

# SA121, SA122, SA123, SA128 and SA1219 Self-acting Temperature Control Systems

## Description

A range of self-powered control systems that incorporate sensor, actuator, set point adjustment/indicator for use with the following valve types:-

**2-port** KA, KB, KC, KX, KY, SB, SBRA, BX and BXRA, BM, BMRA, BMF, BMFRA, NS and NSRA

**3-port** TW

## Available types

### Set point adjustment at sensor

<b>SA121</b>	For use on	2-port valves	DN15 to DN80
		3-port valves	DN20 to DN50
<b>SA1219</b>	For use on	3-port valves	DN80 and DN100
<b>SA128</b>	For use on	2-port valves	DN15 to DN25
		3-port valves	DN20 and DN25

### Set point adjustment at valve

<b>SA122</b>	For use on	2-port valves	DN15 to DN25
		3-port valves	DN20 and DN25

### Remote set point adjustment

<b>SA123</b>	For use on	2-port valves	DN15 to DN80
		3-port valves	DN20 to DN50

## Optional extras

**Union kit** Direct immersion

**Pocket** Indirect immersion

Pocket material options include copper and stainless steel.

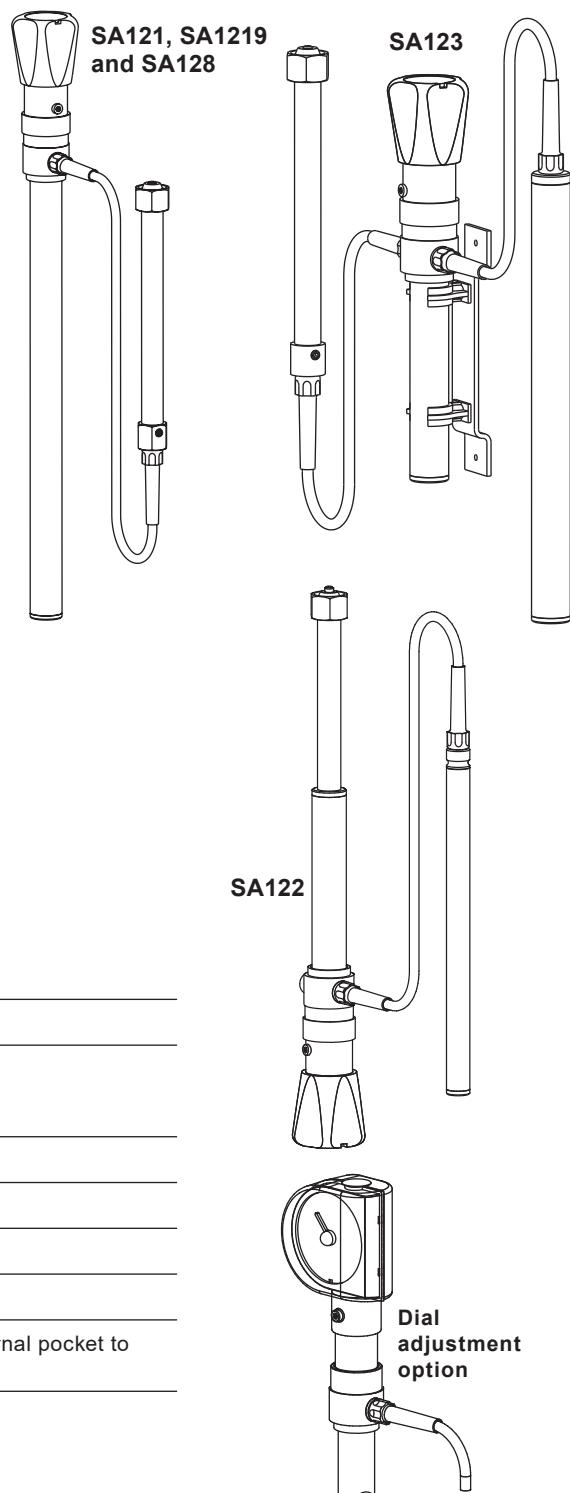
**Wall bracket**

**Duct adaptor** Duct mounting

**Nickel plating**

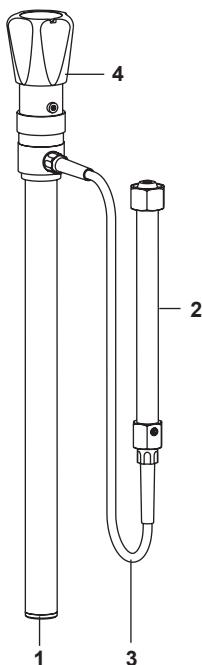
**Dial type set point adjuster**

**Pt100 temperature sensor** SA122TP and SA123TP incorporate an internal pocket to accept a Pt100 sensor

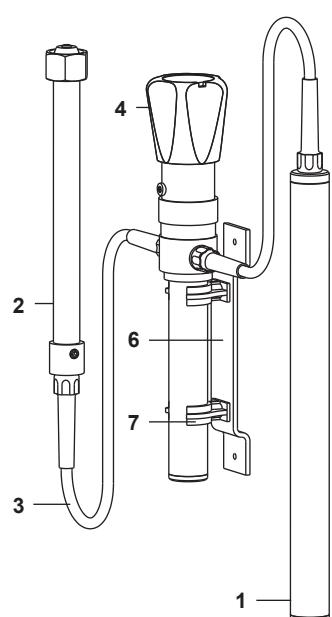


## Materials

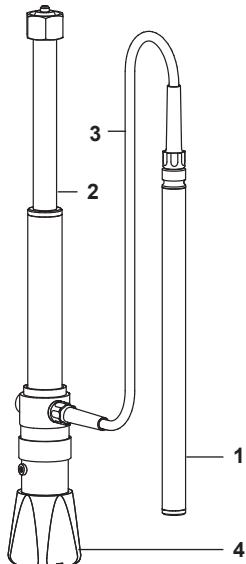
**SA121, SA1219  
and SA128**



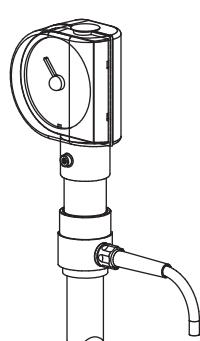
**SA123**



**SA122**



**Dial adjustment  
option**



No. Part	Material	
1 Sensor	Brass	
2 Actuator	Brass	
3 Capillary tube	Copper with PVC coated armoured covering	
4 Adjustment head	Polypropylene	
5 * Union kit	Brass	
6 Mounting bracket	Steel	
7 Clip	Polypropylene	
8 * Adaptor plate (Duct fixing adaptor)	Steel	
9 * Pocket	Copper Stainless steel	BS 2871 C106 BS 3605 CFS 316S 18
10 Liquid fill	Kerosene	

