



*Heating solutions*



# Pegler Yorkshire

*Unrivalled quality, innovation, customer service and long-term value for money*

As part of the global Aalberts Industries NV Group, Pegler Yorkshire is one of Britain's largest and most respected manufacturers of innovative products for the demanding and diverse plumbing and heating industries.

## Pegler Yorkshire – a unique story

It was in the late 19th century when two separate and altruistic companies set out on the long road to satisfying the needs of prospective customers and, of course, to profit in the process. Coincidentally located just 30 miles apart, each was driven by the same vision and ideals of a no-compromise culture. Cutting corners was never an option and only the best could ever be good enough.

These two companies were Pegler and Yorkshire Fittings. In meeting all the challenges of the 20th and 21st centuries both companies have changed a great deal, the business ethos common to both never has. And now these two like minds have come together as Pegler Yorkshire – a single source of proven, flow control solutions for installers, specifiers and engineers in the domestic, public and commercial markets.

## Reputable and established brands

Just as Pegler and Yorkshire have endured over such a long period, many of the brand names they have created over time are similarly very well established, in many cases as market leaders in their respective categories. The very extensive Pegler Yorkshire product range now comprises more than 15,000 lines – without rival for the choice and coverage it offers and for the number and scope of applications it satisfies.

## A mind for innovation

Brands which endure and are not easily displaced must by definition be the product of innovative thinking and technology that continually stand the test of time. Pegler Yorkshire's no-compromise philosophy will always put new product development high on the agenda, based on not only meeting the needs of today's markets, but also anticipating and meeting customers' future needs.

## The true value of knowledge

As well as the benefit of unparalleled experience of the flow control market and its growth over many decades, Pegler Yorkshire has strong associations with major industry bodies such as those responsible for determining product and performance standards.

The result is a comprehensive store of knowledge and reference which is invaluable in the key areas of research, development and dealing efficiently and accurately with customer enquiries – particularly with regard to product application and suitability.

## A charter for the best in customer service

With such a diverse product range and customer base, Pegler Yorkshire's no-compromise standards of quality, reliability and value for money naturally go hand in hand with the principle of delivering the best in customer service.

## Green awareness and responsibilities

Developing products which reduce the carbon footprint by saving water and energy is only one side of the green issues coin. Pegler Yorkshire is also increasingly committed to recycling key production materials (such as brass), eliminating the need for excessive packaging wherever possible, and looking for new ways in which the company's day-to-day operations can be improved to reduce waste and minimise the impact on the environment.

Likewise, social responsibilities such as supporting employee and local community welfare are aspects of the very fabric and philosophy upon which both Pegler and Yorkshire were founded.

## Standards

Pegler Yorkshire is dedicated to designing, developing and manufacturing products of the highest quality. We are members of numerous standards committees and take an active part in their development. Our products, where applicable, comply with the relevant British, European and International standards. Whatever the latest developments, we guarantee that our products will always meet the latest and highest standards.



## Trade bodies

Pegler Yorkshire is pleased to be associated with several influential industry organisations:



Association of Plumbing and Heating Contractors



The Bathroom Manufacturers Association



Construction Products Association

## Brass

The Brass Page for specifiers, designers, engineers and manufacturers



British Plumbing Employers Council



Builders Merchants Federation



The Copper Development Association



The UK Copper Board



Institute of Plumbing



Heating and Ventilating Contractors Association




Thermostatic Mixing Valve Manufacturers Association

Thermostatic Mixing Valve Manufacturers Association



Scottish and Northern Ireland Plumbing Employers Federation

 This data book has been produced in clearly defined sections to help the user to find relevant information quickly and easily. At the foot of each page there is a reminder of the brochure sections with the relevant page numbers.

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terrier

## Heating solutions The complete range

Out of Pegler Yorkshire's great traditions has come the unrivalled Terrier range of heating controls, radiator valves, circulating pumps and accessories.

### Pegler Yorkshire heating products – the complete range

The Pegler Yorkshire heating package is continually developing and evolving to provide ever better and more cost-effective solutions to customers' needs.

- *Terrier heating controls, radiator valves, circulating pumps and accessories are designed principally for the domestic market but they are also suitable for light commercial applications such as healthcare centres and offices*



- *The Terrier range comprises stylish, state-of-the-art heating controls including manual and thermostatic valves for 8, 10 and 15mm pipe sizes plus 1/2" iron connection for iron or steel pipe light commercial systems.*

### Terrier heating solutions benefits

Pick up any item from the Terrier heating range and the superior quality and extra features are immediately apparent.

- *Attractive styling*
- *Thoughtful and flexible design*
- *Clear control markings*
- *Quiet operation*
- *Easy installation and maintenance.*



### Terrier service

As with all Pegler Yorkshire products, the Terrier range is supported by outstanding customer service.

- *Friendly and helpful telephone response*
- *Computerised sales ordering and distribution*
- *Full installation instructions with every Terrier product*
- *All the technical support and advice you could need from Pegler Yorkshire's expert team and dedicated helpline.*



### Terrier quality and pedigree

Terrier radiator valves have long been the most trusted and respected in the industry for quality, design, reliability and overall value for money – attributes to be found in every product in the comprehensive Terrier heating range.

- *Robust construction under the most stringent quality control conditions assures a long working life*
- *Pegler Yorkshire investment in advanced manufacturing techniques to complement the traditional skills of the workforce has achieved BS EN ISO 9002 (BS 5750) accreditation*

- *Where appropriate there is compliance with kitemark British Standards or the European norm (BS 2767-10, EN 215), with independent testing and certification*
- *Every Terrier product is made to perform better and to last longer – by any standards, the one true measure of value for money.*



## Thermostatic radiator valves

Terrier thermostatic radiator valves are manufactured to exacting standards by Pegler Yorkshire to ensure reliability.

Terrier TRVs are an immediate step towards making heating systems energy efficient. With its accuracy in temperature setting and response Terrier TRV will close when heat is not required. Connection flexibility is available with compression, compression push-fit and integral push-fit options.

### Features

- *Bi-directional flow for installation flexibility*
- *Double 'O' ring seal for enhanced reliability*
- *Clear temperature settings for the visually impaired*
- *Available in compression, adaptor and integral push-fit to suit a variety of pipe*
- *Approved to EN 215, ensuring low hysteresis*
- *Push-fit straight and elbow connectors available*
- *Temperature flexibility from 0°C - 28°C settings*
- *Low hysteresis, ensuring rapid response to temperatures*
- *Economy settings for maximum energy efficiency*
- *Improved nominal flow rates for both bi-direction applications.*



## Push-fit two-way thermostatic radiator valves

Speed of installation has been a key consideration and push-fit technology means many fitting complications are removed, greatly saving installation time on site and resulting in significant cost savings. The "push" element of jointing new Terrier Push-fit is instantaneous and the simple, tool-free jointing action requires no secondary operations in awkward areas, which means there is much less chance of damaging chrome pipe as a result.

### Features

- *Bi-directional flow capability*
- *Frost protection 7°C*
- *Setting range 7°C - 28°C*
- *Approved to EN 215*
- *Suitable for 2 pipe systems*
- *Polished chrome plate finish*
- *Double 'O' ring seal*
- *Low hysteresis wax sensor*
- *'0' setting for positive shut off*
- *Improved nominal flow rate for both forward and reverse applications.*



## Manual radiator valves

Manual radiator valves for small bore and micro bore heating systems, including combis. Available in wheel handle for manual flow adjustment, lockshield for system balancing purposes and drainoff version for convenience when draining down your radiator. Connection flexibility is available with compression, compression push-fit adaptors and integral push-fit options.

### Features

- Long life gland packing with rising spindle for extended reliability
- Available in compression, push-fit adaptor and integral push-fit, suiting a variety of pipe
- Screw down handles for anti-tamper and safety
- Approved to BS 2767-10, ensuring water working pressure up to 10bar (non shock)
- Push-fit straight and elbow connectors available.



## Push-fit manual radiator valves

The new Terrier Push-fit range has been developed using the wealth of knowledge of push-fit fittings and heating controls technology Pegler Yorkshire has built up over many years to deliver an integrated push-fit radiator product that truly offers the best of both worlds. Designed to meet the requirements of the new build sector, Terrier Push-fit successfully combines product quality and speed of installation, whilst being competitively priced.

### Features

- Suitable for sealed systems
- Water working pressure up to 10bar (non-shock)
- Approved to BS 2767-10
- White handles as standard
- Screw down lockshield
- Superior grip characteristics on wheel handle
- Comprehensive range of WH, LS and DLS
- Long life gland packing with rising spindle
- Gland removal without draining down.



## Decorative thermostatic radiator valves

The all chrome Terrier thermostatic radiator valve ensures aesthetic appeal whilst maintaining quality and reliability. Decorative valves are not exclusive to bathrooms and are increasingly used in living areas. Terrier thermostatic radiator valves provide energy efficient operation as well as aesthetic appeal. Connection flexibility is available with the option of compression and compression push-fit valves.

### Features

- *Bi-directional flow for installation flexibility*
- *Double 'O' ring seal for enhanced reliability*
- *Clear temperature settings for the visually impaired*
- *Available in compression and push-fit adaptor to suit a variety of pipe*
- *Approved to EN 215, ensuring low hysteresis*
- *Push-fit straight and elbow connectors available.*



## Decorative manual radiator valves

The latest offering from Terrier combines quality and a choice of styles to suit a range of traditional and modern radiator types. The Terrier manual radiator valve selection includes all chrome and decorative radiator valves. All Terrier manual radiator valves are available in angle and straight pattern bodies allowing complete flexibility when aligning against pipe or radiator.

### Features

- *Comprehensive range of WH and LS*
- *Approved to BS 2767-10, ensuring durability and endurance*
- *Push-fit straight and elbow connectors available*
- *Double 'O' ring seal for long life*
- *Designed to complement decorative TRVs*
- *Styles include ultra modern, minimalist, cross top modern and traditional*
- *Approved to BS 2767-10, ensuring durability and endurance*
- *Angle and straight pattern bodies available for alignment options*
- *Identical WH and operating LS.*



### Electronic and electro-mechanical programmers

Easy to install and easy to use, these very reliable Terrier programmers are designed to blend in with any room setting.

Simple to set up, both programmers have versatile settings with up to 3 timed periods per day for each day of the week (for both hot water and heating in the two-channel programmer) and the option of ADVANCE and BOOST features. These give users the flexibility to vary their timed periods to suit individual needs.

Another very practical feature of both programmers is an industry-standard 6-pin backplate. This makes it a simple matter to fit either from new or when replacing a similar existing model.

#### Features

##### Electronic

- Choice of single, two and three channel models
- Up to 3 ON/OFF periods per day
- Choice of 'TIMED', 'ALL DAY' or 'CONTINUOUS' settings for each day
- 'COPY' button facility
- Large, easy-to-read LCD display
- Advance button – 1, 2 or 3 hours
- Independent timing for heating and hot water (TP2 and TP3 models) meets Part L1 of the Building Regulations.

##### Electro-mechanical

- Choice of single and two channel models
- Choice of permanent ON/OFF, ON all day or ON/OFF twice a day
- Single channel model suitable for Combi boiler and heating only systems
- Two channel model suitable for pumped and gravity hot water systems
- Single element heating control on single channel model.



### Thermostats

Elegantly styled, Terrier room thermostats ensure accurate temperature control. The tried and tested thermostatic mechanism, which is quiet in operation, can replace older thermostats by using a 2-wire as well as a modern 3-wire connection.

Highly recommended where there is exposed water-filled system pipework or components, Terrier frost thermostats require only a 2-wire connection and automatically operate the pump and boiler to prevent freezing up or to provide background heating even if other system controls are not calling for heat.

Terrier cylinder thermostats maintain the temperature of stored water at a safe level, but are adjustable where higher temperatures are required. Secured by means of the nylon strap provided, they fit in cylinders which have a standard 25mm foam insulation layer. Of robust construction, they have a wide temperature differential to prevent unnecessary boiler cycling.

#### Features

##### Room thermostat

- 5°C to 30°C operating range
- Temperature differential 0.4°C with built-in accelerator heater (0.6°C disconnected)
- Can be connected in place of older two-wire thermostats
- Range limiting stops
- Large easy-grip dials.

##### Frost thermostat

- 5°C to 10°C operating range
- Temperature differential 0.6°C with built-in accelerator heater
- Simple two-wire connection
- Concealed operating knob with tool access
- Tamper resistant.

##### Cylinder thermostat

- 30°C to 90°C range covers low and high temperature water storage applications
- 5°C to 10°C temperature differential prevents boiler cycling
- Large easy-grip dial with easy to read temperature markings.





## Zone valves

The heart of a modern heating controls system, Terrier motorised valves are extremely robust, reliable, quiet in operation and interchangeable with other makes.

Available in 22mm and 28mm compression fitting and 3/4" and 1" female iron sizes, and 2-port zone valve and 3-port mid-position valves, they cater for the widest possible range of applications for domestic and light commercial premises.

For easy maintenance the actuator can be removed separately without draining the system down, and superior Terrier construction ensures durability in the cylinder cupboard location. Both zone and mid-position valves have built-in self-cleaning shoes for maximum working life.

### Features

- Choice of two- and three-port valves
- 22mm or 28mm copper compression connections and 3/4" and 1" female iron connections
- Suitable for replacing most existing valve bodies or for new applications
- Removable actuator with 1 metre flex
- Easy to change without draining down the system
- Spring return actuator action with built-in interlock auxiliary switch
- Meets Part L1 of the Building Regulations.



## Control packs

The Terrier Control Pack incorporates all the elements required for central heating and hot water control in one box. For individual room temperature control we recommend Terrier thermostatic and manual radiator valves.

The Terrier control packs come complete with instructions for installing the individual controls and then all together to make installation as easy as possible.

For further advice on Terrier heating control packs or for their application, please contact our Technical Service Team on 0870 1200285. For product specification please refer to relevant page.

### Features

#### Zone control packs

- 22mm and 28mm copper compression connections
- Includes two channel electronic programmer and room and cylinder thermostats.

#### Mid-position control packs

- 22mm and 28mm copper compression connections
- Includes two channel electronic programmer and room and cylinder thermostat
- 22mm copper compression connections pack available with electro-mechanical and room and cylinder thermostats.

#### Combi control packs

- Single channel electro-mechanical programmer and room thermostat.



## Automatic bypass valves

Prevents unnecessary increases in circulating pressure when thermostatic or motorised valves close, leading to system or valve noise. Also allows water flow for pump overrun in place of a fixed bypass only when required.

### Features

- Small proportional deviation
- Maximum response accuracy due to calibrated high tensile spring
- Low friction
- Directly readable adjustment
- Excellent flow characteristics
- Gunmetal
- Setting range 50 - 500 mbar
- Maximum operating temperature 100°C
- Minimum operating temperature 1°C
- Maximum operating pressure 6bar.



## Domestic circulating pumps

Suitable for indirect open-vented or sealed domestic heating and hot water systems. Designed for quiet operation with three speed settings for maximum flexibility when commissioning. Low power consumption. Approved to BS EN 60335 & BS EN 1151 and Kitemarked.

### Features

- Mains supply 230v 50Hz
- Maximum head TC5 - 5M, TC6 - 6M
- Maximum pressure 10.0bar
- Minimum pressure 0.15bar
- System water temperature  
Minimum 5°C, maximum 110°C
- Maximum ambient temperature 35°C
- Pipe connections 1½" BSPM
- Weight 2.6 kg
- Test pressure 24bar/30°C
- Maximum working pressure PN16 (16bar)
- Maximum operating temperature 120°C.



## Thermostatic radiator valves

Belmont thermostatic radiator valves have been designed for use on commercial through to residential properties including combi boiler installations.

The Belmont TRV benefits from a frost setting where the valve is opened automatically at 7°C to prevent the system freezing and has a built-in patented tamper-resistant feature that is key operated. The TRV also employs a patented 'lift and lock' operation which prevents accidental adjustment.

### Features

- Control range of 11°C - 29°C
- Frost setting at 7°C
- Positive shut off for maintenance purposes
- Range limiting locking customised temperature setting
- Approved to EN 215
- Suits copper and iron pipework\*
- Matching manual radiator valves
- 10bar rating suitable for combi boilers
- Horizontal and vertical mounting
- Patented unique lift and lock tamper-resistant mechanism.



## Manual radiator valves

The new manual radiator valve range offers both traditional handwheel and lockshield styles, along with a new concealed lockshield style in both angled and straight patterns.

A 'no drain solution' on manual valves allows the spindle 'O' ring's seal to be changed with the system still full of water. The whole head-work may be changed without draining by using a gland removal tool. These features minimise down time, saving both cost and time on site.

