

Data Sheet

Thermal Actuator TWA-Z

Description



Danfoss thermal actuator TWA-Z is used with Danfoss automatically balanced combination valves type AB-QM. The actuator can be controlled with an on/off controller, pulse width modulation (PWM), or switch.

These provide a cost effective solution for the control of hot and /or chilled water for fan coil units, small reheaters and recoolers in temperature control systems.

Main data:

- 24 V AC/DC or 230 V AC supply
- Position indicator
- Normally opened (NO) or normally closed (NC) version
- Max. medium temperature 120 °C
- Cable included

Ordering

Type	Power Supply	Cable length	Code No.
TWA-Z NO	24 V AC	1.2 m	082F1260
TWA-Z NC			082F1262
TWA-Z NO	230 V AC		082F1264
TWA-Z NC			082F1266
TWA-Z NC	24 V AC	5 m	082F1268
TWA-Z NC	230 V AC		082F1272
TWA-Z NC	24 V AC	10 m	082F1270
TWA-Z NC	230 V AC		082F1274

Service kits - combination with old AB-QM

Type	Code No.
TWA-Z adapter for AB-QM, DN 10-32	003Z0239

Technical Data

Power supply	V	24 AC/DC or 230 AC
Power consumption	VA	2
Frequency	Hz	50/60
Control input	On/off and PWM	
Closing force	N	90
Min. stroke	mm	2.8
Full stroke time	min	3
Max. medium temperature	°C	120
Ambient temperature		2...60
Storage and transport temperature		-40...+70
Protection class	II	
Grade of enclosure	IP 41	

Cable length	m	1.2, 5 or 10 m
Weight	kg	0.15

Operation

TWA-Z actuator works on the thermal expansion principle:

- moves actuator stem in one direction in case of heating of the actuator and
- moves actuator stem in another direction in case of no heating of the actuator

Two versions of actuators are available:

- TWA-Z NO version, in the non-energized state actuator's stem is retracted
- TWA-Z NC version, in the non-energized state actuator's stem is extracted

Both versions are available in 24V (SELV) or 230V.

The TWA-Z NC has an internal spring, which is factory fixed with a split ring (fig.1) to hold the spring retracted in its off-the-shelf state. The use of split ring allows the actuator to be mounted to the valve. Once mounted, the split ring has to be removed.

Remark:

In case the actuator has been dismantled and split ring removed, split ring can be added back to the actuator after the heating of the actuator.

The actuator is equipped with a position indicator to show the position of the actuator stem (fig.2).

AB-QM valve is closed in stem down position. Without actuator force valve's internal spring opens the valve.

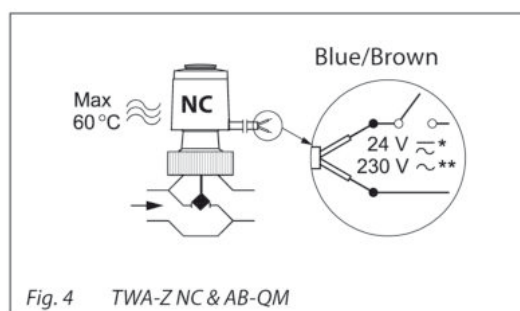
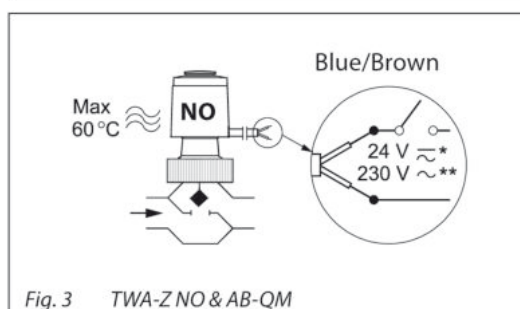
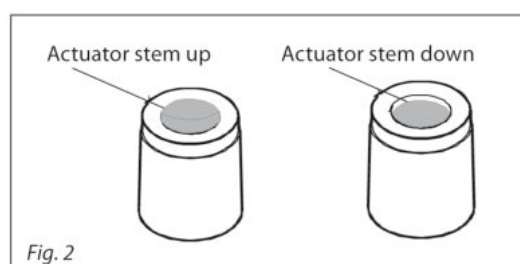
TWA-Z & AB-QM combination:

TWA-Z NO & AB-QM:

- in the non-energized state valve is opened (fig.3)
- in the energized state valve is closed

TWA-Z NC & AB-QM:

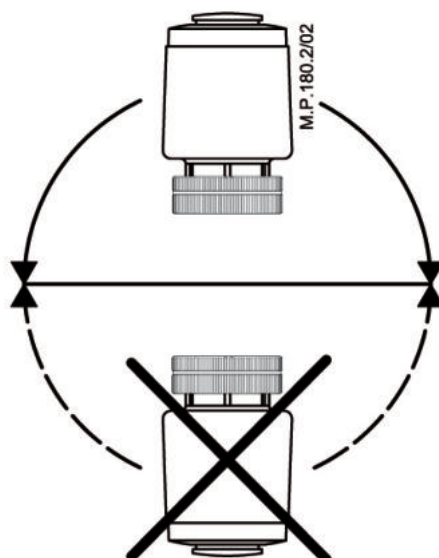
- in the non-energized state valve is closed (fig.4)
- in the energized state valve is opened.



