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# The Complete Range of Fluid Power Products



Electropneumatics & Hydraulics (India) Pvt. Ltd. | Fluid Power Division (FPD)

# Electropneumatics Fluid Power Division (FPD)

Electropneumatics and Hydraulics (I) Pvt. Ltd. started its Fluid Power Division with the manufacture of pneumatic valves in 1972. From pneumatic valves, it progressed into making pneumatic cylinders, hydraulic cylinders and hydraulic power units in the following years.

The Division has been designing and manufacturing valves and cylinders for more than 40 years for 24x7 application in different industry sectors like automotive, chemical, steel, pharmaceutical, foundry, machine tool, plastics, textile, packaging, mobile and general engineering. Besides standard products, tailored products are also made to meet customer-specific applications.

The proven designs, ruggedness and stringent testing cycles result in reliable, trouble-free and consistent operations, even in the harshest of environments. The product range encompasses:

- Pneumatic Valves
- Pneumatic Cylinders
- Air-Line Accessories
- Hydraulic Cylinders
- Hydraulic Power Packs and Systems



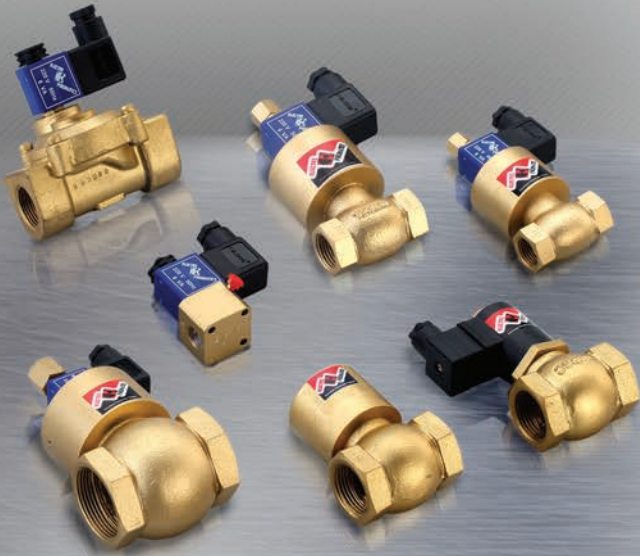




# Pneumatic Valves, 2-way, 2-position (Solenoid / pilot operated)

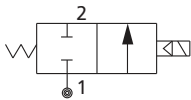
## Features

- 2/2 In-line direct acting, diaphragm type and pilot piston actuated valves
- Suitable for air, water and low pressure oil media
- Port sizes up to G 4
- Bubble tight shut off, quick response to actuation
- Mounts in any position
- Continuous duty cycle coil
- Material: Body- brass/gunmetal, Cover- aluminium/brass, Seals- nitrile
- Options: 2/2 NC, NO in solenoid and pilot version, Auto drain valve
- Specials: High pressure 2/2 valve up to 28 bar
- Application: Drain and dispensing

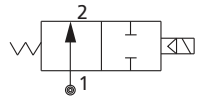


## Available types

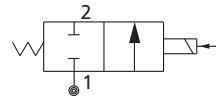
2/2 NC Solenoid



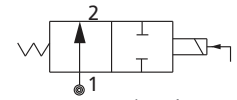
2/2 NO Solenoid



2/2 NC External Pilot



2/2 NO External Pilot



(1- Inlet, 2- Outlet)

## Specifications

### Direct acting

Port Size	Orifice	Pressure	Flow	Material	Weight	Part Code	
BSP	dia	psi	lpm		kg	Normally closed	Normally open
*G 1/8	1/16"	0 – 125	150	Al	0.2	PVS2018GARADNC1	PVS2018GARADNO1
*G 1/4	1/16"	0 – 125	150	Al	0.2	PVS2014GARADNC1	PVS2014GARADNO1
G 1/2	3/8"	0 – 30	2400	GM	0.4	PVS2012GARGDNC1	—
G 3/4	3/8"	0 – 30	3000	GM	0.5	PVS2034GARGDNC1	—
G 1	3/8"	0 – 30	3000	GM	0.6	PVS2100GARGDNC1	—
G 1 1/4	5/8"	0 – 30	3500	GM	1.4	PVS2114GARGDNC1	—
G 1 1/2	5/8"	0 – 30	3500	GM	1.5	PVS2112GARGDNC1	—

\* 3/2 NC and NO versions are also available in G 1/8 and G 1/4 sizes

### Diaphragm type

BSP	dia	psi	lpm	Material	kg	Normally closed	Normally open
G 1/2	1/2"	5 – 125	2400	Brass	0.9	PVS2012GDPBINC1	PVS2012GDPBINO1
G 3/4	1"	5 – 125	8000	Brass	1.2	PVS2034GDPBINC1	PVS2034GDPBINO1
G 1	1"	5 – 125	8000	Brass	1.2	PVS2100GDPBINC1	PVS2100GDPBINO1

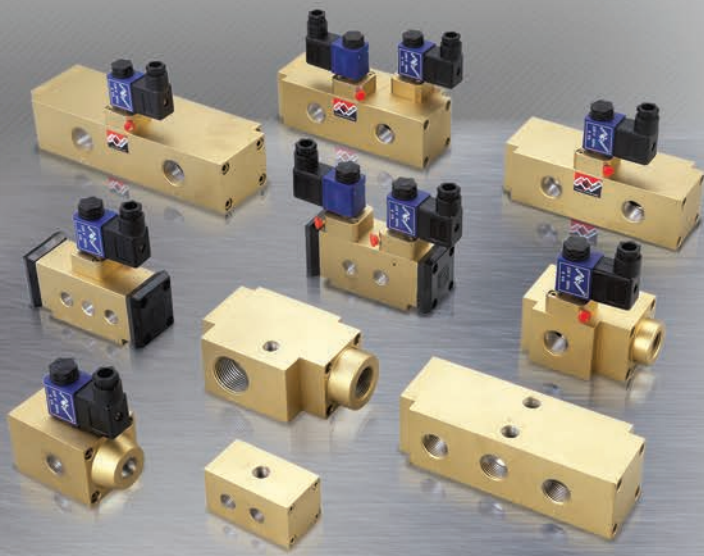
### Solenoid- external pilot operated

BSP	dia	psi	lpm	Material	kg	Normally closed	Normally open
G 1/2	3/8"	20 – 125	2400	GM	0.4	PVS2012GARGENC1	PVS2012GARGENO1
G 3/4	1/2"	20 – 125	3000	GM	0.5	PVS2034GARGENC1	PVS2034GARGENO1
G 1	5/8"	20 – 125	3500	GM	0.6	PVS2100GARGENC1	PVS2100GARGENO1
G 1 1/4	3/4"	20 – 125	6000	GM	1.4	PVS2114GARGENC1	PVS2114GARGENO1
G 1 1/2	7/8"	20 – 125	7000	GM	1.5	PVS2112GARGENC1	PVS2112GARGENO1
G 2	1 3/8"	20 – 125	12000	GM	2.3	PVS2200GARGENC1	PVS2200GARGENO1

• Pilot pressure ≥ Inlet pressure • For pilot-operated valve, put 'P' instead of 'S' in Part Code • For complete details, refer Product Data Sheet.



# Pneumatic Valves, 3-and 4-way, 2-position (Solenoid / pilot operated)

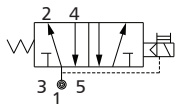


## Features

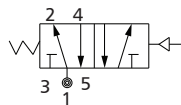
- 5/2, 3/2 NO and NC high flow capacity poppet valve
- Sturdy and reliable poppet design
- Port sizes up to G 1 1/2
- Low power solenoid with a range of AC/DC voltages
- Speed up to 600 cycles/min, life up to 10 million cycles
- Manual override as a standard feature
- Material: Body, Piston, Housing- aluminium, Seals- nitrile
- Options: 3/2 NO, NC and 5/2 valve in solenoid and pilot version
- Application: Single-acting and double-acting cylinders

## Available types

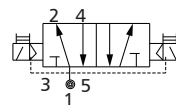
5/2 Single Solenoid



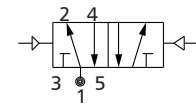
5/2 Single Pilot



5/2 Double Solenoid



5/2 Double Pilot



(1-Inlet, 2,4- Outlet, 3,5- Exhaust)

## Specifications

### 3-way (3/2)

Port Size	Orifice	Pressure	Flow	Material	Weight	Part Code (solenoid opt.)	
						Normally closed	Normally open
BSP	dia	psi	lpm		kg		
G 1/4	1/4"	25 – 125	1000	Al	0.3	PVS3014GPPAINC1	PVS3014GPPAINO1
G 3/8	3/8"	25 – 125	2000	Al	0.7	PVS3038GPPAINC1	PVS3038GPPAINO1
G 1/2	1/2"	25 – 125	2400	Al	0.7	PVS3012GPPAINC1	PVS3012GPPAINO1
G 3/4	3/4"	25 – 125	5500	Al	1	PVS3034GPPAINC1	PVS3034GPPAINO1
G 1	1"	25 – 125	7000	Al	1.8	PVS3100GPPAINC1	PVS3100GPPAINO1
G 1 1/4	1 1/4"	25 – 125	10000	Al	2	PVS3114GPPAENC1	PVS3114GPPAENO1
G 1 1/2	1 1/2"	25 – 125	16000	Al	4.4	PVS3112GPPAENC1	PVS3112GPPAENO1

### 4-way (5/2)

BSP	dia	psi	lpm	Material	SS	DS	Single solenoid	Double solenoid
* G 1/4	3/16"	25 – 125	700	Al	0.5	0.6	PVS4014G2SA---1	PVS4014G2DA---1
G 3/8	3/8"	25 – 125	2000	Al	1.3	1.3	PVS4038G2SA---1	PVS4038G2DA---1
G 1/2	1/2"	25 – 125	2400	Al	1.2	1.3	PVS4012G2SA---1	PVS4012G2DA---1
G 3/4	3/4"	25 – 125	5500	Al	2.1	2.2	PVS4034G2SA---1	PVS4034G2DA---1
G 1	1"	25 – 125	7000	Al	3.2	3.2	PVS4100G2SA---1	PVS4100G2DA---1
G 1 1/4	1 1/4"	25 – 125	10000	Al	3.8	3.8	PVS4114G2SA---1	PVS4114G2DA---1
G 1 1/2	1 1/2"	25 – 125	16000	Al	4.3	4.4	PVS4112G2SA---1	PVS4112G2DA---1

\* G 1/4-5/2 valve is spool type design; SS= single solenoid; DS= double solenoid

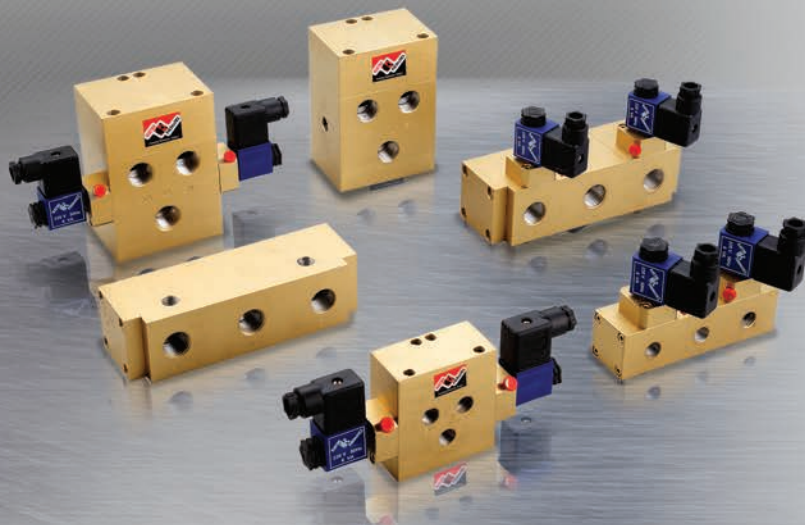
• Pilot pressure ≥ Inlet pressure • For pilot-operated valve, put 'P' instead of 'S' in Part Code • For complete details, refer Product Data Sheet.



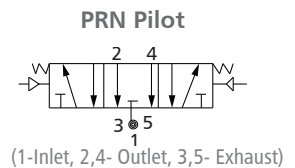
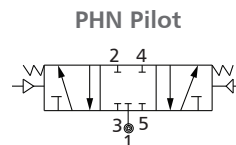
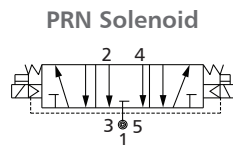
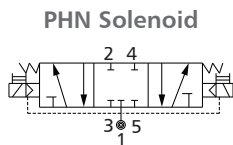
# Pneumatic Valves, 4-way, 3-position (Solenoid / pilot operated)

## Features

- 5/3 Solenoid and pilot actuated high flow capacity poppet valve
- Sturdy and reliable poppet design
- Port sizes up to G 1 1/2
- Low power solenoid with a range of AC/DC voltages
- Speed up to 600 cycles/min, life up to 10 million cycles
- Manual override as a standard feature
- Material: Body, Piston, Housing- aluminium, Seals- nitrile
- Options: PHN and PRN type in solenoid and pilot version
- Application: Double-acting cylinders and control valves



## Available types



## Specifications

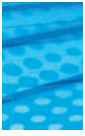
### Solenoid operated (5/3)

Port Size	Orifice	Pressure	Flow	Material	Weight, kg		Part Code	
					PHN	PRN	PHN	PRN
G 1/4	1/4"	30 – 125	1000	Al	0.7	0.6	PVS4014G3DAPHN1	PVS4014G3DAPRN1
G 3/8	3/8"	30 – 125	2000	Al	1.3	1.4	PVS4038G3DAPHN1	PVS4038G3DAPRN1
G 1/2	1/2"	30 – 125	2400	Al	1.9	1.4	PVS4012G3DAPHN1	PVS4012G3DAPRN1
G 3/4	3/4"	30 – 125	5500	Al	1.9	2.4	PVS4034G3DAPHN1	PVS4034G3DAPRN1
G 1	1"	30 – 125	7000	Al	3.7	3.2	PVS4100G3DAPHN1	PVS4100G3DAPRN1
G 1 1/4	1 1/4"	30 – 125	10000	Al	4.2	4	PVS4114G3DAPHN1	PVS4114G3DAPRN1
G 1 1/2	1 1/2"	30 – 125	16000	Al	4.5	4.5	PVS4112G3DAPHN1	PVS4112G3DAPRN1

### Pilot operated (5/3)

BSP	dia	psi	lpm	Material	PHN	PRN	PHN	PRN
G 1/4	1/4"	30 – 125	1000	Al	0.6	0.6	PVPO014G43DPHN1	PVPO014G43DPRN1
G 3/8	3/8"	30 – 125	2000	Al	1.2	1.3	PVPO038G43DPHN1	PVPO038G43DPRN1
G 1/2	1/2"	30 – 125	2400	Al	1.8	1.4	PVPO012G43DPHN1	PVPO012G43DPRN1
G 3/4	3/4"	30 – 125	5500	Al	1.8	2.3	PVPO034G43DPHN1	PVPO034G43DPRN1
G 1	1"	30 – 125	7000	Al	3.5	3	PVPO100G43DPHN1	PVPO100G43DPRN1
G 1 1/4	1 1/4"	30 – 125	10000	Al	4	4	PVPO114G43DPHN1	PVPO114G43DPRN1
G 1 1/2	1 1/2"	30 – 125	16000	Al	4.3	4.3	PVPO112G43DPHN1	PVPO112G43DPRN1

• Pilot pressure  $\geq$  Inlet pressure • For complete details, refer Product Data Sheet.