Innovations introduced for the first time include a concealed lockshield cap on the manual radiator valve, which requires an allen key to adjust the flow. The lockshield provides tamper resistance, this prevents accidental or vandal adjustment in public areas and ensures protection for system balance.

### Features

- Suits a wide range of commercial applications
- Valves can be serviced without draining the system
- Approved to BS 2767-10
- Concealed lockshield with allen key adjustment
- Compression or iron end connection direct.\*



\*Pegler Yorkshire has a range of push and press connectors in the Tectite range for use with plastic, carbon steel or copper piping.

## Thermostatic valve bodies

Belmont thermostatic radiator valves comprise three different body patterns: angle, horizontal and straight. They have a choice of pre-setting and non pre-setting options.

Chrome plated bodies offered as standard, all bodies ensure reverse flow technology and removable glands for future ease of maintenance.

### Features

- Approved to EN 215
- Suits copper and iron pipework direct\*
- 10bar rating suitable for combi boilers
- Horizontal and vertical mounting
- Insert removal and replacement without draining down when using special tool
- All valves are suitable for 2 pipe systems.



\*Pegler Yorkshire has a range of push and press connectors in the Tectite range for use with plastic, carbon steel or copper piping.

## Thermostatic heads

Choice of different thermal heads are available: standard, remote sensing with 2m/8m capillary and remote adjusting in 2m, 5m and 8m capillary lengths. The patented thermal head has a unique head mechanism which operates in standard or lockdown mode, this takes out the requirement for a separate robust head. This makes the Belmont solution the first choice for those looking for the benefits of the latest products and service in a cost-effective package.

### Features

- Suitable for sealed systems
- Water working pressure up to 10bar (non-shock)
- Approved to EN 215
- White handles as standard
- Screw down lockshield
- Superior grip characteristics on wheel handle
- Comprehensive range of WH, LS and DLS
- Long life gland packing with rising spindle
- Gland removal without draining down.



It is Pegler Yorkshire policy to provide a range of products and services which meet, or exceed, the requirements of our customers in respect of quality, cost and delivery.

## Standards and approvals

Terrier products are manufactured under quality systems in accordance with EN 29002/ISO 9002 and meet the following British and European standards.

### BS 2767-10

Specification for manually operated copper alloy valves for radiators.

### BS EN 215:2004

Thermostatic radiator valves. Requirements and test methods.

### BS EN 1254-2:1998

Copper and copper alloys. Plumbing fittings. Fittings with compression ends for use with copper tube.

### BS EN 1254-3:1998

Copper and copper alloys. Plumbing fittings. Fittings with compression ends for use with plastic pipes.

### pr EN 1254-6 (draft)

Copper and copper alloys. Plumbing fittings – Part 6: Fittings with push-fit ends.

### BS EN 60335-2-41:2003

Household and similar electrical appliances. Particular requirements for pumps.

### BS EN 1151-1:2006

Pumps. Rotodynamic pumps. Circulation pumps having a rated power input not exceeding 200W for heating installations and domestic hot water installations. Non-automatic circulation pumps, requirements, testing, marking.



ISO is achieved through the continuous improvement of our Quality Management System in line with the requirements of BS EN ISO 9001: 2000.




















## Guarantees

Where Terrier products are installed and used in accordance with the installation instructions the following guarantees will apply:

	GUARANTEES	
	Guarantee period (years)	
	2	5
Manual radiator valves	–	✓
Thermostatic radiator valves	–	✓
Compression ends	–	–
Push-fit ends	–	–
Domestic circulating pumps	✓	–
Controls	✓	–
Automatic bypass valves	✓	–

STANDARDS AND APPROVALS			
Product	Standards	Approvals	Compliant
All manual radiator valves	BS 2767-10 <ul style="list-style-type: none"> <li>Covers pressure testing</li> <li>Size, strength</li> <li>Pressure rating</li> <li>ISO 228 ISO 7 thread standards</li> <li>Up to 10bar pressure</li> </ul>	<ul style="list-style-type: none"> <li>Official BSI (British Standard Institute)</li> <li>Product marked</li> </ul>	
All thermostatic radiator valves	BS EN215: 2004 – Thermostatic <ul style="list-style-type: none"> <li>Performance (hysteresis)</li> <li>Dimensions, strength</li> <li>Pressure rating</li> <li>ISO 228 ISO 7 thread standards</li> <li>Up to 10bar pressure</li> </ul>	<ul style="list-style-type: none"> <li>BSI, audited by independent testing body</li> <li>CEN mark fully approved, marking on product</li> </ul>	<ul style="list-style-type: none"> <li>Building Regulations Part L</li> </ul>
All compression ends	BS 1254 compression ends <ul style="list-style-type: none"> <li>Strength</li> <li>Pressure testing</li> </ul>	<ul style="list-style-type: none"> <li>Kitemark product</li> </ul>	
All push-fit ends	pr EN 1254-6 <ul style="list-style-type: none"> <li>Strength</li> <li>Pressure testing</li> </ul>		
Domestic circulating pumps	BS EN 60335-2-41: 2003 <ul style="list-style-type: none"> <li>Safety of household electrical appliance</li> </ul> BS EN 1151-1:2006 <ul style="list-style-type: none"> <li>Testing requirement</li> <li>Mechanical</li> <li>Performance</li> </ul>	<ul style="list-style-type: none"> <li>Kitemark product</li> <li>CE Marked</li> </ul>	
Controls	IP Ratings Ingress Protection <ul style="list-style-type: none"> <li>Sealing effectiveness of enclosures of electrical equipment</li> <li>Protects against the intrusion (i.e. tools, dust, fingers) and moisture.</li> <li>Building Regulations Part L</li> </ul>	<ul style="list-style-type: none"> <li>CE marked</li> </ul>	<ul style="list-style-type: none"> <li>Building Regulations Part L (2 channel)</li> </ul>
Automatic bypass valves			<ul style="list-style-type: none"> <li>Building Regulations Part L</li> </ul>

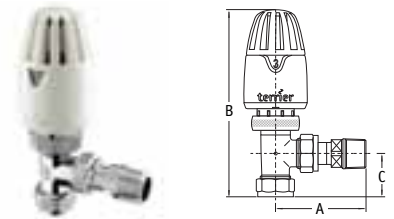
## Recommended applications

RECOMMENDED APPLICATIONS																			
	 Schools and nurseries	 Senior schools and universities	 Hospitals	 Hospital public areas	 Care centres	 Domestic	 Office	 Factories	 Hotels	 Hotel public areas	 Leisure	 Public utilities	 Energy savings	 Tamper proof	 Social housing	 New build	 DIY	 Time adjustment	 Flow adjustment
Terrier TRV						✓	✓		✓	✓			✓	✓	✓	✓	✓		✓
Terrier TRV & push-fit						✓	✓		✓	✓			✓	✓	✓	✓	✓		✓
Terrier TRV with integral push-fit						✓	✓		✓	✓			✓	✓	✓	✓	✓		✓
Terrier manual radiator valves						✓	✓		✓	✓					✓	✓	✓		
Terrier manual radiator valves & push-fit						✓	✓		✓	✓					✓	✓	✓		
Terrier manual radiator valves with integral push-fit						✓	✓		✓	✓					✓	✓	✓		
Terrier chrome plated TRV						✓			✓	✓			✓			✓	✓		✓
Terrier chrome plated TRV & push-fit						✓			✓	✓			✓			✓	✓		✓
Terrier chrome plated manual radiator valves						✓			✓	✓			✓			✓	✓		✓
Terrier chrome plated decorative manual radiator valves						✓			✓	✓						✓	✓		
Terrier programmers						✓							✓		✓	✓	✓	✓	
Terrier controls						✓							✓		✓	✓	✓		
Terrier motorised valves						✓									✓	✓	✓		
Terrier control packs						✓							✓		✓	✓	✓	✓	✓
Terrier ABV						✓									✓	✓	✓		
Terrier pumps						✓									✓	✓	✓		
Terrier pump valves						✓									✓	✓	✓		
Terrier Ventair						✓									✓	✓	✓		
Belmont TRV	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓				✓
Belmont manual radiator valves	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓			✓				
Belmont locking manual radiator valves	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓					
Belmont bodies	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓					✓
Belmont heads	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓					
Belmont remote sensors	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓					
Belmont remote adjusters	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓					

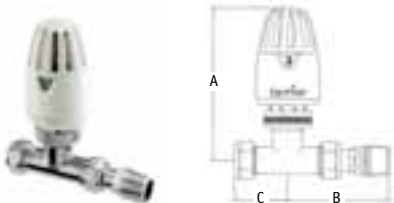
# Thermostatic radiator valves

## Thermostatic radiator valves & packs to EN215

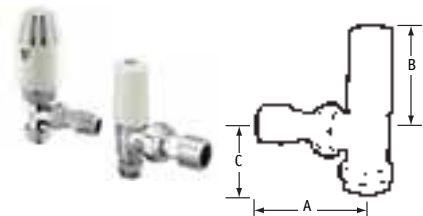
TRV angle vertical or horizontal mounting						
Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Chromium plated	61	130	26	10	632001
10mm x 1/2"	Chromium plated	61	130	26	10	632002
15mm x 1/2"	Chromium plated	61	130	26	10	632003



TRV straight body, vertical head 2 way						
Size	Finish	A	B	C	Quantity	Order code
8/10mm x 1/2"	Chromium plated	33.5	69	109	10	632102
15mm x 1/2"	Chromium plated	36	69	109	10	632103

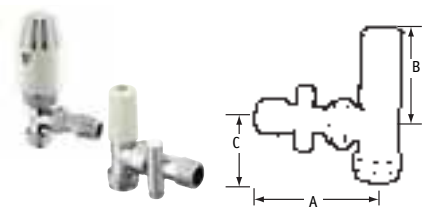


TRV angled with 367 CPLS matching lockshield						
Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Chromium plated	62	52	26	10	632011
10mm x 1/2"	Chromium plated	62	52	29	10	632012
15mm x 1/2"	Chromium plated	62	52	29	10	632013



\* See TRV for dimensions

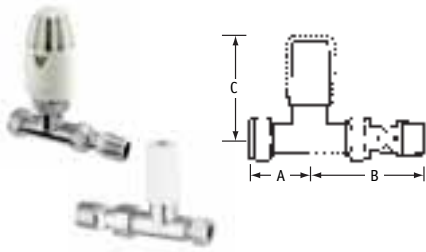
TRV angled with 367 CPDLS matching drain off lockshield						
Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Chromium plated	77	52	26	10	632021
10mm x 1/2"	Chromium plated	77	52	29	10	632022
15mm x 1/2"	Chromium plated	77	52	29	10	632023



\* See TRV for dimensions

Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
 Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

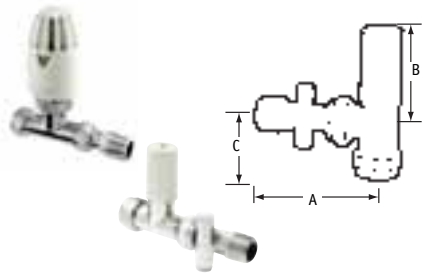
## Thermostatic radiator valves



### TRV straight body 2 way, vertical head with 368T CPLS matching lockshield

Size	Finish	A	B	C	Quantity	Order code
8/10mm x 1/2"	Chromium plated	33.5	69	61	10	632112
15mm x 1/2"	Chromium plated	36	69	61	10	632113

\* See TRV for dimensions



### TRV straight body 2 way, vertical head with 368T CPDLS matching lockshield

Size	Finish	A	B	C	Quantity	Order code
8/10mm x 1/2"	Chromium plated	77	52	26/29	10	632122
15mm x 1/2"	Chromium plated	77	52	29	10	632123

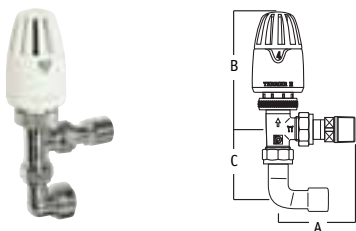
\* See TRV for dimensions



### Extension tail piece ETP 40mm (supplied with nut and olive)

Size	Finish	A	Quantity	Order code
For all sizes	Brass	40	10	634005
For all sizes	Chromium plated	40	10	634006

## Push-fit thermostatic radiator valves to EN 215



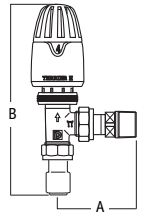
### TRV angle pattern compression with push-fit elbow connector

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chrome plated	81	104	46	10	662001
15mm x 1/2"	Chrome plated	90	104	55	10	662002



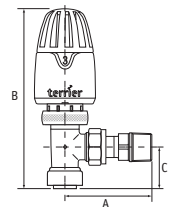
### TRV angle pattern vertical or horizontal mounting compression with push-fit straight connector

Size	Finish	A	B	Quantity	Order code
10mm x 1/2"	Chrome plated	61	144	10	662003
15mm x 1/2"	Chrome plated	61	159	10	662004



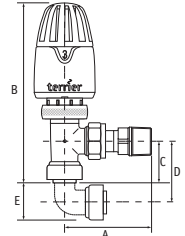
### TRV PF angle pattern vertical or horizontal mounting integral push-fit connection

Size	Finish	A	B	C	Quantity	Order code
1/2" x 10mm	Chromium plated	60	133	35	1	662203
1/2" x 15mm	Chromium plated	60	133	35	1	662204



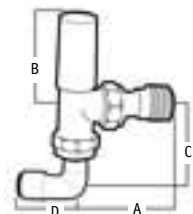
### TRV PF angle pattern vertical or horizontal mounting integral push-fit connection with push-fit elbow connector

Size	Finish	A	B	C	D	E	Quantity	Order code
1/2" x 15mm with 10mm elbow	Chromium plated	60	133	35	50	27	1	662201
1/2" x 15mm with 15mm elbow	Chromium plated	60	133	35	53	33	1	662202



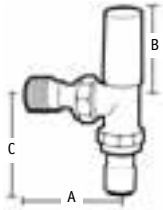
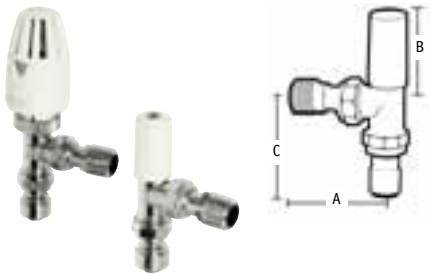
### TRV with 367 CPLS matching lockshield compression angle pattern TRV with push-fit elbow connectors

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	82	49	52	10 + 10	662005
15mm x 1/2"	Chromium plated	91	58	52	10 + 10	662006



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

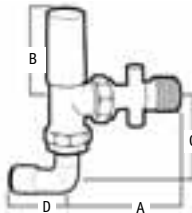
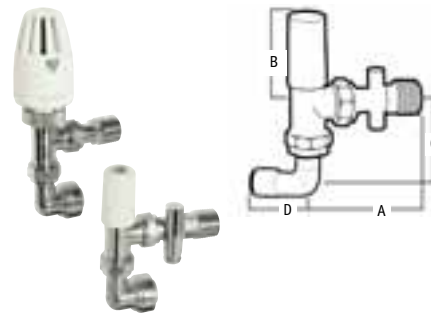
## Thermostatic radiator valves



### TRV with 367 CPLS matching lockshield

compression angle pattern TRV with push-fit straight connectors

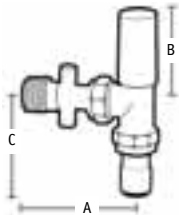
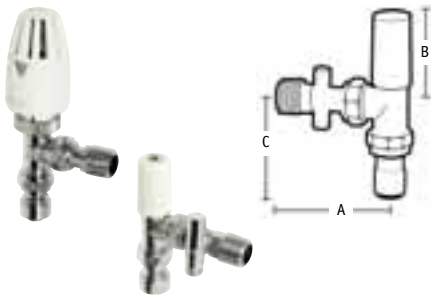
Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	62	43	52	10 + 10	662007
15mm x 1/2"	Chromium plated	62	58	52	10 + 10	662008



### TRV with 367 CPDLS matching drain off lockshield

compression angle pattern TRV with push-fit elbow connectors

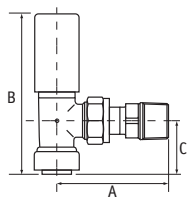
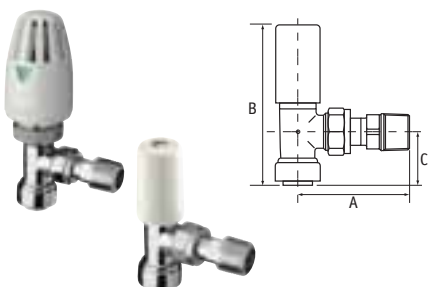
Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	97	49	52	10 + 10	662009
15mm x 1/2"	Chromium plated	106	58	52	10 + 10	662010



