

Radiator Valves Valencia

Thermostatic Radiator Valve Range
TRV Packs with Balancing Option

Application

Thermostatic radiator valves (TRVs) control and limit the flow of heating medium to the radiator to maintain comfort in each room and save energy.

The thermostatic head with a premium quality, liquid-filled thermal expansion element continuously senses the room temperature and adjusts the flow through the radiator, ensuring there is just the right amount of hot water needed to maintain the set temperature.

Research carried out on behalf of TACMA, the Controls Association within BEAMA, shows that, in a typical UK house, heating system energy consumption can be reduced by up to 40% through the installation of TRVs in addition to a Room Thermostat.

In addition, the Valencia TRVs are equipped with a device for simple and straightforward balancing of the heating system by limiting the maximum capacity of the valve.

The Heating and Hotwater Industry Council recommends balancing to achieve improved comfort and additional energy savings.

Approvals

- Keymark certified and tested to EN 215
- TELL „I -class” energy efficiency certified according TELL labeling scheme

Special Features

- Premium quality, liquid-filled, German-made sensor with high setting force and minimum hysteresis
- Bi-directional flow
- The TRV head may be mounted vertically or horizontally by swapping the tailpiece and pipe fittings
- Quiet operation, including in reversed flow direction
- Double O-Ring seal for maintenance-free operation
- Nominal flow up to 160 kg/h
- Strong restoring spring, which is not immersed in water, ensuring durability of the valve
- Standard dimensions per EN 215 GB-series in straight and angled patterns with 15 mm, 10 mm or 8 mm compression connections
- Versions including drain-off tailpiece
- 6 mm play on radiator tailpiece to allow for variation in radiator distance from the valve
- Standard M30 x 1.5 thermostat connection per EN215, compatible with a wide range of Honeywell Home TRV heads offering alternative finishes, remote sensor and vandal-resistant versions, as well as with the Evohome electronic TRV heads
- The valve insert can be replaced while the system is operating and without draining using the service tool (see 'Accessories')



Technical Data

Medium	
Medium:	Water with max. 50 % glycol according to VDI 2035
pH-value:	8 - 9.5
Connections/Sizes	
Body-head connection:	M30 x 1.5
Sizes:	1/2" radiator connection 15 mm, 10 mm, 8 mm copper 10 mm push-fit
Temperature set-point range	
VT117/VTL120 (Traditional):	1 - 26 °C
VT200/VTL200 (Classic):	6 - 26 °C
Ambient temperature	
Max. operating ambient temperature:	40 °C (including when head is set to zero)

Operating temperatures	
Max. operating temperature medium:	120 °C
Min. operating temperature medium:	-10 °C, non-freezing
Pressure values	
Max. operating pressure:	PN10, 10 bar (1000 kPa)
Max. differential pressure:	0.6 bar (60 kPa)
Flow rates	
V120-15A1:	160 l/h normal direction
V120-15A1:	170 l/h reverse flow
V120-15S1:	170 l/h normal direction
V120-15S1:	160 l/h reverse flow
Specifications	
Closing dimension:	11.5 mm
Stroke:	position 7.5

Construction

VT200/VTL200 Valencia Classic TRV

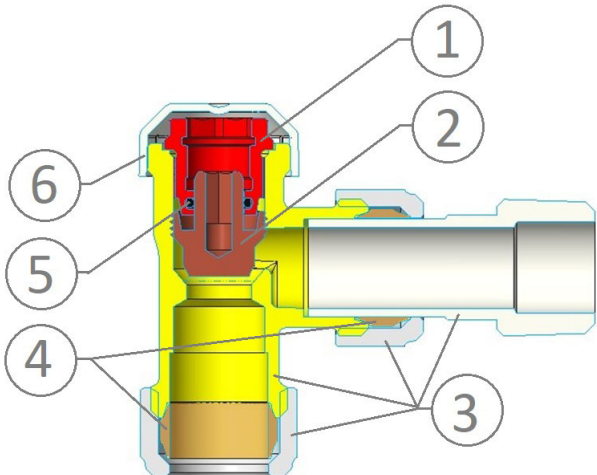
Overview	Components	Materials
	Thermostatic Head	
	1 Thermal expansion element	Steel, copper bellows, ethyl acetate filled
	2 Sensor casing/handwheel	Deep drawn brass, chrome plated
	3 Over-temperature compensating assembly with spring	Deep drawn brass casing, spring steel and PA6GF30 pin
	4 Interface pin	PA66 GF35
	5 Setting bushing	PBT GF20
	6 Scale ring	PBT
	7 Housing	ABS, white RAL9016 or chrome plated
	8 Socket	PA66 GF30, white RAL 9016
	9 Coupling nut	Brass, chrome plated
	Thermostatic Valve Body	
	10 Insert cartridge	Brass
	11 Plunger	
	12 Valve body, tailpiece, nut	Copper
	13 Compression olive	
	14 Return spring	Stainless steel
	15 Spindle	
	16 Spindle cap	EPDM 70
	17 O-Rings	
	18 Plunger seal	PPS GF40
	19 Orifice casing	
	20 Setting screen	PBT GF30
	21 Retaining bushing	
	22 Setting dial	
Not depicted components:		
Protection cap		PP GF10