# Pneumatic Valves, stackable series

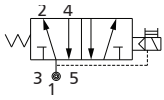
## Features

- 5/2, 5/3 Solenoid actuated stackable type poppet valve
- Internal/external pilot operated poppet design
- Streamlined construction for gang manifold
- Compact size with high flow, improves system appearance and performance
- Mounts in any position
- Continuous duty cycle coil
- Material: Body, Piston, Housing- aluminium, Seals- nitrile
- Options: 3/2, 5/2 and 5/3 types in all sizes

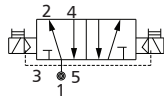


## Available types

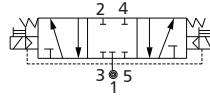
5/2 Single Solenoid



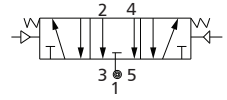
5/2 Double Solenoid



5/3 PHN Solenoid



5/3 PRN Solenoid



(1- Inlet, 2,4- Outlet, 3,5- Exhaust)

## Specifications

### 3-way (3/2)

Port Size	Orifice	Pressure	Flow	Material	Weight	Part Code	
BSP	dia	psi	lpm		kg	Normally closed	Normally open
G 1/8	1/8"	25 – 125	300	Al	0.2	PVSS3018GPPINC1	PVSS3018GPPINO1
G 1/4	1/4"	25 – 125	900	Al	0.4	PVSS3014GPPINC1	PVSS3014GPPINO1
G 3/8	3/8"	25 – 125	2800	Al	1.2	PVSS3038GPPINC1	PVSS3038GPPINO1
G 1/2	1/2"	25 – 125	2800	Al	1.2	PVSS3012GPPINC1	PVSS3012GPPINO1

### 4-way (5/2)

BSP	dia	psi	lpm	Material	SS	DS	Single solenoid	Double solenoid
G 1/8	1/8"	25 – 125	300	Al	0.17	0.2	PVSS4018G2S---1	PVSS4018G2D---1
G 1/4	1/4"	25 – 125	900	Al	0.4	0.5	PVSS4014G2S---1	PVSS4014G2D---1
G 3/8	3/8"	25 – 125	2800	Al	1.7	1.8	PVSS4038G2S---1	PVSS4038G2D---1
G 1/2	1/2"	25 – 125	2800	Al	1.7	1.8	PVSS4012G2S---1	PVSS4012G2D---1

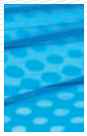
SS= single solenoid, DS= double solenoid

### 4-way (5/3)

BSP	dia	psi	lpm	Material	kg	PHN	PRN
G 1/8	1/8"	25 – 125	300	Al	0.2	PVSS4018G3DPHN1	PVSS4018G3DPRN1
G 1/4	1/4"	25 – 125	900	Al	0.5	PVSS4014G3DPHN1	PVSS4014G3DPRN1
G 3/8	3/8"	25 – 125	2800	Al	1.8	PVSS4038G3DPHN1	PVSS4038G3DPRN1
G 1/2	1/2"	25 – 125	2800	Al	1.8	PVSS4012G3DPHN1	PVSS4012G3DPRN1

• For complete details, refer Product Data Sheet.





# Pneumatic Valves, compact series

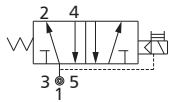
## Features

- 5/2 Solenoid and pilot actuated spool type compact valve
- Sleek aesthetics with spool type design
- High performance from proven design
- Air spring assisted design for faster response time
- Low power solenoid and manual override as a standard feature
- G 1/4 inlet and cylinder ports
- Facility of gang manifolding
- Options: G 1/8 inlet and cylinder ports, spring-return mushroom button and detent type selector switch, single pilot and double pilot

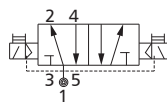


## Available types

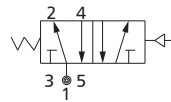
5/2 Single Solenoid



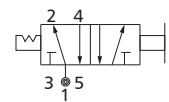
5/2 Double Solenoid



5/2 Single Pilot



5/2 Selector Switch



(1- Inlet, 2,4- Outlet, 3,5- Exhaust)

## Specifications

### 4-way (5/2)

Port Size	Orifice	Pressure	Flow	Material	Weight	Type	Part Code
BSP	dia	psi	lpm		kg		
G 1/8	5 mm	25 - 125	600	Al	0.3	Single Solenoid	PVSC4018G2S---1
G 1/8	5 mm	25 - 125	600	Al	0.45	Double Solenoid	PVSC4018G2D---1
G 1/8	5 mm	25 - 125	600	Al	0.3	Single pilot	FPVPOC018G42S---1
G 1/8	5 mm	25 - 125	600	Al	0.4	Double Pilot	FPVPOC018G42D---1
G 1/8	5 mm	25 - 125	600	Al	0.5	Selector Switch	FPVSWC018G42S---1
G 1/8	5 mm	25 - 125	600	Al	0.5	Mushroom button	FPVMBC018G42S---1
G 1/4	6 mm	25 - 125	700	Al	0.3	Single Solenoid	PVSC4014G2S---1
G 1/4	6 mm	25 - 125	700	Al	0.45	Double Solenoid	PVSC4014G2D---1
G 1/4	6 mm	25 - 125	700	Al	0.3	Single pilot	FPVPOC014G42S---1
G 1/4	6 mm	25 - 125	700	Al	0.4	Double Pilot	FPVPOC014G42D---1
G 1/4	6 mm	25 - 125	700	Al	0.5	Selector Switch	FPVSWC014G42S---1
G 1/4	6 mm	25 - 125	700	Al	0.5	Mushroom button	FPVMBC014G42S---1

• For complete details, refer Product Data Sheet.



# Pneumatic Valves, manually operated

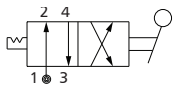
## Features

- 2/2, 3/2, 4/2, 4/3 Manually actuated valves
- Robust design with proven performance
- Mounting provision for individual unit
- Very light operating forces
- Normally open and normally closed models
- Material: Body, Piston- aluminium/brass, Seals- nitrile
- Options: 2/2 NO and NC version in roller and foot pedal

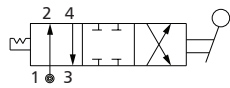


## Available types

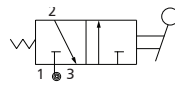
4/2 Hand Rotary



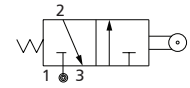
4/3 Hand Rotary



5/2 Hand Lever



3/2 Roller Operated



(1- Inlet, 2,4- Outlet, 3,5- Exhaust)

## Specifications

### Hand rotary valve (4/2 and 4/3)

Port Size	Orifice	Pressure	Flow	Material	Weight kg		Part Code	
					4/2	4/3	4/2	4/3 PHN
G 1/4	1/4"	0 – 125	1200	Al	1.3	1.6	PVMO014G4RHL2---1	PVMO014G4RHL3PHN1
G 3/8	3/8"	0 – 125	2000	Al	1.3	1.6	PVMO038G4RHL2---1	PVMO038G4RHL3PHN1
G 1/2	3/8"	0 – 125	2000	Al	1.3	3	PVMO012G4RHL2---1	PVMO012G4RHL3PHN1
G 3/4	1/2"	0 – 125	3000	Al	—	3	—	PVMO034G4RHL3PHN1
G1	1"	0 – 125	7000	Al	—	6	—	PVMO100G4RHL3PHN1
G 1 1/2	1 1/4"	0 – 125	10000	Al	—	15	—	PVMO112G4RHL3PHN1

### Roller operated valve (3/2)

BSP	dia	psi	lpm	Material	kg	Normally closed	Normally open
G 1/4	1/4"	0 – 125	1000	Al	0.3	PVMO014G3RLR-NC-1	PVMO014G3RLR-NO-1
G 3/8	3/8"	0 – 125	2000	Al	0.5	PVMO038G3RLR-NC-1	PVMO038G3RLR-NO-1
G 1/2	1/2"	0 – 125	2400	Al	0.9	PVMO012G3RLR-NC-1	PVMO012G3RLR-NO-1
G 3/4	3/4"	0 – 125	5500	Al	0.9	PVMO034G3RLR-NC-1	PVMO034G3RLR-NO-1

\* 2/2 NO and NC versions available

### Foot pedal valve (3/2)

BSP	dia	psi	lpm	Material	kg	Normally closed	Normally open
G 1/4	1/4"	0 – 125	1000	Al	1	PVMO014G3FTP-NC-1	PVMO014G3FTP-NO-1
G 3/8	3/8"	0 – 125	2000	Al	1	PVMO038G3FTP-NC-1	PVMO038G3FTP-NO-1

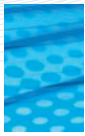
\* 2/2 NO and NC versions available

### Hand lever valve (5/2 and 5/3 )

BSP	dia	psi	lpm	Material	kg	5/2	5/3PHN
G 1/4	1/4"	0 – 125	1000	Al	0.7	PVMO014GHLR2---1	PVMO014G4HLR3PHN1

• For complete details, refer Product Data Sheet.





# Pneumatic Valves, dual sensing

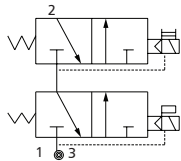
## Features

- Optimum poppet technology for high shift consistency
- High flow and dirt tolerant
- Valves supplied with switch reactor
- Application: Used as safety valve in power presses and for clutch/brake controls



## Available types

### 3/2 NC Connected Valve

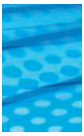


(1- Inlet, 2- Outlet, 3- Exhaust)

## Specifications

Port Size	Orifice	Pressure	Flow	Material	Weight	Part Code
BSP	dia	psi	lpm		kg	
G 1/2	1/2"	30 – 125	2400	Al	1.5	PVS3012GDSAINC1
G 3/4	3/4"	30 – 125	5500	Al	3.9	PVS3034GDSAINC1
G 1	1"	30 – 125	7000	Al	4	PVS3100GDSAINC1
G 1 1/2	1 1/2"	30 – 125	16000	Al	9	PVS3112GDSAINC1

• For complete details, refer Product Data Sheet.



# Pneumatic Valves, PET blow moulding

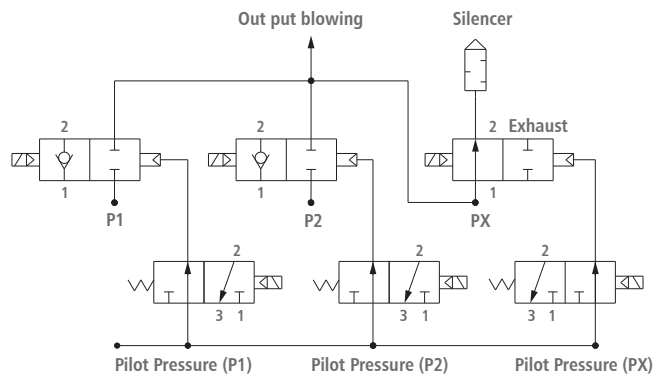
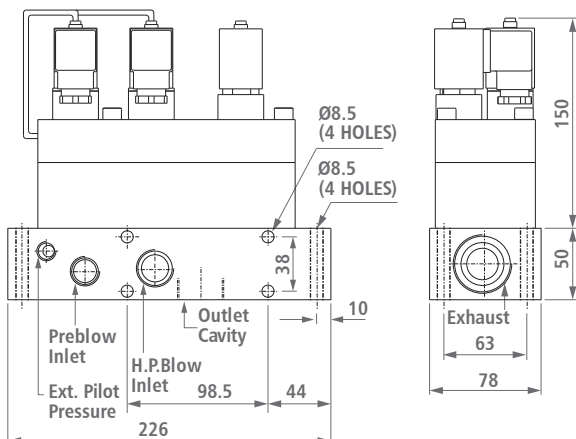
## Features

- Specially designed for PET blow moulding machines
- Sturdy and reliable poppet design, external pilot operated
- Quick response to actuation
- High pressure 2/2 valve up to 40 bar
- Continuous duty cycle coil
- High flow rate blowing with shortest exhaust function
- Simple in maintenance and service friendly
- Suitable up to 5 litres, depending on cycle time
- Available with base suitable for up to 6 valves
- Material: Body, Cover- al anodised, Piston: delrin, Piston seal: PU, O ring: NBR

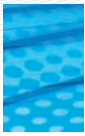


## Specifications

Function	P1 Pre-Blowing	P2 High Pressure Blowing	PX Exhaust
Type	2/2 Way, Piston pilot	2/2 Way, Piston pilot	2/2 Way, Piston pilot
Switching function	Normally closed	Normally closed	Normally open
Pilot valves	3/2 NO	3/2 NO	3/2 NC
Orifice	12 mm	16 mm	22 mm
Port size	1/2 BSP	3/4 BSP	1 1/4 BSP
Operating pressure	2 to 16 bar	3 to 40 bar	2 to 40 bar
External pilot pressure	6 to 8 bar		



• For complete details, refer Product Data Sheet.



