

The RSS recycle systems for Dissolved Air Flotation systems are designed to retrofit existing systems where increased flotation performance is desired.

Pan America Environmental RSS systems are an extremely versatile design allowing high loads of a very wide variety of contaminants to be removed from your DAF wastestream. DAF is considered to be the best, most cost-effective device for separating large volumes and high flow rates of FOG and solids.

The DAF process consists of super saturation of effluent discharge water with air. The saturated water stream is then redirected and mixed with the wastestream prior to entering the inlet.

As pressure is removed from the saturated stream millions of microscopic bubbles form and attach themselves to the contaminants in the wastestream, thereby changing their buoyancy and floating them to the water surface where they can be skimmed from the water.

Our unique, compact, small footprint RSS design is offered for flow rates of 3-2000 GPM and multiples can be combined for higher flows.

Our RSS systems utilize higher pressure and lower air volume transfer into the recycle stream raising the mass transfer efficiency.

Standard Features:

- ◆ A36 or 304 or 316 SS construction
- ◆ Adjustable air preparation
- ◆ Auto Q automatic equalization system
- ◆ Automatic discharge stop
- ◆ Schedule 80 PVC piping
- ◆ 304/316 SS recycle pump
- ◆ High pressure saturation
- ◆ Air preparation/control assembly
- ◆ High pressure emergency vent
- ◆ Lifting lugs
- ◆ Independent NEMA 4 controls

Typical applications:

- ◆ Frac water remediation
- ◆ Tank truck tank wash
- ◆ Refinery wastestream
- ◆ Biodiesel process water
- ◆ Drinking water pretreatment
- ◆ Pet food plant process water
- ◆ Beef, fish, fowl, pork processing
- ◆ Rendering plant wastewater
- ◆ Food processing plant water
- ◆ Algae removal
- ◆ Industrial process water
- ◆ Bilge water treatment
- ◆ Bakery wastewater
- ◆ Steel mills



DAF Recycle Systems Models RSS & RSP

Recycle Saturation Systems

The DAF systems are offered with two types of recycle saturation systems.

1. **RSP** recycle DAF pump style, no saturation vessel is required.
2. **RSS** uses a saturation vessel with recycle pump to super saturate the recycle flow.

The RSS recycle system can be used for all flow rates from 3 GPM to 2000 GPM or as large a system as is needed. Multiple systems can be provided where required. The RSS systems are ideally suited to new concrete DAFs or retrofitting existing DAFs and API separators.

The RSS System Features:

- **Recycle Pump:** High head cast iron or stainless steel centrifugal 100 psi pump mounted to the DAF or saturation vessel skid to provide air saturated water under pressure to the recycle system. Motor: TEFC
- **Saturation vessel:** PVC, coated steel or stainless steel construction.
- **Air preparation** and control assembly consisting of: check valve, solenoid valve, air flow meter with needle valve, bypass valve, regulator/filter, pressure relief valve and vent valve.
- **Auto-Q™** automatic equalization control assembly with switch sight glass, pressure gauge and isolation valves.
- **Auto-Q™** automatic EQ electrical control logic.
- Inlet mixing chamber.
- **Valving:** suction isolation, bypass and discharge control.
- Pump discharge pressure gauge.
- **Air rotameter** with needle valve for fine air control.

- **MCP** NEMA 4 controls in Master Control Panel provided.
- System requires compressed air.

The RSS can be shut down and turned on without system upset and EQ point loss.



The RSP System Features:

- **DAF pump:** High head, coated cast iron or 316 stainless steel centrifugal, 100 psi recycle pump mounted to the DAF tank to provide super saturated water under pressure to the air/wastewater mixing inlet.
- **Motor:** Close coupled TEFC.
- Inlet mixing chamber
- **Valving:** suction control, discharge control & air flow measuring and metering
- **Pressure** gauge
- **Vacuum** gauge
- **Air rotameter** with needle valve for fine air control
- **MCP** NEMA 4 controls in Master Control Panel provided
- No saturation vessel is required
- No air compressor is required



RSS

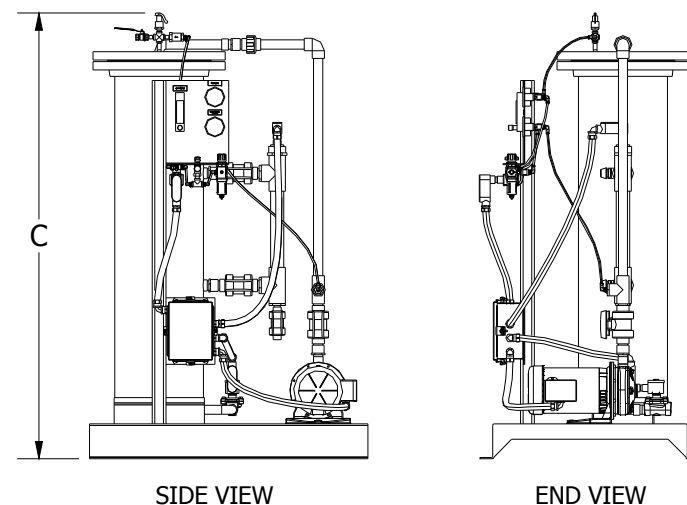
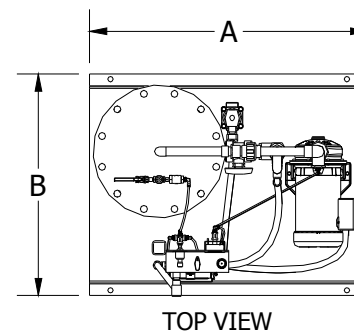
Recycle Saturation Systems for DAF

RSS Recycle Systems

Low Flow 3-40 GPM



RSS shown with and without local controls.



