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REV. 02

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**

CE

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
CRB 098	230 (4,5)	90	60 (6)	90 (9)	1"1/4
CRB 094	24 (4,5)	90	60 (6)	90 (9)	1"1/4

3. SPECIAL MODELS

Model	Description
CRB 098/S2 **CRB 094/S1**	Supplied with relay to adapt it for On-Off two-wire control (only for 230 V ~ model). Only with auxiliary contacts NO (only for 24 V ~ model).

4. ACCESSORIES

Models	Description
SMP 750	Manual release for valves XDG and XLG.
SMP 760	Manual release for valves YDG.

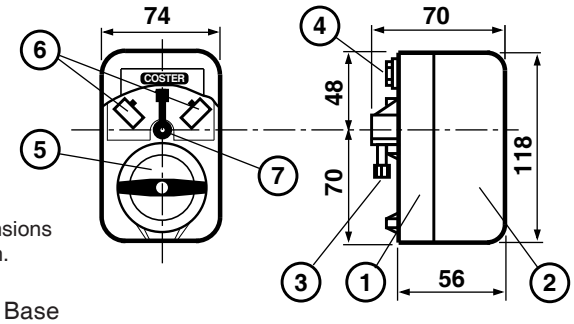
5. OPERATION

CRB can be controlled by an On-Off or modulating device (e.g. thermostat, switch, modulating controller) provided width 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, toghether 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).

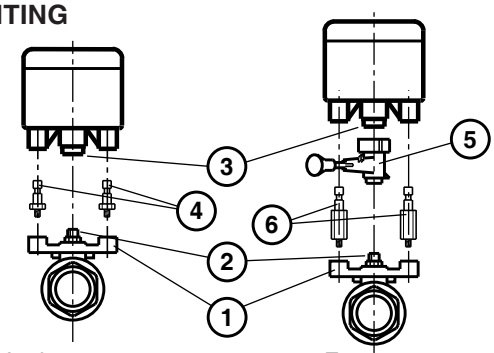
7. OVERALL DIMENSIONS



N.B.: dimensions in mm.

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

8. MOUNTING



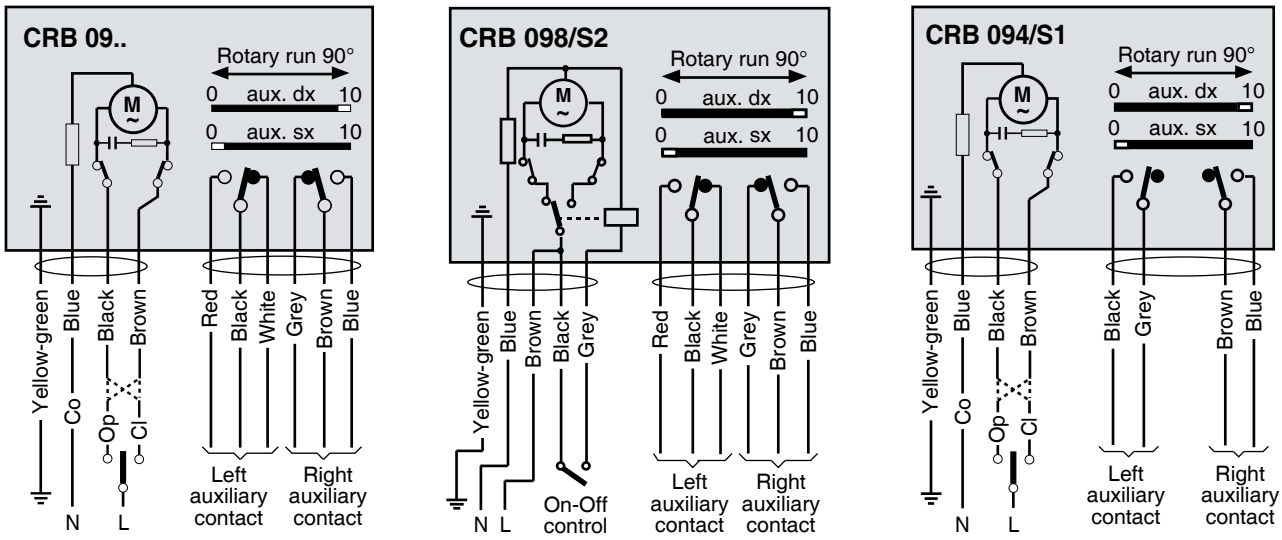
1 – Linkage support
2 – Valve spindle
3 – Actuator shaft
4 – Fixing pins
5 – Manual release
6 – Fixing spacers

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 actuatore 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. TECHNICALA DATA

Power supply:	
– CRB 098 - CRB 098/S2	230 V ~
– CRB 094 - CRB 094/S1	24 V ~
Frequency	50...60 Hz
Consumption	4,5 VA
Rotation angle	fixed at 90°
Time for run	90 seconds
Nominal torque	60 kg/cm (6 Nm)
Starting torque	90 kg/cm (9 Nm)

Auxiliary microswitches:	
– maximun switched voltage	250 V ~
– maximun switched current	5 (1) A
Valve fluid temperature	0…120 °C
Ambient temperature:	
– operation	0…45 C°
– storage	– 20…+60 C°
Protection	IP 54
Weight	0,780 kg

Amendment to data sheet

Date	Revision No.	Page	Section	Amendment description
12.03.12 SM	**01**	1 and 2	3 and 10	Add CRB 094/S1 model
28.01.13 MZ	**02**	2	7, 8 and 10	Update diagrams