



## ON-OFF ZONE VALVES WITH ACTUATOR

## DB-VZ + SM...

### FUNCTION

On-off control of heat or cool water flow.

Coupling between synchronous motor and body valve with ring nut.

The synchronous motor opens the valve (normally closed) according to the command signal of a thermostat; at the signal interruption a spring positions the valve to the closed position.

- 2-way valves: the plug closes against the flow;
- 3-way valves: the plug blocks the flow toward user side.

### APPLICATION

The valves DB-VZ coupled with the synchronous motor SM230/CA, SM24/CA and SM230/SA, SM24/SA are suitable for heating and cooling water in zone systems for ON-OFF control.

Typical applications are for fan-coil units.

| TYPE      | CONNECTION   | WAY/MODEL                  | POWER SUPPLY<br>50/60 Hz | KVs<br>m³/h | MAX. DIFF.<br>PRESS. bar | RUNNING TIME<br>sec. |        |
|-----------|--------------|----------------------------|--------------------------|-------------|--------------------------|----------------------|--------|
|           |              |                            |                          |             |                          | OPEN                 | CLOSED |
| DB-VZ2-15 | DN15 (G 1/2) | 2                          |                          | 1.6         | 2.5                      | ≤10                  | ≤5     |
| DB-VZ2-20 | DN20 (G 3/4) | 2                          |                          | 3.5         | 1.0                      | ≤10                  | ≤5     |
| DB-VZ2-25 | DN25 (G 1)   | 2                          |                          | 5.5         | 0.6                      | ≤10                  | ≤5     |
| DB-VZ3-15 | DN15 (G 1/2) | 3                          |                          | 1.6         | 2.5                      | ≤10                  | ≤5     |
| DB-VZ3-20 | DN20 (G 3/4) | 3                          |                          | 3.5         | 1.0                      | ≤10                  | ≤5     |
| DB-VZ3-25 | DN25 (G 1)   | 3                          |                          | 5.5         | 0.6                      | ≤10                  | ≤5     |
| SM230/CA  |              | with auxiliary microswitch | 230 Vac ± 10%            |             |                          |                      |        |
| SM24/CA   |              | with auxiliary microswitch | 24 Vac ± 10%             |             |                          |                      |        |

### TECHNICAL DATA

#### Synchronous motor:

**Power supply:** see schedule

**Max electrical load:** 3 A, 125...250 Vac

**Power consumption:** 7 VA

**Working temp.:** +2...+60 °C

**Working humidity:** 10...90% r.h. (without condensing)

**Material:** plate: casting aluminium alloyed  
cover: fire-proof ABS

**Protection:** IP40, class II

**Dimensions:** 77 x 65 x 62

**Weight:** see schedule

#### Valve:

**Valve type:** 2 or 3 ways

**Fluid temp.:** 0...+105 °C

**Material:** body: forged brass  
rod: stainless steel AISI 302

**Seal material:** NBR

**Storage temp.:** -20...+70 °C  
< 95% r.h.

**Dimensions:** see schedule

**Weight:** see schedule

### GENERAL FEATURES

- Connection between actuator and valve by nut for a convenient mounting
- Female threaded connections.
- Power supply from electric system, synchronous motor with clutch.
- Actuator is fitted with manual operating lever for manual override when power supply is not applied or if a power failure occurs.
- Silent operation.
- Strong gear and spring for long term working.
- Reliability.
- Models are available with an optional end stroke switch to provide valve position indication or control function such as pump or fan start/stop.



## INSTALLATION

**2-way valves normally closed:** the flow direction is shown in figure (the valve closes against the flow of the water, fig.1).

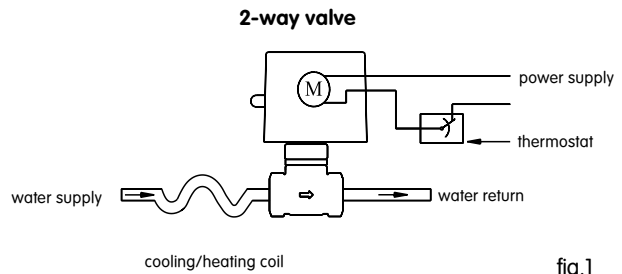


fig.1

**3-way diverting valves:** inlet is the normally closed end and the normally open end is the bypass port (the inlet part is unmarked, fig.2 and fig.3).

