In certain specific areas such as outdoor applications and corrosive atmospheres, such as coastal installations, there is a need for high surface protection to prevent failure due to corrosion.

Today’s food safety standards often call for daily treatment with detergents to protect against bacteria growth, again producing a need for high surface protection.

SVA-S/L SS are angleway and straightway stainless steel shut-off valves, which are designed to meet all industrial refrigeration application requirements.

The valves are designed to give favourable flow characteristics and are easy to dismantle and repair when necessary. The valve cone is designed to ensure perfect closing.

### Features

- Applicable to HCFC, HFC, R717 (Ammonia), R744 (CO₂) and all flammable refrigerants.
- Optional accessories:
  - Heavy duty industrial hand wheel for frequent operation.
  - Cap for infrequent operation.
- Available in angleway and straightway versions with Standard neck or Long neck (DN 15 to DN 40) for insulated systems.
- Designed to give favourable flow conditions.
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure.
- Housing is made of stainless steel approved for low temperature operations.
- Easy to disassemble for inspection and service.
- SVA-S/L SS shut-off valves can accept flow in either direction.
- Butt-weld DIN and ANSI connections.
- Maximum allowable working pressure and temperature range:
  
  | DN 15-65  | 52 bar (754 psi) at –60°C/+50°C (–76°F/+122°F) |
  | DN 80-125 | 50 bar (725 psi) at –60°C/+50°C (–76°F/+122°F) |
  
  For SVA-S/L SS see the relation between PS and temperature in the curve on page 2.
- Temperature range: 
  –60/+150°C (–76 +302°F).
- Compact and light valves for easy handling and installation.
- Classification: DNV, CRN, BV, EAC etc.
  To get an updated list of certification on the products please contact your local Danfoss Sales Company.
Data sheet | Shut-off valves in stainless steel, types SVA-S SS and SVA-L SS

**Pressure and temperature range**

![Graph showing pressure and temperature range]

**Design**

**Connections**
Available with the following connections:
- Butt-weld DIN (EN 10220)
  DN 15 - 125 (½ - 5 in.)
- Butt-weld ANSI (B 36.19M)
  DN 15 - 100 (½ - 4 in.)

**Housing**
Made of stainless steel approved for low temperature operations.

**Valve cone**
The valve cone can be turned on the spindle, thus there will be no friction between the cone and the seat, when the valve is opened and closed. A teflon tightening ring provides perfect sealing at a minimum closing momentum.

**Spindle**
Made of polished stainless steel, ideal for O-ring sealing. Furthermore, parts of the spindle are heat treated to obtain anti-abrasive/adhesive properties.

**Packing gland**
The stainless steel packing gland comprises a spring loaded seal packing gland which ensures a perfect tightness in the range: –60/+150°C (–76/+302°F).

The packing glands are equipped with a scraper ring to prevent penetration of dirt and ice into the packing gland.

**Pressure Equipment Directive (PED)**
The stainless steel valves are approved and CE marked in accordance with the Pressure Equipment Directive - 97/23/EC.

**Installation**
It is recommended that the valves be installed in the direction of flow indicated by the arrow on the valve body. The valve can be installed in the opposite direction but this slightly reduces the kₐ-value (Cₐ-value).

The valve is designed to withstand high internal pressure. However, the piping system in general should be designed to avoid liquid traps and reduce the risk of hydraulic pressure caused by thermal expansion.

For further information refer to installation instructions for SVA-S/L SS.

**Example of Marking Ring**

![Image of marking ring]

**Technical data**

**Refrigerants**
Applicable to HCFC, HFC, R717 (Ammonia), R744 (CO₂) and all flammable refrigerants. For further information please contact your local Danfoss Sales Company.

**Temperature Range**
–60/+150°C (–76/+302°F).

**Pressure range**
The valves are designed for max. working pressure 52 bar g (754 psi g).
### Connections

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<td>25 mm</td>
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**Butt-weld DIN (EN 10220)**

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**Butt-weld ANSI (B 36.19M, SCHEDULE 40)**

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**Butt-weld ANSI (B 36.19M, SCHEDULE 10)**

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## Material specification

**SVA-S SS 15-40 (1/2 - 1 1/2 in.)**

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**Diagram:**

- **No. 1:** Housing
- **No. 2:** Bonnet, Flange
- **No. 3:** Bonnet, Insert
- **No. 4:** Spindle
- **No. 5:** Cone
- **No. 6:** Packing gland
- **No. 7:** Packing washer
- **No. 8:** O-ring
- **No. 9:** Spring loaded Teflon ring
- **No. 10:** Bolts
- **No. 11:** Gasket
- **No. 12:** Handwheel
- **No. 13:** Cap
- **No. 14:** Gasket for cap
- **No. 15:** Identification ring
- **No. 16:** Disk spring

