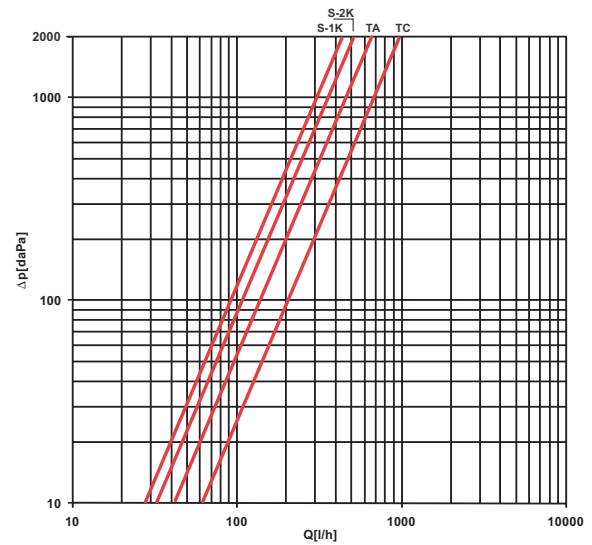
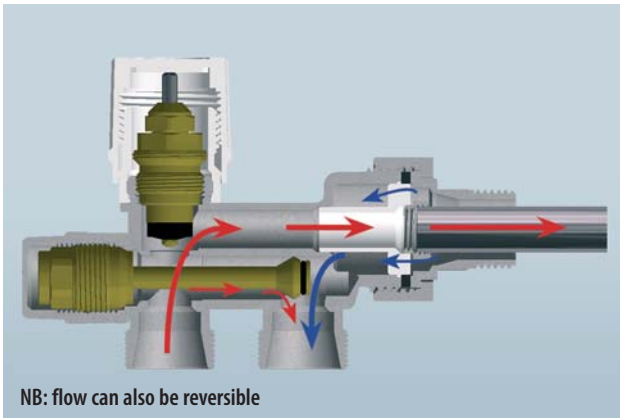
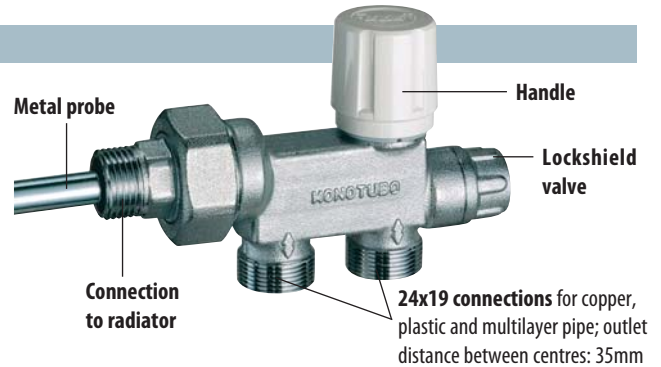


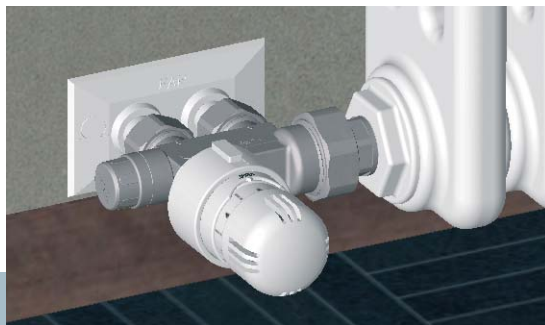
THERMOSTATIC SINGLE-PIPE AND DOUBLE-PIPE VALVES

1. Art.1420 THERMOSTATIC SINGLE-PIPE VALVE

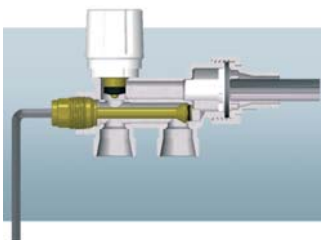
Single-pipe valves allow manual, thermostatic or thermo-electric regulation. Separation of the lockshield makes for perfect system balancing and reduced flow into the by-pass. Moreover, it provides a shut-off valve for closing off part of the system in case it is necessary to replace a component. The valve is reversible; in fact it is possible to connect it to the pipework without knowing which pipe is flow and which return.



Flow resistance diagram:
valve art. 1420 + thermostatic head art. 1824
 $Kv_{TA} = 1.52 \text{ m}^3/\text{h}$ $Kv_{TC} = 2.17 \text{ m}^3/\text{h}$



Example of installation of valve art. 1420 with thermostatic head art. 1824

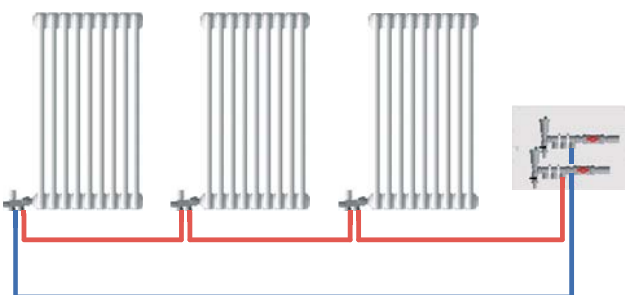


With the aid of a 5mm Allen screw it is possible to regulate the lockshield valve and thus the flow through the by-pass. Rotating the key clockwise increases the by-pass flow until the total by-pass position is reached, as shown in the illustration.

