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Control

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Mikrotherm

Manual Radiator Valves
With presetting

Breakthrough
engineering for
a better world

Mikrotherm

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

Key features

Body made of corrosion-resistant gunmetal nickel plated

Double O-ring sealing (DN 10 – DN 25)

With Presetting

Can be retrofitted as a thermostatic valve

Technical description

Application area:
Heating systems

Function:
Pre-setting
Shut-off

Dimensions:
DN 10-32

Pressure class:
PN 10

Temperature:
Max. working temperature: 120°C, low pressure steam 110°C (230°F)/ 0.5 bar.
Min. working temperature: -10°C

Material:
Valve body: Gunmetal.
O-rings: EPDM rubber.
Valve insert: Brass.
Handwheel (DN10-20): PP (Polypropylen), tight-packed with protection film, white RAL 9016.
Handwheel (DN 25-32): PA6.6 GF 30, Brass

Surface treatment:
Valve body and fittings are nickel-plated.

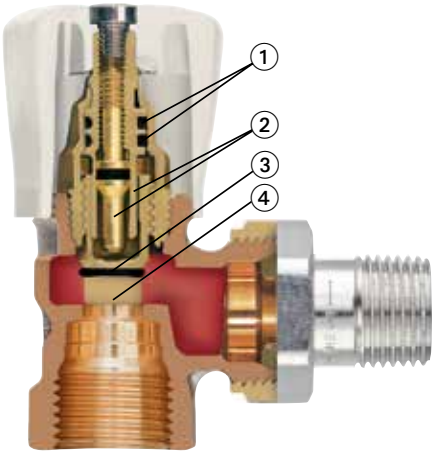
Marking:
THE, country code, flow direction arrow, DN. II+ -Designation (DN 10 - DN 20).

Standards:
Dimensions according to DIN EN 215.

Pipe connection:
The internal-threaded version is designed for connection to threaded pipe, or in conjunction with compression fittings, to copper precision steel or multi-layer pipe (only DN 15).

Construction

Mikrotherm DN 10-20

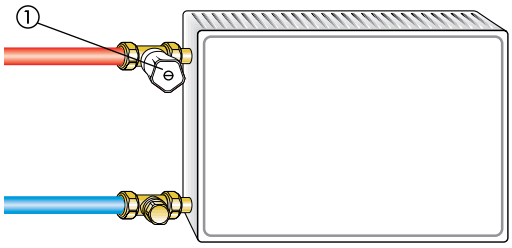


1. Double O-ring sealing
2. Double spindle
3. Tandem sealing (metal and O-ring sealing)
4. Presetting cone

Application

The Mikrotherm manual radiator valve is used in warm water pump heating systems, gravity or low pressure steam systems. With models in angle and straight form from DN 10 to DN 32, the manual radiator valve can be used for a number of different purposes.
The non-rising double spindle (DN 10 - DN 20) with the Mikrotherm presetting cone makes hydraulic balancing through presetting possible. For DN 25-32 versions the presetting can be directly done on the handwheel using stop pins. The aim here is to provide e. g. all heat consumers with hot water according to their needs.

Sample application



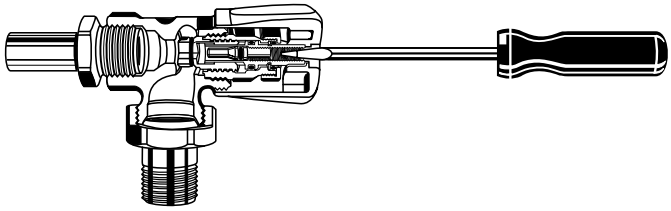
1. Mikrotherm

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.

