

## piston valves



**The ultimate Technology  
for fluid control**

COMPANY WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
=UNI EN ISO 9001/2000=



European  
Community  
Conformity



Underwriters  
Laboratories  
Quality  
Certificate



**The ultimate Technology  
for fluid control**

**m&m** international

spirax/sarco Engineering Group

## 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 9001/2000 requirements
- Reliability of a 30-year experience on international markets
- To partner with a company belonging to a multinational group

### GENERAL INDEX

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**COMPACT BRASS VALVE**
**actuator Ø 32**


BLG 3/8" ÷ 1/2"

BLG204D VW00 ÷ BLG205D VW00 PAGE 4

**BRONZE BODY / BRASS BONNET**
**actuator Ø 45**


Ø 45

Normally Closed	CG205CTW00 ÷ CG207CTY00
Normally Open	RCG205CTW00 ÷ RCG207CTY00
Bidirectional N.C.	BCG205CTW00 ÷ BCG207CTY00
Double Acting	DCG205CTW00 ÷ DCG207CTY00

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**actuator Ø 63/90**

 Ø 63  
Ø 90

Normally Closed	CG205STW00 ÷ CG210STJ00	PAGE 6
	CG207LTY00 ÷ CG210LTJ00	
Normally Open	RCG205STW00 ÷ RCG210STJ00	PAGE 7
	RCG207LTY00 ÷ RCG210LTJ00	
Bidirectional N.C.	BCG205STW00 ÷ BCG210STJ00	PAGE 8
	BCG207LTY00 ÷ BCG210LTJ00	
Double Acting	DCG205STW00 ÷ DCG210STJ00	PAGE 9

**manual angle seat valve**


G 1/2" ÷ 2"

CG205Q TW00 ÷ CG210Q TJ00 PAGE 10

**STAINLESS STEEL AISI316L**
**actuator Ø 45**


Ø 45

Normally Closed	PG205CTW00 ÷ PG206CTX00
Normally Open	RPG205CTW00 ÷ RPG206CTX00
Bidirectional N.C.	BPG205CTW00 ÷ BPG206CTX00
Double Acting	DPG205CTW00 ÷ DPG206CTX00

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**actuator Ø 63/90**

 Ø 63  
Ø 90

Normally Closed	PG205STW00 ÷ PG210STJ00	PAGE 12
	PG207LTY00 ÷ PG210LTJ00	
Normally Open	RPG205STW00 ÷ RPG210STJ00	PAGE 13
	RPG207LTY00 ÷ RPG210LTJ00	
Bidirectional N.C.	BPG205STW00 ÷ BPG210STJ00	PAGE 14
	BPG207LTY00 ÷ BPG210LTJ00	
Double Acting	DPG205STW00 ÷ DPG210STJ00	PAGE 15

**manual angle seat valve**


G 1/2" ÷ 2"

PG205Q TW00 ÷ PG210Q TJ00 PAGE 16

**WELDING CONNECTIONS**


DN 15÷50

Socket weld	PS205 ÷ PS210
Butt weld DIN 11850	PW205 ÷ PW210
Butt weld ISO 65	PB205 ÷ PB210

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## FLANGE CONNECTIONS

### actuator Ø 63/90



Ø 63 Ø 90	Normally Closed	PD205STW00 ÷ PD210STJ00
		PD207LTY00 ÷ PD210LTJ00
Ø 63 Ø 90	Normally Open	RPD205STW00 ÷ RPD210STJ00
		RPD207LTY00 ÷ RPD210LTJ00
Ø 63 Ø 90	Bidirectional	BPD205STW00 ÷ BPD210STJ00
		BPD207LTY00 ÷ BPD210LTJ00

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## CLAMP CONNECTIONS

### actuator Ø 45



Ø 45	Normally Closed	PC205CTW00 ÷ PC206CTX00
	Normally Open	RPC205CTW00 ÷ RPC206CTX00
	Bidirectional	BPC205CTW00 ÷ BPC206CTW00

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### actuator Ø 63/90



Ø 63 Ø 90	Normally Closed	PC205STW00 ÷ PC210STJ00
		PC207LTY00 ÷ PC210LTJ00
Ø 63 Ø 90	Normally Open	RPC205STW00 ÷ RPC210STJ00
		RPC207LTY00 ÷ RPC210LTJ00
Ø 63 Ø 90	Bidirectional	BPC205STW00 ÷ BPC210STJ00
		BPC207LTY00 ÷ BPC210LTJ00

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## HIGH TEMPERATURE VERSION

### actuator Ø 63/90



Ø 63 Ø 90	Normally Closed	PG205STW0H ÷ PG207STY0H
		PG208LTZ0H ÷ PG210LTJ0H
Ø 63 Ø 90	Bidirectional	BPG205STW0H ÷ BPG207STY0H
		BPG208LTZ0H ÷ BPG210LTJ0H

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## OPTIONS



STROKE REGULATOR



TRAVEL SWICHT



MANUAL OVERRIDE



TRAVEL SWITCH KIT



SWITCH TYPE A



SWITCH TYPE B

page 24-25

## PILOT SOLENOID VALVES



B356 / B326 / D326  
page 26



N326CVEK EEX PROOF  
page 27

## CONTROL PISTON ACTUATED VALVE WITH INTEGRATED POSITIONER



page 28-30

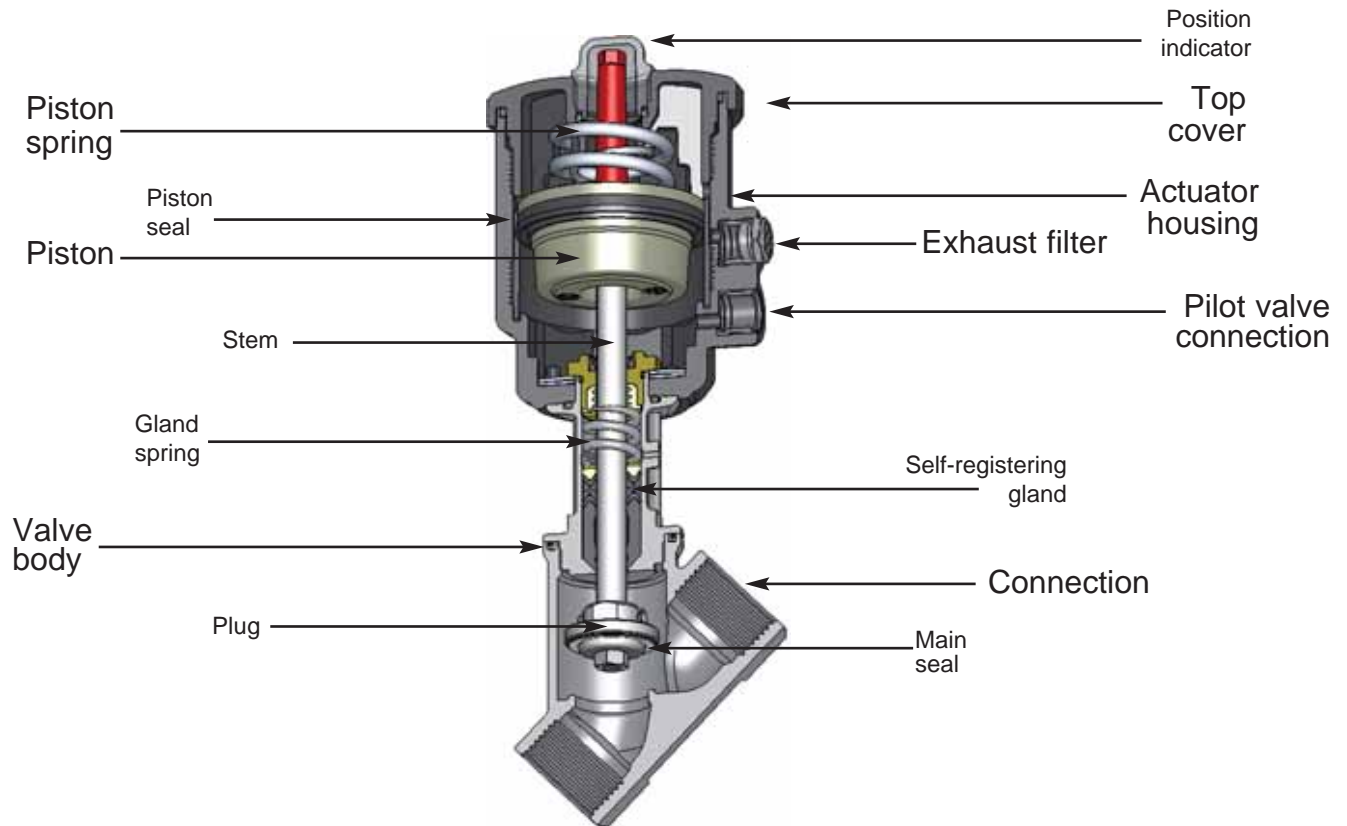
## SELECTION CHARTS

BRONZE  
page 37-39

STAINLESS STEEL  
page 40-42

## M&M INTERNATIONAL PISTON VALVES

Scheme of an M&M International piston valve components:

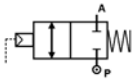


### Benefits of M&M INTERNATIONAL PISTON VALVES

- |   |   |   |
|---|---|---|
| Standard versions with high performing components | → | Covering a wide range of industrial applications with reduced stock |
| Standard seal materials as FKM and PTFE.          | → | max. compatibility with fluids resistance at high temperatures      |
| Bidirectional version                             | → | Waterhammer-free installation                                       |
| Wide choice of connections                        | → | Thread, welding, flange, clamp                                      |
| Actuator orientability at 360°                    | → | Easy and quick installation   |
| Red position indicator                            | → | Immediate visibility of the valve position                          |
| Self-registering gland and chevron packing        | → | Smooth stem movement for longer durability                          |
| Housing with angle seat design                    | → | High flow rate, low pressure drop                                   |
| s.s. valves with universal design                 | → | Suitable for vacuum applications                                    |
| Universal mounting M&M solenoid pilot valves      | → | Max. flexibility during installation                                |
| Actuator with built-in exhaust filter             | → | Higher reliability  |

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

Piston valve with external pneumatic actuation, compact and solid construction. Suitable for neutral media with particles in suspension, a situation where a standard servoassisted solenoid valve may get clogged.



**normally closed  
flow over / under seat**

**TYPE: BLG**

### TECHNICAL SPECIFICATIONS

Media: water and inert fluids, air and inert gases
Media temperature: -10°C ÷ +90°C
Ambient temperature: -10°C ÷ +80°C
Pilot media: filtered air
Actuator body material: brass (CW617N EN 12165 : 1999)
Body material: brass (CW617N EN 12165 : 1999)
Stem material: AISI 316L
Seal material: FKM
Frequency: 6 cycles per minute



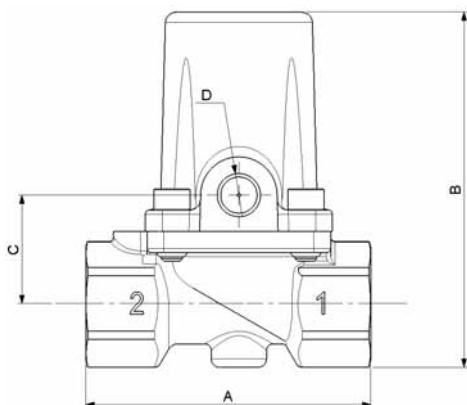
### BENEFITS

Waterhammer-free design (flow direction 2 → 1)
To be fitted with banjo bolt pilot solenoid valve (B356CVCMK)
Design for vacuum applications up to 10 <sup>-2</sup> mbar

### OPTIONS

NPT connection (Ex. Code BLN205DVW00)
Electroless nickel plating treatment (Ex. Code BLG205DVW0K)
NBR seal (Ex. Code BLG205DBW00)

SELECTION TABLE	VALVES	Body connection	DN	Flow rate Kvs	Working pressure		Flow direction	Pilot pressure		Actuator ø
	Code	[ISO 228]	[mm]	[l/min]	min [bar]	max [bar]		min [bar]	max [bar]	[mm]
	BLG204DVW00	3/8"	13,5	56 / 45	0	10	1 → 2 / 2 → 1	4,5	10	32
BLG205DVW00	1/2"	13,5	70 / 55	0	10	1 → 2 / 2 → 1	4,5	10	32	



DIMENSIONS & WEIGHTS	Body connection	A	B	C	D	weight
	[ISO 228]	[mm]	[mm]	[mm]	[mm]	[Kg]
	G 3/8"	67	84	26	G 1/8"	0,55
G 1/2"	67	84	26	G 1/8"	0,52	

## 2/2 WAY PISTON VALVE, G 1/2" ÷ 1"; BRONZE

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam<sup>(1)</sup>  
 Media temperature: -10°C ... +180°C  
 Ambient temperature: -10°C ... +60°C  
 Pilot media: air, inert gases, water  
 Body material: bronze (CB491K EN 1982 : 2000)  
 Bonnet material: brass (CW617N EN 12165 : 1999)  
 Actuator body: Polyamide PA6 (reinforced fiberglass 30%)  
 Seal material: PTFE type TFM 1600  
 Position indicator as standard

### TYPE: COMPACT 45



### BENEFITS

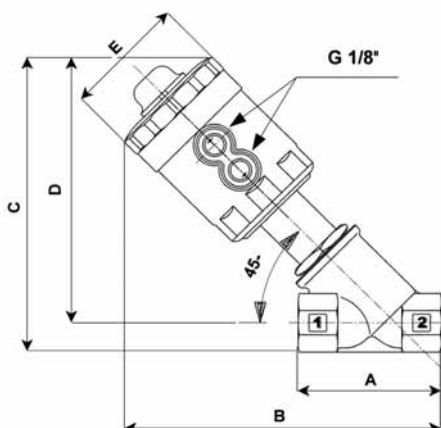
Waterhammer-free design for BCG type (2i 1)  
 Actuator housing rotation 360°  
 Design suitable for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

NPT connection (ex. code CN205CTW00)

SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Function
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)		min (bar)	max (bar)	
	CG205CTW00	1/2"	15	75	0	16	1i 2	3.8	10	normally closed
CG206CTX00	3/4"	20	133	0	16	1i 2	5.8	10	normally closed	
CG207CTY00	1"	25	208	0	16	1i 2	6.5	10	normally closed	
BCG205CTW00	1/2"	15	75	0	16 / 16	1i 2 / 2i 1	6.2 / 5	10	normally closed	
BCG206CTX00	3/4"	20	133	0	16 / 7	1i 2 / 2i 1	8.7 / 5	10	normally closed	
BCG207CTY00	1"	25	208	0	16 / 5	1i 2 / 2i 1	9.5 / 5	10	normally closed	
RCG205CTW00	1/2"	15	75	0	16	2 i 1	4	10	normally open	
RCG206CTX00	3/4"	20	133	0	16	2 i 1	6.2	10	normally open	
RCG207CTY00	1"	25	208	0	16	2 i 1	8.8	10	normally open	
DCG205CTW00	1/2"	15	75	0	16 / 16	1i 2 / 2i 1	3	10	double acting	
DCG206CTX00	3/4"	20	133	0	16 / 16	1i 2 / 2i 1	5	10	double acting	
DCG207CTY00	1"	25	208	0	16 / 16	1i 2 / 2i 1	8.5	10	double acting	

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts



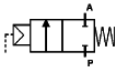
### VERSION

- NC normally closed, over seat flow (1i 2)
- NC normally closed, bidirectional (1↔2)
- NO normally open, under seat flow (2i 1)
- DOUBLE ACTING, bidirectional (1↔2)

### DIMENSIONS & WEIGHTS

Connection	Actuator ø	A	B	C	D	E	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	45	65	144	136	123	57	0.8
3/4"	45	75	149	142	126	57	0.9
1"	45	90	168	161	141	57	1.1

## 2/2 WAY PISTON VALVE, G 1/2" ÷ 2"; BRONZE



normally closed  
flow over seat

TYPE: REGULAR NC

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
Media temperature: -10°C ... +180°C
Ambient temperature: -10°C ... +60°C
Pilot media: air, inert gases, water
Body material: bronze (CB491K EN 1982: 2000)
Bonnet material: brass (CW617N EN 12165: 1999)
Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
Seal material: PTFE type TFM 1600
Position indicator as standard

### BENEFITS

Actuator housing rotation 360°
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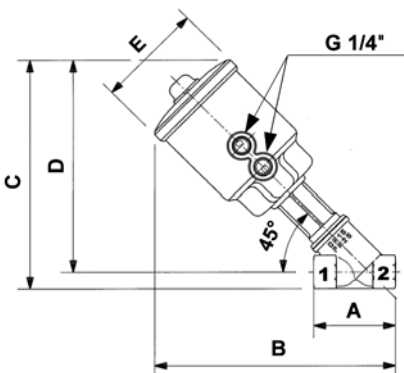
### OPTIONS

Manual override (ex. code CG205STWM0) see page 24
Stroke regulator (ex. code CG210STJR0) see page 24
Travel switch (ex. code CG208LTZ0) see page 24
Design for vacuum applications up to 10 <sup>-2</sup> mbar (ex. code CG205STW0V)
NPT connection (ex. code CN205STW00)



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)	(1 ÷ 2)	min (bar)	max (bar)	(mm)
	CG205STW00	1/2"	15	87	0	20	over seat	3.7	10	63
	CG206STX00	3/4"	20	164	0	20	over seat	4.4	10	63
	CG207STY00	1"	25	260	0	20	over seat	5	10	63
	CG208STZ00	1 1/4"	32	410	0	16	over seat	5.9	10	63
	CG209STK00	1 1/2"	40	700	0	16	over seat	9	10	63
	CG210STJ00	2"	50	950	0	11	over seat	8	10	63
	CG207LTY00	1"	25	260	0	20	over seat	2	8	90
	CG208LTZ00	1 1/4"	32	410	0	16	over seat	3.5	8	90
	CG209LTK00	1 1/2"	40	700	0	16	over seat	4	8	90
	CG210LTJ00	2"	50	950	0	15	over seat	6.5	8	90

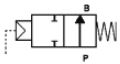
(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



DIMENSIONS & WEIGHTS	Connection	Actuator ø	A	B	C	D	E	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
	1/2"	63	65	192	184	171	85	1.2
	3/4"	63	75	198	192	176	85	1.3
	1"	63	90	212	205	185	85	1.5
	1 1/4"	63	110	225	217	193	85	1.9
	1 1/2"	63	120	230	225	198	85	2.1
	2"	63	150	248	241	207	85	2.9
	1"	90	90	223	216	196	112	2.0
	1 1/4"	90	110	234	227	202	112	2.4
	1 1/2"	90	120	239	235	207	112	2.6
	2"	90	150	257	250	216	112	3.3



## 2/2 WAY PISTON VALVE, G 1/2" ÷ 2" NORMALLY OPEN; BRONZE



normally open  
flow under seat

TYPE: REGULAR NO

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam<sup>(1)</sup>  
 Media temperature: -10°C ... +180°C  
 Ambient temperature: -10°C ... +60°C  
 Pilot media: air, inert gases, water  
 Body material: bronze (CB491K EN 1982 : 2000)  
 Bonnet material: brass (CW617N EN 12165 : 1999)  
 Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)  
 Seal material: PTFE type TFM 1600  
 Position indicator as standard

### BENEFITS

Waterhammer-free design  
 Actuator housing rotation 360°

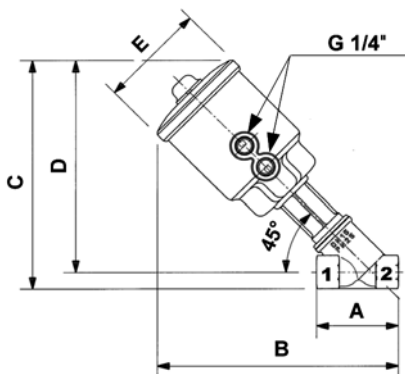
### OPTIONS

Manual override (ex. code RCG205STWM0) see page 24  
 Stroke regulator (ex. code RCG210STJR0) see page 24  
 Travel switch (ex. code RCG208LTZI0) see page 24  
 Design for vacuum applications up to 10<sup>-2</sup> mbar (ex. code RCG205STW0V)  
 NPT connection (ex. code RCN205STW00)



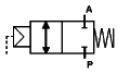
SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
					min (bar)	max (bar)		min (bar)	max (bar)	
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)	(2   1)	min (bar)	max (bar)	(mm)
	RCG205STW00	1/2"	15	87	0	16	under seat	2.5	10	63
	RCG206STX00	3/4"	20	164	0	16	under seat	4.3	10	63
	RCG207STY00	1"	25	260	0	16	under seat	5.5	10	63
	RCG208STZ00	1 1/4"	32	410	0	16	under seat	6.5	10	63
	RCG209STK00	1 1/2"	40	700	0	16	under seat	9	10	63
	RCG210STJ00	2"	50	950	0	12	under seat	9.4	10	63
	RCG207LTY00	1"	25	260	0	16	under seat	2	8	90
	RCG208LTZ00	1 1/4"	32	410	0	16	under seat	4	8	90
	RCG209LTK00	1 1/2"	40	700	0	16	under seat	5	8	90
	RCG210LTJ00	2"	50	950	0	16	under seat	7	8	90

