DOUBLE ADJUSTMENT THERMOSTATIZABLE VALVES

te-sa double adjustment thermostatisable valves are specifically designed for adjustment and interception of the heat transfer fluid in heating systems.

Thanks to the pre-setting screw, it is possible to balance the system by setting the hydraulic characteristics of flow and loss of load required by the project.

Using the thermostatic controls, it is furthermore possible to automatically adjust the ambient temperature according to the set range, ensuring comfort and energy saving.
The range includes versions for iron, copper, PEX and multilayer pipe (1/2" and 3/4" connections for screw-on fittings).

They feature a special-profile rubber gasket on the union that enables connection of the valves to all radiators without additional sealing elements.






Technical specifications

Materiali:

- Body: Brass UNI EN 12165 - CW617N
- Insert valve: Brass UNI EN 12164 - CW614N
- Hydraulic seals: EPDM Peroxide
- Valve knob: ABS (RAL 9010)

Operation:

- Usable fluids: Water – Glycolated solutions
- Maximum glycol percentage: 30%
- Maximum operating pressure: 10 bar
- Maximum operating temperature: 100°C

Products range

Valves for iron pipe:

Art. 110TDR/1	Double adjustment thermostatisable angle valve	sizes 3/8" - 1/2" - 3/4"
Art. 112TDR/1	Double adjustment thermostatisable straight valve	sizes 3/8" - 1/2" - 3/4"

Valves for copper, polyethylene and multi-layer pipes:

Art. 114TDR/1	Double adjustment thermostatisable angle valve	sizes 3/8" - 1/2" - 1/2"x3/4"E
Art. 115TDR/1	Double adjustment thermostatisable straight valve	sizes 3/8" - 1/2" - 1/2"x3/4"E

Thermostatic head:

Art. 116-01	Thermostatic head with built-in liquid sensor
Art. 116S	Thermostatic head with remote sensor

Thermostatic controls specifications

Conformity: EN 215
Thermostatic sensor: liquid type
Rated pressure: PN 10
Temperature adjustment range: 8÷28°C
Hysteresis: 0,8 °K
Recommended installation position: horizontal

Adjustment scale

Scala di regolazione

▲	❄	1	2	3	4	5
0°C	8°C	12°C	16°C	20°C	24°C	28°C

▲ = posizione di chiusura completa
❄ = posizione protezione antigelo

Temperature setting

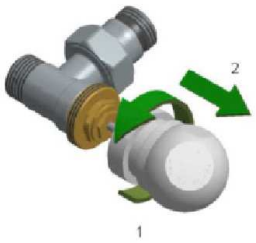
The desired ambient temperature is set by aligning the positions from ❄ to 5 with the arrow indicated on the head.
It should be noted that the temperature settings, which are factory calibrated, may not correspond to the actual ambient temperature value as this varies in relation to the position in which the head is installed.
For example, if the head is installed on the lower part of the heating element and the temperature is set to position 3 (20 °C), given that the ambient air reference temperature is measured at 1.5 m above floor level the actual temperature will certainly be higher.
This shows that the ideal position to obtain the desired temperature must be modified according to localised requirements.

Thermostatic head installation instructions

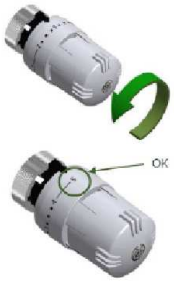
To install the thermostatic head on the thermostatisable valve proceed as follows:

A. unscrew the manual control knob ring nut (1) and remove the knob;
B. turn the thermostatic head (2) to the maximum value (pos. 5);
C. attach the head onto the valve body by fitting the hexagonal insert valve nut into the recess on the head;
D. fully tighten head lock ring nut;
E. turn the knob until the desired temperature setting is aligned with the arrow.

A.



B.

