Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

**TI-P186-05**
CH Issue 7

# SRV2S
# Stainless Steel Pressure Reducing Valve

## Description

The SRV2S is a compact, stainless steel, direct acting pressure reducing valve designed for applications using steam or gases such as compressed air. All wetted parts are constructed in 316L stainless steel.
SRV2S pressure reducing valves are supplied with one of three colour coded springs which are identified by the disc (**18**) located on the adjustment handwheel (**2**):

| | |
|---|---|
| **Grey** | For downstream pressure control: 0.14 to 1.7 bar g |
| **Green** | For downstream pressure control: 1.40 to 4.0 bar g |
| **Orange** | For downstream pressure control: 3.50 to 8.6 bar g |

**Note:** Where control spring ranges overlap always use the lower range to give better control.

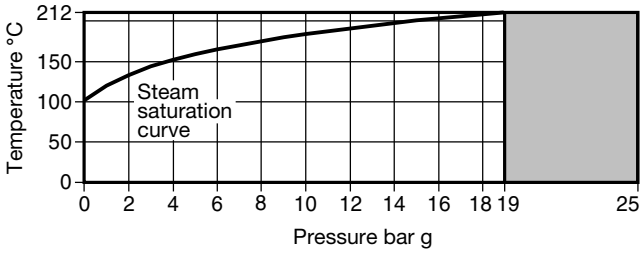
**Standards**
This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC

**Certification**
This product is available with certification to EN 10204 3.1.
**Note:** All certification/inspection requirements must be stated at the time of order placement.

## Sizes and pipe connections

½", ¾" and 1" screwed BSP ( BS 21 Rp ) or NPT.
DN15, DN20 and DN25 Flanged EN 1092 PN25 and ANSI 150.

## Pressure/temperature limits

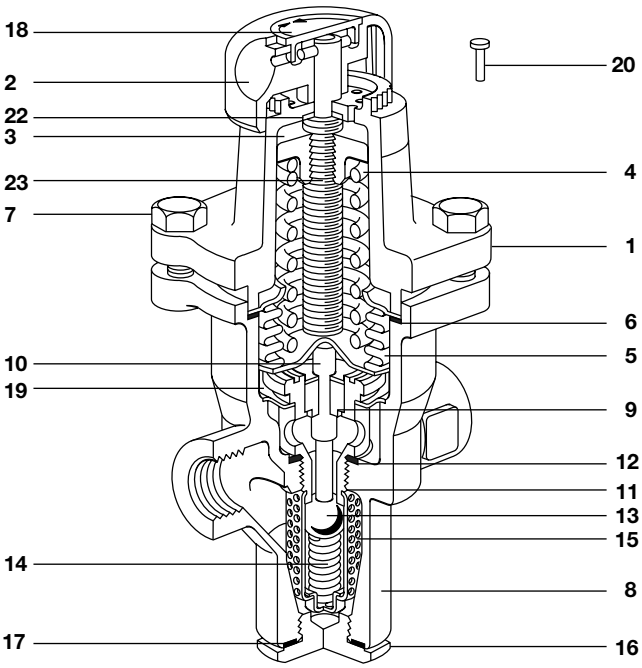



The product **must not** be used in this region.

| | |
|---|---|
| Body design conditions | PN25 |
| Maximum design pressure | 25 bar g @ 120°C |
| Maximum design temperature | 212°C @ 19 bar g |
| Minimum allowable temperature | 0°C |
| Maximum operating pressure for saturated steam service | 19 bar g |
| Maximum operating temperature | 212°C @ 19 bar g |
| Minimum operating temperature | 0°C |
| **Note:** For lower operating temperatures consult Spirax Sarco | |
| Maximum downstream reduced pressure | 8.6 bar g |
| Maximum differential pressure | 19 bar |
| Maximum recommended turndown ratio 10:1 at maximum flow | |
| Designed for a maximum cold hydraulic test pressure of 38 bar g<br>**Note:** With internals fitted, test pressure must not exceed 19 bar g | |

## Materials

| No. | Part | Material | |
|---|---|---|---|
| **1** | Spring housing | Aluminium | LM6<br>Electroless nickel finish |
| **2** | Adjustment handwheel | Plastic | Polypropylene |
| **3** | Top spring plate | Cast iron | DIN 1691 GG 20<br>Electroless nickel finish |




