

TRV pack Calypso



Thermostatic valves with radiator connection systems

Bi-directional thermostatic radiator valve, head and lockshield

*Engineering
GREAT Solutions*

TRV pack Calypso

The IMI Heimeier TRV pack , consists of a Calypso TRV body , DU head and lockshield. Designed for application in a two-pipe pumped heating system. The Bi-directional thermostatic radiator valve can be fitted either vertically or horizontally in the flow or return and either end of a radiator giving the installer total flexibility.



Key features

- > **Bi-directional thermostatic radiator valve**
can be fitted either vertically or horizontally in the flow or return of a radiator
- > **Angle or axial connection with one kit and straight versions**
for various installation options
- > **Liquid-filled thermostat**
for powerful and precise control

Technical description

Applications area:

Heating systems.

Function:

Control
Shut-off

Dimensions:

DN 15

Pressure class:

PN 10

Temperature:

Max. working temperature: 120°C, with protection cap or actuator 100°C.
Min. working temperature: -10°C.

Materials:

Valve body: Brass
O-rings: EPDM rubber
Valve disc: EPDM rubber
Return spring: Stainless steel
Valve insert: Brass
Spindle: Niro-steel spindle with double O-ring sealing. The outer O-ring can be replaced under pressure

Material thermostatic head:

ABS, PA6.6GF30, brass, steel,
Liquid-filled thermostat.

Surface treatment:

Valve body and fittings are nickel-plated.

Marking:

IMI, country code, flow direction arrow,
KEYMARK-Designation. II+ Designation.
Black protection cap.

Standards:

The thermostatic valve bodies meet the following requirements:
– KEYMARK certified and tested to DIN EN 215.



Pipe connection:

G1/2 male thread with 15 mm
compression fitting for copper or
precision steel pipe.

Connection to thermostatic head and actuator:

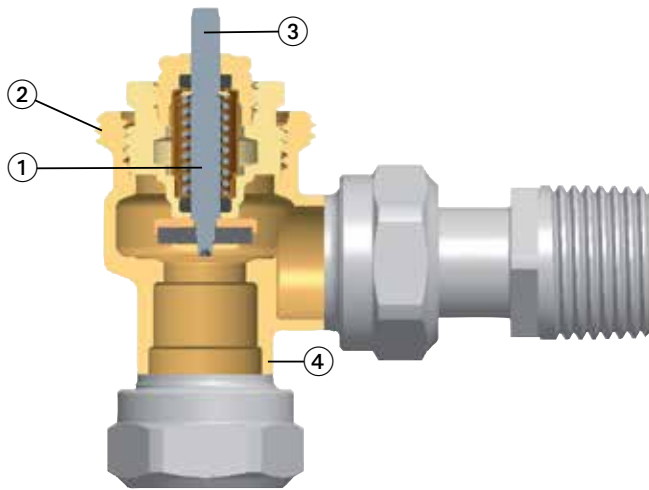
IMI Heimeier M30x1.5

Thermostatic head DU:

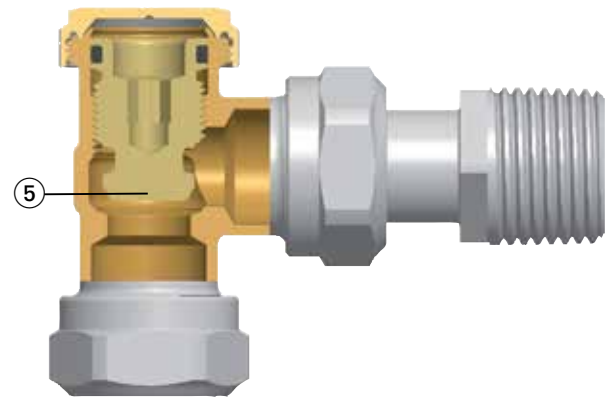
Thermostatic head D-U with closed graduation cap and liquidfilled thermostat. High actuating force, minimum hysteresis, optimum closing time. Stable control response even with minor calculated p-band variations (<1 K). Setting numbers 0–III. Frost protection. Temperature range 0 °C to 28 °C.

