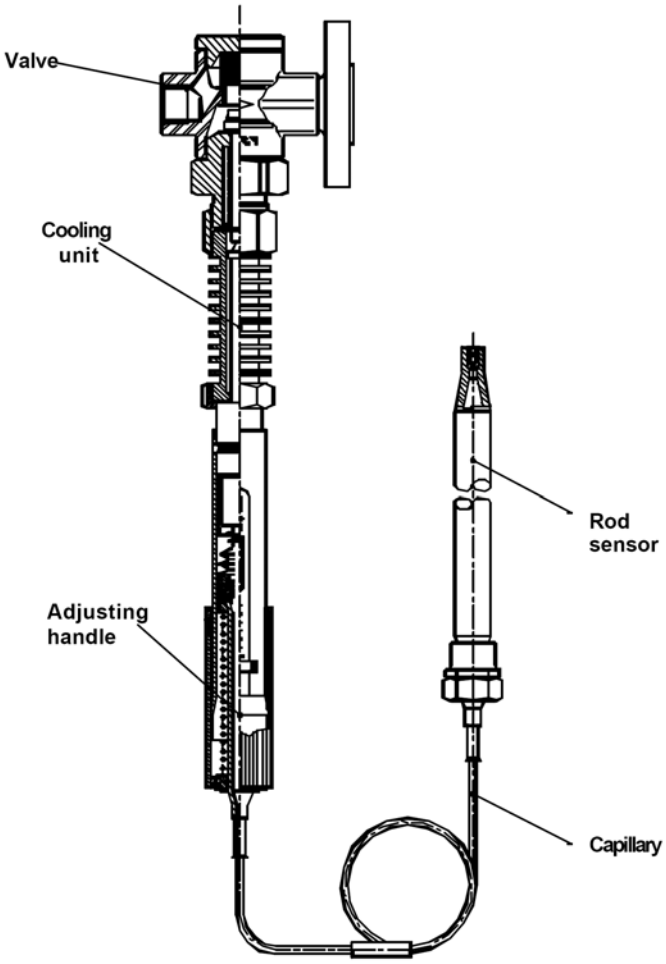
“ADCATROL” Temperature Regulators TR 25 S

Self acting - Non balanced simple seat TR 25S forged steel valves & T series thermostats

Description

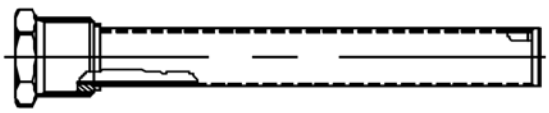
The series TR 25 valves are designed for direct acting temperature control systems where the valve closes on temperature rising. They are single seat type in order to guarantee an excellent tightness and are to be coupled with the thermostats model T.205 and T.405. The liquid filling in the thermostat expands with a rise in tempersture operating the valve.
The valves are used for controlling the temperature in central heating systems, district heating systems and industrial plants.
Connections are female screwed or flanged.



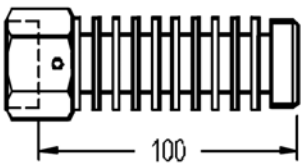
Main features

Single seated, two way, direct action valve.
Leakage less than 0.05% of full Kv
Built -in strainer.

Options : Valves for cooling applications.
Use : Saturated and superheated steam.
Hot and superheated water.
Available models : TR25S - Steel construction valve body.
Sizes : DN1/2” - DN 1” - DN15 - DN25
Connections : Female screwed ISO7/1Rp (BS21)
Flanged DIN or ANSI
Control mode : Proportional
Thermostats : T.202 - 200N (max. closing force)
T.405 - 400N (max. closing force)
Thermostat ranges : T.205 - 0-60 ; 30-90 and 60-120 °C
T.405 - 0-120 ; 40-160 °C
Capillary lenghts : 3 m as standard
How to select : Never size the valve according to the pipe diameter in which it has to be fitted but according to the required actual flow of steam or water. Refer to valve calculation data sheet or consult the factory.
Valve limiting conditions : Body design conditions : PN40
40 bar at 120 °C
24 bar at 350 °C
Min. working temperature : -10 °C
Cooling units : Cooling unit protects the stuffing box of the thermostat.
Type K1 is recommended at valve temperatures between 150 and 250 °C