# Standard Pneumatic Cylinders

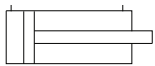
## Features

- Cylinders with cast iron end covers and 'Round' profile M.S. hard chrome plated tube
- Extremely rugged and heavy duty
- Ideal for use in tough industrial environments
- Large range of bore sizes and mountings
- Stroke length offered up to 3000 mm
- Up to 10 ton load capacity
- Options: Bellows, viton seals, hollow shaft, rod extension and rod threading
- Specials: Single-acting, stroke adjustable, double-ended, duplex and large port



## Available types

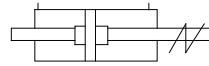
Non-Cushion



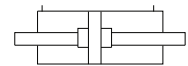
Cushion



Stroke Adjustable



Double-Ended



## Specifications

Bore sizes	25, 40, 50, 65, 75, 100, 125, 150, 200, 250, 300, 350 mm
Medium	Compressed air (filtered and lubricated)
Design	Piston cylinder with cushion/non-cushion version
Pressure range	7 to 150 psi (0.5 to 10 bar)
Temperature range	-10 °C to 60 °C, up to 150 °C with viton seals
Construction	End covers- cast iron, Tube- mild steel seamless honed and hard chrome plated, Piston rod- EN-8 hard chrome plated, stainless steel (optional), Piston- cast iron/aluminium, Mountings- mild steel/ cast iron, Seals- NBR

## Ordering code

Ordering code: **FPC S A A 1 150 I 0250 X X X**

**Stroke**: 0250

**Pressure**: S Standard, A 150 psi

**Mountings**

A	Front flange	G	Foot
B	Rear flange	I	Stud
C	Rear eye	J	Neck
D	Rear trunnion	K	Basic
E	Intermediate trunnion		
F	Centre trunnion		

**Cushion**: 1 Cushion, 2 Non-cushion

**Ram size**

A	5
B	9.5
E	19.3
H	25.6
I	35.1
K	38.1
L	44.5
M	50.8
N	58.4

**Bore size**

25	125
40	150
50	200
65	250
75	300
100	350

**Type 1**

X	Standard
1	Stroke adjustable
2	Double ended
3	Large port
4	Duplex
5	Single acting

**Type 2**

X	Standard (BSW)
1	Metric thread
2	Female inches
3	Female metric
4	Hollow male
5	Hollow female
6	Viton seal

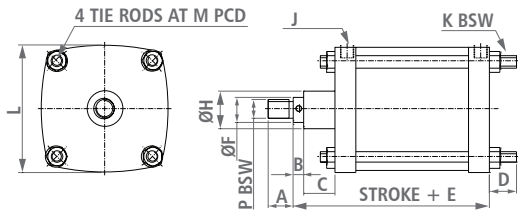
**Type 3**

X	Standard
9	Rod extension
0	Special



# Dimensions

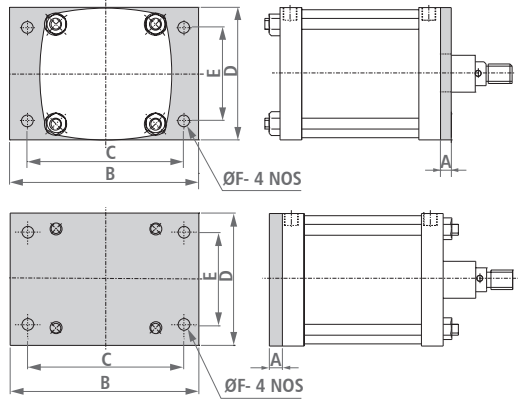
(All dimensions in mm)



## Basic

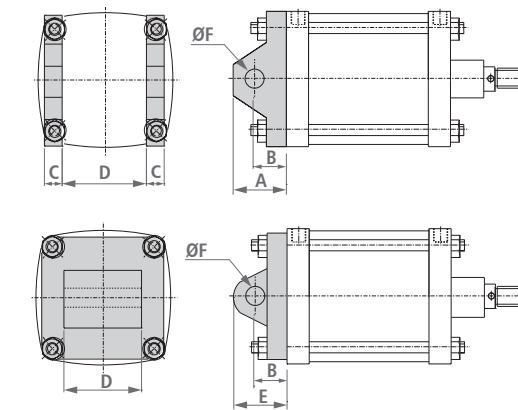
Bore	25	40	50	65	75	100	125	150	200	250	300	350
A	12	19	19	19	19	25	32	32	45	50	50	50
B	8	13	15	15	15	15	19	19	19	19	21	24
C	15	28.5	25	25	32	25	38	38	57	57	60	60
D	20	25	25	25	30	30	40	40	45	45	50	55
*E	78	127	138	141	160	159	215	206	238	247	252	328
F	9.6	19.3	19.3	19.3	19.3	25.6	35.1	35.1	38.1	44.5	50.8	58.4
H	24	38	43	43	47	48	60	60	65	76	86	105
J	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4	G 3/8	G 1/2	G 1/2	G 3/4	G 3/4	G 3/4	G 1
K	3/16"	1/4"	1/4"	1/4"	3/8"	3/8"	1/2"	1/2"	3/4"	3/4"	1"	1"
L	38	50.5	63.5	77.5	92	119	146	170	225	278	330	390
M	35.5	54	68	83	99	125	152.5	179	241.5	294	351	400
P	M8	1/2"	1/2"	1/2"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	1 3/4"	1 3/4"

\* Stroke length above 1000 mm offered with stop tube



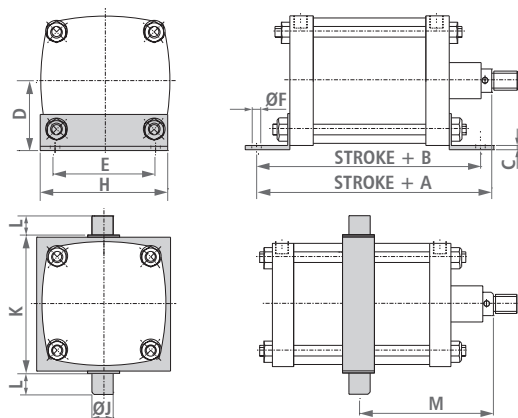
## Front and rear flange mounting

Bore	25	40	50	65	75	100	125	150	200	250	300	350
A	8	9.5	9.5	9.5	12.5	12.5	13	13	19	19	25.5	30
B	70	95	108	121	152	178	203	228	324	384	451	515
C	55	73	86	98.5	120.5	146	168	190	268	323	401	455
D	38	50.5	64	77	92	120	146	170	222	273	325	375
E	25	28.5	42	54	63.5	89	118	133.5	159	216	254	265
F	5	10	10	10	13.5	13.5	13.5	13.5	20	20	26	26



## Rear trunnion and rear eye mounting

Bore	25	40	50	65	75	100	125	150	200	250	300	350
A	—	32	35	38	48	54	70	70	89	102	121	125
B	15.5	21	22.5	24.5	32	38	44	44	54	57	77	80
C	—	10	10	10	16	16	21	21	32	32	38	40
D	12	28	38	48.6	54	72.4	86.8	105.5	138.8	176	210.2	242.8
E	28	31	35	40.5	51	57	70	70	86	95	115	120
F	9.5	9.5	12.7	16	19	19	25.4	25.4	31.8	38.1	38.1	40

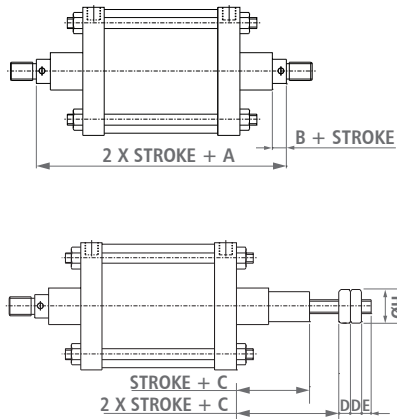


## Foot and centre trunnion mounting

Bore	25	40	50	65	75	100	125	150	200	250	300	350
A	92	148.5	163	166	197	197	257	248	296	305	322	398
B	83	128.5	148	151	187	195	242	233	278	287	311	384
C	3	3.5	3.5	5	6	6	6	6	8	8	10	10
D	26.5	33	36.8	42.3	57	66.7	79	88	120.4	140	168.5	210
E	25	50	38	56.5	66	95	114.5	141	176	202	266	315
F	5	7	10	10	13.5	13.5	13.5	13.5	20	20	26	26
H	38	63	62.5	77	92	121	146	171	222	265	324	375
J	8	10	12	16	19	25.4	31.8	31.8	38.1	44.5	50.8	57
K	42	60	76	92	108	136	164	191	251	311	371	426
L	10	12	12	16	19	25	32	32	38	40	45	50
M	Customer to specify											

• For complete details, refer Product Data Sheet.

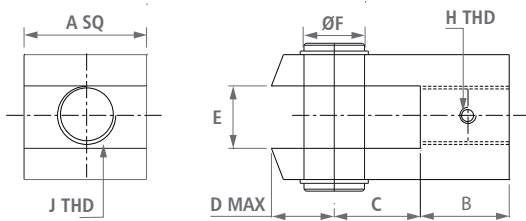
## Double-ended and stroke adjustable cylinder



Bore	A	B	C	D	E	H
25	101	8	15	—	—	—
40	168.5	13	28.5	14	10	38
50	178	15	25	14	10	38
65	181	15	25	14	10	38
75	207	15	32	14	10	38
100	199	15	25	20	10	45
125	272	19	38	25	10	55
150	263	19	38	25	10	55
200	314	19	57	30	10	60
250	323	19	57	35	10	70
300	333	21	60	40	10	75
350	412	24	60	50	10	90

## Cylinder accessories

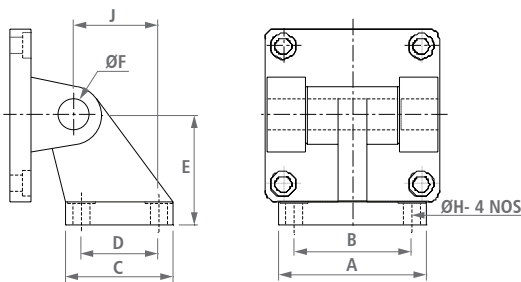
### Rod fork



### Standard pneumatic cylinder

Bore	A	B	C	D	E	F	H	J
25	18	12	13	12	10	8	M4	M8
40	28	20	19	16	15	10	M6	1/2" BSW
50, 65	28	20	20	19	15	12	M6	1/2" BSW
75	35	20	22	24	17	16	M6	1/2" BSW
100	45	26	28	30	25	19	M6	3/4" BSW
125, 150	54	32	32	40	30	25.4	M8	1" BSW
200	64	45	36	50	32	31.8	M8	1 1/4" BSW
250	76	50	45	55	40	38.1	M8	1 1/2" BSW
300, 350	90	50	52	60	50	40	M8	1 3/4" BSW

### Hinge mounting



### Standard pneumatic cylinder

Bore	A	B	C	D	E	F	H	J
40	54	41	35	22	36	9.5	6.6	24
50	65	50	45	30	45	12.7	9	33
65	67	52	50	35	50	16	9	37
75	86	66	60	40	63	19	11	47
100	96	76	70	50	71	19	11	55
125	124	94	90	60	90	25.4	14	70
150	148	118	118	88	115	25.4	16	97
200	162	122	130	90	135	31.8	16	105
250	200	150	160	110	165	38.1	22	128
300	230	170	182	122	200	38.1	27	150
350	260	200	210	150	225	40	27	175



# ISO Pneumatic Cylinders (Series M)

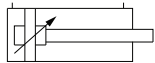


## Features

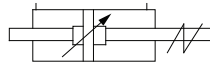
- Cylinders with nylon end covers, nylon piston and 'Mickey Mouse' profile aluminum tube
- Light weight with high strength
- Dimensions as per ISO 6431
- Stroke length offered up to 2500 mm
- Fully adjustable cushioning at both ends
- Options: Bellows, hollow shaft, rod extension and rod threading
- Specials: Reed switch, single-acting, stroke adjustable, double-ended and duplex
- Ideal for use in most demanding automation applications

## Available types

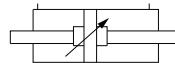
Cushion



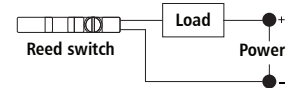
Stroke Adjustable



Double-Ended



Reed Switch Connect Diagram



## Specifications

Bore sizes	32, 40, 50, 63, 80, 100, 125 mm
Medium	Compressed air (filtered and lubricated)
Design	Piston cylinder with cushion/non-cushion version
Pressure range	7 to 150 psi (0.5 to 10 bar)
Temperature range	-10 °C to 60 °C
Construction	End covers- nylon, aluminium (optional), Tube- 'Mickey Mouse' profile aluminium semi-hard anodised, Piston rod- EN-8 hard chrome plated, stainless steel (optional), Piston- nylon, aluminium (optional), Mountings- mild steel/cast iron, Seals- NBR

