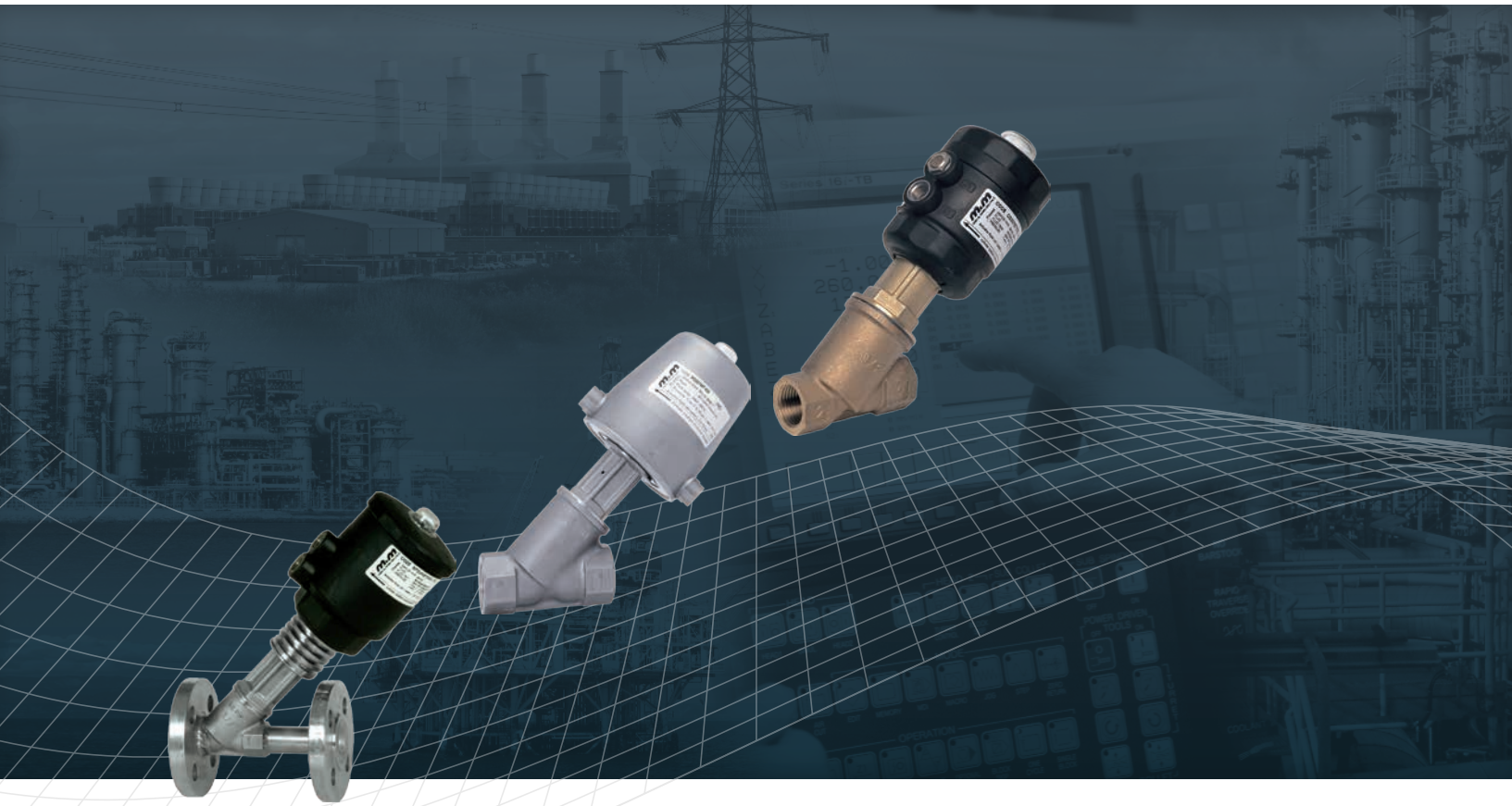
rotork®
Instruments

Piston Actuated Valves

USA



M&M International
A rotork Brand

Keeping the World Flowing

rotork®

Keeping the World Flowing

RELIABLE OPERATION WHEN IT MATTERS

Assured reliability for critical applications and environments.

Whether used 24/7 or infrequently, Rotork products will operate reliably and efficiently when called upon.

QUALITY-DRIVEN GLOBAL MANUFACTURING

Products designed with 60 years of industry and application knowledge.

Research and development across all our facilities ensures cutting edge products are available for every application.

CUSTOMER-FOCUSED SERVICE WORLDWIDE SUPPORT

Solving customer challenges and developing new solutions.

From initial enquiry through to product installation, long-term after-sales care and Client Support Programmes (CSP).

LOW COST OF OWNERSHIP

Long-term reliability prolongs service life.

Rotork helps to reduce long term cost of ownership and provides greater efficiency to process and plant.

Piston Actuated Valves

COMPREHENSIVE PRODUCT RANGE SERVING MULTIPLE INDUSTRIES

Improved efficiency, assured safety and environmental protection.

Rotork products and services are used in the Power, Oil & Gas, Water & Wastewater, HVAC, Marine, Mining, Food & Beverage, Pharmaceutical and Chemical industries around the world.

MARKET LEADER TECHNICAL INNOVATOR

The recognised market leader for 60 years.

Our customers have relied upon Rotork for innovative solutions to safely manage the flow of liquids, gases and powders.

GLOBAL PRESENCE LOCAL SERVICE

Global company with local support.

Manufacturing sites, offices and Centres of Excellence throughout the world provide unrivalled customer services and fast delivery.

CORPORATE SOCIAL RESPONSIBILITY

A responsible business leads to being the best business.

We are socially, ethically, environmentally responsible and committed to embedding CSR across all our processes and ways of working.

M&M Piston Valves – Features and Benefits

Standard versions with high performing components: *Covering a wide range of industrial applications with reduced stock*

Valve body with angle seat design: *High flow rate, low pressure drop*

Standard seal materials as FKM and PTFE: *Enhanced compatibility with fluids and resistance at high temperatures*

Stainless steel valves with universal design: *Suitable for vacuum applications*

Bi-Directional version: *Waterhammer-free installation for liquid fluids*

M&M pilot solenoid valves with banjo bolt: *User-friendly, quick*

Wide choice of connections: *Screw, weld, flange, clamp connections, spigots*

Actuator with built-in exhaust filter: *Reduced noise, longer life*

Actuator housing rotation 360°: *Easy and quick installation*

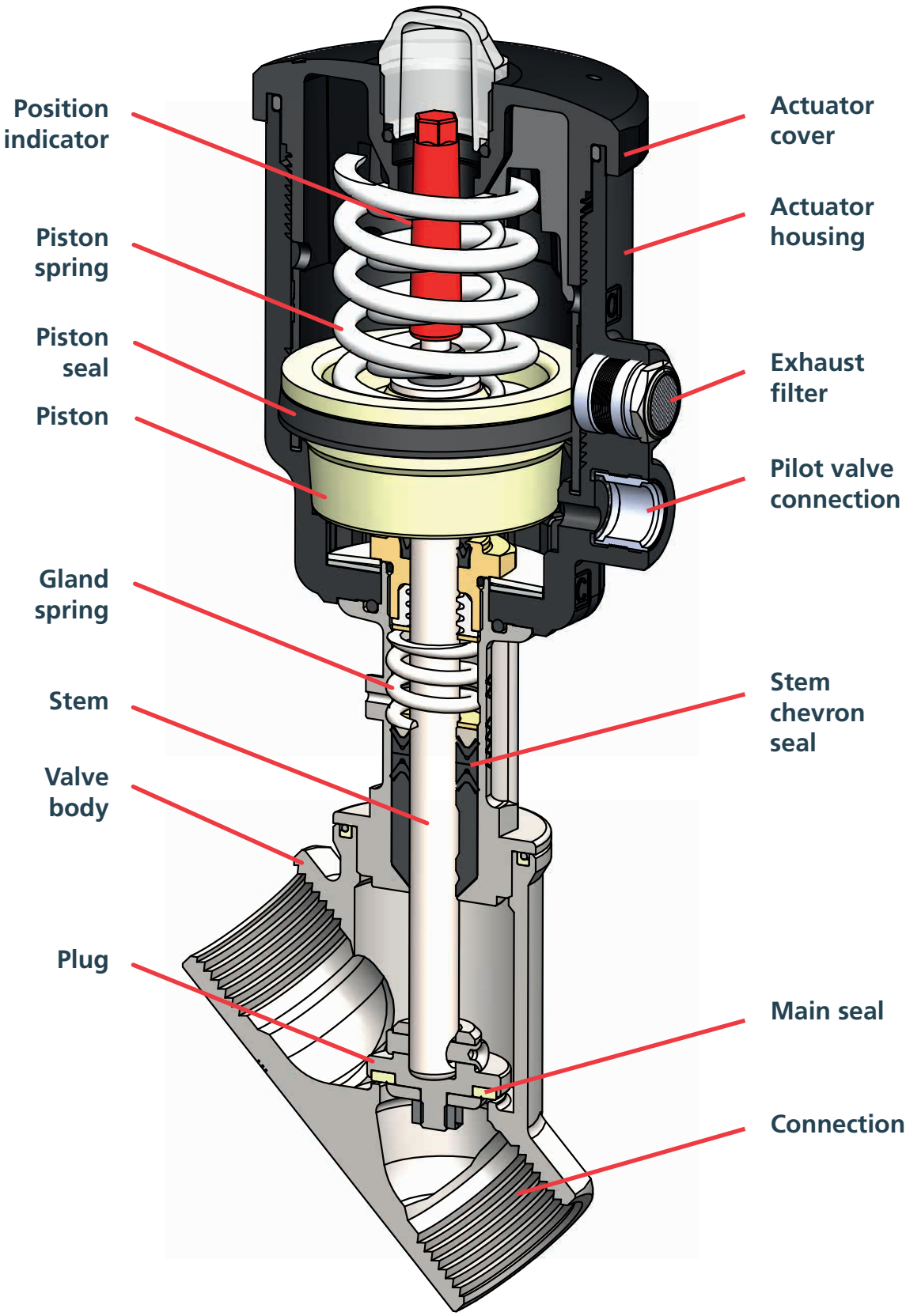
Position indicator: *Instantly visible valve position*

Self-registering gland and chevron packing: *Longer life*

M&M International
A rotork Brand

Backed by Rotork Global Support

M&M Piston Valves – Scheme of Components



Valve Selection

Piston actuated valves use an external control medium to pilot the actuator, where a piston is directly connected to the main seal that closes onto the main orifice, thereby controlling the flow of liquids and gases.

They are highly recommended under the following conditions:

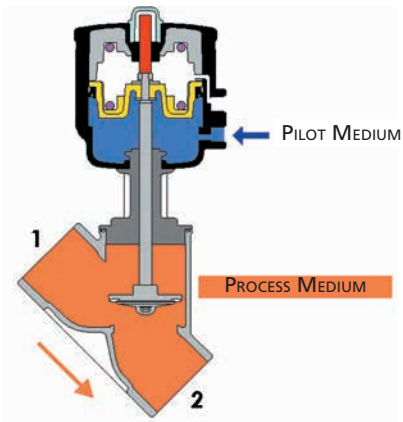
- Media containing dirt particles
- Highly viscous media (up to 600 cST (80°E) - 1 centistoke = 1 mm²/s)
- High flow volumes
- High temperatures
- Damp environments or hazardous locations

Flow rate values shown in the selection tables are subject to a tolerance of ± 15%.

M&M Piston Actuated Valve Versions

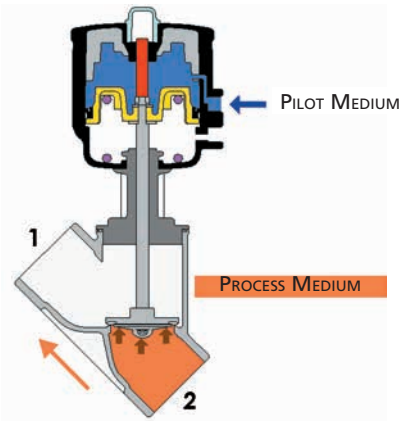
NC Valve – Flow over seat

The pressure of the pilot medium opens the valve, the spring closes it.



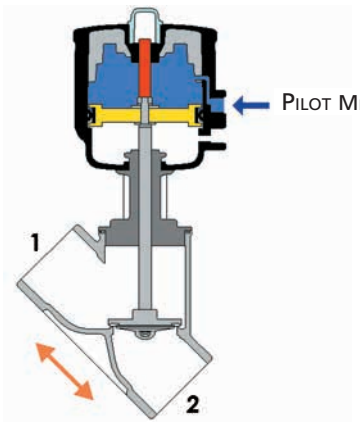
NO Valve – Flow under seat

The pressure of the pilot medium closes the valve, the spring force opens it.



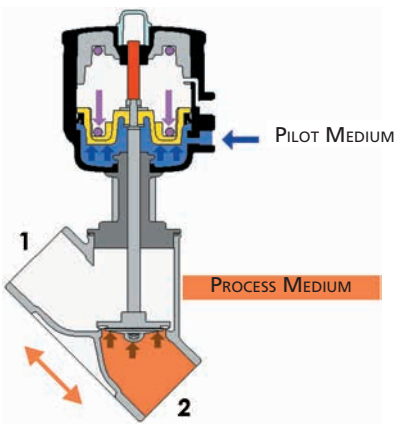
DOUBLE ACTING Valve – Flow over seat or under seat

The pilot medium opens and closes the valve. No springs. Two 3/2 pilot valves required.



Bi-Directional NC Valve – Flow over seat or under seat

The pressure of the pilot medium opens the valve, the spring closes it. There are two springs and the valve can be used both over seat and under seat.

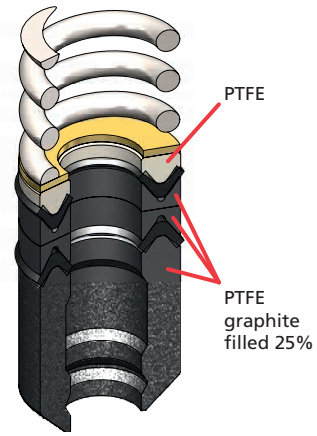


M&M piston actuated valves have been upgraded over the years both by design improvements as well as by using better performing materials. Below you will find some highlights about the outstanding features of M&M piston actuated valves.

Main seal material:

In 2004 virgin PTFE was replaced by a modified PTFE and some design changes in the main seal were introduced. Modified PTFE has a better particle fusion, which gives the following improved features in comparison with PTFE:

- Lower porosity and permeability
- Fewer void spaces
- Higher elasticity
- Reduced deformation under load
- Better chemical resistance to controlled media
- Smoother surface and improved design flexibility



Bonnet chevron packing:

Standard bonnet seals consist of 2 'V'-shaped FKM gaskets and a package of 25% graphite-filled PTFE gaskets.

Stainless steel cast parts:

All our stainless steel series are fitted with bodies and bonnets cast specifically to Norm ASME SA351/351M GRADE CF3M, which is the Alloy Casting Institute designation for cast AISI 316L (normally used for wrought materials).

ACI designation is adopted by many standards issuing organizations, such as ASTM (for instance in ASME B 31.3 for stainless steel castings , appendix B and D, concerning recommended selection of materials for valves manufacturing). Our cast AISI 316L has a content of 10% nickel, which gives improved ductility and strength.

This type of stainless steel can be compared to EN 1.4409 with a good approximation.

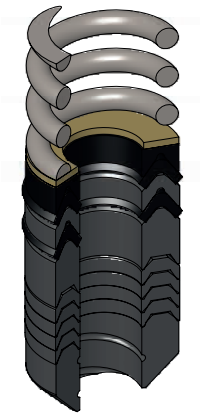
All our stainless steel cast parts bear a heat number identifying the basic material composition. Such details are stated in the casting certificate 3.1b, that can be ordered with the valves at an additional fee.

High temperature piston actuated valves:

M&M has developed a piston actuated valve version that can be used up to 392° F (200° C), provided that the valve pressure limits are respected.

The main differences as regards materials and design are the following:

- Change of the actuator material: from standard PA6 to PA66 filled with 30% fibreglass
- All valves with DN > 25 with fixed plug design (to withstand turbulence caused by steam at high speed)
- Special design of bonnet chevrons, all are made of 25% graphite-filled PTFE



Body Pressure (PN) chart and PED classification:

M&M valve bodies bear a PN value which is to be intended as the body design pressure in bar. We use this value as a reference to perform burst tests on the bodies and bonnets upon quality control acceptance. This value is not related to the applicable medium pressure once the valve is in operation. The correct medium pressure is indicated on the valve label and is specific for each valve size and function.

Product Index

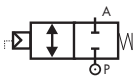
Valve	Code	Type of Connection	Actuator	Page
	**BLG** - (Bi-Directional)	G parallel thread	Ø 32 mm	6
	**CN**- (Normally Closed) **RCN**- (Normally Open) **BCN**- (Bi-Directional) - NC **DCN**- (Double Acting)	NPT / G parallel thread	Ø 45 mm	7
	**CN**- (Normally Closed) **RCN**- (Normally Open) **BCN**- (Bi-Directional) - NC **DCN**- (Double Acting)	NPT / G parallel thread	Ø 63 mm Ø 90 mm	8 - 9
	**Manual Operation** **CN**-	NPT / G parallel thread	-	10
	**Manual Operation** **PN**-	NPT / G parallel thread	-	10
	**PN**- (Normally Closed) **RPN**- (Normally Open) **BPN**- (Bi-Directional) - NC **DPN**- (Double Acting)	NPT / G parallel thread	Ø 45 mm	11
	**PN**- (Normally Closed) **RPN**- (Normally Open) **BPN**- (Bi-Directional) - NC **DPN**- (Double Acting)	NPT / G parallel thread	Ø 63 mm Ø 90 mm	12 - 13
	**PW-** (Normally Closed) **RPW-** (Normally Open) **BPW-** (Bi-Directional) - NC	BUTT WELD: DIN 11850-2 pipe	Ø 45 mm Ø 63 mm Ø 90 mm	14 - 15
	**PD- / PA**- (Normally Closed) **RPD- / RPA-** (Normally Open) **BPD- / BPA-** (Bi-Directional) - NC	FLANGED: BS 4504 EN1092 shape B ANSI B16.5 class 150	Ø 63 mm Ø 90 mm	16 - 17
	**PC- / PP-** (Normally Closed) **RPC- / RPP-** (Normally Open) **BPC- / BPP-** (Bi-Directional) - NC	CLAMP: ISO 2852 ASME BPE	Ø 45 mm Ø 63 mm Ø 90 mm	18 - 19
	**High Temperature Version** **PN**- (Normally Closed) **RPN**- (Normally Open) **BPN**- (Bi-Directional) - NC	NPT / G parallel thread / BUTT WELD FLANGED / CLAMP	Ø 63 mm Ø 90 mm	20 - 21

Product Index

Valve	Code	Type of Connection	Actuator	Page
	**PR**- (Normally Closed) **RPR**- (Normally Open) **BPR**- (Bi-Directional) - NC	THREADED SPIGOTS	Ø 45 mm Ø 63 mm Ø 90 mm	22 - 23
	**Atex Piston Actuated Valve** **PN**- (Normally Closed) **RPN**- (Normally Open) **BPN**- (Bi-Directional) - NC	NPT / G parallel thread	Ø 63 mm Ø 90 mm	24 - 25
	**Control Piston Actuated Valve** **ZPN**- (flow always under seat)	NPT / G parallel thread	Ø 63 mm Ø 90 mm	26 - 28

Options/Accessories	Code	Description	Page
	E.g. code PN205STWI0 (assembled ex-factory)	Travel Switch Option	29
	E.g. code PN205STWR0 (assembled ex-factory)	Stroke Regulator Option	29
	85703000-/85703100-/85704000- /85704100-	Position Module	30
	85701800-	Travel Switch Conversion Kit for Piston Actuated Valve	31
	68000100- / 68000200-	Magnetic Switch For Conversion Kit	31
	B356CVCW/B326CVCW/ D326CVEW	Pilot Solenoid Valves With Banjo Bolt	32 - 35
-	Various Part Numbers	Seal Kits	36 - 39

2/2 Way Compact Piston Actuated Valve G 3/8" to 1/2" – Brass

Specifications	
Type: BLG NC Bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, air, inert fluids, inert gases
Media Temperature	14° to 194° F (-10° C to +90° C)
Ambient Temperature	14° to 176° F (-10° C to +80° C)
Pilot Media	Filtered air
Actuator Body Material	Brass C37700 UNS Designation (CW617N EN12165)
Body Material	Brass C37700 UNS Designation (CW617N EN12165)
Piston Material	Aluminium
Stem Material	Stainless Steel AISI 316L
Main Seal Material	NBR
Frequency	6 Cycles per minute

Piston valve with external pneumatic actuation, compact and solid construction.

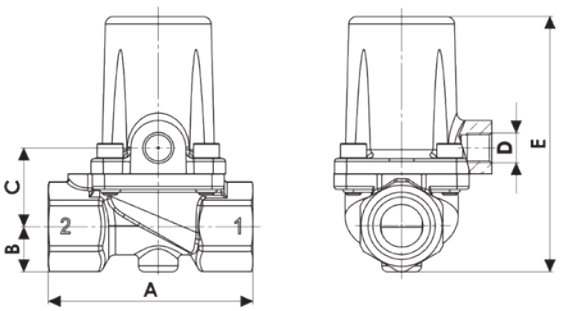
Suitable for neutral media with particles in suspension, on applications where a standard pilot operated solenoid valve may become clogged.