Construction

Thermostatic valve body



Lockshield



Replaceable insert

The complete thermostatic insert can be replaced using the fitting tool without draining the system.

1. The insert can be replaced without draining off the system with the fitting tool
2. IMI Heimeier M30x1.5 connection technology
3. Niro-steel spindle with long-life double O-ring sealing
4. Body made of Brass
5. Shut-off cone

Application

The IMI TRV pack Calypso with thermostatic valve and lockshield is applied in two-pipe pumped heating system with normal temperature spread.

The Bi-directional thermostatic radiator valve can be fitted either vertically or horizontally in the flow or return and either end of a radiator giving the installer total flexibility.

The angle kit can be installed as angle form or reversed form.

The thermostatic head with our incompressible liquid-filled sensor guarantees a reliable and precise room temperature control.

Renovation

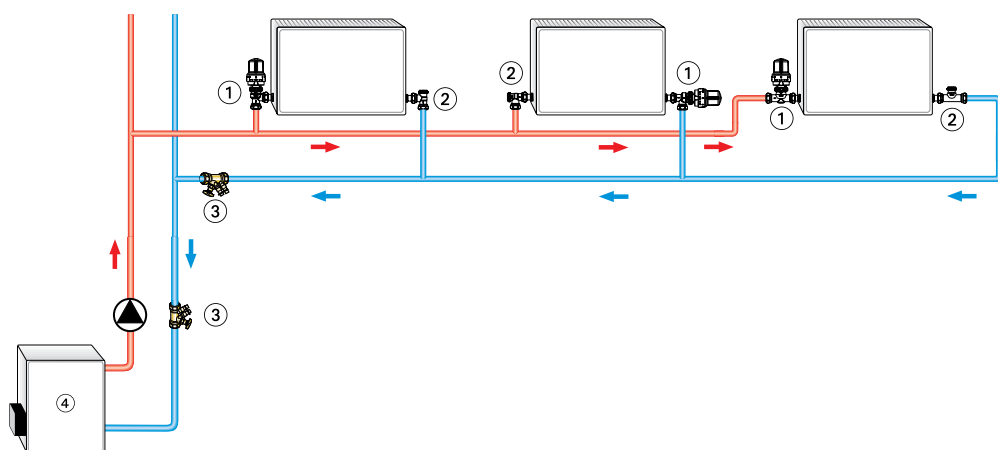
Calypso replaces old valves with ease as the dimensions conform with the EN 215 standard. All IMI Heimeier thermostatic radiator valves with II+ marking, i.e. Calypso can be retrofitted with Eclipse inserts.

Noise behaviour

To ensure low-noise performance, the following conditions must be met:

- On the basis of experience, the differential pressure over the thermostatic valves should not exceed about 20 kPa = 200 mbar = 0.2 bar. If in designing the system, higher transient differentials might be experienced in the part-load flow range, differential pressure control equipment such as a STAP Differential Pressure Controller or bypass valves can be used.
- Mass-flow must be correctly adjusted.
- The system must be completely deaerated

Sample application



- 1. Calypso thermostatic radiator valve
- 2. Lockshield
- 3. STAD balancing valve for maintenance and diagnostics
- 4. Boiler

