

Frese OPTIMA Compact thermostat with remote sensore for water and air

Application

Thermostats suitable for Frese OPTIMA Compact with 2.5 - 5.0 - 5.5 mm stroke in heating applications.

The thermostat is a self acting proportional controller for temperature control applications including fan coil units, hot water tanks and heat exchangers.

The remote sensor can be directly immersed into the medium or alternatively a sensor immersion pocket can be supplied separately as an accessory.

Function

- The thermostat closes at rising temperature.

Design & Materials 53-1990

Design:

- Housing with lid and socket
- M30 x 1.5 connection with a 11.5 mm closing dimension
- Liquid-filled sensing element with capillary tube (length 2 m)
- Connection nut

Materials:

- White RAL9010 handwheel
- Socket and spindle construction made of plastic
- Liquid-filled copper sensor phial with nickel-plated copper capillary tube
- Connection nut made of nickel-plated brass

Design & Materials 53-1994, 53-1995

The thermostat consists of:

- Housing with lid and socket
- M32 x 1.5 connection with a 9.5 mm closing dimension
- Liquid-filled sensing element with capillary tube
- Connection nut

Materials

- Handwheel: PTFE glass fiber reinforced
- Housing: DZR brass CW602N
- Plug: 1.4301 and CW617N with EPDM seal
- Plug stem: 1.4305
- Seat: CW602N
- Spring: 1.4310
- Sensor & Capillary tube: Copper



Features 53-1990

- Liquid-filled sensing element
- Memory-clip
- Concealed limiting and blocking tabs

Accessories 53-1990

	Frese no.	Product
	53-1993	Plug for sensor pocket - 1/2"
	53-1992	Sensor pocket AISI 316 - 1/2"

Product programme

Frese no.	OPTIMA Compact valve dim.	For valve stroke
53-1990	DN10-DN20	2.5 mm
53-1994	DN10-DN20	5.0 mm
53-1995	DN20-DN32	5.5 mm

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Specifications 53-1990

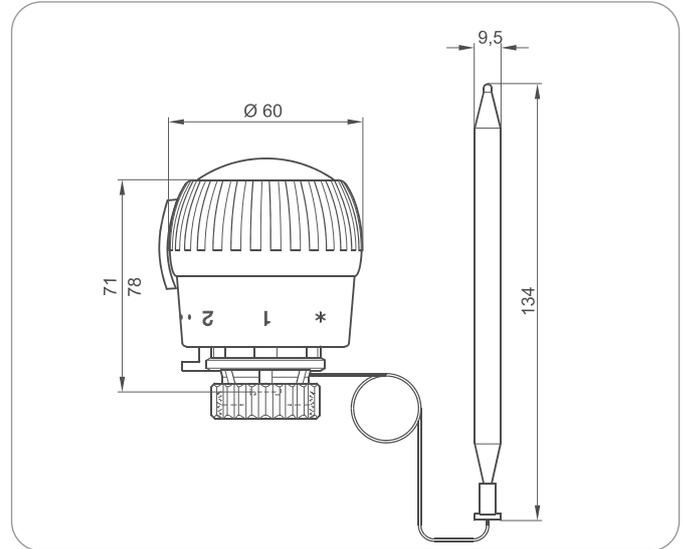
Operating temperature	Maximum 120°C
Thermostat connection	M30 x 1.5
Setpoint range	2 - 7
Temperature range	20-70°C
Closing dimension	11.5 mm
Valve stroke:	2.5 mm
Capillary tube:	2.0 m x ø1 mm

Setpoint

NOTE: All °C approximate

Setpoint	2	3	4	5	6	7
°C	20	30	40	50	60	70

Dimensions



Specifications 53-1994 & 53-1995

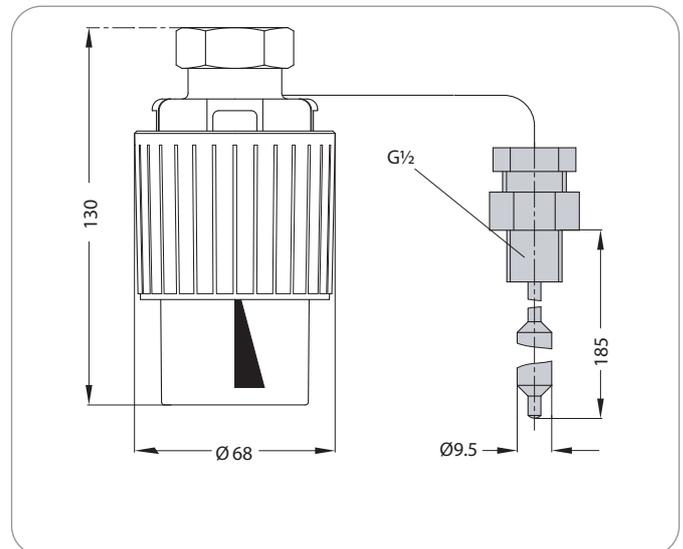
Operating temperature	Maximum 120°C
Ambient temperature	-20°C to 80°C
Thermostat connection	M32 x 1.5
Setpoint range	1 - 4
Temperature range	25-70°C
Closing dimension	9.5 mm
Valve stroke:	5.0 mm
	5.5 mm (with extension)
Set temperatur change	3°C per turn
Capillary tube:	2.0 m x ø3 mm

