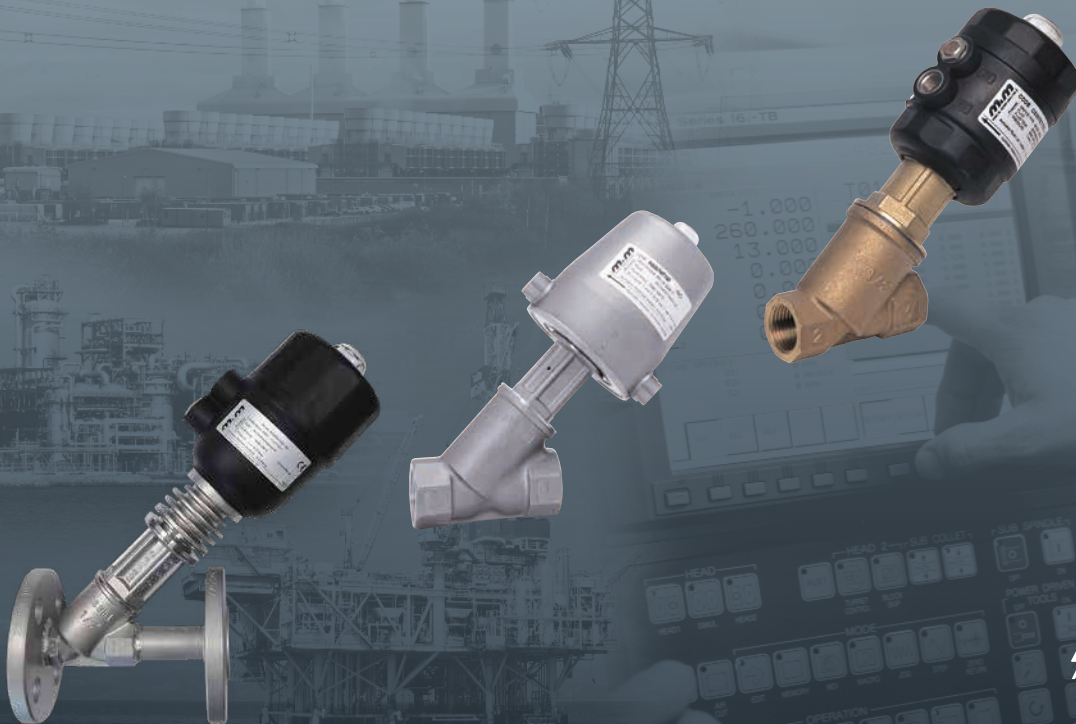


rotork®

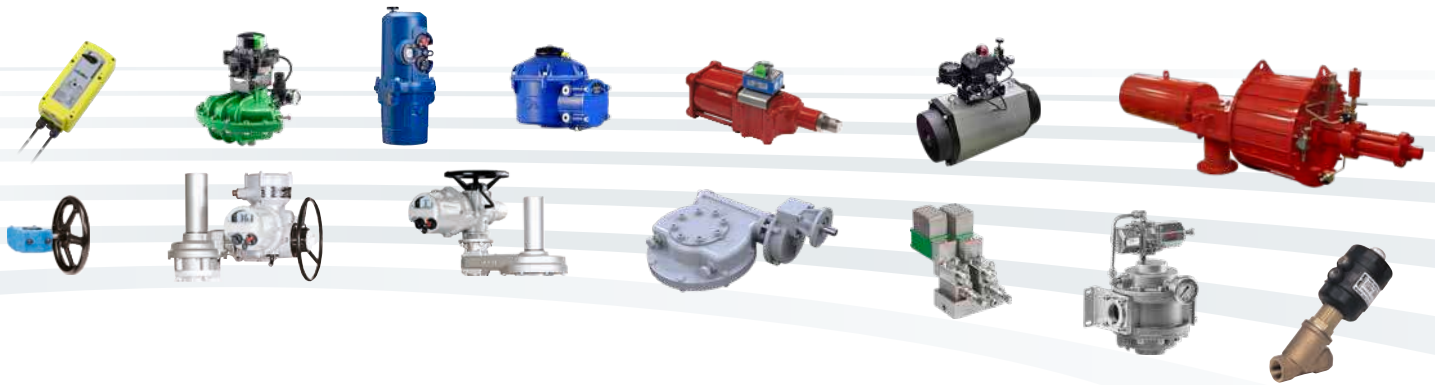
Keeping the World Flowing
for Future Generations

Piston Actuated Valves Catalogue



m&m
International
A rotork® Brand

Reliability in critical flow control applications



› Reliable operation when it matters

Assured reliability for critical applications and environments. Whether used infrequently or continuously, Rotork products will operate reliably and efficiently.

› Quality-driven global manufacturing

We offer products that have been designed with over 60 years of industry and application knowledge.

Our research and development ensures cutting edge products are available for multiple applications across multiple industries.

› Customer focused service and worldwide support

Rotork solve customer challenges and develop new solutions that are tailored to the needs of our clients.

We offer dedicated, expert service and support from initial inquiry, to product installation, to long-term after sales care.

› 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

Section	Page	Section	Page
Rotork	2	Seal Kits (USA)	74
M&M Piston Valves – Features and Benefits	4	Protection class, IP ratings	78
Valve Selection	6	Conversions	79
M&M International Piston Actuated Valve Versions	6	Corrosion reference guide	80
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Product Index	8	Opening Speed Chart	88
Seal Kits	37	Actuator Volume	88
Comparative Charts	42	Coding Chart	89



Comprehensive product range serving multiple industries

Rotork products offer improved efficiency, assured safety and environmental protection across sectors such as the Power, Oil & Gas, Water & Wastewater, HVAC, Marine, Mining, Pulp & Paper, Food & Beverage, Pharmaceutical and Chemical sectors.

Market leaders and technical innovators

We have been the recognised market leader in flow control for over 60 years.

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

Global presence, local service

We are a global company with local support.

Manufacturing sites, service centres and sales offices throughout the world provide unrivalled customer services, fast delivery and ongoing, accessible support.

Environmental Social and Governance is at the heart of our business

We have a range of policies in place that support our performance across environmental, social and governance topics. The majority of our policies are publicly available.

M&M Piston Valves – Features and Benefits

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

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

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

› **Wide choice of connections:** Screw, weld, flange, clamp connections (only for clean version)

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

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

› **Weatherproof protection**

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

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

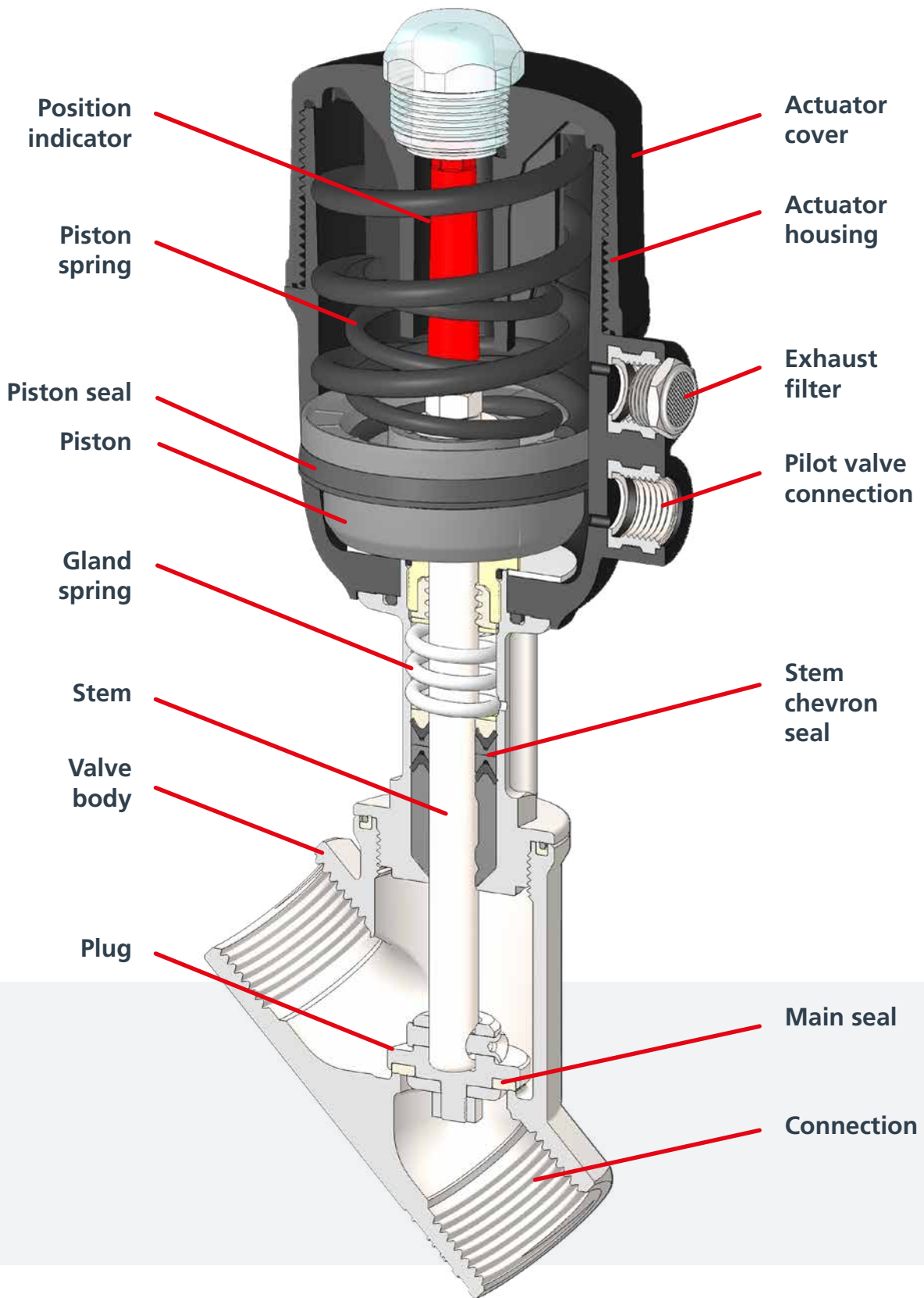
› **M&M pilot solenoid valves with banjo bolt:** User-friendly, quick

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

› **Position indicator:** Instantly visible valve position

› **New ATEX version**
Ex II 2G / II 2D Ex h

› Backed by **Rotork Global Support**



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.

Piston valves should be used in the following conditions:

- Media containing dirt particles
- Highly viscous media (up to 600 cST (80°E) - 1 centistoke = 1 mm²/s)

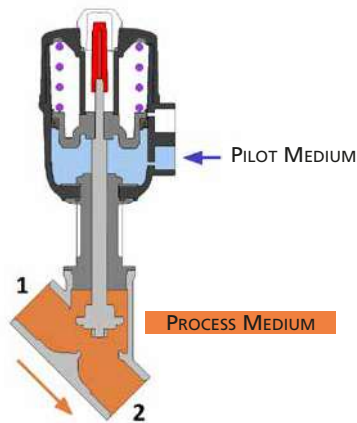
- High flow volumes
- High temperatures
- Damp environments or hazardous locations

Flow values shown in the selection tables are subject to a tolerance of $\pm 15\%$.

M&M International Piston Actuated Valve Versions

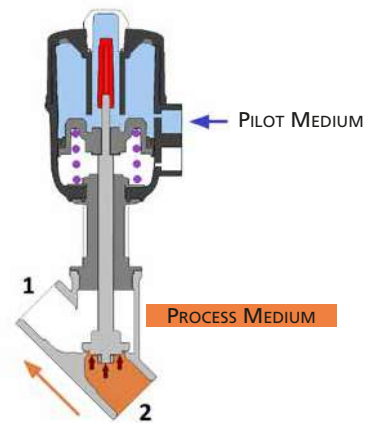
NC Valve – Flow over seat

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



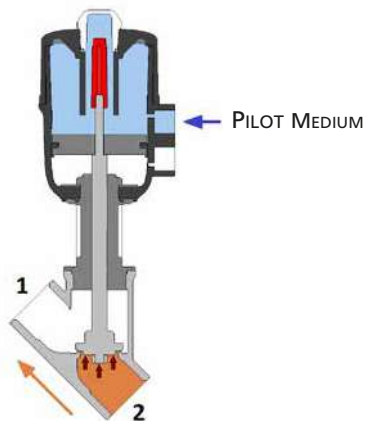
NO Valve – Flow under seat

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



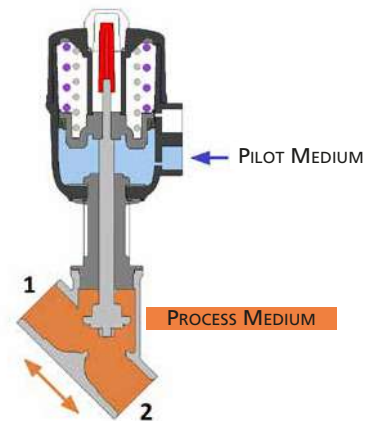
DOUBLE ACTING Valve – Flow over seat or under seat

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.



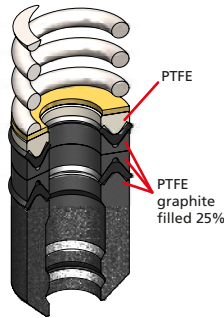
Technical Information

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 standard PTFE was replaced by new 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.

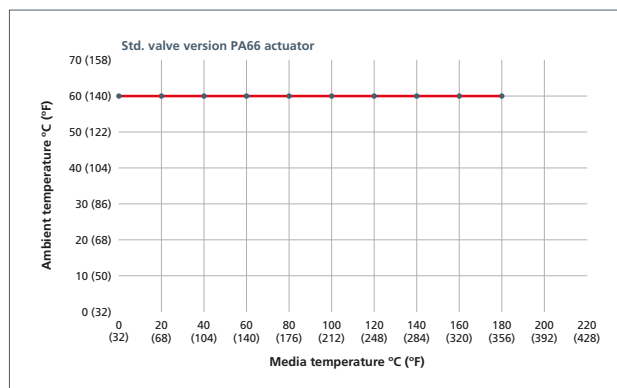
Stainless steel cast parts:

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 minimum 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 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.

Environmental protection:

Protect the piston actuated valves from environmental influences (e.g. sunlight, UV radiation, humidity, vapours). If you have any questions, please contact Rotork sales representative.









The two graphs below show the limit temperatures of use of the valves as a function of the ambient temperature – fluid temperature combinations.

CE declaration and ATEX certificate available on our website www.rotork.com










Product Index

Valve	Code	Type of Connection	Actuator	Page
	CG- (Normally Closed) RCG- (Normally Open) BCG- (Bi-Directional) DCG- (Double Acting)	ISO 228G	Ø 45	12 - 13
	CG- (Normally Closed) RCG- (Normally Open) BCG- (Bi-Directional) DCG- (Double Acting)	ISO 228G	Ø 63 Ø 90	14 - 15
	Manual Operation CG-	ISO 228G	-	16
	Manual Operation PG-	ISO 228G	-	16
	PG- (Normally Closed) RPG- (Normally Open) BPG- (Bi-Directional) DPG- (Double Acting)	ISO 228G	Ø 45	17
	PG- (Normally Closed) RPG- (Normally Open) BPG- (Bi-Directional) DPG- (Double Acting)	ISO 228G	Ø 63 Ø 90	18 - 19
	PW- / PB- (Normally Closed) RPW- / RPB- (Normally Open) BPW- / BPB- (Bi-Directional)	BUTT WELD: DIN 11850-2 pipe ISO 65/ANSI B.36.10 pipe	Ø 45 Ø 63 Ø 90	20 - 21
	PD- / PA- (Normally Closed) RPD- / RPA- (Normally Open) BPD- / BPA- (Bi-Directional)	FLANGED: BS 4504 EN1092 shape B ANSI B16.5 class 150	Ø 63 Ø 90	22 - 23
	High Temperature Version PG- (Normally Closed) RPG- (Normally Open) BPG- (Bi-Directional)	ISO 228G / BUTT WELD FLANGED / CLAMP	Ø 63 Ø 90	24 - 25
	P- (Normally Closed) RP- (Normally Open) BP- (Bi-Directional)	TUBE W CLAMP END	Ø 45 Ø 63 Ø 90	26 - 27



Product Index


Valve	Code	Type of Connection	Actuator	Page
	PG- (Normally Closed) RPG- (Normally Open) BPG- (Bi-Directional)	ISO 228G	Ø 63 Ø 90	28 - 29
	Control Piston Actuated Valve ZPG- (flow always under seat)	ISO 228G	Ø 63 Ø 90	30 - 32
Options/Accessories	Code	Description		Page
	E.g. code PG205STW10 (assembled ex-factory)	Travel Switch Option		33
	E.g. code PG205STWR0 (assembled ex-factory)	Stroke Regulator Option		33
	85703000-/85703100-/85704000- /85704100-	Position Module for Piston Actuated Valve		34
	85701800-	Travel Switch Conversion Kit for Piston Actuated Valve		35
	68000100- / 68000200-	Magnetic Switch For Conversion Kit		35
	B356CVCMK/B326CVCMK/ D326CVEMK	Pilot Solenoid Valves		36
-	Various Part Numbers	Seal Kits		37 - 41

Product Index

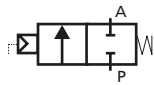
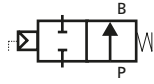
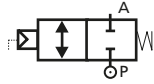
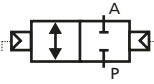
Valve	Code	Type of Connection	Actuator	Page
	CN- (Normally Closed) RCN- (Normally Open) BCN- (Bi-Directional) - NC DCN- (Double Acting)	NPT	Ø 1.77 "	48 - 49
	CN- (Normally Closed) RCN- (Normally Open) BCN- (Bi-Directional) - NC DCN- (Double Acting)	NPT	Ø 2.48 " Ø 3.54 "	50 - 51
	Manual Operation CN-	NPT	-	52
	Manual Operation PN-	NPT	-	52
	CN- (Normally Closed) RCN- (Normally Open) BCN- (Bi-Directional) - NC DCN- (Double Acting)	NPT	Ø 1.77 "	53
	PW- / PB- (Normally Closed) RPW- / RPB- (Normally Open) BPW- / BPB- (Bi-Directional) - NC	BUTT WELD: DIN 11850-2 pipe	Ø 1.77 " Ø 2.48 " Ø 3.54 "	56 - 57
	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 2.48 " Ø 3.54 "	58 - 59
	High Temperature Version CN- (Normally Closed) RCN- (Normally Open) BCN- (Bi-Directional) - NC	NPT	Ø 2.48 " Ø 3.54 "	60 - 61
	P- (Normally Closed) RP- (Normally Open) BP- (Bi-Directional) - NC	TUBE W CLAMP END	Ø 1.77 " Ø 2.48 " Ø 3.54 "	26 - 27

Product Index

Valve	Code	Type of Connection	Actuator	Page
	PN- (Normally Closed) RPN- (Normally Open) BPN- (Bi-Directional) - NC	NPT	Ø 2.48" Ø 3.54"	62 - 63
	Control Piston Actuated Valve ZPN- (flow always under seat)	NPT	Ø 2.48" Ø 3.54"	64 - 65

Options/Accessories	Code	Description	Page
	E.g. code PG205STW10 (assembled ex-factory)	Travel Switch Option	67
	E.g. code PN205STWR0 (assembled ex-factory)	Stroke Regulator Option	67
	85703000-/85703100-/85704000- /85704100-	Position Module	68
	85701800-	Travel Switch Conversion Kit for Piston Actuated Valve	69
	68000100- / 68000200-	Magnetic Switch For Conversion Kit	69
	B356CVCW/B326CVCW/ D326CVEW	Pilot Solenoid Valves With Banjo Bolt	70 - 73
-	Various Part Numbers	Seal Kits	74 - 77

2/2 Way Piston Actuated Valve G 1/2" to 1" to Compact Version – Bronze


Specifications	
Type: CG NC flow over seat 1 → 2	
Type: RCG NO flow under seat 2 → 1	
Type: BCG NC Bi-directional flow over/under seat 1 → 2 / 2 → 1	
Type: DCG DA flow over/under seat 1 ↔ 2	
Media	Water, oil, air, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Actuator Body Material	Polyamide + 30% glass fiber
Body Material	Bronze (CB491K EN1982)
Bonnet Material	Brass (CW617N EN12165)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

- Waterhammer-free design for BCG - DCG (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar
- ATEX version available



CE  ATEX 

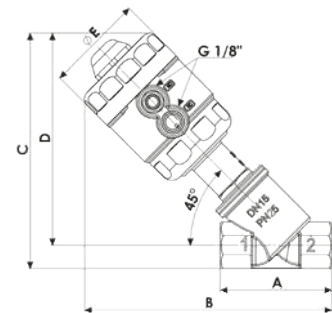
 II 2 G Ex h IIC T6 T4 T5 Gb

 II 2 D Ex h IIC T85°C T100°C T135°C Db

Options Available
NPT Connection (e.g. code CN205CTW00)
ATEX version (e.g. code CG205UTW00)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

Dimensions & Weights		DN15	DN20	DN25
Actuator	[mm]	Ø 45		
A	[mm]	65	75	90
B	[mm]	144	149	168
C	[mm]	136	142	161
D	[mm]	123	126	141
E	[mm]	57	57	57
Weight	[kg]	0.8	0.9	1.1



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/UE 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
DN15 to DN25 (PN25)	art. 4.3	art. 4.3

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

2/2 Way Piston Actuated Valve G 1/2" to 1" to Compact Version – Bronze

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
CG205CTW00	1/2"	15	75	0	16	1 → 2	3.8	10	45	NC
CG206CTX00	3/4"	20	133	0	16	1 → 2	5.8	10		
CG207CTY00	1"	25	208	0	16	1 → 2	6.5	10		
RCG205CTW00	1/2"	15	75	0	16	2 → 1	4	10	45	NO
RCG206CTX00	3/4"	20	133	0	16	2 → 1	6.2	10		
RCG207CTY00	1"	25	208	0	16	2 → 1	8.8	10		
BCG205CTW00	1/2"	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45	NC bidirectional
BCG206CTX00	3/4"	20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
BCG207CTY00	1"	25	208	0	16 / 5	1 → 2 / 2 → 1	9.5 / 5	10		
DCG205CTW00	1/2"	15	75	0	16 / 16	1 ↔ 2	3	10	45	DA
DCG206CTX00	3/4"	20	133	0	16 / 16	1 ↔ 2	5	10		
DCG207CTY00	1"	25	208	0	16 / 16	1 ↔ 2	8.5	10		

Notes

1. Steam max. working pressure 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
4. Pav ATEX performances are the same as weather proof pav

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

Specifications	
Type: CG NC flow over seat 1 → 2	
Type: RCG NO Flow Under Seat 2 → 1	
Type: BCG NC Bi-Directional Flow Over/Under Seat 1 → 2 / 2 → 1	
Type: DCG DA Flow Over/Under Seat 1 ↔ 2	
Media	Water, oil, air, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Actuator Body Material	Polyamide + 30% glass fiber
Body Material	Bronze (CB491K EN1982)
Bonnet Material	Brass (CW617N EN12165)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

- Waterhammer-free design for BCG - DCG (with flow direction 2→1)
- Actuator housing rotation 360°
- ATEX version available

CE ATEX

II 2 G Ex h IIC T6 T4 T5 Gb

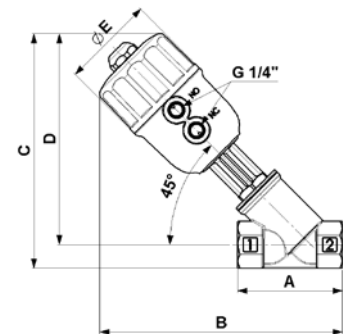
II 2 D Ex h IIIC T85°C T100°C T135°C Db



Options Available	
Stroke regulator assembled ex-factory, see page 33 (e.g. code CG205STWR0)	
Travel switch assembled ex-factory, see page 33 (e.g. code RCG209STK10)	
NPT connection (e.g. code BCN207LTY00)	
Design for vacuum applications up to 10 ⁻² mbar (e.g. code DCG210STJ0V)	
ATEX version (e.g. code CG205UTW00)	

Accessories	
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36	

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 63						Ø 90			
A	[mm]	65	75	90	110	120	150	90	110	120	150
B	[mm]	188	194	208	221	225	243	218	230	235	254
C	[mm]	180	188	201	213	221	236	211	223	231	246
D	[mm]	168	172	181	189	194	203	191	199	204	213
E	[mm]	79	79	79	79	79	79	115	115	115	115
Weight	[kg]	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/UE 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
CG - RCG - BCG - DCG	DN15 to DN25 (PN25)	art. 4.3	art. 4.3
	DN32 to DN40 (PN25)	Not suitable	SEP
	DN50 (PN16)	Not suitable	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

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

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function	
Code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—	
CG205STW00	1/2"	15	87	0	20	1 → 2	3.9	10	63	NC	
CG206STX00	3/4"	20	164	0	20	1 → 2	4.6	10			
CG207STY00	1"	25	260	0	20	1 → 2	5.2	10			
CG208STZ00	1 1/4"	32	410	0	16	1 → 2	5.7	10			
CG209STK00	1 1/2"	40	700	0	16	1 → 2	8.8	10			
CG210STJ00	2"	50	950	0	11	1 → 2	7.8	10			
CG207LTY00	1"	25	260	0	20	1 → 2	3	8	90		
CG208LTZ00	1 1/4"	32	410	0	16	1 → 2	3	8			
CG209LTK00	1 1/2"	40	700	0	16	1 → 2	4	8			
CG210LTJ00	2"	50	950	0	15	1 → 2	5.8	8			
RCG205STW00	1/2"	15	87	0	16	2 → 1	2.8	10	63		NO
RCG206STX00	3/4"	20	164	0	16	2 → 1	4.5	10			
RCG207STY00	1"	25	260	0	16	2 → 1	5.7	10			
RCG208STZ00	1 1/4"	32	410	0	16	2 → 1	6.7	10			
RCG209STK00	1 1/2"	40	700	0	14	2 → 1	9.2	10			
RCG210STJ00	2"	50	950	0	12	2 → 1	9.6	10			
RCG207LTY00	1"	25	260	0	16	2 → 1	4.5	7	90		
RCG208LTZ00	1 1/4"	32	410	0	16	2 → 1	4	7			
RCG209LTK00	1 1/2"	40	700	0	16	2 → 1	5.4	7			
RCG210LTJ00	2"	50	950	0	16	2 → 1	7	7			
BCG205STW00	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.9 / 4.2	10	63	NC bidirectional	
BCG206STX00	3/4"	20	164	0	16	1 → 2 / 2 → 1	6.4 / 4.2	10			
BCG207STY00	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.9 / 4.2	10			
BCG208STZ00	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	7 / 4.2	10			
BCG209STK00	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9.4 / 4.2	10			
BCG210STJ00	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9.4 / 4.2	10			
BCG207LTY00	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.8	8	90		
BCG208LTZ00	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.8	8			
BCG209LTK00	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6.5 / 3.8	8			
BCG210LTJ00	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	7 / 3.8	8			
DCG205STW00	1/2"	15	87	0	16	2 → 1	1.8	2	63		DA
DCG206STX00	3/4"	20	164	0	16	2 → 1	2	3.8			
DCG207STY00	1"	25	260	0	16	2 → 1	3	5			
DCG208STZ00	1 1/4"	32	410	0	16	2 → 1	4.5	6			
DCG209STK00	1 1/2"	40	700	0	16	2 → 1	6.5	7			
DCG210STJ00	2"	50	950	0	12	2 → 1	8	10			

Notes

1. Steam max. working pressure 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
4. Pav ATEX performances are the same as weather proof pav

Manual Angle Seat Valve G 1/2" to 2" – Bronze (CG) & Stainless Steel (PG)

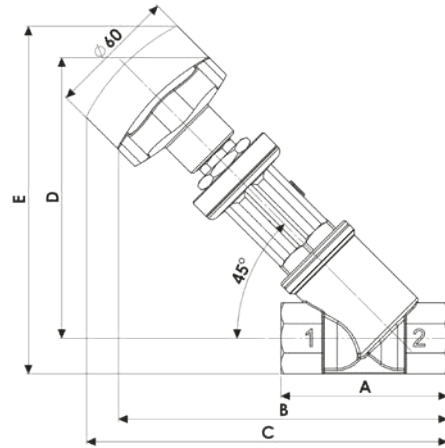
Specifications	
Function Flow over / under seat ¹	Type CG / PG
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Body Material (CG)	Bronze (CB491K EN1982)
Bonnet Material (CG)	Brass (CW617N EN12165)
Body Material (PG)	Cast AISI 316L (CF3M), see page 7
Bonnet Material (PG)	Cast AISI 316L (CF3M), see page 7
Seal Material	PTFE

¹ Not suitable for use with vacuum



Options Available
NPT connection (e.g. code PN2070TY00)

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50
G connection	[ISO 228G]	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
A	[mm]	65	75	90	110	120	150
B	[mm]	142	148	163	175	180	198
C	[mm]	150	155	172	188	193	212
D	[mm]	121	126	135	143	148	157
E	[mm]	141	150	165	181	189	205
Weight	[kg]	0.75	0.80	1.20	1.80	2.10	3.10



Valve Code	Body Connection [ISO 228G]	DN [mm]	Flow Rate Kvs [l/min]	Working Pressure ¹		Flow Direction
				Min. [barg]	Max. [barg]	
CG2050TW00	1/2"	15	87	0	25	1 ↔ 2
CG2060TX00	3/4"	20	164	0	25	1 ↔ 2
CG2070TY00	1"	25	260	0	25	1 ↔ 2
CG2080TZ00	1 1/4"	32	410	0	25	1 ↔ 2
CG2090TK00	1 1/2"	40	700	0	25	1 ↔ 2
CG2100TJ00	2"	50	916	0	16	1 ↔ 2
PG2050TW00	1/2"	15	87	0	40	1 ↔ 2
PG2060TX00	3/4"	20	164	0	40	1 ↔ 2
PG2070TY00	1"	25	260	0	40	1 ↔ 2
PG2080TZ00	1 1/4"	32	410	0	25	1 ↔ 2
PG2090TK00	1 1/2"	40	700	0	25	1 ↔ 2
PG2100TJ00	2"	50	916	0	16	1 ↔ 2

Note

1. Steam max. working pressure 10 bar (9 barg)

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

Specifications	
Type: PG NC flow over seat 1 → 2	
Type RPG: NO flow under seat 2 → 1	
Type: BPG NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Type: DPG DA flow over/under seat 1 ↔ 2	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Actuator Body Material	Polyamide + 30% glass fiber
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

- Waterhammer-free design for BPG - DPG (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar
- ATEX version available



CE Ex ATEX UK

Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIIC T85°C T100°C T135°C Db

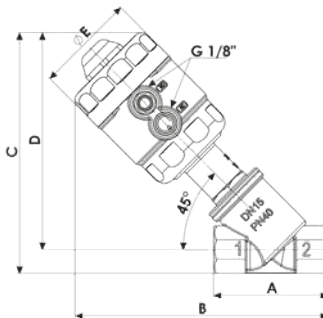
Options Available

NPT connection (e.g. code PN205CTW00)
ATEX version (e.g. code PG205TTW00)

Accessories

Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

Dimensions & Weights		DN15	DN20
Actuator	[mm]	Ø 45	
A	[mm]	65	75
B	[mm]	144	149
C	[mm]	136	142
D	[mm]	123	126
E	[mm]	57	57
Weight	[kg]	0.8	0.9



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/UE 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
DN15 to DN20 (PN40)	art. 4.3	art. 4.3

WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹ Min.	Working Pressure ¹ Max.	Flow Direction	Pilot Pressure ³ Min.	Pilot Pressure ³ Max.	Actuator Ø	Function
Code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
PG205CTW00	1/2"	15	75	0	16	1 → 2	3.8	10	45	NC
PG206CTX00	3/4"	20	133	0	16	1 → 2	5.8	10		
RPG205CTW00	1/2"	15	75	0	16	2 → 1	4	10	45	NO
RPG206CTX00	3/4"	20	133	0	16	2 → 1	6.2	10		
BPG205CTW00	1/2"	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45	NC bidirectional
BPG206CTX00	3/4"	20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
DPG205CTW00	1/2"	15	75	0	16 / 16	1 ↔ 2	3	10	45	DA
DPG206CTX00	3/4"	20	133	0	16 / 16	1 ↔ 2	5	10		

Notes

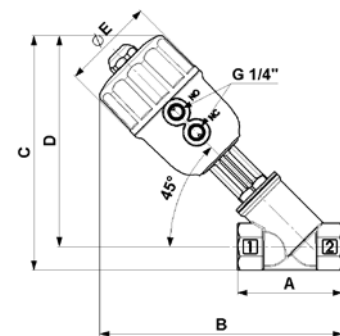
1. Steam max. working pressure 10 bar (9 barg)
2. Please contact M&M sales Department for other pilot media
3. Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the comparative charts
4. Pav ATEX performances are the same as weather proof pav

2/2 Way Piston Actuated Valve G 1/2" to 2", Regular Version - Stainless Steel

Specifications	
Type: PG NC flow over seat 1 → 2	
Type: RPG NO flow under seat 2 → 1	
Type: BPG NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Type: DPG DA flow over/under seat 1 ↔ 2	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Actuator Body Material	Polyamide + 30% glass fiber
Seal Material	PTFE
Position Indicator	As standard

Options Available
Stroke regulator assembled ex-factory, see page 33 (e.g. code RPG210STJ0)
Travel switch assembled ex-factory, see page 33 (e.g. code PG208STZ0)
NPT connection (e.g. code BPN207LTY00)
High temperature version, see pages 24/25 (e.g. code PG205STW0H)
ATEX version (e.g. code PG205UTW00)