Code	Probe	Size
1420 12*	Ø 12	1/2"
1420 34*	Ø 12	3/4"
1420 1D	Ø 12	1"
1420 1S	Ø 12	1"

*A10mm probe can be also installed on unions sizes 1/2" and 3/4"

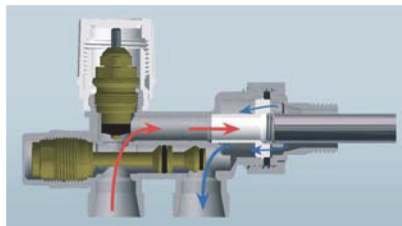
Example of a circuit with 3 radiators with single-pipe valve art. 1420



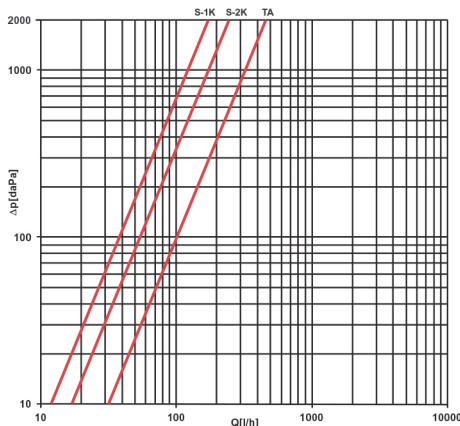
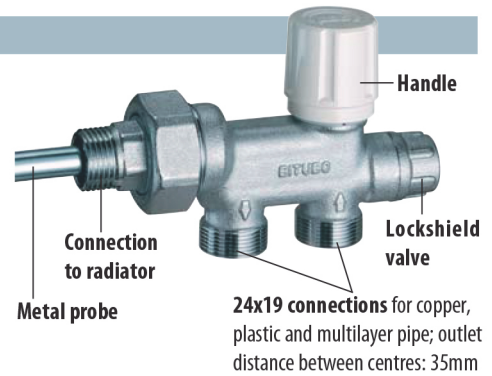
The illustration shows a traditional single-pipe circuit, using art.1420. Pipelines to radiators generally come from a manifold, as indicated in the picture; but they can come also from the building main pipeline, in case of 'old type' systems. Supply pipeline connects a sequence of valves, thus permitting to save a certain quantity of pipeline, if compared to a flow and return circuit. From the total quantity of fluid entering the valve, a part supplies the first radiator and another part pass through the by-pass towards the next radiator. Anyway flow rate is constant, as flow coming from radiator is mixed with the by-pass one coming from the valve itself.

2. Art. 1430 THERMOSTATIC DOUBLE-PIPE VALVE

Double-pipe valves allow manual, thermostatic or thermo-electric regulation. Suitable for installation on flow and return circuits, however, the reversible version can be used only when the valve is manual. When making connections on thermostatic and thermo-electric heads take care to follow the arrows on the valve body.

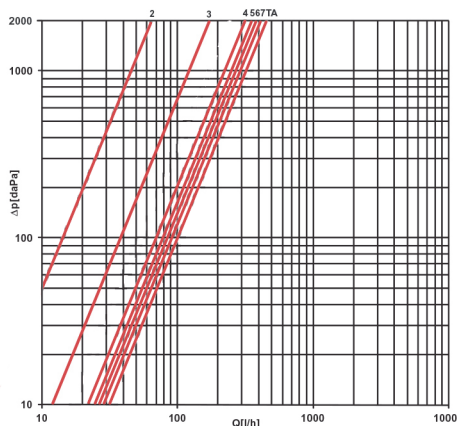


The quantity of fluid which goes to the radiator is always 100% because it is a flow and return circuit.

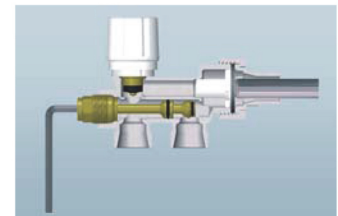


Flow resistance diagram: valve art. 1430 + thermostatic head art. 1824

$$Kv_{TA} = 1 \text{ m}^3/\text{h}$$

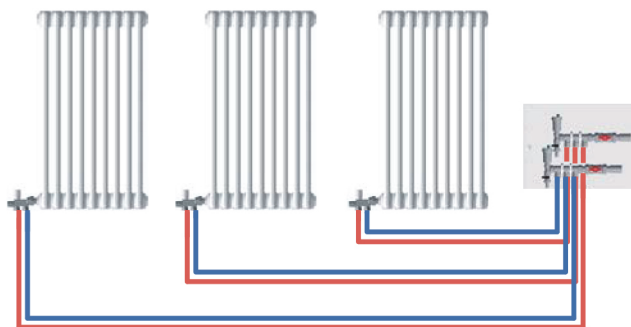


Flow resistance diagram art.1430 calculated against the variable flow settings of the lockshield



Use a 5mm Allen key to close the lockshield. Rotating the key clockwise will totally close the lockshield, so that no more fluid flows into the radiator.