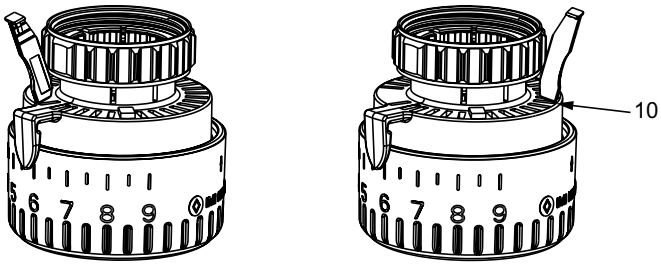
Operation

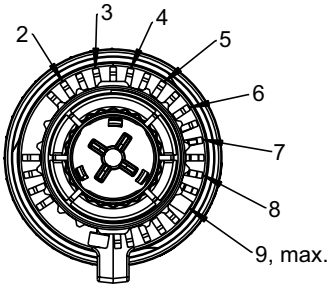
Presetting DN 10-20
1. Close the valve.
2. Unscrew the hand wheel fastening screw.
3. Screw in the control pin with a screw driver by turning it clockwise until it stops.
4. Use the diagrams to determine the presetting and preset by turning to the left.
5. Insert the hand wheel fastening screw and screw tight.

Notes:
– The insert should only be loosened or tightened when the valve is opened.



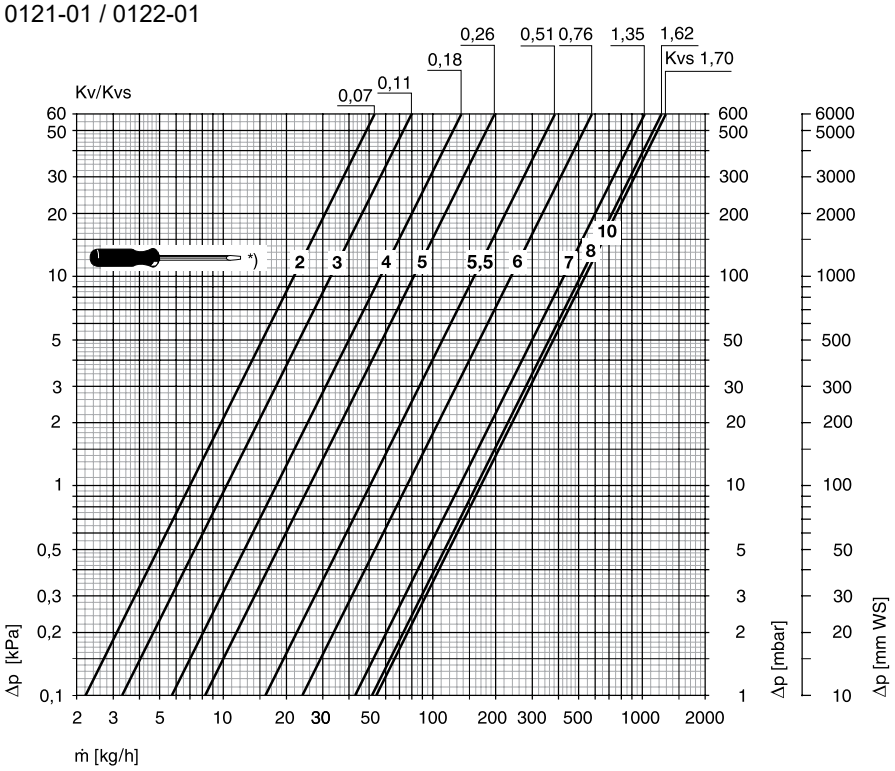
Presetting DN 25-32
1. Use a pair of rubber jaw pliers and turn the lock nut to the left to unscrew the handwheel from the Mikrotherm valve.
2. Set the handwheel to the calculated presetting value, e.g. presetting 6.
3. Take the stop pin out of the parking position on the lower part of the handwheel and fully insert it into slot 10 at the arrow on the handwheel cap.
4. The handwheel is now limited. Settings above presetting 6 are no longer possible.
5. Place the handwheel on the Mikrotherm valve, screw on and tighten with rubber jaw pliers (approx. 20 Nm).
6. Make sure that the setting arrow points to the desired position.