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



DIMENSIONS & WEIGHTS	Connection	Actuator ø	A	B	C	D	E	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
	1/2"	63	65	192	184	171	85	1.2
	3/4"	63	75	198	192	176	85	1.3
	1"	63	90	212	205	185	85	1.5
	1 1/4"	63	110	225	217	193	85	1.9
	1 1/2"	63	120	230	225	198	85	2.1
	2"	63	150	248	241	207	85	2.9
	1"	90	90	223	216	196	112	2.0
	1 1/4"	90	110	234	227	202	112	2.4
	1 1/2"	90	120	239	235	207	112	2.6
	2"	90	150	257	250	216	112	3.3

## 2/2 WAY PISTON VALVE G 1/2" ÷ 2" BIDIRECTIONAL; BRONZE



normally closed  
flow over / under seat

TYPE: REGULAR BD

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
Media temperature: -10°C ... +180°C
Ambient temperature: -10°C ... +60°C
Pilot media: air, inert gases, water
Body material: bronze (CB491K EN 1982 : 2000)
Bonnet material: brass (CW617N EN 12165 : 1999)
Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
Seal material: PTFE type TFM 1600
Position indicator as standard

### BENEFITS

Waterhammer-free design (with flow direction 2 $\bar{i}$  1)  
Actuator housing rotation 360°

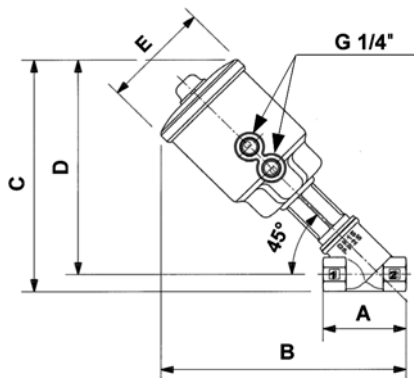
### OPTIONS

Manual override (ex. code BCG205STWM0) see page 24
Stroke regulator (ex. code BCG210STJR0) see page 24
Travel switch (ex. code BCG208LTZi0) see page 24
Design for vacuum applications up to 10 <sup>-2</sup> mbar (ex. code BCG205STW0V)
NPT connection (ex. code BCN205STW00)



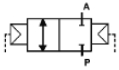
SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction			Pilot pressure <sup>(2)</sup>		Actuator $\varnothing$
					min (bar)	max (bar)	1 $\bar{i}$ 2	2 $\bar{i}$ 1	min (bar)	max (bar)		
	Code	(ISO 228 G)	(mm)	(l/min)								(mm)
	BCG205STW00	1/2"	15	87	0	16	1 $\bar{i}$ 2	2 $\bar{i}$ 1	5.5 / 3.8	10	63	
	BCG206STX00	3/4"	20	164	0	16	1 $\bar{i}$ 2	2 $\bar{i}$ 1	6 / 3.8	10	63	
	BCG207STY00	1"	25	260	0	16 / 11	1 $\bar{i}$ 2	2 $\bar{i}$ 1	6.5 / 3.8	10	63	
	BCG208STZ00	1 1/4"	32	410	0	16 / 6	1 $\bar{i}$ 2	2 $\bar{i}$ 1	6.8 / 3.8	10	63	
	BCG209STK00	1 1/2"	40	700	0	12 / 4	1 $\bar{i}$ 2	2 $\bar{i}$ 1	9 / 3.8	10	63	
	BCG210STJ00	2"	50	950	0	8 / 2.5	1 $\bar{i}$ 2	2 $\bar{i}$ 1	9 / 3.8	10	63	
	BCG207LTY00	1"	25	260	0	16 / 14	1 $\bar{i}$ 2	2 $\bar{i}$ 1	4 / 3.3	8	90	
	BCG208LTZ00	1 1/4"	32	410	0	16 / 12	1 $\bar{i}$ 2	2 $\bar{i}$ 1	5 / 3.3	8	90	
	BCG209LTK00	1 1/2"	40	700	0	16 / 8	1 $\bar{i}$ 2	2 $\bar{i}$ 1	6 / 3.3	8	90	
	BCG210LTJ00	2"	50	950	0	14 / 6	1 $\bar{i}$ 2	2 $\bar{i}$ 1	8 / 3.3	8	90	

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



DIMENSIONS & WEIGHTS	Connection	Actuator $\varnothing$	A	B	C	D	E	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
	1/2"	63	65	192	184	171	85	1.2
	3/4"	63	75	198	192	176	85	1.3
	1"	63	90	212	205	185	85	1.5
	1 1/4"	63	110	225	217	193	85	1.9
	1 1/2"	63	120	230	225	198	85	2.1
	2"	63	150	248	241	207	85	2.9
	1"	90	90	223	216	196	112	2.0
	1 1/4"	90	110	234	227	202	112	2.4
	1 1/2"	90	120	239	235	207	112	2.6
	2"	90	150	257	250	216	112	3.3

## 2/2 WAY PISTON VALVE, G 1/2" ÷ 2" DOUBLE ACTING; BRONZE



**double acting  
flow over / under seat**

**TYPE: REGULAR DA**

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
Media temperature: -10°C ... +180°C
Ambient temperature: -10°C ... +60°C
Pilot media: air, inert gases, water
Body material: bronze (CB491K EN 1982 : 2000)
Bonnet material: brass (CW617N EN 12165 : 1999)
Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
Seal material: PTFE type TFM 1600
Position indicator as standard

### BENEFITS

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

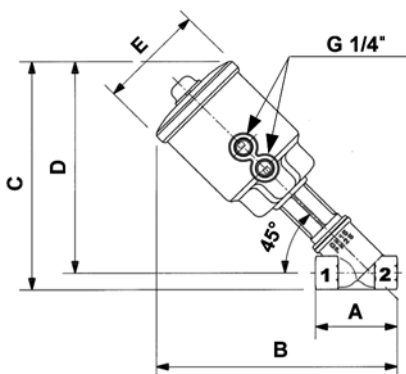
### OPTIONS

Manual override (ex. code DCG205STWM0) see page 24
Stroke regulator (ex. code DCG210STJR0) see page 24
Travel switch (ex. code DCG208LTZI0) see page 24
Design for vacuum applications up to 10 <sup>-2</sup> mbar (ex. code DCG205STW0V)
NPT connection (ex. code DCN205STW00)



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate	Working pressure <sup>(1)</sup>	Flow direction	Pilot pressure <sup>(2)</sup>		Actuator Ø
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar) max (bar)		min 1 → 2	min 2 → 1	(mm)
	DCG205STW00	1/2"	15	87	0 16	1 → 2	1.8	2	63
DCG206STX00	3/4"	20	164	0 16	1 → 2	2	3.8	63	
DCG207STY00	1"	25	260	0 16	1 → 2	3	5	63	
DCG208STZ00	1 1/4"	32	410	0 16	1 → 2	4.5	6	63	
DCG209STK00	1 1/2"	40	700	0 16	1 → 2	6.5	7	63	
DCG210STJ00	2"	50	950	0 12	1 → 2	9	10	63	

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



### DIMENSIONS & WEIGHTS

Connection	Actuator Ø	A	B	C	D	E	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	63	65	192	184	171	85	1.2
3/4"	63	75	198	192	176	85	1.3
1"	63	90	212	205	185	85	1.5
1 1/4"	63	110	225	217	193	85	1.9
1 1/2"	63	120	230	225	198	85	2.1
2"	63	150	248	241	207	85	2.9

## MANUAL ANGLE SEAT VALVE, G 1/2" ÷ 2"; BRONZE

flow over / under seat

TYPE: CG MANUAL

### TECHNICAL SPECIFICATIONS

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

Media temperature: -10°C ... +180°C

Ambient temperature: -10°C ... +60°C

Body material: (CB491K EN 1982: 2000)

Bonnet material: (CW617N EN 12165: 1999)

Seal material: PTFE type TFM 1600

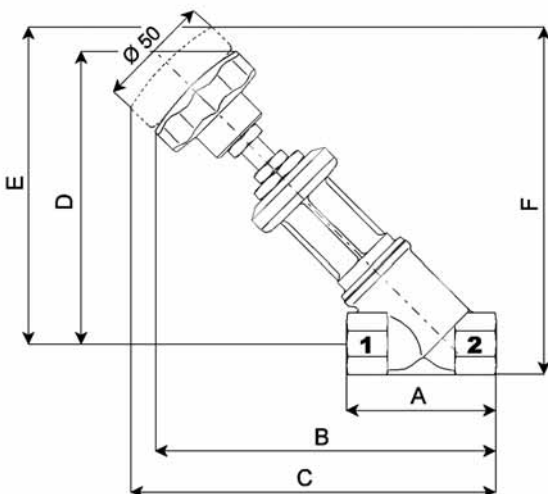
### OPTIONS

NPT connection (ex. code CN2050TW00)



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction
					min (bar)	max (bar)	
	Code	(ISO 228 G)	(mm)	(l/min)			
	CG2050TW00	1/2"	15	87	0	25	1 → 2
	CG2060TX00	3/4"	20	164	0	25	1 → 2
	CG2070TY00	1"	25	260	0	25	1 → 2
	CG2080TZ00	1 1/4"	32	410	0	25	1 → 2
	CG2090TK00	1 1/2"	40	700	0	25	1 → 2
	CG2100TJ00	2"	50	916	0	16	1 → 2

(1) Steam: Max. working pressure 10 bar (9 barg);



### DIMENSIONS & WEIGHTS

Connection	A	B	C	D	E	F	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	65	142	150	121	128	142	0.75
3/4"	75	148	155	126	133	150	0.80
1"	90	163	172	135	145	165	1.20
1 1/4"	110	175	188	143	156	181	1.80
1 1/2"	120	180	193	148	161	189	2.10
2"	150	198	212	157	170	205	3.10

## 2/2 WAY PISTON VALVE G 1/2" ÷ 3/4"; STAINLESS STEEL

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam<sup>(1)</sup>  
 Media temperature: -10°C ... +180°C  
 Ambient temperature: -10°C ... +60°C  
 Pilot media: air, inert gases, water  
 Body material: cast AISI 316L (see page 36)  
 Bonnet material: cast AISI 316L (see page 36)  
 Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)  
 Seal material: PTFE type TFM 1600  
 Position indicator as standard

### BENEFITS

Waterhammer-free design for BPG type (2 $\bar{i}$  1)  
 Actuator housing rotation 360°  
 Design suitable for vacuum applications up to 10<sup>-2</sup> mbar

### OPTIONS

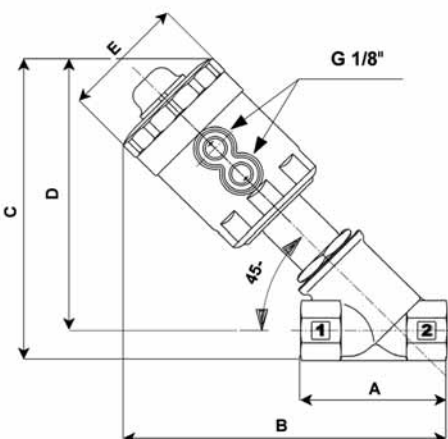
NPT connection (ex. code PN205CTW00)  
 Weld ends see page 17

### TYPE: COMPACT 45



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction		Pilot pressure <sup>(2)</sup>		Function
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)			min (bar)	max (bar)	
	PG205CTW00	1/2"	15	75	0	16	1 $\bar{i}$ 2		3.8	10	normally closed
PG206CTX00	3/4"	20	133	0	16	1 $\bar{i}$ 2		5.8	10	normally closed	
BPG205CTW00	1/2"	15	75	0	16 / 16	1 $\bar{i}$ 2 2 $\bar{i}$ 1		6.2 / 5	10	normally closed	
BPG206CTX00	3/4"	20	133	0	16 / 7	1 $\bar{i}$ 2 2 $\bar{i}$ 1		8.7 / 5	10	normally closed	
RPG205CTW00	1/2"	15	75	0	16	2 $\bar{i}$ 1		4	10	normally open	
RPG206CTX00	3/4"	20	133	0	16	2 $\bar{i}$ 1		6.2	10	normally open	
DPG205CTW00	1/2"	15	75	0	16 / 16	1 $\bar{i}$ 2 2 $\bar{i}$ 1		3	10	double acting	
DPG206CTX00	3/4"	20	133	0	16 / 16	1 $\bar{i}$ 2 2 $\bar{i}$ 1		5	10	double acting	

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



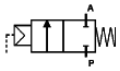
### VERSIONS

- NC normally closed, over seat flow (1 $\bar{i}$  2)
- NC normally closed, bidirectional (1 $\bar{i}$  2)
- NO normally open, under seat flow (2 $\bar{i}$  1)
- DOUBLE ACTING, bidirectional (1 $\bar{i}$  2)

### DIMENSIONS & WEIGHTS

Connection	Actuator $\phi$	A	B	C	D	E	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	45	65	144	136	123	57	0.8
3/4"	45	75	155	142	126	57	0.9

## 2/2 WAY PISTON VALVE G 1/2" ÷ 2"; STAINLESS STEEL



normally closed  
flow over seat

TYPE: REGULAR NC

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media and steam<sup>(1)</sup>
- Media temperature: -10°C ... +180°C
- Ambient temperature: -10°C ... +60°C
- Pilot media: air, inert gases, water
- Body material: cast AISI 316L (see page 36)
- Bonnet material: cast AISI 316L (see page 36)
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE type TFM 1600
- Position indicator as standard
- Valves DN32-DN50 complying with 97/23 EC Directive Category I

### BENEFITS

- Actuator housing rotation 360°
- Design suitable for vacuum applications up to 10<sup>-2</sup> mbar

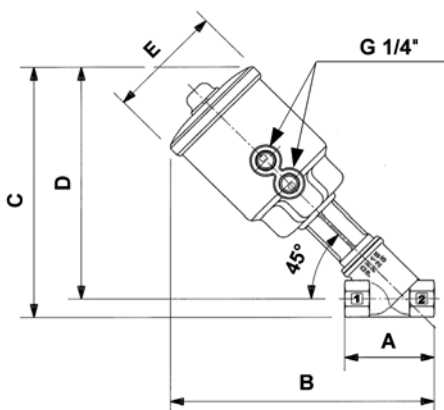
### OPTIONS

- Manual override (ex. code PG205STWM0) see page 24
- Stroke regulator (ex. code PG210STJR0) see page 24
- Travel switch (ex. code PG208LTZ0) see page 24
- NPT connection (ex. code PN205STW00)
- Weld ends see page 17



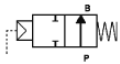
SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)	(1 2)	min (bar)	max (bar)	(mm)
	PG205STW00	1/2"	15	87	0	20	over seat	3.7	10	63
PG206STX00	3/4"	20	164	0	20	over seat	4.4	10	63	
PG207STY00	1"	25	260	0	20	over seat	5	10	63	
PG208STZ00	1 1/4"	32	410	0	16	over seat	5.9	10	63	
PG209STK00	1 1/2"	40	700	0	16	over seat	9	10	63	
PG210STJ00	2"	50	950	0	11	over seat	8	10	63	
PG207LTY00	1"	25	260	0	20	over seat	2	8	90	
PG208LTZ00	1 1/4"	32	410	0	16	over seat	3.5	8	90	
PG209LTK00	1 1/2"	40	700	0	16	over seat	4	8	90	
PG210LTJ00	2"	50	950	0	15	over seat	6.5	8	90	

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



DIMENSIONS & WEIGHTS	Connection	Actuator ø	A	B	C	D	E	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
	1/2"	63	65	192	184	171	85	1.2
	3/4"	63	75	198	192	176	85	1.3
	1"	63	90	212	205	185	85	1.5
	1 1/4"	63	110	225	217	193	85	1.9
	1 1/2"	63	120	230	225	198	85	2.1
	2"	63	150	248	241	207	85	2.9
	1"	90	90	223	216	196	112	2.0
	1 1/4"	90	110	234	227	202	112	2.4
	1 1/2"	90	120	239	235	207	112	2.6
	2"	90	150	257	250	216	112	3.3

## 2/2 WAY PISTON VALVE G 1/2" ÷ 2" NORMALLY OPEN; STAINLESS STEEL



normally open  
flow under seat

TYPE: REGULAR NO

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
Media temperature: -10°C ... +180°C
Ambient temperature: -10°C ... +60°C
Pilot media: air, inert gases, water
Body material: cast AISI 316L (see page 36)
Bonnet material: cast AISI 316L (see page 36)
Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
Seal material: PTFE type TFM 1600
Position indicator as standard
Valves DN32÷DN50 complying with 97/23 EC Directive Category I

### BENEFITS

Waterhammer-free design
Actuator housing rotation 360°
For vacuum applications up to 10 <sup>-2</sup> mbar

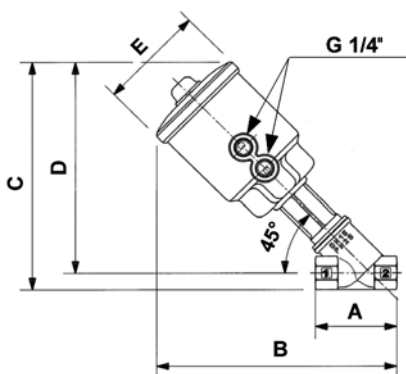
### OPTIONS

Manual override (ex. code RPG205STWM0) see page 24
Stroke regulator (ex. code RPG210STJR0) see page 24
Travel switch (ex. code RPG208LTZJ0) see page 24
NPT connection (ex. code RPN205STW00)
Weld ends see page 17



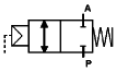
SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)	(2ï 1)	min (bar)	max (bar)	(mm)
	RPG205STW00	1/2"	15	87	0	16	under seat	2.5	10	63
RPG206STX00	3/4"	20	164	0	16	under seat	4.3	10	63	
RPG207STY00	1"	25	260	0	16	under seat	5.5	10	63	
RPG208STZ00	1 1/4"	32	410	0	16	under seat	6.5	10	63	
RPG209STK00	1 1/2"	40	700	0	16	under seat	9	10	63	
RPG210STJ00	2"	50	950	0	12	under seat	9.4	10	63	
RPG207LTY00	1"	25	260	0	16	under seat	3	8	90	
RPG208LTZ00	1 1/4"	32	410	0	16	under seat	4	8	90	
RPG209LTK00	1 1/2"	40	700	0	16	under seat	5	8	90	
RPG210LTJ00	2"	50	950	0	16	under seat	7	8	90	

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



DIMENSIONS & WEIGHTS	Connection	Actuator ø	A	B	C	D	E	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
	1/2"	63	65	192	184	171	85	1.2
	3/4"	63	75	198	192	176	85	1.3
	1"	63	90	212	205	185	85	1.5
	1 1/4"	63	110	225	217	193	85	1.9
	1 1/2"	63	120	230	225	198	85	2.1
	2"	63	150	248	241	207	85	2.9
	1"	90	90	223	216	196	112	2.0
	1 1/4"	90	110	234	227	202	112	2.4
	1 1/2"	90	120	239	235	207	112	2.6
	2"	90	150	257	250	216	112	3.3

## 2/2 WAY PISTON VALVE G 1/2" ÷ 2" BIDIRECTIONAL; STAINLESS STEEL



normally closed  
flow over / under seat

TYPE: REGULAR BD

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media and steam<sup>(1)</sup>
- Media temperature: -10°C ... +180°C
- Ambient temperature: -10°C ... +60°C
- Pilot media: air, inert gases, water
- Body material: cast AISI 316L (see page 36)
- Bonnet material: cast AISI 316L (see page 36)
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE type TFM 1600
- Position indicator as standard
- Valves DN32÷DN50 complying with 97/23 EC Directive Category I

### BENEFITS

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

### OPTIONS

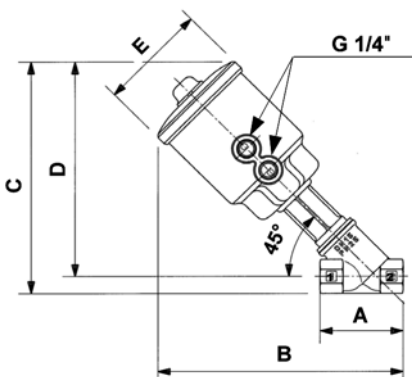
- Manual override (ex. code BPG205STWM0) see page 24
- Stroke regulator (ex. code BPG210STJR0) see page 24
- Travel switch (ex. code BPG208LTZI0) see page 24
- NPT connection (ex. code BPN205STW00)
- Weld ends see page 17



