

rotork[®]
Instruments

Piston Actuated Valves Catalogue



m&m
international

Keeping the World Flowing

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Rotork is the global market leader in valve automation and flow control. Our products and services are helping organisations around the world to improve efficiency, assure safety and protect the environment.

We strive always for technical excellence, innovation and the highest quality standards in everything we do. As a result, our people and products remain at the forefront of flow control technology.

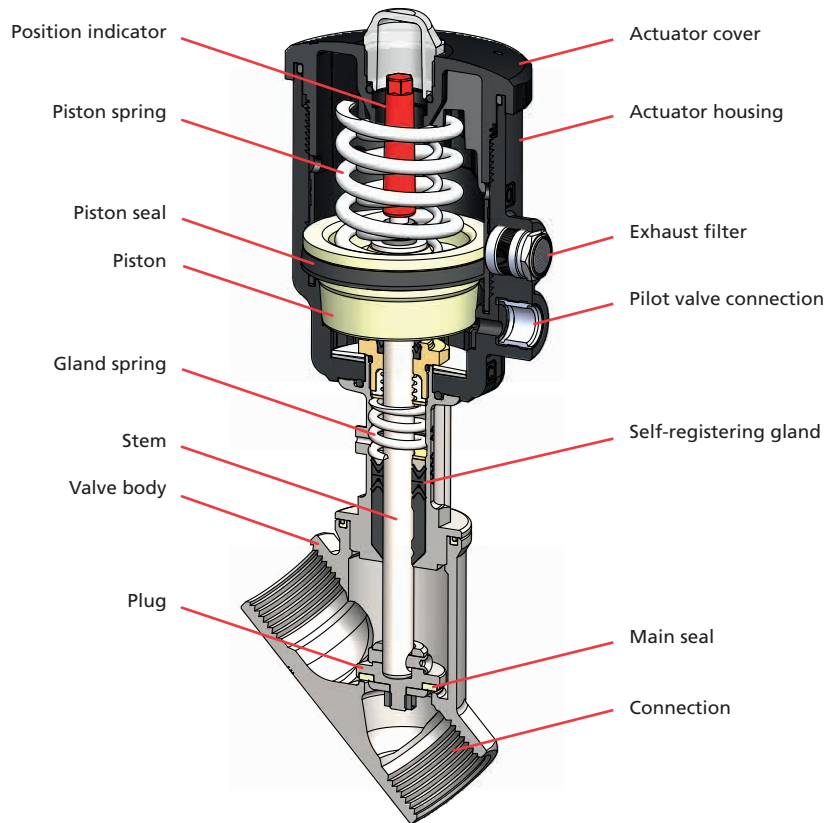
Uncompromising reliability is a feature of our entire product range, from our flagship electric actuator range through to our pneumatic, hydraulic and electro-hydraulic actuators, as well as instruments, gearboxes and valve accessories.

Rotork is committed to providing first class support to each client throughout the whole life of their plant, from initial site surveys to installation, maintenance, audits and repair. From our network of national and international offices, our engineers work around the clock to maintain our position of trust.

Rotork. Keeping the world flowing.

M&M Piston Valves: Features and Benefits

Scheme of Components of M&M International Piston Actuated Valves






Benefits of M&M International Piston Actuated Valves








- **Standard versions with high performing component**
Covering a wide range of industrial applications with reduced stock
- **Standard seal materials as FKM and PTFE**
Max compatibility with fluids. Resistance at high temperatures
- **Bi-Directional version**
Waterhammer-free installation
- **Wide choice of connections**
Screw, weld, flange, clamp connections
- **Actuator housing rotation 360°**
Easy and quick installation
- **Position indicator**
Instantly visible valve position
- **Self-registering gland and chevron packing**
Longer life
- **Housing with angle seat design**
High flow rate, low pressure drop
- **Stainless steel valves with universal design**
Suitable for vacuum applications
- **Universal mounting M&M solenoid pilot valves**
Max flexibility during installation
- **Actuator with built-in exhaust filter**
Reduced maintenance, noiseless

Product Index

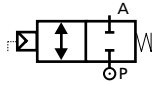
Valve	Code	Type of Connection	Actuator	Page
	BLG - (Bi-Directional)	GAS / NPT	Ø 32	6
	CG - (Normally Closed) RCG - (Normally Open) BCG - (Bi-Directional) DCG - (Double Acting)	GAS / NPT	Ø 45	7
	CG - (Normally Closed) RCG - (Normally Open) BCG - (Bi-Directional) DCG - (Double Acting)	GAS / NPT	Ø 63 Ø 90	8 - 9
	Manual Operation CG -	GAS / NPT	-	10
	Manual Operation PG -	GAS / NPT	-	10
	PG - (Normally Closed) RPG - (Normally Open) BPG - (Bi-Directional) DPG - (Double Acting)	GAS / NPT	Ø 45	11
	PG - (Normally Closed) RPG - (Normally Open) BPG - (Bi-Directional) DPG - (Double Acting)	GAS / NPT	Ø 63 Ø 90	12 - 13
	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	14 - 15
	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	16 - 17
	PC - / PP - (Normally Closed) RPC - / RPP - (Normally Open) BPC - / BPP - (Bi-Directional)	CLAMP: ISO 2852 ASME BPE	Ø 45 Ø 63 Ø 90	18 - 19
	High Temperature Version PG - (Normally Closed) RPG - (Normally Open) BPG - (Bi-Directional)	GAS / NPT / BUTT WELD FLANGED / CLAMP	Ø 63 Ø 90	20 - 21

Product Index

Valve	Code	Type of Connection	Actuator	Page
	PR- (Normally Closed) RPR- (Normally Open) BPR- (Bi-Directional)	THREADED SPIGOTS	Ø 45 Ø 63 Ø 90	22 - 23
	Atex Piston Actuated Valve PG- (Normally Closed) RPG- (Normally Open) BPG- (Bi-Directional)	GAS / NPT	Ø 63 Ø 90	24 - 25
	Control Piston Actuated Valve ZPG- (flow always under seat)	GAS / NPT	Ø 63 Ø 90	26 - 28

Options/Accessories	Code	Description	Page
	E.g. code PG205STW10 (assembled ex-factory)	Travel Switch Option	29
	E.g. code PG205STWR0 (assembled ex-factory)	Stroke Regulator Option	29
	85703000-/85703100-/85704000- /85704100-	Position Module for Piston Actuated Valve	30
	85701800-	Travel Switch Conversion Kit for Piston Actuated Valve	31
	68000100- / 68000200-	Magnetic Switch For Conversion Kit	31
	B356CVCMK/B326CVCMK/ D326CVMK	Pilot Solenoid Valves	32
	N326CVEK	Atex Pilot Solenoid Valves	33
-	Various Part Numbers	Seal Kits	34 - 37

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

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

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

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

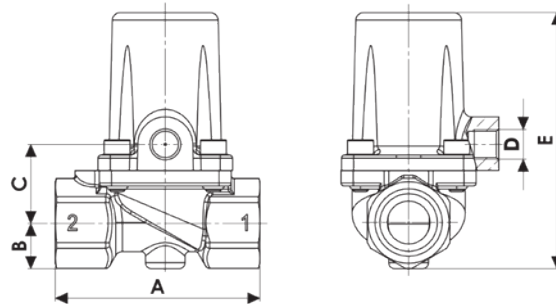


Features and Benefits

- Waterhammer-free design (with flow direction 2 → 1)
- Swift installation with banjo bolt pilot solenoid valve B356CVCMK (see page 32)
- Design suitable for vacuum applications up to 10⁻² mbar

Options Available
NPT Connection, minimum batch may be required (e.g code BLN205DBW00)
Electroless nickel plating treatment (e.g. code BLG205DBW0K)

Dimensions & Weights		DN13.5	DN13.5
G connection	[ISO 228]	3/8"	1/2"
A	[mm]	67	67
B	[mm]	15	15
C	[mm]	25.5	25.5
D	[mm]	1/8"	1/8"
E	[mm]	84	84
Weight	[kg]	0.55	0.52



Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure		Flow Direction	Pilot Pressure		Actuator Ø	Function
				Min.	Max.		Min.	Max.		
Code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
BLG204DBW00 ¹	3/8"	13.5	56 / 45	0	10	1 → 2 / 2 → 1	4.5	10	32	NC bidirectional
BLG205DBW00	1/2"	13.5	70 / 55	0	10	1 → 2 / 2 → 1	4.5	10		

Note

1. Minimum batch may be required

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 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Body Material	Bronze (CB491K EN1982)
Bonnet Material	Brass (CW617N EN12165)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

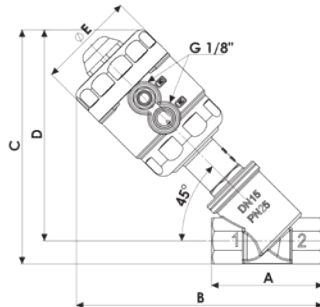
- Waterhammer-free design for BCG - DCG (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar



Options Available
NPT Connection (e.g code CN205CTW00)

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

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 97/23/EC 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)	SEP	SEP

WARNING!
According to the European Pressure Equipment Directive 97/23/EC, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

Valve Code	Body Connection [ISO 228G]	DN [mm]	Flow Rate Kvs [l/min]	Working Pressure ¹ [barg]		Flow Direction	Pilot Pressure ³ [barg]		Actuator Ø [mm]	Function
				Min.	Max.		Min.	Max.		
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

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 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Body Material	Bronze (CB491K EN1982)
Bonnet Material	Brass (CW617N EN12165)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

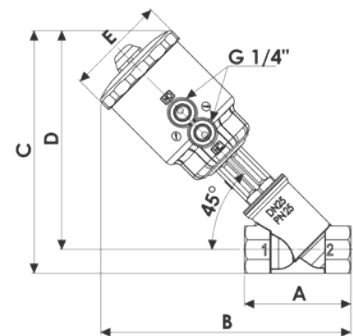
- Waterhammer-free design for BCG - DCG (with flow direction 2 → 1)
- Actuator housing rotation 360°



Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code CG205STWR0)
Travel switch assembled ex-factory, see page 29 (e.g. code RCG209STKJ0)
NPT connection (e.g. code BCN207LTY00)
Design for vacuum applications up to 10 ⁻² mbar (e.g. code DCG210STJ0J)

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

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]	192	198	212	225	230	248	223	234	239	257
C	[mm]	184	192	205	217	225	241	216	227	235	250
D	[mm]	171	176	185	193	198	207	196	202	207	216
E	[mm]	85	85	85	85	85	85	112	112	112	112
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 97/23/EC 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)	SEP	SEP
	DN32 to DN40 (PN25)	Not suitable	SEP
	DN50 (PN16)	Not suitable	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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	3.7	10	63	NC	
CG206STX00	3/4"	20	164	0	20	1 → 2	4.4	10			
CG207STY00	1"	25	260	0	20	1 → 2	5	10			
CG208STZ00	1 1/4"	32	410	0	16	1 → 2	5.9	10			
CG209STK00	1 1/2"	40	700	0	16	1 → 2	9	10			
CG210STJ00	2"	50	950	0	11	1 → 2	8	10			
CG207LTY00	1"	25	260	0	20	1 → 2	2	8	90		
CG208LTZ00	1 1/4"	32	410	0	16	1 → 2	3.5	8			
CG209LTK00	1 1/2"	40	700	0	16	1 → 2	4	8			
CG210LTJ00	2"	50	950	0	15	1 → 2	6.5	8			
RCG205STW00	1/2"	15	87	0	16	2 → 1	2.5	10	63		NO
RCG206STX00	3/4"	20	164	0	16	2 → 1	4.3	10			
RCG207STY00	1"	25	260	0	16	2 → 1	5.5	10			
RCG208STZ00	1 1/4"	32	410	0	16	2 → 1	6.5	10			
RCG209STK00	1 1/2"	40	700	0	16	2 → 1	9	10			
RCG210STJ00	2"	50	950	0	12	2 → 1	9.4	10			
RCG207LTY00	1"	25	260	0	16	2 → 1	2	8	90		
RCG208LTZ00	1 1/4"	32	410	0	16	2 → 1	4	8			
RCG209LTK00	1 1/2"	40	700	0	16	2 → 1	5	8			
RCG210LTJ00	2"	50	950	0	16	2 → 1	7	8			
BCG205STW00	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	NC bidirectional	
BCG206STX00	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10			
BCG207STY00	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10			
BCG208STZ00	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10			
BCG209STK00	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10			
BCG210STJ00	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10			
BCG207LTY00	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90		
BCG208LTZ00	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8			
BCG209LTK00	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8			
BCG210LTJ00	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8			
DCG205STW00	1/2"	15	87	0	16	1 ↔ 2	1.8	2	63		DA
DCG206STX00	3/4"	20	164	0	16	1 ↔ 2	2	3.8			
DCG207STY00	1"	25	260	0	16	1 ↔ 2	3	5			
DCG208STZ00	1 1/4"	32	410	0	16	1 ↔ 2	4.5	6			
DCG209STK00	1 1/2"	40	700	0	16	1 ↔ 2	6.5	7			
DCG210STJ00	2"	50	950	0	12	1 ↔ 2	9	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

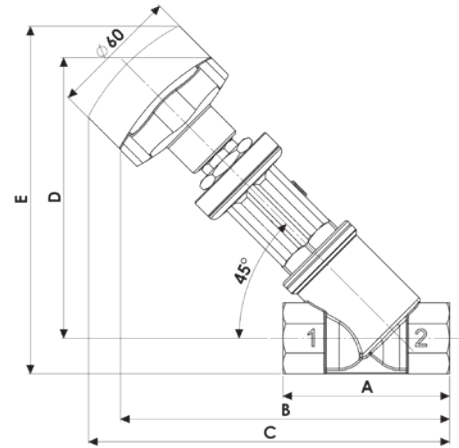
Manual Angle Seat Valve G 1/2" to 2" – Bronze (CG) & Stainless Steel (PG)

Specifications	
Function Flow over / under seat	Type CG / PG
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Body Material (CG)	Bronze (CB491K EN1982)
Bonnet Material (CG)	Brass (CW617N EN12165)
Body Material (PG)	Cast AISI 316L (CF3M), see page 39
Bonnet Material (PG)	Cast AISI 316L (CF3M), see page 39
Seal Material	PTFE



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

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50
G connection	[ISO 228]	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 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fibreglass 30%)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

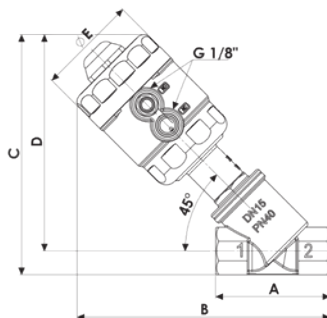
- Waterhammer-free design for BPG - DPG (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar



Options Available
NPT connection (e.g. code PN205CTW00)

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

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 97/23/EC 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)	SEP	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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		Flow Direction	Pilot Pressure ³		Actuator Ø	Function
				Min.	Max.		Min.	Max.		
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

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 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

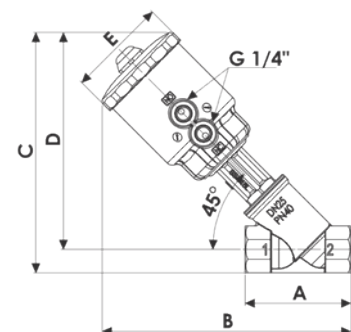
- Waterhammer-free design for BPG - DPG (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar



