

Mid-Range Motors & Hydraulic Power Units



Key Points:

- 25-year track record
- Output shafts at both ends with in-board flexible drive couplings
- 4-pole 60Hz 1800rpm
Synchronous speed standard
Other pole, frequency and speed options can be provided
- Water-ingress and temperature sensors standard
- Standard Voltage options include 3000Vac & 4160Vac
- Interface kits can be provided to suit most hydraulic pumps

WHATS INCLUDED

Subsea HPU
Main Pump
Operations Manual
Certification Pack

OPTIONS

Auxiliary Pump
Spares Kit
Topside Power Distribution

Description

75-200HP / 55-150kW

Our mid-range submersible motors and hydraulic power units (HPUs) are the latest versions of a product with a 25-year track-record.

Sharing many common components and a common shaft height outputs range from 75HP to 200HP in normal submerged operation. Ports are provided for circulating the motor oil through an external cooling system for operating outside the normal operating environment and we can assist with designing such systems.

As well as the standard, fully machined (no potentially weak castings are used) and hard-anodised aluminum construction we also offer stainless steel versions using our lightweight fabricated stainless-steel housing.

Further options including water-jacket cooling are also possible.

A feature of our motor endcaps are the machined pockets to reduce weight and increase surface area for increased cooling without resorting to fins which can become clogged with silt and prevent rather than improve motor cooling.

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Pump Mounting:

The standard motor endplate design is for close-coupling the Kawasaki K3VL or Bosch-Rexroth equivalent pumps to fit without an additional interface, thereby removing one leakage path. Interface kits can be provided to suit various other makes and types of pump. Alternatively, bespoke endcaps can be provided to special-order.

Voltage & Speed:

The standard voltage in use since our motors were first used on the Super Scorpio ROV in the 1980s is 3000Vac at a frequency of 60Hz. This should be the voltage at the motor, voltage-drop down the umbilical must be factored in to establish surface supply voltage. Alternative voltages from 400Vac to 4160V at 60Hz can be provided.

Similarly, alternative frequencies can be provided. This could be 50Hz or any particular frequency designed to match the pump optimum speed; for example, 86Hz to provide a nominal speed of 2580rpm. This can allow a smaller, lighter motor and pump combination to achieve a specific hydraulic flow than would be the case with a 60Hz motor. Instead of running a 60Hz, 2-pole motor at a nominal speed of 3600rpm and fitted with a de-stroked pump (to avoid cavitation) we could design a motor to run at a lower speed without the need to de-stroke the pump.

Testing:

All motors and HPUs are tested underwater at full-load and rated supply prior to shipment and provided with calibrated test certificates showing electrical power input and hydraulic power output.

Compensation:

The motors must be filled with suitable oil, all air bled and a positive over-pressurisation applied not to exceed 0.5bar above external ambient pressure. The same type hydraulic oil used in the hydraulics (e.g. Tellus 32 or equivalent) can also be used in the motor. Alternatively, the motor could be filled with transformer oil. Spring-backed compensators can be provided as part of the package.

Water Sensor:

A simple normally open type water ingress sensor is fitted at a low point in the motor. Additional sensors can be fitted as optional extras.

Temperature Sensor:

As standard a PT100 sensor is fitted to measure motor oil temperature. Additional sensors can be fitted as optional extras.

Improved Heat Transfer Design:

Using latest 5-axis machining techniques our motor endcaps are scalloped to increase the wetted surface area whilst also removing weight without having to resort to deep finning which can become a sediment trap and actually retain rather than remove motor heat.

Even after 25 years of manufactured we can still make improvements to our products so data sheets can become out of date. Always confirm specifications at time of ordering.