



technische import

Produkt informatie

COSTER

COSTER T.E.

ROTARY 90° REVERSIBLE ACTUATOR FOR LARGE VALVES

CVS 808 Eng.

- Three-wire electrical control (common, opens, closes)
- Rotation angle: 90°
- Run time: 55 seconds
- Two auxiliary end-of-run switches
- Option manual control of valve
- Protection IP 55
- Power supply: 230 V~



1. APPLICATION

CVS 808 actuator is a high-power rotary type suitable for the operation of Coster ball valves 2S DN 100S (4"), 2S DN 125 (5"), 2S DN 150 (6"), 2S DN 200 (8"), 2F DN 200 (8") and 2F DN 250 (10").

2. OPERATION

CVS 808 actuator permits operating the valve automatically or manually:

- automatic control: can be operated by an On-Off (thermostat, on-off switch, ecc.) provided it is fitted with an SPDT output switch.

The three-wire control (common, opens, closes) powers a reversible electric motor which, coupled to a double speed reduction unit, transmits the movement to the valve stem.

- manual control: the actuator can be operated manually. With the power off, it is possible to position the valve manually by means of the handwheel mounted on the shaft of the first speed reduction input.

This position will be maintained until power is restored.

The actuator run is 90° and is limited electrically by two end-of-run switches operated by a fixed cam.

The actuator is fitted with two auxiliary switches which, supplying in output two end-of-run switches operated by two separate adjustable cams, permit the maximum versatility of use.

