M 211
30.10.09 MZ
REV. 01

REVERSIBLE LINEAR ACTUATOR FOR VRG - VRB - VL - VF VALVES

CLE C1 Eng.

- **Power supply : 230 - 24 V~; IP 54 protection.**
- **Three-wire electric control.**
- **Maximum run: 15 mm. ; Run times : 11 s/mm - 7s/mm.**
- **Direct fitting to valve without calibration.**
- **Manual operation.**

CE

1. APPLICATION

CLE actuator is designed for operating,with linear movement,VRG - VRB - VL and VF 32/50 seat valves used in heating and air-handling installations with fluid temperatures 0 ... 200 °C.

2. OPERATION

Can be operated by an On-Off device (thermostat, teleswitch, manual switch) or by a modulating controller. The three-wire electric signal (common - opens - closes) powers a reversible synchronous electric motor with double windings, the rotary movement of which is converted into linear movement by an eccentric mechanism which allows a maximum run of 15 mm.
The run is limited by two microswitches operated automatically by means of springs when the valve plug strikes one of its seats. This system ensures that the actuator is always able to exert its nominal force on the valve spindle thereby permitting installation without the need to calibrate the run.
A handwheel on the head of the actuator permits the manual operation of the valve.

3. MODELS

Code	Power supply V~ (VA)	Run mm.	Time s/mm.	Time s/15 mm.	Force Nm	Valves (up to DN) VRG – VRB – VL – VF
CLE 168	230 (2.15)	15	11	165	500	50
CLE 164	24 (2.15)	15	11	165	500	50
CLE 108	230 (2.15)	15	7	105	300	32
CLE 104	24 (2.15)	15	7	105	300	32

4. ACCESSORIES

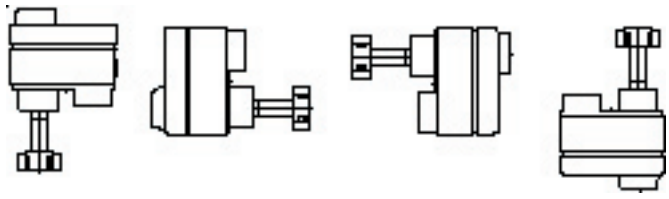
Code	Description
FCE 082	1 limit switch auxiliary 6 (2) A for CLE 168 and CLE 108 at 230 V~.
FCE 082 c1	1 limit switch auxiliary 6 (2) A for CLE 168c1 and CLE 108c1 at 230 V~
FCE 042	1 limit switch auxiliary 6 (2) A for CLE 164 and CLE 104 a 24 V~.
FCE 042 c1	1 limit switch auxiliary 6 (2) A for CLE 164c1 and CLE 104c1 a 24 V~.
AVL 323	Adaptor for replacing CLA ... actuators with CLE ...

5. TECHNICAL DATA

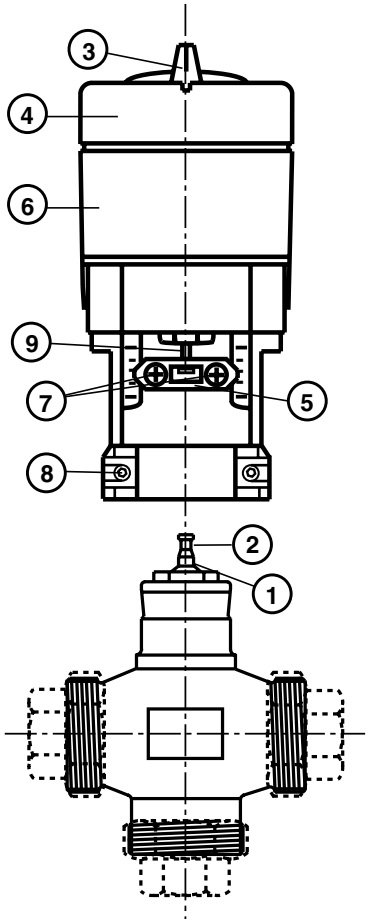
Power supply :	
- CLE ..8	230 V~ ±10%
- CLE ..4	24 V~ ±10%
Frequency	50 ... 60 Hz
Consumption	2.15 VA
Maximum run	15 mm.
Times for 15 mm. run :	
- CLE 16.	165 s
- CLE 10.	105 s
Force :	
- CLE 16.	500 Nm
- CLE 10.	300 Nm
Capacity end-of-run contacts	6 (2) A
Valve fluid temperature	0 ... 200 °C
Ambient temperature :	
- operating	0 ... 55 °C
- storage & transport	– 40 ... 70 °C
Protection	IP 54
Weight	0.7 kg

