

# PUMPS

Flotek carries a wide range of submersible centrifugal style pumps. This design uses a matching impeller and diffuser stage. The impeller is fixed to a central shaft where rotational energy supplied from the motor is transferred to the fluid as flow. The diffuser's role is to redirect flow to the eye of impeller and restrict flow to create the pump head. Each stage generates lift based on a flow/head relationship or curve. The lift generated increases with each stage added. By adding more stages to the stack increases the total pump generated lift. This is how the pump can be custom tailored to the desired well performance.

**Ni-Resist Pumps** - The **Ni-Resist** line is a multi-stage centrifugal pump configuration designed for heavy duty use in oil and gas wells. Flotek carries multiple stage sizes to handle rates from 75BPD to over 2000BPD so we are capable of handling all of our customer's applications. **Ni-Resist** pumps are designed to handle mild solids, thrust caused by variable well conditions, and high head applications. This is our premier pump line designed for the harshest conditions in the oil and coal bed methane fields.

## Features and Benefits

- Type 1 Ni-Resist Stages-used to increase wear and corrosion resistance
- Tungsten Carbide Bearings- abrasive resistance and high heat conditions
- Stainless Steel Pump Shafts- corrosion resistance and high strength with an option of Monel construction for high horsepower applications
- 4140 Alloy Steel Base and Discharge- high torsional and fatigue strength
- Rebuildable/Repairable – designed for ease of teardown and rebuild. In most worn pumps, Flotek can tear down and rebuild to like new condition.

**Grundfos CBNG Pumps**- **Grundfos** is a well established and respected pump manufacturer in the water well industry. **Grundfos** manufactures their pumps in state of the art manufacturing facilities with the utmost quality. Flotek carries the CBM Line of **Grundfos Pumps** engineered to handle the harsh conditions of the Coal Bed Methane Industry. Flotek Pump Services is a proud distributor of the **Grundfos CBM Pump** line for the Rocky Mountain area.

## Features and Benefits

- Complete Stainless Steel Construction- corrosion and extended pump life
- Built-In Thrust Protection- additional thrust washers added to pump to increase resistance to up thrust.
- Intermediate Bearing Chamber – additional bearings added to improve pump life, increase stability, and reduce wear.
- Rugged Top Bearing – tighter bearing tolerances and a welded bearing cap are used to increase pump life.
- No Check Valves- The CBM line is designed without the check valve installed.

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**Goulds Xtreme Series Pumps** - The **Goulds Xtreme Series Pump** is a field proven design that has been engineered to work in the conditions of the coal bed methane industry. The pump housing is a corrosion resistant stainless steel casing welded on top and bottom for increase durability. The stages are an engineered glass filled composite designed for high wear resistance and abrasion from solids. For superior sand handling characteristics, **Goulds** uses a floating impeller stack with face clearance. The bearings are an engineered polymer material used for high temperature, abrasion resistance, and strength.

## **Features and Benefits**

- Superior Sand Handling- Engineered stage face clearance to move abrasives.
- Stainless Steel Components – Housing, Intake and Bowls made from stainless steel for corrosion resistance.
- Composite Impellers & Diffusers – Engineered Composite material used for impellers and diffuser for greater abrasive and heat resistance.
- Upthrust Limiting Stud – Designed to limit stage stack from going into upthrust condition.
- Polymer Bearing – Engineered polymer material for bearing use in high abrasive and heat environments.