### TRV with 367 CPDLS matching drain off lockshield

compression angle pattern TRV with push-fit straight connectors

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	77	43	52	10 + 10	662011
15mm x 1/2"	Chromium plated	77	58	52	10 + 10	662012



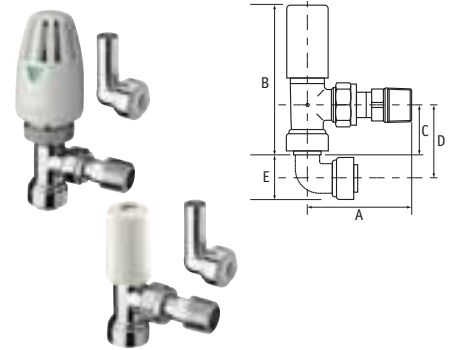
### TRV PF & 367PF CPLS lockshield pack

integral push-fit connection

Size	Finish	A	B	C	Quantity	Order code
1/2" x 10mm	Chromium plated	60	87	35	1	662205

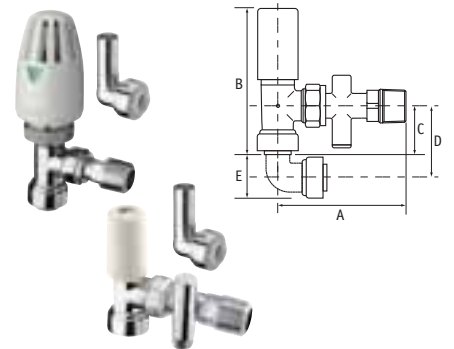
### TRV PF & 367PF CPLS lockshield pack integral push-fit connection with push-fit elbow connectors

Size	Finish	A	B	C	D	E	Quantity	Order code
1/2" x 15mm with 10mm elbows	Chromium plated	60	87	35	50	27	1	662206



### TRV PF & 367PF CPDLS drainable lockshield pack integral push-fit connection with push-fit elbow connectors

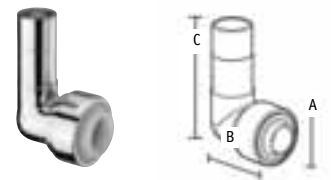
Size	Finish	A	B	C	D	E	Quantity	Order code
1/2" x 15mm with 10mm elbows	Chromium plated	77	87	35	50	27	1	662207



## Push-fit connectors

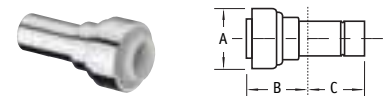
### Push-fit elbow

Size	Finish	A	B	C	Quantity	Order code
15mm x 10mm	Chrome plated	23	25	40	20	7P1010
15mm	Chrome plated	28	26	42	20	7P1012



### Push-fit straight connector

Size	Finish	A	B	C	Quantity	Order code
15mm x 10mm	Chrome plated	22.5	23	23	20	7P1011
15mm	Chrome plated	27.5	30	23	20	7P1013



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## Thermostatic radiator valves

### Push-fit accessories



#### Release tool

Size	Quantity	Order code
10mm	5	7P1014
15mm	5	7P1015

#### Push-fit collet clips

Size	Quantity	Order code
10mm	100	661101
15mm	100	661102

#### T110 multipurpose tool *deburring/depth gauge/scribe*

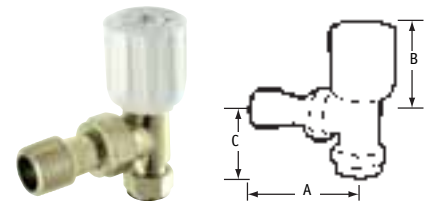
Size	Quantity	Order code
one size	1	7P1016

# Manual radiator valves

## Manual radiator valves to BS 2767-10

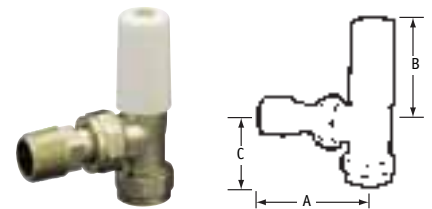
### 367 WH Angle pattern - for copper

Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Brass	62	54	26	10	601002
10mm x 1/2"	Brass	62	54	29	10	601006
15mm x 1/2"	Brass	62	54	29	10	601008



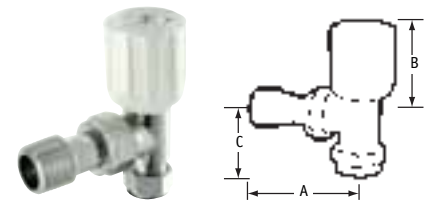
### 367 LS Angle pattern - for copper

Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Brass	62	52	26	10	601012
10mm x 1/2"	Brass	62	52	29	10	601016
15mm x 1/2"	Brass	62	52	29	10	601018



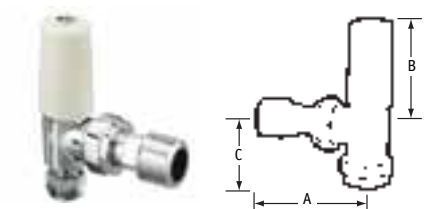
### 367 CPWH Angle pattern - for copper

Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Chromium plated	62	54	26	10	601022
10mm x 1/2"	Chromium plated	62	54	29	10	601026
15mm x 1/2"	Chromium plated	62	54	29	10	601028



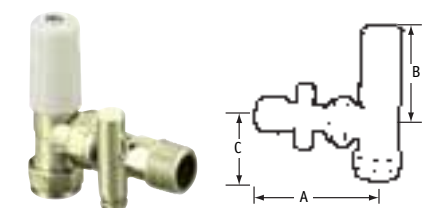
### 367 CPLS Angle pattern - for copper

Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Chromium plated	62	52	26	10	601032
10mm x 1/2"	Chromium plated	62	52	29	10	601036
15mm x 1/2"	Chromium plated	62	52	29	10	601038



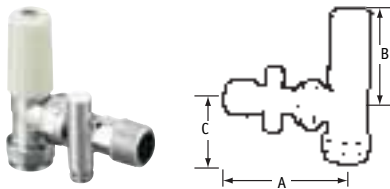
### 367 DLS Angle pattern with drain off - for copper

Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Brass	77	52	26	10	601042
10mm x 1/2"	Brass	77	52	29	10	601046
15mm x 1/2"	Brass	77	52	29	10	601048



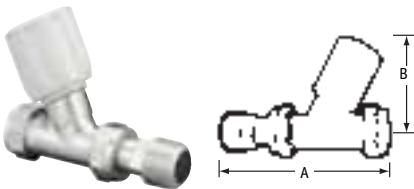
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
 Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## Manual radiator valves



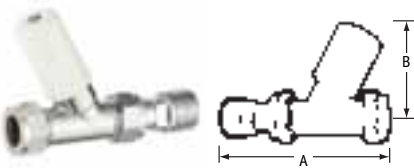
### 367 CPDLS Angle pattern with drain off - for copper

Size	Finish	A	B	C	Quantity	Order code
8mm x 1/2"	Chromium plated	77	52	26	10	601052
10mm x 1/2"	Chromium plated	77	52	29	10	601056
15mm x 1/2"	Chromium plated	77	52	29	10	601058



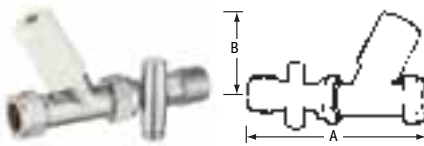
### 368 CPWH Straight pattern - for copper

Size	Finish	A	B	Quantity	Order code
15mm x 1/2"	Chromium plated	98	64	10	602028



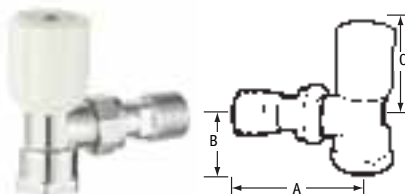
### 368 CPLS Straight pattern - for copper

Size	Finish	A	B	Quantity	Order code
15mm x 1/2"	Chromium plated	98	60	10	602038



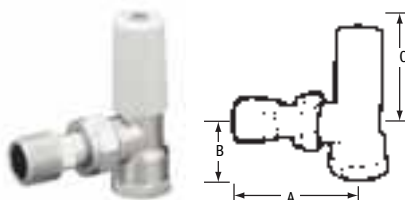
### 368 CPDLS Straight pattern with drain off - for copper

Size	Finish	A	B	Quantity	Order code
15mm x 1/2"	Chromium plated	113	64	10	602048



### 369 CPWH Angle pattern - for iron

Size	Finish	A	B	C	Quantity	Order code
1/2" x 1/2"	Chromium plated	65	25	54	10	603028



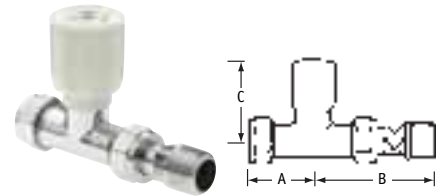
### 369 CPLS Angle pattern - for iron

Size	Finish	A	B	C	Quantity	Order code
1/2" x 1/2"	Chromium plated	65	25	52	10	603038

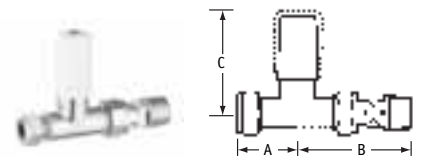
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

**368T CPWH Straight pattern - for copper**

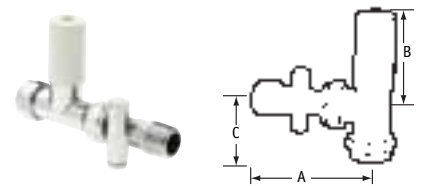
Size	Finish	A	B	C	Quantity	Order code
8/10mm x 1/2"	Chromium plated	33.5	77	61	10	602127
15mm x 1/2"	Chromium plated	36	77	61	10	602128

**368T CPLS Straight pattern - for copper**

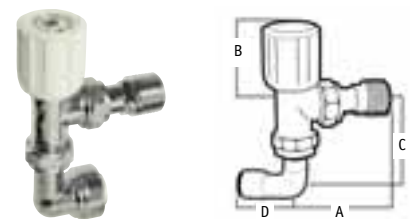
Size	Finish	A	B	C	Quantity	Order code
8/10mm x 1/2"	Chromium plated	34	69	61	10	602137
15mm x 1/2"	Chromium plated	36	69	61	10	602138

**368T CPDLS Straight pattern - for copper**

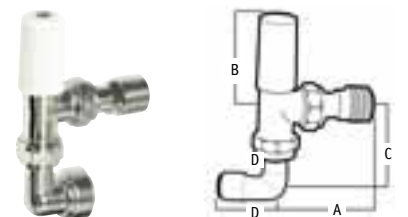
Size	Finish	A	B	C	Quantity	Order code
8/10mm x 1/2"	Chromium plated	33.5	77	61	10	602147
15mm x 1/2"	Chromium plated	36	77	61	10	602148

**Push-fit manual radiator valves to BS 2767-10****367 CPWH Angle pattern***compression connection with push-fit elbow connector*

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	82	49	54	10	661001
15mm x 1/2"	Chromium plated	91	58	54	10	661002

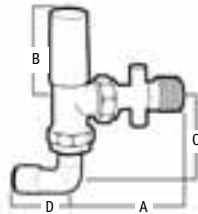
**367 CPLS Angle pattern***compression connection with push-fit elbow connector*

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	82	49	52	10	661005
15mm x 1/2"	Chromium plated	91	58	52	10	661006



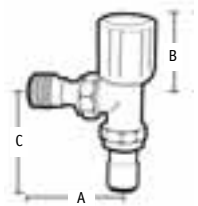
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
 Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## Manual radiator valves



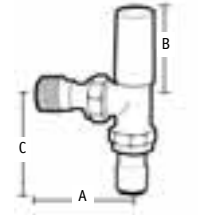
### 367 CPDLS Angle pattern with drain off lockshield compression connection with push-fit elbow connector

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	97	49	52	10	661009
15mm x 1/2"	Chromium plated	106	58	52	10	661010



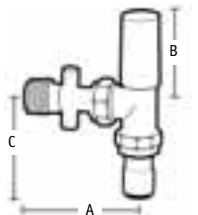
### 367 CPWH Angle pattern compression connection with push-fit straight connector

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	62	43	54	10	661003
15mm x 1/2"	Chromium plated	62	58	54	10	661004



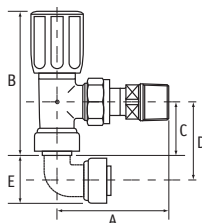
### 367 CPLS Angle pattern compression connection with push-fit straight connector

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	62	43	52	10	661007
15mm x 1/2"	Chromium plated	62	58	52	10	661008



### 367 CPDLS Angle pattern with drain off lockshield compression connection with push-fit straight connector

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plated	77	43	52	10	661011
15mm x 1/2"	Chromium plated	77	58	52	10	661012



### 367PF CPWH Angle pattern integral push-fit connection with push-fit elbow connector

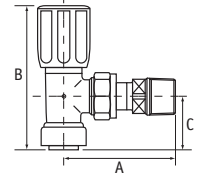
Size	Finish	A	B	C	D	E	Quantity	Order code
1/2" x 15mm with 10mm elbow	Chromium plated	60	84	34	50	27	1	661201
1/2" x 15mm with 15mm elbow	Chromium plated	60	84	34	53	33	1	661202



### 367PF CPWH Angle pattern

integral push-fit connection

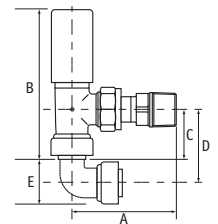
Size	Finish	A	B	C	Quantity	Order code
1/2" x 10mm	Chromium plated	60	84	34	1	661203
1/2" x 15mm	Chromium plated	60	84	34	1	661204



### 367PF CPLS Angle pattern

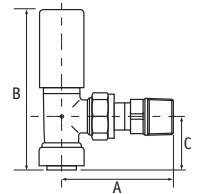
integral push-fit connection with push-fit elbow connector

Size	Finish	A	B	C	D	E	Quantity	Order code
1/2" x 15mm with 10mm elbow	Chromium plated	60	87	35	50	27	1	661205
1/2" x 15mm with 15mm elbow	Chromium plated	60	87	35	53	33	1	661206



### 367PF CPLS Angle pattern

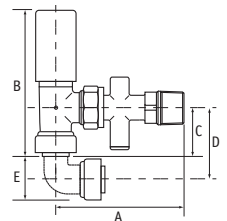
Size	Finish	A	B	C	Quantity	Order code
1/2" x 10mm	Chromium plated	60	87	35	1	661207
1/2" x 15mm	Chromium plated	60	87	35	1	661208



### 367PF CPDLS Angle pattern

integral push-fit connection with push-fit elbow connector

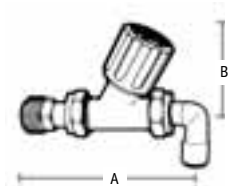
Size	Finish	A	B	C	D	E	Quantity	Order code
1/2" x 15mm with 10mm elbow	Chromium plated	77	87	35	50	27	1	661209



### 368 CPWH Straight pattern

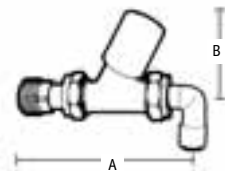
integral push-fit connection with push-fit elbow connector

Size	Finish	A	B	Quantity	Order code
10mm x 1/2"	Chromium plated	118	64	10	661013
15mm x 1/2"	Chromium plated	127	64	10	661014



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

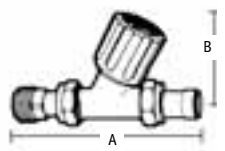
## Manual radiator valves



### 368 CPLS Straight pattern

*compression with push-fit elbow connector*

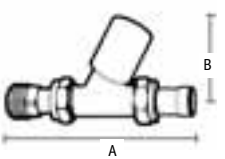
Size	Finish	A	B	Quantity	Order code
10mm x 1/2"	Chromium plated	118	60	10	661017
15mm x 1/2"	Chromium plated	127	60	10	661018



### 368 CPWH Straight pattern

*with push-fit straight connector*

Size	Finish	A	B	Quantity	Order code
10mm x 1/2"	Chromium plated	112	64	10	661015
15mm x 1/2"	Chromium plated	127	64	10	661016



