Hydraulically Driven Pumps

Hydraflo™

Moving Water Worldwide - Reliably and Efficiently
Hydraflo™ pumps from MWI

The Hydraflo is a patented, submersible pump that uses the power of hydraulics to drive the impeller via flexible hoses. This replaces a fixed motor, a long, rigid shaft and the supporting structure common to most pumps that can move very large quantities of water. The unique design allows the pump to be set up in hours, not months, and eliminates most of the civil works necessary for installation, also saving money and time. In addition, this also allows the pump and drive system to have optional portable and variable speed capabilities.

**Advantages**

**Versatility**
Hydraflo pumps can be installed at any angle - vertical, horizontal or any angle in between, by simply changing the intake bell.

**Fast Installation**
Hydraflo pumps can be installed within a fraction of the time of conventional lineshaft pumps. A typical installation can be done in house, because they do not require any critical alignment or the extensive civil works required by other high capacity pumps.

**Designed for Longer Life**
Hydraflos are designed for a very long life. All components are picked for ruggedness and durability. Many Hydraflos over 30 years old are still in daily use.

**Less Submergence Required**
Because the standard design of MWI Hydraflo pumps have large intake passages and low speeds, they can be installed and operated continuously at minimal submergence.

**Requires Less Maintenance and Costs Less to Operate**
The Hydraflo is a simple, straightforward design that requires very little maintenance. When used in portable mode, the Hydraflo pumps more water for less money and has a smaller footprint than the many centrifugal pumps that would be required to take its place. Hydraflo pumps are designed to run dry without damage to their components.

**Variable Speed Pumping**
Pump speed can be varied manually by regulating engine speed. An automatic variable speed option is also available.

**Environmentally Friendly**
We offer several hydraulic fluid options which are readily biodegradable and meet the EPA toxicity limits. Hydraflo hydraulic tanks are small and have an engine shut down switch activated by small amounts of fluid loss.
1 Lip Seal (Synthetic Rubber & Stainless Steel Spring)
2 Bolts: Fasten End Pl-Bearing Box (Grade 5)
3 End Plate (ASTM A588, Corten Steel)
4 O-Ring: End Plate/Bearing Box
5 Bearing Box (ASTM A588, Corten Steel)
6 O-Ring: Bearing Box / Motor Mount
7 Motor Mount (ASTM A242 Corten Steel)
8 Bolts: Motor Mount-Bearing Box (Grade 5)
9 O-Ring: Motor Mount/Hydraulic Motor
10 Propeller Nut (AISI 1026 Steel)
11 Propeller Key (AISI 1018 Steel)
12 Propeller (S/S Blades, A588 Corten Steel)
13 Mechanical Seal Assembly (Silicon Carbide & Stainless Steel Spring)
14 Bearing Lock-Nut (ANSI C1015 Steel)
15 Bearing Lock-Washer (ANSI C1015 Steel)
16 Bearings
17 Hydraflo Shaft (304 Stainless Steel)
18 Shaft Coupling Assembly (Steel)
19 Hydraulic Motor (Steel Casting)
20 Mounting Flanges/Adapters
21 Bolts - Hydraulic Motor To Mount (Grade 5)
22 Bearing Retainer (ASTM A242, Corten Steel)
23 Distributor Blades (ASTM A242, Corten Steel)
24 Wear Ring/Liner (304 Stainless Steel)
25 Guide Blades
26 Guide Hub

Due to our continual improvement of our products, we reserve the right to change designs and specifications.
**Method of Operation**

Schematic A shows how the hydraulic system works. Note that the prime mover can be either a diesel engine, electric motor or a combination of both. It drives a hydraulic pump which in turn supplies oil to the hydraulic motor in the water pump. This action spins the hydraulic motor which is directly connected to the propeller. The hydraulic oil is then returned to the oil reservoir through the return filter. Then, the hydraulic oil returns through a strainer and back to the hydraulic pump, thereby completing the circuit.

A relief valve from the high pressure side to the oil reservoir serves to by-pass the power transmission fluid and divert flow in the event that an object gets lodged in the propeller. This is a very important safety feature available only with Hydraflo systems which protects all components from shock loads. Where variable flows are needed, such as in sewage effluent or "piped in" stormwater pumping, the propeller speeds can be adjusted automatically through the hydraulic power transmission system to match up with any combination of water flows and head conditions.

Performance curves for each bowl size are available upon request.
**Installations**

**Horizontal Installation**
- Low profile
- Retro-fit existing pipe

**Vertical Installation**
- Dual power for emergencies
- Remote drive unit

**Angled Installation**
- Low civil works
- Installable at any angle
MWI's international headquarters and extensive manufacturing capabilities are located in Deerfield Beach, Florida, very close to the original business. The manufacturing facilities are spread over 4 city blocks and total nearly 300,000 ft², to include a 10,000 ft² test lab. The company has a facility in Egypt and representatives throughout the United States, Latin America, Middle East, Africa and Asia.

The Hydraflo™ is protected by one or more of the following patents and patents pending:
US Patents: #4,138,202, #6,447,260,
#6,520,750, #4,188,788, #6,113,356,
#4,350,476, #4,138,202, #3,907,463,
#4,070,135, #4,797,067, #3,270,677

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