IFT57 SG Iron
Ball Float Steam Trap with
Integral Spiratec Sensor and Flanged Connections

Description
The IFT57 is an SG iron ball float steam trap having stainless steel working internals, an integral Spiratec sensor (SSI) for steam leakage detection and built-in automatic air venting facility for the prompt removal of large condensate loads from steam systems. The trap is supplied with integrally flanged connections and can be maintained without disturbing the pipework. Vertical flanged connections, designated IFT57V are available. Flow direction for the horizontal trap is from right to left only when facing the body. For vertically orientated traps the flow is downwards only. The body and cover are produced by TÜV approved foundries.

Available options: IFT57H - Horizontal flow, IFT57V - Vertical flow.

Sensors are compatible with Spiratec indicators, automatic monitors and test points:
R1 (single trap) remote set point,
R12 (12 trap) remote test point,
Type 30 hand held indicator,
R16C (16 trap) automatic steam trap monitor with PNP/NPN output where applicable.

Capsule - The BP99/32 capsule used in the air vent assembly is suitable for 150°C superheat @ 0 bar g and 50°C superheat @ 32 bar g.

Optional extras
The top of the cover can be drilled and tapped ¼" BSP or NPT for the purpose of fitting a balance line if requested at the point of order.
The bottom of the cover can be drilled and tapped ½" BSP or NPT for the purpose of fitting a drain cock if requested at the point of order.

Standards - This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC and carries the CE mark when so required.
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
DN15, DN20, DN25, DN40 and DN50.
Standard flanges are EN 1092 PN40 (formerly DIN 2501) with face-to-face dimensions in accordance with EN 26554 (series 1).
### Materials

<table>
<thead>
<tr>
<th>No.</th>
<th>Part</th>
<th>Material</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>SG iron</td>
<td>EN-GJS-400-18U-LT</td>
</tr>
<tr>
<td>2</td>
<td>Cover</td>
<td>SG iron</td>
<td>EN-GJS-400-18U-LT</td>
</tr>
<tr>
<td>3</td>
<td>Cover gasket</td>
<td>Reinforced exfoliated graphite</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Cover bolts</td>
<td>FT57H</td>
<td>Steel</td>
</tr>
<tr>
<td>5</td>
<td>Cover studs</td>
<td>FT57V</td>
<td>Steel</td>
</tr>
<tr>
<td>6</td>
<td>Valve seat</td>
<td>(DN15-25)</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>7</td>
<td>Valve</td>
<td>(DN15-25)</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>8</td>
<td>Valve seat</td>
<td>(DN40-50)</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>9</td>
<td>Valve</td>
<td>(DN40-50)</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>10</td>
<td>Main valve gasket</td>
<td>Exfoliated graphite</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Ball float</td>
<td>Stainless steel</td>
<td>X 5 CrNi 18 10 (1.4301)</td>
</tr>
<tr>
<td>12</td>
<td>Ball float</td>
<td>Stainless steel</td>
<td>X 5 CrNi 18 10 (1.4301)</td>
</tr>
<tr>
<td>24</td>
<td>Sensor gasket</td>
<td>Stainless steel</td>
<td>BS 1449 304 S16</td>
</tr>
<tr>
<td>25</td>
<td>Sensor</td>
<td>Stainless steel</td>
<td>BS 1449 304 S16</td>
</tr>
</tbody>
</table>

**Note:** All other internals are manufactured in stainless steel.
**Pressure/temperature limits**

The product must not be used in this region.

The product should not be used in this region due to the limitations of the sensor.

**Capsule** - The BP99/32 capsule used in the air vent assembly is suitable for 150°C superheat @ 0 bar g and 50°C superheat @ 32 bar g.

