

Microdiam

MOTORIZED BALL VALVES

USE

- zone heating systems
- systems using alternative energy
- automation systems in general
- distribution manifolds with 50-mm span

KEY FEATURES

- position indicator
- auxiliary microswitch in open position (optional)
- fast push connection on **Microdiam** ball valve range
- 2-point or 3-point electrical control
- manual operation



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TECHNICAL FEATURES		Microdiam	
Power supply	230V 50/60 Hz • 24V 50/60 Hz		
Electric control	2-point	3-point	
Operation	ON/OFF	ON/OFF • Modulating	
Power supply cable	Length 80 cm		
Torque	5 Nm		
Rotation angle	90°		
Power consumption	3.9 VA		
Power output of the outlet phase to grey wire	1A, resistive		
Power output of the extra microswitch	1 A, resistive; 250 V		
Position indicator	Rotating arrow		
Operating time (90°)	48 sec		
Maximum noise (at 1 m distance)	40 dB(A)		
Installation	Indoor, protected from frost		
Operational room temperature	+5°C ...+50°C		
Room humidity	Max 95% UR, no condensation		
Protection degree	IP44		
Insulation degree	II - double insulation		
External shell material	Polyamide PA 6, 30% fibreglass		
Maintenance	None		
Certification	CE		

Notes and Warnings: The device was designed to be used in heating systems, cooling systems, ventilation systems and - in general - in civil installations with features corresponding to the above-mentioned specifications. It can not be used outside the intended application field.

VERSIONS

Command	Operating time	Power supply	Code
2-POINT	48 sec	24V 50/60Hz	MR242N
		230V 50/60Hz	MR222N
3-POINT	48 sec	24V 50/60Hz	MS242N
		230V 50/60Hz	MS222N

ACCESSORY: to complete the actuator with an auxiliary opening microswitch, add "1" to the end of code • E.g. MR222N1



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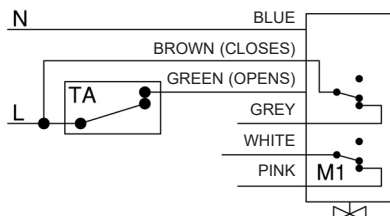
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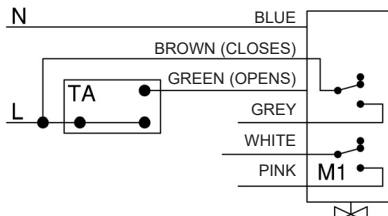
ELECTRICAL CONNECTIONS

2-POINT CONTROL - ON/OFF (SWITCH) • One electric control can activate several actuators.

OPENING POSITION



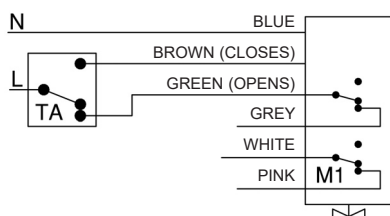
CLOSING POSITION



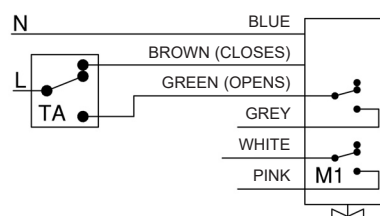
GRAY = OUTLET PHASE WITH OPEN VALVE
TA = ROOM THERMOSTAT
M1 = EXTRA MICROSWITCH FREE IN OPENING POSITION

3-POINT CONTROL - ON/OFF (DIVERTER) • Each actuator must be operated by a single electric control.

OPENING POSITION



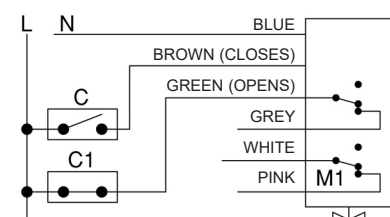
CLOSING POSITION



GRAY = OUTLET PHASE WITH OPEN VALVE
TA = ROOM THERMOSTAT
M1 = EXTRA MICROSWITCH FREE IN OPENING POSITION

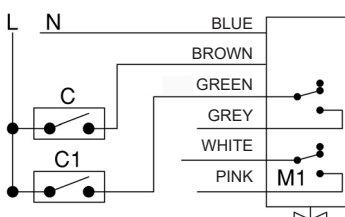
3-POINT CONTROL - MODULATING • Each actuator must be operated by a single electric control.

OPENING POSITION



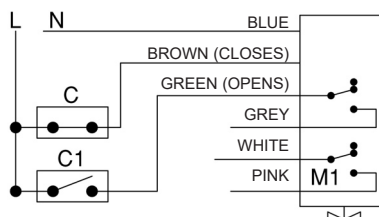
GRAY = OUTLET PHASE WITH OPEN VALVE
M1 = EXTRA MICROSWITCH FREE IN OPENING POSITION

