



# TA10A and TA10P Steam Tracing Temperature Control Systems

## Description

The TA10 is a stainless steel temperature control valve that has been designed for use on tracing applications. The TA10A and TA10P are the temperature control systems that are required to operate the valve - These are sold separately.

## Available types of temperature control system:

**TA10A** For air temperature sensing.

Immersion/remote sensor for product sensing.

**TA10P** **Note:** the TA10P is supplied with a 1 m capillary tube for remote sensing.

## Temperature ranges:

**Range 1** 0 °C to 50 °C (TA10A and TA10P)

**Range 2** 20 °C to 70 °C (TA10P only)

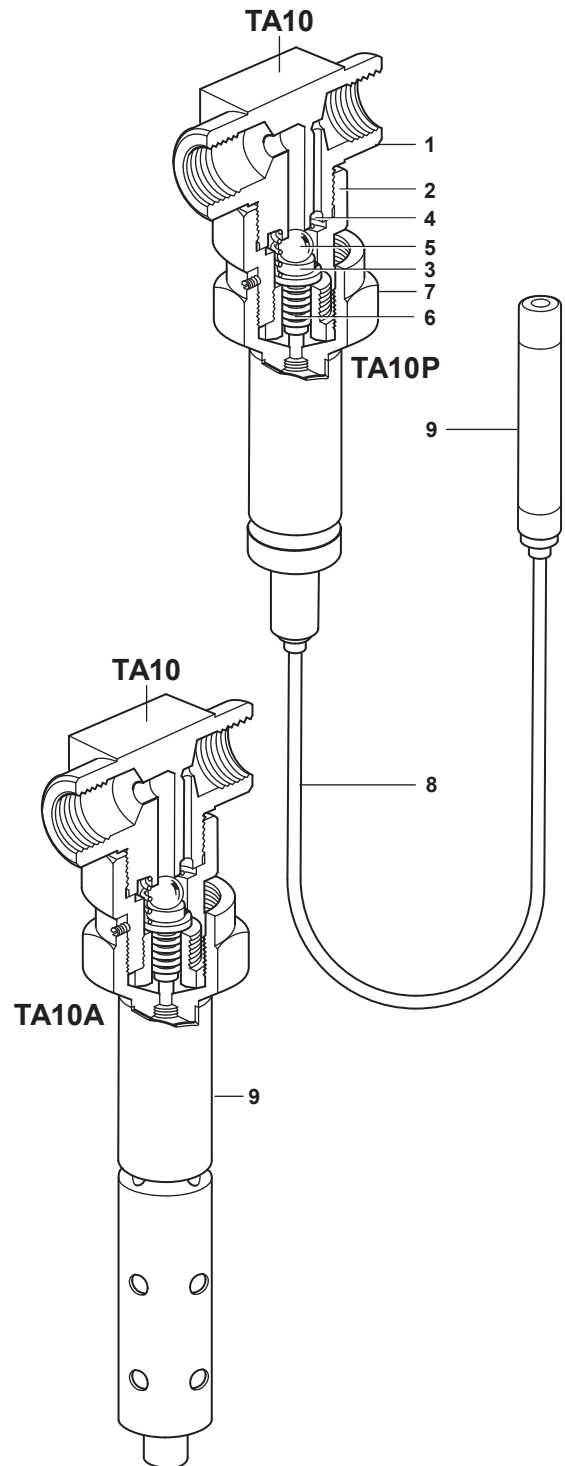
**Note:** The maximum temperature overrun is 50 °C

## Sizes and pipe connections

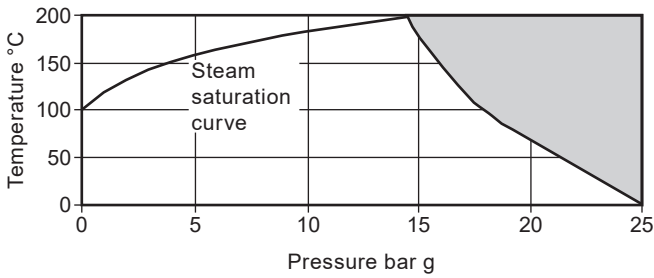
½" and ¾" screwed BSP (BS 21 parallel) or NPT.