## Ordering code

Ordering code: **FPC I A A 1 100 G 0250 X X X**

**Stroke**: 0250

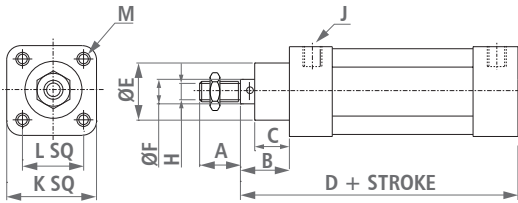
I	ISO																								
Pressure	A 150 psi																								
Mountings	<table border="1"> <tr> <td>A</td> <td>Front flange</td> <td>G</td> <td>Foot</td> </tr> <tr> <td>B</td> <td>Rear flange</td> <td>I</td> <td>Stud</td> </tr> <tr> <td>C</td> <td>Rear eye</td> <td>J</td> <td>Neck</td> </tr> <tr> <td>D</td> <td>Rear clevis</td> <td>K</td> <td>Basic</td> </tr> <tr> <td>E</td> <td>Intermediate trunnion</td> <td></td> <td></td> </tr> <tr> <td>F</td> <td>Centre trunnion</td> <td></td> <td></td> </tr> </table>	A	Front flange	G	Foot	B	Rear flange	I	Stud	C	Rear eye	J	Neck	D	Rear clevis	K	Basic	E	Intermediate trunnion			F	Centre trunnion		
A	Front flange	G	Foot																						
B	Rear flange	I	Stud																						
C	Rear eye	J	Neck																						
D	Rear clevis	K	Basic																						
E	Intermediate trunnion																								
F	Centre trunnion																								
	1 Cushion 2 Non-cushion																								
Bore size	<table border="1"> <tr> <td>32</td> <td>125</td> </tr> <tr> <td>40</td> <td></td> </tr> <tr> <td>50</td> <td></td> </tr> <tr> <td>63</td> <td></td> </tr> <tr> <td>80</td> <td></td> </tr> <tr> <td>100</td> <td></td> </tr> </table>	32	125	40		50		63		80		100													
32	125																								
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Ram size	<table border="1"> <tr> <td>C</td> <td>12</td> </tr> <tr> <td>D</td> <td>16</td> </tr> <tr> <td>F</td> <td>20</td> </tr> <tr> <td>G</td> <td>25</td> </tr> <tr> <td>J</td> <td>36</td> </tr> </table>	C	12	D	16	F	20	G	25	J	36														
C	12																								
D	16																								
F	20																								
G	25																								
J	36																								
Type 1	<table border="1"> <tr> <td>X</td> <td>Standard</td> </tr> <tr> <td>1</td> <td>Stroke adjustable</td> </tr> <tr> <td>2</td> <td>Double ended</td> </tr> <tr> <td>4</td> <td>Duplex</td> </tr> <tr> <td>5</td> <td>Single acting</td> </tr> </table>	X	Standard	1	Stroke adjustable	2	Double ended	4	Duplex	5	Single acting														
X	Standard																								
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Type 2	<table border="1"> <tr> <td>X</td> <td>Std. (metric)</td> </tr> <tr> <td>3</td> <td>Female metric</td> </tr> <tr> <td>4</td> <td>Hollow male</td> </tr> <tr> <td>5</td> <td>Hollow female</td> </tr> </table>	X	Std. (metric)	3	Female metric	4	Hollow male	5	Hollow female																
X	Std. (metric)																								
3	Female metric																								
4	Hollow male																								
5	Hollow female																								
Type 3	<table border="1"> <tr> <td>X</td> <td>Standard</td> </tr> <tr> <td>9</td> <td>Rod extension</td> </tr> <tr> <td>0</td> <td>Special</td> </tr> <tr> <td>M</td> <td>Piston with magnet</td> </tr> </table>	X	Standard	9	Rod extension	0	Special	M	Piston with magnet																
X	Standard																								
9	Rod extension																								
0	Special																								
M	Piston with magnet																								

• Reed switch to be order separately, Part no. EP-39R-25M



# Dimensions

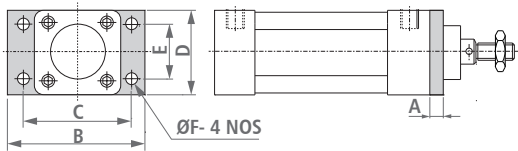
(All dimensions in mm)



## Basic

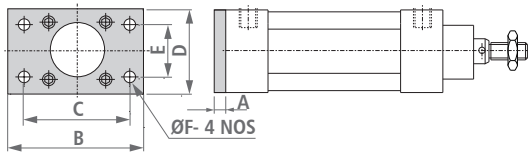
Bore	32	40	50	63	80	100	125
A	22	24	32	32	40	40	54
B	24	29.5	34.5	34.5	42.5	47.5	58
C	18	19.5	19.5	19.5	27.5	32.5	38
*D	122	135.5	145.5	160.5	177.5	192.5	232
E	30	36	43	43	48	48	60
F	12	16	20	20	25	25	36
H	M10X1.25	M12X1.25	M16X1.5	M16X1.5	M20X1.5	M20X1.5	M27X2
J	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
K	47	55	66	76	97	114	137
L	32.5	38	46.5	56.5	72	89	110
M	M6X1	M6X1	M8X 1.25	M8X 1.25	M10X1.5	M10X1.5	M12X1.75

\* Stroke length above 1000 mm offered with stop tube



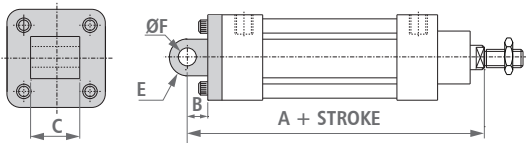
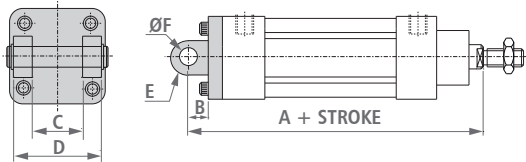
## Front and rear flange mounting

Bore	32	40	50	63	80	100	125
A	8	9.5	9.5	9.5	12.5	12.5	13
B	81	95	108	120	152	178	215
C	64	72	90	100	126	150	180
D	47	55	66	76	97	114	137
E	32	36	45	50	63	75	90
F	7	9	9	9	12	14	16



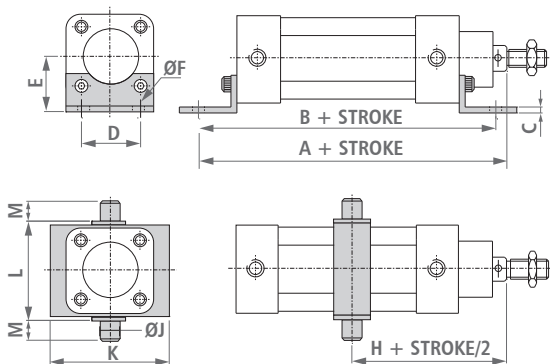
## Rear clevis and rear eye mounting

Bore	32	40	50	63	80	100	125
A	142	160	170	190	210	230	275
B	12	15	15	20	20	25	30
C	26	28	32	40	50	60	70
D	45	52	60	70	90	110	130
E	R10	R12	R12	R16	R16	R20	R25
F	10	12	12	16	16	20	25

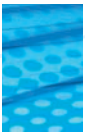


## Foot and centre trunnion mounting

Bore	32	40	50	63	80	100	125
A	144	163	175	190	215	230	270
B	142	161	170	185	210	220	250
C	3	3.5	3.5	5	7	7	7
D	32	36	45	50	63	75	90
E	32	36	45	50	63	71	90
F	7	9	9	9	12	14	16
H	73	82.5	90	97.5	110	120	145
J	12	16	16	20	20	25	25
K	65	75	95	105	130	145	175
L	50	63	75	90	110	132	160
M	12	16	16	20	20	25	25



• For complete details, refer Product Data Sheet.



# ISO Pneumatic Cylinders (Series S)

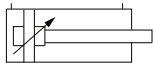


## Features

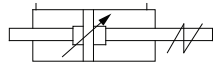
- Cylinders with aluminum casting end covers, aluminum casting piston and 'Square' profile aluminum tube
- High performance cylinders for modern demands
- Polyurethane seal ensures long life and high speed
- Dimensions as per ISO 15552, VDMA 24562
- Modern type injection moulded reed switch
- 3 psi minimum pressure to move cylinder
- Options: Bellows, viton seals, hollow shaft, rod extension and rod threading
- Specials: Reed switch, single-acting, stroke adjustable, double-ended and duplex

## Available types

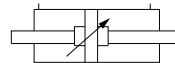
Cushion



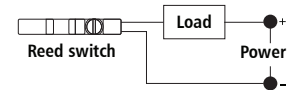
Stroke Adjustable



Double-Ended



Reed Switch Connect Diagram



## Specifications

Bore sizes	32, 40, 50, 63, 80, 100, 125 mm
Medium	Compressed air (filtered and lubricated)
Design	Piston cylinder with magnetic and non magnetic version
Pressure range	7 to 150 psi (0.5 to 10 bar)
Temperature range	-10 °C to 60 °C, up to 150 °C with viton seals
Construction	End covers- aluminium, Tube- 'Square' profile aluminium semi-hard anodised, Piston rod- EN-8 hard chrome plated, stainless steel (optional), Piston- aluminium, Mountings- mild steel/cast iron, Seals- NBR, polyurethane

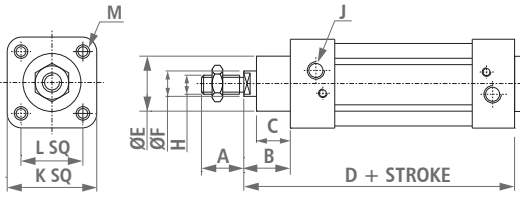
## Ordering code

FPC	N	A	C	1	80	G	0125	X	X	M
	ISO New	Pressure		Cushion		Ram size	Stroke	Type 1	Type 2	Type 3
		A 150 psi				C 12		X Standard	X Std. (metric)	M Standard with magnet
<b>Mountings</b>				<b>Bore size</b>		D 16		1 Stroke adjustable	3 Female metric	9 Rod extension
A Front flange	G Foot	32	125	F 20		G 25	2 Double ended	4 Hollow male	0 Special	
B Rear flange	I Stud	40		P 32			4 Duplex	5 Hollow female		
C Rear eye	J Neck	50					5 Single acting	6 Viton Seal		
D Rear clevis	K Basic	63								
E Intermediate trunnion		80								
F Centre trunnion		100								

• Reed switch to be order separately, Part no. EP-39R-25M

## Dimensions

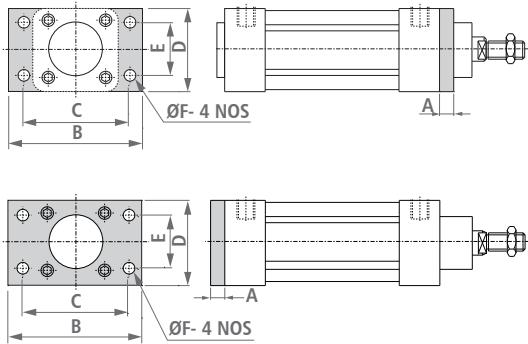
(All dimensions in mm)



## Basic

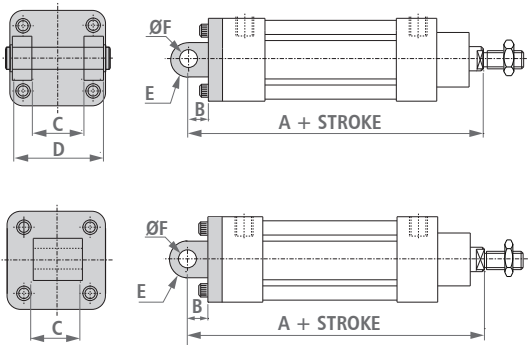
Bore	32	40	50	63	80	100	125
A	22	24	32	32	40	40	54
B	26	30	37	37	48	51	65
C	16	20	27	27	32	33	45
*D	120	135	143	158	174	189	225
E	30	35	40	45	45	55	60
F	12	16	20	20	25	25	32
H	M10X1.25	M12X1.25	M16X1.5	M16X1.5	M20X1.5	M20X1.5	M27X2
J	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
K	47	53.5	63.5	75	95	113	140
L	32.5	38	46.5	56.5	72	89	110
M	M6X1	M6X1	M8X1.25	M8X1.25	M10X1.5	M10X1.5	M12X1.75

\* Stroke length above 1000 mm offered with stop tube



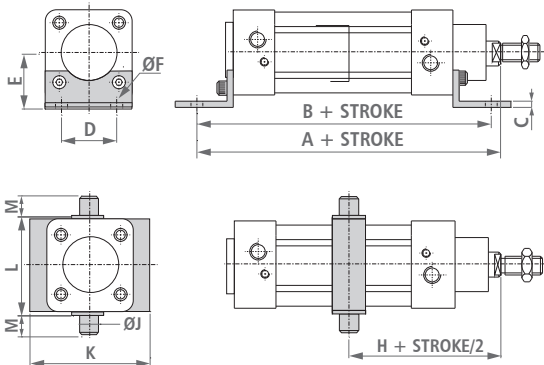
## Front and rear flange mounting

Bore	32	40	50	63	80	100	125
A	10	10	12	12	16	16	20
B	80	90	110	120	150	170	224
C	64	72	90	100	126	150	180
D	46	54	64	75	95	112	140
E	32	36	45	50	63	75	90
F	7	9	9	9	12	14	16



## Rear clevis and rear eye mounting

Bore	32	40	50	63	80	100	125
A	142	160	170	190	210	230	275
B	14	15	16	20	22	27	31
C	26	28	32	40	50	60	70
D	45	52	60	70	90	110	130
E	R 10	R 13	R 13	R 17	R 17	R 20	R 25
F	10	12	12	16	16	20	25

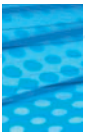


## Foot and centre trunnion mounting

Bore	32	40	50	63	80	100	125
A	144	163	175	190	215	230	270
B	142	161	170	185	210	220	250
C	3	3.5	3.5	5	7	7	7
D	32	36	45	50	63	75	90
E	32	36	45	50	63	71	90
F	7	9	9	9	12	14	16
H	73	82.5	90	97.5	110	120	-
J	12	16	16	20	20	25	-
K	65	75	95	105	130	145	-
L	50	63	75	90	110	132	-
M	12	16	16	20	20	25	-

• For complete details, refer Product Data Sheet.





