

PWD Wellhead Desanding Hydrocyclone

PWD Wellhead and Wellstream Desanders mitigate multiple issues downstream including instrument failure, erosion, and pump damage.

These high capacity, high efficiency multiphase desanders remove the formation of debris, allowing production fluids to be processed without solids handling issues.

How it Works

PWD Wellhead Desander Hydrocyclones are pressure drop dependent, where multiphase fluids are directed into the cyclone causing the fluids and particles to spin under a centrifugal force. These strong forces cause the solids and fluids to separate. Gas in particular, disengages and separates quickly. The heavier solids are forced outward toward the cyclone wall, and the lighter fluids and gas phase migrate in the opposite direction toward a center core. Solids spiral down the cyclone to the underflow outlet, while the remaining fluids are forced in the opposite direction to the overflow. Solids as fine as 2 microns are removed by exiting into an accumulation chamber.

Common Applications

- Wellhead upstream of the choke (up to 20,000 psi, multiphase systems, and 100% gas flow)
- Removal of naturally produced formation sand from wells in where gravel pack was never installed or has failed. A 30% increase in sand free production rates have been achieved.
- Downstream of the choke, manifold and before the production separator to prevent flowline erosion (wellstream)
- Offshore Production
- Well Test Cleanup
- Wellbore flush out and acidizing
- Coiled Tubing Cleanup
- Underbalanced Drilling Operations

Key Benefits

Cost Savings

- Robust design and wear resistant reaction bonded silicon carbide offers a long life with less maintenance and OPEX; no moving parts to clean and replace, saves maintenance time and costs

Better Performance

- Closely packed liners for finer separation and higher capacity than any other product in the market
- Uses involute inlet geometry to minimize fluid turbulence and reduce inlet wear
- Activates oil and gas wells previously shut-in due to excessive sand production
- Provides solids removal prior to oil contamination and eliminates sludge formation/accumulation

High Flexibility

- Compact design for reduced footprint and weight (10% the size & weight of conventional filter systems) compartmental design for unlimited turndown; easy mobilization & retrofitting
- Flexible operation for variations in rates with no impact on production capabilities

Standard Features

- ASME code stamped (Div I & Div II)
- API: 5K, 10K, 15K

Materials of Construction

- Vessel: Carbon Steel, Stainless Steel, or Duplex Stainless Steel (4130 CS standard, Available: F22, UNS31803, UNS32760)
- Cyclones or Insert: Reaction Bonded Silicon Carbide or UNS 31803 with HVOF-WC internal