SANT (Model No: SI-1099) Suction Guides are designed for bolting directly onto the suction flange of horizontal or vertical shaft centrifugal pumps. These are manufactured in a wide variety of required specifications, Temperature / Pressure Rating, Available in PN-10, PN-16, PN-21 Ratings & different types to meet specific requirement of Straining application in the Water Line, Oil Field etc.

FEATURES

SANT Suction Guides are designed to be a four-function fitting. Each Suction Guide is a 90° elbow, a Pipe Strainer and a Flow Stabilizer. It may also be used as a Reducing Elbow, should the suction piping be larger than the pump inlet.

Four-function pump fitting :

- 90° Elbow
SANT Suction Guide can be mounted on any pump suction turns the piping 90°, replacing an elbow. In addition, these Suction Guides can be rotated to any position allowed by the pump suction bolts, from vertical to horizontal.

- In-Line Strainer
The stainless steel strainer has free area of at least 250% of pipe sectional area. A disposable fine mesh Stainless Steel Strainer is also installed for start-up cleaning.

- Reducing Elbow
The Suction Guide connects same size piping to the pump suction, but can also connect to inlet piping one size larger than the pump suction, eliminating a reducing elbow.

- Guide Vanes
Flow stabilizing vanes on the outlet allow the Suction Guide to bolt directly to the pump, saving the space and cost of a long straight pipe length.

CONSTRUCTION FEATURES

Suction Guide Body :

Body available in Mild Steel or Cast iron, with Table E or BS-4504 Flange End Connections. Same size ports are available with oversized inlet flange to eliminate reducer.
Guide Vanes:
Stabilizing vanes reduce turbulence, thereby creating optimum flow conditions and minimizing stress on pump components.

Strainer:
3mm Perforated x 24 gauge stainless steel sheet, star-shaped for added strength, designed to provide large free flow area to reduce pressure drop.

Start-up Strainer:
Removable Fine Mesh Stainless Steel Strainer, furnished as a standard item, helps prevent mechanical seal or instrument damage during initial run period. Optional magnet to help eliminate free floating metallic particles from system.

Note: Available Sizes: From 50mm upto 800mm

### DIMENTIONAL DETAILS

<table>
<thead>
<tr>
<th>NOMINAL SIZES</th>
<th>Dimensions In MM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In-Let</td>
</tr>
<tr>
<td>65 - 50</td>
<td>125</td>
</tr>
<tr>
<td>65 - 65</td>
<td>132</td>
</tr>
<tr>
<td>80 - 65</td>
<td>132</td>
</tr>
<tr>
<td>80 - 80</td>
<td>145</td>
</tr>
<tr>
<td>100 - 80</td>
<td>145</td>
</tr>
<tr>
<td>100 - 100</td>
<td>160</td>
</tr>
<tr>
<td>125 - 100</td>
<td>165</td>
</tr>
<tr>
<td>125 - 125</td>
<td>180</td>
</tr>
<tr>
<td>150 - 125</td>
<td>180</td>
</tr>
<tr>
<td>150 - 150</td>
<td>205</td>
</tr>
<tr>
<td>200 - 150</td>
<td>205</td>
</tr>
<tr>
<td>200 - 200</td>
<td>235</td>
</tr>
<tr>
<td>250 - 200</td>
<td>240</td>
</tr>
<tr>
<td>250 - 250</td>
<td>270</td>
</tr>
<tr>
<td>300 - 250</td>
<td>270</td>
</tr>
<tr>
<td>300 - 300</td>
<td>300</td>
</tr>
</tbody>
</table>

Fig. 1: Suction Guide Diagram.
OPERATION, INSTALLATION & INSPECTION

Operation

No special attention need be paid to the Suction Guide at start-up. The fitting is stationary and will strain the pumped fluid and stabilize the flow into the pump automatically.

Temporary strainer must be removed following system clean up.

After all debris has been removed from the system, or a maximum of 24 running hours, stop the pump and close the pump isolation valves. Drain the Suction Guide by removing the drain plug or opening the blowdown valve, if installed. Remove the Suction Guide cover and remove the strainer assembly from the valve body.

A temporary fine-mesh start-up strainer is tack-welded to the permanent stainless steel strainer. This temporary strainer should now be removed from the permanent strainer. The fine-mesh strainer is designed to remove small particulate from new piping systems and could easily clog with debris if left in place. This will be detrimental to the operation of the pump.

Installation

Install the Suction Guide with the directional arrow, indicated on the body, being aligned with the system flow direction.

SANT Suction Guides may be installed in any position, providing the guide vanes are facing the pump inlet flange.

Centrifugal pumps need a minimum of 5 pipe diameters of straight pipe before the pump suction. This length of straight pipe, after the last elbow, tee or fitting, helps to ensure that the flow is stable when entering the pump suction.

Fig. 2 : Sant Suction Guide Diagram.

Fig. 3 : Sant Suction Guides may be uninstalled in any arrangement feasible by pump flange bolt holes arrangement.
Crosspiece guide vanes are fitted into the Suction Guide outlet, where it bolts to the pump flange, to stabilize the flow and eliminate the need of long straight suction pipe.

Space must be allowed to remove the end cover and remove the strainer.

The Suction Guide should not be used to support the suction piping. Piping must be supported independently.

On base mounted pumps, the flexible piping connection may allow the Suction Guide to be supported the pump suction flange. A boss is cast on every Suction Guide allowing a supporting pipe-stool to be located under the fitting, thereby removing the weight of the Suction Guide from the pump suction flange.

Suction Guides are supplied with an inlet tapped gauge connection. Monitoring the differential pressure across the fitting, from the suction guide inlet gauge to the pump inlet gauge, will alert the operator should the strainer need to be removed and cleaned.

**Inspection**

SANT Suction Guides are thoroughly tested and inspected before shipment to assure they meet with your order requirements. All units must be carefully examined upon arrival for possible damage during transit. Any evidence of mishandling should be reported immediately to the carrier and noted on the freight bill.

**Typical Specification - Pump Trim**


For 16 bar flanged pipe - Supply valve with Mild Steel / Cast Iron body with PN16 flanged ports.

The mechanical contractor shall inspect the strainer prior to activating the pump and, further, shall remove the Fine Mesh Start-up Strainer after a short running period (24 hours maximum). Space shall be provided for removal of the Strainer and connection of a blow-down valve.

**Components eliminated using Suction Guide for base mounted suction pump installations and Vertical In-Line Installations.**

1. “Y” Strainer.
2. Suction long radius elbow.
3. Discharge long radius elbow.
4. Discharge check valve.
5. Discharge globe valve.