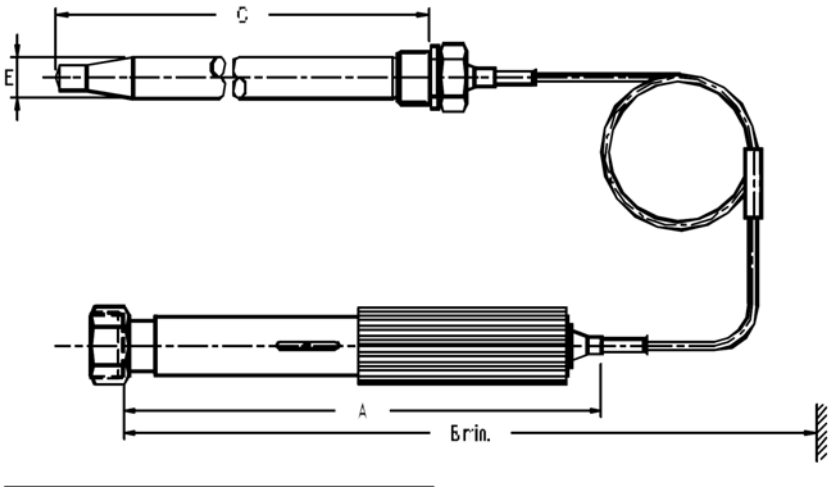


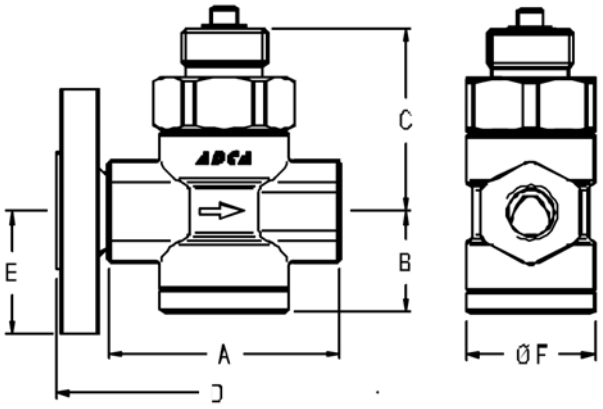
Sensor Pocket PK



Cooling Unit K1

Installation : Horizontal installation with the thermostat in the vertical position in order to reduce wear. In case of valve temperatures up to 150 °C the thermostat may be fitted below or above the valve. In case of valve temperatures between 150 and 250 °C a colling unit type K1 has to be applied with connection downwards. An “Y” strainer should be provided upstream the valve. See IMI installation and maintenance instructions.





Dimensions (mm)

Type	A	B	C	E	Kg
T.205	305	405	210	22	1.8
T.405	385	525	390	22	2.6

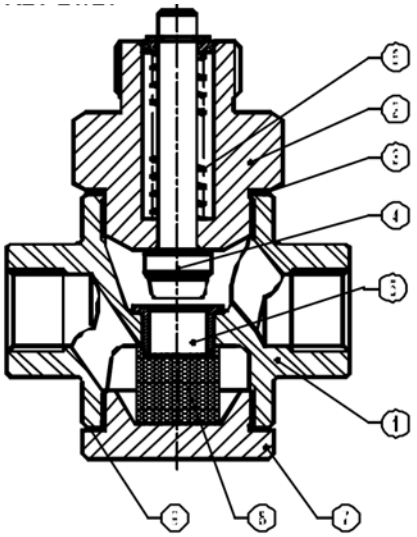
Valve Dimensions (mm)

Screwed ends						DIN Flanges		
DN	A	B	C	F	Kg	D	E	Kg
1/2”	90	40	70	50	1.2	130	47.5	2.6
3/4”	90	40	70	50	1.2	150	52.5	3.2
3/4”*	100	45	75	55	1.6	150	52.5	3.6
1”	100	45	75	55	1.6	160	57.5	4.2

Specifications

Type	Connection DN	Opening DN in mm	Kvs value m3/h	Valve Stroke mm
TR25-15/4	15	4	0.20	6
TR25-15/6	15	6	0.45	6
TR25-15/9	15	9	0.95	6
TR25-15/12	15	12	1.70	6
TR25-15	15	15	2.75	6
TR25-20/9	20	9	0.95	6.5
TR25-20/15	20	15	2.75	6.5
TR25-20/20	20	20	5	6.5
TR25-25/20	25	20	5	7

* Only model TR25-20/20



Max. Permissible Diff.pressure

with T 205 thermostat :

21 bar for valve DN15 with 4 & 6 mm seat diam.
13 bar for valve DN15 with 9 mm seat diam.
9.3 bar for valve DN15 with 12 mm seat diam.
5.3 bar for valve DN15
5.3 bar for valve DN20 with 15 mm seat diam.
2.9 bar for valve DN20 with 20 mm seat diam.
2.9 bar for valve DN25 with 20 mm seat diam.

With T.405 thermostat :

40 bar for valve DN15 with 4 & 6 mm seat diam.
38 bar for valve DN15 with 9 mm seat diam.
24 bar for valve DN15 with 12 mm seat diam.
15 bar for valve DN15
15 bar for valve DN20 with 15 mm seat diam.
9 bar for valve DN20 with 20 mm seat diam.
9 bar for valve DN25 with 20 mm seat diam.

Materials (TR25)

Pos.	Designation	Material
1	Body	C 22.8
2	Bonnet	AISI 304
3*	Gasket	St.st. / Graphite
4*	Valve	AISI 316
5	Seat	AISI 316
6*	Spring	AISI 302
7	Cap	A 105
8*	Strainer screen	AISI 304
9*	Cap gasket	St. st. / Graphite

** Available spare parts*

Proportional band

The proportional band is the temperature change required for the valve to move from fully open to fully closed. It depends on the valve stroke and on the thermostat movement per °C, and is calculated as follows.

$$\text{Proportional Band} = \frac{\text{Valve stroke (mm)}}{\text{Thermostat mov. (mm/°C)}}$$

Thermostat movement in mm per °C

A proportional band in the range 8-13 °C is suitable for most applications. A smaller proportional band is not ideal where heat load varies rapidly.