

# Renovation of heating systems

**HERZ thermostatic control and regulating valves**



## ☑ From old to new!

The correct identification of valve fittings is the essential prerequisite for a correct and economical plant renovation. Which replacement and retrofit parts are required / available? This comprehensive guide provides all the answers and practical support for the conversion of manual control valves to HERZ thermostatic valves and HERZ thermostatic heads - especially for the target groups of maintenance engineers, plant supervisors as well as project and building technicians.

An important factor in all renovation work is, in addition to the structural conditions, to consider the hydraulics of the system.

Thermostatic valves always have a higher flow resistance and thus a lower kv value than manually operated radiator valves. Especially if a system is only partially modernised, it must be ensured by suitable measures, such as the regulation of the pipe system, that the heating medium is also distributed correctly. We recommend HERZ balancing valves, pre-settable HERZ RL-5 return valves and other regulating valves. Detailed information can be found in the current HERZ product range. Often neglected, but both economically and ecologically sensible: the calculation of the existing pipe network with the new resistance values.

After all, the core of energy-efficient buildings is a building services system that is economical and comfortable with operation and maintenance.



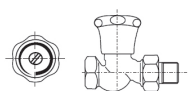
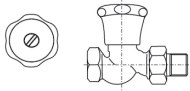
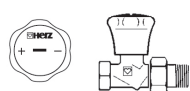
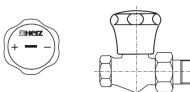
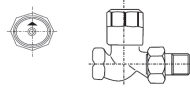
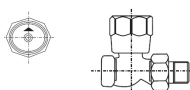
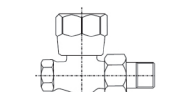
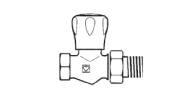
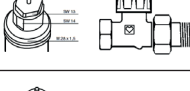
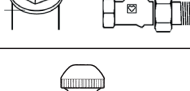
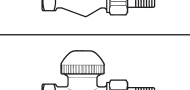
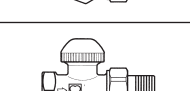
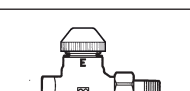
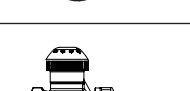

## ☑ Product

For the modernization of heating systems, various HERZ series TS-90 thermostatic valves are available:

- ☑ TS-90 thermostatic valve
- ☑ TS-90-kv thermostatic valve with fixed, graded kv values
- ☑ TS-90-V thermostatic valve with continuous presetting
- ☑ TS-98-V thermostatic valve with continuous presetting and readout
- ☑ TS-90-E thermostatic valve with reduced resistance
- ☑ TS-99-FV thermostatic valve with ultra-fine presetting and readout
- ☑ TS-E thermostatic valve with the lowest resistance
- ☑ TS-120-V SMART thermostatic valve with automatic flow control

Combined with HERZ thermostatic heads with a fixed sensor, remote sensor or remote setting, the result is optimal room temperature control - simply for well-being. When modernizing heating systems, it should always be borne in mind that not every radiator is automatically equipped with a return valve. In principle, we recommend the installation of such valves (in accordance with ÖNORM H 5150), since this also gives the possibility of hydraulic balancing and, in the case of repair work, the radiator can be dismantled even if the system is under pressure. All current models can be found in the HERZ product range and at [www.herz.eu](http://www.herz.eu).

## Overview

Valve	Year built	Features	Sealing set	Comment	Comment	Illustration
AS 6123 6124	from 1965	Valve yellow, Handwheel cream Black disc	O-Ring-Box red 1 6710 00	Seal can be replaced under pressure; valve must be fully opened	Not thermostatisable	
AS 6123 6123	1965- 1978	Valve yellow, Handwheel cream Black disc	O-Ring-Box red 1 6710 00	Seal can be replaced under pressure; valve must be fully opened	Not thermostatisable	
AS-T 6823 6824	1978- 1992	Valve nickel-plated, Handwheel grey Plate anthracite	Dim. 3/8", 1/2", 3/4"; O-Ring-Box yellow 1 6810 00 Dim. 1" and 5/4"; O-Ring-Box red 1 6710 00	Seal can be replaced under pressure; valve must be fully opened	Thermostatable with adapter 1 6376 00 for 3/8" and 1/2" and 1 6376 02 for 3/4"; System must be emptied	
AS-T-90 6823 6824	1992-	Valve nickel-plated, Handwheel white Plate white	Upper part 1 6310 xx	Upper part under pressure using the airlock 1 7780 00 exchangeable	Can be thermostated with with current thermostatic top units. Pressurised: only with airlock 1 7780 00	
ID 6023 6024	1965- 1970	Valve yellow, Handwheel cream round	O-Ring-Set 1 6705 00	Seal can be replaced under pressure; valve must be fully opened	Not thermostatisable	
GP 5023 5024	1970- 1978	Valve yellow, Handwheel cream 8-cornered	no sealing set available		Thermostatable with adapter 1 6376 00 for 3/8" and 1/2" and 1 6376 02 for 3/4"; system must be drained	
GP-T 5823 5824	1978- 1992	Valve nickel-plated, Handwheel grey 8-cornered	O-Ring-Set 1 6705 00	Seal can be replaced under pressure; valve must be fully opened	Thermostatable with adapter 1 6376 00 for 3/8" and 1/2" and 1 6376 02 for 3/4"; system must be drained	
GP 5523 5524	1992-	Valve nickel-plated, Handwheel white	Gasket set without presetting: 1 6701 00 Gasket set with presetting: 1 6702 00	Seal can be replaced under pressure; slight water leakage	Not thermostatisable	
TS old 7123 7124	1971- 1978	Valve yellow, thermostatic insert with pressure bolt Ø 2,2 mm, stroke 4 mm	no gasket set available	No replacement tops available	Replacement thermostatic head 1 7235 01 (1973-1977)	
TS old 7823 7824	1978- 1991	Nickel-plated valve, thermostatic insert with pressure bolt Ø 2,2 mm, stroke 2 mm	no gasket set available		Spare upper part: Adapter 1 6376 00 for 3/8" and 1/2" and 1 6376 02 for 3/4"; system must be drained	
TS-90 TS-90-kv 7723/13 7724/14	1991-	Nickel-plated valve, thermostatic insert with pressure bolt Ø 3 mm	O-Ring-Bolt 1 6890 00	Seal can be replaced under pressure; slight water leakage	For which current thermostat top parts can be used. Pressurised: nur mit Schleuse 1 7780 00	
TS-90-V 7723 7724	1991-	Nickel-plated valve, thermostatic insert with pressure bolt Ø 3 mm	no gasket set available		Current upper thermostat parts can be used to replace the upper part. Pressurised: only with lock 1 7780 00	
TS-90-E 7723 7724	1996-	Nickel-plated valve, thermostatic insert with pressure bolt Ø 3 mm; with low resistance	O-Ring-Bolt 1 6890 00	Seal can be replaced under pressure; slight water leakage	Upper part exchange: Adapter 1 6379 02; Pressurised: only with airlock 1 7780 00	
TS-E 7723 7724		Valve nickel-plated, thermo- static insert with pressure bolt Ø 3 mm; with low resistance	O-Ring-Bolt 1 6890 00	Seal can be replaced under pressure; slight water leakage	Upper part exchange: Adapter 1 6379 03; not interchangeable under pressure	
TS-120-V SMART 7623 7624 7628	2024-	Nickel-plated valve, thermostatic insert with pressure bolt Ø 3 mm, with automatic flow control	-	-	Upper part can be exchanged under pressure	

