

31-33 Series Exd & Exm 3/2 Closed/Open/Universal



Electrical Characteristics

Coil Voltage DC (=):	24v, 110v
Coil Voltage AC 50Hz (~):	110v, 230v
Voltage tolerance:	+10% or -10%
Duty Cycle:	100% ED
Protection Class (Exd):	Exd IIC T6 (-50°C to +40°C) (IP67 BS EN 60529)
Protection Class (Exm):	Exm II 2 GT5 (-20°C to +40°C) (IP65 BS EN 60529)
Electrical Connection (Exd):	M20 x 1.5-6HAS 1721 I.S.O METRIC FINE
Electrical Connection (Exm):	M16 x 1.5-6H AS 1721 I.S.O METRIC FINE + 2m lead
Coil Insulation:	Class H (BS EN 60085) 180°C (E5 type)
Power Rating:	14.5 watts, 19VA

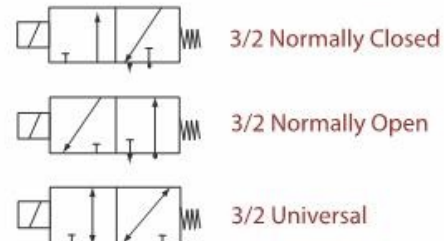
Specifications

Function:	31 Series 3 way Normally Closed, Energise to open 32 Series 3 way Normally Open, Energise to close 33 Series 3 way Universal
Ambient Temperature:	-10°C to +40°C
Maximum Viscosity:	115 SSU
Body Material 3/8" - 1":	Brass CZ122
Body Material 1 1/4" - 2":	Bronze DIN1705
Flange Tube:	Stainless Steel 303
Plunger and Top Stop:	Stainless Steel 430FR
Springs:	Stainless Steel 302
Seal Material (Std):	Nitrile (BunaN)
Connection Type (Std):	BS21
Shading Coil:	Copper

Qn = Flow of air in litres/min @ 20°C. Input 6 bar Δp of 1 bar

Features & Benefits

- Ideal for Mixing, Diverting and Venting Applications
- Compact Valve Design
- Wide Range of Available Orifices
- Zero Pressure Rated
- Choice of Valve Body Material and Seals
- Response time 5-25ms



Features

EXD

Pipe Size	Qn	OPD (Bar)		P.Max Bar	Orifice mm	Cat No.
		AC Voltages	DC Voltages			
1/8"	34	0 - 10.6	0 - 10.6	60	1.60	31112159
1/8"	116	0 - 7.0	0 - 7.0	60	2.40	31122159
1/4"	34	0 - 10.6	0 - 10.6	60	1.60	31212159
1/4"	116	0 - 7.0	0 - 7.0	60	2.40	31222159
1/8"	34	0 - 10.0	0 - 10.0	60	1.60	32112159
1/8"	116	0 - 5.4	0 - 5.4	60	2.40	32122159
1/4"	34	0 - 10.0	0 - 10.0	60	1.60	32212159
1/4"	116	0 - 5.4	0 - 5.4	60	2.40	32222159
1/8"	34	0 - 7.5	0 - 7.5	60	1.60	33112159
1/8"	116	0 - 3.5	0 - 3.5	60	2.40	33122159
1/4"	34	0 - 7.5	0 - 7.5	60	1.60	33212159
1/4"	116	0 - 3.5	0 - 3.5	60	2.40	33222159

EXM

Pipe Size	Qn	OPD (Bar)		P.Max Bar	Orifice mm	Cat No.
		AC Voltages	DC Voltages			
1/8"	34	0 - 10.6	0 - 10.6	60	1.60	31112179
1/8"	116	0 - 7.0	0 - 7.0	60	2.40	31122179
1/4"	34	0 - 10.6	0 - 10.6	60	1.60	31212179
1/4"	116	0 - 7.0	0 - 7.0	60	2.40	31222179
1/8"	34	0 - 10.0	0 - 10.0	60	1.60	32112179
1/8"	116	0 - 5.4	0 - 5.4	60	2.40	32122179
1/4"	34	0 - 10.0	0 - 10.0	60	1.60	32212179
1/4"	116	0 - 5.4	0 - 5.4	60	2.40	32222179
1/8"	34	0 - 7.5	0 - 7.5	60	1.60	33112179
1/8"	116	0 - 3.5	0 - 3.5	60	2.40	33122179
1/4"	34	0 - 7.5	0 - 7.5	60	1.60	33212179
1/4"	116	0 - 3.5	0 - 3.5	60	2.40	33222179

Morrel International S.r.l.

