

# Piston Actuated Valves



**robust construction**

**high flow volumes**

**compact size**

**quick & easy installation**

**high temperature version**

**ATEX version**

**control version**



## **M&M International means:**

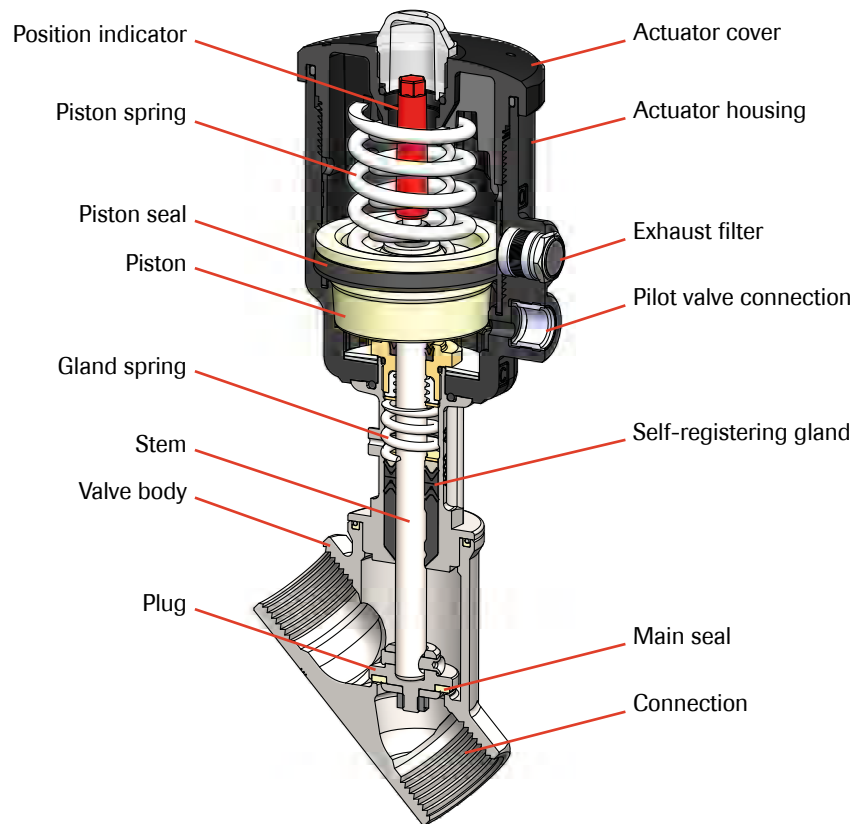
- Working with a staff of qualified professionals
- Enjoying the benefits of the most advanced technological research
- Quality at competitive price
- Warranty of a company conforming to the rigorous ISO 9001 - ISO 14001 - OHSAS 18001 requirements
- Reliability of a 30-years experience on international markets
- To partner with a company belonging to a multinational group

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## M&M INTERNATIONAL PISTON ACTUATED VALVES












### Scheme of components of M&M International Piston Actuated Valves













### Benefits of M&M International Piston Actuated Valves

- |  |   |  |
|--|---|--|
| <b>Standard versions with high performing components</b> | ➔ | <b>Covering a wide range of industrial applications with reduced stock</b> |
| <b>Standard seal materials as FKM and PTFE</b>           | ➔ | <b>Max compatibility with fluids<br/>Resistance at high temperatures</b>   |
| <b>Bi-Directional version</b>                            | ➔ | <b>Waterhammer-free installation</b>                                       |
| <b>Wide choice of connections</b>                        | ➔ | <b>Screw, weld, flange, clamp connections</b>                              |
| <b>Actuator housing rotation 360°</b>                    | ➔ | <b>Easy and quick installation</b>   |
| <b>Position indicator</b>                                | ➔ | <b>Instantly visible valve position</b>                                    |
| <b>Self-registering gland and chevron packing</b>        | ➔ | <b>Smooth stem movement for longer life</b>                                |
| <b>Housing with angle seat design</b>                    | ➔ | <b>High flow rate, low pressure drop</b>                                   |
| <b>Stainless steel valves with universal design</b>      | ➔ | <b>Suitable for vacuum applications</b>                                    |
| <b>Universal mounting M&amp;M solenoid pilot valves</b>  | ➔ | <b>Max flexibility during installation</b>                                 |
| <b>Actuator with built-in exhaust filter</b>             | ➔ | <b>Higher reliability</b>  |

## PRODUCT INDEX

Valve	Code	Type of connection	Actuator	Page
	<b>BLG-</b> (Bi-Directional)	<b>GAS / NPT</b>	<b>Ø 32</b>	4
	<b>CG-</b> (Normally Closed) <b>RCG-</b> (Normally Open) <b>BCG-</b> (Bi-Directional) <b>DCG-</b> (Double Acting)	<b>GAS / NPT</b>	<b>Ø 45</b>	5
	<b>CG-</b> (Normally Closed) <b>RCG-</b> (Normally Open) <b>BCG-</b> (Bi-Directional) <b>DCG-</b> (Double Acting)	<b>GAS / NPT</b>	<b>Ø 63</b> <b>Ø 90</b>	6 ÷ 7
	<b>MANUAL OPERATION</b> <b>CG-</b>	<b>GAS / NPT</b>	-	8
	<b>MANUAL OPERATION</b> <b>PG-</b>	<b>GAS / NPT</b>	-	8
	<b>PG-</b> (Normally Closed) <b>RPG-</b> (Normally Open) <b>BPG-</b> (Bi-Directional) <b>DPG-</b> (Double Acting)	<b>GAS / NPT</b>	<b>Ø 45</b>	9
	<b>PG-</b> (Normally Closed) <b>RPG-</b> (Normally Open) <b>BPG-</b> (Bi-Directional) <b>DPG-</b> (Double Acting)	<b>GAS / NPT</b>	<b>Ø 63</b> <b>Ø 90</b>	10 ÷ 11
	<b>PW- / PB-</b> (Normally Closed) <b>RPW- / RPB-</b> (Normally Open) <b>BPW- / BPA-</b> (Bi-Directional)	<b>BUTT WELD:</b> <b>DIN 11850-2 pipe</b> <b>ISO 65/ANSI B.36.10 pipe</b>	<b>Ø 45</b> <b>Ø 63</b> <b>Ø 90</b>	12 ÷ 13
	<b>PD- / PA-</b> (Normally Closed) <b>RPD- / RPA-</b> (Normally Open) <b>BPD- / BPA-</b> (Bi-Directional)	<b>FLANGED:</b> <b>BS 4504 EN1092 shape B</b> <b>ANSI B16.5 class 150</b>	<b>Ø 63</b> <b>Ø 90</b>	14 ÷ 15
	<b>PC- / PP-</b> (Normally Closed) <b>RPC- / RPP-</b> (Normally Open) <b>BPC- / BPP-</b> (Bi-Directional)	<b>CLAMP:</b> <b>ISO 2852</b> <b>ASME BPE</b>	<b>Ø 45</b> <b>Ø 63</b> <b>Ø 90</b>	16 ÷ 17
	<b>- HIGH TEMPERATURE VERSION</b> <b>PG-</b> (Normally Closed) <b>RPG-</b> (Normally Open) <b>BPG-</b> (Bi-Directional)	<b>GAS / NPT / BUTT WELD</b> <b>FLANGED / CLAMP</b>	<b>Ø 63</b> <b>Ø 90</b>	18 ÷ 19

## PRODUCT INDEX

Valve	Code	Type of connection	Actuator	Page
	<b>PR-</b> (Normally Closed) <b>RPR-</b> (Normally Open) <b>BPR-</b> (Bi-Directional)	<b>THREADED SPIGOTS</b>	<b>Ø 45</b> <b>Ø 63</b> <b>Ø 90</b>	20 ÷ 21
	<b>ATEX SS ACTUATOR</b> <b>PG-</b> (Normally Closed) <b>RPG-</b> (Normally Open) <b>BPG-</b> (Bi-Directional)	<b>GAS / NPT</b>	<b>Ø 63</b> <b>Ø 90</b>	22 ÷ 23
	<b>CONTROL PISTON ACTUATED VALVE</b> <b>ZPG-</b> (flow always under seat)	<b>GAS / NPT</b>	<b>Ø 63</b> <b>Ø 90</b>	24 ÷ 26
Options/Accessories	Code	Description		Page
	E.g. code PG205STWI0 (assembled ex-factory)	<b>TRAVEL SWITCH OPTION</b>		27
	E.g. code PG205STWR0 (assembled ex-factory)	<b>STROKE REGULATOR OPTION</b>		27
	<b>85703000-/85703100-/85704000-/85704100-</b>	<b>POSITION MODULE FOR PISTON ACTUATED VALVE</b>		28
	<b>85701800-</b>	<b>TRAVEL SWITCH CONVERSION KIT FOR PISTON ACTUATED VALVE</b>		29
	<b>68000100-</b> <b>68000200-</b>	<b>MAGNETIC SWITCH FOR CONVERSION KIT</b>		29
	<b>B356CVCMK/B326CVCMK/ D326CVEMK</b>	<b>PILOT SOLENOID VALVES</b>		30
	<b>N326CVEK</b>	<b>ATEX PILOT SOLENOID VALVES</b>		31
-	<b>Various part numbers</b>	<b>SEAL KITS</b>		32 ÷ 33

## 2/2 WAY COMPACT PISTON ACTUATED VALVE G 3/8" ÷ 1/2" - BRASS

### TECHNICAL SPECIFICATIONS

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.

**Media:** water, air, inert fluids, inert gases

**Media temperature:** -10°C ÷ +90°C

**Ambient temperature:** -10°C ÷ +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

### BENEFITS

Waterhammer-free design (with flow direction 2 → 1)

Swift installation with banjo bolt pilot solenoid valve B356CVCMK (see page 30)

Design for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

**NPT** connection, minimum batch may be required (e.g. code BLN205DBW00)

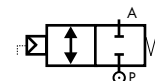
Electroless nickel plating treatment (e.g. code BLG205DBW0K)

### ACCESSORIES

Pilot solenoid valves type B356- (see page xx)

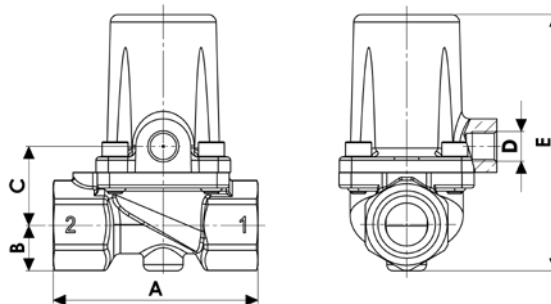


### TYPE: BLG



**NC bidirectional flow over / under seat 1 → 2 / 2 → 1**

DIMENSIONS & WEIGHTS		DN13.5	DN13.5
<b>G connection</b>	[ISO 228]	3/8"	1/2"
<b>A</b>	[mm]	67	67
<b>B</b>	[mm]	15	15
<b>C</b>	[mm]	25.5	25.5
<b>D</b>	[mm]	1/8"	1/8"
<b>E</b>	[mm]	84	84
<b>weight</b>	[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]	–
<b>BLG204DBW00</b> ①	3/8"	13.5	56 / 45	0	10	1 → 2 / 2 → 1	4.5	10	32	<b>NC bidirectional</b>
<b>BLG205DBW00</b>	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" ÷ 1", COMPACT VERSION - BRONZE

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, steam<sup>①</sup>  
 Media temperature: -10°C ÷ +180°C  
 Ambient temperature: -10°C ÷ +60°C  
 Pilot media<sup>②</sup>: instrument air, inert gases  
 Body material: bronze (CB491K EN1982)  
 Bonnet material: brass (CW617N EN12165)  
 Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)  
 Seal material: PTFE  
 Position indicator as standard

### BENEFITS

Waterhammer-free design for **BCG - DCG** (with flow direction 2 → 1)  
 Actuator housing rotation 360°  
 Design for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

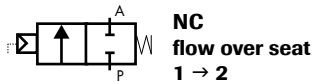
NPT connection (e.g. code CN205CTW00)

### ACCESSORIES

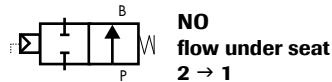
Position module, travel switch kit, pilot solenoid valves see pages 28/29/30



#### TYPE: CG



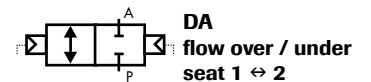
#### TYPE: RCG



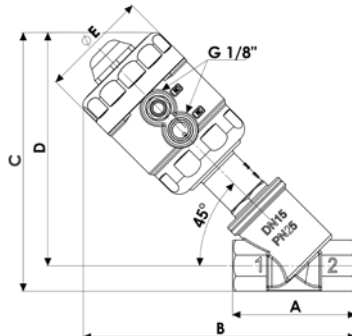
#### TYPE: BCG



#### TYPE: DCG



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 ÷ 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	body connection	DN	flow rate Kvs	working pressure <sup>①</sup>		flow direction	pilot pressure <sup>②</sup>		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>CG205CTW00</b>	1/2"	15	75	0	16	1 → 2	3.8	10	45	<b>NC</b>
<b>CG206CTX00</b>	3/4"	20	133	0	16	1 → 2	5.8	10		
<b>CG207CTY00</b>	1"	25	208	0	16	1 → 2	6.5	10		
<b>RCG205CTW00</b>	1/2"	15	75	0	16	2 → 1	4	10	45	<b>NO</b>
<b>RCG206CTX00</b>	3/4"	20	133	0	16	2 → 1	6.2	10		
<b>RCG207CTY00</b>	1"	25	208	0	16	2 → 1	8.8	10		
<b>BCG205CTW00</b>	1/2"	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45	<b>NC bidirectional</b>
<b>BCG206CTX00</b>	3/4"	20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
<b>BCG207CTY00</b>	1"	25	208	0	16 / 5	1 → 2 / 2 → 1	9.5 / 5	10		
<b>DCG205CTW00</b>	1/2"	15	75	0	16 / 16	1 ↔ 2	3	10	45	<b>DA</b>
<b>DCG206CTX00</b>	3/4"	20	133	0	16 / 16	1 ↔ 2	5	10		
<b>DCG207CTY00</b>	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" ÷ 2", REGULAR VERSION - BRONZE

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, steam<sup>Ⓢ</sup>
- Media temperature: -10°C ÷ +180°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>Ⓢ</sup>: instrument air, inert gases
- Body material: bronze (CB491K EN1982)
- Bonnet material: brass (CW617N EN12165)
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard

### BENEFITS

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

### OPTIONS

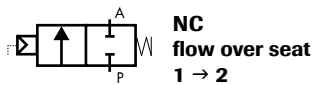
- Stroke regulator assembled ex-factory, see page 27 (e.g. code CG205STWR0)
- Travel switch assembled ex-factory, see page 27 (e.g. code RCG209STKI0)
- NPT connection (e.g. code BCN207LTY00)
- Design for vacuum applications up to 10<sup>-2</sup> mbar (e.g. code DCG210STJ0V)

### ACCESSORIES

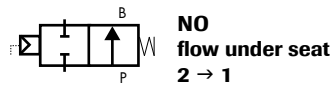
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30



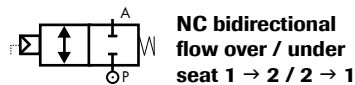
#### TYPE: CG



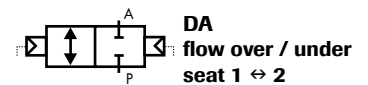
#### TYPE: RCG



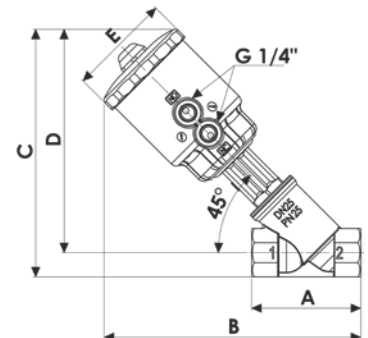
#### TYPE: BCG



#### TYPE: DCG



DIMENSIONS & WEIGHTS		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50	
actuator	[mm]	Ø 63						Ø 90				
<b>A</b>	[mm]	65	75	90	110	120	150	90	110	120	150	
<b>B</b>	[mm]	192	198	212	225	230	248	223	234	239	257	
<b>C</b>	[mm]	184	192	205	217	225	241	216	227	235	250	
<b>D</b>	[mm]	171	176	185	193	198	207	196	202	207	216	
<b>E</b>	[mm]	85	85	85	85	85	85	112	112	112	112	
<b>weight</b>	[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
<b>CG - RCG - BCG - DCG</b>	DN15 ÷ DN25 (PN25)	SEP	SEP
	DN32 ÷ 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" ÷ 2", REGULAR VERSION - BRONZE

VALVE	body connection	DN	flow rate Kvs	working pressure ①		flow direction	pilot pressure ②		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>CG205STW00</b>	1/2"	15	87	0	20	1 → 2	3.7	10	63	<b>NC</b>
<b>CG206STX00</b>	3/4"	20	164	0	20	1 → 2	4.4	10		
<b>CG207STY00</b>	1"	25	260	0	20	1 → 2	5	10		
<b>CG208STZ00</b>	1 1/4"	32	410	0	16	1 → 2	5.9	10		
<b>CG209STK00</b>	1 1/2"	40	700	0	16	1 → 2	9	10		
<b>CG210STJ00</b>	2"	50	950	0	11	1 → 2	8	10		
<b>CG207LTY00</b>	1"	25	260	0	20	1 → 2	2	8	90	
<b>CG208LTZ00</b>	1 1/4"	32	410	0	16	1 → 2	3.5	8		
<b>CG209LTK00</b>	1 1/2"	40	700	0	16	1 → 2	4	8		
<b>CG210LTJ00</b>	2"	50	950	0	15	1 → 2	6.5	8		

<b>RCG205STW00</b>	1/2"	15	87	0	16	2 → 1	2.5	10	63	<b>NO</b>
<b>RCG206STX00</b>	3/4"	20	164	0	16	2 → 1	4.3	10		
<b>RCG207STY00</b>	1"	25	260	0	16	2 → 1	5.5	10		
<b>RCG208STZ00</b>	1 1/4"	32	410	0	16	2 → 1	6.5	10		
<b>RCG209STK00</b>	1 1/2"	40	700	0	16	2 → 1	9	10		
<b>RCG210STJ00</b>	2"	50	950	0	12	2 → 1	9.4	10		
<b>RCG207LTY00</b>	1"	25	260	0	16	2 → 1	2	8	90	
<b>RCG208LTZ00</b>	1 1/4"	32	410	0	16	2 → 1	4	8		
<b>RCG209LTK00</b>	1 1/2"	40	700	0	16	2 → 1	5	8		
<b>RCG210LTJ00</b>	2"	50	950	0	16	2 → 1	7	8		

<b>BCG205STW00</b>	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	<b>NC bidirectional</b>
<b>BCG206STX00</b>	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BCG207STY00</b>	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BCG208STZ00</b>	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BCG209STK00</b>	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BCG210STJ00</b>	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BCG207LTY00</b>	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
<b>BCG208LTZ00</b>	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
<b>BCG209LTK00</b>	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BCG210LTJ00</b>	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		

<b>DCG205STW00</b>	1/2"	15	87	0	16	1 ↔ 2	1.8	2	63	<b>DA</b>
<b>DCG206STX00</b>	3/4"	20	164	0	16	1 ↔ 2	2	3.8		
<b>DCG207STY00</b>	1"	25	260	0	16	1 ↔ 2	3	5		
<b>DCG208STZ00</b>	1 1/4"	32	410	0	16	1 ↔ 2	4.5	6		
<b>DCG209STK00</b>	1 1/2"	40	700	0	16	1 ↔ 2	6.5	7		
<b>DCG210STJ00</b>	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" ÷ 2" - BRONZE & STAINLESS STEEL

### COMMON FEATURES

Media: water, oil, air, aggressive media, steam<sup>①</sup>

Media temperature: -10°C ÷ +180°C

Ambient temperature: -10°C ÷ +60°C

### TECHNICAL SPECIFICATIONS OF CG TYPE

Body material: bronze (CB491K EN1982)

Bonnet material: brass (CW617N EN12165)

Seal material: PTFE

### TECHNICAL SPECIFICATIONS OF PG TYPE

Body material: cast AISI 316L (CF3M), see page 37

Bonnet material: cast AISI 316L (CF3M), see page 37

Seal material: PTFE

### OPTIONS

NPT connection (e.g. code PN2070TY00)