☑ Overview HERZ manual regulating valves and thermostatic valves (TS)

Group AS from 1965 to today

**HERZ AS before 1965**

6123  
6124

yellow, handwheel cream  
Indicator black with screw  
Spindle with square



**HERZ AS 1965 - 1978**



6123  
6124

yellow, handwheel cream  
Indicator black smooth with screw

**HERZ AS-T 1978 - 1992**

6823  
6824

nickel plated, handwheel gray  
Indicator anthracite matt



**HERZ AS-T-90 from 1992**



1 6823 9x  
1 6824 9x

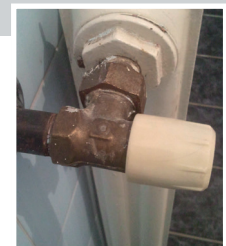
nickel plated, hand wheel white  
Indicator white

Group ID

**HERZ ID 1965 - 1970**

6023  
6024

yellow, handwheel cream,  
round with screw



Group GP

**HERZ GP 1970 - 1978**

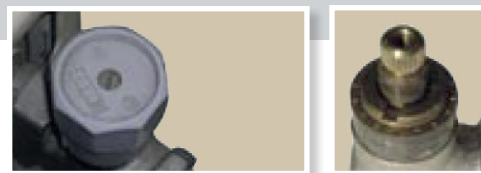


5023  
5024

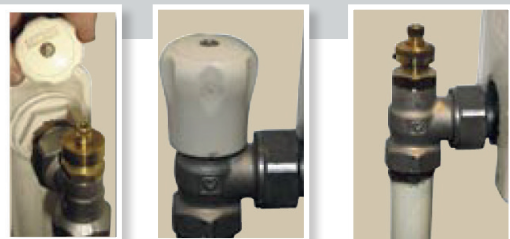
yellow, handwheel cream  
8-sided

## HERZ GP-T 1978 - 1992

5823 nickel plated, handwheel gray  
5824 8-sided



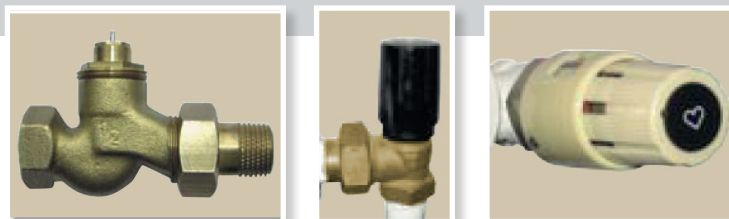
## HERZ GP from 1992



5523 nickel-plated, white handwheel  
5524 with screw, with or without pre-  
setting, one-piece

## HERZ TS 1971 - 1972

7123 yellow, head mounting thread  
7124 on the body,  
upper part round with two flats  
and with hexagon



## HERZ TS 1973 - 1977



7123 yellow or nickel plated,  
7124 head mounting thread on the  
body, upper part round with two  
flats

## HERZ TS from 1982

7123 yellow,  
7124 head thread at the top  
7123 L nickel



## HERZ TS-90 from 1992



nickel-plated, protective cap  
white head mounting thread on  
the body, 5 versions  
TS-90, TS-90-V  
TS-90-KV, TS-90-E  
TS-90-H

## HERZ TS-120-V SMART

7623 nickel-plated  
7624 orange cap orange  
7628 head thread on housing



## ☑ HERZ special items for conversions

In addition to the regular product range, we offer special items for the conversion of heating systems. The straight and angle design of the TS-90, TS-90-V, TS 98-V and TS-FV series are also available in the D series. For order numbers see delivery program. Additional TS-90-kv in 3/8" angle and straight form, construction dimension D:

Type	Straight form	Eckform	Long threaded bush	1 6218 00
B	1 7773 69	1 7774 69		
C	1 7773 79	1 7774 79		
D	1 7773 89	1 7774 89		
E	1 7773 99	1 7774 99		

Note: Special items are not in stock - please plan longer delivery times.

