SUCTION DIFFUSER
REAR STRAINER PULLOUT (RSP) WITH INTEGRAL CAST STRAIGHTENING VANES

Instruction Sheet

LOCATION & INSTALLATION:

1. Locate and install pump per pump manufacturer's instructions.
NOTE: When selecting pump location, ensure there issufficient space available to remove the Suction Diffuser straightening vane assembly and strainer for routine maintenance. Clearance requirements are shown as dimension "C" in Table 1.
2. Mount suction diffuser directly to pump suction flange. Pump and suction diffuser flanges should be aligned before connections are made. Piping should NEVER be drawn into place by force. Inlet connection is labeled with the word "SYSTEM" on the flange and outlet flange is labeled "PUMP".
3. Both suction and discharge piping should be suspended or supported close to the pump so that no pipe weight rests on pump. To support the Suction Diffuser, cut a piece of 1¼" pipe without threads to the approximate length required from one of the bosses provided on the pump connection to the adjustable foot nut. See Figure 1: Piping Diagram.
4. Place pipe on nut and under the boss and turn the nut counter-clockwise until sufficient load is supplied to give maximum support.

MOUNTING:

1. Suction Diffusers can be mounted in a vertical or horizontal position. Bosses are cast into the Suction Diffuser body to accommodate pipe supports for each position.



2. If used in a horizontal position, the pump should be positioned at right angles to the piping.
3. A blow down valve may be installed on the drain connection of the Suction Diffuser. NOTE: Blow down is MOST effective when system connection of the Suction Diffuser is in the 12 o'clock position.
4. When insulating the Suction Diffuser, allowances need to be made for removal and cleaning of the strainer.

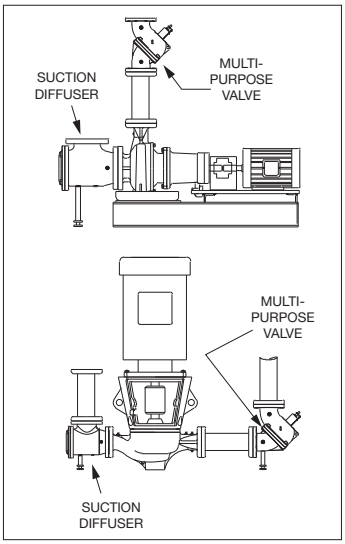
VALVE TABLE 1: STRAINER CLEARANCE DIMENSION

Model No.	System	Pump	C
SD020015-5	2 Flanged	1½ Flanged	8.49 (216)
SD020020-5	2 Flanged	2 Flanged	8.24 (209)
SD025020-5	2½ Flanged	2 Flanged	
SD030020-5	3 Flanged	2½ Flanged	
SD025025-5	2½ Flanged	2½ Flanged	8.97 (228)
SD030025-5	3 Flanged	2½ Flanged	
SD040025-5	4 Flanged	2½ Flanged	
SD030030-5	3 Flanged	3 Flanged	10.47 (266)
SD040030-5	4 Flanged	3 Flanged	
SD050030-5	5 Flanged	3 Flanged	
SD040040-5	4 Flanged	4 Flanged	12.86 (327)
SD050040-5	5 Flanged	4 Flanged	
SD060040-5	6 Flanged	4 Flanged	
SD050050-5	5 Flanged	5 Flanged	15.36 (390)
SD060050-5	6 Flanged	5 Flanged	
SD080050-5	8 Flanged	5 Flanged	

Model No.	System	Pump	C
SD060060-6	6 Flanged	6 Flanged	19.02 (483)
SD080060-5	8 Flanged	6 Flanged	
SD100060-5	10 Flanged	6 Flanged	
SD080080-5	8 Flanged	8 Flanged	23.79 (604)
SD100080-5	10 Flanged	8 Flanged	
SD120080-5	12 Flanged	8 Flanged	
SD100100-5	10 Flanged	10 Flanged	29.40 (7.47)
SD120100-5	12 Flanged	10 Flanged	
SD140100-5	14 Flanged	10 Flanged	
SD120120-5	12 Flanged	12 Flanged	33.72 (856)
SD140120-5	14 Flanged	12 Flanged	
SD160120-5	16 Flanged	12 Flanged	
SD140140-5	14 Flanged	14 Flanged	34.00 (864)
SD160140-5	16 Flanged	14 Flanged	

DIMENSION NOTE: Dimensions are in inches. Metric dimensions are in millimeters and are in parentheses ( ).

