

Mikrotherm F



Manual Radiator Valves

With presetting

Mikrotherm F

The Mikrotherm F manual radiator valve is used in warm water pump heating systems or gravity systems. The non-rising double spindle with the Mikrotherm F presetting cone makes hydraulic balancing through presetting possible.

Key features

- > **Double O-ring sealing**
- > **Can be retrofitted as a Eclipse F or Calypso exact thermostatic valve**
- > **Consistent presetting through a non-rising double spindle**



Technical description

Application area:

Heating systems

Function:

Balancing
Pre-setting
Shut-off

Dimensions:

DN 10-20

Pressure class:

PN 10

Temperature:

Max. working temperature: 120°C
Min. working temperature: -10°C

Material:

Valve body: Brass.
O-rings: EPDM rubber.
Valve insert: Brass.
Handwheel: PP (Polypropylen),
tight-packed with protection film,
white RAL 9016.

Surface treatment:

Valve body and fittings are nickel-plated.

Marking:

THE, country code, flow direction arrow,
DN. II+ -Designation.

Standards:

Dimensions according to DIN EN 215
(Series F).

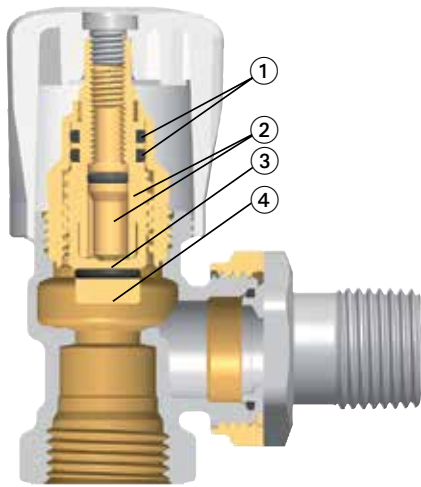
Pipe connection:

The female-threaded version is designed
for connection to threaded pipe, or in
conjunction with compression fittings, to
copper or precision steel pipe.

Not suitable for compression fitting for
multi layer pipes.

Construction

Mikrotherm F



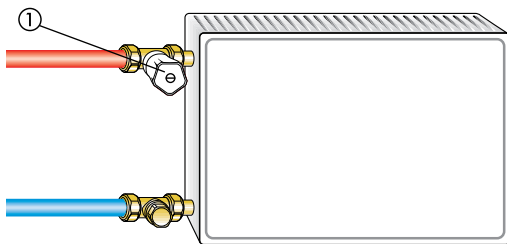
1. Double O-ring sealing
2. Double spindle
3. Tandem sealing (metal and O-ring sealing)
4. Presetting cone

Application

The Mikrotherm F manual radiator valve is used in warm water pump heating systems or gravity systems. With models in angle and straight form from DN 10 to DN 20, the manual radiator valve can be used for a number of different purposes.

The non-rising double spindle with the Mikrotherm presetting cone makes hydraulic balancing through presetting possible. The aim here is to provide e. g. all heat consumers with hot water according to their needs.

Sample application



1. Mikrotherm F

Note

The contents of the heat transfer medium should comply with VDI guideline 2035 on damage and scale deposit formation in warm water heating systems.

For industrial and long-distance energy systems, see the applicable codes VdTÜV 1466 and AGFW FW 510.

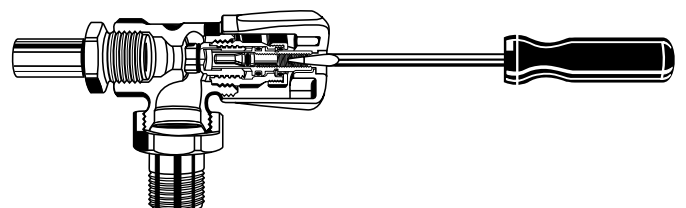
Mineral oils in the heat transfer medium or lubricants containing mineral oils of any type lead to strong swelling and in most cases cause EPDM seals to fail.

When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly details concerning concentration and specific additives.

Operation

Presetting

1. Close the valve.
2. Unscrew the hand wheel fastening screw.
3. Screw in the control pin with a screw driver (slot size 10 mm x 1.5 mm) by turning it clockwise until it stops.
4. Use the diagrams to determine the presetting and preset by turning to the left.
5. Insert the hand wheel fastening screw and screw tight.