Example of a circuit with 3 radiators with double-pipe valve art. 1430



The illustration shows a traditional flow and return double-pipe circuit, using art.1430. The main difference is that valve and lockshield valve are built-in a single body. In this case the quantity of fluid which goes to the radiator is 100% of the total delivered quantity.

Code	Probe	Size
1430 12*	Ø 12	1/2"
1430 34*	Ø 12	3/4"
1430 1D	Ø 12	1"
1430 1S	Ø 12	1"

*A10mm probe can be also installed on unions sizes 1/2" and 3/4"

Thermostatic head installation

This is an example of installation of a thermostatic head art. 1824 on a valve, art. 1430. The same procedure should be followed with all our single-pipe and double-pipe thermostatic valves.

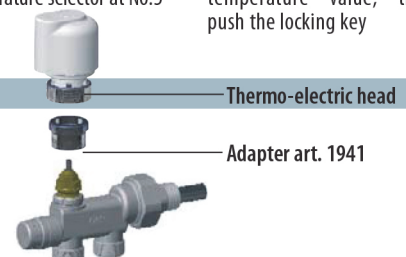


- 1 - Unscrew the white handle
- 2 - Insert the green extractor into the stainless steel pin of the valve and screw on the handle again
- 3 - Remove the plastic support and then the green extractor from the stainless steel pin
- 4 - Position the thermostatic head and set the numbered temperature selector at No.5
- 5 - Screw the ring and set the selector at the desired temperature value, then push the locking key

For installation of art. 1824 see data sheet ST.07.02.00

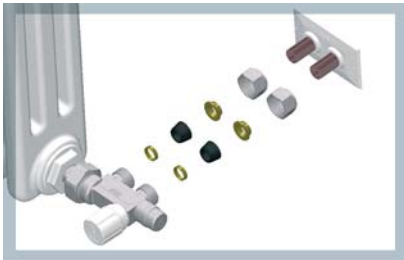
Thermo-electric head installation

Unscrew the handle and screw the ring, art. 1941. Then position the thermo-electric head on the threaded ring. The same procedure should be followed for all our thermostatic valves.

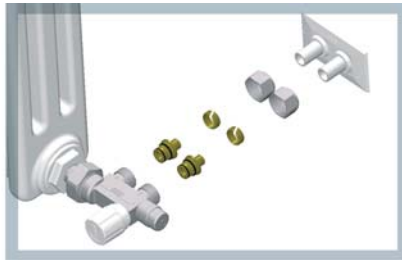


2.1 FAR INTERCHANGEABLE CONNECTIONS

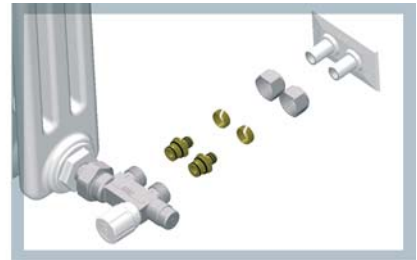
All FAR single-pipe and double-pipe valves have interchangeable connections for copper (up to 16mm diameter), plastic and multilayer pipe (up to 20mm diameter). Connections for 18mm copper pipe are available to special order.



Example of installation: sealing kit for copper pipe (the illustration shows a 14 mm connection with brass ring)



Example of installation: adapters for plastic pipe

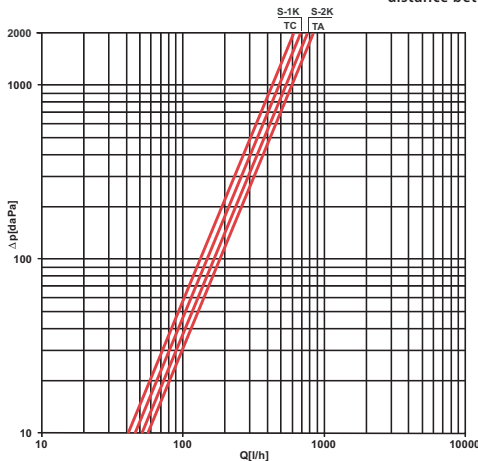
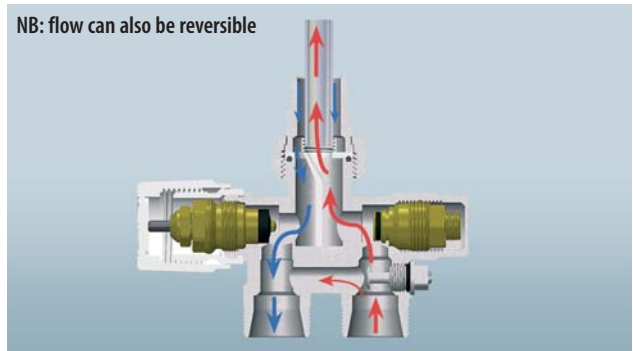
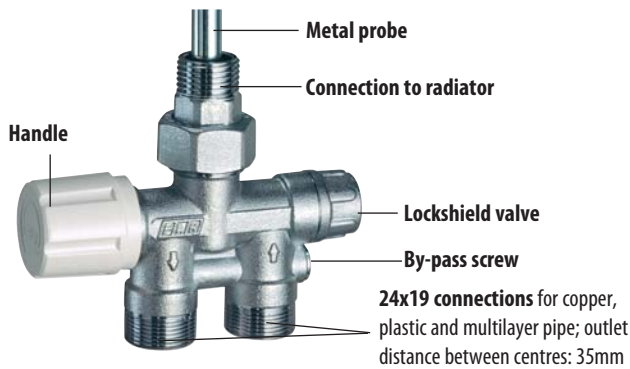