| No. | Part | Material | |
|---|---|---|---|
| **4** | Pressure adjustment spring | Silicon chrome spring steel | BS 2803 685 A55<br>Range 2<br>Electroless nickel finish |
| **5** | Bellows assembly | Stainless steel | 316Ti / 316L |
| **6** | Bellows assembly gasket | Reinforced exfoliated graphite | |
| **7** | Hex. bolt (M8 x 25 mm) | Stainless steel | BS 6105 A 270 |
| **8** | Body | Stainless steel | DIN 1.4404<br>BS 3100 316 C12<br>ASTM A351 CF 3M<br>External electropolish finish |
| **9** | Guide bush | Graphite filled PTFE | |
| **10** | Pushrod | Stainless steel | ASTM A276 316L |
| **11** | Valve seat | Stainless steel | BS 3100 316 C 12<br>ASTM A351 CF 3M<br>DIN 1.4404 |
| **12** | Valve seat gasket | Stainless steel | BS 1449 316 S11 |
| **13** | Valve | Stainless steel | 316L |
| **14** | Valve return spring | Stainless steel | BS 2056 316 S42 |
| **15** | Strainer screen | Stainless steel | BS 1449 316 SH |
| **16** | Bottom cap | Stainless steel | ASTM A276 316L |
| **17** | Bottom 'O' ring | PTFE | |
| **18** | Spring range identity disc | Plastic | Polypropylene |
| **19** | Bulkhead plate | Stainless steel | BS 1449 316 S13<br>AISI 316L |
| **20** | Tamper-proof pin | Mild steel copper plated | |
| **21** | Flanges (not shown) | Stainless steel | DIN 1.4404<br>BS 3100 316 C12<br>ASTM A351 CF 3M<br>Electropolish finish |
| **22** | Washer | Stainless steel | 316L |
| **23** | Drive spindle | Carbon steel | BS 970 230 M07<br>Electroless nickel finish |

**Note:** Items **9**, **10**, **11**, **13**, **14** and **15** are all part of one assembly.

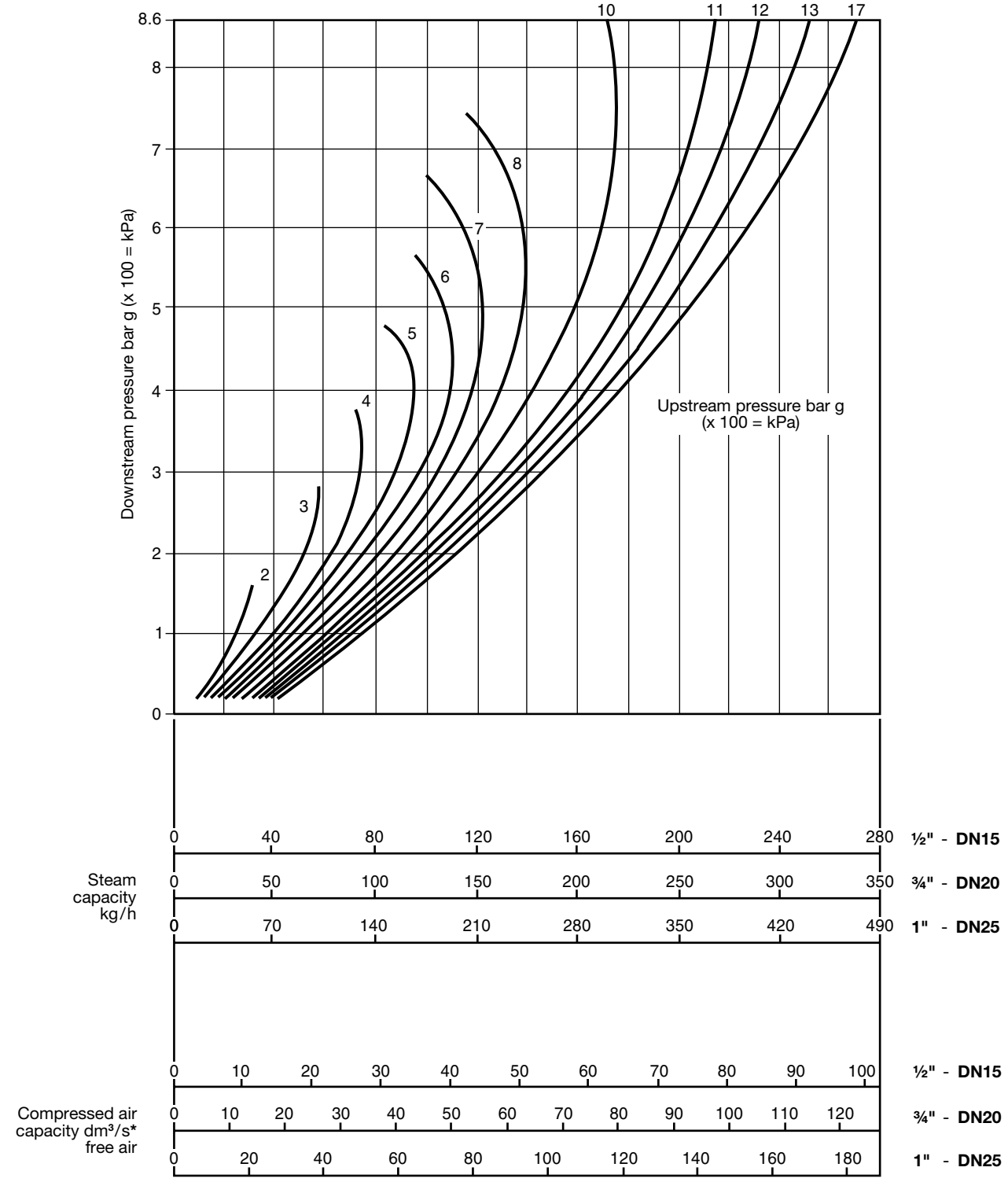
*Local regulations may restrict the use of this product to below the conditions quoted.*
*In the interests of development and improvement of the product, we reserve the right to change the specification without notice.*

## Capacities for safety valve sizing

| Full lift capacities for safety valve sizing purposes : | Size | DN15 | DN20 | DN25 |
|---|---|---|---|---|
| | $K_{VS}$ | 1.5 | 2.5 | 3.0 |

For conversions: $C_V$ (UK) = $K_V$ x 0.963 $C_V$ (US) = $K_V$ x 1.156

## Steam and compressed air capacities




* dm³/s = l/s, 1 l/s ≙ 2 c.f.m.