Options Available	
Stroke regulator assembled ex-factory, see page 29 (e.g. code RPG210STJR0)	
Travel switch assembled ex-factory, see page 29 (e.g. code PG208STZJ0)	
NPT connection (e.g. code BPN207LTY00)	
High temperature version, see pages 20/21 (e.g. code PG205STW0H)	

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

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]	192	198	212	225	230	248	223	234	239	257
C	[mm]	184	192	205	217	225	241	216	227	235	250
D	[mm]	171	176	185	193	198	207	196	202	207	216
E	[mm]	85	85	85	85	85	85	112	112	112	112
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 97/23/EC 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)	SEP	SEP
	DN32 to DN40 (PN25)	Category I	SEP
	DN50 (PN16)	Category I	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

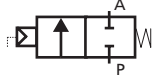
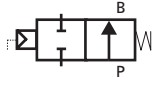
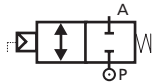
2/2 Way Piston Actuated Valve G 1/2" to 2", Regular Version – Stainless Steel

Valve	Body Connection	DN	Flow Rate Kvs	Working Pressure ¹		Flow Direction	Pilot Pressure ³		Actuator Ø	Function	
Code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—	
PG205STW00	1/2"	15	87	0	20	1 → 2	3.7	10	63	NC	
PG206STX00	3/4"	20	164	0	20	1 → 2	4.4	10			
PG207STY00	1"	25	260	0	20	1 → 2	5	10			
PG208STZ00	1 1/4"	32	410	0	16	1 → 2	5.9	10			
PG209STK00	1 1/2"	40	700	0	16	1 → 2	9	10			
PG210STJ00	2"	50	950	0	11	1 → 2	8	10			
PG207LTY00	1"	25	260	0	20	1 → 2	2	8	90		
PG208LTZ00	1 1/4"	32	410	0	16	1 → 2	3.5	8			
PG209LTK00	1 1/2"	40	700	0	16	1 → 2	4	8			
PG210LTJ00	2"	50	950	0	15	1 → 2	6.5	8			
RPG205STW00	1/2"	15	87	0	16	2 → 1	2.5	10	63		NO
RPG206STX00	3/4"	20	164	0	16	2 → 1	4.3	10			
RPG207STY00	1"	25	260	0	16	2 → 1	5.5	10			
RPG208STZ00	1 1/4"	32	410	0	16	2 → 1	6.5	10			
RPG209STK00	1 1/2"	40	700	0	16	2 → 1	9	10			
RPG210STJ00	2"	50	950	0	12	2 → 1	9.4	10			
RPG207LTY00	1"	25	260	0	16	2 → 1	2	8	90		
RPG208LTZ00	1 1/4"	32	410	0	16	2 → 1	4	8			
RPG209LTK00	1 1/2"	40	700	0	16	2 → 1	5	8			
RPG210LTJ00	2"	50	950	0	16	2 → 1	7	8			
BPG205STW00	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	NC bidirectional	
BPG206STX00	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10			
BPG207STY00	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10			
BPG208STZ00	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10			
BPG209STK00	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10			
BPG210STJ00	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10			
BPG207LTY00	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90		
BPG208LTZ00	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8			
BPG209LTK00	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8			
BPG210LTJ00	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8			
DPG205STW00	1/2"	15	87	0	16	1 ↔ 2	1.8	2	63		DA
DPG206STX00	3/4"	20	164	0	16	1 ↔ 2	2	3.8			
DPG207STY00	1"	25	260	0	16	1 ↔ 2	3	5			
DPG208STZ00	1 1/4"	32	410	0	16	1 ↔ 2	4.5	6			
DPG209STK00	1 1/2"	40	700	0	16	1 ↔ 2	6.5	7			
DPG210STJ00	2"	50	950	0	12	1 ↔ 2	9	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

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 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Butt Weld Connection	DIN 11850-2 pipe or ISO 65/ANSI B 36.10 pipe
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

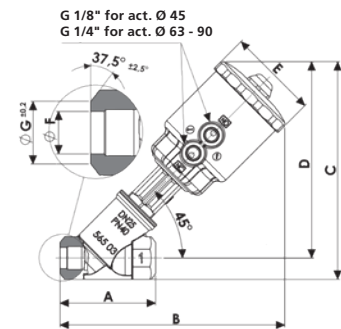
- Waterhammer-free design for BPW - BPB (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar



Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code RPW210STJRO)
Travel switch assembled ex-factory, see page 29 (e.g. code PB208STZIO)
High temperature version, see pages 20/21 (e.g. code BPW207LTYOH)

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

Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 45		Ø 63						Ø 90			
A	[mm]	65	75	65	75	90	110	120	150	90	110	120	150
B	[mm]	144	149	192	198	212	225	230	248	223	234	239	257
C	[mm]	136	142	184	192	205	217	225	241	216	227	235	250
D	[mm]	123	126	171	176	185	193	198	207	196	202	207	216
E	[mm]	57	57	85	85	85	85	85	85	112	112	112	112
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



Welded ends complying with ISO 6761

The products listed below comply with the requirements of the European Pressure Equipment Directive 97/23/EC 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)	SEP	SEP
	DN32 to DN40 (PN25)	Category I	SEP
	DN50 (PN16)	Category I	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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)

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	3.7	10	63			
PW206STX00		20	164	0	20	1 → 2	4.4	10				
PW207STY00		25	260	0	20	1 → 2	5	10				
PW208STZ00		32	410	0	16	1 → 2	5.9	10				
PW209STK00		40	700	0	16	1 → 2	9	10				
PW210STJ00		50	950	0	11	1 → 2	8	10				
PW207LTY00		25	260	0	20	1 → 2	2	8	90			
PW208LTZ00		32	410	0	16	1 → 2	3.5	8				
PW209LTK00		40	700	0	16	1 → 2	4	8				
PW210LTJ00		50	950	0	15	1 → 2	6.5	8				
RPW205CTW00		butt weld to DIN 11850-2 pipe	15	75	0	16	2 → 1	4	10		45	NO
RPW206CTX00			20	133	0	16	2 → 1	6.2	10			
RPW205STW00	15		87	0	16	2 → 1	2.5	10	63			
RPW206STX00	20		164	0	16	2 → 1	4.3	10				
RPW207STY00	25		260	0	16	2 → 1	5.5	10				
RPW208STZ00	32		410	0	16	2 → 1	6.5	10				
RPW209STK00	40		700	0	16	2 → 1	9	10				
RPW210STJ00	50		950	0	12	2 → 1	9.4	10				
RPW207LTY00	25		260	0	16	2 → 1	2	8	90			
RPW208LTZ00	32		410	0	16	2 → 1	4	8				
RPW209LTK00	40		700	0	16	2 → 1	5	8				
RPW210LTJ00	50		950	0	16	2 → 1	7	8				
BPW205CTW00	butt weld to DIN 11850-2 pipe		15	75	0	16/16	1 → 2/2 → 1	6.2/5	10	45	NC bidirectional	
BPW206CTX00			20	133	0	16/7	1 → 2/2 → 1	8.7/5	10			
BPW205STW00		15	87	0	16	1 → 2/2 → 1	5.5/3.8	10	63			
BPW206STX00		20	164	0	16	1 → 2/2 → 1	6/3.8	10				
BPW207STY00		25	260	0	16/11	1 → 2/2 → 1	6.5/3.8	10				
BPW208STZ00		32	410	0	16/6	1 → 2/2 → 1	6.8/3.8	10				
BPW209STK00		40	700	0	12/4	1 → 2/2 → 1	9/3.8	10				
BPW210STJ00		50	950	0	8/2.5	1 → 2/2 → 1	9/3.8	10				
BPW207LTY00		25	260	0	16/14	1 → 2/2 → 1	4/3.3	8	90			
BPW208LTZ00		32	410	0	16/12	1 → 2/2 → 1	5/3.3	8				
BPW209LTK00		40	700	0	16/8	1 → 2/2 → 1	6/3.3	8				
BPW210LTJ00		50	950	0	14/6	1 → 2/2 → 1	8/3.3	8				
PB205CTW00		butt weld to ISO 65/ ANSI B 36.10 pipe	15	75	0	16	1 → 2	3.8	10	45		NC
PB206CTX00			20	133	0	16	1 → 2	5.8	10			
PB205STW00	15		87	0	20	1 → 2	3.7	10	63			
PB206STX00	20		164	0	20	1 → 2	4.4	10				
PB207STY00	25		260	0	20	1 → 2	5	10				
PB208STZ00	32		410	0	16	1 → 2	5.9	10				
PB209STK00	40		700	0	16	1 → 2	9	10				
PB210STJ00	50		950	0	11	1 → 2	8	10				
PB207LTY00	25		260	0	20	1 → 2	2	8	90			
PB208LTZ00	32		410	0	16	1 → 2	3.5	8				
PB209LTK00	40		700	0	16	1 → 2	4	8				
PB210LTJ00	50		950	0	15	1 → 2	6.5	8				
RPB205CTW00	butt weld to ISO 65/ ANSI B 36.10 pipe		15	75	0	16	2 → 1	4	10	45	NO	
RPB206CTX00			20	133	0	16	2 → 1	6.2	10			
RPB205STW00		15	87	0	16	2 → 1	2.5	10	63			
RPB206STX00		20	164	0	16	2 → 1	4.3	10				
RPB207STY00		25	260	0	16	2 → 1	5.5	10				
RPB208STZ00		32	410	0	16	2 → 1	6.5	10				
RPB209STK00		40	700	0	16	2 → 1	9	10				
RPB210STJ00		50	950	0	12	2 → 1	9.4	10				
RPB207LTY00		25	260	0	16	2 → 1	2	8	90			
RPB208LTZ00		32	410	0	16	2 → 1	4	8				
RPB209LTK00		40	700	0	16	2 → 1	5	8				
RPB210LTJ00		50	950	0	16	2 → 1	7	8				
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		NC bidirectional
BPB206CTX00			20	133	0	16/7	1 → 2/2 → 1	8.7/5	10			
BPB205STW00	15		87	0	16	1 → 2/2 → 1	5.5/3.8	10	63			
BPB206STX00	20		164	0	16	1 → 2/2 → 1	6/3.8	10				
BPB207STY00	25		260	0	16/11	1 → 2/2 → 1	6.5/3.8	10				
BPB208STZ00	32		410	0	16/6	1 → 2/2 → 1	6.8/3.8	10				
BPB209STK00	40		700	0	12/4	1 → 2/2 → 1	9/3.8	10				
BPB210STJ00	50		950	0	8/2.5	1 → 2/2 → 1	9/3.8	10				
BPB207LTY00	25		260	0	16/14	1 → 2/2 → 1	4/3.3	8	90			
BPB208LTZ00	32		410	0	16/12	1 → 2/2 → 1	5/3.3	8				
BPB209LTK00	40		700	0	16/8	1 → 2/2 → 1	6/3.3	8				
BPB210LTJ00	50		950	0	14/6	1 → 2/2 → 1	8/3.3	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 °C to +180 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Flange Material	cast AISI 316L
Connection	BS 4504 (EN1092, shape B) or ANSI B16.5 class 150
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
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

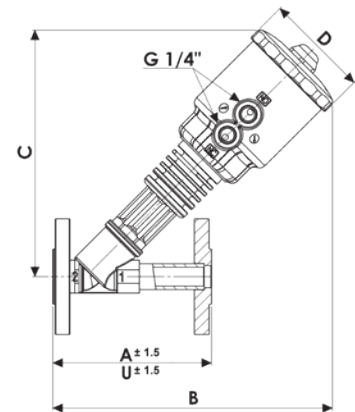


Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code PD210STJR0)
Travel switch assembled ex-factory, see page 29 (e.g. code RPA208LTZ0)
High temperature version, see pages 20/21 (e.g. code PD205STW0H)

Accessories
Position module, travel switch kit, pilot solenoid valves see pages 30/31/32/331

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]	218	236	239	252	257	275	250	263	268	286
C	[mm]	194	210	208	216	220	230	219	227	232	240
D	[mm]	85	85	85	85	85	85	112	112	112	112
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 97/23/EC 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)	SEP	SEP
	DN32 to DN40 (PN25)	Category I	SEP
	DN50 (PN16)	Category I	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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. PD205STW00 please refer to the equivalent part number PG205STW00 for threaded connection)

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	3.7	10	63	NC
PD206STX00		20	164	0	20	1 → 2	4.4	10		
PD207STY00		25	260	0	20	1 → 2	5	10		
PD208STZ00		32	410	0	16	1 → 2	5.9	10		
PD209STK00		40	700	0	16	1 → 2	9	10		
PD210STJ00		50	950	0	11	1 → 2	8	10		
PD207LTY00		25	260	0	20	1 → 2	2	8	90	
PD208LTZ00		32	410	0	16	1 → 2	3.5	8		
PD209LTK00		40	700	0	16	1 → 2	4	8		
PD210LTJ00		50	950	0	15	1 → 2	6.5	8		
RPD205STW00	flanges to BS 4504 EN1092 shape B	15	87	0	16	2 → 1	2.5	10	63	NO
RPD206STX00		20	164	0	16	2 → 1	4.3	10		
RPD207STY00		25	260	0	16	2 → 1	5.5	10		
RPD208STZ00		32	410	0	16	2 → 1	6.5	10		
RPD209STK00		40	700	0	16	2 → 1	9	10		
RPD210STJ00		50	950	0	12	2 → 1	9.4	10		
RPD207LTY00		25	260	0	16	2 → 1	2	8	90	
RPD208LTZ00		32	410	0	16	2 → 1	4	8		
RPD209LTK00		40	700	0	16	2 → 1	5	8		
RPD210LTJ00		50	950	0	16	2 → 1	7	8		
BPD205STW00	flanges to BS 4504 EN1092 shape B	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	NC bidirectional
BPD206STX00		20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
BPD207STY00		25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
BPD208STZ00		32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
BPD209STK00		40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
BPD210STJ00		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
BPD207LTY00		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
BPD208LTZ00		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
BPD209LTK00		40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
BPD210LTJ00		50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		
PA205STW00	flanges to ANSI B16.5 class 150	15	87	0	20	1 → 2	3.7	10	63	NC
PA206STX00		20	164	0	20	1 → 2	4.4	10		
PA207STY00		25	260	0	20	1 → 2	5	10		
PA208STZ00		32	410	0	16	1 → 2	5.9	10		
PA209STK00		40	700	0	16	1 → 2	9	10		
PA210STJ00		50	950	0	11	1 → 2	8	10		
PA207LTY00		25	260	0	20	1 → 2	2	8	90	
PA208LTZ00		32	410	0	16	1 → 2	3.5	8		
PA209LTK00		40	700	0	16	1 → 2	4	8		
PA210LTJ00		50	950	0	15	1 → 2	6.5	8		
RPA205STW00	flanges to ANSI B16.5 class 150	15	87	0	16	2 → 1	2.5	10	63	NO
RPA206STX00		20	164	0	16	2 → 1	4.3	10		
RPA207STY00		25	260	0	16	2 → 1	5.5	10		
RPA208STZ00		32	410	0	16	2 → 1	6.5	10		
RPA209STK00		40	700	0	16	2 → 1	9	10		
RPA210STJ00		50	950	0	12	2 → 1	9.4	10		
RPA207LTY00		25	260	0	16	2 → 1	2	8	90	
RPA208LTZ00		32	410	0	16	2 → 1	4	8		
RPA209LTK00		40	700	0	16	2 → 1	5	8		
RPA210LTJ00		50	950	0	16	2 → 1	7	8		
BPA205STW00	flanges to ANSI B16.5 class 150	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	NC bidirectional
BPA206STX00		20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
BPA207STY00		25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
BPA208STZ00		32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
BPA209STK00		40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
BPA210STJ00		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
BPA207LTY00		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
BPA208LTZ00		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
BPA209LTK00		40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
BPA210LTJ00		50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		