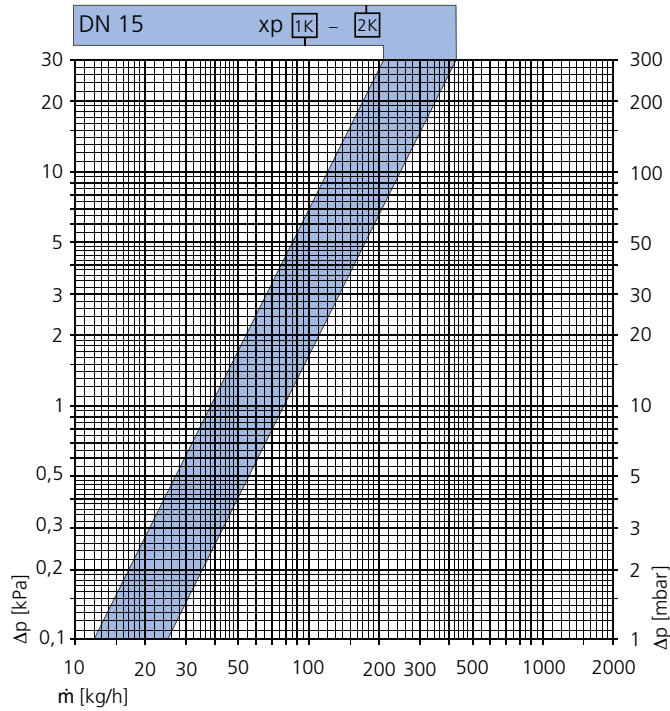
Notes

– To avoid damage and the formation of scale deposit in the hot water heating system, the composition of the heat transfer medium should be in accordance with the VDI guideline 2035. For industrial and long-distance energy systems, see the applicable codes VdTÜV and 1466/AGFW FW 510. A heat transfer medium containing mineral oils, or any type of lubricant containing mineral oil can have extremely negative effects and usually lead to the disintegration of EPDM seals. When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly concerning concentration and specific additives.

– Flush the system before changing thermostatic valves in heavy polluted existing systems.
 – The thermostatic valve bodies can be used with all IMI Heimeier thermostatic heads and IMI Heimeier or IMI TA thermal or motorized actuators. The optimal tuning of the components guarantees maximum safety. When using actuators from other manufacturers, make sure that the pressure power is appropriate for thermostatic valve bodies with soft sealing valve discs.

Technical data

Diagram, valve body with thermostatic head



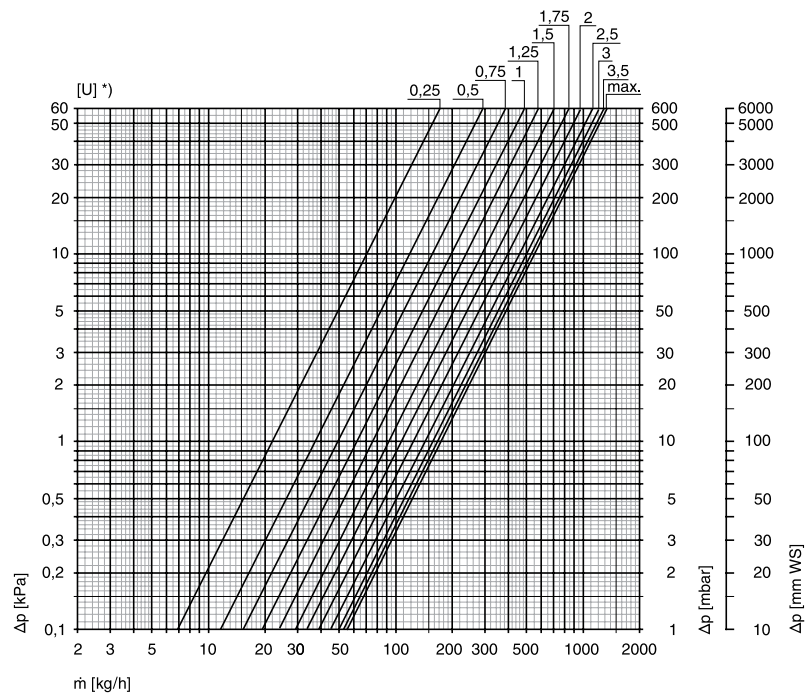
Valve body with thermostatic head	Kv P-band xp [K]				Kvs	Permitted differential pressure, during which the valve is kept closed
	1,0	1,5	2,0	3,0		Δp [bar]
DN 15 (1/2")	0,38	0,59	0,79	1,25	2,00	Th.-head 1,0

Kvs lockshield: 1,74

Kv/Kvs = m³/h at a pressure drop of 1 bar.

