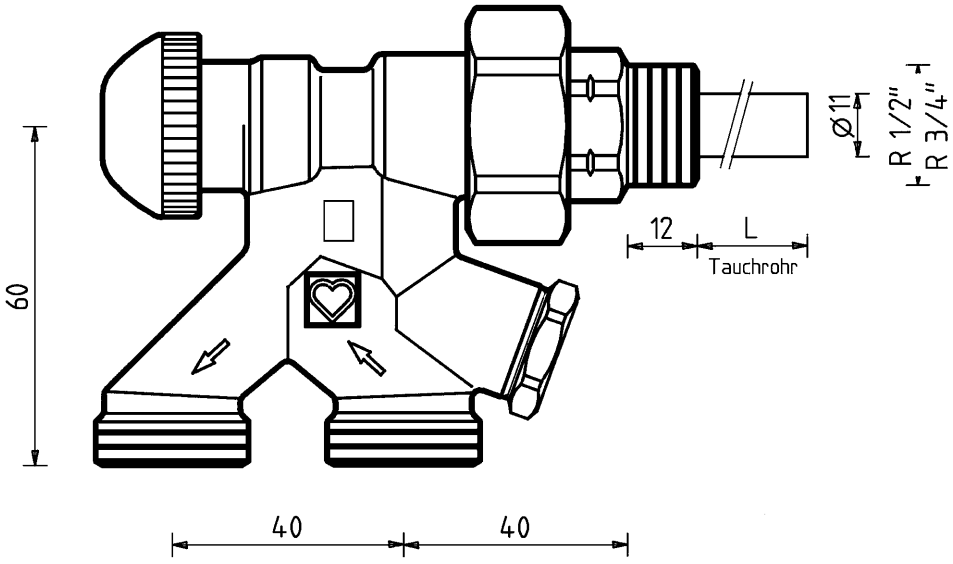
Four-Way Valves with One-Hole Connection for Thermostatic Operation, Lateral Radiator Connection from below

Standard Sheet for

7767/7769

Edition1000 (0999)



7767 • 7769

Dimensions in mm

Models
Order Numbers

One-Pipe Systems

HERZ-VTA-four-way valve for one-pipe systems, nickel-plated, for thermostatic operation, without pipe connections

1 **7767** 41	1/2"	with submerged pipe l = 290 mm, Ø = 11 mm
1 **7767** 42	3/4"	with submerged pipe l = 290 mm, Ø = 11 mm
1 **7769** 41	1/2"	with submerged pipe l = 19 mm, Ø = 11 mm

Two-Pipe Systems

HERZ-VTA-four-way valve for two-pipe systems, nickel-plated, for thermostatic operation, without pipe connections

1 **7767** 51	1/2"	with submerged pipe l = 290 mm, Ø = 11 mm
1 **7767** 52	3/4"	with submerged pipe l = 290 mm, Ø = 11 mm
1 **7769** 51	1/2"	with submerged pipe l = 19 mm, Ø = 11 mm

All models are supplied with screw caps. They can be equipped with a HERZ-thermostat at any time without draining the system.

Marking of Models

The valve bodies are marked as follows:

“1” – four-way valves for one-pipe systems
“2” – four-way valves for two-pipe systems

Mode of Installation

The HERZ-VTA valve must be mounted laterally from below. Take into account the flow direction (arrows on the valve body).

Field of Application

One- and two-pipe water heating systems with calibrated soft steel, copper or plastic pipes.

Operating Data

Maximum operating temperature 110 °C
Maximum operating pressure 10 bar
One-pipe model:
Maximum pressure during pressure testing / maximum operating pressure while the radiator is not connected: 5 bar

Hot water purity in accordance with Austrian standard ÖNORM H 5195 and/or VDI-guideline 2035.

HERZ-Compression Union

When using HERZ compression unions for copper and steel pipes, observe the permissible temperatures and pressures as per EN 1254-2:1998 specified in Table 5. A maximum operating temperature of 80 °C and maximum operating pressure of 4 bar applies for plastic pipe connections, if permitted by the pipe manufacturer.

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Radiator Connection

Connection R 1/2" or R 3/4" respectively installed. Radiator screw connection with submerged pipe. The connection with flat seal and the submerged pipe which can be detached make radiator installation easy. The radiator need not be drawn over the submerged pipe. Damage and installation complications in narrow niches are avoided.