INTERMEDIATE POSITION



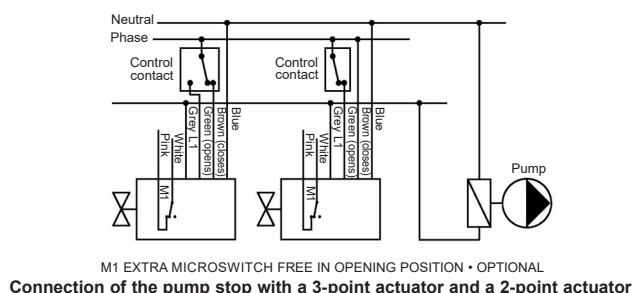
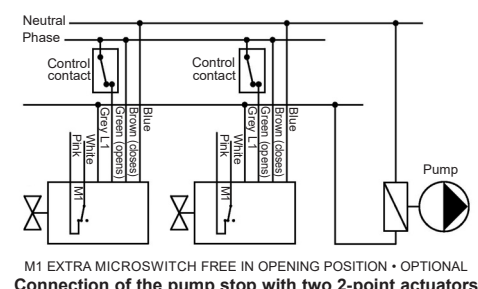
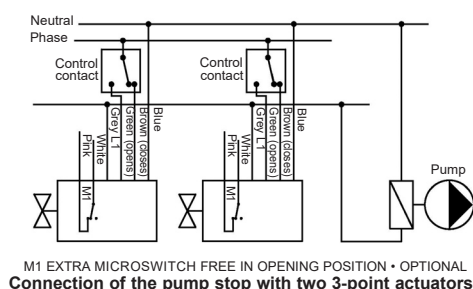
C = CLOSE CONTROL
C1 = OPEN CONTROL

CLOSING POSITION



NOTE: The connection of the power supply cable should be made inside a branch box with at least an IP54 protection (or higher)

EXAMPLES OF ELECTRICAL CONNECTIONS




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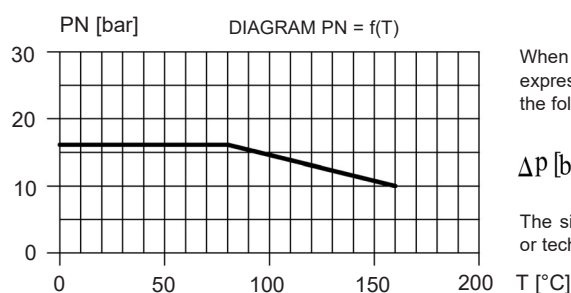
MOTORIZED BALL VALVES

VERSIONS AND TECHNICAL FEATURES OF THE BALL VALVES

2-WAY MF Ball valve	DN	Connections	PN	Kv _s [m³/h]	Code
	15	1/2" MF	16	16,3	MC2A2DN
	20	3/4" MF	16	29,5	MC2B2DN

Kv_s [m³/h] (with Δp = 100kPa = 1bar)

MODEL	Ø	Kv _s
2 Way	1/2"	16,3
	3/4"	29,5



PRESSURES

	2 WAY Valve
• Nominal operating value	16 bar
• Max. operating differential	16 bar

FLUIDS Water and EPDM & TEFLON compatible fluids • Other fluids on request

TEMPERATURES

• Minimum	+5°C
• Maximum	+100°C



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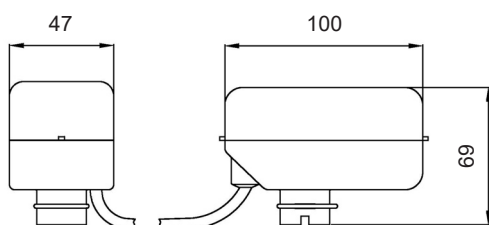
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MOTORIZED BALL VALVES

OVERALL SIZE

ACTUATOR



MOTORIZED VALVE

MODEL	DN	Ø	A	B	C	D
<p>2 Ways</p>	15	1/2"	106	86	16	94
	20	3/4"	114	89	20	100

The following table shows how a modulating zone adjustment leads to higher efficiency values.

ZONE ADJUSTMENT WITHOUT CLIMATE PRE-ADJUSTMENT	Radiators and convectors			ZONE ADJUSTMENT WITH CLIMATE PRE-ADJUSTMENT	Radiators and convectors		
	Radiant panels insulated from the structure	Radiating panels embedded in the structure			Radiant panels insulated from the structure	Radiating panels embedded in the structure	
"ON/OFF" regulator	0,93	0,91	0,87	"ON/OFF" regulator	0,96	0,94	0,92
"Modulating" regulator (proportional band 1°C)	0,97	0,96	0,92	"Modulating" regulator (proportional band 1°C)	0,98	0,97	0,95
"Modulating" regulator (proportional band 2°C)	0,95	0,93	0,89	"Modulating" regulator (proportional band 2°C)	0,97	0,96	0,94

EXAMPLE OF SPECIFICATIONS

MICRODIAM actuator with 2-point ON/OFF electric control, 1 additional microswitch free in opening position, nominal torque: 5 Nm, power supply: 230 V 50/60 Hz, operating time: 48 sec / 90°, operating angle: 90°, degree of protection: IP44.

MF brass **MICRODIAM ball valve** CW617N UNI EN 12165, EPDM and PTFE seals, full port, PN16, complete with tang and cap, operating temperature +5°C...+100°C, fluid type water with glycol max. 30%, connection to actuator with Microdiam fast push connection.

Version: 2-WAY MF DN15 – 1/2" – Kvs 16,3.

Brand: **COMPARATO**

Code: **MR222A2DN1**

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

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