

Diamant 2000

ROTARY ACTUATOR FOR BALL VALVES

USE

- zone heating/cooling systems (HVAC)
- drinking water systems
- systems using alternative energy
- automation systems

KEY FEATURES

- ALL IN ONE electric control
- IP65 degree of electrical protection
- auxiliary opening and closing microswitches (optional)
- manual override from the top (optional)
- different operating times (optional)



Diamant 2000
attacco
COMPARATO



Diamant 2000
attacco ISO 5211



TECHNICAL FEATURES		Diamant 2000				
Electric control	2/3-point ALL IN ONE					
Connection with ball valve	COMPARATO connection					
Operation	Modulating • ON/OFF					
Rotation	90° • 180°					
Compatible ball valves	2-way • 3-way diverter • 3-way mixer • By-pass					
Motor	Bidirectional synchronous					
Power supply	230V 50/60 Hz • 24V 50/60 Hz • 110V 50/60Hz *					
Electrical connection	Internal terminal block					
Operating times (90°)	4 seconds	12 seconds	35 seconds**	106 seconds	320 seconds	
Nominal torque	5 Nm	11 Nm	11 Nm	11 Nm	11 Nm	
Input power	13 VA			7,5 VA		
Power output of the outlet phase to terminals 4 and 5	1 A, resistive					
Maximum noise (at 1 meter distance)	35 dB(A) standard version					
Additional micro electrical capacity	1 A, resistive					
Operational room temperature	- 10° C ÷ 50° C					
Fluid temperature	See features of ball valves					
Protection degree	IP65					
External covering	Polycarbonate lid • glass-filled technopolymer base					
Material of external metal components and seals	Galvanized steel • EPDM seals					
Maintenance	None					
Certification	CE					

* for the 4-sec and 12-sec versions, the 60Hz version is available on request • ** standard version

VERSIONI

Servocomando	Rotation angle	Operating time	Power supply	Base code
 COMPARATO connection	90°	35 sec	230V 50/60Hz	DY222
	90°	35 sec	110V 50/60Hz	DY212
	90°	35 sec	24V 50/60Hz	DY242
	180°	70 sec	230V 50/60Hz	DY322
	180°	70 sec	110V 50/60Hz	DY312
	180°	70 sec	24V 50/60Hz	DY342
 ISO 5211 connection	90°	35 sec	230V 50/60Hz	DY222G
	90°	35 sec	110V 50/60Hz	DY212G
	90°	35 sec	24V 50/60Hz	DY242G
	180°	70 sec	230V 50/60Hz	DY322G
	180°	70 sec	110V 50/60Hz	DY312G
	180°	70 sec	24V 50/60Hz	DY342G



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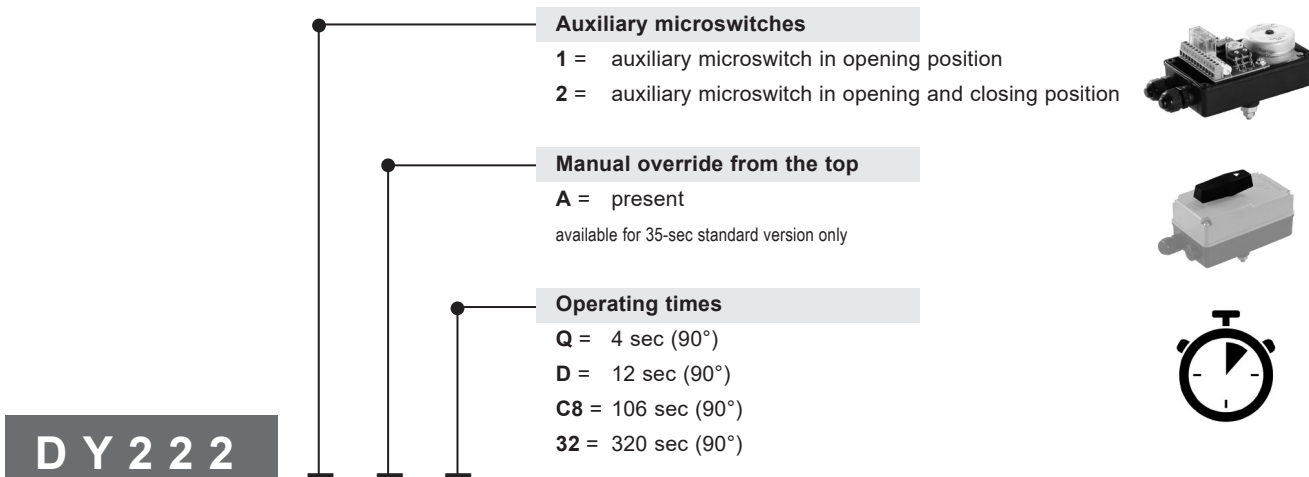
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ACCESSORIES

To add an optional, proceed as per the diagram below, adding one or more letters corresponding to the desired accessory at the end of the **Base Code**.



