oventrop

Technical information

The Oventrop Quality Management System is certified to DIN-EN-ISO 9001

Thermostatic regulating valve ”Aquastrom T”

Tender specification:

Oventrop thermostatic regulating valve ”Aquastrom T” for thermal and hydronic balancing of circulation pipes, with hidden flow presetting device and isolation facility, bronze, PN 16, temperature range: 30 - 70 °C.

Limitation and locking of any set value, temperature sensor not coming into direct contact with water, max. permissible excess temperature: 90 °C, plugged draining orifices ¼” in front of the seat and behind it.

Both ports female thread according to DIN 2999
Construction according to DIN 3502

DN 15	½” x ½”	Item no. 420 50 04
DN 20	¾” x ¾”	Item no. 420 50 06
DN 25	1” x 1”	Item no. 420 50 08

Both ports male thread according to DIN ISO 228

DN 15	¾” x ¾”	Item no. 420 60 04
DN 20	1” x 1”	Item no. 420 60 06
DN 25	1¼” x 1¼”	Item no. 420 60 08

Description, function:

The thermostatic regulating valve ”Aquastrom T” for thermal and hydronic balancing of circulation pipes consists of a body, a valve insert and a mounted thermostatic head.

It is used for limiting the water temperature in circulation pipes. The temperature is measured at the inlet port of the valve. If the set temperature is exceeded, the valve closes and only opens again with the temperature dropping below the set value.

Moreover, the maximum flow rate may be limited. To do so, the valve lift is limited to the desired value by turning the presetting screw which is hidden by the thermostatic head.

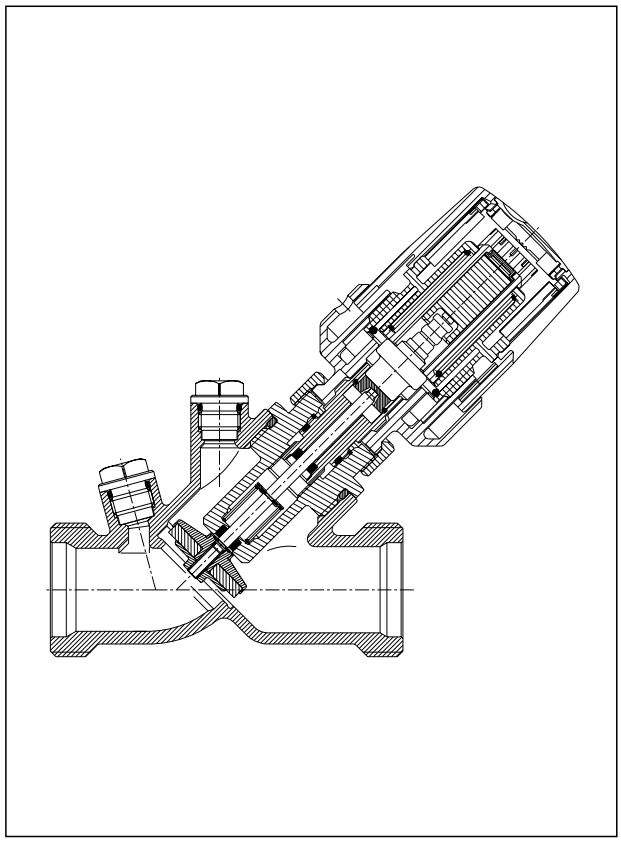
The valve may also be closed manually by means of the presetting screw and thus also works as an isolating valve.

The metal parts coming into contact with potable water are made of bronze or stainless steel (stem) and the non-metal materials coming into contact with potable water correspond to the recommendations of the KTW (Kunststoff-Trinkwasser-Empfehlungen = plastic-potable water-recommendations).

