



# spirax sarco

TI-P049-01  
CH Issue 6

## NS and NSRA Gunmetal Self-acting Control Valves

### Description

The NS range of two-port valve are used in conjunction with Spirax Sarco SA control systems to provide a self-acting temperature control unit. Alternatively, they can be used as electrically actuated temperature control valves by fitting an EL7200 Series electric actuator with a suitable temperature transmitter and controller.

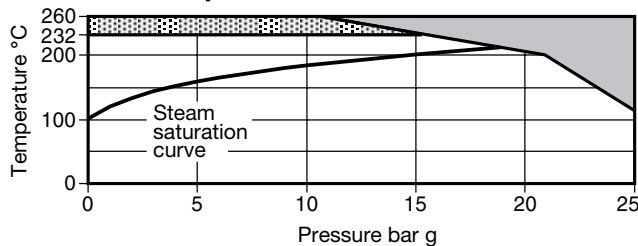
### Available types:

- NS** Normally open, double seat
- NSRA** Normally closed, double seat

### Sizes and pipe connections

2½" and 3" screwed BSP (BS 21 parallel) (NPT to special order). DN65 and DN80 flanged EN 1092 PN25 (ASME / ANSI 150 and BS 10 Table 'H', which meets the requirements of Table F, to special order).

### Pressure/temperature limits



- The product **must not** be used in this region.
- A Spirax Sarco spacer is required for use in this region. (see TI-P033-01 for further details).

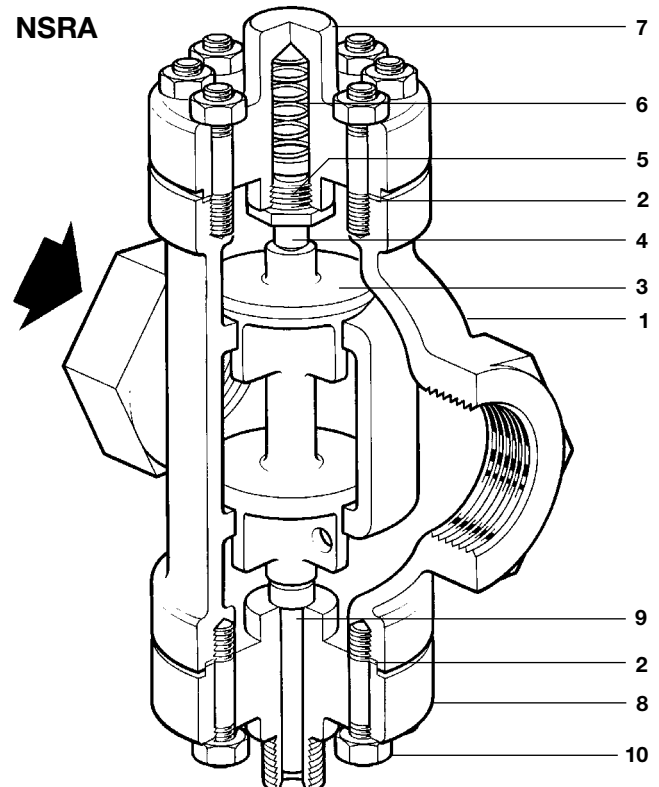
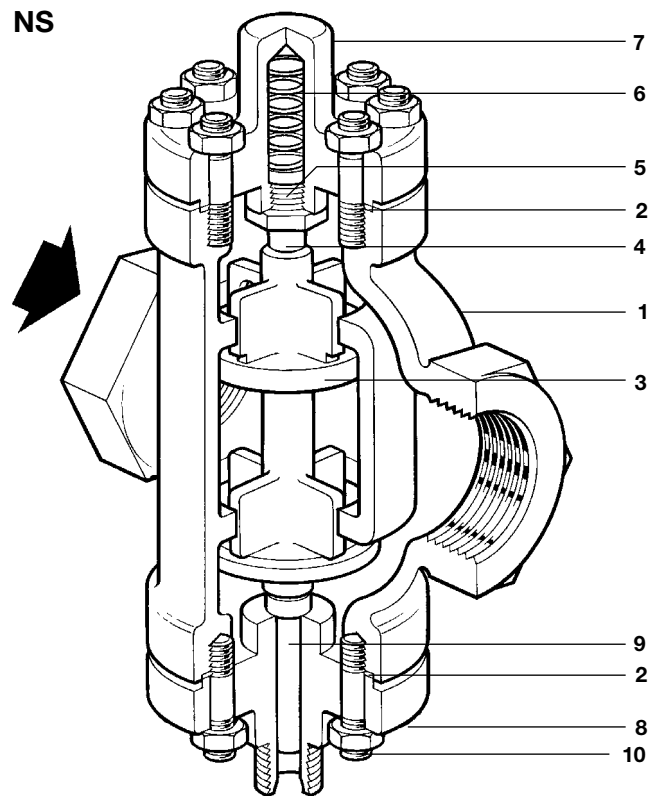
Body design conditions	PN25
Maximum design pressure	25 bar g @ 120°C
Maximum design temperature	260°C
Minimum design temperature	-200°C
Maximum operating pressure for saturated steam service	17.5 bar g
Maximum operating temperature	With spacer 260°C @ 10.5 bar g
	Without spacer 232°C @ 15.5 bar g
Minimum operating temperature	-10°C
<b>Note:</b> For lower operating temperatures consult Spirax Sarco	

