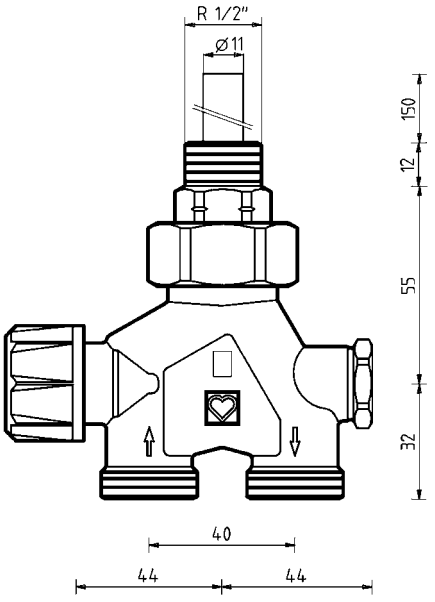
HERZ-VUA

Four-Way Valves with One-Hole Connection for Thermostatic Operation, Central Radiator Connection from Below

Standard Sheet for

7783–7786

Edition 0900 (0999)



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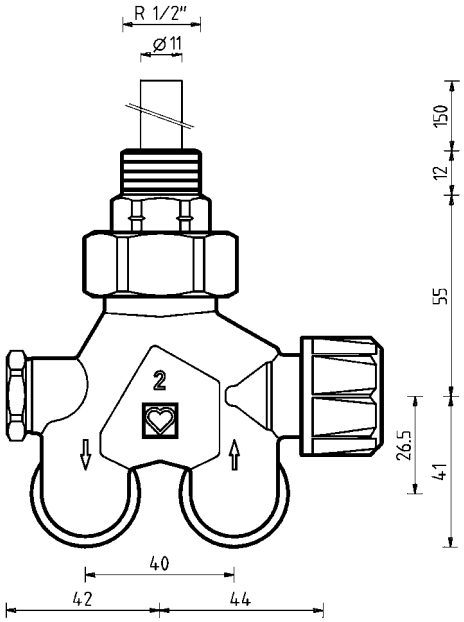


7784

Dimensions in mm

Models
Order Numbers

HERZ-VUA-four-way valve, nickel-plated, for thermostatic operation, radiator connection by means of submerged pipe, without pipe connections.

1 **7783** 41	1/2"	Straight model for two-pipe systems, submerged pipe l = 150, Ø = 11 mm
1 **7783** 51	1/2"	Straight model for two-pipe systems, submerged pipe l = 290, Ø = 11 mm
1 **7784** 41	1/2"	Angle model for two-pipe systems, submerged pipe l = 150, Ø = 11 mm
1 **7784** 42	1/2"	Angle model for one-pipe systems, submerged pipe l = 150, Ø = 11 mm
1 **7786** 41	1/2"	Straight model for one-pipe systems, submerged pipe l = 150, Ø = 11 mm
1 **7786** 51	1/2"	Straight model for one-pipe systems, submerged pipe l = 290, 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-VUA valve must be mounted onto the centre of the radiator bottom or laterally with the piping coming from below. Take into account the flow direction (arrows on the housing).

Straight Model

Straight-way valves are symmetrical and can be turned by 180° if the position of the connections requires.

Angle Version

Angle valves can be installed only with the thermostatic head being mounted to the right of the valve axis. If the thermostatic head is to be mounted to the left, use a straight-way model equipped with a connection elbow G 3/4 (1 **6248** 01) between the valve and pipe

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 system
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.

We reserve the right to make modifications necessitated by technological progress.

HERZ Armaturen

Richard-Strauss-Strasse 22 • A-1230 Wien

Radiator Connection

Connection element R = 1/2" with flat seal 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.

The connection opening should be located directly under a water bearing radiator rib. In this way, the rising pipe of the intake projects into a water bearing section thus ensuring optimum water distribution in the radiator. In special design radiators, short circuits towards the return flow are prevented by means of baffles, stop plugs, etc. The threaded connection element can be screwed into the suitably located radiator socket.

If the radiators are intended for use with one-pipe connection with pipe connection from below, inform the manufacturer when placing the order for the radiator. If it is not possible to introduce the rising pipe into a water bearing section it must be shortened.

Pipe Connections

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 for hard special steel and pipes and pipes with hard galvanised surfaces.

6098 HERZ Compression union for PE-X, PB- and aluminium composite pipes.

For dimensions and order numbers refer to the HERZ catalogue.

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.

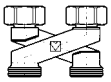
Connection for Steel Pipes as per DIN 2440

HERZ-VUA-Four-way-valves can be used for steel pipes in accordance with DIN 2440 with adapter 1 **3001** 01 and welding connection 1 **6240.**

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-VUA-valves permit the laying of the piping, installation of the valves, and pressure testing before installing the radiators.