SELECTION TABLE

VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
				min (bar)	max (bar)		min (bar)	max (bar)	
Code	(ISO 228 G)	(mm)	(l/min)						(mm)
BPG205STW00	1/2"	15	98	0	16	1i 2 2i 1	5.5/3.8	10	63
BPG206STX00	3/4"	20	164	0	16	1i 2 2i 1	6 /3.8	10	63
BPG207STY00	1"	25	260	0	16/11	1i 2 2i 1	6.5/3.8	10	63
BPG208STZ00	1 1/4"	32	410	0	16/ 6	1i 2 2i 1	6.8/3.8	10	63
BPG209STK00	1 1/2"	40	700	0	12/ 4	1i 2 2i 1	9 /3.8	10	63
BPG210STJ00	2"	50	950	0	8/2.5	1i 2 2i 1	9 /3.8	10	63
BPG207LTY00	1"	25	260	0	16/14	1i 2 2i 1	4 /3.3	8	90
BPG208LTZ00	1 1/4"	32	410	0	16/12	1i 2 2i 1	5 /3.3	8	90
BPG209LTK00	1 1/2"	40	700	0	16/8	1i 2 2i 1	6 /3.3	8	90
BPG210LTJ00	2"	50	950	0	14/ 6	1i 2 2i 1	8 /3.3	8	90

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;

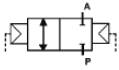


DIMENSIONS & WEIGHTS

Connection	Actuator ø	A	B	C	D	E	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	63	65	192	184	171	85	1.2
3/4"	63	75	198	192	176	85	1.3
1"	63	90	212	205	185	85	1.5
1 1/4"	63	110	225	217	193	85	1.9
1 1/2"	63	120	230	225	198	85	2.1
2"	63	150	248	241	207	85	2.9
1"	90	90	223	216	196	112	2.0
1 1/4"	90	110	234	227	202	112	2.4
1 1/2"	90	120	239	235	207	112	2.6
2"	90	150	257	250	216	112	3.3



## 2/2 WAY PISTON VALVE G 1/2" ÷ 2" DOUBLE ACTING; STAINLESS STEEL



**double acting  
flow over / under seat**

**TYPE: REGULAR DA**

### TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
Media temperature: -10°C ... +180°C
Ambient temperature: -10°C ... +60°C
Pilot media: air, inert gases, water
Body material: cast AISI 316L (see page 36)
Bonnet material: cast AISI 316L (see page 36)
Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
Seal material: PTFE type TFM 1600
Position indicator as standard
Valves DN32÷DN50 complying with 97/23 EC Directive Category I

### BENEFITS

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

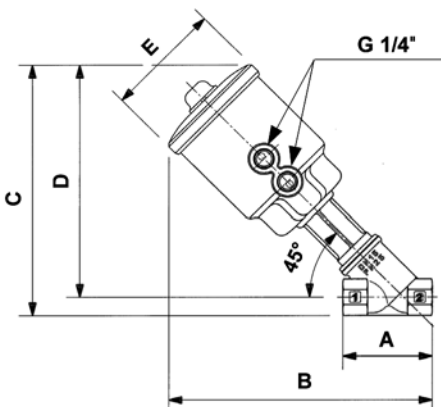
### OPTIONS

Manual override (ex. code DPG205STWM0) see page 24
Stroke regulator (ex. code DPG210STJR0) see page 24
Travel switch (ex. code DPG208LTZIO) see page 24
NPT connection (ex. code DPN205STW00)
Weld ends see page 17



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup> bar		Actuator ø
					min (bar)	max (bar)		min 1i 2	min 2i 1	
	Code	(ISO 228 G)	(mm)	(l/min)						(mm)
	DPG205STW00	1/2"	15	87	0	16	1i 2	1.8	2	63
	DPG206STX00	3/4"	20	164	0	16	1i 2	2	3.8	63
	DPG207STY00	1"	25	260	0	16	1i 2	3	5	63
	DPG208STZ00	1 1/4"	32	410	0	16	1i 2	4.5	6	63
	DPG209STK00	1 1/2"	40	700	0	16	1i 2	6.5	7	63
	DPG210STJ00	2"	50	950	0	12	1i 2	7	8	63

(1) Steam: Max. working pressure 10 bar (9 barg); - (2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



### DIMENSIONS & WEIGHTS

Connection	Actuator ø	A	B	C	D	E	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	63	65	192	184	171	85	1.2
3/4"	63	75	198	192	176	85	1.3
1"	63	90	212	205	185	85	1.5
1 1/4"	63	110	225	217	193	85	1.9
1 1/2"	63	120	230	225	198	85	2.1
2"	63	150	248	241	207	85	2.9

## MANUAL ANGLE SEAT VALVE, G 1/2" ÷ 2"; STAINLESS STEEL

flow over / under seat

TYPE: PG MANUAL

### TECHNICAL SPECIFICATIONS

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

Media temperature: -10°C ... +180°C

Ambient temperature: -10°C ... +60°C

Body material: cast AISI 316L (see page 36)

Bonnet material: cast AISI 316L (see page 36)

Seal material: PTFE type TFM 1600

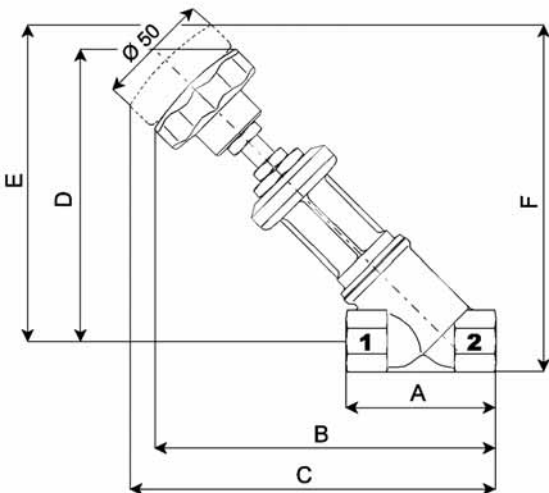
### OPTIONS

NPT connection (ex. code PN2050TW00)



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction
	Code				min (bar)	max (bar)	
	PG2050TW00	1/2"	15	87	0	40	1 ↕ 2
	PG2060TX00	3/4"	20	164	0	40	1 ↕ 2
	PG2070TY00	1"	25	260	0	40	1 ↕ 2
	PG2080TZ00	1 1/4"	32	410	0	25	1 ↕ 2
	PG2090TK00	1 1/2"	40	700	0	25	1 ↕ 2
	PG2100TJ00	2"	50	916	0	16	1 ↕ 2

(1) Steam: Max. working pressure 10 bar (9 barg);



DIMENSIONS & WEIGHTS	Connection	A	B	C	D	E	F	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
	1/2"	65	142	150	121	128	142	0.75
	3/4"	75	148	155	126	133	150	0.80
	1"	90	163	172	135	145	165	1.20
	1 1/4"	110	175	188	143	156	181	1.80
	1 1/2"	120	180	193	148	161	189	2.10
	2"	150	198	212	157	170	205	3.10

## 2/2 WAY PISTON VALVES WITH WELDING CONNECTION; AISI 316L

TYPE: ALL TYPES

### TECHNICAL SPECIFICATIONS

See general features at pages 11, 12, 13, 14, 15

### OPTIONS

Weld connection for DIN 3239 pipe (Ex. code BPF205STW00)

Manual override (Ex. code PS205STWM0) see page 24

Stroke regulator (Ex. code BPB210STJR0) see page 24

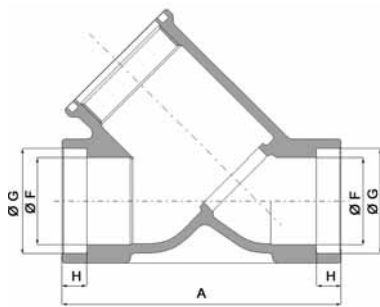
Travel switch (Ex. code RPW208LTZi0) see page 24

High temperature version (Ex. code PS205STW0H)

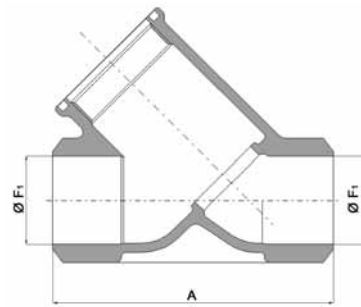


### SELECTION TABLE

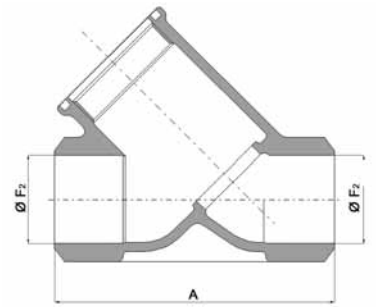
orifice Ø (mm)	SOCKET WELD for ISO 65 / ANSI B 36.10 pipe			BUTT WELD for ISO 65 / ANSI B 36.10 pipe			BUTT WELD for DIN 11850 pipe			BUTT WELD for ISO 4200 pipe		
	actuator size Ø 45 Code	actuator size Ø 63 Code	actuator size Ø 90 Code	actuator size Ø 45 Code	actuator size Ø 63 Code	actuator size Ø 90 Code	actuator size Ø 45 Code	actuator size Ø 63 Code	actuator size Ø 90 Code	actuator size Ø 45 Code	actuator size Ø 63 Code	actuator size Ø 90 Code
DN 15	PS205CTW00	PS205STW00	-	PB205CTW00	PB205STW00	-	PW205CTW00	PW205STW00	-	PH205CTW00	PH205STW00	-
DN 20	PS206CTX00	PS206STX00	-	PB206CTX00	PB206STX00	-	PW206CTX00	PW206STX00	-	PH206CTX00	PH206STX00	-
DN 25	-	PS207STY00	PS207LTY00	-	PB207STY00	PB207LTY00	-	PW207STY00	PW207LTY00	-	PH207STY00	PH207LTY00
DN 32	-	PS208STZ00	PS208LTZ00	-	PB208STZ00	PB208LTZ00	-	PW208STZ00	PW208LTZ00	-	PH208STZ00	PH208LTZ00
DN 40	-	PS209STK00	PS209LTK00	-	PB209STK00	PB209LTK00	-	PW209STK00	PW209LTK00	-	PH209STK00	PH209LTK00
DN 50	-	PS210STJ00	PS210LTJ00	-	PB210STJ00	PB210LTJ00	-	PW210STJ00	PW210LTJ00	-	PH210STJ00	PH210LTJ00



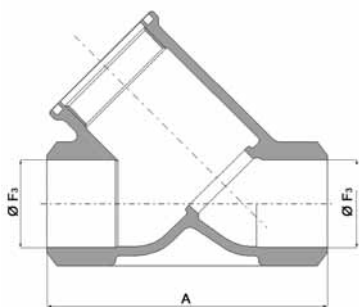
Valve with socket weld connection for ISO 65/ANSI B 36.10 pipe



Valve with butt weld connection for ISO 65/ANSI B 36.10 pipe  
Welding ends complying with ISO 6761



Valve with butt weld connection for DIN 11850 pipe  
Welding ends complying with ISO 6761



Valve with butt weld connection for ISO 4200 pipe  
Welding ends complying with ISO 6761

DIMENSIONS	actuator size Ø	orifice Ø	A	Ø F	Ø F <sub>1</sub>	Ø F <sub>2</sub>	Ø F <sub>3</sub>	Ø G	H
	(mm)	(DN)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
	45	15	65	17.4	17.4	16	18.1	22	5
	45	20	75	22.8	22.8	20	23.7	27.5	7
	63	15	65	17.4	17.4	16	18.1	22	5
	63	20	75	22.8	22.8	20	23.7	27.5	7
	63	25	90	28.3	28.3	26	29.7	34	8
	63	32	110	37.1	37.1	32	38.4	43	10
	63	40	120	42.7	42.7	38	44.3	49	12
	63	50	150	54.8	54.8	50	55.1	61.5	16
	90	25	90	28.3	28.3	26	29.7	34	8
	90	32	110	37.1	37.1	32	38.4	43	10
	90	40	120	42.7	42.7	38	44.3	49	12
	90	50	150	54.8	54.8	50	55.1	61.5	16

Note: For overall dimensions please refer to pages 11, 12, 13, 14, 15

## 2/2 WAY PISTON VALVES WITH FLANGED CONNECTION; AISI 316L

### TECHNICAL SPECIFICATIONS

See general features at pages 11, 12, 13, 14, 15 of General Catalogue Valves DN32÷DN50 complying with 97/23 EC Directive Category I

### BENEFITS

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

### OPTIONS

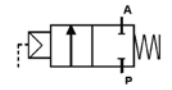
Manual override (Ex. code BPA205STW00)

Stroke regulator (Ex. code PD210STJR0)

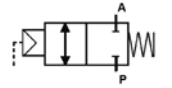
Travel switch (Ex. code RPD208LTZ0)

High temperature version (Ex. code PD205STW0H)

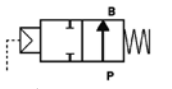
### TYPE: REGULAR (BD-NO-NC)



NC (FLOW OVER SEAT)



BD (FLOW UNDER/OVER SEAT)



NO (FLOW UNDER SEAT)

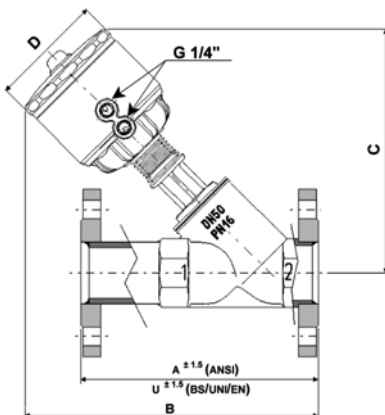
SELECTION TABLE

#### FLANGES TO BS 4504 (EN1092 shape B)

orifice Ø (mm)	ACTUATOR Ø 63 mm			ACTUATOR Ø 90 mm		
	BD	NC	NO	BD	NC	NO
	Code	Code	Code	Code	Code	Code
DN 15	BPD205STW00	PD205STW00	RPD205STW00	-	-	-
DN 20	BPD206STX00	PD206STX00	RPD206STX00	-	-	-
DN 25	BPD207STY00	PD207STY00	RPD207STY00	BPD207LTY00	PD207LTY00	RPD207LTY00
DN 32	BPD208STZ00	PD208STZ00	RPD208STZ00	BPD208LTZ00	PD208LTZ00	RPD208LTZ00
DN 40	BPD209STK00	PD209STK00	RPD209STK00	BPD209LTK00	PD209LTK00	RPD209LTK00
DN 50	BPD210STJ00	PD210STJ00	RPD210STJ00	BPD210LTJ00	PD210LTJ00	RPD210LTJ00

#### FLANGE CONNECTION TO ANSI B16.5 CLASS 150

orifice Ø (mm)	ACTUATOR Ø 63 mm			ACTUATOR Ø 90 mm		
	BD	NC	NO	BD	NC	NO
	Code	Code	Code	Code	Code	Code
DN 15	BPA205STW00	PA205STW00	RPA205STW00	-	-	-
DN 20	BPA206STX00	PA206STX00	RPA206STX00	-	-	-
DN 25	BPA207STY00	PA207STY00	RPA207STY00	BPA207LTY00	PA207LTY00	RPA207LTY00
DN 32	BPA208STZ00	PA208STZ00	RPA208STZ00	BPA208LTZ00	PA208LTZ00	RPA208LTZ00
DN 40	BPA209STK00	PA209STK00	RPA209STK00	BPA209LTK00	PA209LTK00	RPA209LTK00
DN 50	BPA210STJ00	PA210STJ00	RPA210STJ00	BPA210LTJ00	PA210LTJ00	RPA210LTJ00



DIMENSIONS & WEIGHTS

Ø orifice (ISO 228 G)	Ø Actuator (mm)	A* (ANSI) (mm)	U* (ANSI) (mm)	B (mm)	C (mm)	D (mm)	weight (kg)
DN 15	63	139.7	130	218	194	85	2.6
DN 20	63	152.4	150	236	210	85	3.0
DN 25	63	165.1	160	239	208	85	3.8
DN 32	63	184.2	180	252	216	85	5.6
DN 40	63	203.2	200	257	220	85	6.9
DN 50	63	228.6	230	275	230	85	8.7
DN 25	90	165.1	160	250	219	112	4.4
DN 32	90	184.2	180	263	227	112	6.0
DN 40	90	203.2	200	268	232	112	6.9
DN 50	90	228.6	230	286	240	112	9.1

A: face to face to ANSI B 16.10

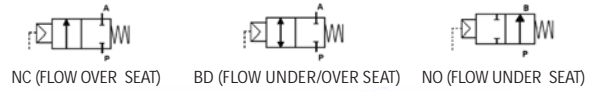
U: face to face to EN 558-1

## 2/2 WAY PISTON VALVE WITH CLAMP-END CONNECTION; AISI 316L

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media and steam
- Media temperature: -10°C ... +180°C
- Ambient temperature: -10°C ... +60°C
- Pilot media: air, inert gases
- Body material: cast AISI 316L (see page 36)
- Clamp material: AISI 316L
- Bonnet material: cast AISI 316L (see page 36)
- Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
- Seal material: PTFE type TFM 1600
- Position indicator as standard
- Gasket and clamp not included
- Connection to ISO 2852 or ASME BPE

### TYPE: COMPACT AND REGULAR (BD-NO-NC)



### BENEFITS

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

### OPTIONS

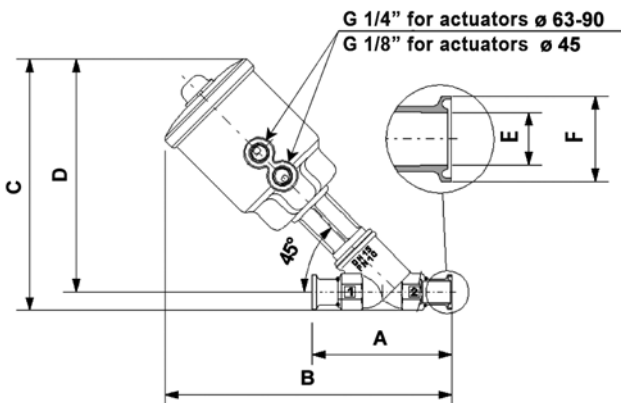
- Manual override (Ex. code BPC205STWM0)
- Stroke regulator (Ex. code PC210STJR0)
- Travel switch (Ex. code RPC208LTZi0)

### SELECTION TABLE

		ISO 2852								
		ACTUATOR Ø 45 mm			ACTUATOR Ø 63 mm			ACTUATOR Ø 90 mm		
orifice Ø		BD	NC	NO	BD	NC	NO	BD	NC	NO
(mm)	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
DN 15	BPC205CTW00	PC205CTW00	RPC205CTW00	BPC205STW00	PC205STW00	RPC205STW00	-	-	-	-
DN 20	BPC206CTX00	PC206CTX00	RPC206CTX00	BPC206STX00	PC206STX00	RPC206STX00	-	-	-	-
DN 25	-	-	-	BPC207STY00	PC207STY00	RPC207STY00	BPC207LTY00	PC207LTY00	RPC207LTY00	-
DN 32	-	-	-	BPC208STZ00	PC208STZ00	RPC208STZ00	BPC208LTZ00	PC208LTZ00	RPC208LTZ00	-
DN 40	-	-	-	BPC209STK00	PC209STK00	RPC209STK00	BPC209LTK00	PC209LTK00	RPC209LTK00	-
DN 50	-	-	-	BPC210STJ00	PC210STJ00	RPC210STJ00	BPC210LTJ00	PC210LTJ00	RPC210LTJ00	-

		ASME BPE								
		ACTUATOR Ø 45 mm			ACTUATOR Ø 63 mm			ACTUATOR Ø 90 mm		
orifice Ø		BD	NC	NO	BD	NC	NO	BD	NC	NO
(mm)	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
DN 15	BPP205CTW00	PP205CTW00	RPP205CTW00	BPP205STW00	PP205STW00	RPP205STW00	-	-	-	-
DN 20	BPP206CTX00	PP206CTX00	RPP206CTX00	BPP206STX00	PP206STX00	RPP206STX00	-	-	-	-
DN 25	-	-	-	BPP207STY00	PP207STY00	RPP207STY00	BPP207LTY00	PP207LTY00	RPP207LTY00	-
DN 40	-	-	-	BPP209STK00	PP209STK00	RPP209STK00	BPP209LTK00	PP209LTK00	RPP209LTK00	-
DN 50	-	-	-	BPP210STJ00	PP210STJ00	RPP210STJ00	BPP210LTJ00	PP210LTJ00	RPP210LTJ00	-