Disposal

The actuator must be dismantled and the elements sorted into various material groups before disposal.

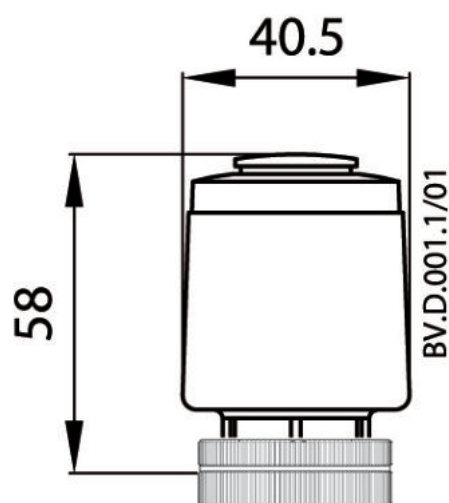
Installation



Mechanical

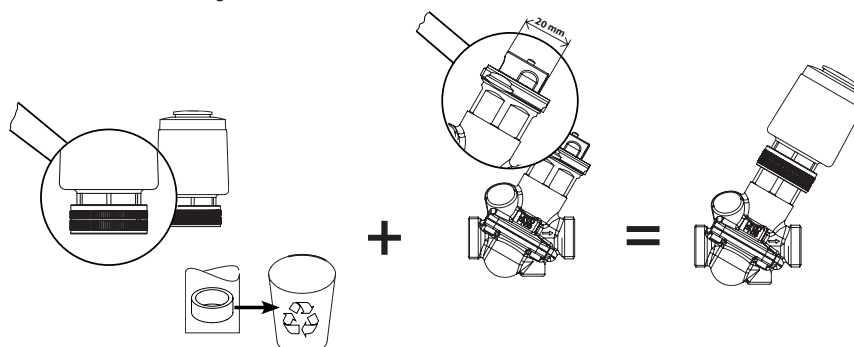
Installation of the valve with the actuator is allowed in horizontal position or upwards.

Dimensions



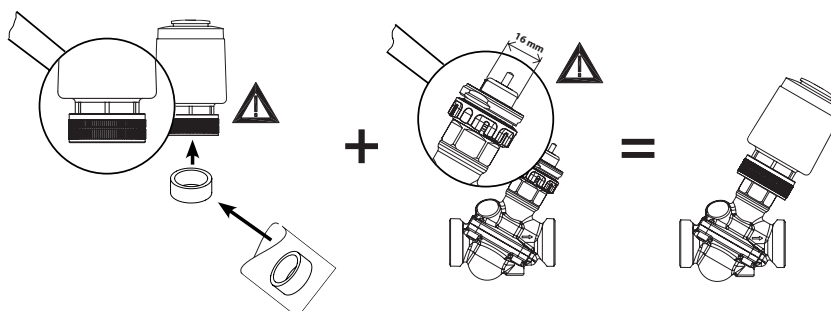
Actuator - Valve Combination

TWA-Z (Gen. 2011) & AB-QM (2nd gen.)

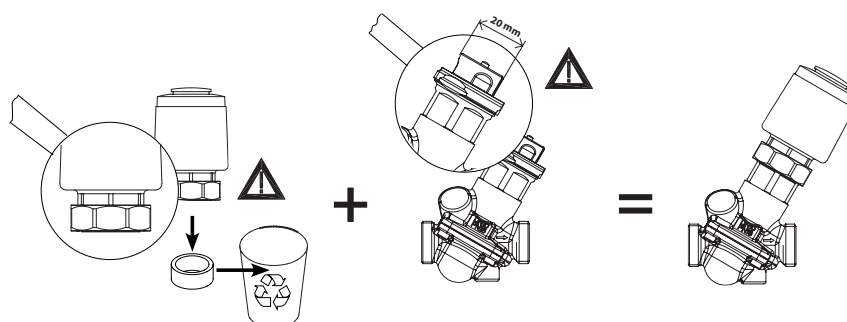


Options

TWA-Z (Gen. 2011) & AB-QM (1st gen.)



TWA-Z (1st gen.) & AB-QM (2nd gen.)



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