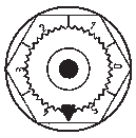
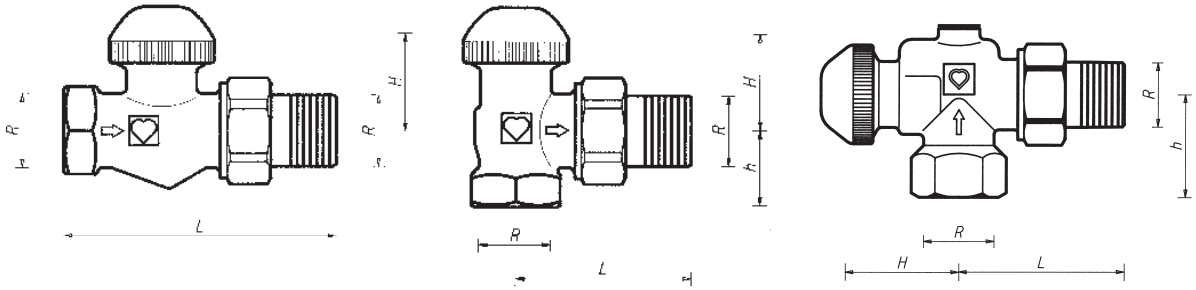
HERZ-TS-99-FV

Ultra-high precision control valve with indicating pre-setting

Data sheet **7523 FV / 7524 FV,** Issue 0720

☑ **HERZ-TS-FV thermostatic valve**





7523 **7524** **7528**

☑ **Dimensions in mm**

EN 215

Order number	Model	DN	R	Ø	L	H	h
1 **7523** 65	Straight model	10	3/8	12	75	27	–
1 **7523** 67		15	1/2	15	83	27	-
1 **7524** 65	Angle model	10	3/8	12	49	27	20
1 **7524** 67		15	1/2	15	54	23	23
1 **7528** 65	Reverse angle model	10	3/8	12	49	35	27
1 **7528** 67		15	1/2	15	55	35	33

☑ **Models**

All models are nickel-plated with a purple screw cap.
Universal models with special socket for threaded pipes and pipe connections suitable for compression adapter connection.

☑ **Operating data**

Max. operating temperature 120 °C
Max. operating pressure 10 bar

Hot water quality conforming to ÖNORM H 5195 and/or VDI guideline 2035.

☑ **HERZ compression adapters**

When using HERZ compression adapters for copper and steel pipes, observe the permissible temperatures and pressures as in EN 1254-2:1998 Table 5. A maximum operating temperature of 90 °C and a maximum operating pressure of 10 bar must not be exceeded.

☑ **Installation instructions**

Clean heating water is required to prevent the limiter bores from clogging up. The customer should provide fine filters and/or floating particle separators.

☑ **Field of application**

Water heating systems with large temperature range.

☑ **Pipe connection**

Iron pipe connection **6210** with fitted cone seal.
We recommend the use of the HERZ assembly key **6680**.

☑ Further connecting options

Order numbers can be found in the HERZ catalogue.

Can be used instead of the radiator connection and on the male thread G 3/4:

6210	1/2	Iron pipe connection, lengths 26 or 35 mm
6211	1/2	Reducing connection, 1/2“ x 3/8“
6218	1/2	Long threaded bush, without nut, can be shortened to even out installation dimension differences, length 76 mm
6218	1/2	Threaded bush, without nut, with cone, lengths 36, 39, 42, 48 and 76 mm
6235	1/2	Soldering connection, 12, 15 and 18 mm
6249	1/2	90° iron pipe connection elbow, without nut, with conical seal
6274	G 3/4	Compression adapters for copper and thin-walled steel pipes, for external pipe diameters 8,10,12,14,15,16 and 18 mm
6276	G 3/4	Compression adapters with soft seal for copper pipes. For external pipe diameters 12, 14, 15, 16 and 18 mm
6098	G 3/4	Compression adapters for PE-X-, PB and plastic composite pipes.

For use on the socket side of the valve:

6219	1/2	Reducing connection, brass, for connecting pipe and valve, female thread (pipe) x male thread (valve) 1“ x 1/2“, 5⁄4“ x 1/2“.
6066	M 22 x 1,5	Plastic pipe connection for PE-X-, PB and plastic composite pipes, for use with adapter 1 **6272** 01 (R 1/2” x M 22 x 1,5).
6098	G 3/4	Plastic pipe connection for PE-X, PB and plastic composite pipes, for use with adapter 1 **6266** 01 (R 1/2” x G 3/4”).

For pipe dimensions of plastic pipe connections refer to the HERZ catalogue.

☑ Pipe connection universal models

Universal models are fitted with special sockets offering the option of connecting either a threaded pipe or a calibrated soft steel or copper pipe. The compression adapter must be ordered separately.

When using valves for external pipe diameters of 10, 12, 14, 16 and 18 mm use adapter order no. **6272** between the valve and the compression adapter.