### DIMENSIONS & WEIGHTS

orifice Ø	Ø act.	A ISO	A ASME	B ISO	B ASME	C ISO	C ASME	D	E ISO	E ASME	F ISO	F ASME	weight ISO	weight ASME
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)	(kg)
DN 15	45	102	102	162	162	140	136	123	172	9.4	34	25	0.83	0.83
DN 20	45	114	114	167	167	142	138	125	21.3	15.75	34	25	1.10	1.10
DN 15	63	102	102	210	210	187	183	170	172	9.4	34	25	1.3	1.3
DN 20	63	114	114	217	217	193	189	176	21.3	15.75	34	25	1.5	1.5
DN 25	63	140	140	231	231	211	211	185	25	22.1	50.5	50.5	1.8	1.8
DN 32	63	159	-	240	-	218	-	192	33.7	-	50.5	-	2.4	-
DN 40	63	159	159	249	249	229	223	197	40	34.8	64	50.5	2.8	2.8
DN 50	63	190	190	267	267	240	240	206	51	47.5	64	64	3.6	3.6
DN 25	90	140	140	243	243	222	222	196	25	22.1	50.5	50.5	2.4	2.4
DN 32	90	159	-	251	-	230	-	204	33.7	-	50.5	-	2.8	-
DN 40	90	159	159	260	260	241	235	209	40	34.8	64	50.5	3.2	3.2
DN 50	90	190	190	279	279	251	251	217	51	47.5	64	64	4.0	4.0

## PERFORMANCE TABLE ASME BPE VERSION

BD	VALVE	actuator Ø	DN orifice	flow rate Kvs	Working pressure		Flow direction	Pilot pressure <sup>(1)</sup>	
	Code	(mm)	(mm)	(l/min)	min (bar)	max (bar)		min (bar)	max (bar)
	BPP205CTW00	45	15	50	0	10 / 10	1i 2 / 2i 1	6.2 / 5	10
BPP206CTX00	45	20	120	0	10 / 7	1i 2 / 2i 1	8.7 / 5	10	
BPP205STW00	63	15	50	0	10 / 10	1i 2 / 2i 1	5.5 / 3.8	10	
BPP206STX00	63	20	135	0	10 / 10	1i 2 / 2i 1	6 / 3.8	10	
BPP207STY00	63	25	250	0	10 / 10	1i 2 / 2i 1	6.5 / 3.8	10	
BPP209STK00	63	40	640	0	10 / 4	1i 2 / 2i 1	9 / 3.8	10	
BPP210STJ00	63	50	730	0	8 / 2.5	1i 2 / 2i 1	9 / 3.8	10	
BPP207LTY00	90	25	250	0	10 / 10	1i 2 / 2i 1	4 / 3.3	8	
BPP209LTK00	90	40	640	0	10 / 8	1i 2 / 2i 1	6 / 3.3	8	
BPP210LTJ00	90	50	730	0	10 / 6	1i 2 / 2i 1	8 / 3.3	8	

NC	VALVE	actuator Ø	DN orifice	flow rate Kvs	Working pressure		Flow direction	Pilot pressure <sup>(1)</sup>	
	Code	(mm)	(mm)	(l/min)	min (bar)	max (bar)	(1i 2)	min (bar)	max (bar)
	PP205CTW00	45	15	50	0	10	over seat	3.8	10
PP206CTX00	45	20	120	0	10	over seat	5.8	10	
PP205STW00	63	15	50	0	10	over seat	3.7	10	
PP206STX00	63	20	135	0	10	over seat	4.4	10	
PP207STY00	63	25	250	0	10	over seat	5.9	10	
PP209STK00	63	40	640	0	10	over seat	9	10	
PP210STJ00	63	50	730	0	10	over seat	8	10	
PP207LTY00	90	25	250	0	10	over seat	2	8	
PP209LTK00	90	40	640	0	10	over seat	4	8	
PP210LTJ00	90	50	730	0	10	over seat	6.5	8	

NO	VALVE	actuator Ø	DN orifice	flow rate Kvs	Working pressure		Flow direction	Pilot pressure <sup>(1)</sup>	
	Code	(mm)	(mm)	(l/min)	min (bar)	max (bar)	(2i 1)	min (bar)	max (bar)
	RPP205CTW00	45	15	50	0	10	under seat	4	10
RPP206CTX00	45	20	120	0	10	under seat	6.2	10	
RPP205STW00	63	15	50	0	10	under seat	2.5	10	
RPP206STX00	63	20	135	0	10	under seat	4.3	10	
RPP207STY00	63	25	250	0	10	under seat	5.5	10	
RPP209STK00	63	40	640	0	10	under seat	9	10	
RPP210STJ00	63	50	730	0	10	under seat	9.4	10	
RPP207LTY00	90	25	250	0	10	under seat	3	8	
RPP209LTK00	90	40	640	0	10	under seat	5	8	
RPP210LTJ00	90	50	730	0	10	under seat	7	8	

(1) Minimum pilot pressure at max working pressure; for lower working pressure see selection chart of "PAV" M&M Catalogue;

For the different code e.g. PP205STW00 see the equivalent code PG205STW00.

## PERFORMANCE TABLE ISO 2852 VERSION

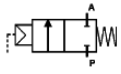
BD	VALVE	actuator Ø	DN orifice	flow rate Kvs	Working pressure		Flow direction	Pilot pressure <sup>(1)</sup>	
	Code	(mm)	(mm)	(l/min)	min (bar)	max (bar)		min (bar)	max (bar)
	BPC205CTW00	45	15	65	0	10 / 10	1i 2 / 2i 1	6.2 / 5	10
BPC206CTX00	45	20	120	0	10 / 7	1i 2 / 2i 1	8.7 / 5	10	
BPC205STW00	63	15	85	0	10 / 10	1i 2 / 2i 1	5.5 / 3.8	10	
BPC206STX00	63	20	160	0	10 / 10	1i 2 / 2i 1	6 / 3.8	10	
BPC207STY00	63	25	260	0	10 / 10	1i 2 / 2i 1	6.5 / 3.8	10	
BPC208STZ00	63	32	420	0	10 / 6	1i 2 / 2i 1	6.8 / 3.8	10	
BPC209STK00	63	40	700	0	10 / 4	1i 2 / 2i 1	9 / 3.8	10	
BPC210STJ00	63	50	810	0	8 / 2.5	1i 2 / 2i 1	9 / 3.8	10	
BPC207LTY00	90	25	260	0	10 / 10	1i 2 / 2i 1	4 / 3.3	8	
BPC208LTZ00	90	32	420	0	10 / 10	1i 2 / 2i 1	5 / 3.3	8	
BPC209LTK00	90	40	700	0	10 / 8	1i 2 / 2i 1	6 / 3.3	8	
BPC210LTJ00	90	50	810	0	10 / 6	1i 2 / 2i 1	8 / 3.3	8	

NC	VALVE	actuator Ø	DN orifice	flow rate Kvs	Working pressure		Flow direction	Pilot pressure <sup>(1)</sup>	
	Code	(mm)	(mm)	(l/min)	min (bar)	max (bar)	(1i 2)	min (bar)	max (bar)
	PC205CTW00	45	15	65	0	10	over seat	3.8	10
PC206CTX00	45	20	120	0	10	over seat	5.8	10	
PC205STW00	63	15	85	0	10	over seat	3.7	10	
PC206STX00	63	20	160	0	10	over seat	4.4	10	
PC207STY00	63	25	260	0	10	over seat	5.9	10	
PC208STZ00	63	32	420	0	10	over seat	9	10	
PC209STK00	63	40	700	0	10	over seat	9	10	
PC210STJ00	63	50	810	0	10	over seat	8	10	
PC207LTY00	90	25	260	0	10	over seat	2	8	
PC208LTY00	90	32	420	0	10	over seat	3.5	8	
PC209LTK00	90	40	700	0	10	over seat	4	8	
PC210LTJ00	90	50	810	0	10	over seat	6.5	8	

NO	VALVE	actuator Ø	DN orifice	flow rate Kvs	Working pressure		Flow direction	Pilot pressure <sup>(1)</sup>	
	Code	(mm)	(mm)	(l/min)	min (bar)	max (bar)	(2i 1)	min (bar)	max (bar)
	RPC205CTW00	45	15	65	0	10	under seat	4	10
RPC206CTX00	45	20	120	0	10	under seat	6.2	10	
RPC205STW00	63	15	85	0	10	under seat	2.5	10	
RPC206STX00	63	20	160	0	10	under seat	4.3	10	
RPC207STY00	63	25	260	0	10	under seat	5.5	10	
RPC208STY00	63	32	420	0	10	under seat	6.5	10	
RPC209STK00	63	40	700	0	10	under seat	9	10	
RPC210STJ00	63	50	810	0	10	under seat	9.4	10	
RPC207LTY00	90	25	260	0	10	under seat	3	8	
RPC207LTY00	90	32	420	0	10	under seat	4	8	
RPC209LTK00	90	40	700	0	10	under seat	5	8	
RPC210LTJ00	90	50	810	0	10	under seat	7	8	

(1) Minimum pilot pressure at max working pressure; for lower working pressure see selection chart of "PAV" M&M Catalogue;  
For the different code e.g. PC205STW00 see the equivalent code PG205STW00.

## 2/2 WAY PISTON VALVE G 1/2" ÷ 2"; AISI 316L HIGH TEMPERATURE VERSION



**normally closed  
flow over seat**

**TYPE: NC**

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
- Media temperature: -10°C ... +200°C
- Ambient temperature: -10°C ... +60°C
- Pilot media: air, inert gases
- Body material: cast AISI 316L (see page 36)
- Bonnet material: cast AISI 316L (see page 36)
- Actuator body material: Polyamide PA66 (reinforced fiberglass 30%)
- Seal material: PTFE type TFM 1600
- Position indicator as standard
- Valves DN32÷DN50 complying with 97/23/EC Directive Category I

### BENEFITS

- Actuator housing rotation 360°

### OPTIONS

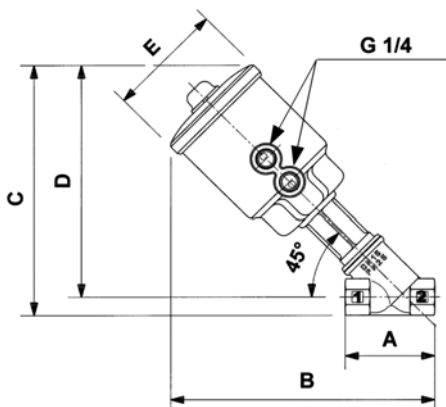
- Manual override (Ex. code PG205STW~~M~~H) see page 24
- Stroke regulator (Ex. code PG210LTJR~~H~~) see page 24
- Travel switch (Ex. code PG208LTZ~~I~~H) see page 24
- NPT connection (Ex. code PN205STW0H)
- Optional connections see pages: weld p. 17, flange p.18, clamp p.19-21



SELECTION TABLE	VALVES	connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)	(1 2)	min (bar)	max (bar)	(mm)
	PG205STW0H	1/2"	15	87	0	20 <sup>(1)</sup>	over seat	3.7	10	63
PG206STX0H	3/4"	20	164	0	20 <sup>(1)</sup>	over seat	4.4	10	63	
PG207STY0H	1"	25	260	0	20 <sup>(1)</sup>	over seat	2	8	63	
PG208STZ0H	1 1/4"	32	410	0	16 <sup>(1)</sup>	over seat	3.5	8	90	
PG209STK0H	1 1/2"	40	700	0	16 <sup>(1)</sup>	over seat	4	8	90	
PG210STJ0H	2"	50	950	0	15 <sup>(1)</sup>	over seat	6.5	8	90	

(1) Steam: Max. working pressure 14.5 barg

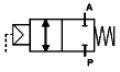
(2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



DIMENSIONS & WEIGHTS	Connection	Actuator ø	A	B	C	D	E	weight
	(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	63	65	192	184	171	85	1.2	
3/4"	63	75	198	192	176	85	1.3	
1"	63	90	212	205	185	85	1.5	
1 1/4"	90	110	234	227	202	112	2.4	
1 1/2"	90	120	239	235	207	112	2.6	
2"	90	150	257	250	216	112	3.3	



## 2/2 WAY PISTON VALVE G 1/2" ÷ 2"; AISI 316L HIGH TEMPERATURE VERSION



**normally closed  
flow over/under seat**

**TYPE: BD**

### TECHNICAL SPECIFICATIONS

- Media: water, oil, air, aggressive media and steam <sup>(1)</sup>
- Media temperature: -10°C ... +200°C
- Ambient temperature: -10°C ... +60°C
- Pilot media: air, inert gases
- Body material: cast AISI 316L (see page 36)
- Bonnet material: cast AISI 316L (see page 36)
- Actuator body material: Polyamide PA66 (reinforced fiberglass 30%)
- Seal material: PTFE type TFM 1600
- Position indicator as standard
- Valves DN32÷DN50 complying with 97/23/EC Directive Category I

### BENEFITS

- Actuator housing rotation 360°
- Waterhammer-free design (with flow direction 2i 1)

### OPTIONS

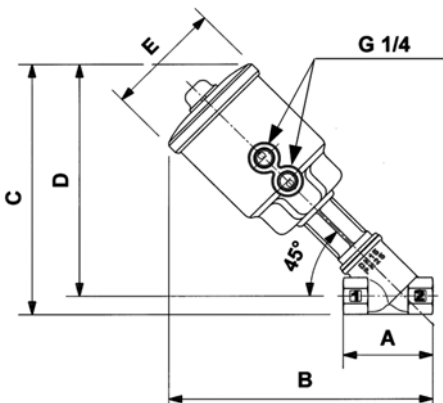
- Manual override (Ex. code BPG205STWMH) see page 24
- Stroke regulator (Ex. code BPG210LTJRH) see page 24
- Travel switch (Ex. code BPG208LTZIH) see page 24
- NPT connection (Ex. code BPN205STW0H)
- Optional connections see pages: weld p. 17, flange p.18, clamp p.19-21



SELECTION TABLE	VALVES		connection	DN orifice	Flow rate Kvs	Working pressure <sup>(1)</sup>		Flow direction	Pilot pressure <sup>(2)</sup>		Actuator ø
	Code	(ISO 228 G)	(mm)	(l/min)	min (bar)	max (bar)		min (bar)	max (bar)	(mm)	
	BPG205STW0H	1/2"	15	87	0	16 <sup>(1)</sup>	1i 2 / 2i 1	5.5 / 3.8	10	63	
BPG206STX0H	3/4"	20	164	0	16 <sup>(1)</sup>	1i 2 / 2i 1	6 / 3.8	10	63		
BPG207STY0H	1"	25	260	0	16 <sup>(1)</sup> /11	1i 2 / 2i 1	6.5 / 3.8	10	63		
BPG208STZ0H	1 1/4"	32	410	0	16 <sup>(1)</sup> /12	1i 2 / 2i 1	5 / 3.3	8	90		
BPG209STK0H	1 1/2"	40	700	0	16 <sup>(1)</sup> /8	1i 2 / 2i 1	6 / 3.3	8	90		
BPG210STJ0H	2"	50	950	0	16 <sup>(1)</sup> /6	1i 2 / 2i 1	8 / 3.3	8	90		

(1) Steam: Max. working pressure 14.5 barg

(2) Minimum pilot pressure at max. working pressure; for lower working pressure see selection charts;



### DIMENSIONS & WEIGHTS

Connection	Actuator ø	A	B	C	D	E	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	63	65	192	184	171	85	1.2
3/4"	63	75	198	192	176	85	1.3
1"	63	90	212	205	185	85	1.5
1 1/4"	90	110	234	227	202	112	2.4
1 1/2"	90	120	239	235	207	112	2.6
2"	90	150	257	250	216	112	3.3

## AVAILABLE OPTIONS

### STROKE REGULATOR

#### TECHNICAL SPECIFICATIONS

The stroke regulator allows the flow to be adjusted from 0% to 100%.

Beneficial integration of position indicator.

On normally open valve it serves as manual override.

! This option must be expressly required upon order. It is available for 63/90 valve series only.

Example: code CG205STWR0



### TRAVEL SWITCH

#### TECHNICAL SPECIFICATIONS

The travel switch detects the position of the valve (open or closed) relaying back an electrical signal.

The signal is provided by a magnetic sensor with a non-contact 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: ± 0.3 mm;*

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

*Protection class: IP67;*

*Housing material: Electroless nickel plated brass;*

*Plug for cable 3x0,5 mm<sup>2</sup>; 4-6 mm dia. (DIN IEC 60947/5/2)*

! This option must be expressly required upon order. It is available for 63/90 valve series only.

Example: code RCG205STWJ0



### MANUAL OVERRIDE

#### TECHNICAL SPECIFICATIONS

The manual override allows to open or close the valve in emergency cases (lack of air pressure, electrical failure, pilot valve damaged).

For the normally open version this function is performed by the "stroke regulator".

! This option must be expressly required upon order. It is available for 63/90 valve series only.

Example: code CG208STZM0



## AVAILABLE OPTIONS

### TRAVEL SWITCH CONVERSION KIT

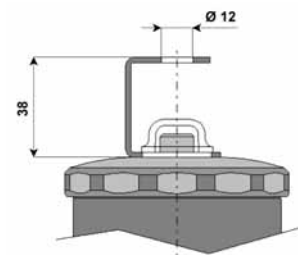
#### FEATURES AND BENEFITS

This kit allows the installation of a position switch to detect the position of the valve by means of an electrical signal.

- Suitable for all valves
- Easy installation at user's care, even on site
- Keeps the optical view of the valve position through the upper sight dome
- Suitable for magnetic or inductive commercial switches with M12 or M8 thread upon customer's choice

How to order:

- I part number 857 018 000
- I switch and plug not included (see below)



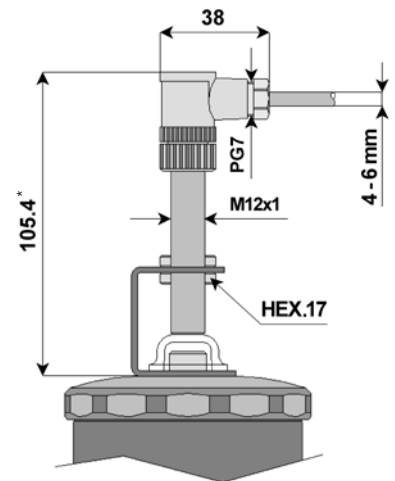
### MAGNETIC SWITCH FOR CONVERSION KIT

#### TECHNICAL SPECIFICATIONS

M&M offers 2 types of standard magnetic switch 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.

