

# UNDERGROUND JUMBO PUMPS



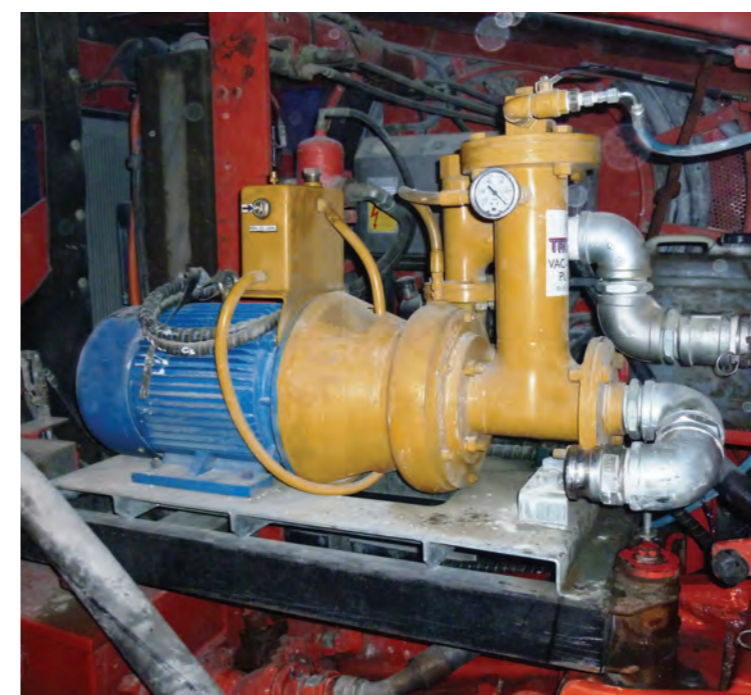
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- Underground Face Dewatering ● Tunnelling
- Longwall Dewatering ● Roof Bolters Dewatering
- Sump Drainage ● General Dewatering



“Overall the Jumbo Pump is a safer, more efficient & less expensive way of removing water from the face.”

*Extract from a study conducted by Newcrest Mining*

### DRY-RUN HYDRO-CYCLE MECHANICAL SEAL

- Dry-run with no seal damage
- Mechanical seal is lubricated via an oil reservoir, allowing fresh oil to flow through the seal cavity via thermal energy, oil re-circulates through the seal area providing indefinite dry running
- 316 Stainless Steel shaft sleeve, eliminates typical shaft wear by mechanical seal

### IMPELLER SHIMMING

- To recover pump performance, simply remove the suction cover plate and remove spacer shim gaskets as required - bringing pump back to new condition
- In 10 minutes your pump is back to new performance
- Easily done whilst on machine underground
- No impeller replacement- Simply remove shim gaskets from behind the suction cover plate as required
- Massive cost saving in parts and time
- One impeller will last at least three times longer

### REBUILDING THE JUMBO PUMP

- Fast and simple pump to work on
- Designed to be serviced quickly and easily whilst still mounted on the Jumbo
- Shaft removal jacking bolts enable the pump shaft to be easily removed from the motor shaft with no special tools
- Easy shaft locator pin locks shaft in correct position
- No shaft alignment issues

### FLOTATION SUCTION STRAINER

- Pump supplied with flotation strainer designed specifically for sumps at the development face
- Floats on water and sucks from 1" below surface, reducing shot-crete fibers in the pumping system
- Large screen area designed to have low velocity and no strainer blockages