Maximum differential pressure	NS	DN65 - 2½"	10.0 bar
		DN80 - 3"	10.0 bar
	NSRA	DN65 - 2½"	2.7 bar
		DN80 - 3"	2.0 bar

Designed for a maximum cold hydraulic test pressure of 38 bar g  
**Note:** As supplied the test pressure must not exceed 25 bar g

### Materials

No.	Part	Material	
1	Body	Gunmetal	BS 1400 LG2
2	Body gasket	Semi-ridged graphite	BS 2815 Gr. A
3	Valve closure member	Gunmetal	BS 1400 LG2
4	Plunger	Brass	BS 2874 CZ 121
5	Plunger guide	Brass	BS 2874 CZ 121
6	Return spring	Stainless steel	BS 2056 302 S 26
7	Spring housing	Gunmetal	BS 1400 LG 2
8	Bonnet	Gunmetal	BS 1400 LG 2
9	Stem	Brass	BS 2874 CZ 121
10	Body studs	Steel	BS 4439 Gr. 8.8
	Body nuts	Steel	BS 3692 Gr. 8



Local regulations may restrict the use of this product to below the conditions quoted.  
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

**Kv values**

Size	DN65 - 2½"	DN80 - 3"
Kv	65.0	94.0

For conversion: C<sub>v</sub> (UK) = K<sub>v</sub> x 0.963 C<sub>v</sub> (US) = K<sub>v</sub> x 1.156