## ☑ Conversion of the individual HERZ valve types

**Note:** The following section describes the installation of TS 90 valves. However, it can always be selected from 5 TS of all series (TS-90, TS-90-kv, TS-90-V, TS-98-V and TS-FV).

### HERZ AS before 1965 (Seite 4)

Due to the age of these valves, a conversion adapter is not provided. The installed valves are to be exchanged:

- Straight model: Exchange for TS-90 construction series D.
- Angle model: Swap against TS-90 with the longer tailpiece (see selection table) installed.

### HERZ AS 1965 to 1978 (page 4)

Due to the age of these valves, a conversion adapter is not provided. The installed valves are to be exchanged:

- Straight model: Swap against TS-90 with the longer tail piece 1 (see selection table) installed.
- Angle model: Exchange for TS-90 with the longer tail piece (see selection table) installed.

### HERZ AS-T 1978 - 1992 (page 4)

If valve replacement is necessary due to damaged valves, the TS-90 models are easy to install as a replacement. If the valves to be modernized were installed after 1983, even the tail piece can remain installed because the same cone angle is present.

If no TS-90 models are to be used, the thermostatic insert 1 6376 00 (3/8"-1/2") or 1 6376 02 (3/4") can be installed in the existing body.

### HERZ AS-T-90 from 1992 (page 4)

Modification of these models is to be carried out on TS-90 using the standard TS-90 inserts without draining the installation using the HERZ CHANGEFIX replacement unit.

### HERZ ID 1965 - 1970 (page 4)

Due to the age of these valves, a conversion adapter is not provided. The installed valves are to be exchanged:

- Straight and angle Models: Swap against TS-90 where the longer tail piece (see selection table) is to be installed.

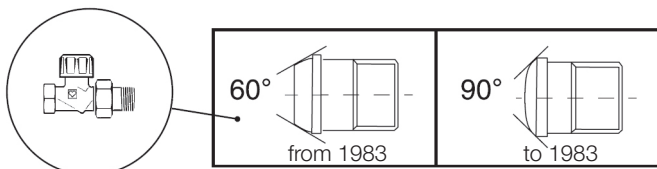
### HERZ GP 1970 - 1978 (page 4)

These models cannot be fitted with a conversion adapter to accommodate standard TS-90 inserts.

To simplify later service work, a valve exchange must be made on TS-90 valves.

- Straight and Angle Models: Swap against TS-90 with the tail piece (see selection table) installed.

If no TS-90 models are to be used, the thermostatic insert 1 6376 00 (3/8"-1/2") or 1 6376 02 (3/4") can be installed in the existing body.



### HERZ GP-T 1978 - 1992 (page 5)

If valve replacement is necessary due to damaged valves, the TS-90 models are easy to install as a replacement. If the valves to be modernized were installed after 1983, even the threaded sleeve can remain installed because the same cone angle is present.

If no TS-90 models are to be used, the thermostatic insert 1 **6376 00** (3/8"-1/2") or 1 **6376 02** (3/4") can be installed in the existing body.

### HERZ GP from 1992 (page 5)

The conversion to thermostatic valves and body replacement is not possible due to the crimped upper part. Damaged valves must be replaced with a TS-90 or GP valve.

### HERZ TS 1971 to 1972 (page 5)

These models cannot be fitted with a conversion adapter to accommodate standard TS-90 inserts. To simplify subsequent service work, a valve exchange must be carried out on TS-90 valves.

#### Valve replacement:

- Straight model: Swap against TS-90 with the tail piece (see selection table) installed.
- Angle model: Exchange for TS-90, with the new valves being the same size.

### HERZ TS 1973 to 1977 (page 5)

These models cannot be fitted with a conversion adapter to accommodate standard TS-90 inserts. To simplify subsequent service work, a valve exchange on TS-90 valves is required.

#### Valve replacement:


- Straight model: Swap against TS-90 with the longer threaded bushing (see selection table) installed.
- Angle model: Exchange for TS-90, with the new valves being the same size.

Operation of these thermostatic heads is only possible with the current HERZ thermostatic head 1 **7235 01**.

### ☑ Valve equipment with thermostatic heads

In the case of equipment with manual regulating valves, the position of the handwheel was not critical for the functioning of the heating system - the mere fact that adjustment could be achieved was quite sufficient. This is different with thermostatic heads: The room temperature can only be optimally regulated if the room air can pass unhindered to the sensor. Often, however, heavy curtains and / or furniture hinder air circulation or heat-emitting devices affect the scheme. If a thermostatic head with a fixed sensor cannot be mounted in a horizontal position and as freely accessible as possible, the room temperature is only regulated inaccurately.