FIGURE 1: PIPING DIAGRAM



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START-UP STRAINER REMOVAL:

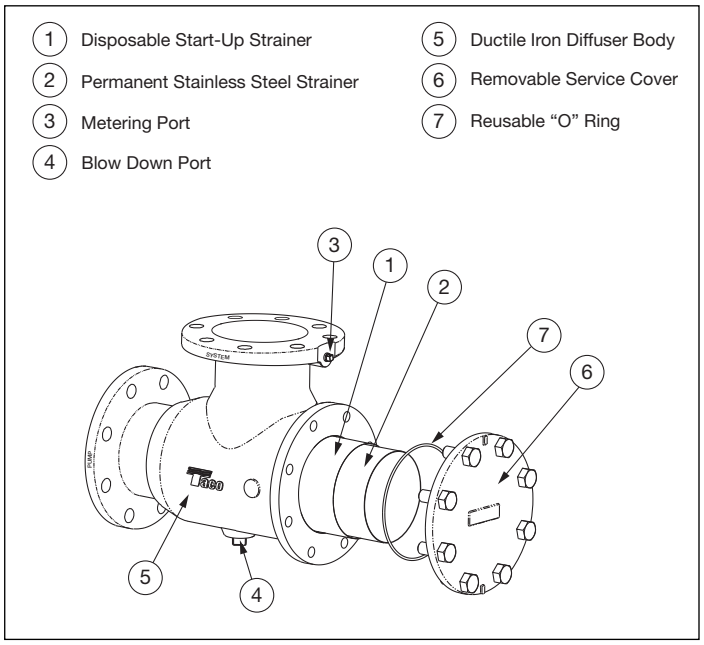
The fine mesh start up strainer should be removed after initial system fluid circulation and proper system cleaning.

1. Shut the pump off and close the service valves to isolate the Suction Diffuser and pump from the system. Allow enough time for the system fluid to cool below 100° F (38° C).
2. Once isolated remove drain plug on bottom of Suction Diffuser and allow system pressure to drop to zero (if installed this may be accomplished by opening the blow down valve).
3. Loosen the cover bolts on the rear of the Suction Diffuser and carefully break it loose from the Suction Diffuser body. Once all drainage has stopped completely remove the bolts and cover from the Suction Diffuser body.
4. Remove the strainers from the Suction Diffuser body.
5. Remove the fine mesh start up strainer (if still in place) and discard appropriately.
6. Inspect all components for any damage and replace any damaged components as necessary.
7. Inspect cover "O" ring and replace as necessary.
8. Reinstall the permanent strainer into Suction Diffuser body. Making sure that the permanent strainer is properly seated inside of Suction Diffuser body, reattach the cover and secure in place by tightening the bolts in criss-cross pattern.
9. Open isolation valves slowly while inspecting the "O" ring sealing area for leaks.
10. Return system to normal operating conditions.

CLEANING:

1. It is recommended that valved gauge connections be provided on diffuser inlet and pump suction connections to indicate when cleaning is needed.
2. Note pressure drop when strainer is clean. When the pressure drop increases 100%, remove the strainer and clean.

NOTE: Follow the same procedures in the START-UP STRAINER REMOVAL section when performing routine maintenance and cleaning of the permanent strainer.