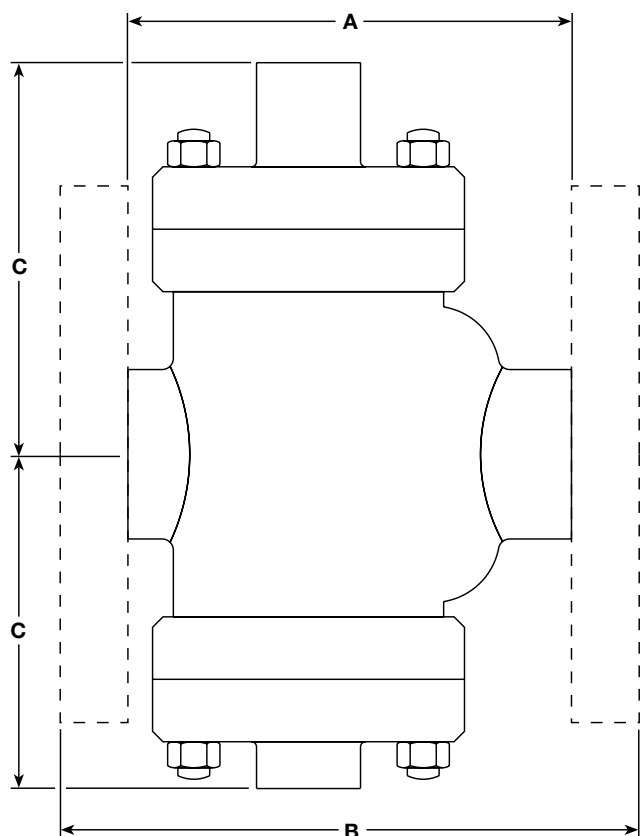
**Capacities / sizing chart**

For saturated steam service see TI-GCM-08.  
For water service see TI-GCM-09.



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

Size	BSP	EN 1092	or	PN25	BST	C	Weight	
	NPT	ASME 150	F/H	B	B		Screwed	Flanged
DN65 - 2½"	171	203	190	150	8.1	17.2		
DN80 - 3"	194	236	216	160	13.6	22.7		



**Safety information, installation and maintenance**

For full details see the Installation and Maintenance Instructions (IM-S21-01) supplied with the product.

**How to order**

**Example:** 1 off Spirax Sarco 2½" NS control valve with gunmetal body and trim. Connections are to be screwed BSP.

**Spare parts**

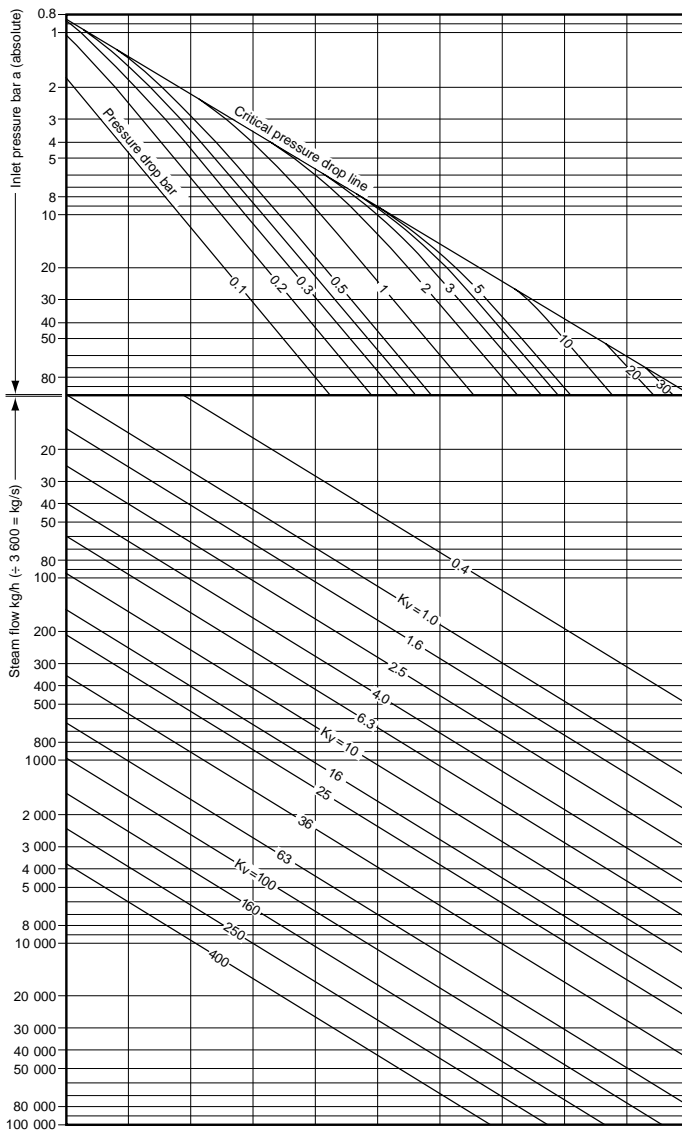
The body gaskets (see Materials item 2) are available as spares in packets of 6.

**How to order spares**

**Example:** 1 - Packet of body gaskets for a DN65 Spirax Sarco NS control valve.

## Saturated steam sizing chart

This sizing chart is empirical and should not be used for critical applications



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