MAGNETIC SWITCHES		
technical specifications	TYPE A - code 680 001 000	TYPE B - code 680 002 000
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:	IP67	IP67
Max switching voltage:	500V	150V
Max switching current:	0,5A	1A
Max switching power:	30 W / VA	20W / VA
Contact actuation time:	4,5 ms	2 ms
Connection:	plug to screw clamp connection DIN IEC 60947/5/2	with cable (5m)
Cable:	3 x 0,25 mm <sup>2</sup>	3 x 0,25 mm <sup>2</sup>



\* Type code 680 002 000 = 65 mm high

TYPE A: SWITCH + CONNECTOR



680 001 000



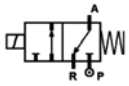
600 012 000

TYPE B: SWITCH + 5m CABLE



680 002 000

## 3/2 WAY DIRECT ACTING PILOT VALVES



normally closed

TYPE: B356 / B326 / D326

### TECHNICAL SPECIFICATIONS

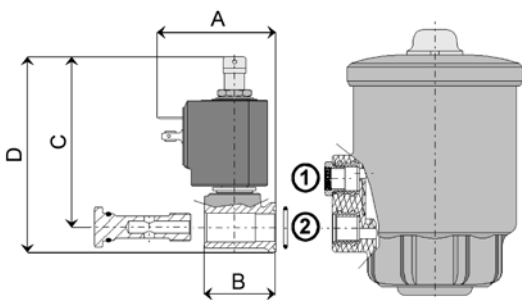
Media: water, inert gases, air
Media temperature: -10°C ... +60°C
Ambient temperature: -10°C ... +60°C
Body material: brass (CW614N EN 12165) with electroless nickel plating treatment
Operator material: stainless steel
Seal material: FKM
Coil power Series 2000: AC 10VA (holding) AC 16VA (inrush) DC 7W
Coil power Series 7000: AC 18VA (holding) AC 36VA (inrush) DC 14W
Protection class: IP 65 (with connector)



### BENEFITS

- Standard manual override and electroless nickel plating treatment
- Expressly designed to pilot M&M Piston Valves
- Valve rotation by 360° around port

SELECTION TABLE	VALVE	actuator	hose connection	DN orifice	flow rate Kvs	OPD		COILS	
						min	max	Code	(Volts/Hz)
	Code	(mm)	(bar)	AC	DC	Code	(Volts/Hz)		
B356CVCMK	Ø 45	"push-in" pneumatic fitting for 6mm external Ø tube	1.5	0.7	0	10	10	2250	24/dc
B326CVCMK	Ø 63		1.5	0.7	0	10	10	2200	24/50 - 60
D326CVEMK	Ø 90		2.0	1.3	0	10	10	2400	110/50 - 120/60
								2600	200/50 - 220/60
								2700	230/50 - 240/60
								7250	24/dc
								7200	24/50 - 60
								7400	110/50 - 120/60
								7600	200/50 - 220/60
								7700	230/50 - 240/60

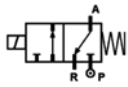


- Screw the pilot valve bolt into the inlet port of the piston valve actuator using a maximum torque level of 5 Nm:
- into hole 1, if the piston valve is **NORMALLY OPEN (RPG/RCG)**
  - into hole 2, if the piston valve is **NORMALLY CLOSED (PG-BPG/CG-BCG)**

### DIMENSIONS & WEIGHTS

Valve	A	B	C	D	weight
	(mm)	(mm)	(mm)	(mm)	(Kg)
B356	48	31	66.5	76.5	0.25
B326	51.5	34.5	66.3	78.3	0.25
D326	57	34.5	82.6	94.6	0.30

## PILOT VALVE 3/2 DIRECT ACTING FOR POTENTIALLY EXPLOSIVE ATMOSPHERES ATEX II 2GD



**normally closed**

**TYPE: N326CVEK**

SOLENOID VALVE EQUIPPED WITH COIL SUITABLE FOR POTENTIAL EXPLOSIVE ATMOSPHERES PROTECTION COIL CLASS **EEx m II 2GD T4**

### TECHNICAL SPECIFICATIONS

- Media: water, inert gases, air
- Media temperature: -10°C ... +60°C
- Ambient temperature: -20°C ... +50°C
- Body material: brass (CW614N EN 12165) with electroless nickel plating treatment
- Operator material: stainless steel
- Protection class: EEx m II 2GD T4
- Seal material: FKM
- Degree of protection: IP65



### BENEFITS

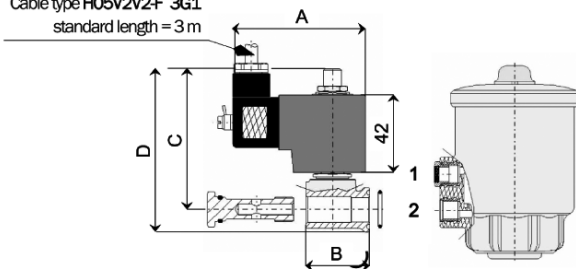
- Coil are supplied with 3 meters power cable, wired on a non removable plug
- Expressly designed to pilot M&M Piston Valves
- Valve rotation by 360° around port
- Manual override not available
- Spare parts not available. The valve is supplied c/w coil and plug

**WARNING!**  
Valves for potentially explosive atmosphere are available from factory only:  
**REPLACEMENT OF THE SOLENOID DOESN'T MAKE THE VALVE EXPLOSION-PROOF!**

SELECTION TABLE	VALVE		connection	DN orifice	flow rate Kvs	OPD		COILS		Power	FUSES*
	Code			(mm)	(l/mm)	min (bar)	max	Code	(Volts/Hz)	Holding	(m/A)
	N326CVEK	"PUSH-IN" pneumatic fitting for 6mm Ø plastic tube	2.0	1.3	0	10	10	N253	24/dc	10.1w	800
								N203	24/50 – 60	7.2 vA	800
								N403	110/50	9.1 vA	200
								NK03	120/60	8.6 vA	200
								N703	230/50	8.5 vA	100

\* 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 is a non conformity to safety standards (EC Directives 94/9/EC and 1999/92/EC) and is a possible cause of explosion.

Cable type H05V2V2-F 3G1  
standard length = 3 m



MAXIMUM TORQUE 12 Nm:

- use port 1 for **NORMALLY OPEN** valves (RPG/RCG)
- use port 2 for **NORMALLY CLOSED** valves (PG-BPG/CG-BCG)

### DIMENSIONS & WEIGHTS

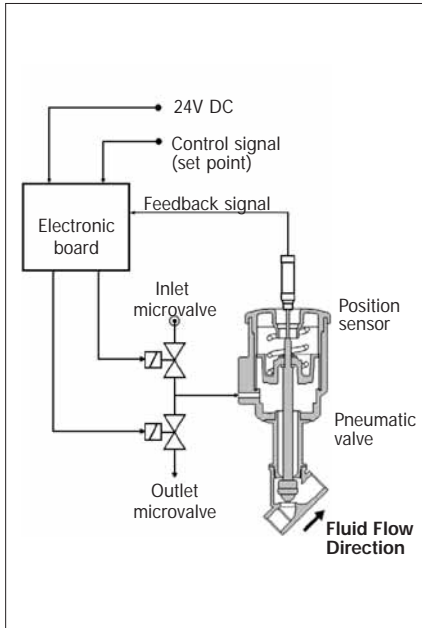
Valve	A	B	C	D	weight
-	(mm)	(mm)	(mm)	(mm)	(Kg)
N326	72	34.5	74	86	0.68

## CONTROL PISTON ACTUATED VALVE WITH INTEGRATED POSITIONER

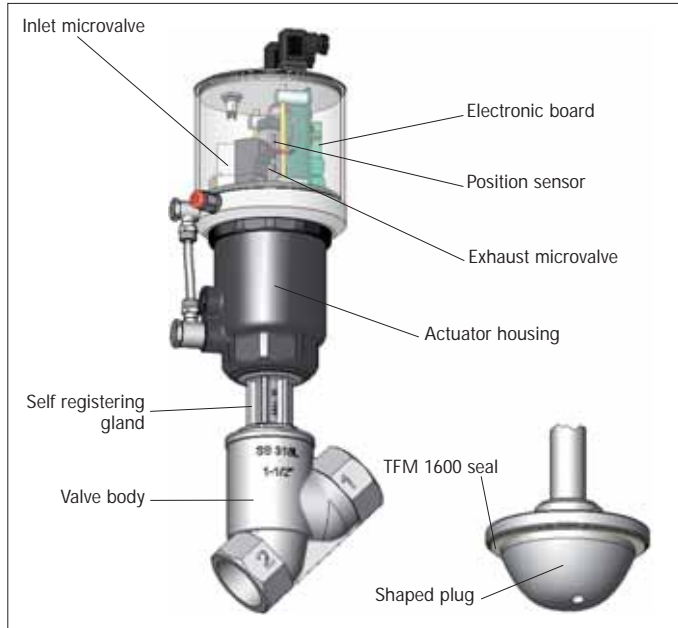
### OPERATING PRINCIPLES AND DESCRIPTION

The M&M control piston actuated valve is 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 (feedback) of the position sensor. When the 2 values don't match, the electronic system inside the valve operates no. 2 microvalves (which open or close the pilot air feeding) to change the stroke until both signals match.

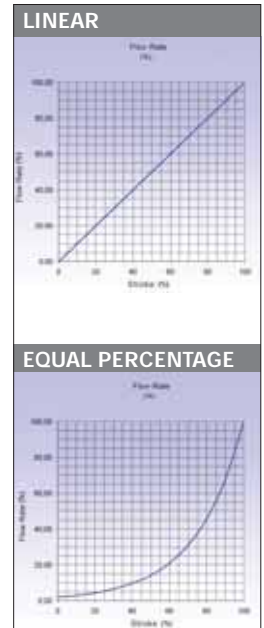
The proportionality between the stroke of the valve and the instantaneous flow is guaranteed by the special plug design: linear plug and equal percentage plug (PICTURE B1; the graphs show an ideal curve, which cannot be reproduced exactly but it varies according to the DN of the valve and the specific installation parameters). When fully closed the valve is leakage tight, thanks to the main seal in TFM 1600 as in M&M standard on/off piston valves (see PICTURE B).



PICTURE A



PICTURE B



PICTURE B1

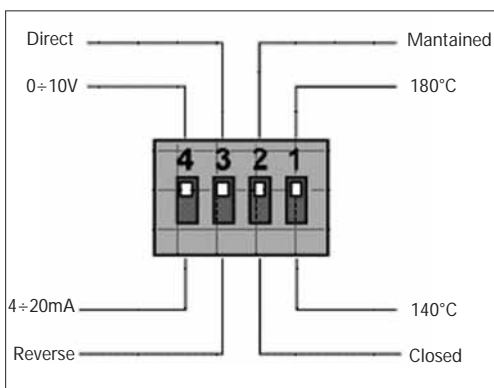
The pneumatic positioner is electronic and not programmable. It accepts the most common set-point signals (4 - 20 mA; 0 - 10 V). All calibration operations have been implemented in a sole easy automatic operation by pushing a LED lit button on top of the control box (integrated self-starter).

The pneumatic positioner can be fitted both on M&M Ø 63 and Ø 90 pneumatic actuators (ex factory, it is not a remote accessory to be built on site).

### Fluid direction is always under seat!

The Control Piston Actuated Valves are supplied already set, calibrated and tested by the manufacturer (ex factory) according to specifications and requirements set forth in the customer's official purchase order and **SELECTION CHART** (at page 30).

The relevant parameters must be pre-set ex factory by means of 4 deep-switches (see PICTURE C).



PICTURE C

**Contact n° 1 - Process temperature -**

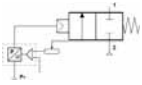
**Contact n° 2 - Fail safe position -**

**Contact n° 3 - Function set-up**

**Contact n° 4 - Set point -**

Function set-up (contact n° 3)	Set point	Valve status
Direct (NC)	0V o 4mA	Closed
	10V o 20mA	Open 100%
Reverse (NO)	0V o 4mA	Open 100%
	10V o 20mA	Closed

## CONTROL PISTON ACTUATED VALVE WITH INTEGRATED POSITIONER DN15 UP TO DN50; STAINLESS STEEL



### TECHNICAL SPECIFICATIONS

Media: water, oil, aggressive media and steam
Media temperature: -10°C ÷ +140°C (2,6 barg for steam)
High temperature version up to 180°C available
Low friction stem seal (not available for HT version)
Ambient temperature: -10°C ÷ +60°C
Set point signal: 0 ÷ 10V ; 4 ÷ 20mA
Electrical supply: 24V dc
Flow characteristics: linear or equal percentage
Protection class: IP65
Integrated self-starter (self-adjusted valve)
Pilot media: dry and filtered air mesh (25 µm)
Body material: cast AISI 316L (see page 36)
Bonnet material: cast AISI 316L (see page 36)
Actuator size: Ø 63 - 90
Actuator body material: Polyamide PA6 (reinforced fiberglass 30%)
Seal material: PTFE
Positioner enclosure: aluminium
Fail safe position: closed, maintained
Function: NO / NC
Electrical connections: DIN EN 175301-803 form A
Hysteresis: < 1% f.s.
Repeatability: < 0,5% f.s.
Minimum set point: < 2% f.s.

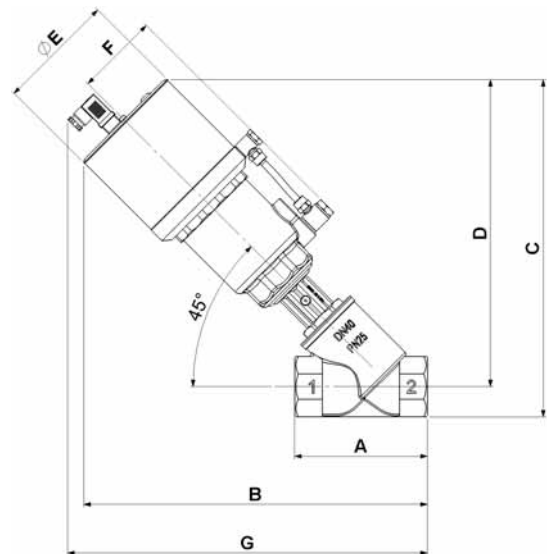
### BENEFITS

- Actuator housing rotation 360°
- Valves DN32÷DN50 complying with 97/23/EC Directive Category I

### OPTIONS

- Bronze body and brass bonnet available
- Connection options: screwed, flanged, butt and socket welding, sanitary clamp
- Seal material: PEEK
- Body and shaped plug with hardening treatment

### TYPE: PROPORTIONAL NC



### DIMENSIONS & WEIGHTS

connection	act. Ø	A	B	C	D	E	F	G	weight
(ISO 228 G)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg)
1/2"	63	65	273	267	253	107	75	288	-
3/4"		75	279	274	258			294	-
1"		90	293	287	267			308	-
1 1/4"		110	306	299	275			321	-
1 1/2"		120	311	307	280			326	-
2"		150	329	322	288			344	-
1"	90	90	295	288	268	107	86	310	-
1 1/4"		110	308	300	275			323	-
1 1/2"		120	313	308	280			328	-
2"		150	332	324	290			347	-

### SELECTION TABLE

connection	DN Ø	act. Ø	pilot pressure		working pressure	flow direction
(ISO 228 G)	(mm)	(mm)	min(bar)	max(bar)	max(bar)	
1/2"	DN15	63	3	8	16	ONLY 2 ÷ 1
3/4"	DN20				16	
1"	DN25				11	
1 1/4"	DN32				6	
1 1/2"	DN40				4	
2"	DN50				2.5	
1"	DN25	90	3.3	8	14	
1 1/4"	DN32				12	
1 1/2"	DN40				8	
2"	DN50				6	

M&M International reserves the right to modify or change the contents or technical specifications without prior warning.

## SELECTION CHART FOR MODULATING PISTON VALVE

PLEASE COPY THIS PAGE AND FAX IT TO US DULY COMPLETED AT NO. +39 035 531763 TO ALLOW US TO PROCESS YOUR ORDER.

GENERAL	<b>NOMINAL DIAMETER (DN)</b>			
<input type="checkbox"/> 15 <input type="checkbox"/> 20 <input type="checkbox"/> 25 <input type="checkbox"/> 32 <input type="checkbox"/> 40 <input type="checkbox"/> 50				
<b>ACTUATOR SIZE</b>		<b>BODY MATERIAL</b>		
<input type="checkbox"/> 63 <input type="checkbox"/> 90		<input type="checkbox"/> Stainless steel <input type="checkbox"/> Bronze		
<b>CONNECTION</b> Valve with bronze body is available only with Gas and Npt connections				
<input type="checkbox"/> Gas <input type="checkbox"/> Npt <input type="checkbox"/> B-w ISO65 ANSI B36.10 <input type="checkbox"/> B-w ISO 4200 <input type="checkbox"/> B-w DIN 11850 <input type="checkbox"/> S-w ISO65 ANSI B36.10 <input type="checkbox"/> Clamp ISO 2852 <input type="checkbox"/> Clamp ASME BPE <input type="checkbox"/> Flange EN 1092 <input type="checkbox"/> Flange ANSI				
PNEUMATIC POSITIONER	<b>PLUG</b>			
	<input type="checkbox"/> Std <input type="checkbox"/> Linear <input type="checkbox"/> Equi %			
	<b>PROCESS TEMPERATURE</b>			
	<input type="checkbox"/> 140°C <input type="checkbox"/> 180°C			
<b>FAIL SAFE POSITION</b>				
<input type="checkbox"/> Closed <input type="checkbox"/> Maintained				
<b>FUNCTION</b>		<b>SET-POINT</b>		
<input type="checkbox"/> NC <input type="checkbox"/> NO		<input type="checkbox"/> 0÷10V <input type="checkbox"/> 4÷20mA		
OTHER INFORMATION	<b>FLUID</b>			
	<input type="checkbox"/> Water <input type="checkbox"/> Saturated steam <input type="checkbox"/> Superheated steam <input type="checkbox"/> Gas <input type="checkbox"/> .....			
	<b>DN (PIPING)</b>		<b>Q</b>	
	<input type="checkbox"/> IN <input type="checkbox"/> OUT		<input type="checkbox"/> Min m <sup>3</sup> /h (kg/h for steam) <input type="checkbox"/> Max m <sup>3</sup> /h	
	<b>P1</b>		<b>P2</b>	
<input type="checkbox"/> Min (bar) <input type="checkbox"/> Max (bar)		<input type="checkbox"/> Min (bar) <input type="checkbox"/> Max (bar)		



Note: Highlighted versions are the standard ones. For special versions please get in touch with M&M to check availability.



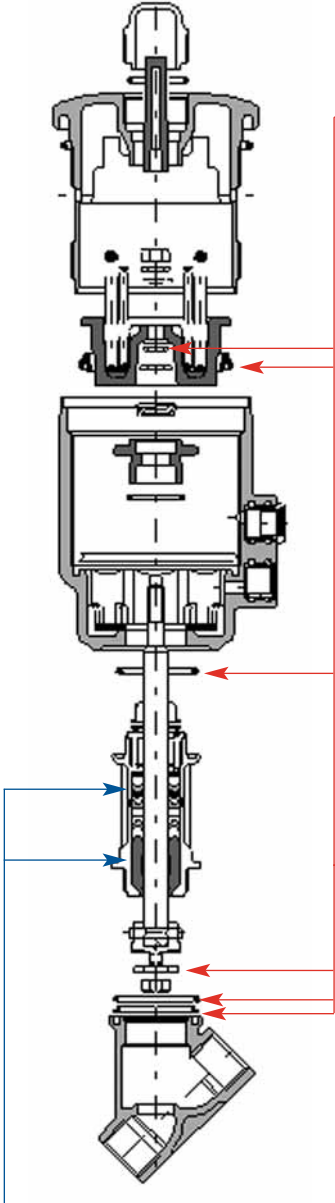
## SEAL KIT FOR STAINLESS STEEL VALVES, actuator Ø 63/90

FOR VALVES WITH A PRODUCTION LOT EARLIER THAN DECEMBER 1999 PLEASE CONTACT OUR SALES DEPARTMENT

Any maintenance operation has to be carried out by qualified personnel following manufacturer's instructions.  
To replace seals refer to the instruction manual enclosed to the valve.

PG/BPG (NC)

RPG (NO)



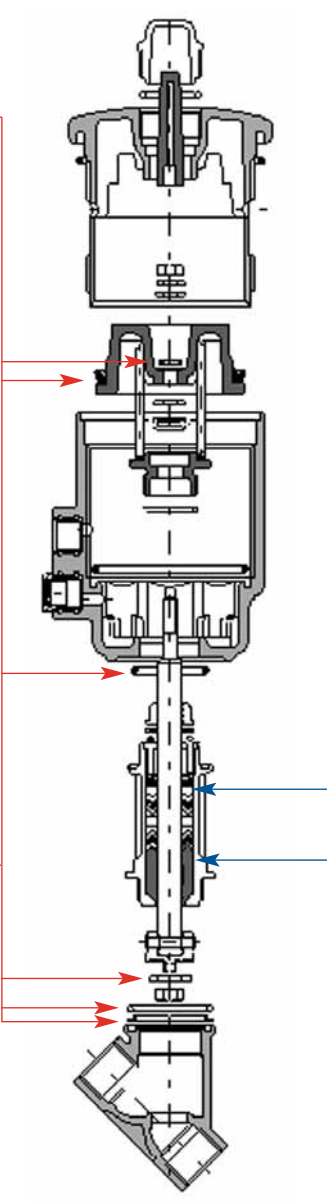
**SPARE PARTS KIT:**  
LIP SEAL, O-RINGS, MAIN SEAL, BODY SEAL

**ACTUATOR Ø 63**

<i>Valve code</i>	<i>Kit code</i>
PG/RPG/BPG205STW00	856 111 000
PG/RPG/BPG206STX00	856 122 000
PG/RPG/BPG207STY00	856 133 000
PG/RPG/BPG208STZ00	856 144 000
PG/RPG/BPG209STK00	856 155 000
PG/RPG/BPG210STJ00	856 166 000
DPG205STW00	856 611 000
DPG206STX00	856 622 000
DPG207STY00	856 633 000
DPG208STZ00	856 644 000
DPG209STK00	856 655 000
DPG210STJ00	856 666 000

**ACTUATOR Ø 90**

<i>Valve code</i>	<i>Kit code</i>
PG/RPG/BPG207LTY00	856 313 000
PG/RPG/BPG208LTZ00	856 314 000
PG/RPG/BPG209LTK00	856 315 000
PG/RPG/BPG210LTJ00	856 316 000