STARTING base code

Examples of compound codes:

DY2222A • DIAMANT 2000 230V 50/60Hz / **two auxiliary micros** / **manual opening** / 90° in 35 sec,

DY242G1D • DIAMANT 2000 24V 50/60Hz / ISO 5211 connection / **one auxiliary micro** / **90° in 12 sec.**

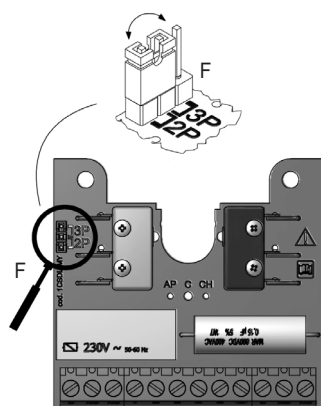
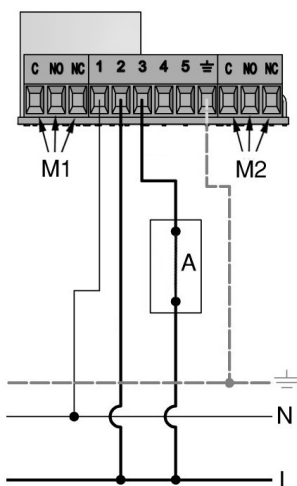
ELECTRICAL CONNECTIONS

With the electrical **ALL IN ONE** control, you can select the **2-POINT** control or the **3-POINT** control by moving the selector (jumper) mounted on the electrical circuit inside the actuator.

2-POINT CONTROL • ON/OFF (SWITCH)

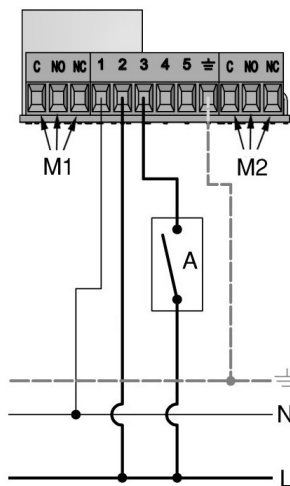
One electric control can activate several actuators.

OPENING ACTUATOR



Position the jumper as shown in the picture to have the desired electrical connection

CLOSING ACTUATOR



- 1 - Neutral
- 2 - Closing phase
- 3 - Opening phase
- 4 - Outlet opening phase
- 5 - Outlet closing phase
- M1 - Auxiliary micro in opening position (optional)
- M2 - Auxiliary micro in closing position (optional)
- A - Switch-type control
- ≡ - Earth



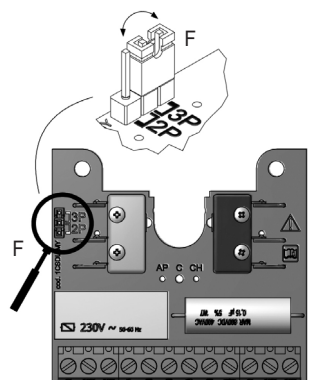
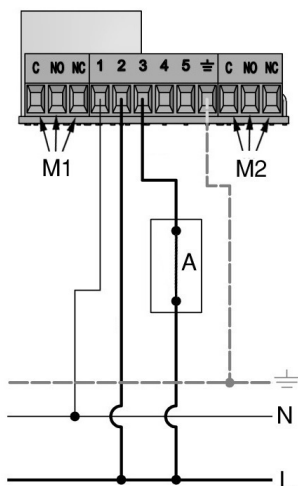
Diamant 2000

ROTARY ACTUATOR FOR BALL VALVES

3-POINT CONTROL • ON/OFF (DIVERTER)