### 368 CPLS Straight pattern

*with push-fit straight connector*

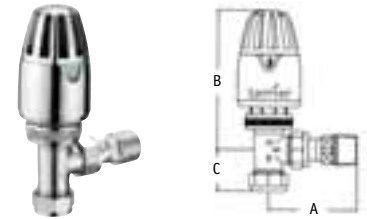
Size	Finish	A	B	Quantity	Order code
10mm x 1/2"	Chromium plated	112	60	10	661019
15mm x 1/2"	Chromium plated	127	60	10	661020

# All chrome decorative radiator valves

## Thermostatic radiator valves

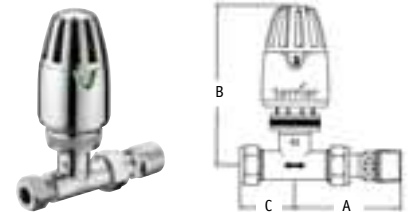
### Angle TRV

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	62	100	30	10	632220
10mm x 1/2"	Chromium plate	62	100	30	10	632221



### Straight TRV

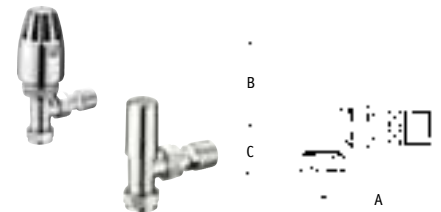
Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	69	109	34	10	632225
10mm x 1/2"	Chromium plate	69	109	34	10	632226



### Angle TRV & lockshield pack

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	62	52	30	10	632230
10mm x 1/2"	Chromium plate	62	52	29	10	632231

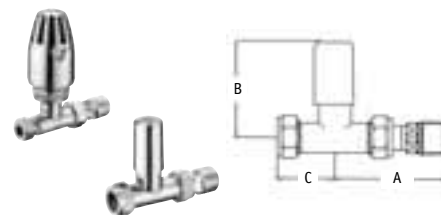
\* See TRV for dimensions



### Straight TRV & lockshield pack

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	69	61	36	10	632235
10mm x 1/2"	Chromium plate	69	61	33.5	10	632236

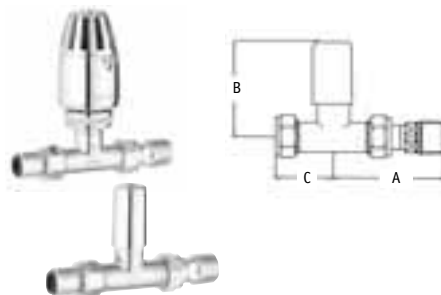
\* See TRV for dimensions



### Straight TRV & lockshield push-fit straight

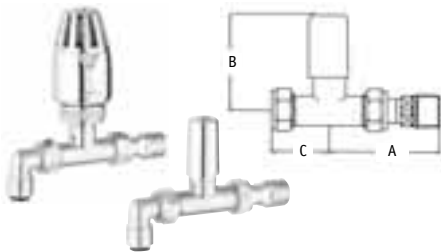
Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plate	69	61	33.5	10	662100

\* See TRV for dimensions



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

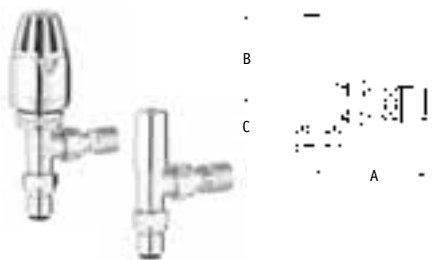
## All chrome decorative radiator valves



### Straight TRV & lockshield push-fit elbows

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plate	69	61	33.5	10	662101

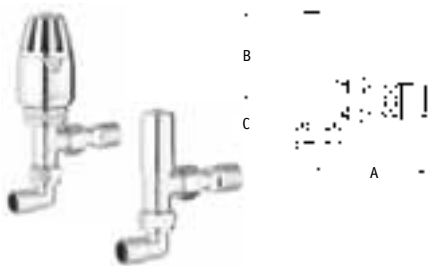
\* See TRV for dimensions



### Angle TRV & lockshield push-fit straight

Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plate	62	52	30	10	662090

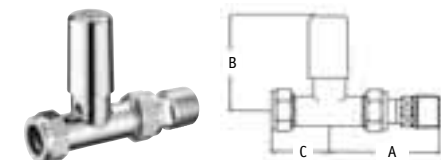
\* See TRV for dimensions



### Angle TRV & lockshield push-fit elbows

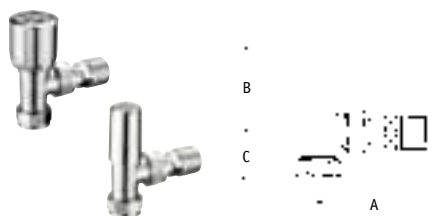
Size	Finish	A	B	C	Quantity	Order code
10mm x 1/2"	Chromium plate	62	52	30	10	662091

\* See TRV for dimensions



### Lockshield straight towel rail valve

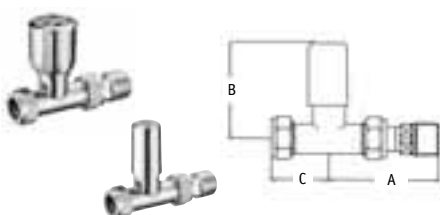
Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	69	61	36	10	632215
10mm x 1/2"	Chromium plate	69	61	33.5	10	632216



### Angle wheelhead & lockshield pack

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	62	52	30	10	601200
10mm x 1/2"	Chromium plate	62	52	30s	10	601201

\* See angle wheelhead for dimensions



### Straight wheelhead & lockshield pack

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	69	61	36	10	602200
10mm x 1/2"	Chromium plate	69	61	33.5s	10	602201

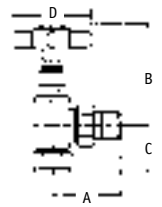
\* See straight wheelhead for dimensions

Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## Manual radiator valves

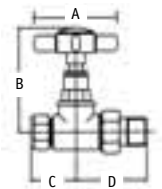
### Cross-top traditional angle wheelhead & lockshield pack

Size	Finish	A	B	C	D	Quantity	Order code
15mm x 1/2"	Chromium plate	53	78	36	62	1	632300



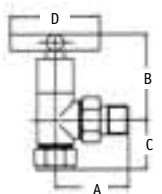
### Cross-top traditional straight wheelhead & lockshield pack

Size	Finish	A	B	C	D	Quantity	Order code
15mm x 1/2"	Chromium plate	32	78	35	50	1	632301



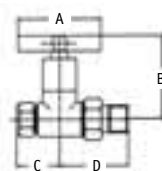
### Cross-top modern angle wheelhead & lockshield pack

Size	Finish	A	B	C	D	Quantity	Order code
15mm x 1/2"	Chromium plate	53	62	36	64	1	632302



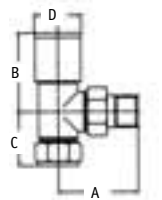
### Cross-top modern straight wheelhead & lockshield pack

Size	Finish	A	B	C	D	Quantity	Order code
15mm x 1/2"	Chromium plate	64	65	35	50	1	632303



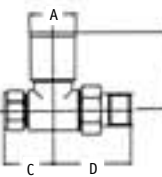
### Minimalist-modern angle wheelhead & lockshield pack

Size	Finish	A	B	C	D	Quantity	Order code
15mm x 1/2"	Chromium plate	53	57	36	31	1	632304
15mm x 1/2"	Satin Nickel	53	57	36	31	1	632305



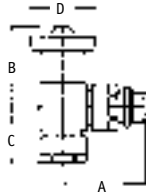
### Minimalist-modern straight wheelhead & lockshield pack

Size	Finish	A	B	C	D	Quantity	Order code
15mm x 1/2"	Chromium plate	31	60	35	50	1	632306
15mm x 1/2"	Satin Nickel	31	60	35	50	1	632307



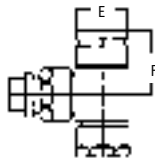
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## All chrome decorative radiator valves



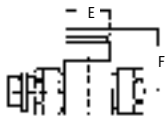
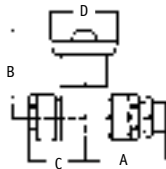
### Ultra-modern angle wheelhead & lockshield pack

Size	Finish	A	B	C	D	E	F	Quantity	Order code
15mm x 1/2"	Chromium plate	53	55	38	44	30	38	1	632308



### Ultra-modern straight wheelhead & lockshield pack

Size	Finish	A	B	C	D	E	F	Quantity	Order code
15mm x 1/2"	Chromium plate	53	60	38	44	30	43	1	632309



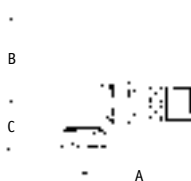
### Wheelhead angle towel rail valve

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	62	54 open	30	10	632201
10mm x 1/2"	Chromium plate	62	54 open	29	10	632202



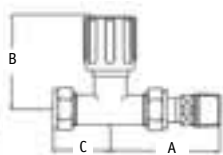
### Lockshield angle towel rail valve

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	62	52	30	10	632205
10mm x 1/2"	Chromium plate	62	52	29	10	632206



### Wheelhead straight towel rail valve

Size	Finish	A	B	C	Quantity	Order code
15mm x 1/2"	Chromium plate	69	62 open	36	10	632210
10mm x 1/2"	Chromium plate	69	62 open	33.5	10	632211



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

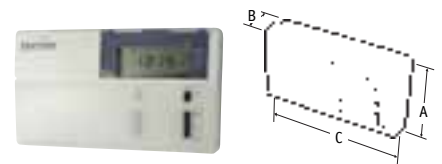
# Heating controls

## Programmings

### TP1 Single channel programmer

7 day programmer with 3 on-off periods per day

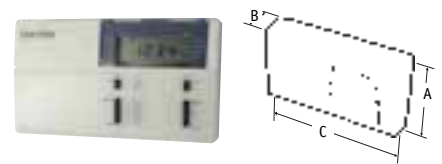
A	B	C	Pack Qty	Order code
85	34	149	1	658001



### TP2 Two channel programmer

7 day programmer with 3 on-off periods per day

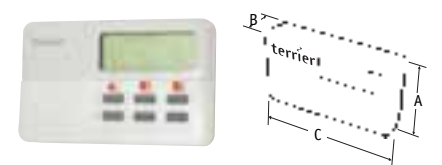
A	B	C	Pack Qty	Order code
85	34	149	1	658002



### TP3 Three channel programmer

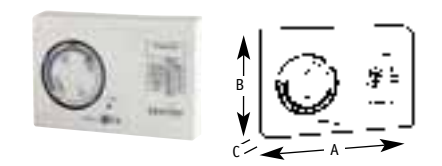
7 day programmer with 3 on-off periods per day.  
Different settings for every day of the week

A	B	C	Pack Qty	Order code
103	35	165	1	658003



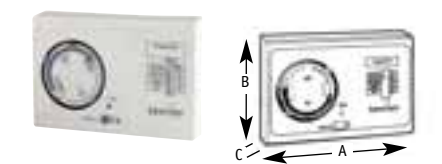
### TMP1 Single channel electro-mechanical programmer

A	B	C	Pack Qty	Order code
152	107	39	1	658011



### TMP2 Two channel electro-mechanical programmer

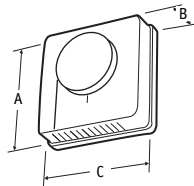
A	B	C	Pack Qty	Order code
152	107	39	1	658012



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

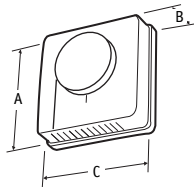
# Heating controls

## Thermostats



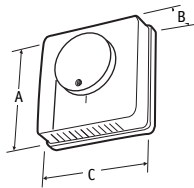
**TRT1 Room thermostat**  
230V, 50Hz Contact rating 10(3)A 5°C - 30°C operating range

A	B	C	Pack Qty	Order code
84	29	84	1	658021



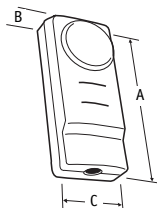
**TRT1WL Room thermostat with light**  
230V, 50Hz Contact rating 10(3)A 5°C - 30°C operating range

A	B	C	Pack Qty	Order code
84	29	84	1	658032



**TFT1 Frost thermostat**  
230V, 50Hz Contact rating 10(3)A 5°C - 30°C operating range

A	B	C	Pack Qty	Order code
84	29	84	1	658022



**TCT1 Cylinder thermostat**  
230V, 50Hz Contact rating 16(3)A 30°C - 90°C operating range

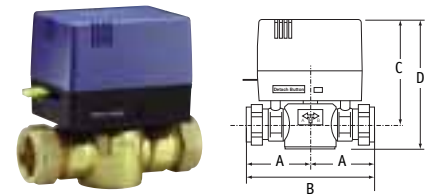
A	B	C	Pack Qty	Order code
115	28	48	1	658023



## Zone valves

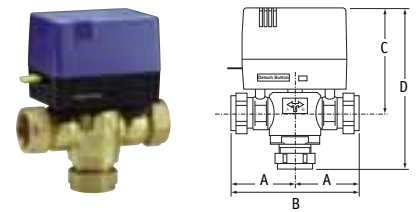
### TZV Zone valve – compression 2-port valve body

Size	A	B	C	D	Pack Qty	Order code
22mm	55	110	91	112	1	658051
28mm	60	120	91	114	1	658052



### TMPV Mid-position valve – compression 3-port valve body

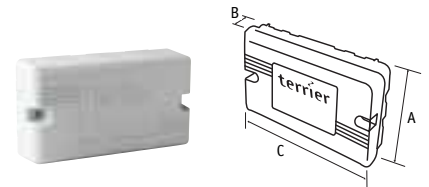
Size	A	B	C	D	Pack Qty	Order code
22mm	55	110	91	139	1	658053
28mm	60	120	91	143	1	658054



## Wiring centre

### TWC1 Wiring centre 10 terminal wiring centre

A	B	C	Pack Qty	Order code
84	29	150	1	658071



## Control packs

### TP2ZV Zone control pack

Includes the following: TZV Zone Valve, TWC1 Wiring Centre, TP2 Programmer, TCT1 Cylinder Thermostat, TRT1 Room Thermostat

Size	Quantity	Order code
22mm	1	658081
28mm	1	658082



### TMPV22 Mid-position control pack

Includes the following: TMPV Mid-position Valve, TWC1 Wiring Centre, TMP2 Programmer, TCT1 Cylinder Thermostat, TRT1 Room Thermostat

Size	Quantity	Order code
22mm	1	658109



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## Heating controls



### TP2MPV28 Mid-position control pack

*Includes the following: TMPV Mid-position Valve, TWC1 Wiring Centre, TP2 Programmer, TCT1 Cylinder Thermostat, TRT1 Room Thermostat*

Size	Quantity	Order code
22mm	1	658083
28mm	1	658084



### TMP1TRT1 Combi control pack

*Includes the following: TMP1 Programmer, TRT1 Room Thermostat*

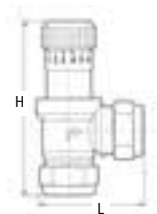
Quantity	Order code
1	658110

# Differential pressure bypass valves and circulating pumps

## Differential pressure bypass valves

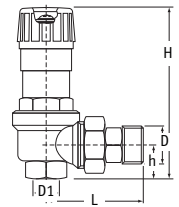
### USV22 Differential pressure valve for copper or iron

Size	Finish	L	H	Quantity	Order code
22mm	Gunmetal	63	106	1	678021



### USVR20 Differential pressure valve for copper or iron

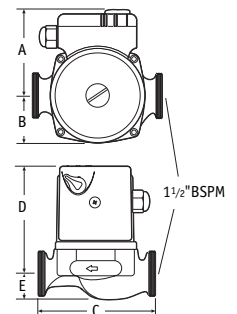
Size	Finish	D1	D	L	H	h	Quantity	Order code
3/4"	Gunmetal	3/4"	3/4"	70	120	26	1	678022
1"	Gunmetal	1"	1"	83.5	138	33	1	678023
1 1/4"	Gunmetal	1 1/4"	1 1/4"	100	148	39	1	678024



## Domestic circulating pumps

### Domestic circulating pump 230V, 50Hz. 10bar maximum pressure, 0.15bar minimum pressure.

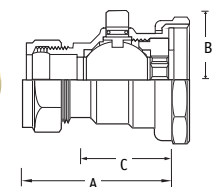
Model	A	B	C	D	E	Quantity	Order code
TC5 (5M max head)	78	50	110	110	26	1	657001
TC6 (6M max head)	78	50	110	26	65	1	657002