Pipe Ø D mm		10	12	14	15	16
Valve	R =	1/2				
Adapter	Oder No.	1 **6272** 01	1 **6272** 01	1 **6272** 01	–	1 **6272** 01
Compression Union	Order No.	1 **6284** 00	1 **6284** 01	1 **6284** 03	1 **6292** 01	1 **6284** 05

We recommend the use of support sleeves for the installation of soft steel or copper pipes with compression adapters. For perfect installation, it is imperative to lubricate the thread of the locking nut (male thread and female thread) as well as the olive itself with silicon oil. We refer to our instructions for installation.

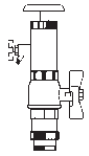
☑ Pre-setting function

Pre-setting is performed by means of a flow restrictor downstream of the valve seat enclosing the pre-setting function valve seal. This flow restrictor is adjustable from the outside. It does not obstruct the working lift of the valve spindle.

Pre-setting can be performed manually by means of the purple pre-setting button. This is performed by setting the pointer on the pre-setting button to the figure on the scale of the upper part obtained by calculation or from the HERZ-standard diagram.

For convenient pre-setting a HERZ pre-setting key is available (1 **6819** 98) which engages with the teeth of the pre-setting button.

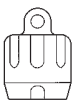
☑ Changing the thermostatic valve upper parts



The upper part can be replaced easily while the system is in operation using the HERZ changing tool. Follow the enclosed operating instructions during use.

Order number for HERZ changing tool: 1 **7780** 00.

☑ Setting instructions with pre-setting key 1 6819 98



1. Remove HERZ thermostatic head, handwheel or screw cap.
2. Set purple pre-setting button (manufacturer‘s setting step „6“) manually or with the pre-setting key (1 **6819** 98) to the desired pre-setting step 1–6.
3. Mount HERZ thermostatic head or handwheel.

The valve setting has now been locked.

☑ Spindle seal HERZ-TS-FV upper part

The spindle seal is a special sealing ring which keeps maintenance requirements to a minimum and ensures ease of valve operation over a long period of time. If the spindle seal is worn, the upper valve part has to be replaced, which means simultaneous replacement of the seat seal which may also be damaged.
The pre-setting stage is to be reset after changing the upper part.

1. Remove the HERZ thermostatic head or HERZ-TS-handwheel.
2. Unscrew the old upper part and replace it with a new one.
3. Replace the HERZ thermostatic head or the HERZ-TS handwheel.

The upper part can be changed while the system is still under pressure using the HERZ changing tool.
Follow the operating instructions for the HERZ changing tool.
Order number for HERZ-TS-FV-valve upper part: 1 **6367** 99.

☑ HERZ-thermostatic valve, nominal lift

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 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 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.

☑ HERZ-TS handwheel

In the exceptional case that the HERZ thermostatic valve is not equipped with a HERZ thermostatic head, the HERZ-TS handwheel is used to replace the screw cap.
During installation, follow the instructions enclosed with the handwheel.

☑ Installation

The lower part of the thermostatic valve is incorporated into the radiator intake with the flow in the direction of the arrow (arrow on the valve body). If possible, the HERZ thermostatic head should be in a horizontal position in order to permit optimum room temperature control and minimise interference.

☑ Installation indications

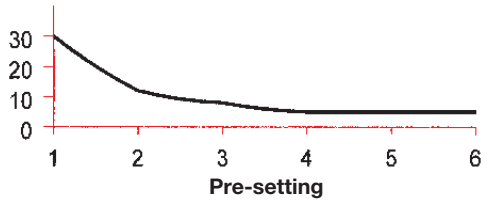
Under no circumstances should the HERZ thermostatic head be exposed to direct sunlight or equipment that emits relevant quantities of heat – e.g. television sets. If the radiator is covered (e.g. by curtains), this will cause heat accumulation zones in which the thermostat cannot sense the room temperature and cannot therefore control it. In these cases, use HERZ thermostats with remote sensor or remote control.

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

☑ 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 standard flow tolerance

Pre-setting	k_V-value	Flow tolerance [±%]
1	0,019	
2	0,043	
3	0,089	
4	0,17	
5	0,26	
6	0,3	
max. (k_{VS})	0,39	

Accessories, handwheels

1 **6680** 00 HERZ-Assembly key for connections
1 **6807** 90 HERZ-TS-90-Assembly key
1 **6819** 98 Pre-setting key
1 **7780** 00 HERZ Changefix, tool for HERZ thermostatic inserts
1 **9102** 80 HERZ design hand wheel, M28x1,5

Spare parts

1 **6367** 99 HERZ-TS-FV thermostatic insert

Materials

Water purity in accordance with the ÖNORM H5195 and VDI 2035 standards. Ethylene and propylene glycol can be mixed to a ratio of 25 - 50 vol. [%].