**STEM SEAL KIT:**  
UPPER PTFE GUIDE and GASKETS

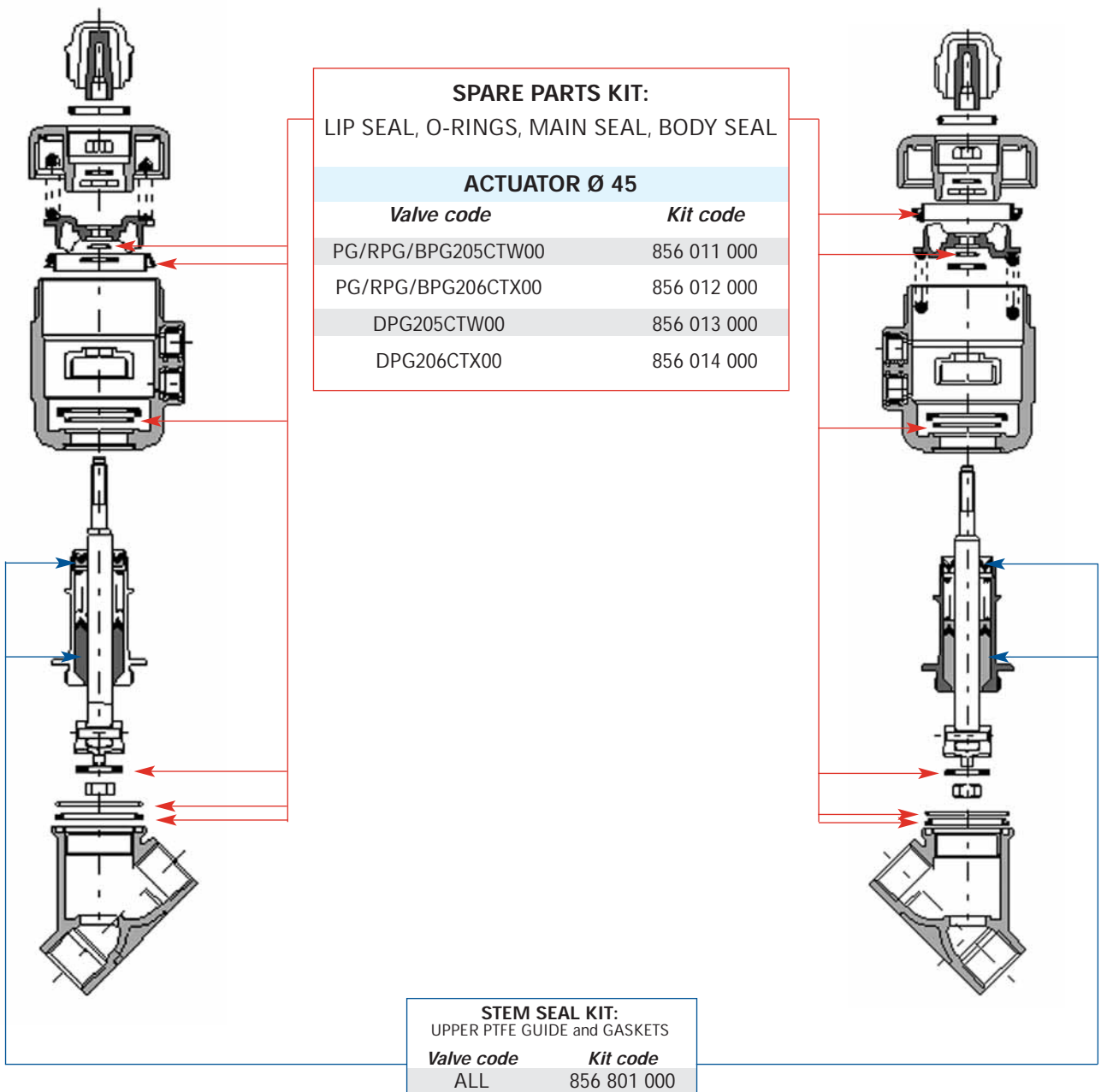
<i>Valve code</i>	<i>Kit code</i>
ALL	856 802 000

## SEAL KIT FOR STAINLESS STEEL VALVES, actuator Ø 45

Any maintenance operation has to be carried out by qualified personnel following manufacturer's instructions.  
To replace seals refer to the instruction manual enclosed to the valve.

PG/BPG (NC)

RPG (NO)



## SEAL KIT FOR BRONZE VALVES, actuator Ø 63/90

Any maintenance operation has to be carried out by qualified personnel following manufacturer's instructions.  
To replace seals refer to the instruction manual enclosed to the valve.

CG/BCG (NC)

RCG (NO)

**SPARE PARTS KIT:**  
LIP SEAL, O-RINGS, MAIN SEAL, FLAT SEAL

ACTUATOR Ø 63	
Valve code	Kit code
CG/RPG/BCG205STW00	856 112 000
CG/RCG/BCG206STX00	856 123 000
CG/RCG/BCG207STY00	856 134 000
CG/RCG/BCG208STZ00	856 145 000
CG/RCG/BCG209STK00	856 156 000
CG/RCG/BCG210STJ00	856 167 000
DCG205STW00	856 612 000
DCG206STX00	856 623 000
DCG207STY00	856 634 000
DCG208STZ00	856 645 000
DCG209STK00	856 656 000
DCG210STJ00	856 667 000

ACTUATOR Ø 90	
Valve code	Kit code
CG/RCG/BCG207LTY00	856 317 000
CG/RCG/BCG208LTZ00	856 318 000
CG/RCG/BCG209LTK00	856 319 000
CG/RCG/BCG210LTJ00	856 320 000

**STEM SEAL KIT:**  
UPPER PTFE GUIDE and GASKETS

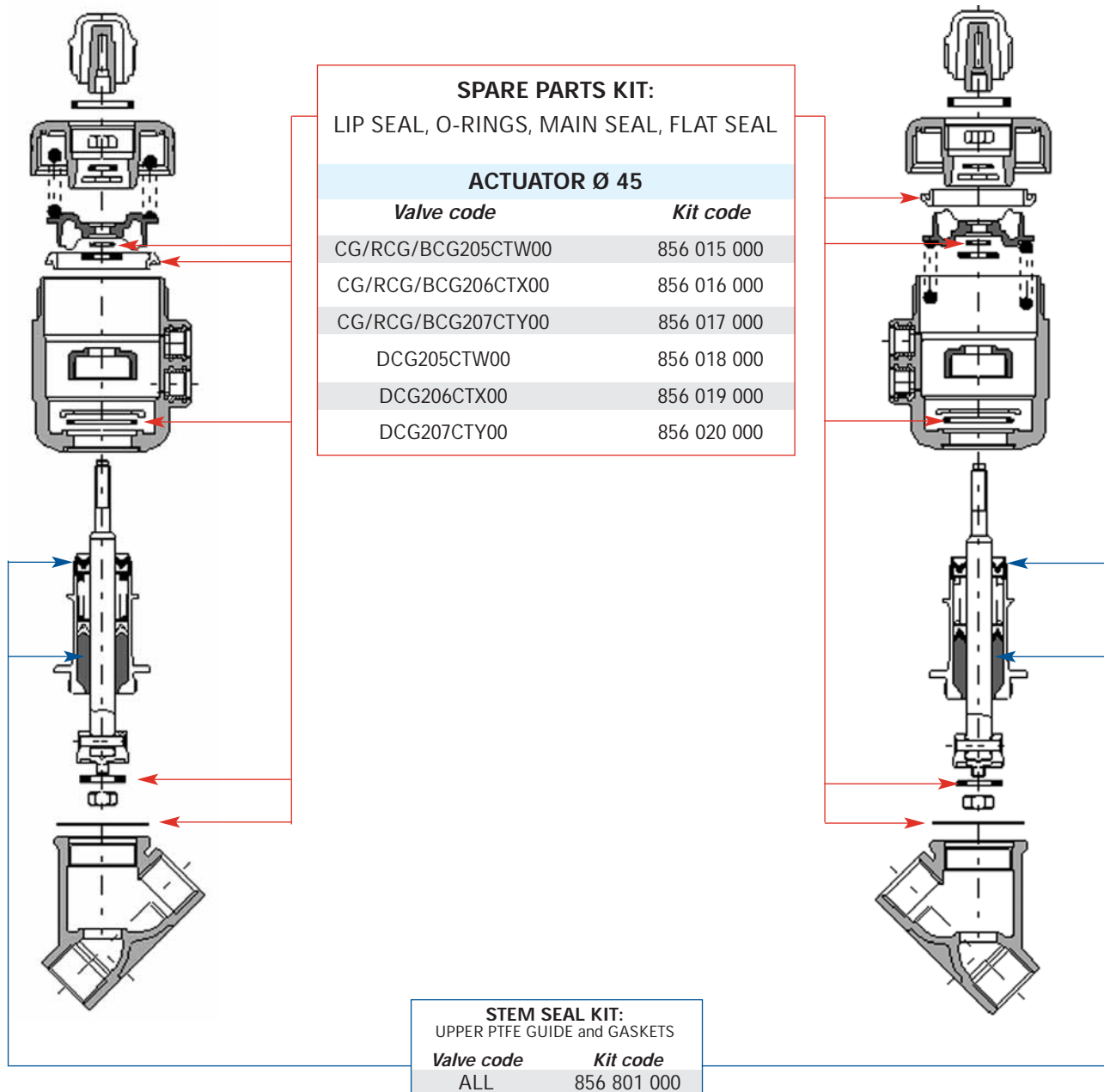
Valve code	Kit code
ALL	856 802 000

## SEAL KIT FOR BRONZE VALVES, actuator Ø 45

Any maintenance operation has to be carried out by qualified personnel following manufacturer's instructions.  
To replace seals refer to the instruction manual enclosed to the valve.

CG/BCG (NC)

RCG (NO)



## VALVE SELECTION

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

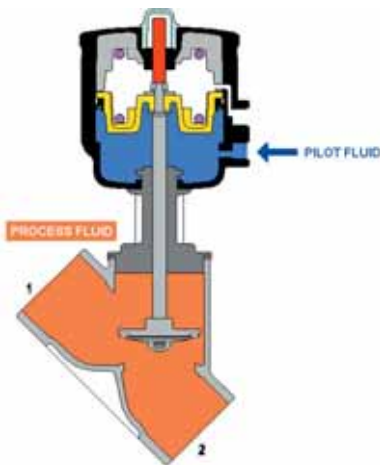
They are highly recommended when one or more of the following conditions are given:

- 4 Media with a high content of dirt particles
- 4 Highly viscous media (up to 600 cST (80°E); 1 centistoke=1 mm<sup>2</sup>/s)
- 4 High flow volumes
- 4 High ambient temperatures
- 4 Environment with high humidity or hazardous locations

### M&M INTERNATIONAL PISTON VALVE VERSIONS

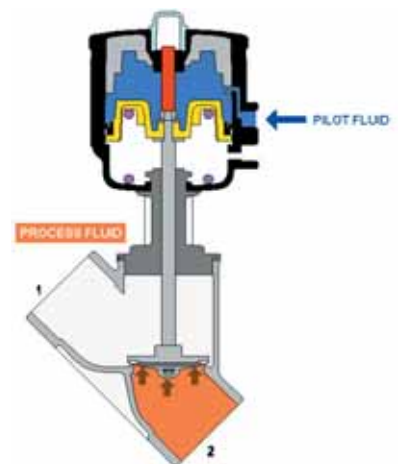
#### NC VALVE – Flow overseat

The pilot fluid pressure to open, a spring to close.



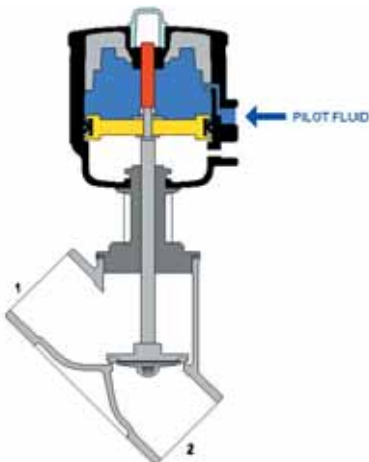
#### NO VALVE – Flow underseat

The pilot fluid pressure to close, a spring to keep open.



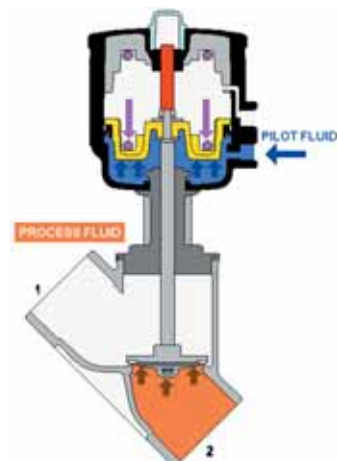
#### DOUBLE ACTING VALVE FLOW OVERSEAT OR UNDERSEAT

The pilot fluid both to open and close.  
No springs.  
This mode requires **two** pilot valves.



#### BIDIRECTIONAL NC FLOW OVERSEAT OR UNDERSEAT

Two springs allow use of the valve both with overseat and underseat operation.



## TECHNICAL INFORMATION

M&M piston actuated valves have been upgraded over the years both by design improvements as well as by use of upgraded materials. Below we offer you some highlights about the outstanding features of M&M piston valves.

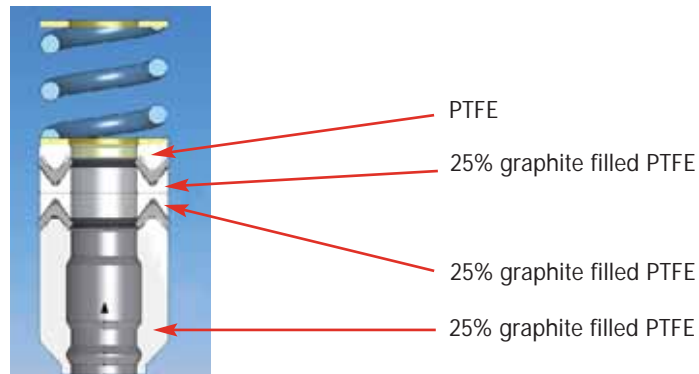
### Main seal material:

During 2004 standard PTFE has been replaced by new TFM™ 1600 alongside with some design changes concerning the main seal. TFM 1600 is a modified PTFE with a better particle fusion, which gives the following improved features against PTFE:

- 3 Lower porosity and permeability
- 3 Lower void content
- 3 Higher elasticity
- 3 Reduced deformation under load
- 3 Better chemical resistance
- 3 Smoother surface and improved design flexibility

### Bonnet seals:

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



### Stainless steel cast parts:

All our stainless steel series are fitted with bodies and bonnets in AISI 316L. These parts are cast specifically to norm ASME SA351/351M GRADE CF3M.

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

All our stainless steel cast parts bear a heat number identifying the basic material composition.

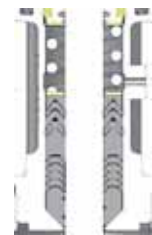
Such details are stated in the casting certificate 3.1b, which can be made available to customers if required upon order and paying a small fee.

### High Temperature piston valves

M&M has developed a piston valve version to be used up to 200° C, wherever valve design accepts the applied fluid pressure of the specific application.

The main differences in materials and design that allow fluid temperature improvement are the following:

- 3 Change of the actuator material: from standard PA6 to PA66 filled with 30% glass fibre
- 3 All valves with DN>25 with fixed plug design (to withstand turbulence caused by steam at high speed)
- 3 Special design of bonnet chevrons, which 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.

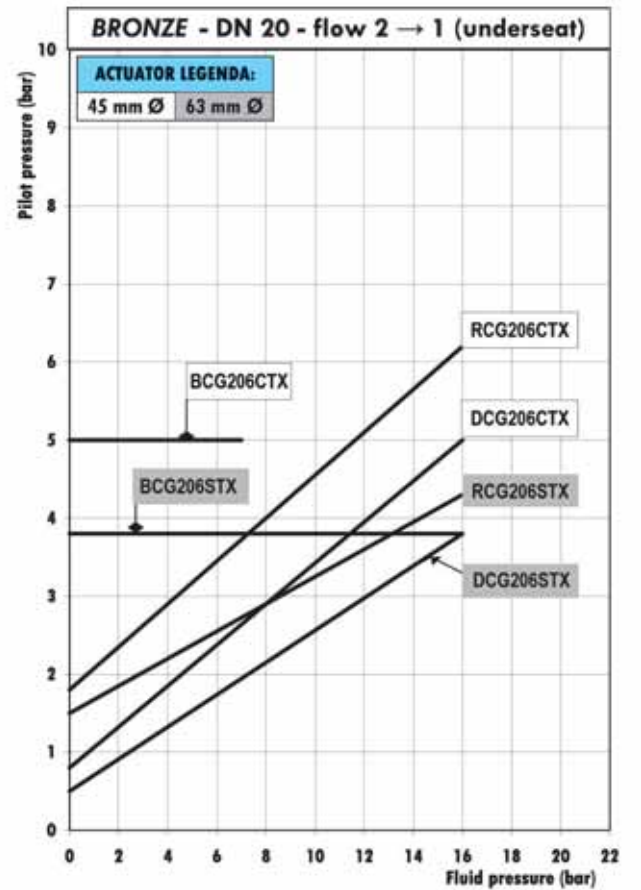
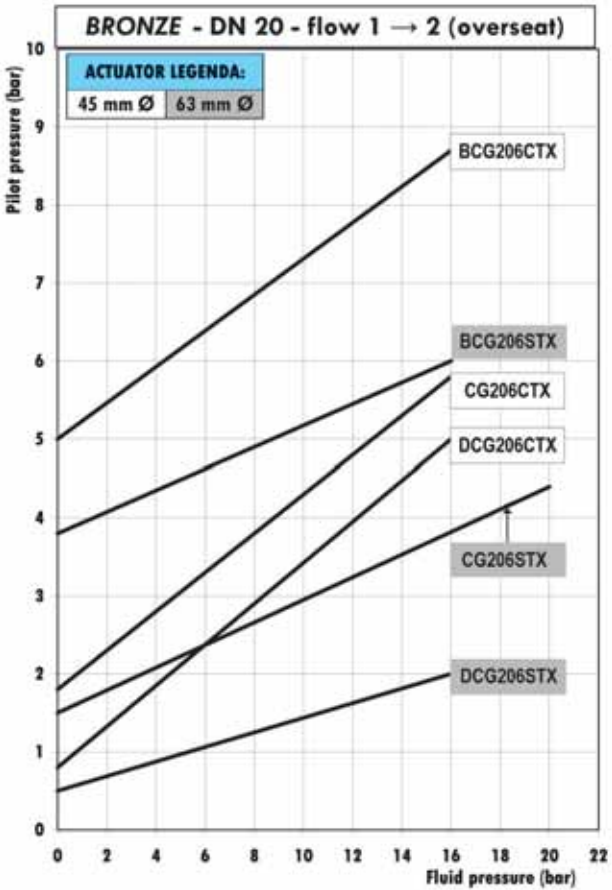
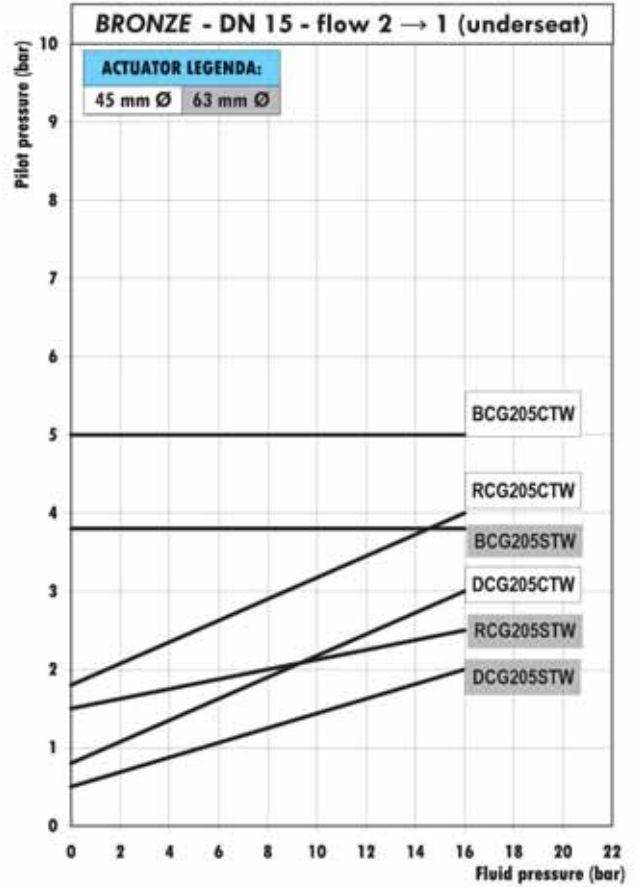
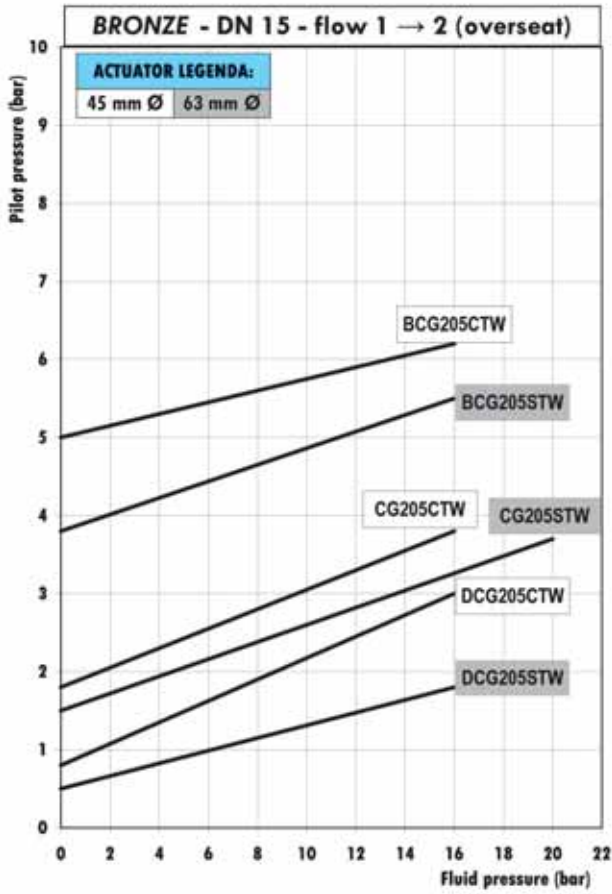
We use this value as a reference to perform burst test on the bodies and bonnets upon quality control acceptance.