Features and Benefits

- Waterhammer-free design (with flow direction 2→1)
- Swift installation with banjo bolt pilot solenoid valve B356CVCMK (see pages 32/33)
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

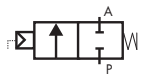
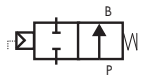
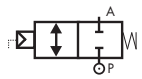
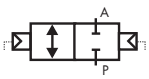
Options Available
Electroless nickel plating treatment (e.g. code BLN205DBW0K)

Dimensions & Weights		17/32 orifice (DN13.5)	17/32 orifice (DN13.5)
G connection	**ISO 228-1**	**3/8"**	**1/2"**
A	in (mm)	2.64 (67)	2.64 (67)
B	in (mm)	0.59 (15)	0.59 (15)
C	in (mm)	1 (25.5)	1 - 25.5)
D	ISO 228-1	1/8" G	1/8" G
E	in (mm)	3.31 (84)	3.31 (84)
Weight	Lb (kg)	1.21 (0.55)	1.15 (0.52)



Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure Min.	Working Pressure Max.	Flow Direction	Pilot Pressure Min.	Pilot Pressure Max.	Actuator Ø	Function
Code	**ISO 228G**	**in (mm)**	**gpm (m^3/h)**	**psi (bar)**	**psi (bar)**	**—**	**psi (bar)**	**psi (bar)**	**in (mm)**	**—**
BLG204DBW00	3/8"	17/32 (13.5)	3.93 / 3.16 (3.36 / 2.70)	0	145 (10)	1 → 2 / 2 → 1	65 (4.5)	145 (10)	1.26 (32)	NC bidirectional
BLG205DBW00	1/2"	17/32 (13.5)	4.91 / 3.86 (4.20 / 3.30)	0	145 (10)	1 → 2 / 2 → 1	65 (4.5)	145 (10)		

2/2 Way Piston Actuated Valve 1/2 to 1 NPT, Compact Version – Bronze

Specifications	
Type: CN NC flow over seat 1 → 2	
Type: RCN NO flow under seat 2 → 1	
Type: BCN NC Bi-directional flow over/under seat 1 → 2 / 2 → 1	
Type: DCN DA flow over/under seat 1 ⇔ 2	
Media	Water, oil, air, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Body Material	Bronze C83600 UNS Designation (CB491K EN1982)
Bonnet Material	Brass C37700 UNS Designation (CW617N EN12165)
Main Seal Material	PTFE
Position Indicator	As standard

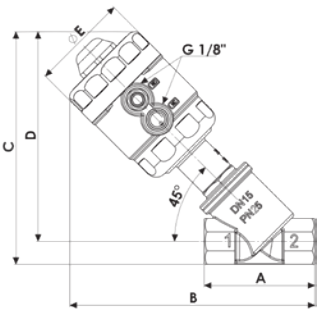
Features and Benefits

- Waterhammer-free design for BCN - DCN (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available
G parallel thread - ISO 228-1 (e.g code CG205CTW00)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33

Dimensions & Weights		DN15	DN20	DN25
Actuator	**in (mm)**	**Ø 1.77 (45)**		
A	in (mm)	2.56 (65)	2.95 (75)	3.54 (90)
B	in (mm)	5.67 (144)	5.87 (149)	6.61 (168)
C	in (mm)	5.35 (136)	5.59 (142)	6.34 (161)
D	in (mm)	4.84 (123)	4.96 (126)	5.55 (141)
E	in (mm)	2.24 (57)	2.24 (57)	2.24 (57)
Weight	Lb (kg)	1.76 (0.8)	1.98 (0.9)	2.43 (1.1)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
19/32 (DN15) to 63/64 (DN25)	SEP	SEP

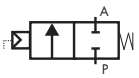
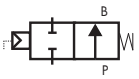
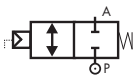
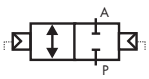
⚠ WARNING!
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	**NPT**	**in (mm)**	**gpm (m³/h)**	**psi (bar)**	**psi (bar)**	**—**	**psi (bar)**	**psi (bar)**	**in (mm)**	**—**
CN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16)	1 → 2	55 (3.8)	145 (10)	1.77 (45)	NC
CN206CTX00	3/4	25/32 (20)	9.34 (8)	0	232 (16)	1 → 2	84 (5.8)	145 (10)		
CN207CTY00	1	63/64 (25)	14.60 (12.5)	0	232 (16)	1 → 2	94 (6.5)	145 (10)		
RCN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16)	2 → 1	58 (4)	145 (10)	1.77 (45)	NO
RCN206CTX00	3/4	25/32 (20)	9.34 (8)	0	232 (16)	2 → 1	90 (6.2)	145 (10)		
RCN207CTY00	1	63/64 (25)	14.60 (12.5)	0	232 (16)	2 → 1	128 (8.8)	145 (10)		
BCN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16) / 232 (16)	1 → 2 / 2 → 1	90 (6.2) / 73 (5)	145 (10)	1.77 (45)	NC bidirectional
BCN206CTX00	3/4	25/32 (20)	9.34 (8)	0	232 (16) / 102 (7)	1 → 2 / 2 → 1	126 (8.7) / 73 (5)	145 (10)		
BCN207CTY00	1	63/64 (25)	14.60 (12.5)	0	232 (16) / 73 (5)	1 → 2 / 2 → 1	138 (9.5) / 73 (5)	145 (10)		
DCN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16) / 232 (16)	1 ⇔ 2	44 (3)	145 (10)	1.77 (45)	DA
DCN206CTX00	3/4	25/32 (20)	9.34 (8)	0	232 (16) / 232 (16)	1 ⇔ 2	73 (5)	145 (10)		
DCN207CTY00	1	63/64 (25)	14.60 (12.5)	0	232 (16) / 232 (16)	1 ⇔ 2	123 (8.5)	145 (10)		

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts

2/2 Way Piston Actuated Valve 1/2 to 2 NPT, Regular Version – Bronze

Specifications	
Type: CN NC flow over seat 1 → 2	
Type: RCN NO Flow Under Seat 2 → 1	
Type: BCN NC Bi-Directional Flow Over/Under Seat 1 → 2 / 2 → 1	
Type: DCN DA Flow Over/Under Seat 1 ↔ 2	
Media	Water, oil, air, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Body Material	Bronze C83600 UNS Designation (CB491K EN1982)
Bonnet Material	Brass C37700 UNS Designation (CW617N EN12165)
Main Seal Material	PTFE
Position Indicator	As standard

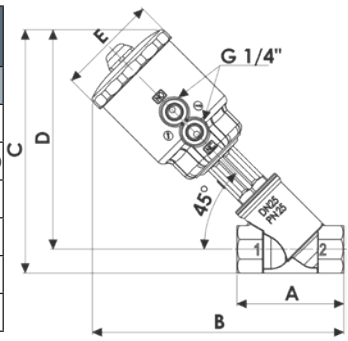
Features and Benefits

- Waterhammer-free design for BCN - DCN
  (with flow direction 2→1)
- Actuator housing rotation 360°

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code CN205STWR0)
Travel switch assembled ex-factory, see page 29 (e.g. code RCN209STKJ0)
G parallel thread - ISO 228-1 (e.g. code BCG207LTY00)
Design for vacuum applications up to 8 mTorr / 10^{-2} mbar (e.g. code DCG210STJ0V)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A	in (mm)	2.56 (65)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	7.56 (192)	7.80 (198)	8.35 (212)	8.86 (225)	9.06 (230)	9.76 (248)	8.78 (223)	9.21 (234)	9.41 (239)	10.12 (257)
C	in (mm)	7.24 (184)	7.56 (192)	8.07 (205)	8.54 (217)	8.86 (225)	9.49 (241)	8.50 (216)	8.94 (227)	9.25 (235)	9.84 (250)
D	in (mm)	6.73 (171)	6.93 (176)	7.28 (185)	7.60 (193)	7.80 (198)	8.15 (207)	7.72 (196)	7.95 (202)	8.15 (207)	8.50 (216)
E	in (mm)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	4.41 (112)	4.41 (112)	4.41 (112)	4.41 (112)
Weight	Lb (kg)	2.65 (1.2)	2.87 (1.3)	3.31 (1.5)	4.19 (1.9)	4.63 (2.1)	6.39 (2.9)	4.41 (2.0)	5.29 (2.4)	5.73 (2.6)	7.28 (3.3)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
CN - RCN - BCN - DCN	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	N/A	SEP
	2 (DN50)	N/A	SEP

⚠ **WARNING!**
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

2/2 Way Piston Actuated Valve 1/2 to 2 NPT, Regular Version – Bronze

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	NPT	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
CN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	NC
CN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
CN207STY00	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
CN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
CN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
CN210STJ00	2	2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
CN207LTY00	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
CN208LTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
CN209LTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
CN210LTJ00	2	2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RCN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	NO
RCN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RCN207STY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RCN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RCN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RCN210STJ00	2	2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RCN207LTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RCN208LTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RCN209LTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RCN210LTJ00	2	2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BCN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	NC bidirectional
BCN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BCN207STY00	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BCN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BCN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	174 (12) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BCN210STJ00	2	2 (50)	66.69 (57)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BCN207LTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BCN208LTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BCN209LTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BCN210LTJ00	2	2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		
DCN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	1 ↔ 2	26 (1.8)	29 (2)	2.48 (63)	DA
DCN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	1 ↔ 2	29 (2)	55 (3.8)		
DCN207STY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	1 ↔ 2	44 (3)	73 (5)		
DCN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 ↔ 2	65 (4.5)	87 (6)		
DCN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 ↔ 2	94 (6.5)	102 (7)		
DCN210STJ00	2	2 (50)	66.69 (57)	0	174 (12)	1 ↔ 2	131 (9)	145 (10)		

Notes

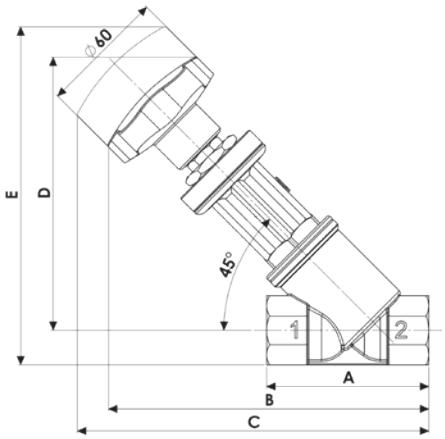
1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts

Manual Angle Seat Valve 1/2 to 2 NPT – Bronze (CN) & Stainless Steel (PN)

Specifications	
Function **Flow over / under seat**	Type CN / PN
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Body Material (CG)	Bronze C83600 UNS Designation (CB491K EN1982)
Bonnet Material (CG)	Brass (CW617N EN12165)
Body Material (PG)	Cast AISI 316L (CF3M), see page 39
Bonnet Material (PG)	Cast AISI 316L (CF3M), see page 39
Main Seal Material	PTFE

Options Available
G parallel thread - ISO 228-1 (e.g. code PG2070TY00)

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Pipe Size	**NPT**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**
A	in (mm)	2.56 (65)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	5.59 (142)	5.83 (148)	6.42 (163)	6.89 (175)	7.09 (180)	7.80 (198)
C	in (mm)	5.91 (150)	6.10 (155)	6.77 (172)	7.40 (188)	7.60 (193)	8.35 (212)
D	in (mm)	4.76 (121)	4.96 (126)	5.31 (135)	5.63 (143)	5.83 (148)	6.18 (157)
E	in (mm)	5.55 (141)	5.94 (150)	6.50 (165)	7.13 (181)	7.44 (189)	8.07 (205)
Weight	Lb (kg)	1.65 (0.75)	1.76 (0.80)	2.65 (1.20)	3.97 (1.80)	4.63 (2.10)	6.83 (3.10)

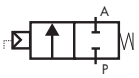
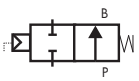
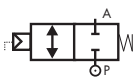
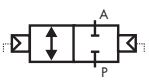


Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction
Code	**NPT**	**in (mm)**	**gpm (m^3/h)**	**psi (bar)**	**psi (bar)**	**—**
CN2050TW00	1/2	19/32 (15)	6.11 (5.22)	0	362 (25)	1 ↔ 2
CN2060TX00	3/4	25/32 (20)	11.51 (9.84)	0	362 (25)	1 ↔ 2
CN2070TY00	1	63/64 (25)	18.25 (15.60)	0	362 (25)	1 ↔ 2
CN2080TZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	362 (25)	1 ↔ 2
CN2090TK00	1 1/2	1 37/64 (40)	49.14 (42)	0	362 (25)	1 ↔ 2
CN2100TJ00	2	2 (50)	64.30 (54.96)	0	232 (16)	1 ↔ 2
PN2050TW00	1/2	19/32 (15)	6.11 (5.22)	0	580 (40)	1 ↔ 2
PN2060TX00	3/4	25/32 (20)	11.51 (9.84)	0	580 (40)	1 ↔ 2
PN2070TY00	1	63/64 (25)	18.25 (15.60)	0	580 (40)	1 ↔ 2
PN2080TZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	362 (25)	1 ↔ 2
PN2090TK00	1 1/2	1 37/64 (40)	49.14 (42)	0	362 (25)	1 ↔ 2
PN2100TJ00	2	2 (50)	64.30 (54.96)	0	232 (16)	1 ↔ 2

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)

2/2 Way Piston Actuated Valve 1/2 to 3/4 NPT, Compact Version – Stainless Steel

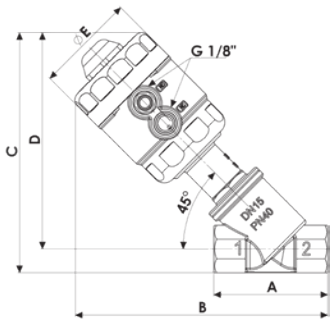
Specifications	
Type: PN NC flow over seat 1 →2	
Type RPN: NO flow under seat 2 → 1	
Type: BPN NC bi-directional flow over/under seat 1 →2 / 2 → 1	
Type: DPN DA flow over/under seat 1 ⇔ 2	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

- Waterhammer-free design for BPN - DPN (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available	Accessories
G parallel thread - ISO 228-1 (e.g. code PG205CTW00)	Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)
Actuator	**in (mm)**	**Ø 1.77 (45)**	
A	in (mm)	2.56 (65)	2.95 (75)
B	in (mm)	5.67 (144)	5.87 (149)
C	in (mm)	5.35 (136)	5.59 (142)
D	in (mm)	4.84 (123)	4.96 (126)
E	in (mm)	2.24 (57)	2.24 (57)
Weight	Lb (kg)	1.76 (0.8)	1.98 (0.9)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
19/32 (DN15) to 25/32 (DN20)	SEP	SEP

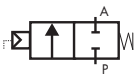
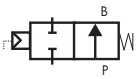
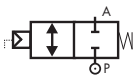
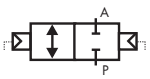
⚠ WARNING!
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	**NPT**	**in (mm)**	**gpm (m^3/h)**	**psi (bar)**	**psi (bar)**	**—**	**psi (bar)**	**psi (bar)**	**in (mm)**	**—**
PN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16)	1 → 2	55 (3.8)	145 (10)	1.77 (45)	NC
PN206CTX00	3/4	25/32 (20)	9.34 (7.98)	0	232 (16)	1 → 2	84 (5.8)	145 (10)		
RPN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16)	2 → 1	58 (4)	145 (10)	1.77 (45)	NO
RPN206CTX00	3/4	25/32 (20)	9.34 (7.98)	0	232 (16)	2 → 1	90 (6.2)	145 (10)		
BPN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16) / 232 (16)	1 → 2 / 2 → 1	90 (6.2) / 73 (5)	145 (10)	1.77 (45)	NC bidirectional
BPN206CTX00	3/4	25/32 (20)	9.34 (7.98)	0	232 (16) / 7	1 → 2 / 2 → 1	126 (8.7) / 73 (5)	145 (10)		
DPN205CTW00	1/2	19/32 (15)	5.27 (4.50)	0	232 (16) / 232 (16)	1 ⇔ 2	44 (3)	145 (10)	1.77 (45)	DA
DPN206CTX00	3/4	25/32 (20)	9.34 (7.98)	0	232 (16) / 232 (16)	1 ⇔ 2	73 (5)	145 (10)		

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts

2/2 Way Piston Actuated Valve 1/2 to 2 NPT, Regular Version – Stainless Steel

Specifications	
Type: PN NC flow over seat 1 → 2	
Type: RPN NO flow under seat 2 → 1	
Type: BPN NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Type: DPN DA flow over/under seat 1 ↔ 2	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard

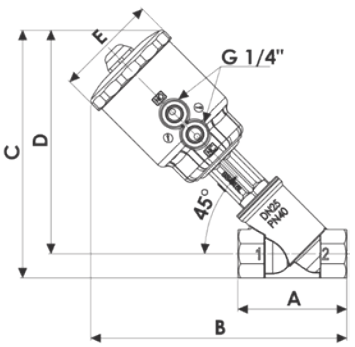
Features and Benefits

- Waterhammer-free design for BPN - DPN (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code RPN210STJR0)
Travel switch assembled ex-factory, see page 29 (e.g. code PN208STZJ0)
G parallel thread - ISO 228-1 (e.g. code BPG207LTY00)
High temperature version, see pages 20/21 (e.g. code PN205STW0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33/34/35

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A	in (mm)	2.56 (65)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	7.56 (192)	7.80 (198)	8.35 (212)	8.86 (225)	9.06 (230)	9.76 (248)	8.78 (223)	9.21 (234)	9.41 (239)	10.12 (257)
C	in (mm)	7.24 (184)	7.56 (192)	8.07 (205)	8.54 (217)	8.86 (225)	9.49 (241)	8.50 (216)	8.94 (227)	9.25 (235)	9.84 (250)
D	in (mm)	6.73 (171)	6.93 (176)	7.28 (185)	7.60 (193)	7.80 (198)	8.15 (207)	7.72 (196)	7.95 (202)	8.15 (207)	8.50 (216)
E	in (mm)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	4.41 (112)	4.41 (112)	4.41 (112)	4.41 (112)
Weight	Lb (kg)	2.65 (1.2)	2.87 (1.3)	3.31 (1.5)	4.19 (1.9)	4.63 (2.1)	6.39 (2.9)	4.41 (2.0)	5.29 (2.4)	5.73 (2.6)	7.28 (3.3)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
PN - RPN - BPN - DPN	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	Category I	SEP
	2 (DN50)	Category I	SEP

⚠ **WARNING!**
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

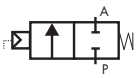
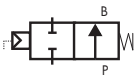
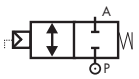
2/2 Way Piston Actuated Valve 1/2 to 2 NPT, Regular Version – Stainless Steel

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	NPT	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	NC
PN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PN207STY00	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
PN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
PN210STJ00	2	2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
PN207LTY00	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PN208LTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
PN209LTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PN210LTJ00	2	2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	NO
RPN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPN207STY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RPN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RPN210STJ00	2	2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RPN207LTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPN208LTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RPN209LTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPN210LTJ00	2	2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	NC bidirectional
BPN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPN207STY00	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	174 (12) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPN210STJ00	2	2 (50)	66.69 (57)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPN207LTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPN208LTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPN209LTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPN210LTJ00	2	2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		
DPN205STW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	1 ↔ 2	26 (1.8)	29 (2)	2.48 (63)	DA
DPN206STX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	1 ↔ 2	29 (2)	55 (3.8)		
DPN207STY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	1 ↔ 2	44 (3)	73 (5)		
DPN208STZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 ↔ 2	65 (4.5)	87 (6)		
DPN209STK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 ↔ 2	94 (6.5)	102 (7)		
DPN210STJ00	2	2 (50)	66.69 (57)	0	174 (12)	1 ↔ 2	131 (9)	145 (10)		

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts

2/2 Way Piston Actuated Valve Butt Weld Connection – Stainless Steel

Specifications	
Type: PW NC flow over seat 1 → 2	
Type: RPW NO flow under seat 2 → 1	
Type: BPW NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Butt Weld Connection[3]	DIN 11850-2 pipe
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard

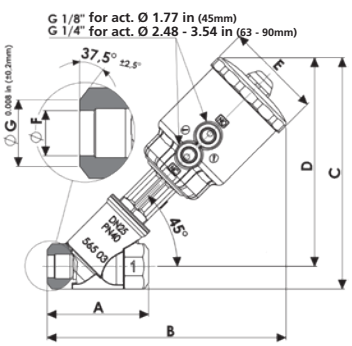
Features and Benefits

- Waterhammer-free design for BPW (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code RPW210STJR0)
Travel switch assembled ex-factory, see page 29 (e.g. code PW208STZI0)
High temperature version, see pages 20/21 (e.g. code BPW207LTY0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33/34/35

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 1.77 (45)**		**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A	in (mm)	2.56 (65)	2.95 (75)	2.56 (65)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	5.67 (144)	5.87 (149)	7.56 (192)	7.80 (198)	8.35 (212)	8.86 (225)	9.06 (230)	9.76 (248)	8.78 (223)	9.21 (234)	9.41 (239)	10.12 (257)
C	in (mm)	5.35 (136)	5.59 (142)	7.24 (184)	7.56 (192)	8.07 (205)	8.54 (217)	8.86 (225)	9.49 (241)	8.50 (216)	8.94 (227)	9.25 (235)	9.84 (250)
D	in (mm)	4.84 (123)	4.96 (126)	6.73 (171)	6.93 (176)	7.28 (185)	7.60 (193)	7.80 (198)	8.15 (207)	7.72 (196)	7.95 (202)	8.15 (207)	8.50 (216)
E	in (mm)	2.24 (57)	2.24 (57)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	4.41 (112)	4.41 (112)	4.41 (112)	4.41 (112)
F	in (mm)	0.63 (16)	0.79 (20)	0.63 (16)	0.79 (20)	1.02 (26)	1.26 (32)	1.50 (38)	1.97 (50)	1.02 (26)	1.26 (32)	1.50 (38)	1.97 (50)
G	in (mm)	0.76 (19.2)	0.91 (23.2)	0.76 (19.2)	0.91 (23.2)	1.15 (29.2)	1.42 (36)	1.65 (42)	2.13 (54)	1.15 (29.2)	1.42 (36)	1.65 (42)	2.13 (54)
Weight	Lb (kg)	1.76 (0.8)	1.98 (0.9)	2.65 (1.2)	2.87 (1.3)	3.31 (1.5)	4.19 (1.9)	4.63 (2.1)	6.39 (2.9)	4.41 (2.0)	5.29 (2.4)	5.73 (2.6)	7.28 (3.3)



Welded ends complying with ISO 6761

The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
PW - RPW - BPW	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	Category I	SEP
	2 (DN50)	Category I	SEP

⚠ WARNING!
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

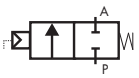
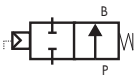
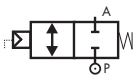
2/2 Way Piston Actuated Valve Butt Weld Connection – Stainless Steel

Valve	Body Connection	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[4] Min.	Pilot Pressure[4] Max.	Actuator Ø	Function
Code	—	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PW205CTW00	butt weld to **DIN 11850-2** pipe	19/32 (15)	5.27 (4.50)	0	232 (16)	1 → 2	55 (3.8)	145 (10)	1.77 (45)	NC
PW206CTX00		25/32 (20)	9.34 (7.98)	0	232 (16)	1 → 2	84 (5.8)	145 (10)		
PW205STW00		19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	
PW206STX00		25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PW207STY00		63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PW208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
PW209STK00		1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
PW210STJ00		2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
PW207LTY00		63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PW208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
PW209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PW210LTJ00		2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPW205CTW00	butt weld to **DIN 11850-2** pipe	19/32 (15)	5.27 (4.50)	0	232 (16)	2 → 1	58 (4)	145 (10)	1.77 (45)	NO
RPW206CTX00		25/32 (20)	9.34 (7.98)	0	232 (16)	2 → 1	90 (6.2)	145 (10)		
RPW205STW00		19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	
RPW206STX00		25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPW207STY00		63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPW208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RPW209STK00		1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RPW210STJ00		2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RPW207LTY00		63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPW208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RPW209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPW210LTJ00		2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPW205CTW00	butt weld to **DIN 11850-2** pipe	19/32 (15)	5.27 (4.50)	0	232 (16) / 232 (16)	1 → 2 / 2 → 1	90 (6.2) / 73 (5)	145 (10)	1.77 (45)	NC bidirectional
BPW206CTX00		25/32 (20)	9.34 (7.98)	0	232 (16) / 102 (7)	1 → 2 / 2 → 1	126 (8.7) / 73 (5)	145 (10)		
BPW205STW00		19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	
BPW206STX00		25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPW207STY00		63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPW208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPW209STK00		1 37/64 (40)	49.14 (42)	0	174 (12) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPW210STJ00		2 (50)	66.69 (57)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPW207LTY00		63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPW208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPW209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPW210LTJ00		2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Alternative dimensions to other standards (e.g. ISO 65/ANSI B 36.10 pipe) may be available on request, please contact M&M sales Department
4. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts (for different part numbers: e.g. PW205STW00 please refer to the equivalent part number PN205STW00 for threaded connection)

2/2 Way Piston Actuated Valve Flanged – Stainless Steel

Specifications	
Type: PD/PA NC flow over seat 1 → 2	
Type: RPD/RPA NO flow under seat 2 → 1	
Type: BPD/BPA NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Flange Material	cast AISI 316L
Connection	BS 4504 (EN1092, shape B) or ANSI B16.5 class 150
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard

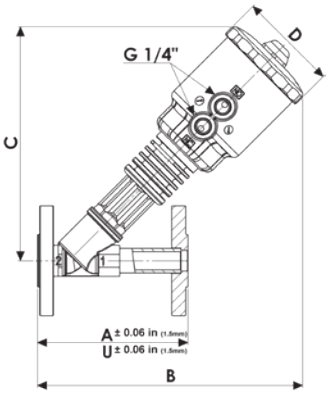
Features and Benefits

- Waterhammer-free design for BPD - BPA (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code PD210STJR0)
Travel switch assembled ex-factory, see page 29 (e.g. code RPA208LTZJ0)
High temperature version, see pages 20/21 (e.g. code PD205STW0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33/34/35

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A (ANSI)	in (mm)	5.50 (139.7)	6 (152.4)	6.50 (165.1)	7.25 (184.2)	8 (203.2)	9 (228.6)	6.50 (165.1)	7.25 (184.2)	8 (203.2)	9 (228.6)
U (BS/UNI/EN)	in (mm)	5.12 (130)	5.91 (150)	6.30 (160)	7.09 (180)	7.87 (200)	9.06 (230)	6.30 (160)	7.09 (180)	7.87 (200)	9.06 (230)
B	in (mm)	8.58 (218)	9.29 (236)	9.41 (239)	9.92 (252)	10.12 (257)	10.83 (275)	9.84 (250)	10.35 (263)	10.55 (268)	11.26 (286)
C	in (mm)	7.64 (194)	8.27 (210)	8.19 (208)	8.50 (216)	8.66 (220)	9.06 (230)	8.62 (219)	8.94 (227)	9.13 (232)	9.45 (240)
D	in (mm)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	4.41 (112)	4.41 (112)	4.41 (112)	4.41 (112)
Weight	Lb (kg)	5.73 (2.6)	6.61 (3.0)	8.38 (3.8)	12.35 (5.6)	14.33 (6.5)	19.18 (8.7)	9.70 (4.4)	13.23 (6.0)	15.21 (6.9)	20.06 (9.1)



A = face to face to **ANSI B 16.10**
U = face to face to **EN 558-1**

The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
PD - RPD - BPD PA - RPA - BPA	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	Category I	SEP
	2 (DN50)	Category I	SEP

⚠ WARNING!
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

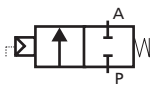
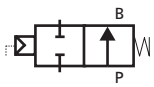
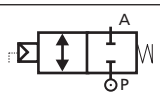
Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts (for different part numbers: e.g. PD205STW00 please refer to the equivalent part number PN205STW00 for threaded connection)