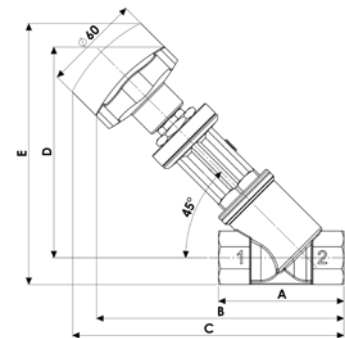
**TYPE: CG manual**

flow over / under seat

**TYPE: PG manual**

flow over / under seat

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



VALVE	body connection	DN	flow rate Kvs	working pressure <sup>①</sup>		flow direction
				min.	max.	
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–
<b>CG2050TW00</b>	1/2"	15	87	0	25	1 ⇌ 2
<b>CG2060TX00</b>	3/4"	20	164	0	25	1 ⇌ 2
<b>CG2070TY00</b>	1"	25	260	0	25	1 ⇌ 2
<b>CG2080TZ00</b>	1 1/4"	32	410	0	25	1 ⇌ 2
<b>CG2090TK00</b>	1 1/2"	40	700	0	25	1 ⇌ 2
<b>CG2100TJ00</b>	2"	50	916	0	16	1 ⇌ 2
<b>PG2050TW00</b>	1/2"	15	87	0	40	1 ⇌ 2
<b>PG2060TX00</b>	3/4"	20	164	0	40	1 ⇌ 2
<b>PG2070TY00</b>	1"	25	260	0	40	1 ⇌ 2
<b>PG2080TZ00</b>	1 1/4"	32	410	0	25	1 ⇌ 2
<b>PG2090TK00</b>	1 1/2"	40	700	0	25	1 ⇌ 2
<b>PG2100TJ00</b>	2"	50	916	0	16	1 ⇌ 2

### NOTE

<sup>①</sup> Steam max. working pressure 10 bar (9 barg)

## 2/2 WAY PISTON ACTUATED VALVE G 1/2" ÷ 3/4", COMPACT VERSION - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media, steam<sup>①</sup>
- Media temperature: -10°C ÷ +180°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>②</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard

### BENEFITS

- Waterhammer-free design for **BPG - DPG** (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

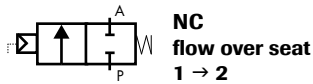
- NPT connection (e.g. code PN205CTW00)

### ACCESSORIES

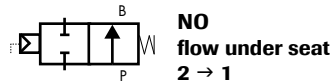
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



#### TYPE: PG



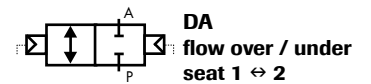
#### TYPE: RPG



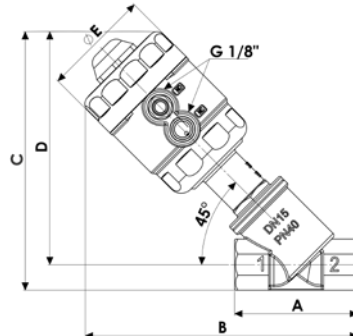
#### TYPE: BPG



#### TYPE: DPG



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 ÷ 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 <sup>①</sup>		flow direction	pilot pressure <sup>③</sup>		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>PG205CTW00</b>	1/2"	15	75	0	16	1 → 2	3.8	10	45	<b>NC</b>
<b>PG206CTX00</b>	3/4"	20	133	0	16	1 → 2	5.8	10		
<b>RPG205CTW00</b>	1/2"	15	75	0	16	2 → 1	4	10	45	<b>NO</b>
<b>RPG206CTX00</b>	3/4"	20	133	0	16	2 → 1	6.2	10		
<b>BPG205CTW00</b>	1/2"	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45	<b>NC bidirectional</b>
<b>BPG206CTX00</b>	3/4"	20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
<b>DPG205CTW00</b>	1/2"	15	75	0	16 / 16	1 ↔ 2	3	10	45	<b>DA</b>
<b>DPG206CTX00</b>	3/4"	20	133	0	16 / 16	1 ↔ 2	5	10		

### NOTES

- <sup>①</sup> Steam max. working pressure 10 bar (9 barg)
- <sup>②</sup> Please contact M&M sales Department for other pilot media
- <sup>③</sup> 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" ÷ 2", REGULAR VERSION - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media, steam<sup>Ⓢ</sup>
- Media temperature: -10°C ÷ +180°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>Ⓢ</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard

### BENEFITS

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

### OPTIONS

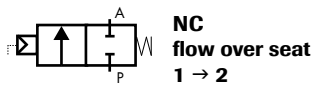
- Stroke regulator assembled ex-factory, see page 27 (e.g. code RPG210STJR0)
- Travel switch assembled ex-factory, see page 27 (e.g. code PG208STZ10)
- NPT** connection (e.g. code BPN207LTY00)
- High temperature version, see pages 18/19 (e.g. code PG205STW0H)

### ACCESSORIES

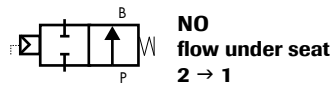
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



#### TYPE: PG



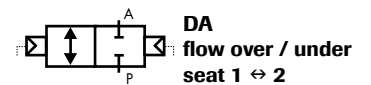
#### TYPE: RPG



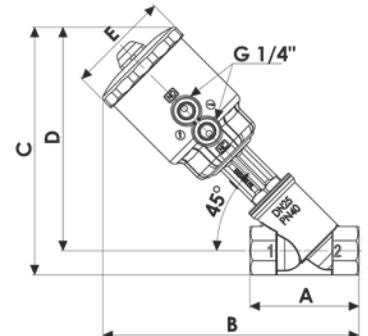
#### TYPE: BPG



#### TYPE: DPG



DIMENSIONS & WEIGHTS		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
actuator	[mm]	Ø 63						Ø 90			
<b>A</b>	[mm]	65	75	90	110	120	150	90	110	120	150
<b>B</b>	[mm]	192	198	212	225	230	248	223	234	239	257
<b>C</b>	[mm]	184	192	205	217	225	241	216	227	235	250
<b>D</b>	[mm]	171	176	185	193	198	207	196	202	207	216
<b>E</b>	[mm]	85	85	85	85	85	85	112	112	112	112
<b>weight</b>	[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
<b>PG - RPG - BPG - DPG</b>	DN15 ÷ DN25 (PN40)	SEP	SEP
	DN32 ÷ 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" ÷ 2", REGULAR VERSION - STAINLESS STEEL

VALVE	body connection	DN	flow rate Kvs	working pressure ①		flow direction	pilot pressure ②		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>PG205STW00</b>	1/2"	15	87	0	20	1 → 2	3.7	10	63	<b>NC</b>
<b>PG206STX00</b>	3/4"	20	164	0	20	1 → 2	4.4	10		
<b>PG207STY00</b>	1"	25	260	0	20	1 → 2	5	10		
<b>PG208STZ00</b>	1 1/4"	32	410	0	16	1 → 2	5.9	10		
<b>PG209STK00</b>	1 1/2"	40	700	0	16	1 → 2	9	10		
<b>PG210STJ00</b>	2"	50	950	0	11	1 → 2	8	10		
<b>PG207LTY00</b>	1"	25	260	0	20	1 → 2	2	8	90	
<b>PG208LTZ00</b>	1 1/4"	32	410	0	16	1 → 2	3.5	8		
<b>PG209LTK00</b>	1 1/2"	40	700	0	16	1 → 2	4	8		
<b>PG210LTJ00</b>	2"	50	950	0	15	1 → 2	6.5	8		

<b>RPG205STW00</b>	1/2"	15	87	0	16	2 → 1	2.5	10	63	<b>NO</b>
<b>RPG206STX00</b>	3/4"	20	164	0	16	2 → 1	4.3	10		
<b>RPG207STY00</b>	1"	25	260	0	16	2 → 1	5.5	10		
<b>RPG208STZ00</b>	1 1/4"	32	410	0	16	2 → 1	6.5	10		
<b>RPG209STK00</b>	1 1/2"	40	700	0	16	2 → 1	9	10		
<b>RPG210STJ00</b>	2"	50	950	0	12	2 → 1	9.4	10		
<b>RPG207LTY00</b>	1"	25	260	0	16	2 → 1	2	8	90	
<b>RPG208LTZ00</b>	1 1/4"	32	410	0	16	2 → 1	4	8		
<b>RPG209LTK00</b>	1 1/2"	40	700	0	16	2 → 1	5	8		
<b>RPG210LTJ00</b>	2"	50	950	0	16	2 → 1	7	8		

<b>BPG205STW00</b>	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	<b>NC bidirectional</b>
<b>BPG206STX00</b>	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BPG207STY00</b>	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPG208STZ00</b>	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPG209STK00</b>	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPG210STJ00</b>	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPG207LTY00</b>	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
<b>BPG208LTZ00</b>	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
<b>BPG209LTK00</b>	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPG210LTJ00</b>	2"	50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		

<b>DPG205STW00</b>	1/2"	15	87	0	16	1 ↔ 2	1.8	2	63	<b>DA</b>
<b>DPG206STX00</b>	3/4"	20	164	0	16	1 ↔ 2	2	3.8		
<b>DPG207STY00</b>	1"	25	260	0	16	1 ↔ 2	3	5		
<b>DPG208STZ00</b>	1 1/4"	32	410	0	16	1 ↔ 2	4.5	6		
<b>DPG209STK00</b>	1 1/2"	40	700	0	16	1 ↔ 2	6.5	7		
<b>DPG210STJ00</b>	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

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media, steam<sup>①</sup>
- Media temperature: -10°C ÷ +180°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>②</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Butt weld connection to **DIN 11850-2** pipe or **ISO 65/ANSI B 36.10** pipe
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard

### BENEFITS

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

### OPTIONS

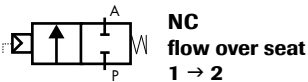
- Stroke regulator assembled ex-factory, see page 27 (e.g. code RPW210STJR0)
- Travel switch assembled ex-factory, see page 27 (e.g. code PB208STZ10)
- High temperature version, see pages 18/19 (e.g. code BPW207LTY0H)

### ACCESSORIES

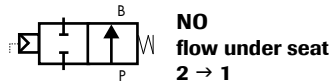
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



#### TYPE: PW / PB



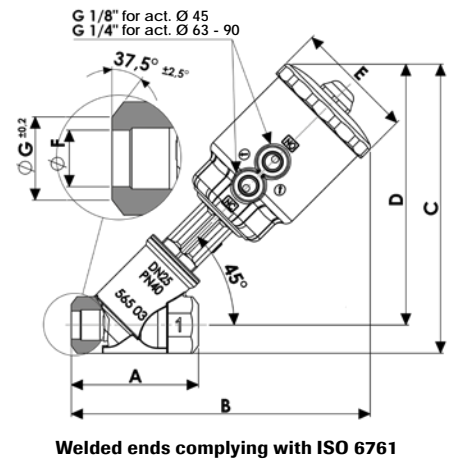
#### TYPE: RPW / RPB



#### TYPE: BPW / BPB



DIMENSIONS & WEIGHTS		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
actuator	[mm]	Ø 45		Ø 63						Ø 90			
<b>A</b>	[mm]	65	75	65	75	90	110	120	150	90	110	120	150
<b>B</b>	[mm]	144	149	192	198	212	225	230	248	223	234	239	257
<b>C</b>	[mm]	136	142	184	192	205	217	225	241	216	227	235	250
<b>D</b>	[mm]	123	126	171	176	185	193	198	207	196	202	207	216
<b>E</b>	[mm]	57	57	85	85	85	85	85	85	112	112	112	112
<b>F</b> DIN 11850	[mm]	16	20	16	20	26	32	38	50	26	32	38	50
<b>F</b> 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
<b>G</b> DIN 11850	[mm]	19.2	23.2	19.2	23.2	29.2	36	42	54	29.2	36	42	54
<b>G</b> 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
<b>weight</b>	[kg]	0.8	0.9	1.2	1.3	1.5	1.9	2.1	2.9	2.0	2.4	2.6	3.3



The products listed below comply with the requirements of the European Pressure Equipment Directive 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
<b>PW - RPW - BPW</b> <b>PB - RPB - BPB</b>	DN15 ÷ DN25 (PN40)	SEP	SEP
	DN32 ÷ 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 <sup>①</sup>		flow direction	pilot pressure <sup>③</sup>		actuator Ø	function
				min.	max.		min.	max.		
code	–	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>PW205CTW00</b>	butt weld to <b>DIN</b> <b>11850-2</b> pipe	15	75	0	16	1 → 2	3.8	10	45	<b>NC</b>
<b>PW206CTX00</b>		20	133	0	16	1 → 2	5.8	10		
<b>PW205STW00</b>		15	87	0	20	1 → 2	3.7	10		
<b>PW206STX00</b>		20	164	0	20	1 → 2	4.4	10	63	
<b>PW207STY00</b>		25	260	0	20	1 → 2	5	10		
<b>PW208STZ00</b>		32	410	0	16	1 → 2	5.9	10		
<b>PW209STK00</b>		40	700	0	16	1 → 2	9	10	90	
<b>PW210STJ00</b>		50	950	0	11	1 → 2	8	10		
<b>PW207LTY00</b>		25	260	0	20	1 → 2	2	8		
<b>PW208LTZ00</b>		32	410	0	16	1 → 2	3.5	8	90	
<b>PW209LTK00</b>		40	700	0	16	1 → 2	4	8		
<b>PW210LTJ00</b>		50	950	0	15	1 → 2	6.5	8		
<b>RPW205CTW00</b>		butt weld to <b>DIN</b> <b>11850-2</b> pipe	15	75	0	16	2 → 1	4	10	
<b>RPW206CTX00</b>	20		133	0	16	2 → 1	6.2	10		
<b>RPW205STW00</b>	15		87	0	16	2 → 1	2.5	10		
<b>RPW206STX00</b>	20		164	0	16	2 → 1	4.3	10	63	
<b>RPW207STY00</b>	25		260	0	16	2 → 1	5.5	10		
<b>RPW208STZ00</b>	32		410	0	16	2 → 1	6.5	10		
<b>RPW209STK00</b>	40		700	0	16	2 → 1	9	10	90	
<b>RPW210STJ00</b>	50		950	0	12	2 → 1	9.4	10		
<b>RPW207LTY00</b>	25		260	0	16	2 → 1	2	8		
<b>RPW208LTZ00</b>	32		410	0	16	2 → 1	4	8	90	
<b>RPW209LTK00</b>	40		700	0	16	2 → 1	5	8		
<b>RPW210LTJ00</b>	50		950	0	16	2 → 1	7	8		
<b>BPW205CTW00</b>	butt weld to <b>DIN</b> <b>11850-2</b> pipe		15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45
<b>BPW206CTX00</b>		20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
<b>BPW205STW00</b>		15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10		
<b>BPW206STX00</b>		20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10	63	
<b>BPW207STY00</b>		25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPW208STZ00</b>		32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPW209STK00</b>		40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10	90	
<b>BPW210STJ00</b>		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPW207LTY00</b>		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8		
<b>BPW208LTZ00</b>		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8	90	
<b>BPW209LTK00</b>		40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPW210LTJ00</b>		50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		
<b>PB205CTW00</b>		butt weld to <b>ISO 65/</b> <b>ANSI B 36.10</b> pipe	15	75	0	16	1 → 2	3.8	10	45
<b>PB206CTX00</b>	20		133	0	16	1 → 2	5.8	10		
<b>PB205STW00</b>	15		87	0	20	1 → 2	3.7	10		
<b>PB206STX00</b>	20		164	0	20	1 → 2	4.4	10	63	
<b>PB207STY00</b>	25		260	0	20	1 → 2	5	10		
<b>PB208STZ00</b>	32		410	0	16	1 → 2	5.9	10		
<b>PB209STK00</b>	40		700	0	16	1 → 2	9	10	90	
<b>PB210STJ00</b>	50		950	0	11	1 → 2	8	10		
<b>PB207LTY00</b>	25		260	0	20	1 → 2	2	8		
<b>PB208LTZ00</b>	32		410	0	16	1 → 2	3.5	8	90	
<b>PB209LTK00</b>	40		700	0	16	1 → 2	4	8		
<b>PB210LTJ00</b>	50		950	0	15	1 → 2	6.5	8		
<b>RPB205CTW00</b>	butt weld to <b>ISO 65/</b> <b>ANSI B 36.10</b> pipe		15	75	0	16	2 → 1	4	10	45
<b>RPB206CTX00</b>		20	133	0	16	2 → 1	6.2	10		
<b>RPB205STW00</b>		15	87	0	16	2 → 1	2.5	10		
<b>RPB206STX00</b>		20	164	0	16	2 → 1	4.3	10	63	
<b>RPB207STY00</b>		25	260	0	16	2 → 1	5.5	10		
<b>RPB208STZ00</b>		32	410	0	16	2 → 1	6.5	10		
<b>RPB209STK00</b>		40	700	0	16	2 → 1	9	10	90	
<b>RPB210STJ00</b>		50	950	0	12	2 → 1	9.4	10		
<b>RPB207LTY00</b>		25	260	0	16	2 → 1	2	8		
<b>RPB208LTZ00</b>		32	410	0	16	2 → 1	4	8	90	
<b>RPB209LTK00</b>		40	700	0	16	2 → 1	5	8		
<b>RPB210LTJ00</b>		50	950	0	16	2 → 1	7	8		
<b>BPB205CTW00</b>		butt weld to <b>ISO 65/</b> <b>ANSI B 36.10</b> pipe	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45
<b>BPB206CTX00</b>	20		133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
<b>BPB205STW00</b>	15		87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10		
<b>BPB206STX00</b>	20		164	0	16	1 → 2 / 2 → 1	6 / 3.8	10	63	
<b>BPB207STY00</b>	25		260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPB208STZ00</b>	32		410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPB209STK00</b>	40		700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10	90	
<b>BPB210STJ00</b>	50		950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPB207LTY00</b>	25		260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8		
<b>BPB208LTZ00</b>	32		410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8	90	
<b>BPB209LTK00</b>	40		700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPB210LTJ00</b>	50		950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		

## 2/2 WAY PISTON ACTUATED VALVE, FLANGED - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media, steam<sup>①</sup>

Media temperature: -10°C ÷ +180°C

Ambient temperature: -10°C ÷ +60°C

Pilot media<sup>②</sup>: instrument air, inert gases

Body material: cast AISI 316L (CF3M), see page 37

Flange material: AISI 316L

Connection to **BS 4504 (EN1092, shape B)** or **ANSI B16.5 class 150**

Bonnet material: cast AISI 316L (CF3M), see page 37

Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)

Seal material: PTFE

Position indicator as standard

### BENEFITS

Waterhammer-free design for **BPD - BPA** (with flow direction 2 → 1)

Actuator housing rotation 360°

Design suitable for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

Stroke regulator assembled ex-factory, see page 27 (e.g. code PD210STJR0)

Travel switch assembled ex-factory, see page 27 (e.g. code RPA208LTZ[0])

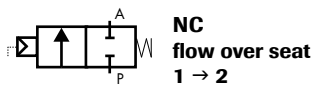
High temperature version, see pages 18/19 (e.g. code PD205STW0H)

### ACCESSORIES

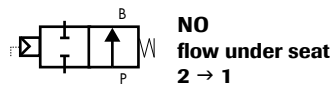
Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



#### TYPE: PD / PA



#### TYPE: RPD / RPA



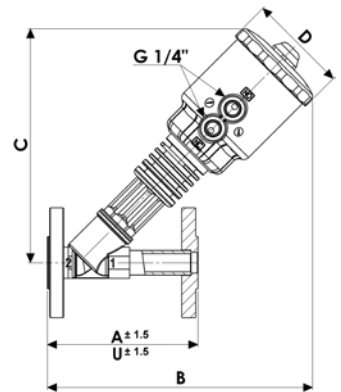
#### TYPE: BPD / BPA



DIMENSIONS & WEIGHTS		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50	
<b>actuator</b>	[mm]	Ø 63						Ø 90				
<b>A (ANSI)</b>	[mm]	139.7	152.4	165.1	184.2	203.2	228.6	165.1	184.2	203.2	228.6	
<b>U (BS/UNI/EN)</b>	[mm]	130	150	160	180	200	230	160	180	200	230	
<b>B</b>	[mm]	218	236	239	252	257	275	250	263	268	286	
<b>C</b>	[mm]	194	210	208	216	220	230	219	227	232	240	
<b>D</b>	[mm]	85	85	85	85	85	85	112	112	112	112	
<b>weight</b>	[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
<b>PD - RPD - BPD</b> <b>PA - RPA - BPA</b>	DN15 ÷ DN25 (PN40)	SEP	SEP
	DN32 ÷ 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 PQ205STW00 for threaded connection)