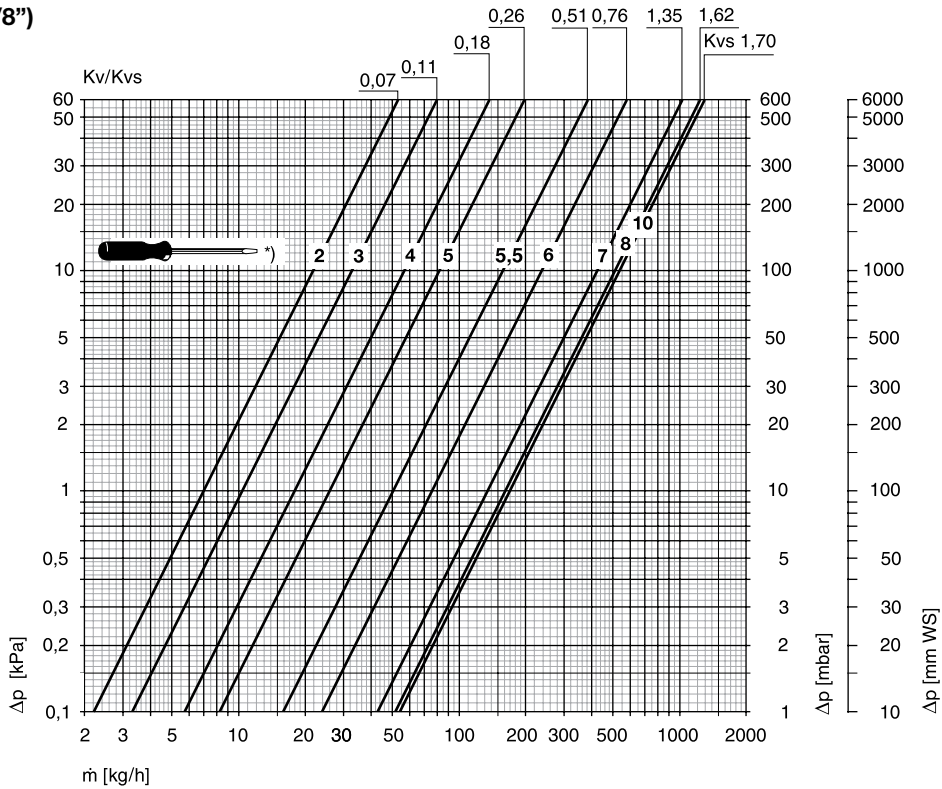


- The insert should only be loosened or tightened when the valve is opened.

Technical data

Diagram DN 10 (3/8")

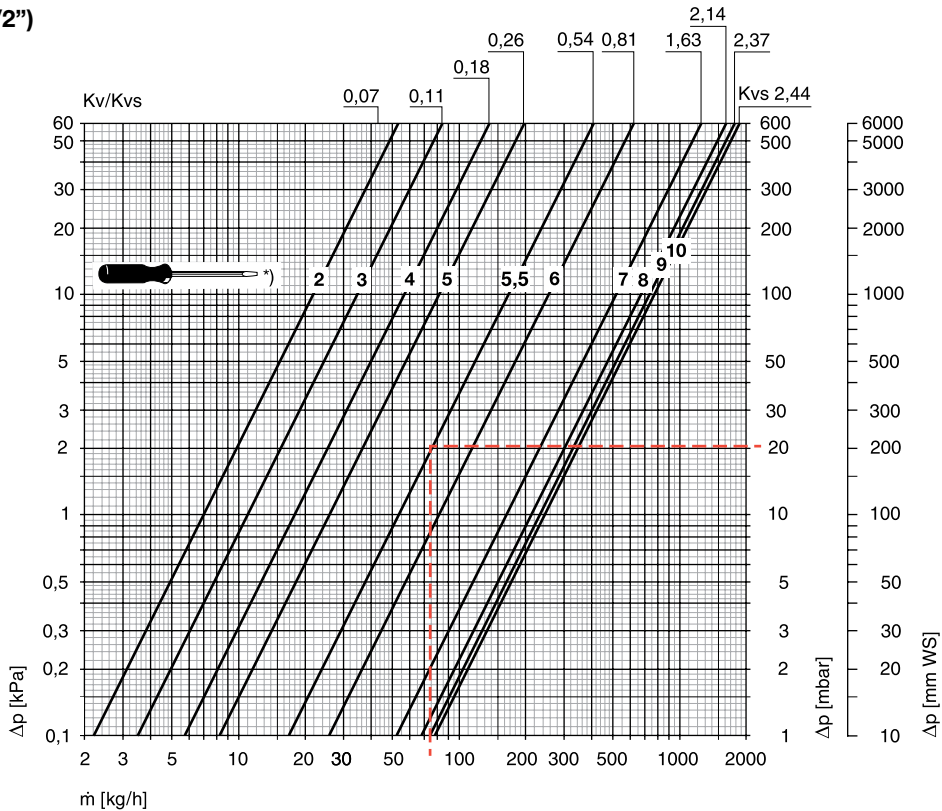
Angle / Straight
3491-01 / 3492-01



*) Screwdriver rotations

Diagram DN 15 (1/2")

