

Control valves					
Pipe connections	<p>6330</p> <p>L = 600 L = 1000</p>				
Bypass bodies, connection elements	<p>Connection pipe</p> <p>7174 C 7176 C 7173 C 7175 C</p> <p>One-pipe (50) Two-pipe (100)</p>				
Pipe connections	M 22 x 1,5		G 3/4"		
	<p>Ø 10, 12, 14, 15 6284</p> <p>Ø 16 1 6248 16</p>		<p>1 6248 01</p> <p>Ø 10, 12, 14, 15, 16, 18 6274 6275</p>		
	<p>6066 for PE-X-, PB- and plastic com- posite pipes</p>		<p>6098 for PE-X-, PB- and plastic com- posite pipes</p>		Copper and steel pipe
					Plastic pipe

Control Valves			
7727 C	1/2" x 15	Control valve, straight model with elbow, screw cap, radiator connection 1 6249 01 with cone seal and compression union 1 6292 01 for connection pipe installed. The thermostatic head can be mounted laterally or projecting towards the front.	HERZ-TS-90 1 7727 19
7728 AC	1/2" x 15	Control valve, reverse angle with air valve, screw cap, radiator connection 1 6210 21 with cone seal and compression union 1 6292 01 for connection pipe installed.	1 7728 92
7758 C	1/2" x 15	HERZ-Three Axis Valve "AB" Valve to the left of the radiator, with screw cap, radiator connection 1 6210 21 and compression union 1 6292 01 for connection pipe installed.	HERZ-3-D 1 7758 19
7759 C	1/2" x 15	HERZ-Three Axis Valve "CD" Valve to the right of the radiator, otherwise same as 7758 C.	1 7759 19
Connection Pipe			
6330	600	Copper connection pipe, nickel-plated, 600 mm long, Dimension: 15 x 1 mm	1 6330 11
6330	1000	as above, 1,000 mm long	1 6330 31
Bypass Bodies and Connection Elements			
7174 C	1/2" x M 22 x 1,5	Bypass body for one-pipe operation, water distribution 50%, with control upper part, radiator connection 1 6210 21 and compression union 1 6284 04 for connection pipe installed, without pipe connections.	1 7174 01 M 22x1,5
7176 C	1/2" x M 22 x 1,5	connection element for two-pipe operation, water distribution 100%.	1 7176 01
7173 C	1/2" x G 3/4"	same as 7174 C, however pipe connection with thread G 3/4"	1 7173 01 G 3/4"
7175 C	1/2" x G 3/4"	same as 7176 C, however pipe connection with thread G 3/4"	1 7175 01
Bypass bodies for one-pipe operation are marked "50" at the outside, connection elements for two-pipe operation are marked "100".			Marking of Bypass Bodies
Pipe Connections			
6248	M 22x1,5	Connection elbow 90° with freely moving nut. This component is used between bypass body and pipe connection to change the direction of the pipe by a right angle.	1 6248 16 M 22x1,5
6284	10-16	Compression union consisting of nut (female thread) and olive, for pipe diameters 10, 12, 14, 15, and 16 mm.	for Copper or Steel Pipes
6066		Plastic pipe connection consisting of hose sleeve, hose olive, and union nut, for PE-X-, PB-, and plastic composite pipes.	for Plastic Pipes for pipe dimensions refer to the HERZ-catalogue
1 6244 01 1 6240 01	1/2" x M 22 x 1,5 1/2"	Adapter for welding connection Welding connection consisting of nut, welding nipple and seal.	for Steel Pipes according to DIN 2440
6248	G 3/4"	Connection elbow 90° with freely moving nut. This component is used between bypass body and pipe connection to change the direction of the pipe by a right angle.	1 6248 01 G 3/4"
6274	10-18	Compression union with O-ring seal consisting of nut (female thread) and olive, for outside pipe diameters 10, 12, 14, 15, 16, and 18 mm.	for Copper or Steel Pipes
6275	12-15	HERZ-compression union with soft seal for copper and thin-walled steel pipes, particularly suitable for hard high-grade steel pipes and pipes with hard electroplated surfaces.	
6098		Plastic pipe connection consisting of hose sleeve, hose olive, and union nut, for PE-X-, PB-, and plastic composite pipes.	for Plastic Pipes for pipe dimensions refer to the HERZ-catalogue
1 3001 01 1 6240 01	G 3/4 1/2"	Adapter for welding connection Welding connection consisting of nut, welding nipple and seal.	for Steel Pipes according to DIN 2440

