97180 Foam Separator

The S&J 97180 Foam Separator is designed for use in piping systems to remove foam caused by agitation from the digester discharge gas. The foam must be dispersed and collected in order to protect downstream equipment from corrosion or clogging. The Foam Separator is typically installed in the digester gas piping.

Foam is removed from the gas as it flows through the separator by subjecting the gas/foam mixture to a direct spray of water inside the separator. The gas then rises vertically past an internal baffle in order to flow from the tank. Foam and solids are heavier than gas, and the combination of the large vertical rise the gas has to travel, and the continuous spray of water will knock the foam out of the gas and direct it to the bottom of the chamber. The foam is removed via a drain connection. An optional visual flow indicator is provided in the drain line to confirm water flow.

To maintain safety and protect against releasing biogas from the separator's drain, there are high and low liquid level switches incorporated in the design. It is important for the water level in the tank to be maintained so that biogas does not exit the drain. A low level dry contact is used to alert operators that the water level in the tank is below its allowable operating condition. By using a solenoid valve, the high level switch is used to turn off the water supply to the sprayers to keep the tank from overfilling. Valves on both the spraying system and drain line should be used to adjusted the fill and drain rate of the tank. The fill and drain rate should be calibrated to maintain a water level between the high and low level switches during normal operation. That way, high liquid level scenarios are kept to a minimum and the spray system is kept on.

Option E = 4

Option E = 6

Features

- Continuous Wash Spray System
- Removes Foam and Particles
- Large Reservoir with Baffle
- All Stainless Steel Construction (Option)
- Visual Drain Flow Indicator (Option)
- Alarms for High and Low Water Level
- Water Solenoid Valves
- NEMA 7 Local Control Panel (Option)

Materials of Construction:

Tank Vessel:
Steel, 304 Stainless Steel, 316 Stainless Steel, 316L Stainless Steel

Inlet/Outlet Flange Connections:
2"-16" 150 lb. ANSI or EN1092-1 PN10/PN16

Water Drain Flange Connection:
4" 150 lb. ANSI or DN100 EN1092-1, PN10

Level Switches:
SPST, 316SS, NC/NO, (Standard)
SPDT, 316SS, NC/NO, (Optional)

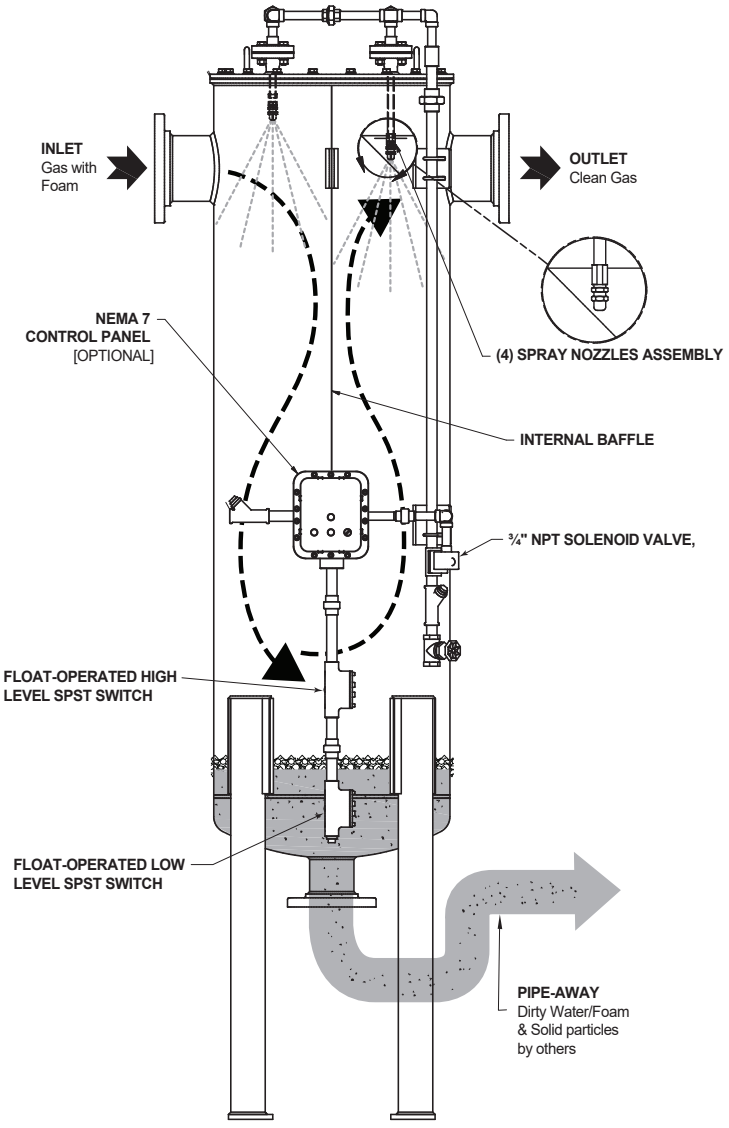
Solenoid:
3/4" NPT, NEMA 7, 120 VAC/60 Hz or 240 VAC/60 Hz
Brass Body (Standard)
304SS Body (Optional)

Maximum Working Pressure:
1 PSIG (27" W.C.)

Spray Nozzles:
316 Stainless Steel Standard

Utility Water Pressure:
40 PSIG (Typical)

Principle of Operation



All designs subject to change. Certified dimensions and specifications available upon request.

97180 Ordering Guide

Model Number Selection

The model number will have a base number **97180** followed by 6 digit numbers. These digits will represent 6 sets of option tables.

97180 - AB - CD - EF

Table A - Flange Connection

Option A	Flange Description
0	ANSI 150 lb. FF
1	ANSI 150 lb. RF
2	EN1092-1 10 FF
3	EN1092-1 10 RF
4	EN1092-1 16 FF
5	EN1092-1 16 RF

Table B - Flange Size

Option B	Flange Size
2	2"
3	3"
4	4"
6	6"
8	8"
0	10"
1	12"
5	16"

Table C - Tank Material

Option C	Tank Material
0	Steel
1	316 Stainless Steel (Standard)
2	316L Stainless Steel
3	304 Stainless Steel

Table D - Water Piping & Nozzle Material

Option D	Description
0	316 Stainless Steel

Other Materials available upon request.

Table E - Control Option

Option E	Description
0	No Alarm or Solenoid
2	Alarm, Hi/Low, NEMA 7*
4	Alarm, Hi/Low with Solenoid, NEMA 7*
6	Alarm, Hi/Low with Solenoid, NEMA 7, LCP

* NEMA 7 Condulet only.

NOTE: Standard Solenoid is Brass

Table F - Accessory Options

Option F	Description
0	None
1	Visual Drain Flow Indicator
2	Visual Water Level Indicator (Sight Glass)
3	Observation Port
4	Options 1 and 2
5	Options 1 and 3
6	Options 2 and 3
7	Options 1, 2 and 3

NOTE: NEMA 7 Equipment for use in NEC Class I, Division I, Group D Environment.