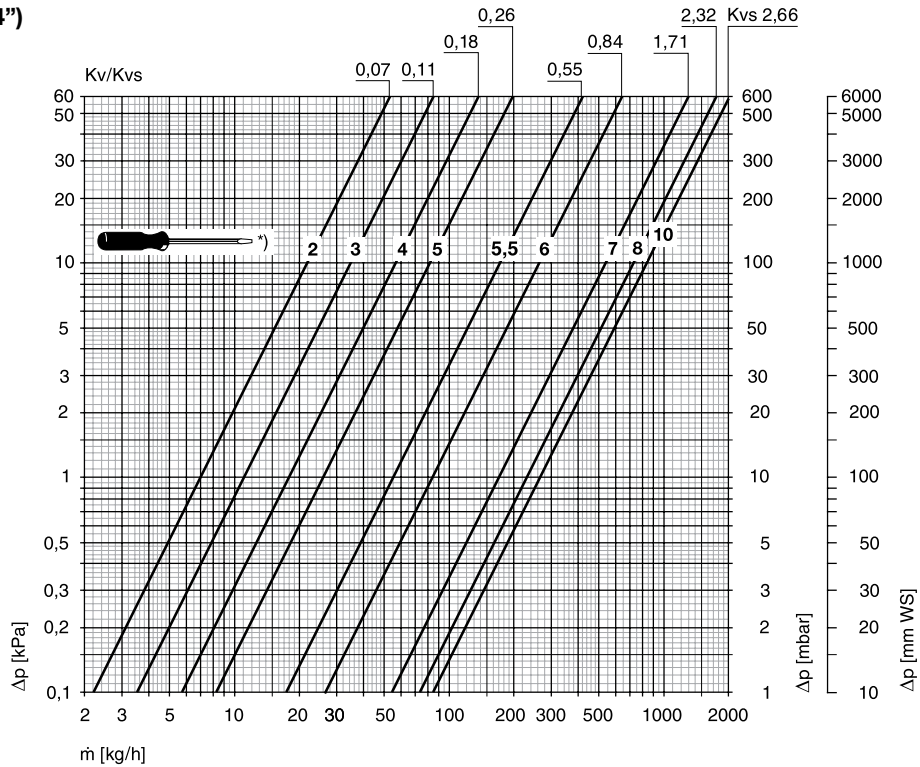
Angle / Straight
3491-02 / 3492-02



*) Screwdriver rotations

Diagram DN 20 (3/4")

Angle / Straight
3491-03 / 3492-03



*) Screwdriver rotations

Sample calculation

Target:
Preset value

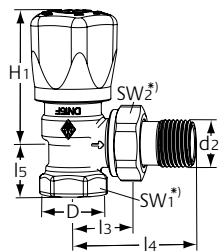
Given:
Heat flow $Q = 1750 \text{ W}$
Temperature spread $\Delta t = 20 \text{ K (70/50}^\circ\text{C)}$
Pressure loss in manual valve DN 15 $\Delta p_v = 20 \text{ mbar}$

Solution:
Mass flow $m = Q / (c \cdot \Delta t) = 1750 / (1,163 \cdot 20) = 75 \text{ kg/h}$
Screw driver turns from diagram DN 15 = 5.5 turns

$$C_v = \frac{K_v}{0,86}$$

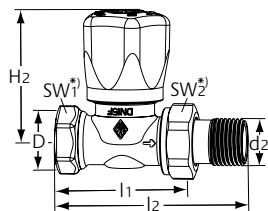
$$K_v = C_v \cdot 0,86$$

Articles



Angle

DN	D	d2	l3	l4	l5	H1	Kvs	EAN	Article No
10	Rp3/8	R3/8	24	49	20	58,5	1,70	4024052952519	3491-01.500
15	Rp1/2	R1/2	26	53	23	58	2,44	4024052952618	3491-02.500
20	Rp3/4	R3/4	30	63	26	56	2,66	4024052952717	3491-03.500