Advantages:

- low regulation tolerances
- limiting and locking of any set value
- hidden, presettable limitation of flow rate
- with isolation facility, installation of an additional isolating
- valve for maintenance work thus becoming unnecessary
- draining facility in front of the seat and behind it
- operating elements and draining facility on one level
- replacement of the thermostatic head under working conditions
- bronze model
- various accessories
- connection of all standard pipes
- proven thermostatic element

Cut illustration:



Technical data:

Temperature range: 30 °C - 70 °C, infinitely adjustable, limitation and locking of any set value

Position 6: about 60 °C

Nominal pressure: PN 16

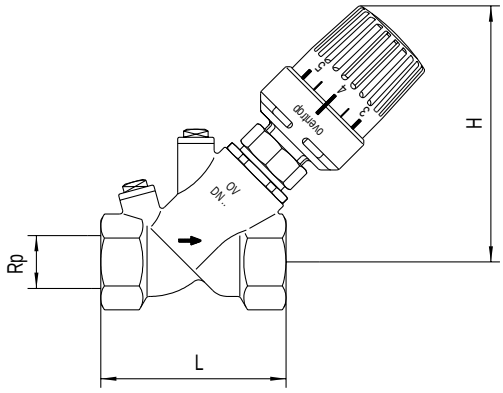
Permissible
excess temperature: max. 90 °C

Max. differential pressure against which the valve closes:
DN 15: 1 bar
DN 20: 0.6 bar
DN 25: 0.6 bar

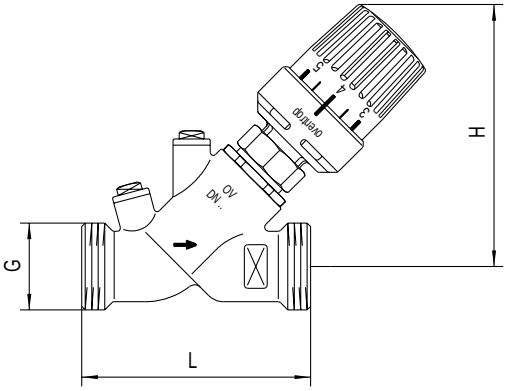
Limitation of flow rate: (see chart)

Flow rate: (see chart)

Dimensions:



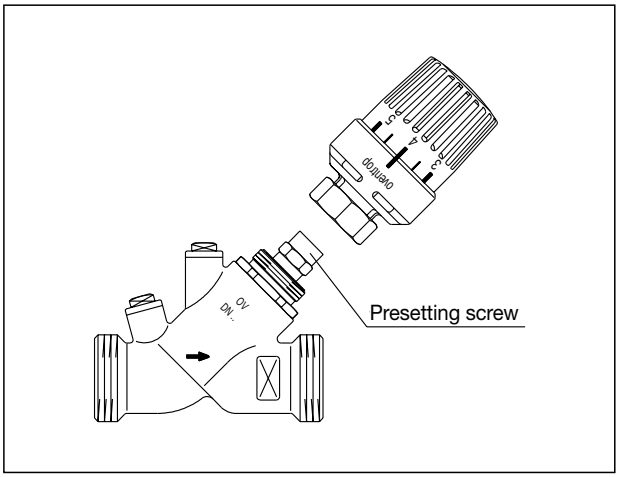
Item no.	DN	L	H max.	Rp
4205004	15	66.5	119	½”
4205006	20	76.5	124	¾”
4205008	25	91.5	129	1”
Draining orifice ¼”				



