



# 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
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<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.  
 A glass option is also available for the SA122 and SA123 only.

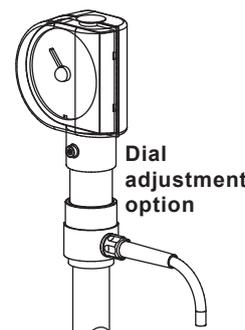
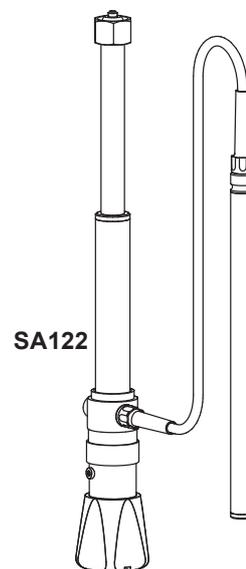
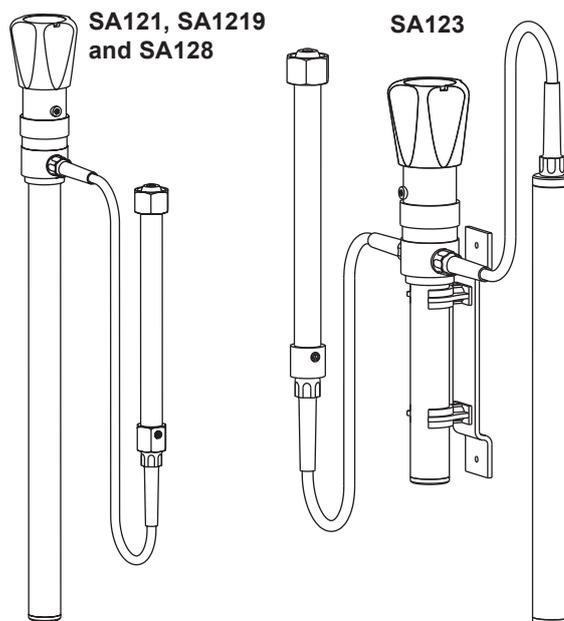
**Wall bracket**

**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

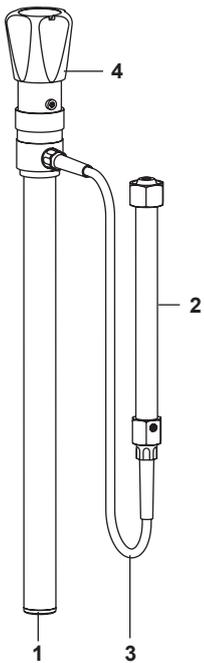


## Materials

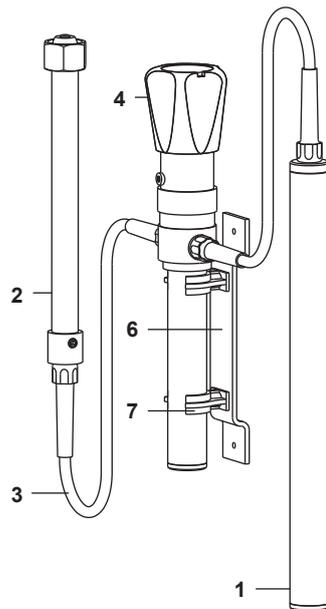
No. Part	Material	
1 Sensor	Brass	
2 Actuator	Brass	
3 Capillary tube	Copper with PVC coated armoured covering	
4 Adjustment head	Polypropylene	
5 * Union kit	Brass	
6 Mounting bracket	Steel	
7 Clip	Polypropylene	
8 * Adaptor plate (Duct fixing adaptor)	Steel	
	Copper	BS 2871 C106
9 * Pocket	Stainless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

