

APPLICATIONS

PUMPS



WATER SUPPLY FOR UNDER SEA VESSELS

File No. 160

Section 3

PROBLEM:

Providing adequate and continuous flow of fresh water saturated chamber systems and warm water to diving excursion bells.

SOLUTION:

Develop a water supply system using a high pressure stainless steel CAT PUMP to maintain constant pressure and water flow to depths of 1000 feet below sea level.

SPECIFICATIONS:

CAT PUMPS Model	*1012
Pressure	700 PSI
Flow	12 GPM
Temperature	105°F
Fluid	Water/Sea Water
Duty Cycle	Continuous
Drive	7.5 H.P. Electric w/Variable Pitch Pulley Regulator and Pulsation Dampener

*Optional CAT PUMP model 1051 S.S. plunger pump.

BENEFITS:

- Portable, compact, lightweight pump.
- Continuous, dependable flow and pressure.
- Energy efficient low H.P. operation.
- Smooth flow - minimum pulsation.

OPERATION:

When diving chambers (under sea vessels) are below sea level, it is necessary to keep the water supply pressurized at 10% above external sea water pressure. At 1000 feet, which is the maximum diving depth of the chambers to date, 499 PSI is required. A Model 1012 CAT PUMP, mounted on a barge, is used to transfer fresh water down to the chamber system. A regulator maintains 700 PSI on the system to provide continuous pressurized fresh water supply to water system of the chambers for showers, drinking and other standard uses.

This system is also used to pump 105°F hot water from the boiler on the barge through a heat radiating system around the individual diving bells. This warm water is also pumped through

small veins in the divers wet suits to keep them warm. By using a stainless steel unchromed pump, heated sea water (rather than fresh water) can be used to warm the bells. This is less expensive, because the sea water can be returned to the sea rather than recirculated.

These life support chambers are submersed and under pressure for long periods, therefore it is essential that a constant supply of pressurized fresh water be provided. It is also important for the divers at greater depths to be kept warm to aid their mobility and maintain efficiency.



“Customer confidence is our greatest asset”

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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