### Selection table for long threaded bushes

Model	Dim.	Order number
	<b>Long threaded bush</b> without nut, with cone. Can be shortened to even out installation dimension differences.	<b>3/8 x 40</b> 1 <b>6218 00</b>
		<b>1/2 x 76</b> 1 <b>6218 01</b>
		<b>3/4 x 70</b> 1 <b>6218 02</b>

### HERZ TS 1978 to 1991 (page 5)

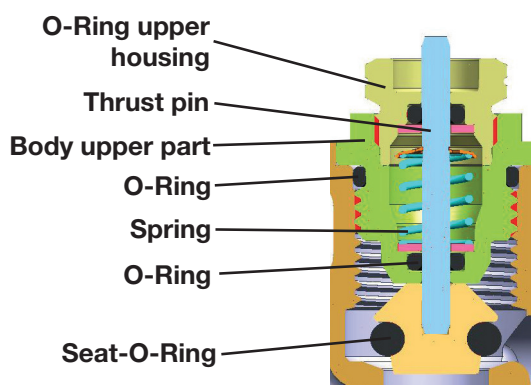
If valve replacement is necessary due to damaged valves, the TS-90 models are easy to install as replacements. If the valves to be modernized were installed after 1983, even the tail piece can remain installed because the same cone angle is present. If no TS-90 models are to be used, the thermostatic insert 1 **6376 00** (3/8"-1/2") and 1 **6376 02** (3/4") can be installed in the existing body.

### HERZ TS-90 from 1992 (page 5)

The conversion to current TS-90 inserts is possible with the help of the HERZ CHANGEFIX (servicing tool) 1 **7780**. A conversion to pre-settable upper parts (TS-98-V, TS-90-V, TS-99-FV) is only possible with 1/2" valves, or with pre-settable valves DN10 and DN20.

### HERZ TS-120-V SMART from 2024 (page 5)

The dynamic upper parts can be replaced under pressure using the HERZ CHANGEFIX (servicing tool) under pressure.



## ☑ Overview of thermostatic inserts (HERZ Thermostatic valves from year 1990)

### Thermostatic inserts TS-90



**Thermostatic insert TS-90,**  
1 **6390 90** (3/8")  
Protective cap white  
Thread M 17 x 1.5 mm

for TS-90, AS-T-90 (3/8") from year 1991,  
replacement under pressure with  
CHANGEFIX 1 **7780 00**



**Thermostatic insert TS-90,**  
1 **6390 91** (1/2")  
Protective cap white  
Thread M 17 x 1.5 mm

for TS-90, HERZ-3000, VUA, VTA (2-pipe),  
AS-T-90 (1/2") from year 1991,  
replacement under pressure with  
CHANGEFIX 1 **7780 00**



**Thermostatic insert TS-90,**  
1 **6390 92** (3/4")  
Protective cap white  
Thread M 17 x 1.5 mm

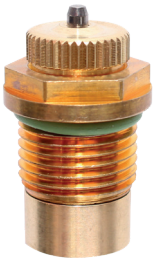
for TS-90, VUA, VTA (1-pipe), AS-T-90 (3/4")  
from year 1991, replacement under pressure  
with CHANGEFIX 1 **7780 00**



**Thermostatic insert TS-90,**  
1 **6390 93** (1")  
Protective cap white  
Thread M 20 x 1.5 mm

for TS-90, replacement under pressure  
with CHANGEFIX 1 **7780 00**

### Thermostatic insert TS-90-V



**Thermostatic insert TS-90-V,** 1 **6367 97** (3/8", 1/2", 3/4")  
Protective cap red  
Thread M 17 x 1.5 mm  
Presetting with key 1 **6809 67**

for TS-90-V, HERZ-3000, VUA, VTA (2-pipe), AS-T-90 (3/8",  
1/2") from year 1991, replacement under pressure with  
CHANGEFIX 1 **7780 00**

### Thermostatic insert TS-98-V



**Thermostatic insert TS-98-V,** 1 **6367 98** (3/8", 1/2", 3/4")  
Protective cap orange  
Thread M 17 x 1.5 mm  
Presetting with key 1 **6819 98**

for TS-98-V, HERZ-3000, VUA, VTA (2-pipe), AS-T-90 (3/8",  
1/2") from year 1991, replacement under pressure with  
CHANGEFIX 1 **7780 00**

### Thermostatic insert TS-99-FV



**Thermostatic insert TS-99-FV,** 1 **6367 99** (3/8", 1/2")  
Protective cap purple  
Thread 17 x 1.5 mm  
Presetting with key 1 **6819 98**

for TS-FV, HERZ-3000, VUA, VTA (2-pipe), AS-T-90 (3/8",  
1/2") from year 1991, replacement under pressure with  
CHANGEFIX 1 **7780 00**



## Thermostatic inserts with fixed kv values



### Thermostatic insert TS-90

1 **6365 69** (1/2")  
 Blue protective cap  
 Thread M 17 x 1.5 mm  
 Marking on the upper part "B"  
 Label on valve colour ring "Blue"  
 Kv = 0.06  
 for TS-90 (1/2"), exchange under pressure  
 with CHANGEFIX 1 **7780 00**



### Thermostatic insert TS-90

1 **6365 79** (1/2")  
 Protective cap green  
 Thread M 17 x 1.5 mm  
 Marking on the upper part "C"  
 Label on valve colour ring "Green"  
 Kv = 0.12  
 for TS-90 (1/2"), exchange under pressure  
 with CHANGEFIX 1 **7780 00**



### Thermostatic insert TS-90

1 **6365 89** (1/2")  
 Protective cap yellow  
 Thread M 17x 1.5 mm  
 Marking on the upper part "D"  
 Label on valve colour ring "yellow"  
 Kv = 0.25  
 for TS-90 (1/2"), exchange under pressure  
 with CHANGEFIX 1 **7780 00**