# ISO Pneumatic Cylinders (Series R)

## Features

- Cylinders with aluminum casting end covers, aluminum casting piston and 'Round' profile aluminum tube
- High performance cylinders for modern demands
- Dimensions as per ISO 15552, VDMA 24562
- Polyurethane seals for long life and high speed
- Injection moulded reed switch with aluminium bracket
- 3 psi minimum pressure to move cylinder
- Options: Bellow, viton seals, hollow shaft, rod extension and rod threading
- Specials: Reed switch, single-acting, stroke adjustable, double-ended and duplex

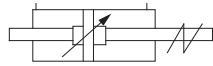


## Available types

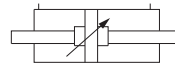
Cushion



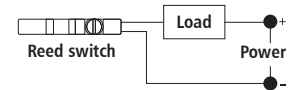
Stroke Adjustable



Double-Ended



Reed Switch Connect Diagram



## Specifications

Bore sizes	32, 40, 50, 63, 80, 100, 125, 160, 200 mm
Medium	Compressed air (filtered and lubricated)
Design	Piston cylinder with magnetic and non magnetic version
Pressure range	7 to 150 psi (0.5 to 10 bar)
Temperature range	-10 °C to 60 °C, up to 150 °C with viton seals
Construction	End covers- aluminium, Tube- round profile aluminium semi-hard anodised, Piston rod- EN-8 hard chrome plated, stainless steel (optional), Piston- aluminium, Mountings- mild steel/cast iron, Seals- NBR, polyurethane

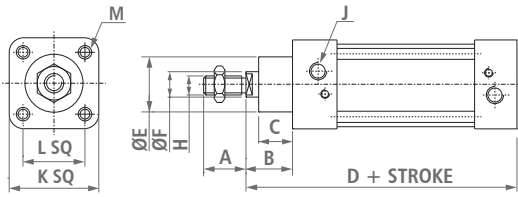
## Ordering code

FPC	R	A	C	1	80	G	0125	X	X	M		
	ISO New			Cushion		Ram size	Stroke	Type 1	Type 2	Type 3		
	Pressure											
	A 150 psi											
<b>Mountings</b>				<b>Bore size</b>								
A	Front flange	F	Centre trunnion	32	100	C	12	X	Std. (metric)	M	Standard with magnet (up to bore Ø 125 mm)	
B	Rear flange	G	Foot	40	125	D	16	1	Stroke-adjustable	3	Female metric	
C	Rear eye	I	Stud	50	160	F	20	2	Double-ended	4	Hollow male	
D	Rear clevis	J	Neck	63	200	G	25	4	Duplex	5	Hollow female	
E	Intermediate trunnion	K	Basic	80		P	32	5	Single-acting	6	Viton seal	
						R	40				9	Rod extension
											0	Special

• Reed switch to be ordered separately, Part no. EP-39R-25M

# Dimensions

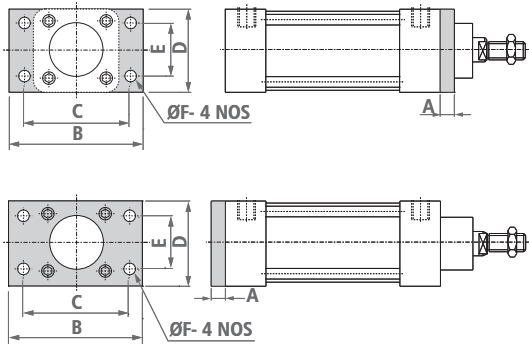
(All dimensions in mm)



## Basic

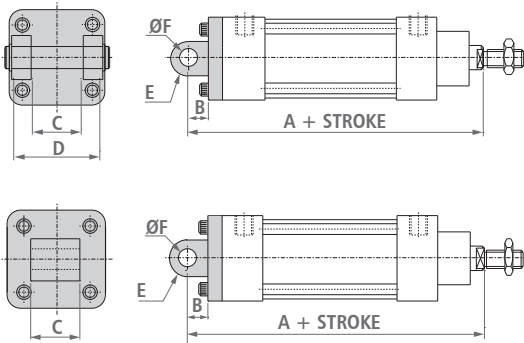
Bore	32	40	50	63	80	100	125
A	22	24	32	32	40	40	54
B	26	30	37	37	48	51	65
C	16	20	27	27	32	33	45
*D	120	135	143	158	174	189	225
E	30	35	40	45	45	55	60
F	12	16	20	20	25	25	32
H	M10X1.25	M12X1.25	M16X1.5	M16X1.5	M20X1.5	M20X1.5	M27X2
J	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
K	47	53.5	63.5	75	95	113	140
L	32.5	38	46.5	56.5	72	89	110
M	M6X1	M6X1	M8X1.25	M8X1.25	M10X1.5	M10X1.5	M12X1.75

\* Stroke length above 1000 mm offered with stop tube



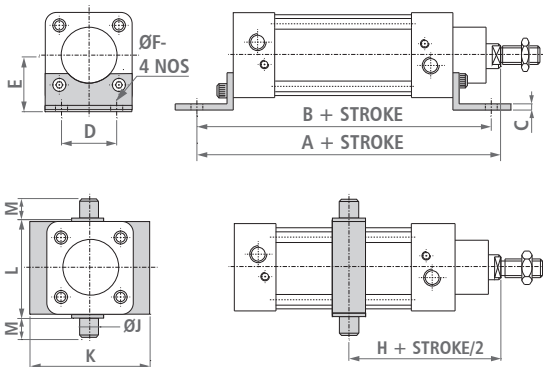
## Front and rear flange mounting

Bore	32	40	50	63	80	100	125
A	10	10	12	12	16	16	20
B	80	90	110	120	150	170	224
C	64	72	90	100	126	150	180
D	46	54	64	75	95	112	140
E	32	36	45	50	63	75	90
F	7	9	9	9	12	14	16



## Rear clevis and rear eye mounting

Bore	32	40	50	63	80	100	125
A	142	160	170	190	210	230	275
B	14	15	16	20	22	27	31
C	26	28	32	40	50	60	70
D	45	52	60	70	90	110	130
E	R 10	R 13	R 13	R 17	R 17	R 20	R 25
F	10	12	12	16	16	20	25

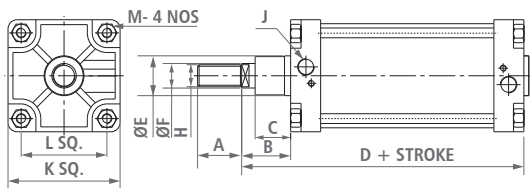


## Foot and centre trunnion mounting

Bore	32	40	50	63	80	100	125
A	144	163	175	190	215	230	270
B	142	161	170	185	210	220	250
C	3	3.5	3.5	5	7	7	7
D	32	36	45	50	63	75	90
E	32	36	45	50	63	71	90
F	7	9	9	9	12	14	16
H	73	82.5	90	97.5	110	120	145
J	12	16	16	20	20	25	25
K	65	75	95	105	130	145	175
L	50	63	75	90	110	132	160
M	12	16	16	20	20	25	25

## Dimensions

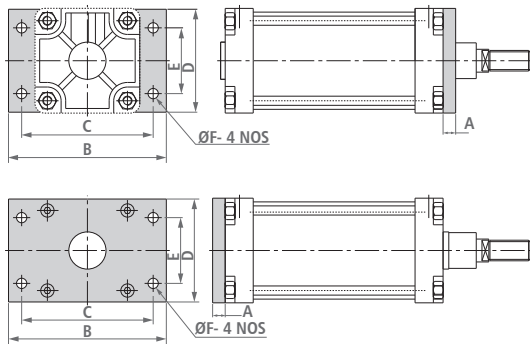
(All dimensions in mm)



## Basic

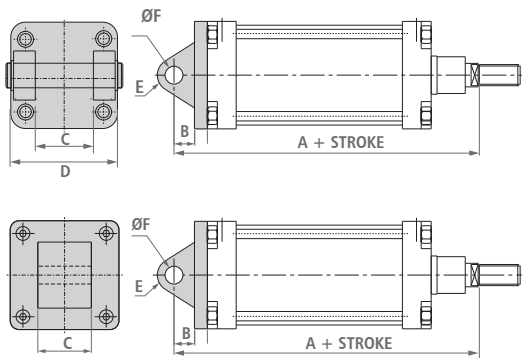
Bore	160	200
A	72	72
B	80	95
C	58	67
*D	260	275
E	65	75
F	40	40
H	M36x2	M36x2
J	G 3/4	G 3/4
K	183	220
L	140	175
M	M16X2	M16X2

\* Stroke length above 1000 mm offered with stop tube



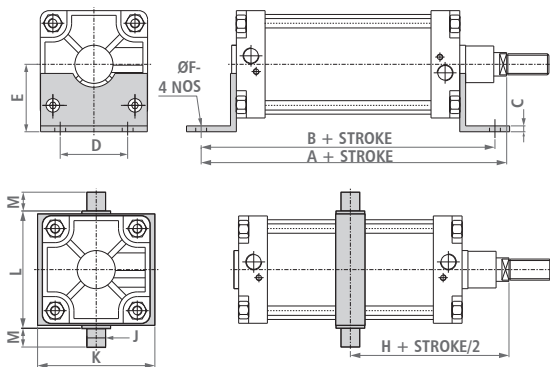
## Front and rear flange mounting

Bore	160	200
A	22	25
B	280	320
C	230	270
D	180	220
E	115	135
F	18	22



## Rear clevis and rear eye mounting

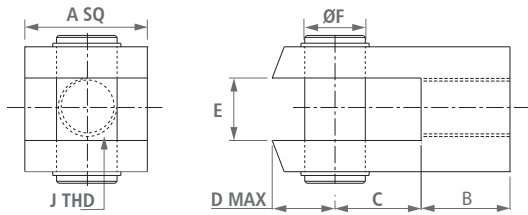
Bore	160	200
A	315	335
B	35	36
C	90	90
D	170	170
E	30	30
F	30	30



## Foot and centre trunnion mounting

Bore	160	200
A	320	345
B	300	320
C	10	12
D	115	135
E	115	135
F	18.5	24
H	170	185
J	32	32
K	195	248
L	200	250
M	32	32

## Rod fork

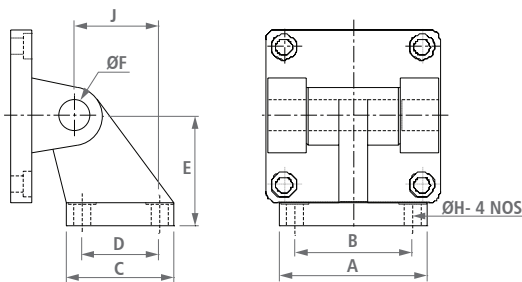


## ISO Pneumatic Cylinders (Series M, R and S)

Bore	A	B	C	D	E	F	J
32	20	20	20	16	10.2	10	M10X1.25
40	24	24	24	19	12.2	12	M12X1.25
50, 63	30	34	32	25	16.2	16	M16X1.5
80, 100	38	40	40	32	20.2	20	M20X1.5
125	55	55	55	45	30	30	M27X2
160,200	70	72	72	53	35	35	M36X2

\* Rod yoke type, rod end aligner and rod end spherical eye is also available

## Hinge mounting



## ISO Pneumatic Cylinders (Series M, R and S)

Bore	A	B	C	D	E	F	J	H
32	51	38	31	18	32	10	6.6	21
40	54	41	45	22	36	12	6.6	24
50	65	50	45	30	45	12	9	33
63	67	52	50	35	50	16	9	37
80	86	66	60	40	63	16	11	47
100	96	76	70	50	71	20	11	55
125	124	94	90	60	90	25	14	70

## Thrust chart

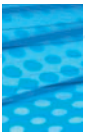
Bore size (mm)		Air Pressure									Free Air Consumption in 1/25 mm stroke @ 7 bar
		2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar	
		Thrust (kgf)									
32	PUSH	13	19	26	32	39	45	52	58	64	0.16
	PULL	10	17	22	28	33	39	44	50	55	0.14
40	PUSH	20	30	40	50	60	70	80	90	100	0.25
	PULL	17	26	35	44	52	61	70	76	87	0.22
50	PUSH	32	47	63	78	94	110	125	141	157	0.39
	PULL	27	41	54	68	82	96	109	123	137	0.33
63	PUSH	50	75	100	124	149	174	199	224	249	0.62
	PULL	44	66	87	109	131	153	175	197	218	0.56
80	PUSH	88	121	161	201	241	281	321	361	402	1.00
	PULL	74	111	149	185	223	260	297	334	371	0.91
100	PUSH	126	188	251	314	377	440	502	565	628	1.57
	PULL	113	169	232	288	345	401	464	526	590	1.40
125	PUSH	210	330	435	545	650	770	870	990	1100	2.5
	PULL	200	310	410	500	600	720	820	920	1000	2.3
160	PUSH	350	530	720	900	1025	1250	1430	1600	1800	4.0
	PULL	330	508	675	840	950	1175	1350	1500	1700	3.8
200	PUSH	550	840	1120	1400	1600	1950	2250	2500	2800	6.4
	PULL	535	810	1000	1345	1525	1900	2150	2400	2700	6.0

NOTE • The above thrust chart determines practical thrusts.  
• Select force required by reading down from selected working pressure.

• Select working pressure on top of chart.  
• Read out cylinder bore size on left of the chart.

• For complete details, refer Product Data Sheet.