VT117/VTL120 Valencia Traditional TRV

Overview

Components		Materials
Thermostatic Head		
1	Thermal expansion element	Steel, copper bellows, ethyl acetate filled
2	Cap	ABS, white RAL9016
3	Over-temperature compensating assembly with spring	Deep drawn brass casing, spring steel and PA6GF30 pin
4	Interface pin	PA66 GF35
5	Sensor bracket	PBT GF20
6	Anti-torsion wire ring	Spring steel
7	Handle	ABS, white RAL9016
24	Economy button	POM, mint green
8	Socket	PA66 GF30, white RAL 9016
9	Coupling nut	Brass, chrome plated
Thermostatic Valve Body		
10	Insert cartridge	Brass
11	Plunger	
12	Valve body, tailpiece, nut	Copper
13	Compression olive	
14	Return spring	Stainless steel
15	Spindle	
16	Spindle cap	
17	O-Rings	EPDM 70
18	Plunger seal	
19	Orifice casing	PPS GF40
20	Setting screen	
21	Retaining bushing	PBT GF30
22	Setting dial	
Not depicted components:		
	Protection cap	PP GF10

Lockshield

Overview			Components	Materials
	1	Insert cartridge	Brass	
	2	Plunger for throttling and outlet pipe isolation		
	3	Valve body, tailpiece, nut		
	4	Compression olive	Copper	
	5	O-Ring	EPDM 70	
	6	Protection cap	PP, white RAL9016	

Method of Operation

Thermostatic radiator valves (TRVs) control and limit the flow of heating medium to the radiator to maintain comfort in each room and save energy.

TRVs sense the air temperature around them and control the flow of water through the radiator to which they are fitted, to maintain and limit the temperature within the room.

Honeywell Home TRVs have excellent control accuracy thanks to the use of premium, German-made, liquid filled sensors, and thanks to slots in the Valencia Traditional heads and tight enclosure of the sensor by the thin-wall brass handle of the Valencia Classic head, which ensure quick response to changing ambient temperature.

Valencia Traditional heads feature the green "economy" button. Similarly to thermostatic mixer taps, the user needs to press the green button if he or she wants to setup a room temperature exceeding 20 °C.

Honeywell Home TRVs feature also a balancing option. Balancing ensures that all radiators get enough flow to reach the desired temperature, provides for increased efficiency by keeping the boiler in condensing mode throughout the heating cycle and prevents the boiler from switching on and off frequently.

Research carried out on behalf of TACMA, the Controls Association within BEAMA, shows that, in a typical UK house, heating system energy consumption can be reduced by up to 40% through the installation of TRVs in addition to a Room Thermostat.

These tests also showed that by providing local temperature control in every room, TRVs can significantly improve comfort for householders by providing better heat distribution around a dwelling, not achieved without TRVs.

Research by IGT Dresden shows that by carrying out static balancing of the radiators, additional energy saving of 5 kWh per m² per annum can be achieved on top of the savings brought by TRVs alone.