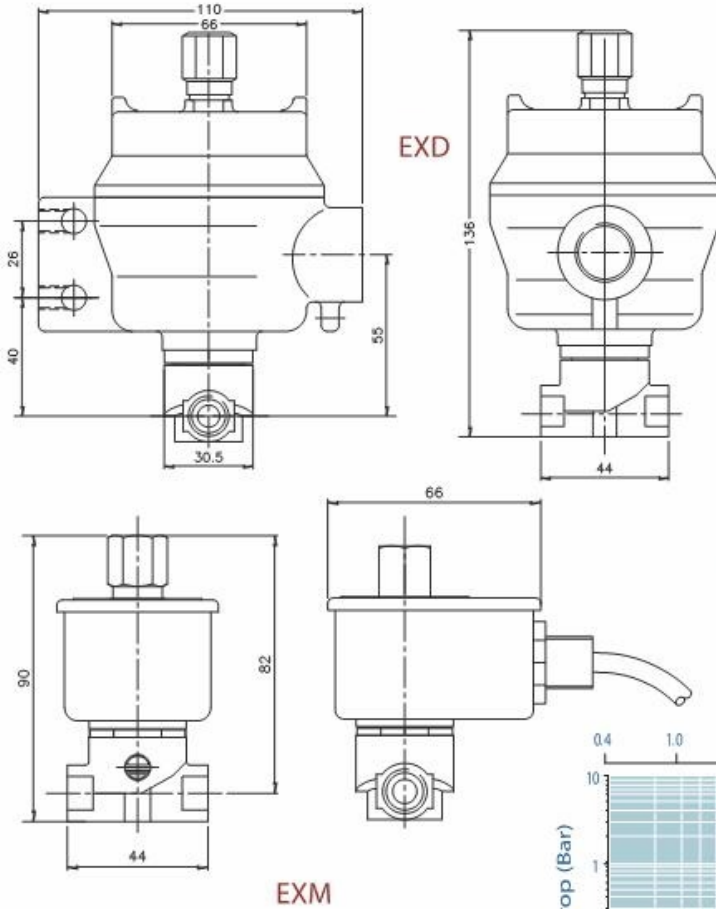
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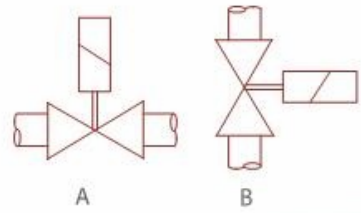
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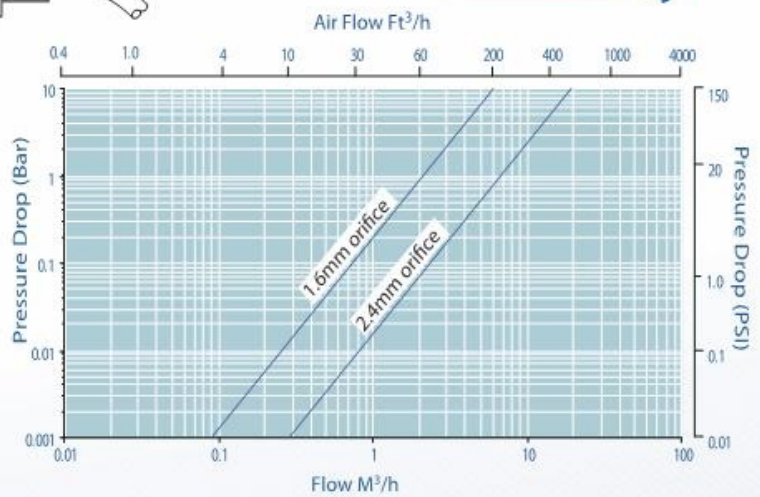
Dimensions

- Note:**
- Tested in accordance with BS EN 12266-1
 - PED Compliant
 - Solenoid Coil may be rotated to any angle
 - Dimensions given in mm

Mounting



Flow Data



How to use the Flow Chart

1. Select the required flow.
2. Note the corresponding orifices/model and pressure drop.
3. Using orifices/model, (refer to the Features panel) for technical information

Options

Solenoid Enclosure		
Protection Class	Electrical Entry	Ambient
EExd T6 (IP67)	M20 X 1.5 Female	-50°C to +40°C
EExd T4 (IP67)	M20 X 1.5 Female	-50°C to +70°C
Exm T5 (IP65)	M16 X 1.5 Male FLYING LEAD	-20°C to +40°C

Body Material
Stainless Steel 316

Seal Material	Media Temperature Range
EPDM	-50°C to +120°C
Viton	-20°C to +150°C
PTFE	-200°C to +180°C

See solenoid enclosures for specific details
CSA and IECEx options

See corrosion reference guide and
sealing solutions for material compatibility