2/2 Way Piston Actuated Valve Flanged – Stainless Steel

Valve	Body Connection	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	—	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PD205STW00	flanges to **BS 4504 EN1092 shape B**	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	NC
PD206STX00		25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PD207STY00		63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PD208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
PD209STK00		1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
PD210STJ00		2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
PD207LTY00		63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PD208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
PD209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PD210LTJ00		2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPD205STW00	flanges to **BS 4504 EN1092 shape B**	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	NO
RPD206STX00		25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPD207STY00		63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPD208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RPD209STK00		1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RPD210STJ00		2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RPD207LTY00		63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPD208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RPD209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPD210LTJ00		2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPD205STW00	flanges to **BS 4504 EN1092 shape B**	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	NC bidirectional
BPD206STX00		25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPD207STY00		63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPD208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16) / 6	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPD209STK00		1 37/64 (40)	49.14 (42)	0	12 / 4	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPD210STJ00		2 (50)	66.69 (57)	0	8 / 2.5	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPD207LTY00		63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPD208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPD209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16) / 8	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPD210LTJ00		2 (50)	66.69 (57)	0	203 (14) / 6	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		
PA205STW00	flanges to **ANSI B16.5** class 150	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	NC
PA206STX00		25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PA207STY00		63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PA208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
PA209STK00		1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
PA210STJ00		2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
PA207LTY00		63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PA208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
PA209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PA210LTJ00		2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPA205STW00	flanges to **ANSI B16.5** class 150	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	NO
RPA206STX00		25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPA207STY00		63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPA208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RPA209STK00		1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RPA210STJ00		2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RPA207LTY00		63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPA208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RPA209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPA210LTJ00		2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPA205STW00	flanges to **ANSI B16.5** class 150	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	NC bidirectional
BPA206STX00		25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPA207STY00		63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPA208STZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPA209STK00		1 37/64 (40)	49.14 (42)	0	174 (12) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPA210STJ00		2 (50)	66.69 (57)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPA207LTY00		63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPA208LTZ00		1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPA209LTK00		1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPA210LTJ00		2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		

2/2 Way Piston Actuated Valve Clamp – Stainless Steel

Specifications	
Type: PC/PP NC flow over seat 1 → 2	
Type: RPC/RPP NO flow under seat 2 → 1	
Type: BPC/BPP NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Clamp End Material	Stainless Steel AISI 316L
Clamp Connection	ISO 2852 or ASME BPE
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard
Gasket and Clamp	Not included

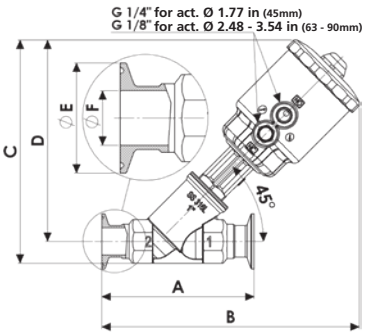
Features and Benefits

- Waterhammer-free design for BPC - BPP (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code PC210STJR0)
Travel switch assembled ex-factory, see page 29 (e.g. code RPC208LTZI0)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33/34/35

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 1.77 (45)**		**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A - ISO	in (mm)	4.02 (102)	4.49 (114)	4.02 (102)	4.49 (114)	5.51 (140)	6.26 (159)	6.26 (159)	7.48 (190)	5.51 (140)	6.26 (159)	6.26 (159)	7.48 (190)
A - ASME	in (mm)	4.02 (102)	4.49 (114)	4.02 (102)	4.49 (114)	5.51 (140)	-	6.26 (159)	7.48 (190)	5.51 (140)	-	6.26 (159)	7.48 (190)
B - ISO	in (mm)	6.38 (162)	6.57 (167)	8.27 (210)	8.54 (217)	9.09 (231)	9.45 (240)	9.80 (249)	10.51 (267)	9.57 (243)	9.88 (251)	10.24 (260)	10.98 (279)
B - ASME	in (mm)	6.38 (162)	6.57 (167)	8.27 (210)	8.54 (217)	9.09 (231)	-	9.80 (249)	10.51 (267)	9.57 (243)	-	10.24 (260)	10.98 (279)
C - ISO	in (mm)	5.51 (140)	5.59 (142)	7.36 (187)	7.60 (193)	8.31 (211)	8.58 (218)	9.02 (229)	9.45 (240)	8.74 (222)	9.06 (230)	9.49 (241)	9.88 (251)
C - ASME	in (mm)	5.35 (136)	5.43 (138)	7.20 (183)	7.44 (189)	8.31 (211)	-	8.78 (223)	9.45 (240)	8.74 (222)	-	9.25 (235)	9.88 (251)
D	in (mm)	4.84 (123)	4.92 (125)	6.69 (170)	6.93 (176)	7.25 (185)	7.56 (192)	7.76 (197)	8.11 (206)	7.72 (196)	8.03 (204)	8.23 (209)	8.54 (217)
E - ISO	in (mm)	1.34 (34)	1.34 (34	1.34 (34	1.34 (34	1.99 (50.5)	1.99 (50.5)	2.52 (64)	2.52 (64)	1.99 (50.5)	1.99 (50.5)	2.52 (64)	2.52 (64)
E - ASME	in (mm)	0.98 (25)	0.98 (25)	0.98 (25)	0.98 (25)	1.99 (50.5)	-	1.99 (50.5)	2.52 (64)	1.99 (50.5)	-	1.99 (50.5)	2.52 (64)
F - ISO	in (mm)	0.68 (17.2)	0.84 (21.3)	0.68 (17.2)	0.84 (21.3)	0.98 (25)	1.33 (33.7)	1.57 (40)	2.01 (51)	0.98 (25)	1.33 (33.7)	1.57 (40)	2.01 (51)
F - ASME	in (mm)	0.37 (9.4)	0.62 (15.75)	0.37 (9.4)	0.62 (15.75)	0.87 (22.1)	-	1.37 (34.8)	1.87 (47.5)	0.87 (22.1)	-	1.37 (34.8)	1.87 (47.5)
Weight - ISO	Lb (kg)	1.98 (0.9)	2.43 (1.1)	2.87 (1.3)	3.31 (1.5)	3.97 (1.8)	5.29 (2.4)	6.17 (2.8)	7.94 (3.6)	5.29 (2.4)	6.17 (2.8)	7.05 (3.2)	8.82 (4.0)
Weight - ASME	Lb (kg)	1.98 (0.9)	2.43 (1.1)	2.87 (1.3)	3.31 (1.5)	3.97 (1.8)	-	6.17 (2.8)	7.94 (3.6)	5.29 (2.4)	-	7.05 (3.2)	8.82 (4.0)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
PC - RPC - BPC PP - RPP - BPP	19/32 (DN15) to 2 (DN50)	SEP	SEP

⚠ WARNING!
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

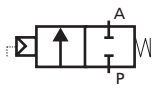
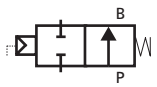
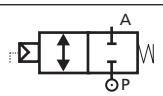
Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts (for different part numbers: e.g. PP205STW00 please refer to the equivalent part number PN205STW00 for threaded connection)

2/2 Way Piston Actuated Valve Clamp – Stainless Steel

VALVE	Body Connection	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	—	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PC205CTW00	clamp to **ISO 2852**	19/32 (15)	4.56 (3.90)	0	145 (10)	1 → 2	55 (3.8)	145 (10)	1.77 (45)	NC
PC206CTX00		25/32 (20)	8.42 (7.20)	0	145 (10)	1 → 2	84 (5.8)	145 (10)		
PC205STW00		19/32 (15)	5.97 (5.10)	0	145 (10)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	
PC206STX00		25/32 (20)	11.23 (9.60)	0	145 (10)	1 → 2	64 (4.4)	145 (10)		
PC207STY00		63/64 (25)	18.25 (15.60)	0	145 (10)	1 → 2	86 (5.9)	145 (10)		
PC208STZ00		1 17/64 (32)	29.48 (25.20)	0	145 (10)	1 → 2	131 (9)	145 (10)		
PC209STK00		1 37/64 (40)	49.14 (42)	0	145 (10)	1 → 2	131 (9)	145 (10)		
PC210STJ00		2 (50)	56.86 (48.60)	0	145 (10)	1 → 2	116 (8)	145 (10)		
PC207LTY00		63/64 (25)	18.25 (15.60)	0	145 (10)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PC208LTZ00		1 17/64 (32)	29.48 (25.20)	0	145 (10)	1 → 2	51 (3.5)	116 (8)		
PC209LTK00		1 37/64 (40)	49.14 (42)	0	145 (10)	1 → 2	58 (4)	116 (8)		
PC210LTJ00		2 (50)	56.86 (48.60)	0	145 (10)	1 → 2	94 (6.5)	116 (8)		
RPC205CTW00	clamp to **ISO 2852**	19/32 (15)	4.56 (3.90)	0	145 (10)	2 → 1	58 (4)	145 (10)	1.77 (45)	NO
RPC206CTX00		25/32 (20)	8.42 (7.20)	0	145 (10)	2 → 1	90 (6.2)	145 (10)		
RPC205STW00		19/32 (15)	5.97 (5.10)	0	145 (10)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	
RPC206STX00		25/32 (20)	11.23 (9.60)	0	145 (10)	2 → 1	62 (4.3)	145 (10)		
RPC207STY00		63/64 (25)	18.25 (15.60)	0	145 (10)	2 → 1	80 (5.5)	145 (10)		
RPC208STZ00		1 17/64 (32)	29.48 (25.20)	0	145 (10)	2 → 1	94 (6.5)	145 (10)		
RPC209STK00		1 37/64 (40)	49.14 (42)	0	145 (10)	2 → 1	131 (9)	145 (10)		
RPC210STJ00		2 (50)	56.86 (48.60)	0	145 (10)	2 → 1	136 (9.4)	145 (10)		
RPC207LTY00		63/64 (25)	18.25 (15.60)	0	145 (10)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPC208LTZ00		1 17/64 (32)	29.48 (25.20)	0	145 (10)	2 → 1	58 (4)	116 (8)		
RPC209LTK00		1 37/64 (40)	49.14 (42)	0	145 (10)	2 → 1	73 (5)	116 (8)		
RPC210LTJ00		2 (50)	56.86 (48.60)	0	145 (10)	2 → 1	102 (7)	116 (8)		
BPC205CTW00	clamp to **ISO 2852**	19/32 (15)	4.56 (3.90)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	90 (6.2) / 73 (5)	145 (10)	1.77 (45)	NC bidirectional
BPC206CTX00		25/32 (20)	8.42 (7.20)	0	145 (10) / 102 (7)	1 → 2 / 2 → 1	126 (8.7) / 73 (5)	145 (10)		
BPC205STW00		19/32 (15)	5.97 (5.10)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	
BPC206STX00		25/32 (20)	11.23 (9.60)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPC207STY00		63/64 (25)	18.25 (15.60)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPC208STZ00		1 17/64 (32)	29.48 (25.20)	0	145 (10) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPC209STK00		1 37/64 (40)	49.14 (42)	0	145 (10) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPC210STJ00		2 (50)	56.86 (48.60)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPC207LTY00		63/64 (25)	18.25 (15.60)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPC208LTZ00		1 17/64 (32)	29.48 (25.20)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPC209LTK00		1 37/64 (40)	49.14 (42)	0	145 (10) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPC210LTJ00		2 (50)	56.86 (48.60)	0	145 (10) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		
PP205CTW00	clamp to **ASME BPE**	19/32 (15)	3.51 (3)	0	145 (10)	1 → 2	55 (3.8)	145 (10)	1.77 (45)	NC
PP206CTX00		25/32 (20)	8.42 (7.20)	0	145 (10)	1 → 2	84 (5.8)	145 (10)		
PP205STW00		19/32 (15)	3.51 (3)	0	145 (10)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	
PP206STX00		25/32 (20)	9.48 (8.10)	0	145 (10)	1 → 2	64 (4.4)	145 (10)		
PP207STY00		63/64 (25)	17.55 (15)	0	145 (10)	1 → 2	73 (5)	145 (10)		
PP209STK00		1 37/64 (40)	44.93 (38.40)	0	145 (10)	1 → 2	131 (9)	145 (10)		
PP210STJ00		2 (50)	51.25 (43.80)	0	145 (10)	1 → 2	116 (8)	145 (10)		
PP207LTY00		63/64 (25)	17.55 (15)	0	145 (10)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PP209LTK00		1 37/64 (40)	44.93 (38.40)	0	145 (10)	1 → 2	58 (4)	116 (8)		
PP210LTJ00		2 (50)	51.25 (43.80)	0	145 (10)	1 → 2	94 (6.5)	116 (8)		
RPP205CTW00	clamp to **ASME BPE**	19/32 (15)	3.51 (3)	0	145 (10)	2 → 1	58 (4)	145 (10)	1.77 (45)	NO
RPP206CTX00		25/32 (20)	8.42 (7.20)	0	145 (10)	2 → 1	90 (6.2)	145 (10)		
RPP205STW00		19/32 (15)	3.51 (3)	0	145 (10)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	
RPP206STX00		25/32 (20)	9.48 (8.10)	0	145 (10)	2 → 1	62 (4.3)	145 (10)		
RPP207STY00		63/64 (25)	17.55 (15)	0	145 (10)	2 → 1	80 (5.5)	145 (10)		
RPP209STK00		1 37/64 (40)	44.93 (38.40)	0	145 (10)	2 → 1	131 (9)	145 (10)		
RPP210STJ00		2 (50)	51.25 (43.80)	0	145 (10)	2 → 1	136 (9.4)	145 (10)		
RPP207LTY00		63/64 (25)	17.55 (15)	0	145 (10)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPP209LTK00		1 37/64 (40)	44.93 (38.40)	0	145 (10)	2 → 1	73 (5)	116 (8)		
RPP210LTJ00		2 (50)	51.25 (43.80)	0	145 (10)	2 → 1	102 (7)	116 (8)		
BPP205CTW00	clamp to **ASME BPE**	19/32 (15)	3.51 (3)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	90 (6.2) / 73 (5)	145 (10)	1.77 (45)	NC bidirectional
BPP206CTX00		25/32 (20)	8.42 (7.20)	0	145 (10) / 102 (7)	1 → 2 / 2 → 1	126 (8.7) / 73 (5)	145 (10)		
BPP205STW00		19/32 (15)	3.51 (3)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	
BPP206STX00		25/32 (20)	9.48 (8.10)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPP207STY00		63/64 (25)	17.55 (15)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPP209STK00		1 37/64 (40)	44.93 (38.40)	0	145 (10) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPP210STJ00		2 (50)	51.25 (43.80)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPP207LTY00		63/64 (25)	17.55 (15)	0	145 (10) / 145 (10)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPP209LTK00		1 37/64 (40)	44.93 (38.40)	0	145 (10) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPP210LTJ00		2 (50)	51.25 (43.80)	0	145 (10) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		

2/2 Way Piston Actuated Valve 1/2 to 2 NPT, Hight Temperature Version – Stainless Steel

Specifications	
Type: PN NC flow over seat 1 → 2	
Type: RPN NO flow under seat 2 → 1	
Type: BPN NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 392° F (-10° C to +200° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard

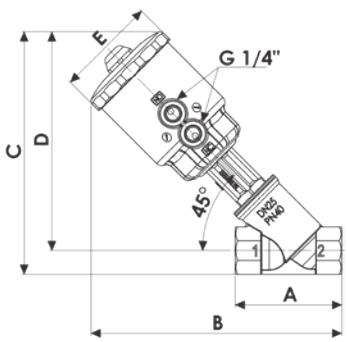
Features and Benefits

- Waterhammer-free design for BPN - DPN (with flow direction 2→1)
- Actuator housing rotation 360°

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code RPN210STJRH)
Travel switch assembled ex-factory, see page 29 (e.g. code PN208STZIH)
G parallel thread - ISO 228-1 (e.g. code BPG207LTY0H)
Butt weld connection (e.g. code BPB209LTK0H)
Flanged connection (e.g. code PD205STW0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33/34/35

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**			**Ø 3.54 (90)**		
A	in (mm)	2.56 (65)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	7.56 (192)	7.80 (198)	8.35 (212)	9.21 (234)	9.41 (239)	10.12 (257)
C	in (mm)	7.24 (184)	7.56 (192)	8.07 (205)	8.94 (227)	9.25 (235)	9.84 (250)
D	in (mm)	6.73 (171)	6.93 (176)	7.28 (185)	7.95 (202)	8.15 (207)	8.50 (216)
E	in (mm)	3.35 (85)	3.35 (85)	3.35 (85)	4.41 (112)	4.41 (112)	4.41 (112)
Weight	Lb (kg)	2.65 (1.2)	2.87 (1.3)	3.31 (1.5)	5.29 (2.4)	5.73 (2.6)	7.28 (3.3)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2
PN - RPN - BPN	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	Category I	SEP
	2 (DN50)	Category I	SEP

⚠ WARNING!
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

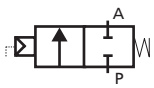
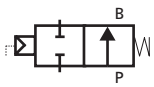
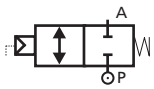
2/2 Way Piston Actuated Valve 1/2 to 2 NPT, Hight Temperature Version – Stainless Steel

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	NPT	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PN205STW0H	1/2	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	NC
PN206STX0H	3/4	25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PN207STY0H	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PN208LTZ0H	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)	3.54 (90)	
PN209LTK0H	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PN210LTJ0H	2	2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPN205STW0H	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	NO
RPN206STX0H	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPN207STY0H	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPN208LTZ0H	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)	3.54 (90)	
RPN209LTK0H	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPN210LTJ0H	2	2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPN205STW0H	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	NC bidirectional
BPN206STX0H	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPN207STY0H	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPN208LTZ0H	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)	3.54 (90)	
BPN209LTK0H	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPN210LTJ0H	2	2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		

Notes

1. Steam max. working pressure 210 psig (14,5 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts

2/2 Way Piston Actuated Valve G 3/4" to 2 3/8", Threaded Spigots – Stainless Steel

Specifications	
Type: PR NC flow over seat 1 → 2	
Type: RPR NO flow under seat 2 → 1	
Type: BPR NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Position Indicator	As standard

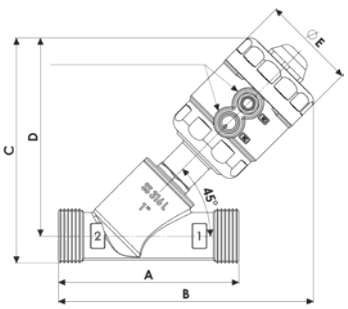
Features and Benefits

- Waterhammer-free design for BPR (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 8 mTorr (10^{-2} mbar)

Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code BPR211STKR0)
Travel switch assembled ex-factory, see page 29 (e.g. code BPR206STWI0)
High temperature version, see pages 20/21 (e.g. code RPR208STY0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/33/34/35

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 1.77 (45)**		**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A	in (mm)	3.54 (90)	4.33 (110)	3.54 (90)	4.33 (110)	4.65 (118)	5.12 (130)	5.51 (140)	6.89 (175)	4.65 (118)	5.12 (130)	5.51 (140)	6.89 (175)
B	in (mm)	5.83 (148)	6.14 (156)	7.72 (196)	8.11 (206)	8.54 (217)	8.9 (226)	8.82 (224)	9.69 (246)	8.98 (228)	9.33 (237)	9.25 (235)	10.12 (257)
C	in (mm)	5.28 (134)	5.39 (137)	7.13 (181)	7.36 (187)	8.03 (204)	8.35 (212)	8.50 (216)	9.02 (229)	8.46 (215)	8.74 (222)	8.94 (227)	9.45 (240)
D	in (mm)	4.76 (121)	4.76 (121)	6.61 (168)	6.73 (171)	7.20 (183)	7.40 (188)	7.44 (189)	7.72 (196)	7.64 (194)	7.83 (199)	7.87 (200)	8.15 (207)
E	in (mm)	2.4 (57)	2.4 (57)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	3.35 (85)	4.41 (112)	4.41 (112)	4.41 (112)	4.41 (112)
Weight	Lb (kg)	1.98 (0.9)	2.20 (1.0)	2.87 (1.3)	3.09 (1.4)	3.64 (1.65)	4.41 (2.0)	4.85 (2.2)	6.83 (3.1)	4.74 (2.15)	5.51 (2.5)	5.95 (2.7)	7.72 (3.5)



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2
PR - RPR - BPR	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	Category I	SEP
	2 (DN50)	Category I	SEP

⚠ **WARNING!**
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

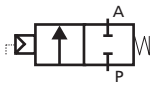
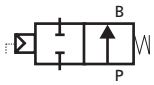
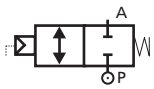
2/2 Way Piston Actuated Valve G 3/4" to 2 3/8", Threaded Spigots – Stainless Steel

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	ISO 228G	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PR206CTW00	3/4"	19/32 (15)	5.27 (4.50)	0	232 (16)	1 → 2	55 (3.8)	145 (10)	1.77 (45)	NC
PR207CTX00	1"	25/32 (20)	9.34 (7.98)	0	232 (16)	1 → 2	84 (5.8)	145 (10)		
PR206STW00	3/4"	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	
PR207STX00	1"	25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PR208STY00	1 1/4"	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PR209STZ00	1 1/2"	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
PR211STK00	1 3/4"	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
PR212STJ00	2 3/8" [4]	2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
PR208LTY00	1 1/4"	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PR209LTZ00	1 1/2"	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
PR211LTK00	1 3/4"	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PR212LTJ00	2 3/8" [4]	2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPR206CTW00	3/4"	19/32 (15)	5.27 (4.50)	0	232 (16)	2 → 1	58 (4)	145 (10)	1.77 (45)	NO
RPR207CTX00	1"	25/32 (20)	9.34 (7.98)	0	232 (16)	2 → 1	90 (6.2)	145 (10)		
RPR206STW00	3/4"	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	
RPR207STX00	1"	25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPR208STY00	1 1/4"	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPR209STZ00	1 1/2"	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RPR211STK00	1 3/4"	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RPR212STJ00	2 3/8" [4]	2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RPR208LTY00	1 1/4"	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPR209LTZ00	1 1/2"	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RPR211LTK00	1 3/4"	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPR212LTJ00	2 3/8" [4]	2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPR206CTW00	3/4"	19/32 (15)	5.27 (4.50)	0	232 (16) / 232 (16)	1 → 2 / 2 → 1	90 (6.2) / 73 (5)	145 (10)	1.77 (45)	NC bidirectional
BPR207CTX00	1"	25/32 (20)	9.34 (7.98)	0	232 (16) / 102 (7)	1 → 2 / 2 → 1	126 (8.7) / 73 (5)	145 (10)		
BPR206STW00	3/4"	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	
BPR207STX00	1"	25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPR208STY00	1 1/4"	63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPR209STZ00	1 1/2"	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPR211STK00	1 3/4"	1 37/64 (40)	49.14 (42)	0	174 (12) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPR212STJ00	2 3/8" [4]	2 (50)	66.69 (57)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPR208LTY00	1 1/4"	63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPR209LTZ00	1 1/2"	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPR211LTK00	1 3/4"	1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPR212LTJ00	2 3/8" [4]	2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts (for different part numbers: e.g. BPR207STX00 please refer to the equivalent part number BPN207STY00 for threaded connection)
4. According to ISO 338

Piston Actuated Valve Series M and G EXD II 2 GD c TX CLASS

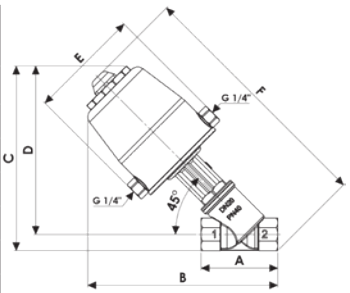
Specifications	
Type: PN NC flow over seat 1 → 2	
Type: RPN NO flow under seat 2 → 1	
Type: BPN NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Protection Class	II 2 GD c TX
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 392° F (-10° C to +200° C)
Ambient Temperature	14° to 176° F (-10° C to +80° C)
Pilot Media[2]	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	ASTM A 351 CF8 (AISI 304)
Actuator Cover Material	ASTM A 351 CF8 (AISI 304)
Actuator Housing Material	ASTM A 351 CF8 (AISI 304)
Piston Material	Aluminium
Main Seal Material	PTFE
Position Indicator	As standard

Options Available
Atex inductive switch assembled ex-factory (e.g. code PN207MTYX0), with ambient temperature 14° to 140° F (-10° C to +60° C)

Features and Benefits

- Waterhammer-free design for BPN (with flow direction 2→1)
- Actuator housing rotation 360°
- High resistance to external agents, shocks

Dimensions & Weights		19/32 (DN15)	25/32 (DN20)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)	63/64 (DN25)	1 17/64 (DN32)	1 37/64 (DN40)	2 (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**						**Ø 3.54 (90)**			
A	in (mm)	2.56 (65)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	7.01 (178)	7.24 (184)	7.87 (200)	8.31 (211)	8.50 (216)	9.21 (234)	8.19 (208)	8.70 (221)	8.90 (226)	9.61 (244)
C	in (mm)	6.73 (171)	7.01 (178)	7.87 (200)	8.03 (204)	8.35 (212)	8.94 (227)	7.91 (201)	8.39 (213)	8.70 (221)	9.29 (236)
D	in (mm)	6.18 (157)	6.38 (162)	6.77 (172)	7.09 (180)	7.24 (184)	7.60 (193)	7.13 (181)	7.44 (189)	7.64 (194)	7.95 (202)
E	in (mm)	4.25 (108)	4.25 (108)	4.25 (108)	4.25 (108)	4.25 (108)	4.25 (108)	5.31 (135)	5.31 (135)	5.31 (135)	5.31 (135)
F	in (mm)	8.98 (228)	9.41 (239)	10.16 (258)	10.83 (275)	11.18 (284)	12.09 (307)	10.24 (260)	10.94 (278)	11.26 (286)	12.20 (310)
Weight	Lb (kg)	5.07 (2.3)	5.29 (2.4)	5.73 (2.6)	6.83 (3.1)	7.50 (3.4)	9.04 (4.1)	7.94 (3.6)	9.04 (4.1)	9.48 (4.3)	11.24 (5.1)



The pilot solenoid valves ports have a G 1/4" thread and are marked with NO/NC (Normally Open/Normally Closed)

The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/EU and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2
PN - RPN - BPN	19/32 (DN15) to 63/64 (DN25)	SEP	SEP
	1 17/64 (DN32) to 1 37/64 (DN40)	Category I	SEP
	2 (DN50)	Category I	SEP

⚠ **WARNING!**
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi (0,5 barg) shall be considered as gases.