Transportation and Storage

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

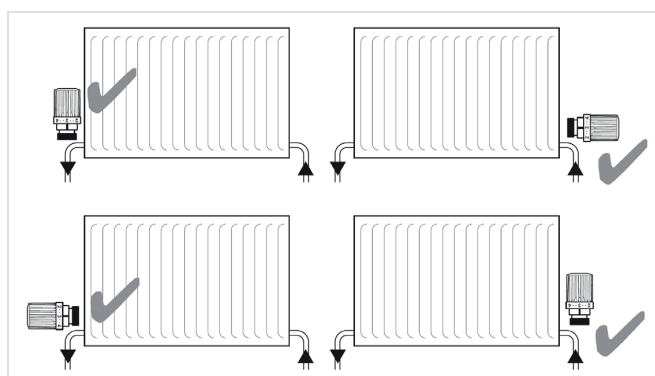
Parameter	Value
Min. ambient temperature:	0 °C
Max. ambient temperature:	50 °C
Max. ambient relative humidity:	75 % *

*non condensing

Installation Guidelines

- Valencia TRVs are designed and rigorously tested for noise-free operation in both flow directions. The TRV can be installed both on the supply and on the return of the radiator
- Angled valves can be flipped to have the TRV head pointing upwards or sideways in the axis of the radiator
- Straight valves can be rotated to have the TRV head pointing upwards or forward
- The radiator tailpiece has 6 mm play to allow for variation in radiator distance from the valve
- VHL120 manual valves can be upgraded to TRV by replacing the handwheel with a TRV head
- Do not cover the thermostatic head with a curtain or place furniture in front of it

Installation Example



Setup requirements

- To avoid stone deposit and corrosion, the composition of the medium should conform with VDI-Guideline 2035.
- All additives and lubricants used for heating medium treatment have to be suitable for EPDM seals to avoid their disintegration. Use of mineral oils should be avoided.
- Heavily polluted existing heating systems must be flushed thoroughly before installation of the valves
- The heating system must be fully deaerated.
- Any complaints or costs resulting from non-compliance with above rules will not be accepted by Resideo or its subsidiaries manufacturing the Honeywell Home products

Technical Characteristics

VT200/VTL200 Valencia Classic TRV Head (T4021GB)

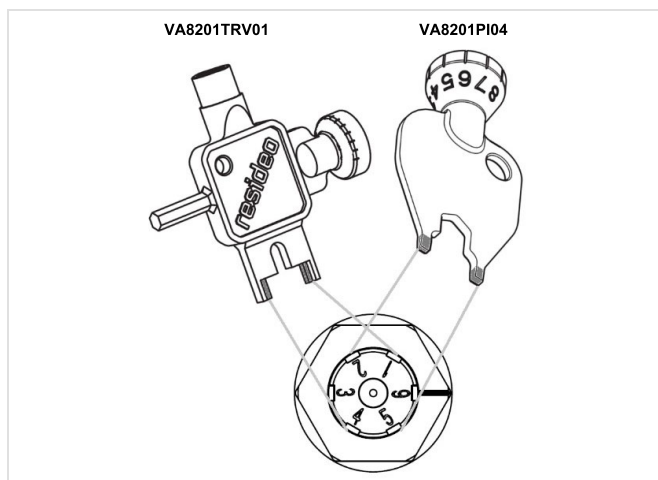
EN 215 Parameter	Value
Hysteresis:	0.25 K
Influence of differential pressure:	0.3 K
Influence of heating medium:	1.0 K
Response time:	20 min.
Control accuracy:	0.6 K

TRV Head Settings

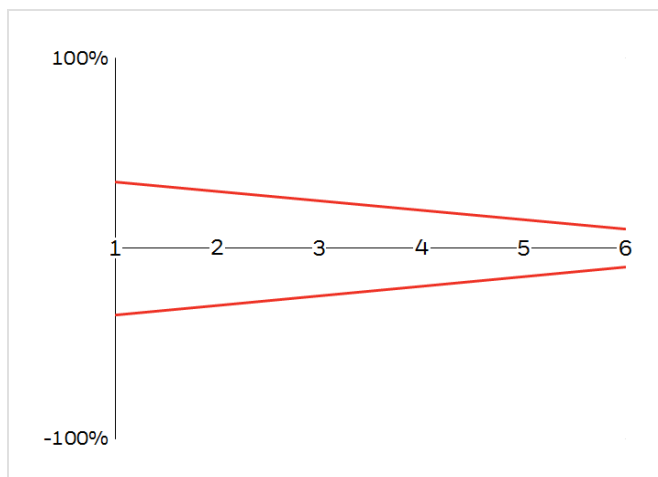
6 °C	10 °C	15 °C	20 °C	23 °C	26 °C
❄	1	2	3	4	5

Note: Values approximate. Heating can freeze when radiator thermostats are set to position '0'. Zero-position is also thermostatically controlled – when temperature falls, the TRV may open.

