

EASY | COST-EFFECTIVE | RELIABLE



HIGH HEAD PA DE-WATERING PUMPS

## APPLICATION FEATURES

### Bearing assembly and shaft

- Provided with hardened shaft sleeve to protect the shaft
- Oil bath bearing arrangement
- Maximum power: 300kW - PR150  
: 150kW - PR100

### Impeller

- Enclosed impellers to maximise efficiency
- Pump-out vanes on both shrouds
  - Minimises re-circulation
  - Reduces stuffing box pressure
- Efficiencies up to 70%
- Total head up to 140m
- Impeller can be adjusted to maintain maximum efficiency

### Seal options

- Centrifugal seal eliminates need for gland service water
- Centrifugal seal reduces sleeve wear and possible bearing contamination
- Optional stuffing box arrangement for high suction head applications

### Casing

- Single casing with assembly clamps
- Clamp design allows for rotation of volute
- Volute and flange clamp design for easy maintenance

## Design Considerations

**BATTLEMAX PR high head de-watering pumps are designed for light slurries and contaminated water high head applications.**

PR pumps have high-chrome wet ends with expeller or stuffing box seal arrangements

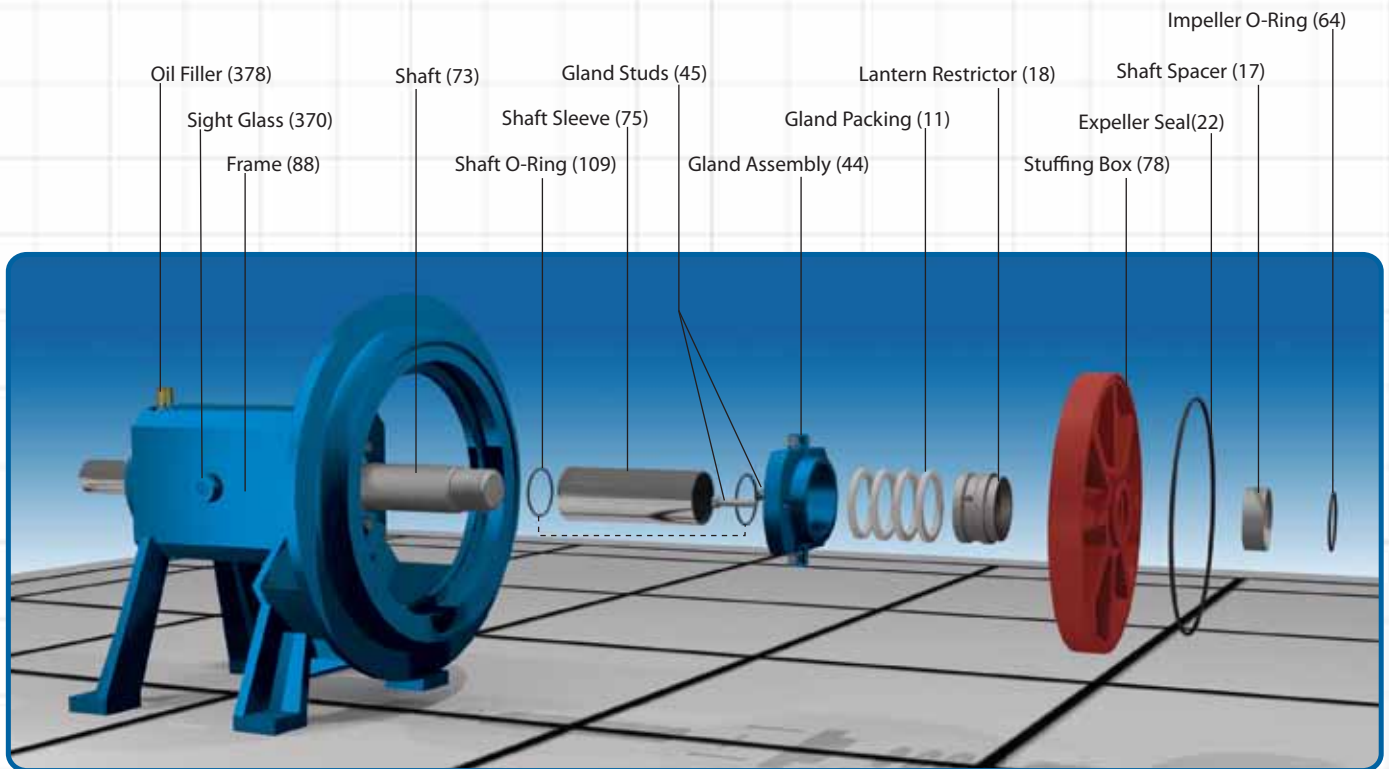
### Standard Construction and Materials Options