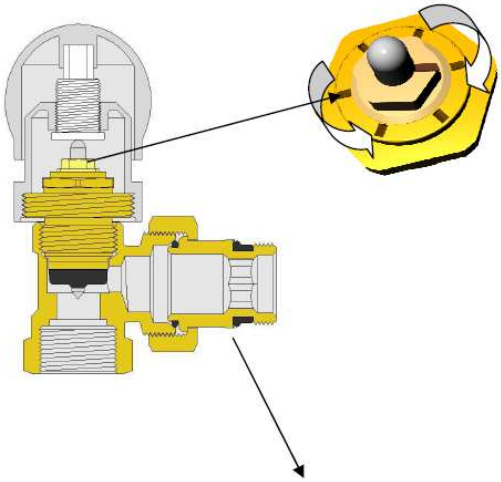


C.

D.

Adjustment

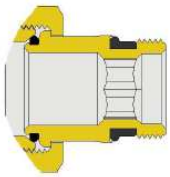
Acting on the adjuster ferrule (hexagon wrench 8 mm), it is possible to adjust the hydraulic flow and load loss characteristics of the valves.
The use of the adjuster ferrule allows to obtain a fine regulation of the passage section of the thermovector fluid in the valve, equal to a lockshield.
The graphs below refer to Kv values relative to five different positions of the adjustment ferrule and specifically every 1/2 turn (max 2.5 turns).
It is thus possible to realize the hydraulic balance of the system with the use of a single valve, and is valid both for the operation of the valve in manual and with the use of thermostatic controls.



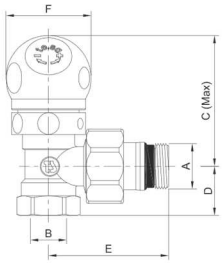
Rubber seal

The radiator connection unions feature a special profile rubber gasket that enables simple, rapid and secure installation.

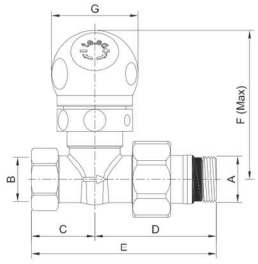
Made from EPDM Peroxide, the gasket requires no additional sealing elements such as hemp fiber or PTFE tape etc.



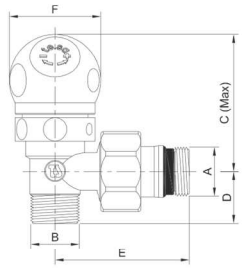
Dimensions



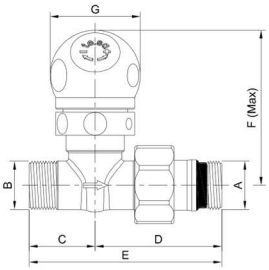
Art.	A	B	C	D	E	F
110TDR/1-03	3/8"	3/8"	60	20	50	Ø39
110TDR/1-04	1/2"	1/2"	60	23	54	Ø39
110TDR/1-05	3/4"	3/4"	60	26	60	Ø39
110CDR/1-03	3/8"	3/8"	37	20	50	Ø36
110CDR/1-04	1/2"	1/2"	37	23	54	Ø36
110CDR/1-05	3/4"	3/4"	37	26	60	Ø36



Art.	A	B	C	D	E	F	G
112TDR/1-03	3/8"	3/8"	30	50	80	69	Ø39
112TDR/1-04	1/2"	1/2"	28	54	82	69	Ø39
112TDR/1-05	3/4"	3/4"	28	57	85	69	Ø39
112CDR/1-03	3/8"	3/8"	30	50	80	47	Ø36
112CDR/1-04	1/2"	1/2"	28	54	82	47	Ø36
112CDR/1-05	3/4"	3/4"	28	57	85	47	Ø36

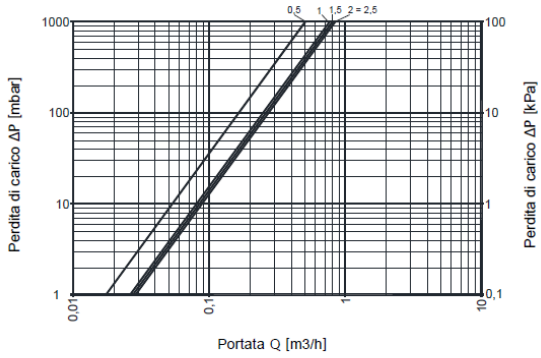


Art.	A	B	C	D	E	F
114TDR/1-03	3/8"	1/2"	65	20	49	Ø39
114TDR/1-04	1/2"	1/2"	65	23	56	Ø39
114TDR/1-045	1/2"	3/4"	65	24	61	Ø39
114CDR/1-03	3/8"	1/2"	43	20	49	Ø36
114CDR/1-04	1/2"	1/2"	43	23	56	Ø36
114CDR/1-045	1/2"	3/4"	43	24	61	Ø36