## 2/2 WAY PISTON ACTUATED VALVE, FLANGED - STAINLESS STEEL

VALVE	body connection	DN	flow rate Kvs	working pressure <sup>①</sup>		flow direction	pilot pressure <sup>③</sup>		actuator Ø	function
				min.	max.		min.	max.		
code	—	[mm]	[l/min]	[barg]	[barg]	—	[barg]	[barg]	[mm]	—
<b>PD205STW00</b>	flanges to <b>BS 4504</b> <b>EN1092</b> <b>shape B</b>	15	87	0	20	1 → 2	3.7	10	63	<b>NC</b>
<b>PD206STX00</b>		20	164	0	20	1 → 2	4.4	10		
<b>PD207STY00</b>		25	260	0	20	1 → 2	5	10		
<b>PD208STZ00</b>		32	410	0	16	1 → 2	5.9	10		
<b>PD209STK00</b>		40	700	0	16	1 → 2	9	10		
<b>PD210STJ00</b>		50	950	0	11	1 → 2	8	10		
<b>PD207LTY00</b>		25	260	0	20	1 → 2	2	8	90	
<b>PD208LTZ00</b>		32	410	0	16	1 → 2	3.5	8		
<b>PD209LTK00</b>		40	700	0	16	1 → 2	4	8		
<b>PD210LTJ00</b>		50	950	0	15	1 → 2	6.5	8		
<b>RPD205STW00</b>	flanges to <b>BS 4504</b> <b>EN1092</b> <b>shape B</b>	15	87	0	16	2 → 1	2.5	10	63	<b>NO</b>
<b>RPD206STX00</b>		20	164	0	16	2 → 1	4.3	10		
<b>RPD207STY00</b>		25	260	0	16	2 → 1	5.5	10		
<b>RPD208STZ00</b>		32	410	0	16	2 → 1	6.5	10		
<b>RPD209STK00</b>		40	700	0	16	2 → 1	9	10		
<b>RPD210STJ00</b>		50	950	0	12	2 → 1	9.4	10		
<b>RPD207LTY00</b>		25	260	0	16	2 → 1	2	8	90	
<b>RPD208LTZ00</b>		32	410	0	16	2 → 1	4	8		
<b>RPD209LTK00</b>		40	700	0	16	2 → 1	5	8		
<b>RPD210LTJ00</b>		50	950	0	16	2 → 1	7	8		
<b>BPD205STW00</b>	flanges to <b>BS 4504</b> <b>EN1092</b> <b>shape B</b>	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	<b>NC bidirectional</b>
<b>BPD206STX00</b>		20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BPD207STY00</b>		25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPD208STZ00</b>		32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPD209STK00</b>		40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPD210STJ00</b>		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPD207LTY00</b>		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
<b>BPD208LTZ00</b>		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
<b>BPD209LTK00</b>		40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPD210LTJ00</b>		50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		
<b>PA205STW00</b>	flanges to <b>ANSI B16.5</b> class 150	15	87	0	20	1 → 2	3.7	10	63	<b>NC</b>
<b>PA206STX00</b>		20	164	0	20	1 → 2	4.4	10		
<b>PA207STY00</b>		25	260	0	20	1 → 2	5	10		
<b>PA208STZ00</b>		32	410	0	16	1 → 2	5.9	10		
<b>PA209STK00</b>		40	700	0	16	1 → 2	9	10		
<b>PA210STJ00</b>		50	950	0	11	1 → 2	8	10		
<b>PA207LTY00</b>		25	260	0	20	1 → 2	2	8	90	
<b>PA208LTZ00</b>		32	410	0	16	1 → 2	3.5	8		
<b>PA209LTK00</b>		40	700	0	16	1 → 2	4	8		
<b>PA210LTJ00</b>		50	950	0	15	1 → 2	6.5	8		
<b>RPA205STW00</b>	flanges to <b>ANSI B16.5</b> class 150	15	87	0	16	2 → 1	2.5	10	63	<b>NO</b>
<b>RPA206STX00</b>		20	164	0	16	2 → 1	4.3	10		
<b>RPA207STY00</b>		25	260	0	16	2 → 1	5.5	10		
<b>RPA208STZ00</b>		32	410	0	16	2 → 1	6.5	10		
<b>RPA209STK00</b>		40	700	0	16	2 → 1	9	10		
<b>RPA210STJ00</b>		50	950	0	12	2 → 1	9.4	10		
<b>RPA207LTY00</b>		25	260	0	16	2 → 1	2	8	90	
<b>RPA208LTZ00</b>		32	410	0	16	2 → 1	4	8		
<b>RPA209LTK00</b>		40	700	0	16	2 → 1	5	8		
<b>RPA210LTJ00</b>		50	950	0	16	2 → 1	7	8		
<b>BPA205STW00</b>	flanges to <b>ANSI B16.5</b> class 150	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	<b>NC bidirectional</b>
<b>BPA206STX00</b>		20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BPA207STY00</b>		25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPA208STZ00</b>		32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPA209STK00</b>		40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPA210STJ00</b>		50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPA207LTY00</b>		25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
<b>BPA208LTZ00</b>		32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
<b>BPA209LTK00</b>		40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPA210LTJ00</b>		50	950	0	14 / 6	1 → 2 / 2 → 1	8 / 3.3	8		

## 2/2 WAY PISTON ACTUATED VALVE, CLAMP - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media, steam<sup>①</sup>
- Media temperature: -10°C ÷ +180°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>②</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Clamp end material: AISI 316L
- Clamp connection to **ISO 2852** or **ASME BPE**
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard
- Gasket and clamp not included

### BENEFITS

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

### OPTIONS

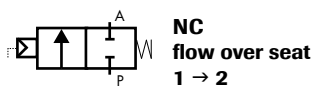
- Stroke regulator assembled ex-factory, see page 27 (e.g. code PC210STJR0)
- Travel switch assembled ex-factory, see page 27 (e.g. code RPC208LTZ10)

### ACCESSORIES

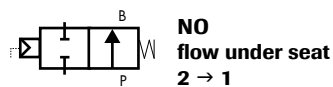
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



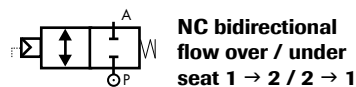
#### TYPE: PC / PP



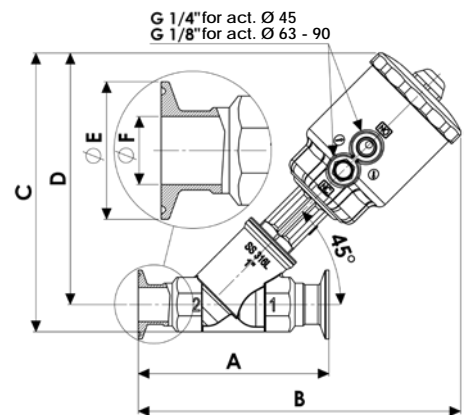
#### TYPE: RPC / RPP



#### TYPE: BPC / BPP



DIMENSIONS & WEIGHTS		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
actuator	[mm]	Ø 45		Ø 63						Ø 90			
<b>A - ISO</b>	[mm]	102	114	102	114	140	159	159	190	140	159	159	190
<b>A - ASME</b>	[mm]	102	114	102	114	140	-	159	190	140	-	159	190
<b>B - ISO</b>	[mm]	162	167	210	217	231	240	249	267	243	251	260	279
<b>B - ASME</b>	[mm]	162	167	210	217	231	-	249	267	243	-	260	279
<b>C - ISO</b>	[mm]	140	142	187	193	211	218	229	240	222	230	241	251
<b>C - ASME</b>	[mm]	136	138	183	189	211	-	223	240	222	-	235	251
<b>D</b>	[mm]	123	125	170	176	185	192	197	206	196	204	209	217
<b>E - ISO</b>	[mm]	34	34	34	34	50.5	50.5	64	64	50.5	50.5	64	64
<b>E - ASME</b>	[mm]	25	25	25	25	50.5	-	50.5	64	50.5	-	50.5	64
<b>F - ISO</b>	[mm]	17.2	21.3	17.2	21.3	25	33.7	40	51	25	33.7	40	51
<b>F - ASME</b>	[mm]	9.4	15.75	9.4	15.75	22.1	-	34.8	47.5	22.1	-	34.8	47.5
<b>weight - ISO</b>	[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
<b>weight - ASME</b>	[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
<b>PC - RPC - BPC</b> <b>PP - RPP - BPP</b>	DN15 ÷ 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

- <sup>①</sup> Steam max. working pressure 10 bar (9 barg)
- <sup>②</sup> Please contact M&M sales Department for other pilot media
- <sup>③</sup> Minimum pilot pressure at the max. working pressure: for lower working pressures please refer to the COMPARATIVE CHARTS (for different part numbers: e.g. PP205STW00 please refer to the equivalent part number PG205STW00 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]	—		
<b>PC205CTW00</b>	clamp to <b>ISO 2852</b>	15	65	0	10	1 → 2	3.8	10	45	<b>NC</b>		
<b>PC206CTX00</b>		20	120	0	10	1 → 2	5.8	10				
<b>PC205STW00</b>		15	85	0	10	1 → 2	3.7	10	63			
<b>PC206STX00</b>		20	160	0	10	1 → 2	4.4	10				
<b>PC207STY00</b>		25	260	0	10	1 → 2	5.9	10				
<b>PC208STZ00</b>		32	420	0	10	1 → 2	9	10				
<b>PC209STK00</b>		40	700	0	10	1 → 2	9	10				
<b>PC210STJ00</b>		50	810	0	10	1 → 2	8	10	90			
<b>PC207LTY00</b>		25	260	0	10	1 → 2	2	8				
<b>PC208LTZ00</b>		32	420	0	10	1 → 2	3.5	8				
<b>PC209LTK00</b>		40	700	0	10	1 → 2	4	8	90			
<b>PC210LTJ00</b>		50	810	0	10	1 → 2	6.5	8				
<b>RPC205CTW00</b>		clamp to <b>ISO 2852</b>	15	65	0	10	2 → 1	4	10		45	<b>NO</b>
<b>RPC206CTX00</b>	20		120	0	10	2 → 1	6.2	10				
<b>RPC205STW00</b>	15		85	0	10	2 → 1	2.5	10	63			
<b>RPC206STX00</b>	20		160	0	10	2 → 1	4.3	10				
<b>RPC207STY00</b>	25		260	0	10	2 → 1	5.5	10				
<b>RPC208STZ00</b>	32		420	0	10	2 → 1	6.5	10				
<b>RPC209STK00</b>	40		700	0	10	2 → 1	9	10				
<b>RPC210STJ00</b>	50		810	0	10	2 → 1	9.4	10	90			
<b>RPC207LTY00</b>	25		260	0	10	2 → 1	3	8				
<b>RPC208LTZ00</b>	32		420	0	10	2 → 1	4	8				
<b>RPC209LTK00</b>	40		700	0	10	2 → 1	5	8	90			
<b>RPC210LTJ00</b>	50		810	0	10	2 → 1	7	8				
<b>BPC205CTW00</b>	clamp to <b>ISO 2852</b>		15	65	0	10 / 10	1 → 2 / 2 → 1	6.2 / 5	10	45	<b>NC bidirectional</b>	
<b>BPC206CTX00</b>		20	120	0	10 / 7	1 → 2 / 2 → 1	8.7 / 5	10				
<b>BPC205STW00</b>		15	85	0	10 / 10	1 → 2 / 2 → 1	5.5 / 3.8	10	63			
<b>BPC206STX00</b>		20	160	0	10 / 10	1 → 2 / 2 → 1	6 / 3.8	10				
<b>BPC207STY00</b>		25	260	0	10 / 10	1 → 2 / 2 → 1	6.5 / 3.8	10				
<b>BPC208STZ00</b>		32	420	0	10 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10				
<b>BPC209STK00</b>		40	700	0	10 / 4	1 → 2 / 2 → 1	9 / 3.8	10				
<b>BPC210STJ00</b>		50	810	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10	90			
<b>BPC207LTY00</b>		25	260	0	10 / 10	1 → 2 / 2 → 1	4 / 3.3	8				
<b>BPC208LTZ00</b>		32	420	0	10 / 10	1 → 2 / 2 → 1	5 / 3.3	8				
<b>BPC209LTK00</b>		40	700	0	10 / 8	1 → 2 / 2 → 1	6 / 3.3	8	90			
<b>BPC210LTJ00</b>		50	810	0	10 / 6	1 → 2 / 2 → 1	8 / 3.3	8				
<b>PP205CTW00</b>		clamp to <b>ASME BPE</b>	15	50	0	10	1 → 2	3.8	10	45		<b>NC</b>
<b>PP206CTX00</b>	20		120	0	10	1 → 2	5.8	10				
<b>PP205STW00</b>	15		50	0	10	1 → 2	3.7	10	63			
<b>PP206STX00</b>	20		135	0	10	1 → 2	4.4	10				
<b>PP207STY00</b>	25		250	0	10	1 → 2	5	10				
<b>PP209STK00</b>	40		640	0	10	1 → 2	9	10				
<b>PP210STJ00</b>	50		730	0	10	1 → 2	8	10				
<b>PP207LTY00</b>	25		250	0	10	1 → 2	2	8	90			
<b>PP209LTK00</b>	40		640	0	10	1 → 2	4	8				
<b>PP210LTJ00</b>	50		730	0	10	1 → 2	6.5	8				
<b>RPP205CTW00</b>	clamp to <b>ASME BPE</b>		15	50	0	10	2 → 1	4	10	45	<b>NO</b>	
<b>RPP206CTX00</b>			20	120	0	10	2 → 1	6.2	10			
<b>RPP205STW00</b>			15	50	0	10	2 → 1	2.5	10	63		
<b>RPP206STX00</b>		20	135	0	10	2 → 1	4.3	10				
<b>RPP207STY00</b>		25	250	0	10	2 → 1	5.5	10				
<b>RPP209STK00</b>		40	640	0	10	2 → 1	9	10				
<b>RPP210STJ00</b>		50	730	0	10	2 → 1	9.4	10				
<b>RPP207LTY00</b>		25	250	0	10	2 → 1	2	8	90			
<b>RPP209LTK00</b>		40	640	0	10	2 → 1	5	8				
<b>RPP210LTJ00</b>		50	730	0	10	2 → 1	7	8				
<b>BPP205CTW00</b>		clamp to <b>ASME BPE</b>	15	50	0	10 / 10	1 → 2 / 2 → 1	6.2 / 5	10	45		<b>NC bidirectional</b>
<b>BPP206CTX00</b>			20	120	0	10 / 7	1 → 2 / 2 → 1	8.7 / 5	10			
<b>BPP205STW00</b>			15	50	0	10 / 10	1 → 2 / 2 → 1	5.5 / 3.8	10	63		
<b>BPP206STX00</b>	20		135	0	10 / 10	1 → 2 / 2 → 1	6 / 3.8	10				
<b>BPP207STY00</b>	25		250	0	10 / 10	1 → 2 / 2 → 1	6.5 / 3.8	10				
<b>BPP209STK00</b>	40		640	0	10 / 4	1 → 2 / 2 → 1	9 / 3.8	10				
<b>BPP210STJ00</b>	50		730	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10				
<b>BPP207LTY00</b>	25		250	0	10 / 10	1 → 2 / 2 → 1	4 / 3.3	8	90			
<b>BPP209LTK00</b>	40		640	0	10 / 8	1 → 2 / 2 → 1	6 / 3.3	8				
<b>BPP210LTJ00</b>	50		730	0	10 / 6	1 → 2 / 2 → 1	8 / 3.3	8				

## 2/2 WAY PISTON ACTUATED VALVE G 1/2" ÷ 2", HIGH TEMPERATURE VERSION - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media, steam<sup>Ⓢ</sup>
- Media temperature: -10°C ÷ +200°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>Ⓢ</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard

### BENEFITS

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

### OPTIONS

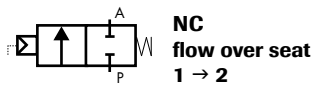
- Stroke regulator assembled ex-factory, see page 27 (e.g. code RPG210STJRH)
- Travel switch assembled ex-factory, see page 27 (e.g. code PG208STZIH)
- NPT** connection (e.g. code BPN207LTY0H)
- Butt weld connection (e.g. code BPW209LTK0H)
- Flanged connection (e.g. code PD205STW0H)

### ACCESSORIES

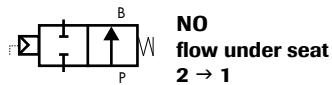
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



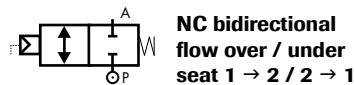
#### TYPE: PG



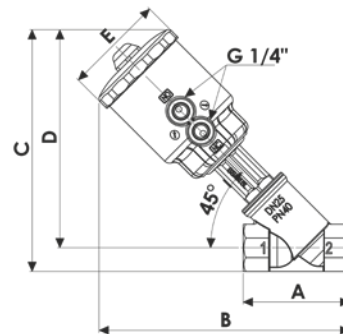
#### TYPE: RPG



#### TYPE: BPG



DIMENSIONS & WEIGHTS		DN15	DN20	DN25	DN32	DN40	DN50
actuator	[mm]	Ø 63			Ø 90		
<b>A</b>	[mm]	65	75	90	110	120	150
<b>B</b>	[mm]	192	198	212	234	239	257
<b>C</b>	[mm]	184	192	205	227	235	250
<b>D</b>	[mm]	171	176	185	202	207	216
<b>E</b>	[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
<b>PG - RPG - BPG</b>	DN15 ÷ DN25 (PN40)	SEP	SEP
	DN32 ÷ 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" ÷ 2", HIGH TEMPERATURE VERSION - STAINLESS STEEL

VALVE	body connection	DN	flow rate Kvs	working pressure ①		flow direction	pilot pressure ②		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>PG205STW0H</b>	1/2"	15	87	0	20	1 → 2	3.7	10	63	<b>NC</b>
<b>PG206STX0H</b>	3/4"	20	164	0	20	1 → 2	4.4	10		
<b>PG207STY0H</b>	1"	25	260	0	20	1 → 2	5	10		
<b>PG208LTZ0H</b>	1 1/4"	32	410	0	16	1 → 2	3.5	8	90	
<b>PG209LTK0H</b>	1 1/2"	40	700	0	16	1 → 2	4	8		
<b>PG210LTJ0H</b>	2"	50	950	0	15	1 → 2	6.5	8		

<b>RPG205STW0H</b>	1/2"	15	87	0	16	2 → 1	2.5	10	63	<b>NO</b>
<b>RPG206STX0H</b>	3/4"	20	164	0	16	2 → 1	4.3	10		
<b>RPG207STY0H</b>	1"	25	260	0	16	2 → 1	5.5	10		
<b>RPG208LTZ0H</b>	1 1/4"	32	410	0	16	2 → 1	4	8	90	
<b>RPG209LTK0H</b>	1 1/2"	40	700	0	16	2 → 1	5	8		
<b>RPG210LTJ0H</b>	2"	50	950	0	16	2 → 1	7	8		

<b>BPG205STW0H</b>	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	<b>NC bidirectional</b>
<b>BPG206STX0H</b>	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BPG207STY0H</b>	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPG208LTZ0H</b>	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8	90	
<b>BPG209LTK0H</b>	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPG210LTJ0H</b>	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" ÷ 2 3/8", THREADED SPIGOTS - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media, steam<sup>Ⓢ</sup>
- Media temperature: -10°C ÷ +180°C
- Ambient temperature: -10°C ÷ +60°C
- Pilot media<sup>Ⓢ</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Position indicator as standard

### BENEFITS

- Waterhammer-free design for **BPR - DPR** (with flow direction 2 → 1)
- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

- Stroke regulator assembled ex-factory, see page 27 (e.g. code BPR211STKR0)
- Travel switch assembled ex-factory, see page 27 (e.g. code BPR206STW10)
- High temperature version, see pages 18/19 (e.g. code RPR208STY0H)