2/2 Way Piston Actuated Valve clamp – Stainless Steel

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

Features and Benefits

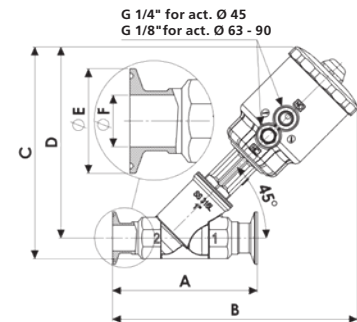
- Waterhammer-free design for BPC - BPP (with flow direction 2→1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar



Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code PC210STJ0)
Travel switch assembled ex-factory, see page 29 (e.g. code RPC208LTZ0)

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

Dimensions & Weights		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 45		Ø 63				Ø 90					
A - ISO	[mm]	102	114	102	114	140	159	159	190	140	159	159	190
A - ASME	[mm]	102	114	102	114	140	-	159	190	140	-	159	190
B - ISO	[mm]	162	167	210	217	231	240	249	267	243	251	260	279
B - ASME	[mm]	162	167	210	217	231	-	249	267	243	-	260	279
C - ISO	[mm]	140	142	187	193	211	218	229	240	222	230	241	251
C - ASME	[mm]	136	138	183	189	211	-	223	240	222	-	235	251
D	[mm]	123	125	170	176	185	192	197	206	196	204	209	217
E - ISO	[mm]	34	34	34	34	50.5	50.5	64	64	50.5	50.5	64	64
E - ASME	[mm]	25	25	25	25	50.5	-	50.5	64	50.5	-	50.5	64
F - ISO	[mm]	17.2	21.3	17.2	21.3	25	33.7	40	51	25	33.7	40	51
F - ASME	[mm]	9.4	15.75	9.4	15.75	22.1	-	34.8	47.5	22.1	-	34.8	47.5
Weight - ISO	[kg]	0.9	1.1	1.3	1.5	1.8	2.4	2.8	3.6	2.4	2.8	3.2	4.0
Weight - ASME	[kg]	0.9	1.1	1.3	1.5	1.8	-	2.8	3.6	2.4	-	3.2	4.0



The products listed below comply with the requirements of the European Pressure Equipment Directive 97/23/EC and carry the CE mark when required. The products fall within the following Pressure Equipment Directive categories:

Valve Type	Bodies	Group 1 gases	Group 1 liquids and Group 2 other fluids
PC - RPC - BPC PP - RPP - BPP	DN15 to DN50 (PN10)	SEP	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, liquids whose saturated vapour pressure at the maximum allowable temperature is more than 0,5 barg shall be considered as gases.

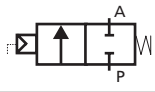
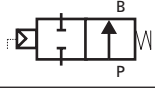
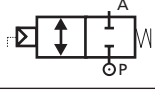
Notes

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. PP2055TW00 please refer to the equivalent part number PG2055TW00 for threaded connection)

2/2 Way Piston Actuated Valve Clamp – 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	—	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
PC205CTW00	clamp to ISO 2852	15	65	0	10	1 → 2	3.8	10	45	NC
PC206CTX00		20	120	0	10	1 → 2	5.8	10		
PC205STW00		15	85	0	10	1 → 2	3.7	10	63	
PC206STX00		20	160	0	10	1 → 2	4.4	10		
PC207STY00		25	260	0	10	1 → 2	5.9	10		
PC208STZ00		32	420	0	10	1 → 2	9	10		
PC209STK00		40	700	0	10	1 → 2	9	10	90	
PC210STJ00		50	810	0	10	1 → 2	8	10		
PC207LTY00		25	260	0	10	1 → 2	2	8		
PC208LTZ00		32	420	0	10	1 → 2	3.5	8		
PC209LTK00		40	700	0	10	1 → 2	4	8		
PC210LTJ00		50	810	0	10	1 → 2	6.5	8		
RPC205CTW00	clamp to ISO 2852	15	65	0	10	2 → 1	4	10	45	NO
RPC206CTX00		20	120	0	10	2 → 1	6.2	10		
RPC205STW00		15	85	0	10	2 → 1	2.5	10	63	
RPC206STX00		20	160	0	10	2 → 1	4.3	10		
RPC207STY00		25	260	0	10	2 → 1	5.5	10		
RPC208STZ00		32	420	0	10	2 → 1	6.5	10		
RPC209STK00		40	700	0	10	2 → 1	9	10	90	
RPC210STJ00		50	810	0	10	2 → 1	9.4	10		
RPC207LTY00		25	260	0	10	2 → 1	3	8		
RPC208LTZ00		32	420	0	10	2 → 1	4	8		
RPC209LTK00		40	700	0	10	2 → 1	5	8		
RPC210LTJ00		50	810	0	10	2 → 1	7	8		
BPC205CTW00	clamp to ISO 2852	15	65	0	10/10	1 → 2/2 → 1	6.2/5	10	45	NC bidirectional
BPC206CTX00		20	120	0	10/7	1 → 2/2 → 1	8.7/5	10		
BPC205STW00		15	85	0	10/10	1 → 2/2 → 1	5.5/3.8	10	63	
BPC206STX00		20	160	0	10/10	1 → 2/2 → 1	6/3.8	10		
BPC207STY00		25	260	0	10/10	1 → 2/2 → 1	6.5/3.8	10		
BPC208STZ00		32	420	0	10/6	1 → 2/2 → 1	6.8/3.8	10		
BPC209STK00		40	700	0	10/4	1 → 2/2 → 1	9/3.8	10	90	
BPC210STJ00		50	810	0	8/2.5	1 → 2/2 → 1	9/3.8	10		
BPC207LTY00		25	260	0	10/10	1 → 2/2 → 1	4/3.3	8		
BPC208LTZ00		32	420	0	10/10	1 → 2/2 → 1	5/3.3	8		
BPC209LTK00		40	700	0	10/8	1 → 2/2 → 1	6/3.3	8		
BPC210LTJ00		50	810	0	10/6	1 → 2/2 → 1	8/3.3	8		
PP205CTW00	clamp to ASME BPE	15	50	0	10	1 → 2	3.8	10	45	NC
PP206CTX00		20	120	0	10	1 → 2	5.8	10		
PP205STW00		15	50	0	10	1 → 2	3.7	10	63	
PP206STX00		20	135	0	10	1 → 2	4.4	10		
PP207STY00		25	250	0	10	1 → 2	5	10		
PP209STK00		40	640	0	10	1 → 2	9	10		
PP210STJ00		50	730	0	10	1 → 2	8	10	90	
PP207LTY00		25	250	0	10	1 → 2	2	8		
PP209LTK00		40	640	0	10	1 → 2	4	8		
PP210LTJ00		50	730	0	10	1 → 2	6.5	8		
RPP205CTW00	clamp to ASME BPE	15	50	0	10	2 → 1	4	10	45	NO
RPP206CTX00		20	120	0	10	2 → 1	6.2	10		
RPP205STW00		15	50	0	10	2 → 1	2.5	10	63	
RPP206STX00		20	135	0	10	2 → 1	4.3	10		
RPP207STY00		25	250	0	10	2 → 1	5.5	10		
RPP209STK00		40	640	0	10	2 → 1	9	10		
RPP210STJ00		50	730	0	10	2 → 1	9.4	10	90	
RPP207LTY00		25	250	0	10	2 → 1	2	8		
RPP209LTK00		40	640	0	10	2 → 1	5	8		
RPP210LTJ00		50	730	0	10	2 → 1	7	8		
BPP205CTW00	clamp to ASME BPE	15	50	0	10/10	1 → 2/2 → 1	6.2/5	10	45	NC bidirectional
BPP206CTX00		20	120	0	10/7	1 → 2/2 → 1	8.7/5	10		
BPP205STW00		15	50	0	10/10	1 → 2/2 → 1	5.5/3.8	10	63	
BPP206STX00		20	135	0	10/10	1 → 2/2 → 1	6/3.8	10		
BPP207STY00		25	250	0	10/10	1 → 2/2 → 1	6.5/3.8	10		
BPP209STK00		40	640	0	10/4	1 → 2/2 → 1	9/3.8	10		
BPP210STJ00		50	730	0	8/2.5	1 → 2/2 → 1	9/3.8	10	90	
BPP207LTY00		25	250	0	10/10	1 → 2/2 → 1	4/3.3	8		
BPP209LTK00		40	640	0	10/8	1 → 2/2 → 1	6/3.3	8		
BPP210LTJ00		50	730	0	10/6	1 → 2/2 → 1	8/3.3	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 °C to +200 °C
Ambient Temperature	-10 °C to +60 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	Polyamide PA6 (reinforced fiberglass 30%)
Seal Material	PTFE
Position Indicator	As standard

Features and Benefits

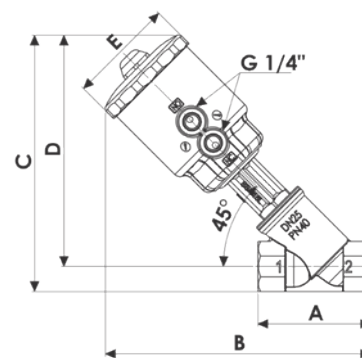
- Waterhammer-free design for BPG - DPG (with flow direction 2→1)
- Actuator housing rotation 360°



Options Available
Stroke regulator assembled ex-factory, see page 29 (e.g. code RPG210STJRH)
Travel switch assembled ex-factory, see page 29 (e.g. code PG208STZJH)
NPT connection (e.g. code BPN207LTY0H)
Butt weld connection (e.g. code BPW209LTK0H)
Flanged connection (e.g. code PD205STW0H)

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

Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50
Actuator	[mm]	Ø 63			Ø 90		
A	[mm]	65	75	90	110	120	150
B	[mm]	192	198	212	234	239	257
C	[mm]	184	192	205	227	235	250
D	[mm]	171	176	185	202	207	216
E	[mm]	85	85	85	112	112	112
Weight	[kg]	1.2	1.3	1.5	2.4	2.6	3.3



The products listed below comply with the requirements of the European Pressure Equipment Directive 97/23/EC 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)	SEP	SEP
	DN32 to DN40 (PN25)	Category I	SEP
	DN50 (PN16)	Category I	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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	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]	—
PG205STW0H	1/2"	15	87	0	20	1 → 2	3.7	10	63	NC
PG206STX0H	3/4"	20	164	0	20	1 → 2	4.4	10		
PG207STY0H	1"	25	260	0	20	1 → 2	5	10		
PG208LTZ0H	1 1/4"	32	410	0	16	1 → 2	3.5	8	90	
PG209LTK0H	1 1/2"	40	700	0	16	1 → 2	4	8		
PG210LTJ0H	2"	50	950	0	15	1 → 2	6.5	8		
RPG205STW0H	1/2"	15	87	0	16	2 → 1	2.5	10	63	NO
RPG206STX0H	3/4"	20	164	0	16	2 → 1	4.3	10		
RPG207STY0H	1"	25	260	0	16	2 → 1	5.5	10		
RPG208LTZ0H	1 1/4"	32	410	0	16	2 → 1	4	8	90	
RPG209LTK0H	1 1/2"	40	700	0	16	2 → 1	5	8		
RPG210LTJ0H	2"	50	950	0	16	2 → 1	7	8		
BPG205STW0H	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	NC bidirectional
BPG206STX0H	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
BPG207STY0H	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
BPG208LTZ0H	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8	90	
BPG209LTK0H	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
BPG210LTJ0H	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	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

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

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

Features and Benefits

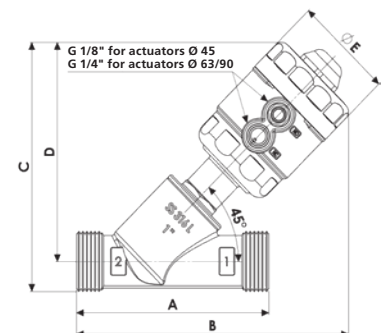
- Waterhammer-free design for BPR (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10⁻² mbar



Options Available	
Stroke regulator assembled ex-factory, see page 29 (e.g. code BPR211STKR0)	
Travel switch assembled ex-factory, see page 29 (e.g. code BPR206STW[0])	
High temperature version, see pages 20/21 (e.g. code RPR208STY0H)	

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

Dimensions & Weights	DN15	DN20	DN15		DN20		DN25		DN32		DN40		DN50	
			Ø 45	Ø 63	Ø 63	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	Ø 90	
Actuator	[mm]	90	110	90	110	118	130	140	175	118	130	140	175	
A	[mm]	90	110	90	110	118	130	140	175	118	130	140	175	
B	[mm]	148	156	196	206	217	226	224	246	228	237	235	257	
C	[mm]	134	137	181	187	204	212	216	229	215	222	227	240	
D	[mm]	121	121	168	171	183	188	189	196	194	199	200	207	
E	[mm]	57	57	85	85	85	85	85	85	112	112	112	112	
Weight	[kg]	0.9	1.0	1.3	1.4	1.65	2.0	2.2	3.1	2.15	2.5	2.7	3.5	



The products listed below comply with the requirements of the European Pressure Equipment Directive 97/23/EC 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
PR - RPR - BPR	DN15 to DN25 (PN40)	SEP	SEP
	DN32 to DN40 (PN25)	Category I	SEP
	DN50 (PN16)	Category I	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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 3/4" to 2 3/8", Threaded Spigots – 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]	—
PR206CTW00	3/4"	15	75	0	16	1 → 2	3.8	10	45	NC
PR207CTX00	1"	20	133	0	16	1 → 2	5.8	10		
PR206STW00	3/4"	15	87	0	20	1 → 2	3.7	10	63	
PR207STX00	1"	20	164	0	20	1 → 2	4.4	10		
PR208STY00	1 1/4"	25	260	0	20	1 → 2	5	10		
PR209STZ00	1 1/2"	32	410	0	16	1 → 2	5.9	10		
PR211STK00	1 3/4"	40	700	0	16	1 → 2	9	10		
PR212STJ00	2 3/8" ⁴	50	950	0	11	1 → 2	8	10		
PR208LTY00	1 1/4"	25	260	0	20	1 → 2	2	8	90	
PR209LTZ00	1 1/2"	32	410	0	16	1 → 2	3.5	8		
PR211LTK00	1 3/4"	40	700	0	16	1 → 2	4	8		
PR212LTJ00	2 3/8" ⁴	50	950	0	15	1 → 2	6.5	8		
RPR206CTW00	3/4"	15	75	0	16	2 → 1	4	10	45	NO
RPR207CTX00	1"	20	133	0	16	2 → 1	6.2	10		
RPR206STW00	3/4"	15	87	0	16	2 → 1	2.5	10	63	
RPR207STX00	1"	20	164	0	16	2 → 1	4.3	10		
RPR208STY00	1 1/4"	25	260	0	16	2 → 1	5.5	10		
RPR209STZ00	1 1/2"	32	410	0	16	2 → 1	6.5	10		
RPR211STK00	1 3/4"	40	700	0	16	2 → 1	9	10		
RPR212STJ00	2 3/8" ⁴	50	950	0	12	2 → 1	9.4	10		
RPR208LTY00	1 1/4"	25	260	0	16	2 → 1	3	8	90	
RPR209LTZ00	1 1/2"	32	410	0	16	2 → 1	4	8		
RPR211LTK00	1 3/4"	40	700	0	16	2 → 1	5	8		
RPR212LTJ00	2 3/8" ⁴	50	950	0	16	2 → 1	7	8		
BPR206CTW00	3/4"	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45	NC bidirectional
BPR207CTX00	1"	20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
BPR206STW00	3/4"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	
BPR207STX00	1"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
BPR208STY00	1 1/4"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
BPR209STZ00	1 1/2"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
BPR211STK00	1 3/4"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
BPR212STJ00	2 3/8" ⁴	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
BPR208LTY00	1 1/4"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
BPR209LTZ00	1 1/2"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
BPR211LTK00	1 3/4"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
BPR212LTJ00	2 3/8" ⁴	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 (for different part numbers: e.g. BPR207STX00 please refer to the equivalent part number BPG207STY00 for threaded connection)
4. According to ISO 338

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

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	
Protection Class	II 2 GD c TX
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 °C to +200 °C
Ambient Temperature	-10 °C to +80 °C
Pilot Media ²	Instrument air, inert gases
Body Material	Cast AISI 316L (CF3M), see page 39
Bonnet Material	Cast AISI 316L (CF3M), see page 39
Actuator Body Material	ASTM A 351 CF8 (AISI 304)
Actuator Cover Material	ASTM A 351 CF8 (AISI 304)
Actuator Housing Material	ASTM A 351 CF8 (AISI 304)
Piston Material	Aluminium
Seal Material	FKM
Position Indicator	As standard

Features and Benefits

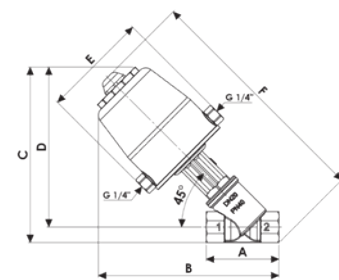
- Waterhammer-free design for BPG (with flow direction 2 → 1)
- Actuator housing rotation 360°
- High resistance to external agents, shocks



Options Available
Atex inductive switch assembled ex-factory (e.g. code PG207MTYX0), with ambient temperature -10 °C to +60 °C

Accessories
Atex pilot solenoid valves type N326CVEK see page 33

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 97/23/EC 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)	SEP	SEP
	DN32 to DN40 (PN25)	Category I	SEP
	DN50 (PN16)	Category I	SEP

⚠ WARNING!

