

Pneumatic Universal

PNEUMATIC MOTORIZED BALL VALVES

USE

- automation systems
- hydraulic systems
- industrial systems using hot and cold fluids
- drinking water systems, with suitable ball valve
- compressed air systems

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OPERATION

The **Pneumatic Universal** actuator is available in the following versions:

SPRING RETURN

it opens by introducing compressed air to the delivery chamber and closes again, bringing the compressed air to the return chamber.

DOUBLE ACTING

it is opened by introducing compressed air to the delivery chamber and automatically closes it back to atmospheric pressure.

ACTUATOR TECHNICAL FEATURES	Pneumatic Universal
Maximum operating pressure	8 bar
Minimum supply pressure	6 bar
Operational room temperature	-20°C +85°C
Rotation	90°
Actuator body	Extruded aluminum UNI 6060
Connection with ball valve	ISO 5211
Maintenance	None
Certification	CE

For the valve technical features, please refer to the technical datasheets:

- Brass valves: technical data sheet "GP1.0-21 • PRO Range - BRASS BALL VALVES WITH ISO 5211 CONNECTION"
- AISI valves: technical data sheet "GP2.0-21 • PRO Range - AISI 316 BALL VALVES WITH ISO 5211 CONNECTION"
- Flanged ball valves: technical data sheet "GP4.0-21 • PRO Range - FLANGED CAST IRON VALVE WITH STAINLESS STEEL BALL"



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PNEUMATIC MOTORIZED BALL VALVES

VERSIONS

2-WAY BRASS FF	DN	Connections	PN	Kv _s [m³/h]	SPRING RETURN code	DOUBLE ACTING code
	-	1/4"	40	5,4	P7000460014	P7000450014 *
	10	3/8"	40	6	P7000460038	P7000450038 *
	15	1/2"	40	16,3	P7000460012	P7000450012 *
	20	3/4"	40	29,5	P7000460034	P7000450034 *
	25	1"	40	43	P7000460001	P7000450001 *
	32	1"1/4	40	89	P7000460114	P7000450114 *
	40	1"1/2	40	230	P7000460112	P7000450112
	50	2"	40	265	P7000460002	P7000450002
	65	2"1/2	25	540	P7000460212	P7000450212
	80	3"	16	873	P7000460003	P7000450003
	100	4"	16	1390	P7000460004	P7000450004

3-WAY BRASS FF "T"-PORT	DN	Connections	PN	Kv _s [m³/h]	SPRING RETURN code	DOUBLE ACTING code
	15	1/2"	30	3,9	P7000660012	P7000650012 *
	20	3/4"	30	7,9	P7000660034	P7000650034
	25	1"	16	13	P7000660001	P7000650001
	32	1"1/4	10	20,7	P7000660114	P7000650114
	40	1"1/2	10	38,7	P7000660112	P7000650112
	50	2"	10	54	P7000660002	P7000650002

For "L" sphere version add "L" at the end of the code

2-WAY STAINLESS STEEL FF	DN	Connections	PN	Kv _s [m³/h]	SPRING RETURN code	DOUBLE ACTING code
	15	1/2"	64	19,2	P7000830012	P7000820012 *
	20	3/4"	64	35	P7000830034	P7000820034 *
	25	1"	64	64,5	P7000830001	P7000820001 *
	32	1"1/4	64	103,8	P7000830114	P7000820114 *
	40	1"1/2	64	174	P7000830112	P7000820112
	50	2"	64	301,3	P7000830002	P7000820002

2-WAY FLANGED CAST IRON	DN	Flange type	PN	Kv _s [m³/h]	SPRING RETURN code	DOUBLE ACTING code
	25	PN 16	16	64,5	P7300220001	P7300120001
	32	PN 16	16	103,8	P7300220114	P7300120114
	40	PN 16	16	174	P7300220112	P7300120112
	50	PN 16	16	301,3	P7300220002	P7300120002
	65	PN 16	16	545,7	P7300220212	P7300120212
	80	PN 16	16	872,5	P7300220003	P7300120003
	100	PN 16	16	1363,3	P7300220004	P7300120004
	125	PN 16	16	2360,3	P7300220005	P7300120005
	150	PN 16	16	3671,1	P7300220006	P7300120006

* if fitted with a NAMUR solenoid valve, the following mounting header is required: BADA32



COMPARATO NELLO s.r.l.