### ACCESSORIES

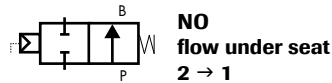
- Position module, travel switch kit, pilot solenoid valves see pages 28/29/30/31



#### TYPE: PR



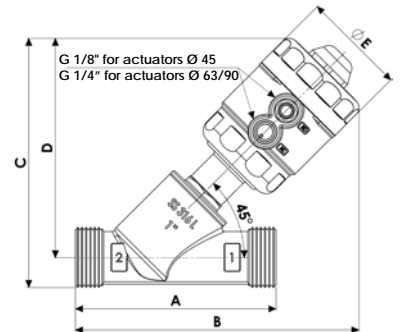
#### TYPE: RPR



#### TYPE: BPR



DIMENSIONS & WEIGHTS		DN15	DN20	DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
		Ø 45		Ø 63						Ø 90			
<b>actuator</b>	[mm]												
<b>A</b>	[mm]	90	110	90	110	118	130	140	175	118	130	140	175
<b>B</b>	[mm]	148	156	196	206	217	226	224	246	228	237	235	257
<b>C</b>	[mm]	134	137	181	187	204	212	216	229	215	222	227	240
<b>D</b>	[mm]	121	121	168	171	183	188	189	196	194	199	200	207
<b>E</b>	[mm]	57	57	85	85	85	85	85	85	112	112	112	112
<b>weight</b>	[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
<b>PR - RPR - BPR</b>	DN15 ÷ DN25 (PN40)	SEP	SEP
	DN32 ÷ 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" ÷ 2 3/8", THREADED SPIGOTS - STAINLESS STEEL

VALVE	body connection	DN	flow rate Kvs	working pressure ①		flow direction	pilot pressure ②		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>PR206CTW00</b>	<b>3/4"</b>	15	75	0	16	1 → 2	3.8	10	45	<b>NC</b>
<b>PR207CTX00</b>	<b>1"</b>	20	133	0	16	1 → 2	5.8	10		
<b>PR206STW00</b>	<b>3/4"</b>	15	87	0	20	1 → 2	3.7	10	63	
<b>PR207STX00</b>	<b>1"</b>	20	164	0	20	1 → 2	4.4	10		
<b>PR208STY00</b>	<b>1 1/4"</b>	25	260	0	20	1 → 2	5	10		
<b>PR209STZ00</b>	<b>1 1/2"</b>	32	410	0	16	1 → 2	5.9	10		
<b>PR211STK00</b>	<b>1 3/4"</b>	40	700	0	16	1 → 2	9	10	90	
<b>PR212STJ00</b>	<b>2 3/8" ③</b>	50	950	0	11	1 → 2	8	10		
<b>PR208LTY00</b>	<b>1 1/4"</b>	25	260	0	20	1 → 2	2	8		
<b>PR209LTZ00</b>	<b>1 1/2"</b>	32	410	0	16	1 → 2	3.5	8		
<b>PR211LTK00</b>	<b>1 3/4"</b>	40	700	0	16	1 → 2	4	8	90	
<b>PR212LTJ00</b>	<b>2 3/8" ③</b>	50	950	0	15	1 → 2	6.5	8		

<b>RPR206CTW00</b>	<b>3/4"</b>	15	75	0	16	2 → 1	4	10	45	<b>NO</b>
<b>RPR207CTX00</b>	<b>1"</b>	20	133	0	16	2 → 1	6.2	10		
<b>RPR206STW00</b>	<b>3/4"</b>	15	87	0	16	2 → 1	2.5	10	63	
<b>RPR207STX00</b>	<b>1"</b>	20	164	0	16	2 → 1	4.3	10		
<b>RPR208STY00</b>	<b>1 1/4"</b>	25	260	0	16	2 → 1	5.5	10		
<b>RPR209STZ00</b>	<b>1 1/2"</b>	32	410	0	16	2 → 1	6.5	10		
<b>RPR211STK00</b>	<b>1 3/4"</b>	40	700	0	16	2 → 1	9	10	90	
<b>RPR212STJ00</b>	<b>2 3/8" ③</b>	50	950	0	12	2 → 1	9.4	10		
<b>RPR208LTY00</b>	<b>1 1/4"</b>	25	260	0	16	2 → 1	3	8		
<b>RPR209LTZ00</b>	<b>1 1/2"</b>	32	410	0	16	2 → 1	4	8		
<b>RPR211LTK00</b>	<b>1 3/4"</b>	40	700	0	16	2 → 1	5	8	90	
<b>RPR212LTJ00</b>	<b>2 3/8" ③</b>	50	950	0	16	2 → 1	7	8		

<b>BPR206CTW00</b>	<b>3/4"</b>	15	75	0	16 / 16	1 → 2 / 2 → 1	6.2 / 5	10	45	<b>NC bidirectional</b>
<b>BPR207CTX00</b>	<b>1"</b>	20	133	0	16 / 7	1 → 2 / 2 → 1	8.7 / 5	10		
<b>BPR206STW00</b>	<b>3/4"</b>	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	
<b>BPR207STX00</b>	<b>1"</b>	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BPR208STY00</b>	<b>1 1/4"</b>	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPR209STZ00</b>	<b>1 1/2"</b>	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPR211STK00</b>	<b>1 3/4"</b>	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10	90	
<b>BPR212STJ00</b>	<b>2 3/8" ③</b>	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPR208LTY00</b>	<b>1 1/4"</b>	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8		
<b>BPR209LTZ00</b>	<b>1 1/2"</b>	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
<b>BPR211LTK00</b>	<b>1 3/4"</b>	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8	90	
<b>BPR212LTJ00</b>	<b>2 3/8" ③</b>	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 FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES - II 2 GD C TX CLASS

### TECHNICAL SPECIFICATIONS

- Protection class: II 2 GD c Tx
- Media: water, oil, air, aggressive media, steam<sup>Ⓢ</sup>
- Media temperature: -10°C ÷ +200°C
- Ambient temperature: -10°C ÷ +80°C
- Pilot media<sup>Ⓢ</sup>: instrument air, inert gases
- Body material: cast AISI 316L (CF3M), see page 37
- Bonnet material: cast AISI 316L (CF3M), see page 37
- 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



### BENEFITS

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

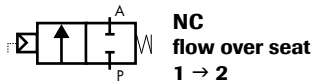
### OPTIONS

- ATEX inductive switch assembled ex-factory (e.g. code PG207MTYX0), with ambient temperature -10°C ÷ +60°C

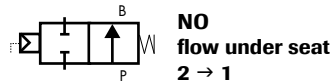
### ACCESSORIES

- ATEX pilot solenoid valves type N326CVEK see page 31

#### TYPE: PG



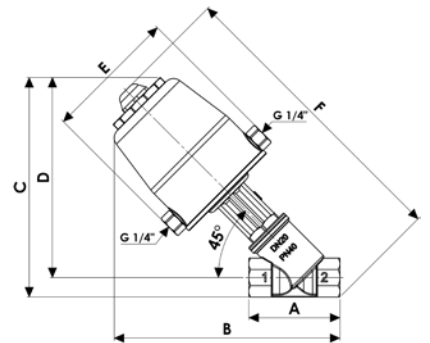
#### TYPE: RPG



#### TYPE: BPG



DIMENSIONS & WEIGHTS		DN15	DN20	DN25	DN32	DN40	DN50	DN25	DN32	DN40	DN50
		Ø 63						Ø 90			
<b>actuator</b>	[mm]										
<b>A</b>	[mm]	65	75	90	110	120	150	90	110	120	150
<b>B</b>	[mm]	178	184	200	211	216	234	208	221	226	244
<b>C</b>	[mm]	171	178	200	204	212	227	201	213	221	236
<b>D</b>	[mm]	157	162	172	180	184	193	181	189	194	202
<b>E</b>	[mm]	108	108	108	108	108	108	135	135	135	135
<b>F</b>	[mm]	228	239	258	275	284	307	260	278	286	310
<b>weight</b>	[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
<b>PG - RPG - BPG</b>	DN15 ÷ DN25 (PN40)	SEP	SEP
	DN32 ÷ 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 FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES - II 2 GD C TX CLASS

VALVE	body connection	DN	flow rate Kvs	working pressure ①		flow direction	pilot pressure ②		actuator Ø	function
				min.	max.		min.	max.		
code	[ISO 228G]	[mm]	[l/min]	[barg]	[barg]	–	[barg]	[barg]	[mm]	–
<b>PG205MTW00</b>	1/2"	15	87	0	20	1 → 2	3.7	10	63	<b>NC</b>
<b>PG206MTX00</b>	3/4"	20	164	0	20	1 → 2	4.4	10		
<b>PG207MTY00</b>	1"	25	260	0	20	1 → 2	5	10		
<b>PG208MTZ00</b>	1 1/4"	32	410	0	16	1 → 2	5.9	10		
<b>PG209MTK00</b>	1 1/2"	40	700	0	16	1 → 2	9	10		
<b>PG210MTJ00</b>	2"	50	950	0	11	1 → 2	8	10		
<b>PG207GTY00</b>	1"	25	260	0	20	1 → 2	2	8	90	
<b>PG208GTZ00</b>	1 1/4"	32	410	0	16	1 → 2	3.5	8		
<b>PG209GTK00</b>	1 1/2"	40	700	0	16	1 → 2	4	8		
<b>PG210GTJ00</b>	2"	50	950	0	15	1 → 2	6.5	8		

<b>RPG205MTW00</b>	1/2"	15	87	0	16	2 → 1	2.5	10	63	<b>NO</b>
<b>RPG206MTX00</b>	3/4"	20	164	0	16	2 → 1	4.3	10		
<b>RPG207MTY00</b>	1"	25	260	0	16	2 → 1	5.5	10		
<b>RPG208MTZ00</b>	1 1/4"	32	410	0	16	2 → 1	6.5	10		
<b>RPG209MTK00</b>	1 1/2"	40	700	0	16	2 → 1	9	10		
<b>RPG210MTJ00</b>	2"	50	950	0	12	2 → 1	9.4	10		
<b>RPG207GTY00</b>	1"	25	260	0	16	2 → 1	2	8	90	
<b>RPG208GTZ00</b>	1 1/4"	32	410	0	16	2 → 1	4	8		
<b>RPG209GTK00</b>	1 1/2"	40	700	0	16	2 → 1	5	8		
<b>RPG210GTJ00</b>	2"	50	950	0	16	2 → 1	7	8		

<b>BPG205MTW00</b>	1/2"	15	87	0	16	1 → 2 / 2 → 1	5.5 / 3.8	10	63	<b>NC bidirectional</b>
<b>BPG206MTX00</b>	3/4"	20	164	0	16	1 → 2 / 2 → 1	6 / 3.8	10		
<b>BPG207MTY00</b>	1"	25	260	0	16 / 11	1 → 2 / 2 → 1	6.5 / 3.8	10		
<b>BPG208MTZ00</b>	1 1/4"	32	410	0	16 / 6	1 → 2 / 2 → 1	6.8 / 3.8	10		
<b>BPG209MTK00</b>	1 1/2"	40	700	0	12 / 4	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPG210MTJ00</b>	2"	50	950	0	8 / 2.5	1 → 2 / 2 → 1	9 / 3.8	10		
<b>BPG207GTY00</b>	1"	25	260	0	16 / 14	1 → 2 / 2 → 1	4 / 3.3	8	90	
<b>BPG208GTZ00</b>	1 1/4"	32	410	0	16 / 12	1 → 2 / 2 → 1	5 / 3.3	8		
<b>BPG209GTK00</b>	1 1/2"	40	700	0	16 / 8	1 → 2 / 2 → 1	6 / 3.3	8		
<b>BPG210GTJ00</b>	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

### TECHNICAL 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: nickel-plated brass

Cable: PVC 2x0,25 mm<sup>2</sup>

Safety rating: UI=17V - li=17mA - Pi=73mW - Ci=0,25uF - Li=175uH



## CONTROL PISTON ACTUATED VALVE WITH INTEGRATED POSITIONER, DN15 ÷ DN50 - STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

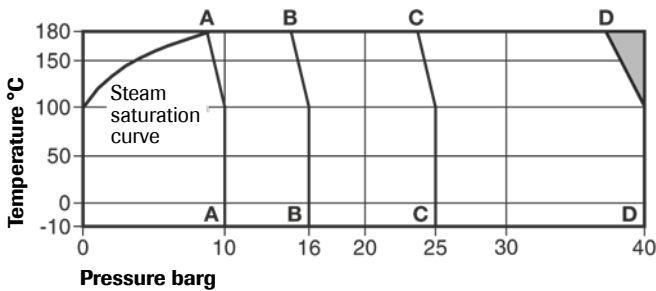
- Media: water, oil, air, aggressive media, steam<sup>①</sup>
- Media temperature: -10°C ÷ +180°C
- Viscosity: max. 600 cSt (80° E)
- Pilot media: dry and filtered air (mesh 25 µm)
- Actuator diameter: 63 or 90
- Body material: cast AISI 316L (CF3M), see page 37
- Bonnet material: cast AISI 316L (CF3M), see page 37
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE
- Flow characteristic: linear or equal percentage
- Positioner enclosure: anodized aluminium (black)
- Set point signal: 0 ÷ 10V; 4 ÷ 20mA
- Electrical supply: 24V DC
- Maximum power consumption: 6W (0,24A)
- Function: NC (Direct) / NO (Reverse)
- 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

### BENEFITS

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

### OPTIONS

- 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 !



**TYPE: ZP-**  
flow always under seat 2 → 1

DN	flow rate Kvs		working pressure <sup>①</sup> max.	flow direction	pilot pressure max.		actuator Ø	PN <sup>②</sup>
	EQUI% TRIM 1:25	LINEAR TRIM 1:25			min.	max.		
[mm]	[m³/h]	[m³/h]	[barg]	[2 → 1]	[barg]	[barg]	[mm]	—
15	4.5	4.9	16	<b>only under seat</b>	4.5	8	63	40
20	8.7	8.7	16					40
25	12.7	14.4	14	<b>only under seat</b>	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

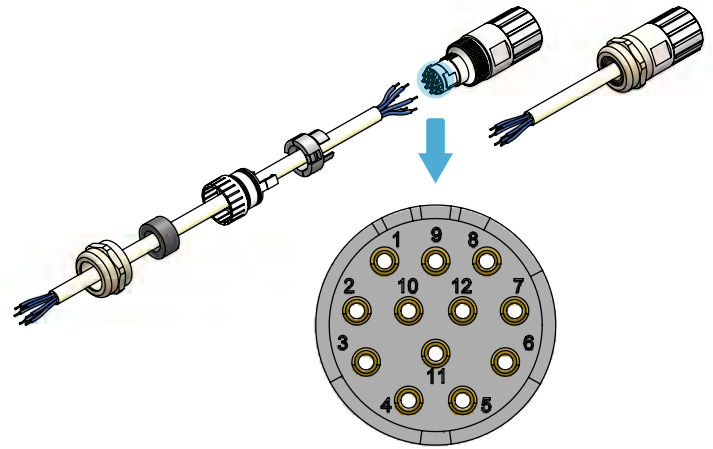
- ① Steam max. working pressure 10 bar (9 barg)
- ② PN10 for all sizes for clamp



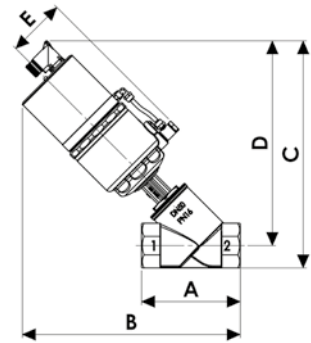
## CONTROL PISTON ACTUATED VALVE WITH INTEGRATED POSITIONER, DN15 ÷ DN50 - STAINLESS STEEL

### 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			
	<b>A</b>	[mm]	64	75	90	110	120	150
	<b>B</b>	[mm]	294	301	316	329	334	352
	<b>C</b>	[mm]	282.5	290	305	317	325	340
	<b>D</b>	[mm]	269	274	285	292.5	297.5	306.5
	<b>E</b>	[mm]	75	75	88	88	88	88
	<b>weight</b>	[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			
	<b>A</b>	[mm]	130	150	160	180	200	230
	<b>B</b>	[mm]	323	330	344	359	361	384
	<b>C</b>	[mm]	339.5	349.5	364.5	386	394	412.5
	<b>D</b>	[mm]	292	297	307	316	319	330
	<b>E</b>	[mm]	75	75	88	88	88	88
	<b>weight</b>	[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			
	<b>A</b>	[mm]	139.7	152.4	165.1	184.2	203.2	228.6
	<b>B</b>	[mm]	321	327	343	357	361	384
	<b>C</b>	[mm]	336.5	346	361	375	382.5	406
	<b>D</b>	[mm]	292	297	307	316	319	330
	<b>E</b>	[mm]	75	75	88	88	88	88
	<b>weight</b>	[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			
	<b>A</b>	[mm]	102	114	140	159	159	190
	<b>B</b>	[mm]	313	320.5	341	353.5	353.5	372
	<b>C</b>	[mm]	286	291	310	318	329.5	340
	<b>D</b>	[mm]	269	274	285	292.5	297.5	306.5
	<b>E</b>	[mm]	75	75	88	88	88	88
	<b>weight</b>	[kg]	2.5	2.7	3.7	4.1	4.5	5.3

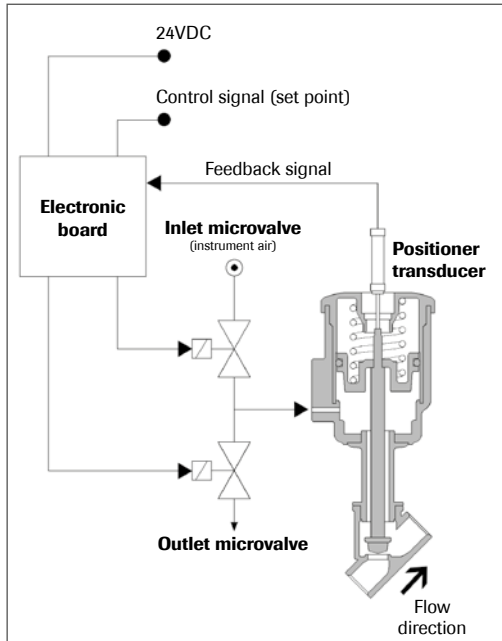
CLAMP ASME BPE	DIMENSIONS & WEIGHTS		DN15	DN20	DN25	DN32	DN40	DN50
	actuator	[mm]	Ø 63		Ø 90			
	<b>A</b>	[mm]	102	114	140	/	159	190
	<b>B</b>	[mm]	313	320.5	341	/	353.5	372
	<b>C</b>	[mm]	282.5	290	310	/	325	340
	<b>D</b>	[mm]	269	274	285	/	297.5	306.5
	<b>E</b>	[mm]	75	75	88	/	88	88
	<b>weight</b>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

/ = not available

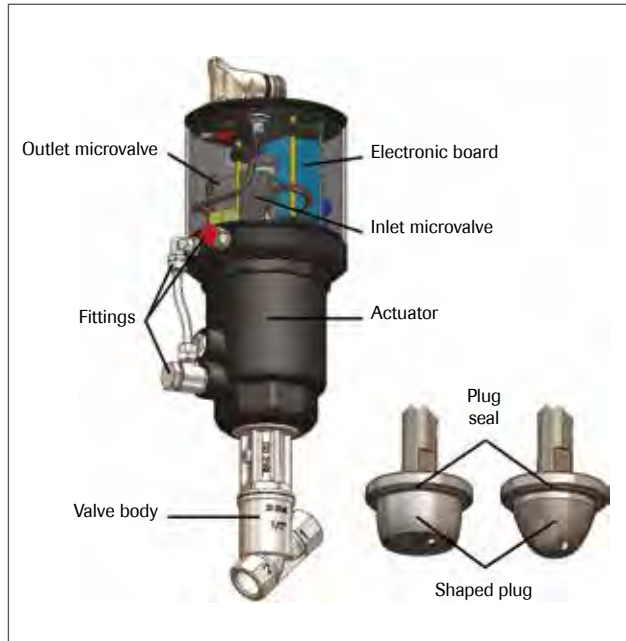
## CONTROL PISTON ACTUATED VALVE WITH INTEGRATED POSITIONER, DN15 ÷ DN50 - STAINLESS STEEL