## Bulldog pump isolating ball valves

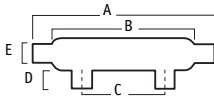
### PB300P Bulldog circulator pump isolating ball valve Test pressure 24bar/30°C. Max. working pressure PN16 (16bar). Max. operating temperature 120°C

Size	A	B	C	Quantity	Order code
22mm	63	29.5	41	1	553002
28mm	64.5	29.5	41	1	553003
22mm	63	29.5	41	2	553008
28mm	64.5	29.5	41	2	553009



# Differential pressure bypass valves and circulating pumps

## Air separators



VEN 1201 Air separator for copper with cold feed inlet

Size	A	B	C	D	E	Quantity	Order code
22mm	213	150	84	35	22	20	636008
28mm	220	150	80	35	22	20	636009

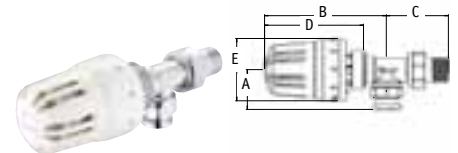
# Commercial manual and thermostatic radiator valves

## Thermostatic radiator valves to EN 215

Packaged units: bodies and B1301/3 liquid head

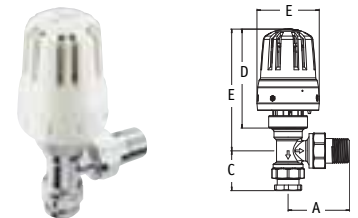
### B4451/4 Angle horizontal

Size	Finish	A	B	C	D	E	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	34	104	53	84	53	10	686001



### B4452/4 Angle vertical

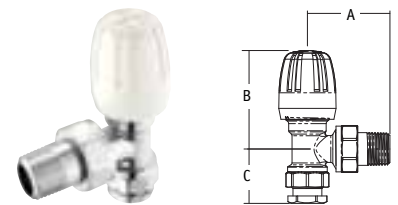
Size	Finish	A	B	C	D	E	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	52	104	34	84	53	10	686002



## Manual radiator valves to BS 2767-10

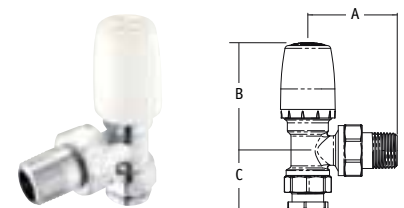
### 97 WH and CPWH Angle pattern - for copper or iron

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Matt brass	53	63	35	10	680001
3/4"/22mm x 3/4"	Matt brass	63	56	56	5	680004
1/2"/15mm x 1/2"	Chromium plated	53	63	35	10	680007
3/4"/22mm x 3/4"	Chromium plated	63	56	56	5	680010



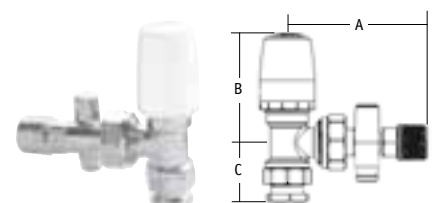
### 97 LS and CPLS Angle pattern - for copper or iron

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Matt brass	53	63	35	10	680002
3/4"/22mm x 3/4"	Matt brass	61	64	41	5	680005
1/2"/15mm x 1/2"	Chromium plated	53	63	35	10	680008
3/4"/22mm x 3/4"	Chromium plated	61	64	41	5	680011



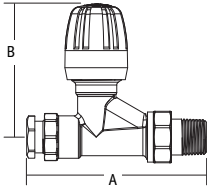
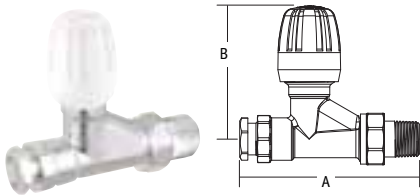
### 97 CPDLS Angle pattern with drain off - for copper or iron

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	81	63	35	10	680009



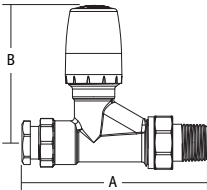
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

## Commercial manual and thermostatic radiator valves



### 98 WH and CPWH Straight pattern - for copper or iron

Size	Finish	A	B	Quantity	Order code
1/2"/15mm x 1/2"	Matt brass	105	78	10	681001
3/4"/22mm x 3/4"	Matt brass	130	83	5	681004
1/2"/15mm x 1/2"	Chromium plated	105	78	10	681007
3/4"/22mm x 3/4"	Chromium plated	130	83	5	681010

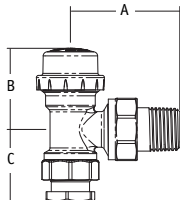


### 98 LS Straight pattern - for copper or iron

Size	Finish	A	B	Quantity	Order code
1/2"/15mm x 1/2"	Matt brass	105	78	10	681002
3/4"/22mm x 3/4"	Matt brass	130	83	5	681005
1/2"/15mm x 1/2"	Chromium plated	105	78	10	681008
3/4"/22mm x 3/4"	Chromium plated	130	83	5	681011

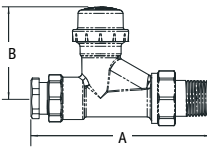
## Lockshield valve bodies

Tamper proof – metal cap – for copper or iron pipe



### LS 351/3 Angle vertical

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	53	39	35	20	686050
3/4"/22mm x 3/4"	Chromium plated	61	40	41	20	686051



### LS 352/4 Straight vertical

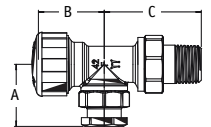
Size	Finish	A	B	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	105	54	20	686052
3/4"/22mm x 3/4"	Chromium plated	130	59	20	686053

## Thermostatic valve bodies

Valve bodies for normal systems – black cap – for copper or iron pipe

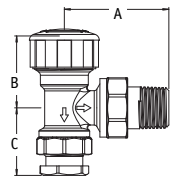
### VB 1390/4 Angle horizontal

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	34	36	53	10	686030
3/4"/22mm x 3/4"	Chromium plated	38	37	63	5	686031



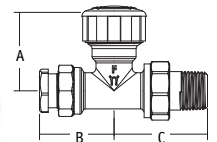
### VB 1290/4 Angle vertical

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	53	36	34	10	686032
3/4"/22mm x 3/4"	Chromium plated	63	37	38	5	686033



### VB 1490/4 Straight

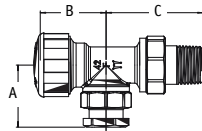
Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	43	41	51	10	686034
3/4"/22mm x 3/4"	Chromium plated	45	47	62	5	686035



Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

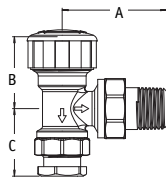
# Commercial manual and thermostatic radiator valves

## Thermostatic preset valve bodies



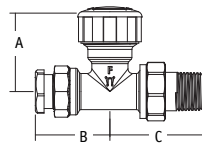
### VB 1390/4P Angle horizontal preset

Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	34	36	53	10	686080
3/4"/22mm x 3/4"	Chromium plated	38	37	63	5	686081



### VB 1290/4P Angle vertical preset

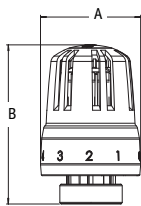
Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	53	36	34	10	686082
3/4"/22mm x 3/4"	Chromium plated	63	37	38	5	686083



### VB 1490/4P Straight preset

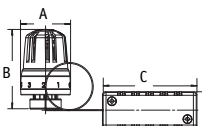
Size	Finish	A	B	C	Quantity	Order code
1/2"/15mm x 1/2"	Chromium plated	43	41	51	10	686084
3/4"/22mm x 3/4"	Chromium plated	45	47	62	5	686085

## Thermostatic heads



### B1301/4 Liquid TRV head with zero position

A	B	Quantity	Order code
53	87 unlocked 84 locked	1	686005



### B1401/4 (2M) Liquid TRV head with 2m remote sensor

A	B	C	D	Quantity	Order code
53	87 unlocked 84 locked	100	39	1	686006

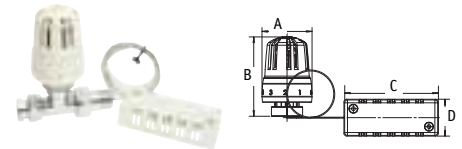
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55



## Thermostatic heads

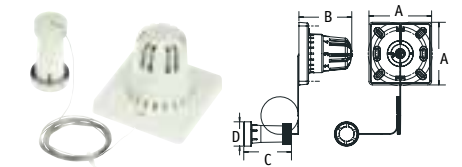
### B1401/4 (8M) Liquid TRV head with 8m remote sensor

A	B	C	D	Quantity	Order code
53	87 unlocked 84 locked	100	39	1	686009



### B1701/4 Liquid TRV head with remote adjuster

Sensor	A	B	C	D	Quantity	Order code
2m	85	75 unlocked 72 locked	64.7	33	1	686011
5m	85	75 unlocked 72 locked	64.7	33	1	686012
8m	85	75 unlocked 72 locked	64.7	33	1	686013



## Accessories

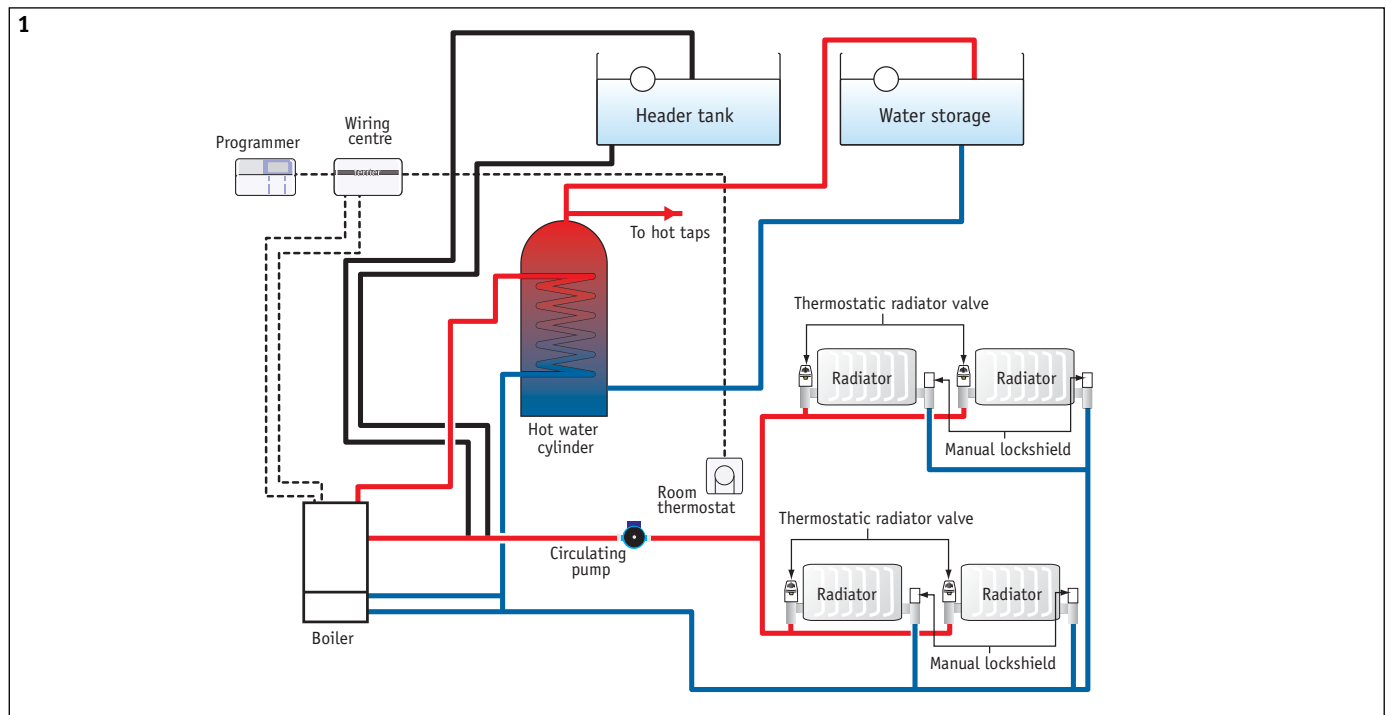
### Terrier and Belmont accessories

	Size	Quantity	Order code
Belmont III TRV security clip	–	20	686102
Security clip release tool	–	1	686103
Retaining clips for capillary tube <i>(B 1401/3 &amp; B 1701/3) 20 clips/nails per set</i>	–	10 sets	686104
Iron pipe connection without nut	1/2"	10	686105
Iron pipe connection without nut	3/4"	10	686106
Copper compression fitting <i>For 3/4" valve bodies (black cap only)</i>	22mm	10	686107
Remote sensor housing	–	1	686117
RG1205/3 Belmont III TRV gland removal tool	–	1	686100
RG1205/4 Belmont IV TRV gland removal tool	–	1	686200
B 1301/3 & B 1401/3 locking/limiting pins	–	20	686101

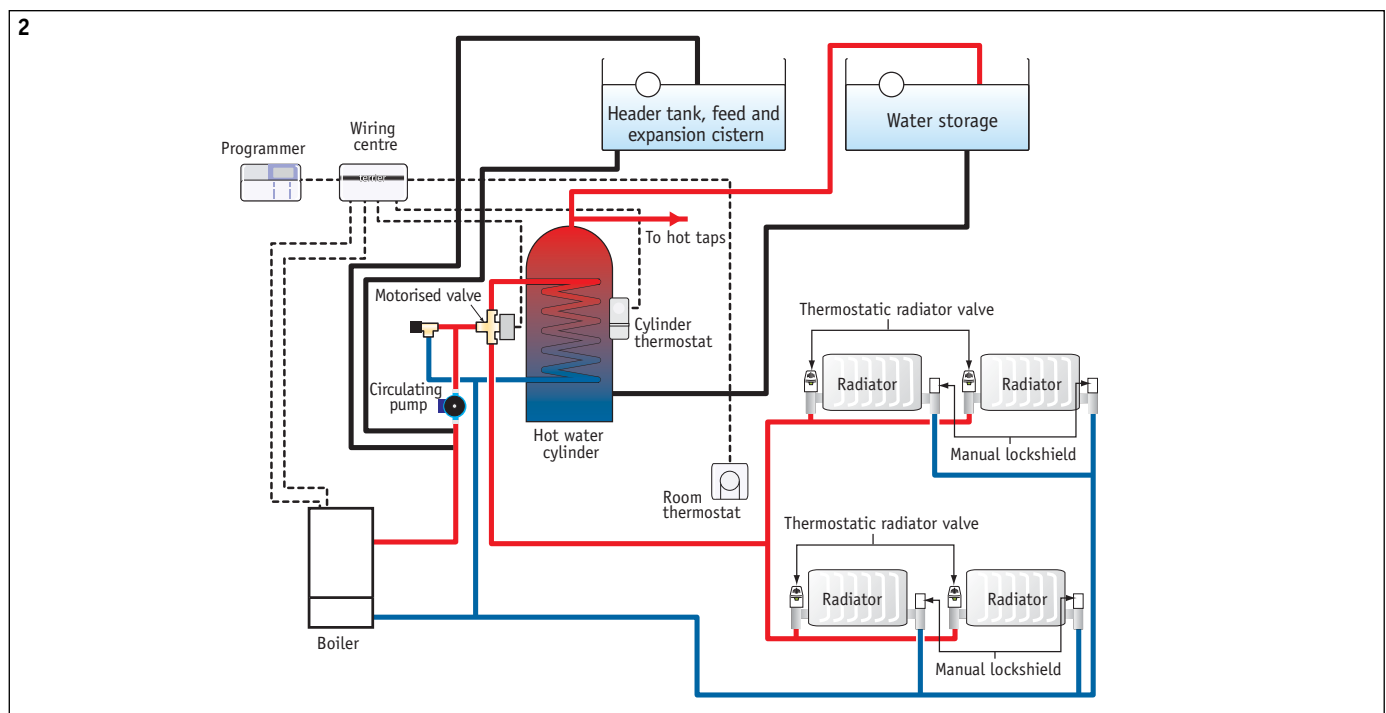
Applications: pages 42-44 Product and tube compatibility: pages 45 System design considerations and installation: pages 46-47  
Performance - pressure/temperature ratings and flow rates: pages 48-53 Care and maintenance: pages 54-55

All system drawings are a representation of various systems.

