Schlumberger

MOZLEY Wellhead Desander

Solids removal system

APPLICATIONS

- Wells with high sand production
- Coiled tubing cleanout
- Cuttings removal for underbalanced drilling
- Flow rate improvement for sand-constrained wells
- Production restart from sand-plugged wells

BENEFITS

- Opex savings from the reduction in cyclone wear and replacement attributable to the proprietary solid ceramic hydrocyclone liners
- Superior wear protection for downstream equipment by avoiding erosion, solids buildup, and blockage

Consisting of single or multiple cyclone inserts housed inside a vessel operating at the appropriate wellhead design pressure, MOZLEY Wellhead Desander* solids removal systems are used at the production wellhead. These efficient units protect downstream equipment from mechanical damage and erosion. They also prevent partial blocking and settlement of sand in separators that lead to a reduction in capacity.

Cyclonic action

The cyclone inserts of the MOZLEY Wellhead Desander system are specifically designed for each application using proprietary computer simulations. The silicon nitride ceramics developed expressly for used in the solid ceramic hydrocyclone liners deliver 8 times greater wear resistance, as compared with standard grades of ceramic liners or ceramic-coated hydrocyclones.

Wellstream fluids enter the cyclone tangential inlet, which forces the mixture to spin and in turn causes the gas to disengage quickly. Both gas and liquids migrate toward the center of the cyclone, as a reduction in cyclone diameter accelerates the fluid while concurrently generating strong centrifugal forces.

MOZLEY Wellhead Desander solids removal system.

MOZLEY Wellhead Desander

The gas and liquid flow then reverses and moves upward toward the overflow vortex finder. Solids are separated from the gas and liquid, forced toward the cyclone wall, where they travel down the length of the conical section of the cyclone in a spiral pattern to the solids outlet. The separated solids fall through into the accumulator vessel situated on the underflow of the wellhead desander, or a continuous hydrotransport device can be used.

The accumulator vessel is periodically isolated and collected solids are flushed out. The wellhead desander itself remains online and operating while the accumulator is being cleaned.

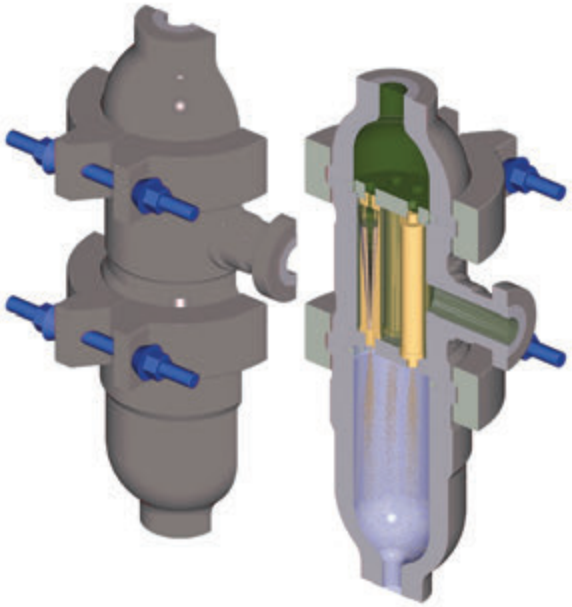
Effective performance

Depending on solids' particle size distribution and wellstream properties, solids removal of up to 99% by weight is achieved on typical wellhead sand size distributions. Pressure drops are in the range of 5 to 150 psi.

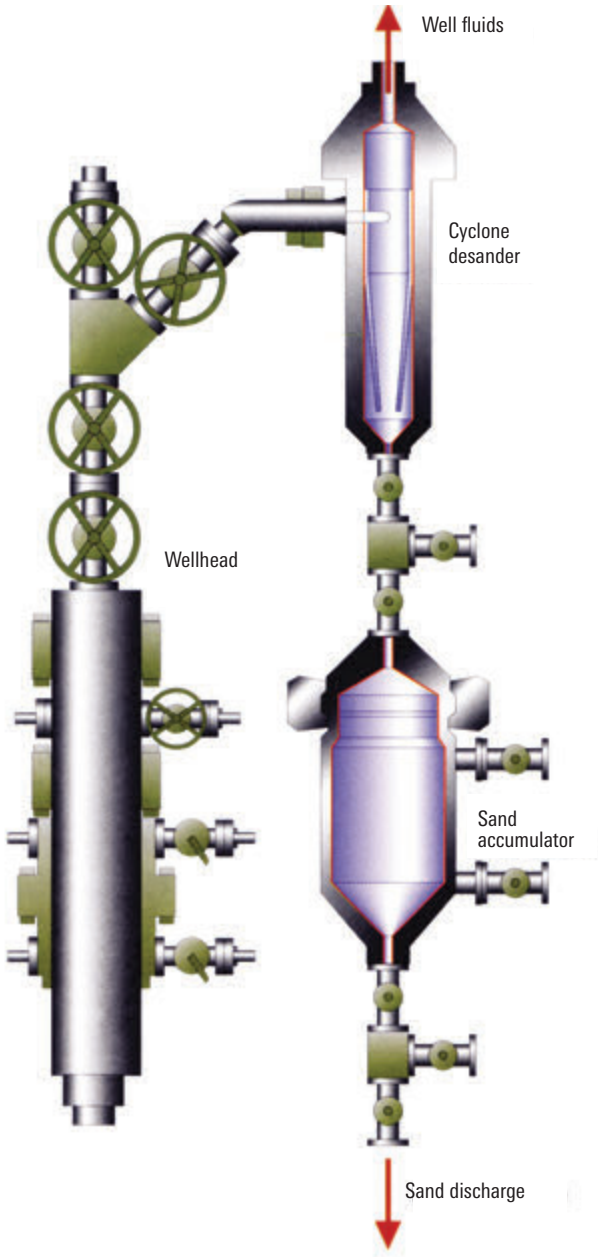
Product range versatility

Placed either up- or downstream of the choke, MOZLEY Wellhead Desander systems provide a wide range of capabilities:

- liquid capacity up to 50,000 bbl/d per wellhead desander
- optional geometry for a range of gas void/volume fractions in oil and gas wells
- housing designs up to 15,000 psi.



Single or multiple cyclone inserts housed inside a vessel to operate at the appropriate wellhead design pressure.



Components of the MOZLEY Wellhead Desander system.

slb.com/solids-management

Schlumberger