



Suction Diffuser BAA/ARRA/PSA

302-062

Installation, Operation & Maintenance Manual

SUPERSEDES: December 1, 2010

EFFECTIVE: May 1, 2011

Plant ID No. 001-3994

Series PSD, PSDG

Receiving, Handling and Inspection

1. Unpack and inspect the suction diffuser for damage which may have occurred during shipping. Any damage should be reported to the carrier immediately.
2. Remove the suction diffuser flange covers and inspect for any foreign matter that could be washed downstream when the suction diffuser is put into service.
3. Carefully check the pressure and temperature ratings on the suction diffuser body or nameplate to be sure that they are correct for the intended application. Store the suction diffuser in a dry, clean area until it is installed.

Recommended Mounting Position

The upstream side of the suction diffuser may be placed vertically or horizontally. Positioning bosses for a pipe support are located on 3 sides of the suction diffuser body. See table for pipe support inside diameters to fit each size of suction diffuser.

Installation

1. Two dimensions are used to designate the size of suction diffusers. The first is the inlet size. The second is the outlet size. Example: 3" x 2" suction diffuser has a 3" inlet and a 2" outlet flange.
2. Place the suction diffuser so that the head of the flow arrow points to the suction flange (inlet) of the pump.
Full-face gaskets must be used on flat flanges. Pump and suction diffuser flanges should be aligned before final connections are made. Do not draw piping into place by force. Flange bolts should be only finger tight.
3. Suction and discharge piping should be properly supported so that the weight of piping does not rest on pump. To support the suction diffuser, cut a piece of pipe with the correct inside diameter (see table) to the approximate length from the boss to the adjustable foot. Take this measure with the foot adjusted to its shortest position. Place the pipe over the boss and on the foot. Adjust the nut upward until the weight of the suction diffuser is properly supported.
4. Tighten all flange bolts in sequence crossing to opposites. Slowly bring system to working pressure and check for leaks. If pressure gauges are installed, be sure that threaded fittings are properly sealed. If leaks occur, check for piping and flange misalignment. If there is no misalignment, retighten flange bolting.

Start Up Service

After 30 days of operation, the temporary mesh sleeve around the perforated screen should be removed.

Cleaning & Servicing

We recommend that pressure gauges be installed on the suction diffuser inlet and outlet or the suction diffuser inlet and suction side of the pump to indicate when cleaning is required. Record the pressure drop when the suction diffuser is clean. When the indicated pressure drop doubles, the suction diffuser should be cleaned.

1. Shut down the pump and close the upstream and downstream isolation valves.
2. Remove the NPT plug on the body of the suction diffuser and allow to drain.
3. Loosen knobs (or nuts) and remove cover. Do not use sharp objects to pry cover from body or the O-ring seal may be damaged.
4. Remove and clean perforated screen. The temporary mesh sleeve should be removed and thrown away after the 30 day start-up period. Inspect the perforated screen for damage and replace if necessary.
5. Before reassembling the suction diffuser, inspect the O-ring seal for cuts or other damage and replace if necessary.
6. When reassembling, be sure that the O-ring is seated against the cover and that the screen is seated snugly in the recess of the cover. Reinstall cover and tighten cover knobs (or nuts) in sequence crossing to opposites.
7. Open upstream isolation valve slowly to bring the system back up to working pressure. If there are no leaks, open the downstream isolation valve and restart the system. If leakage occurs, the cover should be checked for proper seating. Retighten knobs (or nuts).

Note: For a "quick clean", a blow down valve may be substituted for the NPT plug. Opening this valve with the system running will flush out most of the accumulated sediment from the suction diffuser. We do not recommend this procedure for the first service after start-up. This procedure should be used only if it is not possible to carry out scheduled maintenance on the suction diffuser described in steps 1-7.