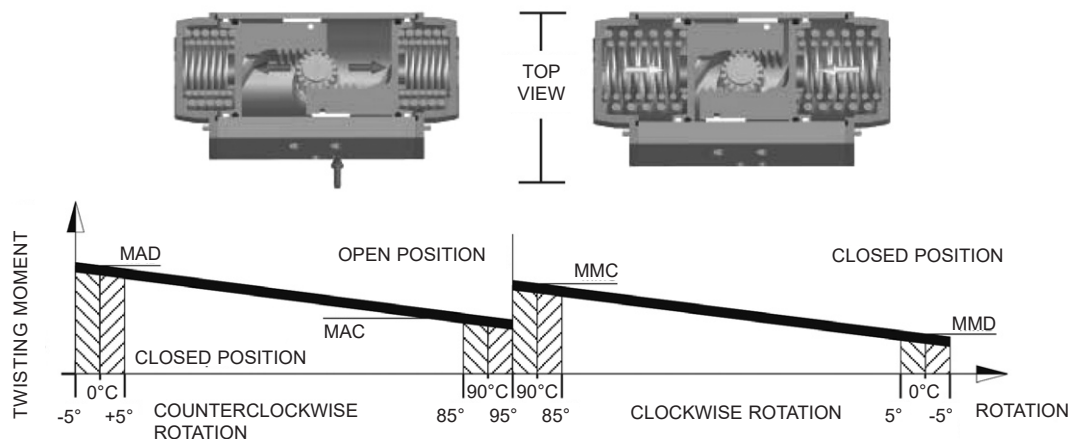
UNI EN ISO 9001:2015 CERTIFIED COMPANY

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PNEUMATIC MOTORIZED BALL VALVES

ACTUATOR FUNCTIONAL DIAGRAM

• SPRING RETURN



Please see the diagram above. In the opening phase, the actuator provides a decreasing output torque with the opening degree, while maintaining the supply pressure constant. The lowering is due to the fact that, in this phase, springs are subject to a deformation and absorb elastic potential energy. The aforementioned energy will be available during the closing phase. It's during this second phase, in fact, that springs stretch out and do their duty, without the need of any external power.

The cut-off torque is therefore characterized by 4 main values:

Opening rotation:

MAD: actuator torque with extended springs

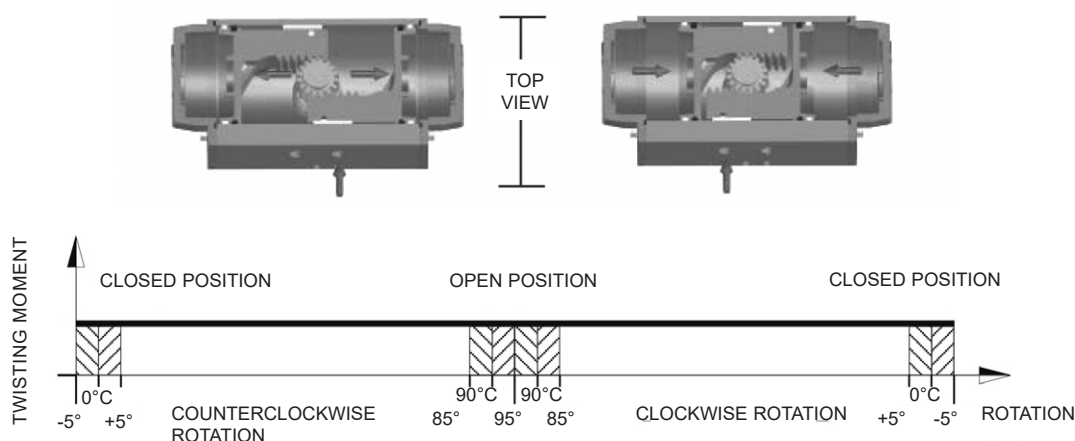
MAC: actuator torque with compressed springs