**Body design conditions**

<table>
<thead>
<tr>
<th></th>
<th>PN40</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PMA</strong></td>
<td>Maximum allowable pressure</td>
</tr>
<tr>
<td><strong>TMA</strong></td>
<td>Maximum allowable temperature</td>
</tr>
<tr>
<td><strong>PMO</strong></td>
<td>Maximum operating pressure for saturated steam service</td>
</tr>
<tr>
<td><strong>TMO</strong></td>
<td>Maximum operating temperature</td>
</tr>
<tr>
<td><strong>Minimum allowable temperature</strong></td>
<td>-10°C</td>
</tr>
<tr>
<td><strong>Maximum operating temperature</strong></td>
<td>350°C @ 28 bar g</td>
</tr>
<tr>
<td><strong>Maximum operating pressure</strong></td>
<td>40 bar g @ 120°C</td>
</tr>
<tr>
<td><strong>Maximum operating temperature</strong></td>
<td>32 bar g</td>
</tr>
<tr>
<td><strong>Maximum operating temperature</strong></td>
<td>240°C @ 32 bar g</td>
</tr>
</tbody>
</table>

**Note:** For lower operating temperatures consult Spirax Sarco.

<table>
<thead>
<tr>
<th>Size/Model</th>
<th>ΔPMX</th>
<th>Maximum differential pressures</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFT57H-4</td>
<td>4 bar</td>
<td>8 bar</td>
</tr>
<tr>
<td>IFT57V-4</td>
<td>-</td>
<td>10 bar</td>
</tr>
<tr>
<td>IFT57H-8</td>
<td>-</td>
<td>28 bar</td>
</tr>
<tr>
<td>IFT57V-8</td>
<td>-</td>
<td>32 bar</td>
</tr>
<tr>
<td>IFT57H-10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57V-10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57H-20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57V-20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57H-28</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57V-28</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57H-32</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IFT57V-32</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:** With internals fitted, test pressure must not exceed ΔPMX.

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

**IFT57H**

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN15</td>
<td>150</td>
<td>48</td>
<td>126</td>
<td>151</td>
<td>119</td>
<td>7.5</td>
</tr>
<tr>
<td>DN20</td>
<td>150</td>
<td>53</td>
<td>126</td>
<td>151</td>
<td>119</td>
<td>8.0</td>
</tr>
<tr>
<td>DN25</td>
<td>160</td>
<td>58</td>
<td>126</td>
<td>151</td>
<td>119</td>
<td>8.5</td>
</tr>
<tr>
<td>DN40</td>
<td>230</td>
<td>75.5</td>
<td>192</td>
<td>208</td>
<td>168</td>
<td>27.0</td>
</tr>
<tr>
<td>DN50</td>
<td>230</td>
<td>83</td>
<td>192</td>
<td>208</td>
<td>168</td>
<td>28.0</td>
</tr>
</tbody>
</table>

**IFT57H DN15 to DN50**

**IFT57V**

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN15</td>
<td>150</td>
<td>48</td>
<td>214</td>
<td>119</td>
<td>96</td>
<td>175</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>DN20</td>
<td>150</td>
<td>53</td>
<td>214</td>
<td>119</td>
<td>106</td>
<td>175</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>DN25</td>
<td>160</td>
<td>58</td>
<td>221</td>
<td>119</td>
<td>116</td>
<td>175</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>DN40</td>
<td>230</td>
<td>75.5</td>
<td>312</td>
<td>168</td>
<td>151</td>
<td>255</td>
<td>29.0</td>
<td></td>
</tr>
<tr>
<td>DN50</td>
<td>230</td>
<td>83</td>
<td>312</td>
<td>168</td>
<td>166</td>
<td>255</td>
<td>30.0</td>
<td></td>
</tr>
</tbody>
</table>

**IFT57V DN15 to DN50**
Additional cold water capacities from thermostatic air vent under start-up conditions
Under start-up conditions when the condensate is cold the internal thermostatic air vent will be open and provides additional capacity to the main valve. The Table below gives the minimum additional cold water capacities from the air vent.

<table>
<thead>
<tr>
<th>ΔP (bar)</th>
<th>0.5</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>4.5</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>16</th>
<th>20</th>
<th>28</th>
<th>32</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN40 and DN50</td>
<td>460</td>
<td>680</td>
<td>900</td>
<td>1080</td>
<td>-</td>
<td>1300</td>
<td>1700</td>
<td>1900</td>
<td>-</td>
<td>2250</td>
<td>2550</td>
<td>2900</td>
<td>-</td>
</tr>
</tbody>
</table>

Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-P603-03) supplied with the product.