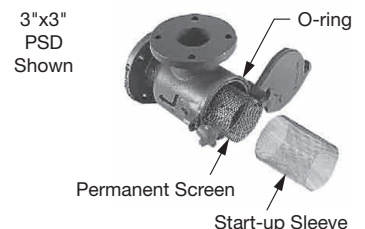
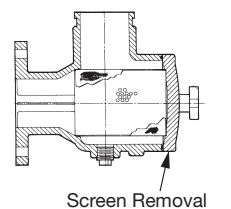
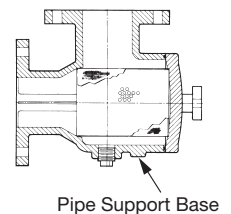
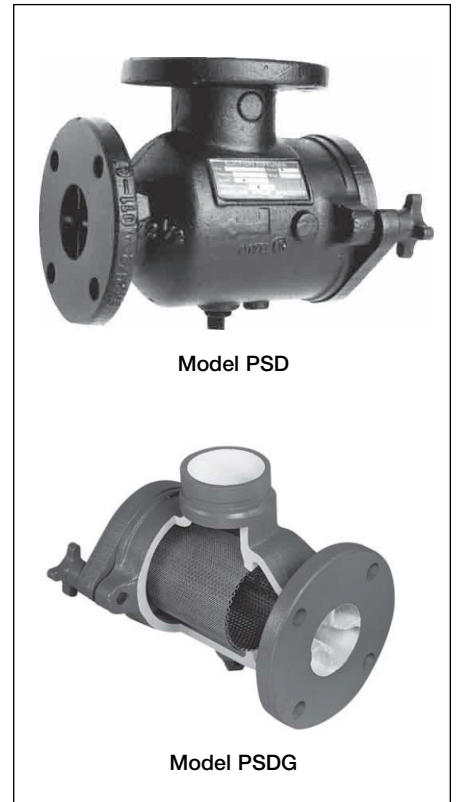
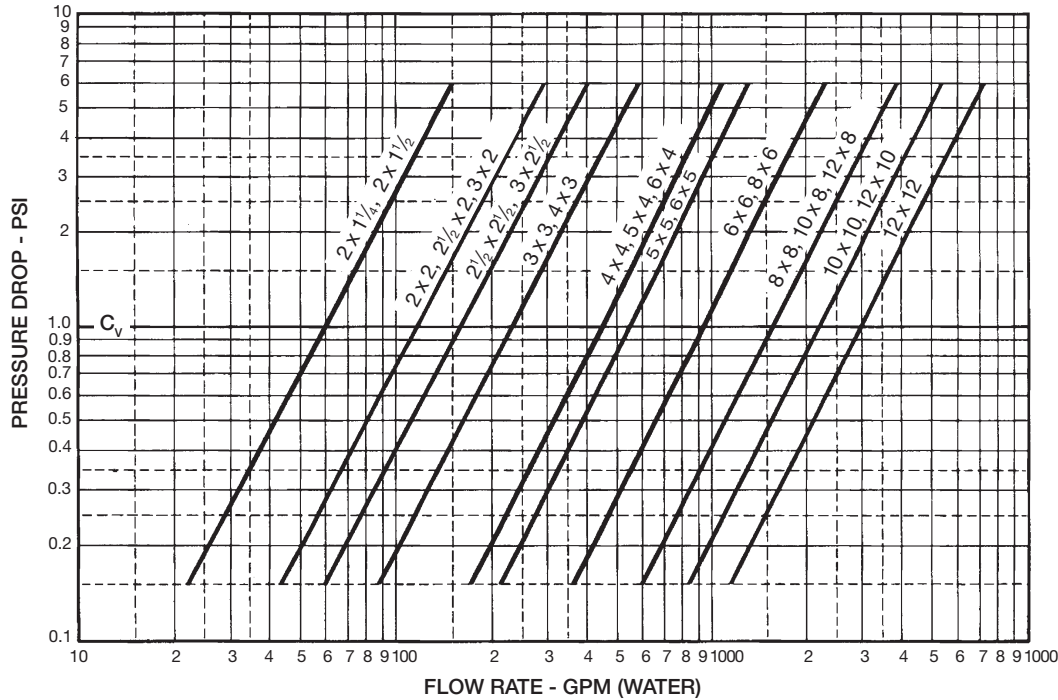


Table of Screen Removal Allowances & Pipe Support Inside Diameters

SIZE (Inlet x Outlet)	2" x 1 1/4" 2" x 1 1/2" 2" x 2"	2 1/2" x 2" 2 1/2" x 2 1/2"	3" x 2" 3" x 2 1/2" 3" x 3"	4" x 3" 4" x 4"	5" x 4" 5" x 5"	6" x 4" 6" x 5" 6" x 6"	8" x 6"	8" x 8"	10" x 8"	10" x 10"	12" x 8"	12" x 10"	12" x 12"
Screen Removal	8 ¹³ / ₁₆	9 ¹ / ₈	9 ⁵ / ₈	11 ¹ / ₂	14 ⁷ / ₈	16 ⁹ / ₁₆	16 ⁷ / ₈	22 ⁷ / ₈	22 ⁷ / ₈	30 ¹ / ₄	22 ⁷ / ₈	33	28 ³ / ₄
Pipe Support ID													
PSD - Class 125	0.824	1.049	1.049	1.380	1.380	1.380	1.380	1.380	1.380	2.067	1.380	2.067	2.067
PSD - Class 300	0.824	1.380	1.380	1.380	-	1.380	1.380	1.380	1.380	2.067	-	2.067	-
PSDG	0.824	1.380	1.380	1.380	-	1.380	1.380	1.380	1.380	1.380	-	1.380	-

Consult factory for other sizes and dimensions.

PRESSURE DROP CHART - SUCTION DIFFUSER



CALIFORNIA PROPOSITION 65 WARNING

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning to be given to customers in the State of California.)

LIMITED WARRANTY STATEMENT

Taco, Inc. will repair or replace without charge (at the company's option) any product or part which is proven defective under normal use within one (1) year from the date of start-up or one (1) year and six (6) months from date of shipment (whichever occurs first).

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the local Taco stocking distributor or Taco in writing and promptly deliver the subject product or part, delivery prepaid, to the stocking distributor. For assistance on warranty returns, the purchaser may either contact the local Taco stocking distributor or Taco. If the subject product or part contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Any Taco product or part not installed or operated in conformity with Taco instructions or which

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Do it Once. Do it Right.®

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