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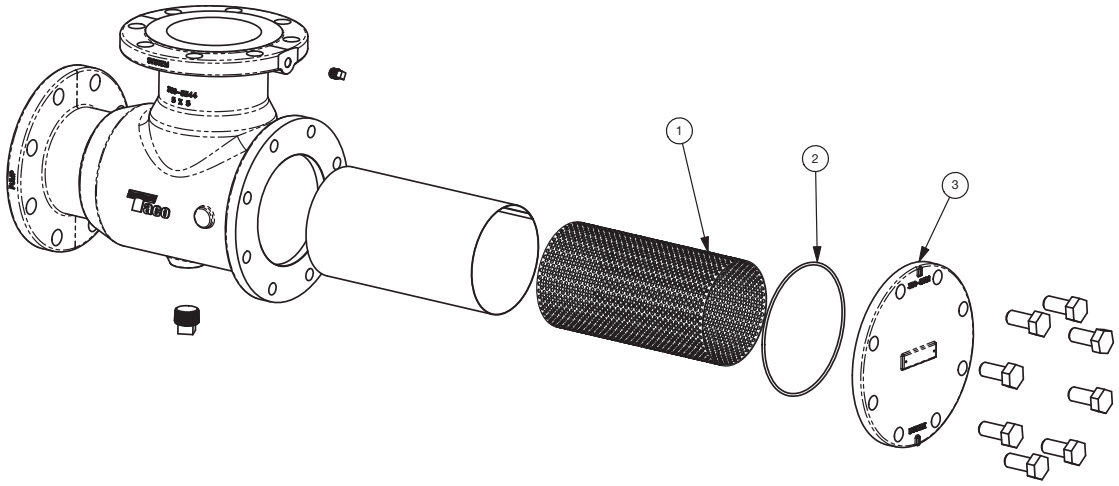
Replacement Parts List

304-414.1

Suction Diffuser Rear Strainer Pullout (RSP) with Integral Cast Straightening Vanes

SUPERSEDES: January 1, 2010

EFFECTIVE: August 7, 2013



MODEL PART NO.	SIZE (inches)	STRAINER & "O" RING KIT (Item No. 1 & 2)	COVER KIT (Item No. 3)	"O" RING (Item No. 2)
SD020015-5	2 x 1½	386-2407-5RP	386-2110RP	759-489RP
SD020020-5	2 x 2			
SD025020-5	2½ x 2			
SD030020-5	3 x 2			
SD025025-5	2½ x 2½	386-2409-5RP	386-2114RP	759-088RP
SD030025-5	3 x 2½			
SD040025-5	4 x 2½			
SD030030-5	3 x 3	386-2411-5RP	386-2117RP	759-090RP
SD040030-5	4 x 3			
SD050030-5	5 x 3			
SD040040-5	4 x 4	386-2414-5RP	386-2119RP	759-094RP
SD050040-5	5 x 4			
SD060040-5	6 x 4			
SD050050-5	5 x 5	386-2416-5RP	386-2121RP	759-475RP
SD060050-5	6 x 5			
SD080050-5	8 x 5			
SD060060-5	6 x 6	386-2418-5RP	386-2124RP	759-498RP
SD080060-5	8 x 6			
SD100060-5	10 x 6			
SD080080-5	8 x 8	386-2422-5RP	386-2126RP	759-503RP
SD100080-5	10 x 8			
SD120080-5	12 x 8			
SD100100-5	10 x 10	386-2425-5RP	386-2129RP	759-504RP
SD120100-5	12 x 10			
SD140100-5	14 x 10			
SD120120-5	12 x 12	386-2428-5RP	386-2132RP	759-600RP
SD140120-5	14 x 12			
SD160120-5	16 x 12			
SD140140-5	14 x 14	386-2433-5RP	386-2442RP	759-505RP
SD160140-5	16 x 14			

MODEL PART NO.	SIZE	SUPPORT FOOT
All Models	All Sizes	350-016RP

MAGNETIC PLUG KIT	
MODEL SIZE	KIT NO.
up to 3 x 2½	386-2402RP
3 x 3 and up	386-2401RP

PRESSURE TAP KIT	
MODEL PART NO.	KIT NO.
All Models	759-252RP

Kit parts apply to 125# and 250# Flanged and Grooved Suction Diffuser.

Start Up Strainer: 16 mesh bronze insect screen

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