

SINCE 1908
wessels
company

INSTRUCTION MANUAL

CFS-SERIES

Centrifugal Solids Separator – Low Flow

Models: CFS & CFA
IOM Sheet No. F-2008A

Date: 6/12

Installation, Operation and Maintenance Instructions



SAFETY INSTRUCTION: Carefully read the Instruction Manual to avoid serious personal injury and/or damage to property and to ensure safe use and proper care of this product.

Description & Operation:

Wessels CFS-Series Centrifugal Solids Separators are designed for in-line or slip-stream low flow filtration of entrained solids from a process fluid system. This filterless separator achieves the removal of 50 micron and larger solids through centrifugal force and friction. Fluid enters the separator at a tangent and creates a vortex within the unit. The increase in the fluid's centrifugal velocity as the fluid enters the body of the unit separates the more dense solids from the liquid. Separated solids fall to the lower collection chamber while exiting fluid is drawn from the center of the vortex back into the system or fluid stream. Removal of debris in your system can increase system efficiencies, extend the life of system components, and lower operational costs.

Typical Applications Include:

- HVAC Heating
- Cooling Towers
- Industrial Processes
- Automotive Processes
- Chemical Processes
- Well Water
- Potable Water
- Waste Water Discharge
- Fish Hatcheries
- Aquatic Exhibits
- Irrigation Systems
- Food Industries
- Car Washes

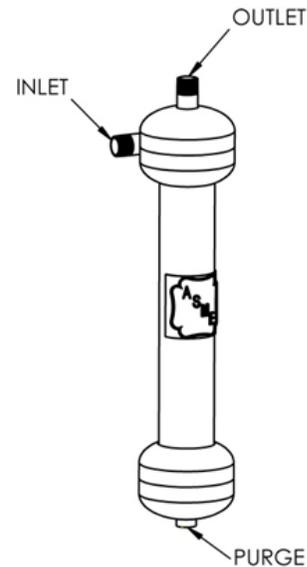


Figure 1.

Construction:

Shell: Carbon Steel*

System Connection: Carbon Steel*

Performance Limitations:

Maximum Design Temperature: 450°F

Maximum Design Pressure: 150 PSIG**

*Other Materials of Construction Available

**200 & 250 PSIG available

Receiving:

Inspect unit for shipping damage and notify freight carrier or store where purchased immediately if damage is present. Prior to installation, the inlet, outlet and purge of each unit should be inspected for the presence of any foreign objects which may have entered the unit during shipping or storage.

Installation:

- Install piping to inlet and outlet as shown in Figure 1. Reference the example piping diagram in Figure 2 for a typical side stream application using a throttling valve to force system flow through the CFS separator.
- For effective solids removal, Wessels CFS-Series Separators must be operated within the recommended flow range for each model as indicated in Figure 3.
- Wessels CFS-Series Separators must be installed in the near upright vertical position and be located on the discharge side of the pumping system.