**Diagram annotations:**

- **No. 1:** Housing
- **No. 2:** Bonnet, Flange
- **No. 3:** Bonnet, Insert
- **No. 4:** Spindle
- **No. 5:** Cone
- **No. 6:** Packing gland
- **No. 7:** Packing washer
- **No. 8:** O-ring
- **No. 9:** Spring loaded Teflon ring
- **No. 10:** Bolts
- **No. 11:** Gasket
- **No. 12:** Handwheel
- **No. 13:** Cap
- **No. 14:** Gasket for cap
- **No. 15:** Identification ring
- **No. 16:** Disk spring
## Material specification

**SVA-L SS 15 - 40 (½ - 1½ in.)**

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### Material specification

#### SVA-S SS 50-65 (2 - 2½ in.)

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Material specification

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<td></td>
</tr>
<tr>
<td>11</td>
<td>Spring loaded Teflon ring</td>
<td>PTFE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Bolts</td>
<td>Stainless steel</td>
<td>A2-70</td>
<td>A2-70</td>
<td>Type 308</td>
</tr>
<tr>
<td>13</td>
<td>Gasket</td>
<td>Fiber, Non-asbestos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Hand wheel</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Cap</td>
<td>Aluminium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Gasket for cap</td>
<td>Nylon (PA 6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Soft backseat</td>
<td>Teflon (PTFE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Identification ring</td>
<td>Stainless steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Disk spring</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Dimensions and weights**

**SVA SS 15 - 40 (½ - 1½ in.) in angleway version with cap / hand wheel**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>K</th>
<th>Cmax.1</th>
<th>Cmax.2</th>
<th>G</th>
<th>ØD1</th>
<th>ØD2</th>
<th>H</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVA-S SS 15-20 mm</td>
<td>4</td>
<td>178</td>
<td>189</td>
<td>45</td>
<td>60</td>
<td>38</td>
<td>60</td>
<td>1.4 kg</td>
</tr>
<tr>
<td>SVA-S SS ½ - ¾&quot; in.</td>
<td>0.16</td>
<td>7.00</td>
<td>7.44</td>
<td>1.77</td>
<td>2.36</td>
<td>1.5</td>
<td>2.36</td>
<td>3.1 lbs</td>
</tr>
<tr>
<td>SVA-S SS 25-40 mm</td>
<td>12</td>
<td>234</td>
<td>268</td>
<td>55</td>
<td>80</td>
<td>50</td>
<td>70</td>
<td>2.4 kg</td>
</tr>
<tr>
<td>SVA-S SS 1 - 1½&quot; in.</td>
<td>0.47</td>
<td>9.21</td>
<td>10.55</td>
<td>2.17</td>
<td>3.15</td>
<td>1.97</td>
<td>2.76</td>
<td>5.3 lbs</td>
</tr>
</tbody>
</table>

Specified weights are approximate values only.