### OPERATING PRINCIPLES AND DESCRIPTION

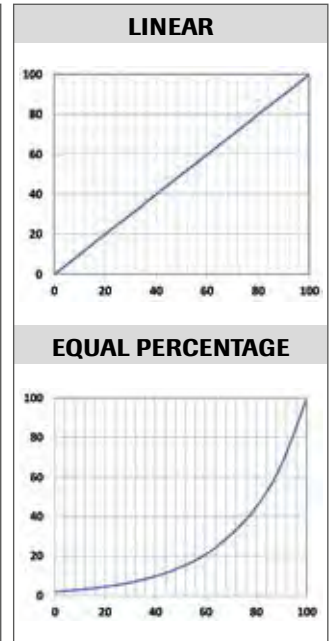
M&M control piston actuated valves are operated by a compact pneumatic integrated positioner working in a closed loop. **PICTURE A** shows the operating layout: the set-point signal (coming from the control panel of the plant) is compared with the internal signal (feed-back) of the position sensor. When 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**



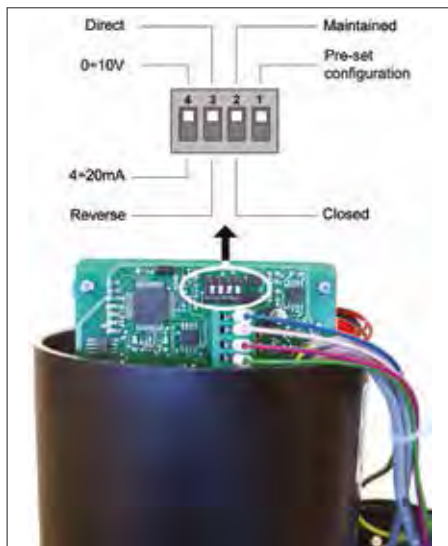
**PICTURE C**

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

- 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)

**Max. switching voltage:** 500 V

**Max. switching current:** 0,5 A

**Max. switching power:** 30 W/VA

**Max. switching frequency:** 150 Hz

**Contact actuation time:** 4,5 ms

**Repeatability:**  $\pm 0,3$  mm

**Temperature limits:** - 25° C ÷ + 100° C

**Protection class:** IP67

**Housing material:** brass with electroless nickel plating treatment

**Plug for cable** 3x0,5 mm<sup>2</sup>; 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 RPG205STWI0)

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

### TECHNICAL SPECIFICATIONS

**M&M** position modules offers 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.

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 ÷ +60°C

Protection class: IP65

### TECHNICAL SPECIFICATIONS OF 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

### TECHNICAL SPECIFICATIONS OF INDUCTIVE SWITCHES

Number of switches: 2

Output version: normally open contact (PNP)

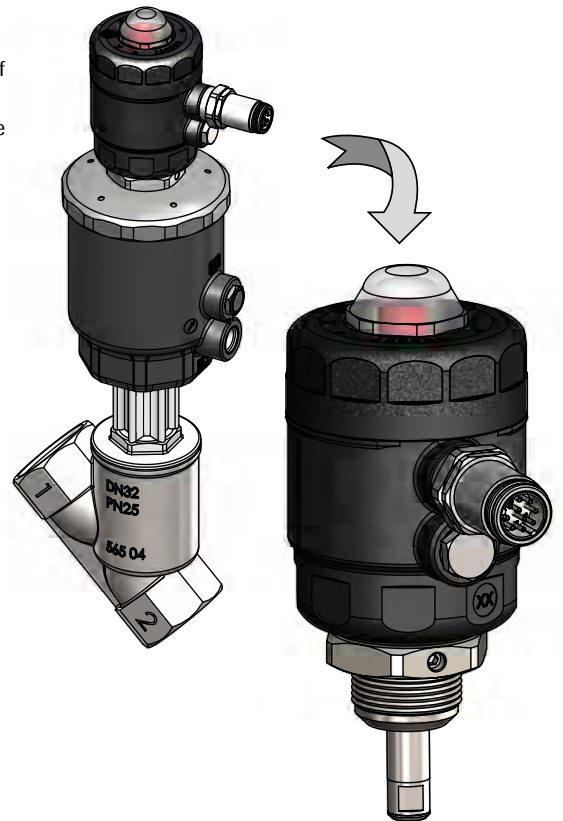
Power supply: 12 ÷ 24VDC

Maximum load current: 50mA per output

Power consumption: 13mA max at 24VDC without load

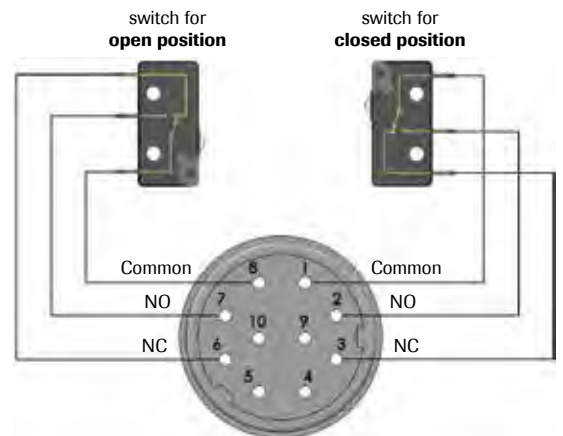
### BENEFITS

Actuator housing rotation 360°



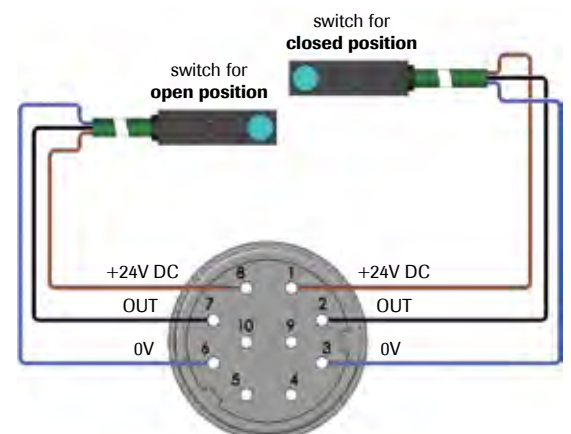
### ELECTRICAL CONNECTION SCHEME FOR MECHANICAL SWITCHES

Connector frontal view:

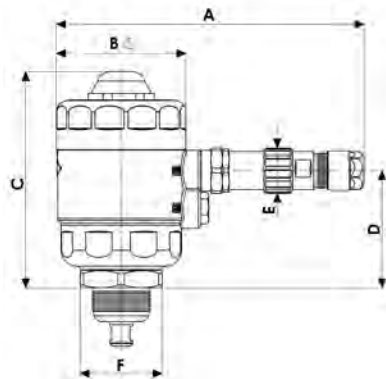


### ELECTRICAL CONNECTION SCHEME FOR INDUCTIVE SWITCHES

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.

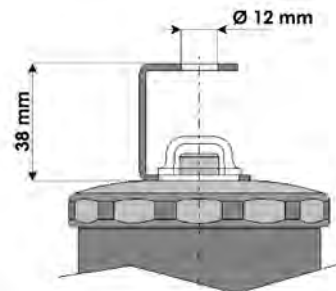
You can install a sensor having a larger diameter (up to 18mm max.) in this case you shall re-drill the upper hole on the sensor support bracket.

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

### TECHNICAL SPECIFICATIONS

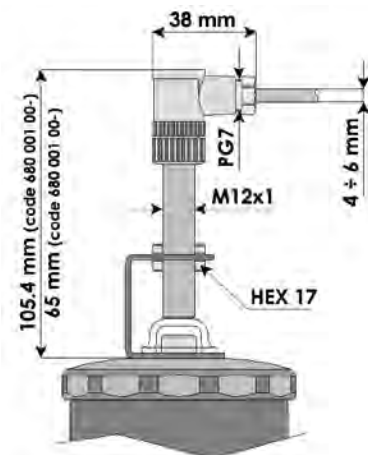
M&M offers 2 types (type **A** or type **B** see below) of standard magnetic switches to be purchased in addition to the conversion kit. Other types of switches can be outsourced directly by the customer, provided that they comply with M&M kit mounting specifications.

#### NOTES no. 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-.

MAGNETIC SWITCHES	• Type A code 680 001 00-	• Type A 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 ÷ + 100° C	- 25° C ÷ + 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 W/VA	20 W/VA
Contact actuation time:	4,5 ms	2 ms
Connection:	plug to screw clamp connection DIN IEC 60947/5/2	with cable (5 m)
Cable:	3 x 0,25 mm <sup>2</sup>	3 x 0,25 mm <sup>2</sup>



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 VALVE WITH MANUAL OVERRIDE

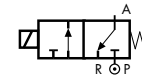
### COMMON FEATURES

- Media: water, inert gases, air
- Media temperature: -10°C ÷ +60°C
- Ambient temperature: -10°C ÷ +60°C
- Body material: brass (CW617N EN 12165) with electroless nickel plating treatment
- Operator material: stainless steel
- Seal material: foodgrade FKM
- Protection class: IP 65 (with connector and gasket)

### BENEFITS

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

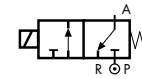
### TYPE: B356/B326



Normally Closed



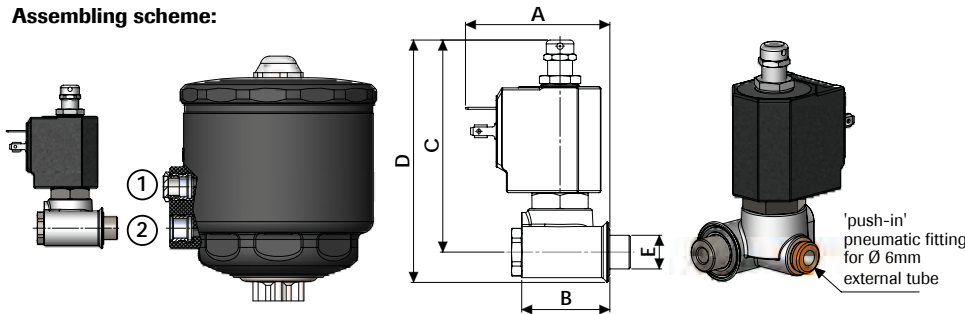
### TYPE: D326



Normally Closed



### Assembling scheme:



DIMENSIONS & WEIGHTS	B356	B326	D326	
connection	'push-in'			
A	[mm]	48	51	56.5
B	[mm]	31	34	34
C	[mm]	67	67	83
D	[mm]	77	79	95
E	[mm]	1/8" G	1/4" G	1/4" G
weight	[kg]	0.25	0.25	0.30

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]
<b>B356CVCMK</b>	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]
<b>B326CVCMK</b>	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]
<b>D326CVCMK</b>	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 25va (holding)  
AC 50va (inrush)  
DC 22w

### OPTIONS

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



## 3/2 WAY DIRECT ACTING PILOT SOLENOID VALVE FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES - ATEX II 2 GD

### COMMON FEATURES

- Media: water, inert gases, air
- Media temperature: -10°C ÷ +60°C
- Ambient temperature: -20°C ÷ +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

### 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

**TYPE: N326**



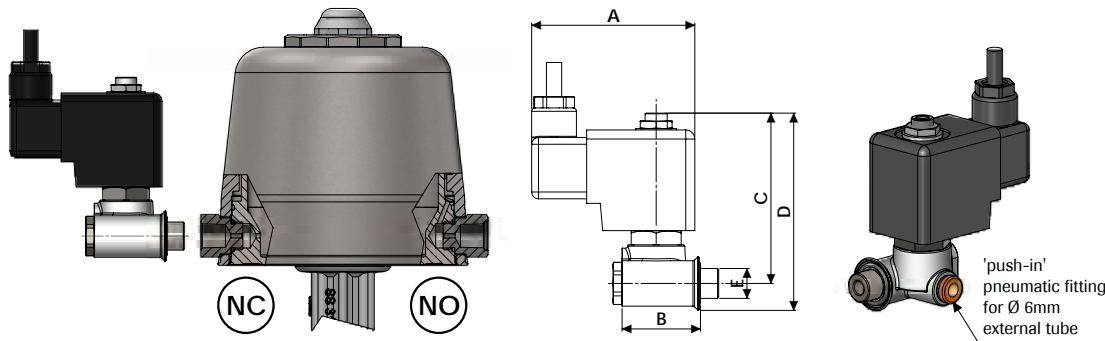
**Normally Closed**



### WARNING!

Valves for potentially explosive atmosphere are available from factory only.  
**REPLACING THE SOLENOID DOESN'T MAKE A VALVE EXPLOSION-PROOF!**

### Assembling scheme:



DIMENSIONS & WEIGHTS		N326
connection	'push-in'	
<b>A</b>	[mm]	72
<b>B</b>	[mm]	34.5
<b>C</b>	[mm]	74
<b>D</b>	[mm]	86
<b>E</b>	[mm]	1/4" G
<b>weight</b>	[kg]	0.88

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
code	[mm]	[l/min]	min.	max. AC	max. DC	code	[Volts/Hz]	holding	[mA]
<b>N326CVEK</b>	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

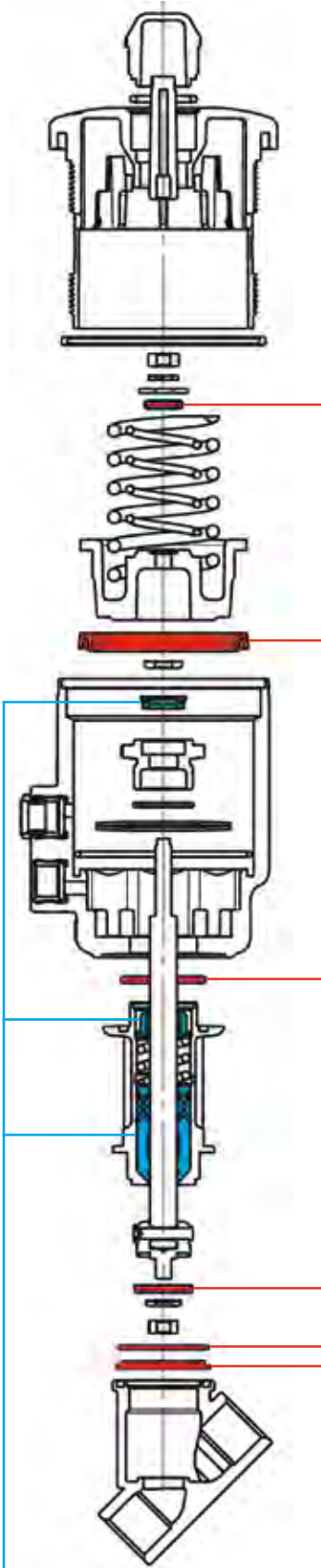
### WARNING

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.**

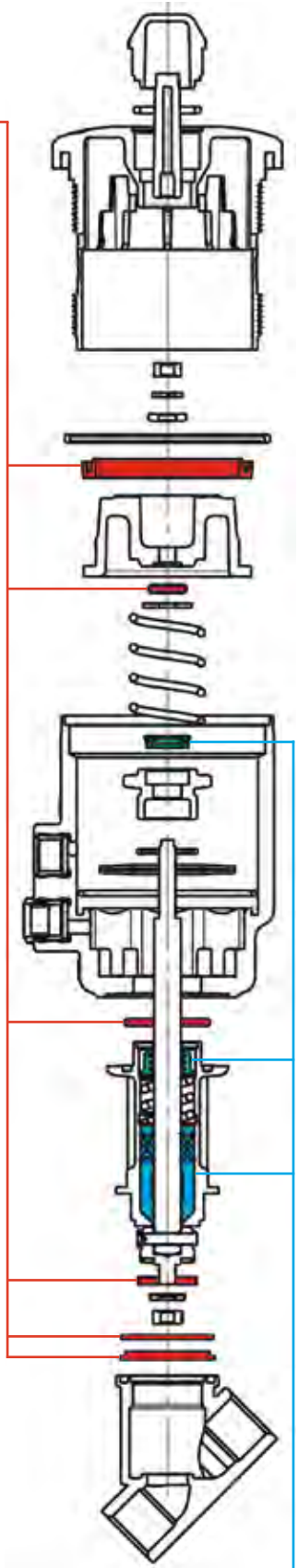
## SEAL KIT FOR STAINLESS STEEL VALVES, ACTUATOR Ø 63/90

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-	Ø 63
856 122 00-	20	PW/RPW/BPW- PB/RPB/BPB-	
856 133 00-	25	PD/RPD/BPD- PA/BPA/RPA-	
856 144 00-	32	PC/RPC/BPC- PP/RPP/BPP-	
856 155 00-	40	PR/RPR/BPR-	
856 166 00-	50	HIGH TEMPERATURE VERSION	
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		
856 313 00-	25	PG/RPG/BPG- PN/RPN/BPN-	Ø 90
856 314 00-	32	PW/RPW/BPW- PB/RPB/BPB-	
856 315 00-	40	PD/RPD/BPD- PA/BPA/RPA-	
856 316 00-	50	PC/RPC/BPC- PP/RPP/BPP-	
		HIGH TEMPERATURE VERSION	

### STEM SEALS KIT

Kit code	DN	Valve type ①	Actuator
856 802 00-	all	PG/RPG/BPG/DPG- PN/RPN/BPN/DPN- PW/RPW/BPW- 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		

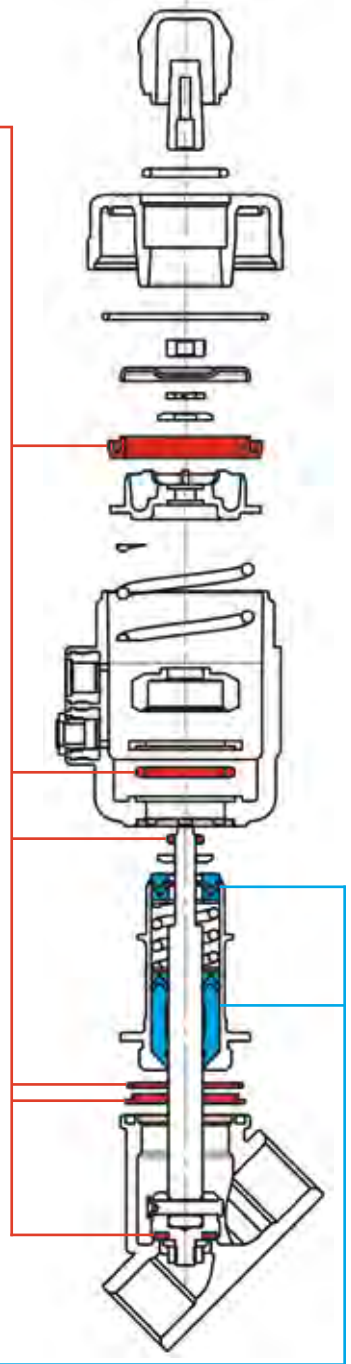
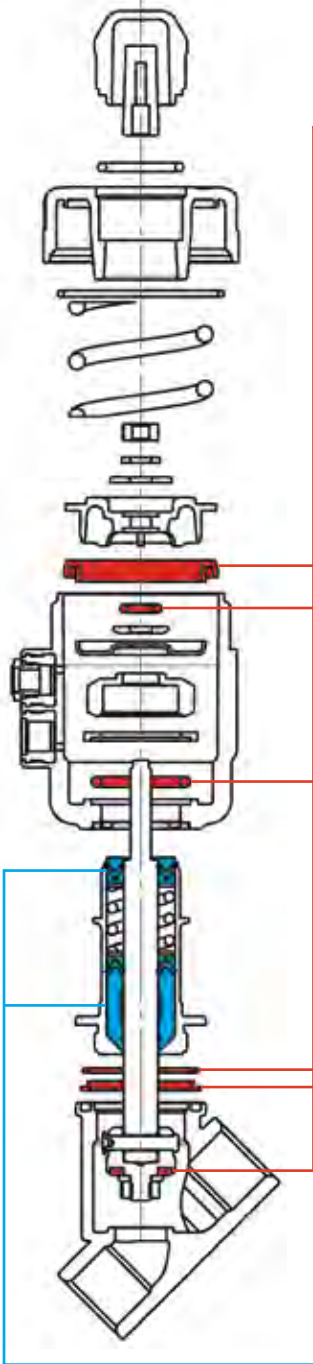
① Included versions with optional: stroke regulator (e.g. code PW208STZR0) and travel switch version (e.g. code BPG209LTKI0)