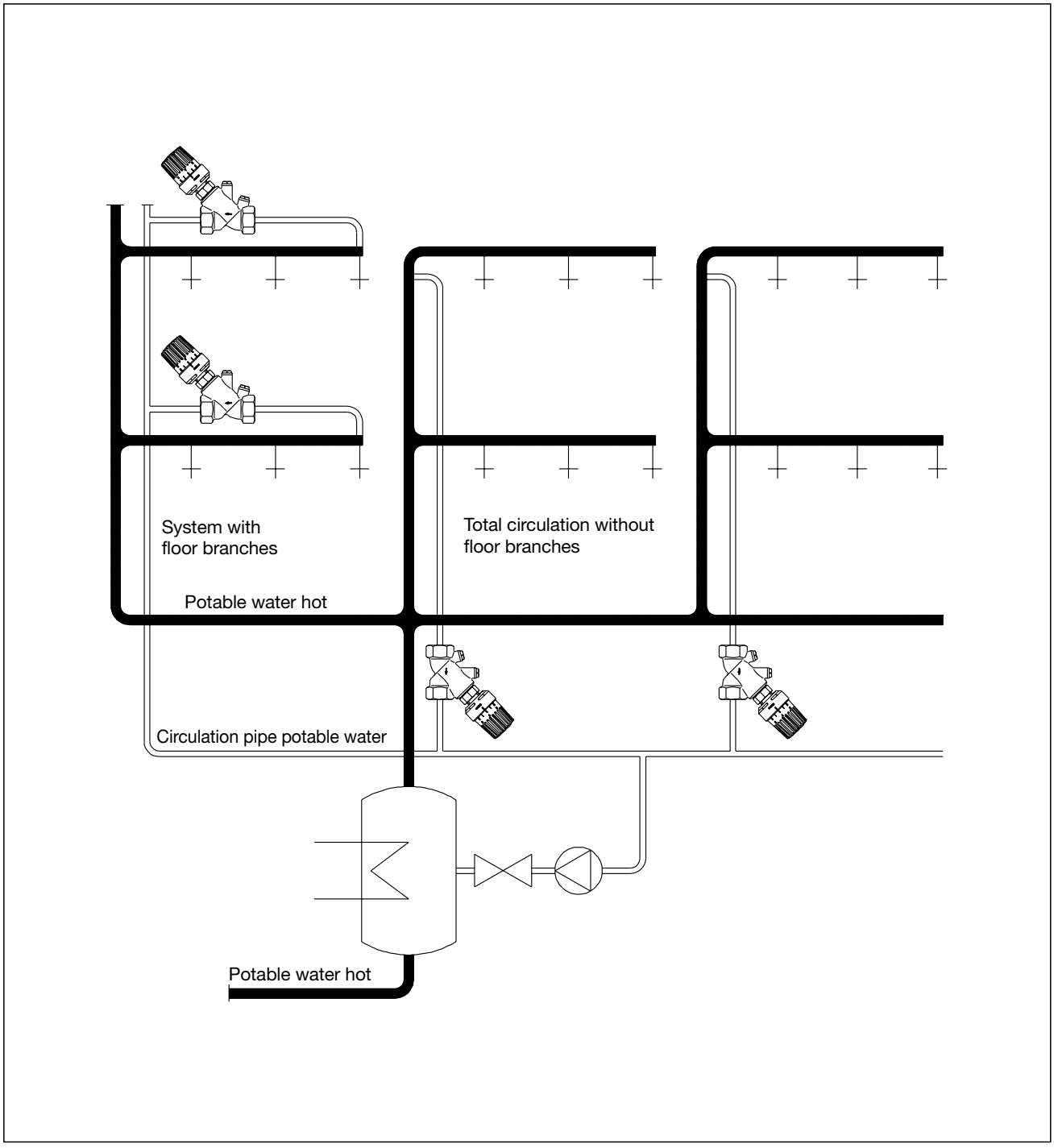
Item no.	DN	L	H max.	D
4206004	15	84	119	¾”
4206006	20	95	122	1”
4206008	25	115.5	129	1¼”
Draining orifice ¼”				

Installation, operation:

1. Limitation of flow rate
   a. Unscrew thermostatic head
   b. Close valve by turning the presetting screw clockwise (about 3 turns)
   c. Now limit the valve disc by turning the presetting screw anticlockwise according to the number of turns read from the chart
2. Isolation
   a. Unscrew thermostatic head
   b. Close valve by turning the presetting screw clockwise by means of a 17 mm spanner
3. Setting of nominal value
   Limitation and locking of set value see separate technical manual "Thermostatic regulating valve"