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 63						Ø 90			
A	[mm]	65	75	90	110	120	150	90	110	120	150
B	[mm]	188	194	208	221	225	243	218	230	235	254
C	[mm]	180	188	201	213	221	236	211	223	231	246
D	[mm]	168	172	181	189	194	203	191	199	204	213
E	[mm]	79	79	79	79	79	79	115	115	115	115
Weight	[kg]	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



Features and Benefits

- Waterhammer-free design for BPG - DPG (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar
- ATEX version available

CE Ex ATEX UK CA

Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIC T85°C T100°C T135°C Db



Accessories
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/UE 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
PG - RPG - BPG - DPG	DN15 to DN25 (PN40)	art. 4.3	art. 4.3
	DN32 to DN40 (PN25)	Category I	art. 4.3
	DN50 (PN16)	Category I	art. 4.3

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

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

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function	
				Min.	Max.		Min.	Max.			
Code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—	
PG205STW00	1/2"	15	87	0	20	1 → 2	3.9	10	63	NC	
PG206STX00	3/4"	20	164	0	20	1 → 2	4.6	10			
PG207STY00	1"	25	260	0	20	1 → 2	5.2	10			
PG208STZ00	1 1/4"	32	410	0	16	1 → 2	5.7	10			
PG209STK00	1 1/2"	40	700	0	16	1 → 2	8.8	10			
PG210STJ00	2"	50	950	0	11	1 → 2	7.8	10			
PG207LTY00	1"	25	260	0	20	1 → 2	3	8	90		
PG208LTZ00	1 1/4"	32	410	0	16	1 → 2	3	8			
PG209LTK00	1 1/2"	40	700	0	16	1 → 2	4	8			
PG210LTJ00	2"	50	950	0	15	1 → 2	5.8	8			
RPG205STW00	1/2"	15	87	0	16	2 → 1	2.8	10	63		NO
RPG206STX00	3/4"	20	164	0	16	2 → 1	4.5	10			
RPG207STY00	1"	25	260	0	16	2 → 1	5.7	10			
RPG208STZ00	1 1/4"	32	410	0	16	2 → 1	6.7	10			
RPG209STK00	1 1/2"	40	700	0	14	2 → 1	9.2	10			
RPG210STJ00	2"	50	950	0	12	2 → 1	9.6	10			
RPG207LTY00	1"	25	260	0	16	2 → 1	4.5	7	90		
RPG208LTZ00	1 1/4"	32	410	0	16	2 → 1	4	7			
RPG209LTK00	1 1/2"	40	700	0	16	2 → 1	5.4	7			
RPG210LTJ00	2"	50	950	0	16	2 → 1	7	7			
BPG205STW00	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.9 / 4.2	10	63	NC bidirectional	
BPG206STX00	3/4"	20	164	0	16	1 → 2 / 2 → 1	6.4 / 4.2	10			
BPG207STY00	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.9 / 4.2	10			
BPG208STZ00	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	7 / 4.2	10			
BPG209STK00	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9.4 / 4.2	10			
BPG210STJ00	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9.4 / 4.2	10			
BPG207LTY00	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.8	8	90		
BPG208LTZ00	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.8	8			
BPG209LTK00	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6.5 / 3.8	8			
BPG210LTJ00	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	7 / 3.8	8			
DPG205STW00	1/2"	15	87	0	16	2 → 1	1.8	2	63		DA
DPG206STX00	3/4"	20	164	0	16	2 → 1	2	3.8			
DPG207STY00	1"	25	260	0	16	2 → 1	3	5			
DPG208STZ00	1 1/4"	32	410	0	16	2 → 1	4.5	6			
DPG209STK00	1 1/2"	40	700	0	16	2 → 1	6.5	7			
DPG210STJ00	2"	50	950	0	12	2 → 1	8	10			

Notes

1. Steam max. working pressure 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
4. Pav ATEX performances are the same as weather proof pav

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

Specifications	
Type: PW/PB NC flow over seat 1 → 2	
Type: RPW/RPB NO flow under seat 2 → 1	
Type: BPW/BPB NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Butt Weld Connection	DIN 11850-2 pipe or ISO 65/ANSI B 36.10 pipe
Actuator Body Material	Polyamide + 30% glass fiber
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

- Waterhammer-free design for BPW - BPB (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar
- ATEX version available



CE Ex ATEX UK CA

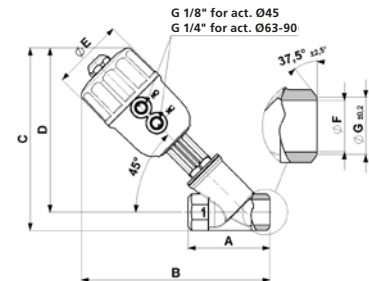
Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIC T85°C T100°C T135°C Db

Options Available
Stroke regulator assembled ex-factory, see page 33 (e.g. code RPW210STJR0)
Travel switch assembled ex-factory, see page 33 (e.g. code PB208STZJ0)
High temperature version, see pages 24/25 (e.g. code BPW207LTY0H)
ATEX version (e.g. code PW205UTW00)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
		Ø 45			Ø 63				Ø 90				
Actuator	[mm]												
A	[mm]	65	75	65	75	90	110	120	150	90	110	120	150
B	[mm]	144	149	188	194	208	221	225	243	218	230	235	254
C	[mm]	136	142	180	188	201	213	221	236	211	223	231	246
D	[mm]	123	126	168	172	181	189	194	203	191	199	204	213
E	[mm]	57	57	79	79	79	79	79	79	115	115	115	115
F DIN 11850	[mm]	16	20	16	20	26	32	38	50	26	32	38	50
F ISO 65/ANSI B 36.10	[mm]	17.4	22.8	17.4	22.8	28.3	37.1	42.7	54.8	28.3	37.1	42.7	54.8
G DIN 11850	[mm]	19.2	23.2	19.2	23.2	29.2	36	42	54	29.2	36	42	54
G ISO 65/ANSI B 36.10	[mm]	20.6	26	20.6	26	31.5	41.1	46.7	58.8	31.5	41.1	46.7	58.8
Weight	[kg]	0.8	0.9	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/UE 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 PB - RPB - BPB	DN15 to DN25 (PN40)	art. 4.3	art. 4.3
	DN32 to DN40 (PN25)	Category I	art. 4.3
	DN50 (PN16)	Category I	art. 4.3

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

Notes

1. Steam max. working pressure 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. PW205STW00 please refer to the equivalent part number PG205STW00 for threaded connection)
4. Pav ATEX performances are the same as weather proof pav

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

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	—	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
PW205CTW00	butt weld to DIN 11850-2 pipe	15	75	0	16	1 → 2	3.8	10	45	NC
PW206CTX00		20	133	0	16	1 → 2	5.8	10		
PW205STW00		15	87	0	20	1 → 2	3.9	10		
PW206STX00		20	164	0	20	1 → 2	4.6	10	63	
PW207STY00		25	260	0	20	1 → 2	5.2	10		
PW208STZ00		32	410	0	16	1 → 2	5.7	10		
PW209STK00		40	700	0	16	1 → 2	8.8	10		
PW210STJ00		50	950	0	11	1 → 2	7.8	10	90	
PW207LTY00		25	260	0	20	1 → 2	3	8		
PW208LTZ00		32	410	0	16	1 → 2	3	8		
PW209LTK00		40	700	0	16	1 → 2	4	8		
PW210LTJ00		50	950	0	15	1 → 2	5.8	8		
RPW205CTW00		butt weld to DIN 11850-2 pipe	15	75	0	16	2 → 1	4	10	
RPW206CTX00	20		133	0	16	2 → 1	6.2	10		
RPW205STW00	15		87	0	16	2 → 1	2.8	10		
RPW206STX00	20		164	0	16	2 → 1	4.5	10	63	
RPW207STY00	25		260	0	16	2 → 1	5.7	10		
RPW208STZ00	32		410	0	16	2 → 1	6.7	10		
RPW209STK00	40		700	0	14	2 → 1	9.2	10		
RPW210STJ00	50		950	0	12	2 → 1	9.6	10	90	
RPW207LTY00	25		260	0	16	2 → 1	4.5	7		
RPW208LTZ00	32		410	0	16	2 → 1	4	7		
RPW209LTK00	40		700	0	16	2 → 1	5.4	7		
RPW210LTJ00	50		950	0	16	2 → 1	7	7		
BPW205CTW00	butt weld to DIN 11850-2 pipe		15	75	0	16/16	1 → 2/2 → 1	6.2/5	10	45
BPW206CTX00		20	133	0	16/7	1 → 2/2 → 1	8.7/5	10		
BPW205STW00		15	87	0	16	1 → 2/2 → 1	5.9/4.2	10		
BPW206STX00		20	164	0	16	1 → 2/2 → 1	6.4/4.2	10	63	
BPW207STY00		25	260	0	16/11	1 → 2/2 → 1	6.9/4.2	10		
BPW208STZ00		32	410	0	16/6	1 → 2/2 → 1	7/4.2	10		
BPW209STK00		40	700	0	12/4	1 → 2/2 → 1	9.4/4.2	10		
BPW210STJ00		50	950	0	8/2.5	1 → 2/2 → 1	9.4/4.2	10	90	
BPW207LTY00		25	260	0	16/14	1 → 2/2 → 1	4/3.8	8		
BPW208LTZ00		32	410	0	16/12	1 → 2/2 → 1	5/3.8	8		
BPW209LTK00		40	700	0	16/8	1 → 2/2 → 1	6.5/3.8	8		
BPW210LTJ00		50	950	0	14/6	1 → 2/2 → 1	7/3.8	8		
PB205CTW00		butt weld to ISO 65/ ANSI B 36.10 pipe	15	75	0	16	1 → 2	3.8	10	45
PB206CTX00	20		133	0	16	1 → 2	5.8	10		
PB205STW00	15		87	0	20	1 → 2	3.9	10		
PB206STX00	20		164	0	20	1 → 2	4.6	10	63	
PB207STY00	25		260	0	20	1 → 2	5.2	10		
PB208STZ00	32		410	0	16	1 → 2	5.7	10		
PB209STK00	40		700	0	16	1 → 2	8.8	10		
PB210STJ00	50		950	0	11	1 → 2	7.8	10	90	
PB207LTY00	25		260	0	20	1 → 2	3	8		
PB208LTZ00	32		410	0	16	1 → 2	3	8		
PB209LTK00	40		700	0	16	1 → 2	4	8		
PB210LTJ00	50		950	0	15	1 → 2	5.8	8		
RPB205CTW00	butt weld to ISO 65/ ANSI B 36.10 pipe		15	75	0	16	2 → 1	4	10	45
RPB206CTX00		20	133	0	16	2 → 1	6.2	10		
RPB205STW00		15	87	0	16	2 → 1	2.8	10		
RPB206STX00		20	164	0	16	2 → 1	4.5	10	63	
RPB207STY00		25	260	0	16	2 → 1	5.7	10		
RPB208STZ00		32	410	0	16	2 → 1	6.7	10		
RPB209STK00		40	700	0	14	2 → 1	9.2	10		
RPB210STJ00		50	950	0	12	2 → 1	9.6	10	90	
RPB207LTY00		25	260	0	16	2 → 1	4.5	7		
RPB208LTZ00		32	410	0	16	2 → 1	4	7		
RPB209LTK00		40	700	0	16	2 → 1	5.4	7		
RPB210LTJ00		50	950	0	16	2 → 1	7	7		
BPB205CTW00		butt weld to ISO 65/ ANSI B 36.10 pipe	15	75	0	16/16	1 → 2/2 → 1	6.2/5	10	45
BPB206CTX00	20		133	0	16/7	1 → 2/2 → 1	8.7/5	10		
BPB205STW00	15		87	0	16	1 → 2/2 → 1	5.9/4.2	10		
BPB206STX00	20		164	0	16	1 → 2/2 → 1	6.4/4.2	10	63	
BPB207STY00	25		260	0	16/11	1 → 2/2 → 1	6.9/4.2	10		
BPB208STZ00	32		410	0	16/6	1 → 2/2 → 1	7/4.2	10		
BPB209STK00	40		700	0	12/4	1 → 2/2 → 1	9.4/4.2	10		
BPB210STJ00	50		950	0	8/2.5	1 → 2/2 → 1	9.4/4.2	10	90	
BPB207LTY00	25		260	0	16/14	1 → 2/2 → 1	4/3.8	8		
BPB208LTZ00	32		410	0	16/12	1 → 2/2 → 1	5/3.8	8		
BPB209LTK00	40		700	0	16/8	1 → 2/2 → 1	6.5/3.8	8		
BPB210LTJ00	50		950	0	14/6	1 → 2/2 → 1	7/3.8	8		

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	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
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 7
Actuator Body Material	Polyamide + 30% glass fiber
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 for vacuum applications up to 10⁻² mbar
- ATEX version available

CE Ex ATEX UK CA

Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIC T85°C T100°C T135°C Db

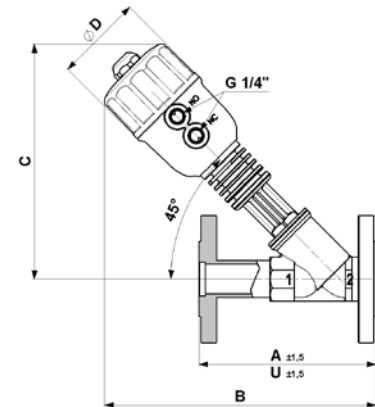


Options Available
Stroke regulator assembled ex-factory, see page 33 (e.g. code PD210STJR0)
Travel switch assembled ex-factory, see page 33 (e.g. code RPA208LTZJ0)
High temperature version, see pages 24/25 (e.g. code PD2055TW0H)
ATEX version (e.g. code BPD210VTJ00)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 63				Ø 90					
A (ANSI)	[mm]	139.7	152.4	165.1	184.2	203.2	228.6	165.1	184.2	203.2	228.6
U (BS/UNI/EN)	[mm]	130	150	160	180	200	230	160	180	200	230
B	[mm]	225	232	245	258	263	285	256	268	273	294
C	[mm]	198	203	212	220	225	234	223	230	235	244
D	[mm]	79	79	79	79	79	79	115	115	115	115
Weight	[kg]	2.6	3.0	3.8	5.6	6.5	8.7	4.4	6.0	6.9	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/UE 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	DN15 to DN25 (PN40)	art. 4.3	art. 4.3
	DN32 to DN40 (PN25)	Category I	art. 4.3
	DN50 (PN16)	Category I	art. 4.3

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

Notes

1. Steam max. working pressure 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. PD2055TW00 please refer to the equivalent part number PG2055TW00 for threaded connection)
4. Pav ATEX performances are the same as weather proof pav

2/2 Way Piston Actuated Valve Flanged – Stainless Steel

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	—	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
PD205STW00	flanges to BS 4504 EN1092 shape B	15	87	0	20	1 → 2	3.9	10	63	NC
PD206STX00		20	164	0	20	1 → 2	4.6	10		
PD207STY00		25	260	0	20	1 → 2	5.2	10		
PD208STZ00		32	410	0	16	1 → 2	5.7	10		
PD209STK00		40	700	0	16	1 → 2	8.8	10		
PD210STJ00		50	950	0	11	1 → 2	7.8	10		
PD207LTY00		25	260	0	20	1 → 2	3	8	90	
PD208LTZ00		32	410	0	16	1 → 2	3	8		
PD209LTK00		40	700	0	16	1 → 2	4	8		
PD210LTJ00		50	950	0	15	1 → 2	5.8	8		
RPD205STW00	flanges to BS 4504 EN1092 shape B	15	87	0	16	2 → 1	2.8	10	63	NO
RPD206STX00		20	164	0	16	2 → 1	4.5	10		
RPD207STY00		25	260	0	16	2 → 1	5.7	10		
RPD208STZ00		32	410	0	16	2 → 1	6.7	10		
RPD209STK00		40	700	0	14	2 → 1	9.2	10		
RPD210STJ00		50	950	0	12	2 → 1	9.6	10		
RPD207LTY00		25	260	0	16	2 → 1	4.5	7	90	
RPD208LTZ00		32	410	0	16	2 → 1	4	7		
RPD209LTK00		40	700	0	16	2 → 1	5.4	7		
RPD210LTJ00		50	950	0	16	2 → 1	7	7		
BPD205STW00	flanges to BS 4504 EN1092 shape B	15	87	0	16	1 → 2 / 2 → 1	5.9 / 4.2	10	63	NC bidirectional
BPD206STX00		20	164	0	16	1 → 2 / 2 → 1	6.4 / 4.2	10		
BPD207STY00		25	260	0	16 / 11	1 → 2 / 2 → 1	6.9 / 4.2	10		
BPD208STZ00		32	410	0	16 / 6	1 → 2 / 2 → 1	7 / 4.2	10		
BPD209STK00		40	700	0	12 / 4	1 → 2 / 2 → 1	9.4 / 4.2	10		
BPD210STJ00		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9.4 / 2	10		
BPD207LTY00		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.8	8	90	
BPD208LTZ00		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.8	8		
BPD209LTK00		40	700	0	16 / 8	1 → 2 / 2 → 1	6.5 / 3.8	8		
BPD210LTJ00		50	950	0	14 / 6	1 → 2 / 2 → 1	7 / 3.8	8		
PA205STW00	flanges to ANSI B16.5 class 150	15	87	0	20	1 → 2	3.9	10	63	NC
PA206STX00		20	164	0	20	1 → 2	4.6	10		
PA207STY00		25	260	0	20	1 → 2	5.2	10		
PA208STZ00		32	410	0	16	1 → 2	5.7	10		
PA209STK00		40	700	0	16	1 → 2	8.8	10		
PA210STJ00		50	950	0	11	1 → 2	7.8	10		
PA207LTY00		25	260	0	20	1 → 2	3	8	90	
PA208LTZ00		32	410	0	16	1 → 2	3	8		
PA209LTK00		40	700	0	16	1 → 2	4	8		
PA210LTJ00		50	950	0	15	1 → 2	5.8	8		
RPA205STW00	flanges to ANSI B16.5 class 150	15	87	0	16	2 → 1	2.8	10	63	NO
RPA206STX00		20	164	0	16	2 → 1	4.5	10		
RPA207STY00		25	260	0	16	2 → 1	5.7	10		
RPA208STZ00		32	410	0	16	2 → 1	6.7	10		
RPA209STK00		40	700	0	14	2 → 1	9.2	10		
RPA210STJ00		50	950	0	12	2 → 1	9.6	10		
RPA207LTY00		25	260	0	16	2 → 1	4.5	7	90	
RPA208LTZ00		32	410	0	16	2 → 1	4	7		
RPA209LTK00		40	700	0	16	2 → 1	5.4	7		
RPA210LTJ00		50	950	0	16	2 → 1	7	7		
BPA205STW00	flanges to ANSI B16.5 class 150	15	87	0	16	1 → 2 / 2 → 1	5.9 / 4.2	10	63	NC bidirectional
BPA206STX00		20	164	0	16	1 → 2 / 2 → 1	6.4 / 4.2	10		
BPA207STY00		25	260	0	16 / 11	1 → 2 / 2 → 1	6.9 / 4.2	10		
BPA208STZ00		32	410	0	16 / 6	1 → 2 / 2 → 1	7 / 4.2	10		
BPA209STK00		40	700	0	12 / 4	1 → 2 / 2 → 1	9.4 / 4.2	10		
BPA210STJ00		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9.4 / 2	10		
BPA207LTY00		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.8	8	90	
BPA208LTZ00		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.8	8		
BPA209LTK00		40	700	0	16 / 8	1 → 2 / 2 → 1	6.5 / 3.8	8		
BPA210LTJ00		50	950	0	14 / 6	1 → 2 / 2 → 1	7 / 3.8	8		

2/2 Way Piston Actuated Valve G 1/2" to 2", High Temperature Version – Stainless Steel

Specifications	
Type: PG NC flow over seat 1 → 2	
Type: RPG NO flow under seat 2 → 1	
Type: BPG NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +200 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Actuator Body Material	Polyamide + 30% glass fiber
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

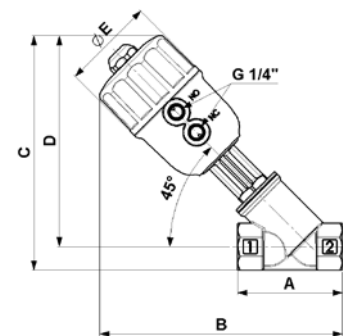
- Waterhammer-free design for BPG - DPG (with flow direction 2→1)
- Actuator housing rotation 360°



Options Available
Stroke regulator assembled ex-factory, see page 33 (e.g. code RPG210STJRH)
Travel switch assembled ex-factory, see page 33 (e.g. code PG208STZJH)
NPT connection (e.g. code BPN207LTY0H)
Butt weld connection (e.g. code BPW209LTK0H)
Flanged connection (e.g. code PD205STW0H)
ATEX version (e.g. code PG207VTY0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 63						Ø 90			
A	[mm]	65	75	90	110	120	150	90	110	120	150
B	[mm]	188	194	208	221	225	243	218	230	235	254
C	[mm]	180	188	201	213	221	236	211	223	231	246
D	[mm]	168	172	181	189	194	203	191	199	204	213
E	[mm]	79	79	79	79	79	79	115	115	115	115
Weight	[kg]	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



The products listed below comply with the requirements of the European Pressure Equipment Directive 2014/68/UE 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
PG - RPG - BPG	DN15 to DN25 (PN40)	art. 4.3	art. 4.3
	DN32 to DN40 (PN25)	Category I	art. 4.3
	DN50 (PN16)	Category I	art. 4.3

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

2/2 Way Piston Actuated Valve G 1/2" to 2", High Temperature Version – Stainless Steel

Valve Code	Body Connection [ISO 228G]	DN [mm]	Flow Rate Kvs [l/min]	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø [mm]	Function
				Min. [barg]	Max. [barg]		Min. [barg]	Max. [barg]		
PG205STW0H	1/2"	15	87	0	20	1 → 2	3.9	10	63	NC
PG206STX0H	3/4"	20	164	0	20	1 → 2	4.6	10		
PG207STY0H	1"	25	260	0	20	1 → 2	5.2	10		
PG208LTZ0H	1 1/4"	32	410	0	16	1 → 2	3	8	90	
PG209LTK0H	1 1/2"	40	700	0	16	1 → 2	4	8		
PG210LTJ0H	2"	50	950	0	15	1 → 2	5.8	8		
RPG205STW0H	1/2"	15	87	0	16	2 → 1	2.8	10	63	NO
RPG206STX0H	3/4"	20	164	0	16	2 → 1	4.5	10		
RPG207STY0H	1"	25	260	0	16	2 → 1	5.7	10		
RPG208LTZ0H	1 1/4"	32	410	0	16	2 → 1	4	7	90	
RPG209LTK0H	1 1/2"	40	700	0	16	2 → 1	5.4	7		
RPG210LTJ0H	2"	50	950	0	10	2 → 1	7	7		
BPG205STW0H	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.9 / 4.2	10	63	NC bidirectional
BPG206STX0H	3/4"	20	164	0	16	1 → 2 / 2 → 1	6.4 / 4.2	10		
BPG207STY0H	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.9 / 4.2	10		
BPG208LTZ0H	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.8	8	90	
BPG209LTK0H	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6.5 / 3.8	8		
BPG210LTJ0H	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	7 / 3.8	8		

Notes

1. Steam max. working pressure 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
4. Pav ATEX performances are the same as weather proof pav

2/2 Way on/off Sanitary Piston Actuated Valve – DN15 to DN50, Tube Weld & Clamp

Specifications	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Tube Material	AISI 316L (CF3M)
Tube Weld Connection	SMS 3008, BS 4825 or ASME BPE
Clamp Connection	BS 4825 or ASME BPE
Bonnet Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Actuator Body Material	Polyamide + 30% glass fiber
Main Seal Material	PTFE
Position Indicator	As standard
Gasket and Clamp	Not included

Features and Benefits

- Sanitary design with fully machined wetted internals
- Crevice free plug design
- Waterhammer-free design with flow direction 2→1
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar
- ATEX version available



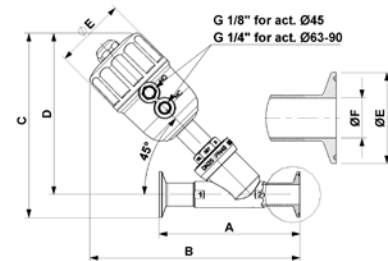
ATEX
 II 2 G Ex h IIC T6 T4 T5 Gb
 II 2 D Ex h IIIC T85°C T100°C T135°C Db

Options Available
Internal finish polished to Ra ≤ 0,5µ
ATEX version (e.g. code BPT210STJ00C)

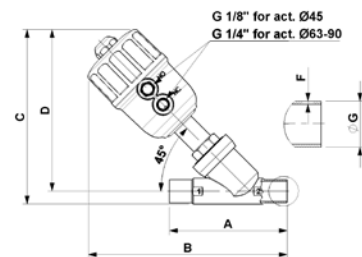
Accessories
Position module, travel switch kit, pilot solenoid valves see pages 34/35/36

Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN40	DN50	DN25	DN40	DN50
Actuator	[mm]	Ø 45		Ø 63				Ø 90			
A – ASME BPE*	[mm]	135.4	145.4	135.4	145.4	155.4	187.4	200.4	155.4	187.4	200.4
B – ASME BPE*	[mm]	218	224	232	/	251.5	263	243	/	262	273
D	[mm]	166	170	178	/	189	198	190	/	198	209
E – ASME BPE*	[mm]	25	25	25	25	50.5	50.5	64	50.5	50.5	64
F – ASME BPE*	[mm]	9.4	15.75	9.4	15.75	22.1	34.8	47.5	22.1	34.8	47.5
Weight	[kg]	0.9	1.1	1.3	1.5	1.8	2.8	3.6	2.4	3.2	4.0

*clamp dimensions to ASME BPE can be used also to fit BS 4825 clamp ends



Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 45		Ø 63				Ø 90					
A – SMS 3008	[mm]	110	120	110	120	130	153.5	162	175	130	153.5	162	175
A – BS 4825 & ASME BPE	[mm]	110	120	110	120	130	-	162	175	130	-	162	175
B – SMS 3008	[mm]	162.2	165.5	207	212	220	/	239	250	231	/	250	261
B – BS 4825 & ASME BPE	[mm]	162.2	165.5	207	212	220	/	239	250	231	/	250	261
C – SMS 3008	[mm]	130.5	138	174	184	193	/	210	225	204	/	221	237
C – BS 4825 & ASME BPE	[mm]	130.5	138	174	184	193	/	210	225	204	/	221	237
D – SMS 3008	[mm]	122.7	124.5	166	172	179	/	188	198	190	/	200	209
D – BS 4825 & ASME BPE	[mm]	122.7	124.5	166	172	179	/	188	198	190	/	200	209
E	[mm]	57	57	85	85	85	85	85	85	112	112	112	112
F – SMS 3008	[mm]	1	1	1	1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
F – ISO 2037	[mm]	1	1	1	1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
F – BS 4825	[mm]	1.2	1.2	1.2	1.2	1.65	-	1.65	1.65	1.65	-	1.65	1.65
F – ASME BPE	[mm]	1.65	1.65	1.65	1.65	1.65	-	1.65	1.65	1.65	-	1.65	1.65
G – SMS 3008	[mm]	12	18	12	18	25	38	38	51	25	38	38	51
G – ISO 2037	[mm]	12.7	21.3	12.7	21.3	25	38	38	51	25	38	38	51
G – BS 4825	[mm]	12.7	19.05	12.7	19.05	25.4	-	38.1	50.8	25.4	-	38.1	50.8
G – ASME BPE	[mm]	12.7	19.05	12.7	19.05	25.4	-	38.1	50.8	25.4	-	38.1	50.8
Weight	[kg]	1.2	1.3	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



Coding chart

Valve type / function		Sanitary connection		Valve head (to match DN)		Actuator Ø		Main seal material		DN (mm)		Options		Special Executions	
P	Normally Closed (1→2)	M	Tube weld to SMS 3008	205	½"	C	Ø45 (plastic)	T	PTFE	W	DN15	0	None	OC	Sanitary design and materials
BP	Normally Closed bidirectional (1↔2)	X	Tube weld to ISO 2037	206	¾"	S	Ø63 (plastic)			X	DN20	A	Position module mechanical switches		
		T	Tube weld to ASME BPE	207	1"	L	Ø90 (plastic)			Y	DN25	B	Position module inductive switches		
		Z	Tube weld to BS 4825	208	1 ¼"	M	Ø63 (st. steel)			Z	DN32				
RP	Normally Open (2→1)	K	Clamp to ASME BPE	209	1 ½"	G	Ø90 (st. steel)	K	DN40	J	DN50				
				210	2"										

Product coding example: BPK205STW00C on/off Sanitary Piston Valve with clamp ends to ASME BPE, Normally Closed bidirectional (flow 1↔2), DN15, actuator plastic dia. 63, PTFE seal, sanitary design and materials compliant to EU regulation 1935/2004.