### Thermostatic insert TS-90

1 **6365 99** (1/2")  
 Protective cap white  
 Thread M 17 x 1.5 mm  
 Marking on the upper part "E"  
 Marking on valve colour ring "White"  
 Kv = 0.5  
 for TS-90 (1/2"), exchange under pressure  
 with CHANGEFIX 1 **7780 00**



## Thermostatic insert TS-90-E



### Thermostatic insert TS-90-E

1 **6379 02** (1/2")  
 Protective cap white  
 Thread M 20 x 1.5 mm  
 for TS-90-E (1/2"), replacement under pressure  
 with CHANGEFIX 1 **7780 00**

## Thermostatic adaptation of HERZ regulating valves



**Thermostatic upper part for conversion from HERZ-AS and GP-T manual regulation valves,**  
 1 **6376 00** (3/8", 1/2")  
 Thread M 19 x 1.0 mm

~13 mm



**Thermostatic upper part for converting GP-T and HERZ-AS-T from 1978 onwards to thermostatic operation,**  
 1 **6376 02** (3/4")

~17 mm

## TS-E



### Ventiloberteil TS-E

1 **6379 03** (1/2" - 1")  
 Protective cap white  
 Thread M 28 x 1.5 mm  
 for TS-E (1/2" - 1"), replacement under pressure not possible

~26 mm

## TS-D



### Thermostatic insert for DIN Valve

Year of construction 1986-1990  
 1 **6379 00** (3/8", 1/2")  
 Thread M 20 x 1.5 mm

~10 mm

## TS-98-VH



### Thermostatic insert

1 **6398 98**  
 Protective cap light grey  
 Thread M 17 x 1.5 mm for TS-98-VH (3/8", 1/2")  
 Replacement mit CHANGEFIX  
 Thread M 30 x 1.5 mm

## TS-120-V SMART



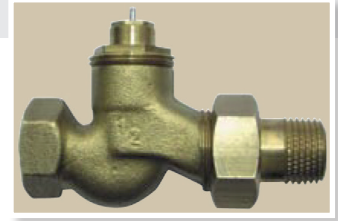
### Thermostatic insert for TS-120-V SMART

Protective cap orange  
 M 22 x 1.5 mm for  
 TS-120-V SMART (1/2")

## History of HERZ-TS Thermostatic valves

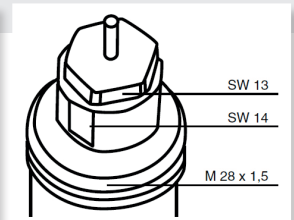
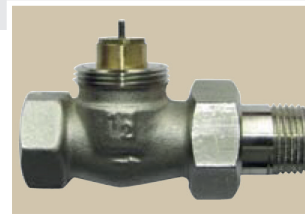
### 1971 - 1972

No spare parts available anymore.



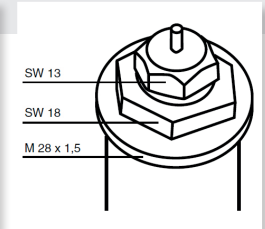
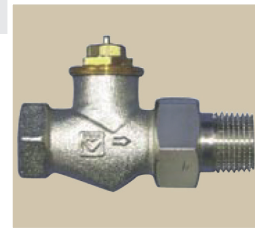
### 1973 - 1977

HERZ-TS and HERZ-TS-L (luxury version, nickel-plated), no spare parts available, thermostatic head 1 **7235 01** can be used.



### 1978 - 1991

HERZ-TS and HERZ-TS-L (luxury version, nickel-plated), from 1985 all valves were nickel-plated. Connection thread for thermostatic head M 28 x 1.5 mm on upper part, upper part with hexagon O-ring screw, spindle  $\varnothing$  2.2 mm, replacement upper part 1 **6376 00** for dim. 3/8" and 1/2", 1 **6376 02** for dim. 3/4". Manual operation and all thermostatic heads from the current product range possible.



### 1991 - today

HERZ-TS-90  
nickel-plated version, connection thread for thermostatic head on valve body M 28 x 1.5 mm, upper part with hexagon O-ring screw, spindle  $\varnothing$  3 mm

Spare parts:

O-ring set 1 **6890 00**

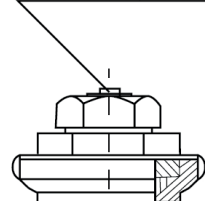
Upper parts 3/8" - 1 **6390 90**, 1/2" - 1 **6390 91**, 3/4" - 1 **6390 92**, 1" - 1 **6390 93**

Manual operation and all thermostatic heads from the current product range possible.

