



# SUCTION GUIDE

Series : SI - 1099

**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.



PIC-SG-1

### 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.



PIC-SG-2

**Note : Available Sizes : From 50mm upto 800mm**

**DIMENTIONAL DETAILS**

- 1 Suction Guide Body & Bonnet : Cast Iron / Mild Steel.
- 2 Filter Screen ( Strainer ) : Star Shaped Stainless Steel Screen Of 3mm Perforation X 24G.
- 3 Start Up Filter : Fine Mesh Stainless Steel Strainer.
- 4 Body / Bonnet Gasket : C.A.F.
- 5 Guide Vanes : Cast Iron / Mild Steel.

Dimensional Error : ± 3mm

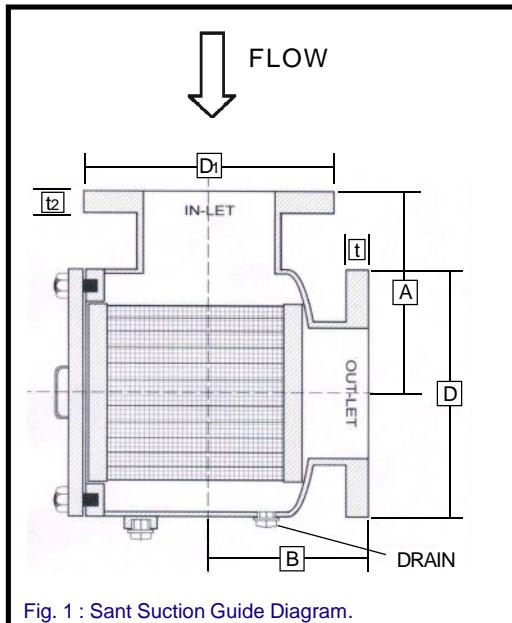


Fig. 1 : Sant Suction Guide Diagram.

NOMINAL SIZES		Dimensions In MM					
In-Let	Out-Let	A	B	D	D <sub>1</sub>	t <sub>2</sub>	t
65	50	125	119	165	185	11	10
65	65	132	119	185	185	11	11
80	65	132	127	185	200	12	11
80	80	145	127	200	200	12	12
100	80	145	145	200	220	12	12
100	100	160	150	220	220	12	12
125	100	165	160	220	250	14	12
125	125	180	160	250	250	14	14
150	125	180	178	250	285	16	14
150	150	205	180	285	285	16	16
200	150	205	203	285	340	18	16
200	200	235	205	340	340	18	18
250	200	240	235	340	400	20	18
250	250	270	238	400	400	20	20
300	250	270	260	400	450	22	20
300	300	300	265	450	450	22	22



## 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.

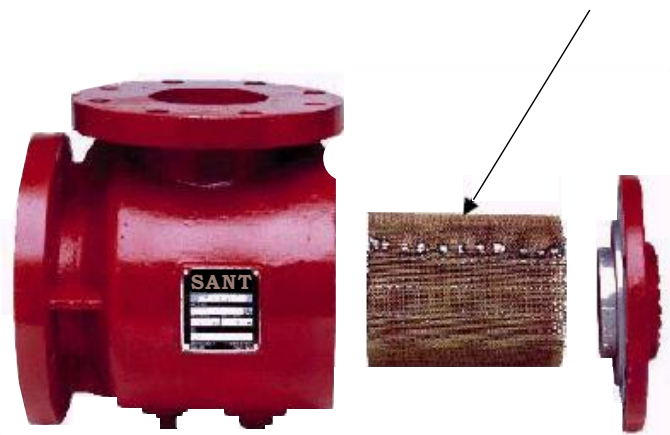
### Installation

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.

Remove Fine Mesh Strainer following Run-in



PIC-SG-3

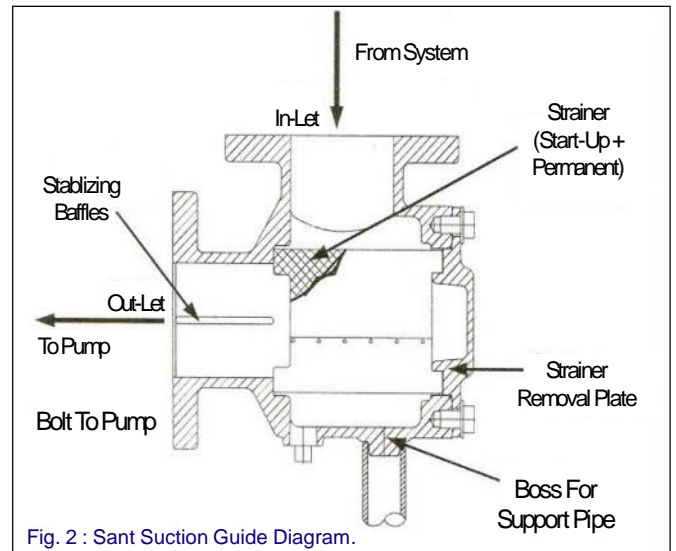


Fig. 2 : Sant Suction Guide Diagram.