**SVA/S/L SS 15 - 40 (½ - 1½ in.) straightway version with cap / hand wheel**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>K</th>
<th>Cmax.1</th>
<th>Cmax.2</th>
<th>Bmax.1</th>
<th>Bmax.2</th>
<th>E</th>
<th>G</th>
<th>ØD1</th>
<th>ØD2</th>
<th>H</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVA-S SS 15 - 20 mm</td>
<td>4</td>
<td>146</td>
<td>141</td>
<td>160</td>
<td>156</td>
<td>20</td>
<td>120</td>
<td>60</td>
<td>38</td>
<td>60</td>
<td>2.0 kg</td>
</tr>
<tr>
<td>SVA-S SS ½ - ¾&quot; in.</td>
<td>0.16</td>
<td>5.74</td>
<td>5.55</td>
<td>6.30</td>
<td>6.14</td>
<td>0.79</td>
<td>4.72</td>
<td>2.36</td>
<td>1.50</td>
<td>2.36</td>
<td>4.4 lbs</td>
</tr>
<tr>
<td>SVA-S SS 25 - 40 mm</td>
<td>12</td>
<td>199</td>
<td>208</td>
<td>212</td>
<td>222</td>
<td>26</td>
<td>155</td>
<td>80</td>
<td>50</td>
<td>70</td>
<td>3.0 kg</td>
</tr>
<tr>
<td>SVA-S SS (1 - 1½) in.</td>
<td>0.47</td>
<td>7.83</td>
<td>8.19</td>
<td>8.35</td>
<td>8.74</td>
<td>1.02</td>
<td>6.10</td>
<td>3.15</td>
<td>1.97</td>
<td>2.76</td>
<td>6.6 lbs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valve size</th>
<th>K</th>
<th>Cmax.1</th>
<th>Cmax.2</th>
<th>Bmax.1</th>
<th>Bmax.2</th>
<th>E</th>
<th>G</th>
<th>ØD1</th>
<th>ØD2</th>
<th>H</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVA-L SS 15 - 20 mm</td>
<td>63</td>
<td>188</td>
<td>184</td>
<td>202</td>
<td>198</td>
<td>20</td>
<td>120</td>
<td>60</td>
<td>38</td>
<td>60</td>
<td>2.0 kg</td>
</tr>
<tr>
<td>SVA-L SS ½ - ¾&quot; in.</td>
<td>2.48</td>
<td>7.40</td>
<td>7.24</td>
<td>7.95</td>
<td>7.80</td>
<td>0.79</td>
<td>4.72</td>
<td>2.36</td>
<td>1.50</td>
<td>2.36</td>
<td>4.4 lbs</td>
</tr>
<tr>
<td>SVA-L SS 25 - 40 mm</td>
<td>74</td>
<td>243</td>
<td>252</td>
<td>256</td>
<td>265</td>
<td>26</td>
<td>155</td>
<td>80</td>
<td>50</td>
<td>70</td>
<td>3.0 kg</td>
</tr>
<tr>
<td>SVA-L SS (1 - 1½) in.</td>
<td>2.91</td>
<td>9.57</td>
<td>9.92</td>
<td>10.08</td>
<td>10.43</td>
<td>1.02</td>
<td>6.10</td>
<td>3.15</td>
<td>1.97</td>
<td>2.76</td>
<td>6.6 lbs</td>
</tr>
</tbody>
</table>

Specified weights are approximate values only.
### Dimensions and weights

**SVA-S SS 50 - 65 (2 - 2½ in.) in angleway version with cap / hand wheel**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>K</th>
<th>C₁max.</th>
<th>C₂max.</th>
<th>G</th>
<th>D₁</th>
<th>D₂</th>
<th>H</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVA-S SS 50 mm</td>
<td>70</td>
<td>259</td>
<td>259</td>
<td>284</td>
<td>315</td>
<td>257</td>
<td>257</td>
<td>32</td>
</tr>
<tr>
<td>SVA-S SS (2) in.</td>
<td>2.76</td>
<td>10.2</td>
<td>10.2</td>
<td>10.1</td>
<td>10.1</td>
<td>1.26</td>
<td>1.26</td>
<td>5.3</td>
</tr>
<tr>
<td>SVA-S SS 65 mm</td>
<td>70</td>
<td>284</td>
<td>280</td>
<td>284</td>
<td>335</td>
<td>280</td>
<td>280</td>
<td>40</td>
</tr>
<tr>
<td>SVA-S SS (2½) in.</td>
<td>2.76</td>
<td>11.18</td>
<td>11.02</td>
<td>11.18</td>
<td>11.18</td>
<td>1.57</td>
<td>1.57</td>
<td>6.93</td>
</tr>
</tbody>
</table>

Specified weights are approximate values only.

**SVA-S SS 50 - 65 (2 - 2½ in.) in straightway version with cap / hand wheel**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>K</th>
<th>B₁max.1</th>
<th>B₂max.1</th>
<th>C₁max.1</th>
<th>C₂max.2</th>
<th>E</th>
<th>G</th>
<th>D₁</th>
<th>D₂</th>
<th>H</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVA-S SS 50 mm</td>
<td>70</td>
<td>259</td>
<td>10.2</td>
<td>10.1</td>
<td>257</td>
<td>1.26</td>
<td>1.26</td>
<td>5.3</td>
<td>148</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>SVA-S SS (2) in.</td>
<td>2.76</td>
<td>10.2</td>
<td>10.1</td>
<td>10.1</td>
<td>1.26</td>
<td>1.26</td>
<td>5.3</td>
<td>148</td>
<td>100</td>
<td>50</td>
<td>77</td>
</tr>
<tr>
<td>SVA-S SS 65 mm</td>
<td>70</td>
<td>284</td>
<td>11.18</td>
<td>11.18</td>
<td>280</td>
<td>1.57</td>
<td>1.57</td>
<td>6.93</td>
<td>176</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>SVA-S SS (2½) in.</td>
<td>2.76</td>
<td>11.18</td>
<td>11.18</td>
<td>11.18</td>
<td>1.57</td>
<td>1.57</td>
<td>6.93</td>
<td>176</td>
<td>100</td>
<td>50</td>
<td>90</td>
</tr>
</tbody>
</table>

