

**HYDROMATIC<sup>®</sup>**  
SUBMERSIBLE  
SOLIDS HANDLING PUMPS – 50 HERTZ





## HYDROMATIC®

### Hydromatic Submersible Solids Handling Pumps Are Field Proven and Reliable

You can depend on Hydromatic pumps to provide years of reliable service. As one of the oldest submersible pump manufacturers in the world, Hydromatic offers you field-proven pumps and systems for all your requirements. We also supply complete technical support and ongoing engineering assistance for the life of the pump.

### Rugged, Safe Pumps

When government regulations or area classifications require hazardous location pumps, you can depend on Hydromatic submersible solids handling pumps.

Now you can get certified, Class I, Division 1, Group C and/or D hazardous location pumps for applications such as sewage wet wells where flammable gases exist.

### Get the Same Reliability

With Hydromatic hazardous location pumps, you get the same reliability and efficiency designed into the non-hazardous location pumps. Plus, you get added safety advantages with FM approved, hazardous location, Hydromatic pumps.

Reliable, safe operation is ensured because all castings are inspected for porosity before, during and after machining. After assembly each hazardous location pump is thoroughly inspected to ensure reliable performance.

## Installations:

### Municipal

- Wastewater transfer
- Wastewater treatment plants
- Wastewater lift stations
- Subdivisions
- Airports
- Storm water

### Commercial

- Building wastewater systems
- Wastewater
- Hospitals
- Motels
- Apartments
- Schools
- Churches
- Universities
- Campgrounds
- Amusement parks