2/2 Way on/off Sanitary Piston Actuated Valve – DN15 to DN50, Tube Weld & Clamp

Valve Code			DN	Flow Rate ⁴ Kvs	Working Pressure ¹ Min. Max.		Flow Direction	Pilot Pressure ³ Min. Max.		Actuator Ø	Function	
Tube weld to SMS 3008	Tube weld to ISO 2037	—	[mm]	l/min [m³/h]	barg	barg [psig]	—	barg [psig]	barg	[mm]	—	
PM205CTW00C	PX205CTW00C		15	65 [3.9]	0	16 [232]	1 → 2	3.8 [55]	10 [145]	45	 NC flow over seat A P	
PM206CTX00C	PX206CTX00C		20	120 [7.2]	0	16 [232]	1 → 2	5.8 [84]	10 [145]			
PM205STW00C	PX205STW00C		15	85 [5.1]	0	20 [290]	1 → 2	3.9 [57]	10 [145]			
PM206STX00C	PX206STX00C		20	160 [9.6]	0	20 [290]	1 → 2	4.6 [67]	10 [145]			
Same as ISO 2037	PX207STY00C		25	260 [15.6]	0	20 [290]	1 → 2	5.2 [75]	10 [145]			
Same as ISO 2037	PX208STZ00C		32	420 [25.2]	0	16 [232]	1 → 2	5.7 [83]	10 [145]			
Same as ISO 2037	PX209STK00C		40	630 [37.8]	0	16 [232]	1 → 2	8.8 [127]	10 [145]			
Same as ISO 2037	PX210STJ00C		50	810 [48.6]	0	11 [160]	1 → 2	7.8 [113]	10 [145]			
Same as ISO 2037	PX207LTY00C		25	260 [15.6]	0	20 [290]	1 → 2	3 [44]	8 [116]			
Same as ISO 2037	PX208LTZ00C		32	420 [25.2]	0	16 [232]	1 → 2	3 [44]	8 [116]			
Same as ISO 2037	PX209LTK00C		40	630 [37.8]	0	16 [232]	1 → 2	4 [58]	8 [116]			
Same as ISO 2037	PX210LTJ00C		50	810 [48.6]	0	15 [218]	1 → 2	5.8 [84]	8 [116]			
RPM205CTW00C	RPX205CTW00C		15	65 [3.9]	0	16 [232]	1 → 2	4 [58]	10 [145]	45	 NO flow under seat B P	
RPM206CTX00C	RPX206CTX00C		20	120 [7.2]	0	16 [232]	1 → 2	6.2 [90]	10 [145]			
RPM205STW00C	RPX205STW00C		15	85 [5.1]	0	16 [232]	2 → 1	2.8 [41]	10 [145]			
RPM206STX00C	RPX206STX00C		20	160 [9.6]	0	16 [232]	2 → 1	4.5 [65]	10 [145]			
Same as ISO 2037	RPX207STY00C		25	260 [15.6]	0	16 [232]	2 → 1	5.7 [83]	10 [145]			
Same as ISO 2037	RPX208STZ00C		32	420 [25.2]	0	16 [232]	2 → 1	6.7 [97]	10 [145]			
Same as ISO 2037	RPX209STK00C		40	630 [37.8]	0	12 [174]	2 → 1	9.2 [134]	10 [145]			
Same as ISO 2037	RPX210STJ00C		50	810 [48.6]	0	8 [116]	2 → 1	9.6 [139]	10 [145]			
Same as ISO 2037	RPX207LTY00C		25	260 [15.6]	0	16 [232]	2 → 1	4.5 [65]	7 [102]			
Same as ISO 2037	RPX208LTZ00C		32	420 [25.2]	0	16 [232]	2 → 1	4 [58]	7 [102]			
Same as ISO 2037	RPX209LTK00C		40	630 [37.8]	0	16 [232]	2 → 1	5.4 [78]	7 [102]			
Same as ISO 2037	RPX210LTJ00C		50	810 [48.6]	0	10 [145]	2 → 1	7 [102]	7 [102]			
BPM205CTW00C	BPX205CTW00C		15	65 [3.9]	0	16 / 16 [232/232]	1 → 2 / 2 → 1	6.2 / 5 [90/73]	10 [145]	45	 NC bidirectional Flow over/under seat A OP	
BPM206CTX00C	BPX206CTX00C		20	120 [7.2]	0	16 / 7 [232/102]	1 → 2 / 2 → 1	8.7 / 5 [126/73]	10 [145]			
BPM205STW00C	BPX205STW00C		15	85 [5.1]	0	16 / 16 [232/232]	1 → 2 / 2 → 1	5.9 / 4.2 [86/61]	10 [145]			
BPM206STX00C	BPX206STX00C		20	160 [9.6]	0	16 / 16 [232/232]	1 → 2 / 2 → 1	6.4 / 4.2 [93/61]	10 [145]			
Same as ISO 2037	BPX207STY00C		25	260 [15.6]	0	16 / 11 [232/160]	1 → 2 / 2 → 1	6.9 / 4.2 [100/61]	10 [145]			
Same as ISO 2037	BPX208STZ00C		32	420 [25.2]	0	16 / 6 [232/87]	1 → 2 / 2 → 1	7 / 4.2 [102/61]	10 [145]			
Same as ISO 2037	BPX209STK00C		40	630 [37.8]	0	16 / 4 [232/58]	1 → 2 / 2 → 1	9.4 / 4.2 [136/61]	10 [145]			
Same as ISO 2037	BPX210STJ00C		50	810 [48.6]	0	8 / 2.5 [116/36]	1 → 2 / 2 → 1	9.4 / 4.2 [136/61]	10 [145]			
Same as ISO 2037	BPX207LTY00C		25	260 [15.6]	0	16 / 14 [232/203]	1 → 2 / 2 → 1	4 / 3.8 [58/55]	8 [116]			
Same as ISO 2037	BPX208LTZ00C		32	420 [25.2]	0	16 / 12 [232/174]	1 → 2 / 2 → 1	5 / 3.8 [73/55]	8 [116]			
Same as ISO 2037	BPX209LTK00C		40	630 [37.8]	0	16 / 8 [232/116]	1 → 2 / 2 → 1	6.5 / 3.8 [94/55]	8 [116]			
Same as ISO 2037	BPX210LTJ00C		50	810 [48.6]	0	14 / 6 [203/87]	1 → 2 / 2 → 1	7 / 3.8 [102/55]	8 [116]			
PT205CTW00C	PZ205CTW00C	PK205CTW00C	15	45 [2.7]	0	10 [145]	1 → 2	3.8 [55]	10 [145]	45	 NC flow over seat A P	
PT206CTX00C	PZ206CTX00C	PK206CTX00C	20	105 [6.3]	0	10 [145]	1 → 2	5.8 [84]	10 [145]			
PT205STW00C	PZ205STW00C	PK205STW00C	15	45 [2.7]	0	10 [145]	1 → 2	3.9 [57]	10 [145]			
PT206STX00C	PZ206STX00C	PK206STX00C	20	125 [7.5]	0	10 [145]	1 → 2	4.6 [67]	10 [145]			
PT207STY00C	Same as ASME BPE	PK207STY00C	25	255 [15.3]	0	10 [145]	1 → 2	5.2 [75]	10 [145]			
PT209STK00C	Same as ASME BPE	PK209STK00C	40	610 [36.6]	0	10 [145]	1 → 2	8.8 [127]	10 [145]			
PT210STJ00C	Same as ASME BPE	PK210STJ00C	50	685 [41.1]	0	10 [145]	1 → 2	7.8 [113]	10 [145]			
PT207LTY00C	Same as ASME BPE	PK207LTY00C	25	255 [15.3]	0	10 [145]	1 → 2	3 [44]	8 [116]			
PT209LTK00C	Same as ASME BPE	PK209LTK00C	40	610 [36.6]	0	10 [145]	1 → 2	3.5 [51]	8 [116]			
PT210LTJ00C	Same as ASME BPE	PK210LTJ00C	50	685 [41.1]	0	10 [145]	1 → 2	5.8 [84]	8 [116]			
RPT205CTW00C	RPZ205CTW00C	RPK205CTW00C	15	45 [2.7]	0	10 [145]	2 → 1	4 [58]	10 [145]	45		 NO flow under seat B P
RPT206CTX00C	RPZ206CTX00C	RPK206CTX00C	20	105 [6.3]	0	10 [145]	2 → 1	6.2 [90]	10 [145]			
RPT205STW00C	RPZ205STW00C	RPK205STW00C	15	45 [2.7]	0	10 [145]	2 → 1	2.8 [41]	10 [145]			
RPT206STX00C	RPZ206STX00C	RPK206STX00C	20	125 [7.5]	0	10 [145]	2 → 1	4.5 [65]	10 [145]			
RPT207STY00C	Same as ASME BPE	RPK207STY00C	25	255 [15.3]	0	10 [145]	2 → 1	5.7 [83]	10 [145]			
RPT209STK00C	Same as ASME BPE	RPK209STK00C	40	610 [36.6]	0	10 [145]	2 → 1	9.2 [134]	10 [145]			
RPT210STJ00C	Same as ASME BPE	RPK210STJ00C	50	685 [41.1]	0	8 [116]	2 → 1	9.6 [139]	10 [145]			
RPT207LTY00C	Same as ASME BPE	RPK207LTY00C	25	255 [15.3]	0	10 [145]	2 → 1	4.5 [65]	7 [102]			
RPT209LTK00C	Same as ASME BPE	RPK209LTK00C	40	610 [36.6]	0	10 [145]	2 → 1	5.4 [78]	7 [102]			
RPT210LTJ00C	Same as ASME BPE	RPK210LTJ00C	50	685 [41.1]	0	10 [145]	2 → 1	7 [102]	7 [102]			
BPT205CTW00C	BPZ205CTW00C	BPK205CTW00C	15	45 [2.7]	0	10 / 10 [145/145]	1 → 2 / 2 → 1	6.2 / 5 [90/73]	10 [145]		 NC bidirectional Flow over/under seat A OP	
BPT206CTX00C	BPZ206CTX00C	BPK206CTX00C	20	105 [6.3]	0	10 / 7 [145/102]	1 → 2 / 2 → 1	8.7 / 5 [126/73]	10 [145]			
BPT205STW00C	BPZ205STW00C	BPK205STW00C	15	45 [2.7]	0	10 / 10 [145/145]	1 → 2 / 2 → 1	5.9 / 4.2 [86/61]	10 [145]			
BPT206STX00C	BPZ206STX00C	BPK206STX00C	20	125 [7.5]	0	10 / 10 [145/145]	1 → 2 / 2 → 1	6.4 / 4.2 [93/61]	10 [145]			
BPT207STY00C	Same as ASME BPE	BPK207STY00C	25	255 [15.3]	0	10 / 10 [145/145]	1 → 2 / 2 → 1	6.9 / 4.2 [100/61]	10 [145]			
BPT209STK00C	Same as ASME BPE	BPK209STK00C	40	610 [36.6]	0	10 / 4 [145/58]	1 → 2 / 2 → 1	7 / 4.2 [102/61]	10 [145]			
BPT210STJ00C	Same as ASME BPE	BPK210STJ00C	50	685 [41.1]	0	8 / 2.5 [116/36]	1 → 2 / 2 → 1	9.4 / 4.2 [136/61]	10 [145]			
BPT207LTY00C	Same as ASME BPE	BPK207LTY00C	25	255 [15.3]	0	10 / 10 [145/145]	1 → 2 / 2 → 1	4 / 3.8 [58/55]	8 [116]			
BPT209LTK00C	Same as ASME BPE	BPK209LTK00C	40	610 [36.6]	0	10 / 8 [145/145]	1 → 2 / 2 → 1	6.5 / 3.8 [94/55]	8 [116]			
BPT210LTJ00C	Same as ASME BPE	BPK210LTJ00C	50	685 [41.1]	0	10 / 6 [145/116]	1 → 2 / 2 → 1	7 / 3.8 [102/55]	8 [116]			

Notes

1. Steam max. working pressure 10 bar (9 barg)
2. Please contact 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 parts numbers: e.g. PM205STW00 please refer to the equivalent part number PG205STW00 for threaded connection)
4. Flow values shown in the selection table are subjects to a tolerance of $\pm 15\%$

Piston Actuated Valve Series M and G

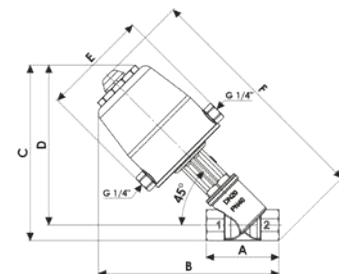
Specifications	
Type: PG NC flow over seat 1 → 2	
Type: RPG NO flow under seat 2 → 1	
Type: BPG NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +200 °C
Ambient Temperature	-10 to +80 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
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
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

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



Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50	
Actuator	[mm]	Ø 63						Ø 90				
A	[mm]	65	75	90	110	120	150	90	110	120	150	
B	[mm]	178	184	200	211	216	234	208	221	226	244	
C	[mm]	171	178	200	204	212	227	201	213	221	236	
D	[mm]	157	162	172	180	184	193	181	189	194	202	
E	[mm]	108	108	108	108	108	108	135	135	135	135	
F	[mm]	228	239	258	275	284	307	260	278	286	310	
Weight	[kg]	2.3	2.4	2.6	3.1	3.4	4.1	3.6	4.1	4.3	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/UE 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
PG - RPG - BPG	DN15 to DN25 (PN40)	art. 4.3	art. 4.3
	DN32 to DN40 (PN25)	Category I	art. 4.3
	DN50 (PN16)	Category I	art. 4.3

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

Piston Actuated Valve Series M and G

Valve Code	Body Connection [ISO 228G]	DN [mm]	Flow Rate Kvs [l/min]	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø [mm]	Function	
				Min. [barg]	Max. [barg]		Min. [barg]	Max. [barg]			
PG205MTW00	1/2"	15	87	0	20	1 → 2	3.7	10	63	NC	
PG206MTX00	3/4"	20	164	0	20	1 → 2	4.4	10			
PG207MTY00	1"	25	260	0	20	1 → 2	5	10			
PG208MTZ00	1 1/4"	32	410	0	16	1 → 2	5.9	10			
PG209MTK00	1 1/2"	40	700	0	16	1 → 2	9	10			
PG210MTJ00	2"	50	950	0	11	1 → 2	8	10			
PG207GTY00	1"	25	260	0	20	1 → 2	2	8	90		
PG208GTZ00	1 1/4"	32	410	0	16	1 → 2	3.5	8			
PG209GTK00	1 1/2"	40	700	0	16	1 → 2	4	8			
PG210GTJ00	2"	50	950	0	15	1 → 2	6.5	8			
RPG205MTW00	1/2"	15	87	0	16	2 → 1	2.5	10			63
RPG206MTX00	3/4"	20	164	0	16	2 → 1	4.3	10			
RPG207MTY00	1"	25	260	0	16	2 → 1	5.5	10			
RPG208MTZ00	1 1/4"	32	410	0	16	2 → 1	6.5	10			
RPG209MTK00	1 1/2"	40	700	0	16	2 → 1	9	10			
RPG210MTJ00	2"	50	950	0	12	2 → 1	9.4	10			
RPG207GTY00	1"	25	260	0	16	2 → 1	2	8	90		
RPG208GTZ00	1 1/4"	32	410	0	16	2 → 1	4	8			
RPG209GTK00	1 1/2"	40	700	0	16	2 → 1	5	8			
RPG210GTJ00	2"	50	950	0	16	2 → 1	7	8			
BPG205MTW00	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10		63	NC bidirectional
BPG206MTX00	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10			
BPG207MTY00	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10			
BPG208MTZ00	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10			
BPG209MTK00	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10			
BPG210MTJ00	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10			
BPG207GTY00	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90		
BPG208GTZ00	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8			
BPG209GTK00	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8			
BPG210GTJ00	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8			

Notes

1. Steam max. working pressure 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

Control Piston Actuated Valve with Integrated Positioner

DN15 to DN50 – Stainless Steel

Valve Specifications	
Type: ZP flow always under seat 2 → 1	NC (Direct) / NO (Reverse)
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 to +180 °C
Ambient Temperature	-10 to +60 °C
Pilot Media ²	Instrument air, inert gases (filtered with mesh 5 µ)
Body Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Tube Material	AISI 316L (CF3M)
Process Connection	All connection types available for ON/OFF valve range in Stainless Steel
Bonnet Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Actuator Body Material	Polyamide + 30% glass fiber
Main Seal Material	PTFE
Flow Characteristic	Linear or equal-percentage
Positioner Specifications	
Power Supply	24 VDC ± 10%
Input Signal	4–20 mA, 0 to 5 / 10 V
Power Consumption	< 4W
Output	4–20 mA
Output Characteristics	Linear, EQ%, User Set (16 points)
Operating Temperature	-10 to 60 °C
Supply Pressure	Max 7 bar
Air Consumption	0 LPM
Filtering size	5 micron
Air Connection	G1/8" (Ø 6 mm tube)
Electrical Connection	Conduit M16 x 1.5 (with screw terminals)
Ingress Protection	IP67
Body Material	PPS
Cover Material	PC

Features and Benefits

Piston Actuated Valve

- Accuracy of control thanks to specifically trimmed plug profiles
- Universal design suitable for vacuum applications up to 10⁻² mbar
- Water-hammer free design
- Extended cycle life thanks to self-registering gland and chevron packing
- Optimized control characteristic with high flow rate and low pressure drop

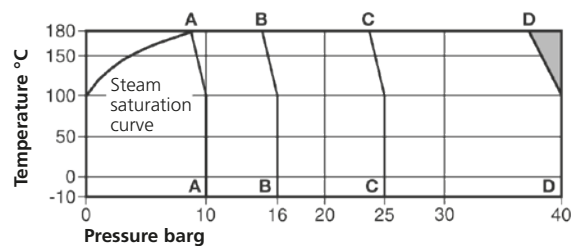


Smart Positioner Design Features (solenoid technology)

- Fail Freeze and Fail Safe function
- LCD display
- Feedback signal. 4-20 mA output option
- Auto calibration
- Low air consumption level
- Front panel pushbuttons for configuration

Valve Options	Code Examples
Main Seal material in Peek ¹	ZP*205SPW E K
Body and Shaped plug with hardening treatment ¹	ZP*205SPW E K
Positioner Options	
Fail Option: Safe (S) or Freeze (F)	SNG10S or SNG10F
Feedback output option: 4-20 mA (1)	SNG11S or SNG11F

¹ Seal in peek and hardened nickel plated body usually match together to improve valve life in severe applications



A – A PN10
B – B PN16 - ANSI 150
C – C PN25
D – D PN40

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!

DN	Flow Rate ⁴ Equi% 1:25	Flow Rate ⁴ linear 1:25	Working Pressure ¹ Max.	Flow Direction	Pilot Pressure Min.	Pilot Pressure Max.	Actuator Ø	PN ³	Valve Code (* is the connection ref. to be selected in the coding table)		Positioner Code
[mm]	Kvs [m3/h]	Kvs [m3/h]	[barg]	[2 → 1]	[barg]	[barg]	[mm]	—	EQ%	Linear	Fail Safe, no feedback
15	4.5	4.9	16	Only under seat	4.5	7	63	40	ZP*205STWEO	ZP*205STWLO	SNG10S
20	8.7	8.7	16					40	ZP*206STXEO	ZP*206STXLO	
25	12.7	14.4	14					40	ZP*207LTYES	ZP*207LTYSLO	
32	20.4	22.8	12	Only under seat	4.5	7	90	25	ZP*208LTYES	ZP*208LTYSLO	
40	29.7	34.2	8				25	ZP*209LTKEO	ZP*209LTKLO		
50	36.3	39	6				16	ZP*210LTYES	ZP*210LTYSLO		

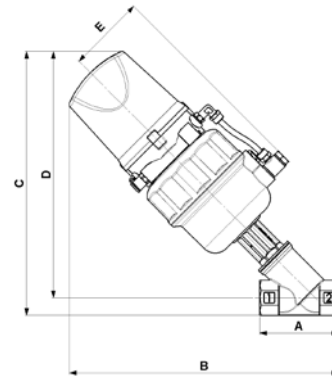
Notes:

1. Steam max. working pressure 10 bar (9 barg)
2. Please contact M&M sales department for other pilot media
3. PN 10 for all sizes with Clamp connection
4. Flow values shown in the selection table are subject to a tolerance of ±15%

Control Piston Actuated Valve with Integrated Positioner

DN15 to DN50 – Stainless Steel

GAS - NPT - WELDED ENDS	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50
	Actuator	[mm]	Ø 63		Ø 90			
	A	[mm]	64	75	90	110	120	150
B	[mm]	286	292	306	318	323	341	
C	[mm]	278	286	299	313	321	336	
D	[mm]	265	270	279	289	293	320	
E	[mm]	75	75	90	90	90	90	
Weight	[kg]	1.9	2	2.8	3.2	3.4	4.1	



FLANGED EN1092-1	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50
	Actuator	[mm]	Ø 63		Ø 90			
	A	[mm]	130	150	160	180	200	230
B	[mm]	323	331	344	357	362	383	
C	[mm]	345	355	362	389	399	415	
D	[mm]	297	302	311	319	324	332	
E	[mm]	75	75	90	90	90	90	
Weight	[kg]	3.3	3.7	5.2	6.8	7.7	9.9	

FLANGED ANSI B16.5	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50
	Actuator	[mm]	Ø 63		Ø 90			
	A	[mm]	139.7	152.4	165.1	184.2	203.2	228.6
B	[mm]	321	328	342	355	361	382	
C	[mm]	341	351	365	377	387	409	
D	[mm]	297	302	311	319	324	332	
E	[mm]	75	75	90	90	90	90	
Weight	[kg]	3.3	3.7	5.2	6.8	7.7	9.9	

Regulatory

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
ZPG - ZPR - ZPN - ZPC - ZPP - ZPA - ZPD -	DN15 to DN25 (PN40)	SEP (art. 4.3)	SEP (art. 4.3)
	DN32 to DN40 (PN25)	Category I	SEP (art. 4.3)
	DN50 (PN16)	Category I	SEP (art. 4.3)

⚠ WARNING!

According to the European Pressure Equipment Directive 2014/68/UE, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

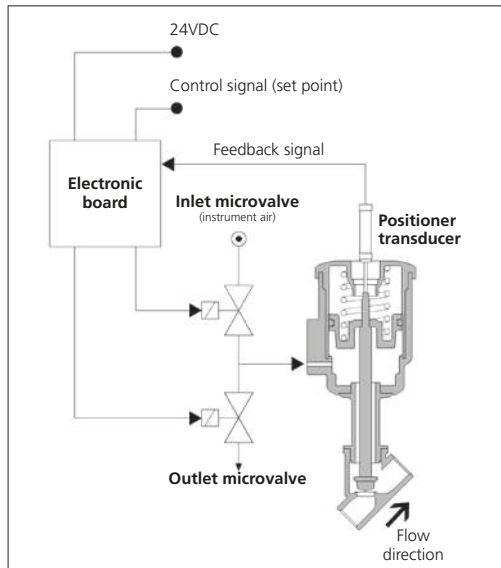
Control Piston Actuated Valve With Integrated Positioner

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.

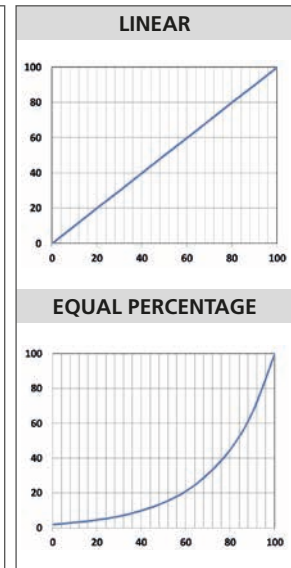
The proportionality between the stroke of the valve and the instantaneous flow is guaranteed by the special plug design: linear plug and equal percentage plug (Picture C) the graphs show an ideal curve, which cannot be reproduced exactly but varies according to the DN of the valve and the specific installation 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

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



Notes

The option must be expressly requested upon order
It is available for actuators sizes Ø63 & Ø90 only (e.g. code RPG205TWI0)
It is available only assembled ex-factory
ATEX option not available

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.
Aluminium knob.

Notes

This option must be expressly requested upon order
It is available for actuators sizes Ø63 & Ø90 only (e.g. code CG205STWR0)
It is available only assembled ex-factory
Available also on ATEX piston valves



Position Module for Piston Actuated Valve

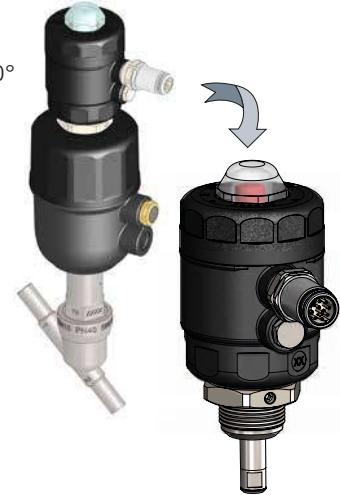
Specifications	
Electrical Position Feedback	Mechanical limit switches or inductive limit switches
Body/Cover Material	Polyamide PA6 (reinforced fiberglass 30%)
Connector Material	Copper-zinc alloy / aluminium alloy / cast zinc – nickel plating treatment
Electrical Connection	Connector M16 – 10 poles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

M&M position modules offer an electrical position feedback for reading the valve position of piston actuated valves open or closed.

The position detection is carried out through a mechanical or inductive switch that can be fitted to all M&M standard Piston Valves.

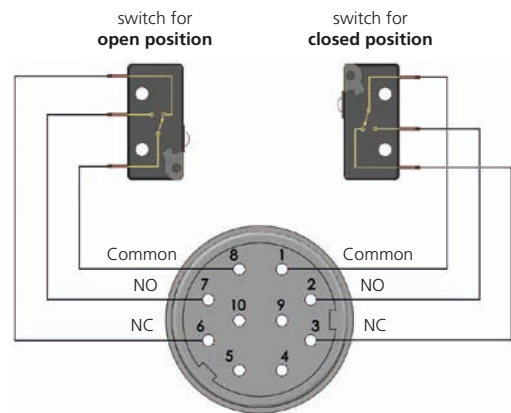
Features and Benefits

- Actuator housing rotation 360°



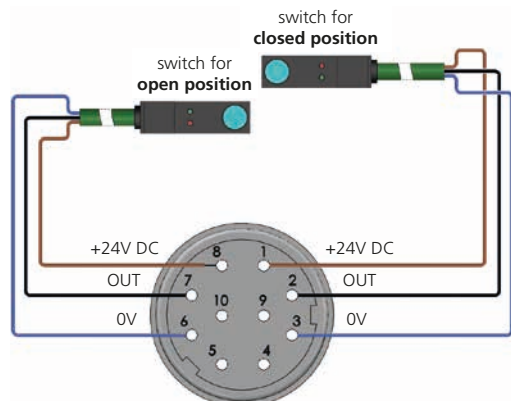
ELECTRICAL CONNECTION SCHEME FOR MECHANICAL SWITCHES

Connector frontal view:

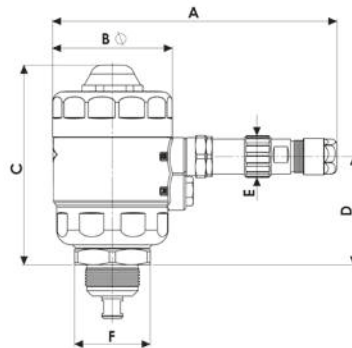


ELECTRICAL CONNECTION SCHEME FOR INDUCTIVE SWITCHES

Connector frontal view:



Dimensions & Weights		Position Module
Actuator	[mm]	45/63/90
A	[mm]	134
B	[mm]	57
C	[mm]	95
D	[mm]	51.5
E	[mm]	20
F	[mm]	Hex 36
Weight	[kg]	0.43



Position Module	Actuator Ø	Electrical Position Feedback
Code	[mm]	—
857 030-	63/90	Mechanical
857 040-	45	
857 031-	63/90	Inductive
857 041-	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 12mm max.

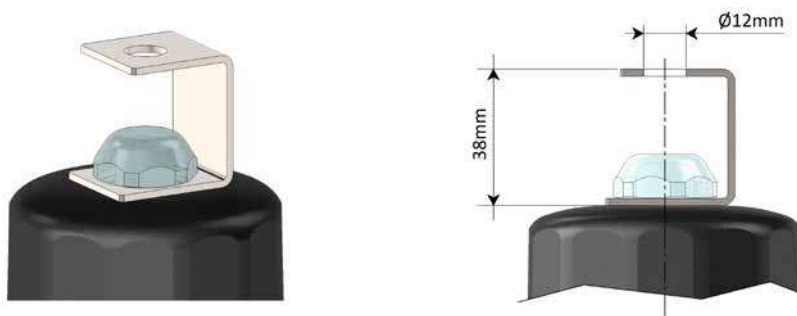
You can install a sensor having a larger diameter (up to 18 mm max.) in this case you shall re-drill the upper hole on the sensor support bracket.

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. ATEX option not available.

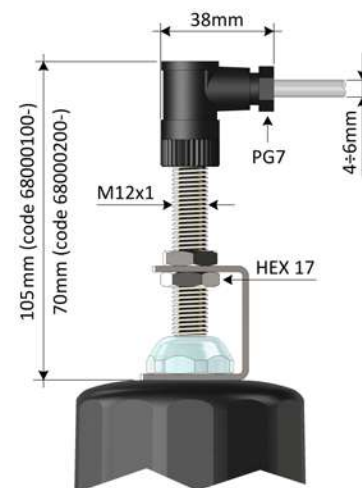
Notes: 2 conversion kits complete with sensors are available:

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- ¹
Contact	Free NC, NO switch	Free NC, NO switch
Repeatability	± 0,3 mm	± 0,3 mm
Temperature Limits	- 25 to + 100 °C	- 25 to + 100 °C
Protection Class	IP 67 ²	IP 67
Max. Switching Voltage	500 V	150 V
Max. Switching Current	0,5 A	1 A
Max. Switching Power	30 WVA	20 WVA
Contact Actuation Time	4,5 ms	2 ms
Connection	Plug to screw clamp connection DIN IEC 60947/5/2	With moulded cable (5 m)
Cable	3 x 0,25 mm ²	3 x 0,25 mm ²

1. Minimum batch may be required
2. If matched with a connector rated IP67 or higher



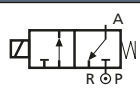
• **Type A**
CONNECTOR code 600 012 00-
+ SWITCH code 680 001 00-



• **Type B**
SWITCH AND CABLE (5m)
code 680 002 00-¹



3/2 Way Direct Acting Pilot Solenoid Valve with Manual Override

Specifications	
Type: B356/B326/D326 Normally Closed	
Media	Water, inert gases, air
Media Temperature	-10 to +60 °C
Ambient Temperature	-10 to +60 °C
Body Material	Brass (CW617N EN 12165) with electroless nickel plating treatment
Operator Material	Stainless steel
Seal Material	Foodgrade FKM
Protection Class	IP65 (with connector and gasket)

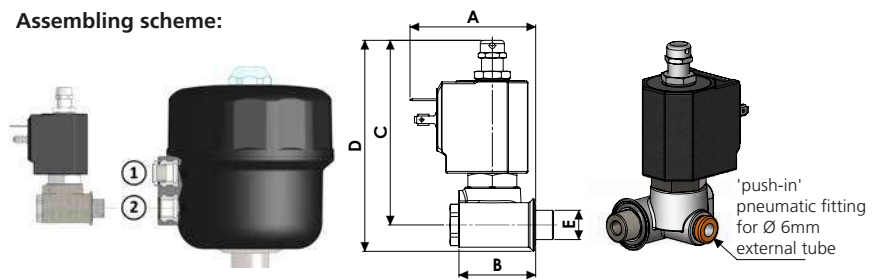
Features and Benefits

- Expressly designed to pilot M&M Piston Actuated Valves
- Valve rotation 360° around port



Dimensions & Weights	B356			B326		D326	
	Connection	'Push-in'					
A	[mm]	48	51	56.5			
B	[mm]	31	34	34			
C	[mm]	67	67	83			
D	[mm]	77	79	95			
E	[mm]	1/8" G	1/4" G	1/4" G			
Weight	[kg]	0.25	0.25	0.30			

Assembling scheme:



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** (RPG/RCG)
- into hole ② for **NORMALLY CLOSED VALVES** (PG-BPG/CG-BCG)

Valve	DN	Flow rate Kvs	OPD		
			min.	max. AC	max. DC
Code	[mm]	[l/min]	[barg]	[barg]	[barg]
B356CVCMK	1.5	0.7	0	10	10

Coils	
Code	[Volts/Hz]
2250	24 VDC
2200	24 V 50/60 Hz
2400	110 V 50 Hz - 120 V 60 Hz
2600	200 V 50 Hz - 220 V 60 Hz
2700	230 V 50 Hz - 240 V 60 Hz

B356 - FKM seal, for actuator size Ø 45

Connection: to DIN 46244
Coil power: AC 10va (holding)
AC 16va (inrush)
DC 7w

OPTIONS

UL approved coils (e.g. code 225R)
DIN connector code 600 001 00-

Valve	DN	Flow rate Kvs	OPD		
			min.	max. AC	max. DC
Code	[mm]	[l/min]	[barg]	[barg]	[barg]
B326CVCMK	1.5	0.7	0	10	10

Coils	
Code	[Volts/Hz]
2250	24 VDC
2200	24 V 50/60 Hz
2400	110 V 50 Hz - 120 V 60 Hz
2600	200 V 50 Hz - 220 V 60 Hz
2700	230 V 50 Hz - 240 V 60 Hz

B326 - FKM seal, for actuator size Ø 63

Connection: to DIN 46244
Coil power: AC 10va (holding)
AC 16va (inrush)
DC 7w

OPTIONS

UL approved coils (e.g. code 240R)
DIN connector code 600 001 00-

Valve	DN	Flow rate Kvs	OPD		
			min.	max. AC	max. DC
Code	[mm]	[l/min]	[barg]	[barg]	[barg]
D326CVEMK	2.0	1.3	0	10	10

Coils	
Code	[Volts/Hz]
7250	24 VDC
7200	24 V 50/60 Hz
7400	110 V 50 Hz - 120 V 60 Hz
7600	200 V 50 Hz - 220 V 60 Hz
7700	230 V 50 Hz - 240 V 60 Hz

D326 - FKM seal, for actuator size Ø 90

Connection: to DIN EN 175301-803 form A (ex din 43650-a)
Coil power: AC 18va (holding)
AC 36va (inrush)
DC 14w

OPTIONS

UL approved coils (e.g. code 725R)
DIN connector code 600 011 00-

Seal Kit for Stainless Steel Valves Actuator Ø 63/90

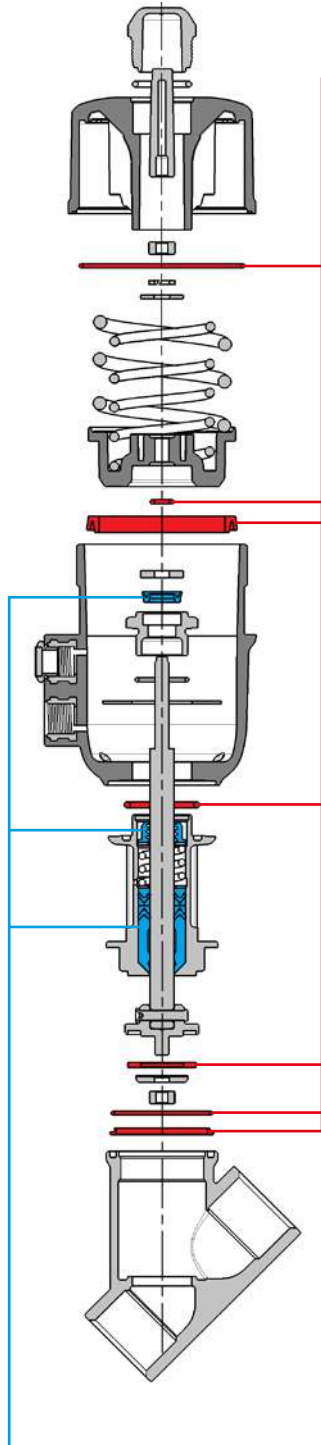
Valid for valves manufactured from the batch date printed on the label.

Valid for pav manufactured from the batch date: June 2022 ex. 06/22.

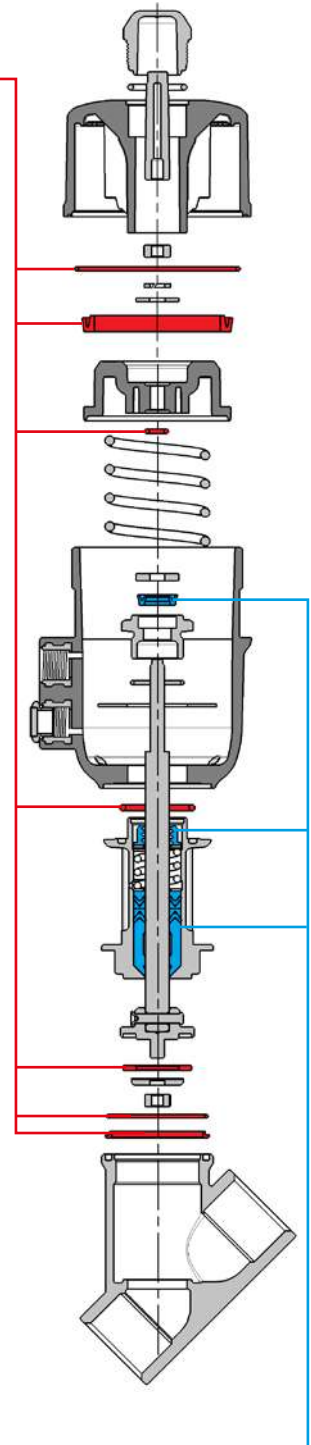
Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.