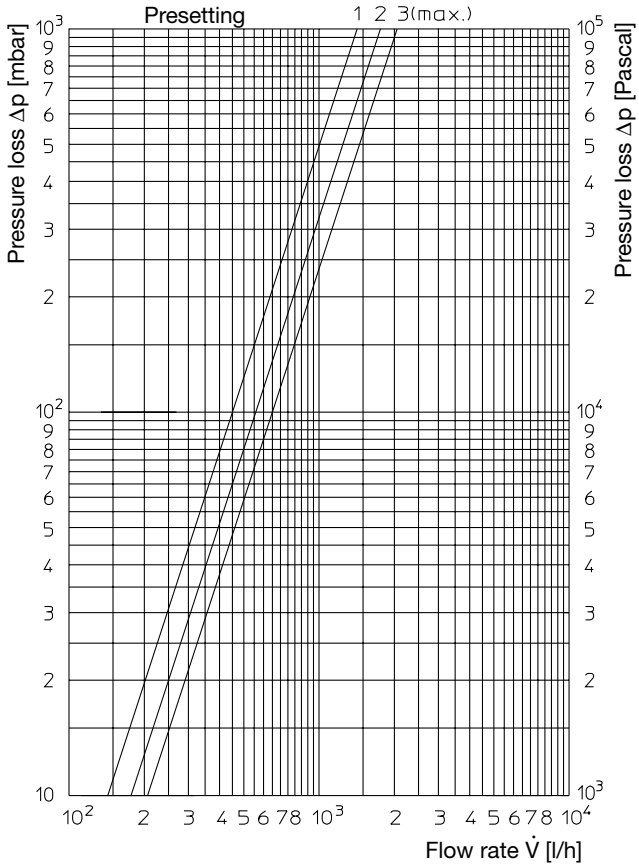


Example of installation:

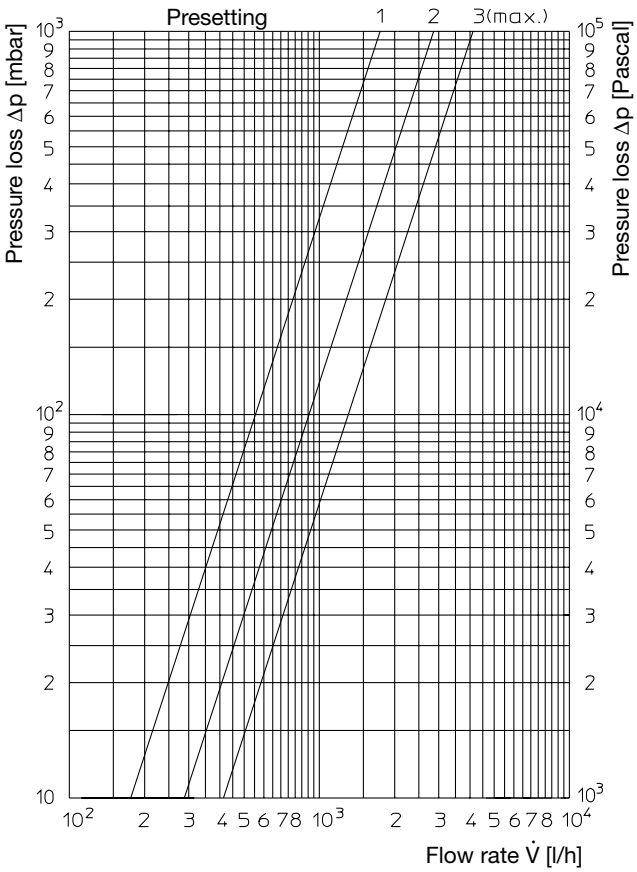


Charts limitation of flow rate:

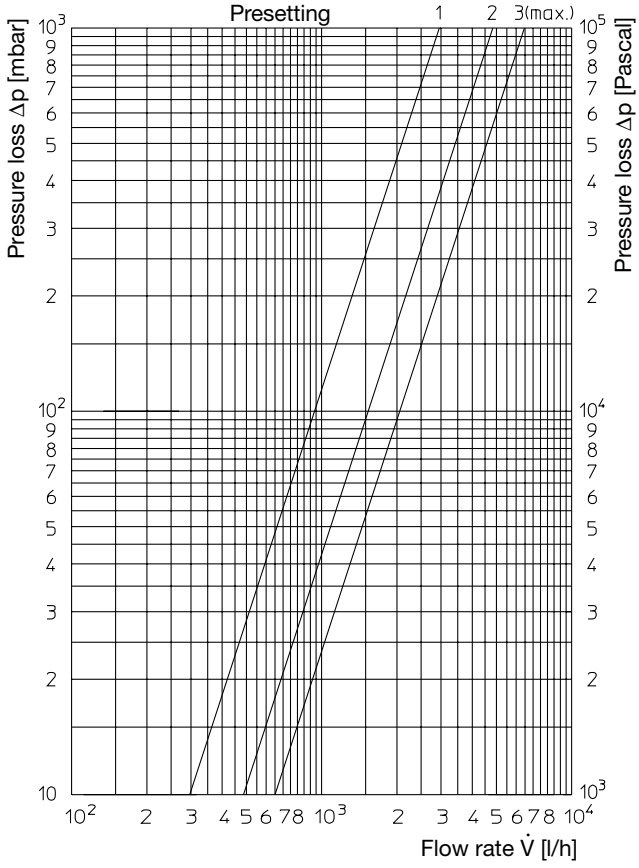
DN 15



DN 20

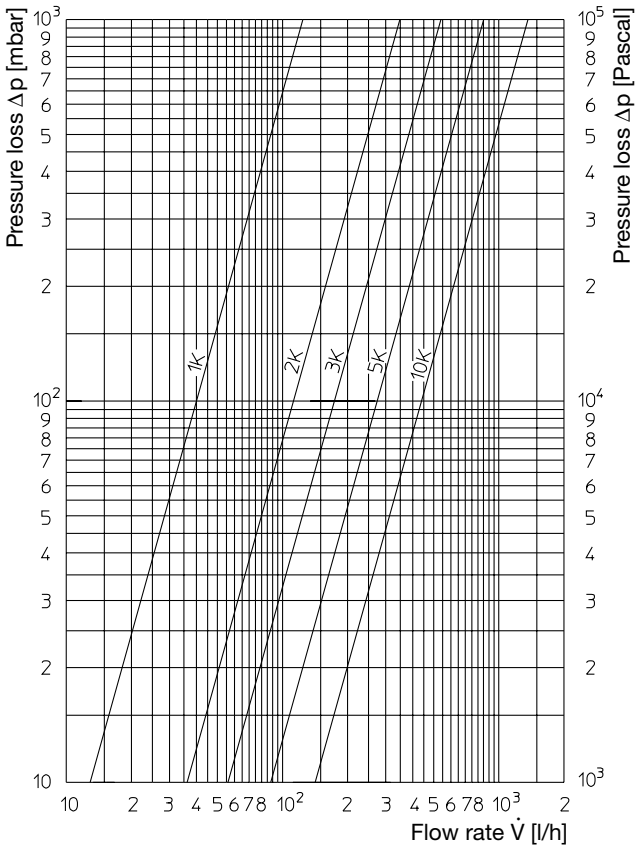


DN 25

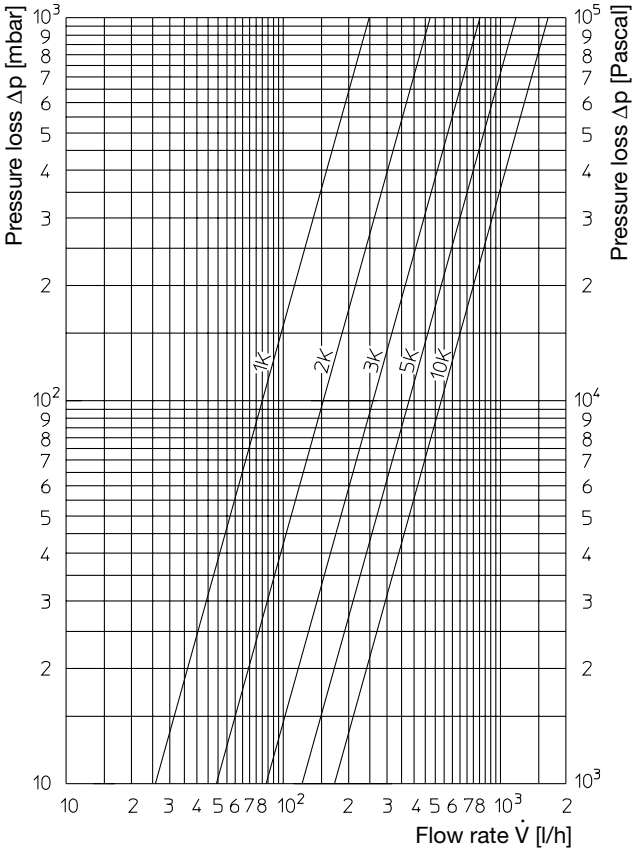


Charts P-deviation:

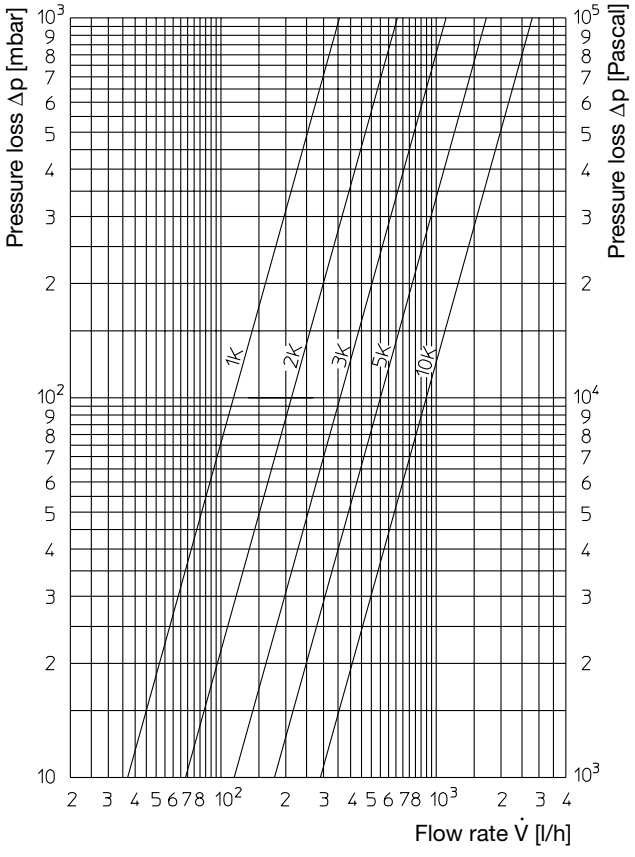
DN 15



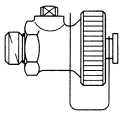
DN 20



DN 25

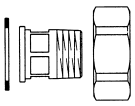


Accessories:



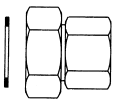
Set 1 = drain ball valve
(all parts coming into contact with potable water made of non-brass materials)

¼"	420 01 91



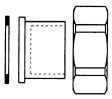
Tailpipes
Set 2 = male screwed tailpipe
DIN 2999 (bronze),
collar nut and ring gasket

½" x ¾" (collar nut)	420 14 72
¾" x 1" (collar nut)	420 14 73
1" x 1¼" (collar nut)	420 14 74



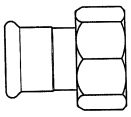
Set 3 = female screwed tailpipe
DIN 2999 and ring gasket

½" x ¾" (brass)	420 13 72
¾" x 1" (brass)	420 13 73
1" x 1¼" (bronze)	420 13 74



Set 4 = solder tailpipe (bronze) with collar nut and ring gasket

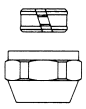
15 mm x ¾" (collar nut)	420 20 72
18 mm x ¾" (collar nut)	420 20 73
22 mm x 1" (collar nut)	420 20 74
28 mm x 1¼" (collar nut)	420 20 75



Press fittings made of stainless steel
for stainless steel pipe Mannesmann

Ø 15 mm x ¾" (collar nut)	420 15 72
Ø 18 mm x ¾" (collar nut)	420 15 73
Ø 22 mm x 1" (collar nut)	420 15 74
Ø 28 mm x 1¼" (collar nut)	420 15 75