HERZ-VTA for Flat Radiators, Heating Walls

HERZ-VTA-valves 1 **7769** 41, 1 **7769** 51 are equipped with a submerged pipe l = 19, Ø = 11 mm. Their field of application is flat radiators with connection by shaped elements (e.g. T-shaped elements) as well as special design radiators (e.g. with inside water deflection baffles). If radiators are to be connect to a connection opening inform the manufacturer when ordering the radiators because in this case the manufacturer must install or enclose the required shaped connecting elements.

Pipe Connections

6274 6274 HERZ compression union for copper and thin-walled steel pipes.

6275 HERZ compression union with soft seal for copper and thin-walled steel pipes, particularly suitable for hard special steel pipes and pipes with hard-galvanised surfaces.

6098 HERZ compression union for PE-X-, PB and plastic composite pipes.

For pipe dimensions and order numbers refer to the HERZ catalogue or price list.

Mounting of Compression Unions onto the Pipe

When mounting the compression unions do not use adjustable pliers or any similar tools since this will result in deformation of the union nut. Steel and copper pipes must be properly calibrated and deburred. It is recommended to use support sleeves. The thread of the union nut must be lubricated with silicone oil during assembly. Mineral oil would destroy the O-ring of the olives. The mounting instructions enclosed with the compression unions must be observed.

Connection Elbow

In systems with the pipe coming out of the wall use connection elbows G 3/4 (1 **6248** 01) between the HERZ-VTA-valve and the pipe.

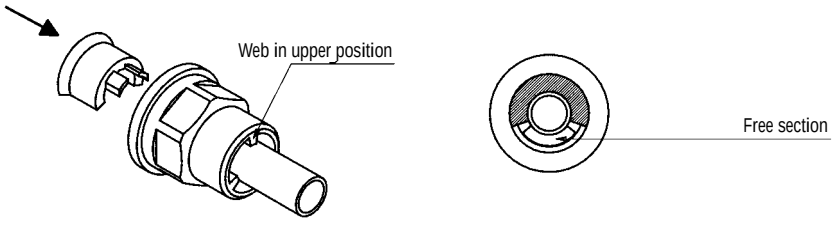
Connection for Steel Pipes DIN 2440

HERZ-VTA-four-way valves can be used for steel pipes according to DIN 2440 with adapter 1 **3001** 01 and welding connection 1 **6240** 01.

Circulation Brake

When using the HERZ-VTA-valves for small radiators up to 700 W it is recommended to install a circulation brake. This plastic component obstructs water circulation into the radiator while the valve is shut off.

The circulation brake is equipped with an anti-twist lock and is installed in the radiator connection element in such a way that the pinions engage with the web of the submerged pipe. The radiator connection element must be screwed into the radiator in such a way that the upper part of the cross section is covered and the lower part is free.

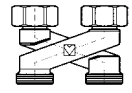


1 **6222** 01

Flexible X-Shaped Intersection Element

This special connection element is installed between the valve and piping for the adaptation of distances between pipes and for radiator adaptation.

For details refer to the standard sheet “Special Connection Element”.



Water Distribution in One-Pipe Systems

At nominal valve lift, 40% of the water flow is through the radiator and 60% through the bypass element. The incorporated regulating and shutoff screw permits hydraulic balancing in thermostatic operation and/or shutting off within the radiator.

Preliminary Installation

HERZ-VTA-valves permit the laying of the piping, installation of the valves, and pressure testing before radiators are installed.

Radiator Removal

Shutting off the regulating spindle and the thermostatic upper part permits removal of the radiator without draining the system. The radiator must be drained prior to removal. The open radiator connection at the valve should be protected by an R = 1" cover cap.

The regulating spindle is shut by means of the HERZ-multi-purpose key (1 **6625** 00) or with an 8 mm Allen key. When opening the spindle, it will be completely open after approximately 3 to 3.5 turns.

Changing the Thermostatic Upper Part

The thermostatic upper part can be changed by means of the HERZ-changing tool while the system is under pressure:

- to change the thermostatic upper part in order to remedy defects caused by foreign substances such as dirt, welding or soldering residues.
- in case of two-pipe systems: for retrofitting with thermostatic upper parts with fixed, stepped, k_V-values or with presetting function. This permits adaptation of the radiator flow rate to individual requirements.