Radiator Connections

6210	1/2"	Iron pipe connection with cone seal, installed	1 6210 21
6249	1/2"	Connection elbow with cone seal, installed (valve 7727 C)	1 6249 01
6211	1/2" x 3/8"	Reducing connection with cone seal; to be ordered separately.	1 6211 00
6218	1/2"	Long threaded bush without nut, can be shortened in order to compensate for differences in structural dimensions; to be ordered separately.	1 6218 11 L = 39 1 6218 21 L = 42 1 6218 01 L = 76
6218	1/2"	Threaded bush without nut; to be ordered separately.	1 6218 41 L = 36 1 6218 31 L = 48 1 6218 51 L = 76

It is recommended to use HERZ assembly key 6680.

Accessories, Spare Parts

1 3004 22 1 3004 34 1 6625 00 1 6680 00 1 6807 90 1 6822 40 1 7780 00	Special connection element, intersection M 22 x 1.5 Special connection element, intersection G 3/4 HERZ-multi-purpose key Assembly key for connections HERZ-TS-90-assembly key Spacer block HERZ-changing tool for thermostatic upper parts	Accessories
1 7102 80 1 9102 80	HERZ-TS-90-hand wheel, Series 7000, with pre-setting and locking functions HERZ-TS-90-hand wheel, Series 9000, "Design"	Hand Wheels
1 6292 01 1 6284 04 1 6390 91 1 6390 92 1 6890 00	Compression union for connecting the valve to the connection pipe Compression union for connecting the bypass body to the connection pipe Thermostatic upper part for 7727 C, 7758 C, 7759 C Thermostatic upper part for 7728 AC HERZ-TS-90-O-ring set	Spare Parts

Models, Technical Data, Special Design Features

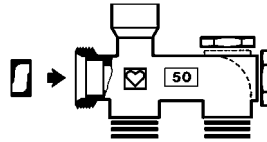
The radiator connection systems consist of control valves, connection pipes, bypass bodies or connection elements, and pipe connections. All components are nickel-plated and can be freely combined as required. The component parts must be ordered separately.	Models
The connection systems are mounted laterally onto the radiator, the control valve above and the bypass body below.	Mode of Installation
One- and two-pipe water heating systems with calibrated steel, copper or plastic pipes.	Field of Application
Maximum operating temperature 110 °C Maximum operating pressure 10 bar Hot water purity according to ÖNORM H 5195 and/or VDI-guideline 2035.	Operating Data
When using HERZ compression unions for copper and steel pipes take into account the permissible temperature and pressure ratings according to EN 1254-2: 1998, as shown in table 5. For plastic pipe connections, the maximum operating temperature is 80 °C, and the maximum operating-pressure is 4 bar, if approved by the pipe manufacturer.	HERZ compression unions
Calculation of pipe length for matching to the distance between installation bore centres. Distance between radiator installation bore centres minus penetration depth of pipe = required pipe length. Pipe penetration depth for 7727 C = 91 mm 7728 AC = 26 mm 7758 C = 28 mm 7759 C = 28 mm	Distance Between Installation Bore Centres
The connection pipe must be shortened neatly by means of a pipe cutter. If the pipe is not cut neatly or if the shortened pipe is out of round it must be calibrated. Take into account the section on Installation of Compression Unions.	Pipe Penetration Depths

In one-pipe systems the entire water circulation is routed around the radiator through the bypass body. When the valve is opened part of this water is passed through the radiator, and after cooling off it is mixed with circulation water in the bypass body. The water flow to the radiator can be limited by means of an adjustment screw in the bypass body.

In two-pipe systems the connection elements 7175 C and 7176 C are used. In these systems, 100% of the water flowing through the pipe connections is routed through the radiator.

Special Design Features

A circulation brake is supplied with all bypass bodies for one-pipe operation. When using radiators with a rating of less than 800 W, this component must be introduced in the correct position before installation in order to reduce heat transmission.



Circulation Brake

Pre-setting of two-pipe systems must be performed by means of the adjustment and shutoff screw. Remove cap.

Use key 6625 to adjust the pre-setting screw beginning from the closed valve position. For the values to be set refer to the diagrams.

Pre-setting by Means of the Adjustment Screw

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

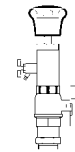
- cleaning the seat seal at the spindle or replacing the upper part. This permits easy removal of malfunctions at the thermostatic valves, caused, e.g., by foreign substances such as dirt, welding or soldering residues.