Connections for composition pipe "Copipe"



Compression fittings
Bronze outlet, compression ring and collar nut made of brass

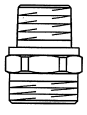
16 mm x 2.25 mm x ¾" (collar nut)	150 79 76
20 mm x 2.50 mm x ¾" (collar nut)	150 79 80
26 mm x 3.00 mm x 1" (collar nut)	150 79 83
32 mm x 3.00 mm x 1¼" (collar nut)	150 79 85

Composition pipe "Copipe"
see catalogue "Products" page 14.01

Connection piece
bronze
with flat seal

¾" female x ¾" male	150 30 54
1" female x 1" male	150 30 55
1¼" female x 1¼" male	150 30 56

For the connection of composition pipe to valves and fittings with male thread.



Double nipple
bronze

½" x ¾" male	150 31 52
¾" x 1" male	150 31 55
1" x 1¼" male	150 31 56

For the connection of composition pipe to valves and fittings with female thread according to DIN 2999.

Further accessories:

Anti-theft ring for thermostat
anthracite model 101 17 61

Reinforcing cap for thermostat
anthracite model 101 18 00

lockable
anthracite model 101 18 91

For additional locking of the set value. Reinforcing caps are supplied with a hexagon key.

Clips for limiting and blocking the thermostats
bag of 50 pieces 101 14 95

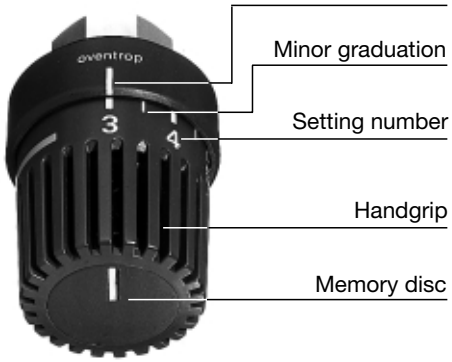
Tool for loosening the cap and clips
bag of 5 pieces 198 91 00

Installation of the thermostat:

To ensure easy installation, the handgrip has to be turned to the maximum position (position 7) first. In this position the collar nut may be easily screwed onto the valve body.

Turn the thermostat so that the indicator mark is easily visible. Hold in this position and tighten collar nut without using excessive force.

Meaning of symbols and positions on thermostat:



0 = isolation of circulation flow (about 10 °C)
3 = about 30 °C
4 = about 40 °C
5 = about 50 °C
6 = about 60 °C
7 = about 70 °C

Limitation of the temperature range:

The temperature range of the thermostat can be limited by means of the clips inside the handgrip. The clips can only be inserted on the **inside** of the handgrip. The two ridges of a clip have to be inserted in one groove each of the inner framework.

Example: Limiting the temperature range to a minimum value of 40 °C and a maximum value of 60 °C (positions 4 to 6).

1

Photo 1: Remove handgrip with the tool (item no. 198 91 00) or with a pin, e.g. the push button of a pen. Insert the tool/pin in the hole on the bottom of the thermostat. By turning the handgrip into the shut-off position, it is easily removed.

2

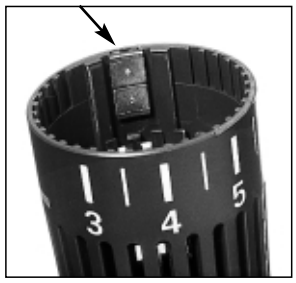
Photo 2: After having removed the handgrip: Turn the sensor casing to the left until the calibration mark is in line with the indicator mark.

3

Photo 3: Now the handgrip is loosely replaced (but not fixed) with position ”3” being in line with the indicator mark.

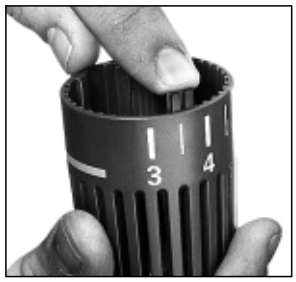
4

Photo 4: While pressing it gently, turn the handwheel to a setting mark within the desired temperature range, e.g. to position ”4”. Remove handgrip. (The calibration mark on the sensor casing is now moved to the left.)