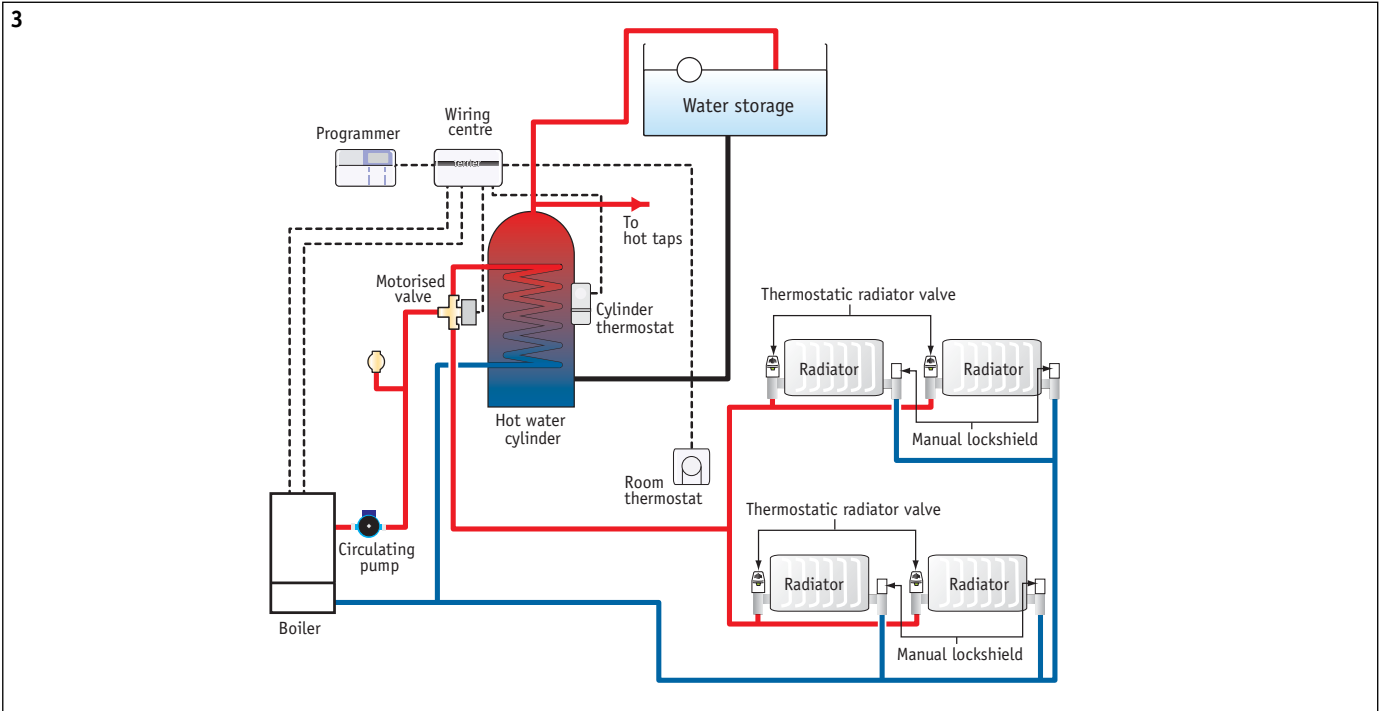
## Types of system



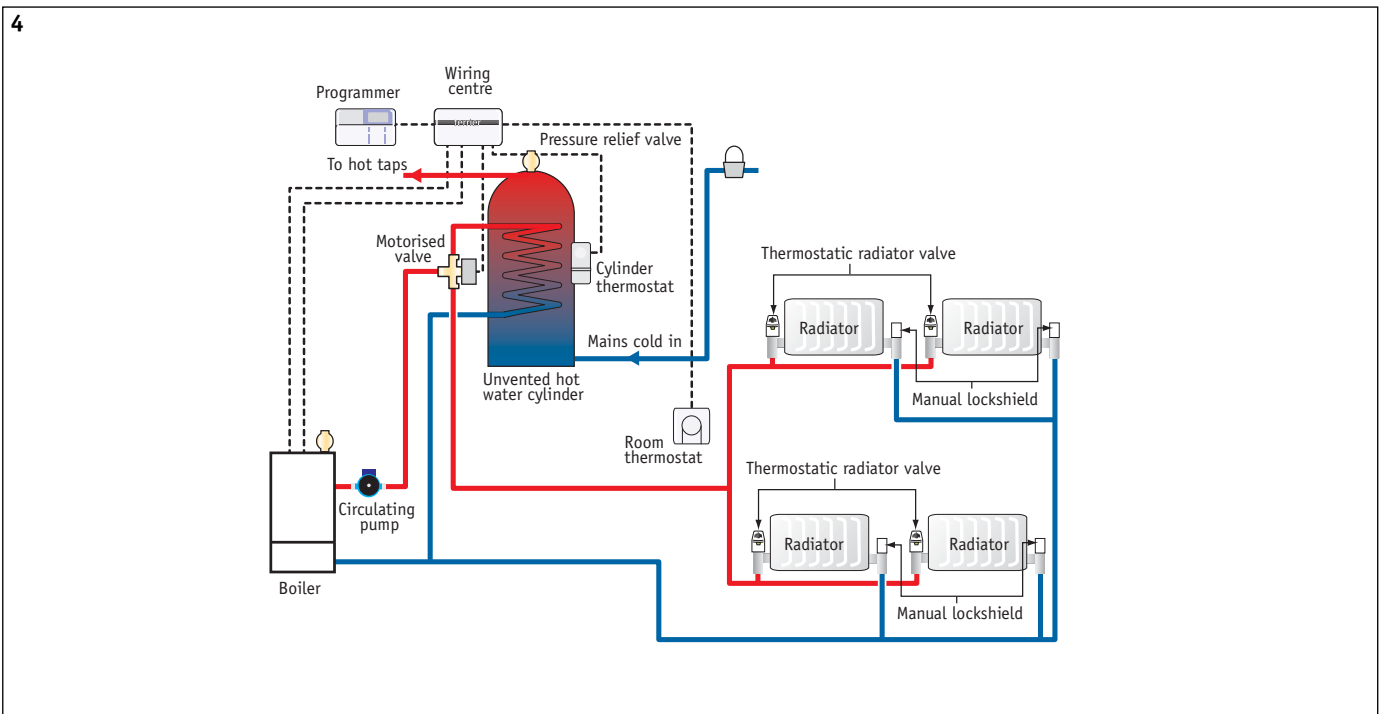
Gravity hot water system (open vented)



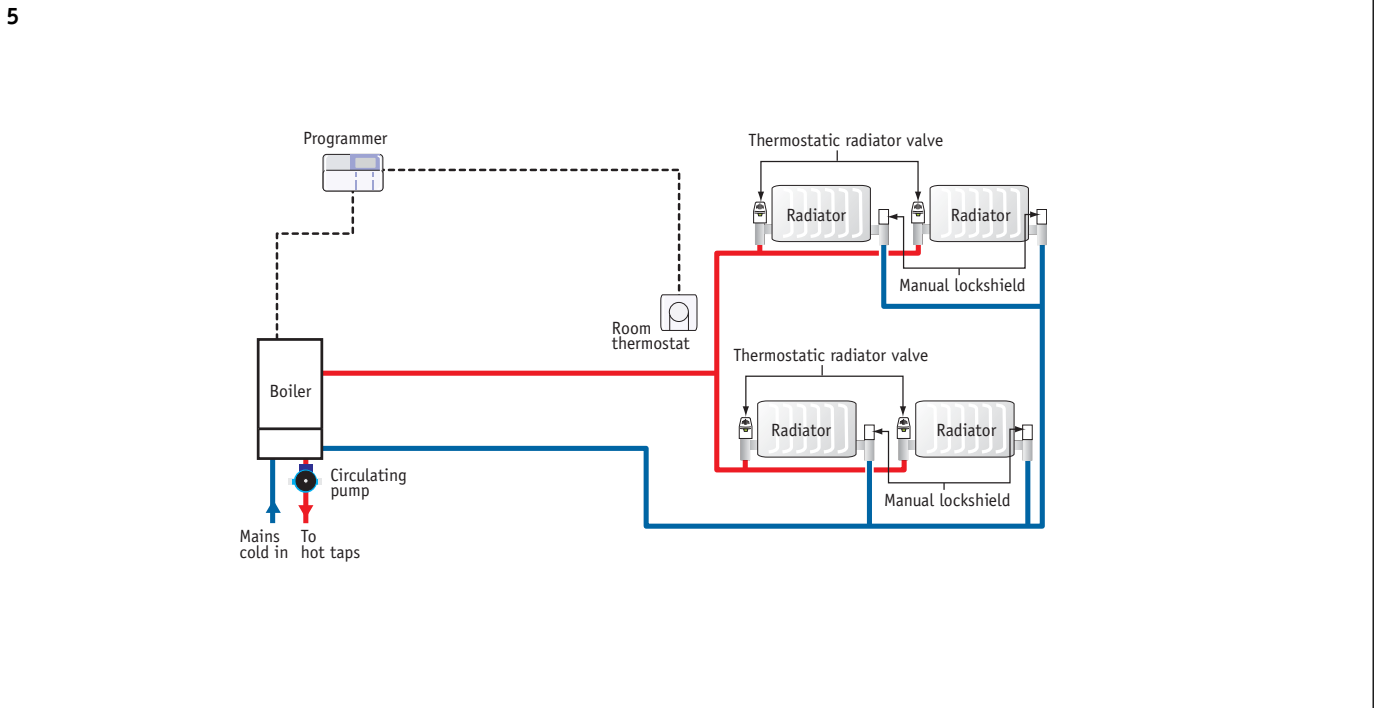
Fully pumped system (open vented)



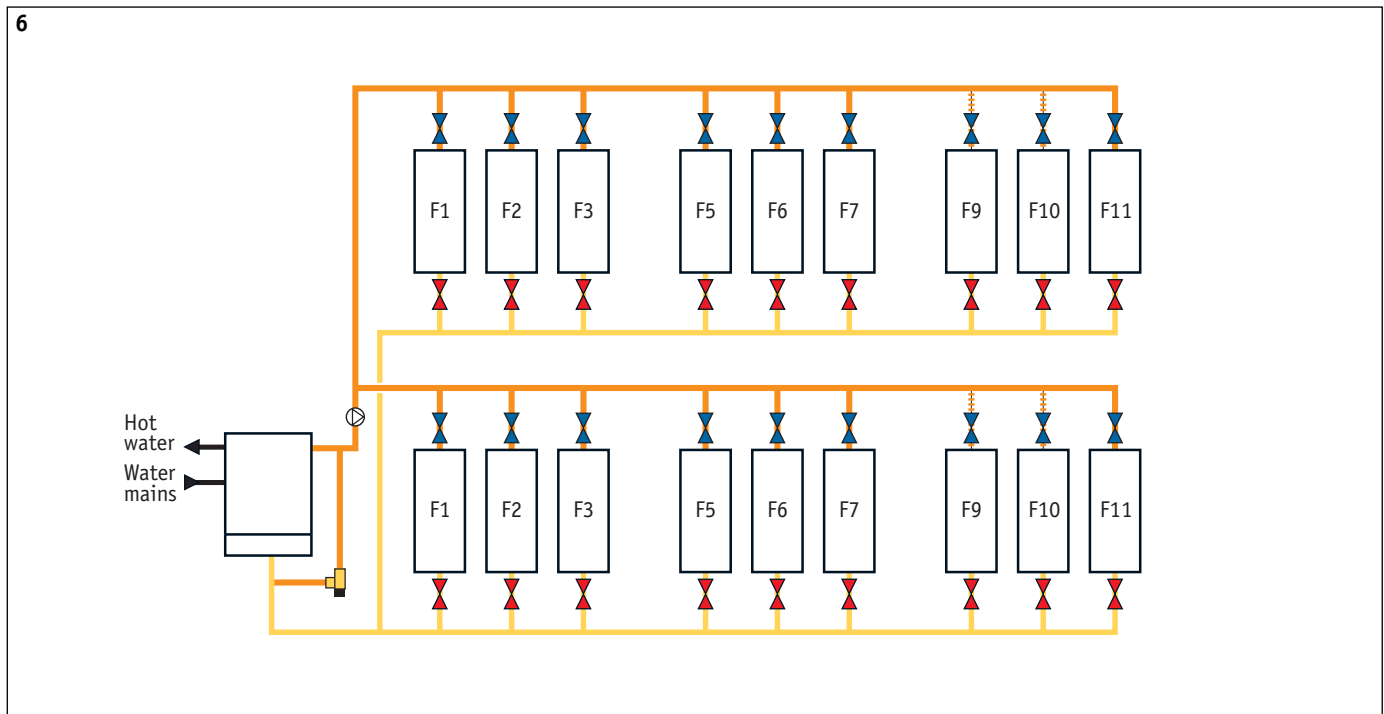
Sealed system vented DHW



Sealed system unvented DHW



Combination boiler



Commercial system example

Product recommended	TYPES OF SYSTEM					
	Gravity hot water system (1)	Fully pumped system (2)	Sealed system vented DHW (3)	Sealed system unvented DHW (4)	Combination boiler (5)	Commercial system example (6)
Thermostatic radiator valves	✓	✓	✓	✓	✓	✓
Manual radiator valves	✓	✓	✓	✓	✓	✓
Motorized valves	x	✓	✓	✓	✓	✓
Room thermostats	✓	✓	✓	✓	✓	✓
Programmable	✓	✓	✓	✓	✓	✓
Cylinder thermostats	✓	✓	✓	✓	x	✓
Frost thermostats	✓	✓	✓	✓	✓	✓
Domestic circulating pumps	✓	✓	✓	x	x	x
Automatic bypass valves	x	✓	x	x	✓	✓

## Tube compatibility

	TUBE COMPATIBILITY				
	Copper	Chrome	PEX/PB	Iron	Carbon
Terrier compression	✓	✓	x	x	x
Terrier push-fit	✓	✓	✓	x	x
Belmont (adaptor)*	✓	x	✓*	✓	✓*

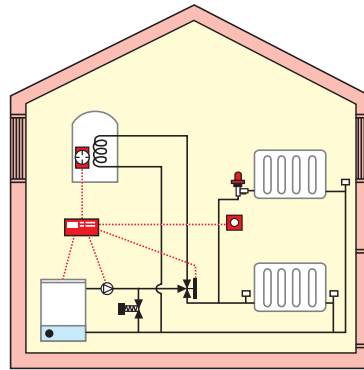
\*Pegler Yorkshire has a range of push and press connectors in the Tectite range for use with plastic, carbon steel or copper piping.

## Introduction

In line with the Government's Good Practice Guide GPG302, Pegler Yorkshire explains the importance of system design and best practice.

Installation of effective controls has a major impact on the energy consumption of heating and hot water systems and can lead to improved energy efficiency, reduced running cost and lower carbon dioxide (CO<sub>2</sub>) emissions.

- Using controls increases operating efficiency when updating older systems, and provides the user to minimise energy consumption by reducing comfort temperatures
- Heating and hot water accounts for over 80% of the energy consumption in a home
- The installation of a minimum standard of controls in a wet system (which previously had no controls) can reduce fuel consumption and CO<sub>2</sub> emissions by 17%
- Reducing the heating "on" time by two hours a day can reduce consumption by 6%.



- System controls**
- Room thermostat
  - Time switch/programmer
  - ⊕ Cylinder thermostat
  - ⊗ Motorised valve
  - ⊕ Thermostatic radiator valve (TRV)
  - ⊗ Automatic bypass valve

### SYSTEM CONSIDERATIONS

Product	System Design Consideration
Thermostatic radiator valves	● Thermostatic radiator valves should be installed in association with a room thermostat to provide boiler interlock. If more than 50% of the location is fitted with TRVs then an automatic bypass valve will be required. (Terrier TRV, ABV).
Manual radiator valves	● Radiators in rooms with a controlling room thermostat should be fitted with manual valves on connections. (Terrier manual radiator valves).
Controls	<ul style="list-style-type: none"> <li>● Systems with regular boilers must have separately controlled circuits to hot water cylinder and radiators, and both circuits must have pumped circulation. (Terrier programmer, Terrier pump)</li> <li>● Room thermostats, programmable room thermostats, cylinder thermostats, programmers and time switches must be wired so they are interlocked with the boiler and pump i.e. they prevent the boiler from firing when there is no demand for heat (Terrier controls).</li> </ul>
Frost protection	<ul style="list-style-type: none"> <li>● Frost protection must be provided where necessary to protect the appliance, system and dwelling, (Terrier TRV, Frost Thermostats)</li> <li>● A bypass circuit must be installed if the boiler manufacturer specifies that a minimum flow rate has to be maintained while the boiler is firing. The installed bypass circuit must then include an automatic bypass valve. (Terrier ABV).</li> </ul>

## New systems and upgrading systems

In order to adhere to the Building Regulations there are two levels of compliance: a minimum set level and a best practice. As a respected manufacturer, Pegler Yorkshire is responsible to promote a best practice approach.