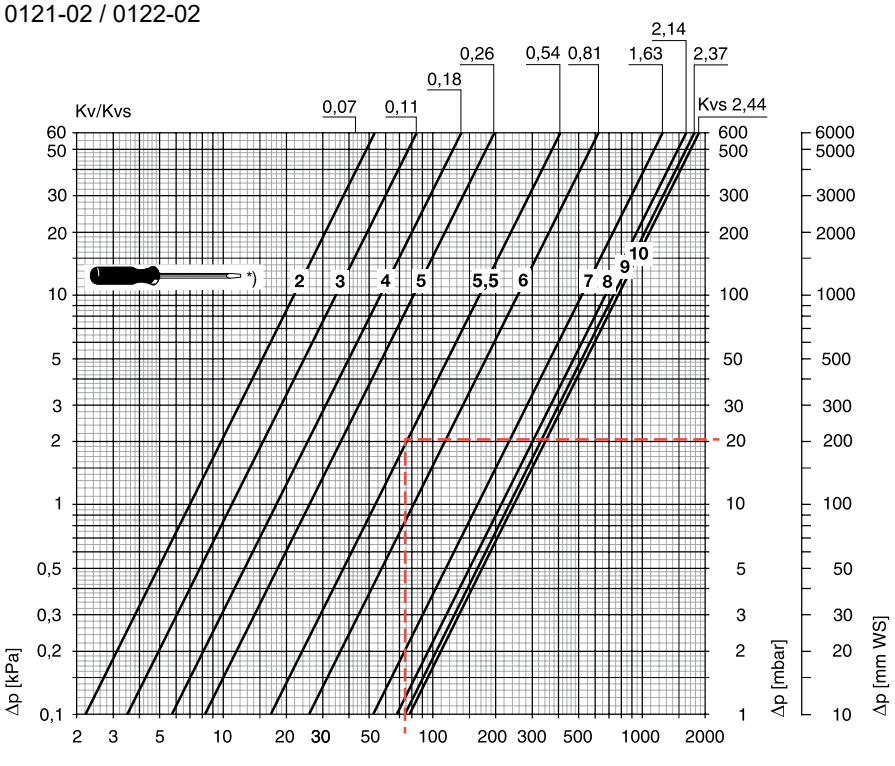
Technical data

Diagram DN 10 (3/8”)
Angle / Straight
0121-01 / 0122-01



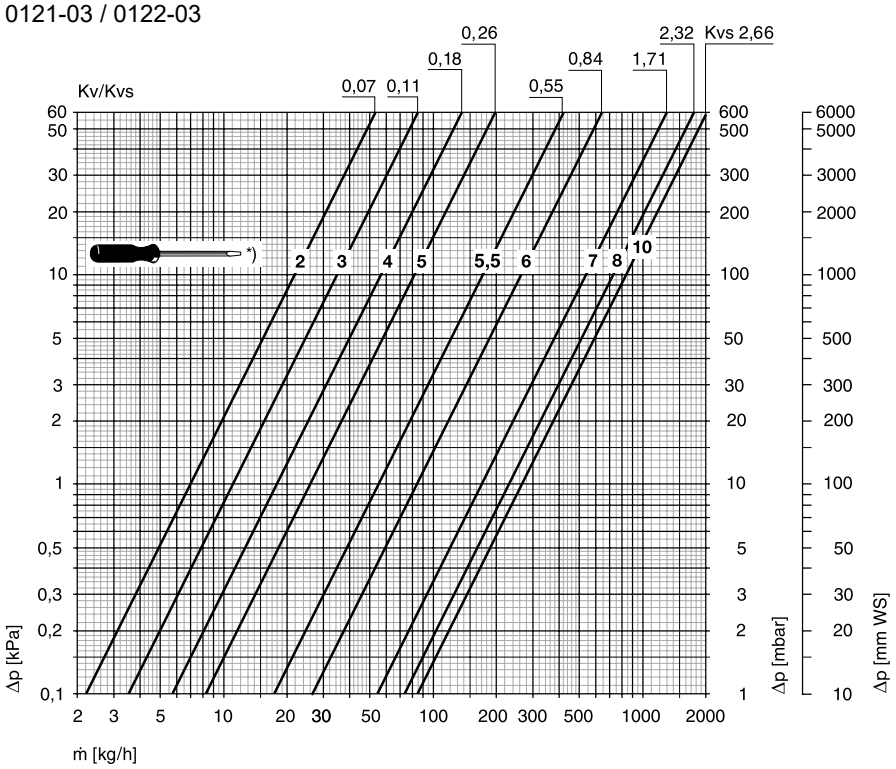
*) Screwdriver rotations

Diagram DN 15 (1/2”)
Angle / Straight
0121-02 / 0122-02