### Industrial

- Wastewater
- Sump
- Spray wash
- Storm water

Model S12LY



Model S8LAY



Model S3HRCY



Model S4MY



# Vortex and H Series Pumps

## Vortex – Recessed Impeller Option

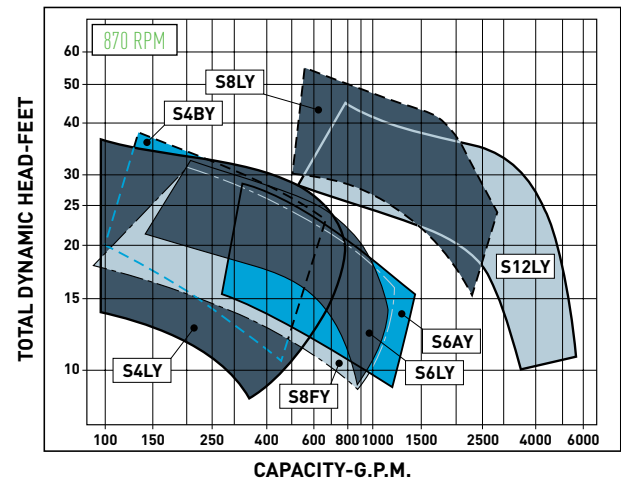
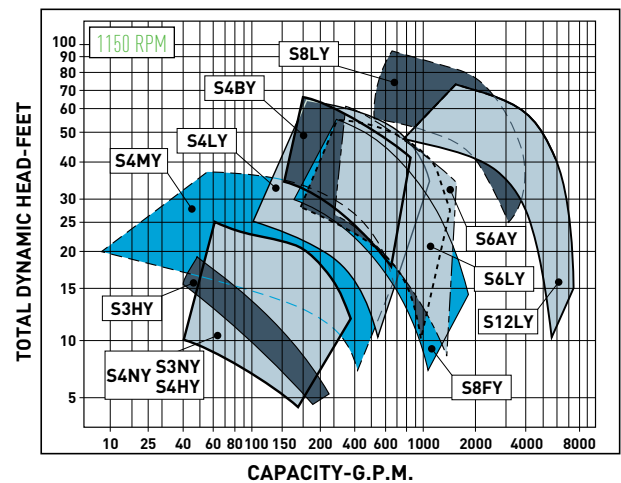
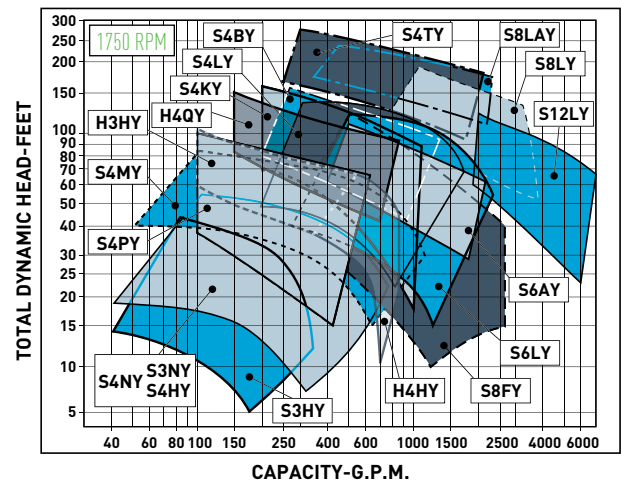
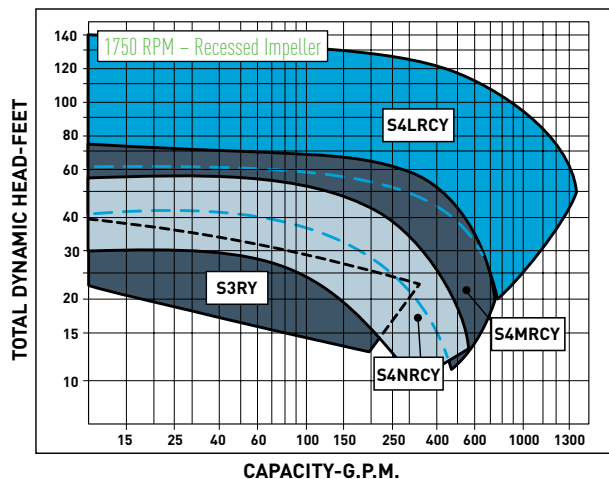
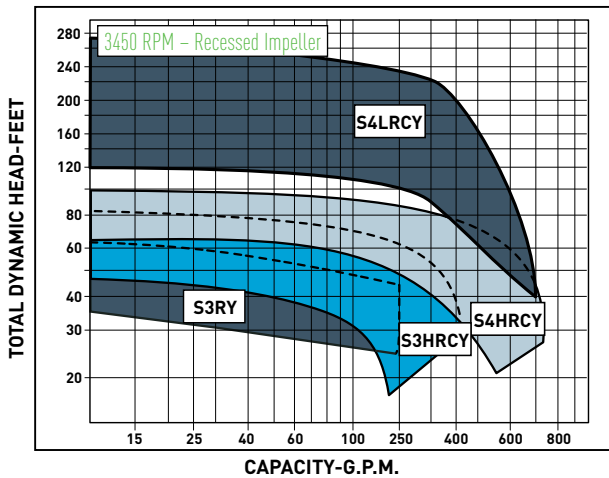
Hydromatic® pumps are available with recessed impellers which are virtually impossible to clog, and they perform up to shut-off head without damage.

Recessed impeller pumps are ideal for a broad range of sewage and special waste-handling situations including high head and low flows and where large solids are present.

The recessed impeller creates a liquid vortex in the volute which directs all spherical solids, slurry, sludge, grit, stringy or fibrous material through the pump without clogging.