## Materials

No. Part.	Material	
1 Body	Stainless steel	AISI 420 F
2 Bonnet	Stainless steel	ASTMA582 Gr.416
3 Valve stem	Stainless steel	ASTMA276 Gr.431
4 Seal assembly	Bellows housing	Stainless steel ASTMA276 Gr.431
	Bellows	Stainless steel AISI 316L
5 Valve closure member	Stainless steel	AISI 440B
6 Return spring	Stainless steel	ASTMA313Type302
7 Adjustment head	Stainless steel	ASTMA582 Gr.41b
8 Capillary tube	Stainless steel seamless tube	ASTMA269 Gr.304
9 Sensor	Stainless steel	ASTMA 269 Gr.316



## Pressure/temperature limits

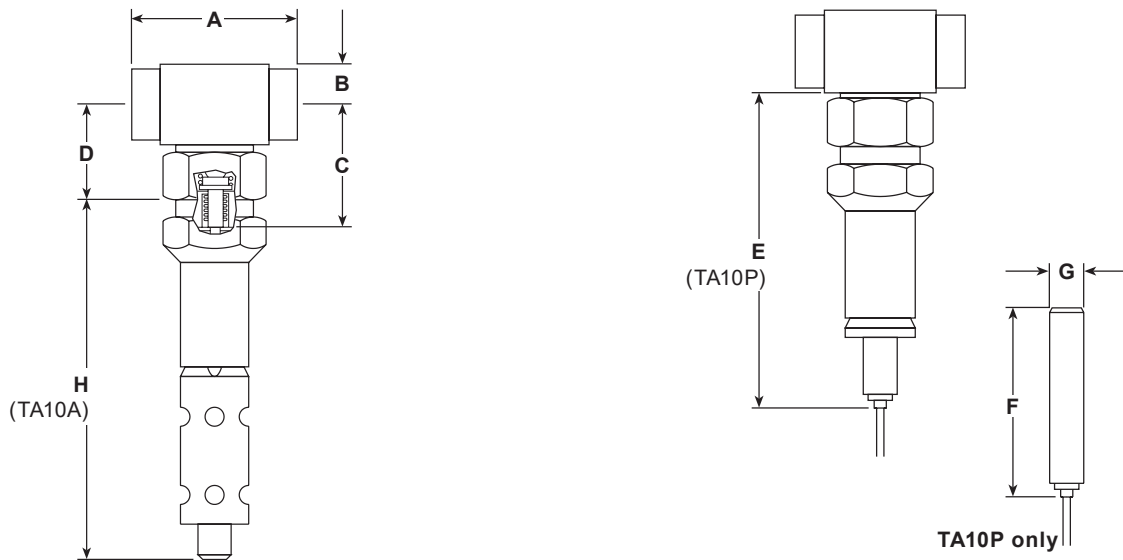


The product **must not** be used in this region.