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 ¹	Actuator		
2057801	15	PG/RPG/BPG- PN/RPN/BPN- PW/RPW/BPW- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA- High Temperature Version	Ø 63		
2057802	20				
2057803	25				
2057804	32				
2057805	40				
2057806	50				
2057807	15			DPG/DPN-	Ø 63
2057808	20				
2057809	25				
2057810	32				
2057811	40				
2057812	50	PG/RPG/BPG- PN/RPN/BPN- PW/RPW/BPW- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA- High Temperature Version	Ø 90		
2057813	25				
2057814	32				
2057815	40				
2057816	50				

STEM SEALS KIT

Kit Code	DN	Valve Type ¹	Actuator
2057817	all	PG/RPG/BPG/DPG- PN/RPN/BPN/DPN- PW/RPW/BPW- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA-	Ø 63/90
2057818	15	High Temperature Version	Ø 63
2057819	20		
2057820	25		
2057821	32	High Temperature Version	Ø 90
2057822	40		
2057823	50		

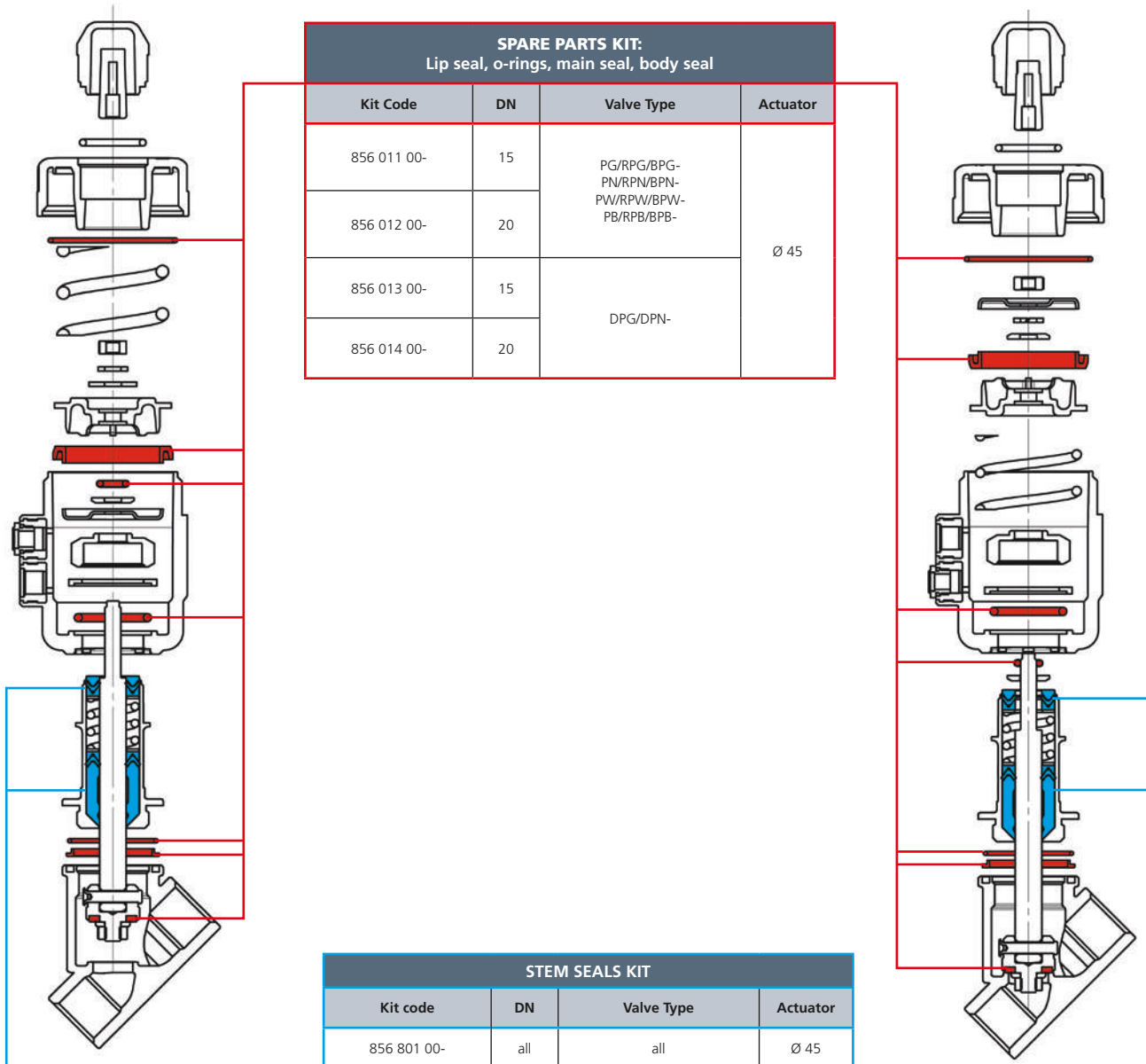
1. Included versions with optional: stroke regulator (e.g. code PW208STZ0) and travel switch version (e.g. code BPG209LTK10)

Seal Kit For Stainless Steel Valves Actuator Ø 45

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



Seal Kit For Bronze Valves Actuator Ø 63/90

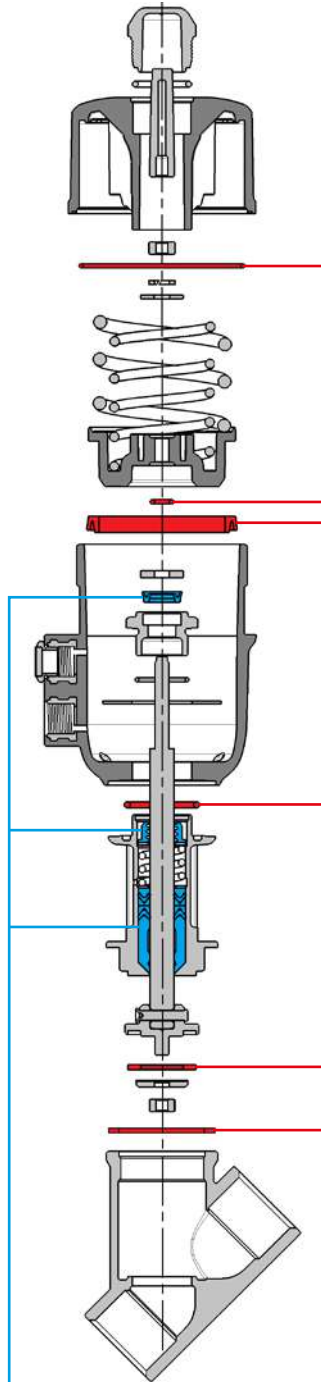
Valid for valves manufactured from the batch date printed on the label.

Valid for pav manufactured from the batch date: June 2022 ex. 06/22.

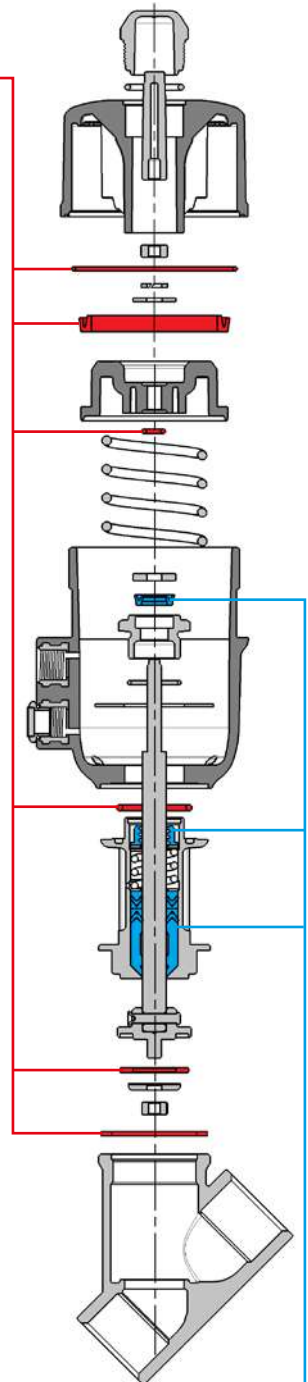
Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.

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
2057824	15	CG/RCG/BCG- CN/RCN/BCN-	Ø 63
2057825	20		
2057826	25		
2057827	32		
2057828	40		
2057829	50	DCG/DCN-	
2057830	15		
2057831	20		
2057832	25		
2057833	32		
2057834	40	CG/RCG/BCG- CN/RCN/BCN-	Ø 90
2057835	50		
2057836	25		
2057837	32		
2057838	40		
2057839	50		

STEM SEALS KIT

Kit Code	DN	Valve Type ¹	Actuator
2057817	all	CG/RCG/BCG-/DCG- CN/RCN/BCN/DCN-	Ø 63/90

1. Included versions with optional: stroke regulator (e.g. code CG206STXR0) and travel switch version (e.g. code BCG210LTJ0)

Seal Kit For Bronze Valves Actuator Ø 45

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	Actuator
856 015 00-	15	CG/RCG/BCG- CN/RCN/BCN-	Ø 45
856 016 00-	20		
856 017 00-	25		
856 018 00-	15	DCG/DCN-	
856 019 00-	20		
856 020 00-	25		

STEM SEALS KIT			
Kit Code	DN	Valve Type	Actuator
856 801 00-	all	all	Ø 45

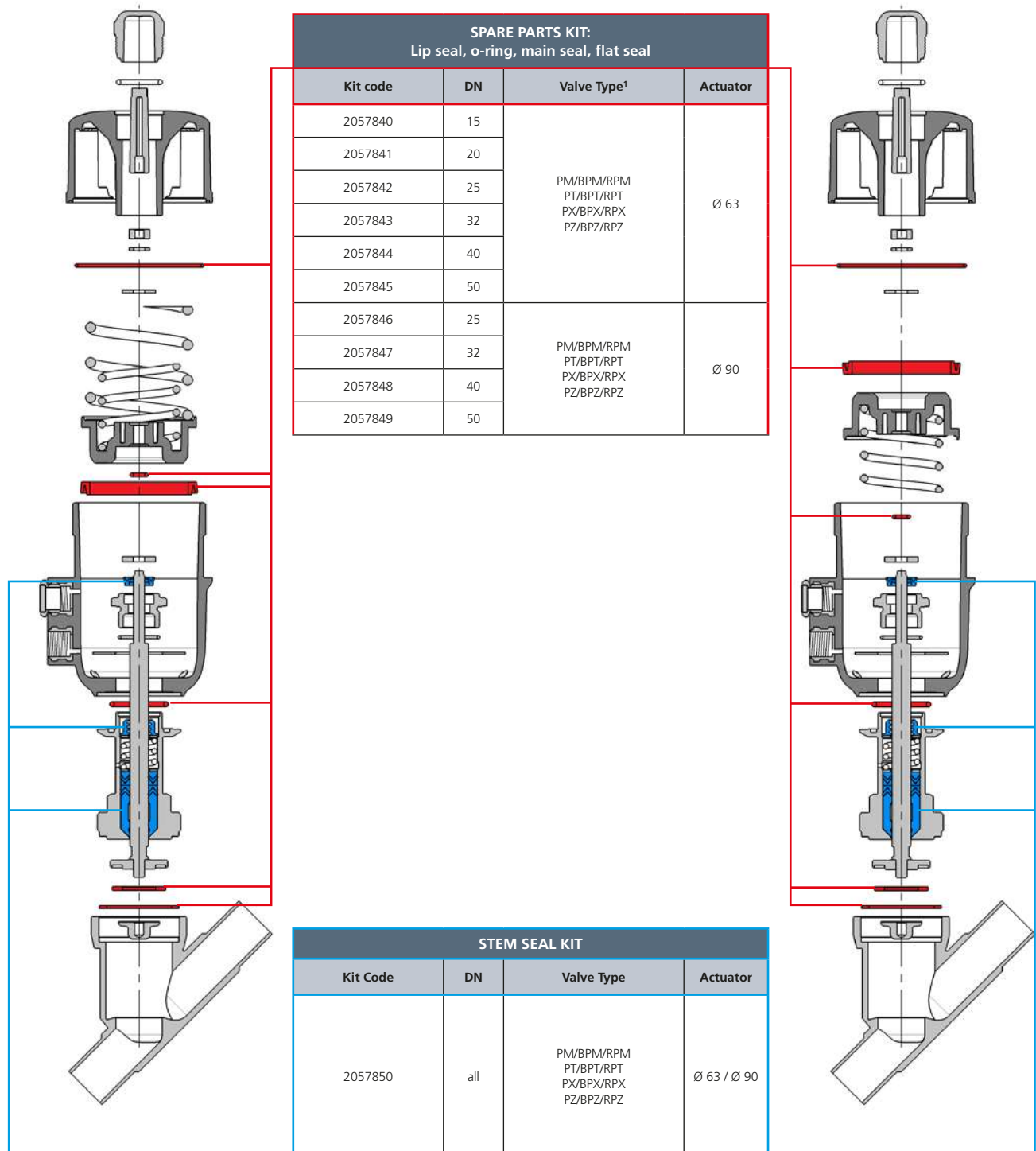
Seal Kit for Sanitary Piston Actuated Valves Actuator Ø 45/63/90

Valid for valves manufactured from the batch date printed on the label.

Valid for pav manufactured from the batch date: June 2022 ex. 06/22.

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.



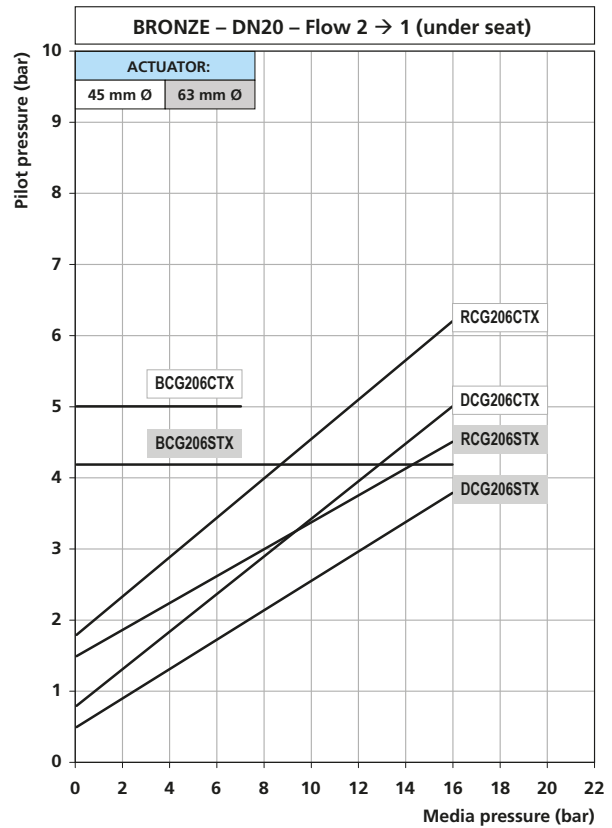
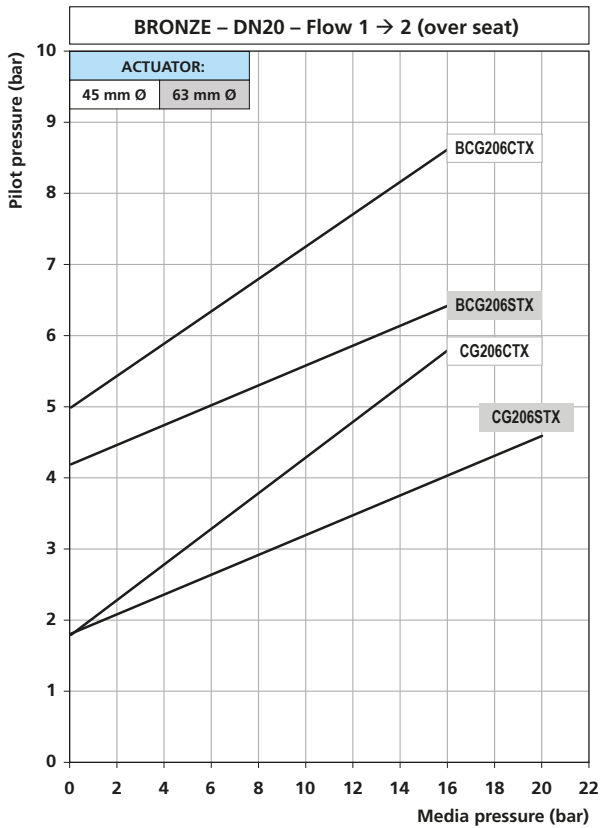
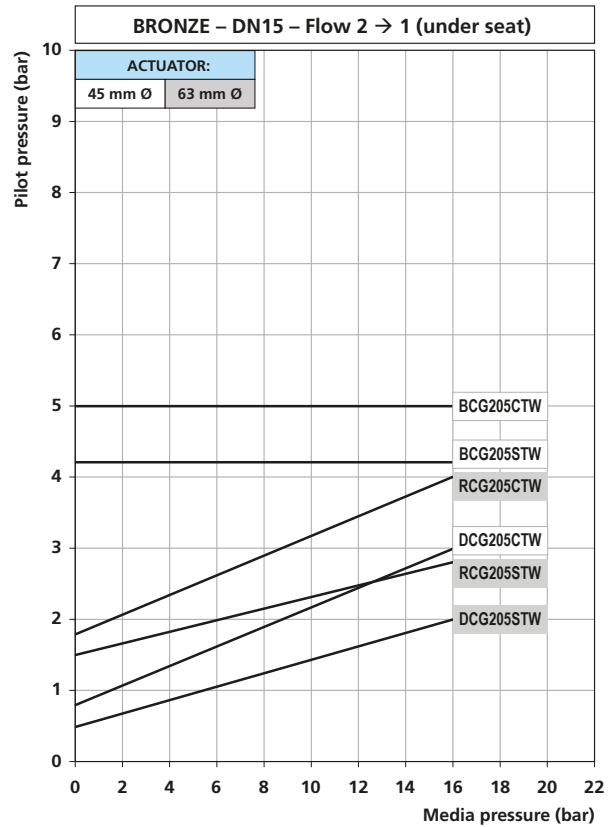
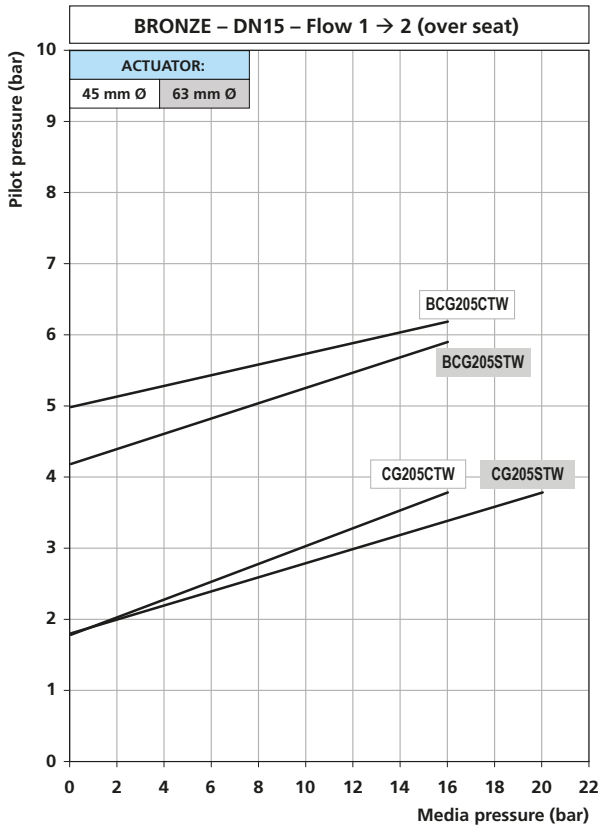
SPARE PARTS KIT:
Lip seal, o-ring, main seal, flat seal

Kit code	DN	Valve Type ¹	Actuator
2057840	15	PM/BPM/RPM PT/BPT/RPT PX/BPX/RPX PZ/BPZ/RPZ	Ø 63
2057841	20		
2057842	25		
2057843	32		
2057844	40		
2057845	50	PM/BPM/RPM PT/BPT/RPT PX/BPX/RPX PZ/BPZ/RPZ	Ø 90
2057846	25		
2057847	32		
2057848	40		
2057849	50		

STEM SEAL KIT

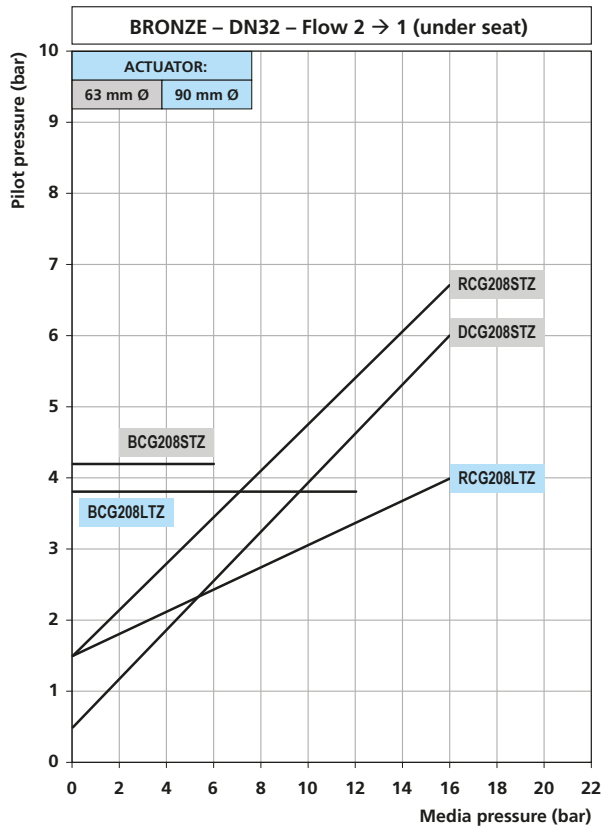
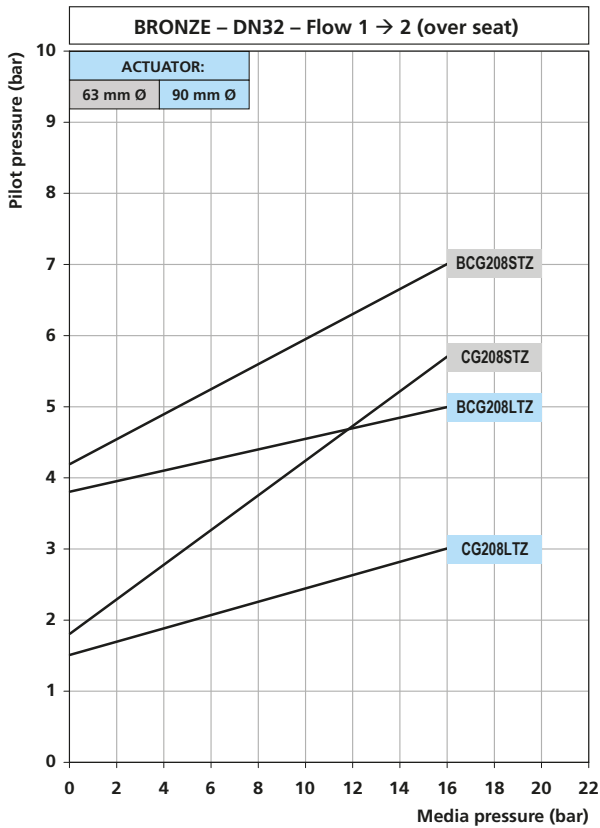
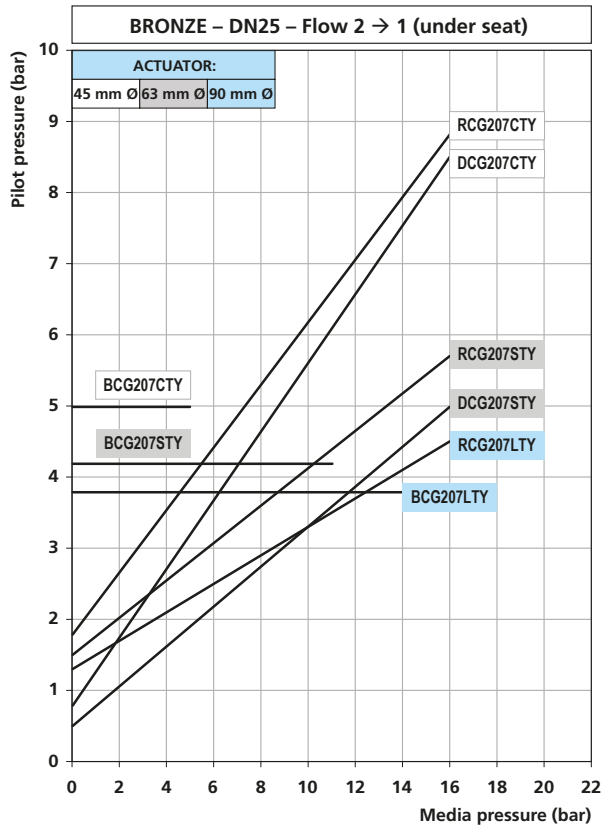
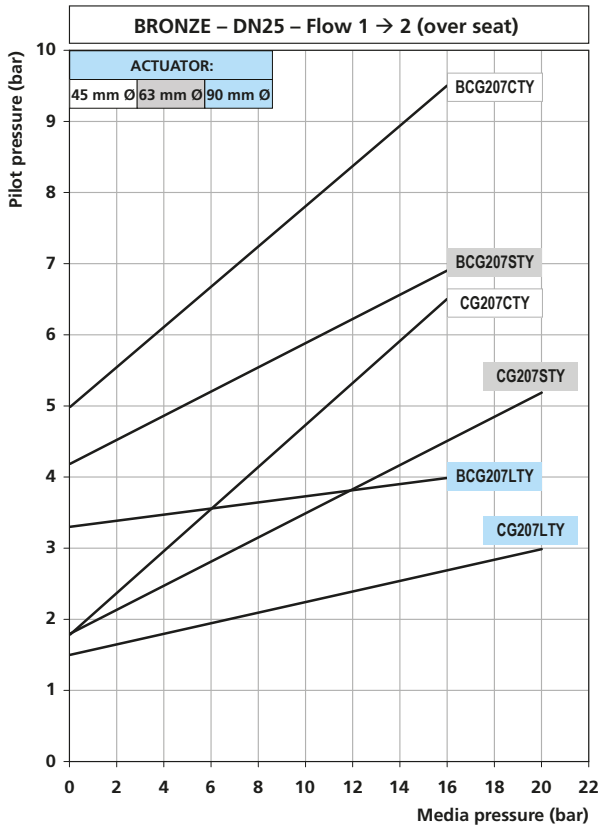
Kit Code	DN	Valve Type	Actuator
2057850	all	PM/BPM/RPM PT/BPT/RPT PX/BPX/RPX PZ/BPZ/RPZ	Ø 63 / Ø 90

Bronze Valves Comparative Charts DN15 to DN20



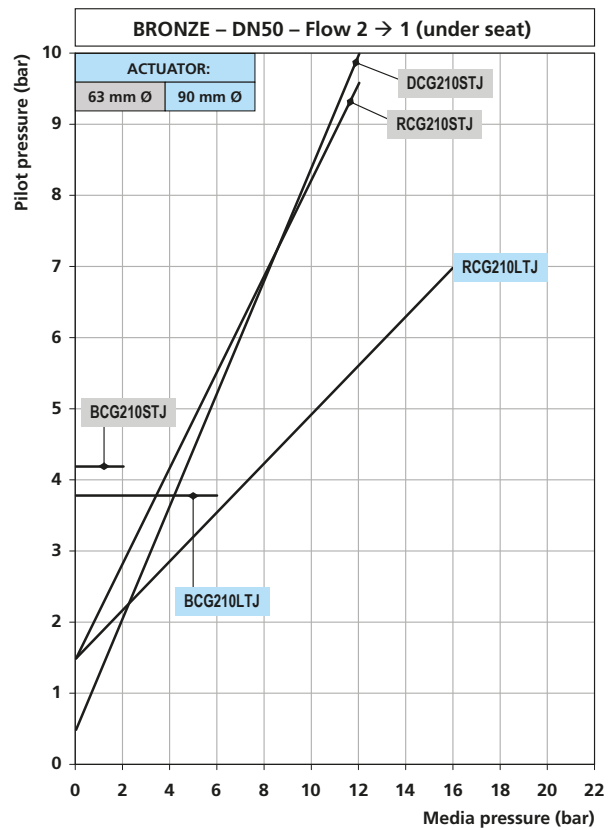
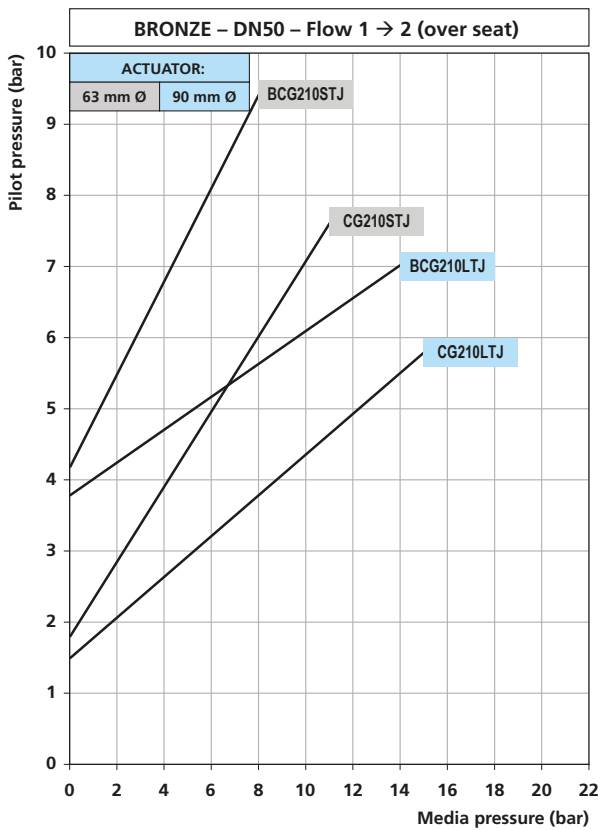
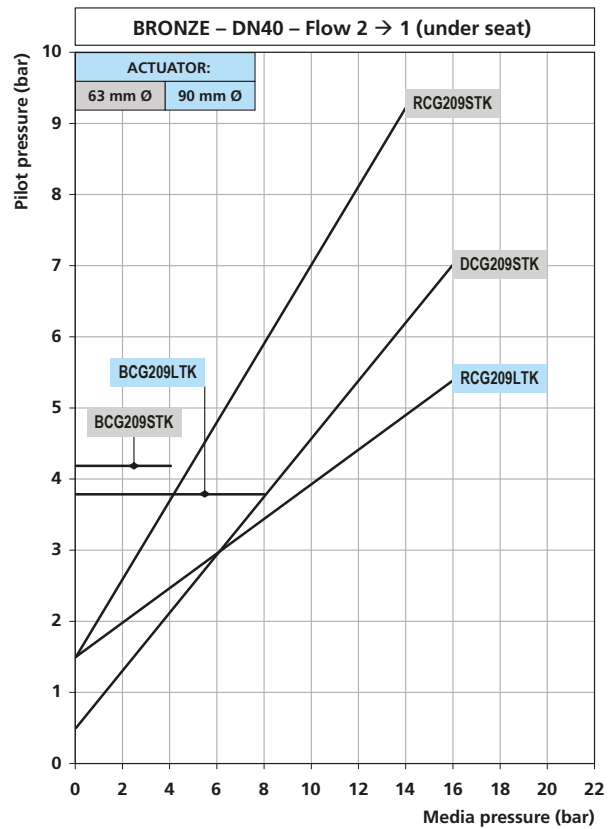
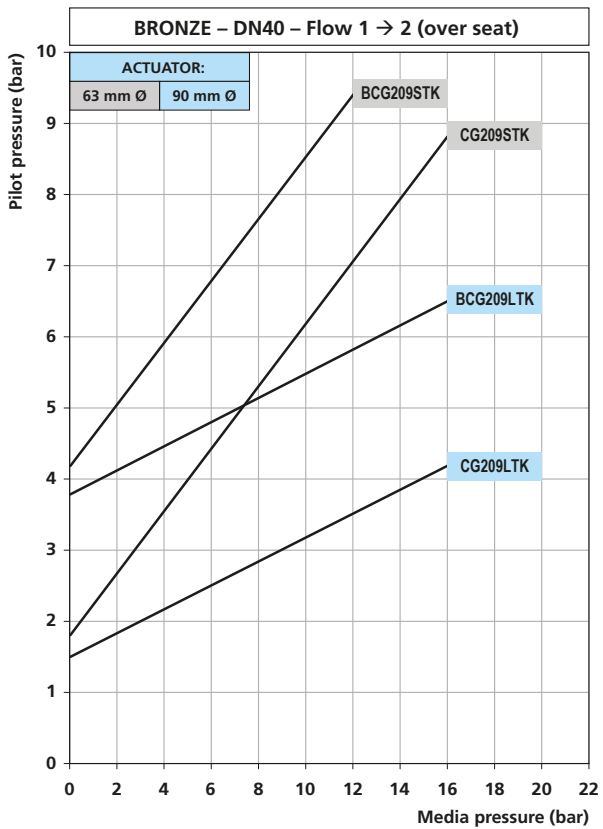
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Bronze Valves Comparative Charts DN25 to DN32



