

# REVERSIBLE 90° ROTARY ACTUATOR FOR BALL VALVES XDG-XLG-YDG

**CRB Eng.**



- Power supply : 230 V~ or 24 V~
- Three-wire electric control (common, opens, closes) or two-wire (CRB 098/S2)
- Rotation angle : 90°
- Run time : 90 seconds
- Two auxiliary end-of-run SPDT miniature switches
- Manual release mechanism (on request)
- IP 54 protection



## 1. APPLICATION

CRB actuators are designed to operate Coster ball valves XDG2, XDG3, XLG3 and YDG2, up to 1"1/4.

## 2. MODELS

Model	Power supply V ~ (VA)	Run time s	Normal torque kg/cm (Nm)	Starting torque kg/cm (Nm)	Valves (up to DN) XDG-XLG-YDG
<b>CRB 098</b>	230 (4,5)	90	60 (6)	90 (9)	1"1/4
<b>CRB 094</b>	24 (4,5)	90	60 (6)	90 (9)	1"1/4

## 3. SPECIAL MODELS

Model	Description
<b>CRB 098/S2</b>	Supplied with relay to adapt it for On-Off two-wire control (only for 230 V ~ model).

## 4. ACCESSORIES

Models	Description
<b>SMP 750</b> <b>SMP 760</b>	Manual release for valves XDG and XLG. Manual release for valves YDG.

## 5. OPERATION

CRB can be controlled by an On-Off or modulating device (e.g. thermostat, switch, modulating controller) provided with an SPDT output switch. Only model CRB 098/S2, provided with an internal relay, can be controlled by a device fitted with a simple open-closed switch.

The small electric motor transmits the rotary movement to a mechanical reduction unit, which determines the rotation speed of the shaft and, accordingly, the run time of the actuator.

The actuator has a rotary movement with a working angle of 90°, limited by two miniature switches (7.6) operated by an end-of-run cam (7.7).

It is provided with two voltage-free SPDT auxiliary miniature switches, positioned near the extreme closure and opening points.

Using the SMP... manual release it is possible to release the actuator from the valve thereby permitting manual adjustment.

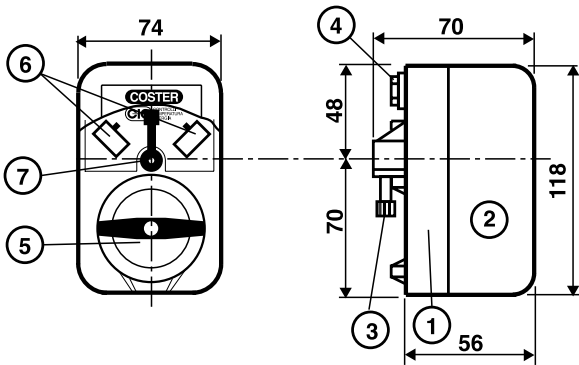
## 6. CONSTRUCTION

The base of CRB (7.1) is made by Nylon 66 whilst the cover (7.2) is in semi-transparent polycarbonate to permit checking the position of the cam. These two features, together with the appropriate gaskets, ensure the IP 55 level of protection.

Two prewired electric cables, passing through the cable entry gland PG9, extending 70 centimetres from the base of the actuator, permit making the electrical connections without the need to open the actuator enclosure.

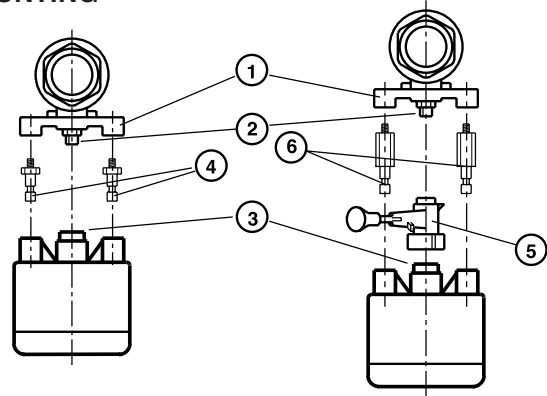
The linkage device is located at the rear part of the base and allows rapid mounting on the valve using two threaded pins (8.4). Two fixing screws permit clamping to the valve (7.3).

**7. OVERALL DIMENSIONS**



- 1 – Base
- 2 – Protective cover
- 3 – Securing screws
- 4 – PG 9 cable entry gland
- 5 – Reversible motor
- 6 – Microswitches
- 7 – Cam

**8. MOUNTING**



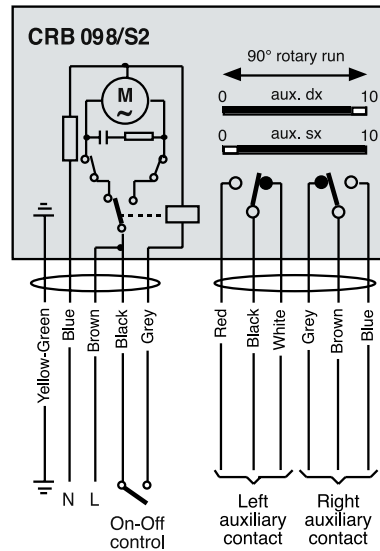
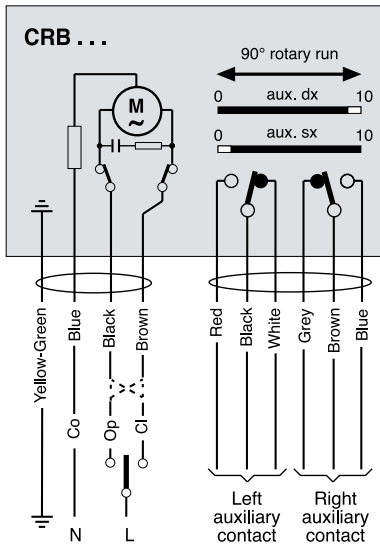
- 1 – Linkage support
- 2 – Valve spindle
- 3 – Actuator shaft
- 4 – Fixing pins
- 5 – Manual release
- 6 – Fixing spacers

**9. MOUNTING**

Loosen the two screws (7.3), extract the two threaded pins (8.4) and screw them into the valve linkage support (8.1). Position the valve spindle (8.2) so that the internal slipper is in the closing or opening position and so that the groove on the valve spindle coincides with the actuator shaft (8.3). Mount the actuator so that the pins fit into their housings and so that the actuator shaft fits into the groove on the linkage. Secure the pins by tightening the two screws (7.3). In the event that manual release SMP... is used, insert this between the valve spindle and the actuator shaft and use the two spacers (8.6) supplied with SMP, instead of the pins (8.4). Using the manual control carry out a couple of complete runs with the valve so as to ensure that the movement is uniform.

**10. WIRING DIAGRAMS**

Carry out the wiring in accordance with the diagrams and in observance of the current safety regulations.



**11. DATI TECNICI**

Power supply :	CRB 098 - CRB 098/S2	230 V ~	Auxiliary microswitches :	maximun switched voltage	250 V ~
	CRB 094	24 V ~		maximun switched current	5 (1) A
Frequency		50...60 Hz	Valve fluid temperature		0...120 °C
Consumption		4,5 VA	Ambient temperature :	operation	0...45 C°
Rotation angle		fixed at 90°		storage	- 20...+60 C°
Time for run		90 seconds	Protection		IP 54
Nominal torque		60 kg/cm (6 Nm)	Weight		0,780 kg
Starting torque		90 kg/cm (9 Nm)			

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