Piston Actuated Valve Series M and G EXD II 2 GD c TX CLASS

Valve	Pipe Size	Orifice Size	Flow Rate Cv (Kv)	Working Pressure[1] Min.	Working Pressure[1] Max.	Flow Direction	Pilot Pressure[3] Min.	Pilot Pressure[3] Max.	Actuator Ø	Function
Code	NPT	in (mm)	gpm (m^3/h)	psi (bar)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	—
PN205MTW00	1/2	19/32 (15)	6.11 (5.22)	0	290 (20)	1 → 2	54 (3.7)	145 (10)	2.48 (63)	NC
PN206MTX00	3/4	25/32 (20)	11.51 (9.84)	0	290 (20)	1 → 2	64 (4.4)	145 (10)		
PN207MTY00	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	73 (5)	145 (10)		
PN208MTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	86 (5.9)	145 (10)		
PN209MTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	131 (9)	145 (10)		
PN210MTJ00	2	2 (50)	66.69 (57)	0	160 (11)	1 → 2	116 (8)	145 (10)		
PN207GTY00	1	63/64 (25)	18.25 (15.60)	0	290 (20)	1 → 2	29 (2)	116 (8)	3.54 (90)	
PN208GTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	1 → 2	51 (3.5)	116 (8)		
PN209GTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	1 → 2	58 (4)	116 (8)		
PN210GTJ00	2	2 (50)	66.69 (57)	0	218 (15)	1 → 2	94 (6.5)	116 (8)		
RPN205MTW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	2 → 1	36 (2.5)	145 (10)	2.48 (63)	NO
RPN206MTX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	2 → 1	62 (4.3)	145 (10)		
RPN207MTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	80 (5.5)	145 (10)		
RPN208MTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	94 (6.5)	145 (10)		
RPN209MTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	131 (9)	145 (10)		
RPN210MTJ00	2	2 (50)	66.69 (57)	0	174 (12)	2 → 1	136 (9.4)	145 (10)		
RPN207GTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16)	2 → 1	29 (2)	116 (8)	3.54 (90)	
RPN208GTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16)	2 → 1	58 (4)	116 (8)		
RPN209GTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16)	2 → 1	73 (5)	116 (8)		
RPN210GTJ00	2	2 (50)	66.69 (57)	0	232 (16)	2 → 1	102 (7)	116 (8)		
BPN205MTW00	1/2	19/32 (15)	6.11 (5.22)	0	232 (16)	1 → 2 / 2 → 1	80 (5.5) / 55 (3.8)	145 (10)	2.48 (63)	NC bidirectional
BPN206MTX00	3/4	25/32 (20)	11.51 (9.84)	0	232 (16)	1 → 2 / 2 → 1	87 (6) / 55 (3.8)	145 (10)		
BPN207MTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 160 (11)	1 → 2 / 2 → 1	94 (6.5) / 55 (3.8)	145 (10)		
BPN208MTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 87 (6)	1 → 2 / 2 → 1	99 (6.8) / 55 (3.8)	145 (10)		
BPN209MTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	174 (12) / 58 (4)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPN210MTJ00	2	2 (50)	66.69 (57)	0	116 (8) / 36 (2.5)	1 → 2 / 2 → 1	131 (9) / 55 (3.8)	145 (10)		
BPN207GTY00	1	63/64 (25)	18.25 (15.60)	0	232 (16) / 203 (14)	1 → 2 / 2 → 1	58 (4) / 48 (3.3)	116 (8)	3.54 (90)	
BPN208GTZ00	1 1/4	1 17/64 (32)	28.78 (24.60)	0	232 (16) / 174 (12)	1 → 2 / 2 → 1	73 (5) / 48 (3.3)	116 (8)		
BPN209GTK00	1 1/2	1 37/64 (40)	49.14 (42)	0	232 (16) / 116 (8)	1 → 2 / 2 → 1	87 (6) / 48 (3.3)	116 (8)		
BPN210GTJ00	2	2 (50)	66.69 (57)	0	203 (14) / 87 (6)	1 → 2 / 2 → 1	116 (8) / 48 (3.3)	116 (8)		

Notes

1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts

Specifications of Inductive Switch

Type of sensor:	in accordance with Namur standards EN 60947-5-6
Switching distance (Sn):	0.16 in (4 mm)
Continuous voltage (residual ripple ≤10%):	8,2V
Current absorption at 8,2V in presence of metal:	≤ 1mA
Current absorption at 8,2V in absence of metal:	≥ 3mA
Switching frequency:	2000 Hz
Repeatability (% of Sn):	≤ 3
Housing material:	brass with electroless nickel plating treatment
Cable:	PVC 0.08x0,0003875 inch² (2x0,25 mm²)
Cable length:	9.84 ft (3 m)
Safety rating:	Ui=17V - Ii=17mA - Pi=73mW - Ci=0,25uF - Li=175uH

Control Piston Actuated Valve with Integrated Positioner

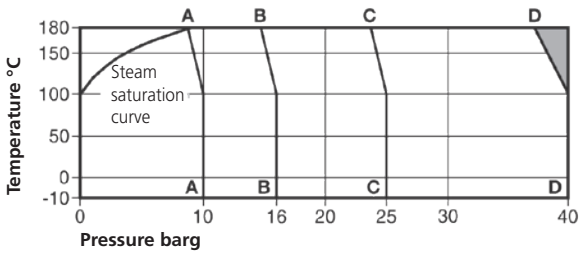
19/32 to 2 orifice (DN15 to DN50) – Stainless Steel

Specifications	
Type: ZP flow always under seat 2 → 1	NC (Direct) / NO (Reverse)
Media	Water, oil, air, aggressive media, steam[1]
Media Temperature	14° to 356° F (-10° C to +180° C)
Viscosity	max. 600 cSt (80° E)
Pilot Media	Dry and filtered air (mesh 25 µm)
Actuator Diameter	2.48 or 3.54 inches (63 or 90mm)
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Main Seal Material	PTFE
Flow Characteristic	Linear or equal percentage
Electrical Characteristics	
Positioner Enclosure	Anodized aluminium (black)
Set Point Signal	0 to 10V; 4 to 20mA
Electrical Supply	24V DC
Maximum Power Consumption	6W (0,24A)
Set-up Point	Self-adjusting valve
Fail Safe Position	'Closed' or 'maintained'
Electrical Connections	M23 connector, 12 poles
Protection Class	IP65
Hysteresis	< 1% FS
Repeatability	< 0,5% FS
Minimum Set-point:	< 2% FS

Features and Benefits

- Actuator housing rotation 360°
- Connector rotation 360° (90° steps)

Options Available
Seal material in PEEK
Body and shaped plug with hardening treatment
Body connection options: threaded, flanged, butt weld and clamp



A – A PN10 (145 psi)

B – B PN16 - ANSI 150 (232 psi)

C – C PN25 (362 psi)

D – D PN40 (580 psi)

Temperature °C (°F):

180° C (356° F)
150° C (302° F)
100° C (212° F)
50° C (122° F)
-10° C (14° F)

The product must not be used in this region or beyond the body design conditions (PN) quoted in the selection chart as damage to the internals will occur!

Orifice Size	Flow Rate Cv (Kv) EQUI% TRIM 1:25	Flow Rate Cv (Kv) LINEAR TRIM 1:25	Working Pressure[1] Max.	Flow Direction	Pilot Pressure Min.	Pilot Pressure Max.	Actuator Ø	PN[2]
in (mm)	gpm (m^3/h)	gpm (m^3/h)	psi (bar)	—	psi (bar)	psi (bar)	in (mm)	bar (psi)
19/32 (15)	5.27 (4.5)	5.73 (4.9)	232 (16)	**2 → 1** only under seat	65 (4.5)	116 (8)	2.48 (63)	40 (580)
25/32 (20)	10.18 (8.7)	10.18 (8.7)	232 (16)					40 (580)
63/64 (25)	14.86 (12.7)	16.85 (14.4)	203 (14)	**2 → 1** only under seat	65 (4.5)	116 (8)	3.54 (90)	40 (580)
1 17/64 (32)	23.87 (20.4)	26.68 (22.8)	174 (12)					25 (362)
1 37/64 (40)	34.75 (29.7)	40.01 (34.2)	116 (8)					25 (362)
2 (50)	42.47 (36.3)	45.63 (39)	87 (6)					16 (232)

Notes

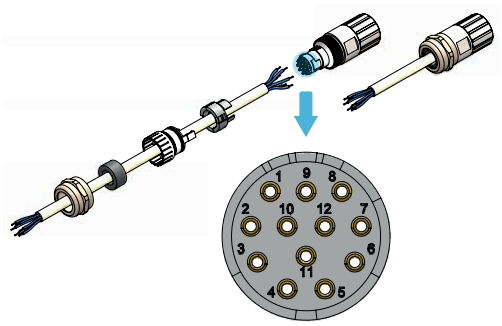
1. Steam max. working pressure 145 psi / 131 psig (10 bar / 9 barg)
2. PN10 for version with clamp connection, all sizes

Control Piston Actuated Valve with Integrated Positioner

19/32 to 2 orifice (DN15 to DN50) – Stainless Steel

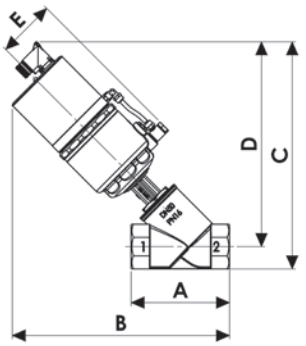
Electrical Connection Pin Connector

PIN No	Function
1	+ 24VDC (supply power)
2	0-10V (+) set-point
3	4-20mA (+) set-point
4	0 (common set-point)
5	Alarm signal: 0V the valve works properly / +24V valve on alarm
6	Test point
7	Auto set-up/remote reset
8	0 (supply power)
9	Earth
10	Pre-set configuration
11	NC
12	Pre-set configuration



NPT - ISO 228G - WELDED ENDS

Dimensions & Weights		19/32 orifice (DN15)	25/32 orifice (DN20)	63/64 orifice (DN25)	1 17/64 orifice (DN32)	1 37/64 orifice (DN40)	2 orifice (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**		**Ø 3.54 (90)**			
A	in (mm)	2.52 (64)	2.95 (75)	3.54 (90)	4.33 (110)	4.72 (120)	5.91 (150)
B	in (mm)	11.57 (294)	11.85 (301)	12.44 (316)	12.95 (329)	13.15 (334)	13.86 (352)
C	in (mm)	11.12 (282.5)	11.42 (290)	12.01 (305)	12.48 (317)	12.80 (325)	13.39 (340)
D	in (mm)	10.59 (269)	10.79 (274)	11.22 (285)	11.52 (292.5)	11.71 (297.5)	12.07 (306.5)
E	in (mm)	2.95 (75)	2.95 (75)	3.46 (88)	3.46 (88)	3.46 (88)	3.46 (88)
Weight	Lb (kg)	5.29 (2.4)	5.51 (2.5)	7.28 (3.3)	8.16 (3.7)	8.60 (3.9)	10.14 (4.6)



FLANGED EN1092-1

Dimensions & Weights		19/32 orifice (DN15)	25/32 orifice (DN20)	63/64 orifice (DN25)	1 17/64 orifice (DN32)	1 37/64 orifice (DN40)	2 orifice (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**		**Ø 3.54 (90)**			
A	in (mm)	5.12 (130)	5.91 (150)	6.30 (160)	7.09 (180)	7.87 (200)	9.06 (230)
B	in (mm)	12.72 (323)	12.99 (330)	13.54 (344)	14.13 (359)	14.21 (361)	15.12 (384)
C	in (mm)	13.37 (339.5)	13.76 (349.5)	14.35 (364.5)	15.20 (386)	15.51 (394)	16.24 (412.5)
D	in (mm)	11.50 (292)	11.69 (297)	12.09 (307)	12.44 (316)	12.56 (319)	12.99 (330)
E	in (mm)	2.95 (75)	2.95 (75)	3.46 (88)	3.46 (88)	3.46 (88)	3.46 (88)
Weight	Lb (kg)	8.38 (3.8)	9.26 (4.2)	12.57 (5.7)	16.09 (7.3)	18.08 (8.2)	22.93 (10.4)

FLANGED ANSI B16.5

Dimensions & Weights		19/32 orifice (DN15)	25/32 orifice (DN20)	63/64 orifice (DN25)	1 17/64 orifice (DN32)	1 37/64 orifice (DN40)	2 orifice (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**		**Ø 3.54 (90)**			
A	in (mm)	5.50 (139.7)	6 (152.4)	6.50 (165.1)	7.25 (184.2)	8 (203.2)	9 (228.6)
B	in (mm)	12.64 (321)	12.87 (327)	13.50 (343)	14.06 (357)	14.21 (361)	15.12 (384)
C	in (mm)	13.25 (336.5)	13.62 (346)	14.21 (361)	14.76 (375)	15.06 (382.5)	15.98 (406)
D	in (mm)	11.50 (292)	11.69 (297)	12.09 (307)	12.44 (316)	12.56 (319)	12.99 (330)
E	in (mm)	2.95 (75)	2.95 (75)	3.46 (88)	3.46 (88)	3.46 (88)	3.46 (88)
Weight	Lb (kg)	8.38 (3.8)	9.26 (4.2)	12.57 (5.7)	16.09 (7.3)	18.08 (8.2)	22.93 (10.4)

CLAMP ISO 2852

Dimensions & Weights		19/32 orifice (DN15)	25/32 orifice (DN20)	63/64 orifice (DN25)	1 17/64 orifice (DN32)	1 37/64 orifice (DN40)	2 orifice (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**		**Ø 3.54 (90)**			
A	in (mm)	4.02 (102)	4.49 (114)	5.51 (140)	6.26 (159)	6.26 (159)	7.48 (190)
B	in (mm)	12.32 (313)	12.62 (320.5)	13.43 (341)	13.92 (353.5)	13.92 (353.5)	14.65 (372)
C	in (mm)	11.26 (286)	11.46 (291)	12.20 (310)	12.52 (318)	12.97 (329.5)	13.39 (340)
D	in (mm)	10.59 (269)	10.79 (274)	11.22 (285)	11.52 (292.5)	11.71 (297.5)	10.7 (306.5)
E	in (mm)	2.95 (75)	2.95 (75)	3.46 (88)	3.46 (88)	3.46 (88)	3.46 (88)
Weight	Lb (kg)	5.51 (2.5)	5.95 (2.7)	8.16 (3.7)	9.04 (4.1)	9.92 (4.5)	11.68 (5.3)

CLAMP ASME BPE

Dimensions & Weights		19/32 orifice (DN15)	25/32 orifice (DN20)	63/64 orifice (DN25)	1 17/64 orifice (DN32)	1 37/64 orifice (DN40)	2 orifice (DN50)
Actuator	**in (mm)**	**Ø 2.48 (63)**		**Ø 3.54 (90)**			
A	in (mm)	4.02 (102)	4.49 (114)	5.51 (140)	/	6.26 (159)	7.48 (190)
B	in (mm)	12.32 (313)	12.62 (320.5)	13.43 (341)	/	13.92 (353.5)	14.65 (372)
C	in (mm)	11.12 (282.5)	11.42 (290)	12.20 (310)	/	12.80 (325)	13.39 (340)
D	in (mm)	10.59 (269)	10.79 (274)	11.22 (285)	/	11.71 (297.5)	10.7 (306.5)
E	in (mm)	2.95 (75)	2.95 (75)	3.46 (88)	/	3.46 (88)	3.46 (88)
Weight	Lb (kg)	5.51 (2.5)	5.95 (2.7)	8.16 (3.7)	/	9.92 (4.5)	11.68 (5.3)

/ = not available

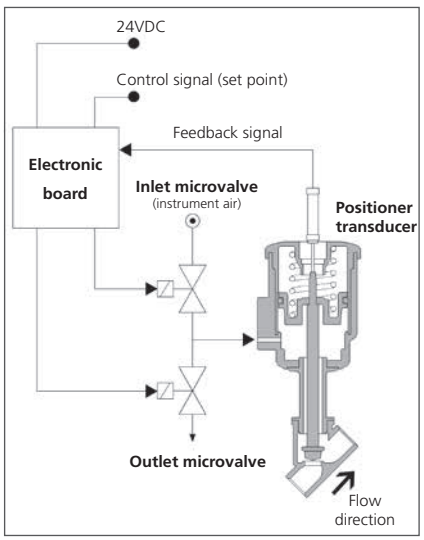
Control Piston Actuated Valve with Integrated Positioner

19/32 to 2 orifice (DN15 to DN50) – Stainless Steel

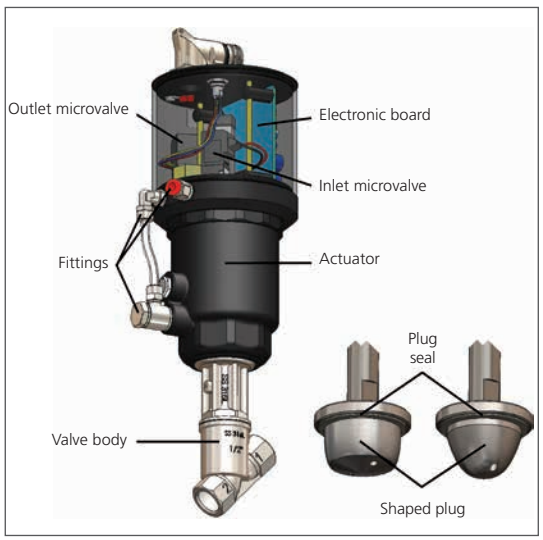
Operating Principles and Description

M&M control piston actuated valves are operated by a compact pneumatic integrated positioner working in a closed loop. Picture **A** shows the operating layout: the set-point signal (coming from the control panel of the plant) is compared with the internal signal (feed-back) of the position sensor. When the two values don't match, the electronic system inside the valve operates two microvalves (which open or close the pilot air feeding) to change the stroke until both signals match.

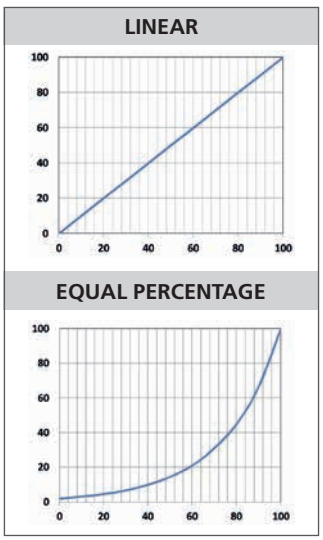
The proportionality between the stroke of the valve and the instantaneous flow is guaranteed by the special plug design: linear plug and equal percentage plug (Picture **C**) the graphs show an ideal curve, which cannot be reproduced exactly but varies according to the DN of the valve and the specific installation parameters. When fully closed the valve is leakage tight thanks to the soft seal, as in M&M standard on/off piston actuated valves (see Picture **B**).



Picture A



Picture B



Picture C

The pneumatic positioner is electronic and not programmable.

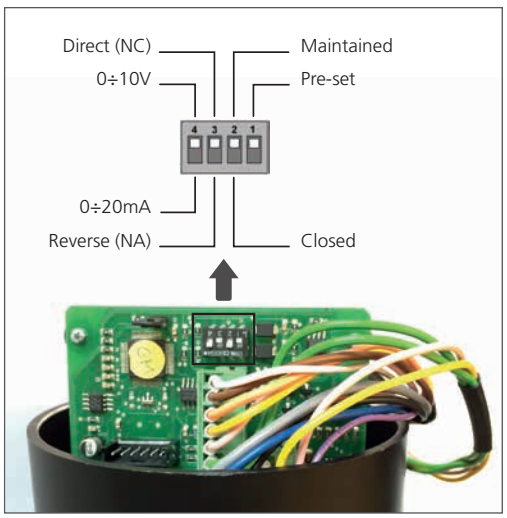
It accepts the most common set-point signals (4 to 20 mA; 0 to 10 V).

All calibration operations are automatically implemented by pushing a LED button on top of the control box (integrated self-starter).

The pneumatic positioner can be fitted both to M&M Ø 2.48 in (63 mm) and Ø 3.54 in (90 mm) pneumatic actuators (this version must be expressely requested upon order).

Fluid direction always under seat!

Control Piston Actuated Valves with integrated positioner are set up, adjusted and tested by the manufacturer according to Customer's specifications and requests. The relevant parameters are set up by 4 DIP-switches (see Picture **D**).



Picture D

Electronic board:

Contact No. 1 – Pre-set configuration -

Contact No. 2 – Fail Safe Position -

Contact No. 3 – Function Set-up -

Contact No. 4 – Set Point -

Function set-up (contact No. 3)	Set Point	Valve status
Direct (NC)	0V or 4mA	Closed
	10V or 20mA	Open 100%
Reverse (NO)	0V or 4mA	Open 100%
	10V or 20mA	Closed

Travel Switch

Technical Specifications

The travel switch detects the open position of the valve relaying back an electrical signal. The signal is provided by a magnetic sensor with a non contact switch (free NC, NO switch).

Specifications	
Max. Switching Voltage	500V
Max. Switching Current	0,5 A
Max. Switching Power	30 W/VA
Max. Switching Frequency	150 Hz
Contact Actuation Time	4,5 ms
Repeatability	± 0,01 inch (± 0,3 mm)
Temperature Limits	-13° to 212° F (-25° C to 100° C)
Protection Class	IP67
Housing Material	Brass with electroless nickel plating treatment
Plug For Cable	0,0046x0,00077 inch²; Ø 0,16-0,24 inch (3x0,5 mm²; Ø 4-6 mm - DIN EN 60947/5/2)

Notes

The option must be expressly requested upon order
It is available for actuators sizes Ø 2.48 inches (63mm) & Ø 3.54 inches (90mm) only (e.g. code RPN205TWI0)
It is available only assembled ex-factory

Stroke Regulator

Features and Benefits

With the stroke regulator the flow be can manually adjusted from 0% to 100% integrated position indicator. In normally open valves it can also be used as manual override.

