Pneumatic Universal

PNEUMATIC MOTORIZED BALL VALVES

USE

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

OPERATION

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

SPRING RETURN	it is opened by introducing compressed air to the delivery chamber and automatically closes it back to atmospheric pressure.
DOUBLE ACTING	it opens by introducing compressed air to the delivery chamber and closes again, bringing the compressed air to the return chamber.

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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VERSIONS

2-WAY BRASS FF	DN	Connections	PN	Kv_s [m^3/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	DN	Connections	PN	Kv_s [m^3/h]	SPRING RETURN code	DOUBLE ACTING code
"T"-PORT						
	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 [m^3/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	Connections	PN	Kv_s [m^3/h]	SPRING RETURN code	DOUBLE ACTING code
	25	1"	16	64,5	P7000220001	P7000120001
	32	1"1/4	16	103,8	P7000220114	P7000120114
	40	1"1/2	16	174	P7000220112	P7000120112
	50	2"	16	301,3	P7000220002	P7000120002
	65	2"1/2	16	545,7	P7000220212	P7000120212
	80	3"	16	872,5	P7000220003	P7000120003
	100	4"	16	1363,3	P7000220004	P7000120004
	125	5"	16	2360,3	P7000220005	P7000120005
	150	6"	16	3671,1	P7000220006	P7000120006

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

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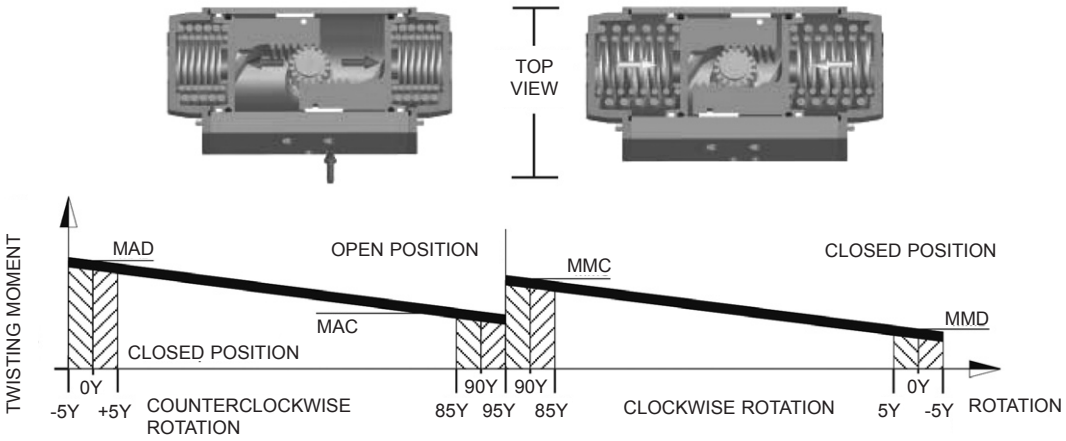
PNEUMATIC MOTORIZED BALL VALVES

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

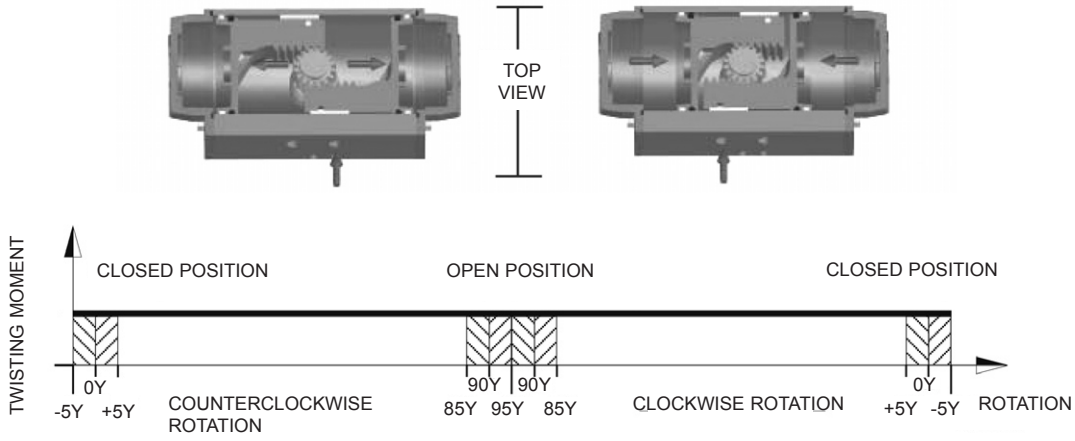
MAC: actuator torque with compressed springs

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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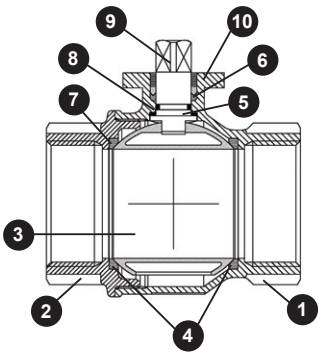
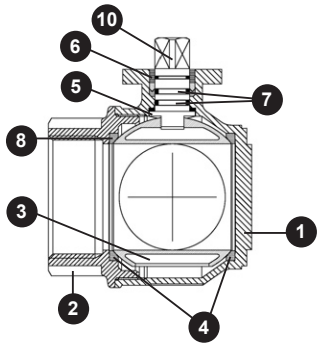
MATERIALS USED