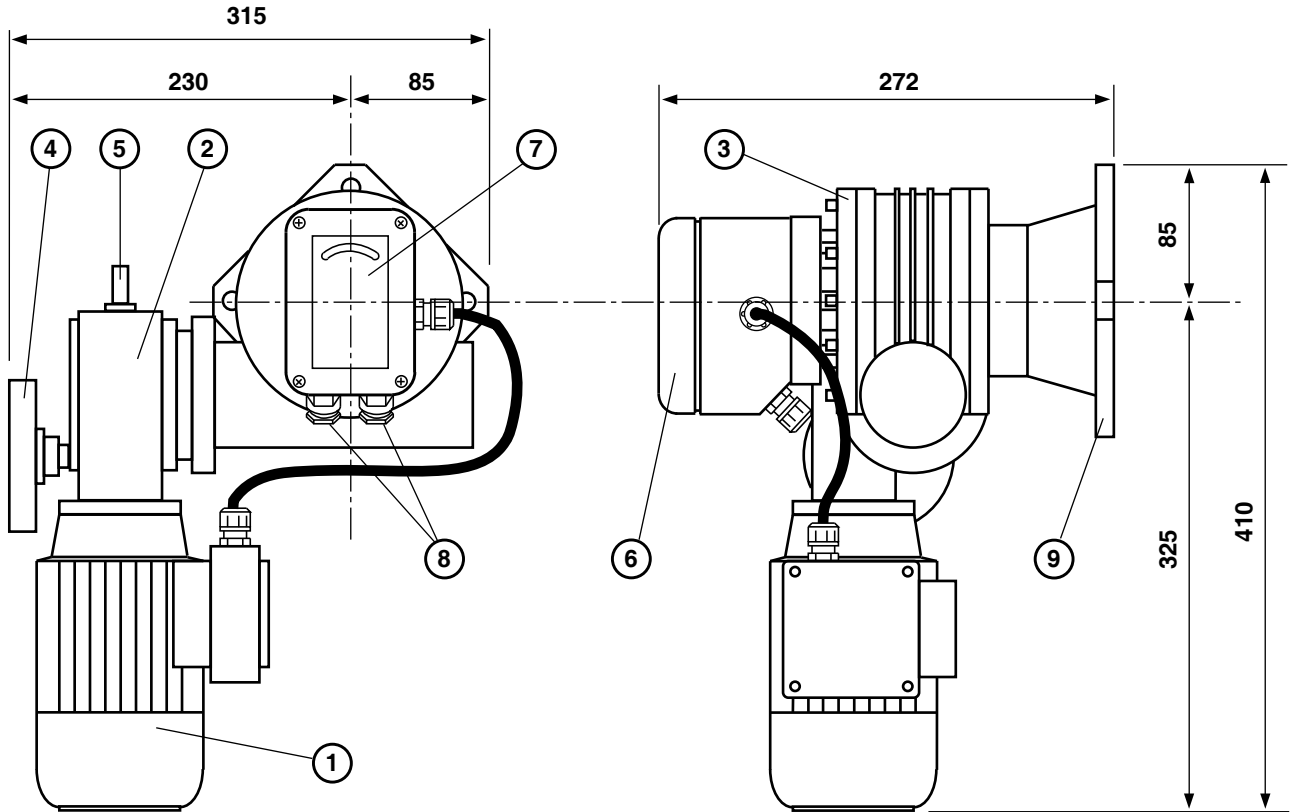
3. MODEL

Model	Power supply Volt ~ (VA)	Run time seconds	Nominal torque kg/cm (Nm)	Starting torque kg/cm (Nm)	Ball valves 2S	Ball valves 2F
CVS 808	230 (120)	55	8.000 (800)	8.000 (800)	DN 100S....DN 200	DN 200....DN 250

4. TECHNICAL DATA

Power supply	230 V~	Nominal torque	8.000 kg/cm (800 Nm)
Frequency	50...60 Hz	Starting torque	8.000 kg/cm (800 Nm)
Consumption	120 VA	Temperature fluid valve	0...120 °C
Rotation angle	fixed a 90°	Ambient temperature:	
Auxiliary switches:		- operating	0...45 °C
- maximum applied voltage	250 V~	- storage	-20...60 °C
- maximum current	5 (1) A	Protection	IP 55
Run time	55 seconds	Weight	14,960 kg

5. OVERALL DIMENSIONS



N.B.: dimensions in mm.

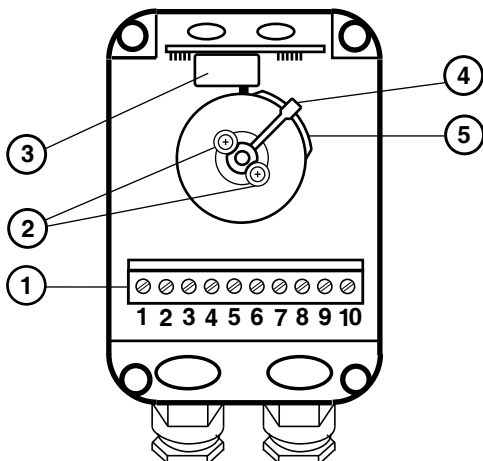
- 1 – Electric motor.
- 2 – First power reduction unit.
- 3 – Second power reduction unit .
- 4 – Handwheel for manual control (shown in ex-works position).

- 5 – Input shaft of first speed reduction unit on which hand-wheel inserted for manual control of valve.
- 6 – Housing for terminal block for electrical, connections, end-of-run switches and auxiliary switches.
- 7 – Name plate with slot for valve position indicator.
- 8 – PG11 cable entry glands for electrical connections.
- 9 – Flange for coupling to valve.

6. CONSTRUCTION

The body of the actuator consists of a double mechanical power reduction unit (5.2 and 5.3), of the worm screw type; the housing is made of die-cast aluminium whilst the internal mechanical parts are in tempered steel. On the upper part of the power reduction unit is mounted the housing made of Nylon reinforced with glass wool (5.7) with a polycarbonate cover, in which are housed the switches (7.3), the cams (7.5) and the terminal block for the electrical connections (7.1). In the lower part of the second reduction unit is the flange for coupling the actuator to the valve (5.9). At right angle is positioned the electric motor (5.1) and the handwheel which can be used for the manual control of the valve (5.4).

