

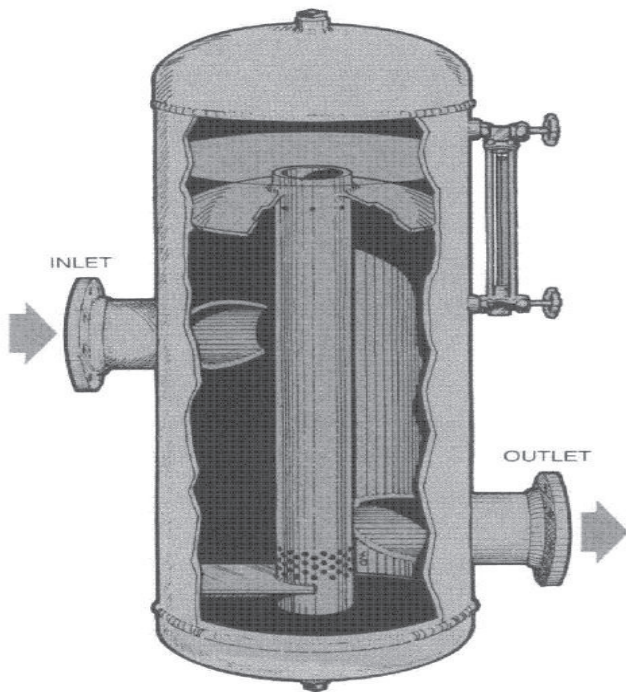
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# FLUID KINETICS SSC STABILIZER / SEPARATOR

FLUID KINETICS

## MODEL SSC STABILIZER/SEPARATOR

An inline device to eliminate pulsation, cavitation  
and entrained gas in power pump suction lines



Patent Pending

### GENERAL

The Fluid Kinetics Stabilizer/Separator, close-coupled to the pumpsuction flange, provides three basic functions necessary for smooth, low-maintenance operation.

**Volume Effect** - Acting as a mini-storage tank, the Stabilizer/Separator provides a full charge of liquid when the pump valves open. In systems with marginal available net positive suction head (NPSH), it prevents cavitation. Also because of its location, it acoustically uncouples the pump from the line eliminating acceleration head consideration.

**Dampening Effect** -The gas charge provides a capacitance or spring effect to absorb pulsation created by the abrupt flow change as the valves open and close.

**Separation Effect** - Entrained gas or vapor is removed before it can enter the pump suction manifold where the sudden pressure changes can cause gas to break out of solution and create partial cavitation.

### DESIGN

Flow enters and leaves the Stabilizer/Separator tangentially, forming a low-velocity vortex. This vortex and the increased path length created by the elevation difference between inlet and outlet stimulates the release of any entrained gas. The freed gas moves through the perforated center tube to the gas or air pocket maintained at the top of the unit.

The only maintenance required is the periodic replenishment of the gas charge. In some applications with gas-rich liquids, it is necessary to vent off the separated gas. Gas/liquid level can be visually observed through the sightglass. Since disassembly is not required, normal operating personnel can safely recharge the Stabilizer/Separator.

### CONSTRUCTION

The Stabilizer/Separator is of welded steel construction. Standard models are rated 100 psig in accordance with ANSI 831.3 Code. Inlet and outlet connections are ANSI 150-lb raised face flanges sized to match the pump suction flange. ASME Code construction is available.

An all-brass water sight gauge with shutoff valves is furnished for visual observation of liquid/gas level. Heavy-duty sightglass is available for other fluids. Gas fill and drain connections are 3000-LB NPT couplings.

Any gas compatible with the fluid can be used as a charging medium. Air or nitrogen are commonly used.

In highly corrosive service, the stabilizer can be supplied with non-corrodible internals and epoxy coating of wetted steel surfaces.

