

Thermostat Type 2430 K for Series 43 Valves



Fig. 1 · Type 2430 Thermostat attached Type 2432 K Valve (Type 43-2 Temperature Regulator)

Mounting and Operating Instructions

EB 2430 EN

Edition September 2009



Contents	Page
1	Design and principle of operation 4
2	Installation 4
2.1	Installing the valve 5
2.2	Strainer 5
2.3	Additional installation instructions 5
2.4	Temperature sensor 5
2.4.1	Capillary tube 6
3	Operation 6
3.1	Adjusting the limit temperature 6
3.2	Unlocking the temperature limiter 7
4	Dimensions in mm 8



Typetesting

The thermostat is tested by the German Technical Inspectorate (TÜV) according to DIN EN 14597 (as Type 2750-0).

DIN register number is available on request.

**General safety instructions**

- ▶ *The thermostat must be installed, started up, and serviced only by skilled or semi-skilled staff in accordance with good engineering practice so that employees and third persons are not exposed to danger.*
- ▶ *To ensure appropriate use, only use the thermostat in applications where the operating pressure and temperatures do not exceed the operating values specified in the order.
Note that the manufacturer does not assume any responsibility for damage caused by external forces or any other external factors.
Take appropriate safety precautions to prevent hazards that may be caused in the safety thermostat by the process medium or the operating pressure.*
- ▶ *Make sure the thermostat is shipped and stored properly.*

1 Design and principle of operation

The Type 2430 K Thermostat is used as a temperature regulator when connected to a Series 43 Valve.

Note: Thermostats such as Type 2430 K, which work according to the vapor pressure principle, are described in EB 2430-3 EN.

Refer to the relevant Mounting and Operating Instructions for details:

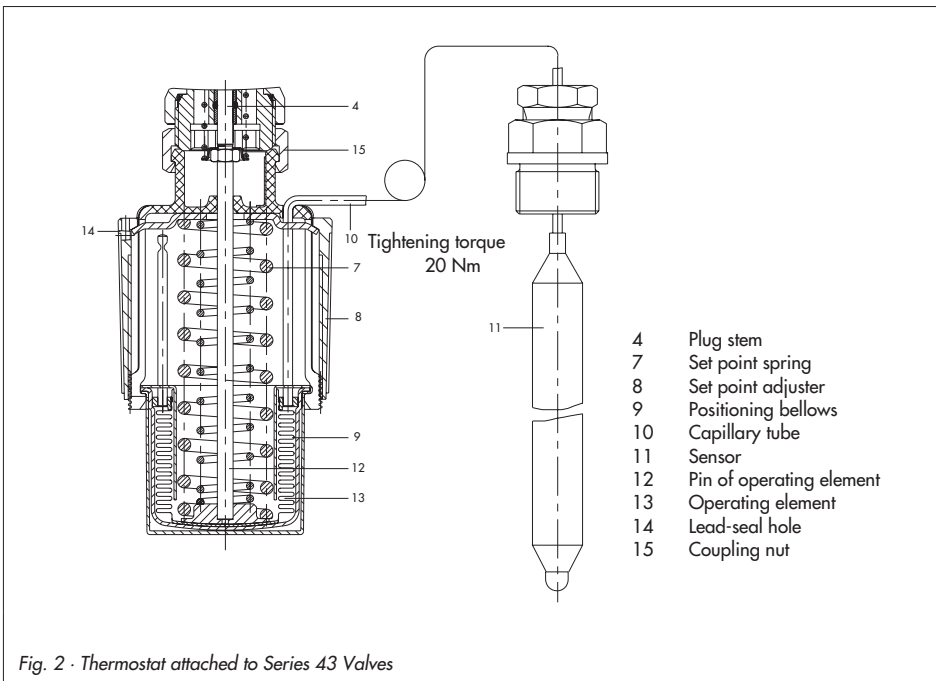
EB 2171 EN for Type 43-1 and Type 43-2

EB 2172 EN for Type 43-5, Type 43-6 and Type 43-7

EB 2173 EN for Type 43-3.