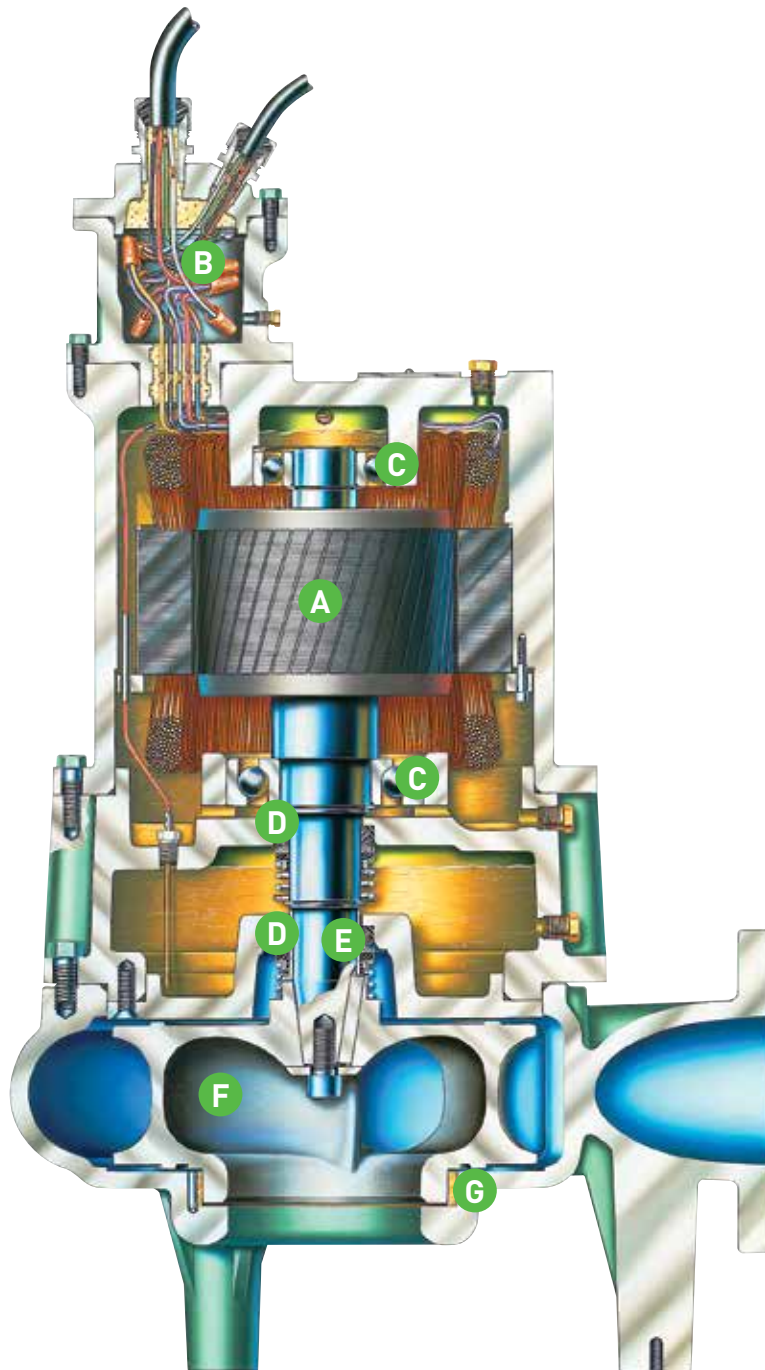
## Greater Pump Efficiency

The H Series solids handling pumps, with the enhanced geometry of the monovane impeller, provide greater pump efficiency and steeper non-overloading performances while passing up to a full 76.2 mm spherical solid as is required by the "Ten States Standards" policy for submersible solids handling pumps. These pumps are available with kilowatt ratings from 5.6 to 11.2 and speeds up to 1460 RPM.





# Standard Pump Features



## A. Motor

Oil filled to efficiently dissipate heat and lock out damage moisture so you receive reliable pumping service. Easily field serviceable.

## B. Connection Box

Two epoxy barriers and a compression fitting prevent water contamination of the motor area, assuring long-term reliable operation. Additionally, epoxy encapsulation and stripped leads positively eliminate "wicking" from the cable.

## C. Bearings

Heavy-duty upper and lower ball bearings are submerged in oil to provide permanent lubrication and ensure long service life.

## D. Seals

A dual seal system operates in an oil chamber to provide long pump service life. Various seal options available.

## E. Shaft

The stainless steel shaft eliminates corrosion and fatigue for longer pump life. The minimum shaft overhang decreases deflection and increases bearing and seal life. Tapered shaft allows for easy removal of impeller.