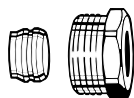
Straight

DN	D	d2	l1	l2	H2	Kvs	EAN	Article No
10	Rp3/8	R3/8	50	76	57	1,70	4024052952816	3492-01.500
15	Rp1/2	R1/2	55	83	57	2,44	4024052952915	3492-02.500
20	Rp3/4	R3/4	65	97	57	2,66	4024052953011	3492-03.500

*) SW1: DN 10 = 22 mm, DN 15 = 27 mm, DN 20 = 32 mm
 SW2: DN 10 = 27 mm, DN 15 = 30 mm, DN 20 = 37 mm

Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

Accessories



Compression fitting

for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Female thread connection Rp 3/8 – Rp 3/4. Metal-to-metal joint. Brass nickel-plated. Support sleeves should be used for a pipe wall thickness of 0.8 – 1 mm. Follow the specifications of the pipe manufacturer.

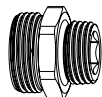
Ø Pipe	DN	EAN	Article No
12	10 (3/8")	4024052174614	2201-12.351
15	15 (1/2")	4024052175017	2201-15.351
16	15 (1/2")	4024052175116	2201-16.351
18	20 (3/4")	4024052175215	2201-18.351



Support sleeve

for copper or precision steel pipe with a 1 mm wall thickness. Brass.

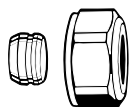
Ø Pipe	L	EAN	Article No
12	25,0	4024052127016	1300-12.170
15	26,0	4024052127917	1300-15.170
16	26,3	4024052128419	1300-16.170
18	26,8	4024052128815	1300-18.170



Double connection fitting

For clamping plastic, copper, precision steel or multi-layer pipes. Brass, nickel-plated.

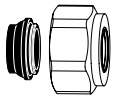
	L	EAN	Article No
G3/4 x R1/2	26	4024052308415	1321-12.083



Compression fitting

for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Connection male thread G 3/4 according to DIN EN 16313 (Eurocone). Metal-to-metal joint. Brass nickel-plated. With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

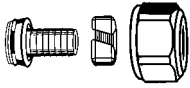
Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351



Compression fitting

for copper or precision steel pipe according to DIN EN 1057/10305-1/2. Connection male thread G 3/4 according to DIN EN 16313 (Eurocone). Soft sealed, max. 95°C. Nickel-plated brass.

Ø Pipe	EAN	Article No
15	4024052515851	1313-15.351
18	4024052516056	1313-18.351



Compression fitting

for plastic pipe according to DIN 4726, ISO 10508. PE-X: DIN 16892/16893, EN ISO 15875; PB: DIN 16968/16969. Connection male thread G 3/4 according to DIN EN 16313 (Eurocone). Nickel plated brass.

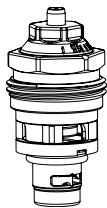
Ø Pipe	EAN	Article No
12x1,1	4024052136018	1315-12.351
14x2	4024052134618	1311-14.351
16x1,5	4024052136117	1315-16.351
16x2	4024052134816	1311-16.351
17x2	4024052134915	1311-17.351
18x2	4024052135110	1311-18.351
20x2	4024052135318	1311-20.351



Compression fitting

for Alu/PEX multi-layer pipe according to DIN 16836. Connection male thread G 3/4 according to DIN EN 16313 (Eurocone). Nickel-plated brass.

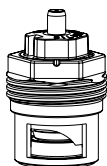
Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351
18x2	4024052137411	1331-18.351



Eclipse F with automatic flow limitation

For thermostatic valve bodies **with II+ marking, from 2015.**

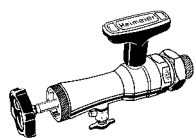
Retrofitting/ Replacement inserts For DN valve	EAN	Article No
10, 15, 20	4024052940912	3930-02.300



Calypso exact with stepless precision presetting

For thermostatic valve bodies **with II marking, from 2012 and II+ marking, from 2015.**

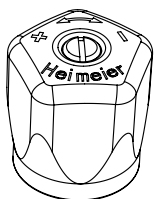
Retrofitting/ Replacement inserts For DN valve	EAN	Article No
10, 15, 20	4024052841417	3700-02.300



Fitting tool

complete with case, box spanner and replacement seals, for replacing thermostatic inserts without draining off the heating system (for DN 10 to DN 20).

	EAN	Article No
Fitting tool	4024052298914	9721-00.000



Handwheel Mikrotherm

with connection screw. Plastic, white RAL 9016.

For DN	EAN	Article No
10 - 20 (3/8"-3/4") from 04.1988	4024052113118	0122-02.327

1 mm = 0,0394 inch