According to the European Pressure Equipment Directive 97/23/EC, 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 EXD II 2 GD c TX CLASS

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]	—	
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

Specifications of Inductive Switch

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



Control Piston Actuated Valve with Integrated Positioner

DN15 to DN50 – Stainless Steel

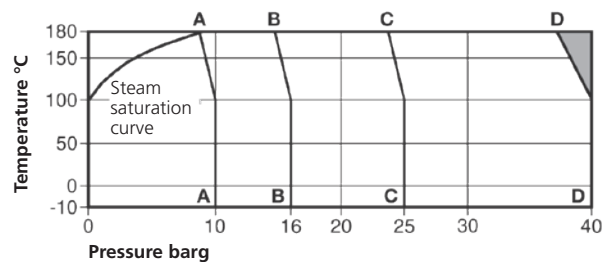
Specifications	
Type: ZP flow always under seat 2 → 1	NC (Direct) / NO (Reverse)
Media	Water, oil, air, aggressive media, steam ¹
Media Temperature	-10 °C to +180 °C
Viscosity	max. 600 cSt (80° E)
Pilot Media	Dry and filtered air (mesh 25 µm)
Actuator Diameter	63 or 90
Body Material	Cast AISI 316L (CF3M),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

Features and Benefits

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



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



- A – A PN10
- 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 Kvs		Working Pressure ¹ Max.	Flow Direction	Pilot Pressure		Actuator Ø	PN ²
	EQUI% TRIM 1:25	LINEAR TRIM 1:25			Min.	Max.		
[mm]	[m ³ /h]	[m ³ /h]	[barg]	[2 → 1]	[barg]	[barg]	[mm]	—
15	4.5	4.9	16	only under seat	4.5	8	63	40
20	8.7	8.7	16					40
25	12.7	14.4	14	only under seat	4.5	8	90	40
32	20.4	22.8	12					25
40	29.7	34.2	8					25
50	36.3	39	6					16

Notes

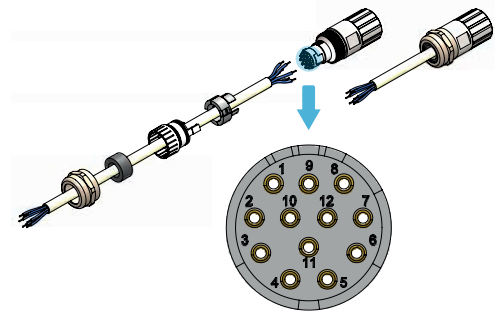
1. Steam max. working pressure 10 bar (9 barg)
2. PN10 for all sizes for clamp

Control Piston Actuated Valve with Integrated Positioner

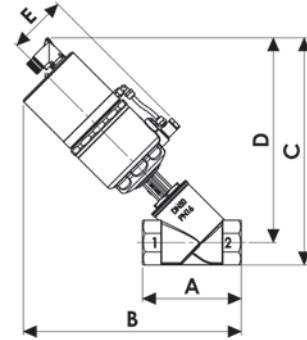
DN15 to DN50 – Stainless Steel

Electrical Connection Pin Connector

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



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]	294	301	316	329	334	352		
C	[mm]	282.5	290	305	317	325	340		
D	[mm]	269	274	285	292.5	297.5	306.5		
E	[mm]	75	75	88	88	88	88		
Weight	[kg]	2.4	2.5	3.3	3.7	3.9	4.6		



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	330	344	359	361	384		
C	[mm]	339.5	349.5	364.5	386	394	412.5		
D	[mm]	292	297	307	316	319	330		
E	[mm]	75	75	88	88	88	88		
Weight	[kg]	3.8	4.2	5.7	7.3	8.2	10.4		

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	327	343	357	361	384		
C	[mm]	336.5	346	361	375	382.5	406		
D	[mm]	292	297	307	316	319	330		
E	[mm]	75	75	88	88	88	88		
Weight	[kg]	3.8	4.2	5.7	7.3	8.2	10.4		

CLAMP ISO 2852	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	
	Actuator	[mm]	Ø 63		Ø 90				
	A	[mm]	102	114	140	159	159	190	
B	[mm]	313	320.5	341	353.5	353.5	372		
C	[mm]	286	291	310	318	329.5	340		
D	[mm]	269	274	285	292.5	297.5	306.5		
E	[mm]	75	75	88	88	88	88		
Weight	[kg]	2.5	2.7	3.7	4.1	4.5	5.3		

CLAMP ASME BPE	Dimensions & Weights		DN15	DN20	DN25	DN32	DN40	DN50	
	Actuator	[mm]	Ø 63		Ø 90				
	A	[mm]	102	114	140	/	159	190	
B	[mm]	313	320.5	341	/	353.5	372		
C	[mm]	282.5	290	310	/	325	340		
D	[mm]	269	274	285	/	297.5	306.5		
E	[mm]	75	75	88	/	88	88		
Weight	[kg]	2.5	2.7	3.7	/	4.5	5.3		

/ = not available

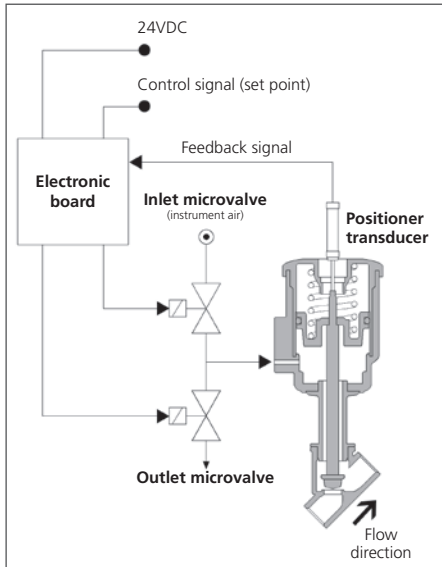
Control Piston Actuated Valve With Integrated Positioner

DN15 to DN50 – Stainless Steel

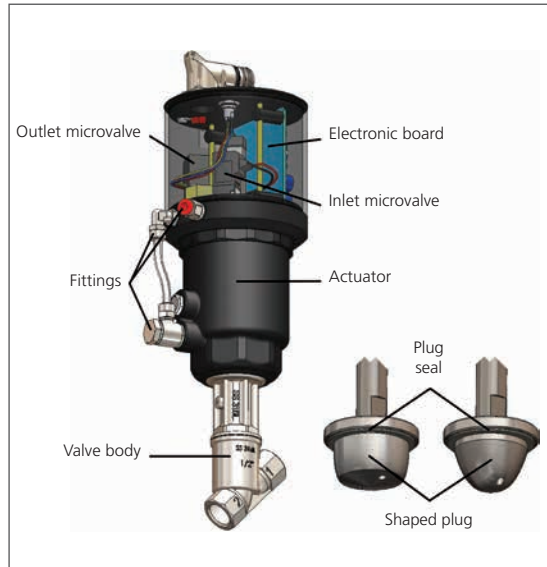
Operating Principles and Description

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.

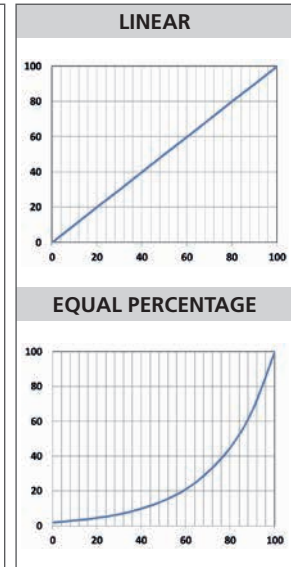
The proportionality between the stroke of the valve and the instantaneous flow is guaranteed by the special plug design: linear plug and equal percentage plug (Picture C) the graphs show an ideal curve, which cannot be reproduced exactly but varies according to the DN of the valve and the specific installation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

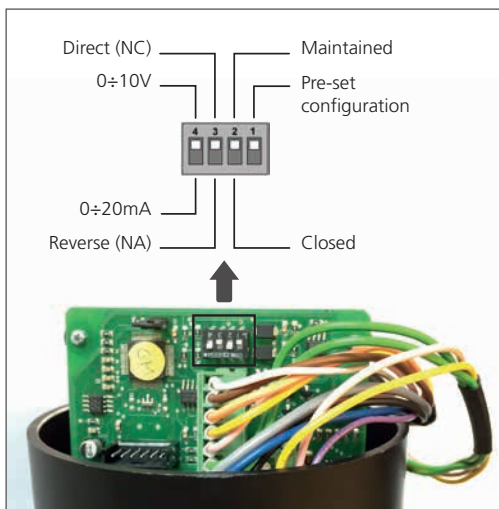
The pneumatic positioner is electronic and not programmable. It accepts the most common set-point signals (4 to 20 mA; 0 to 10 V).

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

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

Fluid direction always under seat!

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



Picture D

Electronic board:

- Contact No. 1 – Pre-set configuration -**
- Contact No. 2 – Fail Safe Position -**
- Contact No. 3 – Function Set-up -**
- Contact No. 4 – Set Point -**

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

Travel Switch

Technical Specifications

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

Specifications	
Max. Switching Voltage	500V
Max. Switching Current	0,5 A
Max. Switching Power	30 W/VA
Max. Switching Frequency	150 Hz
Contact Actuation Time	4,5 ms
Repeatability	± 0,3 mm
Temperature Limits	25 °C 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

Stroke Regulator

Features and Benefits

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

Notes

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



Position Module for Piston Actuated Valve

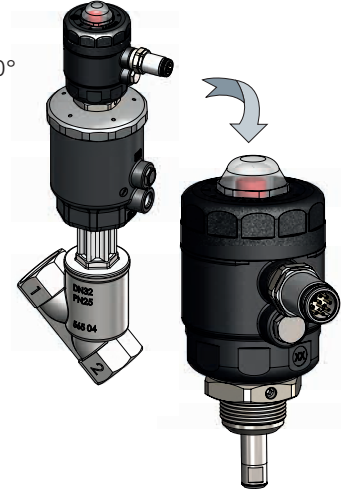
Specifications	
Electrical Position Feedback	Mechanical limit switches or inductive limit switches
Body/Cover Material	Polyamide PA6 (reinforced fiberglass 30%)
Connector Material	Copper-zinc alloy / aluminium alloy / cast zinc – nickel plating treatment
Electrical Connection	Connector M16 – 10 poles / wire Ø 5 - 9 mm
Ambient Temperature	-10 °C 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 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.

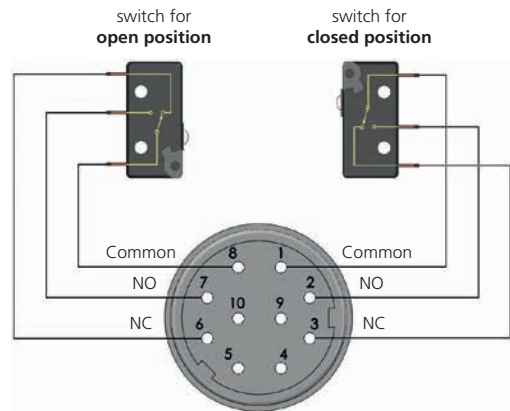
Features and Benefits

- Actuator housing rotation 360°



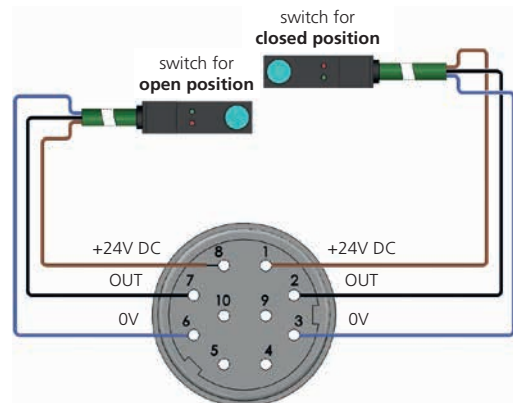
ELECTRICAL CONNECTION SCHEME FOR MECHANICAL SWITCHES

Connector frontal view:

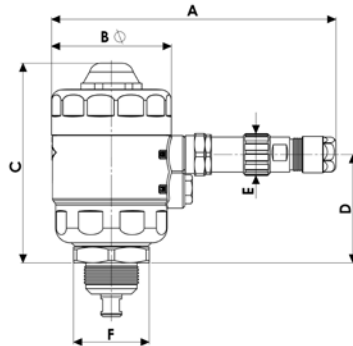


ELECTRICAL CONNECTION SCHEME FOR INDUCTIVE SWITCHES

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.

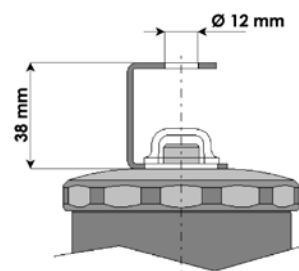
You can install a sensor having a larger diameter (up to 18 mm max.) in this case you shall re-drill the upper hole on the sensor support bracket.

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.

