

**“ADCATROL” TEMPERATURE REGULATORS**  
**SELF ACTING - NON BALANCED SIMPLE SEAT**  
**TR 16 valves & T series thermostats**

**DESCRIPTION**

The series TR16 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 temperature operating the valve.

The valves are used for controlling the temperature in central heating systems, district heating systems and industrial plants .

Connections are 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:** TR16G - PN16 cast iron valve body.  
 TR16S - PN40 cast steel valve body.

**SIZES:** DN15 to DN 25.

**CONNECTIONS:** Flanged DIN

**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.

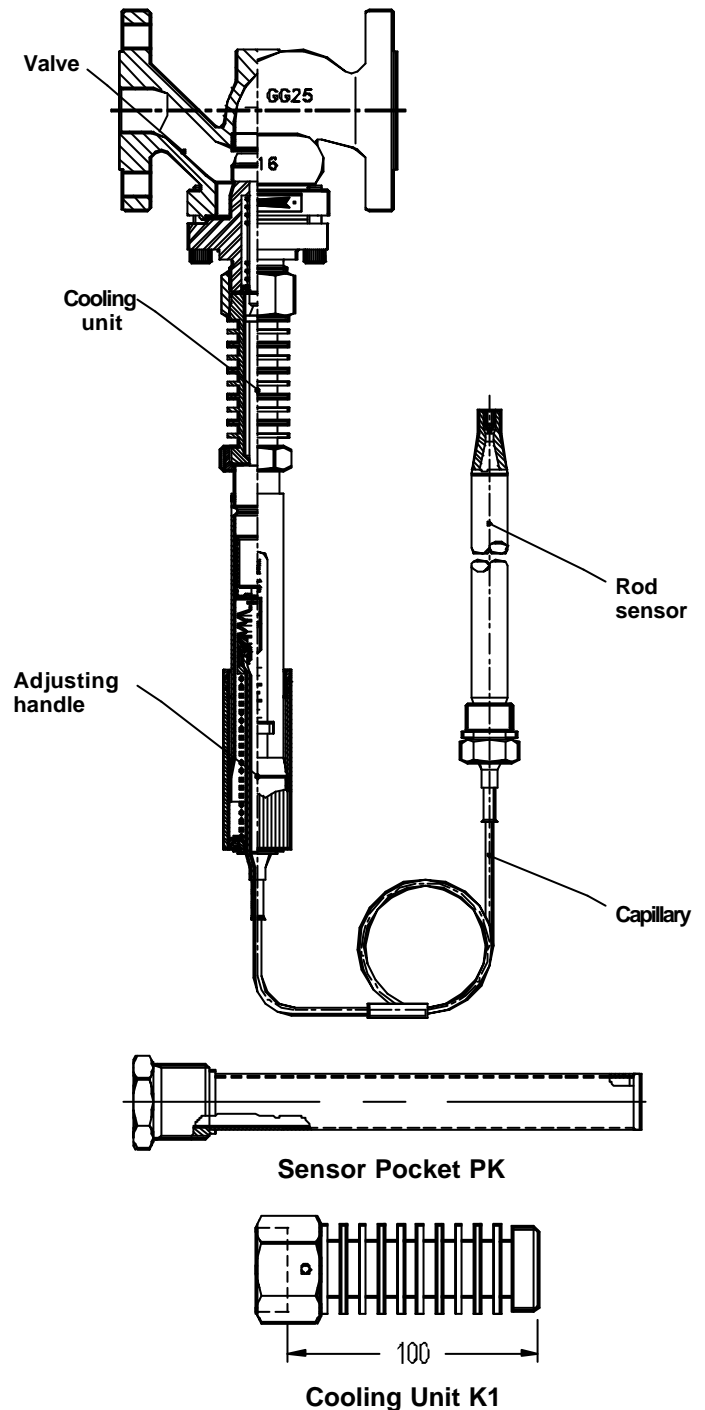
**VALVE LIMITING**

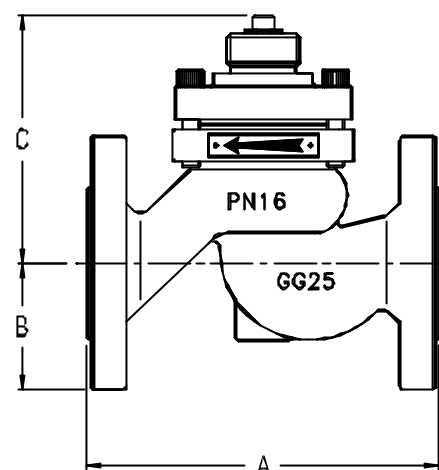
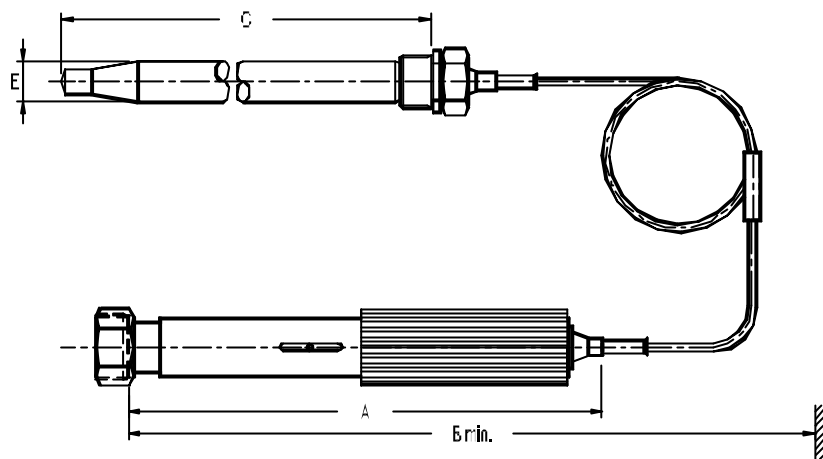
**CONDITIONS:** Body design conditions: PN16 / PN40  
 16 bar at 120°C / 40 bar at 120°C  
 13 bar at 200°C / 24 bar at 350 °C  
 Min.working temperature: -10°C