Notes

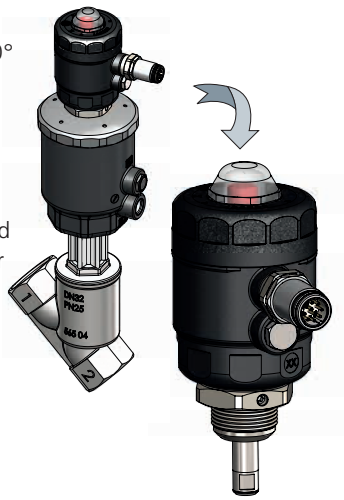
This option must be expressly requested upon order
It is available for actuators sizes Ø 2.48 inches (63mm) & Ø 3.54 inches (90mm) only (e.g. code CN205STWR0)
It is available only assembled ex-factory

Position Module for Piston Actuated Valve

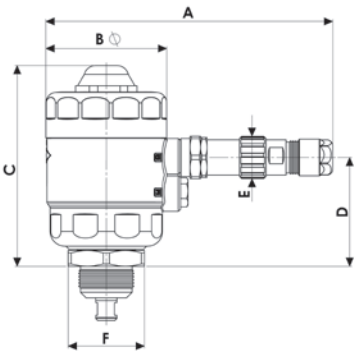
Specifications	
Electrical Position Feedback	Mechanical limit switches or inductive limit switches
Body/Cover Material	Polyamide PA6 (reinforced fiberglass 30%)
Connector Material	Copper-zinc alloy / aluminium alloy / cast zinc – nickel plating treatment
Electrical Connection	Connector M16 – 10 poles / wire Ø 0.20 - 0.35 inch (Ø 5 - 9 mm)
Ambient Temperature	14° to 140° F (-10° C to +60° C)
Protection Class	NEMA type 4 (UL 50) and IP65 (EN 60529)
Specifications: Mechancial Switches	
Number of Switches	2
Type of Switch	Change over contacts (NC and / or NO)
Contacts Material	Silver
Maximum Tension	Connector 230VAC with dirt level 2 / 160VAC with dirt level 3
Maximum Current	6A with resistive load - 2A with inductive load
Specifications: Inductive Switches	
Number of Switches	2
Output Version	Normally open contact (PNP)
Power Supply	12 to 24V DC
Maximum Load Current	50mA per output
Power Consumption	13mA max. at 24VDC without load

Features and Benefits

- Actuator housing rotation 360°
- Electrical feedback for position of piston actuated valves open or closed
- The position detection is carried out through two mechanical or inductive switches
- Retrofittable to installed M&M

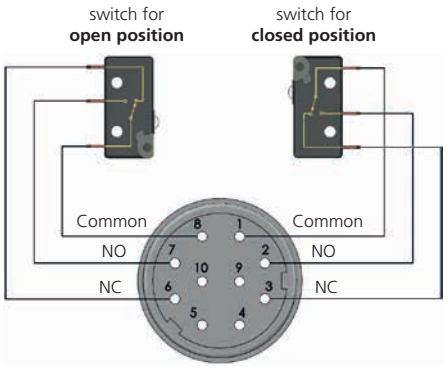


Dimensions & Weights		Position Module
Actuator	**in (mm)**	**1.77/2.48/3.54 (45/63/90)**
A	in (mm)	5.28 (134)
B	in (mm)	2.24 (57)
C	in (mm)	3.74 (95)
D	in (mm)	2.03 (51.5)
E	in (mm)	0.79 (20)
F	in (mm)	Hex 36
Weight	Lb (kg)	0.95 (0.43)



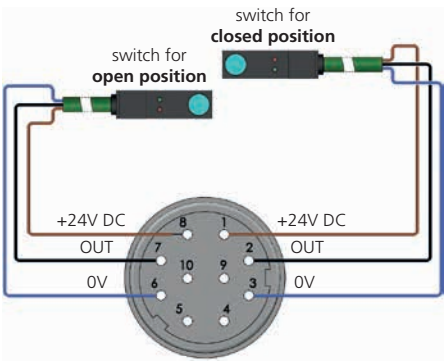
ELECTRICAL CONNECTION SCHEME FOR MECHANICAL SWITCHES

Connector frontal view:



ELECTRICAL CONNECTION SCHEME FOR INDUCTIVE SWITCHES

Connector frontal view:



Position Module	Actuator Ø	Electrical Position Feedback
Code	**in (mm)**	—
857 030-	2.48/3.54 (63/90)	Mechanical
857 040-	1.77 (45)	
857 031-	2.48/3.54 (63/90)	Inductive
857 041-	1.77 (45)	

Travel Switch Conversion Kit for Piston Actuated Valve

Features and Benefits

Kit suitable for all M&M International pneumatic valves.

It allows the installation of a position sensor on top of the actuator. The sensor can be magnetic or inductive and provides an electrical signal indicating the open position of the valve (this is a function different from the position module, which detects the actual valve position: open or closed).

The sensor is not included.

The kit is recommendable for magnetic or inductive sensors with threaded body having an external diameter size up to 0.47 in (12mm) max.

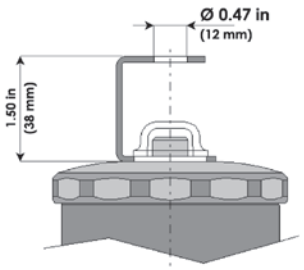
You can install a sensor having a larger diameter (up to 0.71 in / 18 mm max.) in this case you shall re-drill the upper hole on the sensor support bracket.

The valve position is visible through the transparent sight dome.

- Simple to retrofit
- Suitable for magnetic or inductive commercial switches with M12 or M8 thread

Code **857 018 00-** includes: support bracket, transparent dome, red position indicator with built-in magnet (switch and plug not included, see below).

CONVERSION KIT code 857 018 00-:



Magnetic Switch for Conversion Kit

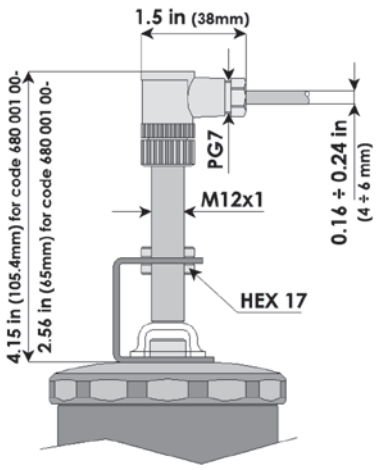
M&M offers 2 types (type **A** or type **B** see below) of standard magnetic switches to be purchased in addition to the conversion kit. Other types of switches can be outsourced directly by the customer, provided that they comply with M&M kit mounting specifications.

Notes: 2 conversion kits complete with sensors are available:

Code **857 019 00-** includes: support bracket, transparent dome, red position indicator, magnet, connector code 600 012 00- and sensor code 680 001 00-.

Code **857 020 00-** includes: support bracket, transparent dome, red position indicator, magnet, sensor with cable code 680 002 00-.

Technical Specifications		
Magnetic Switches	**• Type A code 680 001 00-**	**• Type B code 680 002 00-**
Contact:	Free NC, NO switch	Free NC, NO switch
Repeatability:	± 0,01 inch (± 0,3 mm)	± 0,01 inch (± 0,3 mm)
Temperature Limits:	-13° to 212° F (-25° C to +100° C)	-13° to 212° F (-25° C to +100° C)
Protection Class:	NEMA type 6 (IP 67)[1]	NEMA type 6 (IP 67)[1]
Max. Switching Voltage:	500 V	150 V
Max. Switching Current:	0,5 A	1 A
Max. Switching Power:	30 W/VA	20 W/VA
Contact Actuation Time:	4,5 ms	2 ms
Connection:	Plug to screw clamp connection DIN IEC 60947/5/2	With moulded cable (16,4 foot/5 m)
Cable:	0,0046x0,00038 inch² (3x0,25 mm²)	0,0046x0,00038 inch² (3x0,25 mm²)

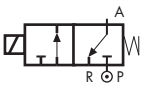


[1] The complete assembly of PAV with magnetic switches is rated IP65

• Type A
CONNECTOR code 600 012 00-
+ SWITCH code 680 001 00-

• Type B
SWITCH AND CABLE (16.40 foot/5m) code 680 002 00-

B356 & B326 Series, Pilot Solenoid Valve with Manual Override –
3/2 Normally Closed

Specifications	
Function (single acting)	 flow direction underseat 2 → 1
Maximum Viscosity	max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation) with electroless nickel plating treatment
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F or equivalent
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to industrial form B
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 9VA (holding) AC 14VA (inrush) DC 6W

Features and Benefits

- Expressly designed to pilot M&M Piston Actuated Valves with actuator size Ø 1.77 in (45mm) & Ø 2.48 in (63mm)
- Valve rotation 360° around port
- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Standard manual override
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice Size in (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.05	0.04	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/16 (1.5)	FKM	B356CVCW
1/8	0.05	0.04	0 - 145 (0 - 10)	0 - 145 (0 - 10)	1/16 (1.5)	FKM	B326CVCW

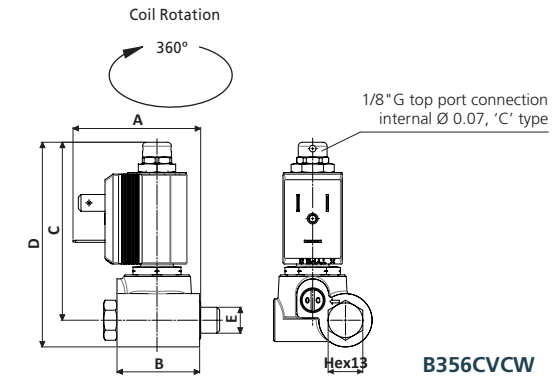
Options Available

Valve options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 7W - AC 10VA

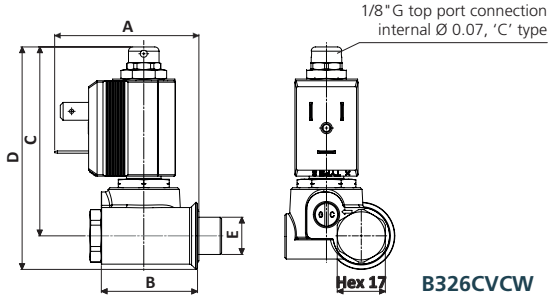
Seal Material[1] and media temperature range	Media	Ambient Temperature Range	
		Min	Max
FKM 14° F to 140° F (-10° C to +60° C)	water, inert gases, air	14° F (-10° C)	140° F (+60° C)

[1] See corrosion reference guide and sealing solutions for material compatability.

B356 & B326 Series, Pilot Solenoid Valve with Manual Override –
3/2 Normally Closed

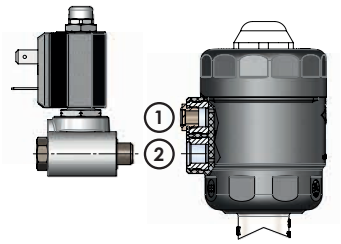


B356CVCW



B326CVCW

Assembling scheme:



Preferred Valve Mounting Options

Screw the pilot valve bolt into the inlet port of the piston valve actuator using a maximum torque level of 5 Nm:

- into hole ① for **NORMALLY OPEN VALVES** (RPN/RCN)
- into hole ② for **NORMALLY CLOSED VALVES** (PN-BPN/CN-BCN)

Valve Type	A	B	C	D	E	Weight Lb (kg)
B356-	1.89 (48)	1.22 (31)	2.64 (67)	3.03 (77)	1/8" G	0.55 (0.25)
B326-	2.01 (51)	1.34 (34)	2.64 (67)	3.11 (79)	1/4" G	0.55 (0.25)

Dimensions inches (mm)

2--R c UL us Type Coil - Insulation class F

External material:	PET 815ER Rynite®
Electrical connection:	Industrial form B
Winding insulation:	Class H (P180)
Enclosure classification:	Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No:	E193928

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 001- Plug

Rated Voltage (max.):	250v AC / 300 DC
Nominal Current:	10A (rated) / 16A (max)
Wire cross-section:	0.0023 inch² max (1.5 mm² max)
Cable Entry:	PG9 (0.24 to 0.31 inch / 6 to 8mm)
Enclosure classification:	Conforms to IP65 (according to EN 60529 with supplied gasket
Insulation class:	group C- VDE 0110
Housing colour:	black
UL approved, file No:	E205538

Coding chart

Main Valve Assembly

Valve Type	
56	for actuator size Ø 1.77 in (45mm)
26	for actuator size Ø 2.48 in (63mm)

Thread Pipe[1]	
W	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class F	
225R	24V DC
220R	24V 50Hz
240R	110V 50Hz - 120V 60Hz
270R	230V 50Hz - 240V 60Hz

Plug

Plug	
0B1	c/w plug
	w/o plug

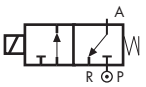
B	3	•	•	C	V	C	W	•	•	•	•	•	•	•	•

[1] Body with manual override

Product coding example:

B356CVCW 240R
1/8 NPT, auto operation, brass body with electroless nickel plating treatment, FKM seals, 1/16 orifice, with manual override, 110V 50Hz - 120V 60Hz, without plug

D326 Series, Pilot Solenoid Valve with Manual Override –
3/2 Normally Closed

Specifications	
Function (single acting)	 flow direction underseat 2 → 1
Maximum Viscosity	max. 21cST (3 °E)
Body Material (Std)	Brass C37700 (UNS Designation) with electroless nickel plating treatment
Tube	Stainless Steel AISI 304
Flange	Stainless Steel AISI 303 (1.4305 EN 10088)
Plunger	Stainless Steel AISI 430F or equivalent
Top Stop	Stainless Steel AISI 430F (1.4105 EN 10088)
Springs	Stainless Steel AISI 302
Seal Material (Std)	Foodgrade FKM
Connection Type	NPT
Shading Ring	Copper
Electrical Characteristics	
Coil Voltage DC (=)	24 V
Coil Voltage AC 50 Hz (~)	24 V, 110 V, 230 V
Coil Voltage AC 60Hz (~)	120 V, 240 V
Voltage Tolerance	+10% to -15% (AC)
	+10% to -5% (DC)
Duty Cycle	100% ED
Enclosure classification	NEMA type 4 (UL 50) and IP65 (EN 60529) with plug and gasket correctly fitted *
Electrical Connection	to EN 175301 - 803 - A (ex DIN 43650)
Coil Insulation Class	155 (F) to UL429 and to EN 60730-1
Power Rating (c UL us Coils)	AC 15VA (holding) AC 30VA (inrush) DC 10 W

Features and Benefits

- Expressly designed to pilot M&M Piston Actuated Valves with actuator size Ø 3.54 in (90mm)
- Valve rotation 360° around port
- Direct Acting
- Robust construction for industrial applications
- Zero pressure rated
- Stainless steel AISI 430F operators with low residual magnetism
- Standard manual override
- High quality seal materials
- Response time 5 to 25 ms

Pipe Size	Cv (gpm)	Kv (m^3/h)	OPD psi (bar)		Orifice Size in (mm)	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.08	0.09	0 - 145 (0 - 10)	0 - 145 (0 - 10)	5/64 (2.0)	FKM	D326CVEW

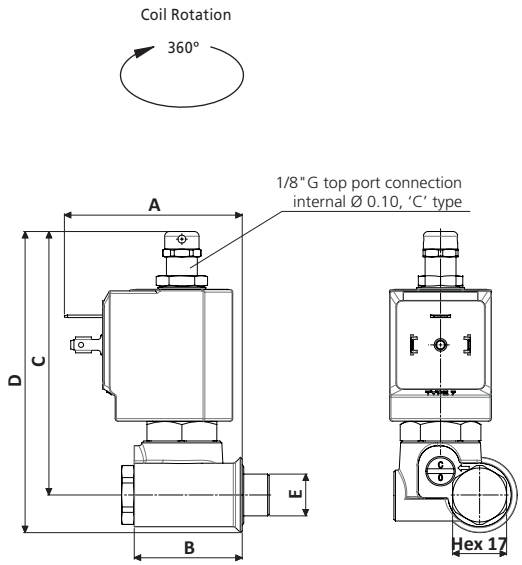
Options Available

Valve options (see coding chart)
G parallel thread (ISO 228-1)
CE coils, power DC 14W - AC 18VA

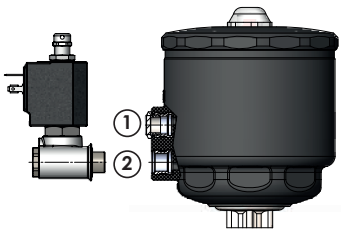
Seal Material[1] and media temperature range	Media	Ambient Temperature Range	
		Min	Max
FKM 14° F to 140° F (-10° C to +60° C)	water, inert gases, air	14° F (-10° C)	140° F (+60° C)

[1] See corrosion reference guide and sealing solutions for material compatability.

D326 Series, Pilot Solenoid Valve with Manual Override –
3/2 Normally Closed



Assembling scheme:



Preferred Valve Mounting Options

Screw the pilot valve bolt into the inlet port of the piston valve actuator using a maximum torque level of 5 Nm:

- into hole ① for **NORMALLY OPEN VALVES** (RPN/RCN)
- into hole ② for **NORMALLY CLOSED VALVES** (PN-BPN/CN-BCN)

Valve Type	A	B	C	D	E	Weight Lb (kg)
D326-	2.20 (56)	1.34 (34)	3.27 (83)	3.74 (95)	1/4" G	0.66 (0.30)

Dimensions inches (mm)

Solenoid enclosures

7--R c UL us Type Coil - Insulation class F

Encapsulation material: PET 815ER Rynite®
Electrical connection: DIN EN 175301-803 form A
Winding insulation: Class H (P180)
Enclosure classification: Conforms to NEMA type 4 (UL 50) and IP65 (according to EN 60529) with plug and gasket correctly fitted*
UL approved, file No: E193928

* Plug and gasket not supplied as standard, must be ordered separately

Type 600 011- Plug

Rated Voltage (max.): 250v AC / 300 DC
Nominal Current: 10A (rated) / 16A (max)
Wire cross-section: 0.0023 inch² max (1.5 mm² max)
Cable Entry: PG9 (0.24 to 0.31 inch / 6 to 8mm)
Enclosure classification: Conforms to IP65 (according to EN 60529) with supplied gasket
Insulation class: group C- VDE 0110
Housing colour: black
UL approved, file No: E205538

Coding chart

Main Valve Assembly

Thread Pipe[1]	
W	NPT
	GAS

Coil options

Voltage / Frequency - c UL us Type, Class F	
725R	24V DC
720R	24V 50Hz
740R	110V 50Hz - 120V 60Hz
770R	230V 50Hz - 240V 60Hz

Plug

Plug	
	w/o plug
0A1	c/w plug

D	3	2	6	C	V	E	W	•	•	•	•	•	•	•	•

[1] Body with manual override

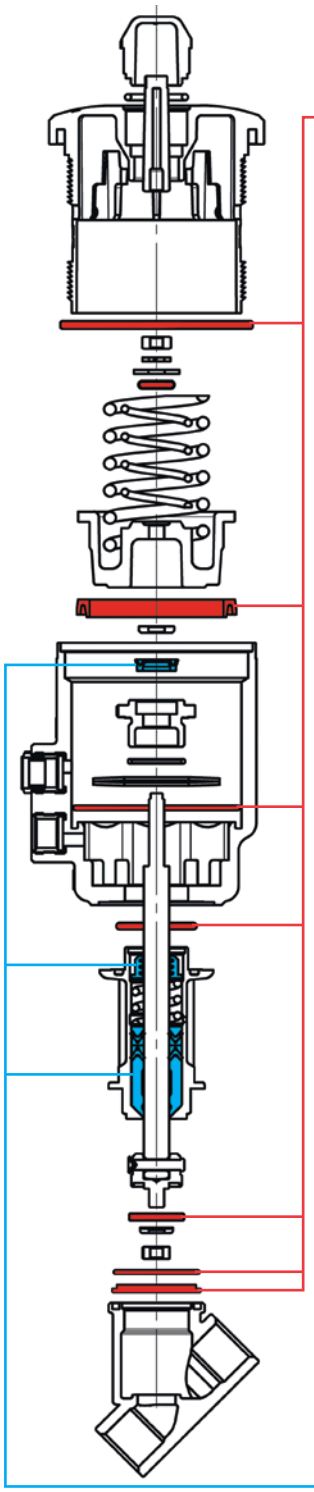
Product coding example:

D326CVEW 725R
1/4 NPT, auto operation, brass body with electroless nickel plating treatment, FKM seals, 5/64 orifice, with manual override, 24V DC, without plug

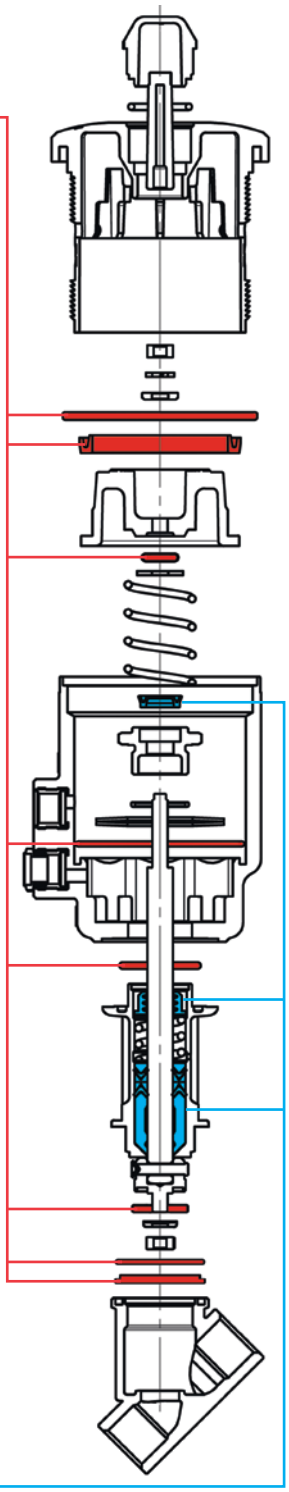
Seal Kit for Stainless Steel Valves Actuator Ø 2.48/3.54in (63/90mm)

Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.
To replace seals, please refer to the instruction manual provided with the valve.

Normally Closed



Normally Open



SPARE PARTS KIT: Lip seal, o-rings, main seal, body seal			
Kit code	**DN in (mm)**	**Valve Type[1]**	**Actuator**
856 111 00-	19/32 (15)	PG/RPG/BPG- PN/RPN/BPN- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA- PC/RPC/BPC- PP/RPP/BPP- PR/RPR/BPR- High Temperature Version	Ø 2.48 in (63 mm)
856 122 00-	25/32 (20)		
856 133 00-	63/64 (25)		
856 144 00-	1 17/64 (32)		
856 155 00-	1 37/64 (40)		
856 166 00-	2 (50)		
856 611 00-	19/32 (15)	DPG/DPN-	
856 622 00-	25/32 (20)		
856 633 00-	63/64 (25)		
856 644 00-	1 17/64 (32)		
856 655 00-	1 37/64 (40)		
856 666 00-	2 (50)		
856 313 00-	63/64 (25)	PG/RPG/BPG- PN/RPN/BPN- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA- PC/RPC/BPC- PP/RPP/BPP- High Temperature Version	Ø 3.54 in (90 mm)
856 314 00-	1 17/64 (32)		
856 315 00-	1 37/64 (40)		
856 316 00-	2 (50)		

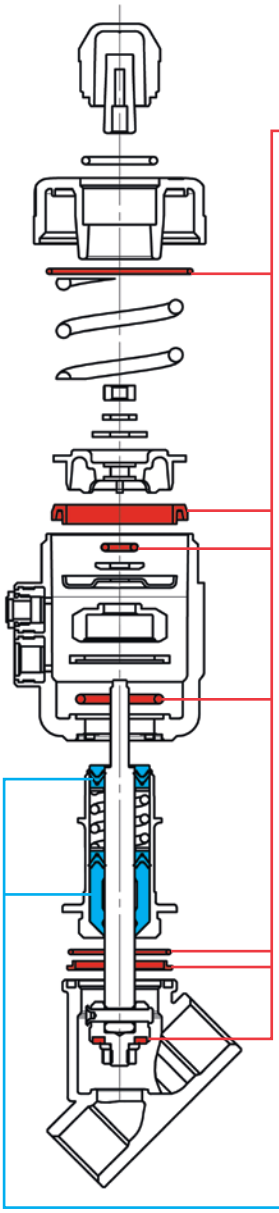
STEM SEALS KIT			
Kit Code	**DN**	**Valve Type[1]**	**Actuator**
856 802 00-	all	PG/RPG/BPG/DPG- PN/RPN/BPN/DPN- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA- PC/RPC/BPC- PP/RPP/BPP- PR/RPR/BPR-	Ø 2.48/3.54 in (63/90 mm)
856 900 00-	19/32 (15)	High Temperature Version	Ø 2.48 in (63 mm)
856 901 00-	25/32 (20)		
856 902 00-	63/64 (25)		
856 903 00-	1 17/64 (32)	High Temperature Version	Ø 3.54 in (90 mm)
856 904 00-	1 37/64 (40)		
856 905 00-	2 (50)		

1. Included versions with optional: stroke regulator (e.g. code PB208STZR0) and travel switch version (e.g. code BPN209LTKI0)

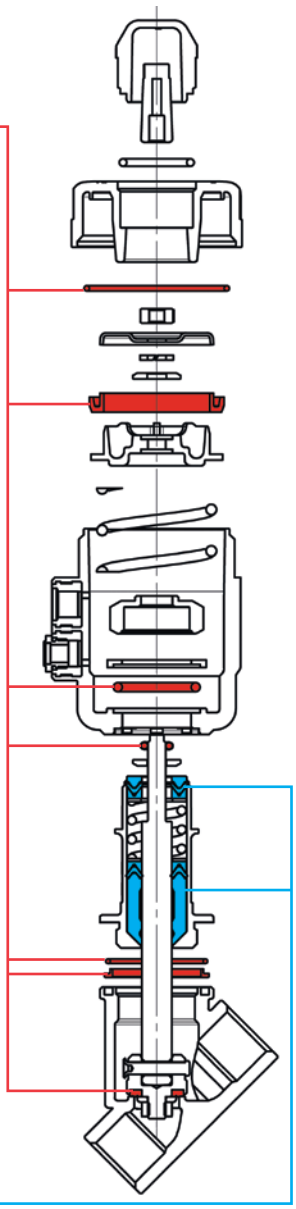
Seal Kit for Stainless Steel Valves Actuator Ø 1.77in (45mm)

Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.
To replace seals, please refer to the instruction manual provided with the valve.