This value has not to be considered in any relation with the applicable fluid pressure once the valve is in service.

The correct fluid pressure is indicated on the valve label and it is specific for each valve size and function.

DN	Bronze PN	PED category	Stainless steel PN	PED Category
15	25	Art. 3.3	40	Art. 3.3
20	25	Art. 3.3	40	Art. 3.3
25	25	Art. 3.3	40	Art. 3.3
32	25	Art. 3.3	25	Category I
40	25	Art. 3.3	25	Category I
50	16	Art. 3.3	16	Category I

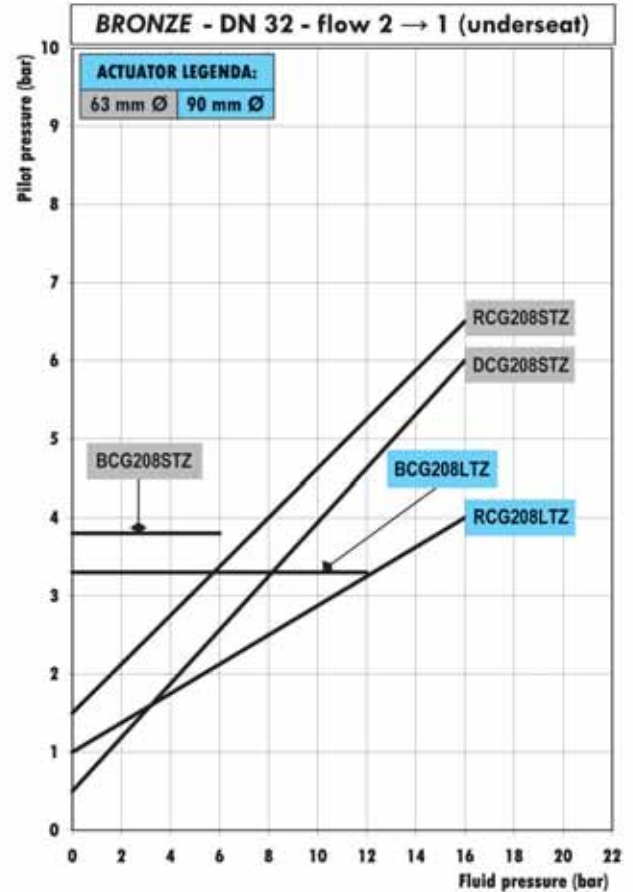
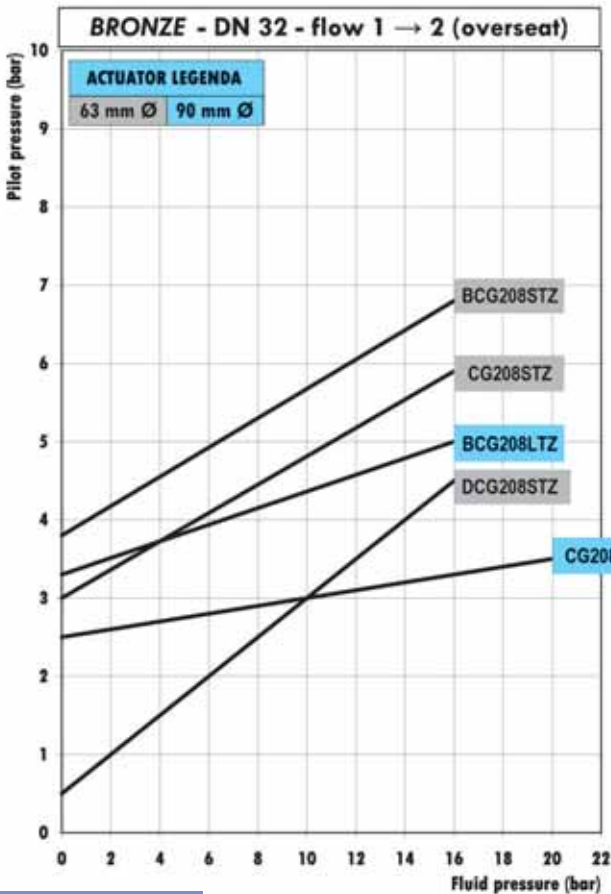
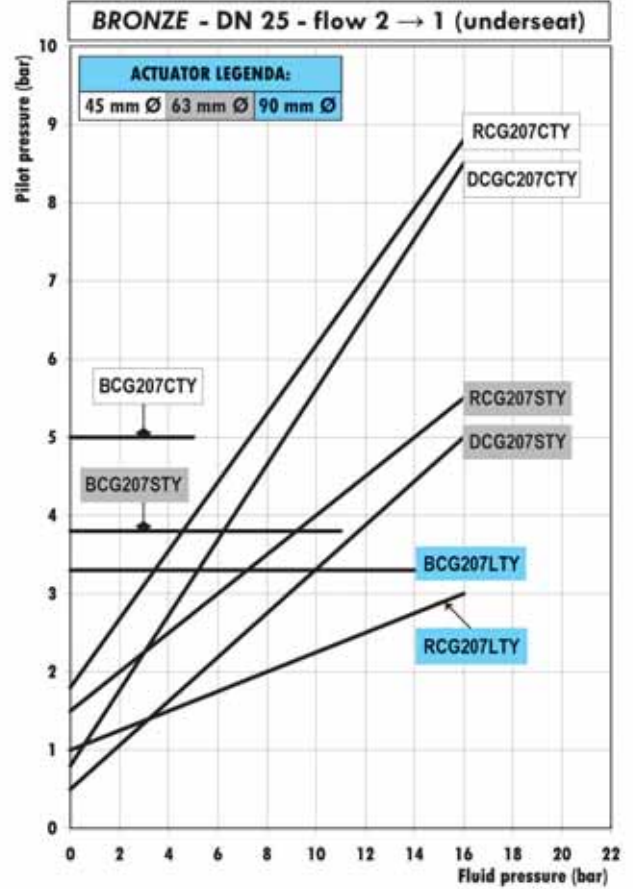
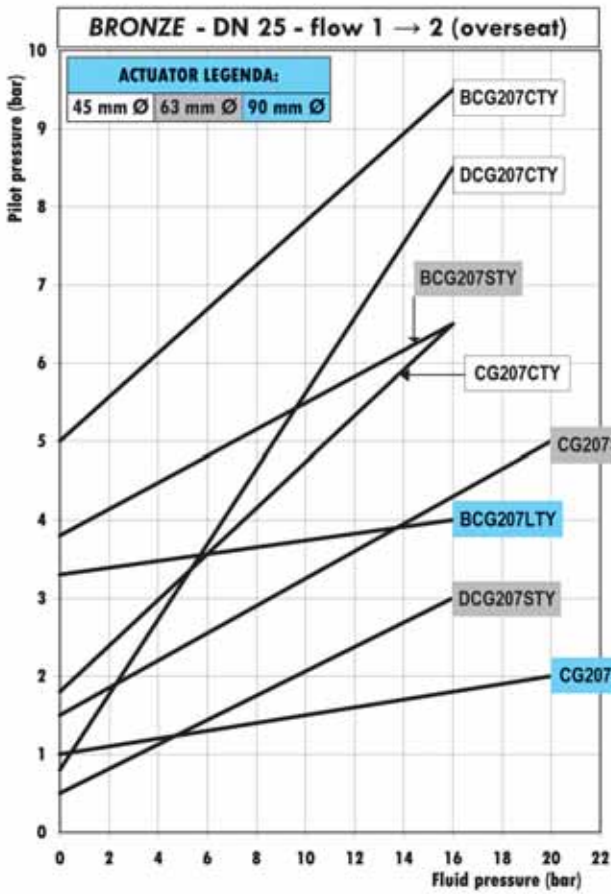
## BRONZE VALVES SELECTION CHART DN15-DN20



MODEL LEGENDA:

CG = NORMALLY CLOSED	BCG = NORMALLY CLOSED (ANTI-WATERHAMMER)	RCG = NORMALLY OPEN	DCG = DOUBLE EFFECT
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## BRONZE VALVES SELECTION CHART DN25-DN32



**MODEL LEGENDA:**

CG = NORMALLY CLOSED

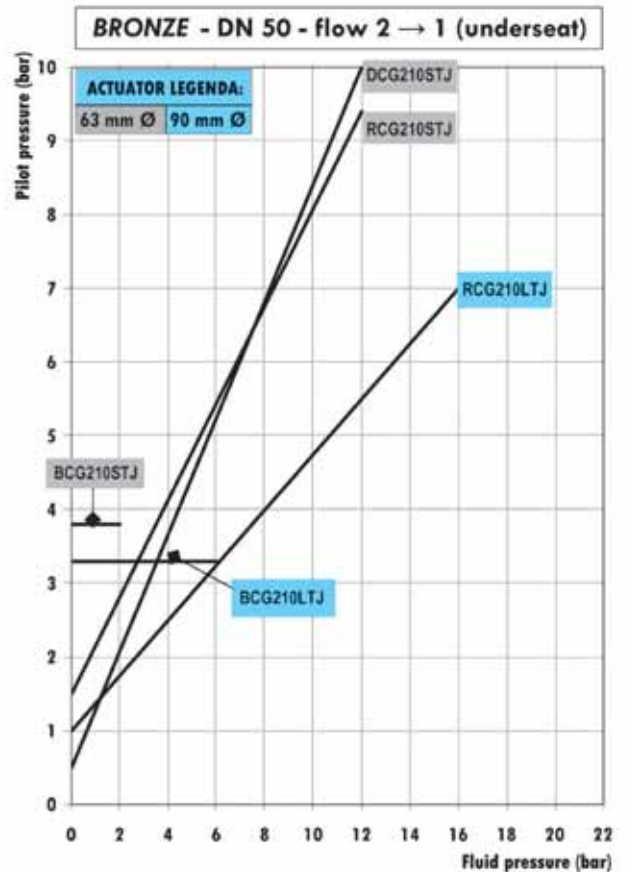
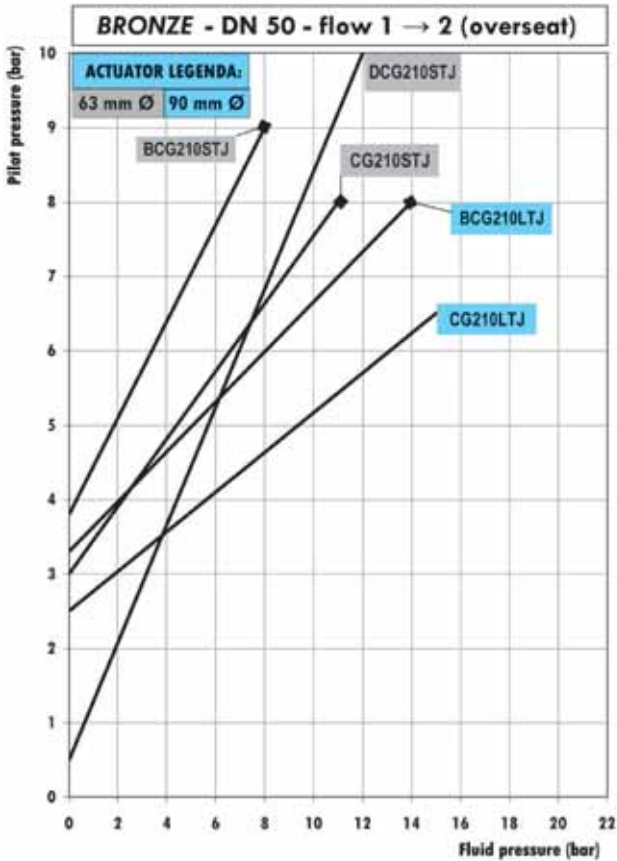
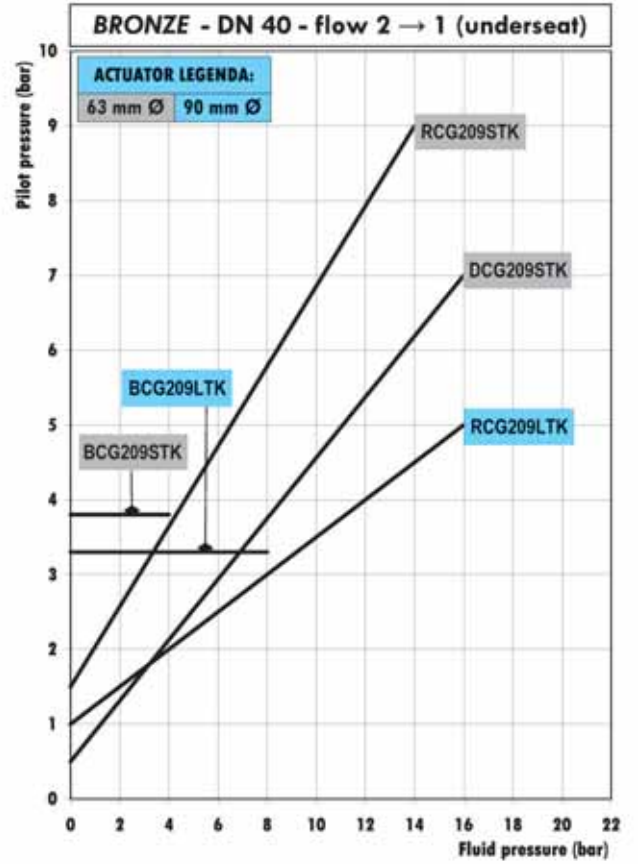
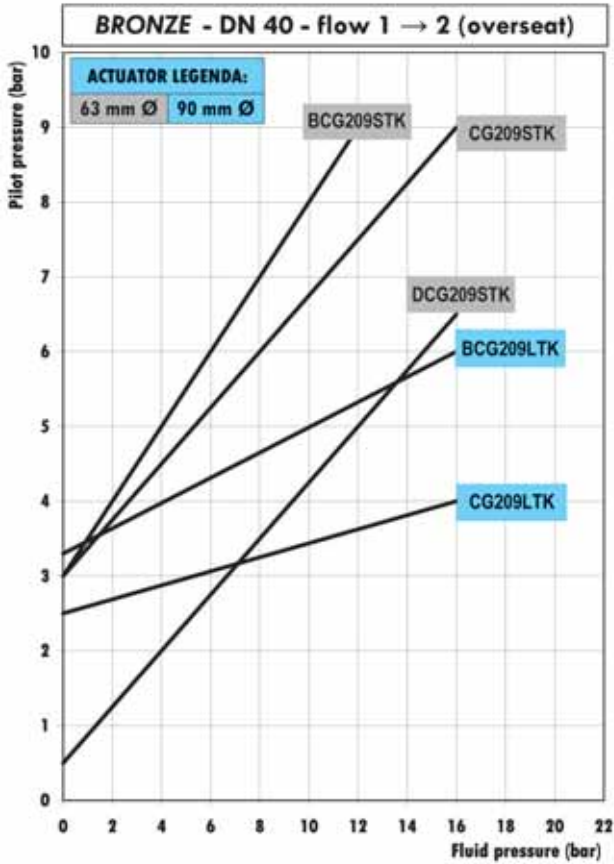
BCG = NORMALLY CLOSED (ANTI-WATERHAMMER)

RCG = NORMALLY OPEN

DCG = DOUBLE EFFECT



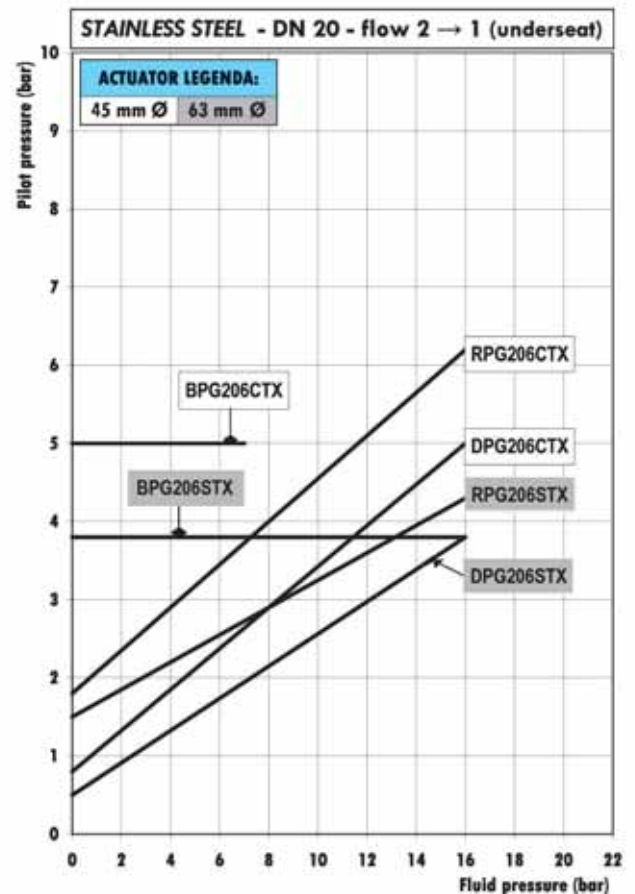
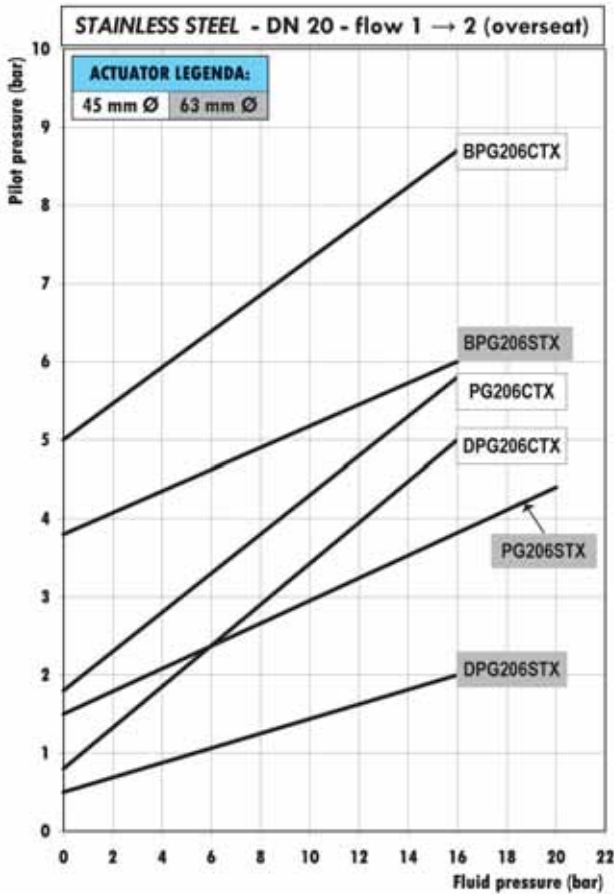
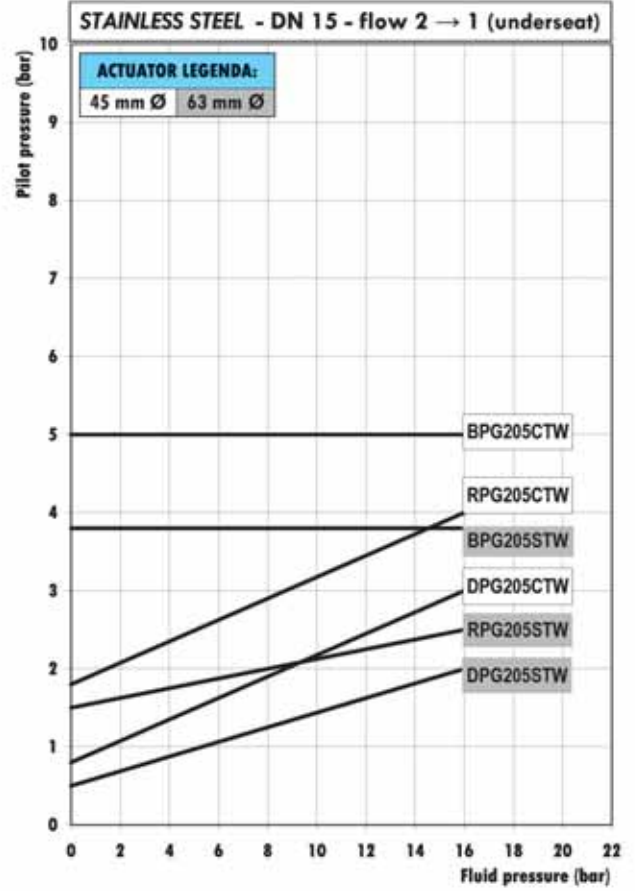
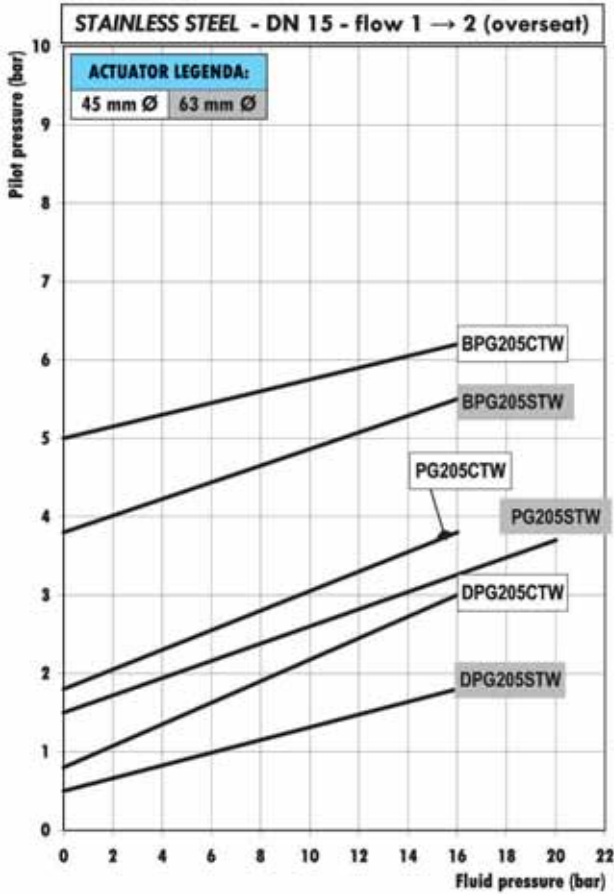
## BRONZE VALVES SELECTION CHART DN40-DN50