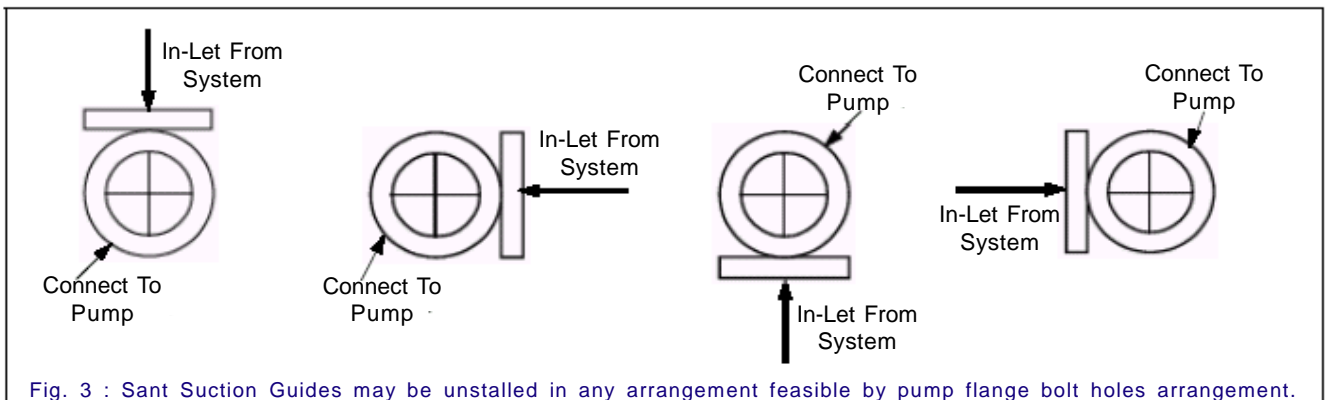


Fig. 3 : Sant Suction Guides may be uninstalled in any arrangement feasible by pump flange bolt holes arrangement.

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

Furnish and install on the suction of each pump an Suction Guide, with Outlet Flow Stabilizing Guide Vanes, removable. Stainless Steel Strainer and Fine Mesh Start-up Strainer.

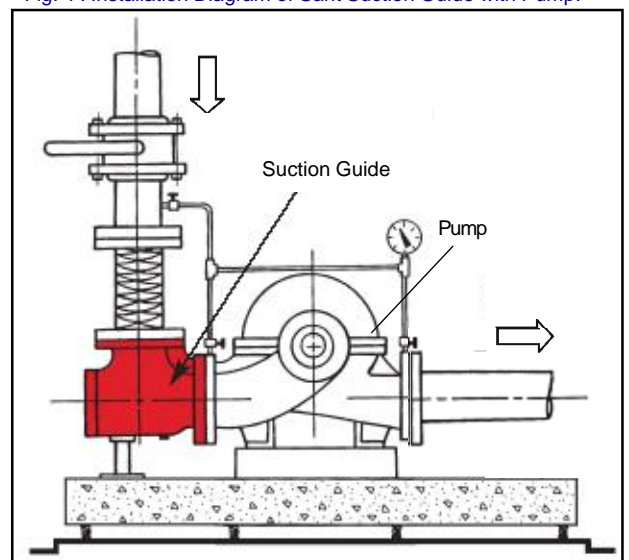
For 16 bar flanged pipe - Supply valve with Mild Steel / Cast Iron body with PN16 flanged ports..

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.
6. Suction spool piece.

Fig. 4 : Installation Diagram of Sant Suction Guide with Pump.



**SANT INDUSTRIAL CONTROLS PVT. LIMITED.**

Engineers, Manufacturers & Traders.

**MANUFACTURERS OF INDUSTRIAL VALVES, STRAINERS & BOILERS.**

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