Example of installation: adapters for multilayer pipe

3. Art. 1435, THERMOSTATIC STRAIGHT SINGLE/DOUBLE-PIPE VALVE

Thermostatic single/double-pipe valves allow manual, thermostatic or thermo-electric regulation. A regulation screw makes either the single-pipe or double-pipe configuration possible and there is an adjustable by-pass from 0 to 100%. In single-pipe configuration the valve is reversible; when used

with thermostatic or thermo-electric heads in double-pipe configuration it is recommended that the supply be connected in such way that the water meets the shutter frontally, in order to prevent any vibration in the rubber of the shutter. The lockshield valve allows system balancing.



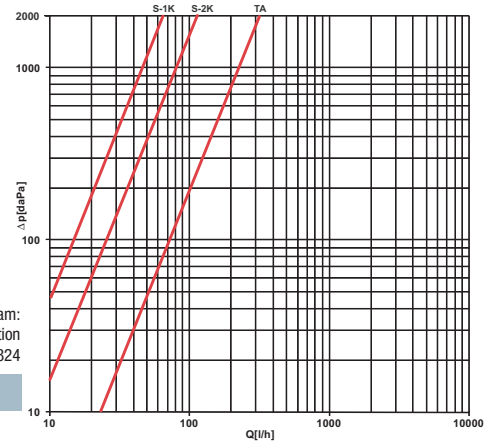
Flow resistance diagram:
valve in single-pipe configuration
art. 1435 + thermostatic head art. 1824

$$Kv_{TA} = 1.86 \text{ m}^3/\text{h}$$

$$Kv_{TC} = 1.43 \text{ m}^3/\text{h}$$

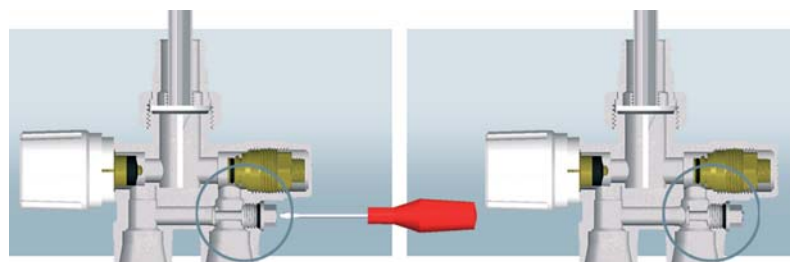
Flow resistance diagram:
valve in double-pipe configuration
art. 1435 + thermostatic head art. 1824

$$Kv_{TA} = 0.68 \text{ m}^3/\text{h}$$



Example of installation of valve art. 1435, with thermostatic head art. 1824.

With the aid of a flat screwdriver it is possible to activate the screw which regulates flow through the by-pass. The valve is sold as single-pipe i.e. with the by-pass completely open.



Double-pipe configuration with completely closed by-pass.

Single-pipe configuration with completely open by-pass.

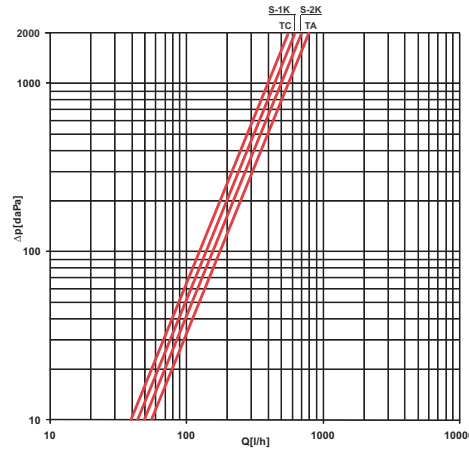
4. Art. 1436 - 1437 THERMOSTATIC ANGLED SINGLE-DOUBLE PIPE VALVES

Arts. 1436-1437 are single/double-pipe valves which allow manual, thermostatic or thermo-electric regulation. The only difference between these products and art. 1435 are the connections which are angled rather than straight. Valves are available in right or left handed versions.