**MODEL LEGENDA:**

CG = NORMALLY CLOSED	BCG = NORMALLY CLOSED (ANTI-WATERHAMMER)	RCG = NORMALLY OPEN	DCG = DOUBLE EFFECT
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## STAINLESS STEEL VALVES SELECTION CHART DN15-DN20



**MODEL LEGENDA:**

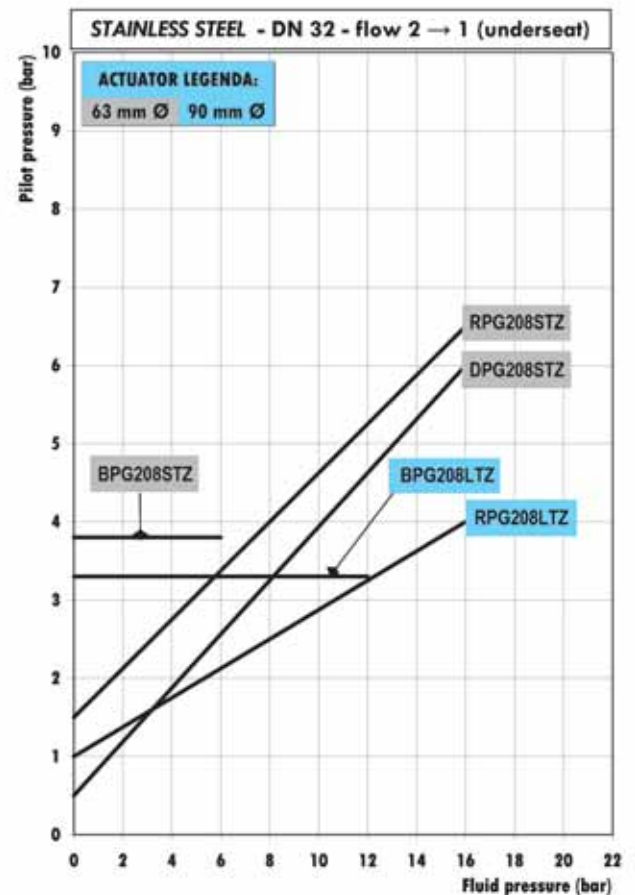
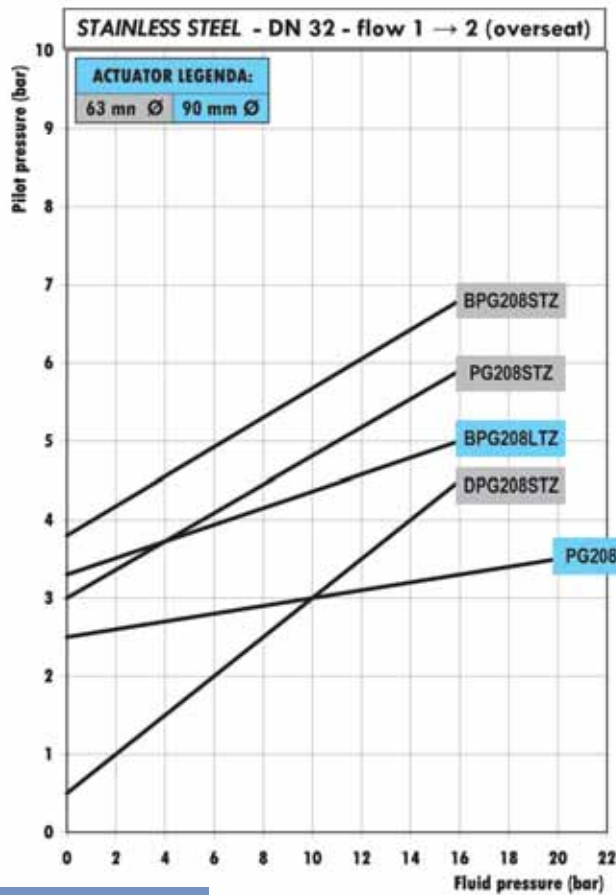
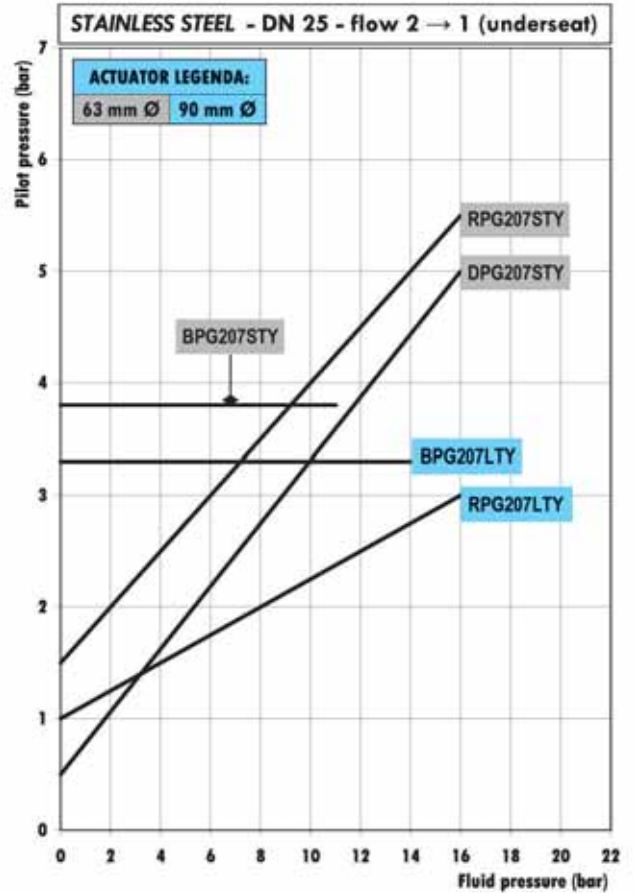
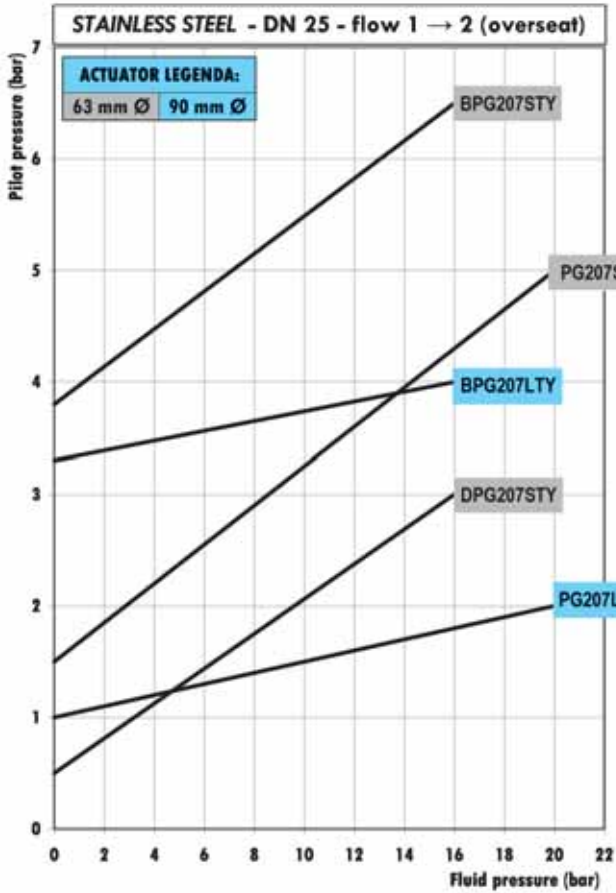
PG = NORMALLY CLOSED

BPG = NORMALLY CLOSED (ANTI-WATERHAMMER)

RPG = NORMALLY OPEN

DPG = DOUBLE EFFECT

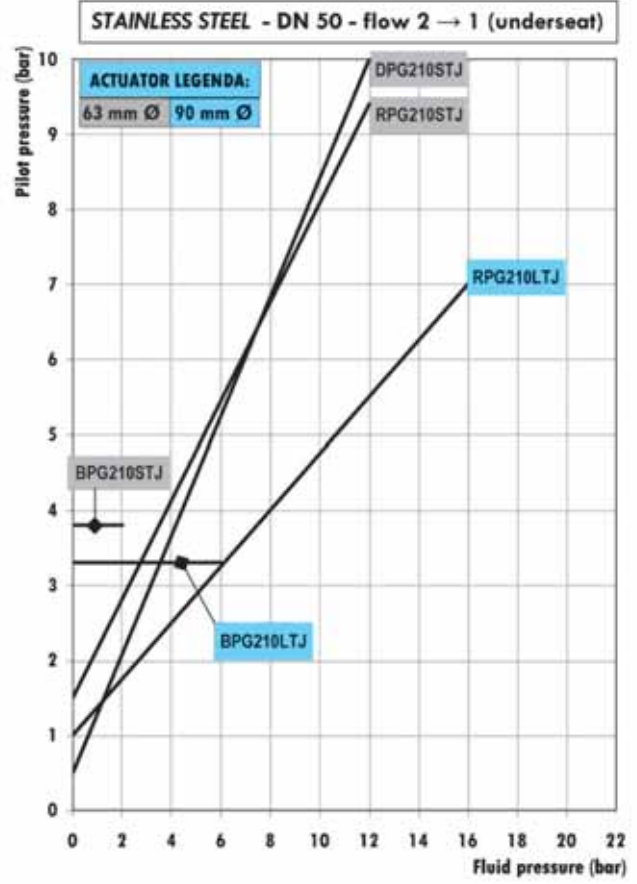
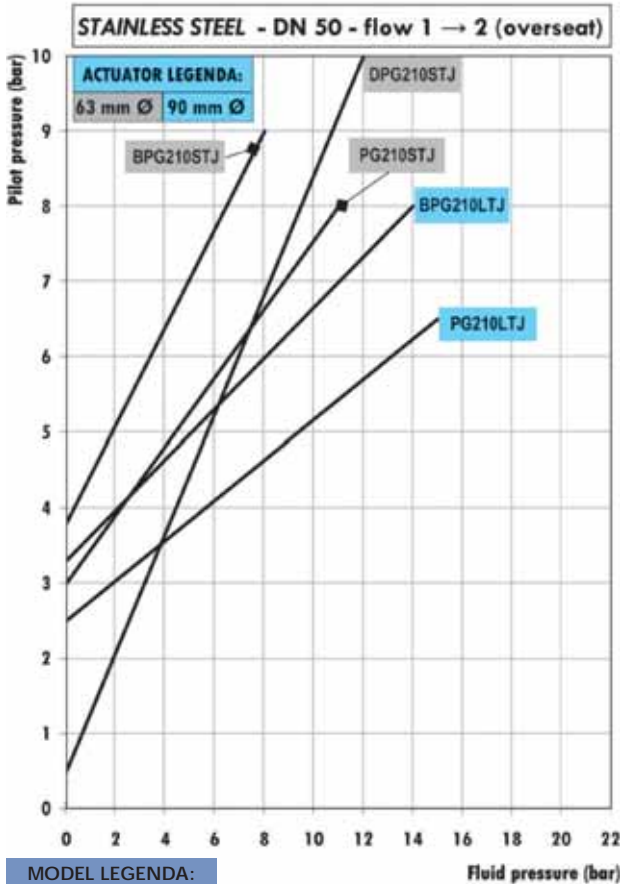
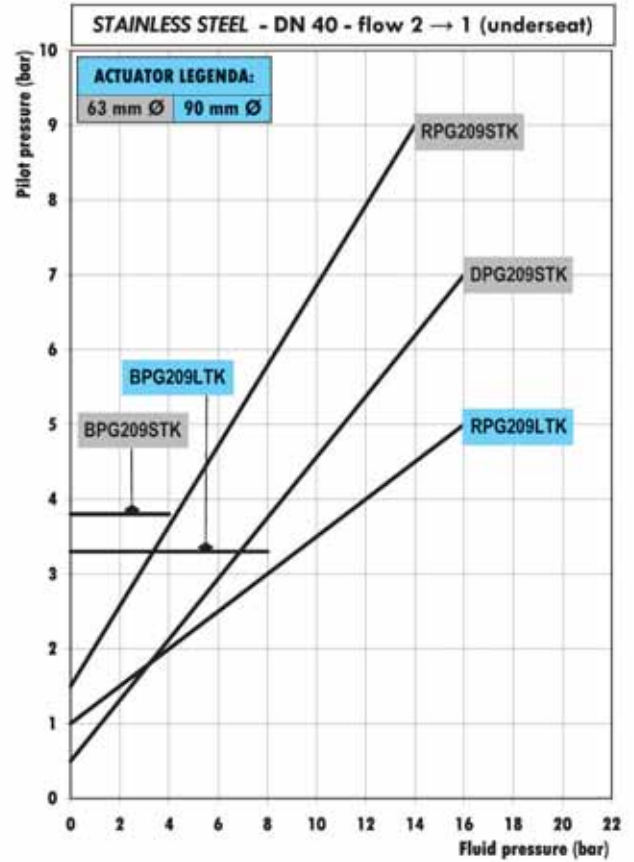
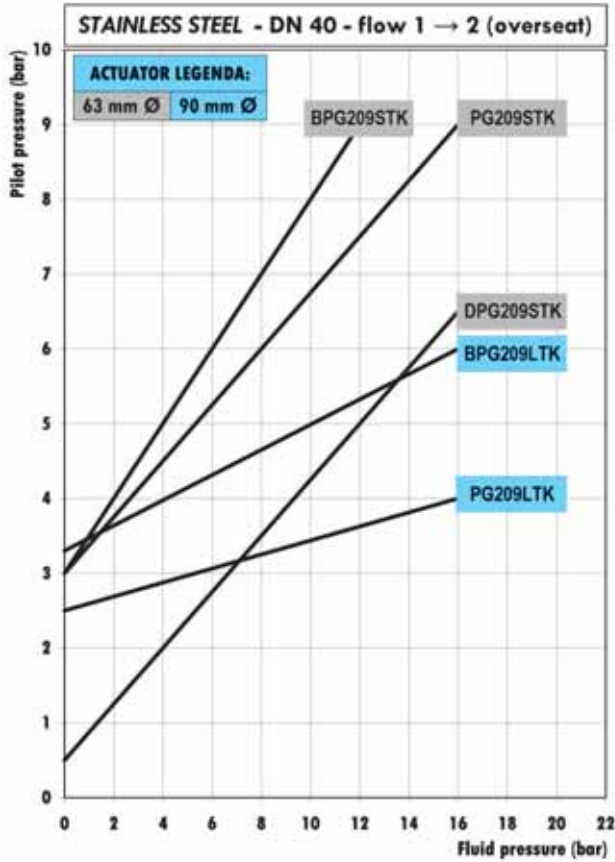
## STAINLESS STEEL VALVES SELECTION CHART DN25-DN32



**MODEL LEGENDA:**

PG = NORMALLY CLOSED	BPG = NORMALLY CLOSED (ANTI-WATERHAMMER)	RPG = NORMALLY OPEN	DPG = DOUBLE EFFECT
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## STAINLESS STEEL VALVES SELECTION CHART DN40-DN50



MODEL LEGENDA:

PG = NORMALLY CLOSED	BPG = NORMALLY CLOSED (ANTI-WATERHAMMER)	RPG = NORMALLY OPEN	DPG = DOUBLE EFFECT
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## PAV OPENING/CLOSING TIME (sec)

### NC VERSION (Flow direction (1 $\rightarrow$ 2))

Valve size	Actuator diameter 45 1,5 mm pilot orifice (B356CVCMK)		Actuator diameter 63 1,5 mm pilot orifice (B326CVCMK)		Actuator diameter 90 2,0 mm pilot orifice (D326CVEMK)	
	O	NC	O	NC	O	NC
1/2	0,09	0,22	0,14	0,3	-	-
3/4	0,09	0,22	0,2	0,3	-	-
1	-	-	0,32	0,34	0,32	0,34
1 1/4	-	-	0,34	0,38	0,36	0,4
1 1/2	-	-	0,34	0,38	0,4	0,46
2	-	-	0,36	0,38	0,4	0,46

#### NOTES

Pilot pressure: **6 bar**

Pilot media: **AIR**

Pressure in body: **0 bar**

For NO valves invert columns **O** and **C**

## DECLARATION OF CONFORMITY

We, M&M International S.r.l. . registered office via A. Manzoni 43 – 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 (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 standard(s) or other normative document(s)

**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	All sizes	Art. 3.3	N/A	N/A	N/A
	DN15 to DN25	Art. 3.3	N/A	N/A	N/A
PG, PN, PS, PB, PW, PH, PA, PF, PD, PC and derived	DN32 to DN50	Category I	A (Internal Production Control)	N/A	N/A

Orio al Serio, Italy, August 2007

The General Manager

Maurizio Forforè



**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.

## PISTON ACTUATED VALVE CODING

CODE:

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

FUNCTION:	
• =	NC Normally close
B =	NC Bidirectional
R =	NO Normally open
D =	DA Double acting

SERIAL LETTER:	
P =	Stainless Steel type
C =	Bronze / Brass type
L =	Compact brass valve

CONNECTION TYPE:	
A =	Flange (ANSI B16.10 class 150)
B =	Butt Weld (ISO 65 - ANSI B 36.10)
C =	Clamp (ISO 2852)
D =	Flange (EN 1092 shape B)
G =	Gas (ISO 228)
H =	Butt Weld (ISO 4200)
N =	NPT
S =	Socket Weld (ISO 65 - ANSI B 36.10)
O =	Operator (w/o body)
W =	Butt Weld (DIN 11850)
P =	Clamp connection to ASME BPE

WAYS:	
2 =	2/2 Way

VALVE BODY ID. CODE:	
04 =	3/8" (only for BLG)
05 =	1/2"
06 =	3/4"
07 =	1"
08 =	1 - 1/4"
09 =	1 - 1/2"
10 =	2"

SPECIAL EXECUTION:	
0 =	Standard
V =	Vacuum seal (Bronze)
H =	High temperature (S.S.)

SPECIAL EXECUTION:	
0 =	Standard
I =	Travel switch
M =	Manual override
R =	Flow regulator

ORIFICE: (mm)	
MARK	Ø
W =	15
X =	20
Y =	25
Z =	32
K =	40
J =	50

SEAL MATERIAL:	
MARK	MATERIAL
T =	PTFE
B =	NBR (ONLY FOR BLG)
V =	FKM (ONLY FOR BLG)

ACTUATOR TYPE:	
MARK	Ø
C =	45
S =	63
L =	90
D	32 Only for BLG
0	Manual angle seat valve



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website: [www.mminternational.net](http://www.mminternational.net)