Model	Length			Vessel Diam.	Vessel Material	Inlet Size	Outlet Size	Air Req'd CFH 100 psi	Weight Lbs	Flow Rate GPM (Max.)
	A	B	C							
RSS-85	3'-0"	2'-4"	5'-4"	8"	304 SS	1.25"	1"	1	258	3-5
RSS-810	3'-0"	2'-4"	6'-2"	8"	304 SS	1.25"	1"	1	315	5-10
RSS-815	3'-0"	2'-4"	7'-4"	8"	304 SS	1.25"	1"	1.5	360	10-15
RSS-1225	3'-4"	2'-8"	5'-4"	12"	304 SS	1.25"	1"	2	410	15-25
RSS-1235	3'-4"	2'-8"	6'-2"	12"	304 SS	1.5"	1.5"	3	465	25-35
RSS-1240	3'-4"	2'-8"	7'-4"	12"	304 SS	1.5"	1.5"	3.5	520	35-40

Dimensions, design and capacities are not for construction and are subject to change without notice.

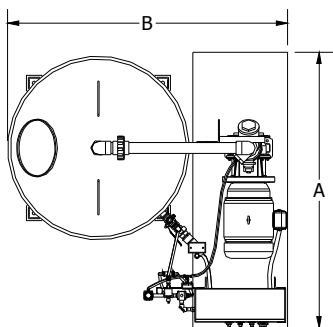
Air requirement is a volumetric estimate and is subject to change depending on application details.

RSS

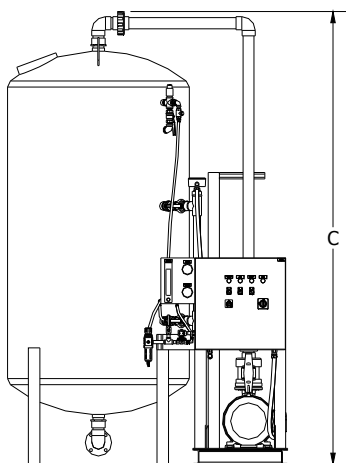
Recycle Saturation Systems for DAF

RSS Recycle Systems

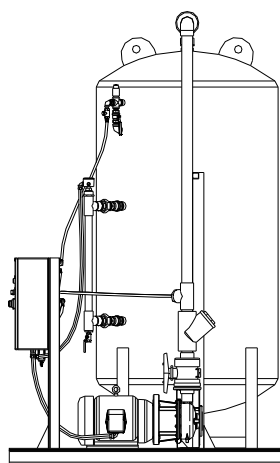
High Flow 50-2000 GPM



TOP VIEW



FRONT VIEW



SIDE VIEW



Model	Length			Width		Height		Vessel Diam.	Vessel Material	Inlet Size	Outlet Size	Air Req'd CFH 100 psi	Empty Weight Lbs	Oper. Weight Lbs	Flow Rate GPM (Max.)
	A	B	C												
RSS-1850	3'-0"	4'-2"	7'-6"	18"	CS	2"	1.5"	4	783	1003	50				
RSS-1860	3'-0"	4'-2"	7'-6"	18"	CS	2"	1.5"	4.5	783	1003	60				
RSS-2480	3'-0"	4'-8"	7'-6"	24"	CS	2"	1.5"	6	940	1331	80				
RSS-30100	3'-4"	5'-2"	8'-6"	30"	CS	2"	1.5"	7.5	1555	2321	100				
RSS-30120	3'-4"	5'-2"	9'-7"	30"	CS	2"	1.5"	9	1705	2625	120				
RSS-36150	3'-4"	5'-8"	9'-7"	36"	CS	3"	2"	11	2033	3356	150				
RSS-36200	3'-4"	5'-8"	9'-7"	36"	CS	3"	2"	15	2033	3356	200				
RSS-42250	3'-4"	6'-2"	9'-7"	42"	CS	3"	2.5"	20	2384	4185	250				
RSS-42300	5'-0"	6'-2"	9'-7"	42"	CS	3"	2.5"	22	2631	4432	300				
RSS-48350	5'-0"	6'-8"	9'-7"	48"	CS	3"	2.5"	26	3007	5360	350				
RSS-54400	5'-0"	7'-2"	10'-8"	54"	CS	4"	3"	30	3677	7150	400				
RSS-60450	5'-4"	7'-8"	10'-8"	60"	CS	4"	3"	33	5516	9803	450				
RSS-60500	5'-4"	7'-8"	10'-8"	60"	CS	4"	4"	37	5516	9803	500				
RSS-60550	5'-4"	7'-10"	10'-8"	60"	CS	4"	4"	40	5718	10310	550				
RSS-66650	5'-4"	7'-10"	10'-8"	65"	CS	6"	4"	45	6375	11950	650				

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Air requirement is a volumetric estimate and is subject to change depending on application details.