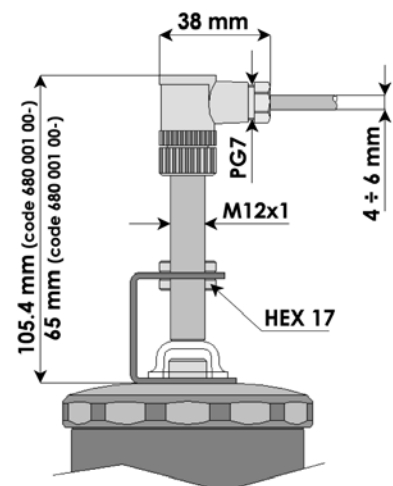
Notes: 2 conversion kits complete with sensors are available:

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° C to + 100° C	- 25° C to + 100° C
Protection Class	IP 67	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



• 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 °C to +60 °C
Ambient Temperature	-10 °C 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)

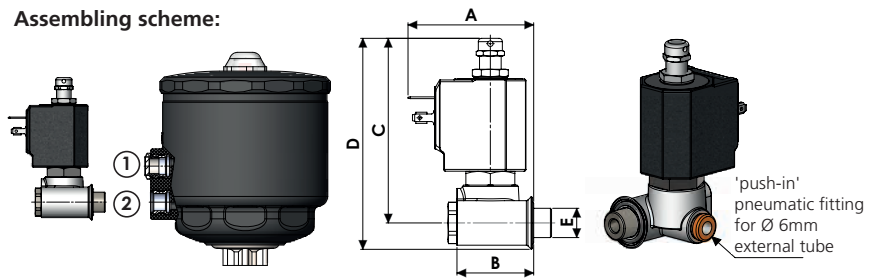
Features and Benefits

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



Dimensions & Weights	'Push-in'			
	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	24v DC
2200	24v 50/60Hz
2400	110v 50Hz - 120v 60Hz
2600	200v 50Hz - 220v 60Hz
2700	230v 50Hz - 240v 60Hz

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	24v DC
2200	24v 50/60Hz
2400	110v 50Hz - 120v 60Hz
2600	200v 50Hz - 220v 60Hz
2700	230v 50Hz - 240v 60Hz

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]
D326CVMK	2.0	1.3	0	10	10

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

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-

3/2 Way Direct Acting Pilot Solenoid Valve EXD - ATEX II 2 GD

Specifications	
Type: N326 Normally Closed	
Media	Water, inert gases, air
Media Temperature	-10 °C to +60 °C
Ambient Temperature	-20 °C to +50 °C
Body Material	Brass (CW617N EN 12165) with electroless nickel plating treatment
Operator Material	Stainless steel
Seal Material	FKM
Coil Protection Class	EEx m II 2GD T4
Cable Type	H05V2V2-F 3G1
Cable Length	3m

Features and Benefits

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



Notes

The valve is supplied inclusive of coil with a power cable, wired on a non-removable plug
Manual override not available
Spare parts not available

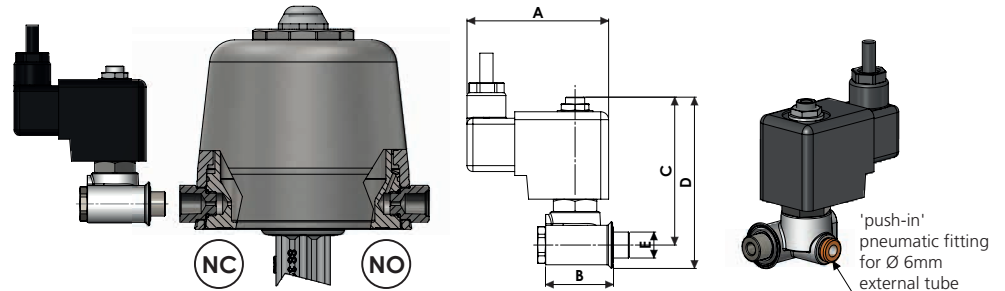
⚠ WARNING!

Valves for potentially explosive atmosphere are available from factory only.

REPLACING THE SOLENOID DOESN'T MAKE A VALVE EXPLOSION-PROOF!

Dimensions & Weights		N326
Connection	'Push-in'	
A	[mm]	72
B	[mm]	34.5
C	[mm]	74
D	[mm]	86
E	[mm]	1/4" G
Weight	[kg]	0.88

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 marked NO for normally open valves (RPG)
- into hole marked NC for normally closed valves (PG-BPG)

Valve	DN	Flow rate Kvs	OPD			Coils		Power	Fuses ¹
			Min.	Max. AC	max. DC	Code	[Volts/Hz]	Holding	[mA]
N326CVEK	2.0	1.3	0	10	10	N253	24v DC	10.1w	800
						N203	24v 50/60Hz	7.2va	800
						N403	110v 50Hz	9.1va	200
						NK03	120v 60Hz	8.6va	200
						N703	230v 50Hz	8.5va	100

⚠ WARNING

1. A mains fuse or an equivalent means of protection (breaking value shown on table for each coil) shall be installed on the mains supply line. **Absence of mains protection does not conform to safety standards (EC Directives 94/9/EC and 1999/92/EC) and could be a potential risk of explosion.**

Seal Kit for Stainless Steel Valves Actuator Ø 63/90

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		
856 111 00-	15	PG/RPG/BPG-PN/RPN/BPN-PW/RPW/BPW-PB/RPB/BPB-PD/RPD/BPD-PA/BPA/RPA-PC/RPC/BPC-PP/RPP/BPP-PR/RPR/BPR-High Temperature Version	Ø 63		
856 122 00-	20				
856 133 00-	25				
856 144 00-	32				
856 155 00-	40				
856 166 00-	50				
856 611 00-	15			DPG/DPN-	Ø 90
856 622 00-	20				
856 633 00-	25				
856 644 00-	32				
856 655 00-	40				
856 666 00-	50	PG/RPG/BPG-PN/RPN/BPN-PW/RPW/BPW-PB/RPB/BPB-PD/RPD/BPD-PA/BPA/RPA-PC/RPC/BPC-PP/RPP/BPP-PR/RPR/BPR-High Temperature Version	Ø 90		
856 313 00-	25				
856 314 00-	32				
856 315 00-	40				
856 316 00-	50				

STEM SEALS KIT			
Kit Code	DN	Valve Type ¹	Actuator
856 802 00-	all	PG/RPG/BPG/DPG-PN/RPN/BPN/DPN-PV/RPV/BPV-PB/RPB/BPB-PD/RPD/BPD-PA/BPA/RPA-PC/RPC/BPC-PP/RPP/BPP-PR/RPR/BPR-	Ø 63/90
856 900 00-	15	High Temperature Version	Ø 63
856 901 00-	20		
856 902 00-	25		
856 903 00-	32	High Temperature Version	Ø 90
856 904 00-	40		
856 905 00-	50		

1. Included versions with optional: stroke regulator (e.g. code PW208STZR0) and travel switch version (e.g. code BPG209LTKI0)

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

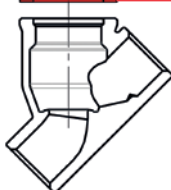
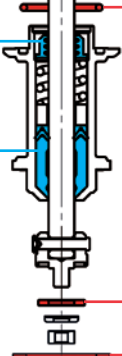
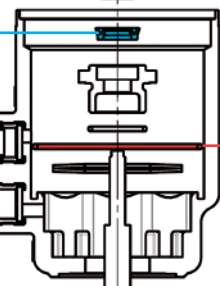
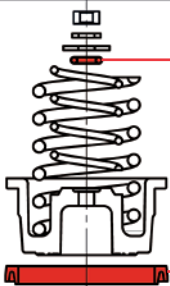
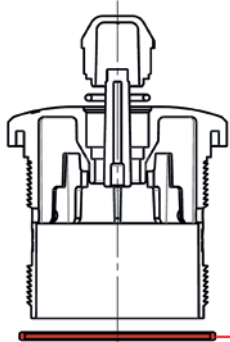
SPARE PARTS KIT: Lip seal, o-rings, main seal, body seal			
Kit Code	DN	Valve Type	Actuator
856 011 00-	15	PG/RPG/BPG- PN/RPN/BPN- PW/RPW/BPW- PB/RPB/BPB- PC/RPC/BPC- PP/RPP/BPP- PR/RPR/BPR	Ø 45
856 012 00-	20		
856 013 00-	15	DPG/DPN-	
856 014 00-	20		

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

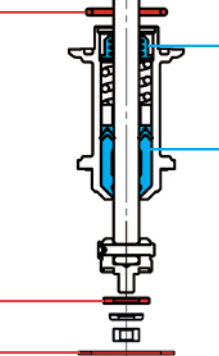
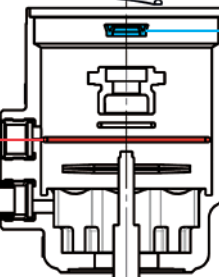
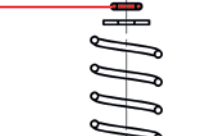
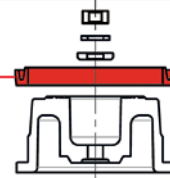
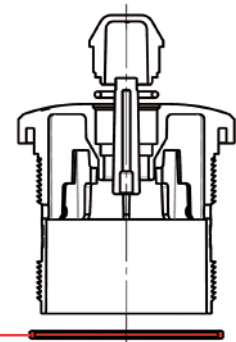
Seal Kit For Bronze Valves Actuator Ø 63/90

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

Normally Closed



Normally Open



SPARE PARTS KIT: Lip seal, o-rings, main seal, flat seal			
Kit Code	DN	Valve Type ¹	Actuator
856 112 00-	15	CG/RCG/BCG- CN/RCN/BCN-	Ø 63
856 123 00-	20		
856 134 00-	25		
856 145 00-	32		
856 156 00-	40		
856 167 00-	50	DCG/DCN-	Ø 63
856 612 00-	15		
856 623 00-	20		
856 634 00-	25		
856 645 00-	32		
856 656 00-	40	CG/RCG/BCG- CN/RCN/BCN-	Ø 90
856 667 00-	50		
856 317 00-	25		
856 318 00-	32		
856 319 00-	40		
856 320 00-	50		

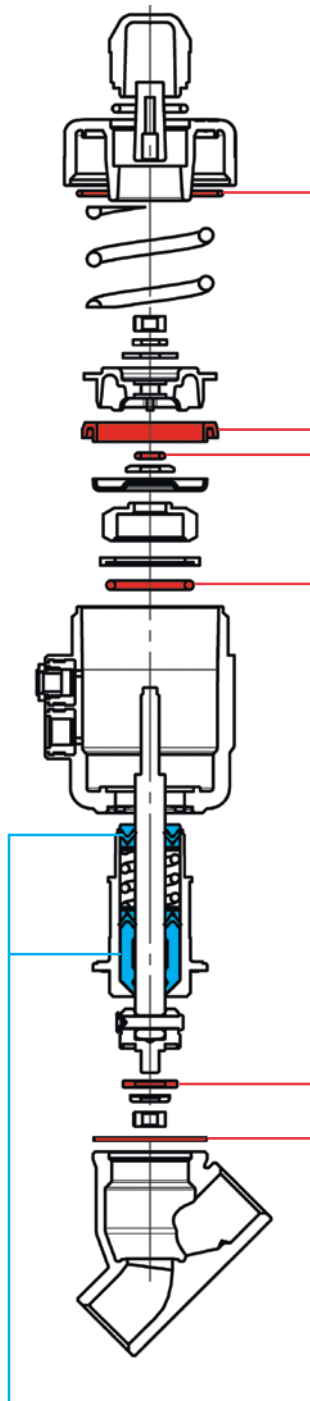
STEM SEALS KIT			
Kit Code	DN	Valve Type ¹	Actuator
856 802 00-	all	CG/RCG/BCG-/DCG- CN/RCN/BCN/DCN-	Ø 63/90

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.

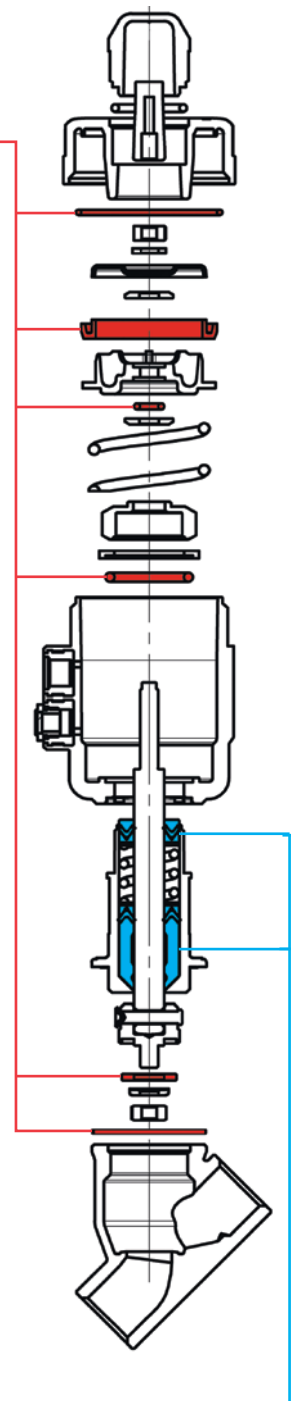
Normally Closed



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

Normally Open



Valve Selection

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

They are highly recommended under the following conditions:

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

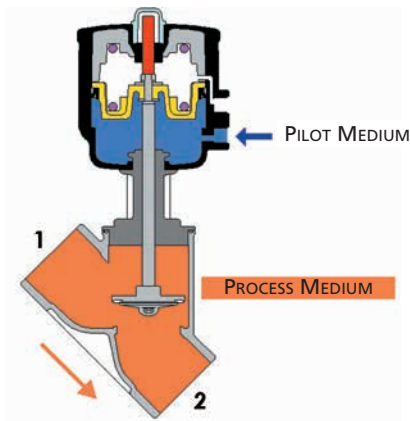
- High flow volumes
- High temperatures
- Damp environments or hazardous locations

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

M&M International Piston Actuated Valve Versions

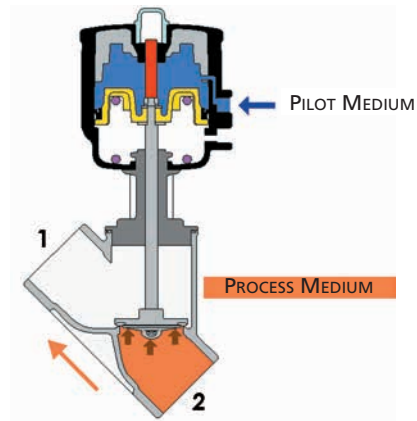
NC Valve – Flow over seat

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



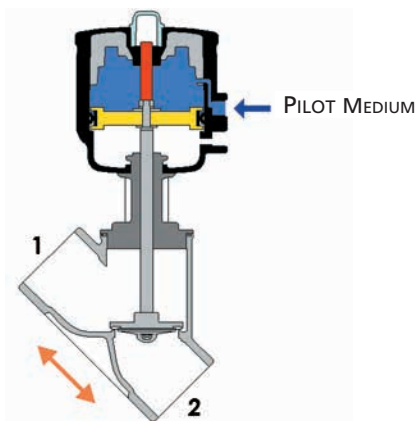
NO Valve – Flow under seat

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



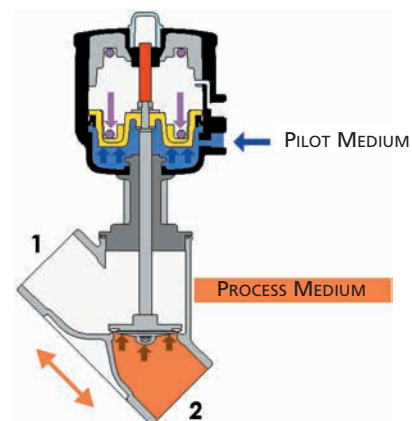
DOUBLE ACTING Valve – Flow over seat or under seat

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.