Presetting



Flow tolerances



VT117/VTL120 Valencia Traditional TRV (T1001W0GB)

EN 215 Parameter	Value
Hysteresis:	0.4 K
Influence of differential pressure:	0.4 K
Influence of heating medium:	0.9 K
Response time:	23 min.
Control accuracy:	0.6 K

TRV Head Settings

1 °C	6 °C	11 °C	14 °C	17 °C	20 °C	23 °C	26 °C
0	❄	1	2	3	4	5	6

- The flow rates can be adjusted to one of the 6 settings (20 to 160 l/h in terms of nominal flow)
- If the required maximum flow does not match exactly the setting value, use the closest higher setting
- The setting is changed using a special setting key
 - Slide the forked part of the setting key into two opposite grooves in the setting dial of the valve
 - Turn the setting key until the desired setting value is against the reference mark on the brass cartridge of the insert
 - The setting dial can be rotated in any direction
 - Do not use intermediate settings
- The default factory setting is position 7.5

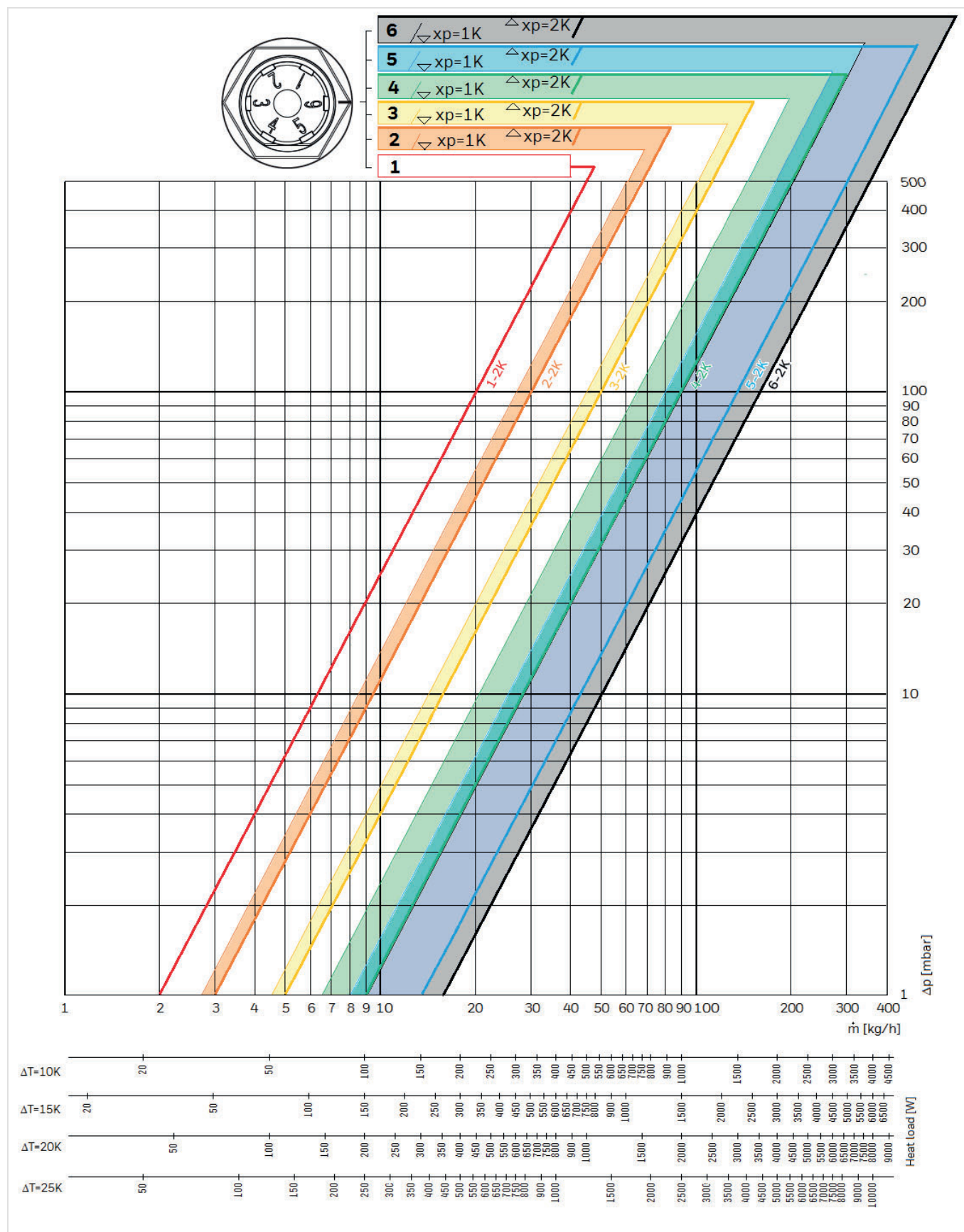
Design example

- Heat load: $Q=1000 \text{ W}$
- Supply vs. return temperature difference: $\Delta T=15\text{K}$
- Calculated mass flow:

$$\dot{m} = Q / (c \times \Delta T) = 1000 / (1.163 \times 15) = 57 \text{ l/h}$$
- Control within: 2K p-band
- Available differential pressure: $\Delta p = 100 \text{ mbar (10 kPa)}$
- Valve setting from charts on following pages (use next higher setting): 4

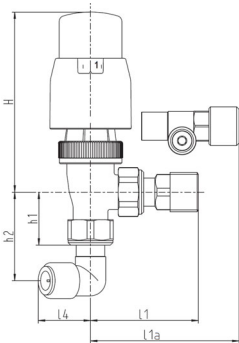
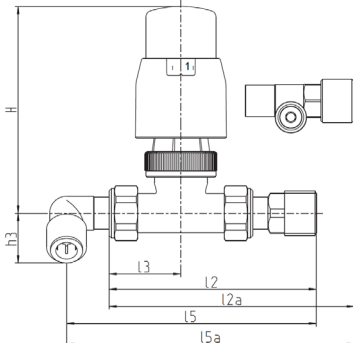
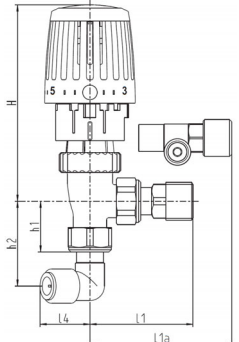
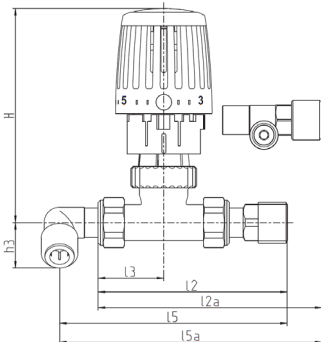
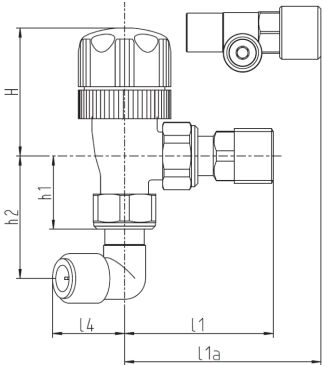
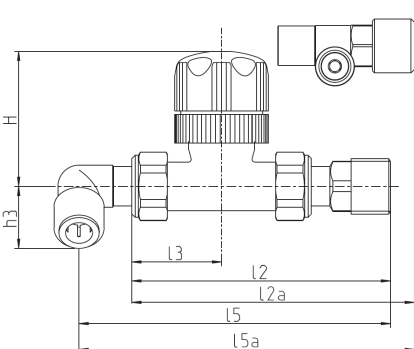
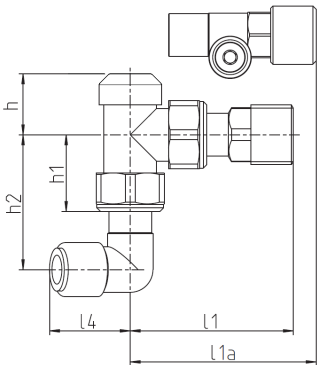
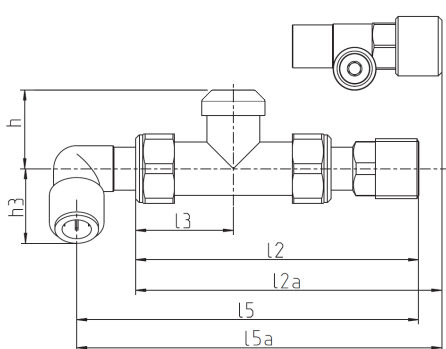
Flow Rate