## 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		

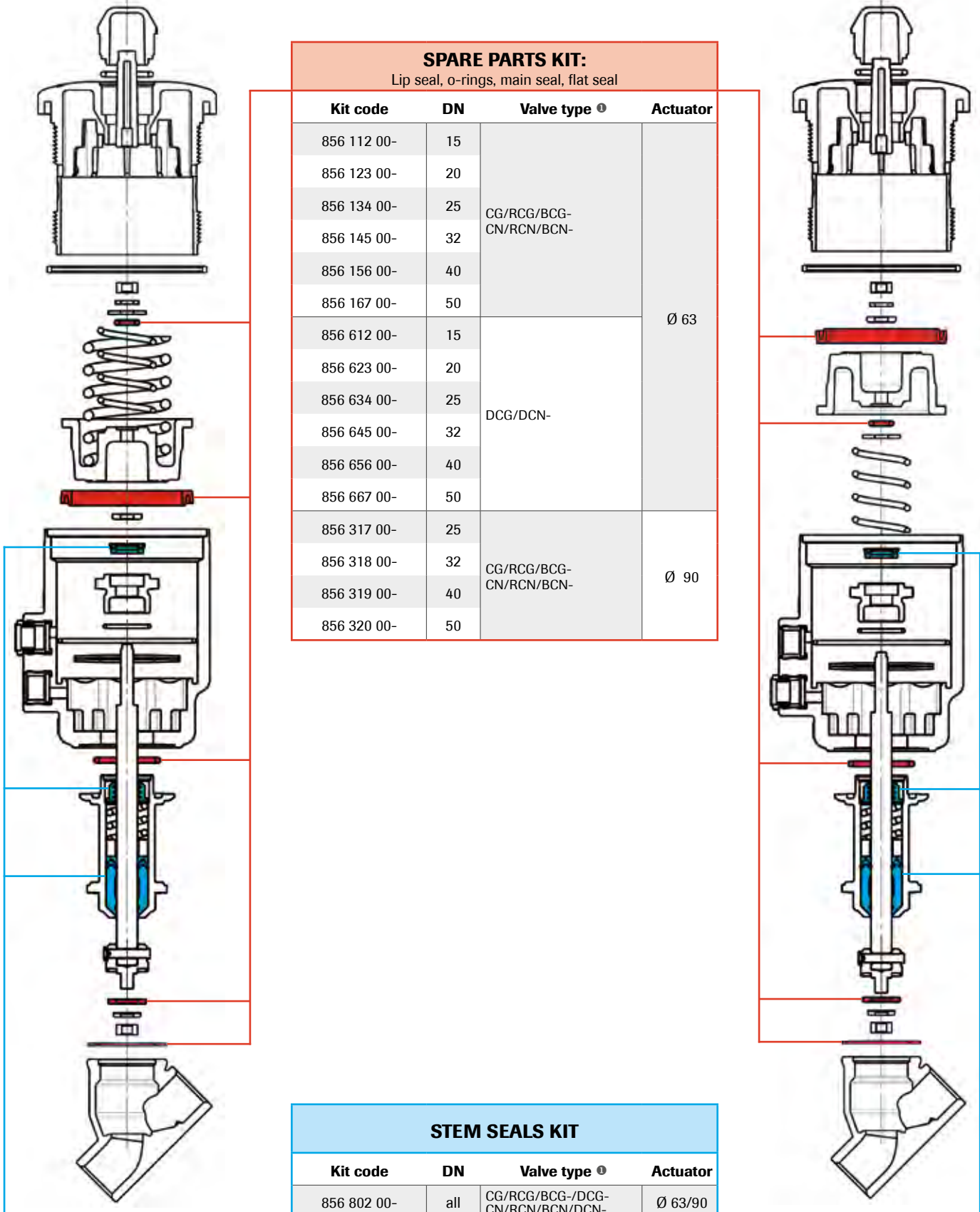
STEM SEALS KIT			
Kit code	DN	Valve type	Actuator
856 801 00-	all	all	Ø 45

## 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	CG/RCG/BCG-/DCG- CN/RCN/BCN/DCN-	Ø 63/90
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

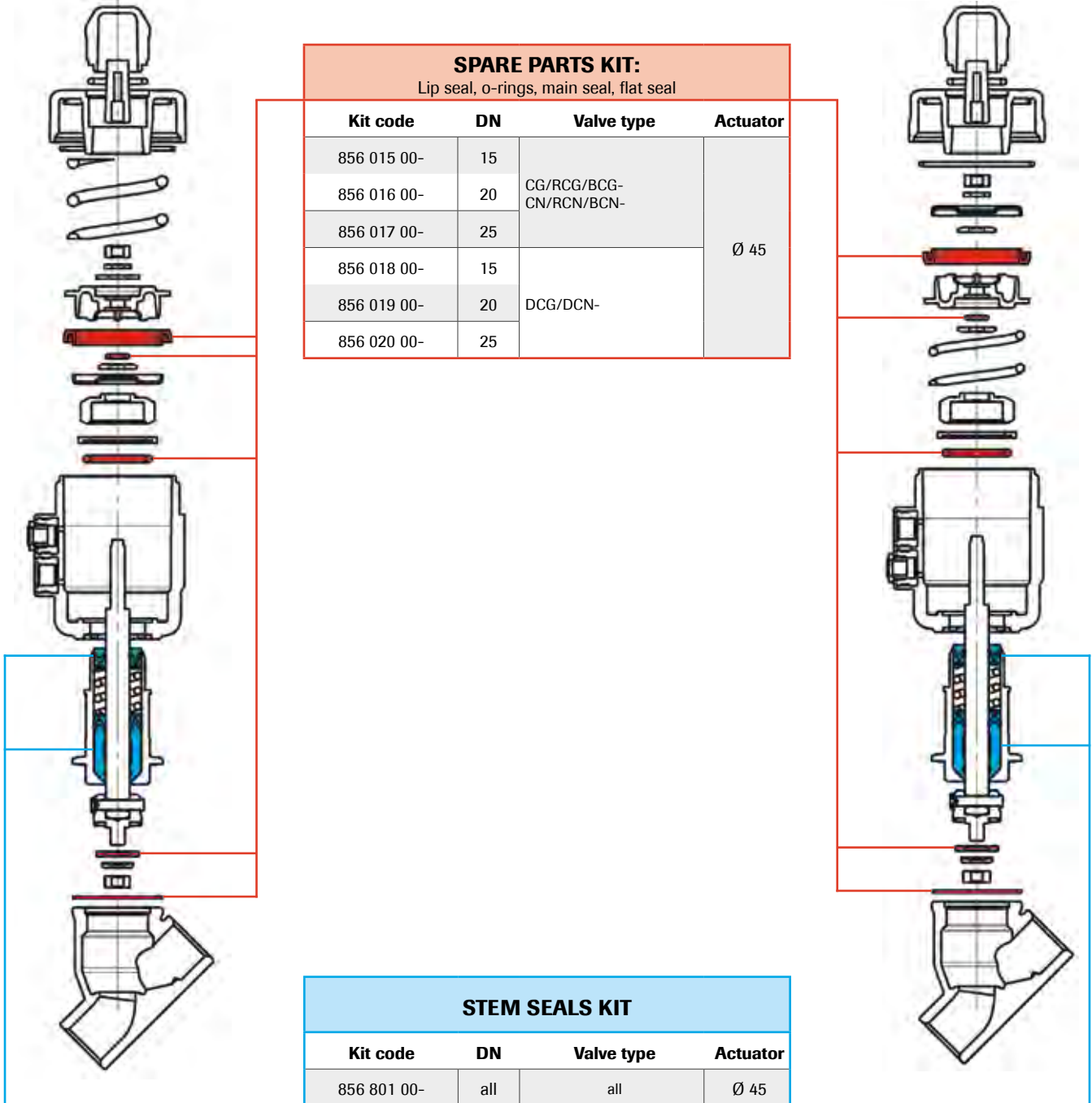
① Included versions with optional: stroke regulator (e.g. code CG206STXR0) and travel switch version (e.g. code BCG210LTJ0)

## 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**

**Normally Open**



SPARE PARTS KIT: Lip seal, o-rings, main seal, flat seal			
Kit code	DN	Valve type	Actuator
856 015 00-	15	CG/RCG/BCG- CN/RCN/BCN-	Ø 45
856 016 00-	20		
856 017 00-	25	DCG/DCN-	
856 018 00-	15		
856 019 00-	20		
856 020 00-	25		

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



## 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.**

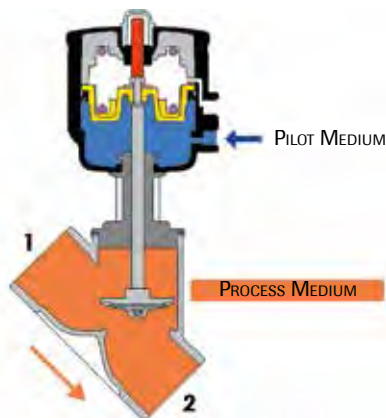
**They are highly recommended under the following conditions:**

- ✓ Media containing dirt particles
- ✓ Highly viscous media (up to 600 cST (80°E); 1 centistoke = 1 mm<sup>2</sup>/s)
- ✓ High flow volumes
- ✓ High temperatures
- ✓ Damp environments or hazardous locations

### M&M INTERNATIONAL PISTON ACTUATED VALVE VERSIONS

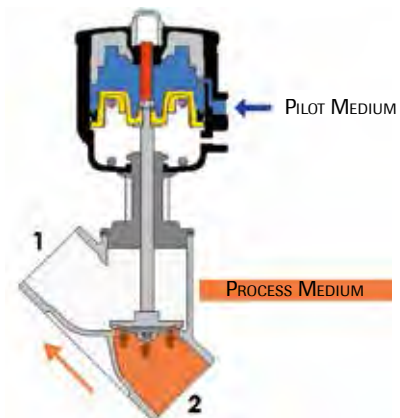
#### NC VALVE – Flow over seat

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



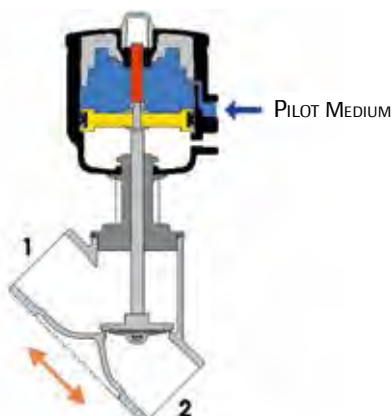
#### NO VALVE – Flow under seat

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



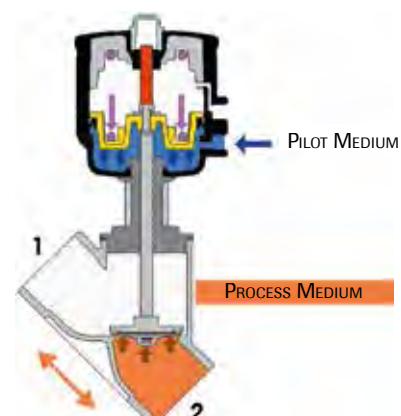
#### DOUBLE ACTING VALVE Flow over seat or under seat

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.

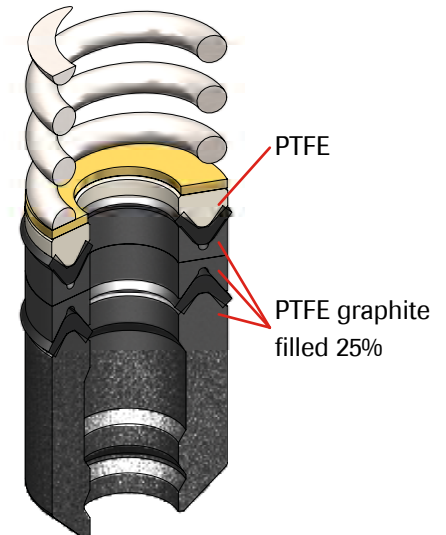
### Main seal material:

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.

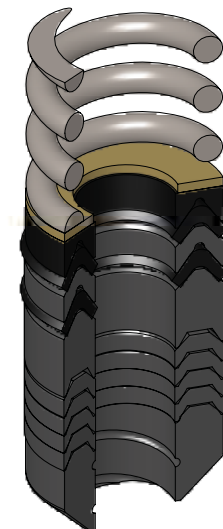
All our stainless steel cast parts bear a heat number identifying the basic material composition. Such details are stated in the casting certificate 3.1b, that can be ordered with the valves at an additional fee.

### 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:

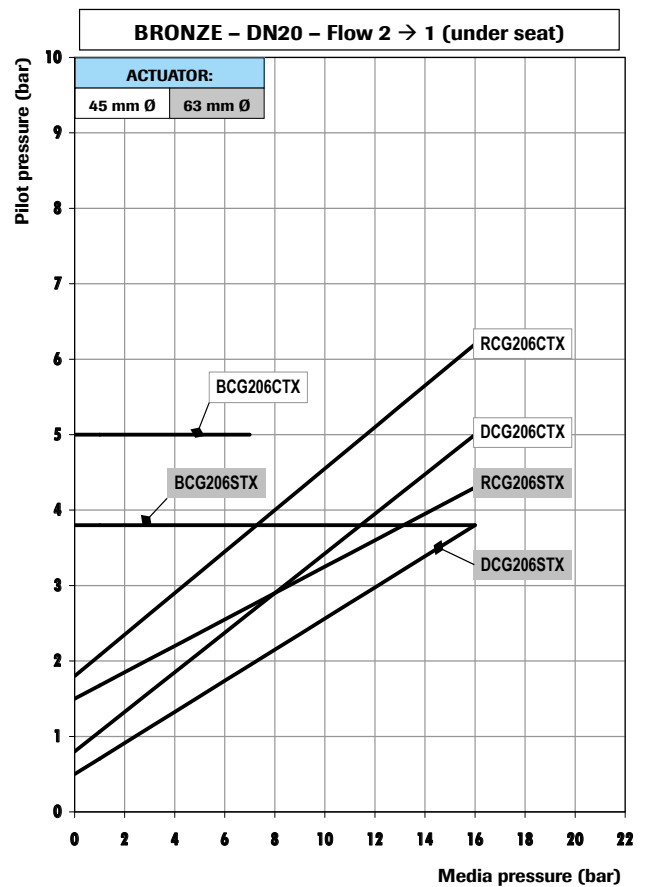
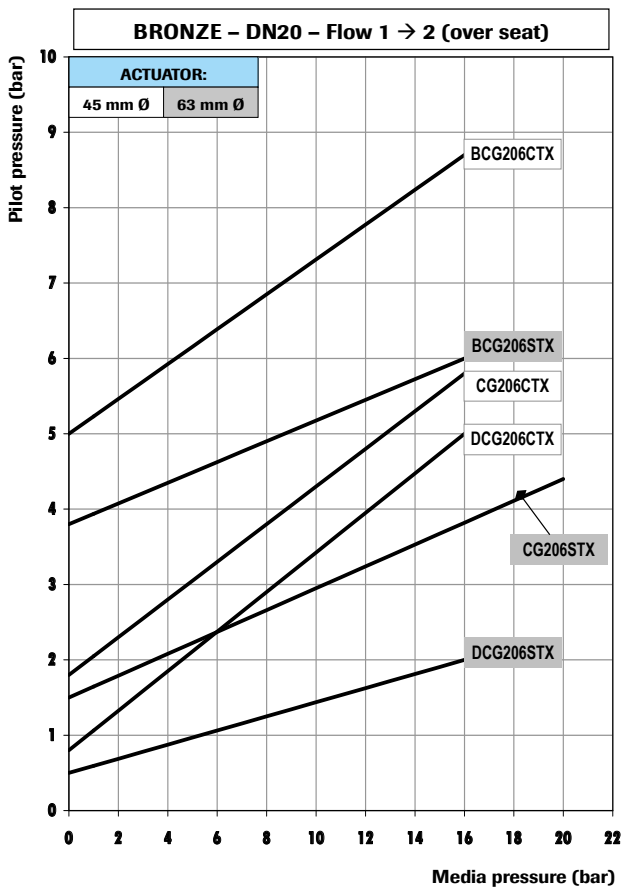
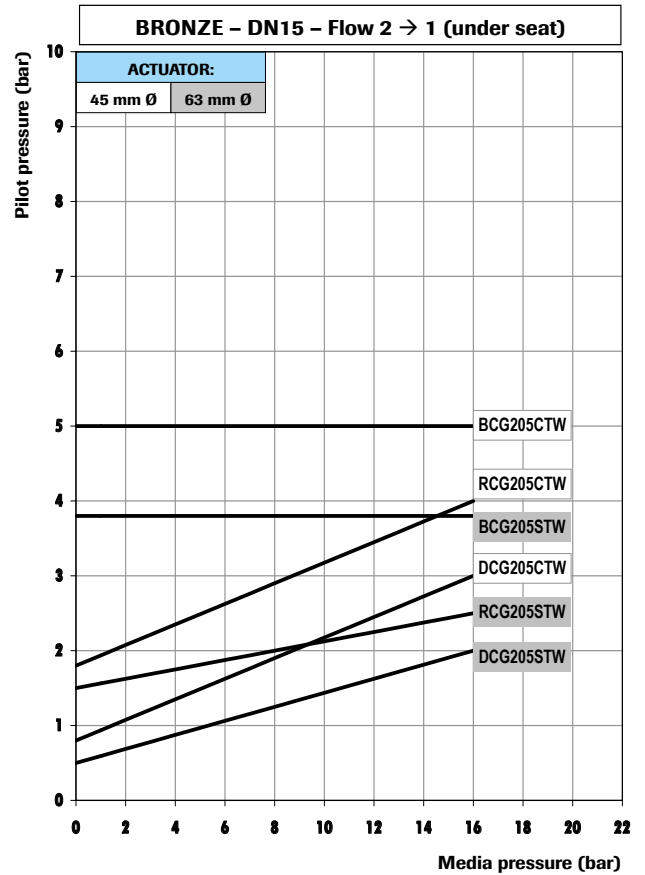
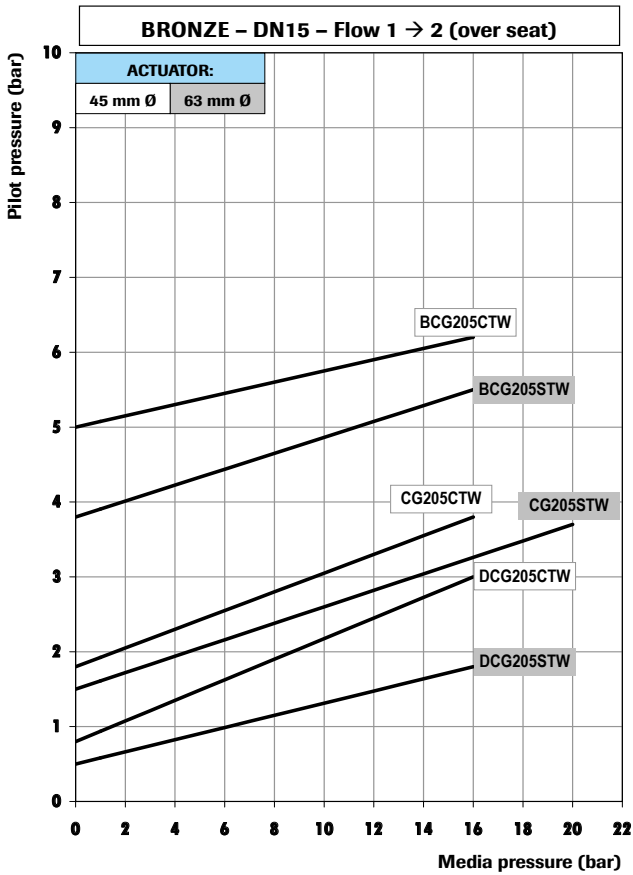
- ✓ Change of the actuator material: from standard PA6 to PA66 filled with 30% fibreglass
- ✓ All valves with DN > 25 with fixed plug design (to withstand turbulence caused by steam at high speed)
- ✓ Special design of bonnet chevrons, all are made of 25% graphite-filled PTFE