The thermostat works according to the adsorption principle. The medium temperature creates a pressure in the sensor (11) which is proportional to the temperature. This pressure is transferred over the capillary tube (10) to the operating element (13) and converted into a positioning force. The valve stem (4) is moved by the positioning bellows (9) and pin of the operating element (12).

The set point can be changed by turning the set point adjuster (8).



2 Installation

When installing, make sure that the permissible ambient temperature does not exceed 80 °C.

Install the valve in a horizontal pipeline with the thermostat suspended downwards.

Other mounting positions are possible for certain operating conditions. Refer to the relevant mounting and operating instructions of the the temperature regulators.

2.1 Installing the temperature sensor

The temperature sensor may be installed in any position. However, make sure its entire length is immersed in the process medium to be controlled. Select a place of installation where overheating and noticeable idle times will not occur.

Weld a welding socket with G ½ female thread (for a sensor with 9.5 mm diameter) or G ¾ female thread (for a sensor with 16 mm diameter) at the place of installation.

Seal the screw gland or thermowell in the welded-in socket and fasten using a clamping screw.

NOTICE

To prevent corrosion, only use identical or similar materials when installing the sensor or thermowell.

For example, do not insert a sensor or thermowell made of non-ferrous metal in a heat exchanger made of stainless steel. In this case, use a thermowell made of stainless steel for the sensor.

2.1.1 Capillary tube

Install the capillary tube so that mechanical damage will not occur.

The minimum bending radius is 50 mm. Any excess length of the capillary tube must be rolled in a ring. Under no circumstances must the capillary tube be bent or shortened.

Make sure that the capillary tube is not exposed to considerable temperature fluctuations.

3 Operation

3.1 Adjusting the set point

Turn the black plastic adjuster (8) to adjust the set point while watching the reference thermometer.

The adjustment diagrams can be used as a guide to find the first approximate values.

- ▶ Turn the adjuster clockwise to reduce the set point
- ▶ Turn the adjuster counterclockwise to raise the set point.

The adjusted set point can be lead-sealed at the hole (14).

Set point range °C	0 to 35		25 to 70		40 to 100		50 to 120		70 to 150	
Sensor diameter mm	9.5	16	9.5	16	9.5	16	9.5	16	9.5	16
Changes per turn K	2.5	2	3	2	4	3	4	4.5	4.5	5