Normally Closed



Normally Open



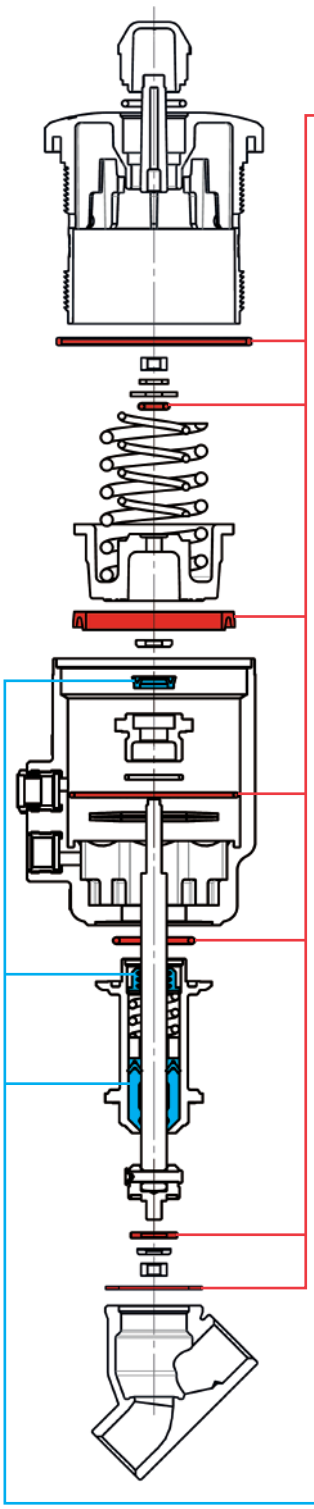
SPARE PARTS KIT: Lip seal, o-rings, main seal, body seal			
Kit Code	**DN**	**Valve Type**	**Actuator**
856 011 00-	19/32 (15)	PG/RPG/BPG- PN/RPN/BPN- PB/RPB/BPB- PC/RPC/BPC- PP/RPP/BPP- PR/RPR/BPR	Ø 1.77 in (45 mm)
856 012 00-	25/32 (20)		
856 013 00-	19/32 (15)	DPG/DPN-	
856 014 00-	25/32 (20)		

STEM SEALS KIT			
Kit code	**DN**	**Valve Type**	**Actuator**
856 801 00-	all	all	Ø 1.77 in (45 mm)

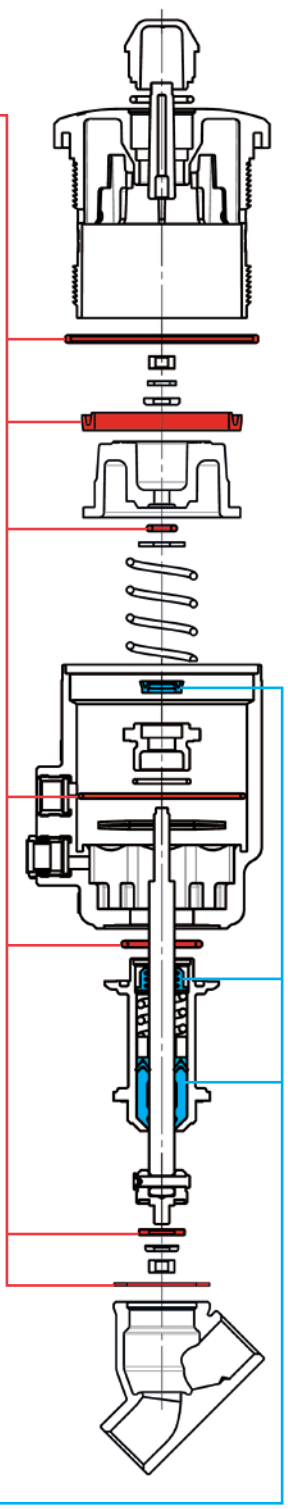
Seal Kit for Bronze Valves Actuator Ø 2.48/3.54in (63/90mm)

Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.
To replace seals, please refer to the instruction manual provided with the valve.

Normally Closed



Normally Open



SPARE PARTS KIT: Lip seal, o-rings, main seal, flat seal			
Kit Code	**DN**	**Valve Type[1]**	**Actuator**
856 112 00-	19/32 (15)	CG/RCG/BCG-CN/RCN/BCN-	Ø 2.48 in (Ø 63 mm)
856 123 00-	25/32 (20)		
856 134 00-	63/64 (25)		
856 145 00-	1 17/64 (32)		
856 156 00-	1 37/64 (40)		
856 167 00-	2 (50)		
856 612 00-	19/32 (15)	DCG/DCN-	
856 623 00-	25/32 (20)		
856 634 00-	63/64 (25)		
856 645 00-	1 17/64 (32)		
856 656 00-	1 37/64 (40)		
856 667 00-	2 (50)		
856 317 00-	63/64 (25)	CG/RCG/BCG-CN/RCN/BCN-	Ø 3.54 in (Ø 90 mm)
856 318 00-	1 17/64 (32)		
856 319 00-	1 37/64 (40)		
856 320 00-	2 (50)		

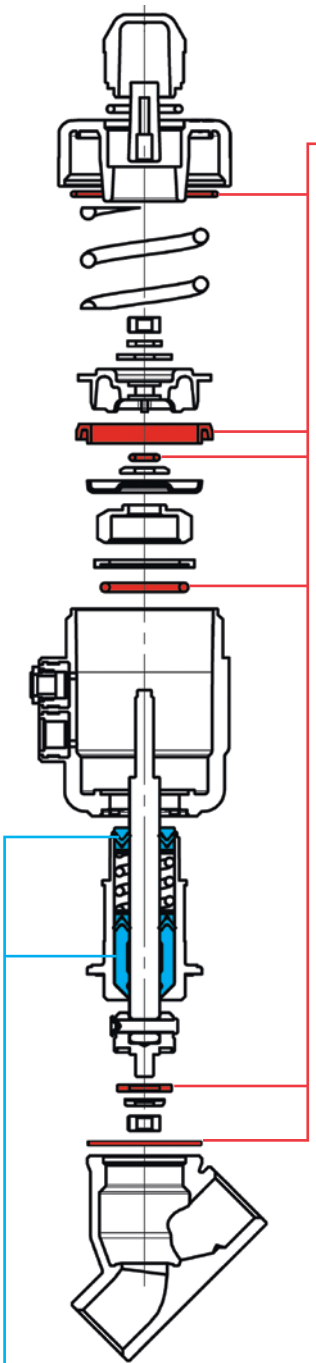
STEM SEALS KIT			
Kit Code	**DN**	**Valve Type[1]**	**Actuator**
856 802 00-	all	CG/RCG/BCG-/DCG-CN/RCN/BCN/DCN-	Ø 2.48/3.54 in (63/90 mm)

1. Included versions with optional: stroke regulator (e.g. code CN206STXR0) and travel switch version (e.g. code BCN210LTJI0)

Seal Kit for Bronze Valves Actuator Ø 1.77in (45mm)

Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.
To replace seals, please refer to the instruction manual provided with the valve.

Normally Closed



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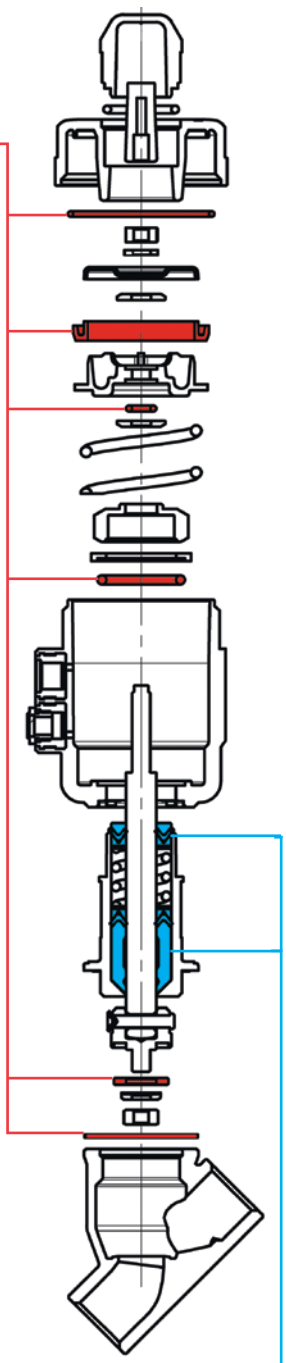


SPARE PARTS KIT: Lip seal, o-rings, main seal, flat seal			
Kit Code	**DN**	**Valve Type**	**Actuator**
856 015 00-	19/32 (15)	CG/RCG/BCG-CN/RCN/BCN-	Ø 1.77 in (45 mm)
856 016 00-	25/32 (20)		
856 017 00-	63/64 (25)		
856 018 00-	19/32 (15)	DCG/DCN-	
856 019 00-	25/32 (20)		
856 020 00-	63/64 (25)		

STEM SEALS KIT			
Kit Code	**DN**	**Valve Type**	**Actuator**
856 801 00-	all	all	Ø 1.77 in (45 mm)

Protection class, IP ratings

Enclosure Protection - Non Hazardous locations, Comparison of American Nema classification & European CENELEC IP classification

Nema type & relevant tests	Description	Equivalent degree of protection
1	General purpose - indoor	IP30
2	Drip proof - indoor	IP32
3	Dust and rain tight - outdoor	IP54
3R	Rain proof - outdoor	IP54
4	Water tight and dust tight - indoor and outdoor	IP65
4X	Water tight, dust tight and corrosion resistant - indoor and outdoor	IP65
6	Submersible, water tight and dust tight - indoor and outdoor	IP67
12	Industrial use, dust tight and drip proof - indoor	IP52
13	Oil tight and dust tight - indoor	IP55

IP No.	First number - protection again solids	Second number - protection against liquids
0	No protection	No protection
1	Protected against solid objects over 1.97 inches Ø (50mm Ø)	Protected against vertically falling drops of water
2	Protected against solid objects over 0.47 inches Ø (12mm Ø)	Protected against direct sprays up to 15° from vertical
3	Protected against solid objects over 0.10 inches Ø (2.5mm Ø)	Protected against direct sprays up to 60° from vertical
4	Protected against solid objects over 0.04 inches Ø (1mm Ø)	Protected against direct sprays from all directions limited ingress permitted.
5	Protected against dust-limited ingress permitted	Protected against low pressure jets from all directions limited ingress permitted
6	Totally protected against dust	Protected against strong jets from all directions limited ingress permitted
7		Protected against effects of immersion from 5.9 to 39.4 inches (15cm to 1m)
8		Protected against long periods of immersion under pressure

International Standards - Temperature classification

IEC 79-8 & CENELEC		Amercian NEC	
Class	**Max. surface temp**	**Class**	**Max. surface temp**
T1	842° F (450° C)	T1	842° F (450° C)
T2	572° F (300° C)	T2	572° F (300° C)
		T2A	536° F (280° C)
		T2B	500° F (260° C)
		T2C	446° F (230° C)
		T2D	419° F (215° C)
T3	392° F (200° C)	T3	392° F (200° C)
		T3B	329° F (165° C)
		T3C	320° F (160° C)
T4	275° F (135° C)	T4	275° F (135° C)
		T4A	248° F (120° C)
T5	212° F (100° C)	T5	212° F (100° C)
T6	185° F (85° C)	T6	185° F (85° C)

Conversions

Capacity & flow rate

Multiply number of / by / to obtain	Cubic metres/ hour	Litres /sec	Litres /min	Cubic metres/sec (cumec)	UK gpm	US gpm	Cubic ft/sec (cusec)	Water	
								UK ton/h	tonne/h
1 m^3/h	1	0.278	16.66	0.000278	3.666	4.4	0.00981	0.982	1
1 l/s	3.6	1	60	0.001	13.2	15.83	0.00353	3.528	3.6
1 l/m	0.06	0.0167	1	1.66x10-5	0.2199	0.264	0.000588	0.059	0.06
1 m^3/s	3600	1000	60,000	1	13,200	15,800	35,315	3532	3600
1 UK gpm	0.272	0.0757	4.546	0.000757	1	1.2	0.002267	0.268	0.272
1 US gpm	0.227	0.0632	3.785	0.000063	0.833	1	0.002233	0.223	0.227
1 ft^3/s	101.9	28.32	1698	0.0283	374	449	1	100	101.9
1 UK ton/h	1.02	0.283	17	0.000283	3.73	4.48	0.01	1	1.02
1 tonne/h	1.005	0.278	16.7	0.000278	3.666	4.41	0.0098	0.98	1

Volumetric rate of flow

Multiply number of / by / to obtain	Litres /sec	Litres /min	Cubic metres/ hour	Cubic ft/ hour	Cubic ft/ min	Imperial Gallons/min	U.S. Gallons/min	U.S. Barrels/day
Litres per sec	1	60	3.6	127.1	21.19	13.2	15.85	543.4
Litres per min	0.1667	1	0.06	2.119	0.03532	0.22	0.2642	9.057
Cubic metres per hour	0.2778	16.67	1	35.31	0.5886	3.666	4.403	150.9
Cubic Feet per hour	0.007865	0.4719	0.02832	1	0.01667	0.1038	0.1247	4.275
Cubic Feet per min	0.4719	28.32	1.6999	60	1	6.229	7.481	256.5
Imperial Gallons per min	0.07577	4.546	0.2727	9.633	0.1606	1	1.201	41.17
U.S. Gallons per min	0.06309	3.785	0.2271	8.021	0.1337	0.8327	1	34.29
U.S. Barrels per day	0.00184	0.1104	0.0006624	0.2339	0.0003899	0.02428	0.02917	1

1 MGD = 189.4 m^3/h 1 scfm = 1.699 Nm^3/h

Temperature

To convert from	To Fahrenheit	To Celcius	To Kelvin
Fahrenheit (F)	F	(F-32) * 5/9	(F-32) * 5/9 + 273.15
Celcius (C)	(C*9/5) + 32	C	C + 273.16
Kelvin (K)	(K - 273.15) * 9/5 + 32	K - 273.15	K

Pressure

Multiply number of / by / to obtain	bar	psi (lbf/in^2)	Cm water (39.2 °F, 4 °C)	Inch of water (39.2 °F, 4 °C)	Foot of water (39.2 °F, 4 °C)	Kilopascal (kPa)
Bar	1	14.503 77	1019.74	401.474	33.456 2	100
Psi (lbf/in2)	0.068 947 57	1	70.308 9	27.680 7	2.306 73	6.894 757
Cm water (39.2 °F, 4 °C)	0.000 980 638	0.014 223 0	1	0.393 701	0.032 808 4	0.098 063 8
Inch of water (39.2 °F, 4 °C)	0.002 490 82	0.036 123 3	2.54	1	0.083 333 4	0.249 082
Foot of water (39.2 °F, 4 °C)	0.029 889 8	0.433 515	30.48	12.021 3	1	2988 98
Kilopascal (kPa)	0.01	0.145 037 7	10.197 4	4.014 74	0.334 562	1

Corrosion reference guide

This chart is for general recommendation only. When ordering valves for corrosive duty application details are to be given, particularly media, % concentration, temperature and ambient temperature. For additional support please contact us.

	Valve Body					Seals				Notes
Material	Alum	Brass	Brz	CI	Stainless	Nitrile	EPDM	Viton	PTFE	
Acetic Acid 10%	NR	NR	NR	NR	•	NR	•	NR	•	1
Acetone	•	•	•	•	•	NR	•	NR	•	
Acetylene	NR	•	•	NR	•	NR	•	•	•	1
Air	•	•	•	•	•	•	•	•	•	
Ammonia Gas Anhydrous 20%	NR	NR	NR	•	•	NR	•	NR	•	
Argon Gas	•	•	•	NR	•	NR	•	•	•	
Beer	NR	NR	NR	NR	•	•	•	•	NR	
Benzene	•	•	•	NR	•	NR	NR	•	•	
Bromine (Liquid)	NR	NR	NR	NR	NR	NR	NR	•	NR	1
Butane	•	•	•	•	•	•	NR	•	•	
Carbon Dioxide (Gas)	•.	•.	•	•	•	•	•	•	•	
Carbon Dioxide (Liquid)	NR	NR	NR	NR	•	NR	NR	NR	•	
Carbon Tetrachloride (Dry)	NR	•	•	NR	•	NR	NR	•	•	
Carbonated Water	NR	NR	NR	NR	•	•	•	NR	•	
Caustic Soda 30%	NR	NR	NR	NR	•	NR	•	NR	•	
Chrome Acid 20% - 20C	NR	NR	NR	NR	•	NR	NR	•	•	
Chlorine Gas (Dry)	NR	NR	NR	NR	NR	NR	NR	•	•	1
Chlorine Liquid	NR	NR	NR	NR	NR	NR	NR	•	•	1
Chlorine in Water	NR	•	•	NR	•	•	•	NR	•	2
Coke Oven Gas	•	NR	NR	.	•	•	NR	NR	•	
Coolant	NR	•	•	NR	•	•	NR	•	•	
Creosote	•	NR	NR	NR	•	NR	NR	•	•	
Crude Oil	•	NR	NR	NR	•	•	NR	•	•	
De-ionized Water	NR	NR	NR	NR	•	•	•	•	•	
De-mineralised Water	NR	NR	NR	NR	•	•	•	•	•	
Detergents	NR	•	•	NR	•	•	•	•	•	
Diesel Oil	•	•	•	•	•	•	NR	•	•	
Distilled Water	NR	•	•	NR	•	•	•	•	•	
Ethyl Alchohol	NR	•	•	NR	•	•	•	•	•	
Ethylene Glycol	•	•	•	NR	•	•.	•	•	•	
Ethylene Oxide	NR	NR	NR	NR	•	NR	NR	NR	NR	1
Food Products	NR	NR	NR	NR	•	•	NR	•	NR	
Freon 12	NR	•	•		•	NR	NR	NR	•	
Freon 22	NR	NR	NR	NR	•	NR	NR	NR	•	
Freon Solvents	NR	•	•	NR	•	•	NR	NR	•	
Fuel Oil	•	•	•	NR	•	•	NR	•	•	
Gasoline	NR	•	•	NR	•	NR	NR	•	•	
Helium	•	•	•	NR	•	•	•	•	•	
Hydraulic Fluids	NR	•	•	NR	•	NR	NR	•	•	
Hydrochloric Acid	NR	NR	NR	NR	NR	NR	NR	NR	•	1
Hydrogen Gas	•	•	•	•	•	•	•	•	•	
Hydrogen Sulphide (dry)	NR	NR	NR	NR	•	NR	•	•	•	
Jet Fuel	•	NR	NR	NR	•	•	NR	•	•	
Kerosene	•	•	•	•	•	•	NR	•	•	

Notes:

1. Non-standard materials of construction are required.
2. Chlorine must not exceed 5 parts per million.

• = Recommended
NR = Not Recommended

Corrosion reference guide

This chart is for general recommendation only. When ordering valves for corrosive duty application details are to be given, particularly media, % concentration, temperature and ambient temperature. For additional support please contact us.

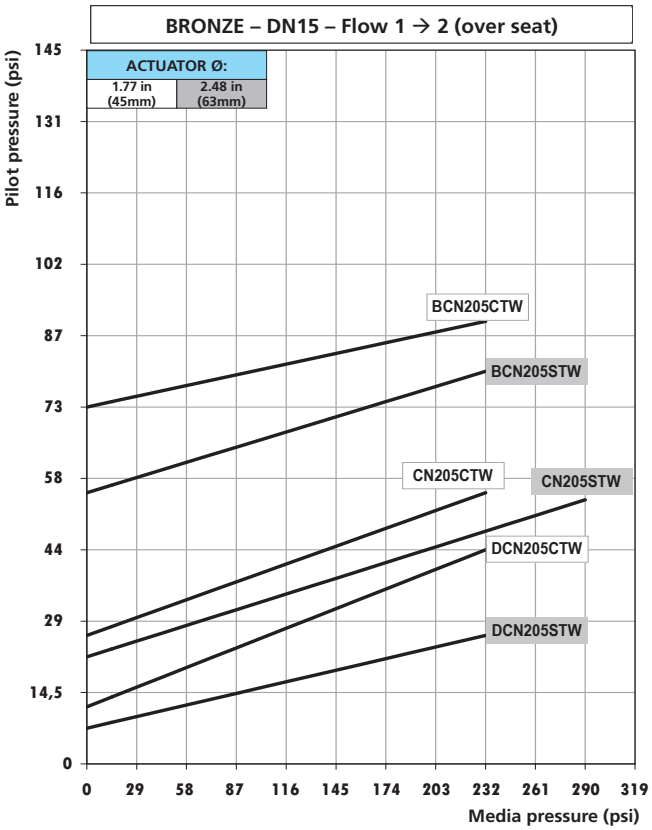
	Valve Body					Seals				Notes
Material	Alum	Brass	Brz	CI	Stainless	Nitrile	EPDM	Viton	PTFE	
LPG	•	•	•	NR	•	•	NR	•	•	
Lubricating Oil	•	•	•	•	•	NR	•	•	•	
Methane Gas	•	•	•	•	•	•	NR	•	•	
Methyl Alcohol	NR	•	•	•	•	•	•	•	•	
Mineral Oil	•	•	•	•	•	•	NR	•	•	
Natural Gas	•	•	•	•	•	•	•	•	•	
Natural Gas Liquid	NR	•	•	NR	•	NR	NR	NR	•	
Nitric Acid 50% 20C	NR	NR	NR	NR	•	NR	NR	•	•	
Nitrogen gas	•	•	•	•	•	•	•	•	•	
Nitrogen Liquid	NR	•	•	NR	•	NR	NR	NR	•	
Nitrous Oxide	NR	NR	NR	NR	•	NR	•	NR	•	
Oxygen Gas	NR	•	•	NR	•	NR	NR	•	•	
Oxygen Liquid	•	•	•	NR	•	NR	NR	NR	•	
Paraffin	•	•	•	NR	•	•	•	•	•	
Perchlcrenthylene 20C	NR	•	•	NR	•	NR	NR	•	•	
Phosperic Acid 30%	NR	NR	NR	•	NR	NR	•	•	•	1
Photographic solution	NR	NR	NR	NR	NR	NR	NR	NR	•	1
Potable water	NR	•	•	NR	•	•	•	•	•	
Potassium Sulphate	NR	NR	NR	•	•	•	•	•	•	
Propane	•	•	•	NR	•	•	NR	•	•	
Salt Water	NR	NR	•	NR	•	•	•	•	•	1
Sea Water	NR	NR	•	NR	•	•	•	•	•	1
Soapy Water	NR	•	•	NR	•	•	NR	•	•	
Sodium Hydroxide 70%	NR	NR	NR	NR	•	NR	•	•	•	
Sodium Hypochorite 5%	NR	NR	NR	NR	•	NR	•	•	•	
Steam 0 - 50 psi	NR	•	•	NR	•	NR	•	NR	•	
Steam 0 - 125 psi	NR	•	•	NR	•	NR	NR	NR	•	
Steam Condensate	NR	•	•	NR	•	NR	•	NR	•	
Sulphur Dioxide	NR	NR	NR	NR	•	NR	•	NR	•	
Sulphuric Acid 40%	NR	NR	NR	NR	NR	•	•	•	•	1
Sulphurous Acid 5% - 20C	NR	NR	NR	NR	NR	NR	NR	•	•	1
Toluene	•	•	•	NR	•	NR	NR	NR	•	
Town Gas	•	•	•	•	•	•	NR	•	•	
Trichlorethylene (Dry)	NR	NR	NR	NR	•	NR	NR	•	•	
Turpentine	•	•	•	NR	•	•	NR	•	•	
Vegetable Oil	NR	NR	NR	NR	•	•	NR	•	•	
Vinegar	NR	NR	NR	NR	•	NR	•	NR	•	1
Water (mains)	NR	•	•	•	•	•	•	•	•	
Water 176 to 248° F (80 to 120° C)	NR	•	•	NR	•	NR	•	•	•	
Water 248 to 302° F (120 to 150° C)	NR	•	•	NR	•	NR	NR	•	•	
Water 302 to 356° F (150 to 180° C)	NR	•	•	NR	•	NR	NR	NR	•	
Water boiler feed	NR	NR	NR	NR	•	•	•	NR	•	
Water/Glycol Solutions	NR	•	•	NR	•	NR	•	•	•	
White Spirit	•	•	•	•	•	NR	NR	•	•	

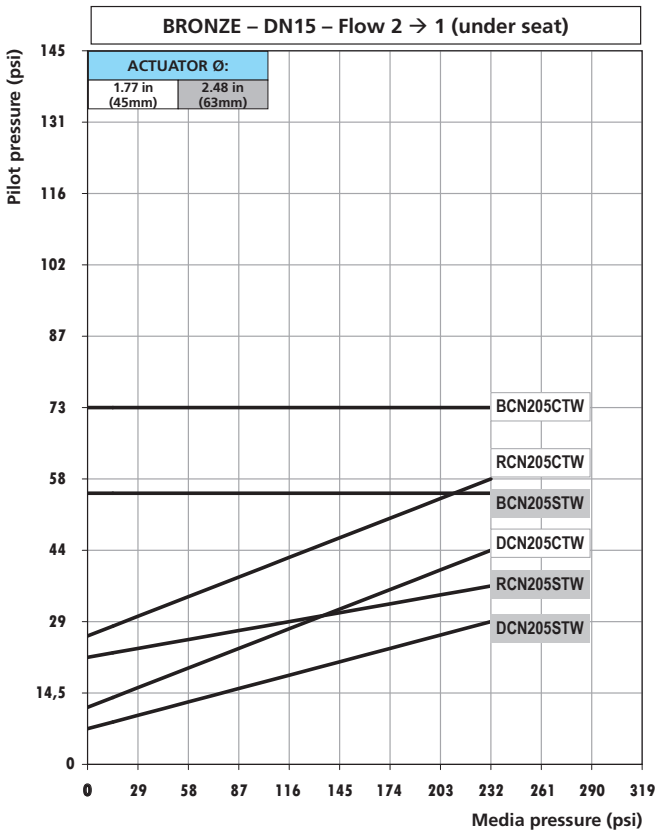
Notes:

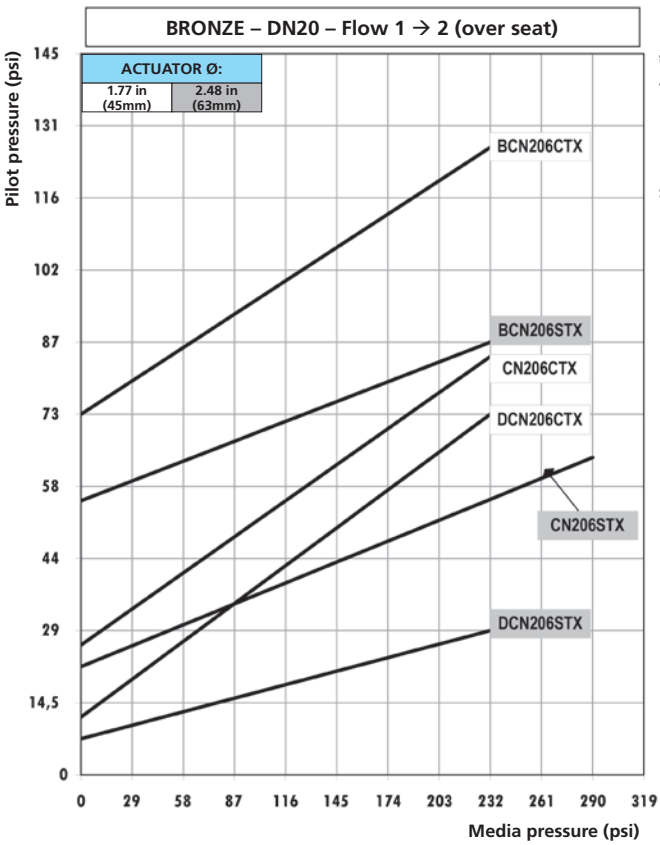
1. Non-standard materials of construction are required.
2. Chlorine must not exceed 5 parts per million.