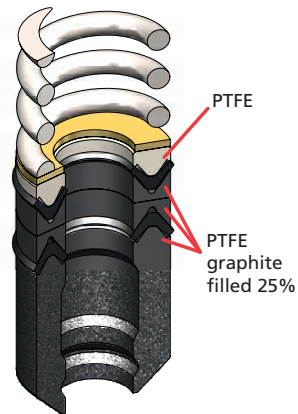
Technical Information

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.

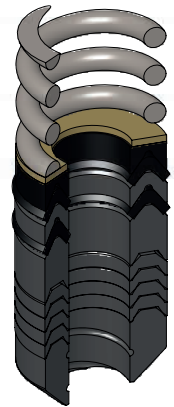
All our stainless steel cast parts bear a heat number identifying the basic material composition. Such details are stated in the casting certificate 3.1b, that can be ordered with the valves at an additional fee.

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:

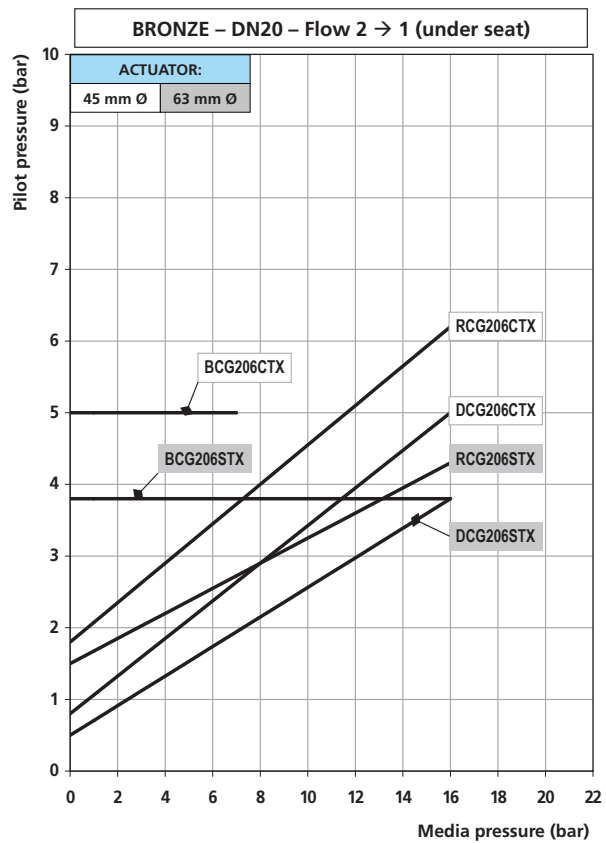
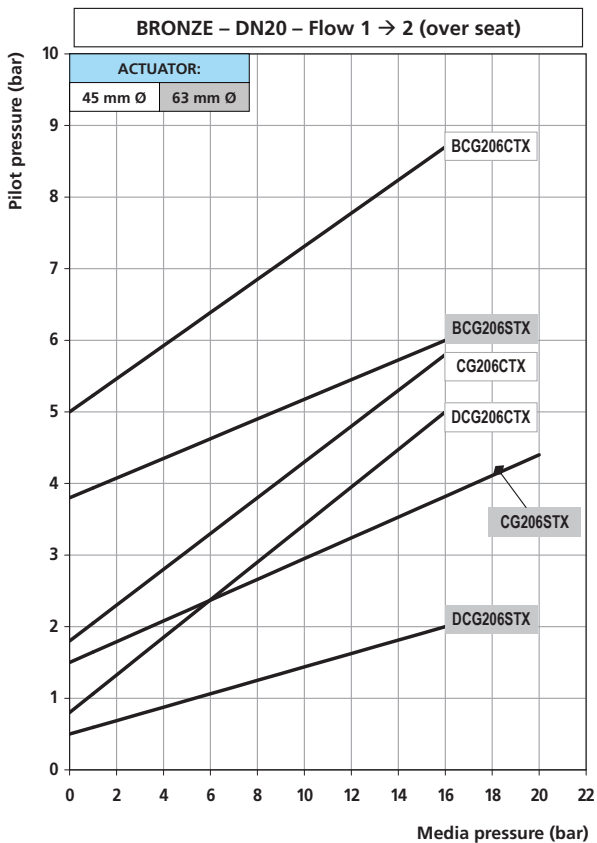
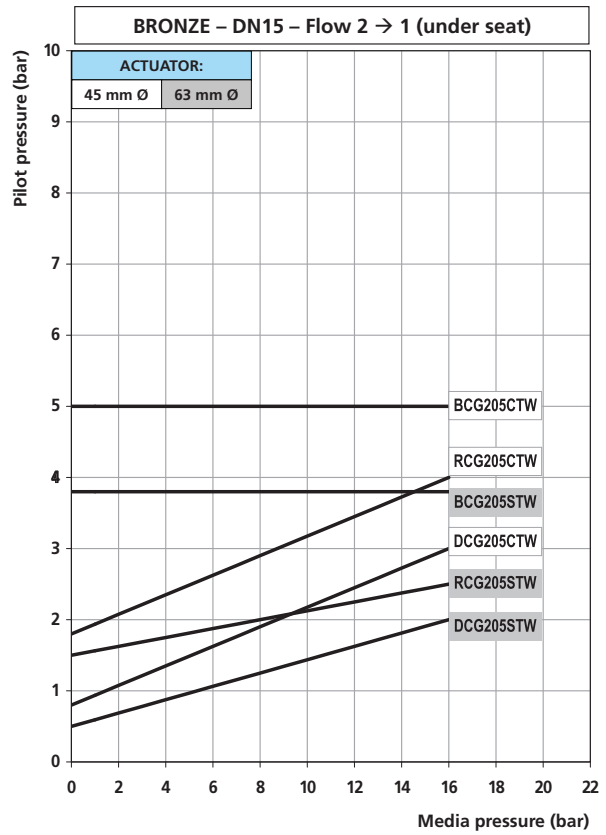
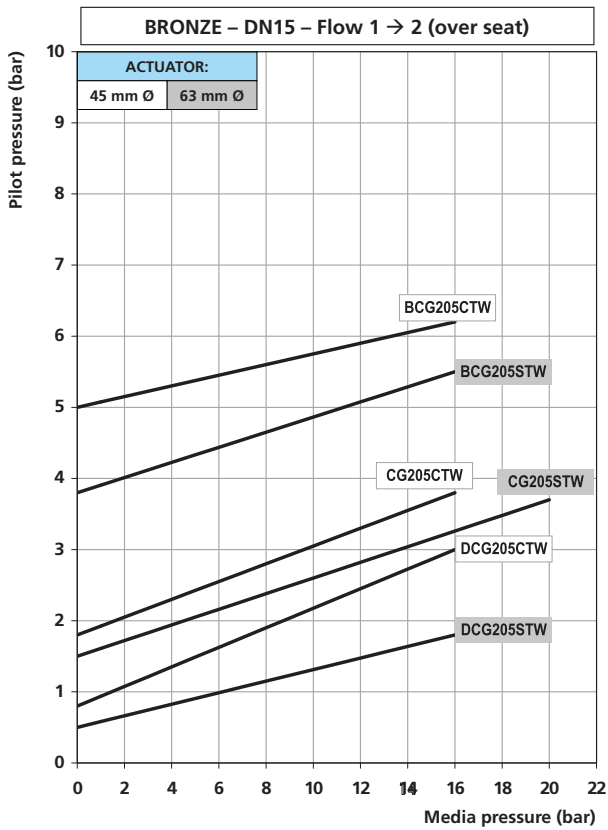
- Change of the actuator material: from standard PA6 to PA66 filled with 30% fibreglass
- All valves with DN > 25 with fixed plug design (to withstand turbulence caused by steam at high speed)
- Special design of bonnet chevrons, all are made of 25% graphite-filled PTFE



Body Pressure (PN) chart and PED classification:

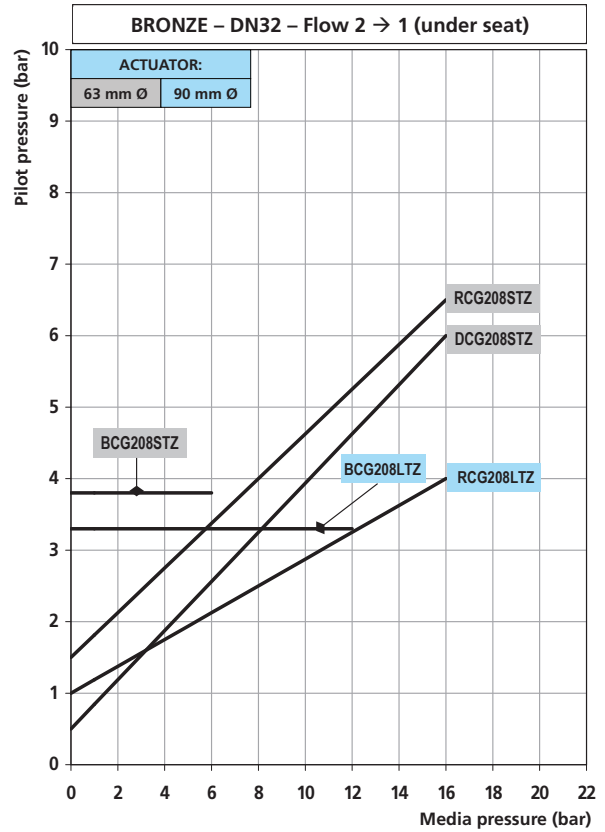
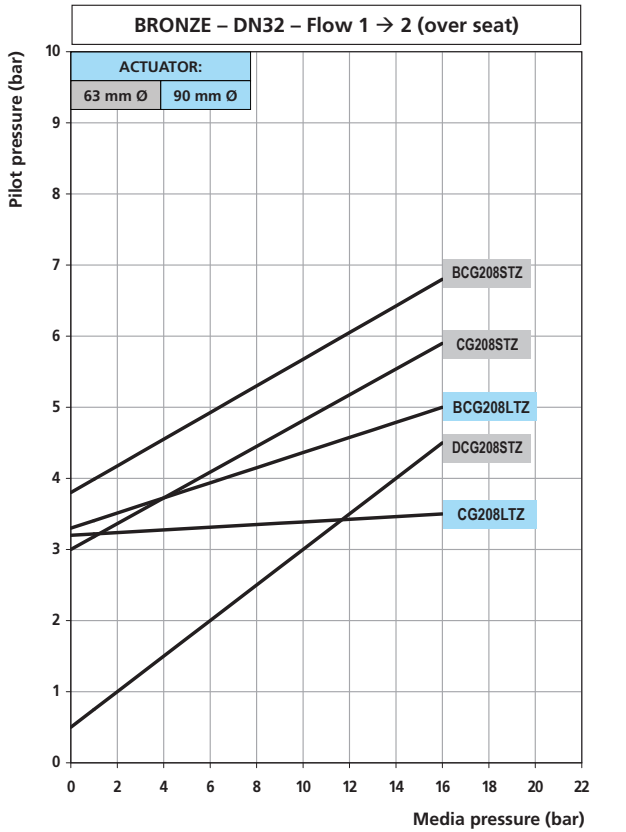
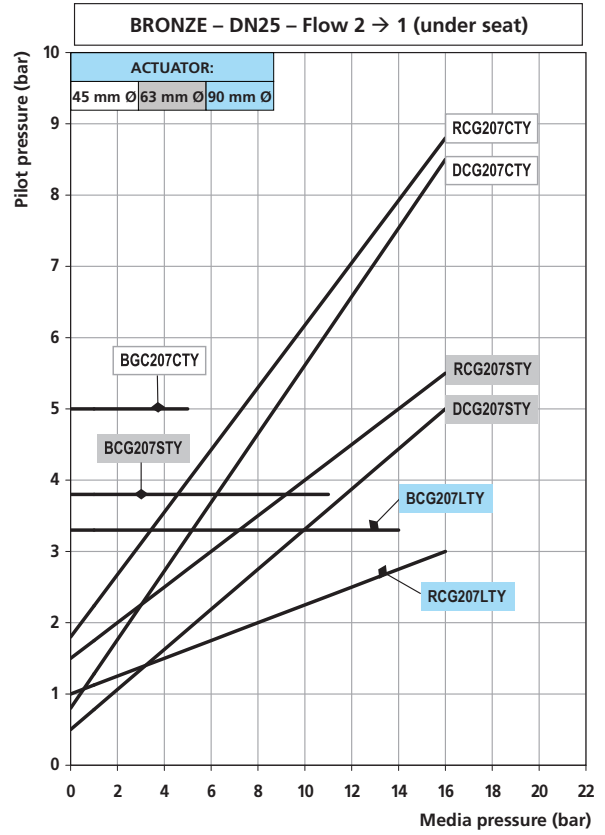
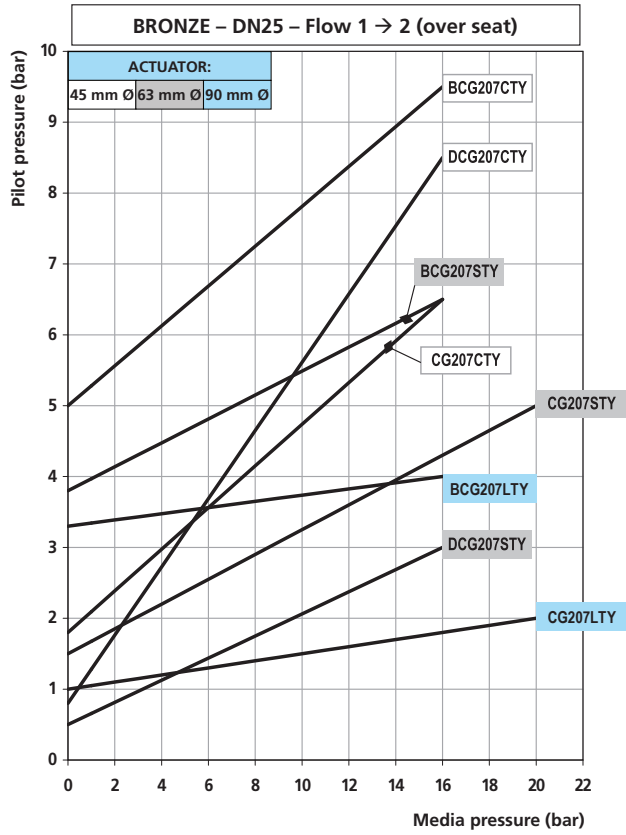
M&M valve bodies bear a PN value which is to be intended as the body design pressure in bar. We use this value as a reference to perform burst tests on the bodies and bonnets upon quality control acceptance. This value is not related to the applicable medium pressure once the valve is in operation. The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

