SWECO®

HYDROCYCLONE SYSTEMS

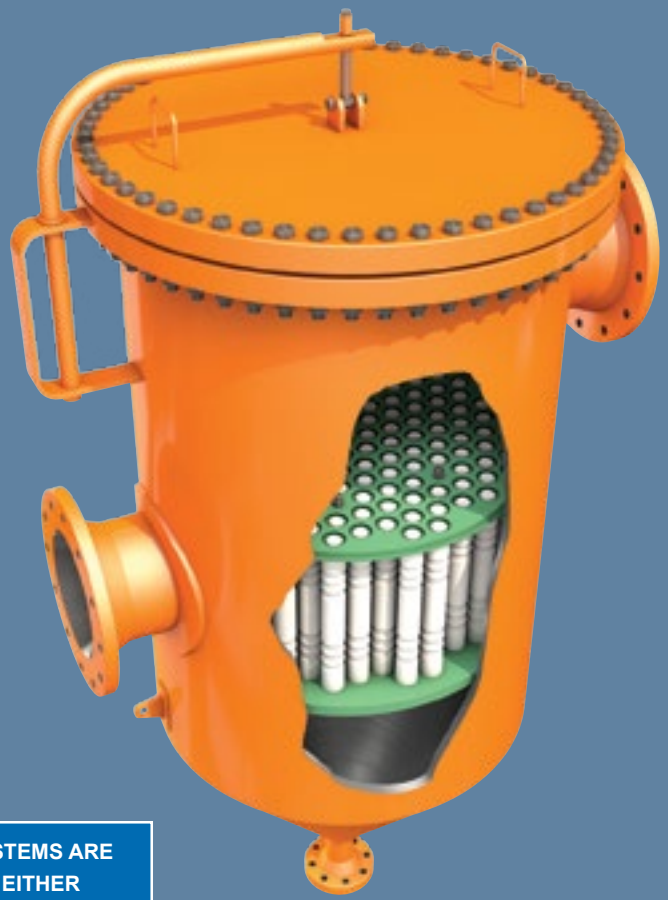
DRAMATICALLY LOWER YOUR OPERATING & DISPOSAL COSTS

SWECO® Hydrocyclone Systems provide an economical and effective method for removing solid particles in the 10 micron range from various slurries. Hydrocyclones typically make finer separations than are practical with screening separators and at significantly higher capacities. In many applications cyclones can be used in place of centrifuges, providing the desired result at lower cost.

Hydrocyclones are supplied in either an open-manifold or a Packed-Vessel configuration. Manifolds (radial or linear orientation) utilize 2-, 4-, 5-, or 10-inch diameter cyclones while Packed Vessels contain either 1- or 2-inch diameter cyclones. Both configurations can process feed rates from 12 to 4,500 gallons per minute, depending on the size and number of hydrocyclones installed in the system.

The use of SWECO Hydrocyclones can lower the capital, operating, and maintenance costs of a solids-separation system. Installation is straight-forward, as the hydrocyclone system is shipped assembled. Reliable operation of the system only requires a consistent feed at a steady pressure. The only moving parts are the feed pump and the slurry itself. Energy costs are much lower than those of a large centrifuge and the maintenance, when needed, is much simpler and easier to accomplish.

For demanding applications, SWECO can provide a hydrocyclone system integrated with a SWECO Centrifuge, Rectangular Separator, or Round Separator. The hydrocyclone system will concentrate the solids, reducing the volume to be handled by the centrifuge or screener. A smaller centrifuge or screener can then be selected at a considerable reduction in cost.



PACKED VESSEL SYSTEMS ARE AVAILABLE USING EITHER 1- OR 2-INCH CYCLONES

We Put Technology In Motion™

www.sweco.com

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Increase Effectiveness of Other Separation Equipment

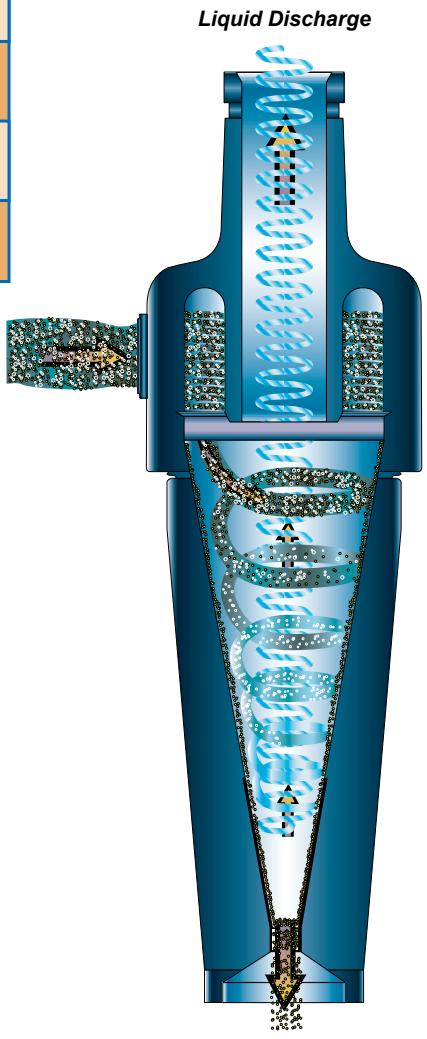
Packed Vessel Specifications

Diameter	Number of Clones	Cutpoint in microns	*Capacity Range	Pressure PSI
1-inch (25 mm)	2 - 600	4 - 15 µm	12 - 3,600 gpm (2,7- 817 m3/h)	25 - 50
2-inch (51 mm)	2 - 150	10 - 25 µm	60 - 4,500 gpm (13,6 - 1022 m3/h)	25 - 50

Manifold Specifications

Diameter	Number of Clones	Cutpoint in microns	*Capacity Range	Pressure PSI
2-inch (51 mm)	up to 30	10 µm	32 - 480 gpm (120 - 1820 lpm)	15 - 50
4-inch (102 mm)	up to 20	27 µm	90 - 900 gpm (340 - 3.400 lpm)	15 - 50
5-inch (127 mm)	up to 20	32 µm	140 - 1,500 gpm (530 - 5,700 lpm)	15 - 50
10-inch (102 mm)	up to 6	48 µm	1,000 - 3,000 gpm (3,800 - 11,350 lpm)	15 - 50

**** Capacities may vary depending upon the application***



Principle of Operation

A hydrocyclone has no moving parts and achieves solid/liquid separation by virtue of a pressure drop across the unit. A slurry is forced under pressure into the inlet section of the liner via a tangential inlet port. This, together with narrow cyclone diameter, causes the fluid to spin at high velocity which creates a high g radial acceleration field. The solid particles, being the denser phase, are forced outwards to the hydrocyclone inner wall. Here, through internal hydrodynamic forces, the solids are ejected from the apex of the cyclone while the liquid exits counter currently via an axial port adjacent to the inlet. The separated solids can be discharged directly. Where the discharge of liquid with the solids is to be minimized, the solids can be collected in an accumulator for settling. The accumulator can then be periodically purged of concentrated solids without interrupting the operation of the hydrocyclone system.

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