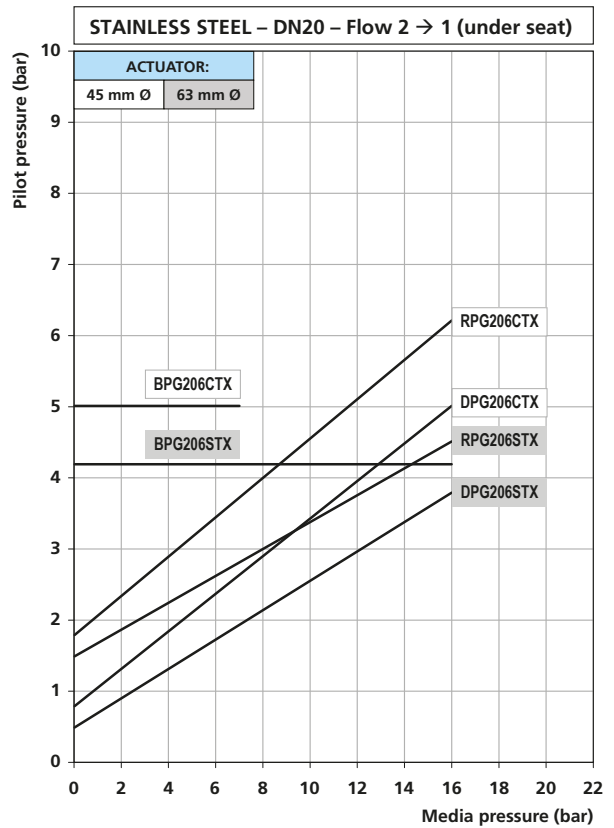
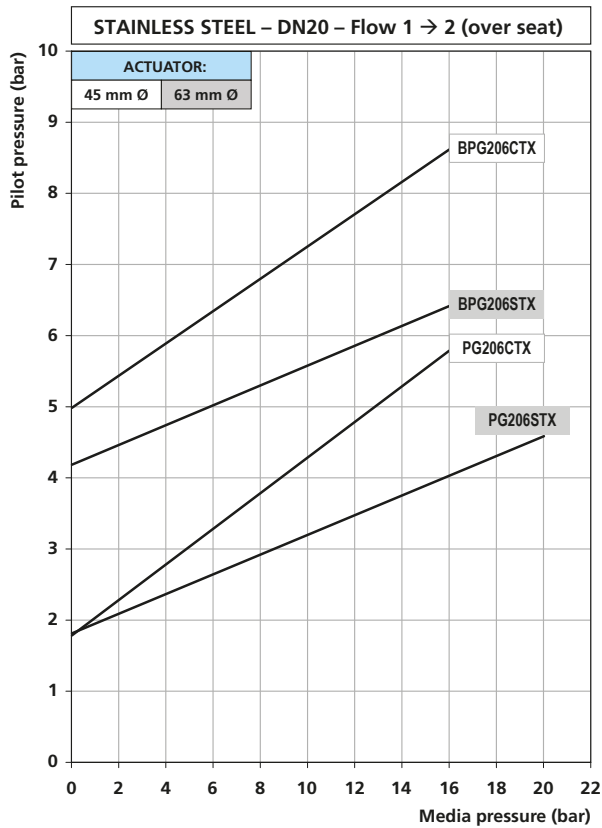
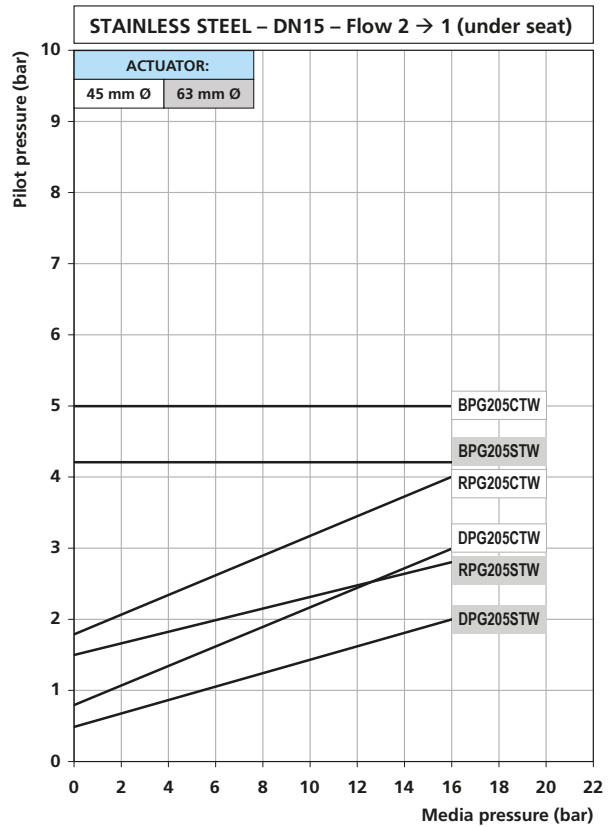
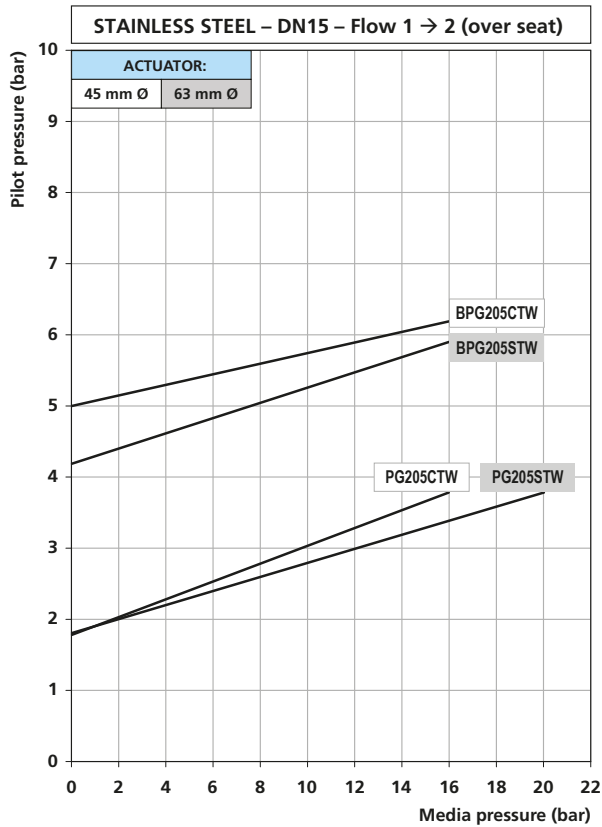
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Bronze Valves Comparative Charts DN40 to DN50



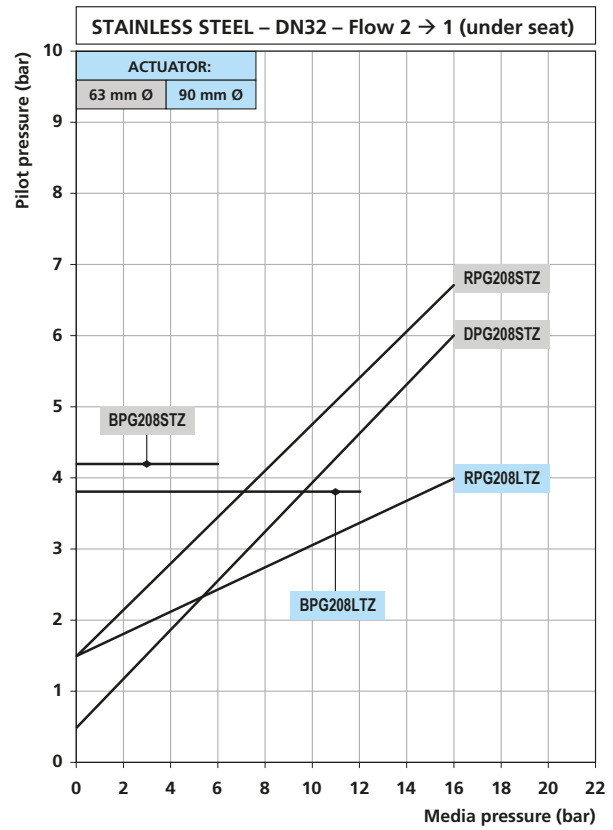
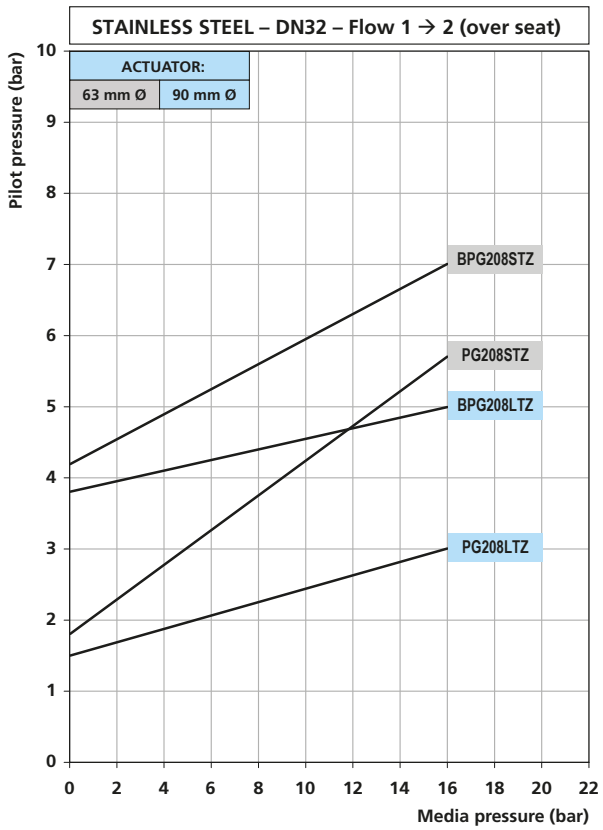
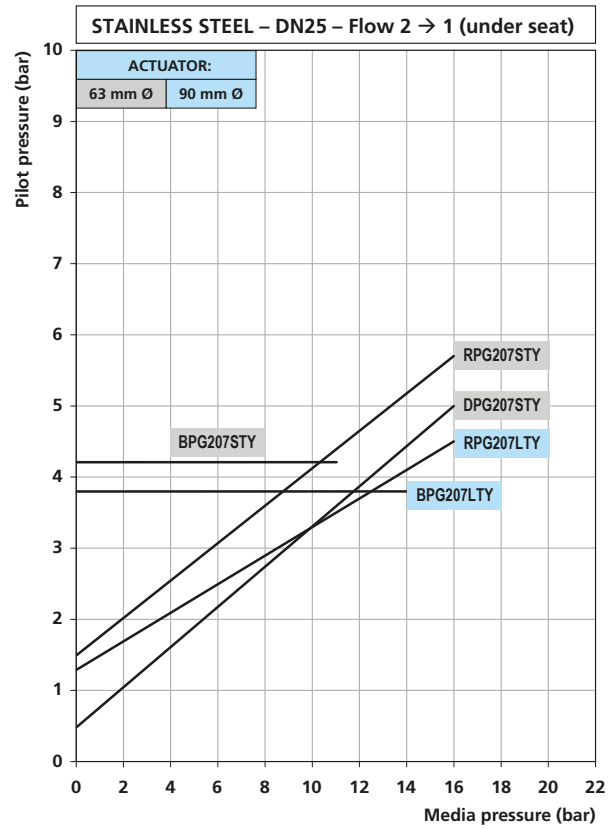
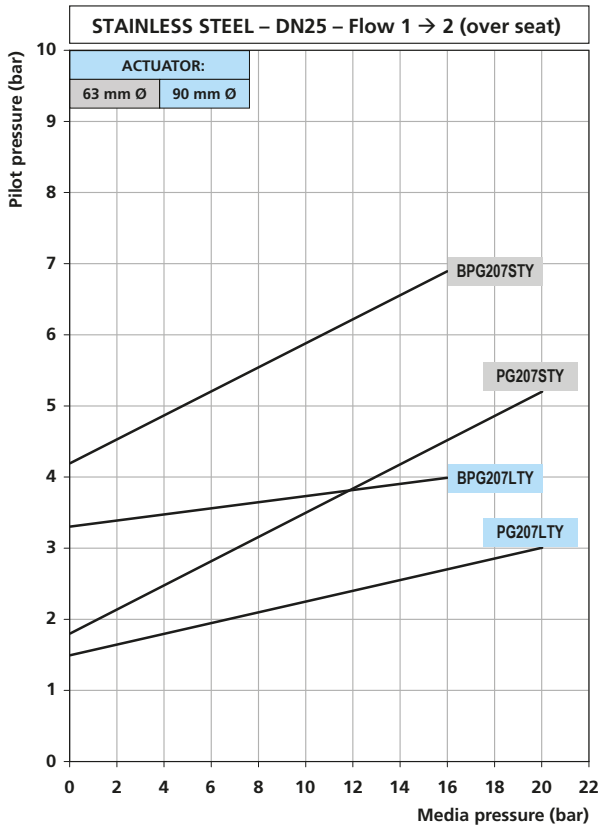
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Stainless Steel Valves Comparative Charts DN15 to DN20



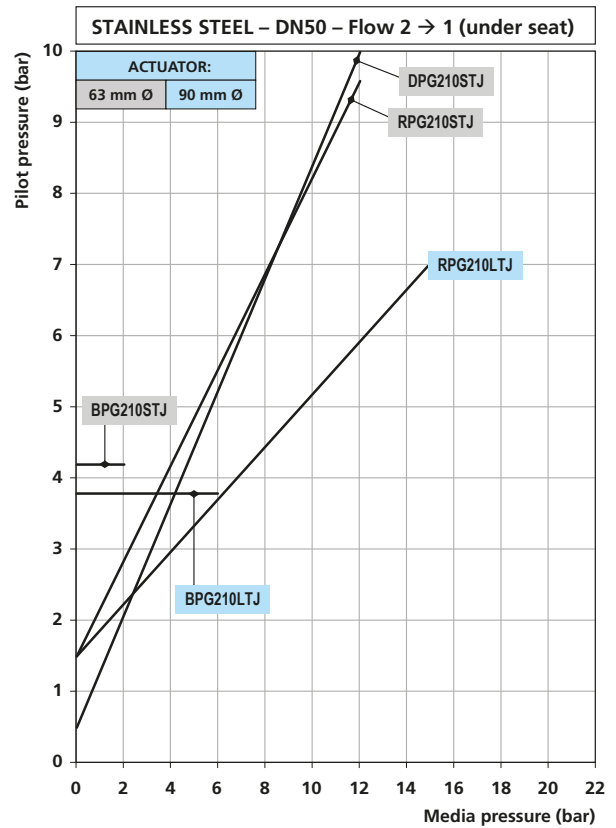
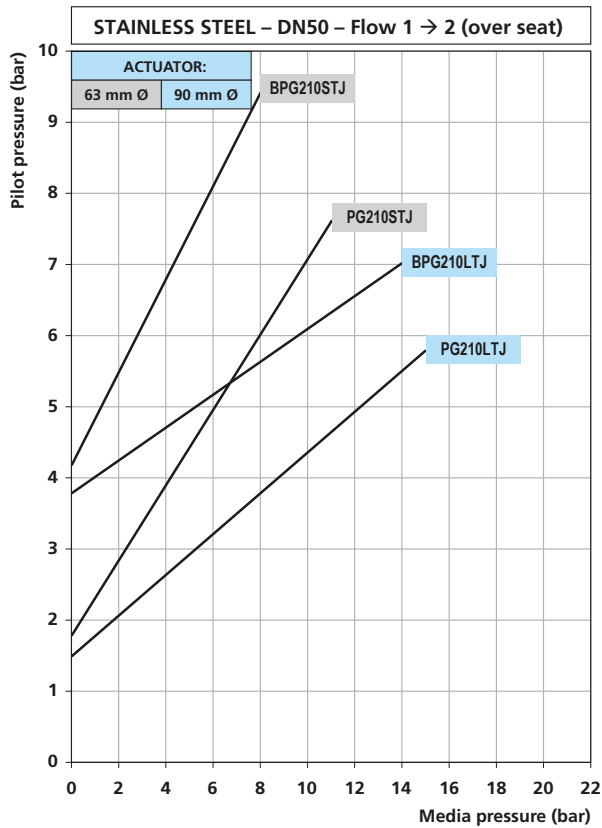
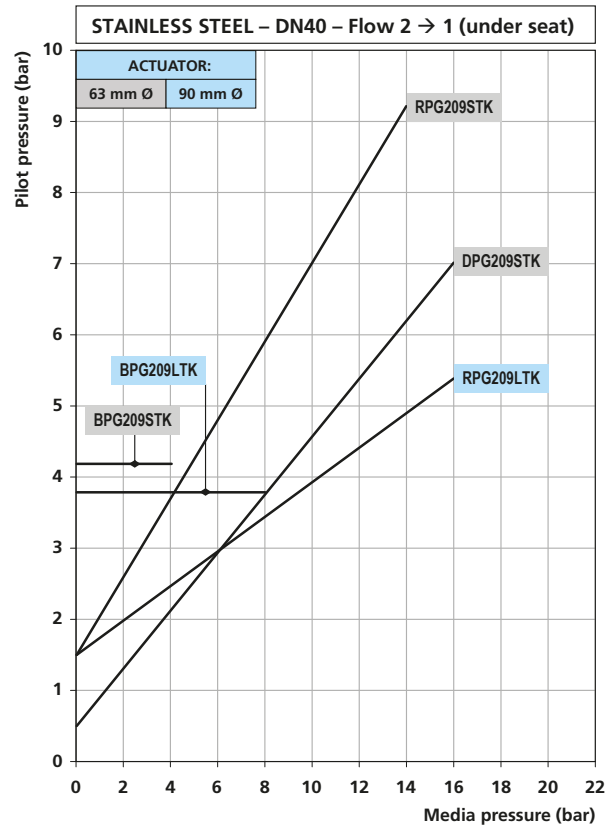
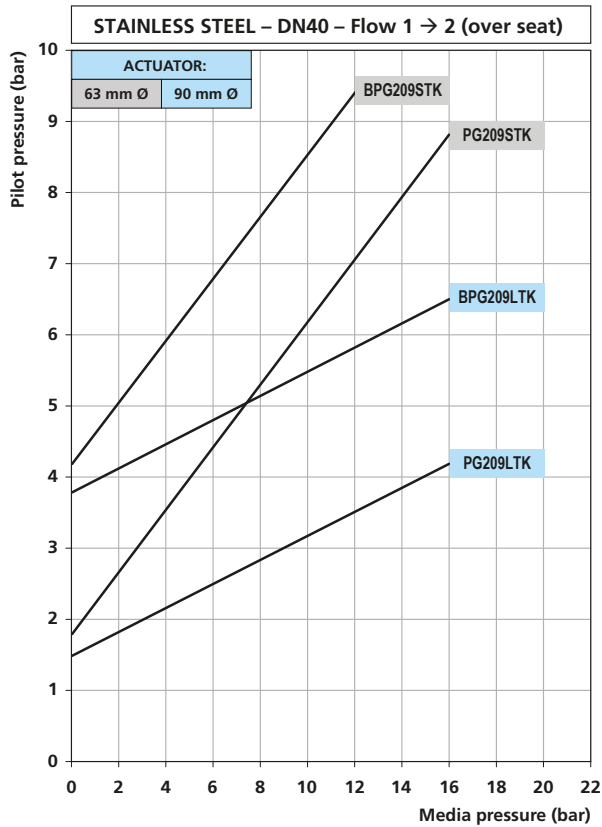
Version: PG = Normally Closed, BPG = Normally Closed (anti-waterhammer), RPG = Normally Open, DPG = Double Acting

Stainless Steel Valves Comparative Charts DN25 to DN32



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

Stainless Steel Valves Comparative Charts DN40 to DN50



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

2/2 Way Piston Actuated Valve 1/2" to 1" NPT to 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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Actuator Body Material	Polyamide + 30% glass fiber
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 10⁻² mbar
- ATEX version available



CE Ex ATEX UK CA

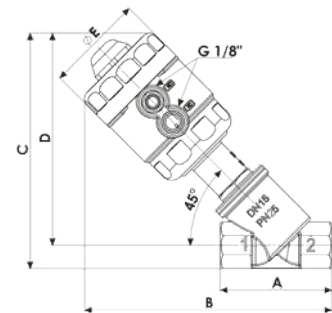
Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIC T185°F T212°F T275°F Db

Options Available
G parallel thread - ISO 228-1 (e.g. code C _G 205CTW00)
ATEX version (e.g. code CN205TTW00)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights		DN15	DN20	DN25
Actuator	[in]	Ø 1.77		
A	[in]	2.56	2.95	3.54
B	[in]	5.67	5.87	6.61
C	[in]	5.35	5.59	6.34
D	[in]	4.84	4.96	5.55
E	[in]	2.24	2.24	2.24
Weight	[Lb]	1.76	1.98	2.43



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 to 64/64	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 shall be considered as gases.

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

Valve	Pipe Size	Orifice Size	Flow Rate Cv	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	NPT	in	gpm	psi	psi	—	psi	psi	in	—
CN205CTW00	1/2	19/32	5.27	0	232	1 → 2	55	145	1.77	NC
CN206CTX00	3/4	25/32	9.34	0	232	1 → 2	84	145		
CN207CTY00	1	63/64	14.60	0	232	1 → 2	94	145		
RCN205CTW00	1/2	19/32	5.27	0	232	2 → 1	58	145	1.77	NO
RCN206CTX00	3/4	25/32	9.34	0	232	2 → 1	90	145		
RCN207CTY00	1	63/64	14.60	0	232	2 → 1	128	145		
BCN205CTW00	1/2	19/32	5.27	0	232 / 232	1 → 2 / 2 → 1	90 / 73	145	1.77	NC bidirectional
BCN206CTX00	3/4	25/32	9.34	0	232 / 102	1 → 2 / 2 → 1	126 / 73	145		
BCN207CTY00	1	63/64	14.60	0	232 / 73	1 → 2 / 2 → 1	138 / 73	145		
DCN205CTW00	1/2	19/32	5.27	0	232 / 232	1 ↔ 2	44	145	1.77	DA
DCN206CTX00	3/4	25/32	9.34	0	232 / 232	1 ↔ 2	73	145		
DCN207CTY00	1	63/64	14.60	0	232 / 232	1 ↔ 2	123	145		

Notes

1. Steam max. working pressure 145 psi / 131 psig
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
4. Pav ATEX performances are the same as weather proof pav

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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Actuator Body Material	Polyamide + 30% glass fiber
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 BCG - DCG (with flow direction 2 → 1)
- Actuator housing rotation 360°
- ATEX version available

CE ATEX

II 2 G Ex h IIC T6 T4 T5 Gb

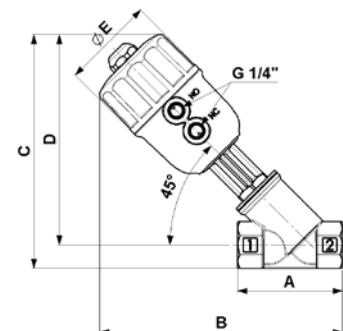
II 2 D Ex h IIIC T185°F T212°F T275°F Db



Options Available	
Stroke regulator assembled ex-factory, see page 67 (e.g. code CN205STWR0)	
Travel switch assembled ex-factory, see page 67 (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)	
ATEX version (e.g. code CN205UTW00)	

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights	Actuator [in]	19/32	25/32	64/64	1 17/64	1 37/64	2	63/64	1 17/64	1 37/64	2
		Ø 2.48						Ø 3.54			
A	[in]	2.56	2.95	3.54	4.33	4.72	5.91	3.54	4.33	4.72	5.91
B	[in]	7.4	7.64	8.19	8.7	8.86	9.57	8.58	9.06	9.25	10
C	[in]	7.09	7.4	7.91	8.39	8.7	9.29	8.31	8.78	9.09	9.69
D	[in]	6.61	6.77	7.13	7.44	7.64	7.99	7.52	7.83	8.03	8.39
E	[in]	3.11	3.11	3.11	3.11	3.11	3.11	4.53	4.53	4.53	4.53
Weight	[Lb]	2.65	2.87	3.31	4.19	4.63	6.39	4.41	5.29	5.73	7.28



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 to 63/64	SEP	SEP
	1 17/64 to 1 37/64	N/A	SEP
	2	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 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	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	NPT	in	gpm	psi	psi	—	psi	psi	in	—
CN205STW00	1/2	19/32	6.11	0	290	1 → 2	57	145	2.48	NC
CN206STX00	3/4	25/32	11.51	0	290	1 → 2	67	145		
CN207STY00	1	63/64	18.25	0	290	1 → 2	75	145		
CN208STZ00	1 1/4	1 17/64	28.78	0	232	1 → 2	83	145		
CN209STK00	1 1/2	1 37/64	49.14	0	232	1 → 2	128	145		
CN210STJ00	2	2	66.69	0	160	1 → 2	113	145		
CN207LTY00	1	63/64	18.25	0	290	1 → 2	44	116	3.54	
CN208LTZ00	1 1/4	1 17/64	28.78	0	232	1 → 2	44	116		
CN209LTK00	1 1/2	1 37/64	49.14	0	232	1 → 2	58	116		
CN210LTJ00	2	2	66.69	0	218	1 → 2	85	116		

RCN205STW00	1/2	19/32	6.11	0	232	2 → 1	41	145	2.48	NO
RCN206STX00	3/4	25/32	11.51	0	232	2 → 1	65	145		
RCN207STY00	1	63/64	18.25	0	232	2 → 1	83	145		
RCN208STZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	97	145		
RCN209STK00	1 1/2	1 37/64	49.14	0	203	2 → 1	133	145		
RCN210STJ00	2	2	66.69	0	174	2 → 1	139	145		
RCN207LTY00	1	63/64	18.25	0	232	2 → 1	65	102	3.54	
RCN208LTZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	58	102		
RCN209LTK00	1 1/2	1 37/64	49.14	0	232	2 → 1	78	102		
RCN210LTJ00	2	2	66.69	0	232	2 → 1	102	102		

BCN205STW00	1/2	19/32	6.11	0	232	1 → 2 / 2 → 1	86 / 61	145	2.48	NC bidirectional
BCN206STX00	3/4	25/32	11.51	0	232	1 → 2 / 2 → 1	93 / 61	145		
BCN207STY00	1	63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	100 / 61	145		
BCN208STZ00	1 1/4	1 17/64	28.78	0	232 / 87	1 → 2 / 2 → 1	102 / 61	145		
BCN209STK00	1 1/2	1 37/64	49.14	0	174 / 58	1 → 2 / 2 → 1	136 / 61	145		
BCN210STJ00	2	2	66.69	0	116 / 36	1 → 2 / 2 → 1	136 / 61	145		
BCN207LTY00	1	63/64	18.25	0	232 / 203	1 → 2 / 2 → 1	58 / 55	116	3.54	
BCN208LTZ00	1 1/4	1 17/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 55	116		
BCN209LTK00	1 1/2	1 37/64	49.14	0	232 / 116	1 → 2 / 2 → 1	94 / 55	116		
BCN210LTJ00	2	2	66.69	0	203 / 87	1 → 2 / 2 → 1	102 / 55	116		

DCN205STW00	1/2	19/32	6.11	0	232	2 → 1	26	29	2.48	DA
DCN206STX00	3/4	25/32	11.51	0	232	2 → 1	29	55		
DCN207STY00	1	63/64	18.25	0	232	2 → 1	44	73		
DCN208STZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	65	87		
DCN209STK00	1 1/2	1 37/64	49.14	0	232	2 → 1	94	102		
DCN210STJ00	2	2	66.69	0	174	2 → 1	131	145		

Notes

1. Steam max. working pressure 145 psi / 131 psig
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
4. Pav ATEX performances are the same as weather proof pav

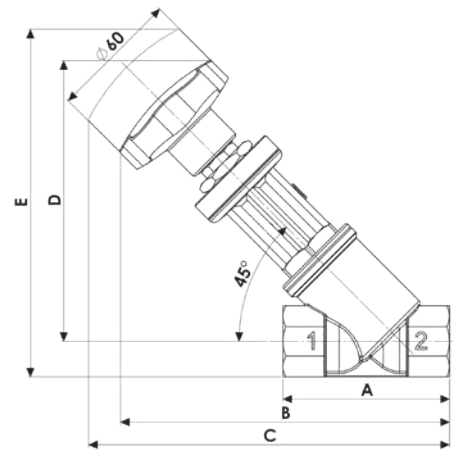
Manual Angle Seat Valve 1/2 to 2 NPT – Bronze (CN) & Stainless Steel (PN)

Specifications	
Function Flow over / under seat	Type CN / PN
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	14° to 356° F
Ambient Temperature	14° to 140° F
Body Material (CG)	Bronze C83600 UNS Designation (CB491K EN1982)
Bonnet Material (CG)	Brass (CW617N EN12165)
Body Material (PG)	Cast AISI 316L (CF3M), see page 7
Bonnet Material (PG)	Cast AISI 316L (CF3M), see page 7
Main Seal Material	PTFE



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

Dimensions & Weights		19/32	25/32	63/64	1 17/64	1 37/64	2
Pipe Size	[NPT]	1/2	3/4	1	1 1/4	1 1/2	2
A	[in]	2.56	2.95	3.54	4.33	4.72	5.91
B	[in]	5.59	5.83	6.42	6.89	7.09	7.80
C	[in]	5.91	6.10	6.77	7.40	7.60	8.35
D	[in]	4.76	4.96	5.31	5.63	5.83	6.18
E	[in]	5.55	5.94	6.50	7.13	7.44	8.07
Weight	[Lb]	1.65	1.76	2.65	3.97	4.63	6.83



Valve	Pipe Size	Orifice Size	Flow Rate Cv	Working Pressure ¹		Flow Direction
				Min.	Max.	
Code	NPT	in	gpm	psi	psi	—
CN2050TW00	1/2	19/32	6.11	0	362	1 ↔ 2
CN2060TX00	3/4	25/32	11.51	0	362	1 ↔ 2
CN2070TY00	1	63/64	18.25	0	362	1 ↔ 2
CN2080TZ00	1 1/4	1 17/64	28.78	0	362	1 ↔ 2
CN2090TK00	1 1/2	1 37/64	49.14	0	362	1 ↔ 2
CN2100TJ00	2	2	64.30	0	232	1 ↔ 2
PN2050TW00	1/2	19/32	6.11	0	580	1 ↔ 2
PN2060TX00	3/4	25/32	11.51	0	580	1 ↔ 2
PN2070TY00	1	63/64	18.25	0	580	1 ↔ 2
PN2080TZ00	1 1/4	1 17/64	28.78	0	362	1 ↔ 2
PN2090TK00	1 1/2	1 37/64	49.14	0	362	1 ↔ 2
PN2100TJ00	2	2	64.30	0	232	1 ↔ 2

Notes

1. Steam max. working pressure 145 psi / 131 psig

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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Actuator Body Material	Polyamide + 30% glass fiber
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 10⁻² mbar
- ATEX version available



CE Ex ATEX UK

Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIIC T185°F T212°F T275°F Db

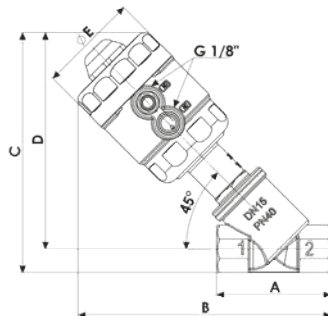
Options Available

G parallel thread - ISO 228-1 (e.g. code PG205CTW00)
ATEX version (e.g. code PN205TTW00)

Accessories

Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights		19/32	25/32
Actuator	[in]	Ø 1.77	
A	[in]	2.56	2.95
B	[in]	5.67	5.87
C	[in]	5.35	5.59
D	[in]	4.84	4.96
E	[in]	2.24	2.24
Weight	[Lb]	1.76	1.98



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 to 25/32	SEP	SEP

WARNING!

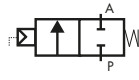
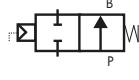
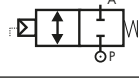
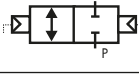
According to the European Pressure Equipment Directive 2014/68/EU, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 7 psi shall be considered as gases.