Closing rotation:

MMC: compressed springs torque

MMD: extended springs torque

• DOUBLE ACTING



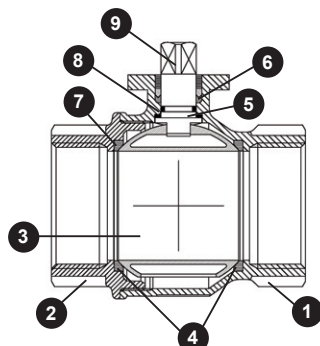
Unlike the spring return model, this actuator features a nearly constant outlet torque, unchanged in both movement phases. I: the actuator does not have any return springs inside, therefore both the opening and the closing phases only depend on the supply pressure.



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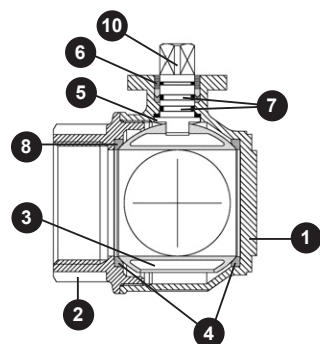
PNEUMATIC MOTORIZED BALL VALVES

MATERIALS USED



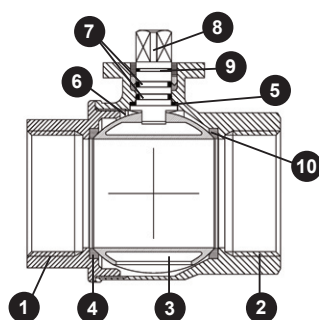
2-WAY FF ISO 5211 BRASS BALL VALVE

1	BODY	BRASS CW617N UNI EN 12165
2	COUPLING	BRASS CW617N UNI EN 12165
3	BALL	BRASS CW617N UNI EN 12165
4	BALL SEAL	P.T.F.E. (TEFLON®)
5	ANTI-FRICTION SEAL	P.T.F.E. (TEFLON®)
6	ROD SEAL	P.T.F.E. (TEFLON®)
7	O-RING	FKM VITON®
8	O-RING	FKM VITON®
9	CONTROL ROD	BRASS CW614N UNI EN 12164



3-WAY FFF ISO 5211 BRASS BALL VALVE

1	BODY	BRASS CW617N UNI EN 12165
2	COUPLING	BRASS CW617N UNI EN 12165
3	BALL	BRASS CW614N UNI EN 12164
4	BALL SEAL	P.T.F.E.
5	ANTI-FRICTION SEAL	P.T.F.E.
6	ROD SEAL	P.T.F.E.
7	O-RING	FKM
8	O-RING	FKM
10	CONTROL ROD	BRASS CW614N UNI EN 12164

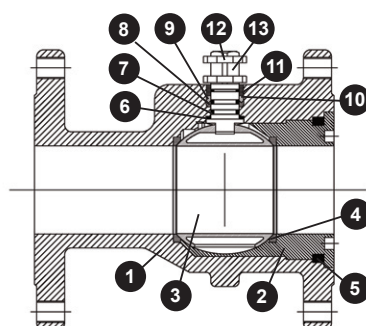


2-WAY FF ISO 5211 STAINLESS STEEL BALL VALVE

1	BODY	STAINLESS STEEL CF8M
2	COUPLING	STAINLESS STEEL CF8M
3	BALL	INOX AISI 316
4	BALL SEAL	P.T.F.E. (TEFLON®)
5	SEAL	P.T.F.E. (TEFLON®)
6	ROD WASHER	P.T.F.E. (TEFLON®)
7	O-RING	FKM VITON®
8	CONTROL ROD	INOX AISI 316
9	ROD SEAL	P.T.F.E. (TEFLON®)
10	O-RING	FKM VITON®

2-WAY FLANGED CAST IRON BALL VALVE

In 2-way valves, the cut-off is made of a ball with a through hole.