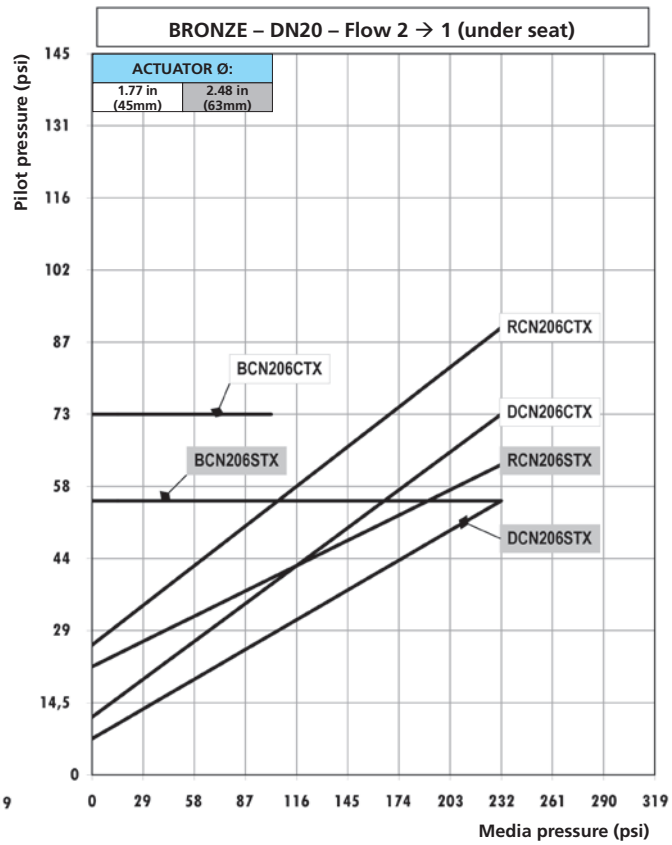
• = Recommended
NR = Not Recommended

Bronze Valves Comparative Charts 19/32 to 25/32 orifice (DN15 to DN20)



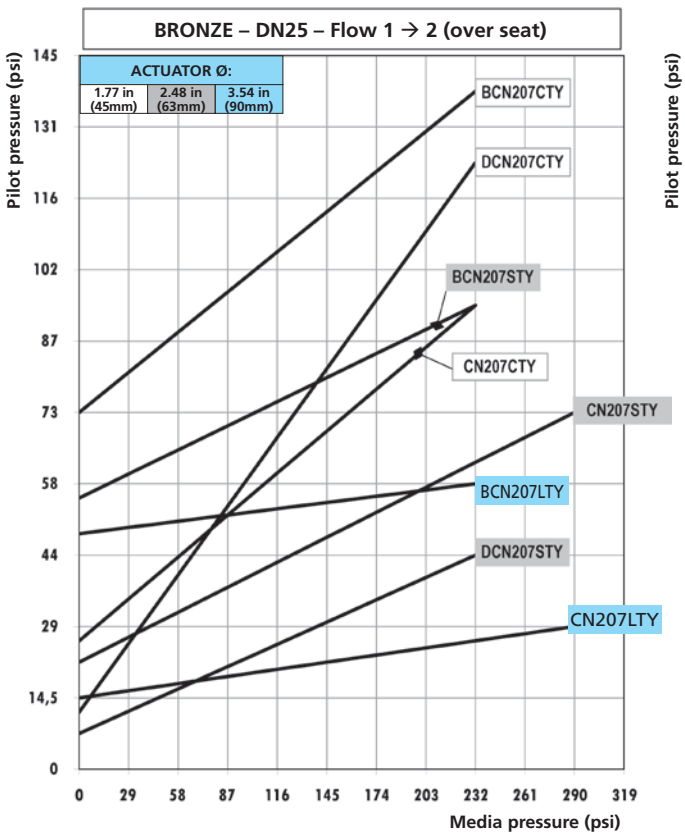


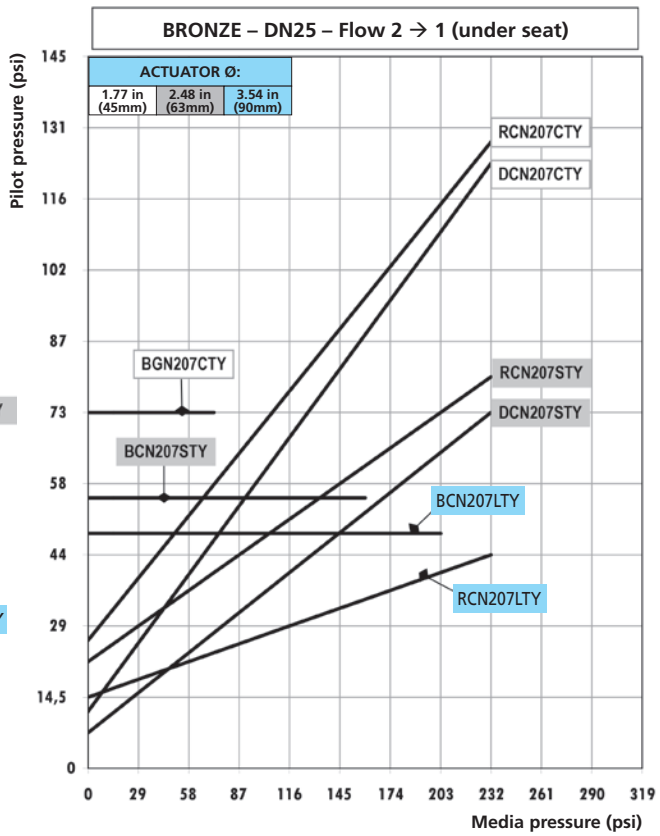


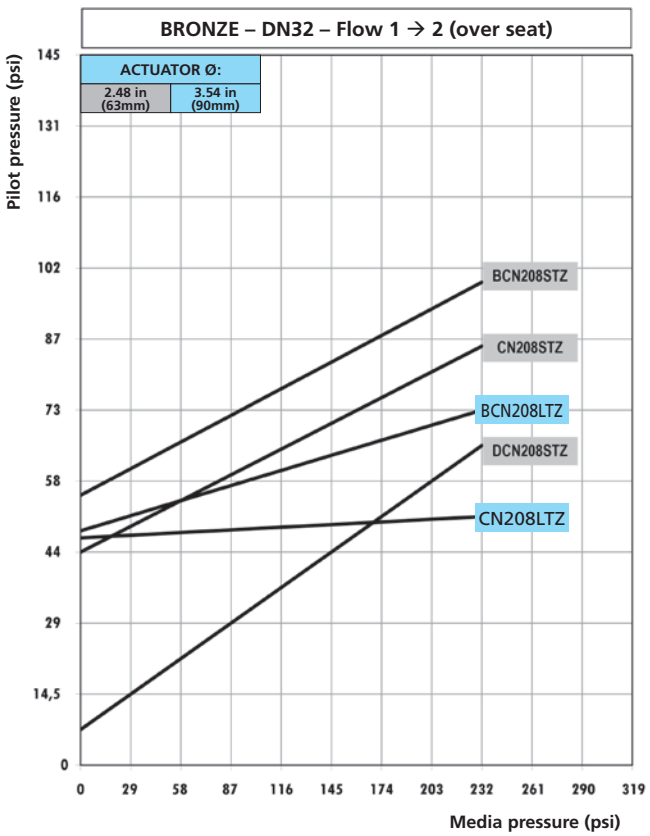


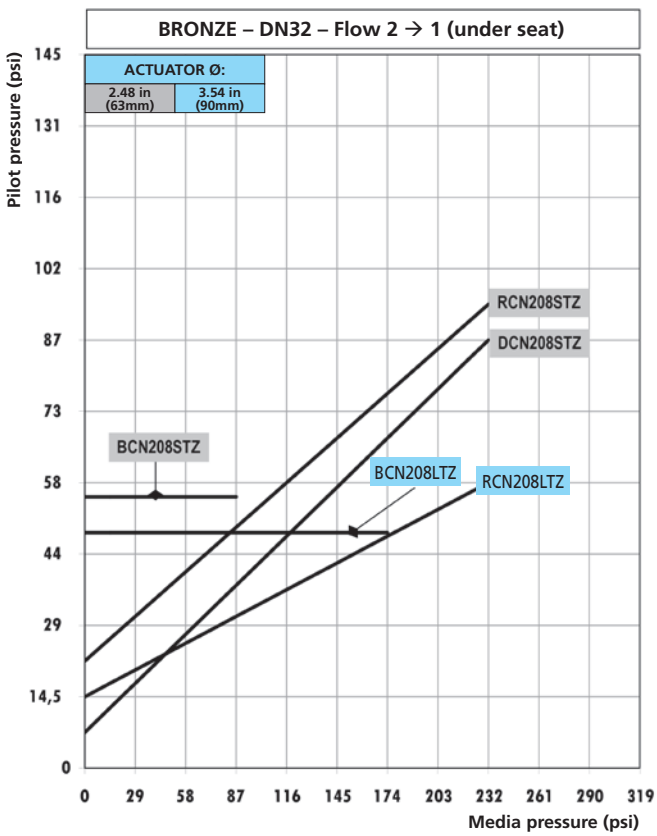
Version: CN = Normally Closed, **BCN** = Normally Closed (anti-waterhammer), **RCN** = Normally Open, **DCG** = Double Acting

Bronze Valves Comparative Charts 63/64 to 1 17/64 orifice (DN25 to DN32)



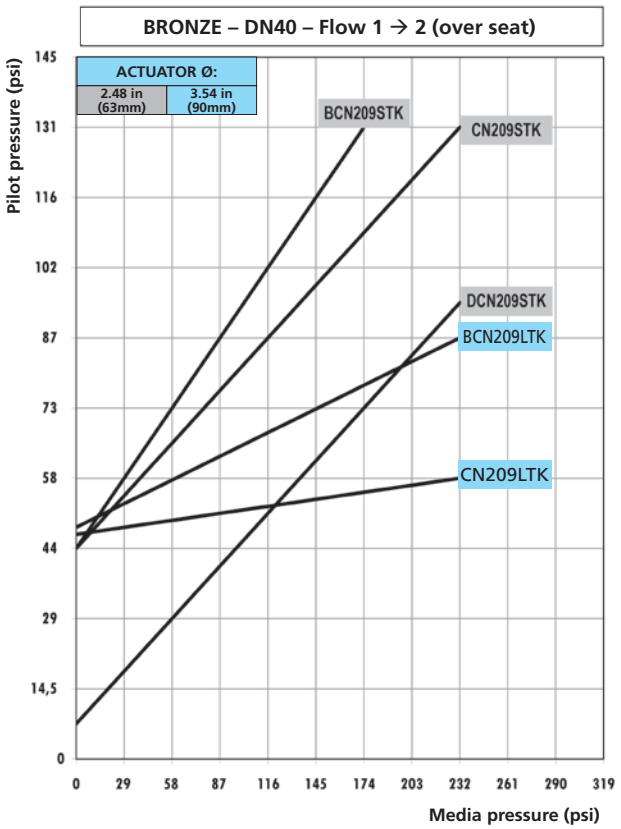


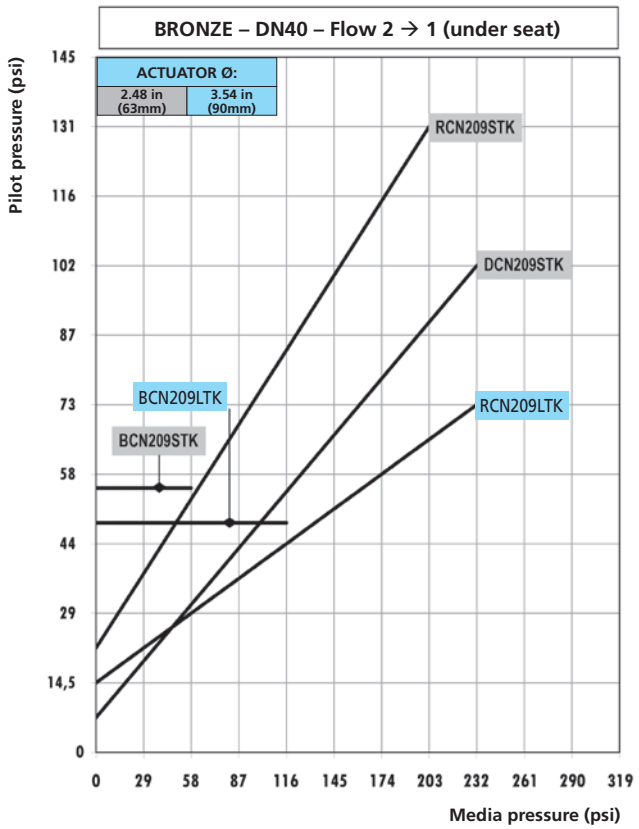


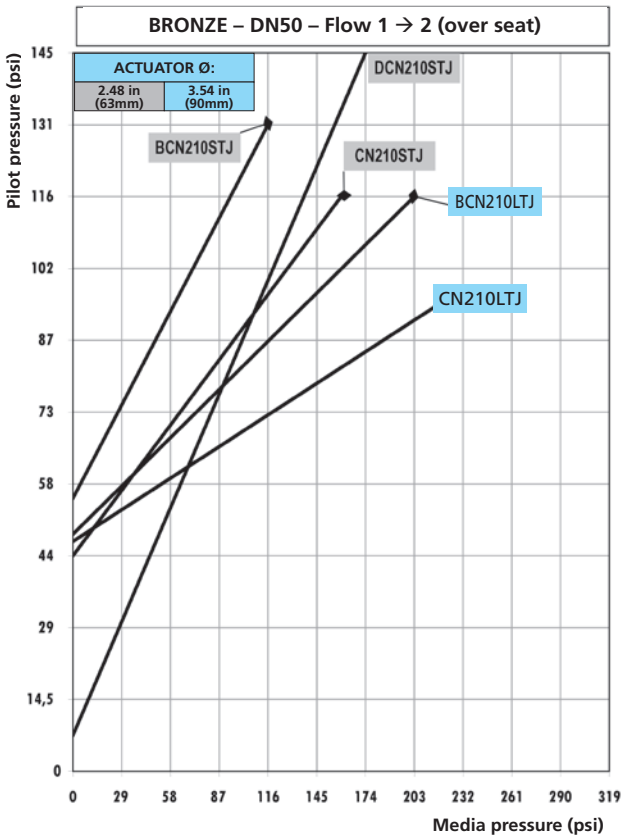


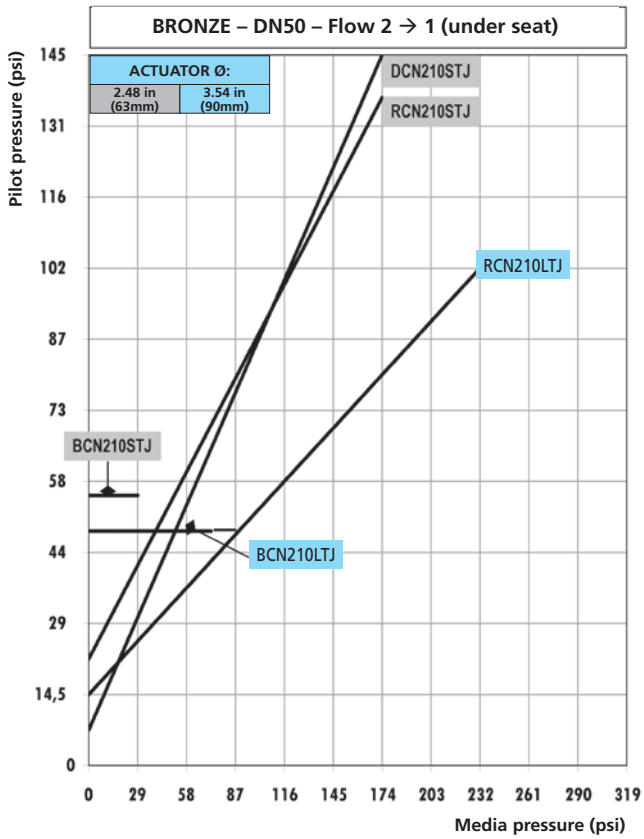
Version: CN = Normally Closed, **BCN** = Normally Closed (anti-waterhammer), **RCN** = Normally Open, **DCN** = Double Acting

Bronze Valves Comparative Charts 1 37/64 to 2 orifice (DN40 to DN50)



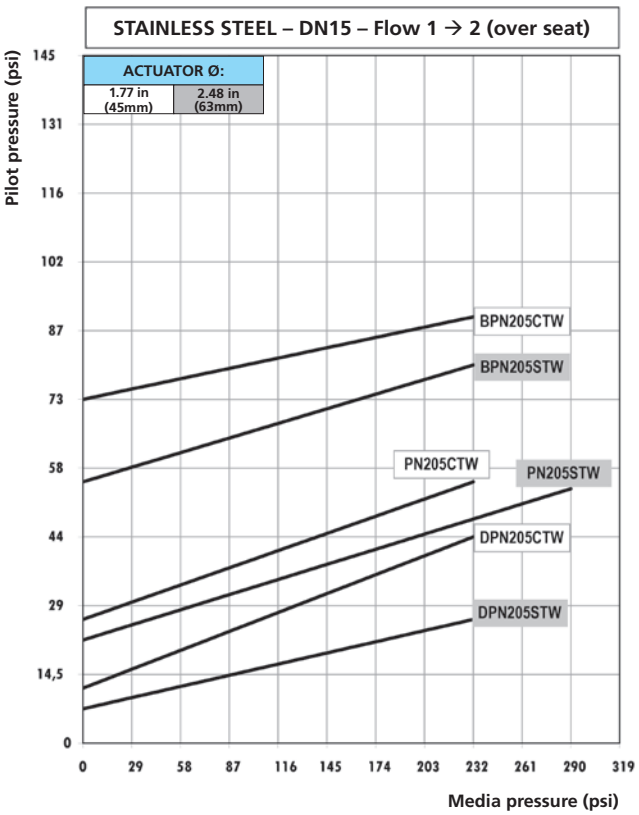


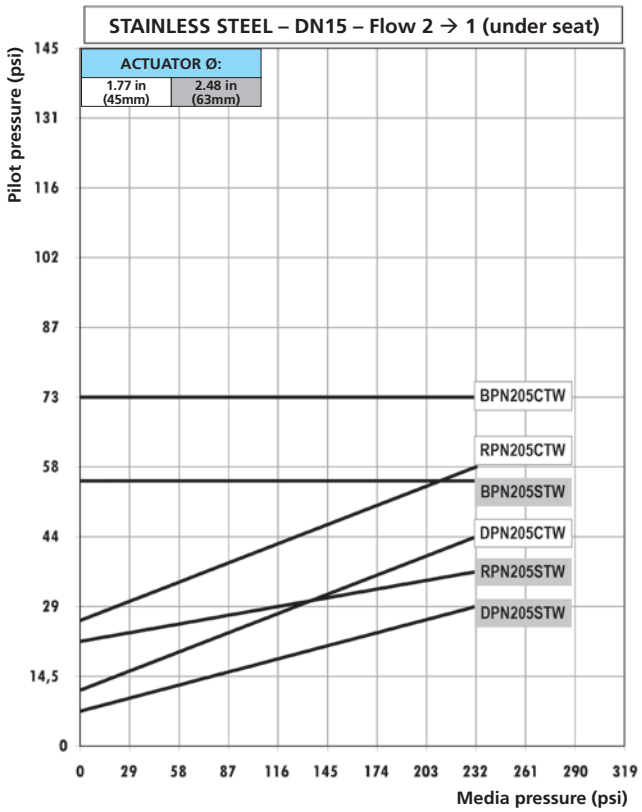


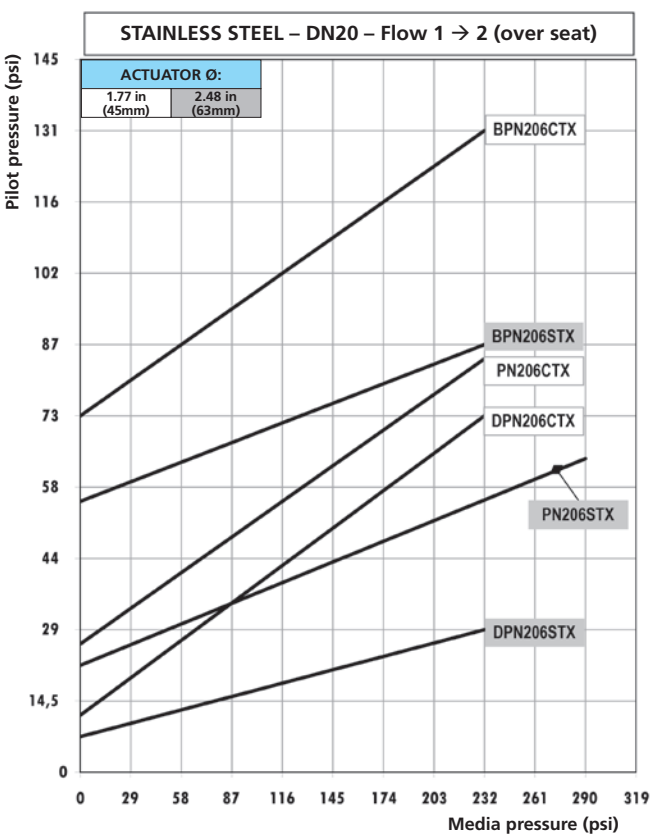


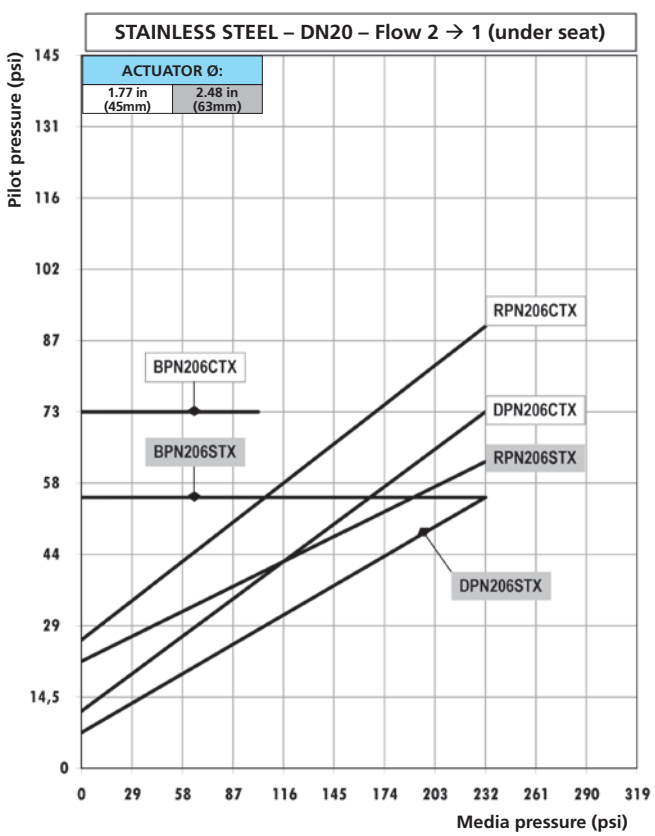
Version: CN = Normally Closed, **BCN** = Normally Closed (anti-waterhammer), **RCN** = Normally Open, **DCN** = Double Acting