Setpoint

NOTE: All °C approximate

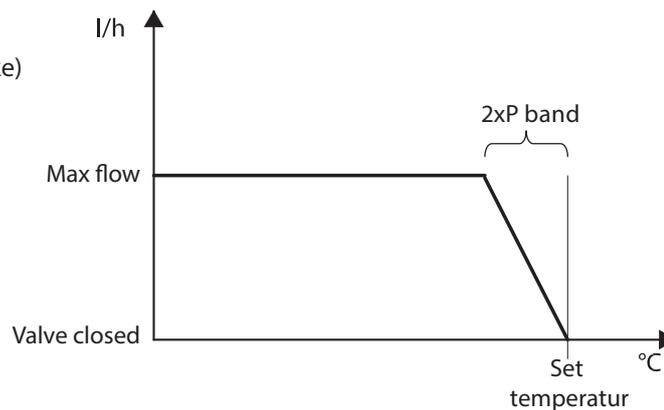
Setpoint	1,2	2	3	3,5
°C	25	40	60	70

Dimensions



P-band

- P-band 10°C (2.5 mm stroke)
- P-band 17°C (5.0 & 5.5 mm stroke)



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Assembly 53-1990

For valve stroke 2.5 mm

Check the locking adapter is mounted inside the thermostat before mounting it on the valve.



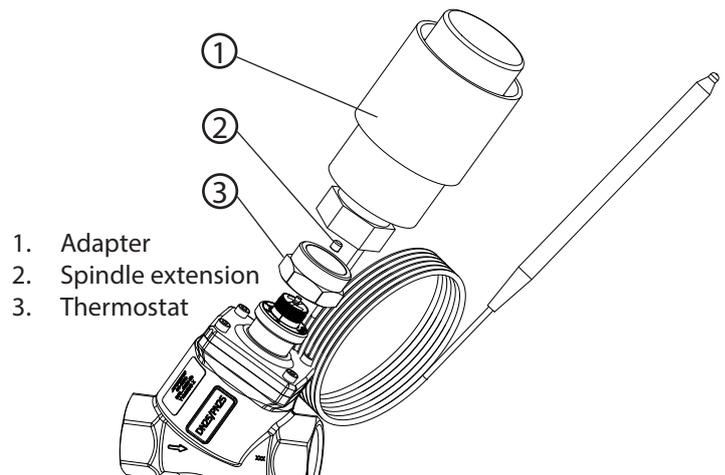
Please assemble the valve and thermostat using tools as shown.



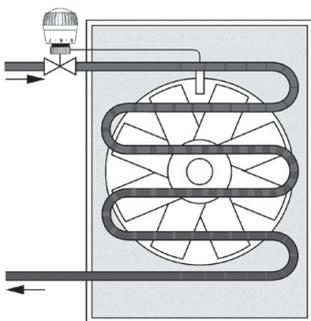
Assembly 53-1994 & 53-1995

For valve stroke 5.0 mm & 5.5 mm

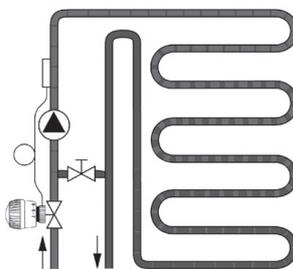
- Mount the adapter (3) on the valve.
- For 5,5 mm valve stroke (53-1995), mount the spindle extension (2) on the valve spindle
- Mount the thermostat (1) on the valve.



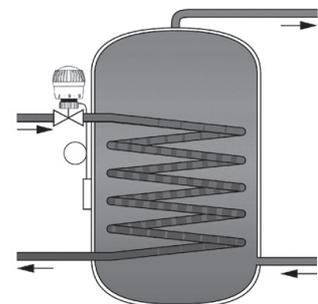
Installation examples



Control of air heater



Mixer control for underfloor heating



For hot water storages and heat exchangers

The thermostat can be placed in both inlet and outlet

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