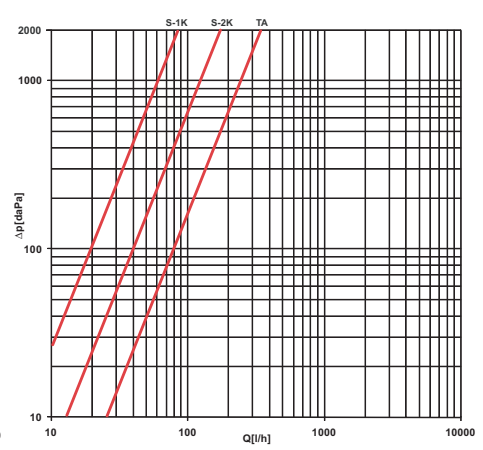
Example of installation of valve art. 1436, with thermostatic head art. 1824.

Code	Probe	Size
1436	Ø 10	1/2"
1437	Ø 10	3/4"



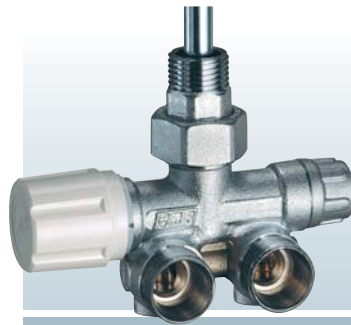
Flow resistance diagram: valve in single-pipe configuration art. 1436-1437 + thermostatic head art. 1824

$$Kv_{TA} = 1.79 \text{ m}^3/\text{h} \quad Kv_{TC} = 1.33 \text{ m}^3/\text{h}$$

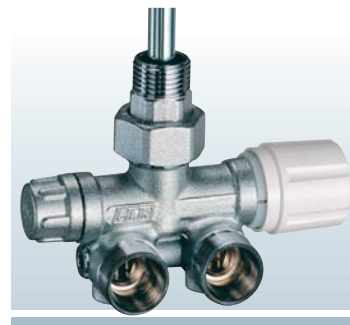


Flow resistance diagram: valve in double-pipe configuration art. 1436-1437 + thermostatic head art. 1824

$$Kv_{TA} = 0.7 \text{ m}^3/\text{h}$$



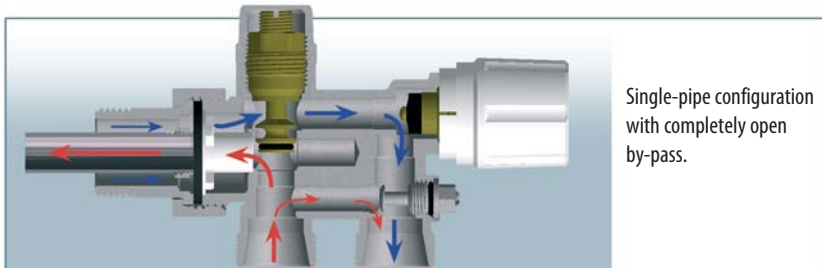
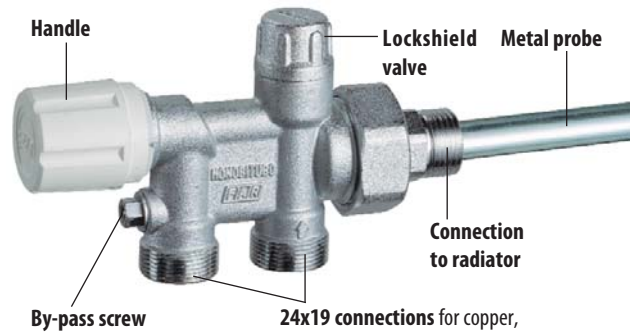
Art. 1436: right version



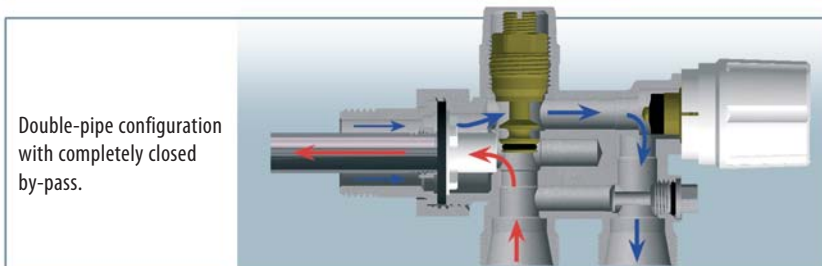
Art. 1437: left version

5. Art. 1438 THERMOSTATIC SINGLE/DOUBLE-PIPE VALVE

Thermostatic single/double-pipe valves allow manual, thermostatic or thermo-electric regulation. A regulating screw permits either single-pipe, or double-pipe configuration and there is an adjustable by-pass from 0 to 100%. In single-pipe configuration the valve is reversible; when used with thermostatic or thermo-electric heads in double-pipe configuration it is recommended that the supply be connected in such way that the water meets the shutter frontally, in order to prevent any vibration in the rubber of the shutter. The lockshield valve allows system balancing.



Single-pipe configuration with completely open by-pass.



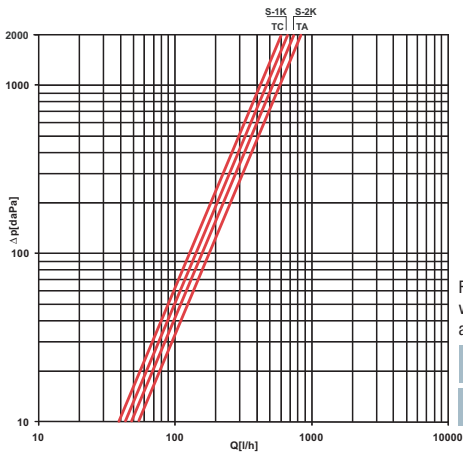
Double-pipe configuration with completely closed by-pass.