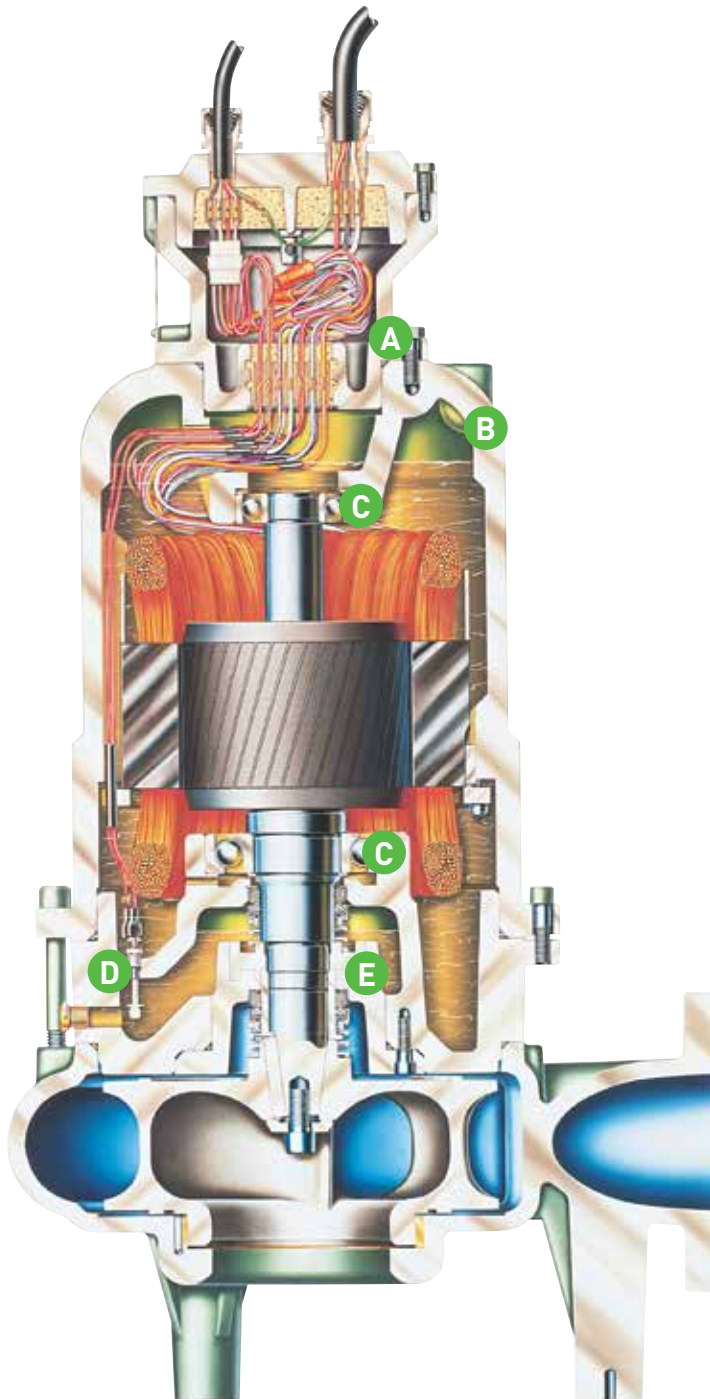
## F. Impeller

Hydromatic® solids handling pumps are available with a wide range of impellers for different applications. Pump-out vanes on the top shroud prevent the buildup of materials in the seal area and extend the life of the thrust bearing by significantly reducing axial thrust.

## G. Renewable Case Wear Ring

Easily replaceable, true wear ring, with a top pullout design for easy disassemble operation.

# Hazardous Location Pump Features



## A. Flame-Proof Joints

Flame-proof joints have 31.75 mm flame paths. These close tolerance joints prevent any internal spark or fire from escaping into the environment.

## B. Motor Housing

The hazardous location housing wall is thicker throughout the case to give you extra containment capability.

## C. Heavy-Duty Bearings

Hydromatic® pumps provide you heavy-duty bearings (minimum B-10 life of 50,000 hours) for long pump life.

## D. Two Moisture Sensors

Two moisture sensors in the oil chamber provide extra security. The sensors are electrically isolated and made with stainless steel connections and stainless steel probes.

## E. Labyrinth Joint

The special labyrinth joint gives you added protection by preventing flame or spark travel to the media being pumped.