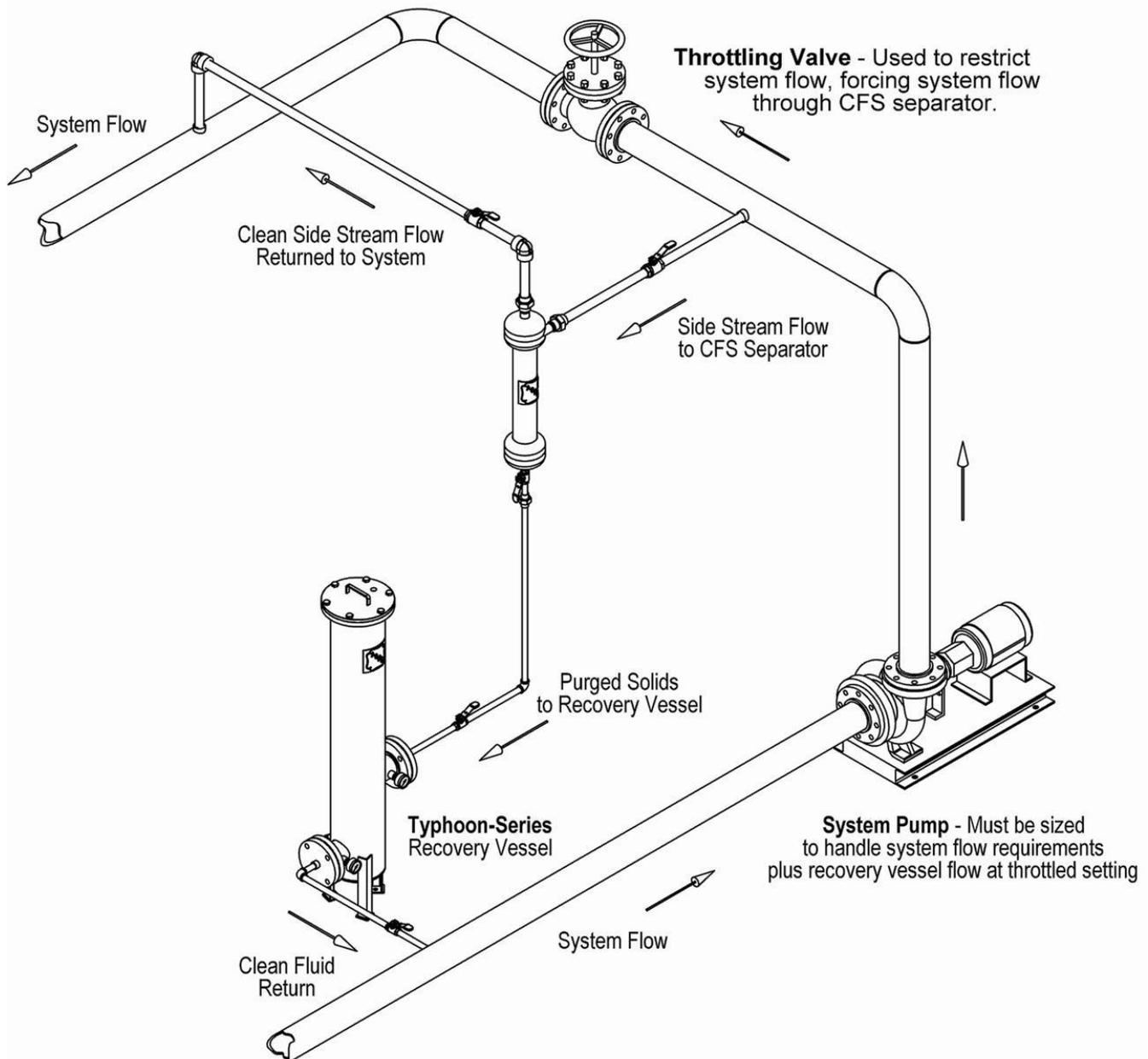


Figure 2. CFS Side Stream Application using Throttling Valve

Maintenance:

- **Wessels CFS-Series Separators must be purged regularly.** If not, accumulation of separated solids will overflow the separator's collection chamber, substantially affecting solids separation efficiency of the unit.
- Several options are available for purging the CFS while in operation. Purging can be accomplished manually, automatically or through continuous bleed. The level of contaminants in the process system will dictate the purge frequency and may warrant the use of optional recovery system. If used with a recovery vessel, the separator will purge constantly at a low flow rate.
 - **Manual Purging:** Dependent on the level of contaminants in the process system, the system maintenance personnel will purge the unit at increments that they determine. (Every day, week, etc.)
 - **Automatic Purging:** Using a motorized ball valve, the unit will automatically purge itself at predetermined intervals.
 - **Continuous Bleed Purging:** A manual pinch valve is most effective and should be left partially open at all times to control the rate of purged solids. Periodic inspection of the valve is recommended to avoid plugging of the reduced bleed orifice. As shown in Figure 2, this method is to be used with a recovery vessel to capture the collected sediment.
- Determining the necessary frequency of purging should be accomplished by purging often at first and calculating the proper rate necessary to prevent over-filling the separator's collection chamber. For best results, actual purging is recommended while the CFS separator is in operation.

Model Number	Flow Range (GPM)	Inlet/Outlet Size (MNPT)
CFS-50	5 - 10	1/2"
CFS-75	10 - 20	3/4"
CFS-100	17 - 32	1"
CFS-125	28 - 50	1 1/4"
CFS-150	45 - 70	1 1/2"
CFS-200	70 - 110	2"
CFS-250	100 - 160	2 1/2"
CFS-300	150 - 250	3"

Figure 3. CFS Connection Sizes & Recommended Flow Rates