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# Suction Guides

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## Installation and operating instructions

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**LIMITS OF USE**

These suction guides are categorized as SEP for Group 2 liquids (i.e. non-hazardous), in accordance with the Pressure Equipment Directive. These suction guides are **Not** suitable for Group 1 fluids, or for use in equipment designed for category I to IV compliance in the PED.

**1.0 INTRODUCTION**

Armstrong Suction Guides are designed for bolting directly onto the suction flange of horizontal or vertical shaft centrifugal pumps.

**2.0 OPERATING LIMITS**

Armstrong Suction Guides are designed in five series:

SERIES DESIGNATION	INLET CONNECTION	PUMP CONNECTION
SG	ANSI 125 / PN16 flange	ANSI 125 / PN16 flange
SG-TF	NPTF / BSPT	ANSI 125 / PN16 flange
SGG	GROOVED*	ANSI 125 / PN16 flange
SGHH	ANSI 250 / PN25 flange	ANSI 250 / PN25 flange
SGH-TF	NPTF / BSPT	ANSI 250 / PN25 flange

\*Suitable for straight cut grooved anvil or victaulic fittings.

Each series is 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.

**3.0 INSPECTION**

Armstrong 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.

**4.0 INSTALLATION**

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

Armstrong 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.

Crosspiece guide vanes are fitted into the Armstrong 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.

A blow-down valve may be installed on the Suction Guide drain connection. Should the Suction Guide be installed with the inlet port facing vertically down: The inlet piping configuration should include a blow-down valve at the lowest point on the down-pipe to exhaust any debris that may fall from the Suction Guide strainer.

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

On base mounted pumps, a flexible piping connections may allow the Suction Guide to be supported by the pump suction flange. A boss is cast on every SG 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.

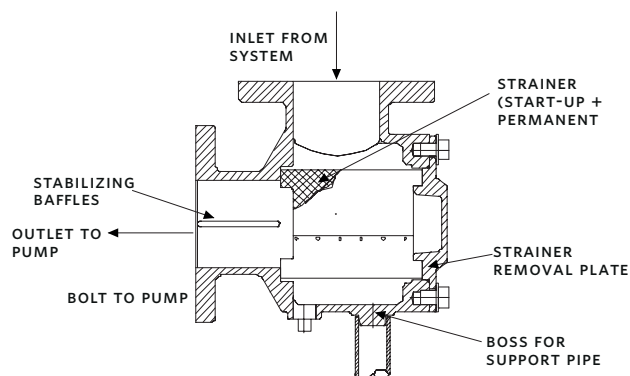
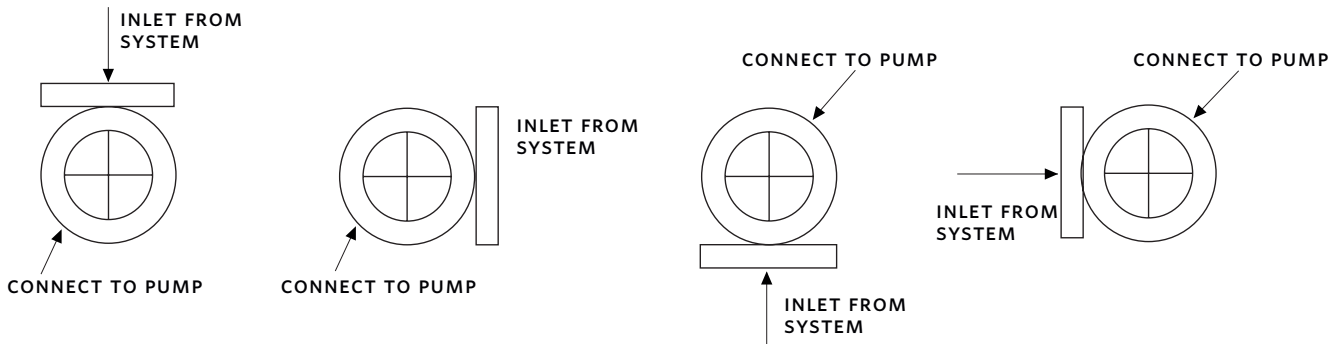


FIG. 1 Armstrong Suction Guide



**FIG. 2** Armstrong Suction Guide may be installed in any arrangement feasible by pump flange boltholes arrangement.

**5.0 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.

Replace the permanent strainer into the fitting body, once the temporary strainer is removed.

Inspect the cover O-ring and replace if necessary. Replace the cover into the body. Ensuring that the strainer is properly seated, tighten the cover bolts diagonally, evenly and firmly.



**FIG. 3** Remove fine-mesh strainer

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