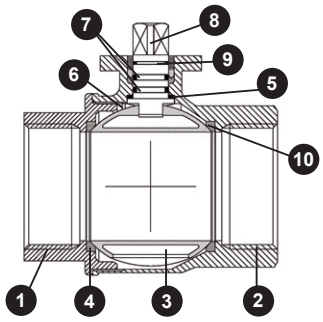
2-WAY FF ISO 5211 BRASS BALL VALVE

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 CW617N UNI EN 12165
10	ISO 5211 FLANGE	BRASS CW617N UNI EN 12165



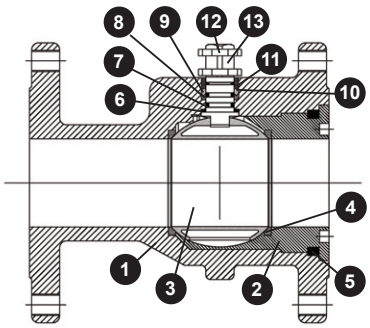
3-WAY FFF ISO 5211 BRASS BALL VALVE

1	BODY	BRASS CW617N UNI EN 12165
2	COUPLING	BRASS CW617N UNI EN 12165
3	BALL	BRASS CW617N UNI EN 12165
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 CW617N UNI EN 12165



2-WAY FF ISO 5211 STAINLESS STEEL BALL VALVE

1	BODY	CF8M
2	COUPLING	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	CW617N
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	AVP-9SMNPB36
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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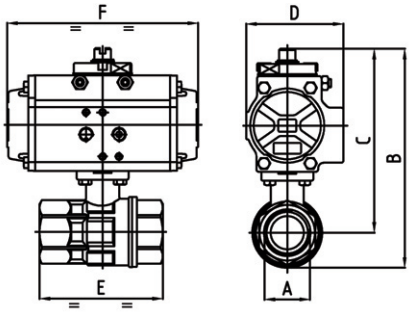
PNEUMATIC MOTORIZED BALL VALVES

OVERALL SIZE

2-WAY BRASS FF



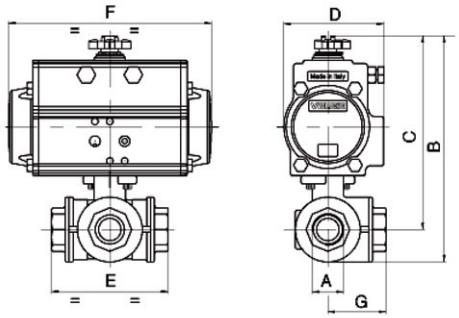
SPRING RETURN ACTUATOR

MODEL	DN	A	B	C	D	E	F	G
	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

DN	A	B	C	D	E	F	G
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	

3-WAY BRASS FFF



SPRING RETURN ACTUATOR

MODEL	DN	A	B	C	D	E	F	G
	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

DOUBLE ACTING ACTUATOR

DN	A	B	C	D	E	F	G
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

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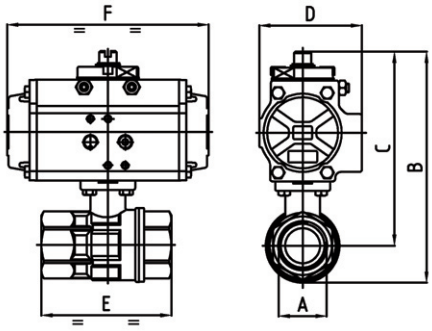
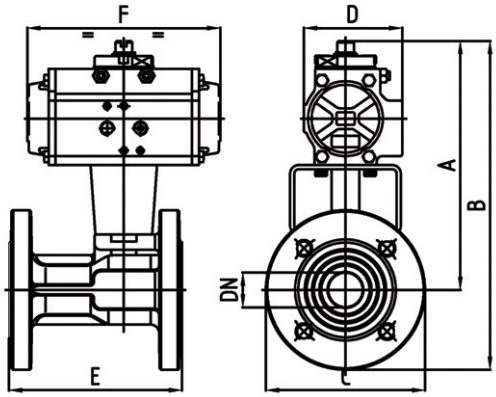
PNEUMATIC MOTORIZED BALL VALVES

2-WAY STAINLESS STEEL FF



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

2-WAY FLANGED CAST IRON



MODEL	DN	A	B	C	D	E	F	G
SPRING RETURN ACTUATOR								
	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	248	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	
	200	580	782	340	217	400	579	
DOUBLE ACTING ACTUATOR								
	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	
	200	523	725	340	186	400	500	

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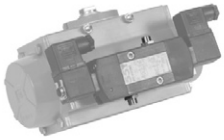
PNEUMATIC MOTORIZED BALL VALVES

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

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

CONNECTION KIT FOR SOLENOID VALVE	CODE	DESCRIPTION
	BADA32	Connection kit for NAMUR solenoid valve for double effect actuator

Accessory required only for actuators marked with an asterisk on page 2

BOX WITH ELECTROMECHNICAL LIMIT SWITCH	CODE	DESCRIPTION
	BMFC	Box with 2 electromechanical limit switch (IP65)
	BMFCDA32	Box with 2 electromechanical limit switch (IP65)

Accessories required only for actuators marked with an asterisk on page 2

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PNEUMATIC MOTORIZED BALL VALVES

comparato.com

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**

BIM BUILDING INFORMATION MODELING

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

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