Installation note:
The trap is designed for installation with the float arm in a horizontal plane so that it rises and falls vertically, ideally with a drop leg immediately preceding the trap. Suitable isolation valves must be installed to allow for safe maintenance/replacement. Where steam traps are fitted in exposed conditions, the possibility of freezing damage may be reduced by thermal insulation/drainage/isolation.

For DN15 – DN25 sizes: It is recommended that a strainer, with a screen having 0.8 mm perforations, is installed upstream of the unit to ensure adequate removal of dirt from the steam system.

For DN40 – DN50 sizes: It is recommended that a strainer, with a 40 mesh screen, is installed upstream of the unit to ensure adequate removal of dirt from the steam system.

Maintenance note: Maintenance can be completed with the trap in the pipeline, once the safety procedures have been observed. It is recommended that new gaskets and spares are used whenever maintenance is undertaken.

Caution: The cover gasket and main valve assembly gasket may contain a thin stainless steel support ring which may cause physical injury if it is not handled and disposed of carefully.

Disposal: No ecological hazard is anticipated with the disposal of this product provided due care is taken.

How to order
Example: 1 off Spirax Sarco DN40 IFT57H-16 ball float steam trap with SG iron body and cover having an integral sensor (SSI) to identify steam leakage. Flanged connections to EN 1092 PN40. Trap to be fitted with the optional balance and drain connections.
**Spare parts**

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

**Available spares**

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main valve assembly with float</td>
<td>DN15, DN20 and DN25</td>
</tr>
<tr>
<td>Main valve assembly with erosion deflector</td>
<td>DN40 and DN50</td>
</tr>
<tr>
<td>Ball float</td>
<td>DN40 and DN50 only</td>
</tr>
<tr>
<td>Air vent assembly</td>
<td></td>
</tr>
<tr>
<td>Complete set of gaskets (packet of 3)</td>
<td></td>
</tr>
<tr>
<td>Sensor and gasket</td>
<td></td>
</tr>
</tbody>
</table>

**How to order spares**

Always order spare parts by using the description given in the column headed 'Available spares' and state the size, Model No., orientation i.e. horizontal (H) or vertical (V) and pressure rating of the trap.

**Example:**

1 - Main valve assembly for a DN40 IFT54H-16 ball float steam trap. For operating pressures up to 16 bar.
### Recommended tightening torques

<table>
<thead>
<tr>
<th>Item No. and part</th>
<th>Item</th>
<th>Diameter</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>DN15, DN20 and DN25</td>
<td>IFT57H Bolt</td>
<td>10 A/F (socket)</td>
</tr>
<tr>
<td></td>
<td>IFT57V Stud</td>
<td></td>
<td>M12</td>
</tr>
<tr>
<td></td>
<td>Nut</td>
<td>19 A/F</td>
<td>M12</td>
</tr>
<tr>
<td>2</td>
<td>DN40 and DN50</td>
<td>IFT57H Bolt</td>
<td>24 A/F</td>
</tr>
<tr>
<td></td>
<td>IFT57V Stud</td>
<td></td>
<td>M16</td>
</tr>
<tr>
<td></td>
<td>Nut</td>
<td>24 A/F</td>
<td>M16</td>
</tr>
<tr>
<td>5</td>
<td>DN15, DN20 and DN25</td>
<td>Valve seat</td>
<td>17 A/F</td>
</tr>
<tr>
<td>7</td>
<td>DN15, DN20 and DN25</td>
<td>Pivot frame assembly screws</td>
<td>10 A/F</td>
</tr>
<tr>
<td>15</td>
<td>DN40 and DN50</td>
<td>Servo-mechanism screws</td>
<td>10 A/F</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Air vent assembly</td>
<td>17 A/F</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Sensor</td>
<td>24 A/F</td>
</tr>
</tbody>
</table>