5

Photo 5: Inside the handgrip you will find two clips in the ”parking” position as illustrated. They are removed by sliding them to the outside (if the clips are not used, they can of course be stored in the ”parking” position).



6

Photo 6: To limit the minimum temperature range (according to the example about 40°C), one clip should be fitted into the groove before position ”4”. (The groove directly in front of position ”4” thus remains free.)

7

Photo 7: To limit the maximum temperature range, e.g. position ”6” (corresponds to abt. 60 °C), the second clip is fitted into the groove immediately after position ”6”. (The groove directly in front of position ”6” thus remains free.)

8

Photo 8: Replace the handgrip so that the same (i.e. as before the handgrip was removed, photo 4) setting number (”4”) is in line with the indicator mark.

9

Photo 9: Firmly push down handgrip with ball of the thumb to secure. The temperature range of the thermostat is now limited. Now you can only set values between position ”4” and ”6” (abt. 40 °C to 60 °C).

Locking the temperature setting:

To prevent alteration of temperature setting by unauthorized persons, any temperature setting of the thermostat can be locked. Example: Locking the temperature at position ”5” (corresponds to about 50 °C). First remove the handgrip (as shown in photo 1) and then turn the sensor casing until the calibration mark is in line with the indicator mark (see photo 2). Afterwards the handgrip is loosely replaced (but not fixed) on position ”3” as shown in photo 3 and is moved to position ”5” by pressing and turning it gently. Remove the handgrip in this position. The calibration mark on the sensor casing is now moved to the left.

10

Photo 10: The two clips inside of handgrip are removed as shown in photo 5 and one clip each is fitted in the groove immediately before and after position ”5”. (The groove directly in front of position ”5” thus remains free.)

11

Photo 11: The handgrip is now replaced so that position ”5” is in line with the indicator mark. The setting is now locked at position ”5” (about 50 °C). Firmly push down handgrip with ball of the thumb to secure.

Recalibration:

The thermostat is adjusted at works to 30 °C = position ”3”. Should this adjustment have been altered, you can restore it as follows:

12

Photo 12: To remove the handgrip, either the tool (item no. 198 91 00) or a pin, e.g. the push button of a pen, should be inserted in the hole on the bottom of the thermostat. By turning the handwheel to the right into shut-off position, it is easily removed.

13

Photo 13: Remove handgrip. Turn sensor casing to the right until it is completely screwed into the body of the thermostat. Then turn to the left again until the calibration mark is in line with the indicator mark (also see photo 2).

14

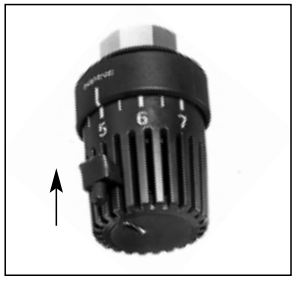
Photo 14: If the sensor casing has for some reason been completely unscrewed from the body of the thermostat, please ensure that when replacing the element (because of the double start thread) the correct start thread is used. After recalibration, the distance between the body of the thermostat and the sensor casing has to be approx. 6-8 mm.

15

Photo 15: Replace handgrip so that position ”3” is in line with the indicator mark. Firmly push down handgrip with ball of the thumb to secure.

Removing the clips:

If the temperature range has been limited or locked with the clips, the handgrip cannot be removed as shown in photo 1 or 12. For this case, the following method should be used:



16

Photo 16: Locked temperature setting: Insert the tool (item no. 198 91 00) into the handgrip so that one prong is in the groove immediately before and one prong in the goove immediately after the indicator mark. Push the tool in the direction of the arrow to loosen the clips. Remove tool.
Limited temperature range: Turn thermostat to minimum or maximum value of the temperature range. Insert the tool into the handgrip, so that one prong is in the groove immediately before and one prong in the groove immediately after the indicator mark. Push tool in the direction of the arrow to loosen the clips. Remove tool. Now proceed as shown in photo 1.

Product range 13
ti 91-1/10/10.98/MW

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