Valve	Pipe Size	Orifice Size	Flow Rate Cv	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
				Min.	Max.		Min.	Max.		
Code	NPT	in	gpm	psi	psi	—	psi	psi	in	—
PN205CTW00	1/2	19/32	5.27	0	232	1 → 2	55	145	1.77	NC
PN206CTX00	3/4	25/32	9.34	0	232	1 → 2	84	145		
RPN205CTW00	1/2	19/32	5.27	0	232	2 → 1	58	145	1.77	NO
RPN206CTX00	3/4	25/32	9.34	0	232	2 → 1	90	145		
BPN205CTW00	1/2	19/32	5.27	0	232 / 232	1 → 2 / 2 → 1	90 / 73	145	1.77	NC bidirectional
BPN206CTX00	3/4	25/32	9.34	0	232 / 7	1 → 2 / 2 → 1	126 / 73	145		
DPN205CTW00	1/2	19/32	5.27	0	232 / 232	1 ↔ 2	44	145	1.77	DA
DPN206CTX00	3/4	25/32	9.34	0	232 / 232	1 ↔ 2	73	145		

Notes

1. Steam max. working pressure 145 psi / 131 psig
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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Actuator Body Material	Polyamide + 30% glass fiber
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
- ATEX version available

CE  ATEX 

 II 2 G Ex h IIC T6 T4 T5 Gb

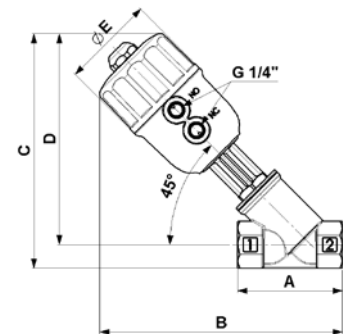
 II 2 D Ex h IIC T185°F T212°F T275°F Db



Options Available	
Stroke regulator assembled ex-factory, see page 67 (e.g. code RPN210STJ0)	
Travel switch assembled ex-factory, see page 67 (e.g. code PN208STZ0)	
G parallel thread - ISO 228-1 (e.g. code BPG207LTY00)	
High temperature version, see pages 60/61 (e.g. code PN205STW0H)	
ATEX version (e.g. code PN205UTW00)	

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights		19/32	25/32	63/64	1 17/64	1 37/64	2	63/64	1 17/64	1 37/64	2
Actuator	in	Ø 2.48						Ø 3.54			
A	in	2.56	2.95	3.54	4.33	4.72	5.91	3.54	4.33	4.72	5.91
B	in	7.4	7.64	8.19	8.7	8.86	9.57	8.58	9.06	9.25	10
C	in	7.09	7.4	7.91	8.39	8.7	9.29	8.31	8.78	9.09	9.69
D	in	6.61	6.77	7.13	7.44	7.64	7.99	7.52	7.83	8.03	8.39
E	in	3.11	3.11	3.11	3.11	3.11	3.11	4.53	4.53	4.53	4.53
Weight	Lb	2.65	2.87	3.31	4.19	4.63	6.39	4.41	5.29	5.73	7.28



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 to 63/64	SEP	SEP
	1 17/64 to 1 37/64	Category I	SEP
	2	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 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	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function	
				Min.	Max.		Min.	Max.			
Code	NPT	in	gpm	psi	psi	—	psi	psi	in	—	
PN205STW00	1/2	19/32	6.11	0	290	1 → 2	57	145	2.48	NC	
PN206STX00	3/4	25/32	11.51	0	290	1 → 2	67	145			
PN207STY00	1	63/64	18.25	0	290	1 → 2	75	145			
PN208STZ00	1 1/4	1 17/64	28.78	0	232	1 → 2	83	145			
PN209STK00	1 1/2	1 37/64	49.14	0	232	1 → 2	128	145			
PN210STJ00	2	2	66.69	0	160	1 → 2	113	145			
PN207LTY00	1	63/64	18.25	0	290	1 → 2	44	116	3.54		
PN208LTZ00	1 1/4	1 17/64	28.78	0	232	1 → 2	44	116			
PN209LTK00	1 1/2	1 37/64	49.14	0	232	1 → 2	58	116			
PN210LTJ00	2	2	66.69	0	218	1 → 2	85	116			
RPN205STW00	1/2	19/32	6.11	0	232	2 → 1	41	145			2.48
RPN206STX00	3/4	25/32	11.51	0	232	2 → 1	65	145			
RPN207STY00	1	63/64	18.25	0	232	2 → 1	83	145			
RPN208STZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	97	145			
RPN209STK00	1 1/2	1 37/64	49.14	0	203	2 → 1	133	145			
RPN210STJ00	2	2	66.69	0	174	2 → 1	139	145			
RPN207LTY00	1	63/64	18.25	0	232	2 → 1	65	102	3.54		
RPN208LTZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	58	102			
RPN209LTK00	1 1/2	1 37/64	49.14	0	232	2 → 1	78	102			
RPN210LTJ00	2	2	66.69	0	232	2 → 1	102	102			
BPN205STW00	1/2	19/32	6.11	0	232	1 → 2 / 2 → 1	86 / 61	145		2.48	NC bidirectional
BPN206STX00	3/4	25/32	11.51	0	232	1 → 2 / 2 → 1	93 / 61	145			
BPN207STY00	1	63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	100 / 61	145			
BPN208STZ00	1 1/4	1 17/64	28.78	0	232 / 87	1 → 2 / 2 → 1	102 / 61	145			
BPN209STK00	1 1/2	1 37/64	49.14	0	174 / 58	1 → 2 / 2 → 1	136 / 61	145			
BPN210STJ00	2	2	66.69	0	116 / 36	1 → 2 / 2 → 1	136 / 61	145			
BPN207LTY00	1	63/64	18.25	0	232 / 203	1 → 2 / 2 → 1	58 / 55	116	3.54		
BPN208LTZ00	1 1/4	1 17/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 55	116			
BPN209LTK00	1 1/2	1 37/64	49.14	0	232 / 116	1 → 2 / 2 → 1	94 / 55	116			
BPN210LTJ00	2	2	66.69	0	203 / 87	1 → 2 / 2 → 1	102 / 55	116			
DPN205STW00	1/2	19/32	6.11	0	232	2 → 1	26	29		2.48	
DPN206STX00	3/4	25/32	11.51	0	232	2 → 1	29	55			
DPN207STY00	1	63/64	18.25	0	232	2 → 1	44	73			
DPN208STZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	65	87			
DPN209STK00	1 1/2	1 37/64	49.14	0	232	2 → 1	94	102			
DPN210STJ00	2	2	66.69	0	174	2 → 1	131	145			

Notes

1. Steam max. working pressure 145 psi / 131 psig
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
4. Pav ATEX performances are the same as weather proof pav

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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Butt Weld Connection ³	DIN 11850-2 pipe
Actuator Body Material	Polyamide + 30% glass fiber
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
- ATEX version available



CE ATEX

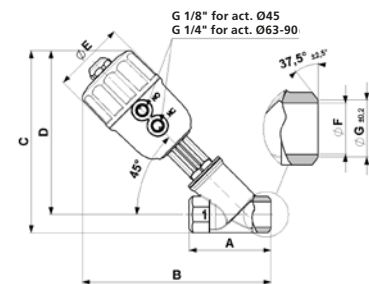
II 2 G Ex h IIC T6 T4 T5 Gb

II 2 D Ex h IIC T185°F T212°F T275°F Db

Options Available	
Stroke regulator assembled ex-factory, see page 67 (e.g. code RPW210STJR0)	
Travel switch assembled ex-factory, see page 67 (e.g. code PW208STZJ0)	
High temperature version, see pages 60/61 (e.g. code BPW207LTY0H)	
ATEX version (e.g. code PW205UTW00)	

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights	19/32		25/32		63/64		1 17/64		1 37/64		2		
	in	Ø 1.77	Ø 2.48										Ø 3.54
A	in	2.56	2.95	2.56	2.95	3.54	4.33	4.72	5.91	3.54	4.33	4.72	5.91
B	in	5.67	5.87	7.4	7.64	8.19	8.7	8.86	9.57	8.58	9.06	9.25	10
C	in	5.35	5.59	7.09	7.4	7.91	8.39	8.7	9.29	8.31	8.78	9.09	9.69
D	in	4.84	4.96	6.61	6.77	7.13	7.44	7.64	7.99	7.52	7.83	8.03	8.39
E	in	2.24	2.24	3.11	3.11	3.11	3.11	3.11	3.11	4.53	4.53	4.53	4.53
F	in	0.63	0.79	0.63	0.79	1.02	1.26	1.50	1.97	1.02	1.26	1.50	1.97
G	in	0.76	0.91	0.76	0.91	1.15	1.42	1.65	2.13	1.15	1.42	1.65	2.13
Weight	Lb	1.76	1.98	2.65	2.87	3.31	4.19	4.63	6.39	4.41	5.29	5.73	7.28



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 to 63/64	SEP	SEP
	1 17/64 to 1 37/64	Category I	SEP
	2	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 shall be considered as gases.

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

Valve	Body Connection	Orifice Size	Flow Rate Cv	Working Pressure ¹		Flow Direction	Pilot Pressure ⁴		Actuator Ø	Function
Code	—	in	gpm	psi	psi	—	psi	psi	in	—
PW205CTW00	butt weld to DIN 11850-2 pipe	19/32	5.27	0	232	1 → 2	55	145	1.77	NC
PW206CTX00		25/32	9.34	0	232	1 → 2	84	145		
PW205STW00		19/32	6.11	0	290	1 → 2	57	145	2.48	
PW206STX00		25/32	11.51	0	290	1 → 2	67	145		
PW207STY00		63/64	18.25	0	290	1 → 2	75	145		
PW208STZ00		1 17/64	28.78	0	232	1 → 2	83	145		
PW209STK00		1 37/64	49.14	0	232	1 → 2	128	145		
PW210STJ00		2	66.69	0	160	1 → 2	113	145	3.54	
PW207LTY00		63/64	18.25	0	290	1 → 2	44	116		
PW208LTZ00		1 17/64	28.78	0	232	1 → 2	44	116		
PW209LTK00		1 37/64	49.14	0	232	1 → 2	58	116		
PW210LTJ00		2	66.69	0	218	1 → 2	84	116		
RPW205CTW00		butt weld to DIN 11850-2 pipe	19/32	5.27	0	232	2 → 1	58	145	
RPW206CTX00	25/32		9.34	0	232	2 → 1	90	145		
RPW205STW00	19/32		6.11	0	232	2 → 1	41	145	2.48	
RPW206STX00	25/32		11.51	0	232	2 → 1	65	145		
RPW207STY00	63/64		18.25	0	232	2 → 1	83	145		
RPW208STZ00	1 17/64		28.78	0	232	2 → 1	97	145		
RPW209STK00	1 37/64		49.14	0	203	2 → 1	133	145		
RPW210STJ00	2		66.69	0	174	2 → 1	139	145	3.54	
RPW207LTY00	63/64		18.25	0	232	2 → 1	65	102		
RPW208LTZ00	1 17/64		28.78	0	232	2 → 1	58	102		
RPW209LTK00	1 37/64		49.14	0	232	2 → 1	78	102		
RPW210LTJ00	2		66.69	0	232	2 → 1	102	102		
BPW205CTW00	butt weld to DIN 11850-2 pipe		19/32	5.27	0	232 / 232	1 → 2 / 2 → 1	90 / 73	145	1.77
BPW206CTX00		25/32	9.34	0	232 / 102	1 → 2 / 2 → 1	126 / 73	145		
BPW205STW00		19/32	6.11	0	232	1 → 2 / 2 → 1	86 / 61	145	2.48	
BPW206STX00		25/32	11.51	0	232	1 → 2 / 2 → 1	93 / 61	145		
BPW207STY00		63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	100 / 61	145		
BPW208STZ00		1 17/64	28.78	0	232 / 87	1 → 2 / 2 → 1	102 / 61	145		
BPW209STK00		1 37/64	49.14	0	174 / 58	1 → 2 / 2 → 1	136 / 61	145		
BPW210STJ00		2	66.69	0	116 / 36	1 → 2 / 2 → 1	136 / 61	145	3.54	
BPW207LTY00		63/64	18.25	0	232 / 203	1 → 2 / 2 → 1	58 / 55	116		
BPW208LTZ00		1 17/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 55	116		
BPW209LTK00		1 37/64	49.14	0	232 / 116	1 → 2 / 2 → 1	94 / 55	116		
BPW210LTJ00		2	66.69	0	203 / 87	1 → 2 / 2 → 1	102 / 55	116		

Notes

1. Steam max. working pressure 145 psi / 131 psig
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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
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 7
Actuator Body Material	Polyamide + 30% glass fiber
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
- ATEX version available

CE Ex ATEX UK CA

Ex II 2 G Ex h IIC T6 T4 T5 Gb

Ex II 2 D Ex h IIC T185°F T212°F T275°F Db

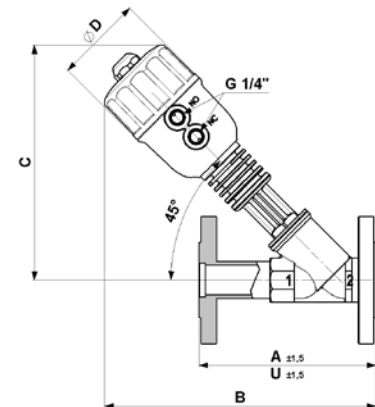


Options Available
Stroke regulator assembled ex-factory, see page 67 (e.g. code PD210STJR0)
Travel switch assembled ex-factory, see page 67 (e.g. code RPA208LTZ(O))
High temperature version, see pages 60/61 (e.g. code PD205STW0H)
ATEX version (e.g. code BPD210VTJ00)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights		19/32	25/32	63/64	1 17/64	1 37/64	2	63/64	1 17/64	1 37/64	2	
Actuator	in	Ø 2.48						Ø 3.54				
A (ANSI)	in	5.50	6	6.50	7.25	8	9	6.50	7.25	8	9	
U (BS/UNI/EN)	in	5.12	5.91	6.30	7.09	7.87	9.06	6.30	7.09	7.87	9.06	
B	in	8.86	9.13	9.65	10.1	10.3	11.2	10.0	10.5	10.7	11.5	
C	in	7.8	7.99	8.35	8.66	8.86	9.21	8.78	9.06	9.25	9.61	
D	in	3.11	3.11	3.11	3.11	3.11	3.11	4.53	4.53	4.53	4.53	
Weight	Lb	5.73	6.61	8.38	12.35	14.33	19.18	9.70	13.23	15.21	20.06	

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 to 63/64	SEP	SEP
	1 17/64 to 1 37/64	Category I	SEP
	2	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 shall be considered as gases.

Notes

1. Steam max. working pressure 145 psi / 131 psig
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)
4. Pav ATEX performances are the same as weather proof pav

2/2 Way Piston Actuated Valve Flanged – Stainless Steel

Valve	Body Connection	Orifice Size	Flow Rate Cv	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	—	in	gpm	psi	psi	—	psi	psi	in	—
PD205STW00	flanges to BS 4504 EN1092 shape B	19/32	6.11	0	290	1 → 2	57	145	2.48	NC
PD206STX00		25/32	11.51	0	290	1 → 2	67	145		
PD207STY00		63/64	18.25	0	290	1 → 2	75	145		
PD208STZ00		1 1/64	28.78	0	232	1 → 2	83	145		
PD209STK00		1 3/64	49.14	0	232	1 → 2	128	145		
PD210STJ00		2	66.69	0	160	1 → 2	113	145	3.54	
PD207LTY00		63/64	18.25	0	290	1 → 2	44	116		
PD208LTZ00		1 1/64	28.78	0	232	1 → 2	44	116		
PD209LTK00		1 3/64	49.14	0	232	1 → 2	58	116		
PD210LTJ00		2	66.69	0	218	1 → 2	84	116		
RPD205STW00	flanges to BS 4504 EN1092 shape B	19/32	6.11	0	232	2 → 1	41	145	2.48	NO
RPD206STX00		25/32	11.51	0	232	2 → 1	65	145		
RPD207STY00		63/64	18.25	0	232	2 → 1	83	145		
RPD208STZ00		1 1/64	28.78	0	232	2 → 1	97	145		
RPD209STK00		1 3/64	49.14	0	203	2 → 1	133	145		
RPD210STJ00		2	66.69	0	174	2 → 1	139	145	3.54	
RPD207LTY00		63/64	18.25	0	232	2 → 1	65	102		
RPD208LTZ00		1 1/64	28.78	0	232	2 → 1	58	102		
RPD209LTK00		1 3/64	49.14	0	232	2 → 1	78	102		
RPD210LTJ00		2	66.69	0	232	2 → 1	102	102		
BPD205STW00	flanges to BS 4504 EN1092 shape B	19/32	6.11	0	232	1 → 2 / 2 → 1	86 / 61	145	2.48	NC bidirectional
BPD206STX00		25/32	11.51	0	232	1 → 2 / 2 → 1	93 / 61	145		
BPD207STY00		63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	100 / 61	145		
BPD208STZ00		1 1/64	28.78	0	232 / 6	1 → 2 / 2 → 1	102 / 61	145		
BPD209STK00		1 3/64	49.14	0	12 / 4	1 → 2 / 2 → 1	136 / 61	145		
BPD210STJ00		2	66.69	0	8 / 2.5	1 → 2 / 2 → 1	136 / 61	145	3.54	
BPD207LTY00		63/64	18.25	0	232 / 203	1 → 2 / 2 → 1	58 / 55	116		
BPD208LTZ00		1 1/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 55	116		
BPD209LTK00		1 3/64	49.14	0	232 / 8	1 → 2 / 2 → 1	95 / 55	116		
BPD210LTJ00		2	66.69	0	203 / 6	1 → 2 / 2 → 1	102 / 55	116		
PA205STW00	flanges to ANSI B16.5 class 150	19/32	6.11	0	290	1 → 2	57	145	2.48	NC
PA206STX00		25/32	11.51	0	290	1 → 2	67	145		
PA207STY00		63/64	18.25	0	290	1 → 2	75	145		
PA208STZ00		1 1/64	28.78	0	232	1 → 2	83	145		
PA209STK00		1 3/64	49.14	0	232	1 → 2	128	145		
PA210STJ00		2	66.69	0	160	1 → 2	113	145	3.54	
PA207LTY00		63/64	18.25	0	290	1 → 2	44	116		
PA208LTZ00		1 1/64	28.78	0	232	1 → 2	44	116		
PA209LTK00		1 3/64	49.14	0	232	1 → 2	58	116		
PA210LTJ00		2	66.69	0	218	1 → 2	84	116		
RPA205STW00	flanges to ANSI B16.5 class 150	19/32	6.11	0	232	2 → 1	41	145	2.48	NO
RPA206STX00		25/32	11.51	0	232	2 → 1	65	145		
RPA207STY00		63/64	18.25	0	232	2 → 1	83	145		
RPA208STZ00		1 1/64	28.78	0	232	2 → 1	97	145		
RPA209STK00		1 3/64	49.14	0	203	2 → 1	133	145		
RPA210STJ00		2	66.69	0	174	2 → 1	139	145	3.54	
RPA207LTY00		63/64	18.25	0	232	2 → 1	65	102		
RPA208LTZ00		1 1/64	28.78	0	232	2 → 1	58	102		
RPA209LTK00		1 3/64	49.14	0	232	2 → 1	78	102		
RPA210LTJ00		2	66.69	0	232	2 → 1	102	102		
BPA205STW00	flanges to ANSI B16.5 class 150	19/32	6.11	0	232	1 → 2 / 2 → 1	86 / 61	145	2.48	NC bidirectional
BPA206STX00		25/32	11.51	0	232	1 → 2 / 2 → 1	93 / 61	145		
BPA207STY00		63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	100 / 61	145		
BPA208STZ00		1 1/64	28.78	0	232 / 87	1 → 2 / 2 → 1	102 / 61	145		
BPA209STK00		1 3/64	49.14	0	174 / 58	1 → 2 / 2 → 1	136 / 61	145		
BPA210STJ00		2	66.69	0	116 / 36	1 → 2 / 2 → 1	136 / 61	145	3.54	
BPA207LTY00		63/64	18.25	0	232 / 203	1 → 2 / 2 → 1	58 / 55	116		
BPA208LTZ00		1 1/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 55	116		
BPA209LTK00		1 3/64	49.14	0	232 / 116	1 → 2 / 2 → 1	95 / 55	116		
BPA210LTJ00		2	66.69	0	203 / 87	1 → 2 / 2 → 1	102 / 55	116		

2/2 Way Piston Actuated Valve 1/2 to 2 NPT, High 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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
Actuator Body Material	Polyamide + 30% glass fiber
Main Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

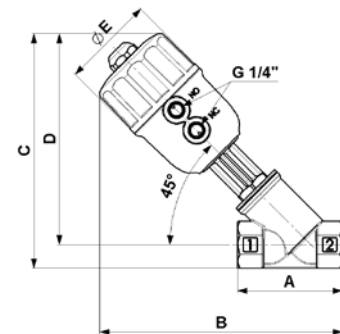
- Waterhammer-free design for BPN - DPN (with flow direction 2→1)
- Actuator housing rotation 360°



Options Available	
Stroke regulator assembled ex-factory, see page 67 (e.g. code RPN210STJRH)	
Travel switch assembled ex-factory, see page 67 (e.g. code PN208STZIH)	
G parallel thread - ISO 228-1 (e.g. code BPG207LTYOH)	
Butt weld connection (e.g. code BPB209LTK0H)	
Flanged connection (e.g. code PD205STW0H)	
ATEX version (e.g. code PN207VY0H)	

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 68-73

Dimensions & Weights		19/32	25/32	63/64	1 17/64	1 37/64	2	63/64	1 17/64	1 37/64	2
Actuator	in	Ø 2.48						Ø 3.54			
A	in	2.56	2.95	3.54	4.33	4.72	5.91	3.54	4.33	4.72	5.91
B	in	7.4	7.64	8.19	8.7	8.86	9.57	8.58	9.06	9.25	10
C	in	7.09	7.4	7.91	8.39	8.7	9.29	8.31	8.78	9.09	9.69
D	in	6.61	6.77	7.13	7.44	7.64	7.99	7.52	7.83	8.03	8.39
E	in	3.11	3.11	3.11	3.11	3.11	3.11	4.53	4.53	4.53	4.53
Weight	Lb	2.65	2.87	3.31	4.19	4.63	6.39	4.41	5.29	5.73	7.28



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 to 63/64	SEP	SEP
	1 17/64 to 1 37/64	Category I	SEP
	2	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 shall be considered as gases.

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

Valve Code	Pipe Size NPT	Orifice Size in	Flow Rate Cv gpm	Working Pressure ¹		Flow Direction —	Pilot Pressure ³		Actuator Ø in	Function —
				Min. psi	Max. psi		Min. psi	Max. psi		
PN205STW0H	1/2	19/32	6.11	0	290	1 → 2	57	145	2.48	NC
PN206STX0H	3/4	25/32	11.51	0	290	1 → 2	67	145		
PN207STY0H	1	63/64	18.25	0	290	1 → 2	75	145		
PN208LTZ0H	1 1/4	1 17/64	28.78	0	232	1 → 2	44	116	3.54	
PN209LTK0H	1 1/2	1 37/64	49.14	0	232	1 → 2	58	116		
PN210LTJ0H	2	2	66.69	0	218	1 → 2	84	116		

RPN205STW0H	1/2	19/32	6.11	0	232	2 → 1	41	145	2.48	NO
RPN206STX0H	3/4	25/32	11.51	0	232	2 → 1	65	145		
RPN207STY0H	1	63/64	18.25	0	232	2 → 1	83	145		
RPN208LTZ0H	1 1/4	1 17/64	28.78	0	232	2 → 1	58	102	3.54	
RPN209LTK0H	1 1/2	1 37/64	49.14	0	232	2 → 1	78	102		
RPN210LTJ0H	2	2	66.69	0	232	2 → 1	102	102		

BPN205STW0H	1/2	19/32	6.11	0	232	1 → 2 / 2 → 1	86 / 61	145	2.48	NC bidirectional
BPN206STX0H	3/4	25/32	11.51	0	232	1 → 2 / 2 → 1	93 / 61	145		
BPN207STY0H	1	63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	100 / 61	145		
BPN208LTZ0H	1 1/4	1 17/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 55	116	3.54	
BPN209LTK0H	1 1/2	1 37/64	49.14	0	232 / 116	1 → 2 / 2 → 1	94 / 55	116		
BPN210LTJ0H	2	2	66.69	0	203 / 87	1 → 2 / 2 → 1	102 / 55	116		

Notes

1. Steam max. working pressure 210 psig
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
4. Pav ATEX performances are the same as weather proof pav

Piston Actuated Valve Series M and G

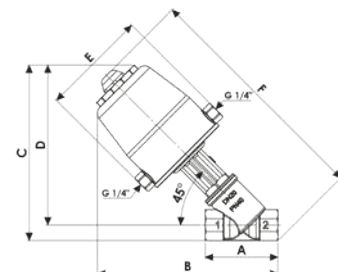
Specifications	
Type: PN NC flow over seat 1 → 2	
Type: RPN NO flow under seat 2 → 1	
Type: BPN NC bi-directional flow over/under seat 1 → 2 / 2 → 1	
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	14° to 392° F
Ambient Temperature	14° to 176° F
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 7
Bonnet Material	Cast AISI 316L (CF3M), see page 7
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

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	25/32	63/64	1 17/64	1 37/64	2	63/64	1 17/64	1 37/64	2
Actuator	in	Ø 2.48						Ø 3.54			
A	in	2.56	2.95	3.54	4.33	4.72	5.91	3.54	4.33	4.72	5.91
B	in	7.01	7.24	7.87	8.31	8.50	9.21	8.19	8.70	8.90	9.61
C	in	6.73	7.01	7.87	8.03	8.35	8.94	7.91	8.39	8.70	9.29
D	in	6.18	6.38	6.77	7.09	7.24	7.60	7.13	7.44	7.64	7.95
E	in	4.25	4.25	4.25	4.25	4.25	4.25	5.31	5.31	5.31	5.31
F	in	8.98	9.41	10.16	10.83	11.18	12.09	10.24	10.94	11.26	12.20
Weight	Lb	5.07	5.29	5.73	6.83	7.50	9.04	7.94	9.04	9.48	11.24



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 to 63/64	SEP	SEP
	1 17/64 to 1 37/64	Category I	SEP
	2	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 shall be considered as gases.

Piston Actuated Valve Series M and G

Valve	Pipe Size	Orifice Size	Flow Rate Cv	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
Code	NPT	in	gpm	psi	psi	—	psi	psi	in	—
PN205MTW00	1/2	19/32	6.11	0	290	1 → 2	54	145	2.48	NC
PN206MTX00	3/4	25/32	11.51	0	290	1 → 2	64	145		
PN207MTY00	1	63/64	18.25	0	290	1 → 2	73	145		
PN208MTZ00	1 1/4	1 17/64	28.78	0	232	1 → 2	86	145		
PN209MTK00	1 1/2	1 37/64	49.14	0	232	1 → 2	131	145		
PN210MTJ00	2	2	66.69	0	160	1 → 2	116	145		
PN207GTY00	1	63/64	18.25	0	290	1 → 2	29	116	3.54	
PN208GTZ00	1 1/4	1 17/64	28.78	0	232	1 → 2	51	116		
PN209GTK00	1 1/2	1 37/64	49.14	0	232	1 → 2	58	116		
PN210GTJ00	2	2	66.69	0	218	1 → 2	94	116		
RPN205MTW00	1/2	19/32	6.11	0	232	2 → 1	36	145	2.48	NO
RPN206MTX00	3/4	25/32	11.51	0	232	2 → 1	62	145		
RPN207MTY00	1	63/64	18.25	0	232	2 → 1	80	145		
RPN208MTZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	94	145		
RPN209MTK00	1 1/2	1 37/64	49.14	0	232	2 → 1	131	145		
RPN210MTJ00	2	2	66.69	0	174	2 → 1	136	145		
RPN207GTY00	1	63/64	18.25	0	232	2 → 1	29	102	3.54	
RPN208GTZ00	1 1/4	1 17/64	28.78	0	232	2 → 1	58	102		
RPN209GTK00	1 1/2	1 37/64	49.14	0	232	2 → 1	73	102		
RPN210GTJ00	2	2	66.69	0	232	2 → 1	102	102		
BPN205MTW00	1/2	19/32	6.11	0	232	1 → 2 / 2 → 1	80 / 55	145	2.48	NC bidirectional
BPN206MTX00	3/4	25/32	11.51	0	232	1 → 2 / 2 → 1	87 / 55	145		
BPN207MTY00	1	63/64	18.25	0	232 / 160	1 → 2 / 2 → 1	94 / 55	145		
BPN208MTZ00	1 1/4	1 17/64	28.78	0	232 / 87	1 → 2 / 2 → 1	99 / 55	145		
BPN209MTK00	1 1/2	1 37/64	49.14	0	174 / 58	1 → 2 / 2 → 1	131 / 55	145		
BPN210MTJ00	2	2	66.69	0	116 / 36	1 → 2 / 2 → 1	131 / 55	145		
BPN207GTY00	1	63/64	18.25	0	232 / 203	1 → 2 / 2 → 1	58 / 48	116	3.54	
BPN208GTZ00	1 1/4	1 17/64	28.78	0	232 / 174	1 → 2 / 2 → 1	73 / 48	116		
BPN209GTK00	1 1/2	1 37/64	49.14	0	232 / 116	1 → 2 / 2 → 1	87 / 48	116		
BPN210GTJ00	2	2	66.69	0	203 / 87	1 → 2 / 2 → 1	116 / 48	116		

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

Control Piston Actuated Valve with Integrated Positioner

19/32 to 2 orifice – Stainless Steel

Valve 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
Ambient Temperature	14° to 140° F
Pilot Media ²	Instrument air, inert gases (filtered with mesh 5 µ)
Body Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Tube Material	AISI 316L (CF3M)
Process Connection	All connection types available for ON/OFF valve range in Stainless Steel
Bonnet Material	Cast AISI 316L (CF3M), see Piston Actuated Valves Catalogue
Actuator Body Material	Polyamide + 30% glass fiber
Main Seal Material	PTFE
Flow Characteristic	Linear or equal-percentage
Positioner Specifications	
Power Supply	24 VDC ± 10%
Input Signal	4–20 mA, 0 to 5 / 10 V
Power Consumption	< 4W
Output	4–20 mA
Output Characteristics	Linear, EQ%, User Set (16 points)
Operating Temperature	14° to 140° F
Supply Pressure	Max 102 psi
Air Consumption	0 LPM
Filtering size	5 micron
Air Connection	G1/8"
Electrical Connection	Conduit M16 x 1.5 (with screw terminals)
Ingress Protection	IP67
Body Material	PPS
Cover Material	PC

Features and Benefits

Piston Actuated Valve

- Accuracy of control thanks to specifically trimmed plug profiles
- Universal design suitable for vacuum applications up to 8 mTorr
- Water-hammer free design
- Extended cycle life thanks to self-registering gland and chevron packing
- Optimized control characteristic with high flow rate and low pressure drop

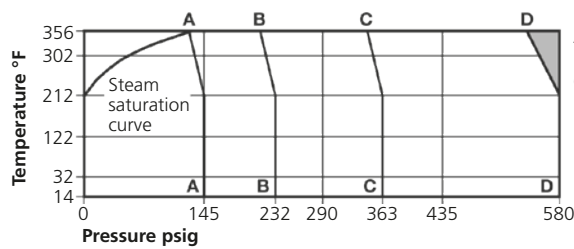


Smart Positioner Design Features (solenoid technology)

- Fail Freeze and Fail Safe function
- LCD display
- Feedback signal. 4-20 mA output option
- Auto calibration
- Low air consumption level
- Front panel pushbuttons for configuration

Valve Options	Code Examples
Main Seal material in Peek ¹	ZP*205SPW E K
Body and Shaped plug with hardening treatment ¹	ZP*205SPW E K
Positioner Options	
Fail Option: Safe (S) or Freeze (F)	SNG10 S or SNG10 F
Feedback output option: 4-20 mA (1)	SNG11 S or SNG11 F

¹ Seal in peek and hardened nickel plated body usually match together to improve valve life in severe applications



A – A PN10 (145 psi)	Temperature
B – B PN16 - ANSI 150 (232 psi)	356° F
C – C PN25 (362 psi)	302° F
D – D PN40 (580 psi)	212° F
	122° F
	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!

DN	Flow Rate ⁴ Equi% 1:25	Flow Rate ⁴ linear 1:25	Working Pressure ¹ Max.	Flow Direction	Pilot Pressure Min.	Pilot Pressure Max.	Actuator Ø	PN ³	Valve Code (* is the connection ref. to be selected in the coding table)		Positioner Code
in	gpm	gpm	psi	[2 → 1]	psi	psi	in	—	EQ%	Linear	Fail Safe, no feedback
19/32	5.27	5.73	232	Only under seat	65	102	2.48	580	ZP*205STW E 0	ZP*205STWL 0	SNG10 S
5/32	10.18	10.18	232					580	ZP*206STX E 0	ZP*206STXL 0	
63/64	14.86	16.85	203	Only under seat	65	102	362	ZP*207LT Y E0	ZP*207LT Y L0		
1 17/64	23.87	26.68	174				362	ZP*208LT Y E0	ZP*208LT Y L0		
1 37/64	34.75	40.01	116				232	ZP*209LT K E0	ZP*209LT K L0		
2	42.47	45.63	87				232	ZP*210LT Y E0	ZP*210LT Y L0		

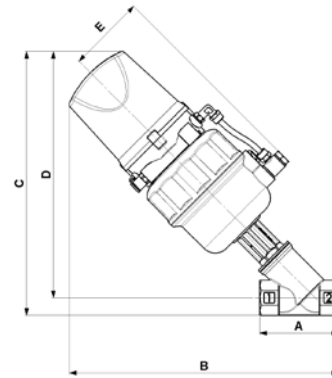
Notes:

1. Steam max. working pressure 145 psi / 131 psig
2. Please contact M&M sales department for other pilot media
3. PN 10 for all sizes with Clamp connection
4. Flow values shown in the selection table are subject to a tolerance of ±15%

Control Piston Actuated Valve with Integrated Positioner

19/32 to 2 orifice – Stainless Steel

NPT - ISO 228G - WELDED ENDS	Dimensions & Weights		19/32 orifice	25/32 orifice	63/64 orifice	1 17/64 orifice	1 37/64 orifice	2 orifice
	Actuator	in	Ø 2.48		Ø 3.54			
	A	in	2.52	2.95	3.54	4.33	4.72	5.91
B	in	11.26	11.5	12.05	12.52	12.72	13.43	
C	in	10.94	11.26	11.77	12.32	12.64	13.23	
D	in	10.43	10.63	10.98	11.38	11.54	12.6	
E	in	2.95	2.95	3.46	3.46	3.46	3.46	
Weight	Lb	5.29	5.51	7.28	8.16	8.60	10.14	



FLANGED EN1092-1	Dimensions & Weights		19/32 orifice	25/32 orifice	63/64 orifice	1 17/64 orifice	1 37/64 orifice	2 orifice
	Actuator	in	Ø 2.48		Ø 3.54			
	A	in	5.12	5.91	6.30	7.09	7.87	9.06
B	in	12.72	13.03	13.54	14.06	14.25	15.08	
C	in	13.58	13.98	14.25	15.31	15.71	16.34	
D	in	11.69	11.89	12.24	12.56	12.76	13.07	
E	in	2.95	2.95	3.46	3.46	3.46	3.46	
Weight	Lb	8.3	9.26	12.57	16.09	18.08	22.93	

FLANGED ANSI B16.5	Dimensions & Weights		19/32 orifice	25/32 orifice	63/64 orifice	1 17/64 orifice	1 37/64 orifice	2 orifice
	Actuator	in	Ø 2.48		Ø 3.54			
	A	in	5.50	6	6.50	7.25	8	9
B	in	12.64	12.91	13.46	13.98	14.21	15.04	
C	in	13.43	13.82	14.37	14.84	15.24	16.1	
D	in	11.69	11.89	12.24	12.56	12.76	13.07	
E	in	2.95	2.95	3.46	3.46	3.46	3.46	
Weight	Lb	8.38	9.26	12.57	16.09	18.08	22.93	

Regulatory

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
ZPG - ZPR - ZPN - ZPC - ZPP - ZPA - ZPD -	19/32 to 63/64	SEP (art. 4.3)	SEP (art. 4.3)
	1 17/64 to 1 37/64	Category I	SEP (art. 4.3)
	2	Category I	SEP (art. 4.3)

⚠ 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 shall be considered as gases.