### 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.

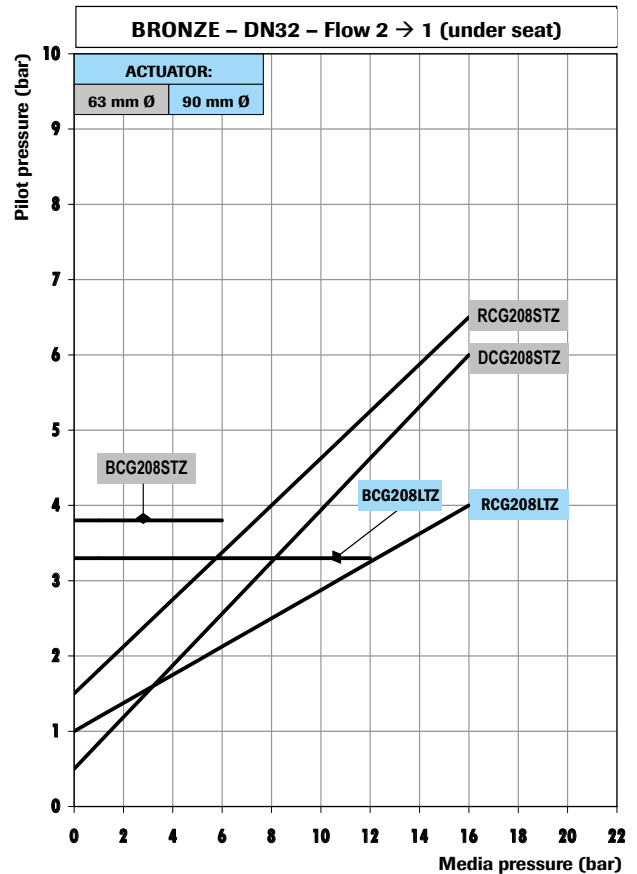
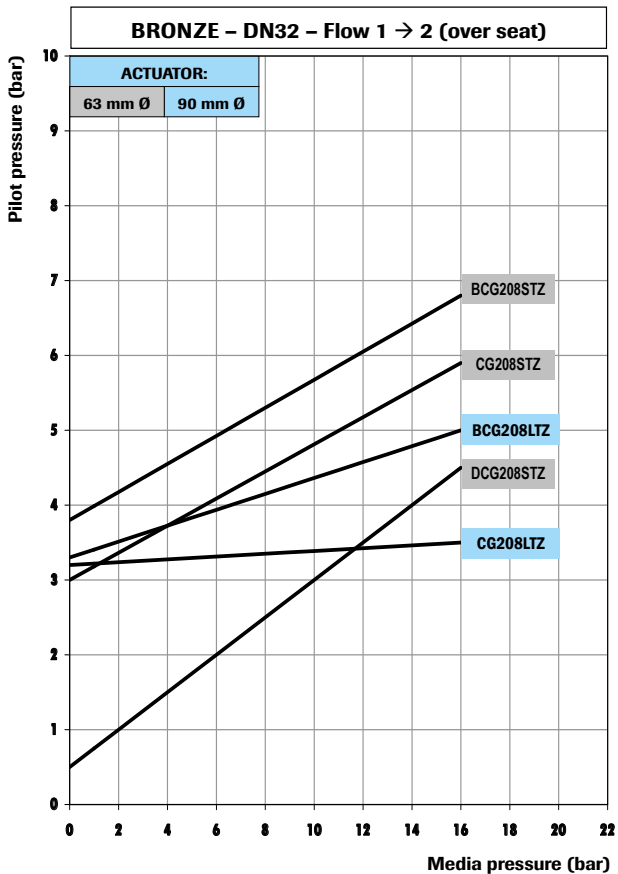
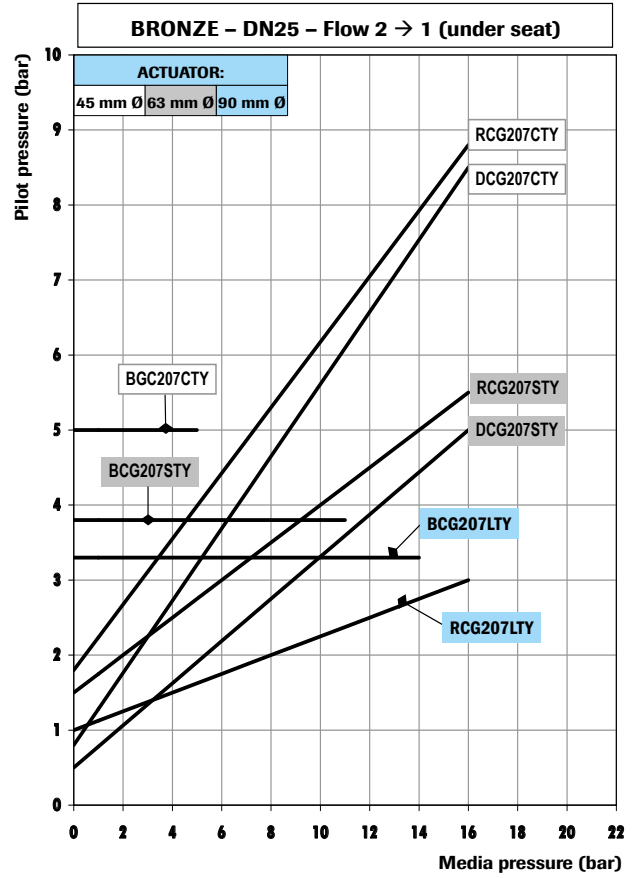
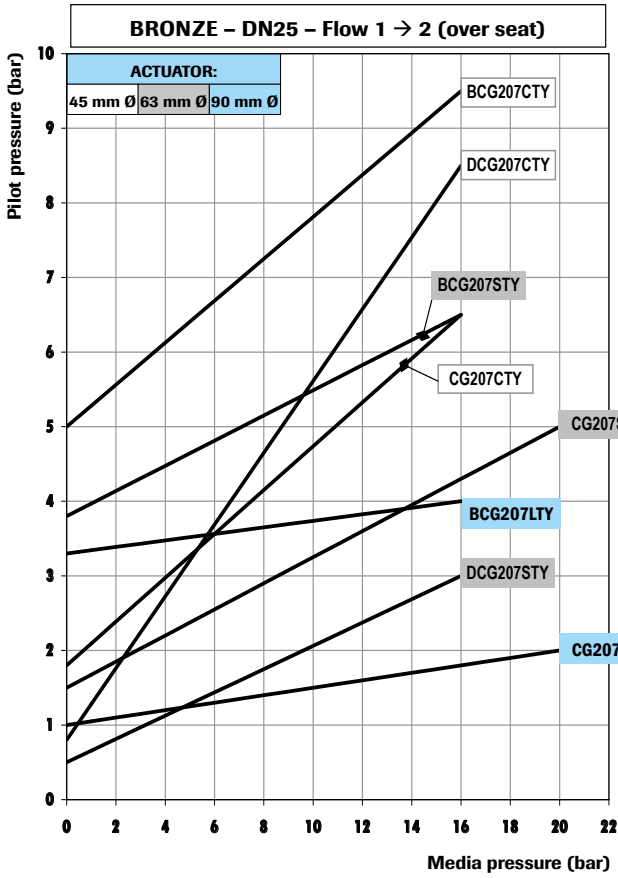
## BRONZE VALVES COMPARATIVE CHARTS DN15 - DN20



**Version:**

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

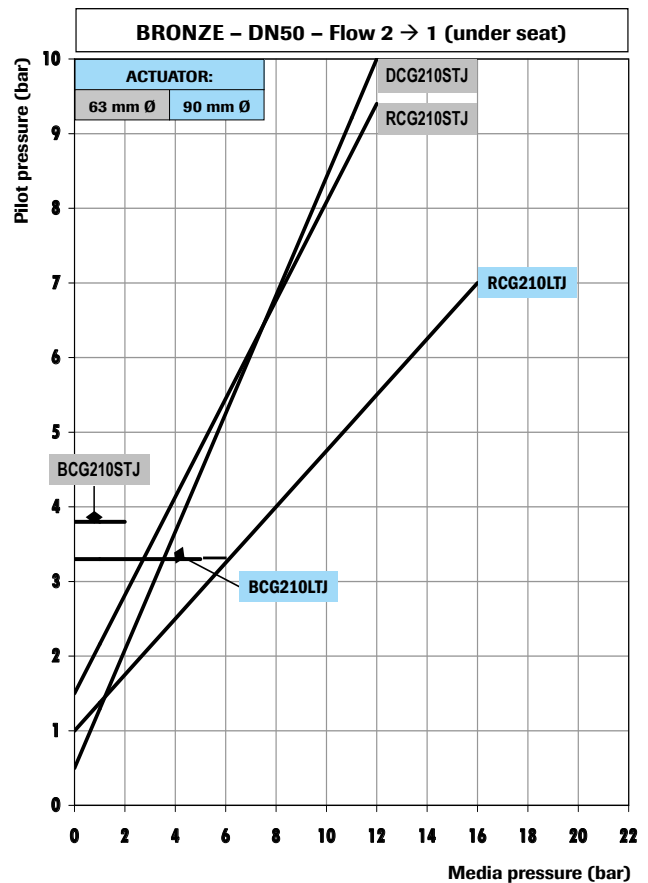
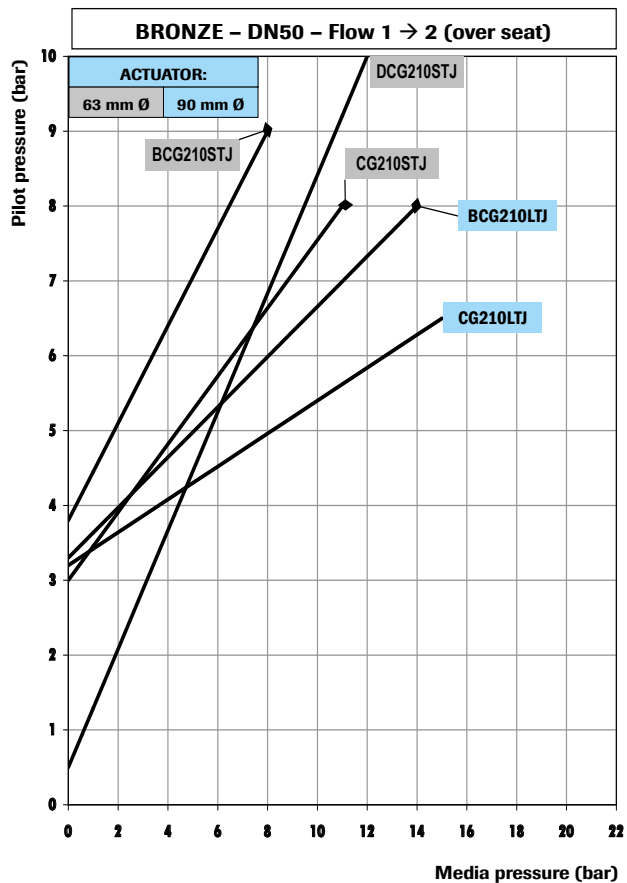
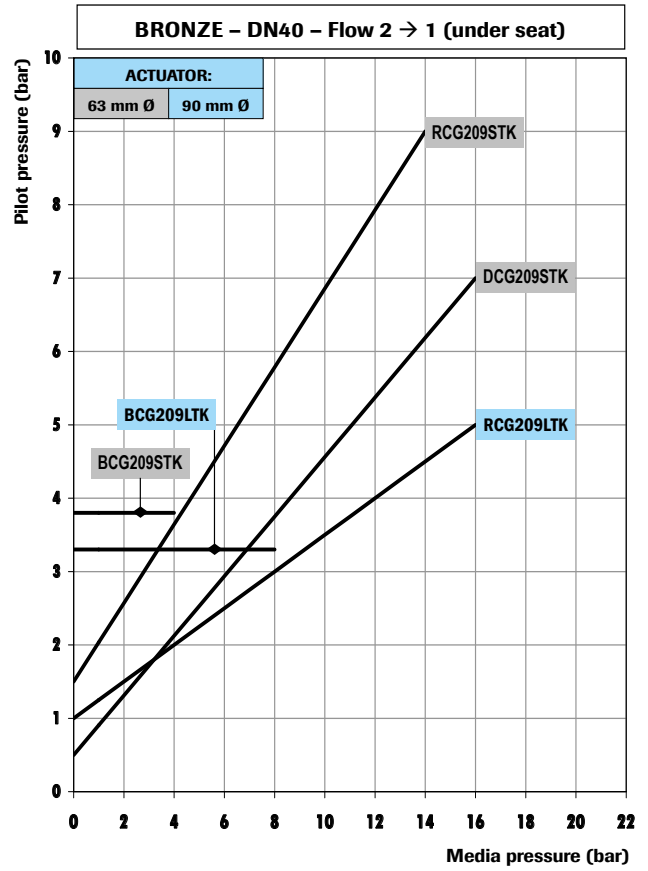
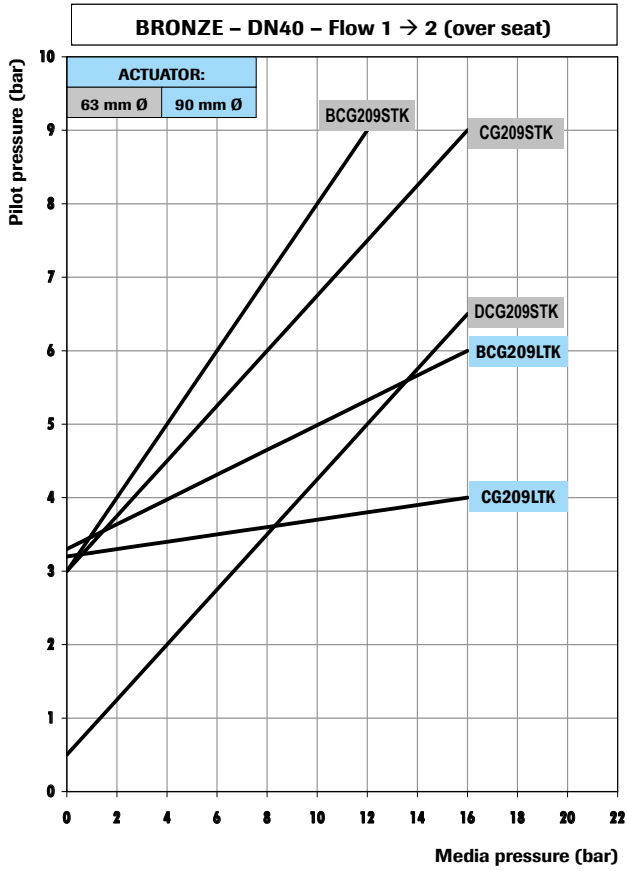
## BRONZE VALVES COMPARATIVE CHARTS DN25 - DN32



Version:

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

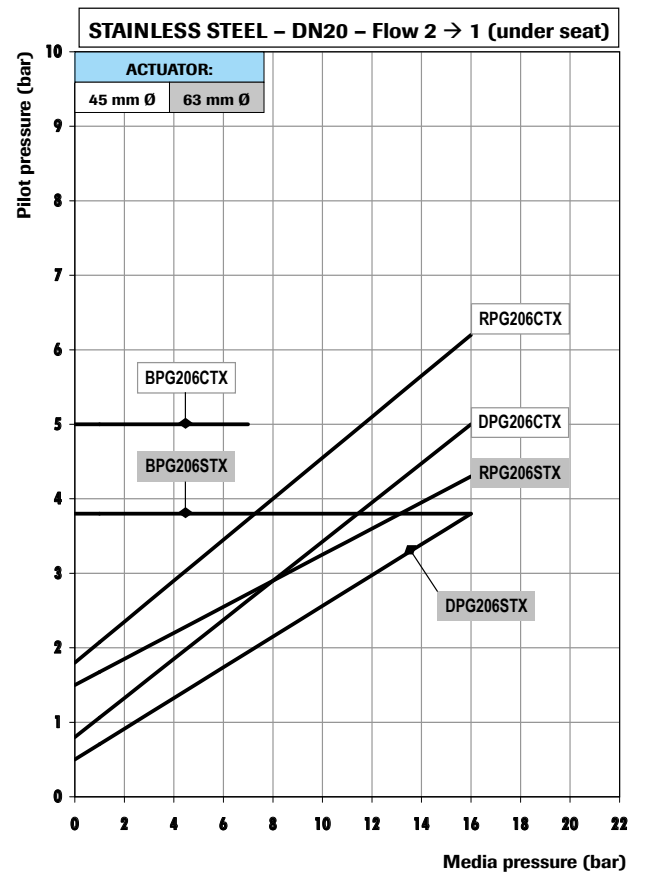
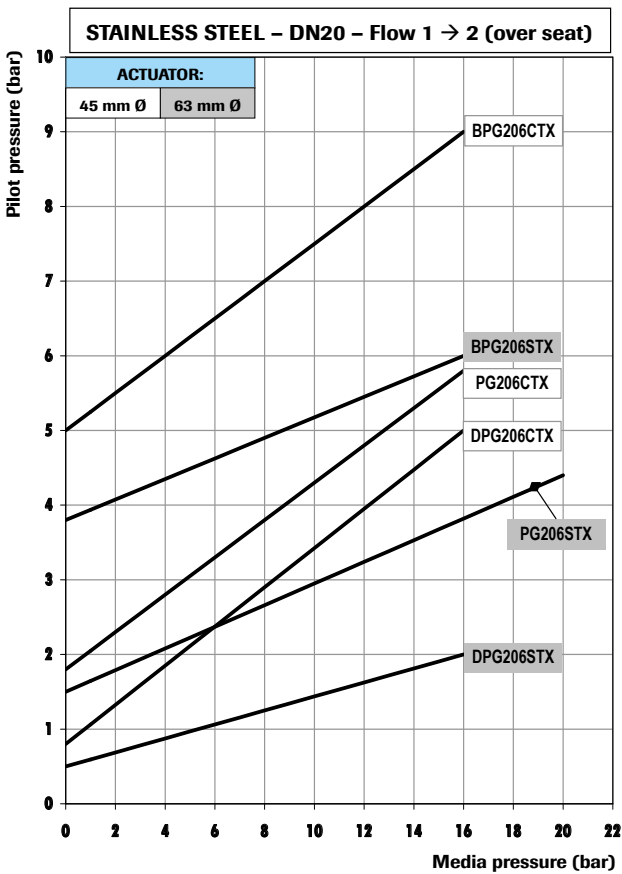
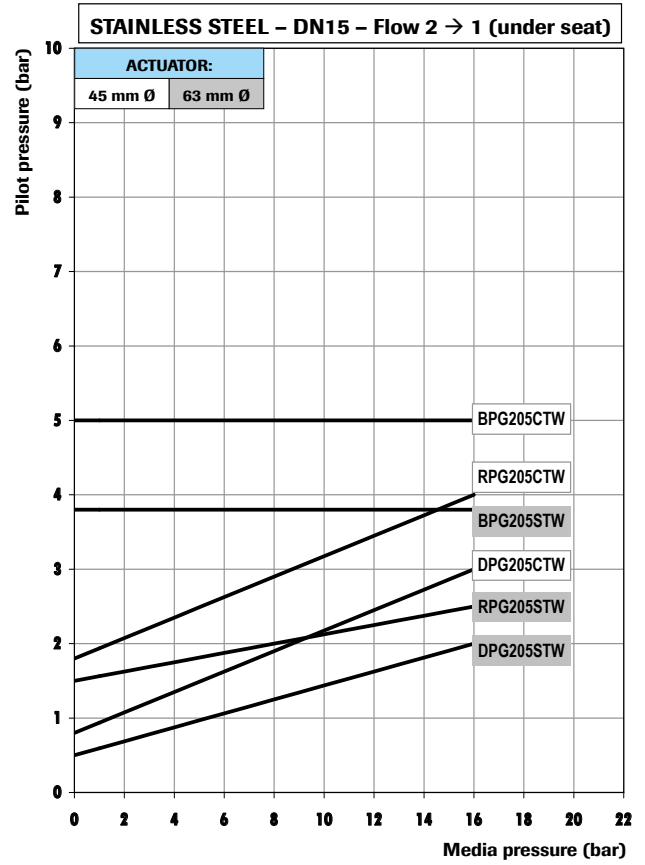
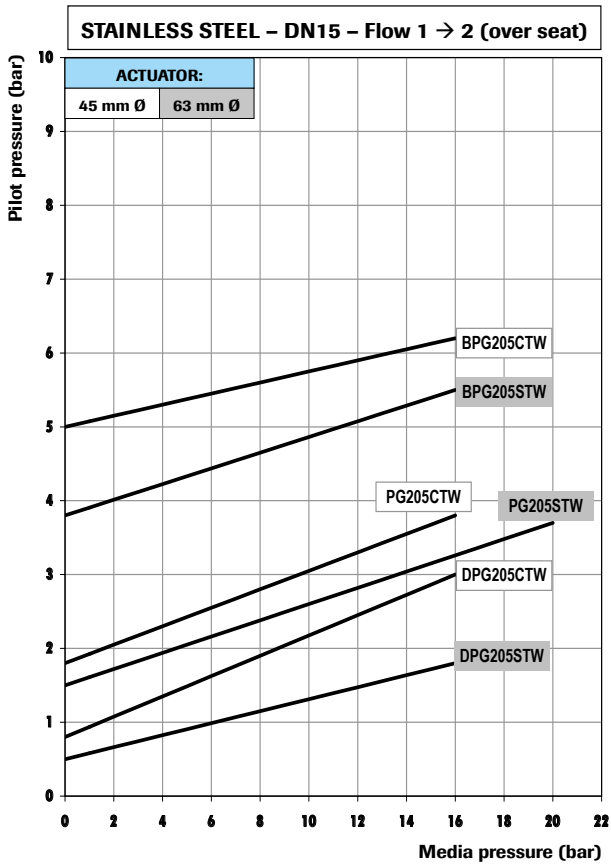
## BRONZE VALVES COMPARATIVE CHARTS DN40 - DN50



