

SAND TRAPS/KNOCKOUTS

PRODUCT OVERVIEW

The need for solids removal before initial separation has grown with the increase of hydraulic fracturing across U.S. shale basins. RBI Sand Traps and Knockouts protect customer investments in production and processing equipment by reducing the damaging effects of solids on piping and vessels. RBI offers two types of sand traps/knockout separation equipment, the Striker Plate and Cyclonic.

STRIKER PLATE SAND SEPARATOR

The Striker Plate Sand Separator is a gravity sand trap with a reinforced striker plate installed at the point where the produced fluid first enters the trap. The Striker Plate is designed to absorb the impact of the incoming flow, particularly the sand particles, and help prevent damage to the vessel's internal components from repeated strikes.

CYCLONIC SAND TRAP

The Cyclonic Sand Trap is a pressurized vessel used to separate sand from liquid. This unit can also be used for the flow back of effluent-containing proppant following fracture treatment.

SPHERICAL SAND TRAP

A Spherical Sand Trap or Sand Separator is a vessel designed to separate sand and other heavy solids from well fluids. Unlike standard sand traps, it does not use a cylindrical shell. Instead, its spherical design provides a user-friendly and accessible approach while also increasing gas capacity.



APPLICATIONS



DRILLING



FLOWBACK



PRODUCTION

SPECIFICATIONS

VERTICAL STRIKER PLATE/ VERTICAL CYCLONIC

- Size Range: 12" to 60"
- Skid: Built to AWS D1.1 Specifications
- Certification: Built to ASME Section VIII, Div 1 or 2 and National Board Registered

SPHERICAL SAND TRAP/ SAND SEPARATOR

- Built To ASME Section VIII, Div 1 or 2 and National Board Registered
- Size Range:
 - 60-in. ID x 3,000 – 10,000 PSI
 - 48-in. ID x 3,000 – 10,000 PSI
 - 36-in. ID x 3,000 – 10,000 PSI
- Piping Per Customer Specifications
- Pressure relief valve Per Customer Specifications



FEATURES

- Facilitates separation of heavy particulate from gas and liquid
- Works with multi-phase operations (addition of gas phase may reduce throughput capacity)
- Discharges sand through bottom of vessel through controlled choke or manual or actuated valve
- Removable deflector option protects vessel internals leading to long vessel life
- Offered as an option on an L-skid with a gas outlet and drain spools
- Available with choke valves, plug valves, flow iron and manifolds

SPHERICAL SAND TRAPS ARE:

- Erosion-Resistant
- Compact
- Transportable From Site to Site
- No Screens or Filters That Require Frequent Disassembly and Cleaning

PRODUCTION BENEFITS

- Striker Plate and Cyclonic Sand Traps have a notably long life and lower cost. They provide good separation across a wide range of flow regimes and operating pressures.
- Striker Plate and Cyclonic Sand Traps have no moving parts and can last years with proper inspection and maintenance.
- Striker Plate and Cyclonic Sand Traps perform well in dry flow and moist conditions when they encounter water slugs and in very wet flow back conditions.
- Spherical Sand Traps offer greater cross-sectional area and internal baffling lead to lower flow velocities and improved sand removal.
- Spherical Sand Traps offer larger sand holding capacity, which equates to less frequent sand dumping.
- Spherical Sand Traps allow wells to be flowed back and produced at higher flow rates.

