

Vertical lineshaft turbine pump



**OIL LUBRICATED CONSTRUCTION
PACKING CONTAINER ASSEMBLY**

1 Discharge Head. - It is made in one piece of cast iron. It has a rugged design and reinforced walls.
With a minimum tensile strength of 30,000 PSI, and a security factor over 4, according to ASTM A-48, Class 30. Also, it may be used on water or oil lubricated systems.

2 Column Pipe. - Water or oil lubricated construction guarantees:

- * Tight-fitting joint.
- * Vertical alignment of lineshafts.
- * Effective coupling and easy uncoupling.
- * Quicker assembly due to its semiconical threaded column pipe.

2a Column Pipe coupling. - Manufactured on suitable thickness, to load deep columns safely. Machined with straight threads for positive alignment.

2b Shaft Enclosing Tubing. - Encloses lineshaft giving it rigid support, free of vibration.

2c Lineshaft. - It is polished carbon steel, fulfilling SAE C-1045. With a nominal tensile strength of 95,000 PSI.

2d Tubing Bearings. - Special alloy bronze bearings support the lineshaft every 5' (feet). They are precision machined and reamed to attain smooth bearing surfaces and are grooved to assure proper lubrication. The outside is threaded to be utilized as a coupling for the shaft enclosing tubing.

2e Stabilizing Spiders. - Are used for centering the shaft enclosing tubing in the column pipe and are molded of strong rubber for long life.

3 Top Bowl. - (In two sections, without Impeller) High strength cast iron for heavy duty service. Vanes are accurately designed to guide the flow with very little friction loss and optimum efficiency. It is made of different materials: Iron, Bronze and Aluminium.

4 Standard Bowl. - Superior design, supports working pressures of 360 PSI and a tensile strength of 30,000 PSI. Consider its special features:

- * No roughness.
- * Vanes contoured to guide the flow, avoiding turbulence.
- * Unique design for either water or oil lubricated systems.
- * Neat finish - It is specially treated to assure wear resistance, minimal friction loss, high efficiency and resistance to corrosion.

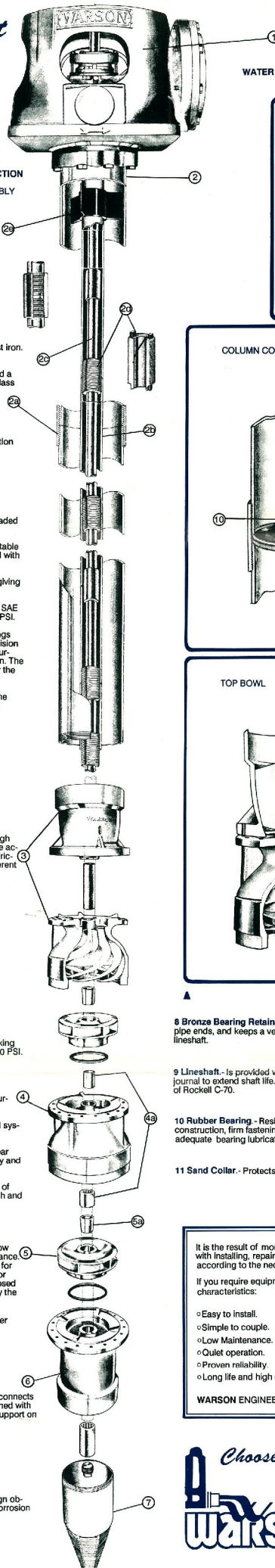
4a Dual Bowl Bearings. - (One of bronze and one of rubber) They insure, in each bowl: long life, smooth and quiet operation of stainless steel impeller shafting.

5 Impeller. - Special alloy of bronze casting with flow passages designed for optimum hydraulic performance. Every one is hand finished to get smooth surfaces for better efficiency, and are balanced electronically for vibration free operation. There are two types: Enclosed and semiopen impellers. The last ones may modify the flow.

5a Split-Tapered Lock Bushing. - It fastens Impeller securely on the shaft.

6 Suction Manifold. - With straightening vanes. It connects suction pipe or strainer to bottom bowl. It is furnished with an extra long sleeve bearing, to maintain a rigid support on the lower end of the pump shaft.

7 Strainer. - Its function is to prevent entry of foreign objects, without restricting the flow into the pump. Corrosion resistant construction.

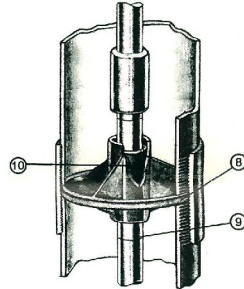


WATER LUBRICATED CONSTRUCTION

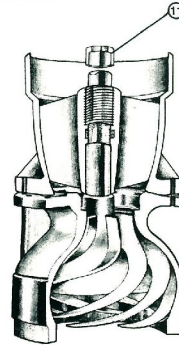
PACKING CONTAINER ASSEMBLY



COLUMN CONSTRUCTION



TOP BOWL



8 Bronze Bearing Retainer. - It is tightly burled between pipe ends, and keeps a vertical alignment of the pump lineshaft.