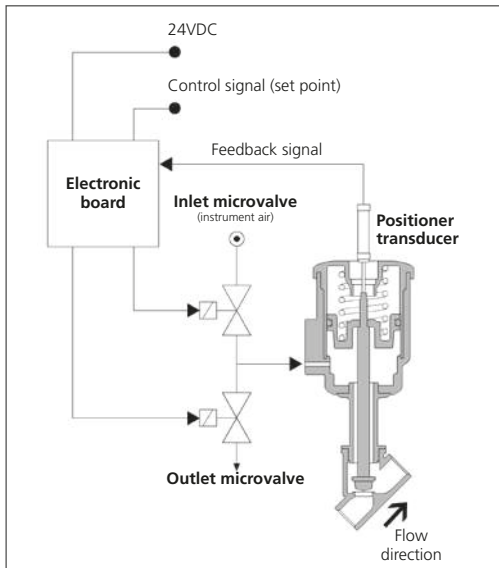
Control Piston Actuated Valve With Integrated Positioner

19/32 to 2 orifice – 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.

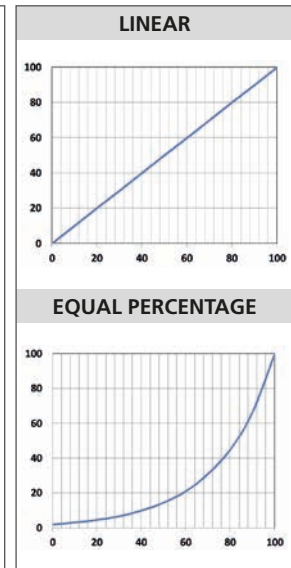
The proportionality between the stroke of the valve and the instantaneous flow is guaranteed by the special plug design: linear plug and equal percentage plug (Picture C) the graphs show an ideal curve, which cannot be reproduced exactly but varies according to the DN of the valve and the specific installation 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

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	500 V
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
Temperature Limits	-13° to 212° F
Protection Class	IP67
Housing Material	Brass with electroless nickel plating treatment
Plug For Cable	0,0046x0,00077 inch ² ; Ø 0,16-0,24 inch



Notes

The option must be expressly requested upon order
It is available for actuators sizes Ø 2.48 inches & Ø 3.54 inches only (e.g. code RPN205TWI0)
It is available only assembled ex-factory
ATEX option not available

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. Aluminium knob.

Notes

This option must be expressly requested upon order
It is available for actuators sizes Ø 2.48 inches & Ø 3.54 inches only (e.g. code CN205STWR0)
It is available only assembled ex-factory
Available also on ATEX piston valves



Position Module for Piston Actuated Valve

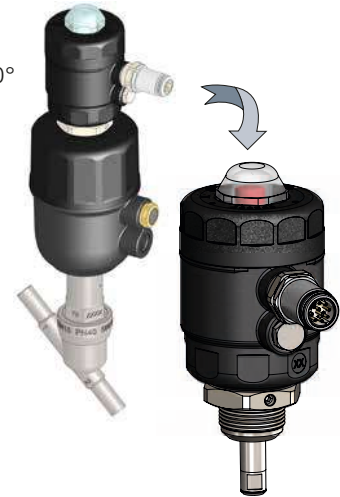
Specifications	
Electrical Position Feedback	Mechanical limit switches or inductive limit switches
Body/Cover Material	Polyamide PA6 (reinforced fiberglass 30%)
Connector Material	Copper-zinc alloy / aluminium alloy / cast zinc – nickel plating treatment
Electrical Connection	Connector M16 – 10 poles / wire Ø 0.20 - 0.35 inch
Ambient Temperature	14° to 140° F
Protection Class	NEMA type 4 (UL 50) and IP65 (EN 60529)
Specifications: Mechanical 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

M&M position modules offer an electrical position feedback for reading the valve position of piston actuated valves open or closed.

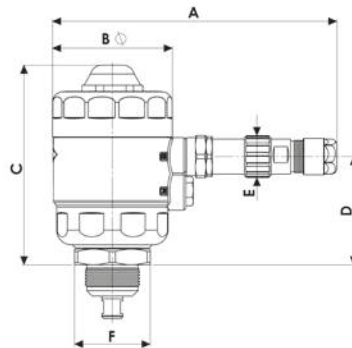
The position detection is carried out through a mechanical or inductive switch that can be fitted to all M&M standard Piston Valves.

Features and Benefits

- Actuator housing rotation 360°

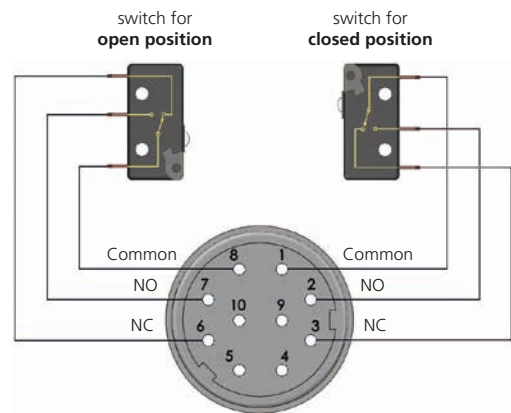


Dimensions & Weights		Position Module
Actuator	in	1.77/2.48/3.54
A	in	5.28
B	in	2.24
C	in	3.74
D	in	2.03
E	in	0.79
F	in	Hex 36
Weight	Lb	0.95



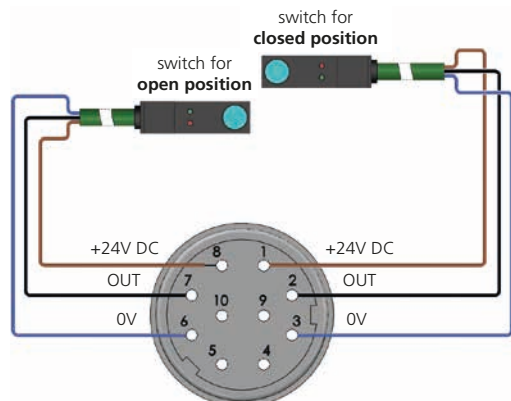
ELECTRICAL CONNECTION SCHEME FOR MECHANICAL SWITCHES

Connector frontal view:



ELECTRICAL CONNECTION SCHEME FOR INDUCTIVE SWITCHES

Connector frontal view:



Position Module	Actuator Ø	Electrical Position Feedback
Code	in	—
857 030-	2.48/3.54	Mechanical
857 040-	1.77	
857 031-	2.48/3.54	Inductive
857 041-	1.77	

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 max.

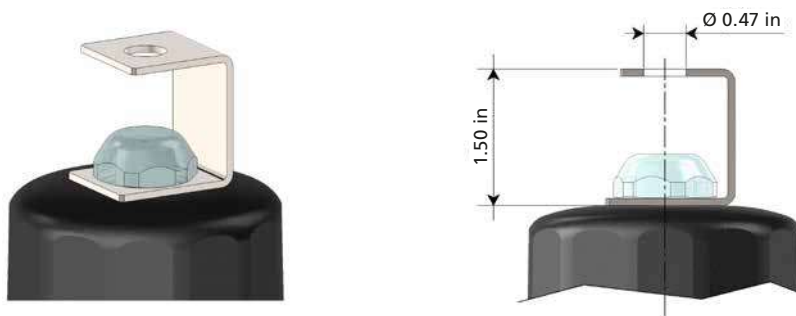
You can install a sensor having a larger diameter (up to 0.71 in) in this case you shall re-drill the upper hole on the sensor support bracket.

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

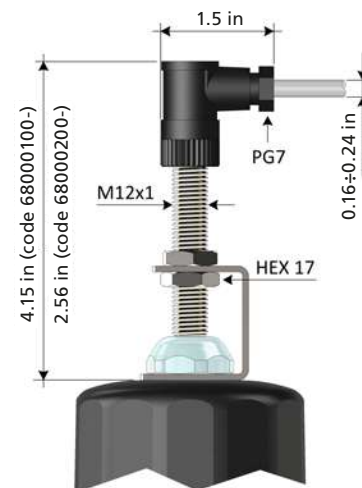
M&M offers 2 types (type **A** or type **B** see below) of standard magnetic switches to be purchased in addition to the conversion kit. Other types of switches can be outsourced directly by the customer, provided that they comply with M&M kit mounting specifications.

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	± 0,01 inch
Temperature Limits:	-13° to 212° F	-13° to 212° F
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 WVA	20 WVA
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)
Cable:	0,0046x0,00038 inch ²	0,0046x0,00038 inch ²



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 (5m)
code 680 002 00-¹



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

Specifications	
Function (single acting)	<p>flow direction underseat 2 → 1</p>
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 (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 & Ø 2.48 in
- 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	Kv	OPD psi		Orifice Size in	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.05	0.04	0 - 145	0 - 145	1/16	FKM	B356C/CW
1/8	0.05	0.04	0 - 145	0 - 145	1/16	FKM	B326C/CW

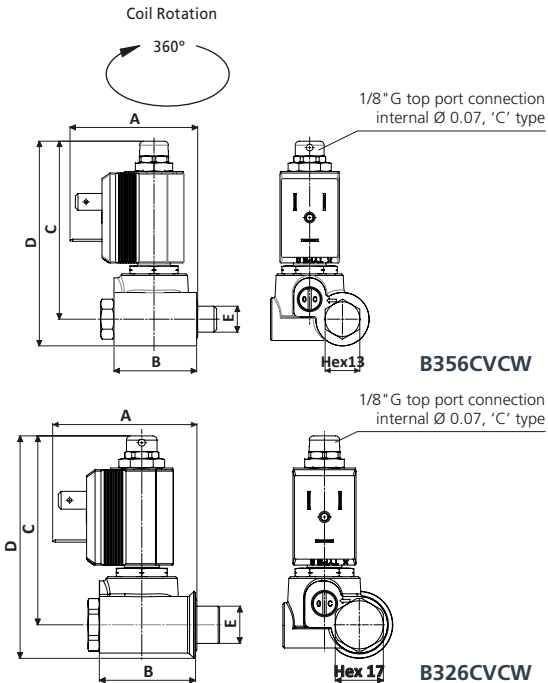
Options Available

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

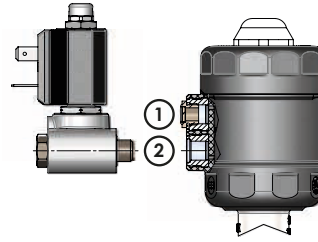
Seal Material ¹ and media temperature range	Media	Ambient Temperature Range	
		Min	Max
FKM 14° F to 140° F	water, inert gases, air	14° F	140° F

¹ See corrosion reference guide and sealing solutions for material compatibility.

B356 & B326 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)
B356-	1.89	1.22	2.64	3.03	1/8" G	0.55
B326-	2.01	1.34	2.64	3.11	1/4" G	0.55

Dimensions inches

2--R c 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



Type 600 001- Plug

- Rated Voltage (max.): 250v AC / 300 DC
 Nominal Current: 10A (rated) / 16A (max)
 Wire cross-section: 0.0023 inch² max
 Cable Entry: PG9 (0.24 to 0.31 inch)
 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



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

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)

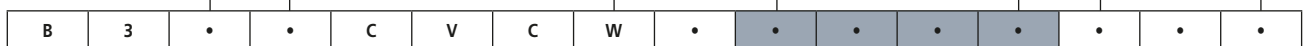
Thread Pipe ¹	
W	NPT
	GAS

Coil options

Voltage / Frequency - 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

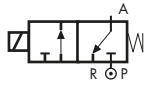






¹ Body with manual override

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)	 <p>flow direction underseat 2 → 1</p>
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 ( 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
- 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	Kv	OPD psi		Orifice Size in	Seal Material	Valve Code
			AC Voltages	DC Voltages			
1/8	0.08	0.09	0 - 145	0 - 145	5/64	FKM	D326CV/EW

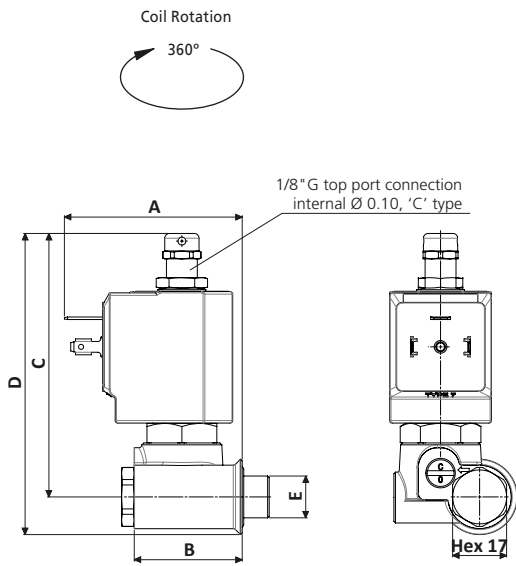
Options Available

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

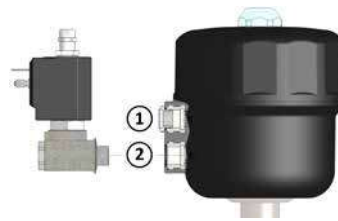
Seal Material ¹ and media temperature range	Media	Ambient Temperature Range	
		Min	Max
FKM 14° F to 140° F	water, inert gases, air	14° F	140° F

¹ See corrosion reference guide and sealing solutions for material compatibility.

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	1.34	3.27	3.74	1/4" G	0.66

Dimensions inches

Solenoid enclosures

7--R cULus 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
 Cable Entry: PG9 (0.24 to 0.31 inch)
 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 - cULus 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:

D326CWEW 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

Valid for valves manufactured from the batch date printed on the label.
Valid for pav manufactured from the batch date: June 2022 ex. 06/22.

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 ¹	Actuator
2057801	19/32	PN/RPN/BPN- PW/RPW/BPW- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA- High Temperature Version	Ø 2.48 in
2057802	25/32		
2057803	63/64		
2057804	1 17/64		
2057805	1 37/64		
2057806	2		
2057807	19/32		
2057808	25/32		
2057809	63/64		
2057810	1 17/64		
2057811	1 37/64	DPN-	Ø 2.48 in
2057812	2		
2057813	63/64		
2057814	1 17/64		
2057815	1 37/64		
2057816	2		
2057817	all	PN/RPN/BPN/DPN- PW/RPW/BPW- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA-	Ø 2.48/3.54 in
2057818	19/32	High Temperature Version	Ø 2.48 in
2057819	25/32		
2057820	63/64		
2057821	1 17/64	High Temperature Version	Ø 3.54 in
2057822	1 37/64		
2057823	2		

STEM SEALS KIT

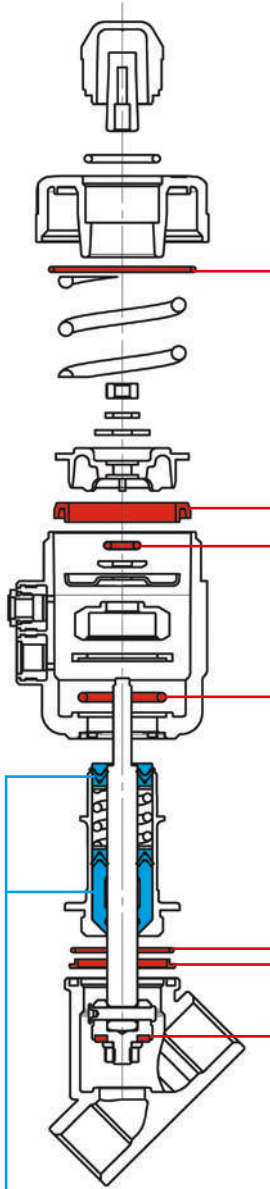
Kit Code	DN	Valve Type ¹	Actuator
2057817	all	PN/RPN/BPN/DPN- PW/RPW/BPW- PB/RPB/BPB- PD/RPD/BPD- PA/BPA/RPA-	Ø 2.48/3.54 in
2057818	19/32	High Temperature Version	Ø 2.48 in
2057819	25/32		
2057820	63/64		
2057821	1 17/64	High Temperature Version	Ø 3.54 in
2057822	1 37/64		
2057823	2		

1. Included versions with optional: stroke regulator (e.g. code PB208STZR0) and travel switch version (e.g. code BPN209LTKJ0)

Seal Kit for Stainless Steel Valves Actuator Ø 1.77in

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.

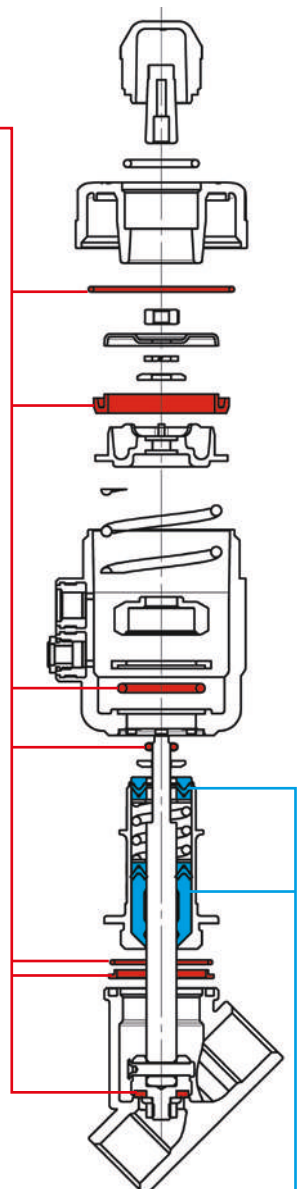
Normally Closed



SPARE PARTS KIT: Lip seal, o-rings, main seal, body seal			
Kit Code	DN	Valve Type	Actuator
856 011 00-	19/32	PN/RPN/BPN- PB/RPB/BPB-	Ø 1.77 in
856 012 00-	25/32		
856 013 00-	19/32	DPN-	
856 014 00-	25/32		

STEM SEALS KIT			
Kit code	DN	Valve Type	Actuator
856 801 00-	all	all	Ø 1.77 in

Normally Open



Seal Kit For Bronze Valves Actuator Ø 2.48/3.54in

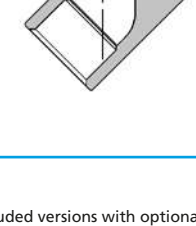
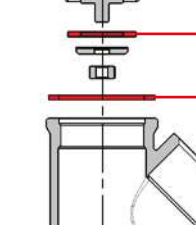
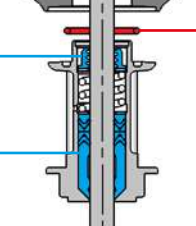
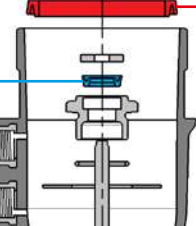
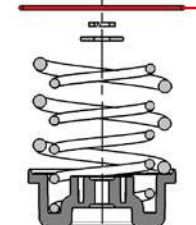
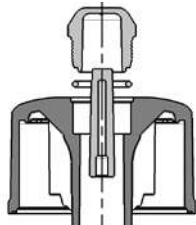
Valid for valves manufactured from the batch date printed on the label.

Valid for pav manufactured from the batch date: June 2022 ex. 06/22.

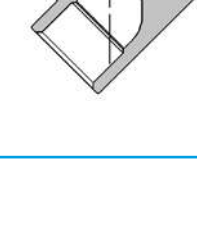
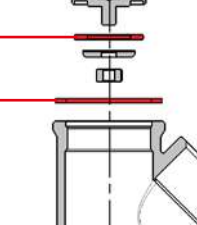
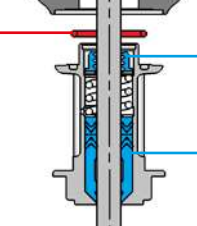
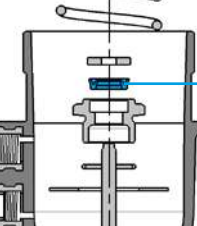
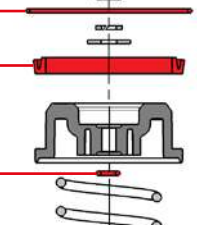
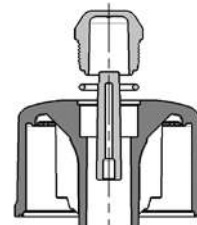
Maintenance operations must be carried out by qualified personnel according to manufacturer's instructions.

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
2057824	19/32	CNRCN/BCN-	Ø 2.48 in
2057825	25/32		
2057826	63/64		
2057827	1 17/64		
2057828	1 37/64		
2057829	2	DCN-	
2057830	19/32		
2057831	25/32		
2057832	63/64		
2057833	1 17/64		
2057834	1 37/64	CNRCN/BCN-	Ø 3.54 in
2057835	2		
2057836	63/64		
2057837	1 17/64		
2057838	1 37/64		
2057839	2		

STEM SEALS KIT			
Kit Code	DN	Valve Type ¹	Actuator
2057817	all	CNRCN/BCN/DCN-	Ø 2.48/ 3.54 in

1. Included versions with optional: stroke regulator (e.g. code CN206STXR0) and travel switch version (e.g. code BCN210LTJ0)

Seal Kit for Bronze Valves Actuator Ø 1.77in

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	Actuator
856 015 00-	19/32	CN/RCN/BCN-	Ø 1.77 in
856 016 00-	25/32		
856 017 00-	63/64		
856 018 00-	19/32	DCN-	
856 019 00-	25/32		
856 020 00-	63/64		

STEM SEALS KIT			
Kit Code	DN	Valve Type	Actuator
856 801 00-	all	all	Ø 1.77 in

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 against solids	Second number - protection against liquids
0	No protection	No protection
1	Protected against solid objects over 1.97 inches Ø	Protected against vertically falling drops of water
2	Protected against solid objects over 0.47 inches Ø	Protected against direct sprays up to 15° from vertical
3	Protected against solid objects over 0.10 inches Ø	Protected against direct sprays up to 60° from vertical
4	Protected against solid objects over 0.04 inches 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
8		Protected against long periods of immersion under pressure

International Standards - Temperature classification

IEC 79-8 & CENELEC		American NEC	
Class	Max. surface temp	Class	Max. surface temp
T1	842° F	T1	842° F
T2	572° F	T2	572° F
		T2A	536° F
		T2B	500° F
		T2C	446° F
T3	392° F	T2D	419° F
		T3	392° F
		T3B	329° F
		T3C	320° F
T4	275° F	T4	275° F
		T4A	248° F
T5	212° F	T5	212° F
T6	185° F	T6	185° F

Conversions

Capacity & flow rate

Multiply number of	by	to obtain	Cubic metres/hour	Litres/sec	Litres/min	Cubic metres/sec (cume)	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 m³/h 1 scfm = 1.699 Nm³/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/in ²)			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.

Material	Valve Body					Seals				Notes
	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 Alcohol	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.

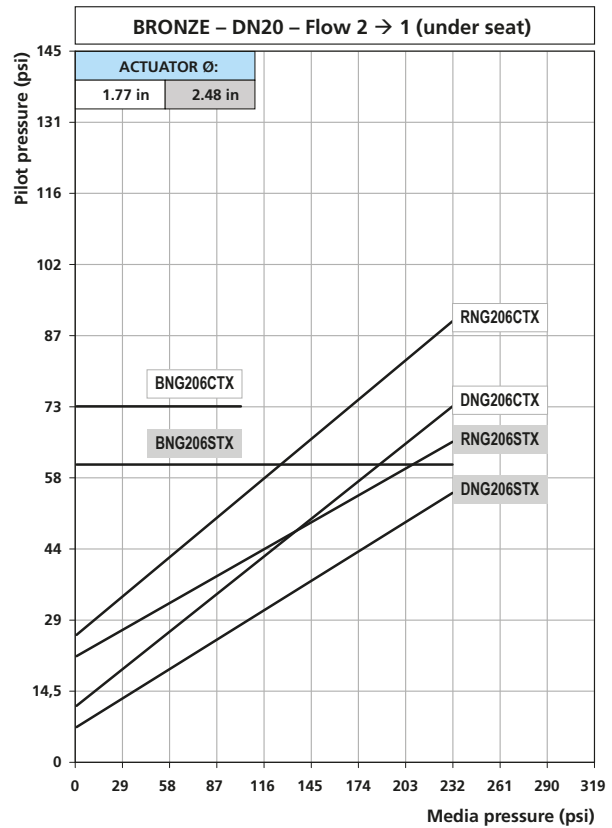
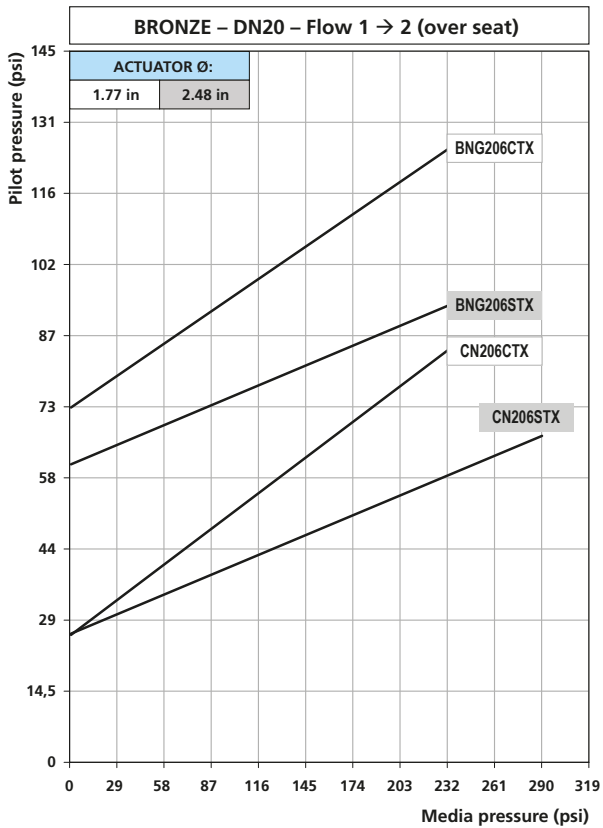
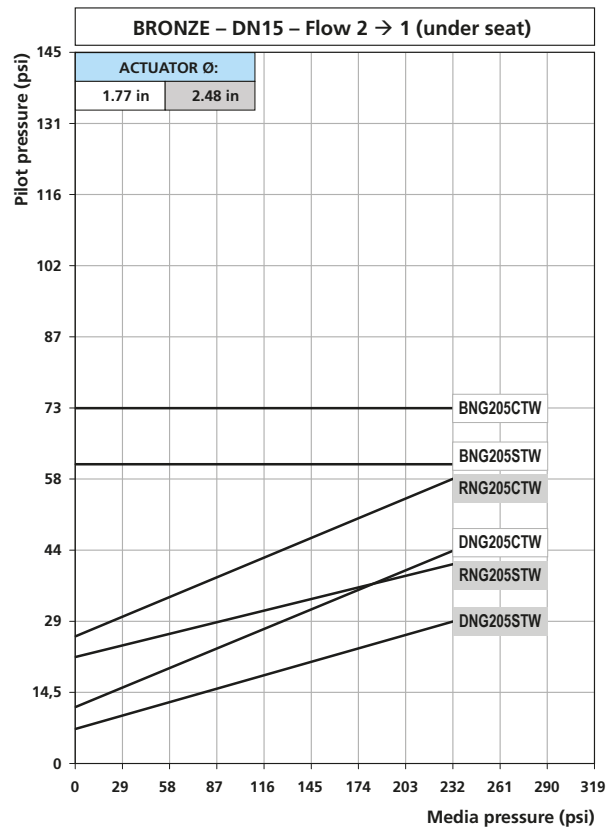
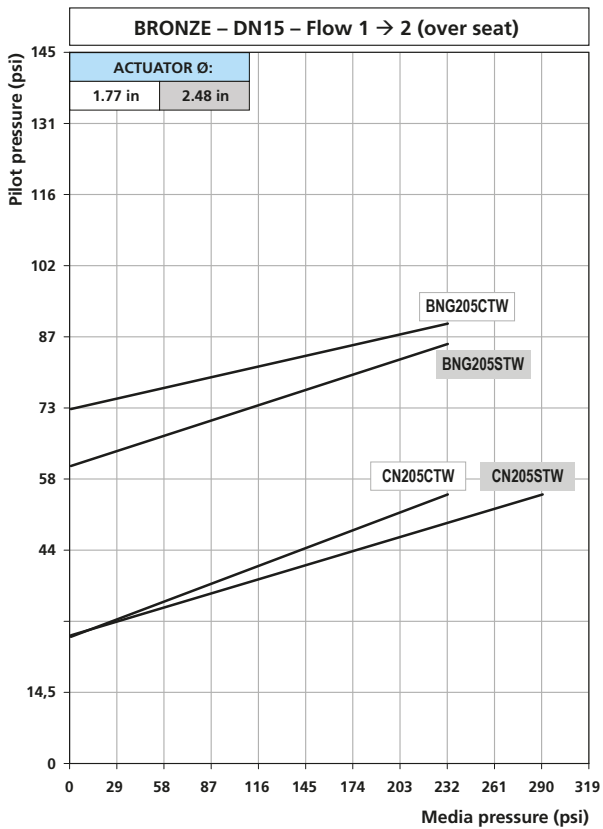
Material	Valve Body					Seals				Notes
	Alum	Brass	Brz	Cl	Stainless	Nitrile	EPDM	Viton	PTFE	
LPG	•	•	•	NR	•	•	NR	•	•	
Lubricating Oil	•	•	•	•	•	NR	•	•	•	
Methane Gas	•	•	•	•	•	•	NR	•	•	
Methyl Alcohol	NR	•	•	•	•	•	•	•	•	
Mineral Oil	•	•	•	•	•	•	NR	•	•	
Natural Gas	•	•	•	•	•	•	•	•	•	
Natural Gas Liquid	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	•	•	•	•	•	
Perchlrenthylene 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.