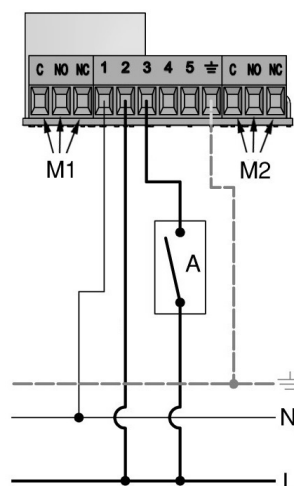
Each actuator must be operated by a single electric control

OPENING ACTUATOR



Position the jumper as shown in the picture to have the desired electrical connection

CLOSING ACTUATOR



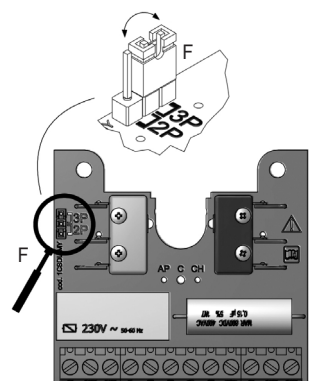
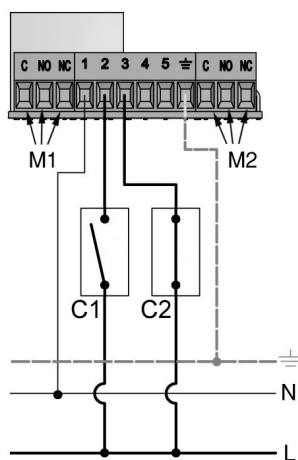
- 1 - Neutral
- 2 - Closing phase
- 3 - Opening phase
- 4 - Outlet opening phase
- 5 - Outlet closing phase
- M1 - Auxiliary micro in opening position (optional)
- M2 - Auxiliary micro in closing position (optional)

A - Switch-type control
⊥ - Earth

3-POINT CONTROL • MODULATING

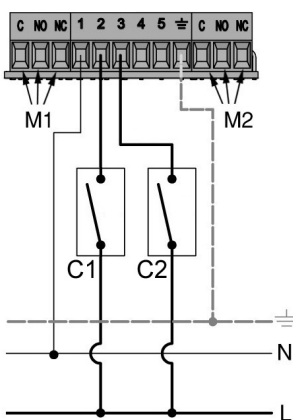
Each actuator must be operated by a single electric control

OPENING ACTUATOR

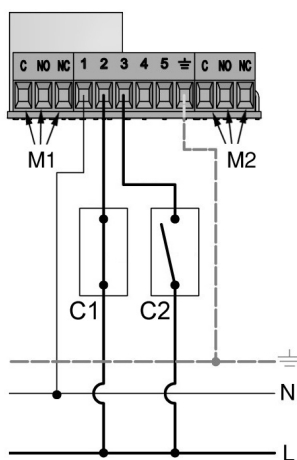


Position the jumper as shown in the picture to have the desired electrical connection

INTERMEDIATE POSITION



CLOSING ACTUATOR



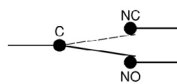
- 1 - Neutral
- 2 - Closing phase
- 3 - Opening phase
- 4 - Outlet opening phase
- 5 - Outlet closing phase
- M1 - Auxiliary micro in opening position (optional)
- M2 - Auxiliary micro in closing position (optional)
- C1 - Closing control
- C2 - Opening control
- ⊥ - Earth

AUXILIARY MICROSWITCHES (OPTIONAL)

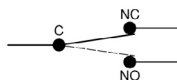
The layout of the extra microswitch contacts is shown in the following pictures:

