



Retrofit Your Existing DAF with a SAF™ Generator

DAF overloaded with solids? Tired of high sewer bills? Tired of cleaning out your DAF every week? Then do what snack food manufacturer Wyandot Inc. did - [Retrofit your DAF with a SAF™ Generator!](#) With an average flow rate of 125 gpm of process wastewater, Wyandot was only achieving 50% solids removal with their overloaded DAF. Now, with a [Suspended Air Flotation \(SAF™\)](#) retrofit, solids removal is consistently above 92%, and they are saving \$21,000 per month on their sewer bill.

- SAF™ replaces the existing DAF pressurization / recirculation system.
- SAF™ will increase existing DAF capacity significantly, without the cost and logistical obstacles of a new installation.
- SAF™ will use significantly less power than the replaced DAF Recirculation system.
- SAF™ will remove more solids than the replaced DAF was capable of.
- SAF™ retrofit will be more flexible to operate than the replaced DAF.
- SAF™ is more cost-effective to operate than the replaced DAF.

Here's How

- Establish a froth injection point at a location on the DAF influent line that provides adequate mixing...i.e. prior to a 90 degree elbow or within a serpentine contact chamber.
- Locate a place to stage the SAF™ Generator. Yes, it can be remotely located; but the closer the better.
- Provide potable water and electricity or compressed air as required.
- Allow space to place a container of surfactant, and provide 110v power for an LMI Pulsed Diaphragm Metering Pump (or equivalent).
- Turn off the existing DAF Recirculation / Pressurization System.

Operation

- A signal will need to be provided to start the generator. This signal can be manual or a high level switch from an equalization tank.
- The SAF™ Generator will warm up for a period of 45 – 60 seconds prior to releasing froth to the process. During this period, wastewater should not be allowed to enter the flotation tank.

- The SAF™ Generator Control Panel can provide a signal to start wastewater flow when the warm-up phase is complete and the SAF™ Generator begins feeding froth to the flotation system.
- The same signal that starts wastewater flow can be used to start polymer feed, water, chain and flight skimmers, and downstream dewatering system and/or pumps.
- The flotation system can be turned off either manually or automatically by a low level switch located in the equalization tank.

Operational Costs

- Surfactant normally costs <\$0.03 per thousand gallons of wastewater treated.
- Power to run the SAF™ generator depends on suspended solids content in the wastewater; typically less than \$0.10 per thousand gallons treated.
- Normally these costs are less than the cost of power consumed by the existing DAF recirculation / pressurization system

Options

- Dewatering Conveyor can be provided to condition floated solids to the point where there is no free-draining liquid.

SAF™ Generator Sizing

	Wastewater Suspended Solids (mg/L)																			
	500		1000		1500		2000		2500		3000		3500		4000		4500		5000	
	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Model	Suspended Air™ Emulsion Generator Wastewater Flow Rating (gpm)																			
F2	50	50	25	25	16.7	15	12.5	12	10	10	8.3	8	7	7	6	6	5.6	5	5	4
F8	200	200	100	100	66	60	50	50	40	40	33	30	29	28	25	25	22	20	20	15
F25	634	600	317	300	209	200	159	150	127	120	105	100	91	90	80	75	70	60	63.4	45
F50	1268	1250	634	600	418	400	317	300	254	250	209	200	181	175	159	150	141	125	127	100
F100	2536	2500	1268	1200	837	800	634	600	507	500	418	400	362	350	317	300	282	250	254	200
F200	5072	5000	2536	2400	1674	1600	1268	1200	1015	1000	837	800	725	700	634	600	564	500	507	400