# ISO Compact Pneumatic Cylinders

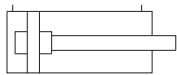


## Features

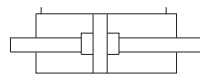
- Space saving, compact and light weight design
- Dimensions as per ISO 21287
- Low friction, long life seals
- Large clamping force in relation to size
- Standard t-slot for magnetic reed switch
- Magnetic sensor common for all sizes
- Options: Male and female piston rod threading, foot and flange mountings, viton seals
- Specials: Single-acting and double ended
- Available mountings to suit leading international brands

## Available types

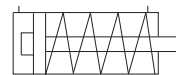
Single-Ended



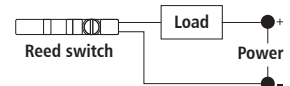
Double-Ended



Single-Acting



Reed Switch Connect Diagram



## Specifications

Bore Sizes	16, 20, 25, 32, 40, 50, 63, 80, 100 mm
Medium	Compressed air (filtered and lubricated)
Design	Piston cylinder with cushion pad, magnetic and non magnetic version
Pressure range	7 to 150 psi (0.5 to 10 bar)
Temperature range	5 °C to 60 °C, up to 150 °C with viton seals (optional)
Material	End covers and piston- aluminium, Tube- square profile aluminium anodised, Piston rod- EN-8 hard chrome plated, Mountings: mild steel, Seals- NBR, polyurethane

## Ordering code

**FPC** **C** **A** **K** **2** **40** **C** **20** **X** **X** **X**

C Series  
 Pressure A 150 psi  
 Mountings K Basic  
 2 Cushion pad  
 Ram size C 12  
 Stroke 20  
 Type 1 X Standard  
 Type 2 X Std. (metric)  
 Type 3 X Standard

Bore size	
16	50
20	63
25	80
32	100
40	

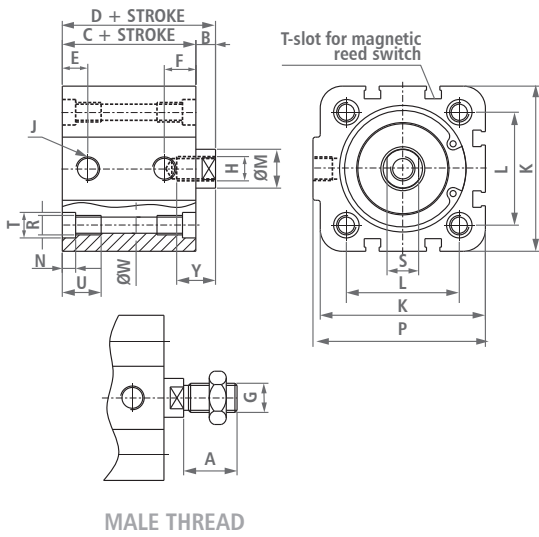
Ram size	
A	8
B	10
C	12
D	16
F	20

Type 1	Type 2	Type 3
X Standard	X Std. (metric)	X Standard
2 Double-ended	3 Female metric	9 Rod extension
5 Single-acting		M Piston with magnet
6 Reed switch		0 Special

• Reed switch to be ordered separately, Part no. EP-39R-25M

# Dimensions

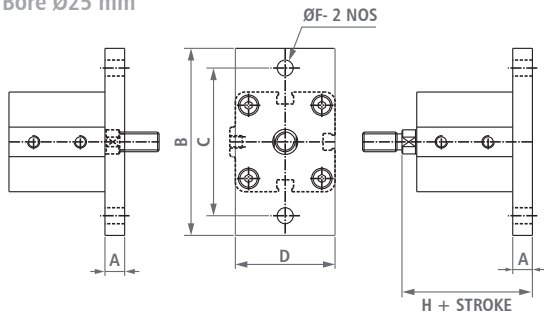
(All dimensions in mm)



Bore	25	32	40	50	63	80	100
A	16	19	19	22	22	28	28
B	6	7	7	8	8	10	10
C	39	44	45	45	49	54	67
D	45	51	52	53	57	64	77
E	10	12	12	12	14	16	20
F	10	13	13	13	14	15.5	20
G	M8x1.25	M10x1.25	M10x1.25	M12x1.25	M12x1.25	M16x1.5	M16x1.5
H	M6x1	M8x1.25	M8x1.25	M10x1.5	M10x1.5	M12x1.75	M12x1.75
J	M5	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8
K	40.5	45	60	68	80	98	114.5
L	26	32.5	38	46.5	56.5	72	89
M	10	12	12	16	16	20	20
N	5.0	5.5	5.5	5.5	5.5	5.5	5.5
P	43	49.5	62.5	71	88	104.5	123.5
R	M5	M6	M6	M8	M8	M10	M10
S	9	10	10	13	13	17	17
T	7.5	9	9	11	11	14	14
U	15	15	15	16	16	17	17
W	4.2	5.1	5.1	6.5	6.5	8.5	8.5
Y	10	12	12	16	16	20	20

\* Stroke length offered up to max. 75 mm for all bore sizes

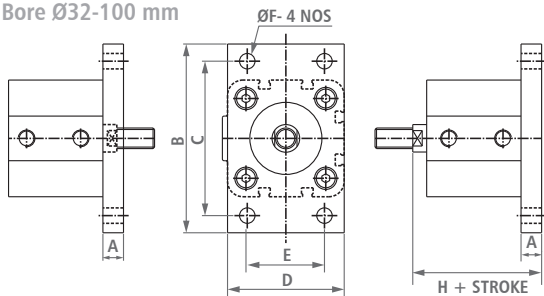
## Bore Ø25 mm



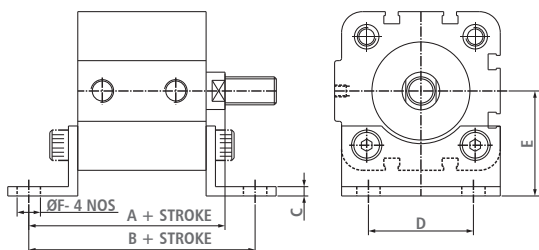
## Front and rear flange mounting

Bore	25	32	40	50	63	80	100
A	8	10	10	12	12	16	16
B	76	80	90	110	125	155	185
C	60	64	72	90	100	126	150
D	40	50	55	68	78	100	120
E	-	32	36	45	50	63	75
F	6.5	7	9	9	9	12	14
H	53	61	62	65	69	80	93

## Bore Ø32-100 mm



## Foot mounting



Bore	25	32	40	50	63	80	100
A	61	67	70	74	78	90	104
B	71	76	81	87	91	106	121
C	4	4	4	5	5	6	6
D	26	32	36	45	50	63	75
E	29	33.5	38	45	50	63	74
F	7	7	10	10	10	12	15

• For complete details, refer Product Data Sheet.



# Air-Line Accessories

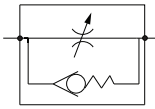
## Features

- Rugged and durable design
- Works up to 10 bar pressure
- Used to perform supportive pneumatic functions
- Variety
  - Flow control valves with fine regulation
  - Quick exhaust valves for higher cylinder speeds
  - Inline check valves with low closing pressure
  - High pressure (20 bar) inline check valves
  - Rotor seal coupling in sizes up to G 1 1/2
  - Inline mounted hand slide valves
  - Silencers
  - Air blow guns



Port Size BSP	Flow lpm	Part Code
------------------	-------------	-----------

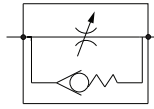
**Inline Flow Control Valve**



G 1/4	1000	PVFC014G1
G 1/2	2000	PVFC012G1
G 3/4	4000	PVFC034G1

Port Size BSP	Flow lpm	Part Code
------------------	-------------	-----------

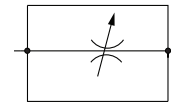
**Flow Control Valve**



G 1/4	650	PVFC014G2
G 1/2	1800	PVFC012G2
G 3/4	3000	PVFC034G2

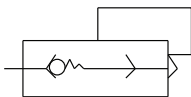
Port Size BSP	Flow lpm	Part Code
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**Needle Valve**



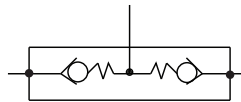
G 1/4	1000	PVNL014G1
G 1/2	2000	PVNL012G1
G 3/4	4000	PVNL034G1

**Quick Exhaust Valve**



G 1/4	1500	PVQE014G1
G 3/8	2500	PVQE038G1
G 1/2	4500	PVQE012G1
G 3/4	8000	PVQE034G1
G 1	10000	PVQE100G1
G 1 1/2	12000	PVQE112G1

**Shuttle Valve**



G 1/4	1100	FPVS014G1
G 3/8	2500	FPVS038G1
G 1/2	4200	FPVS012G1
G 3/4	5500	FPVS034G1
G 1	7000	FPVS100G1

**Inline Check Valve**



G 1/4	1000	PVNR014GA1251
G 3/8	2800	PVNR038GA1251
G 1/2	4500	PVNR012GA1251
G 3/4	8000	PVNR034GA1251
G 1	10000	PVNR100GA1251

**Rotor Seal Coupling**



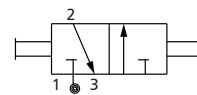
G 1/4	PVRS014GAARRH1
G 3/8	PVRS038GAARRH1
G 1/2	PVRS012GAARRH1
G 3/4	PVRS034GAARRH1
G 1	PVRS100GAARRH1
G 1 1/4	PVRS114GAARRH1
G 1 1/2	PVRS112GAARRH1

**Silencer**



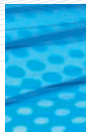
G 1/4	PVS014G1
G 3/8	PVS038G1
G 1/2	PVS012G1
G 3/4	PVS034G1
G 1	PVS100G1
G 1 1/4	PVS114G1
G 1 1/2	PVS112G1

**Hand Slide Valve**



G 1/4	1000	PVHS014G1
G 3/8	2800	PVHS038G1
G 1/2	4000	PVHS012G1
G 3/4	8000	PVHS034G1

- LH, RH threading and stainless steel shaft also available for Rotor seal coupling.
- For complete details, refer Product Data Sheet.



# Air Preparation Units

## Features

- Modular style, pre-assembled, ready to install
- Suitable for wall mounting
- Bronze type filtering element
- Relieving type diaphragm operated regulator
- Non-rising adjusting knob with snap action lock
- Good flow and regulating characteristics
- Fine adjustment of lubrication
- Quick release bayonet bowl



## Available types

Filter



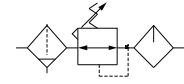
Regulator



Lubricator



Filter, Regulator, Lubricator



## Specifications

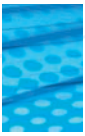
Port Size	G 1/8	G 1/4	G 3/8	G 1/2	G 3/4	G 1
Flow rate (lpm)	500	2000	4000	4000	5000	5000
Fluid (media)	Compressed air					
Pressure	Operating: 0.5 to 10 bar, Proof: 15 bar					
Temperature range	5 °C to 60 °C					
Filter material	Sintered bronze, plastic (polypropylene)					
Filter rating	Standard: 25 μm, Optional: 5 μm					
Oil recommended	Turbine oil (ISO VG 32)					
Bowl material	Polycarbonate bowl with metal guard					
Regulator construction	Relieving, diaphragm type					
Drain type	Differential (semi-automatic) and automatic					

## Ordering code

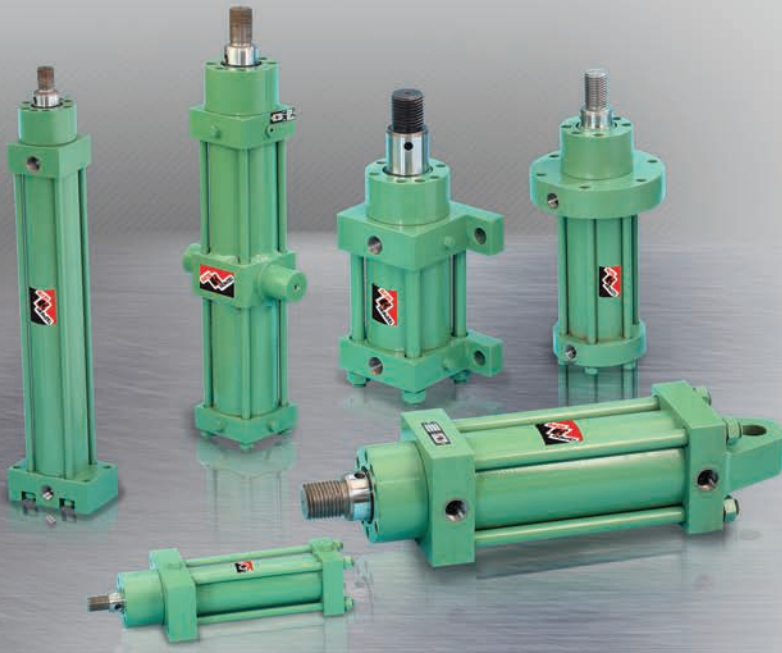
Filter	EPF-200-18	EPF-300-14	EPF-400-38	EPF-400-12	EPF-500-34	EPF-500-01
Regulator	EPR-200-18	EPR-300-14	EPR-400-38	EPR-400-12	EPR-500-34	EPR-500-01
Lubricator	EPL-200-18	EPL-300-14	EPL-400-38	EPL-400-12	EPL-500-34	EPL-500-01
Filter, Regulator	EPM-200-18	EPM-300-14	EPM-400-38	EPM-400-12	EPM-500-34	EPM-500-01
Filter, Regulator and Lubricator	EPC-200-18	EPC-300-14	EPC-400-38	EPC-400-12	EPC-500-34	EPC-500-01
Filter, Regulator, Lubricator	EPU-200-18	EPU-300-14	EPU-400-38	EPU-400-12	EPU-500-34	EPU-500-01

• For complete details, refer Product Data Sheet.





# Standard Hydraulic Cylinders

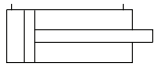


## Features

- Cylinders with M.S. end covers and 'Round' profile M.S. honed tube
- Long established design, proven ruggedness and reliability
- PTFE seals and bearing strips ensure perfect sealing and smooth movement
- Externally removable bolt-on cartridge assembly
- Stroke length offered up to 3500 mm
- Working pressure up to 200 bar
- Options: Bellows, rod extension and rod threading
- Specials: Bore above dia. 300 mm, LVDT, double-ended, stroke adjustable, large ports, working pressure up to 345 bar

## Available types

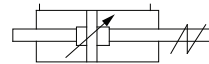
Non-Cushion



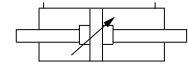
Cushion



Stroke Adjustable



Double-Ended



## Specifications

Bore sizes	40, 50, 65, 75, 100, 125, 150, 200, 250, 300 mm
Medium	Mineral oil (ISO VG 68)
Design	Piston cylinder with cushion/non-cushion version
Pressure range	Up to 3000 psi (200 bar), 345 bar on request
Temperature range	-10 °C to 60 °C, up to 150 °C with viton seals
Construction	End covers- mild steel, Tube- mild steel seamless honed, Piston rod- EN-8 hard chrome plated, stainless steel (optional), Piston- mild steel, Mountings- mild steel/cast iron, Seals- PTFE, NBR

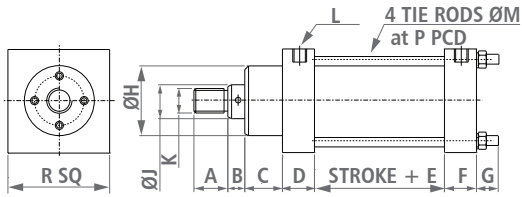
## Ordering code

<b>FHC</b>	<b>S</b>	<b>A</b>	<b>A</b>	<b>1</b>	<b>150</b>	<b>G</b>	<b>0450</b>	<b>X</b>	<b>X</b>	<b>X</b>
J Jack	S Standard	<b>Pressure</b>		1 Front cushion	<b>Bore size</b>	<b>Ram size</b>	<b>Stroke</b>	<b>Type 1</b>	<b>Type 2</b>	<b>Type 3</b>
I Intensifier	C Swing clamp	A 3000 psi	B 5000 psi	2 Rear cushion			A 25.6			
				3 Both cushion	40 150	B 35.1		1 Stroke adjustable	1 Female inches	9 Rod extension
				4 Non cushion	50 200	C 45.8		2 Double ended	2 Female metric	0 Special
<b>Mountings</b>					65 250	D 50.8		3 Large Port	6 Viton seal	
A Front flange rectangular	F Rear clevis round				75 300	E 58.4				
B Rear flange rectangular	G Foot				100	F 74.6				
C Front flange round	H Centre trunnion				125	G 85.8				
D Rear flange round	I Intermediate trunnion					H 103				
E Rear clevis square	J Basic					I 130.5				
						J 181.5				

• Custom made hydraulic cylinder can be made on request.