Attention when changing valve upper parts:

The control valve 7728 C is equipped with a 3/4" upper part (1 6390 92).

Take into account the instructions for operation supplied with the HERZ-changing tool.

Changing the Thermostatic Valve Upper Part



The spindle seal is an O-ring located in a brass chamber which can be changed while the system is in operation. The O-ring guarantees minimum maintenance requirements and lasting ease of valve operation.

Changing the O-Ring

1. Remove the HERZ-thermostatic head or HERZ-TS-hand wheel.
2. Unscrew the O-ring chamber with the O-ring and replace it 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. When installing the HERZ-TS-hand wheel, test whether the valve shuts by turning the hand wheel.

Article number of O-ring set: **6890**

Spindle Seal



HERZ-TS-90 O-Ring Chamber

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

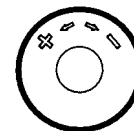
Nominal lift adjustment by means of the screw cap:

At the knurled outer surface of the screw cap there are two setting marks (webs) aligning with the "+" and "-" marks.

1. Shut the valve by means of the screw cap by turning clockwise.
2. Mark the position which corresponds to the setting mark "+".
3. Turn the screw cap anticlockwise until the setting mark "-" is in the position marked according to item 2.

HERZ-Thermostatic Valve

Nominal Lift



If the radiator and the thermostatic valve are covered (e.g. by curtains or panelling) a heat accumulation zone is formed 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 HERZ-thermostats with remote sensor or remote control.

For details on HERZ-thermostats refer to the respective Standard Sheets.

Important for Installation

After the end of the heating period, open thermostats completely by turning anticlockwise to prevent the formation of dirt deposits at the valve seat.

Thermostat

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

Take into account the instructions for installation supplied with the hand wheel.

HERZ-TS-Hand Wheel



After shutting the adjustment screw at the bypass body and shutting off the control valve the radiator may be removed. This can be done even while the system is in operation.

In thermostatic operation, the radiator is shut off when the thermostat is set to "0". Therefore, use only thermostats with shutoff function.

Removing the Radiator

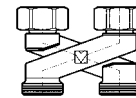
1. Seal and tighten radiator screw connections.
2. Install the control valve.
3. Mount connection pipe onto the control valve by means of compression union (cut to length if required).
4. Connect bypass body or connection element to the radiator; in doing so, slide in the connection pipe.
5. Mount bypass body or connection element onto the connection pipe by means of compression union.
6. Equip the connection pipe of the apartment supply line with a locking nut (female thread) and olive, and insert it into the socket of the bypass body or connection element.
7. Tighten locking nut (approx. 1 1/4 turns).

On-Site Installation

This special connection element is used as an intermediate component between bypass body or connection element and piping for the purpose of adapting the distance between pipes or for radiator adaptation.

For details refer to the Standard Sheet "Special Connection Element"

X-Shaped Intersection Element



HERZ-2000-radiator connection systems can be connected to steel pipes according to DIN 2440 by means of adapter 1 **3001** 01 or 1 **6244** 01 and welding connection 1 **6240** 01.

Connection to Steel Pipes according to DIN 2440

Do not use adjustable pliers or any similar tool. This would cause deformation of the locking nut! It is recommended to use support sleeves for the pipe of the apartment supply line. The pipe must be deburred neatly and calibrated.

Lubricate the thread of the locking nut with silicone oil during installation. Mineral oil would destroy the O-ring of the olive!

We draw attention to our working instructions, as well as to the section "Instructions for Installation, Installation Process" in the Standard Sheet "HERZ-Compression Unions".

Installation of Compression Unions

HERZ-2000 radiator connection systems are available in a wide variety of versions. This combination system makes stockkeeping a lot easier. However, it requires ordering and delivery of individual components.

HERZ-2000 radiator connection system, nickel-plated, for thermostatic operation in a one-pipe system, thermostat with mechanical shutoff, valve axis parallel to the radiator, radiator connection 1/2", distance between installation bore centres 500 mm, apartment supply line of 14 mm copper piping.