Spindle Seal

An O-ring is used as a spindle seal. It is located in a brass chamber which can be changed during operation. The O-ring keeps maintenance requirements at a minimum and permits lasting ease of valve operation.

Changing the O-Ring Chamber

1. Remove the HERZ-thermostatic head or HERZ-TS-hand wheel.
2. Unscrew the O-ring chamber with the O-ring and replace with a new one. During this change use a wrench to hold the upper part. After removal of the thermostatic head or hand wheel the valve is completely open and therefore sealed tight towards upstream. However, a few drops of water may leak out.
3. For re-assembly follow the above steps in reverse sequence.

Order number of HERZ-TS-90-O-ring set: 1 **6890** 00

Important for Thermostat Installation

If the radiator and the thermostatic valve are covered (e.g. by curtains or panelling) this will cause a heat accumulation zone in which the thermostatic sensor element cannot sense the room temperature properly and consequently cannot to control it. In these cases, use the HERZ-thermostat with remote sensor or the HERZ-thermostat with remote adjustment.

For details on the HERZ-thermostats refer to the respective product standard sheets.

HERZ-TS-Hand Wheel

In the exceptional case that the valve is not equipped with a HERZ-thermostatic head, a HERZ-TS-hand wheel is mounted to replace the screw cap.

Follow the instructions for installation supplied with the hand wheel.

HERZ-Thermostatic Valve

The screw cap serves for operation during the installation phase (pipe flushing). The thermostatic function is activated by removing the screw cap and screwing in the HERZ-thermostatic head without draining the heating system.

Nominal Lift

Setting the nominal lift with the screw cap:

On the knurled part of the circumference of the screw cap there are two setting marks (webs) in alignment with the “+” and “–” marks.

1. Close the valve by turning the screw cap clockwise.
2. Mark the position corresponding to the setting mark “+”.
3. Turn the screw cap anti-clockwise until the setting mark “–” is at the position marked under item 2.

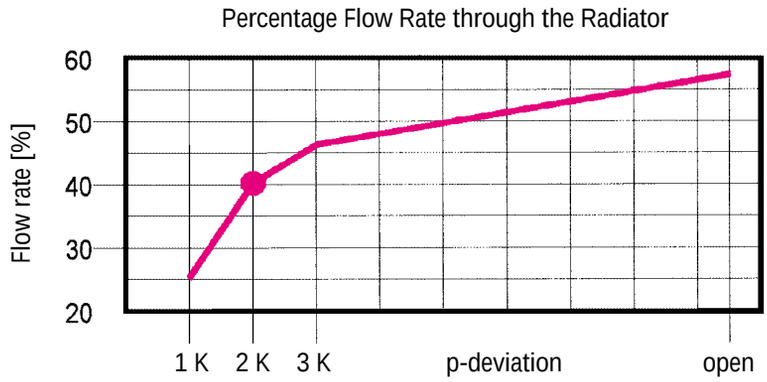
Summer Setting

After the end of the heating period open the valve completely by turning it in an anti-clockwise direction to prevent dirt deposits at the valve seat.

k_V-Values

P-Deviation	One-Pipe Systems (ring)	Two-Pipe Systems
1 K	1.3	0.28
2 K	1.55	0.5
3 K	1.7	0.63
open	2.0	1.1

Radiator Percentage Flow Rate One-Pipe Valve



Accessories

1 **3001** 01	Adapter for welding connection
1 **3004** 34	Special connection element, intersection element G 3/4
1 **6222** 01	Circulation brake
1 **6240** 01	Welding connection
1 **6248** 01	Connection elbow 90°C
1 **6625** 00	HERZ-Multi-purpose key
1 **6807** 90	HERZ-TS-90 assembly key
1 **6822** 40	Spacer block
1 **7780** 00	HERZ changing tool for thermostatic upper parts