**Version:**

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

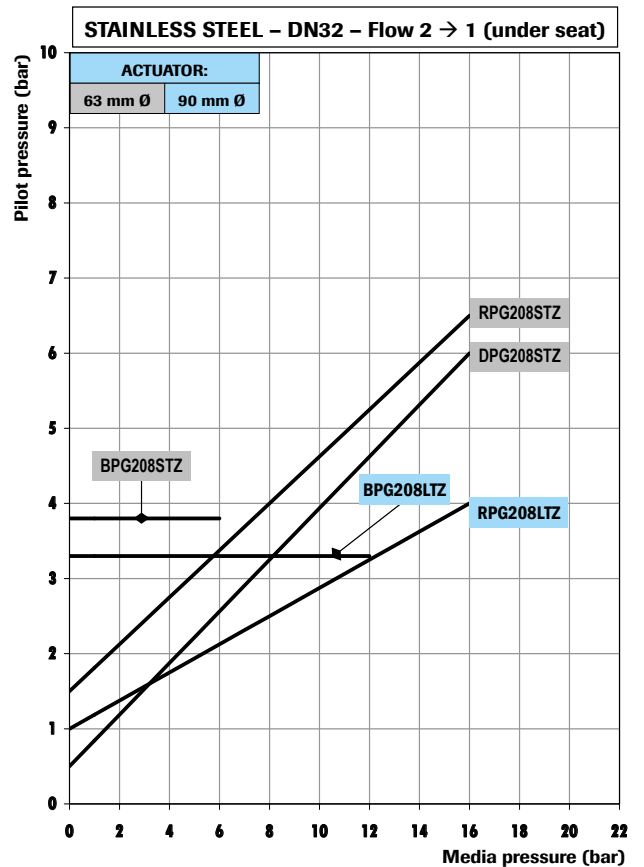
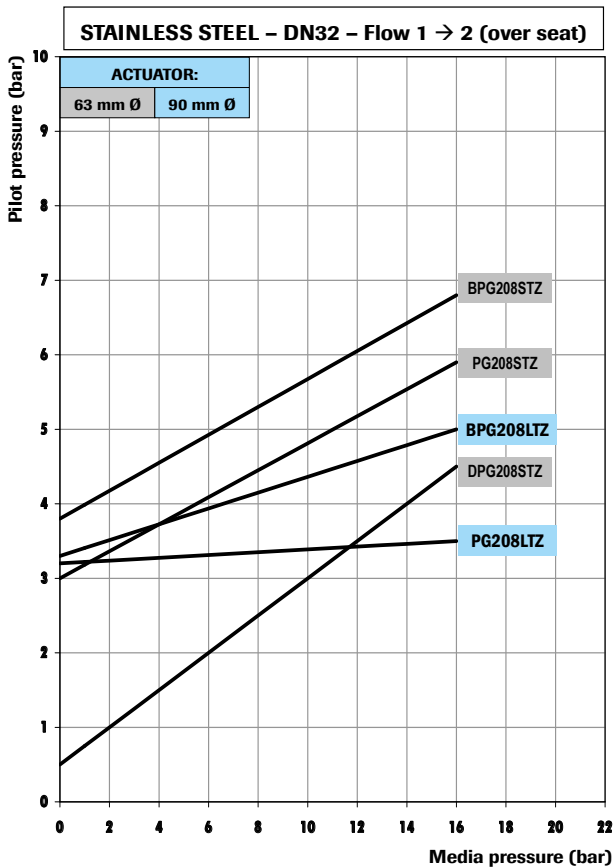
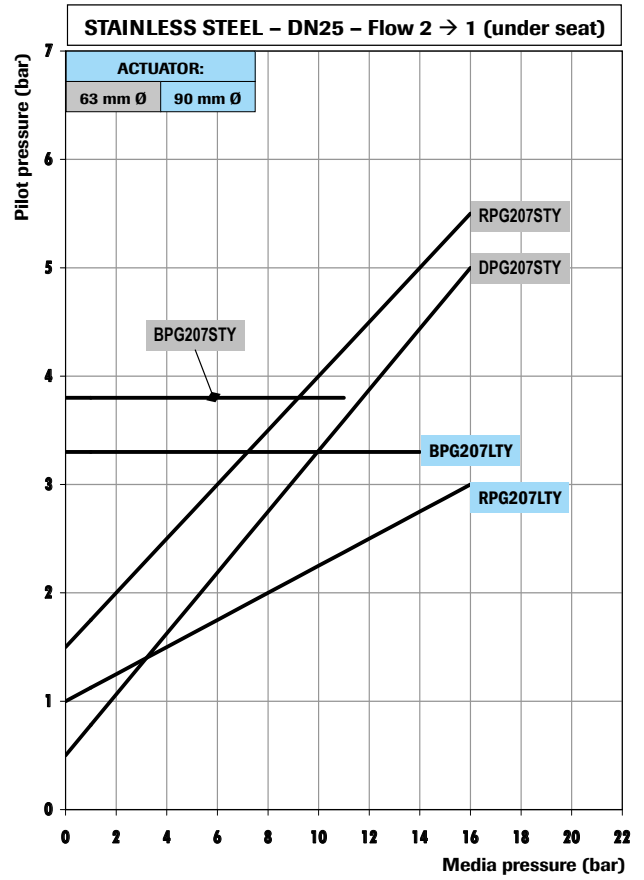
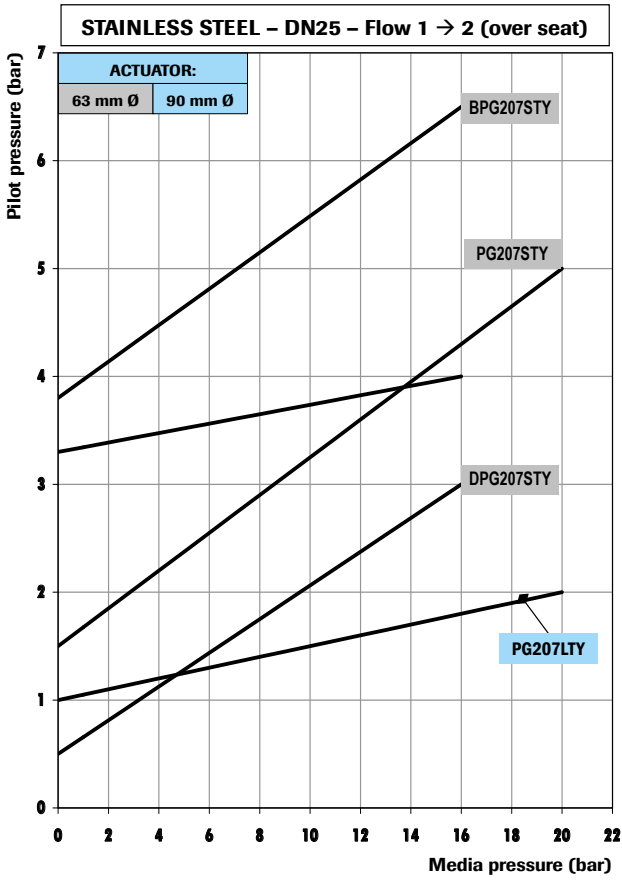
## STAINLESS STEEL VALVES COMPARATIVE CHARTS DN15 - DN20



Version:

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

## STAINLESS STEEL VALVES COMPARATIVE CHARTS DN25 - DN32

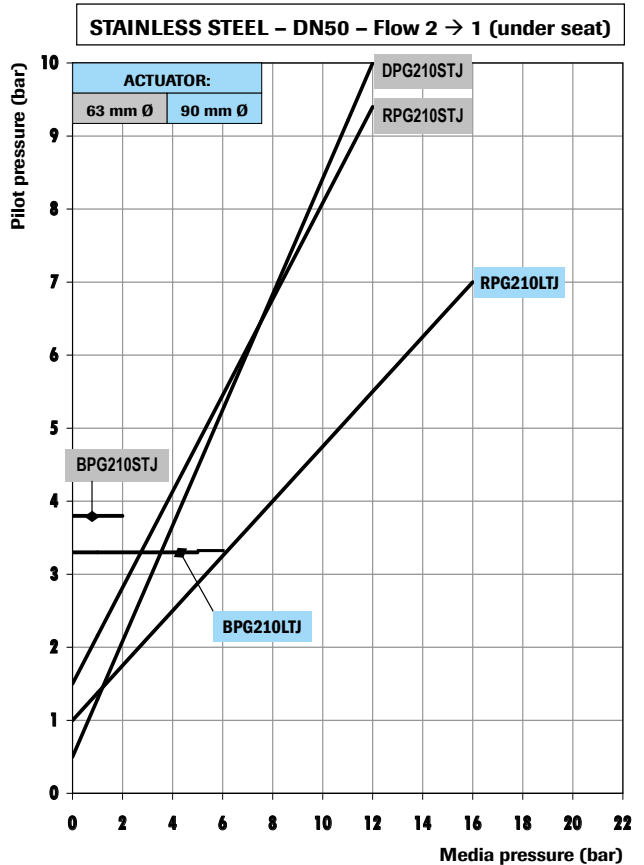
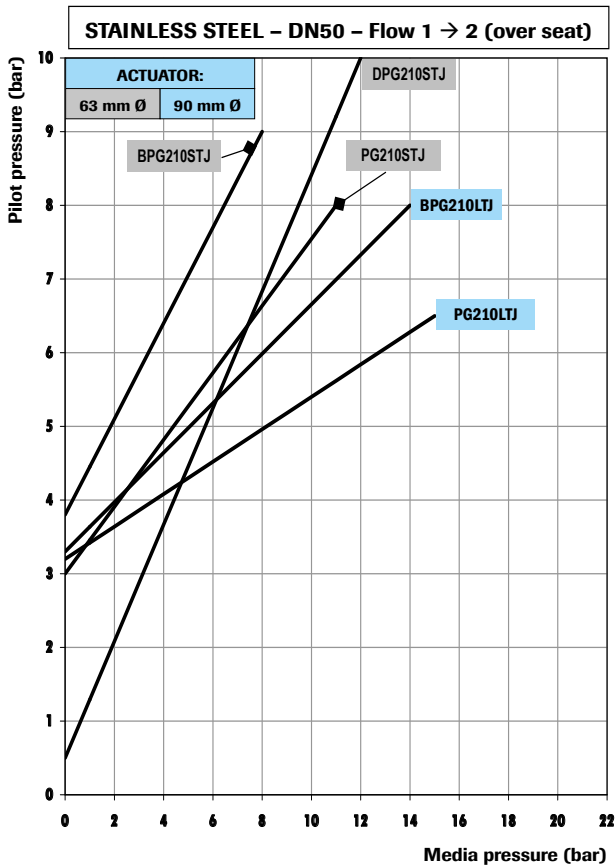
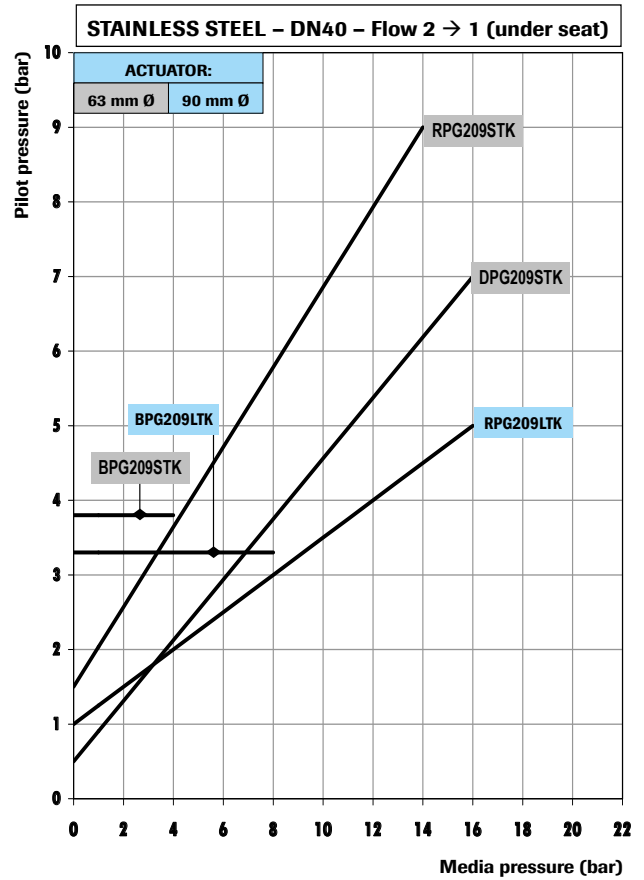
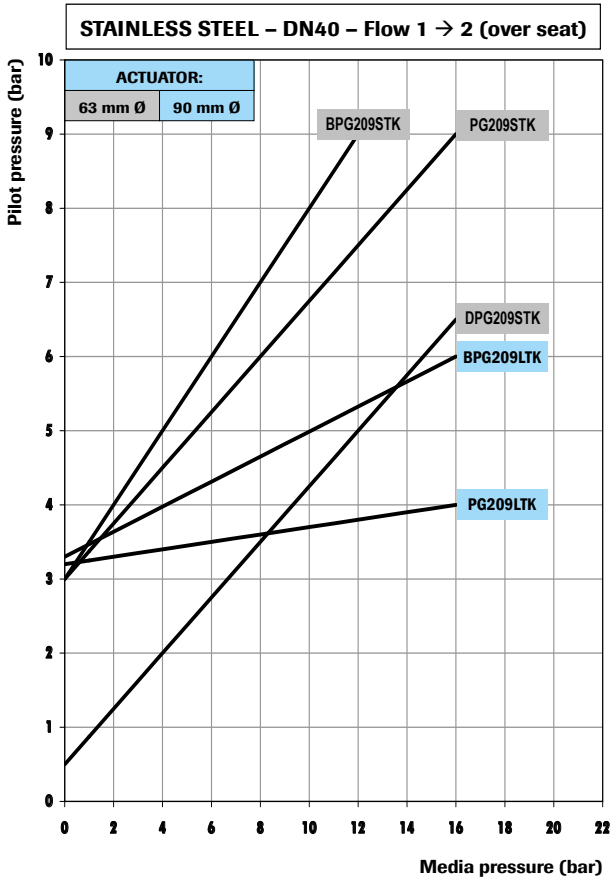


**Version:**

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



## STAINLESS STEEL VALVES COMPARATIVE CHARTS DN40 - DN50



**Version:**

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

## PISTON VALVES OPENING/CLOSING TIME (sec)

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 VOLUME

Actuator	Air volume
[mm]	[dm <sup>3</sup> ]
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 CE

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

**PISTON ACTUATED VALVES type PG, PN, CG, CN, PS, PB, PW, PH, PA, PF, PD, PC, PR, PP (sizes DN15 to DN50)**  
and all derived versions (prefix "B", "R", "D" and "Z")

to which this declaration relates are in conformity with the following standards or other normative documents

**No harmonized or other technical standards are applicable to these products**

following the provisions of **97/23/EC Pressure Equipment Directive**

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, November 2014

The General Manager

Maurizio Forno

### ATTENTION!

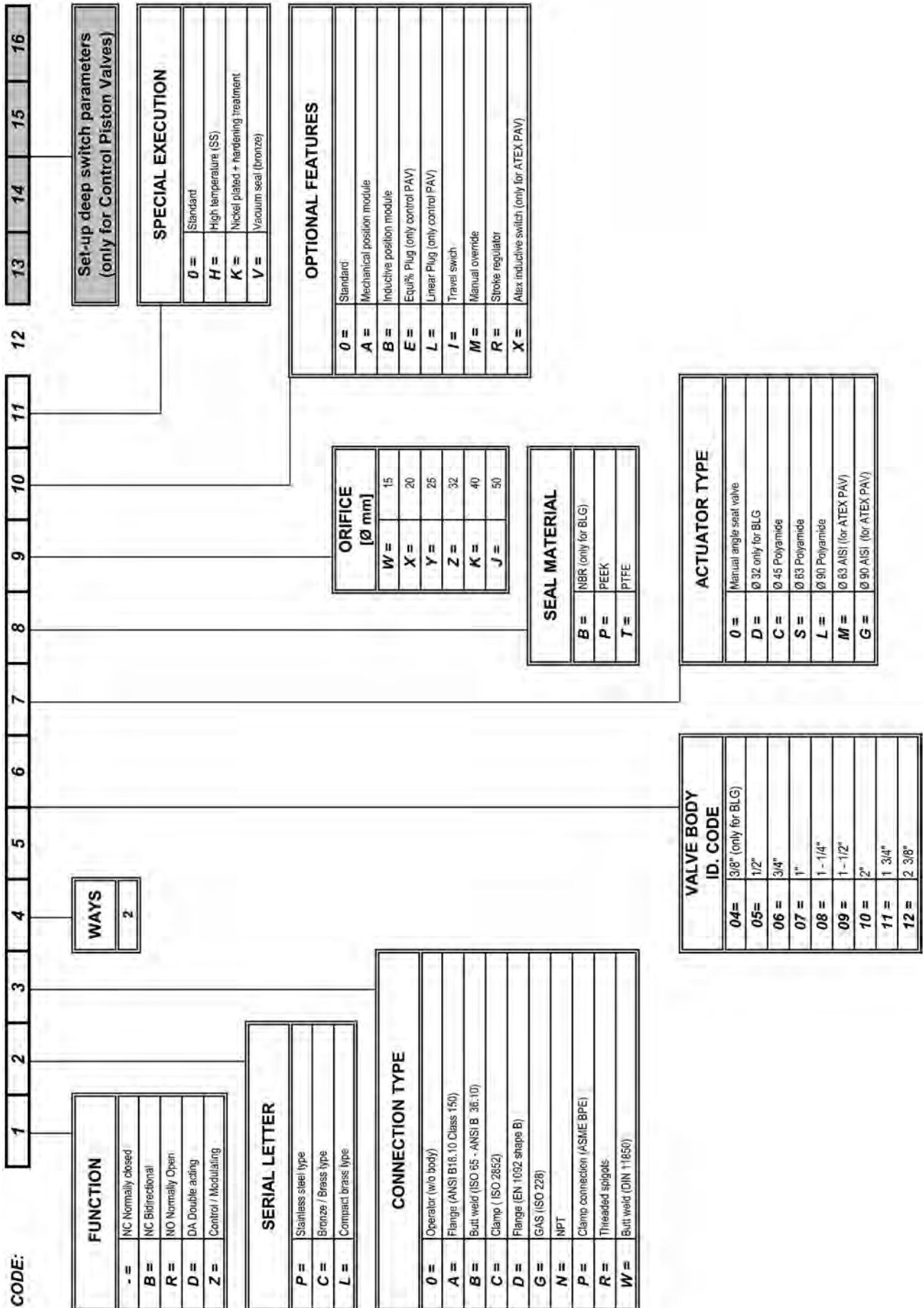
The attention of the purchaser, installer or user is drawn to special measures and limitations to use that must be observed when the product is used, installed or taken into service. Details of these special measures and limitations to use are available on request and are also contained in the product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

**M & M INTERNATIONAL Srl** – Direzione, Uffici e Stabilimento: I – 24050 ORIO AL SERIO (BG) Via Portico, 17

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Società soggetta all'attività di direzione e coordinamento di Spirax-Sarco Engineering plc

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