Specified weights are approximate values only.
## Dimensions and weights

*SVA-S SS 80 - 125 (3 - 5 in.) angleway version with cap / hand wheel*

<table>
<thead>
<tr>
<th>Valve size</th>
<th>K</th>
<th>C_{max}</th>
<th>G</th>
<th>ØD₁</th>
<th>ØD₂</th>
<th>ØH</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVA-S SS 80 mm</td>
<td>76</td>
<td>388</td>
<td>90</td>
<td>200</td>
<td>129</td>
<td>9.7 kg</td>
<td></td>
</tr>
<tr>
<td>SVA-S SS (3) in.</td>
<td>3.00</td>
<td>15.28</td>
<td>3.54</td>
<td>7.87</td>
<td>5.08</td>
<td>21.4 lb</td>
<td></td>
</tr>
<tr>
<td>SVA-S SS 100 mm</td>
<td>90</td>
<td>437</td>
<td>106</td>
<td>250</td>
<td>156</td>
<td>15.3 kg</td>
<td></td>
</tr>
<tr>
<td>SVA-S SS (4) in.</td>
<td>3.54</td>
<td>17.20</td>
<td>4.17</td>
<td>9.84</td>
<td>6.14</td>
<td>33.7 lb</td>
<td></td>
</tr>
<tr>
<td>SVA-S SS 125 mm</td>
<td>90</td>
<td>533</td>
<td>128</td>
<td>315</td>
<td>193</td>
<td>28.1 kg</td>
<td></td>
</tr>
<tr>
<td>SVA-S SS (5) in.</td>
<td>3.54</td>
<td>20.98</td>
<td>5.04</td>
<td>12.40</td>
<td>7.60</td>
<td>61.9 lb</td>
<td></td>
</tr>
</tbody>
</table>

Specified weights are approximate values only.
## Data sheet | Shut-off valves in stainless steel, types SVA-S SS and SVA-L SS

**Ordering**

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range. For further information please contact your local Danfoss Sales Company.

### Type codes

| Valve type | SVA/L SS | Shut-off valve
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal size in mm</td>
<td>(valve size measured on the connection diameter)</td>
<td>Available connections</td>
</tr>
<tr>
<td>15</td>
<td>DN 15 (1½)</td>
<td>D x A</td>
</tr>
<tr>
<td>20</td>
<td>DN 20 (¾)</td>
<td>x x</td>
</tr>
<tr>
<td>25</td>
<td>DN 25 (1)</td>
<td>x x</td>
</tr>
<tr>
<td>32</td>
<td>DN 32 (1¼)</td>
<td>x x</td>
</tr>
<tr>
<td>40</td>
<td>DN 40 (1½)</td>
<td>x x</td>
</tr>
<tr>
<td>50</td>
<td>DN 50 (2)</td>
<td>x x</td>
</tr>
<tr>
<td>65</td>
<td>DN 65 (2½)</td>
<td>x x</td>
</tr>
<tr>
<td>80</td>
<td>DN 80 (3)</td>
<td>x x</td>
</tr>
<tr>
<td>100</td>
<td>DN 100 (4)</td>
<td>x x</td>
</tr>
<tr>
<td>125</td>
<td>DN 125 (5)</td>
<td>x</td>
</tr>
</tbody>
</table>