M1 • OPENING AUXILIARY MICROSWITCH

OPEN VALVE

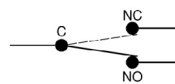


NON-OPEN VALVE

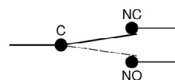


M2 • CLOSING AUXILIARY MICROSWITCH

CLOSED VALVE



NON-CLOSED VALVE



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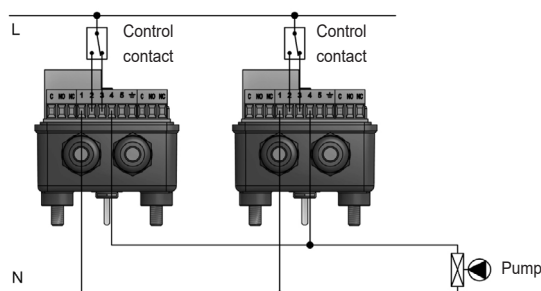
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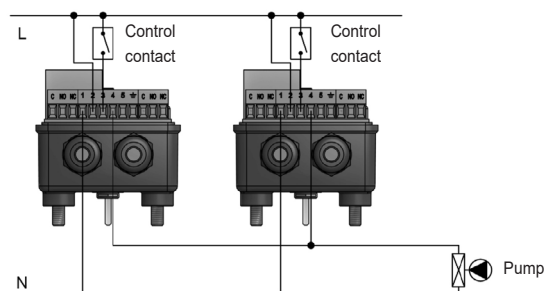
ROTARY ACTUATOR FOR BALL VALVES

EXAMPLES OF ELECTRICAL CONNECTIONS

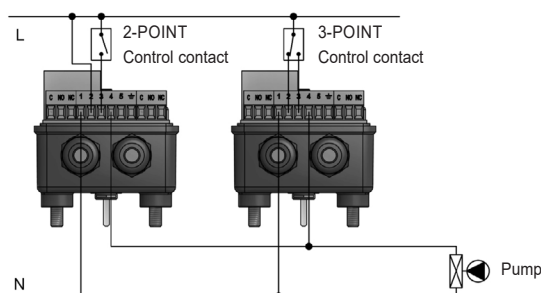
CONNECTION OF THE PUMP STOP WITH **TWO 3-POINT ACTUATOR**



CONNECTION OF THE PUMP STOP WITH **TWO 2-POINT ACTUATOR**

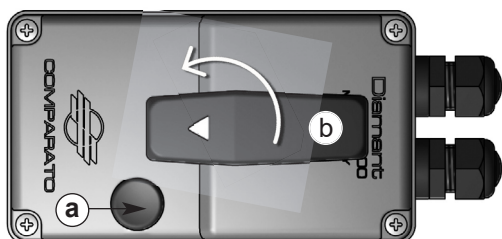


CONNECTION OF THE PUMP STOP WITH A **2-POINT ACTUATOR AND A 3-POINT ACTUATOR**



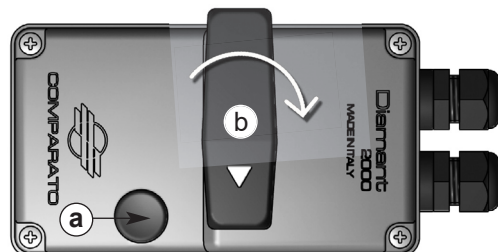
MANUAL OPERATION

Only available for **Diamant 2000** with 35-second operating time. The manual override allows to activate the valve in case of emergency or black-out.



Actuator in **OPENING** position.

Press the release button (a) and, simultaneously, rotate the lever (b) 90° **COUNTERCLOCKWISE**, in order to move the actuator in the **CLOSING** position.



Actuator in **CLOSING** position.

Press the release button (a) and, simultaneously, rotate the lever (b) 90° **CLOCKWISE**, in order to move the actuator in the **OPENING** position.

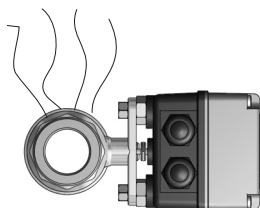


When you release the plunger, the actuator returns to the control position if it still powered and is able to perform the operation

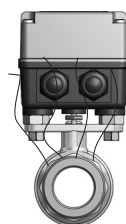
INSTALLATION

The valve shall not be installed with the actuator's connection facing downwards.

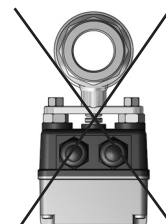
RECOMMENDED POSITION



ALLOWED POSITION



FORBIDDEN POSITION



CAUTION! Do not use high-pressure water directly on the actuator (e.g. a pressure washer)



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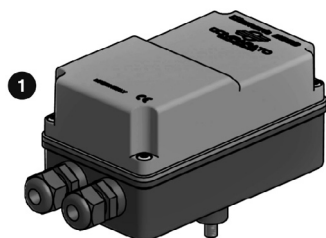
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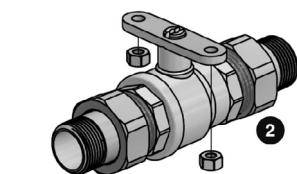
ROTARY ACTUATOR FOR BALL VALVES