**APPLICATION**

The Fluid Kinetics Stabilizer/Separator should be used in any system where:

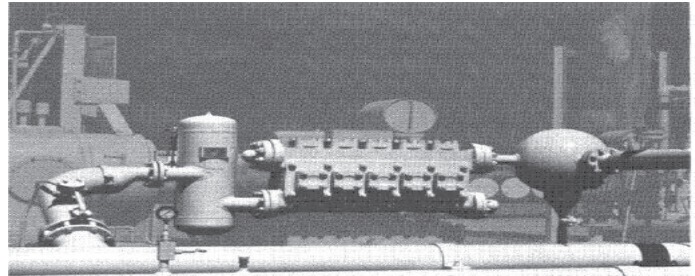
- 1) There is an NPSH problem.
- 2) A gas-rich fluid is being handled.
- 3) There is other evidence of suction cavitation (i.e.) excessive vibration or excessive pump maintenance).

Installation is simply accomplished by direct-connecting the Stabilizer/Separator to the pump suction flange. Any compatible gas may be used as a charging medium.

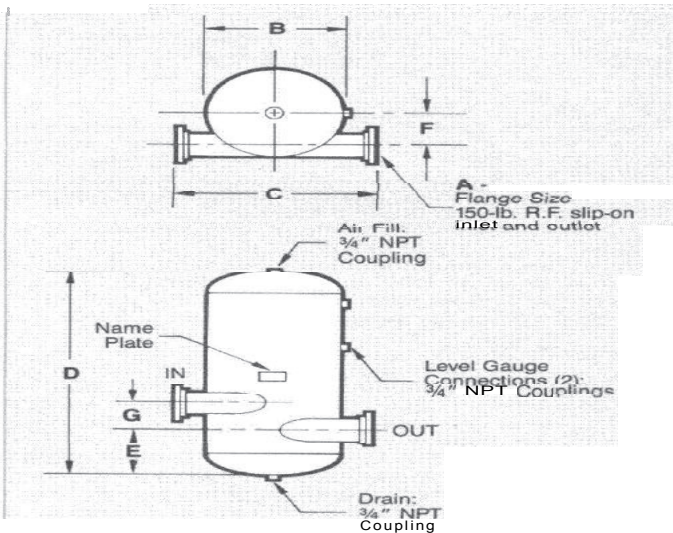
**SELECTION**

The standard models shown below are designed to provide the correct amount of capacitance and separation capability based upon pump suction connection size. They are suitable for any multiplunger pump.

Select the appropriate model and verify that the design pressure of 100 psig and carbon steel material are correct for your application. Alternate design pressures and materials are available upon request.



Typical Installation showing Stabilizer/Separator on suction of quintuplex pump handling water Note Fluid Kinetics Liquid Pulsation Dampener on the pump discharge.



MODEL NUMBER	INCHES							WEIGHT
	A	B	C	D	E	F	G	
SSC 2-6	2	6 <sup>5</sup> / <sub>8</sub>	12	32 <sup>1</sup> / <sub>2</sub>	6 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	7	110
SSC 2 <sup>1</sup> / <sub>2</sub> -8	2 <sup>1</sup> / <sub>2</sub>	8 <sup>5</sup> / <sub>8</sub>	14	35 <sup>1</sup> / <sub>2</sub>	8	2	7 <sup>1</sup> / <sub>2</sub>	130
SSC 3-10	3	10 <sup>3</sup> / <sub>4</sub>	16	37	8 <sup>3</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>8</sub>	8	185
SSC 4-12	4	12 <sup>3</sup> / <sub>4</sub>	20	43	10 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>8</sub>	10	275
SSC 6-18	6	18	28	52	13 <sup>3</sup> / <sub>4</sub>	5	14	490
SSC 8-24	8	24	36	63 <sup>3</sup> / <sub>4</sub>	18	7	18	810

**NOTES:**

1. Stabilizer/separator **or to be direct connected to pump suction flange.**
2. Ease support to be provided under stabilizer/separator by others.

Unit comes complete as follows:

- Design Pressure . . . . . 100 psig at 100°F
- Material . . . . . Carbon Steel
- Finish . . . . . Red Primer
- Level Gauge. . . . . Brass, water gauge, glass and cocks
- Flanges . . . . . 150-lb. RF. Slip-on (both inlet and outlet)
- Other Connections . . . . . 3/4" 3000.lb. NPT couplings

**CONTROL OF PUMP DISCHARGE PULSATION**

For complete system protection, a Fluid Kinetics Liquid Pulsation Dampener should be used on the discharge side of the stabilizer-equipped pump. Write for complete information on this no-maintenance, non-moving part, spherical dampener.



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