

## HORIZONTAL PUMPING SYSTEMS

# Hercules™ HPS: mine dewatering technology

Reliable, efficient, and low-maintenance

### FEATURES

- Modular design with a common skid for all components
- Compact design can be dismantled and reassembled underground
- Field repairable without the need to disturb pipework
- Advanced materials: Ni-resist base, Monel® / Inconel® shafts, Octolock® diffusers, DuraHard® 15 coating, tungsten carbide bearings

### BENEFITS

- Fast maintenance and minimal downtime
- Compact and flexible for tight spaces
- Durable materials extend service life
- Low vibration and noise
- Pulse-free flow protects pipework
- Lowest total cost of ownership

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Two Hercules HPS SM18500 installed in a mine, each unit 8 stages, 250 hp, 520gpm at 570 psi

### Overview

Hercules™ horizontal pumping system (HPS) provides efficient mine dewatering for permanent and semi-permanent installations in deep open-pit, underground decline, or shaft mines. Engineered for medium to high-pressure applications, Hercules HPS offers improved reliability and reduced downtime compared to conventional centrifugal and positive displacement pumps.

Mine dewatering strategies often require multiple pump technologies tailored to specific site conditions. For medium to high-pressure applications, Hercules HPS delivers superior efficiency and durability, which minimizes operational interruptions and maintenance costs.

## The Hercules HPS advantage

Summit ESP®, a Halliburton Service, engineers Hercules HPS for tough mine dewatering applications. Advanced materials and a modular design ensure long service life, minimal downtime, adaptability, and superior performance over traditional pump designs. The system integrates four core components on a common skid to maximize reliability and field efficiency:

- **Electric motor**  
Standard 2-pole electric motor with optional diesel, natural gas, or turbine drive configurations.
- **Bearing housing and thrust chamber**  
Designed for rapid replacement without disturbing pipework.
- **Single mechanical seal**  
Operates at suction pressure for enhanced reliability and simplified maintenance.
- **Pump barrel**  
Adapted from Summit ESP's proven MineESP® systems and features mixed flow tungsten carbide bearing stages (impellers and diffusers) with DuraHard 15 coatings applied through a molecular bonding process for added hardness and ductility. Ni-Resist pump barrel base material provides superior corrosion resistance. Shaft material is Monel or Inconel, and Octolock system male/female interfaces prevent diffuser spinning.



Octolock diffuser (series 675 and larger) eliminate the possibility of spinning diffusers.

## Hercules comparison chart

FEATURE	HERCULES	RING SECTION	PLUNGER	PISTON / DIAPHRAGM
Technology	Centrifugal	Centrifugal	Positive displacement	Positive displacement
Initial cost	low	low	medium	high
Maintenance costs	minimal	medium	high	high
Downtime for repair / replacement	low	high	high	high
Ease of repair	easy	intricate	complex	complex
Localized "wet-end" element replacement	yes	no	no	no
Abrasion resistant	yes	no	yes	yes
Reconfigurable for changing operating conditions	yes	no	no	no
Pulsation dampeners required	no	no	yes	yes
Vibration levels	low	low	high	high
Noise levels	low	low	high	high
Low total cost of ownership	yes	no	no	no

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