## How to use the chart

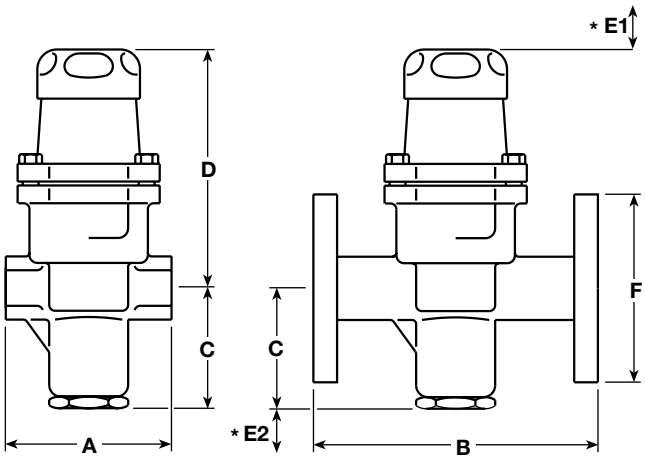
The curved lines labelled 2, 3, 4, 5 etc., represent upstream pressures. Downstream pressures are read along the vertical line on the left hand side of the chart.

**How to use the chart is best described by an example:-**
Required, a pressure reducing valve to pass 120 kg/h reducing from 8 to 6 bar. From the downstream pressure of 6 bar on the left hand side of the chart extend out horizontally until the line meets the curved 8 bar upstream line. At this point read vertically downwards where it will be seen that a ½" SRV2S will be required.

## Dimensions (approximate) in mm and kg

| Size | | A | B | B | C | D | *E1 | *E2 | F |
|---|---|---|---|---|---|---|---|---|---|
| ½" | BSP/NPT | 83 | - | - | 62 | 130 | 25 | 15 | - |
| DN15 | PN25 | - | 150 | - | 62 | 130 | 25 | 15 | 97 |
| | ANSI 150 | - | - | 140 | 62 | 130 | 25 | 15 | 91 |
| ¾" | BSP/NPT | 96 | - | - | 62 | 130 | 25 | 15 | - |
| DN20 | PN25 | - | 150 | - | 62 | 130 | 25 | 15 | 107 |
| | ANSI 150 | - | - | 140 | 62 | 130 | 25 | 15 | 100 |
| 1" | BSP/NPT | 108 | - | - | 62 | 130 | 25 | 15 | - |
| DN25 | PN25 | - | 160 | - | 62 | 130 | 25 | 15 | 117 |
| | ANSI 150 | - | - | 153 | 62 | 130 | 25 | 15 | 110 |

* **Note: E1** and **E2** are withdrawal distances for maintenance.




## Weights (approximate) in mm and kg

| Size | | Weight | |
|---|---|---|---|
| | | Screwed | Flanged |
| ½" | BSP/NPT | 1.48 | - |
| DN15 | PN25 | - | 3.1 |
| | ANSI 150 | - | 2.4 |
| ¾" | BSP/NPT | 1.58 | - |
| DN20 | PN25 | - | 3.8 |
| | ANSI 150 | - | 2.8 |
| 1" | BSP/NPT | 1.70 | - |
| DN25 | PN25 | - | 4.4 |
| | ANSI 150 | - | 3.6 |

## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P186-03) supplied with the product.

**Installation note:**
The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body.

## How to order

**Example:** 1 off Spirax Sarco ½" screwed BSP SRV2S pressure reducing valve with stainless steel body and bellows, fitted with an orange spring for a downstream pressure control of 3.5 to 8.6 bar g.

## Spare parts

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

**Available spares**

| | | | |
|---|---|---|---|
| * Pressure adjustment spring | Grey | 0.14 to 1.7 bar g | **4**, **18** |
| | Green | 1.40 to 4.0 bar g | **4**, **18** |
| | Orange | 3.50 to 8.6 bar g | **4**, **18** |
| * Bellows (Stainless steel) | | | **5**, **6** |
| * Spring housing hex. bolts (set of 4) | | | **7** |
| Valve and seat assembly | | | **6**, **11**, **12**, **15**, **19** |
| * Set of gaskets/'O' rings | | | **6**, **12**, **17** |

* Common to all sizes.

**How to order spares**
Always order spares by using the description given in the column headed 'Available spares' and state the size, type and pressure range of the reducing valve.
**Example:** 1 off Pressure adjustment spring (orange), having a downstream pressure range of 3.5 to 8.6 bar g for a Spirax Sarco DN15 SRV2S pressure reducing valve.