All angled valves, DN 15 and DN 20 straight valves



Presetting	1	2	3	4	5	6
kv-value, 1K p-band	0.063	0.085	0.14	0.21	0.25	0.28
kv-value, 2K p-band	0.063	0.095	0.16	0.28	0.43	0.51
kvs	0.063	0.104	0.18	0.34	0.52	0.70

Dimensions

Classic TRV - Angled 	Classic TRV - Straight 
Traditional TRV - Angled 	Traditional TRV - Straight 
Valve with Manual Handwheel - Angled 	Valve with Manual Handwheel - Straight 
Lockshield - Angled 	Lockshield - Straight 

Valencia Classic TRV

Item No.	Pack	Head colour	Pipe Size	Pattern	Drain-off	Push-fit	H	h	h1	h2	h3	l1	l1a	l2	l2a	l3	l4	l5	l5a
VT200-15S	TRV	white	15 mm copper	Straight			95	-	-	-	-	-	-	95.5	-	39	-	-	-
VT200-15A	TRV	white	15 mm copper	Angled			95	-	32	-	-	50.5	-	-	-	-	-	-	-
VTL200-08A	TRV+LS	white	8 mm copper	Angled			95	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL200-10A	TRV+LS	white	10 mm copper	Angled			95	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL200-15A	TRV+LS	white	15 mm copper	Angled			95	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL200-15A-C	TRV+LS	chrome	15 mm copper	Angled			95	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL200-15A-D	TRV+LS	white	15 mm copper	Angled	●		95	26	32	-	-	-	69	-	-	-	-	-	-
VTL200-15A-P	TRV+LS	white	10 mm polypipe	Angled		●	95	26	32	48	-	50.5	-	-	-	-	28	-	-
VTL200-15A-DP	TRV+LS	white	10 mm polypipe	Angled	●	●	95	26	32	48	-	-	69	-	-	-	28	-	-
VTL200-08S	TRV+LS	white	8 mm copper	Straight			95	27	-	-	-	-	-	95.5	-	39	-	-	-
VTL200-10S	TRV+LS	white	10 mm copper	Straight			95	27	-	-	-	-	-	95.5	-	39	-	-	-
VTL200-15S	TRV+LS	white	15 mm copper	Straight			95	27	-	-	-	-	-	95.5	-	39	-	-	-
VTL200-15S-C	TRV+LS	chrome	15 mm copper	Straight			95	27	-	-	-	-	-	95.5	-	39	-	-	-
VTL200-15S-D	TRV+LS	white	15 mm copper	Straight	●		95	27	-	-	-	-	-	-	116	39	-	-	-
VTL200-15S-P	TRV+LS	white	10 mm polypipe	Straight		●	95	27	-	-	28	-	-	95.5	-	39	-	110.5	-
VTL200-15S-DP	TRV+LS	white	10 mm polypipe	Straight	●	●	95	27	-	-	28	-	-	-	116	39	-	-	131

Note: All dimensions in mm unless stated otherwise.

Valencia Traditional TRV

Item No.	Pack	Pipe Size	Pattern	Drain-off	Push-fit	H	h	h1	h2	h3	l1	l1a	l2	l2a	l3	l4	l5	l5a
VT117-15S	TRV	15 mm copper	Straight			102	-	-	-	-	-	-	95.5	-	39	-	-	-
VT117-15A	TRV	15 mm copper	Angled			102	-	32	-	-	50.5	-	-	-	-	-	-	-
VTL120-08A	TRV+LS	8 mm copper	Angled			102	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL120-10A	TRV+LS	10 mm copper	Angled			102	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL120-15A	TRV+LS	15 mm copper	Angled			102	26	32	-	-	50.5	-	-	-	-	-	-	-
VTL120-15A-D	TRV+LS	15 mm copper	Angled	●		102	26	32	-	-	-	69	-	-	-	-	-	-
VTL120-15A-P	TRV+LS	10 mm polypipe	Angled		●	102	26	32	48	-	50.5	-	-	-	-	-	-	-
VTL120-15A-DP	TRV+LS	10 mm polypipe	Straight	●	●	102	26	32	48	-	-	69	-	-	-	-	-	-
VTL120-08S	TRV+LS	8 mm copper	Straight			102	27	-	-	-	-	-	95.5	-	-	28	-	-
VTL120-10S	TRV+LS	10 mm copper	Straight			102	27	-	-	-	-	-	95.5	-	-	28	-	-
VTL120-15S	TRV+LS	15 mm copper	Straight			102	27	-	-	-	-	-	95.5	-	39	-	-	-
VTL120-15S-D	TRV+LS	15 mm copper	Straight	●		102	27	-	-	-	-	-	-	-	39	-	-	-
VTL120-15S-P	TRV+LS	10 mm polypipe	Straight		●	102	27	-	-	28	-	-	95.5	-	39	-	110.5	-
VTL120-15S-DP	TRV+LS	10 mm polypipe	Straight	●	●	102	27	-	-	28	-	-	-	116	39	-	-	131