CONNECTION TO THE BALL VALVE

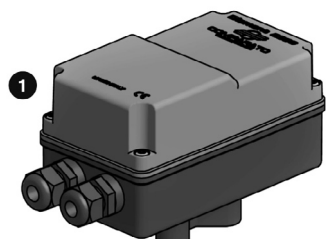
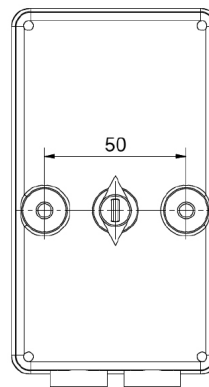
For the evaluation of the overall size of motorized valves, take into account the assembling diagram (shown below) and the dimensions of each single component.



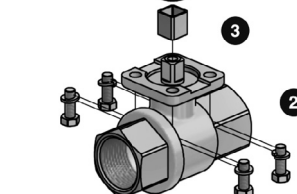
**Diamant 2000
COMPARATO connection**



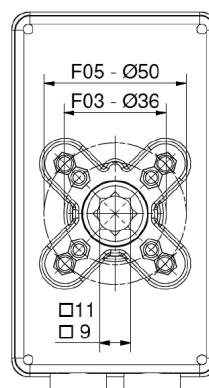
- 1 : Diamant 2000 COMPARATO connection
- 2 : Ball valve



**Diamant 2000
ISO 5211 connection**



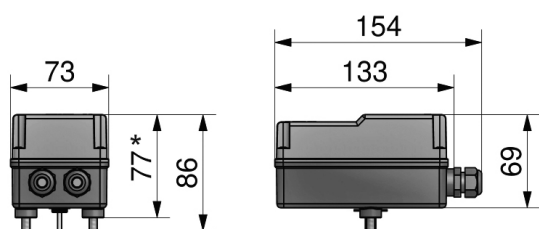
- 1 : Diamant 2000 ISO 5211 connection
- 2 : Ball valve
- 3 : Squared adapter (if necessary)



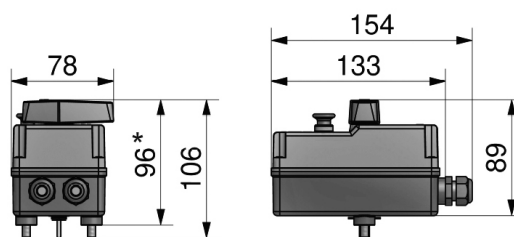
Directly couple the actuator to the ball valve; pay attention to couple actuators and ball valves with the same type of connection (COMPARATO or ISO 5211 connection).

OVERALL SIZE

**Diamant 2000
COMPARATO connection**



**Diamant 2000 COMPARATO connection
Version with manual override from the top**



* the size is to be taken into account when coupling the actuator to the ball valve



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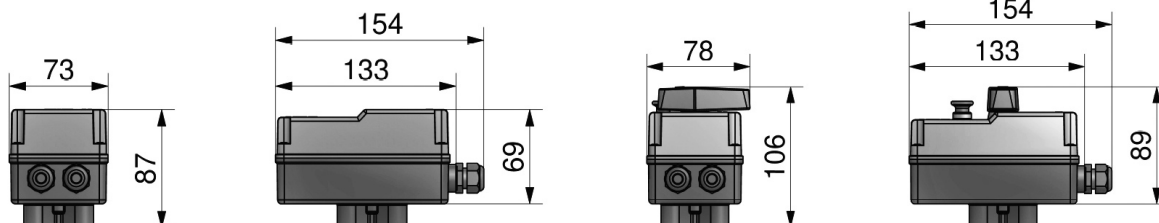
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OVERALL SIZE

Diamant 2000
ISO 5211 connection

Diamant 2000 ISO 5211 connection
Version with manual override from the top



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EXAMPLE OF SPECIFICATIONS

DIAMANT 2000 ALL IN ONE ACTUATOR • ALL IN ONE (2-point ON/OFF and 3-point ON/OFF or modulating), nominal torque: 11 Nm, power supply: 230V - 50/60 Hz, operating time: 35 sec / 90°, operating angle: 90°, degree of protection: IP65, for 2 - 3 way / by-pass ball valve, Comparato connection to the ball valve, accessories: one auxiliary opening microswitch.

Brand: **COMPARATO**

Code: **DY2221**

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

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