*) Screwdriver rotations

Diagram DN 20 (3/4”)
Angle / Straight
0121-03 / 0122-03



*) Screwdriver rotations

Diagram DN 25 (1”)
Angle / Straight
0121-04 / 0122-04

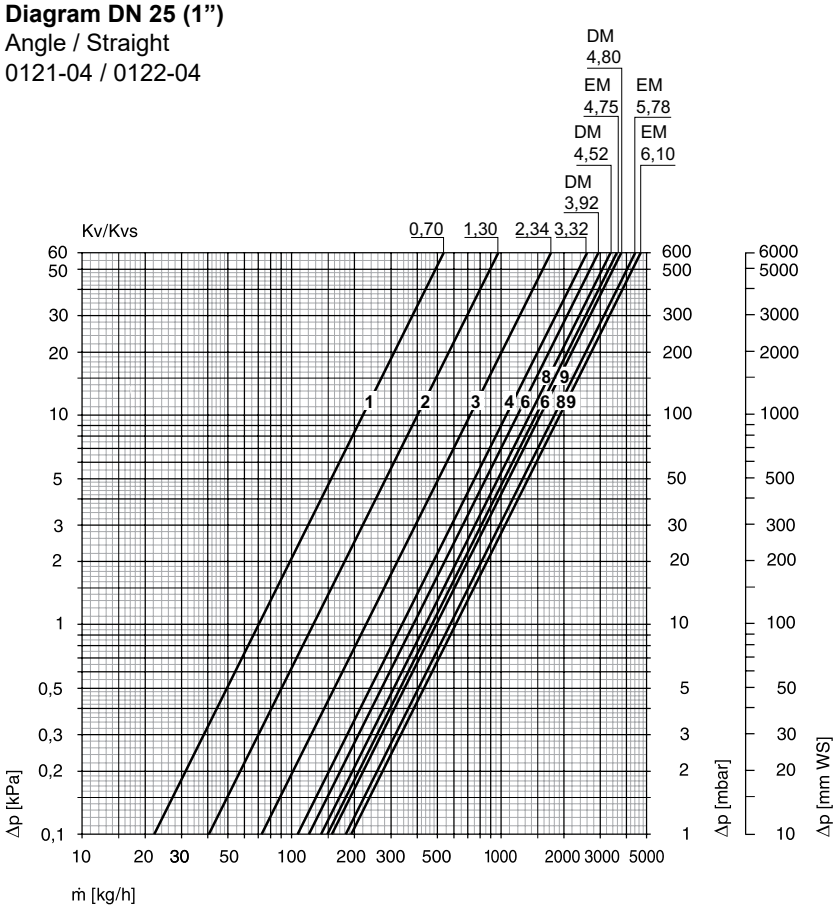
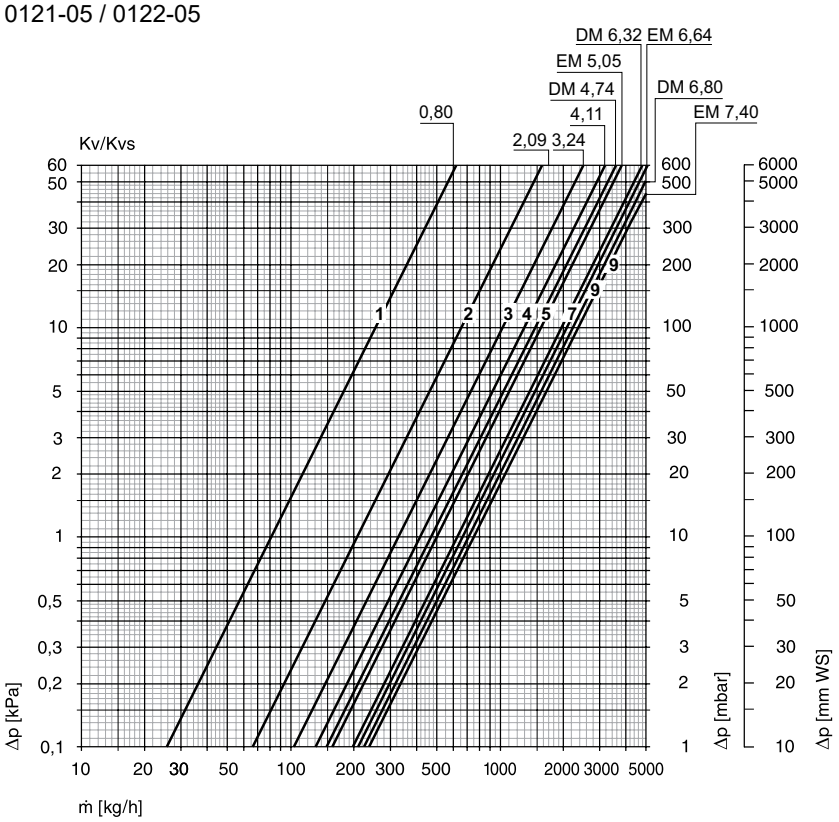