# Dimensions

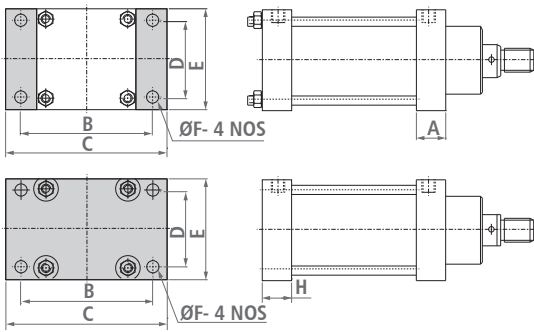
(All dimensions in mm)



## Basic

Bore	40	50	65	75	100	125	150
A	26	26	32	50	50	50	64
B	16	16	19	26	26	26	30
C	47	47	47	61	60	60	60
D	32	35	41	42	52	52	53
*E	65	65	77	85	92	102	107
F	24	26	32	32	45	45	45
G	32	33	33	37	42	46	46
H	68	68	77	100	115	115	146
J	25.6	25.6	35.1	45.8	58.4	58.4	85.8
K	M20X2.5	M20X2.5	M24X3	M33X3.5	M45X4.5	M45X4.5	M70X3
L	G 1/4	G 3/8	G 1/2	G 1/2	G 3/4	G 3/4	G 3/4
M	8	10	10	12	20	24	24
P	60	77	88	105	141.5	178	204
R	69	74	82	102	140	175	198

\* Stroke length above 1000 mm offered with stop tube.

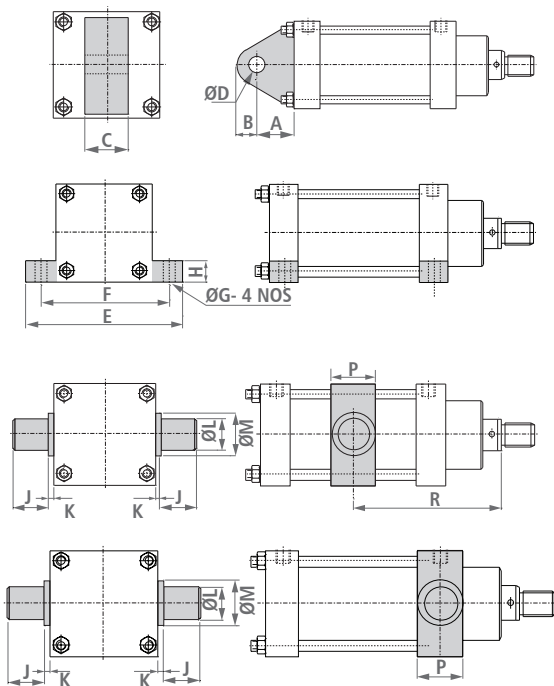


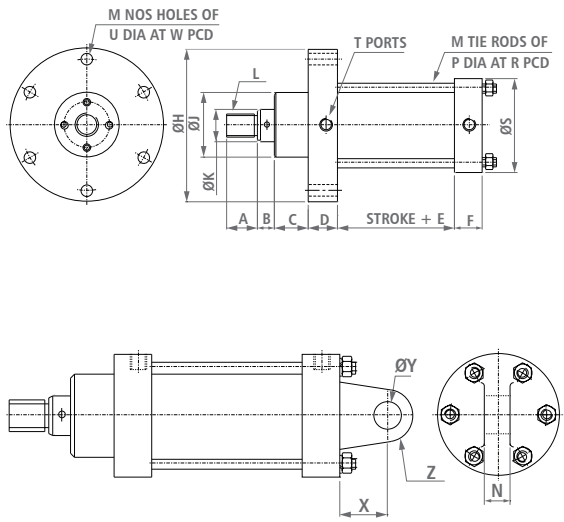
## Front and rear flange mounting

Bore	40	50	65	75	100	125	150
A	35	35	41	42	56	56	58
B	90	100	106	132	188	230	256
C	112	120	130	158	228	280	306
D	47	50	55	75	100	125	148
E	69	74	82	102	140	175	198
F	11	11	11	13	22	26	26
H	36	40	46	46	60	65	65

## Clevis, foot, intermediate trunnion and front trunnion mounting

Bore	40	50	65	75	100	125	150
A	30	36	36	43	62	72	85
B	18	22	22	28	40	50	55
C	20	30	30	40	50	60	65
D	15	20	20	25	35	45	50
E	116	120	130	158	228	280	306
F	96	100	106	132	188	230	256
G	11	11	13	13	22	26	26
H	15	20	25	25	30	40	40
J	30	35	35	44	44	44	50
K	5	5	5	5	5	5	5
L	30	35	35	44	44	44	50
M	40	50	50	60	60	67	85
P	40	50	50	60	60	67	85
R	Customer to specify						

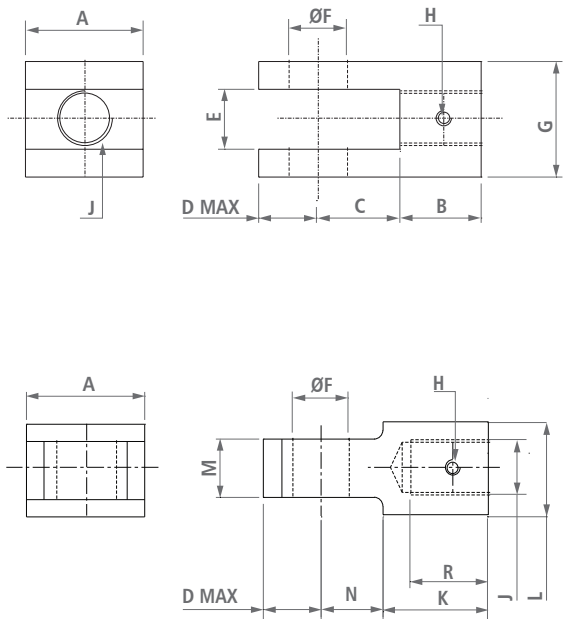




## Front flange and rear clevis mounting, round type

Bore	40	50	65	75	100	125	150	200	250	300
A	26	26	32	50	50	50	64	76	80	120
B	16	16	19	26	26	26	30	30	30	35
C	47	47	47	61	60	60	60	59	59	70
D	32	34	41	42	56	56	58	59	59	62
*E	65	65	77	85	92	102	107	119	129	139
F	24	26	32	32	45	45	45	48	48	62
H	115	145	157	185	265	295	350	415	480	550
J	68	68	77	100	115	115	146	167	195	261
K	25.6	25.6	35.1	45.8	58.4	58.4	85.8	103	130.5	181.5
L	M20X2.5	M20X2.5	M24X3	M33X3.5	M45X4.5	M45X4.5	M70X3	M75X3	M100X3	M150X5
M	6	6	6	6	6	6	6	8	10	16
N	20	30	30	40	50	60	65	75	100	120
P	8	10	10	12	20	20	24	24	24	24
R	60	77	88	105	141.5	172.5	204	267	332	403
S	77	98	110	130	180	210	251	315	380	450
T	G 1/4	G 3/8	G 1/2	G 1/2	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4	G 3/4
U	9	11	11	13	22	22	26	26	26	26
W	96	122	135	160	225	255	305	370	435	505
X	30	36	36	43	62	72	85	120	150	170
Y	15	20	20	25	35	45	50	75	100	120
Z	R 18	R 22	R 22	R 28	R 40	R 50	R 55	R 90	R 120	R 140

## Cylinder accessories



## Rod fork and rod yoke

Bore	40	50	65	75	100	125	150
A	36	44	48	56	80	100	110
B	28	28	35	52	52	52	66
C	23	27	29	33	45	55	60
D	18	22	24	28	40	50	55
E	24	30	30	40	50	60	70
F	15	20	20	25	35	43	50
G	48	65	65	86	106	125	140
H	M8	M8	M8	M8	M8	M10	M10
J	M20X2.5	M20X2.5	M24X3	M33X3.5	M45X4.5	M45X4.5	M70X3
K	35	38	50	70	70	—	90
L	30	30	36	46	60	—	86
M	20	30	30	40	50	60	70
N	27	32	32	36	50	120	68
R	26	26	32	50	50	50	64

• For complete details, refer Product Data Sheet.



# Hydraulic Power Packs and Systems



From simple single pump-motor power packs to sophisticated multi pump-motor hydraulic systems in open loop, we have the expertise and experience of 30 years to design and build hydraulic power systems to meet your requirement.

Using modern-technology hydraulic elements, modular manifold construction, electrical interlocks and the latest design and building techniques in hydraulics, we can provide our customers with energy-efficient, reliable hydraulic power systems. These power systems can be supplied along with hydraulic cylinders and controls for operation.

## Options

- Fixed displacement or variable displacement pump systems
- Conventional, proportional or servo technology valve system
- Flow handling capacities of up to 1000 lpm, pressures up to 700 bar
- All systems are built to cleanliness level of NAS class 6
- Electric servo pump driven system for superior energy efficiency
- Intensifiers for high pressure applications up to 2000 bar are available
- Clean rust-proof stainless steel tank power systems for pharmaceutical, food industry and special applications
- Systems suitable for water glycol and other fire resistant fluids also available



# EPCN Series Hydraulic Cylinder



Forming Tomorrow. Today!

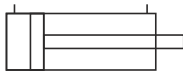


## Features

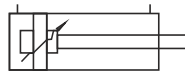
- Cylinders with M.S. end cover and round profile M.S. hone tube.
- Designed suit to die casting.
- PTFE seals and bearing strips ensure perfect sealing and smooth movement.
- Non cushion as a standard feature, cushion (optional)
- Stroke length offered up to 500 mm.
- Working pressure up to 140 bar.
- Viton seal as a standard feature.
- Piston rod is available with thread & coupler type version.
- Front and rear flange mounting are available.
- Construction : Tube - Mild steel seamless tube with ID honed and hard chrome plated.
- Piston rod - EN-8 hard chrome plated.

## Available Types

Non Cushion



Cushion



## Specifications

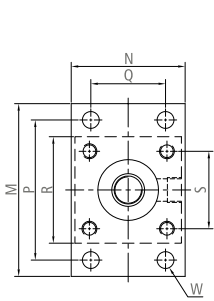
Bore	40, 50, 63, 70, 80, 90, 100, 110, 125, 140, 150, 160, 180mm
Medium	Mineral Oil / Water-Glycol fluid
Design	Piston cylinder cushion / non-cushion version
Pressure range	Up to 140 Bar
Temperature range	Up to 150°C with viton seals
Material	End covers : M.S. ; Piston rod : En-8 hard chrome plated, Piston : M.S. Cylinder tube : M.S. seamless honed ; Mountings : M.S. ; Seals : PTFE, VITON

## Ordering code example

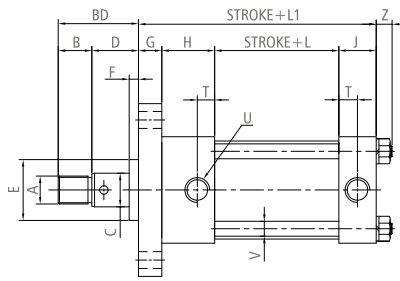
FHC	N	A	A	4	080	E	070	S	X	P
N Series	Pressure	A 140 Bar	Mountings	Cushion	Bore Size	Ram Size	Stroke	Type 1	Type 2	Type 3
			A Front flange rectangular B Rear flange rectangular	1 Front 2 Rear 3 Both 4 Non	40 50 63 70 80 90 100 110 125 140 150 160 180	A 18 G 45 B 22 H 50 C 28 I 56 D 32 J 63 E 36 K 70 F 40 L 80		S Male thread N Coupler type	X PTFE+Viton seal	P BSP thread T BSPT thread 9 Rod extension 0 Special feature

- Custom made hydraulic cylinder can be made on request.