Example of installation of valve art. 1438, with thermostatic head art. 1824.



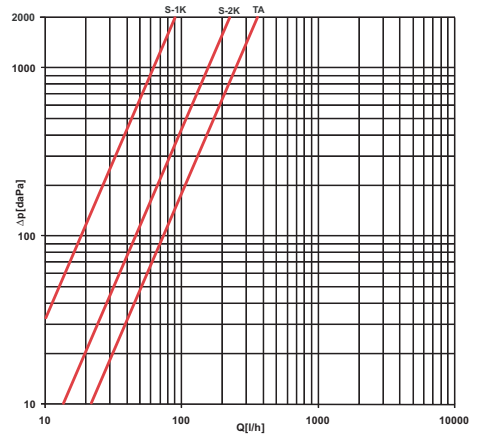
Code	Probe	Size
1438 12*	Ø 12	1/2"
1438 34*	Ø 12	3/4"

*A 10 mm probe can be also installed on unions sizes 1/2" and 3/4"



Flow resistance diagram:
valve in double-pipe configuration
art. 1438 + thermostatic head art. 1824
 $Kv_{TA} = 0.84 \text{ m}^3/\text{h}$

Flow resistance diagram:
valve in single-pipe configuration
art. 1438 + thermostatic head art. 1824
 $Kv_{TA} = 1.85 \text{ m}^3/\text{h}$
 $Kv_{TC} = 1.26 \text{ m}^3/\text{h}$

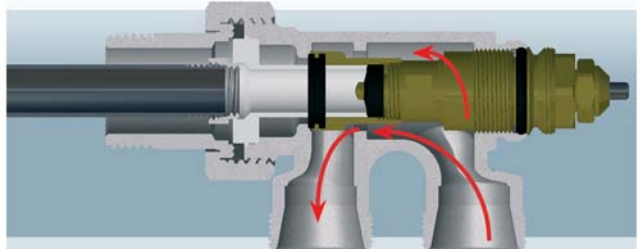
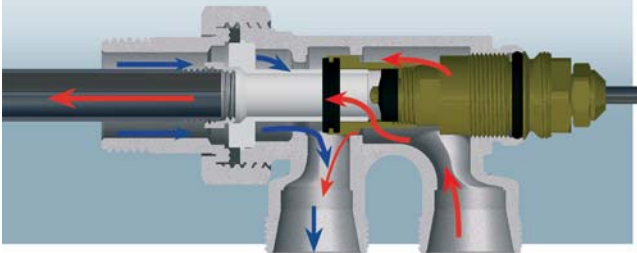


6. Art. 1439 "MONOTERMOFAR" THERMOSTATIC SINGLE-PIPE VALVE

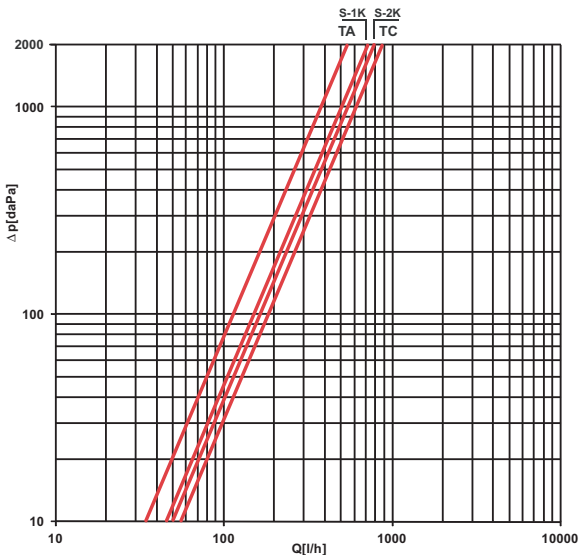
The **MonotermoFAR** valve differs from traditional single-pipe thermostatic valves in that it is equipped with a variable by-pass which is at maximum flow whenever the radiator to which the valve is installed is being supplied. Thus, while traditional valves feature a more or less fixed flow resistance, with this valve flow resistance is very limited when the valve is closed, automatically favouring those radiators which need hot water supplies.



When the valve is completely open the fluid flows into the separator through 2 ports which open on the regulating body. In this situation by-pass flow is minimal, because of the ring located between the external surface of the body and the slide hole, as shown in the illustration below.



Above we show operation of art. 1439. In this case the by-pass is total and there is no flow to the radiator. The bore is closed by a rubber lip which acts between flow separator and valve body and the shutter which closes the inner aperture of the plastic separator.