Diagram DN 32 (1 1/4")
Angle / Straight
0121-05 / 0122-05



Sample calculation
Target:
Preset value

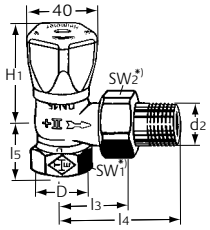
$$Cv = \frac{Kv}{0{,}86}$$

Given:
Heat flow Q = 1750 W
Temperature spread Δt = 20 K (70/50°C)
Pressure loss in manual valve DN 15 Δp_V = 20 mbar

$$Kv = Cv \cdot 0{,}86$$

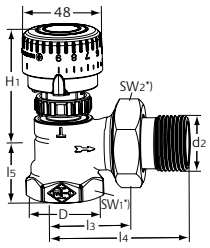
Solution:
Mass flow m = Q / (c · Δt) = 1750 / (1,163 · 20) = 75 kg/h
Screw driver turns from diagram DN 15 = 5.5 turns

Articles



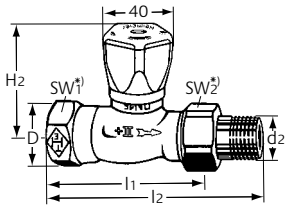
DN 10 - 20
Angle

DN	D	d2	l3	l4	l5	H1	Kvs	EAN	Article No
10	Rp3/8	R3/8	26	52	23,5	58	1,70	4024052110810	0121-01.500
15	Rp1/2	R1/2	29	58	27	58	2,44	4024052111312	0121-02.500
20	Rp3/4	R3/4	34	66	29	58	2,66	4024052111817	0121-03.500



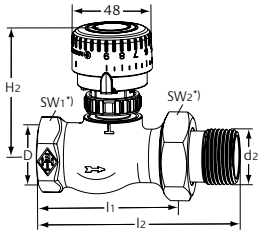
DN 25 - 32
Angle

DN	D	d2	l3	l4	l5	H1	Kvs	EAN	Article No
25	Rp1	R1	40	75	32,5	71	5,70	4024052112319	0121-04.500
32	Rp1 1/4	R1 1/4	46	85	39	71	6,70	4024052112715	0121-05.500



DN 10-20
Straight

DN	D	d2	l1	l2	H2	Kvs	EAN	Article No
10	Rp3/8	R3/8	59	85	56	1,70	4024052112913	0122-01.500
15	Rp1/2	R1/2	66	95	56	2,44	4024052113217	0122-02.500
20	Rp3/4	R3/4	74	106	58	2,66	4024052113316	0122-03.500