**Connections**

- D: Butt-weld connection: DIN EN 10220
- A: Butt-weld connection: ANSI B 36.19M

**Valve housing**

- ANG: Angle flow
- STR: Straight flow

**Other equipment**

- H-WHEEL: Hand wheel
- CAP: Cap

### Ordering SVA-S/L SS

**Example:**

SVA-S SS 20 DIN angleway with hand wheel = 148B5377

**Important!**

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

**Ordering SVA-S SS Angleway**

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
<th>Code number</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>1½</td>
<td>148B5289</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>148B5290</td>
</tr>
<tr>
<td>20</td>
<td>¾</td>
<td>148B5377</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>148B5378</td>
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<tr>
<td>25</td>
<td>1¼</td>
<td>148B5486</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>148B5487</td>
</tr>
<tr>
<td>32</td>
<td>1½</td>
<td>148B5566</td>
</tr>
<tr>
<td>32</td>
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<td>148B5567</td>
</tr>
<tr>
<td>40</td>
<td>1½</td>
<td>148B5646</td>
</tr>
<tr>
<td>40</td>
<td>1</td>
<td>148B5647</td>
</tr>
<tr>
<td>50</td>
<td>1½</td>
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<td>148B5754</td>
</tr>
<tr>
<td>65</td>
<td>1½</td>
<td>148B5847</td>
</tr>
<tr>
<td>65</td>
<td>1</td>
<td>148B5848</td>
</tr>
<tr>
<td>80</td>
<td>1½</td>
<td>148B5928</td>
</tr>
<tr>
<td>80</td>
<td>1</td>
<td>148B6032</td>
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<tr>
<td>100</td>
<td>1</td>
<td>148B6033</td>
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<td>1</td>
<td>148B6126</td>
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</table>

**Ordering SVA-S SS Straightway**

<table>
<thead>
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<th>Type</th>
<th>Code number</th>
</tr>
</thead>
<tbody>
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<td>1½</td>
<td>148B5291</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>148B5292</td>
</tr>
<tr>
<td>20</td>
<td>¾</td>
<td>148B5379</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>148B5380</td>
</tr>
<tr>
<td>25</td>
<td>1¼</td>
<td>148B5488</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>148B5489</td>
</tr>
<tr>
<td>32</td>
<td>1½</td>
<td>148B5568</td>
</tr>
<tr>
<td>32</td>
<td>1</td>
<td>148B5569</td>
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<tr>
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<td>1½</td>
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<td>148B5649</td>
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<tr>
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<td>1½</td>
<td>148B5755</td>
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<tr>
<td>50</td>
<td>1</td>
<td>148B5756</td>
</tr>
<tr>
<td>65</td>
<td>1½</td>
<td>148B5849</td>
</tr>
<tr>
<td>65</td>
<td>1</td>
<td>148B5850</td>
</tr>
<tr>
<td>80</td>
<td>1½</td>
<td>148B5929</td>
</tr>
<tr>
<td>80</td>
<td>1</td>
<td>148B6035</td>
</tr>
</tbody>
</table>

**Type codes**

- BUTT: Butt-weld ANSI (B 36.19M SCHEDULE 40)
- STR: Straightway
- ANG: Angleway
- CAP: Cap
- H-WHEEL: Hand wheel

**Important!**

- Butt-weld ANSI (B 36.19M SCHEDULE 10)
- Butt-weld ANSI (B 36.19M SCHEDULE 40)
- Butt-weld DIN (EN 10220)
- Butt-weld DIN (EN 10220)
<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Type</th>
<th>MWP</th>
<th>Code number</th>
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</thead>
<tbody>
<tr>
<td>15</td>
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<td>52</td>
<td>754</td>
</tr>
<tr>
<td>15</td>
<td>SVA-L SS 15 D ANG CAP</td>
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<td>754</td>
</tr>
<tr>
<td>20</td>
<td>SVA-L SS 20 D ANG H-WHEEL</td>
<td>52</td>
<td>754</td>
</tr>
<tr>
<td>20</td>
<td>SVA-L SS 20 D ANG CAP</td>
<td>52</td>
<td>754</td>
</tr>
<tr>
<td>25</td>
<td>SVA-L SS 25 D ANG H-WHEEL</td>
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<td>754</td>
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<tr>
<td>25</td>
<td>SVA-L SS 25 D ANG CAP</td>
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<td>754</td>
</tr>
<tr>
<td>32</td>
<td>SVA-L SS 32 D ANG H-WHEEL</td>
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<td>754</td>
</tr>
<tr>
<td>32</td>
<td>SVA-L SS 32 D ANG CAP</td>
<td>52</td>
<td>754</td>
</tr>
<tr>
<td>40</td>
<td>SVA-L SS 40 D ANG H-WHEEL</td>
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<td>754</td>
</tr>
<tr>
<td>40</td>
<td>SVA-L SS 40 D ANG CAP</td>
<td>52</td>
<td>754</td>
</tr>
</tbody>
</table>

**Ordering**

ANL = Angleway
STR = Straightway
CAP = Cap
H-WHEEL = Hand wheel

**Butt-weld DIN (EN 10220)**

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Type</th>
<th>MWP</th>
<th>Code number</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>SVA-L SS 15 D STR H-WHEEL</td>
<td>52</td>
<td>754</td>
</tr>
<tr>
<td>15</td>
<td>SVA-L SS 15 D STR CAP</td>
<td>52</td>
<td>754</td>
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