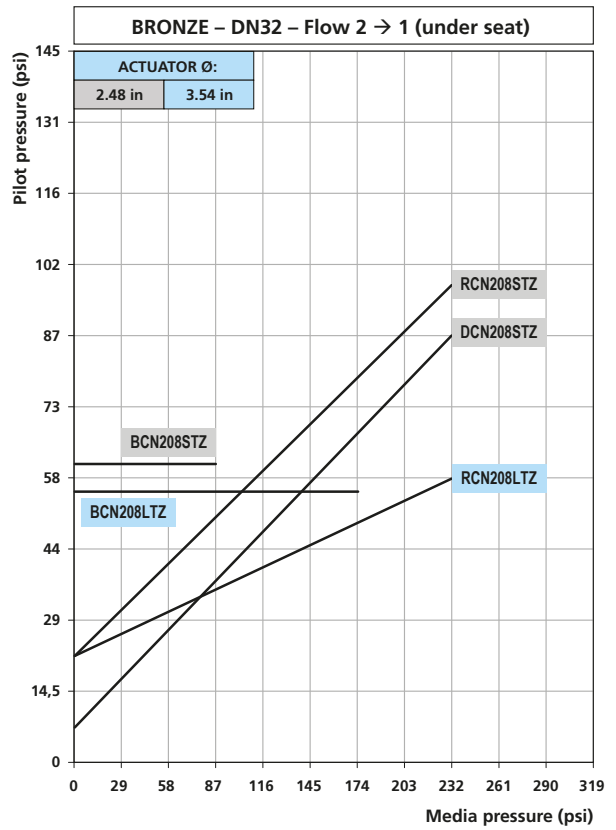
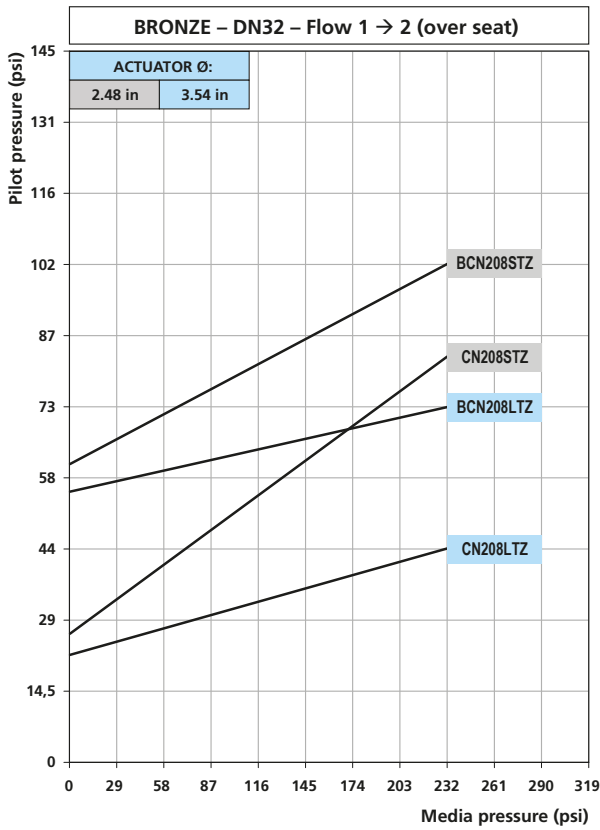
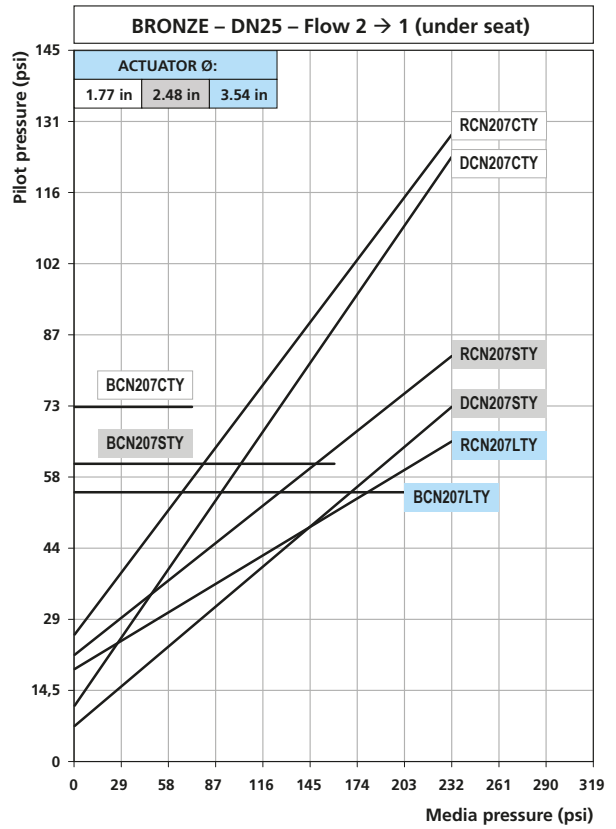
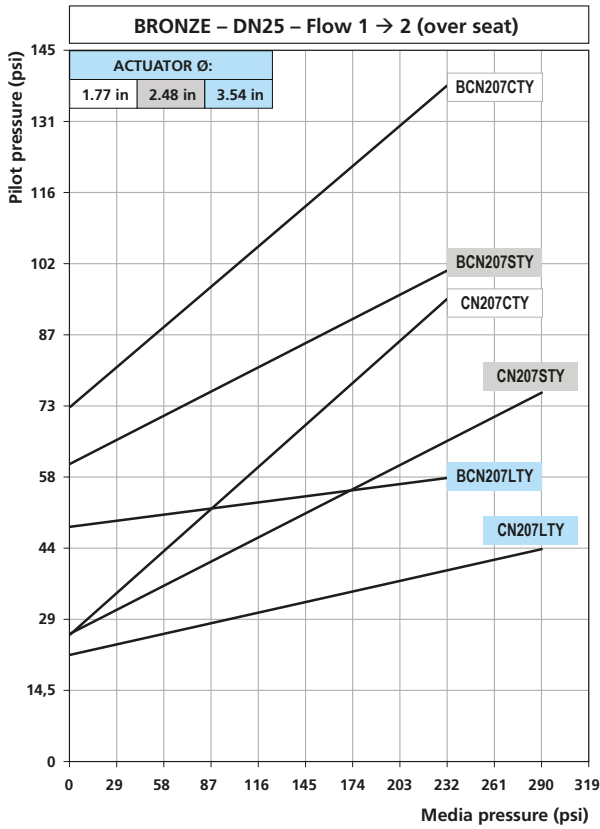
• = Recommended
NR = Not Recommended

Bronze Valves Comparative Charts 19/32 to 25/32 orifice



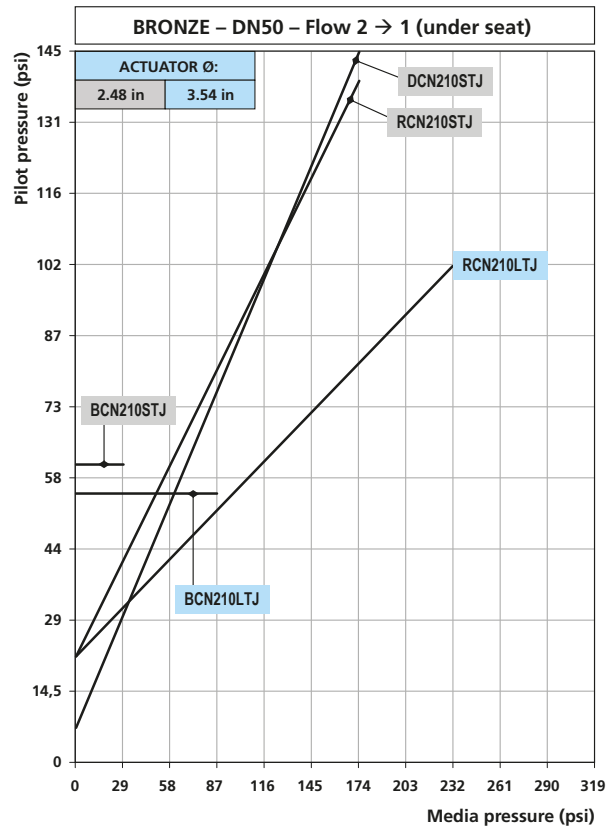
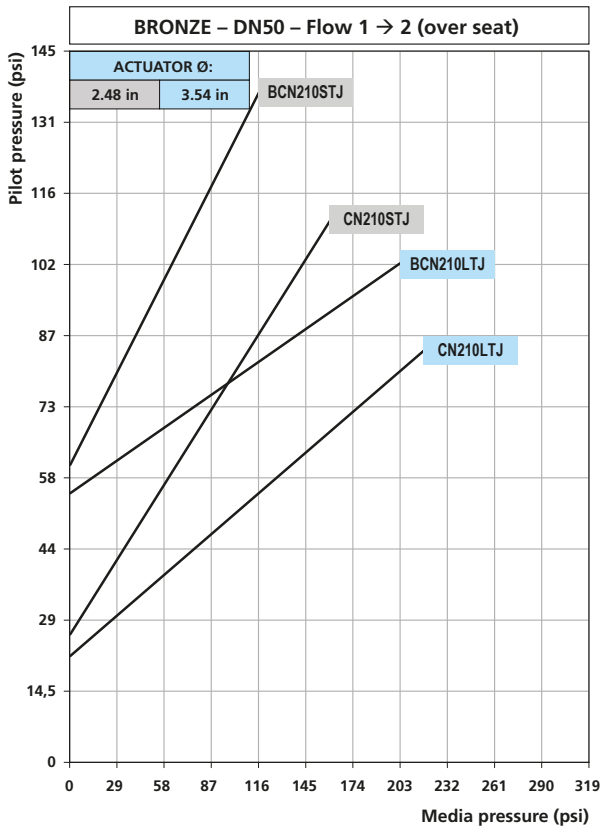
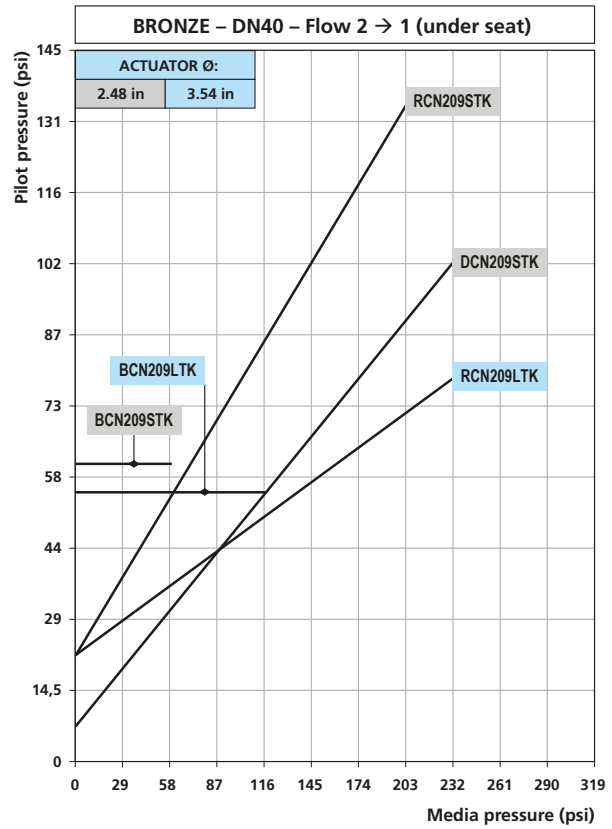
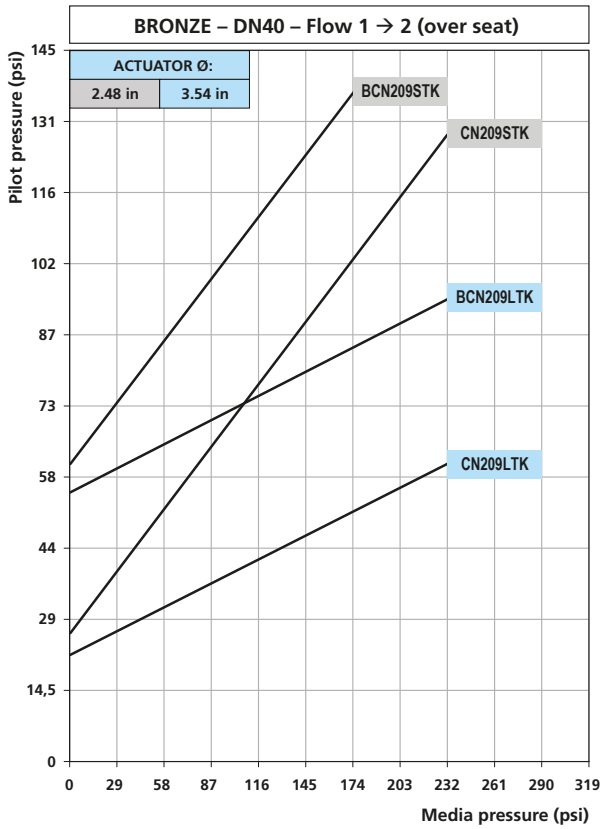
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Bronze Valves Comparative Charts 63/64 to 1 17/64 orifice



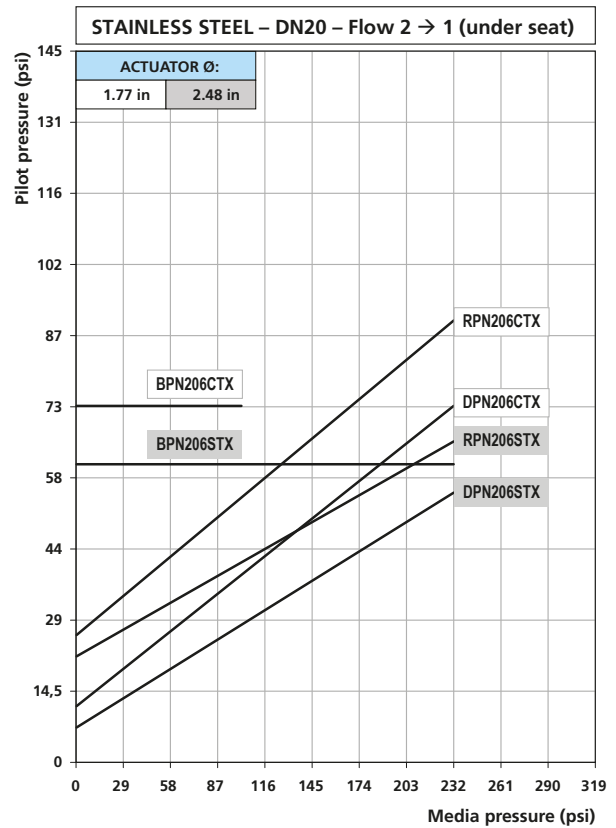
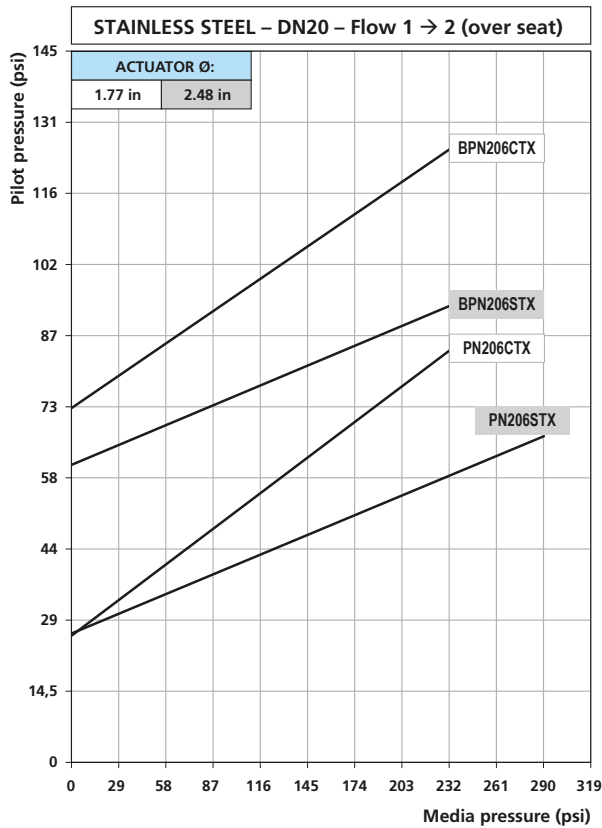
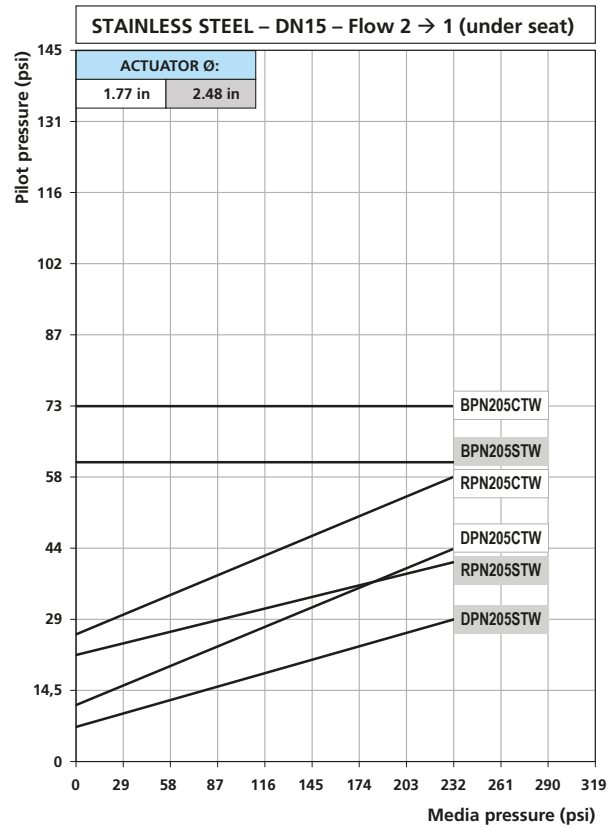
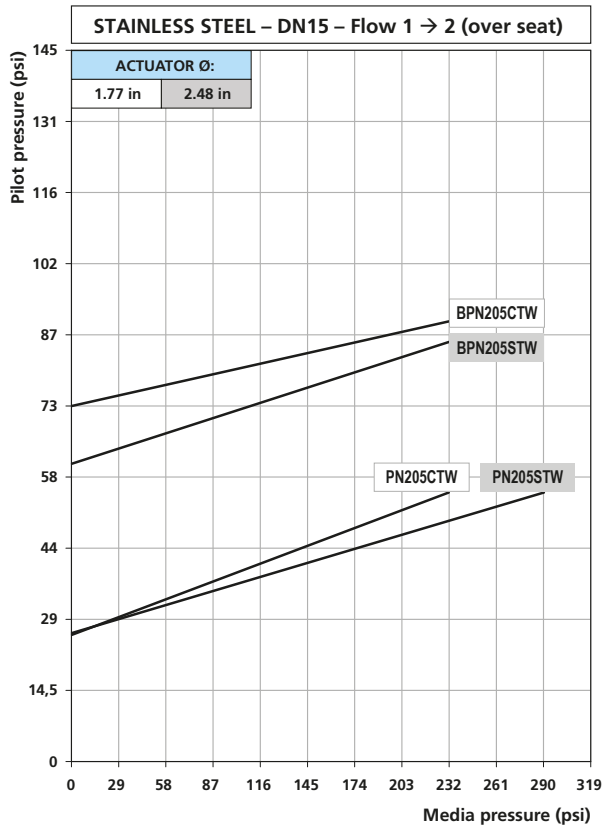
Version: CN = Normally Closed, BCN = Normally Closed (anti-waterhammer), RCN = Normally Open, DCN = Double Acting

Bronze Valves Comparative Charts 1 37/64 to 2 orifice



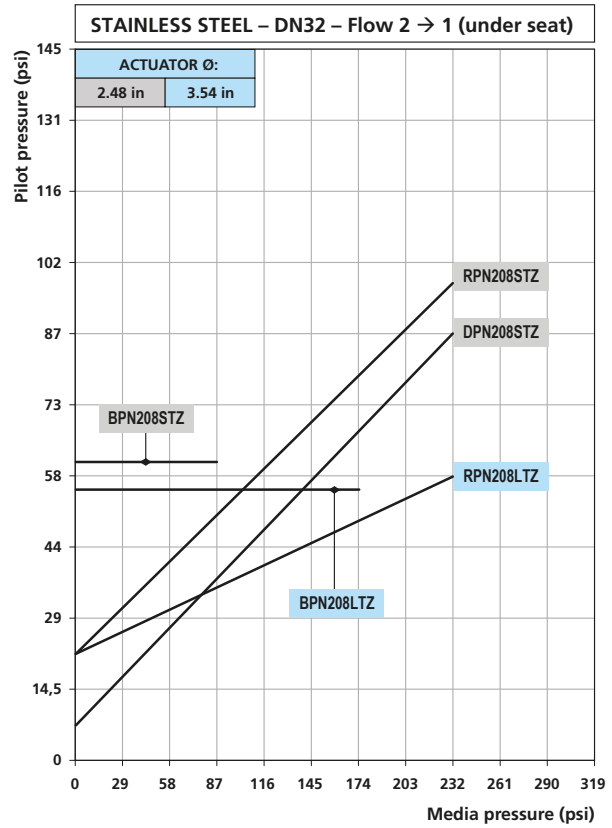
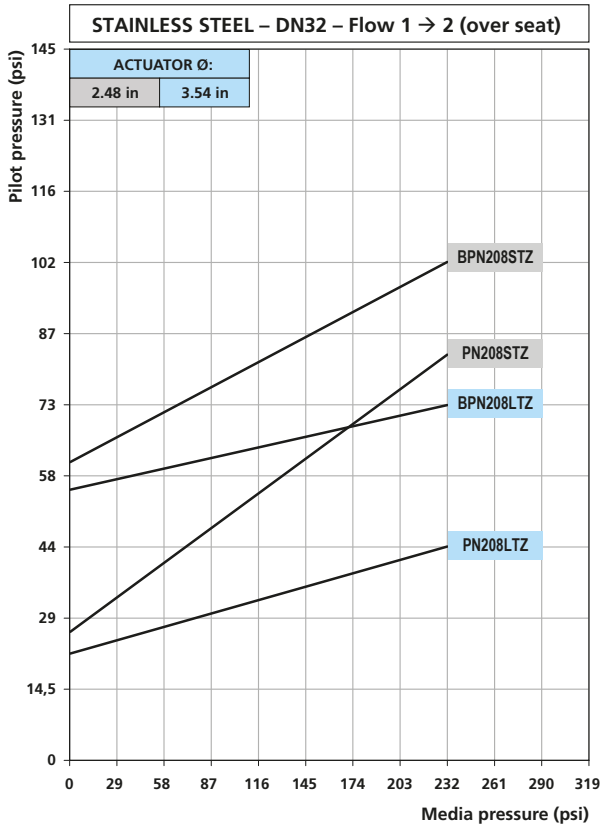
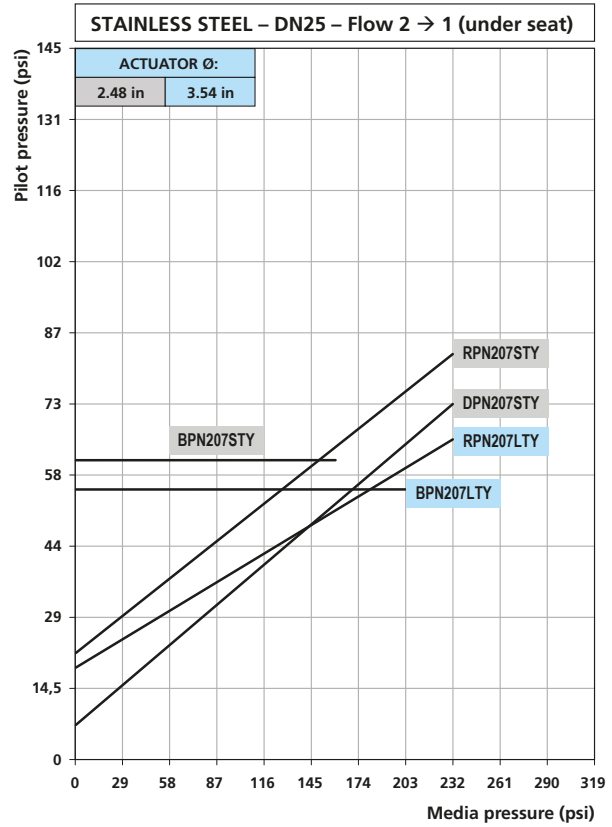
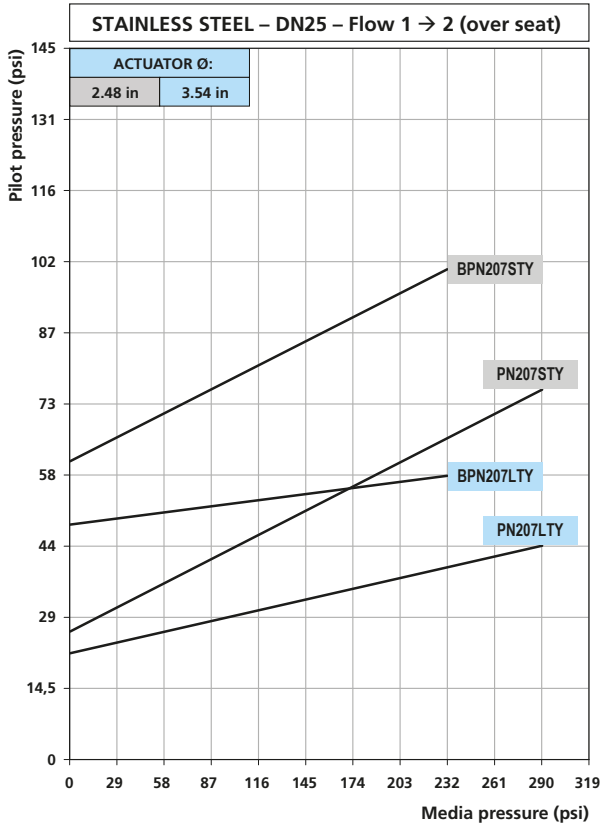
Version: CN = Normally Closed, BCN = Normally Closed (anti-waterhammer), RCN = Normally Open, DCN = Double Acting

Stainless steel Valves Comparative Charts 19/32 to 25/32 orifice



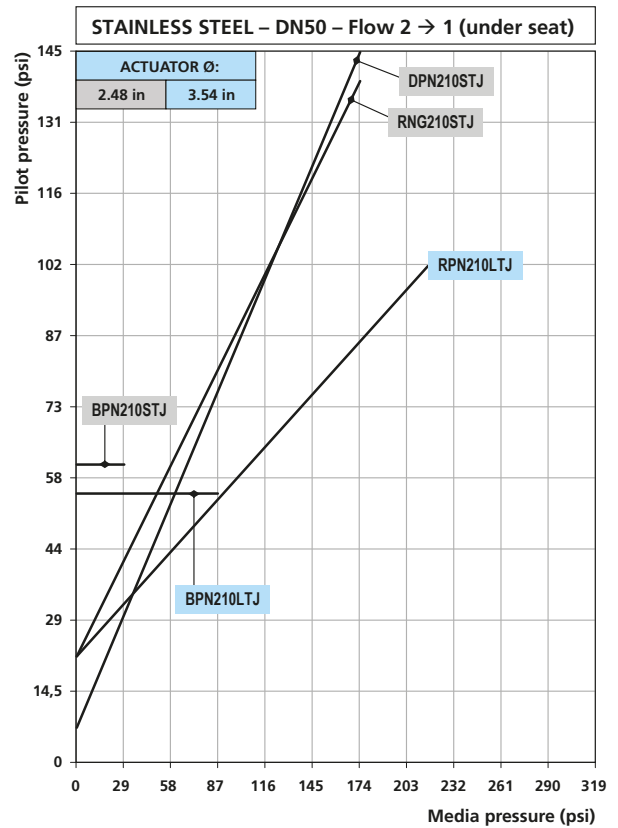
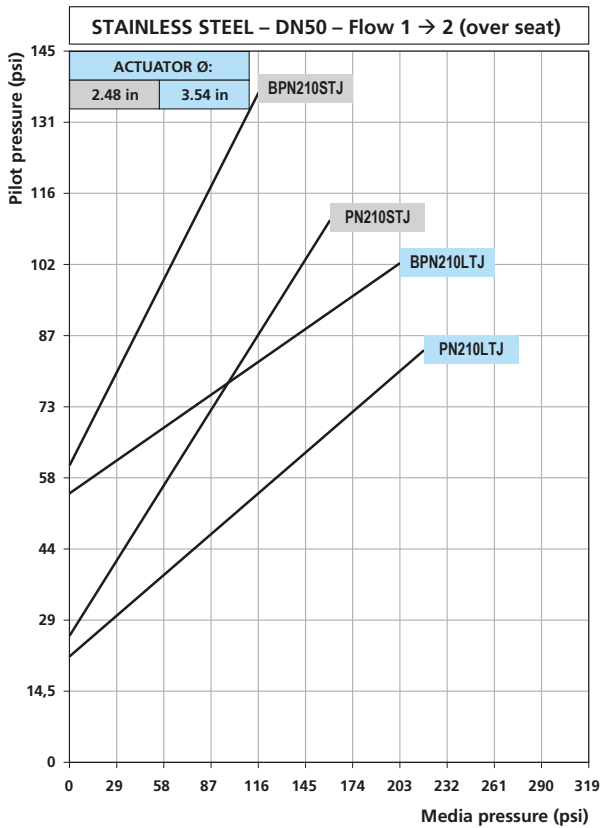
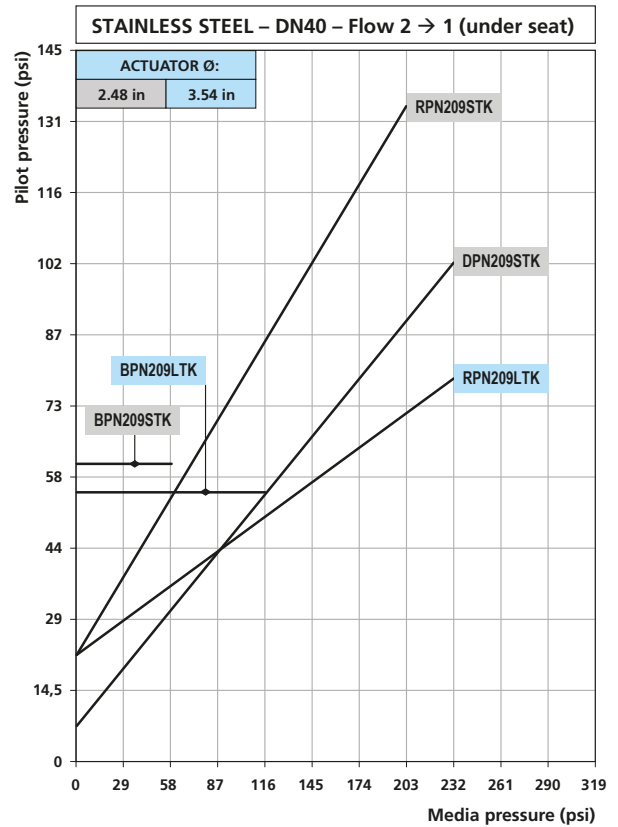
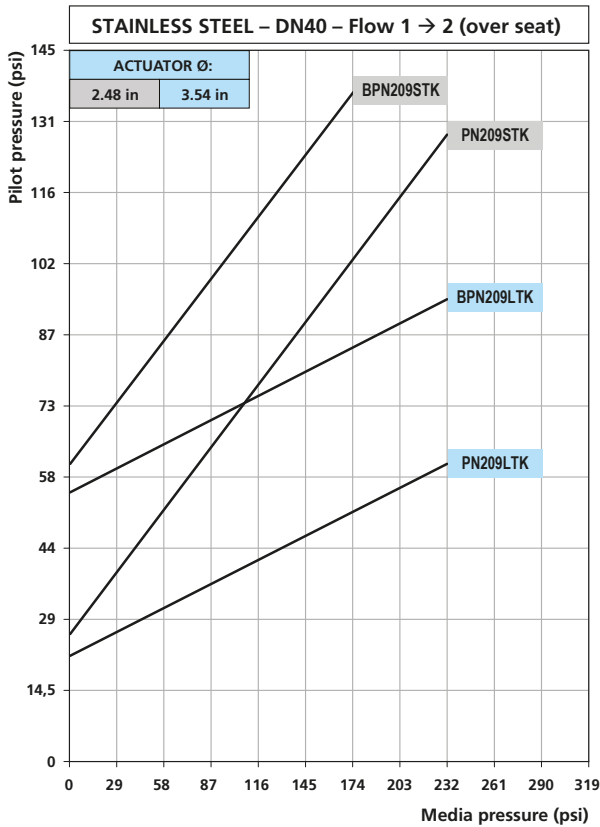
Version: PN = Normally Closed, BPN = Normally Closed (anti-waterhammer), RPN = Normally Open, DPN = Double Acting

Stainless steel Valves Comparative Charts 63/64 to 1 17/64 orifice



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



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

Piston Valves Opening/Closing Time (sec)

Actuator Volume

NC Version – Flow Direction 1 → 2

DN [mm]	Actuator Ø 45 1,5 mm pilot orifice B356-		Actuator Ø 63 1,5 mm pilot orifice B326-		Actuator Ø 90 2,0 mm pilot orifice D326-	
	NC		NC		NC	
	o	c	o	c	o	c
15	0,09	0,22	0,14	0,3	-	-
20	0,09	0,22	0,2	0,3	-	-
25	-	-	0,32	0,34	0,32	0,34
32	-	-	0,34	0,38	0,36	0,4
40	-	-	0,34	0,38	0,4	0,46
50	-	-	0,36	0,38	0,4	0,46

Notes:

Pilot pressure: 6 bar

Pilot media: AIR

Pressure in body: 0 bar

For Normally Open valves (NO) invert columns o and c

Actuator & function	Air Volume (dm ³)
D.45 NC	0,036
D.45 NO	0,053
D.45 DA	0,078
D.63 NC	0,084
D.63 NO	0,170
D.63 DA	0,274
D.90 NC	0,176
D.90 NO	0,346

Note:

In the double-acting versions, the air volume indicated is the total volume for one valve opening and closing cycle.

Coding Chart

PISTON ACTUATED VALVE CODING																																																													
CODE	1	2	3	4	5	6	7	8	9	10	11	12	13	-																																															
Function				Ways No				Seal Material						Options for the control valve positioner																																															
<table border="1"> <tr><td>Empty =</td><td>NC Normally Closed</td></tr> <tr><td>B =</td><td>Bidirectional</td></tr> <tr><td>R =</td><td>NO Normally Open</td></tr> <tr><td>D =</td><td>Double acting</td></tr> <tr><td>Z =</td><td>Control / Modulating</td></tr> </table>		Empty =	NC Normally Closed	B =	Bidirectional	R =	NO Normally Open	D =	Double acting	Z =	Control / Modulating			2				<table border="1"> <tr><td>P =</td><td>PEEK</td></tr> <tr><td>T =</td><td>PTFE</td></tr> </table>		P =	PEEK	T =	PTFE					<table border="1"> <tr><td>SNG10F</td><td>no feedback fail freeze</td></tr> <tr><td>SNG10S</td><td>no feedback fail safe</td></tr> <tr><td>SNG11F</td><td>feedback fail freeze</td></tr> <tr><td>SNG11S</td><td>feedback fail safe</td></tr> </table>		SNG10F	no feedback fail freeze	SNG10S	no feedback fail safe	SNG11F	feedback fail freeze	SNG11S	feedback fail safe																								
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¹ Clamps ends to ASME BPE can be used to match clamp ends to BS 4825 with minor tolerance variations on the inside diameter.

² For sizes from DN25 to DN50 SMS 3008 dimensions are the same as ISO 2037, therefore valve coding will be the same for both standards following ISO 2037 (e.g. ZPX205SPWE0-SNG10S).

³ For sizes from DN25 to DN50 BS 4825 dimensions are the same as ASME BPE, therefore valve coding will be the same for both standards following ASME BPE (e.g. ZPT205SPWE0-SNG10S).

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