7. SWITCHES & TERMINAL BLOCK



- 1 – Terminal block for electrical connections.
- 2 – Screws for adjustment of auxiliary cams.
- 3 – End-of-run and auxiliary switches.
- 4 – Cam indicating position of the valve.
- 5 – Three overlapping cams:
 - a lower, non-adjustable one for end-of- run,
 - two overlapping, adjustable, for operation of auxiliary switches.

7.1 Control of auxiliary cams

Loosen the screws (7.2), rotate the two upper cams (which operate the two auxiliary switches), positioning them so that they trip in the desired condition. Then tighten again the two screws so as to block the auxiliary cams. For the electrical connections of the auxiliary switches see section 11. Wiring diagram.

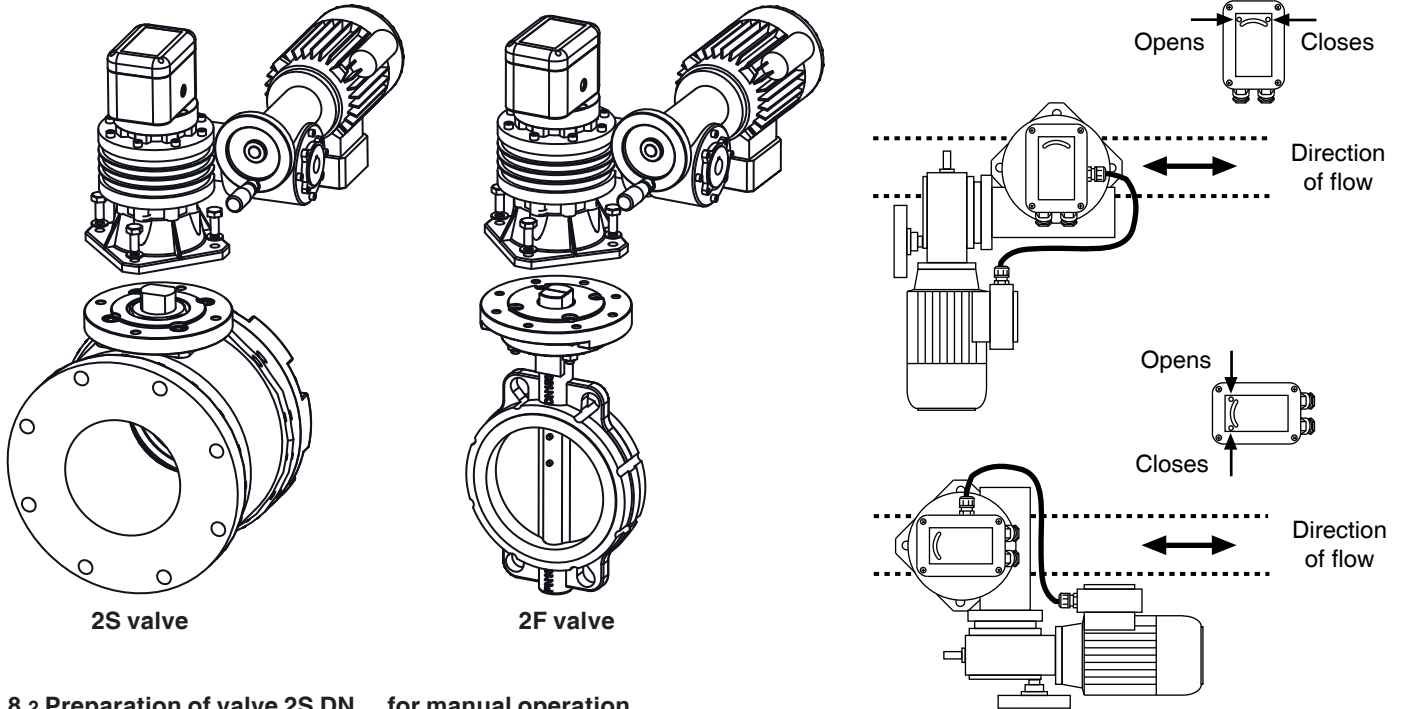
8. INSTALLING THE ACTUATOR ON THE VALVE

All the hardware needed to install the actuator on the valve are supplied with the actuator: four hex screws with washers to fasten the actuator to the flange.