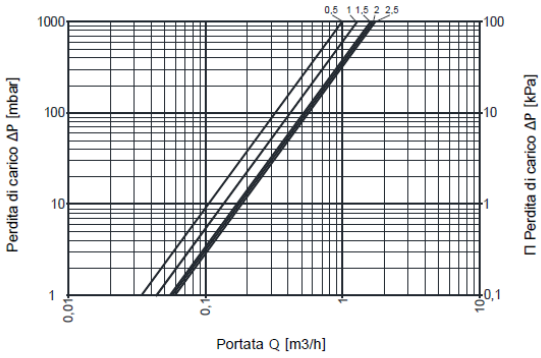
Art.	A	B	C	D	E	F	G
115TDR/1-03	3/8"	1/2"	30	50	80	68	Ø39
115TDR/1-04	1/2"	1/2"	30	53	83	68	Ø39
115TDR/1-045	1/2"	3/4"	29	58	87	68	Ø39
115CDR/1-03	3/8"	1/2"	30	50	80	46	Ø36
115CDR/1-04	1/2"	1/2"	30	53	83	46	Ø36
115CDR/1-045	1/2"	3/4"	29	58	87	46	Ø36

Hydraulic characteristics



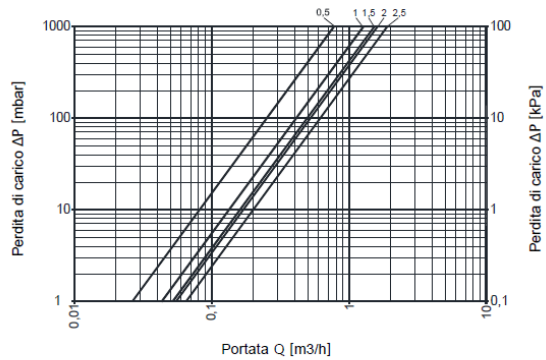
Giri 0,5 Kv=0,50	Giri 1 Kv=0,75	Giri 1,5 Kv=0,80	Giri 2 Kv=0,83	Giri 2,5 Kv=0,83

Art. 110TDR/1-03 – 114TDR/1-03



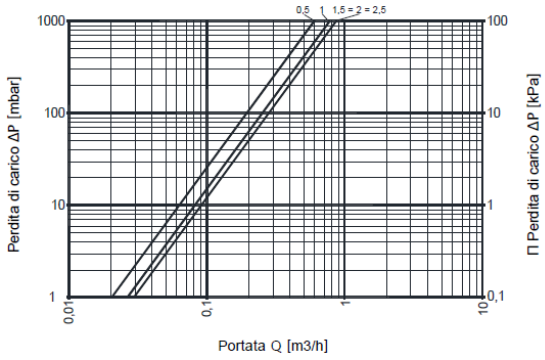
Giri 0,5 Kv=1,00	Giri 1 Kv=1,30	Giri 1,5 Kv=1,50	Giri 2 Kv=1,65	Giri 2,5 Kv=1,78

Art. 110TDR/1-04 - 114TDR/1-04



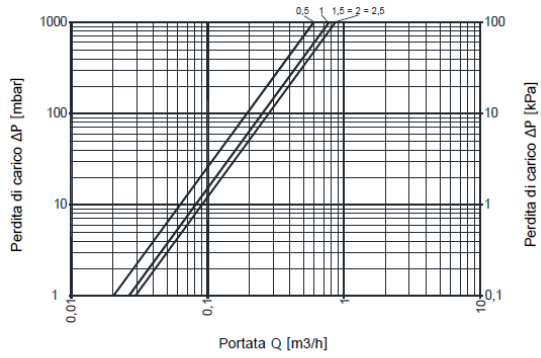
Giri 0,5 Kv=0,74	Giri 1 Kv=1,30	Giri 1,5 Kv=1,50	Giri 2 Kv=1,60	Giri 2,5 Kv=1,90

