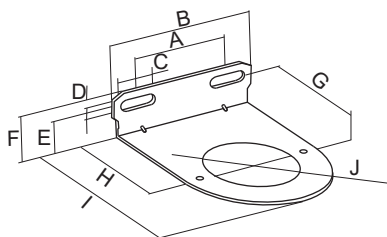
L-Bracket



C-Bracket

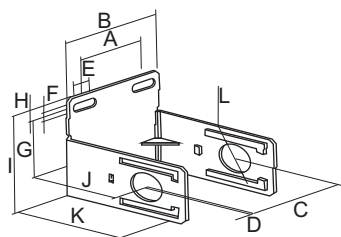


T-Bracket



L-BRACKET

Mode	P/N	Design For Series	A	B	C	D	E	F	G	H	I	J
B3	B3100	AR 1000 Series	44	68	10	6.5	16	24.5	45	40	59	26.5
		AR2000 Series										
		AW1000 Series										
	B3300	AW2000 Series										
	B3400	AR3000 Series	34.5	67	16.5	7	18	26	58	45	76	40
		AW3000 Series										
		AR4000 Series	55	84	14	7	18	26	58	45	94	47
		AW4000 Series										



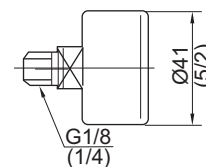
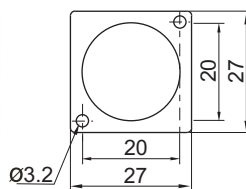
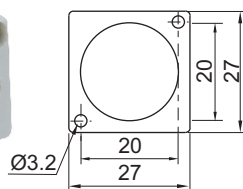
C-BRACKET

Mode	P/N	Design For Series	A	B	C	D	E	F	G	H	I	J
	B100	1000 Series	44	68	10	6.5	16	24.5	45	40	59	26.5
		2000 Series										
B	B300	1000 Series	34.5	67	16.5	7	18	26	58	45	76	40
		2000 Series	55	84	14	7	18	26	58	45	94	47

T-BRACKET

P/N	B1000	B3000	B4000
Design For	1000 Series 2000 Series	3000 Series	4000 Series

PRESSURE GAUGE



CODE	RANGE
S1	0 - 2 bar
S2	0 - 4 bar
S3	0 - 10 bar

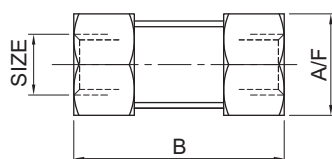
CODE	RANGE
R1	0 - 2 bar
R2	0 - 4 bar
R3	0 - 10 bar

NON RETURN, QUICK EXHAUST AND FLOW CONTROL VALVE

NON RETURN VALVE

NRV

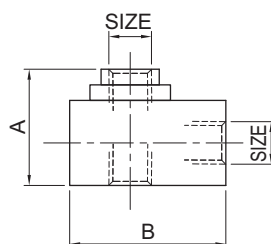
SIZE	MODEL No.	A/F	B
1/8"	NRV-1/8"	16	37
1/4"	NRV-1/4"	19	51
1/2"	NRV-1/2"	28	65



QUICK EXHAUST VALVE

QE

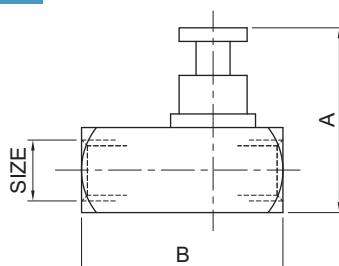
SIZE	MODEL No.	A	B
1/4"	QE-1/4"	41	37
3/8"	QE-3/8"	47	51
1/2"	QE-1/2"	70	65
3/4"	QE-3/4"	76	68



ONLINE FLOW CONTROL VALVE

FCV

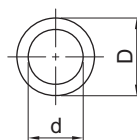
SIZE	MODEL No.	A	B
1/8"	FCV-1/8"	65	60
1/4"	FCV-1/4"	65	62
3/8"	FCV-3/8"	70	65
1/2"	FCV-1/2"	75	85



PU TUBES

PUT

SIZE D/d	PACKING
PU 5/3	25 metre
PU 6/4	25 metre
PU 8/6	25 metre
PU 10/8	25 metre
PU 12/10	25 metre

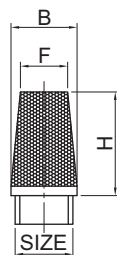


PU TUBE, SILENCER AND BALL VALVE

SILENCER

SL

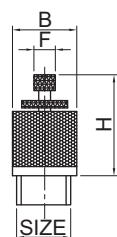
SIZE	F	B	H
1/8"	6	12	21
1/4"	6	15	25
3/8"	8	19	36
1/2"	10	23	43
3/4"	10	30	50
1"	12	36	61



SILENCER WITH FLOW CONTROL

SLF

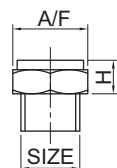
SIZE	F	B	H
1/8"	6	12	21
1/4"	6	15	25
3/8"	8	19	36
1/2"	10	23	43



SILENCER SILENCER

SB

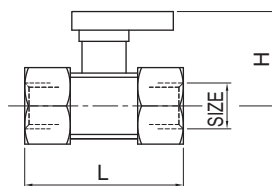
SIZE	F	H
1/8"	13	4
1/4"	15	4
3/8"	19	6
1/2"	23	6



BALL VALVE 6400 SERIES GHILUX

BVB

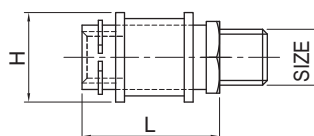
SIZE	ES	L	H
1/8"	14-15	35	21
1/4"	14-15	37	21
3/8"	18-19	42	22
1/2"	22-23	49	30.5
3/4"	28-30	58	33



SLIDE VALVE

HS

SIZE	L	H	MODEL No.
1/8"	35	21	HS 1
1/4"	37	21	HS 2
3/8"	42	22	HS 3
1/2"	49	30.5	HS 4
3/4"	58	33	HS 6



Engineering For The Future

[illegible]

NOTES :

NOTES :



Engineering For The Future

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