Ammonia contained in hemp can damage brass valve bodies, EPDM gaskets can be affected by mineral oils lubricants and thus lead to failure of the EPDM seals. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection.

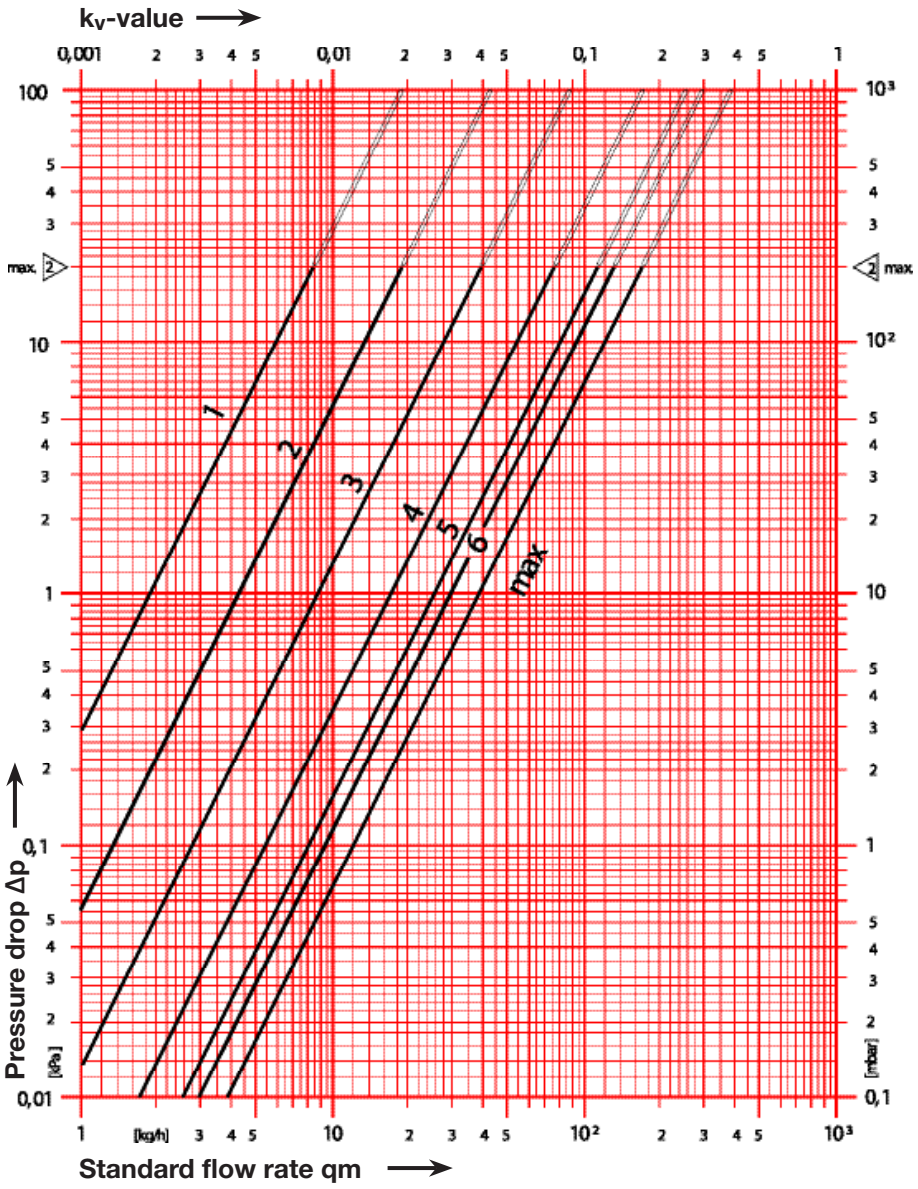
Pursuant to Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1% (w / w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an alloy, actual exposure is not possible and therefore no additional information on safe use is necessary.

Disposal

Disposal must comply with local and current legislation. Prior to the assembly, maintenance and disassembly, the system must be depressurized, cooled down and emptied. Only authorized, trained and qualified personnel may perform activities of assembly, start-up, operation and disassembly of the equipment. Before disposal the valve must be dismantled into groups of structural components and delivered to authorized waste recycling organizations.

HERZ-Standard Diagram	HERZ-TS-FV
Order No. 7523 FV / 7524 FV / 7528 FV	Dim. DN 10 / DN 15; R = 3/8 / R = 1/2

Valve dimensioning (Δ p) must be performed in accordance with the “VDMA-Instruction Sheet for Planning and Hydraulic Balancing of Heating Systems with Thermostatic Radiator Valves.”



	kv-Value		
p-deviation [K]	1	2	3
Pre-setting			
1	0,02	0,02	0,04
2	0,04	0,04	0,04
3	0,08	0,08	0,08
4	0,13	0,16	0,17
5	0,17	0,26	0,30
6	0,18	0,30	0,38