Art. 110TDR/1-05 - 114TDR/1-05



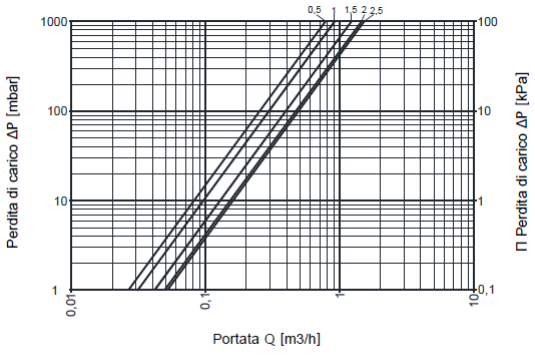
Giri 0,5 Kv=0,60	Giri 1 Kv=0,78	Giri 1,5 Kv=0,84	Giri 2 Kv=0,84	Giri 2,5 Kv=0,84

Art. 112TDR/1-03 - 115TDR/1-03



Giri 0,5 Kv=0,78	Giri 1 Kv=0,90	Giri 1,5 Kv=1,20	Giri 2 Kv=1,50	Giri 2,5 Kv=1,60

Art. 112TDR/1-04 - 115TDR/1-04



Giri 0,5 Kv=0,78	Giri 1 Kv=0,90	Giri 1,5 Kv=1,20	Giri 2 Kv=1,40	Giri 2,5 Kv=1,50

Art. 112TDR/1-05 - 115TDR/1-045

Art. 110TDR/1

Double adjustment thermostatisable angle valve for iron pipe.

Double adjustment thermostatisable angle valve for iron pipe 3/8", 1/2" or 3/4" F. Connection to radiator 3/8", 1/2" or 3/4" with union and O-ring seal.

Brass valve body, manual adjustment knob in white ABS RAL 9010. Stem with EPDM O-ring seal.

Codes: **3/8"**: 110TDR/1-03 **1/2"**: 110TDR/1-04 **3/4"**: 110TDR/1-05

Art. 112TDR/1

Double adjustment thermostatisable straight valve for iron pipe.

Double adjustment thermostatisable straight valve for iron pipe 3/8", 1/2" or 3/4" F. Connection to radiator 3/8", 1/2" or 3/4" with union and O-ring seal.

Brass valve body, manual adjustment knob in white ABS RAL 9010. Stem with EPDM O-ring seal.

Codes: **3/8"**: 112TDR/1-03 **1/2"**: 112TDR/1-04 **3/4"**: 112TDR/1-05

Art. 114TDR/1

Double adjustment thermostatisable angle valve for copper, PEX and multilayer.

Double adjustment thermostatisable angle valve for copper, PEX and multilayer 3/8", 1/2" o 3/4"E. Connection to radiator 3/8" o 1/2" with union and O-ring seal.

Brass valve body, manual adjustment knob in white ABS RAL 9010. Stem with EPDM O-ring seal.

Codes: **3/8"**: 114TDR/1-03 **1/2"**: 114TDR/1-04 **3/4"**: 114TDR/1-045

Art. 115TDR/1

Double adjustment thermostatisable straight valve for copper, PEX and multilayer.

Double adjustment thermostatisable straight valve for copper, PEX and multilayer 3/8", 1/2" o 3/4"E. Connection to radiator 3/8" o 1/2" with union and O-ring seal.

Brass valve body, manual adjustment knob in white ABS RAL 9010. Stem with EPDM O-ring seal.

Codes: **3/8"**: 115TDR/1-03 **1/2"**: 115TDR/1-04 **3/4"**: 115TDR/1-045

Art. 116-01

Thermostatic head.

Thermostatic head for thermostatisable radiator valves. Integrated fluid type sensor. With antifreeze protection and full shut-off

Art. 116S

Thermostatic head with remote sensor.

Thermostatic head for thermostatisable radiator valves. Remote fluid type sensor. With antifreeze protection and full shut-off