1	BODY	G250
2	RING	ASTM A105
3	BALL	A351-CF8
4	BALL SEAL	P.T.F.E. (TEFLON®)
5	O-RING	BUNA
6	ROD WASHER	P.T.F.E. (TEFLON®)
7	O-RING	BUNA
8	ROD SEAL	P.T.F.E. (TEFLON®)
9	PACKING SLEEVE	CARBON STEEL
10	HALF-TURN WASHER	INOX AISI 430 (DN25-50)
11	DISK SPRING	UNI 3545
12	NUT	UNI 5771
13	ROD	INOX AISI 304



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PNEUMATIC MOTORIZED BALL VALVES

OVERALL SIZE

MODEL	DN	A	B	C	D	E	F	G
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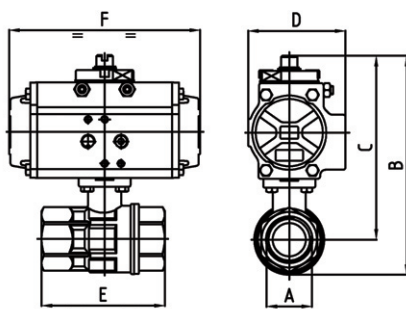
SPRING RETURN ACTUATOR

8	1/4"	151	134	71	67	141
10	3/8"	151	134	71	67	141
15	1/2"	151	134	71	67	141
20	3/4"	156	136	71	76	141
25	1"	172	147	71	90	141
32	1 1/4"	180	151	71	102	141
40	1 1/2"	214	177	81	114	164
50	2"	232	186	81	138	164
65	2 1/2"	291	234	106	165	241
80	3"	311	243	106	188	241
100	4"	358	275	123	225	275

DOUBLE ACTING ACTUATOR

8	1/4"	115	98	45	67	110
10	3/8"	115	98	45	67	110
15	1/2"	115	98	45	67	110
20	3/4"	120	100	45	76	110
25	1"	135	111	45	90	110
32	1 1/4"	144	114	45	102	110
40	1 1/2"	203	166	71	114	141
50	2"	221	175	71	138	141
65	2 1/2"	259	202	81	165	164
80	3"	279	211	81	188	164
100	4"	345	262	106	225	241

2-WAY BRASS FF



MODEL	DN	A	B	C	D	E	F	G
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SPRING RETURN ACTUATOR

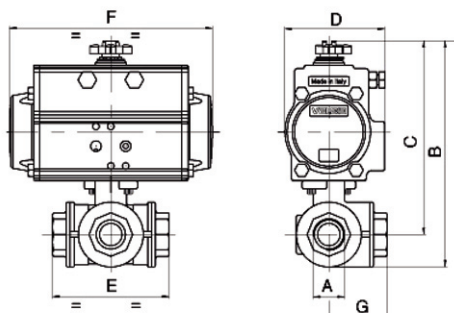
15	1/2"	154	134	71	77	141	39
20	3/4"	179	155	81	87	164	44
25	1"	190	160	81	105	164	53
32	1 1/4"	209	173	81	123	164	62
40	1 1/2"	262	219	106	139	241	70
50	2"	299	243	123	166	275	83

DN	A	B	C	D	E	F	G
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DOUBLE ACTING ACTUATOR

15	1/2"	118	98	45	77	110	39
20	3/4"	167	143	71	87	141	44
25	1"	179	149	71	105	141	53
32	1 1/4"	197	161	71	123	141	62
40	1 1/2"	230	187	81	139	164	70
50	2"	272	216	95	166	210	83

3-WAY BRASS FFF



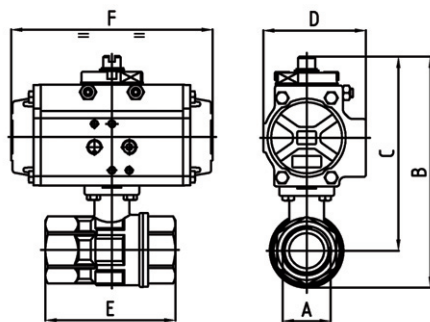
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PNEUMATIC MOTORIZED BALL VALVES

MODEL	DN	A	B	C	D	E	F	G
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SPRING RETURN ACTUATOR