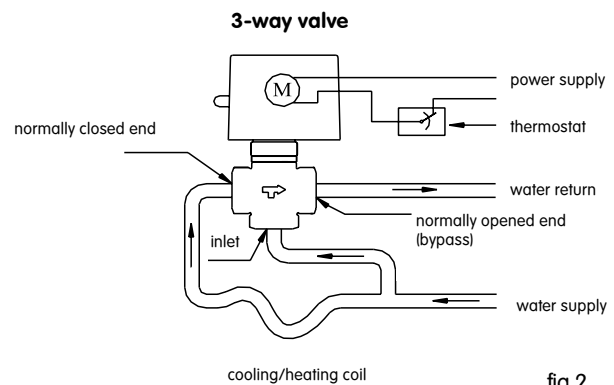


fig.2

### 3-way valve with clamp-on changeover switch

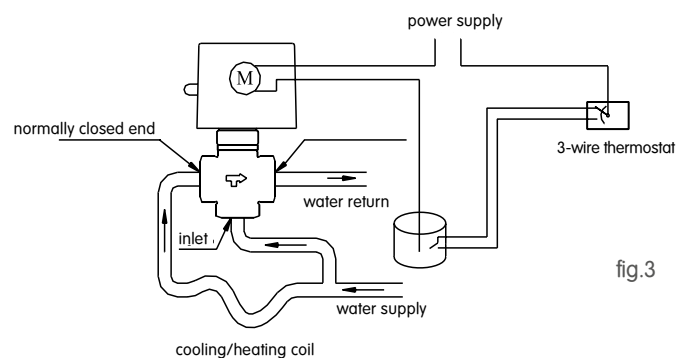


fig.3

### Important notes for fan-coil installations:

Valve motor and gear train will not operate properly when wet. Motor housing must be protected from drip. The actuator together with the valve body do not need to be protected against condensation when installed horizontally or up to 85° from upright position (see fig. 1). When mounted in vertical piping, motor housing must be protected from drip.

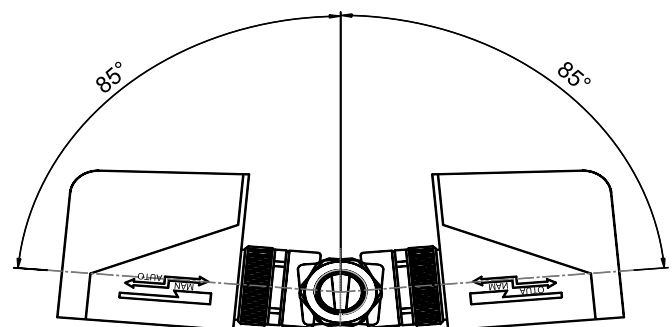


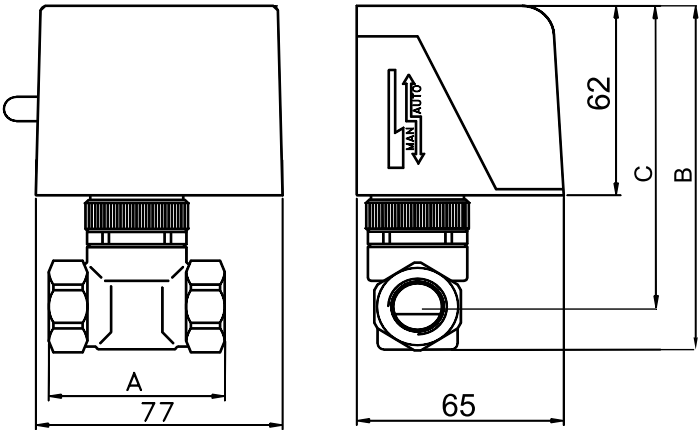
fig.1

ON-OFF ZONE VALVES WITH ACTUATOR

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DIMENSIONS (mm)

| TYPE      | MAX. DIFF. PRESSURE (KPa)<br>(CLOSED VALVE) | DIMENSIONS |     |     | WEIGHT |
|-----------|---------------------------------------------|------------|-----|-----|--------|
|           |                                             | mm         |     |     | g      |
|           |                                             | A          | B   | C   |        |
| DB-VZ2-15 | 250                                         | 54         | 114 | 100 | 270    |
| DB-VZ3-15 | 250                                         | 54         | 130 | 100 | 250    |
| DB-VZ2-20 | 100                                         | 63         | 122 | 103 | 490    |
| DB-VZ3-20 | 100                                         | 63         | 135 | 103 | 400    |
| DB-VZ2-25 | 60                                          | 78         | 126 | 106 | 660    |
| DB-VZ3-25 | 60                                          | 78         | 144 | 106 | 750    |



WIRING DIAGRAM

SM230/CA (SM24/CA)

