



**HERON
INNOVATORS**

The Clear Advantage

**FLOTATION
WITHOUT
DISSOLVED AIR®**

SAFE®

Water & Wastewater Treatment

Suspended Air® Flotation (SAF®)

Serving Municipal and Industrial Clients



Flotation without Dissolved Air®?

SAF® Generators produce a micro-bubble froth at atmospheric pressure that is more than 40% air (or gas). In other words, dissolving air or gas is not part of the mechanism behind SAF®. Performance is not limited by changing conditions (e.g. temperature, pressure, gas solubility, etc.) and the physics that constrain other flotation methods. Reliability is greatly improved. As Heron customers say, "It just always works."

- ◆ Primary Treatment
- ◆ Secondary Bio-Solids Removal & Thickening
- ◆ Oil/Water Separation
- ◆ Surface Water Treatment



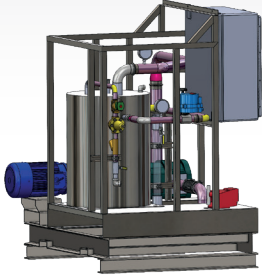
Easily handles the removal of algae.

Heron Innovators, Inc.
(916) 408-6601

10624 Industrial Ave.
Roseville, CA 95678

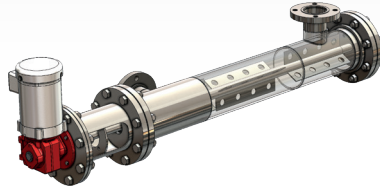
info@heroninnovators.com
www.heroninnovators.com

SAF® Systems



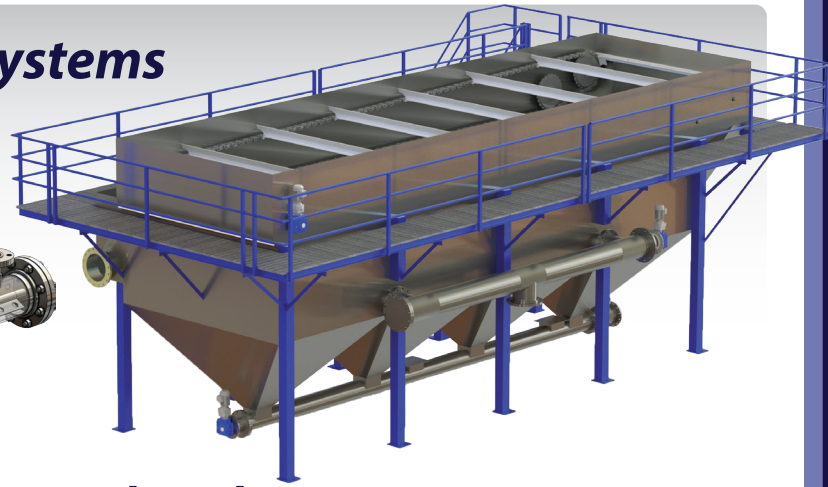
SAF Generator

The SAF® Generator produces micro-bubble froth independently of the process stream. These bubbles resist coalescing for significantly higher surface area and lifespan. Due to surface tension advantage and electrostatic affinity, the micro-bubbles attract, attach, and encapsulate the particles.



ClearMixer

SAF® micro-bubble froth is injected and stirred into the influent stream prior to entering the flotation cell. Most of the micro-bubble to particle reaction takes place in this mixer.



ClearFloater

SAF® systems do not require any additional air/gas to be injected into the flotation cell.

Hydraulic and solids loading capacities are increased with SAF® due to rapid rise rates and a very robust float. Less surface area is needed for a smaller physical footprint.

Heron offers stainless steel flotation cells for applications up to 11 MGD (42,000 M³/D).

Skid Mounted Systems

Up to 4 MGD

Heron Innovators offers custom designed systems that are plumbed, wired, and tested with the flotation and ancillary equipment all on one single skid. This plug-and-play design minimizes installation time and costs normally associated with field integration of pumps, pH control, chemical feed, and other associated equipment.

- ▲ Commissioning and start-up are a matter of hours instead of days.

SAF® Conversions



Traditional flotation systems are easily converted to SAF® with the addition of a SAF® Generator and ClearMixer.

- ▲ Improve separation for cleaner effluent
- ▲ Increase hydraulic flow capacity
- ▲ Increase solids loading capacity
- ▲ Produce dryer skimmed float
- ▲ Reduce chemical costs
- ▲ Reduce maintenance
- ▲ Reduce energy costs

SAF[®] Specifications

HORSEPOWER

SAF [®] System	Flow Capacity					Float Area		Skid Size		SAF [®]	Feed Pump	Solids Pump
	GPM	MGD	LPS	M ³ /D	BPD	FT ²	M ²	FT	M			
CF25 / F8	50	0.072	3	273	1,714	5.0	0.5	6 x 12	2 x 4	2.3	1.0	1.0
CF50 / F8	125	0.180	8	681	4,286	10.0	0.9	8 x 18	2 x 5	2.3	2.0	2.0
CF125 / F25	350	0.504	22	1,908	12,000	17.0	1.6	8 x 22	2 x 7	4.0	10.0	2.0
CF250 / F50	700	1.008	44	3,816	24,000	35.0	3.3	10 x 28	3 x 9	6.3	15.0	3.0
CF500 / F100	1,400	2.016	88	7,631	48,000	72.0	6.7	12 x 35	4 x 11	9.0	20.0	3.0
CF1000 / F200	2,800	4.032	177	15,263	96,000	144.0	13.4	12 x 35	4 x 11	19.0	40.0	3.0
CF2000 / F400	6,000	8.640	379	32,706	205,714	300.0	27.9	(Not Skid-Mounted)		29.5	80.0	5.0
CF3000 / F400	8,000	11.520	505	43,608	274,285	400.0	37.2	(Not Skid-Mounted)		32.5	100.0	7.5

MODEL CF25 - UP TO 50 GPM



MODEL CF250 - UP TO 700 GPM (1 MGD)



MODEL CF500 - UP TO 1,400 GPM (2 MGD)



MODEL CF1000 - UP TO 2,800 GPM (4 MGD)



MODEL CF2000 - UP TO 6,000 GPM (8.6 MGD)



MODEL CF3000 - UP TO 8,000 GPM (11.4 MGD)