6. INSTALLATION

- Loosen the the valve spindle locking screws on the coupling block (6.7).
- Loosen the actuator locking screws (6.8) and withdraw the entire length of the valve spindle (6.1).
- Place the actuator on the valve so that the spindle fits into the coupling block and tighten up the locking screws (6.7).
- Press the actuator until it rests on the top of the valve.
- Tighten the actuator locking screws and check correct installation by making a complete run of the valve by hand (6.3).
- Make the electrical connections according to the wiring diagram (8) and in observance of the safety regulations in force.

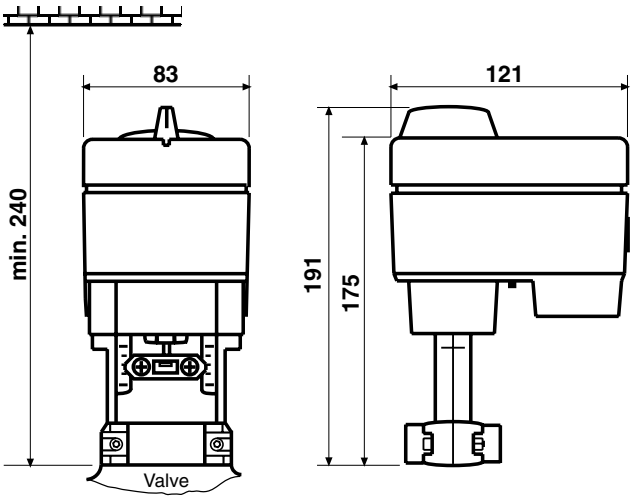


YES YES YES NO

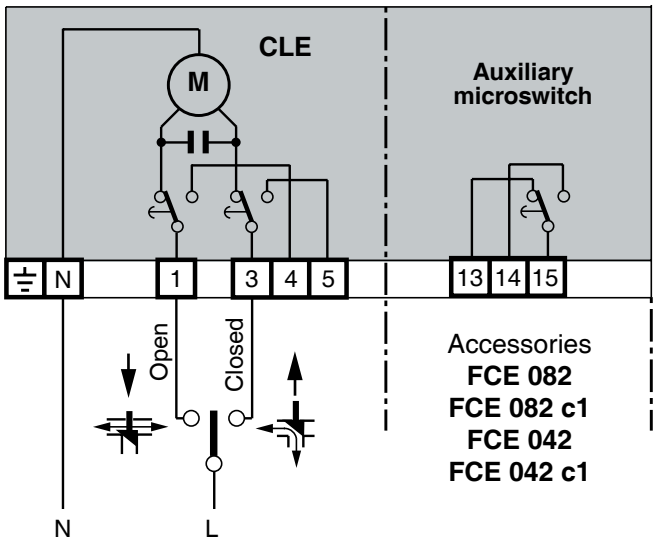


1 – valve spindle
2 – spindle locking recess
3 – manual operation wheel
4 – upper cover
5 – coupling block
6 – mechanism protective cover
7 – valve spindle locking screws
8 – actuator locking screws
9 – actuator spindle

7. OVERALL DIMENSIONS



8. WIRING DIAGRAM



Amendment to data sheet

Date	Revision No.	Page	Section	Details of amendments	Firmware version	Software version
25.07.06 MZ		1	4. ACCESSORIES	Ammended accessories table		
29.10.09 DG	01	2	8. WIRING DIAGRAM	Amendment wiring diagram (accessories connection)		

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