Sand Cleaning System

Product Summary

The solids cleaning system uses a fluidized bed to actively separate oil from solids enables clean sand to be disposed to sea. Hence, the sand cleaning system improves operators carbon footprint and Environmental, Social and Governance (ESG) metric.

The Wellhead Desander deals with well stream problems arising from well flowback during continuous production. In principle, the separation of particles (such as sand, scale, chalk, proppant etc.) utilizes the centrifugal force that arises when a fluid stream is sent through a cyclone. The kinetic energy of the fluid stream is boosted inside the cyclone vessel. Particle-free liquid moves to the top of the cyclone and is returned to the process or other applications. The particles that have been separated from the fluid are deposited, and weighed, at the bottom of the cyclone and channelled into an accumulator inside the cyclone vessel. Once the accumulator is full, the cyclone is isolated from the flow by means of multiple DBB valve, pressure is bled off and particles flushed. Meanwhile, production continues through the other cyclone vessel. After flushing, the Wellhead Desander is re-pressurized and brought back into operation. All solids are flushed to a disposal container then transported to shore for disposal or re-injected with cuttings.

The design criteria for the Wellhead Desander is for a simple installation with minimum interruption, which is achieved using modest dimensions and easy connections. This means that as an independent unit the Wellhead Desander is designed for easy adaptation to the loads and dimensions of existing systems.

Market differentiating technology

- Sand cleaning to below 1% weight hydrocarbons on oil contaminated solids
- Online flushing to dedicated disposal (sea of skip)
- Small footprint = 2.0 x 2.0 x 3.3 meter footprint
- Secure sampling point for collected sand
- Online data logging system of solids cleaned and disposed

Real-time information for better quality decisions

- Weight of solids collected & buffered
- Weighing accuracy within 100 g
- Oil in sand/water measurement. To clarify clean sand.
- Closed loop solids transportation system for no manual handling.

Reducing carbon emissions

- Cleaning of solids to below government regulations as 1% weight hydrocarbons on contaminated solids, enables jetting to sea or skips with minimal environmental impact

Contact us
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Technical Specification

SI U.S.

Pressure

Working Pressure: 1-345 bar (1 - 5 000 psi)
Design Pressure: 1-345 bar (1 - 5 000 psi)

Temperature

Min operating temp: -28 °C (-18,4 °F)
Max operating temp: +120 °C (+248 °F)

Capacity

Smallest particle size:: 20 micron
Maximum flow rate (fluid): 3168 m3/day
Maximum flow rate (gas): 100 000 Sm3/day @ 30 bar
Maximum sand rate: 100 kg/hrs
Pressure drop: 1 bar (max 10 bar)

Certification

Pressure Vessel / PED
NACE MR0175-97
CE
Norsok Z-015
DNV GL 2.7-3 lifting equipment

Dimensions

Height: 3 300 mm (10.9 ft)
Width: 2 000 mm (6.6 ft)
Depth: 2000 mm (6.6 ft)
Weight: 4 800 mm (10 600 lb)

Materials

Cyclone pressure vessel:: Duplex, UNS S31803
Seal rings: Viton / Duplex / 316L / 6MO
Valves: SS AISI 4130
Pipes: Super Duplex, UNS 31803
Frame: Carbon steel S355
Nuts, bolts: L7 + Standard galvanic 8.8

Interfaces

Flow piping:: 3"
Flanges:: 3" Techlok
Flanges flushing: 1.5" ANSI B16,5 2500#
Solids capacity: 1 100 litres volume

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