Radiator Removal

Shutting off the regulating spindle and the thermostat 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 thermostat 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, kv-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 is not in a position 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 Thermostat valve

Nominal lift

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

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 "+" 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 in anti-clockwise until the setting mark "–" is at the position marked under item 2.

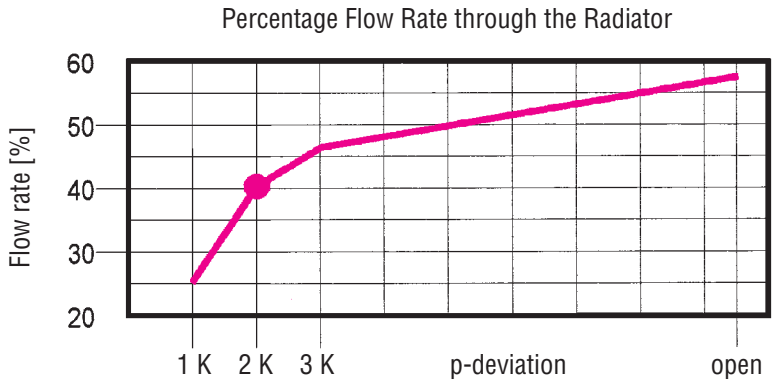
Summer setting

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 **6240** 01 Welding connection
1 **6248** 01 Connection elbow 90°
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, changing tool for thermostat upper parts

Handwheels

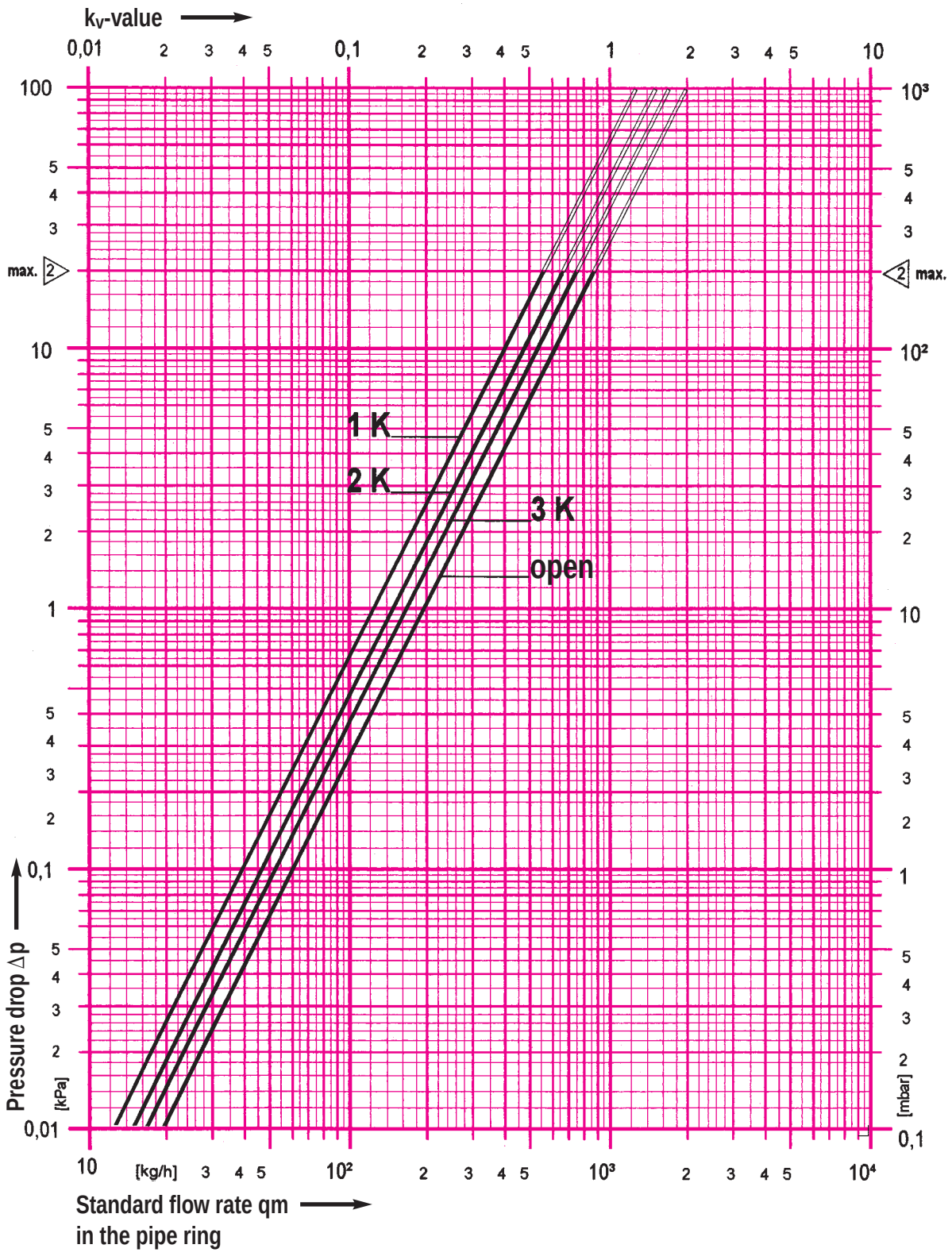
1 **7102** 80 HERZ-TS-90 Handwheel, Series 7000 with pre-setting and locking functions
1 **9102** 80 HERZ-TS-90 Handwheel, Series "Design"