# Oil-Filled Motor

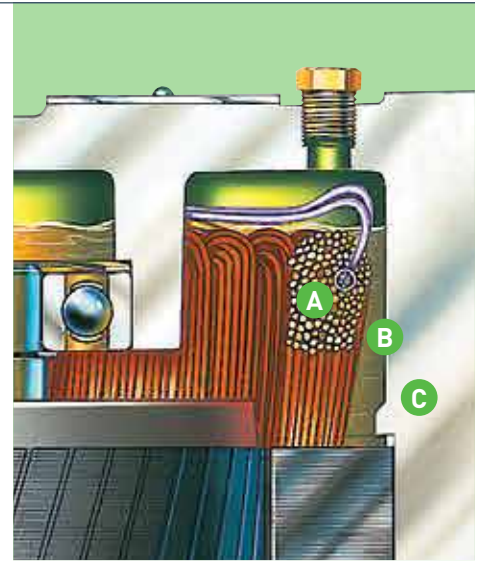
## Dependable Operation

The Hydromatic® pump's oil-filled motor keeps the windings cool, eliminates moisture, and permanently lubricates the bearings, to provide reliable pumping service.

First, the oil bath keeps the motor and bearings cool by dissipating heat and maintaining the correct operating temperature. The oil transfers heat generated in the motor windings to the housing where it is dissipated by the surrounding wet well media.

Second, the oil bath locks out airborne moisture contamination which destroys motors and bearings. Air carries moisture that condenses with temperature changes and causes premature motor and bearing failure.

Third, the oil bath permanently lubricates the bearings which minimizes heat and flushes contaminant away from bearing races. Maintenance costs are reduced because bearings do not require routine service and motors do not require a secondary cooling apparatus. Oil-filled motors ensure dependable, reliable service!



- A. Motor Windings
- B. Oil
- C. Outer Housing

You get long pump life because the oil-filled motor dissipates heat from the windings, through the oil, to the outer housing and then the media.

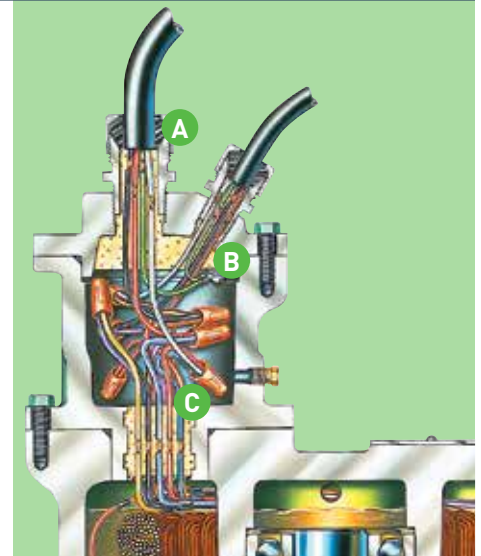
# Triple Protection

## Proven Sealing Method

Three barriers provide triple protection against motor-damaging water. Two epoxy barriers and a compression fitting keep water out of the motor so you get long-term, reliable operation. The top epoxy barrier keeps water out of the connection box, and the lower barrier keeps moisture out of the motor area when the cord is disconnected.

A water-tight seal at cable entry is ensured with a single trumpet shaped elastomer grommet flanked by a washer and compression gland.

Leads going through both epoxy barriers are cut and connected with noninsulated connectors. This lead-encasing design prohibits any wicking or capillary water movement inside the cord.



- A. First Barrier Grommet
- B. Second Barrier Epoxy
- C. Third Barrier Epoxy

Three barriers ensure a dry motor for long-term, reliable operation.

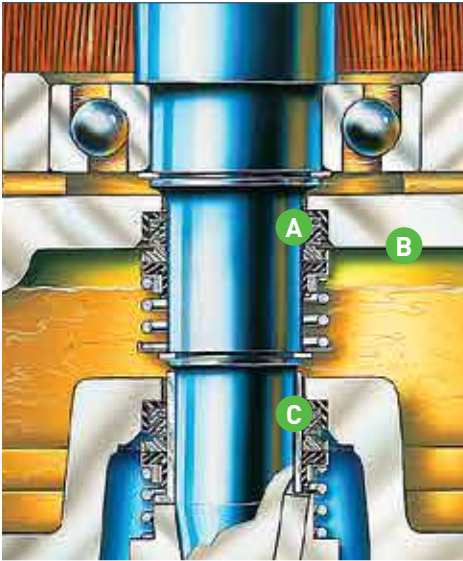
# Dual Seal System

## The Dual Seal System Gives Long Pump Service Life

The mechanical Dual Seal System protects the motor from water with one upper shaft seal and one below an oil chamber. The oil chamber provides lubrication for the seals and traps any moisture that may leak through the lower seal. The upper seal operates entirely in oil. The dual seal design gives the pump exceptionally long pump service life by keeping pumped media out of the motor housing.