Note: All dimensions in mm unless stated otherwise.

Valencia Matching Valve with Manual Handwheel

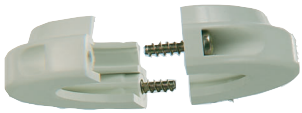
Item No.	Pack	Pipe Size	Pattern	Drain-off	Push-fit	H	h	h1	h2	h3	l1	l1a	l2	l2a	l3	l4	l5	l5a
VHL120-08A	TRV+LS	8 mm copper	Angled			52	26	32	-	-	50.5	-	95.5	-	39	-	-	-
VHL120-10A	TRV+LS	10 mm copper	Angled			52	26	32	-	-	50.5	-	-	-	-	-	-	-
VHL120-15A	TRV+LS	15 mm copper	Angled			52	26	32	-	-	50.5	-	-	-	-	-	-	-
VHL120-15A-D	TRV+LS	15 mm copper	Angled	●		52	26	32	-	-	-	69	-	-	-	-	-	-
VHL120-15A-P	TRV+LS	10 mm polypipe	Angled		●	52	26	32	48	-	50.5	-	-	-	-	28	-	-
VHL120-15A-P	TRV+LS	10 mm polypipe	Angled	●	●	52	26	32	48	-	-	69	-	-	-	28	-	-
VHL120-08S	TRV+LS	8 mm copper	Straight			52	27	-	-	-	-	-	95.5	-	39	-	-	-
VHL120-10S	TRV+LS	10 mm copper	Straight			52	27	-	-	-	-	-	95.5	-	39	-	-	-
VHL120-15S	TRV+LS	15 mm copper	Straight			52	27	-	-	-	-	-	95.5	-	39	-	-	-
VHL120-15S-D	TRV+LS	15 mm copper	Straight	●		52	27	-	-	-	-	-	-	116	39	-	-	-
VHL120-15S-P	TRV+LS	10 mm polypipe	Straight		●	52	27	-	-	28	-	-	95.5	-	39	-	110.5	-
VHL120-15S-DP	TRV+LS	10 mm polypipe	Straight	●	●	52	27	-	-	28	-	-	-	116	39	-	-	131

Note: All dimensions in mm unless stated otherwise.

Ordering Information

The following tables contain all the information you need to make an order of an item of your choice.

Accessories

	Description	Dimension	Item No.
	T1000 Valencia Traditional TRV Head		
	White	M30x1.5	T1001W0GB
	T4000 Valencia Classic TRV Head		
	white/chrome	M30x1.5	T4021GB
	chrome/chrome	M30x1.5	T4221GB
	black/chrome	M30x1.5	T4321GB
	brushed chrome/ brushed chrome	M30x1.5	T4111GB
	VA8200A Service tool to replace valve insert		
	For all Valencia TRV valve bodies since 2015		VA8200A001
	H100 Manual handwheel		
	Single pack		H100/U
	Pack of 10 pcs		H100-1/2A
	VS1200 Replacement valve insert		
	SX type, with integrated balancing option		VS1200SX01
	VA8201 Metallic presetting key with chrome plating		
	For Valencia TRV and Kombi-TRV valves		VA8201PI04
	TA6900A Theft - protection ring		
	white (RAL9016)		TA6900A001
	VS3300 Spare lockshield cap		
	White, multipack of 20 pcs		VS3300L120/B