Bronze Valves Comparative Charts DN15 to DN20



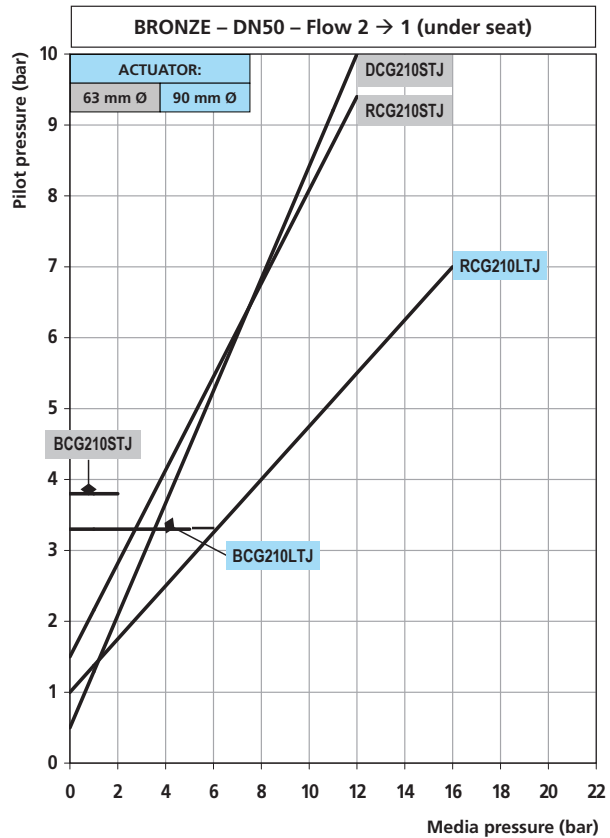
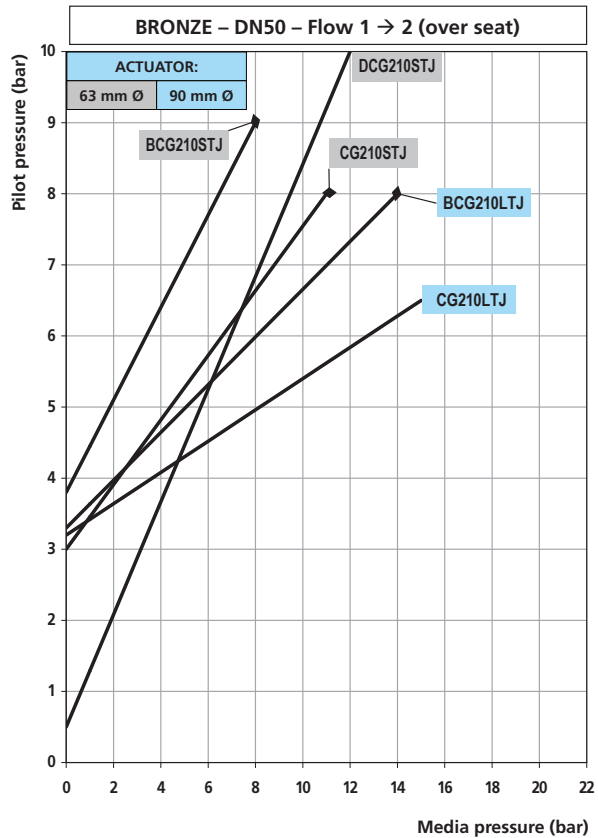
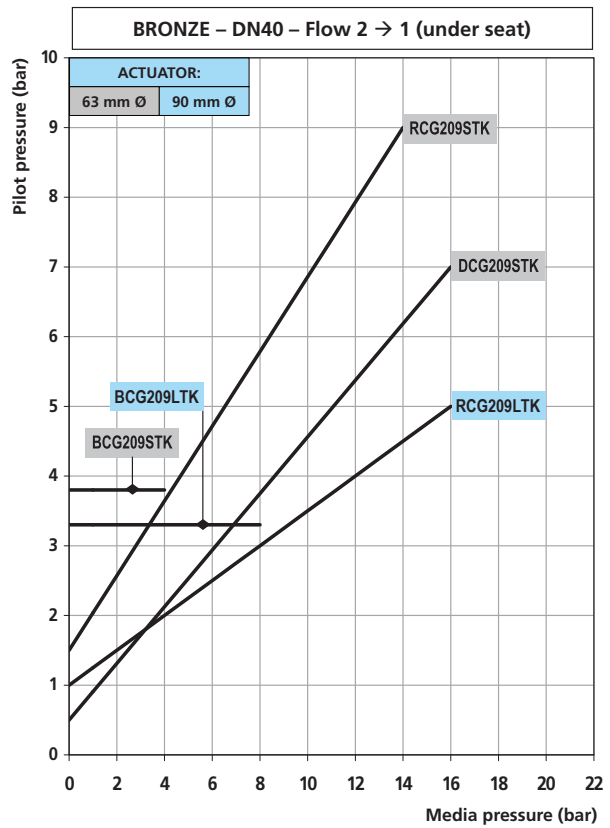
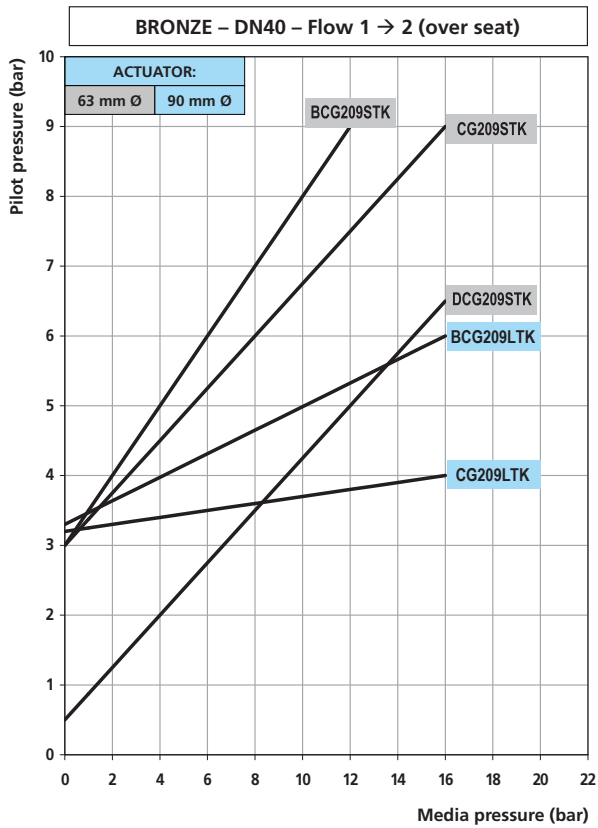
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Bronze Valves Comparative Charts DN25 to DN32



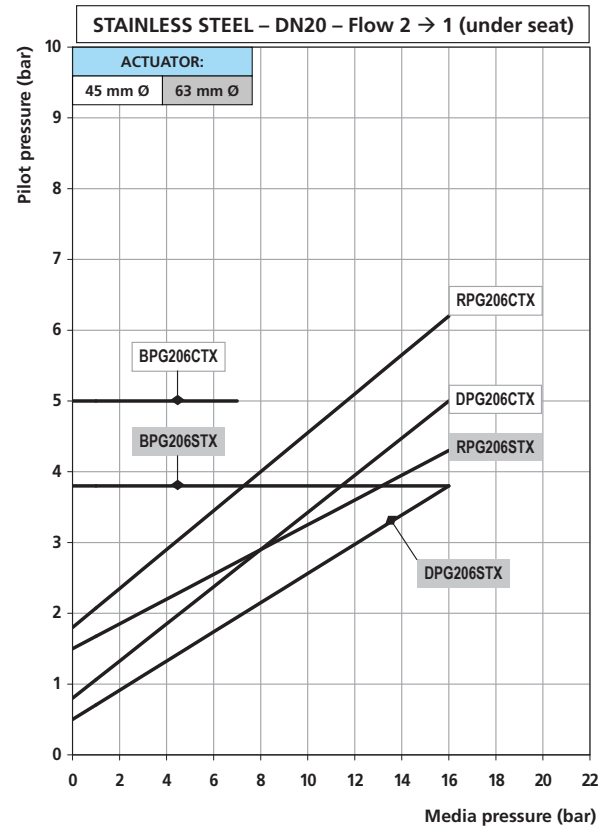
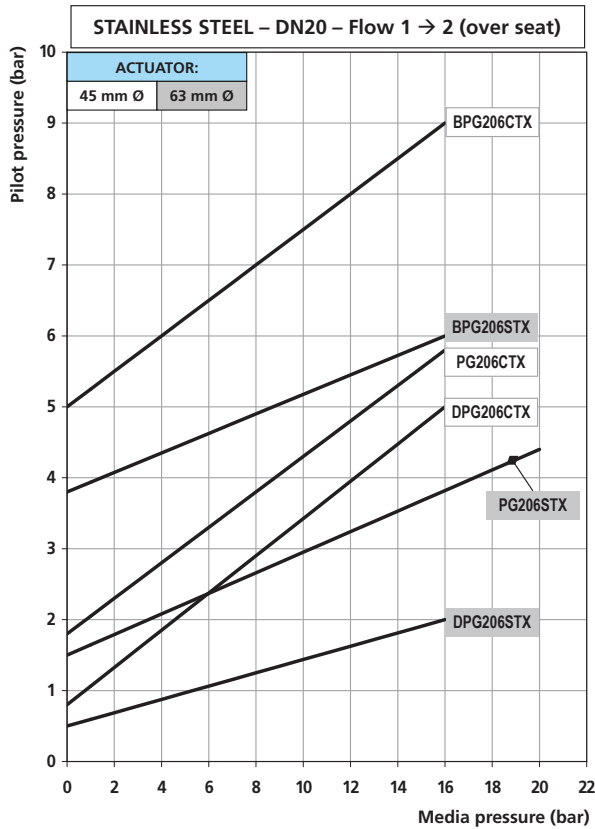
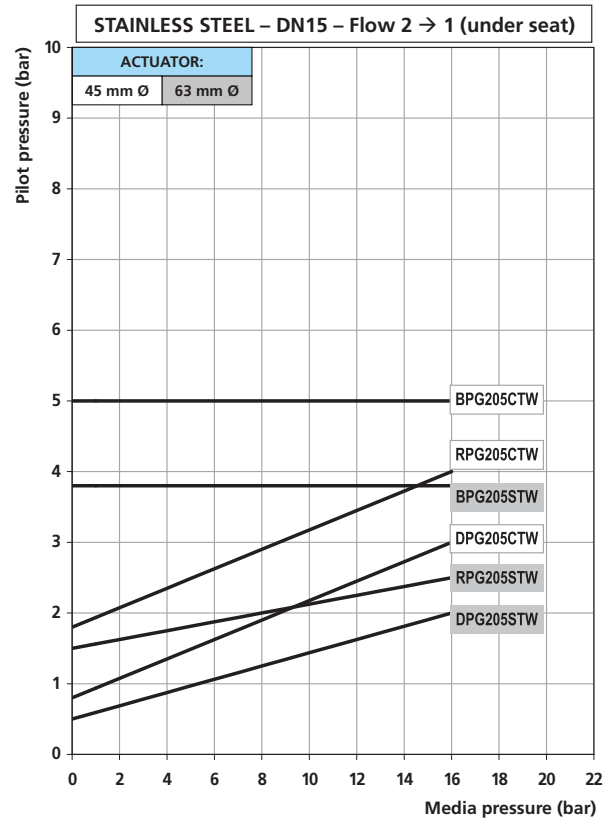
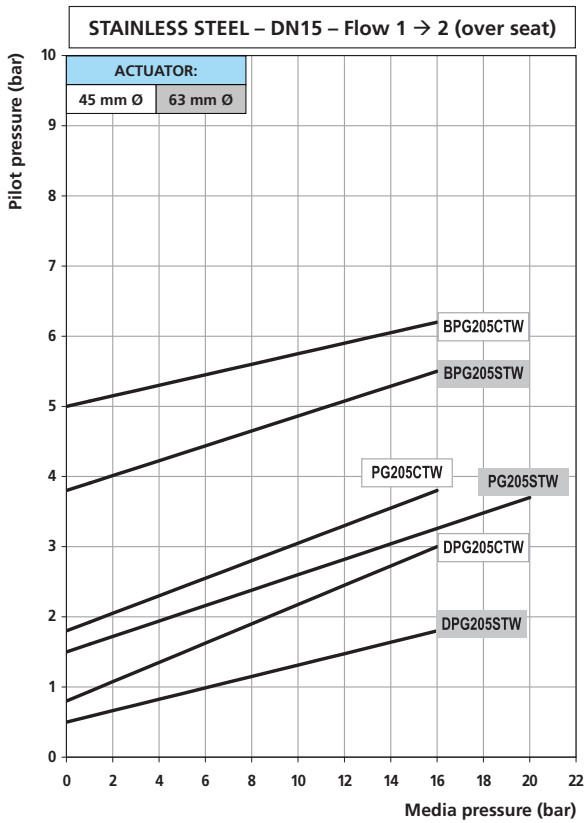
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Bronze Valves Comparative Charts DN40 to DN50



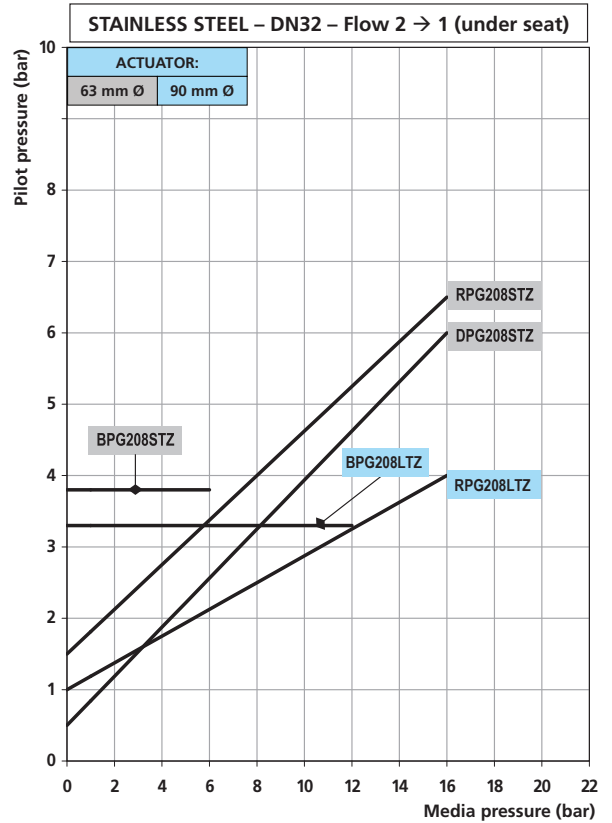
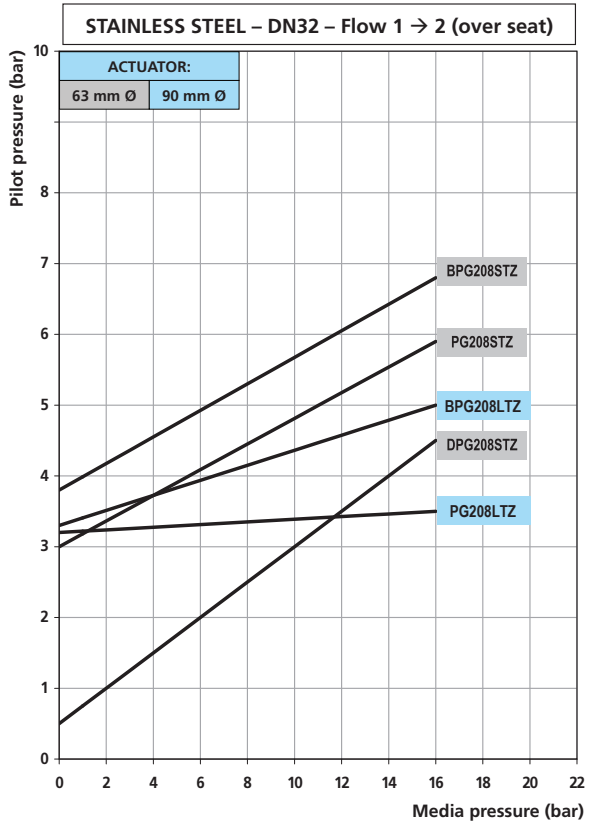
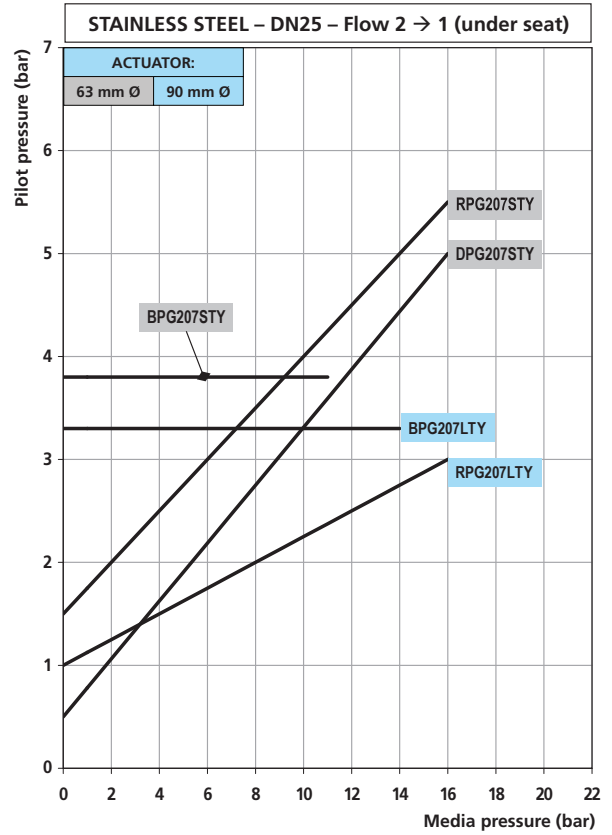
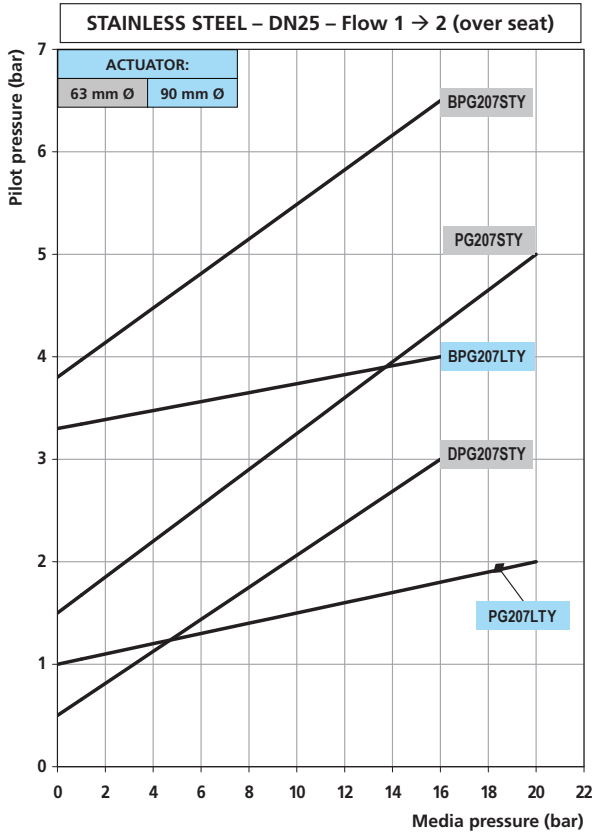
Version: CG = Normally Closed, BCG = Normally Closed (anti-waterhammer), RCG = Normally Open, DCG = Double Acting