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

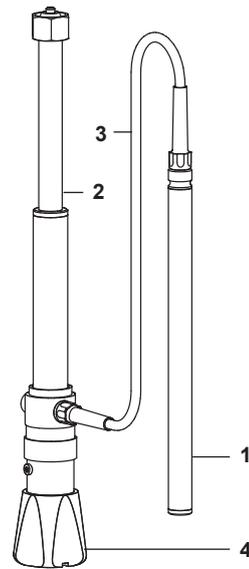
**SA121, SA1219 and SA128**



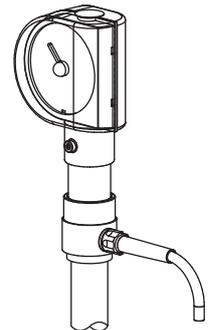
**SA123**



**SA122**



**Dial adjustment option**

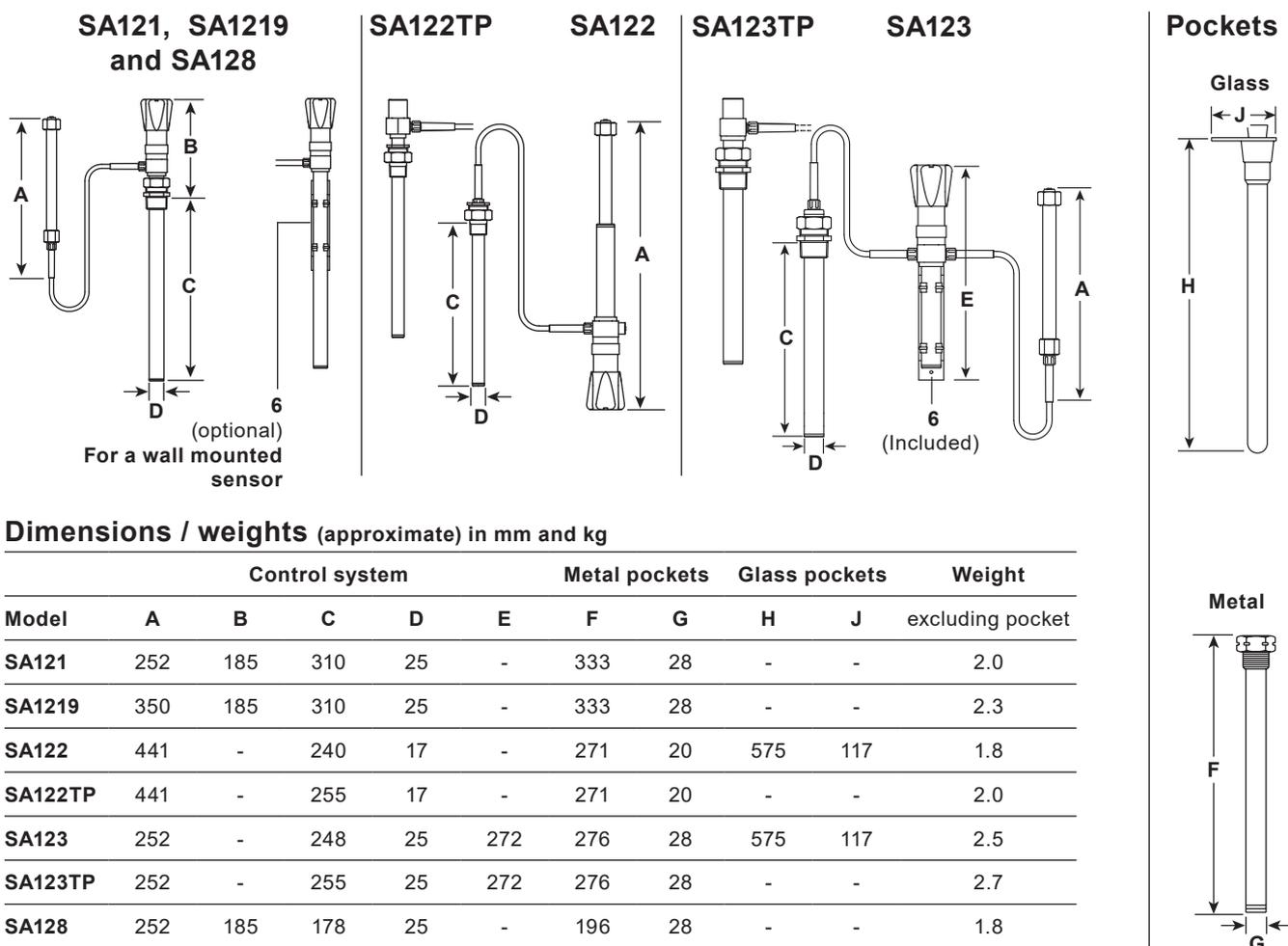


## Temperature ranges

SA121, SA1219 and SA123	Range 1	-15 °C to 50 °C
	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 20 m.



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

Model	Control system				Metal pockets		Glass pockets		Weight	
	A	B	C	D	E	F	G	H	J	excluding pocket
SA121	252	185	310	25	-	333	28	-	-	2.0
SA1219	350	185	310	25	-	333	28	-	-	2.3
SA122	441	-	240	17	-	271	20	575	117	1.8
SA122TP	441	-	255	17	-	271	20	-	-	2.0
SA123	252	-	248	25	272	276	28	575	117	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

### Long pockets (SA122 and SA123 only)

To special order only.

Having a minimum length 0.5 m, maximum length to order.

Includes pocket, bracket and rubber bung

SA122 and SA123	Items S, V, W and T, Z, Y
Available materials	Copper and stainless steel

### Glass pockets (SA122 and SA123 only)

To special order only.

Includes pocket, bracket and rubber bung

SA122 and SA123	Items R, O and P
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### Wall mounting bracket (Item 6)

SA121, SA1219, SA122, SA123 and SA128	Optional
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### 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

### 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.