Spare Parts

1 **6390** 91 Thermostatic upper part for two pipe systems
1 **6390** 92 Thermostatic upper part for one pipe systems
1 **6890** 00 HERZ-TS-90 O-ring-set

HERZ-Standard Diagram	HERZ-VUA in One-Pipe Systems
Art. No. 7786	Dim. R = 1/2"

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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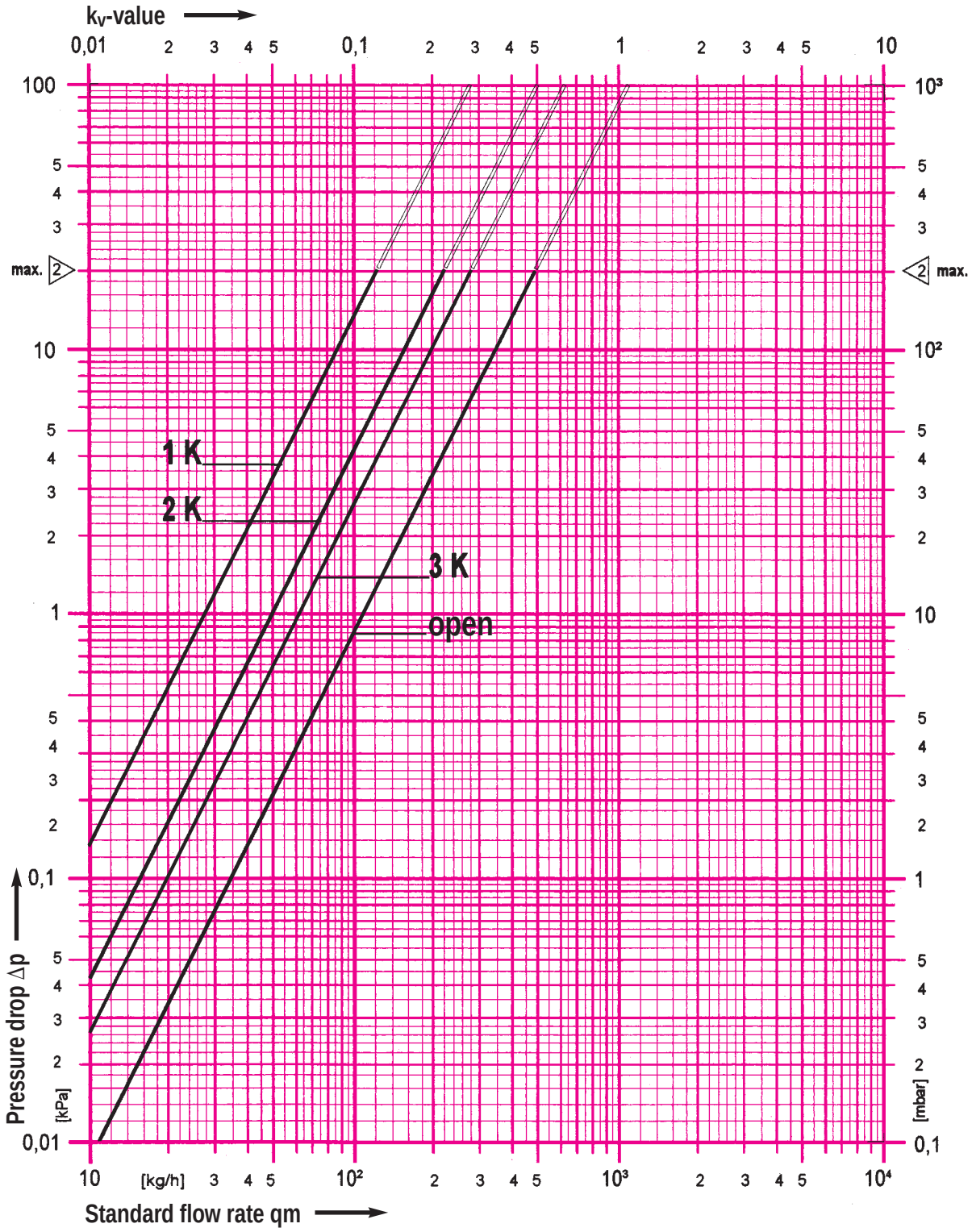
HERZ-Standard Diagram	HERZ-VUA in Two-Pipe Systems
Art. No. 7783 • 7784	Dim. R = 1/2"

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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