### MINIMUM SET LEVEL AND PEGLER YORKSHIRE BEST PRACTICE

Product	Minimum Set	Best Practice
Combi Boilers	<ul style="list-style-type: none"> <li>● Time switch</li> <li>● Room thermostat</li> <li>● TRVs on all radiators except rooms with a room thermostat</li> <li>● Automatic bypass valve</li> </ul>	<ul style="list-style-type: none"> <li>● Programmable room thermostats</li> <li>● TRVs on all radiators except rooms with a room thermostat</li> <li>● Automatic bypass valve</li> </ul>
Regular Boilers	<ul style="list-style-type: none"> <li>● Room thermostats</li> <li>● Full programmer</li> <li>● Cylinder thermostat</li> <li>● TRVs on all radiators except rooms with a room thermostat</li> <li>● Automatic bypass valve</li> </ul>	<ul style="list-style-type: none"> <li>● Programmable room thermostats with additional hot water timing capability</li> <li>● Cylinder thermostat</li> <li>● TRVs on all radiators except rooms with a room thermostat</li> <li>● Automatic bypass valve</li> </ul>

**INSTALLATION BEST PRACTICE**

<i>Product</i>	<i>Installation Best Practice</i>
Domestic thermostatic radiator valves  the  avoided	<ul style="list-style-type: none"> <li>● Installation of TRVs is recommended in a forward flow position, however the Terrier TRV can be installed in either direction with its reverse flow technology</li> <li>● For maximum performance the TRV is best fitted at the top of the radiator with the head fitted horizontally away from the radiator</li> <li>● Thermostatic heads above the top of the radiator must be avoided</li> <li>● For maximum energy efficiency the TRV should be set to "3" for economy setting to reduce fuel bills, in areas of non requirement the valve should be set to a frost setting.</li> </ul>
Commercial thermostatic radiator valves  remote	<ul style="list-style-type: none"> <li>● Locking and limiting devices should be used when in need of security; Belmont heads have as standard a patented "lift and lock" mechanism to prevent unauthorised adjustment or tampering in public places of high tamper risk areas</li> <li>● Avoid installing TRVs in concealed areas, remote adjuster and sensors should be installed in order to read temperature accurately</li> <li>● To improve efficiency with a balanced system and long term maintenance, presetting valve bodies should be used to allow adjustment to the flow, and minimise the exercise of balancing the system at the event of maintenance</li> <li>● When installing radiator valves in large systems it important to select radiator valves with removable glands. The Belmont range has a special tool that allows removal of gland without draining down the system.</li> </ul>
Domestic subject manual radiator valves difficult	<ul style="list-style-type: none"> <li>● Manual valves can be used on existing and new radiators – to the requirements of the Building Regulations</li> <li>● Manuals should fitted where the ambient temperature is difficult to control, e.g. kitchen and bathroom</li> <li>● Manuals can also be used to relieve pressure build up within a heating system</li> <li>● Push-fit connection manuals are recommended where the installation is using plastic pipe.</li> </ul>
Controls carried  that	<ul style="list-style-type: none"> <li>● The installation and connection of mains voltage must be carried out by a suitably competent person and in accordance with the installation instructions</li> <li>● The mains electrical supply to the installation must be isolated before installation and maintenance of the product</li> <li>● Timeswitches should only be used for one circuit heating or hot water and should be installed in a easy to reach area</li> <li>● Room thermostats should be installed in a regularly heated area that allows free circulation, away from heat sources and in route of draughts.</li> </ul>
Domestic remove any circulating pumps	<ul style="list-style-type: none"> <li>● It is good plumbing practice to flush the heating system to remove any debris or sediments prior to installation. This will help to prolong the life of the pump and improve the system's performance and efficiency</li> <li>● Terrier circulating pumps should only be used for indirect open-vented, sealed heating systems or indirect hot water systems.</li> <li>● With the exception of approved corrosion inhibitors, cleaners or anti-freeze, Terrier circulating pumps must not be used with liquids or chemicals other than water. (Full details can be found</li> </ul>

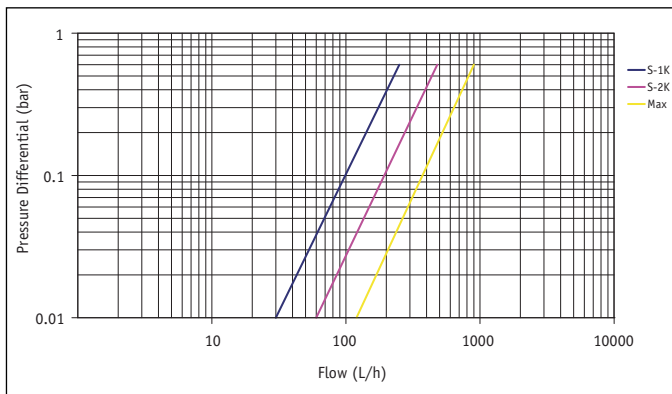
## Terrier thermostatic radiator valves

<b>Nominal flow rates</b>	
1/2" x 15mm angle forward and reverse flow	190kg/h
1/2" x 15mm straight forward and reverse flow	190kg/h
<b>Maximum static pressure</b>	
	10 bar at 120°C
<b>Maximum differential pressure</b>	
	0.6 bar
<b>Hysteresis</b>	
All thermal heads	0.8k
<b>Differential pressure influence</b>	
All thermal heads	0.15k
<b>Water temperature influence</b>	
All thermal heads	0.9k
<b>Response time</b>	
All thermal heads	20 minutes

## Belmont thermostatic radiator valves

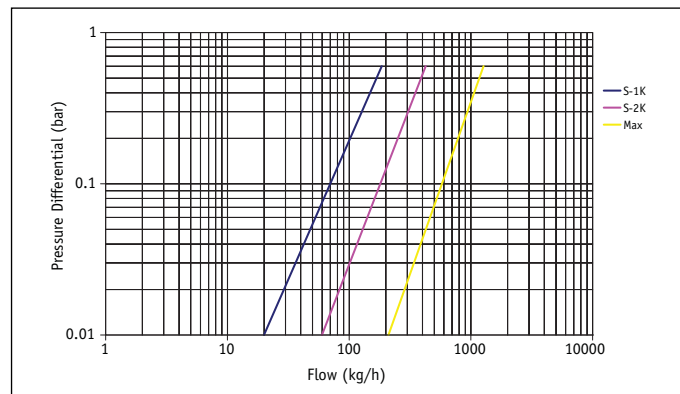
<b>Nominal flow rates</b>	
1/2" angle and reverse angle forward flow	206kg/h
1/2" angle and reverse angle reverse flow	220kg/h
1/2" straight pattern forward and reverse flow	195kg/h
3/4" patterns	265kg/h
<b>Maximum static pressures</b>	
	10bar at 120°C
<b>Maximum differential pressures</b>	
	0.6bar
<b>Hysteresis</b>	
	0.5k
<b>Differential pressure influence</b>	
All variants forward	0.15k
All variants reverse	-0.25k
<b>Water temperature influence</b>	
Fixed thermal head	0.9k
Remote sensing and remote adjusting heads	0.5k
<b>Response time</b>	
All TRV head variants - vertical	24 minutes
All TRV head variants - horizontal	20 minutes

### Straight and angle pattern 15mm forward and reverse flow



<b>Nominal flow</b>	<b>Seat authority a</b>	<b>Position</b>	<b>kv</b>
190kg/h	0.72	S-1K	0.32
		S-2K	0.60
		Max.	1.08

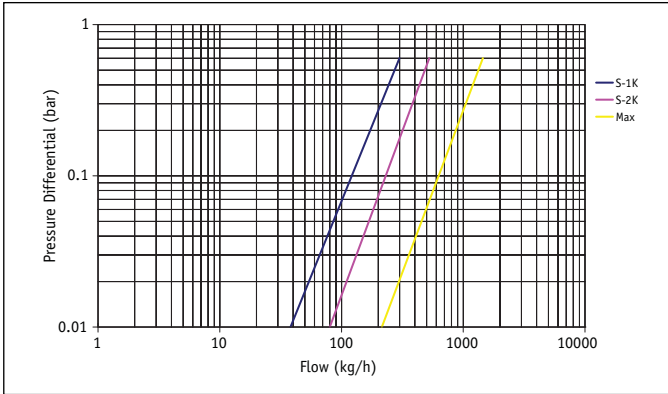
### 1/2" angle and reverse angle pattern forward flow



<b>Nominal flow</b>	<b>Seat authority a</b>	<b>Position</b>	<b>kv</b>
206kg/h	0.90	S-1K	0.23
		S-2K	0.52
		Max.	1.74



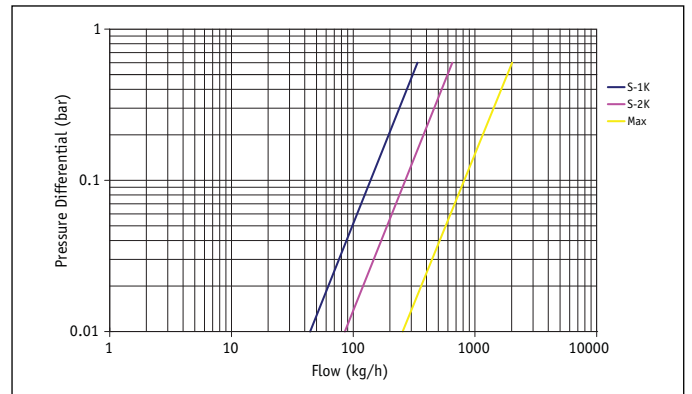
**1/2" angle and reverse angle pattern reverse flow**



Nominal flow	Seat authority a
220kg/h	0.90

Position	kv
S-1K	0.38
S-2K	0.74
Max.	1.94

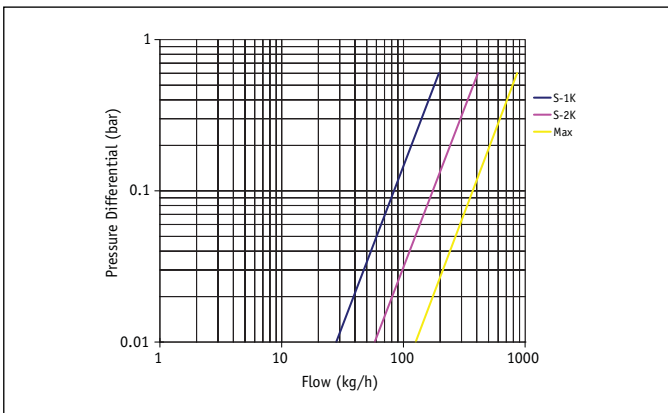
**3/4" angle and reverse angle pattern forward and reverse flow**



Nominal flow	Seat authority a
265kg/h	0.89

Position	kv
S-1K	0.44
S-2K	0.84
Max.	2.53

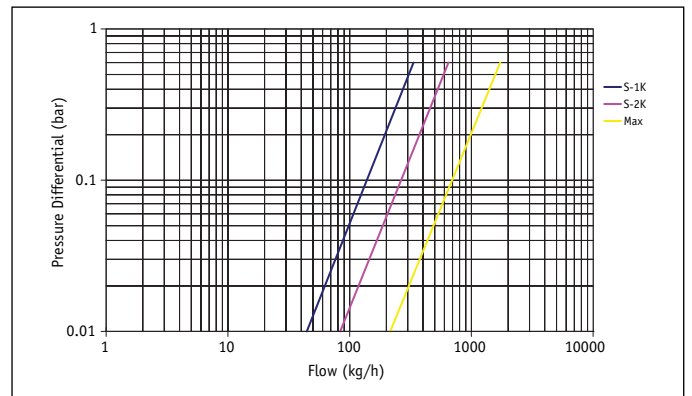
**1/2" straight pattern forward and reverse flow**



Nominal flow	Seat authority a
195kg/h	0.77

Position	kv
S-1K	0.25
S-2K	0.54
Max.	1.13

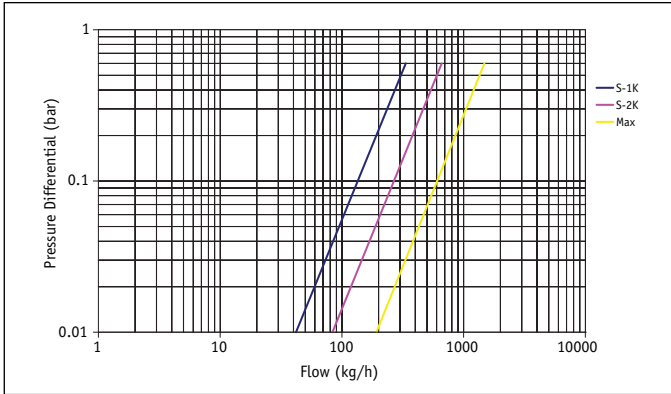
**3/4" straight pattern forward flow**



Nominal flow	Seat authority a
265kg/h	0.85

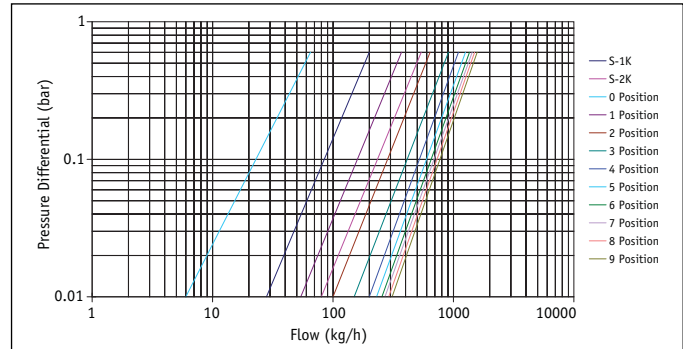
Position	kv
S-1K	0.44
S-2K	0.84
Max.	2.15

3/4" straight pattern reverse flow



Nominal flow	Seat authority a	Position	kv
265kg/h	0.80	S-1K	0.44
		S-2K	0.84
		Max.	1.87

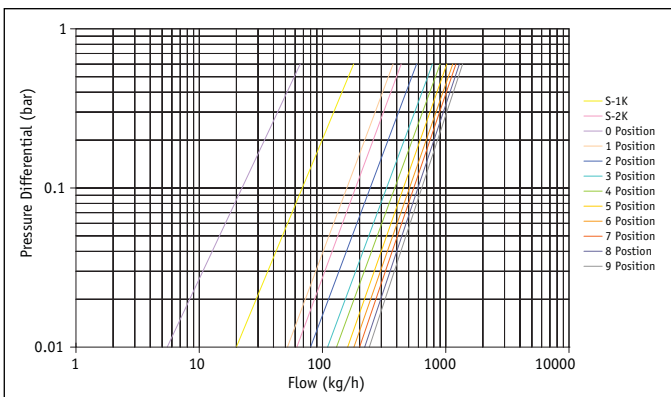
1/2" angle and reverse angle pattern reverse flow pre-setting



Setting	Nominal flow (kg/h)	Seat authority a	Position	kv
0	45	0.00	S-1K	0.26
1	164	0.00	S-2K	0.70
2	220	0.38	0	0.08
3	220	0.68	1	0.48
4	220	0.81	2	0.83
5	220	0.88	3	1.17
6	220	0.91	4	1.42
7	220	0.94	5	1.63
8	220	0.95	6	1.76
9	220	0.96	7	1.85
			8	1.94
			9	2.03

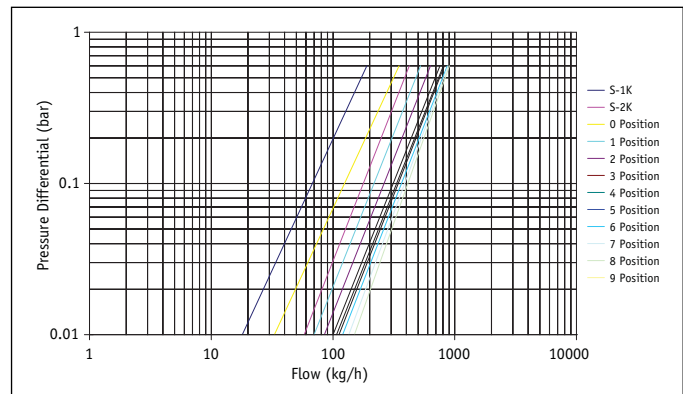
Belmont pre-set thermostatic radiator valves