Handwheels

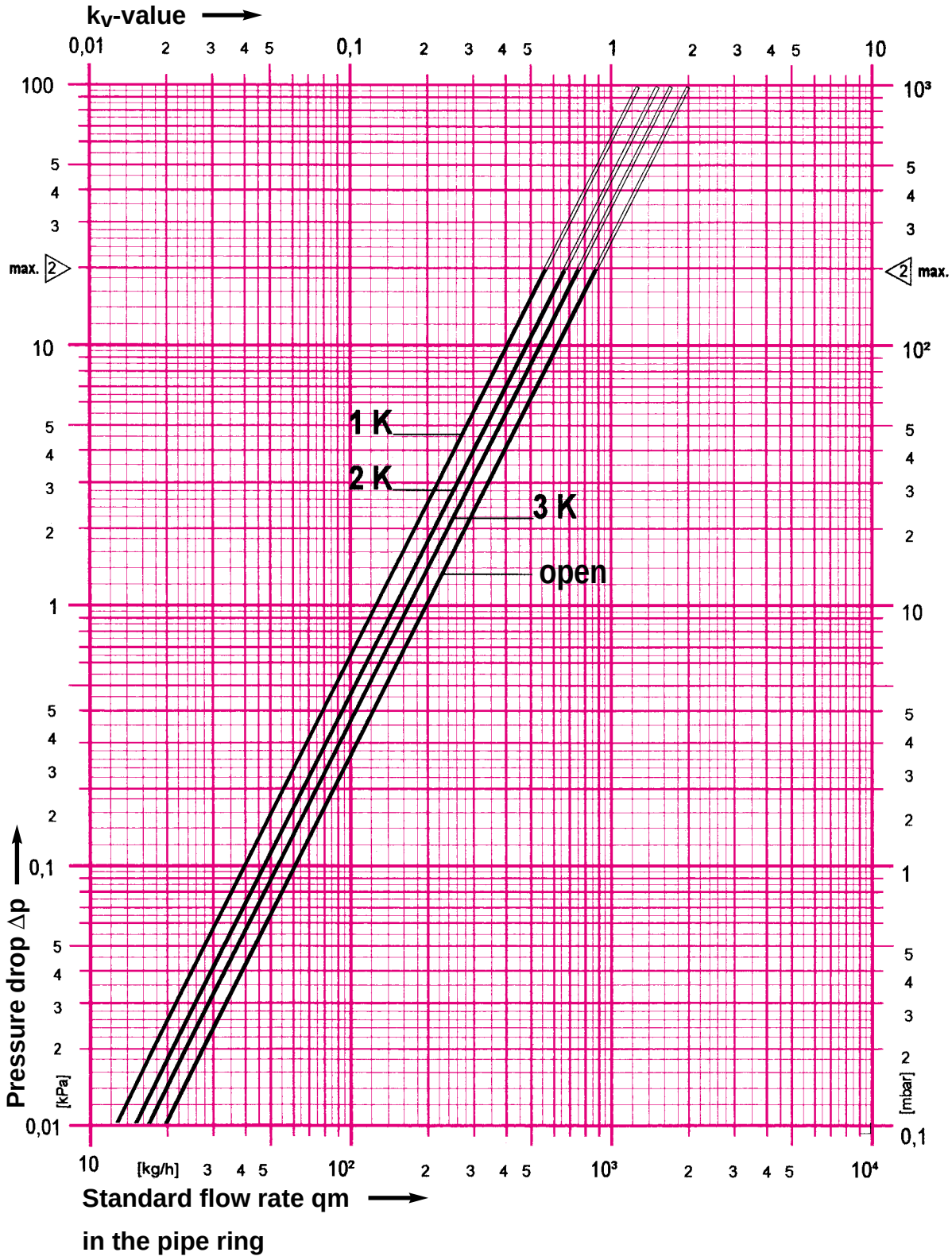
1 **7102** 80	HERZ-TS-90 Handwheel, Series 7000 with pre-setting and locking functions
1 **9102** 80	HERZ-TS-90 Handwheel, Series 900 “Design”

Spare Parts

1 **6390** 91	Thermostatic upper part for two-pipe valves
1 **6390** 92	Thermostatic upper part for one-pipe valves
1 **6890** 00	HERZ-TS-90 O-Ring Set

HERZ-Standard Diagram	HERZ-VTA in One-Pipe Systems
Art. No. 7767 • 7769	Dim. R = 1/2", 3/4"

Valve dimensioning [Δp] has to be performed in accordance with the “VDMA-Instruction Sheet for Planning and Hydraulic Balancing of Heating Systems with Thermostatic Radiator Valves”



We reserve the right to make modifications.