### PUMP BASE

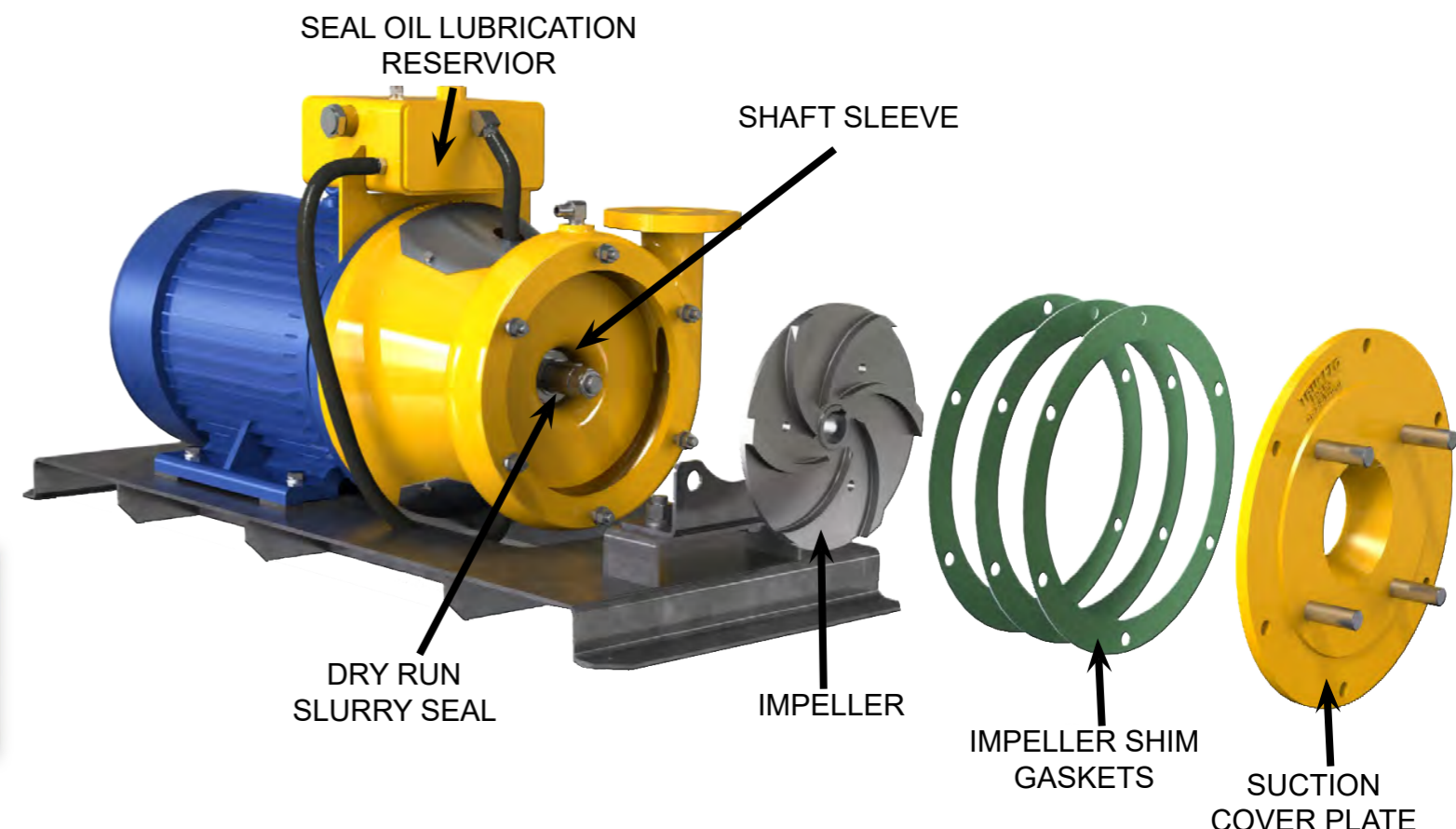
- Heavy duty pump base incorporating fork tyne slots
- Designed in conjunction with Jumbo Miner manufacturers
- Hot-dipped galvanized coating supplied as standard

### PUMP ENGINEERING

- The Jumbo pump has been engineered specifically for the underground mining industry, providing a real solution to pumping costs
- Designed by mining engineers to reduce pumping costs and improve efficiencies
- Wear parts manufactured from super-tough high-chrome-iron
- Designed and proven at Australia's largest underground mining operation, rapidly providing a world wide solution

### DRY PRIME

- Uses waste cooling water from hydraulic cooling system
- Priming time reduced by half compared with compressed air
- Provides strong suction with rapid priming
- Can be used with compressed air, also when no cooling water is available



## JUMBO PUMP BENEFITS

- Less downtime at the face with pump issues
- High discharge pressure capacity - enables less pumps and reduced cost of mining
- Longer periods between maintenance intervals - up to 8 months between face pump repairs
- Less cost to overhaul
- Approx 80% less cost of ownership than conventional submersibles

## JUMBO PUMP SAFETY ADVANTAGES

- No electric cable that can be damaged out in front of the jumbo while drilling
- No lifting heavy pumps - only a light suction hose
- Electric motor is away from water

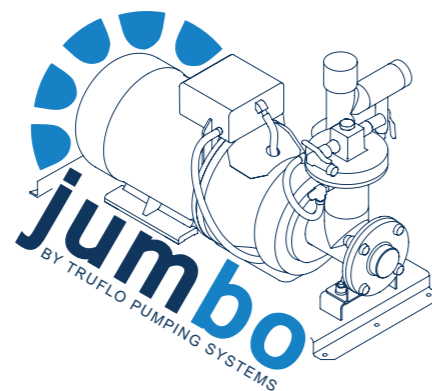
## JUMBO PUMP DETAILS

- Discharge head up to 78 metres
- Flow rate up to 16 L/second
- Compact - Jumbo/Drill mounted
- Electric Motor 15 kW
- Mechanical seal - Cycloseal with thermosiphon dry run lubrication reservoir