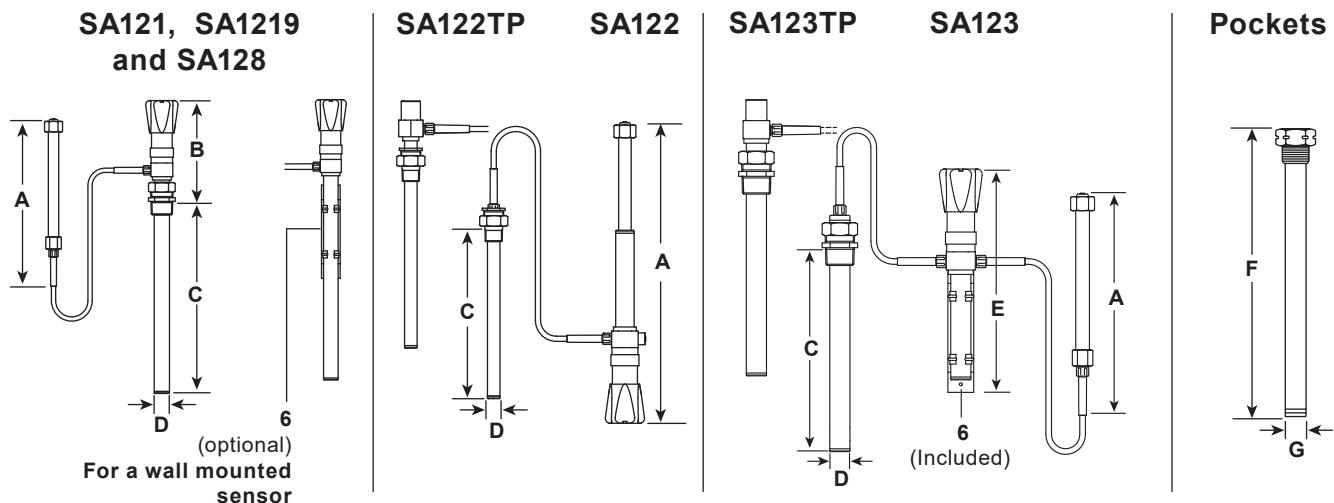
\* Items 5, 8 and 9 are shown on page 3

## Temperature ranges

	Range 1	-15 °C to 50 °C
SA121, SA1219 and SA123	Range 2	40 °C to 105 °C
	Range 3	95 °C to 160 °C
<b>Over temperature protection</b>		55 °C over set value to 190 °C maximum 215 °C maximum for SA123
SA122	Range 1	-20 °C to 120 °C
	Range 2	40 °C to 170 °C
<b>Over temperature protection</b>		55 °C over set value
SA128	Range 1	-20 °C to 110 °C
	Range 2	40 °C to 170 °C
<b>Over temperature protection</b>		55 °C over set value to 190 °C maximum
<b>Note - Ambient design temperature</b>		Minimum -35 °C
		Maximum +50 °C

## Capillary tube

Standard length 2 m, 4 m, 8 m and maximum special length is 16m.



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

Model	Control system					Metal pockets		Weight excluding pocket
	A	B	C	D	E	F	G	
SA121	252	185	310	25	-	333	28	2.0
SA1219	350	185	310	25	-	333	28	2.3
SA122	441	-	240	17	-	271	20	1.8
SA122TP	441	-	255	17	-	271	20	2.0
SA123	252	-	248	25	272	276	28	2.5
SA123TP	252	-	255	25	272	276	28	2.7
SA128	252	185	178	25	-	196	28	1.8

### Union kit (for sensor immersion without pocket)

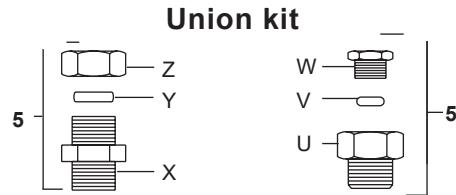
Includes gland nut, compression ring and union nipple.

SA121, SA1219, SA123 and SA128

Items Z, Y and X

SA122

Items W, V and U



### Pockets (for indirect immersion)

Includes pocket, gland nut and compression ring.

SA121, SA1219, SA123 and SA128

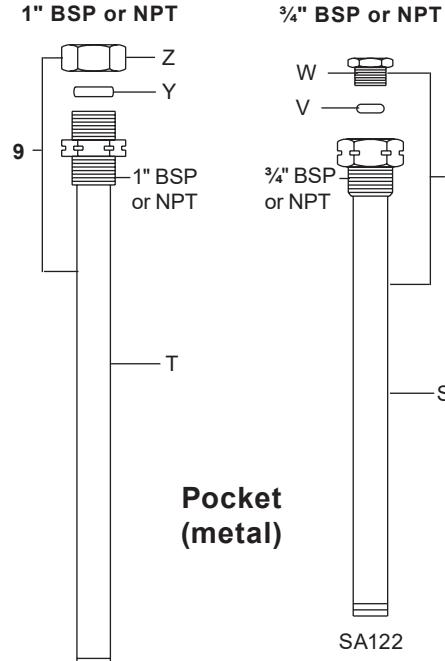
Items T, Z and Y

SA122

Items S, W and V.

Available materials

Copper and stainless steel



SA121,  
SA1219,  
SA123  
and  
SA128

### Wall mounting bracket (Item 6)

SA121, SA1219, SA122, SA123 and SA128      Optional

### Duct fixing adaptor (for air sensing within ducts)

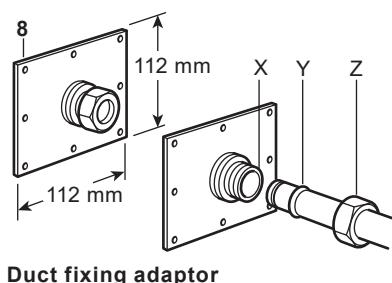
Includes adaptor plate, union nipple, compression ring and gland nut.

SA121, SA1219, SA123 and SA128

Items 8, X, Y and Z

SA122

Not available



Duct fixing adaptor

### Safety information, installation and maintenance

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

### How to order

Example: 1 - Spirax Sarco SA121 temperature control system, having temperature range 2, 2 m capillary and stainless steel pocket.