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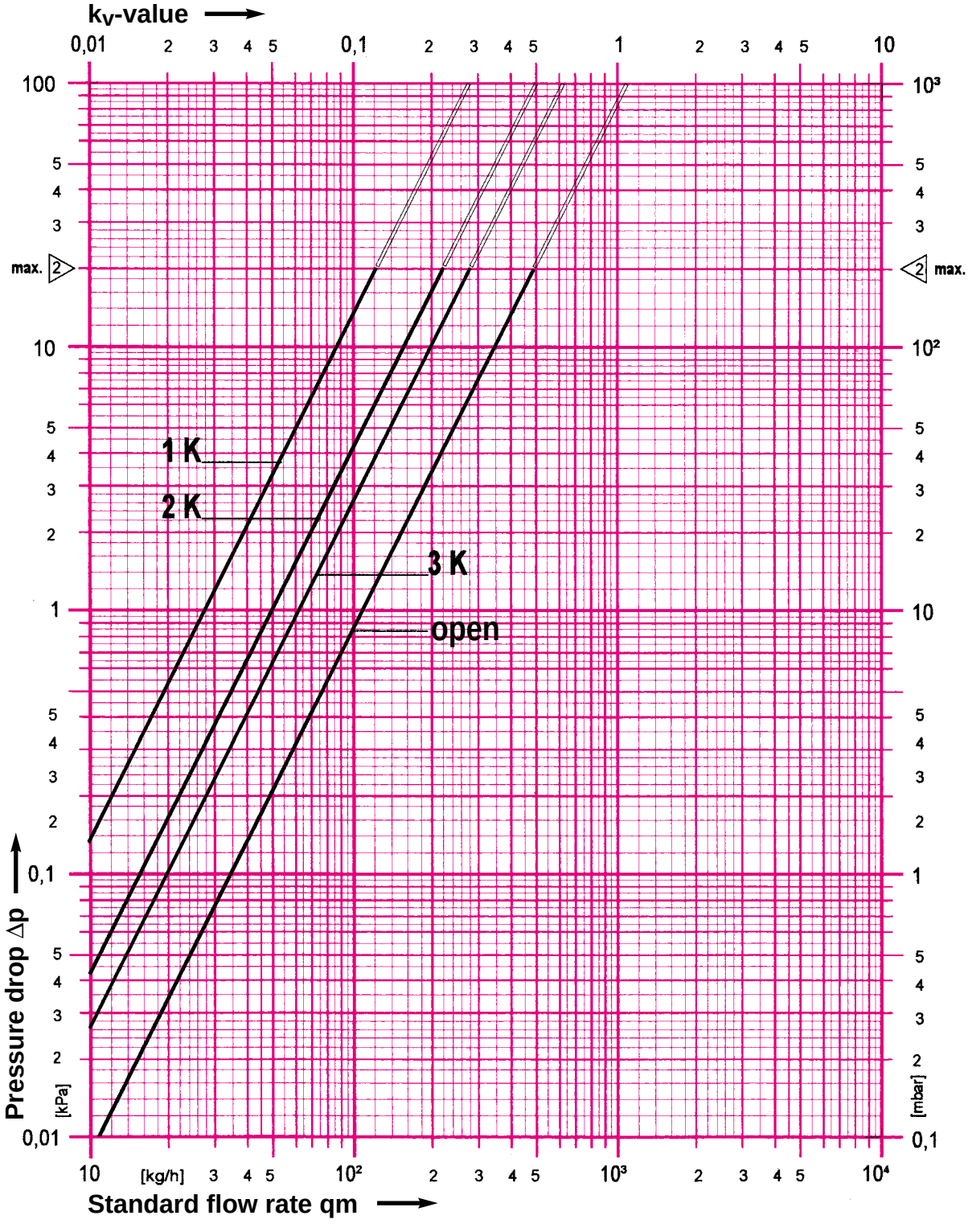
HERZ-Standard Diagram	HERZ-VTA in Two-Pipe Systems
Art. No. 7767 • 7769	Dim. R = 1/2", 3/4"

Valve dimensioning [Δp] has to be performed in accordance with the “VDMA-Instruction Sheet for Planning and Hydraulic Balancing of Heating Systems with Thermostatic Radiator Valves”



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