Flow resistance diagram:
valve in single-pipe configuration
art. 1439 + thermostatic head art. 1824

$Kv_{TA} = 1.24 \text{ m}^3/\text{h}$
 $Kv_{TC} = 1.98 \text{ m}^3/\text{h}$

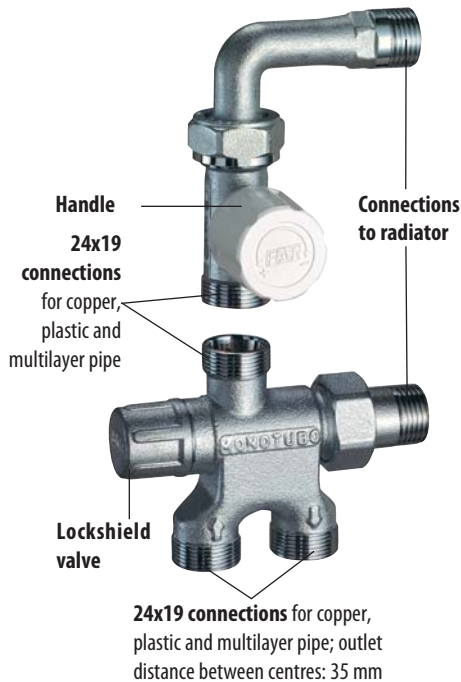
Example of installation of valve art. 1439, with thermostatic head art. 1824.



Code	Probe	Size
1439 12*	Ø 12	1/2"
1439 34*	Ø 12	3/4"

*A10mm probe can be also installed on unions sizes 1/2" and 3/4"

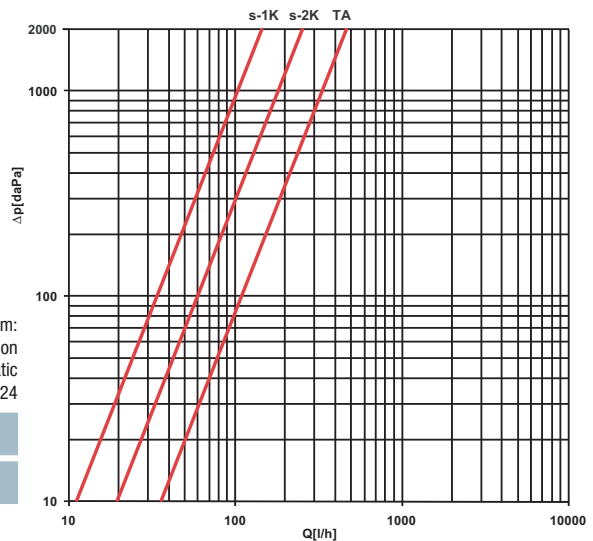
7. Art. 1440 "GRT" THERMOSTATIC SINGLE-PIPE VALVE WITH EXTERNAL PROBE



Flow resistance diagram:
valve in single-pipe configuration
art. 1440 + thermostatic
head art. 1824

$$Kv_{TA} = 1.24 \text{ m}^3/\text{h}$$

$$Kv_{TC} = 1.98 \text{ m}^3/\text{h}$$



Example of installation of valve art. 1440

Code	Size
1440 12*	1/2"

N.B. the connection probe must be ordered separately.

Fig. 1: section with completely open valve (70% flow to radiator)

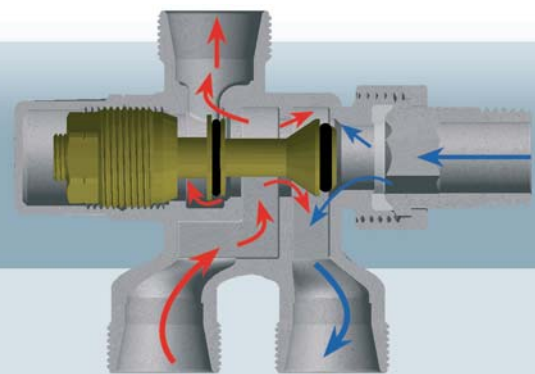
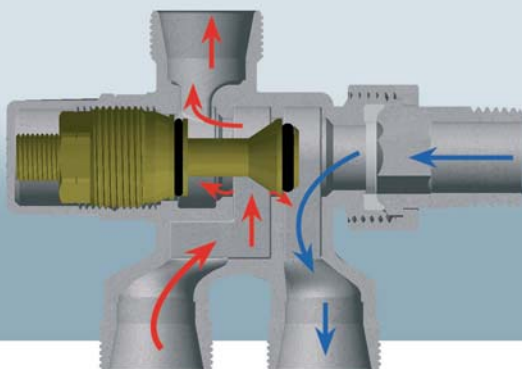