Further versions: TS-90-V, TS-98-V, TS-90-E, TS-99-FV, TS-90-kv, DE LUXE

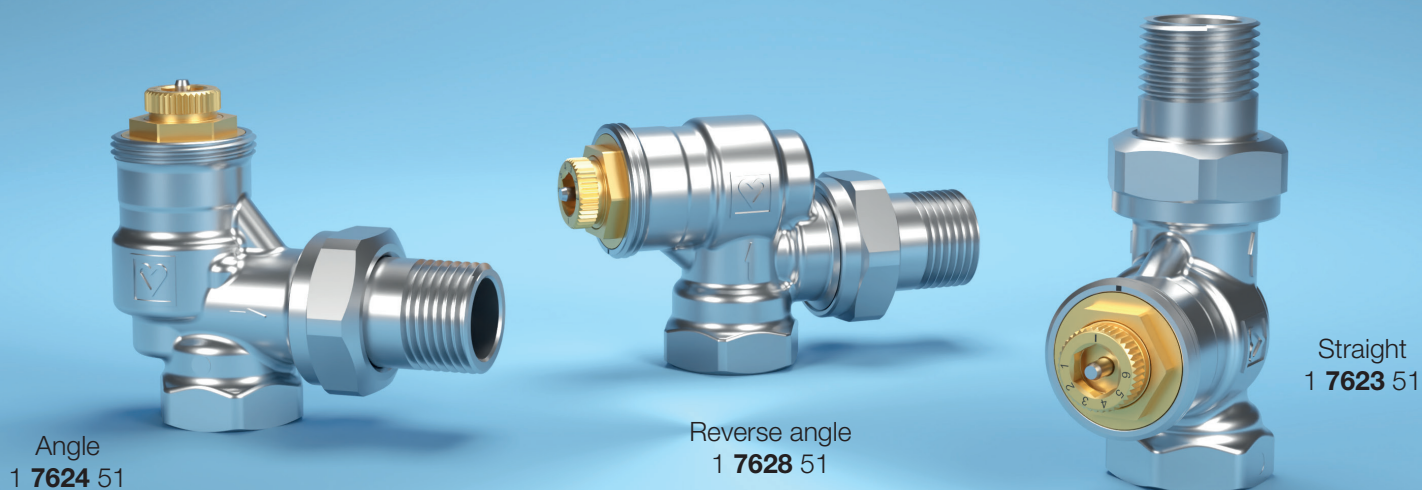


Druckbolzen  $\varnothing$  3 mm



## ☑ TS-120-V SMART

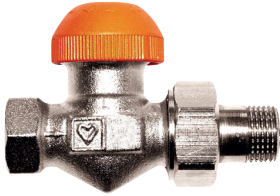
Dynamic thermostatic valves are installed directly on radiators and combine the classic thermostatic valve with a differential pressure controller in one housing. The integrated differential pressure controller ensures that the required amount of water is available to each radiator. With a mounted HERZ thermostatic head, the required amount of water is automatically regulated depending on the set temperature.



Order number	Description	DN	Rp, "	R, "	L, mm	H, mm	h, mm	$k_{vs}$ value, m <sup>3</sup> /h at 2K	Connection
1 7623 51	Series „F“ Straight	15	1/2	1/2	82.3	31.5	-	0.35	M 28 x 1.5
1 7624 51	Series „F“ Angle	15	1/2	1/2	53.3	32.5	23	0.35	M 28 x 1.5
1 7628 51	Series „F“ Reverse angle	15	1/2	1/2	53.3	40.6	23	0.35	M 28 x 1.5

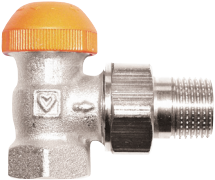
☑ HERZ - Thermostatic valves M 28 x 1.5

Straight\*



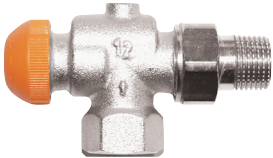
	DN10 Rp 3/8"	DN15 Rp 1/2"	DN15 G 3/4" AG	DN20 Rp 3/4"	DN25 Rp 1"
TS-99-FV	1 7523 65	1 7523 67	-	-	-
TS-90-V	1 7723 65	1 7723 67	1 7733 67	1 7723 69	-
TS-98-V	1 7623 65	1 7623 67	1 7633 67	1 7623 69	-
TS-90	1 7723 90	1 7723 91	1 7733 81	1 7723 92	1 7723 93
TS-90 DIN	1 7723 95	1 7723 96	-	1 7723 97	-
TS-90-E	1 7723 00	1 7723 01	-	-	-
TS-E	-	1 7723 11	-	1 7723 02	1 7723 03
TS-120-V SMART	-	1 7623 51	-	-	-

Angle



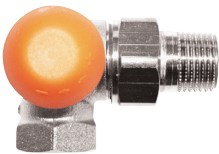
TS-99-FV	1 7524 65	1 7524 67	-	-	-
TS-90-V	1 7724 65	1 7724 67	1 7738 67	1 7724 69	-
TS-98-V	1 7624 65	1 7624 67	1 7638 67	1 7624 69	-
TS-90	1 7724 90	1 7724 91	1 7724 37	1 7724 92	1 7724 93
TS-90 DIN	1 7724 95	1 7724 96	-	1 7724 97	-
TS-90-E	1 7724 00	1 7724 01	-	-	-
TS-E	-	1 7724 11	-	1 7724 02	1 7724 03
TS-120-V SMART	-	1 7624 51	-	-	-

Reverse angle



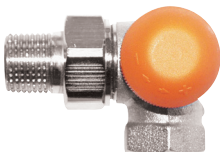
TS-99-FV	1 7528 65	1 7528 67	-	-	-
TS-90-V	1 7728 65	1 7728 67	1 7748 67	-	-
TS-98-V	1 7628 65	1 7628 67	1 7648 67	-	-
TS-90	1 7728 90	1 7728 91	1 7748 91	1 7728 97	-
TS-90-E	1 7728 00	1 7728 01	-	-	-
TS-E	-	1 7728 11	-	1 7728 02	1 7728 03
TS-120-V SMART	-	1 7628 51	-	-	-

3-axis valve "AB"



TS-99-FV	-	-	-	-	-
TS-90-V	-	1 7758 67	1 7745 67	-	-
TS-98-V	-	1 7658 67	1 7645 67	-	-
TS-90	1 7758 90	1 7758 91	1 7745 91	-	-
TS-90-E	-	1 7758 01	-	-	-
TS-E	-	-	-	-	-