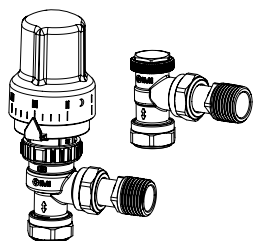
Diagram radiator lockshield

*) Revolution setting



DN	Kv-value Revolution setting [U]								Kvs
	0,25	0,5	1	1,5	2	2,5	3	3,5	
15 (1/2")	0,22	0,37	0,62	0,92	1,22	1,43	1,57	1,68	1,74

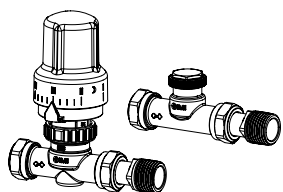
Articles



Angle

Connectivity in angle or reversed position (see dimensions)

DN	Connection radiator	Connection pipe	Kv [xp] 1 K / 2 K / 3 K	Kvs CALYPSO TRV	Kvs Lockshield	Article No
15	Rp1/2	15 mm	0,38 / 0,79 / 1,25	2,00	1,74	9690-60.800



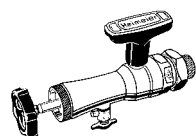
Straight

DN	Connection radiator	Connection pipe	Kv [xp] 1 K / 2 K / 3 K	Kvs CALYPSO TRV	Kvs Lockshield	Article No
15	Rp1/2	15 mm	0,38 / 0,79 / 1,25	2,00	1,74	9690-62.800

Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

Kv [xp] max. 1 K / 2 K = m³/h at a pressure drop of 1 bar with thermostatic head.

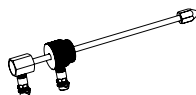
Accessories



Fitting tool

complete with case, box spanner and replacement seals, for replacing thermostatic inserts without draining off the heating system (for DN 10 to DN 20).

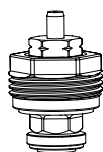
	Article No
Fitting tool	9721-00.000
Replacement seals	9721-00.514



Measuring spindle for fitting tool

for differential pressure measurement at thermostatic valve bodies with TA-Scope balancing instrument.

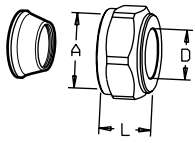
	Article No
	9790-01.890



Thermostat insert

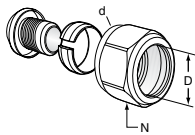
Replacement insert.

	Article No
	3850-02.300



Compression set TA 319 Half coupling
Chrome plated
Should not be used with PEX-pipes

DxA	L ¹	Article No
8xG1/2	16	53 319-208
10xG1/2	17	53 319-210
12xG1/2	17	53 319-212
15xG1/2	20	53 319-215
16xG1/2	25	53 319-216



Compression set FPL-PX

d	L ¹	For PEX-pipe D	N	Article No
G1/2	13	12x1,7	24	53 644-212
G1/2	13	12x2,0	24	53 644-312
G1/2	16	15x2,5	24	53 644-315

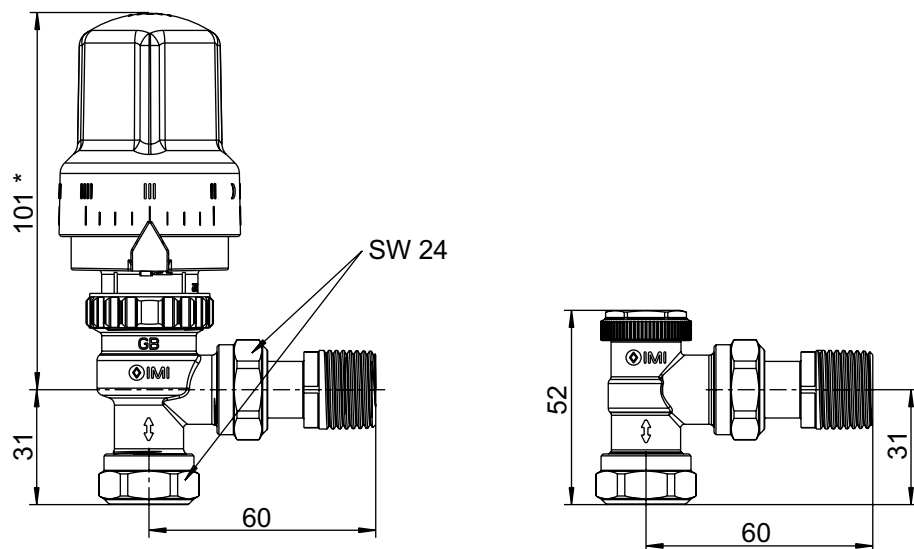
1) Over all length.