8.1 Installing the actuator on the valve

Important: when installing the actuator on the valve, check the valve's open/closed position, marking them in the dedicated space on the front plaque (two circles placed to the side of the indent where the index cam is visible).

- Rotate the valve spindle so that the notches match those on the actuator's spindle.
- Attach the actuator to the valve (the actuator can be installed parallel or to the pipe or crosswise) and secure it in place with the hex screws and washers.



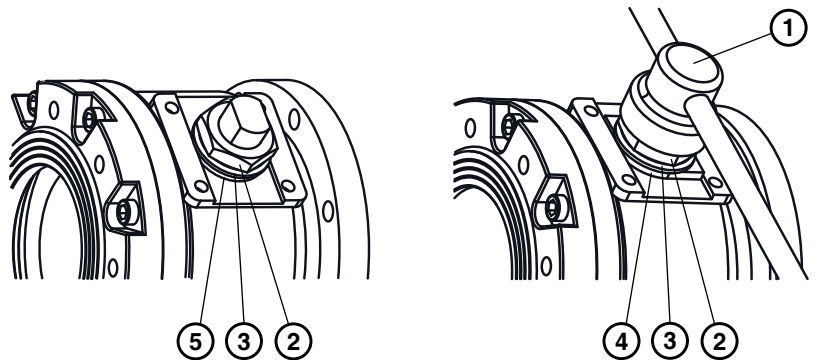
2S valve

2F valve

8.2 Preparation of valve 2S DN ... for manual operation

The valve must be prepared as follows:

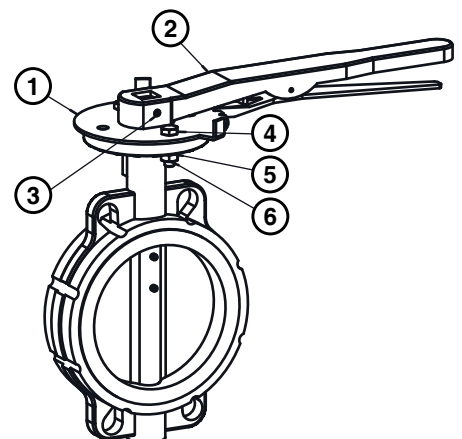
- remove the actuator, if already assembled, by unfastening the hex screws,
- remove the actuator joining plate by unfastening the hex screws,
- remove the coupling on the valve spindle by unfastening the dowel (only versions 2S DN 100S - 2S DN 125),
- remove the hex screws securing the valve-actuator coupling flange and remove it,
- unfasten hex nut "2",
- remove cup springs "3",
- remove washer "5",
- insert mechanical stop "4",
- reinsert the cup springs "3",
- fasten hex nut "2",
- assemble handle "1".



8.3 Preparation of valve 2F DN... for manual operation

The valve must be prepared as follows:

- remove the actuator, if already assembled, by unfastening the hex screws,
- remove the actuator joining plate by unfastening the hex screws,
- assemble the dividing plate "1" fastening it with screws "4"- "5"- "6",
- insert lever "2" in the valve spindle box, matching the coupling with dividing plate "1",
- fasten nut "3" to secure to spindle.



9. MANUAL CONTROL OF THE VALVE WITH ACTUATOR MOUNTED

The handwheel for the manual control of the valve (5.4) is, ex-works, mounted on a fixed support bracket on the actuator. If the valve is to be mounted by hand, loosen, using an Allen key, the security dowel which locks the handwheel to the fixed support and then insert it on the input spindle of the first reduction gear (5.5).

Tighten up the security dowel ensuring that it enters in the seat of the ? on the spindle.