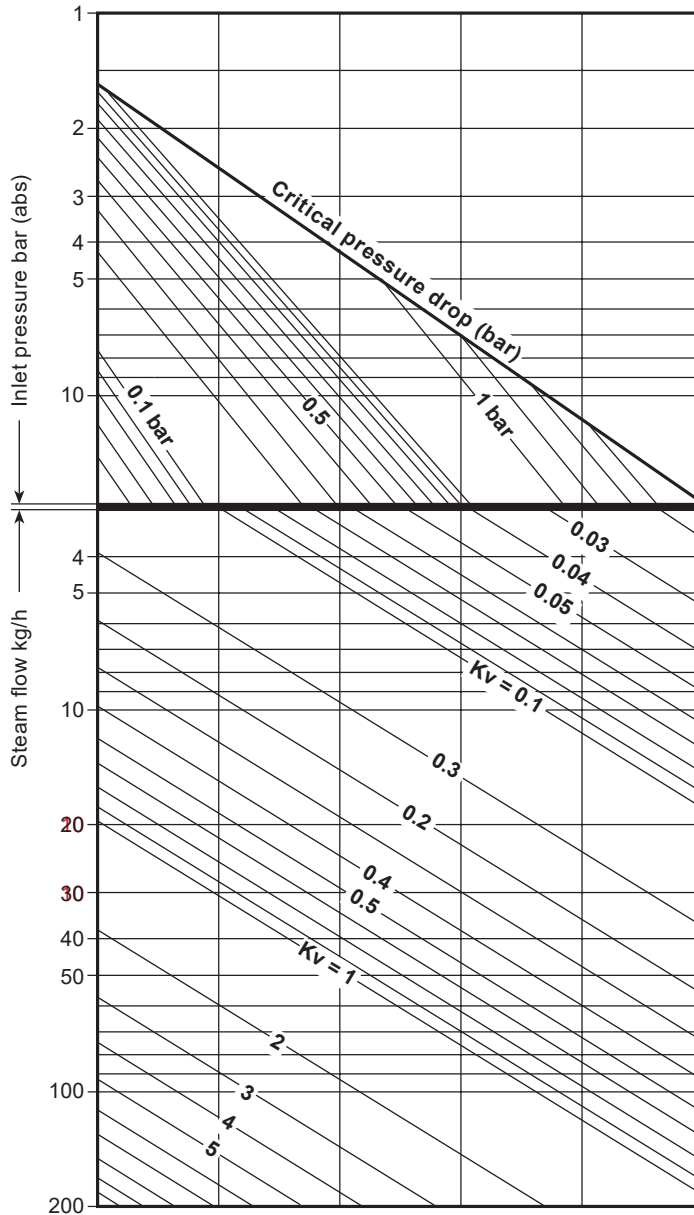
Body design conditions	PN25
PMA Maximum allowable pressure	25 bar g
TMA Maximum allowable temperature	200 °C
Minimum allowable temperature	0 °C
PMO Maximum operating pressure for saturated steam service	14.6 bar g
TMO Maximum operating temperature	200 °C
Minimum operating temperature	0 °C
<b>Note:</b> For lower operating temperatures consult Spirax Sarco.	
ΔPMX Maximum differential pressure	10 bar g
Designed for a maximum cold hydraulic test pressure of:	38 bar g

## Dimensions/weights (approximate) in mm and kg

Size	A	B	C	D	E	F	G	H	Weight	
									TA10A	TA10P
½"	70	16	58	38	120	72	13	170	1.06	1.08
¾"	80	20	62	38	120	72	13	170	1.33	1.35



## Capacities



### Example of how to use the capacities chart

- Where:**
- Example load = 20 kg/h
  - Upstream gauge pressure 5 bar = 6 bar abs.

- Method:**
- Draw a horizontal line from 6 bar abs.
  - Draw a horizontal line from 20 kg/h
  - Drop a vertical line from the 6 bar x critical pressure crossing point until it crosses 20 kg/h horizontal.
  - The  $K_v$  for valve selection is given at this crossing point as  $K_v$  0.3
  - From the P-band table below a  $\frac{3}{4}$ " valve has 4 °C P-band.

### $K_v$ at P-band in °C

Size	1 °C	2 °C	4 °C	6 °C	8 °C	Maximum lift $K_v$	For conversion:
$\frac{1}{2}$ "	0.18	0.22	0.27	0.29	0.32	0.55 at 15 °C Xp	$C_v$ (UK) = $K_v \times 0.963$
$\frac{3}{4}$ "	0.20	0.23	0.29	0.29	0.33	0.87 at 15 °C Xp	$C_v$ (US) = $K_v \times 1.156$

Operating temperature at design  $K_v$  = Set value - Xp

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

## How to order

**Example:** 1 off Spirax Sarco 1/2" TA10 steam tracing temperature control valve having screwed BSP connections supplied with a TA10P range 2 temperature control system.

## Spare parts

The spare parts available are shown in heavy outline. Parts drawn in a grey line are not supplied as spares.

## Available spares

Internal assembly	A, B, C
Control system (state type and temperature range)	D

## How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size, type and temperature range of the control valve.

**Example:** 1 - Internal assembly for a Spirax Sarco 1/2" TA10 steam tracing temperature control valve.