Stainless Steel Valves Comparative Charts DN15 to DN20



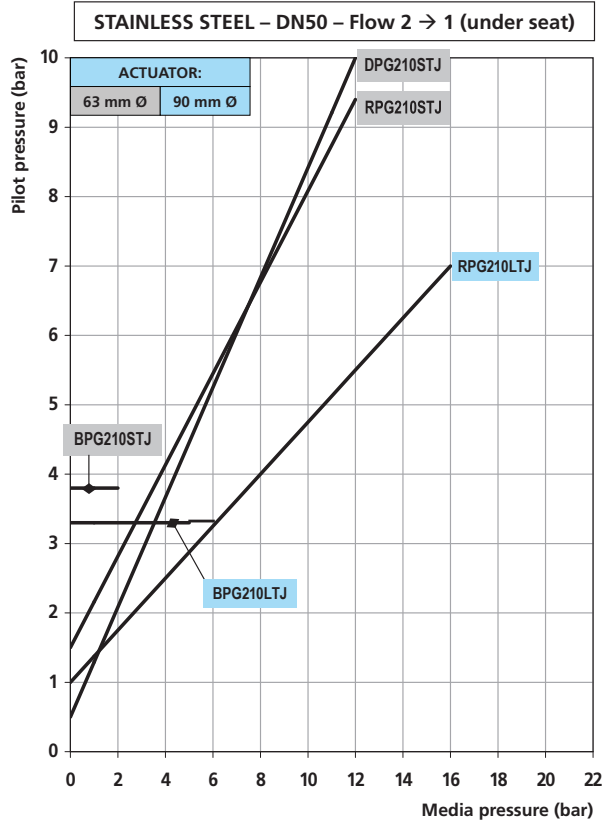
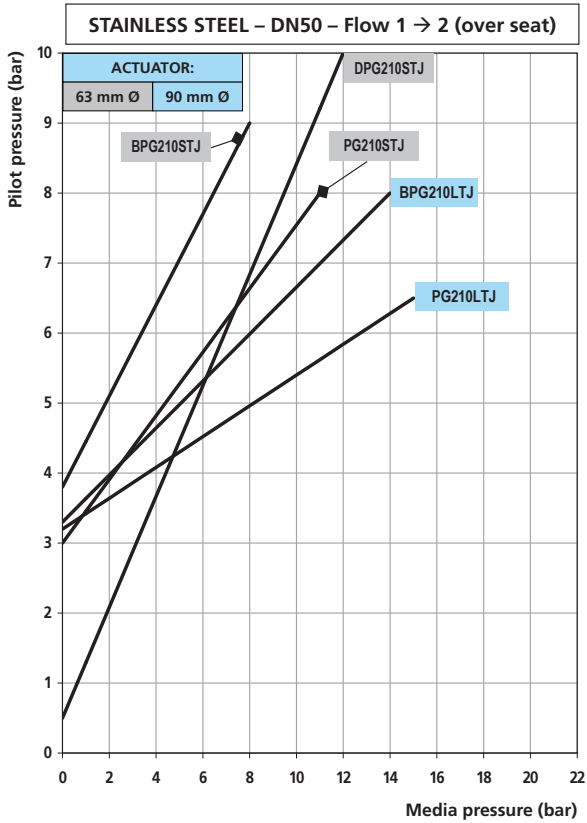
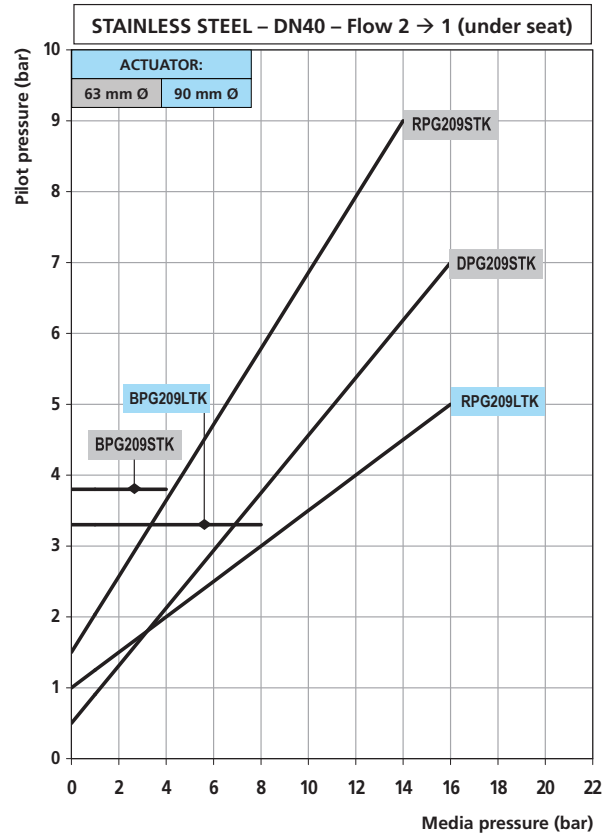
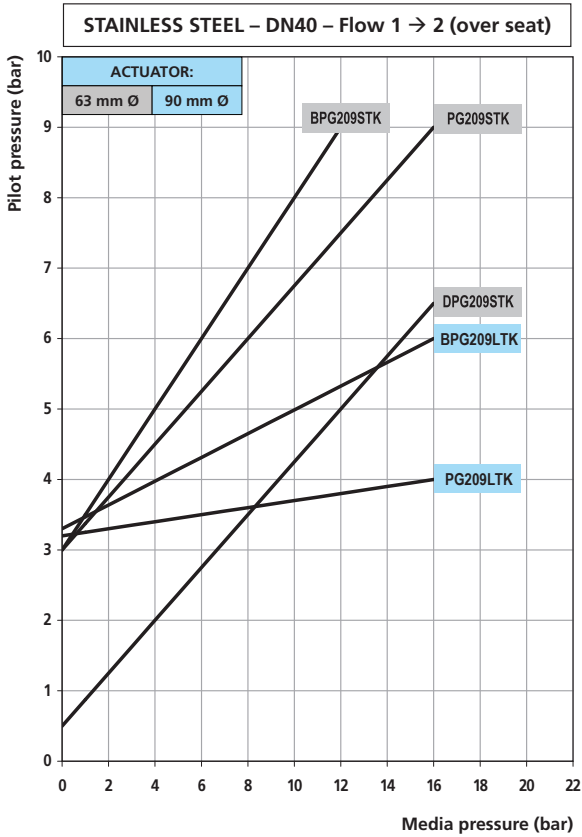
Version: PG = Normally Closed, BPG = Normally Closed (anti-waterhammer), RPG = Normally Open, DPG = Double Acting

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

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

Actuator	Air Volume
[mm]	[dm ³]
Ø 45 mm	0,036
Ø 63 mm	0,099
Ø 90 mm	0,212

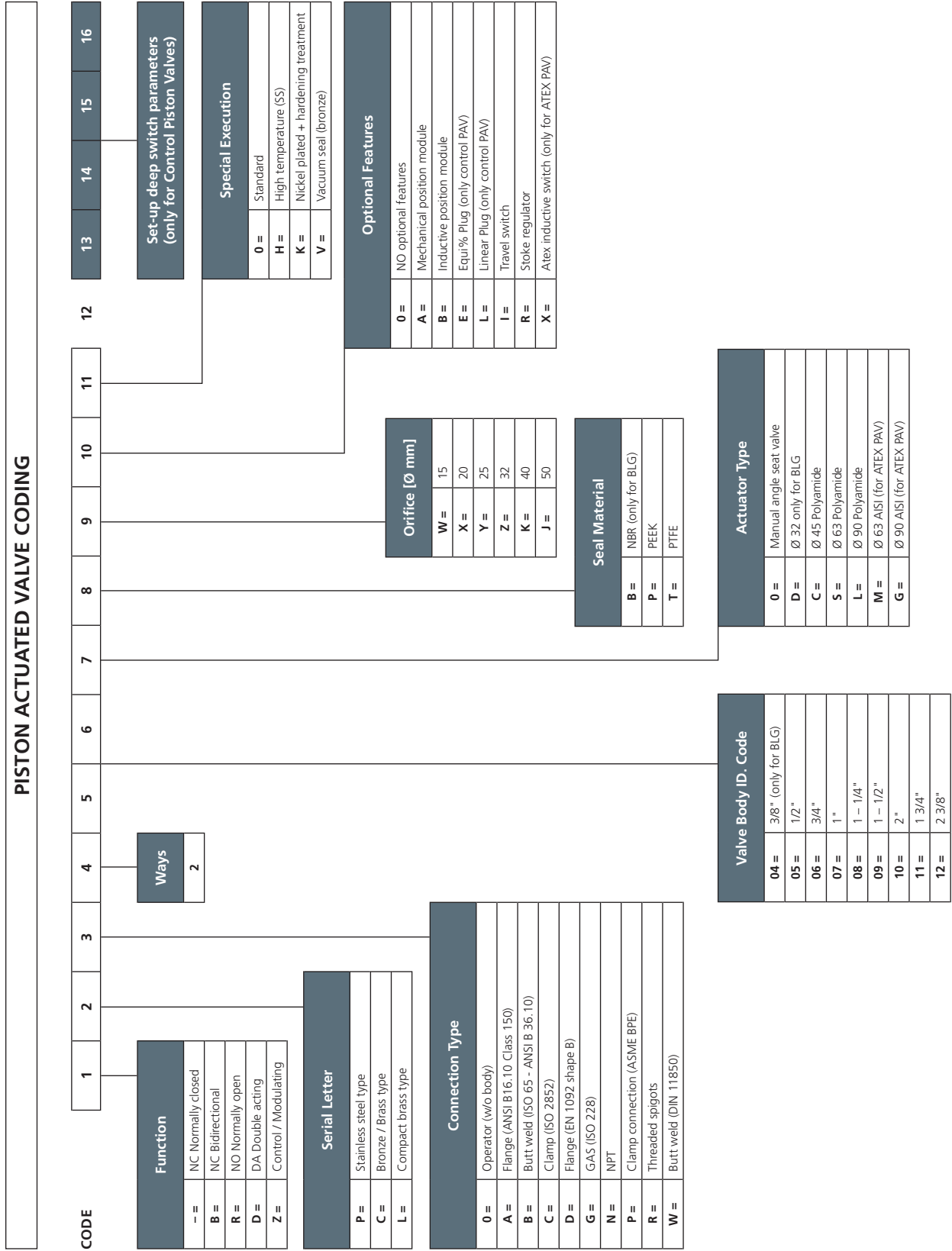
Notes:

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

Declaration of Conformity to CE

	DECLARATION OF CONFORMITY 				
<p>We, M&M International S.r.l. registered office via A. Appiani 12 – 20121 Milano - Italy, declare under our sole responsibility that the products:</p> <p>PISTON ACTUATED VALVES type PG, PN, CG, CN, PS, PB, PW, PH, PA, PF, PD, PC, PR, PP (sizes DN15 to DN50)</p> <p>and all derived versions (prefix "B", "R", "D" and "Z")</p> <p>to which this declaration relates are in conformity with the following standards or other normative documents</p> <p>No harmonized or other technical standards are applicable to these products</p> <p>following the provisions of 97/23/EC Pressure Equipment Directive</p>					
Series	Sizes	Requirements met	Module	Notified Body	Certificate No.
CG, CN and derived versions	All sizes	Art. 3.3	N/A	N/A	N/A
PP and derived versions	All sizes	Art. 3.3	N/A	N/A	N/A
PG, PN, PS, PB, PW, PH, PA, PF, PD, PC, PR and derived versions	DN15 to DN25	Art. 3.3	N/A	N/A	N/A
	DN32 to DN50	Category I	A (Internal Production Control)	N/A	N/A
Orio al Serio, Italy, October 2015			The General Manager Maurizio Forno		
					
ATTENTION!					
The attention of the purchaser, installer or user is drawn to special measures and limitations to use that must be observed when the product is used, installed or taken into service. Details of these special measures and limitations to use are available on request and are also contained in the product label and in the Installation, Maintenance and User Instructions provided together with the product.					

Coding Chart



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M&M International srl
24050 Orio al Serio (Bg) - ITALY
Via Portico 17

tel +39 035 531298
fax +39 035 531763
email mm.international@rotork.com
web www.mminternational.net / www.rotork.com

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