<b>LINERS</b>	High chrome
<b>IMPELLERS</b>	High chrome
<b>GLAND</b>	Steel gland, 14% chrome shaft sleeve
<b>SHAFT SEAL</b>	Packed gland stuffing box or expeller seal

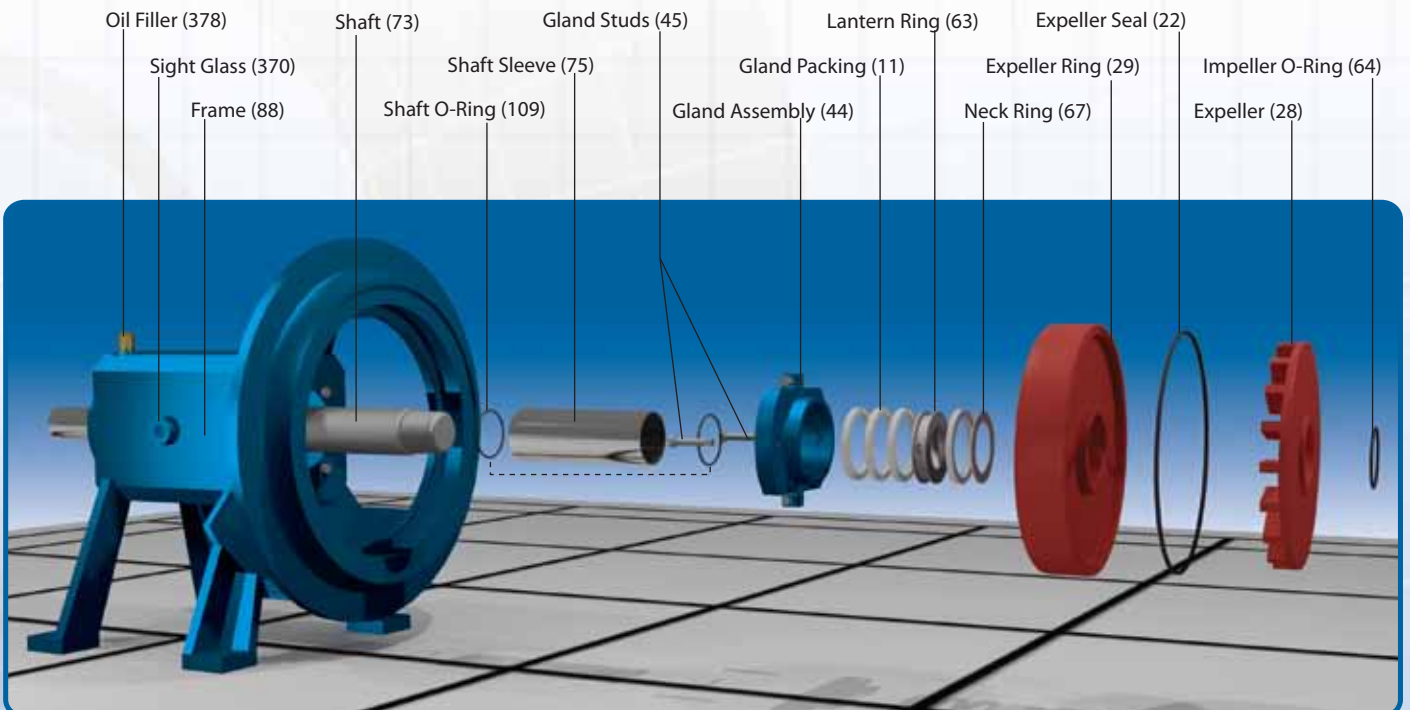


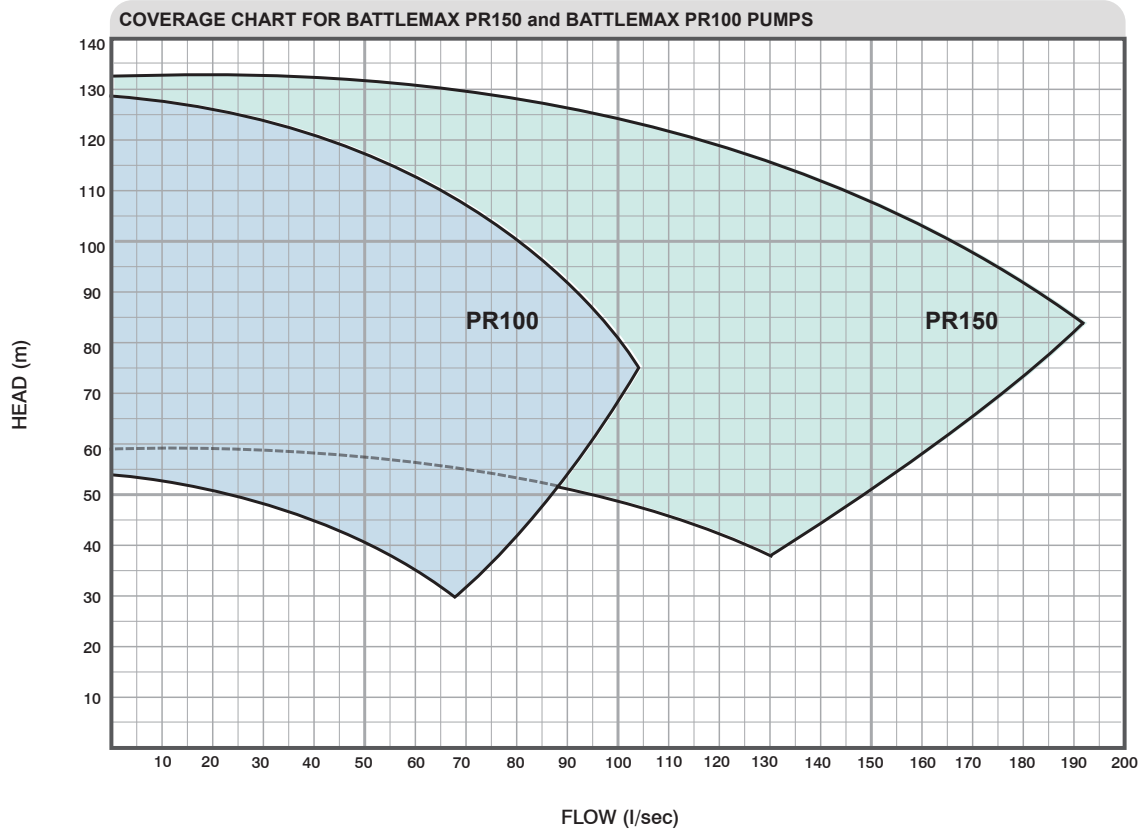
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## STUFFING BOX SEAL ARRANGEMENT



## EXPELLER SEAL ARRANGEMENT





For conventional packed stuffing box and lantern restrictor construction, gland service water must be provided at a minimum of 100 kPA above discharge pressure to ensure positive flow.

Where suction conditions allow, the Battlemax expeller seal can eliminate the need to supply water to the stuffing box. Where high suction pressures or series pumping is required other methods of sealing must be utilised.

Expeller and expeller ring are constructed of Hi-Chrome material. Shaft sleeve material is 14% chrome hardened to protect the shaft from wear.

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