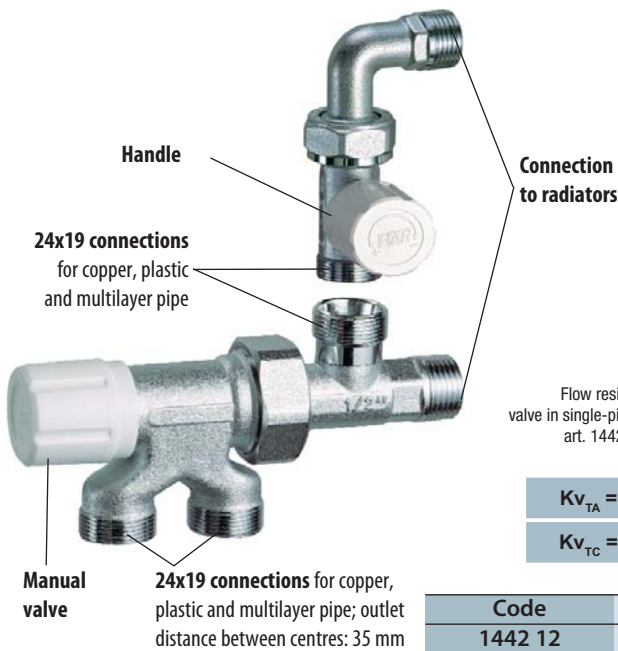
Fig. 2: single-pipe valve section (partial flow to radiator with remainder going to bypass)

Regulation of the lockshield valve operates the shutter making it possible to adjust flow in order to achieve the correct balancing of single-pipe systems. The illustrations show the variations between 2 differing lockshield regulations. The shutter closes down by-pass flow, directing the total flow to the radiator (Fig 1).

When operating the lockshield valve as shown in Fig 2, the

shutter allows the fluid flow in by-pass to increase. Art. 1440 can be used with an external probe, from which a side connection can be made to a radiator; this ensures efficient operation of the radiator and an easy installation.

8. Art. 1442 THERMOSTATIC SINGLE-PIPE VALVE WITH EXTERNAL PROBE



Flow resistance diagram:
valve in single-pipe configuration
art. 1442 + thermostatic
head art. 1824

$Kv_{TA} = 1 \text{ m}^3/\text{h}$

$Kv_{TC} = 2 \text{ m}^3/\text{h}$

Code	Size
1442 12	1/2"

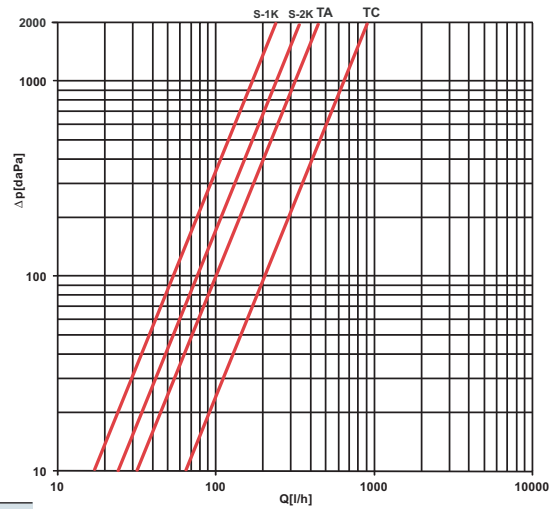


Fig. 1: central delivery flow

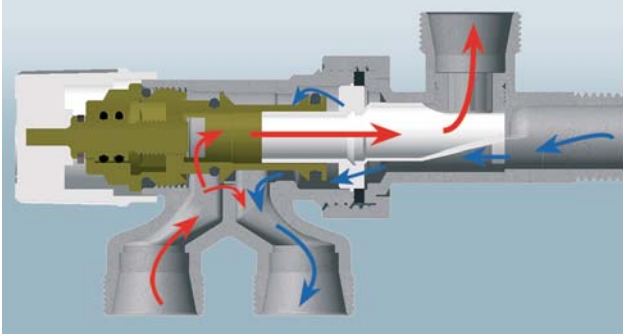
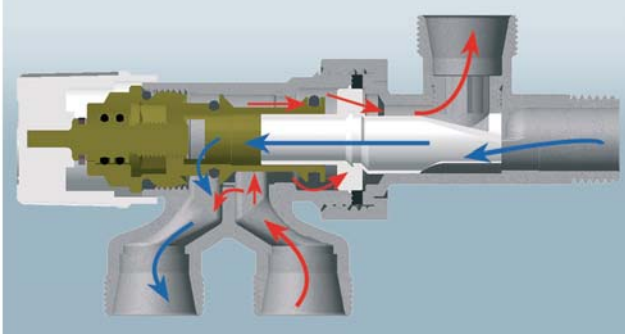


Fig. 2: side delivery flow



The valve is equipped with a flow separator at the side delivery position (Illustration 2). In order to change configuration to central delivery, please proceed as follows:

1. Unscrew the chrome-plated union from the valve body and remove the flow separator.
2. Reverse the flow separator and rotate it of 180° as shown in the illustration
3. Insert the flow separator inside the union and screw the union once again to the valve body

Example of installation of valve art. 1442



Example of installation of external probe



9. GENERAL TECHNICAL FEATURES

The following technical features are valid for all the products described in this data sheet

Nominal pressure:	10 bar
Max. working temperature:	95° C
Probe length:	45 cm
Connections:	for copper, plastic and multilayer pipe
Shutter:	EPDM
Handle:	ABS
Smallware parts:	CW614N brass
Valve body:	CW617N brass and CB753S
Nut and union:	CW617N brass
Gaskets, O-rings:	EPDM
Probe:	zinc-coated steel

10. DIMENSIONAL FEATURES

