

HSP

HYDRAULIC SUBMERSIBLE PUMP (HSP) SYSTEM

PUMP OVERVIEW

Hydraulic Turbine Driven Submersible Pumps (HSPs) offer a simple and robust solution for well or seabed boosting. The ClydeUnion Pumps HSP was specifically designed to provide maximum reliability and flexibility under varying operating duty conditions in challenging well environments.

TYPICAL APPLICATIONS

- Oil well production, both offshore + onshore
- Multiphase downhole + subsea boosting
- Aquifer lift
- Combined production + injection duties in a single well bore
- Pressurised flooding from aquifer to injection zone

HSP technology has a proven track record in:

- Variable duty conditions
- High GOR wells
- High viscosity, heavy oils
- Subsea wells

TECHNICAL DATA

Pump flow rate:	up to 85,000 bpd
Turbine power:	up to 1,340 HP (1MW)
Operating speeds:	3,000 to 10,000 rpm
Fluid temperatures:	up to 425 °F (218 °C) in standard configuration



FEATURES + BENEFITS

- ① **Premium thread connections**
Industry standard for connection into system
- ② **Super duplex, nickel + cobalt based alloys used throughout**
Maximum wear and corrosion resistance
- ③ **Hydrostatic turbine thrust drum**
Non-contacting for low wear using clean feed from turbine
- ④ **Compact multi-stage turbine**
Simple, variable speed drive with a wide operating range
- ⑤ **Compact one piece shaft**
Shop assembled with no couplings
- ⑥ **No mechanical seal / protector**
Simple throttle bush to isolate between turbine and pump with positive flush from turbine to pump
- ⑦ **Multiphase impellers**
Capable of handling up to 80% gas continuously and 100% gas slugs
- ⑧ **Hydrostatic pump thrust drum**
Non-contacting for low wear using clean feed from turbine
- ⑨ **Hydrostatic pump end radial bearings**
Non-contacting for low wear using clean feed from turbine



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CUP-04-HSP-UK-02

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