1/2" angle and reverse angle pattern forward flow pre-setting



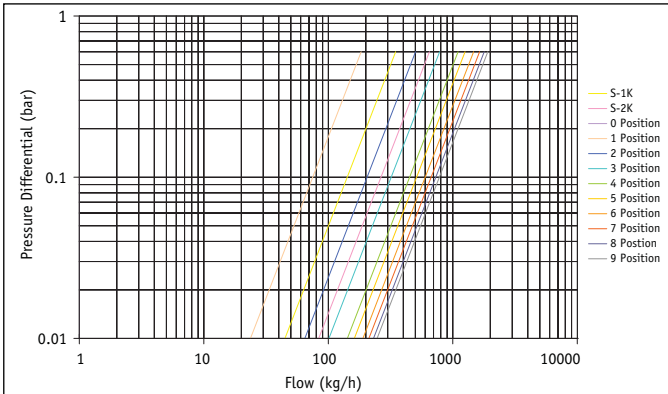
Setting	Nominal flow (kg/h)	Seat authority a	Position	kv
0	44	0.00	S-1K	0.23
1	151	0.00	S-2K	0.56
2	206	0.32	0	0.09
3	206	0.63	1	0.48
4	206	0.73	2	0.75
5	206	0.80	3	1.01
6	206	0.85	4	1.16
7	206	0.89	5	1.32
8	206	0.91	6	1.47
9	206	0.94	7	1.56
			8	1.67
			9	1.77

1/2" straight pattern forward and reverse flow pre-setting



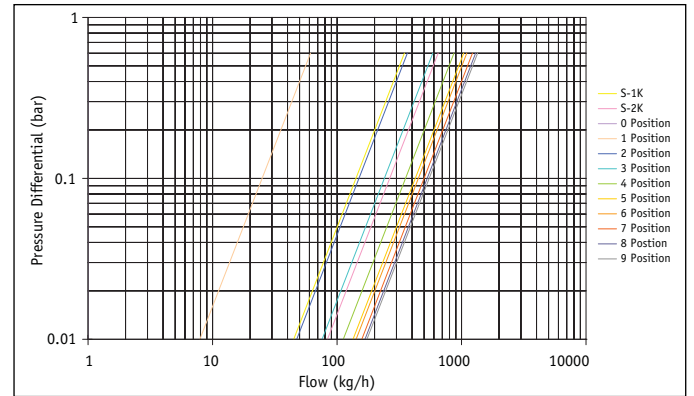
Setting	Nominal flow (kg/h)	Seat authority a	Position	kv
0	40	0.00	S-1K	0.25
1	130	0.00	S-2K	0.55
2	195	0.22	0	0.45
3	195	0.43	1	0.68
4	195	0.62	2	0.82
5	195	0.69	3	0.98
6	195	0.78	4	1.04
7	195	0.80	5	1.06
8	195	0.81	6	1.12
9	195	0.82	7	1.14
			8	1.17
			9	1.20

**3/4" angle and reverse angle pattern forward and reverse flow pre-setting**



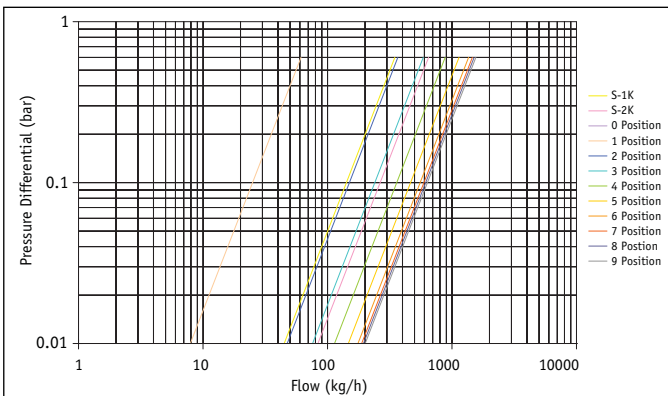
Setting	Nominal flow (kg/h)	Seat authority a	Position	kv
0	0	0	S-1K	0.45
1	75	0	S-2K	0.84
2	205	0	0	0.00
3	265	0.31	1	0.24
4	265	0.65	2	0.65
5	265	0.73	3	1.01
6	265	0.80	4	1.42
7	265	0.84	5	1.62
8	265	0.87	6	1.90
9	265	0.88	7	2.12
			8	2.31
			9	2.47

**3/4" straight pattern reverse flow pre-setting**



Setting	Nominal flow (kg/h)	Seat authority a	Position	kv
0	0	0	S-1K	0.45
1	25	0	S-2K	0.84
2	150	0	0	0.00
3	240	0	1	0.08
4	265	0.44	2	0.47
5	265	0.61	3	0.76
6	265	0.65	4	1.12
7	265	0.72	5	1.34
8	265	0.75	6	1.42
9	265	0.77	7	1.58
			8	1.68
			9	1.74

**3/4" straight pattern forward flow pre-setting**

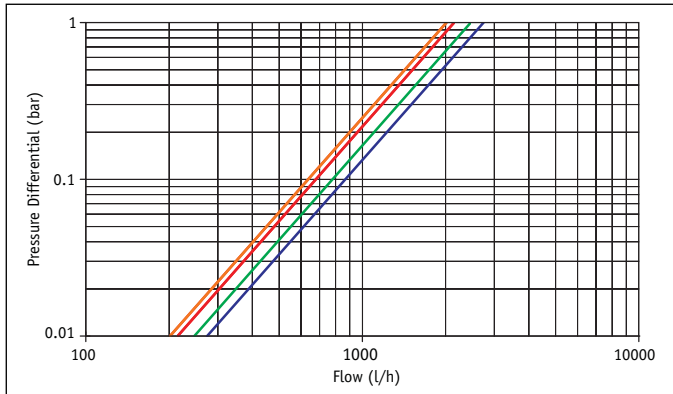


Setting	Nominal flow (kg/h)	Seat authority a	Position	kv
0	0	0	S-1K	0.45
1	25	0	S-2K	0.84
2	150	0	0	0.00
3	240	0	1	0.08
4	265	0.46	2	0.76
5	265	0.68	3	1.14
6	265	0.77	4	1.47
7	265	0.80	5	1.76
8	265	0.81	6	1.88
9	265	0.83	7	1.94
			8	2.01
			9	2.01

## Belmont manual radiator valves

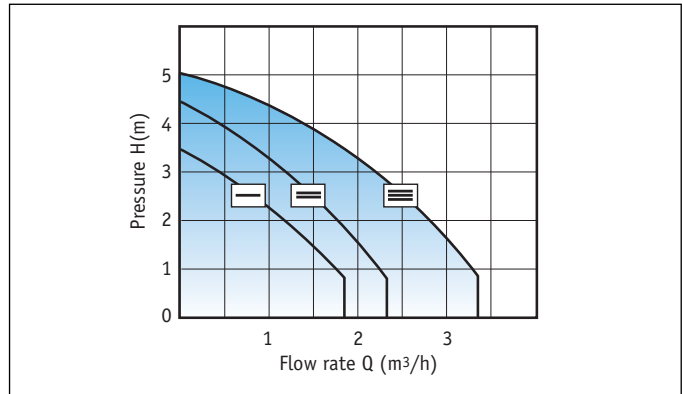
## Domestic circulating pumps

### Manual handwheel and lockshield



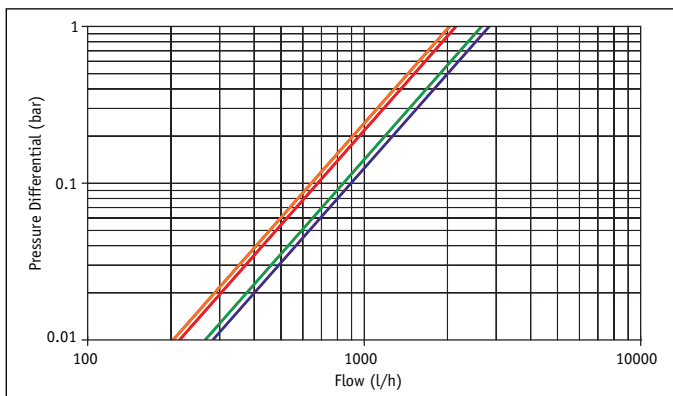
	Pressure (bar)	Flow (l/h)	kv
Straight pattern forward flow	0.01	214.8	2.15
	1	2148.0	
Straight pattern reverse flow	0.01	203.9	2.04
	1	2039.1	
Angle pattern forward flow	0.01	276.4	2.76
	1	2764.0	
Angle pattern reverse flow	0.01	258.4	2.58
	1	2584.3	

### TC5 domestic circulating pump



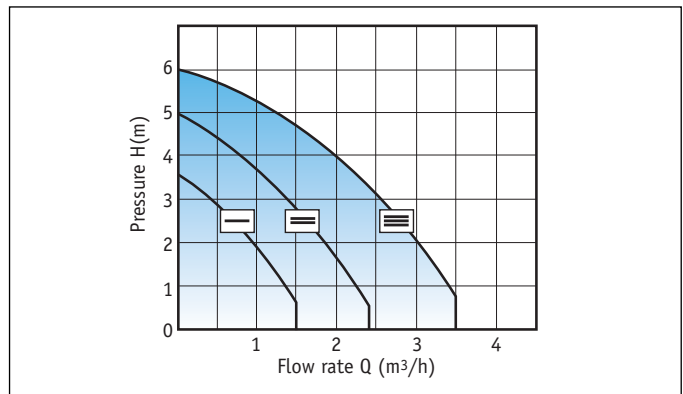
Speed rating	Current (A)	Input (W)
—	0.17	39
==	0.27	62
===	0.38	87

### Concealed lockshield



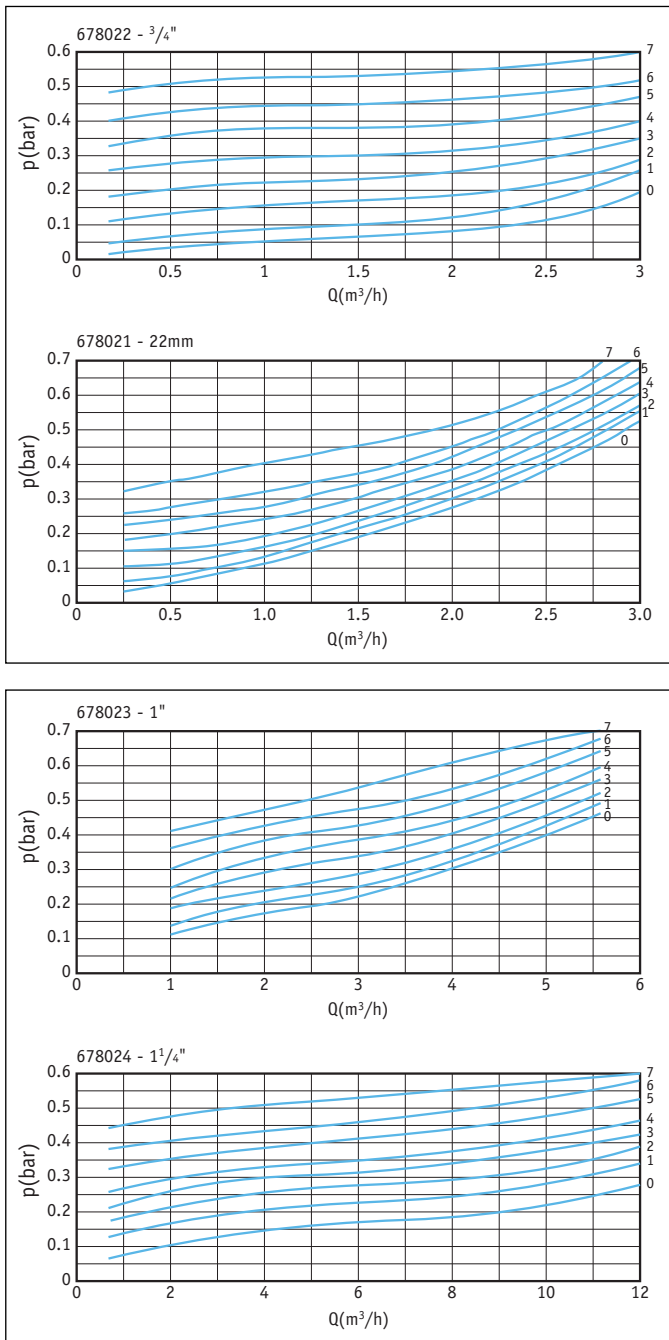
	Pressure (bar)	Flow (l/h)	kv
Straight pattern forward flow	0.01	213.1	2.13
	1	2130.9	
Straight pattern reverse flow	0.01	203.1	2.03
	1	2030.7	
Angle pattern forward flow	0.01	289.9	2.90
	1	2898.7	
Angle pattern reverse flow	0.01	267.8	2.68
	1	2678.0	

### TC6 domestic circulating pump



Speed rating	Current (A)	Input (W)
—	0.17	39
==	0.27	62
===	0.39	90

## Automatic bypass valves



## Motorised valves

Operating flow temperature	<b>Up to 80°C</b>
Switch rating	5 Amp
Max ambient temperature	50°C
Max static pressure	21bar
Max differential pressure	2bar

## Thermostatic radiator valves



### Care

- The TRV can be easily cleaned with a soft damp cloth wiping over the handle (plastic) and valve body.

### Maintenance

- No maintenance is required for this product
- When removing the TRV head for decorating or replacement purposes, turn the head setting to '5', this enables an easier removal
- A manual shut off cap is provided with the product to protect the valve whilst any surrounding maintenance work is undertaken.

## Zone valves



### Care

- This product does not require any regular aesthetic care.
- For any cleaning that may become necessary from time to time, please turn off the power.

### Maintenance

- It is recommended that the valves and actuators should be checked during annual heating maintenance
- Disconnect the mains supply before commencing maintenance
- A 'switch' having a contact separation of at least 3mm in all poles must be incorporated in the fixed wiring as a means of disconnecting the mains supply. These valves are not suitable for the use on mains water supply. The valve and actuator should be in an easily accessible position for any possible maintenance.

## Manual radiator valves



### Care

- No regular aesthetic care is required for this product.

### Maintenance

- No regular maintenance is required for this product.

## Programmable

### Care



- No regular cleaning is required
- Warning: Great care must be taken to avoid using water or water-based cleaning agent. A barely damp cloth should be used. The programmer can be

easily cleaned with a soft cloth wiping over the outer cover only. The programmer should be switched off before cleaning.

### Maintenance

- Programmable controllers are fitted with a non-chargeable long life battery, which will sustain the pre-programmed time settings for a maximum of ten months if the supply is accidentally disconnected
- THIS SHOULD BE SUFFICIENT TO COVER POWER INTERRUPTIONS DURING THE LIFE OF THE UNIT. During power interruptions the display will be blank, and after 3 days the current time of day will be lost. These measures are to prolong the battery life
- The programmer is not user serviceable. Please do not dismantle the unit. In the unlikely event of a fault developing, please refer to the **RESETTING THE PROGRAMMER** section of this

## Decorative radiator valves



### Care

- To maintain the surface finish, simply wipe occasionally with a mild detergent on a soft damp cloth. Dry using a soft cloth
- Never use abrasive cleaners or chemical household cleaners and avoid contact with concentrated bleach.

### Maintenance

- No maintenance is required for this product.

## Thermostats



### Care

- No regular care is required for this product
- No regular cleaning is required
- Warning: Great care must be taken to avoid using water or water based cleaning agent. A barely damp cloth should be used. The Thermostat can be easily cleaned with a soft cloth wiping over the outer cover only. The programmer should be switched off before cleaning.

### Maintenance

- No maintenance is required for this product.

## Automatic bypass valve



### Care

- No regular cleaning is required for this product.

### Maintenance

- When operated under the correct conditions the pressure reducing valve requires no special maintenance; however pressure reducing valves can

be affected by a foreign matter. We recommend that a separate filter can be fitted in line prior to the valve.

## Domestic circulating pumps



### Care

- No regular aesthetic care is required for this product.

### Maintenance

- No periodic maintenance is necessary, as the pump is designed to be a sealed unit. If the pump has not been used for a while, it is advisable to check that the pump is free to rotate

by switching the pump on for short intervals every week or so

- Use of a suitable system cleanser or corrosion products will prolong the life of the pump
- Insert a small screwdriver into the end of the shaft and rotate in the direction of the arrow on the pump label to ensure it turns freely.



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