

# spirax sarco®

## Cooling Control T 44

The T44 is a completely self-contained control which regulates the inlet cooling water flow so it maintains a constant outlet flow temperature. The set temperature is adjustable over a 50°F (28°C) range from 60°F to 185°F (15°C to 85°C). The single-seated packless valve incorporates an adjustable needle bypass to provide a small control flow when the main valve is closed.

<b>Model</b>	<b>T44</b>
<b>PMO</b>	125 psig
<b>Sizes</b>	1/2" to 1"
<b>Connections</b>	NPT
<b>Construction</b>	Brass Body Stainless Steel Internals
<b>Options</b>	Special Temperature ranges Preset at 250°F (121°C) Separable well in 316 SS Mild Steel, Copper and Brass

### Typical Applications

Air compressor cylinder jackets, intercoolers and aftercoolers  
condensers and solvent recovery stills, degreasers,  
internal combustion engines.

### Limiting Operating Conditions

**Max. Operating Pressure (PMO)** 125 psig (9 barg)

### Standard Temperature Ranges

60°F to 110°F    15°C to 43°C    110°F to 160°F    43°C to 71°C  
85°F to 135°F    29°C to 57°C    135°F to 185°F    57°C to 85°C  
Available with any special 50°F/28°C range between 40°F and 210°F, 4°C and 99°C, and preset 250°F/121°C.

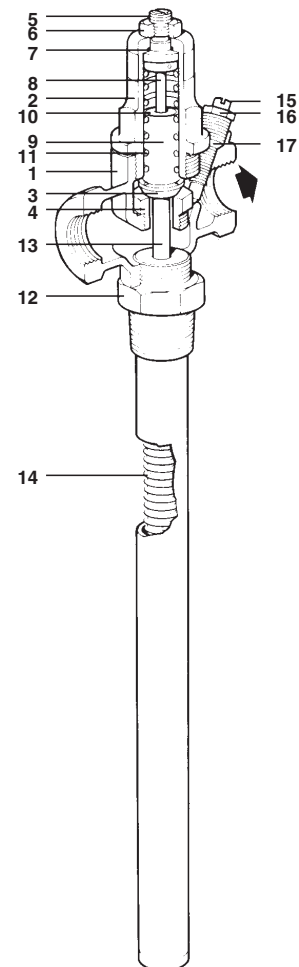
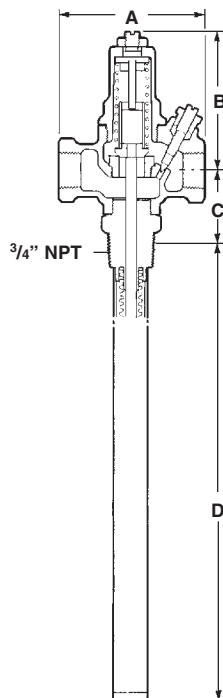
### Construction Materials

No.	Part	Material
1	Body	Brass
2	Cap	Brass
3	Valve Head	Stainless Steel
4	Valve Seat	Stainless Steel
5	Adjustment Screw	Brass
6	Adjustment Nut	Brass
7	'O' Ring Seal	
8	Adjustment Stem	Stainless Steel
9	Head Assembly Tubing	Stainless Steel
10	Head Assembly Insert	Brass
11	Return Spring	Stainless Steel
12	Tank Union	Brass
13	Valve Head Stem	Stainless Steel
14	Thermostat Assembly	Copper & Brass
15	Bypass Valve, 1/8"	Stainless Steel
16	Packing Nut	Brass
17	Packing	Graphite

### Sample Specification

Cooling controls shall be combined self-acting units providing proportional control accuracy. Valves shall open on temperature rise, and shall be single seated with brass body and stainless steel and brass internals. The brass temperature control system shall be hydraulically operated, and shall incorporate packless glands. The temperature setting shall be adjustable over a 50°F range while the control is in service. The sensor bulb shall be mounted in a separable well (when required).

*Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.  
In the interests of development and improvement of the product, we reserve the right to change the specification.*



### Dimensions (nominal) in inches and millimeters

Size	A	B	C	D	Weight
1/2"	3.25	3.0	1.62	10.3	3.5 lb
	83	76	41	262	1.6 kg
3/4", 1"	3.75	3.06	1.62	12.75	4.0 lb
	95	78	41	324	1.8 kg

# Cooling Control T 44

## Maximum Cv at P Band in °F

	1/2"	3/4", 1"
Cv	3.0	4.7
P Band	20°	20°

## Capacity

The capacity of a water valve depends on: (A) The amount of valve opening due to the rise in temperature above the point at which the valve is set to close; (B) The pressure drop across the valve. Within these allowable limits select temperature control, type and size which has an adequate GPM flow rate.

## Capacities, GPM Water

Pressure Drop	1/2				3/4 & 1			
	Change of Temperature							
	5°F	10°F	15°F	20°F	5°F	10°F	15°F	20°F
10 psi	3.3	5.7	8.0	9.4	4.6	7.9	11.4	13.7
20 psi	4.4	8.3	11.4	13.5	6.8	11.8	16.5	20.0
30 psi	5.1	10.0	13.7	16.4	8.6	14.8	20.6	25.5
40 psi	5.5	11.4	15.4	18.6	10.0	17.2	24.0	30.0

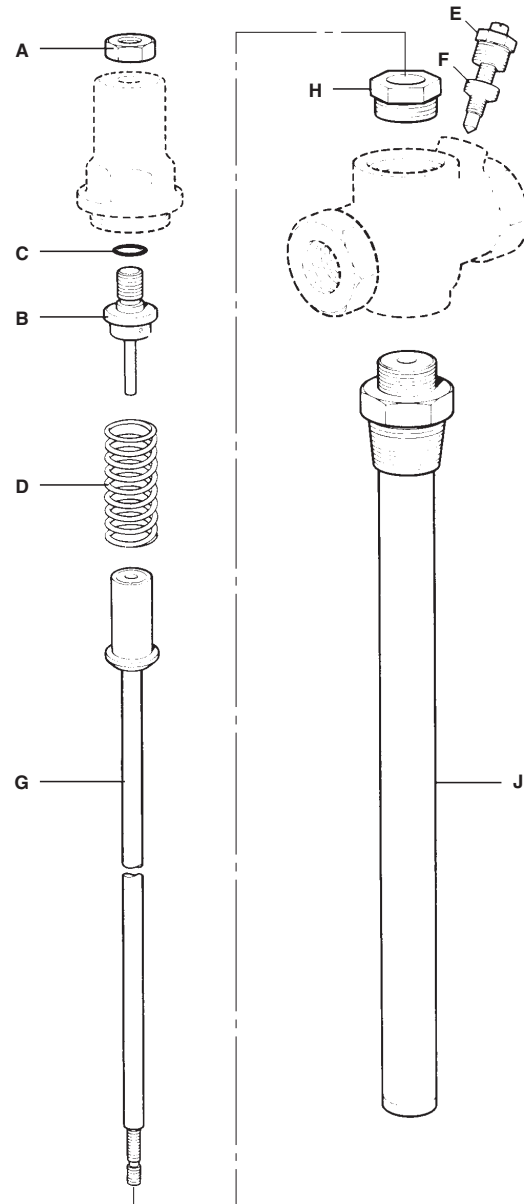
## Installation

The valve should be installed in a horizontal section of the inlet cooling water piping with the sensor vertically below the valve. A bypass with suitable stop valves should be provided to permit servicing, and a Y-pattern strainer should be installed upstream of the control. The sensor should be installed in one arm of a tee fitting, and the outlet cooling water must be piped to flow upward over the sensor. An optional separable well will permit the sensor to be removed from a pressure line, and will protect it from corrosive liquids.

## Maintenance

Maintenance or servicing is required only if a malfunction is detected. **Complete installation and maintenance instructions are given in IMI 1.1113, which accompanies the product.**

## Spare Parts



Adjustment Stem Assembly	A, B, C
'O' Ring Seal	C
Return Spring	D
Bypass Valve	E, F
Bypass Packing	F
Valve Head & Stem Assembly	G
Valve Seat	H
Thermostat Assembly ( <i>state temp range</i> )	J

Available spare parts are shown in heavy outline. Parts drawn in broken line are not supplied as spares.