3-axis valve "CD"



TS-99-FV	-	-	-	-	-
TS-90-V	-	1 7759 67	1 7746 67	-	-
TS-98	-	1 7659 67	1 7646 67	-	-
TS-90	1 7759 90	1 7759 91	1 7746 91	-	-
TS-90-E	-	1 7759 01	-	-	-
TS-E	-	-	-	-	-

\* to be ordered separately: Iron pipe connection bend 90°, nickel-plated brass, conical sealing  
 1 6249 00 (R 3/8"), 1 6249 01 (R 1/2"), 1 6249 02 (R 3/4")

**Nominal flow rate in l/h (10 kPa)  
with default settings**

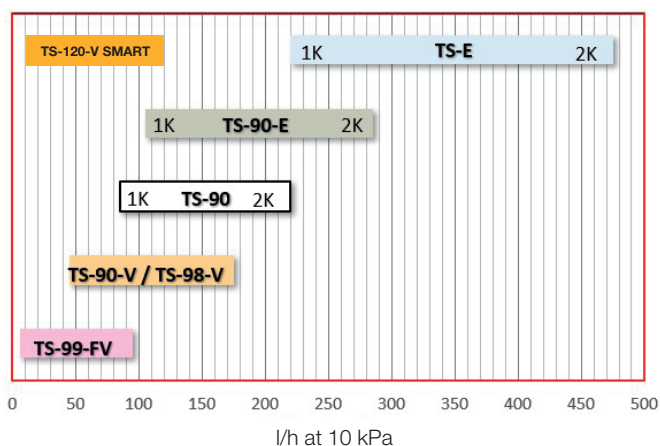
	TS-99-FV	TS-90-V	TS-98-V	TS-120-V SMART
1	6	9	45	10
2	13	16	95	27
3	25	28	135	44
4	50	47	155	61
5	80	63	168	78
6	95	80	175	95
7	-	100	-	-
8	-	125	-	-
9	-	175	-	-
l	-	-	-	120

**Nominal flow rate (2 K) and flow rate  
at 1 K and 10 kPa [l/h]**

	DN	TS-90	TS-90-E	TS-E
1 K	10	85	105	-
	15	100	140	220
	20	125	-	220
2 K	10	165	190	-
	15	195	285	475
	20	220	-	475
	25	-	-	475

- Purple** TS-99-FV
- Red** TS-90-V
- Orange** TS-98-V
- White** TS-90
- White** TS-90-DIN
- Gray** TS-90-E
- White** TS-E
- Orange** TS-120-V SMART

**Recommended flow range**



**Selection table Fix kv**

Heating Output (W)	Temperature difference = 20 K Differential pressure in kPa					Temperature difference = 30 K Differential pressure in kPa				
	6	8	10	12	14	6	8	10	12	14
	300	B	B	B	B	B	B	B	B	B
400	B	B	B	B	B	B	B	B	B	B
500	C	C	B	B	B	B	B	B	B	B
600	C	C	C	C	B	B	B	B	B	B
700	C	C	C	C	C	C	B	B	B	B
850	D	C	C	C	C	C	C	C	B	B
1000	D	D	C	C	C	C	C	C	C	C
1200	D	D	D	D	C	D	C	C	C	C
1400	D	D	D	D	D	D	D	C	C	C
1600	D	D	D	D	D	D	D	D	C	C
1800	E	D	D	D	D	D	D	D	D	C
2000	E	E	D	D	D	D	D	D	D	D
2200	E	E	E	D	D	D	D	D	D	D
2500	E	E	E	E	E	E	D	D	D	D
2800	E	E	E	E	E	E	E	D	D	D
3200		E	E	E	E	E	E	E	D	D
3600			E	E	E	E	E	E	E	D
4200					E	E	E	E	E	E
5000									E	E
6000									E	E

Code letter	$k_v$ at $x_p = 2$	Order number	Color
B	0,06	1 77xx 69	Blue
C	0,12	1 77xx 79	Green
D	0,25	1 77xx 89	Yellow
E	0,50	1 77xx 99	White

☑ Manual regulating valves 1978-1991 (AS-T and GP-T)

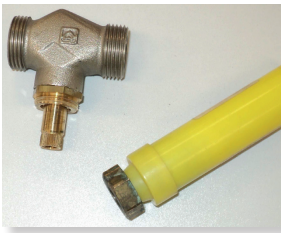
**Service for HERZ AS-T**



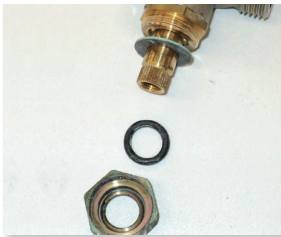
1. The valve must be fully opened by turning it to the left until it stops. Remove handwheel.



2. Loosen the O-ring guide nut and remove the O-ring with the Klingerit seal (hold the upper part).



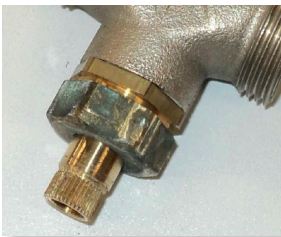
3. Clean the spindle and O-ring guide nut (use the O-ring box cutter). Sharp edged objects will damage the sealing surfaces!