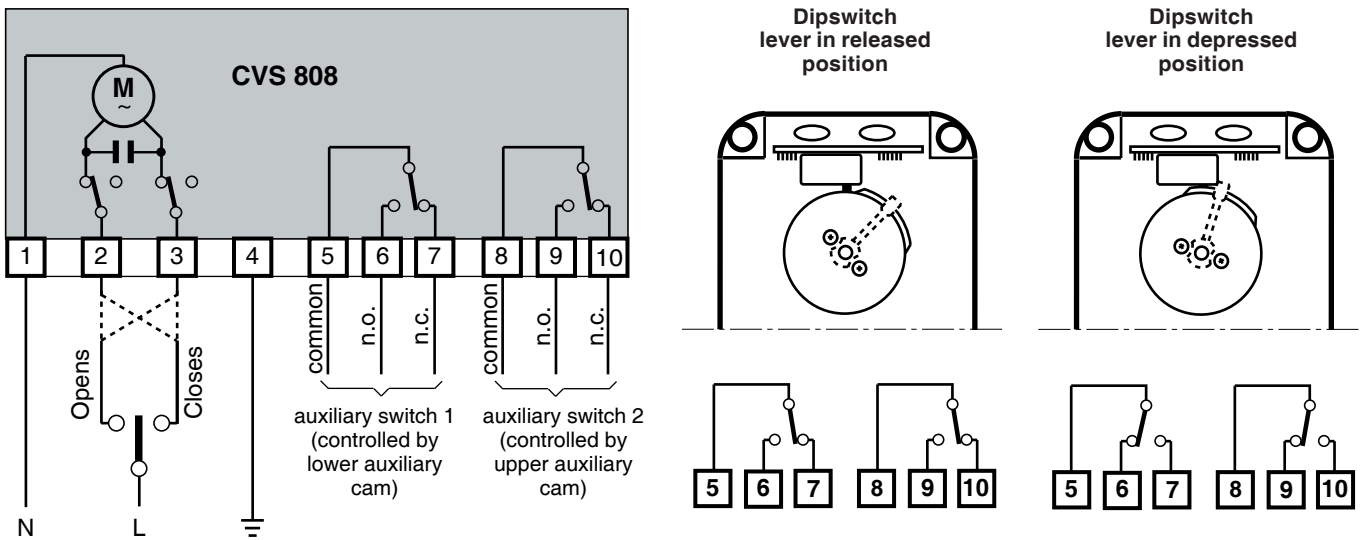
Warning: for safety reasons, the actuator is not provided with mechanical stops, so that, when operated by hand, it can rotate freely over 360°. Check, therefore, the position of the valve by referring to the position indicator on the cover.

10. ELECTRICAL WIRING

Carry out the wiring as follows:

- remove the protective cover from the terminal block housing (5.6) after loosening the four securing screws,
- introduce the electric cables into the actuator through the appropriate PG11 entry glands (5.8),
- carry out the wiring according to the diagram (see section 11) in accordance with the regulations in force and using 1.5 mm² cables,
- replace the protective cover, ensuring that the seal is correctly positioned, and then tighten up the four securing screws.

11. WIRING DIAGRAM



IMPORTANT READ CAREFULLY:

- the two cams of the auxiliary miniature switches can be set at any angle in respect of the position of the actuator so as to render completely free and adjustable the actions of the miniature switches themselves according to use requirements,
- this actuator is of the "asynchronous" type, with two coils + phase shifter capacitor: **under simultaneous control the actuator is stationary and absorbs twice the current in respect of the short circuit current of a single winding, irreversibly damaging the windings themselves.**

To avoid giving two simultaneous instructions it is suggested that a single relay (or manual switch) is used with a changeover switch for "all open" or "all closed".

Amendment to data sheet

Date	Revisone No.	Page	Section	Details of amendment
26.09.05 MZ				First edition.
20.11.06 MZ		1	4	Add Accessories table (linkage kit for valves). Increased the number of valves on witch the actuator can be installed.
18.12.06 AM		4	12	Add note "IMPORTANT..."
13.07.12 AM	01	1 - 3	4 - 9	Accessories table cancelled (actuator is directly mounted on the valves). Update installing instruction on the valve.
04.02.13 MZ	02	various	various	General review.