**COOLING UNITS:** Cooling unit protects the stuffing box of the thermostat. Type K1 is recommended at valve temperatures between 150 and 250°C.

**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 cooling 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

**SPECIFICATIONS**

Type	Connection	Opening DN	Kvs value	Valve Stroke
	DN	in mm	m3/h	mm
TR16-15	15	15	2,75	6
TR16-20	20	20	5	6,5
TR16-25	25	25	7,5	7

**VALVE DIMENSIONS (mm)**

DIN FLANGES				
DN	A	B	C	Kg
15	130	48	112	4,8
20	150	53	112	4,9
25	160	58	112	5,9

**MAX. PERMISSIBLE DIFF.PRESSURES**

With T.205 thermostat:  
5,3 bar for valve DN15  
2,9 bar for valve DN20

With T.405 thermostat:  
15 bar for valve DN15  
9 bar for valve DN20  
5,3 bar for valve DN25

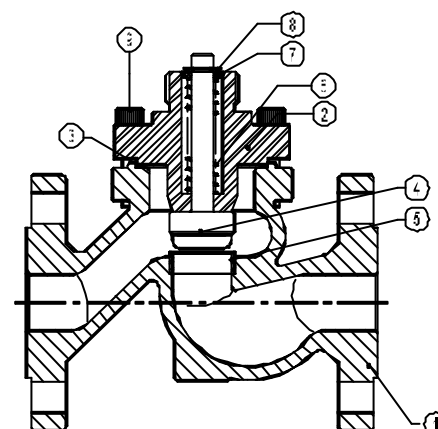
**PROPORTIONAL BAND**

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 :  
T.205 and T.405 : 0,5 mm / °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.


**MATERIALS ( TR16 )**

POS.	DESIGNATION	MATERIAL
1	BODY	GG 25 / GP 240 GH
2	BONNET	STEEL
3 *	GASKET	ST.ST./GRAPHITE
4 *	VALVE	AISI 316
5	SEAT	AISI 316
6 *	SPRING	AISI 302
7	GUIDE	AISI 304
8	WASHER	AISI 304
9	STUDS	CK 35

\*Available spare parts.