The lower seal is "self-sealing" with pressure surges because it is located outside the chamber. Pressure surges from the volute push the lower seal tightly against the stationary face to prevent leakage into the oil chamber.

Hydromatic® pumps use high performance, low friction, long-lasting carbon-ceramic seals, while also offering optional tungsten-carbide or silicon-carbide.



- A. Upper Seal
- B. Air Pocket compresses with pressure to serve as damper
- C. Lower Seal is outside the chamber

The mechanical dual seal system protects your motor from media contamination to provide you exceptionally long pump service.

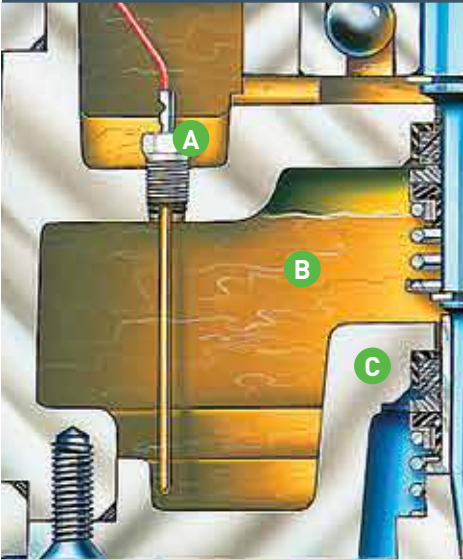
# Moisture Sensor

## Decrease Downtime and Maintenance Costs

The moisture sensor provided as standard on all solids handling pumps saves money and decreases downtime by allowing you to take corrective action before an expensive bearing or motor failure occurs.

Some manufacturers put a moisture sensor in the motor area. Moisture is detected after it begins affecting the bearings and motor itself.

Hydromatic pumps incorporate an internal moisture sensor that detects the presence of moisture in the oil chamber. The sensor's signal to the warning system informs you that the lower seal is beginning to leak, allowing you to perform preventive maintenance instead of reacting to an emergency breakdown.



- A. Moisture Sensor
- B. Oil
- C. Outer Housing

You save downtime and costly repairs with the early warning moisture detection system built into your Hydromatic pump.



# System Operations

## Rail Systems for Easy Pump Retrieval

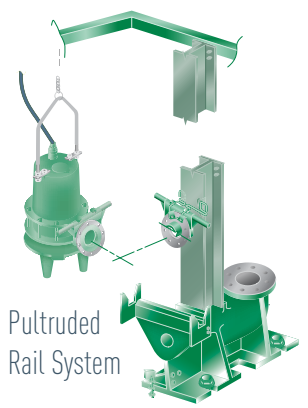
To easily raise and lower your pump(s) for service and maintenance, you can choose from among three rail systems.



Hydr-O-Rail System



MTM Rail System



Pultruded Rail System

## Novus Series – A New Generation of Custom Controls

Custom built to your specifications and individually tested, the Hydromatic® Novus Series is available in five different models: 1000, 1000 Plus, 2000, 3000 and 4000. The series starts with the dependable yet inexpensive Hydromatic Novus 1000 Series which features basic relay logic controls in a quality NEMA 3R painted steel enclosure. The next model is the Hydromatic Novus 1000 Plus Series offering additional features in a NEMA 4X enclosure for Hydromatic 2 hp grinder packages.



The Hydromatic Novus 2000, 3000 and 4000 Series offer more advanced features. These series use state-of-the-art digital controllers that are optimized for submersible pumps in simplex, duplex or triplex wastewater lift stations.



Novus 2000 Simplex Controller Unit

Novus 2000 Duplex Controller Unit



740 EAST 9TH STREET,  
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