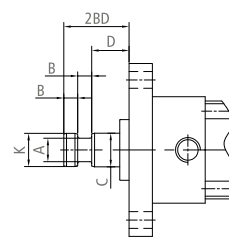
## Dimensions



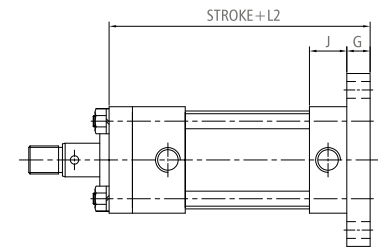
Front/Rear Flange



Thread Type



Coupler Type



Rear Flange

CYL. BORE	ROD Ø C	COUPLER TYPE					THREAD TYPE				E Ø	F	G	H	J	L	L1	L2	M
		A Ø	B	D	2BD	K Ø	A THDS.	B	D	BD									
40	18	13	12.5	30	55	18	M16x1.5P	20	25	45	36	5	18	41	30	68	157	175	118
50	22	16	12.5	35	60	22	M20x1.5P	25	25	50	42	10	20	42	32	68	162	182	135
63	28	20	12.5	35	60	28	M24x1.5P	32	30	62	50	10	20	52	32	77	181	188	160
70	32	22	15	40	70	31.5	M26x1.5P	32	30	62	55	10	20	59	34	81	184	204	170
80	36	25	15	40	70	35.5	M30x1.5P	36	30	66	65	10	25	56.5	40	83	205	228	185
90	40	28	15	45	75	40	M36x1.5P	40	35	75	65	10	25	57	42	90	214	239	190
100	45	31	15	45	75	45	M40x1.5P	45	35	80	70	10	30	58	42	90	220	250	220
110	50	35	20	50	90	50	M45x1.5P	50	35	85	80	10	30	65	42	92	232	257	235
125	56	38	20	50	90	56	M50x1.5P	56	40	96	85	10	32	60	42	102	236	268	255
140	63	43	20	60	100	63	M58x2P	63	40	103	90	10	36	60	45	109	250	286	295
150	70	46	25	60	110	67	M62x2P	67	50	117	105	10	37	64	50	114	265	302	305
160	70	49	25	65	115	70	M65x2P	70	50	120	105	10	41	64	50	114	269	310	335
180	80	55	25	65	115	80	M75x2P	80	55	135	115	10	45	70	56	120	291	336	365

CYL. BORE	N	P	Q	R	S	T	U THDS.	V Ø	W Ø	Z
40	70	94	40	65	45	14	3/8"BSP	10	14	15
50	85	108	50	80	56	15	1/2"BSP	12	14	16
63	100	130	65	90	67	16	1/2"BSP	12	18	16
70	110	138	70	100	74	15	1/2"BSP	12	18	16
80	122	150	80	114	83	18	3/4"BSP	16	18	18
90	128	158	90	120	90	18.5	3/4"BSP	16	18	18
100	145	180	100	136	100	19	3/4"BSP	20	22	22
110	160	196	115	150	110	21	3/4"BSP	20	22	22
125	175	210	125	165	122	21	3/4"BSP	24	26	24
140	195	240	140	185	136	22	3/4"BSP	24	26	30
150	212	254	150	200	150	24	3/4"BSP	27	33	33
160	224	275	160	212	158	24	3/4"BSP	27	33	33
180	250	300	180	236	176	28	3/4"BSP	30	33	37

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# Compact Hydraulic Cylinder



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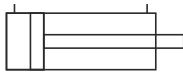


## Features

- Designed suit to die casting.
- PTFE seals and bearing strips ensure perfect sealing and smooth movement.
- Stroke length offered up to 50 mm.
- Non cushion as a standard feature.
- Working pressure up to 140 bar.
- Viton seal as a standard feature.
- Piston rod is available with male; female thread & coupler type version.
- Construction : Compact Steel Body with ID ground and hard chrome plated.
- Piston rod : EN-8 hard chrome plated.

## Available Types

Non Cushion



## Specifications

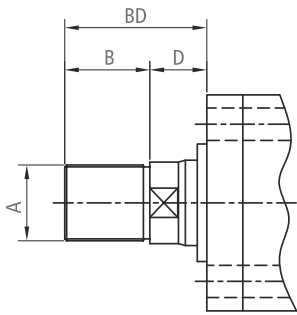
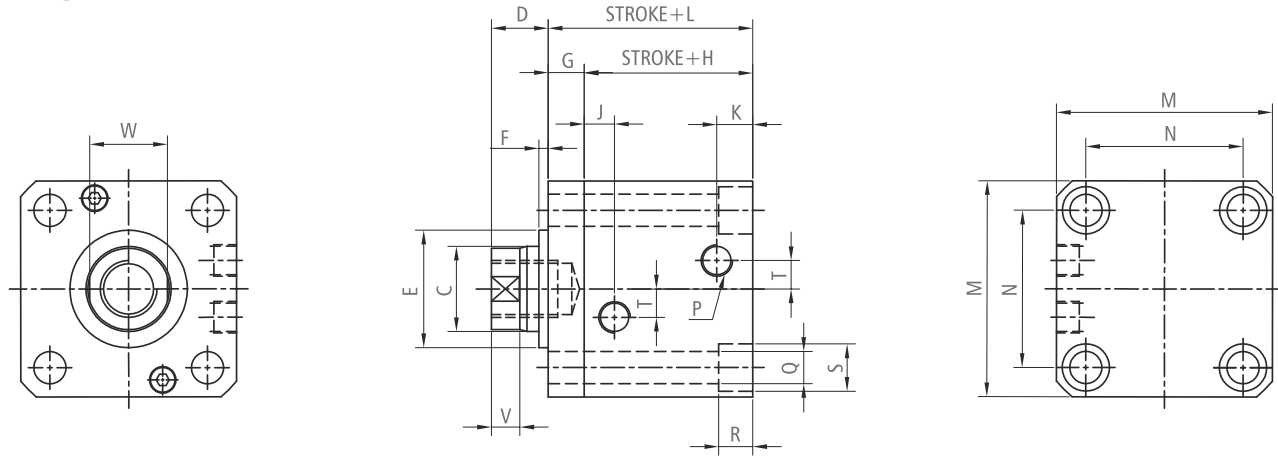
Bore	50, 63, 70, 80, 100mm
Medium	Mineral Oil / Water-Glycol fluid
Design	Piston cylinder non-cushion version
Pressure range	Up to 140 Bar
Temperature range	Up to 150°C with viton seals
Material	Body: Steel; Piston rod : En-8 hard chrome plated, Piston: Steel, Seals : PTFE, VITON

## Ordering code example

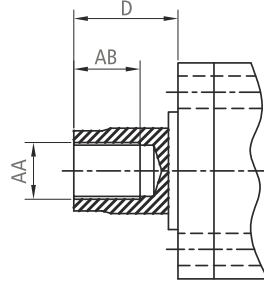
FHC	C	A	K	4	080	G	025	S	X	P					
C Series	Pressure	A 140 Bar	Mountings	K Thru counter holes in cylinder body	Cushion	4 Non	Bore Size	50 63 70 80 100	Ram Size	A 18 E 36 B 22 F 40 C 28 G 45 D 32	Stroke	025	Type 1	Type 2	Type 3
													S Male thread	X PTFE+Viton seal	P BSP thread
													N Coupler type		T BSPT thread
													F Female thread		9 Rod extension
															0 Special feature

- Custom made hydraulic cylinder can be made on request.

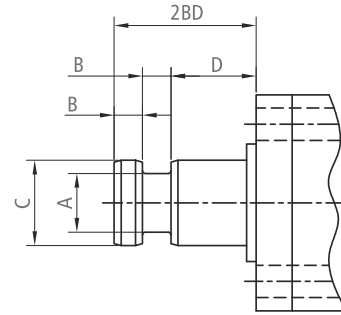
# Dimensions



Male Thread



Female Thread



Coupler Type

\* Pressurization when the cylinder is used as a single item is extremely dangerous because the retainer is held in place only by a temporary joint.

When pressurizing in order to operate the cylinder, please ensure that the retainer is in close contact with the mold that it is kept perfectly in place on the mold by a bolt.

\* The stroke is max. 50mm. Note that, in case of stroke above 50mm please consult our sales representative.

CYL. BORE	ROD Ø C	FEMALE THREAD			MALE THREAD				COUPLER TYPE				E Ø	F	G	H	J	K
		AA THDS.	AB	D	AA THDS.	B	D	BD	A Ø	B	D	2BD						
50	28	M20x2.5P	25	25	M24x1.5P	32	30	62	20	12.5	35	60	43	5	13	42	14	13
63	36	M27x3P	35	25	M30x1.5P	36	30	66	25	15	40	70	52	5	15	47	15.5	14
70	40	M27x3P	35	25	M36x1.5P	40	35	75	28	15	15	75	58	5	17	49	14	16
80	45	M30x3.5P	35	30	M40x1.5P	45	35	80	31	15	45	75	62	5	19	54	15.0	17
100	45	M30x3.5P	35	45	M40x1.5P	45	35	80	31	15	45	75	62	5	35	85	22.5	26

CYL. BORE	L	M	N	P THDS.	Q	R	S	T	V	W
50	55	80	56	1/4"BSP	11	14	18	10	10	24
63	62	94	67	1/4"BSP	14	17	20	12	10	30
70	66	100	74	1/4"BSP	16	16	23	12	10	35
80	73	114	83	3/8"BSP	16	18	23	15	10	40
100	120	136	100	3/8"BSP	20	19	29	XX	15	40

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# Pneumo-Hydraulic Booster Pumps



## Features

- Design of pressure intensification up to 1000 bar
- Works on the principle of different bore area ratios
- Suitable for oil, water and various other fluids
- Available in various bore area ratios
- Option: Double-acting booster pumps with higher displacement per stroke, higher capacity hydraulic tanks
- Application: Pressure testing of valves, pressure vessels, fittings, hoses and pipes. Used as power source for clamp heads, hydraulic actuators and expansion of AC condenser coils

## Specifications

Model No./Ordering Code	FBP1:013T1	FBP1:019T1	FBP1:035T1	FBP1:064T1	FBP1:144T1
Bore area ratio	01:13	01:19	01:35	1:64	1:144
Displacement per stroke (cc)	100	100	50	12	12
Maximum pneumatic input pressure (psi)	100	100	100	100	100
Minimum pneumatic input pressure (psi)	25	25	25	25	25
Hydraulic outlet pressure when operated at 100 psi pneumatic input pressure (psi)	1300	1900	3500	6400	14400
Hydraulic tank capacity (ltr.)	75	75	75	75	75
Type	Pneumo-hydraulic, single-acting, self reciprocating				
Actuation	By means of 4 way 5 port double pilot operated directional control valve				

• For complete details, refer Product Data Sheet.

# Counter Balance Pneumatic Cylinder ( Big Port )



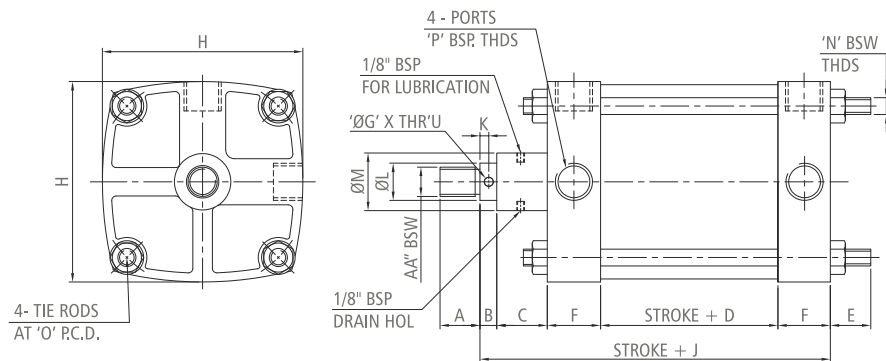
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## Features

- 6 types of mounting are available.
- Non cushion as a standard feature.
- Cast iron heavy-duty end covers oxidised for rust prevention.
- Seamless cold drawn M.S. honed and hard chrome plated internally to gives long life for piston seal.
- Piston rod is ground, micro-finished and hard chrome plated for lasting seal life and anti-corrosion.
- Synthetic rubber seals with an extra long and rigid inner lip provides an anti twist grip on the piston.
- Construction:- Tube - Mild steel seamless tube with ID honed and hard chrome plated,  
Piston rod - EN-8 hard chrome plated.

## Basic Cylinder



CYL. BORE	AA THDS.	A	B	C	D	E	F	G	H	J	K	L h8	M	N THDS	O	P
40	M12x1.75P	19	13	35	45.1	25	22	6.5	50.5	133.5	7.5	19.3	38	M6x1P	54	1/4"
50	M12x1.75P	19	15	40	54	25	22	6.5	63.5	153	7.5	19.3	43	M6x1P	68	1/4"
65	M12x1.75P	19	15	40	57	25	22	6.5	77.5	156	7.5	19.3	43	M6x1P	83	1/4"
75	M20x2.5P	50	15	45	61	30	36	8.2	92	193	8.5	25.6	47	M10x1.5P	99	1/2"
100	M24x3P	60	15	45	61	30	40	8.2	119	201	8.5	25.6	48	M10x1.5P	125	3/4"
125	M30x3.5P	70	19	50	86	40	55	10.2	146	265	10	35.1	60	M12x1.75P	152.5	1"
150	M30x3.5P	70	19	50	79	40	55	10.2	170	258	10	35.1	60	M12x1.75P	179	1"
200	M36x4P	80	19	55	86	45	70	10.2	225	300	10	38.1	65	M20x2.5P	241.5	1 1/2"
250	M36x4P	80	19	55	95	45	85	12.2	278	339	11.5	44.5	76	M20x2.5P	294	2"
300	M36x4P	80	21	55	95	50	85	12.2	330	341	13	50.8	86	M24x3P	351	2"
350	M45x4.5P	80	24	55	130	55	85	16.2	390	379	14	58.4	105	M24x3P	400	2"

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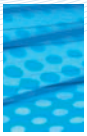
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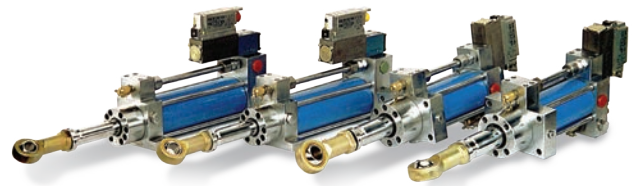
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## Speciality Products



Hydraulic jacks used in construction industry



Servo cylinders for precision control in industrial testing equipment and SPMs



Stainless steel cylinders used in chemical plants, food and pharmaceutical industry



Swing clamp cylinders with locking arrangement and valve stand for machine tools, SPMs, high temperature furnaces, etc.



Large bore single-acting cylinders used in big hydraulic presses



EPCN hydraulic cylinders in bore size 40, 50, 63, 80, 100, 110 and 125 for die casting machines



Compact type hydraulic cylinders in bore size 40, 50, 63, 80, 100, 110 and 125



Special type pneumatic cylinder with manual override

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