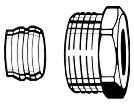
DN 25 - 32
Straight

DN	D	d2	l1	l2	H2	Kvs	EAN	Article No
25	Rp1	R1	84	118	73	5,70	4024052113415	0122-04.500
32	Rp1 1/4	R1 1/4	95	135	74	6,70	4024052113514	0122-05.500

*) SW1: DN 10 = 22 mm, DN 15 = 27 mm, DN 20 = 32 mm, DN 25 = 41 mm, DN 32 = 49 mm
SW2: DN 10 = 27 mm, DN 15 = 30 mm, DN 20 = 37 mm, DN 25 = 47 mm, DN 32 = 52 mm

Kvs = m^3/h at a pressure drop of 1 bar and fully open valve.

Accessories

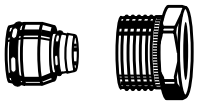


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Internal thread connection Rp3/8 – Rp3/4.
Metal-to-metal joint.
Brass nickel-plated.
Support sleeves should be used for a pipe wall thickness of 0.8 – 1 mm.
Follow the specifications of the pipe manufacturer.

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

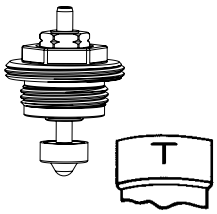
Support sleeve
for copper or precision steel pipe with a 1 mm wall thickness.
Brass.

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



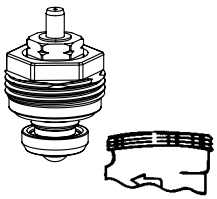
Compression fitting
for Alu/PEX multi-layer pipe according to DIN 16836.
Internal thread connection Rp1/2.
Nickel-plated brass.

Ø Pipe	EAN	Article No
16 x 2	4024052138616	1335-16.351



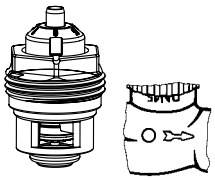
Thermostatic insert
Conversion insert for valve bodies with a “T label”. Series to 1985.

DN	EAN	Article No
10, 15 (3/8”, 1/2”)	4024052217014	4101-02.300
20 (3/4”)	4024052217410	4101-03.300
25 (1”)	4024052159819	2001-04.299



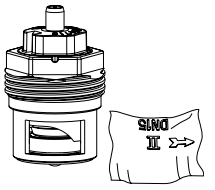
Thermostatic insert
Conversion insert for valve bodies with a connector thread for the thermostatic head. Series from 1985.

DN	EAN	Article No
10, 15 (3/8”, 1/2”)	4024052132614	1302-02.300
20 (3/4”)	4024052159215	2001-03.300



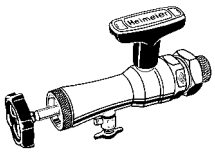
Thermostatic insert
Presetting (V-exakt). Conversion insert for valve bodies with a boss marking. Series from 1994.

DN	EAN	Article No
10, 15 (3/8”, 1/2”)	4024052737611	3502-24.300



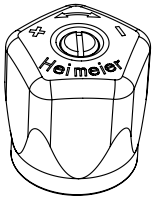
Thermostatic insert
Presetting (V-exact II). Conversion insert for valve bodies with a with II / II+ marking. Series from 2013.

DN	EAN	Article No
10, 15, 20 (3/8”, 1/2”, 3/4”)	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 DN 10-20 (DN 25-32 up to 12.2019)
with connection screw.
Plastic, white RAL 9016.

For DN	EAN	Article No
10 - 20 (3/8”-3/4”) from 04.1988 25 - 32 (1” - 1 1/4”) from 04.1988 up to 12.2019	4024052113118	0122-02.327

Handwheel Mikrotherm DN 25-32 (from 01.2020)
with connection M30x1,5.
Plastic, black.

For DN	EAN	Article No
25 - 32 (1” - 1 1/4”) from 01.2020	4024052973217	5850-00.325

1 mm = 0,0394 inch

4100-18.483 Mikrotherm ed.5 08.2020