Other accessories, see catalogue leaflet "Accessories and spare parts for thermostatic radiator valves".

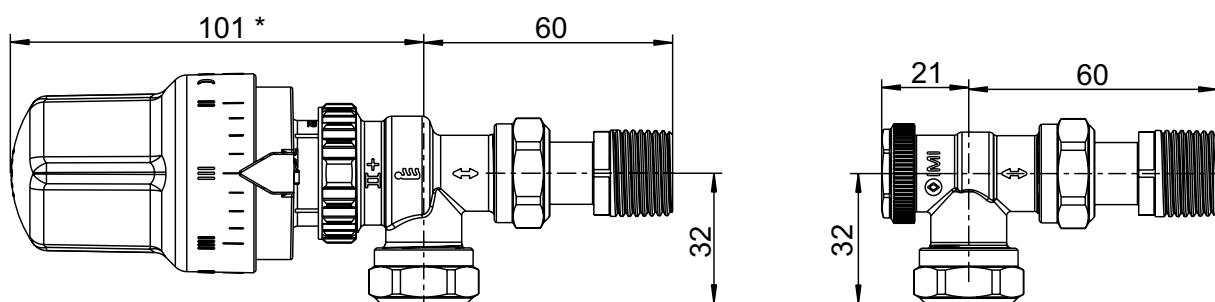
Other couplings, see catalogue leaflet "FPL".

Dimensions

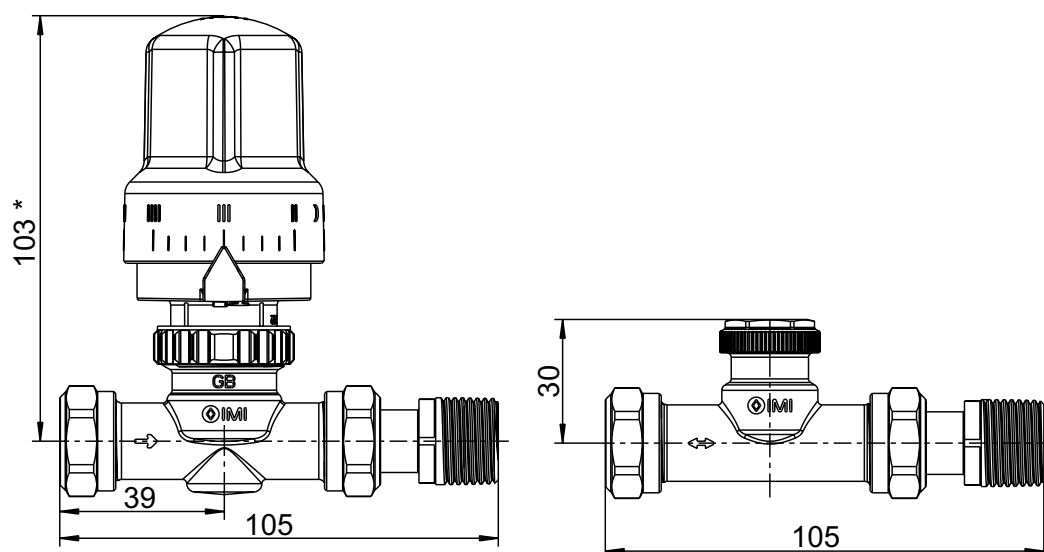
Angle connection



Reversed connection



Straight connection



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