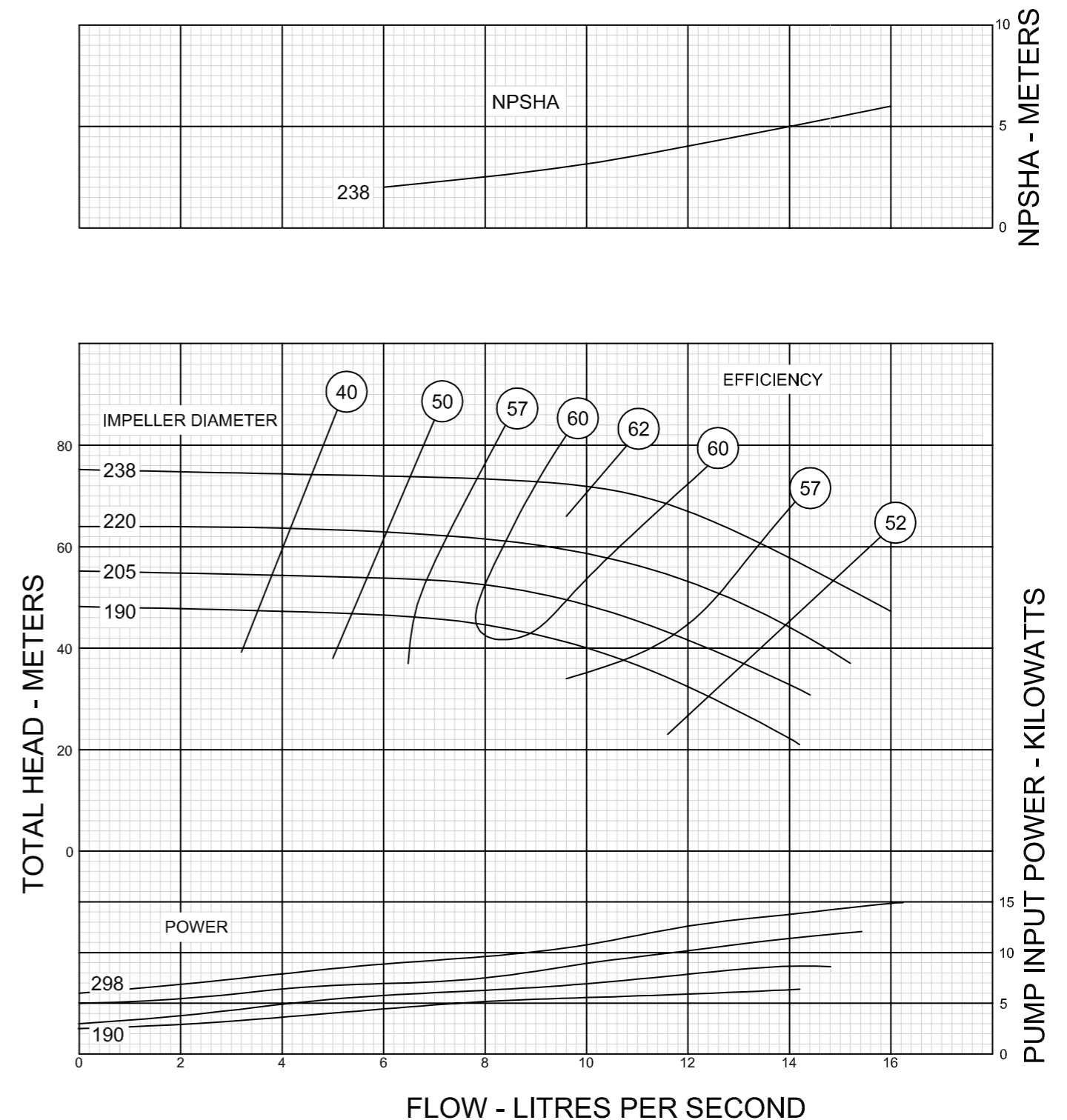
## JUMBO PUMP CONSTRUCTION

- Impeller: High Chrome Iron
- Volute: Cast Iron
- Wear Plate: High Chrome Iron
- Shaft: 316 Stainless Steel
- Shaft Sleeve: 316 Stainless Steel

Note: Other materials available on request.



## PERFORMANCE CURVE



- ▶ **High Efficiencies**
- ▶ **Fast Priming**
- ▶ **Solids Handling**
- ▶ **The True Run Dry Pump**