4. Ready-to-mount greased O-ring with Klingerit gasket in the box remove.



5. Mount sealing elements in the following order:  
1. Klingerit seal  
2. O-ring  
3. O-ring guide nut



6. Tighten O-ring guide nut moderately and replace handwheel

**Service for HERZ GP-T**



1. Close the valve.  
2. Mark the preset value.  
3. Pull off handwheel.



4. Firmly open the valve with the grooved end of the key wrench until it stops.



5. O-ring chamber with grooved loosen key by turning counterclockwise and unscrew.



6. Fit new O-ring chamber and tighten firmly with key.

7. Close the valve.  
8. Set the handwheel at the marked value, with value 7 for non-pre-set valves.  
9. Screw in handwheel fixing screw.

For non-preset valves, items 1 and 2 are omitted.

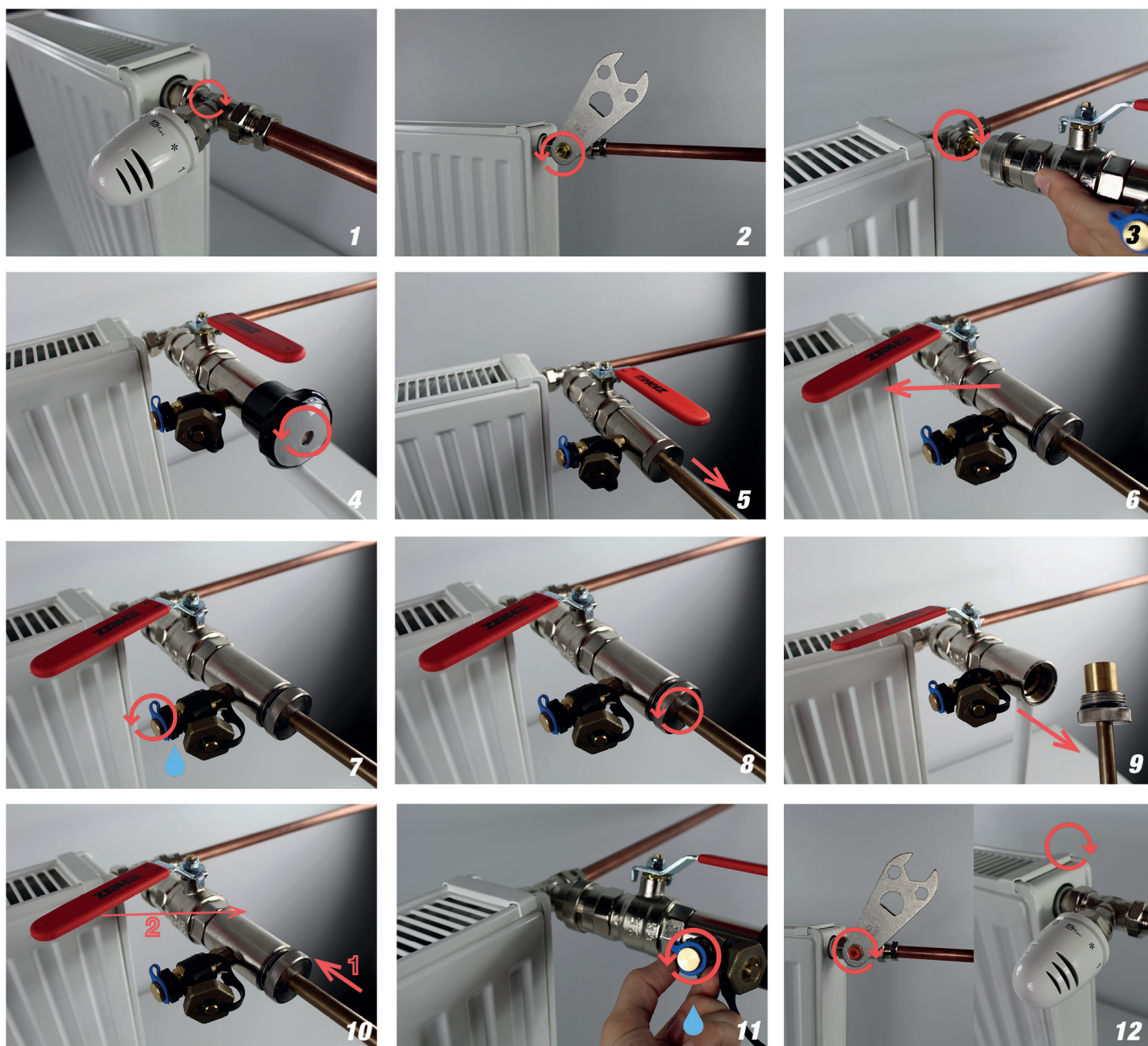
When valves are greased, always only use silicone-based greases. Bicycle oils, MoS<sub>2</sub> or similar destroy the sealing rings.

☑ **Thermostatic valve replacement without draining the system**



HERZ CHANGEFIX

	Order number
<b>HERZ CHANGEFIX</b> Replacement device for HERZ thermostatic valve body parts with connection thread M 28 x 1.5	1 7780 00
<b>HERZ CHANGEFIX</b> Replacement device for HERZ thermostatic valve body parts "H" with connection thread M 30 x 1.5	1 7780 98
<b>Seal kit</b> Replacement seal set for HERZ CHANGEFIX	1 7780 04
<b>Pressure Measurement Accessories</b> for measuring the differential pressure or the static pressure at closed valve using HERZ measuring instruments 1 8900 and 1 8903	1 7781 00
<b>Cleaning Brush Set</b> for the valve seat cleaning in the course of the replacement of parts	1 7781 01



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