2-WAY STAINLESS STEEL FF



15	1/2"	152	134	71	67	141
20	3/4"	157	136	71	78	141
25	1"	172	146	71	90	141
32	1 1/4"	182	150	71	100	141
40	1 1/2"	215	177	81	112	164
50	2"	235	186	81	135	164

DN	A	B	C	D	E	F	G
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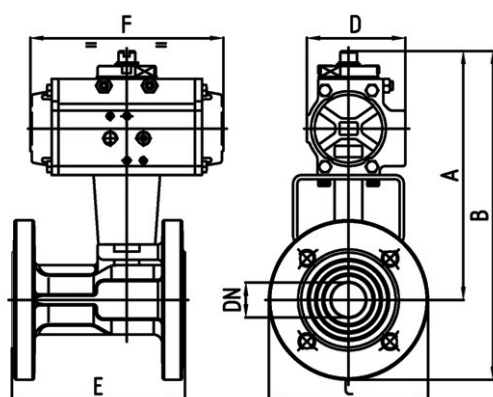
DOUBLE ACTING ACTUATOR

15	1/2"	115	98	45	67	110
20	3/4"	121	100	45	78	110
25	1"	136	110	45	90	110
32	1 1/4"	146	113	45	100	110
40	1 1/2"	203	165	71	112	141
50	2"	223	174	71	135	141

MODEL	DN	A	B	C	D	E	F	G
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SPRING RETURN ACTUATOR

2-WAY FLANGED CAST IRON



25	203	261	115	81	125	164
32	209	279	140	81	130	164
40	259	334	150	106	140	241
50	279	362	165	123	150	275
65	348	441	185	137	170	333
80	371	471	200	148	180	372
100	389	499	220	148	190	372
125	434	559	250	164	200	435
150	481	624	285	186	210	500

DOUBLE ACTING ACTUATOR

DN	A	B	C	D	E	F	G
25	191	249	115	71	125	141	
32	198	268	140	71	130	141	
40	227	302	150	81	140	164	
50	252	335	165	95	150	210	
65	280	373	185	106	170	241	
80	291	391	200	106	180	241	
100	343	453	220	123	190	275	
125	400	525	250	137	200	333	
150	435	578	285	148	210	372	

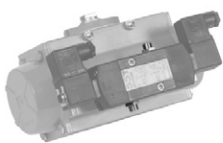


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PNEUMATIC MOTORIZED BALL VALVES

ACCESSORIES

NAMUR MONOSTABLE SOLENOID VALVE	CODE	DESCRIPTION
	EVN24AC	NAMUR solenoid valve 24V AC
	EVN24DC	NAMUR solenoid valve 24V AC
	EVN110AC50	NAMUR solenoid valve 110V AC 50Hz
	EVN220AC	NAMUR solenoid valve 230V AC 50Hz
	BADA32	Connection kit for NAMUR solenoid valve for double effect actuator for actuators marked with an asterisk on page 2

SPEED REGULATOR FOR SOLENOID VALVE	CODE	DESCRIPTION
	RVN	Speed regulator for NAMUR solenoid valve

BOX WITH ELECTROMECHANICAL LIMIT SWITCH	CODE	DESCRIPTION
	BMFC	Box with 2 electromechanical limit switch (IP65)
	BMFCDA32	Box with 2 electromechanical limit switch (IP65) for actuators marked with an asterisk on page 2



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PNEUMATIC MOTORIZED BALL VALVES



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EXAMPLE OF SPECIFICATIONS

UNIVERSAL PNEUMATIC ACTUATOR • single-acting pneumatic actuator, maximum pressure 8 bar, minimum pressure 6 bar, room temperature -20°C...+85°C, 90° rotation, UNI6060 extruded aluminium body.

BALL VALVE • A351-CF8M AISI 316 valve, PTFE seals, full flow, PN64. Operating temperature -20°C...+160°C. Fluid type: water with glycol max. 30%. • Version: 2-WAY FF DN32 - 1"1/4 - Kvs 103,8.

Brand: **COMPARATO**

Code: **P7000830114**

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

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