Stainless steel Valves Comparative Charts 19/32 to 25/32 orifice (DN15 to DN20)



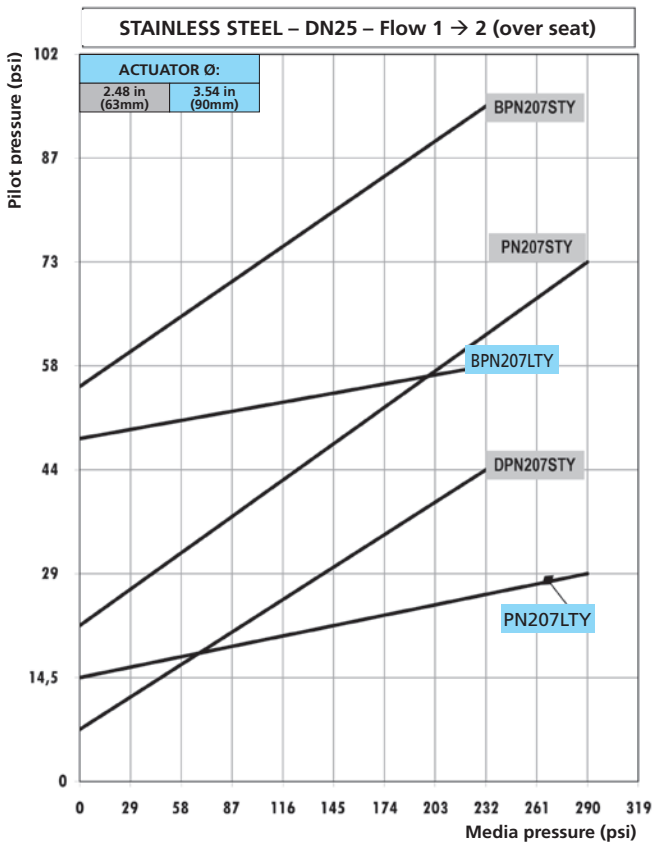


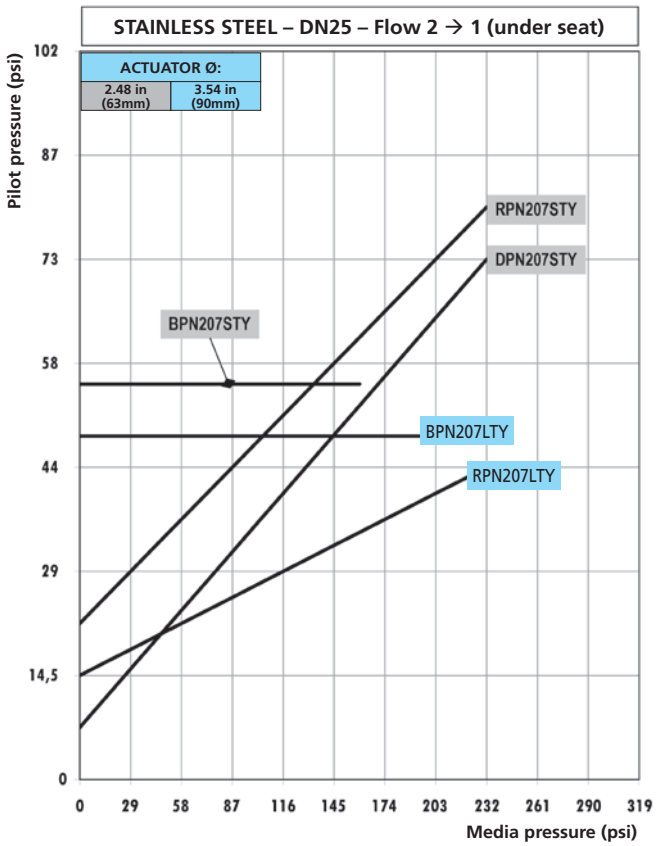


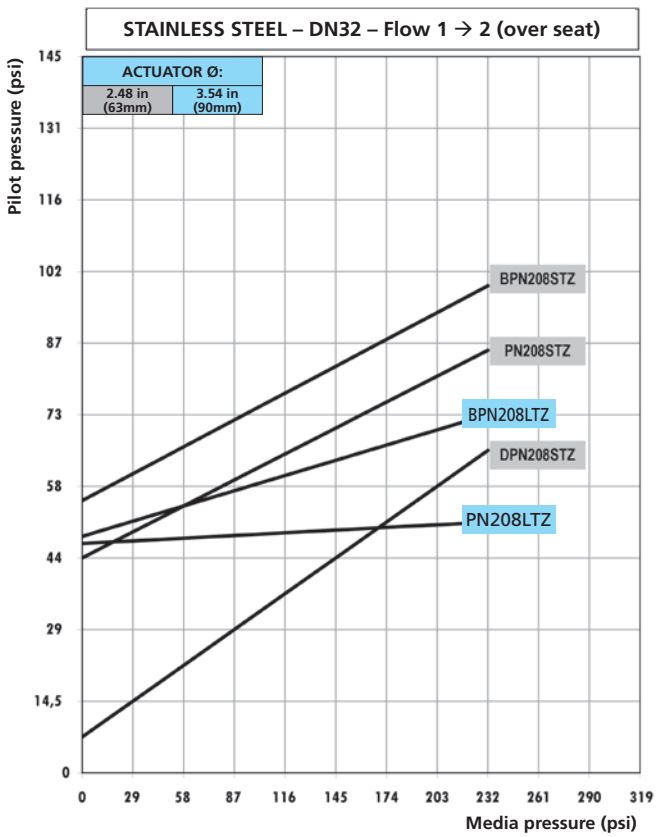


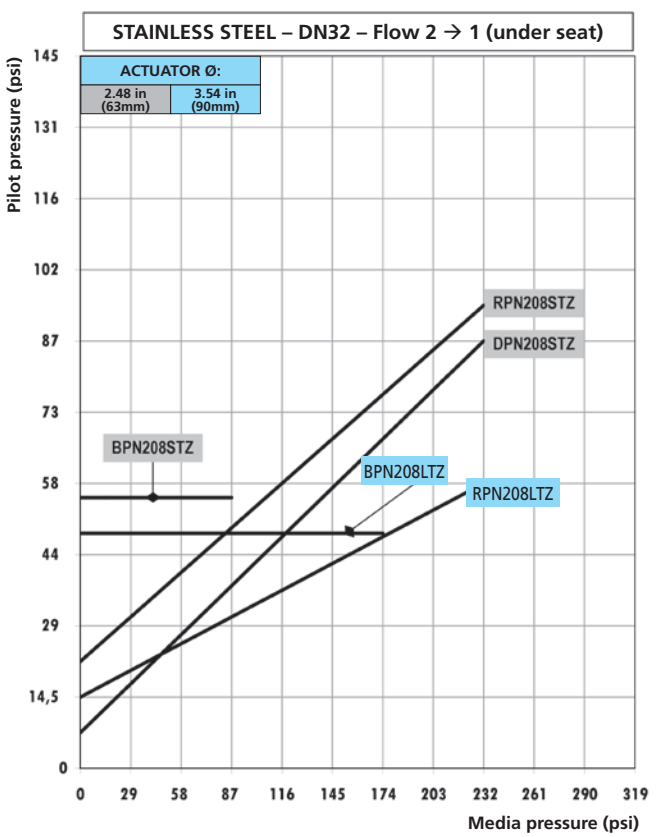
Version: PN = Normally Closed, **BPN** = Normally Closed (anti-waterhammer), **RPN** = Normally Open, **DPN** = Double Acting

Stainless steel Valves Comparative Charts 63/64 to 1 17/64 orifice (DN25 to DN32)



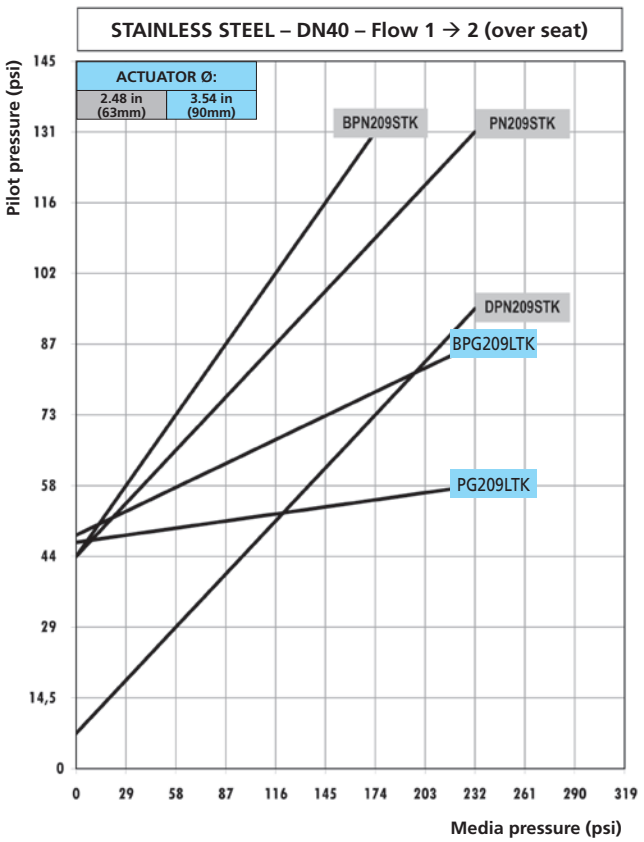


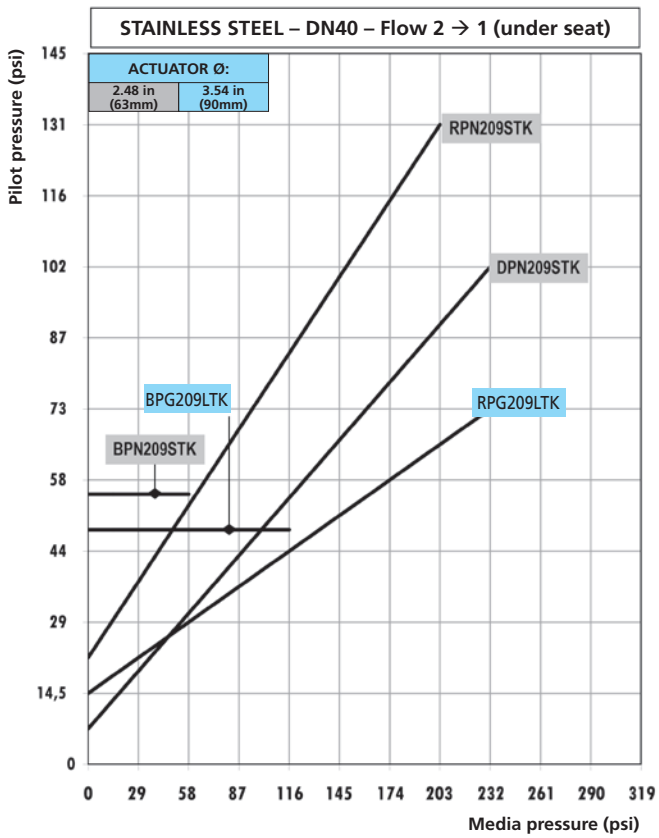


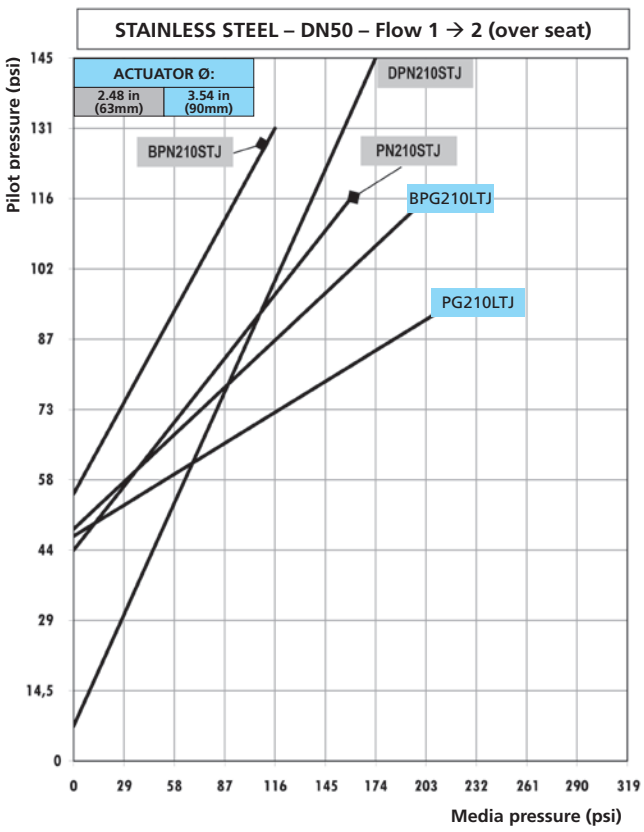


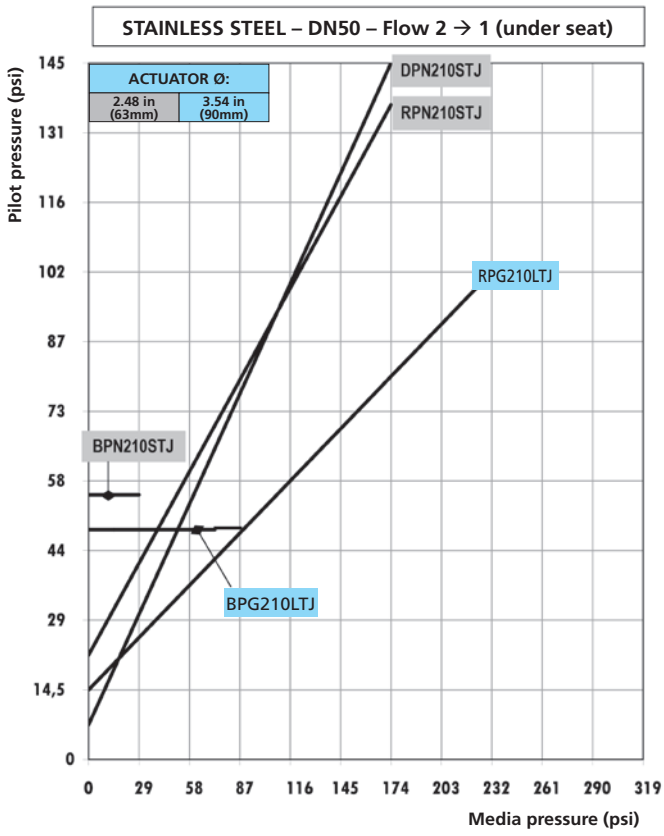
Version: PG = Normally Closed, **BPG** = Normally Closed (anti-waterhammer), **RPG** = Normally Open, **DPG** = Double Acting

Stainless steel Valves Comparative Charts 1 37/64 to 2 orifice (DN40 to DN50)









Version: PN = Normally Closed, **BPN** = Normally Closed (anti-waterhammer), **RPN** = Normally Open, **DPN** = Double Acting

Piston Valves Opening/Closing Time **(sec)**

NC Version – Flow Direction 1 → 2

Orifice Size in (mm)	Actuator Ø 1.77 in (45mm) 1/16 (1,5mm) pilot orifice B356-		Actuator Ø 2.48 in (63mm) 1/16 (1,5mm) pilot orifice B326-		Actuator Ø 3.54 in (90mm) 5/64 (2,0mm) pilot orifice D326-	
	NC		NC		NC	
	o	c	o	c	o	c
19/32 (15)	0,09	0,22	0,14	0,3	-	-
25/32 (20)	0,09	0,22	0,2	0,3	-	-
63/64 (25)	-	-	0,32	0,34	0,32	0,34
1 17/64 (32)	-	-	0,34	0,38	0,36	0,4
1 37/64 (40)	-	-	0,34	0,38	0,4	0,46
2 (50)	-	-	0,36	0,38	0,4	0,46

Notes:

Pilot pressure: 87 psi (6 bar)
Pilot media: AIR
Pressure in body: 0 psi
For Normally Open valves (NO) invert columns o and c

Actuator Volume

Actuator	Air Volume
in (mm)	in^3 (dm^3)
Ø 1.77 (45 mm)	2.2 (36)
Ø 2.48 (63 mm)	6.0 (99)
Ø 3.54 (90 mm)	12.9 (212)

EU DECLARATION OF CONFORMITY

We, M&M International S.r.l. registered office via A. Appiani 12 – 20121 Milano - Italy, declare under our sole responsibility that the products:

PISTON ACTUATED VALVES type PG, PN, CG, CN, PS, PB, PW, PH, PA, PF, PD, PC, PR, PP (sizes DN15 to DN50)

and all derived versions (prefix "B", "R", "D" and "Z")

specified in this declaration, are compliant to the following Directives and Technical Standards

- **PED - 97/23/EC until 18 July 2016, 2014/68/EU from 19 July 2016**

Series	Sizes	Requirements met	Module	Notified Body	Certificate No.
CG, CN and derived versions	All sizes	Art. 3.3	N/A	N/A	N/A
PP and derived versions	All sizes	Art. 3.3	N/A	N/A	N/A
PG, PN, PS, PB, PW, PH, PA, PF, PD, PC, PR and derived versions	DN15 to DN25	Art. 3.3	N/A	N/A	N/A
	DN32 to DN50	Category I	A (Internal Production Control)	N/A	N/A

Orio al Serio, Italy, April 2016

The General Manager

Maurizio Forno

ATTENTION! The attention of the purchaser, installer or user is drawn to special measures and limitations to use that must be observed when the product is used, installed or taken into service. Details of these special measures and limitations to use are available on request and are also contained in the product label and in the Installation, Maintenance and User Instructions provided together with the product.

EU DECLARATION OF CONFORMITY

We, M&M International S.r.l. with registered office via A. Appiani 12 – 20121 Milano - Italy, declare under our sole responsibility that the products:
PISTON ACTUATED VALVES WITH ACTUATORS SERIES "M" AND SERIES "G" (sizes DN15 to DN50) and all derived versions (prefix "B", "R" and "D")
specified in this declaration, are compliant to the following Directives and Technical Standards

- **PED - 97/23/EC until 18 July 2016, 2014/68/EU from 19 July 2016**

Series	Sizes	Requirements met	Module	Notified Body	Certificate No.
PG, **PN**, **PS**, **PB**, **PW**, **PH**, **PA**, **PF**, **PD**, **PC** and derived	DN15 to DN25	Art. 3.3	N/A	N/A	N/A
	DN32 to DN50	Category I	A (Internal Production Control)	N/A	N/A

- **ATEX - 94/9/EC until 19 April 2016, 2014/34/EU from 20 April 2016**
  EN 1127-1: 2011, EN 13463-1: 2009 and **EN 13463-5: 2011**.

Marking: CE Ex **II 2GD c TX** T_{amb} **= - 10 ÷ +80°C** [standard version]
CE Ex **II 2GD c TX** T_{amb} **= - 40 ÷ +60°C** [low-ambient temperature version]
CE Ex **II 2GD c TX** T_{amb} **= - 10 ÷ +60°C** [Inductive sensor version]

Technical file according to annex VIII of file Directive 94/9/EC: **PAV-EX14 -** Notified Body for storage of the technical file: **INERIS (0080)**

Orio al Serio, Italy, April 2016

The General Manager
Maurizio Forno

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EU DECLARATION OF CONFORMITY

We, M&M International S.r.l. registered office via A. Appiani 12 – 20121 Milano - Italy, declare under our sole responsibility that the products:

CONTROL PISTON ACTUATED VALVES WITH INTEGRATED POSITIONER TYPE ZPG, ZPN, ZPS, ZPB, ZPW, ZPH, ZPA, ZPD, ZPC, ZPP (sizes from DN15 to DN50)

specified in this declaration, are compliant to the following Directives and Technical Standards

- **PED - 97/23/EC until 18 July 2016, 2014/68/EU from 19 July 2016**

Series	Sizes	Requirements met	Module
ZPG, ZPN, ZPS, ZPB, ZPW, ZPH, ZPA, ZPD, ZPC and derived versions	From DN15 to DN25	Art. 3.3	N/A
	From DN32 to DN50	Category I	A (Internal Production Control)
ZPP and derived versions	From DN15 to DN50	Art. 3.3	N/A

- **Electromagnetic compatibility (EMC) 2004/108/EC until 25 February 2014, 2014/30/UE from 26 February 2014**

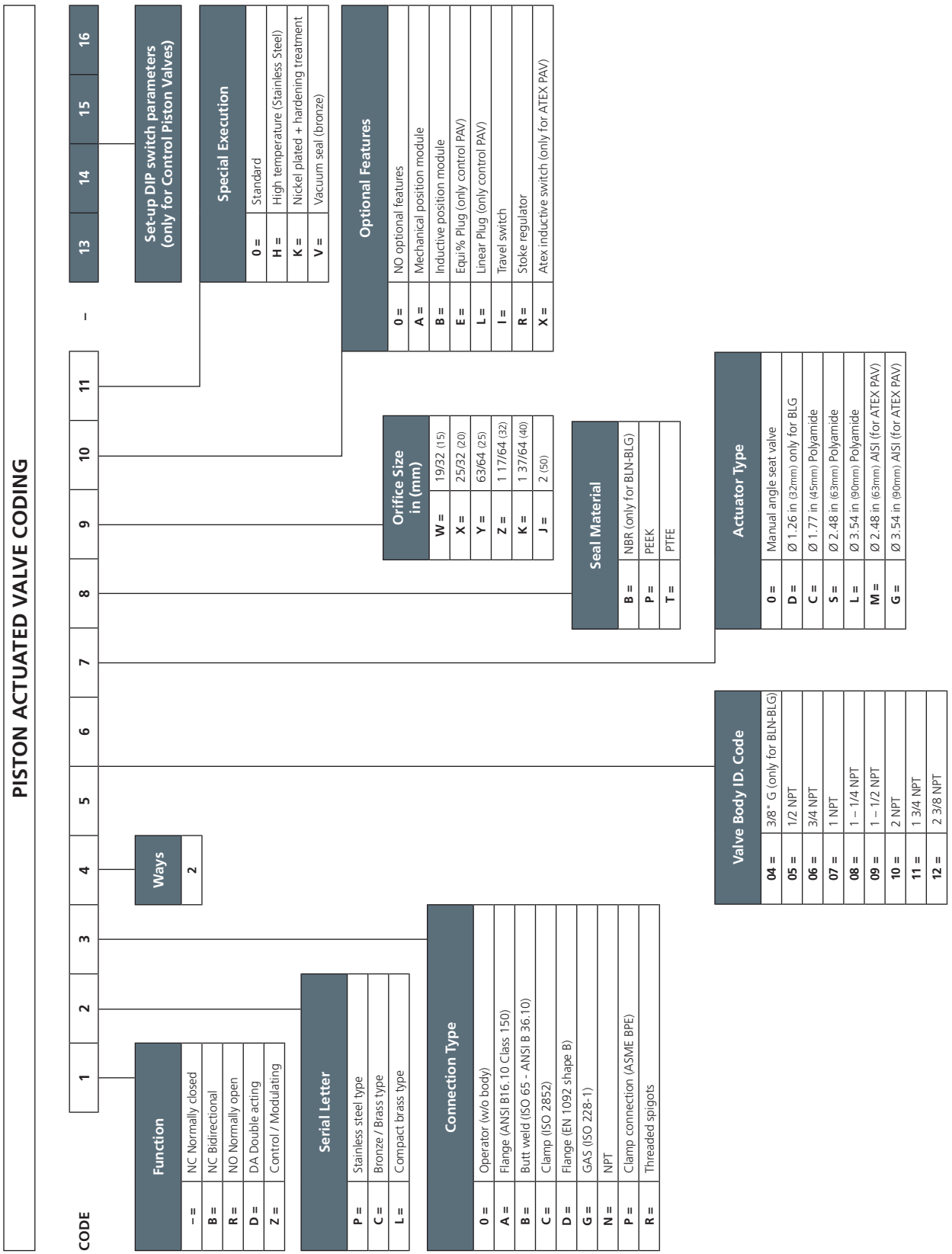
Harmonized Technical Standard	Year	Issue	Title
EN 61326-1	2013-02	--	Electrical equipment for measurement, control and laboratory use - Electromagnetic compatibility requirement. Part 1: General requirements

Orio al Serio, Italy, July 2016

The General Manager
Maurizio Forno

ATTENTION! The attention of the purchaser, installer or user is drawn to special measures and limitations to use that must be observed when the product is used, installed or taken into service. Details of these special measures and limitations to use are available on request and are also contained in the product label and in the Installation, Maintenance and User Instructions provided together with the product.

Coding Chart



For more information, please contact M&M Sales Department

Notes

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