Delivery System and Example of an Order

Thermostat	9230	1 9230 06
Control valve	7728 AC 1/2"	1 7728 92
Connection pipe	6630-600 (shorten before installation!)	1 6330 11
Bypass body	7174 C 1/2" x M 22 x 1,5	1 7174 01
Compression union	6284 - 14 2 units!	1 6284 03

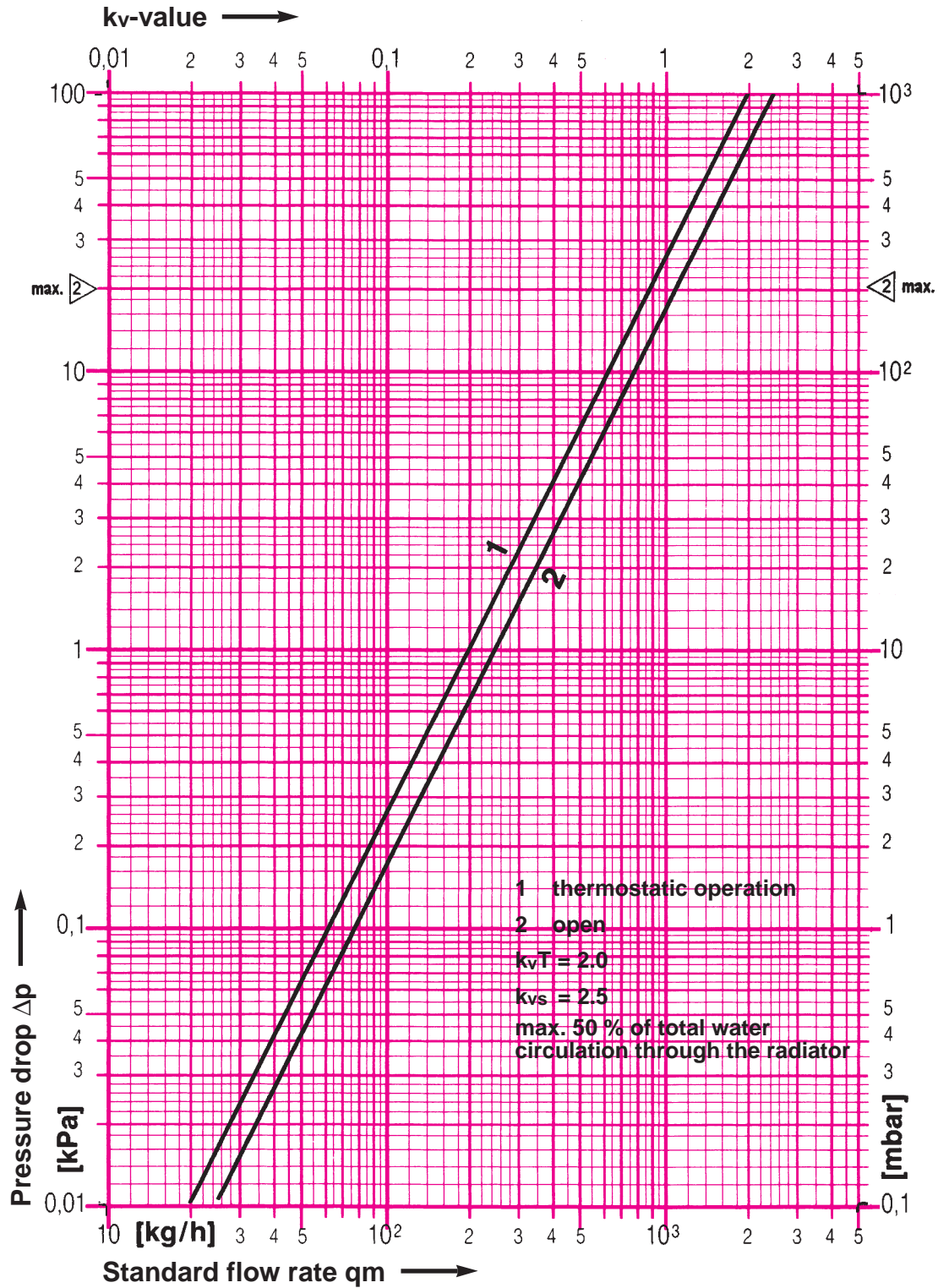
HERZ-Standard Diagram

HERZ-2000

Art. No. Bypass body 7173 C • 7174 C

Dim. DN 15 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"



HERZ Armaturen

Richard-Strauss-Strasse 22 • A-1230 Wien



HERZ-Standard Diagram

HERZ-2000

Art. No. Connection Elements 7175 C • 7176 C

Dim. DN 15 R = 1/2"

Valve dimensioning $[\Delta p]$ has to be performed in accordance with the "VDMA-Instruction Sheet for Planning and Hydraulic Balancing of Heating Systems with Thermostatic Radiator Valves"