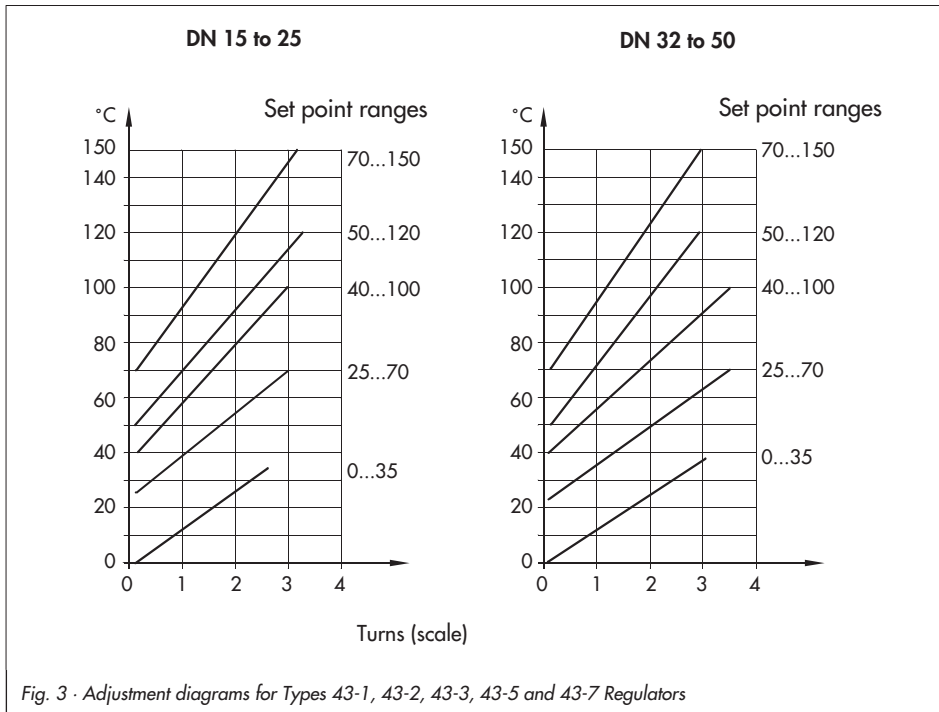


Fig. 3 · Adjustment diagrams for Types 43-1, 43-2, 43-3, 43-5 and 43-7 Regulators

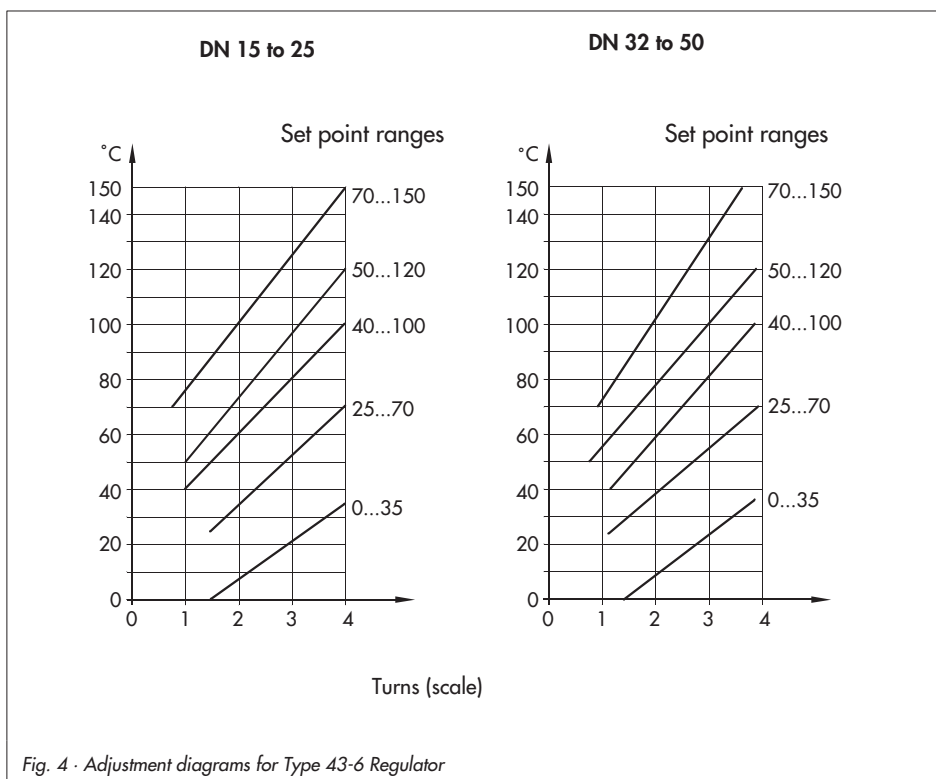


Fig. 4 · Adjustment diagrams for Type 43-6 Regulator

Accessories for Series 43 Temperature Regulators

Order listed accessories from SAMSON, specifying the order number.

Sensor connection		G 1/2	G 3/4
Type 2430:	Copper, PN 40	1390-8984	1090-8465
Thermowell made of	CrNiMo steel, PN 40	1390-8983	1190-1522
Types 2430 and 2439: DVGW-typetested thermowells for flammable gases, PN 100, CrNiMo steel		1180-9510	1180-9511
Double adapter Do3K		1180-8632	
Manual adjustment ¹⁾		1790-8169	

¹⁾ A double adapter Do3K is required when used together with the thermostat.



SAMSON AG · MESS- UND REGELTECHNIK
Weismüllerstraße 3 · 60314 Frankfurt am Main · Germany
Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
Internet: <http://www.samson.de>

EB 2430 EN

S/Z/2009-09