9 Lineshaft. - Is provided with a special chrome plated shaft journal to extend shaft life. This section reaches a hardness of Rockwell C-70.

10 Rubber Bearing. - Resilient rubber, large size, fluted construction, firm fastening in the retainer, assures adequate bearing lubrication and wear resistance.

11 Sand Collar. - Protects top bowl against sandy water.

It is the result of more than 50 years of experience with installing, repairing and designing pumps according to the necessities of our clients.

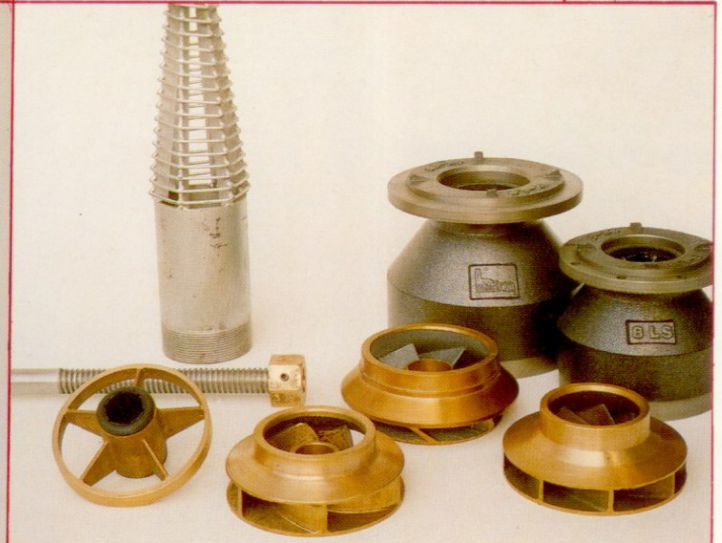
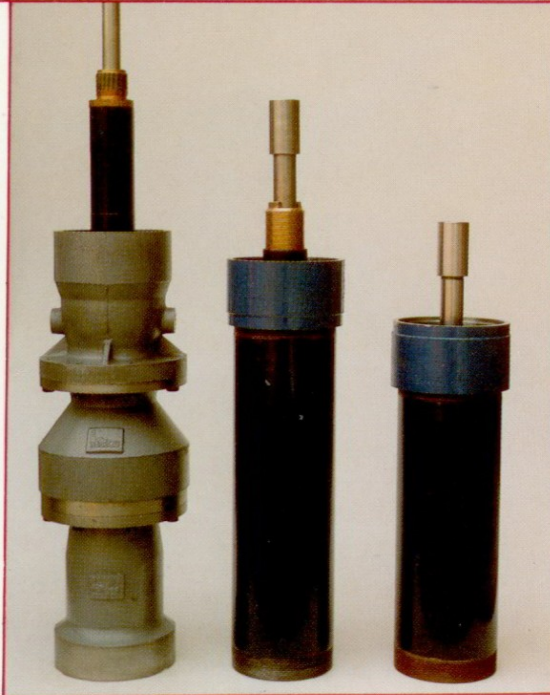
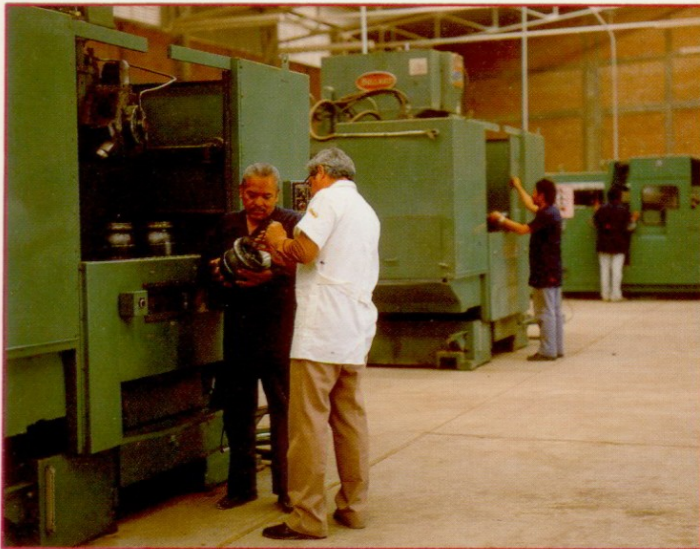
If you require equipment that meets the following characteristics:

- o Easy to install.
- o Simple to couple.
- o Low Maintenance.
- o Quiet operation.
- o Proven reliability.
- o Long life and high efficiency.

WARSON ENGINEERING IS WHAT YOU NEED!



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VERTICAL LINESHAFT

TURBINE PUMP