SHIPPENSBURG PUMP CO. INC.
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Pride

Quality

Craftsmanship

BULLETIN 127
Revised 1/2023

EMH-T

Economical Make-up Horizontal Boiler Feed Units

with Type T51 Regenerative Turbine Pumps

- Designed for Low Flows with Moderate to High Heads
- Pump has no Internal Bearings – Close Coupled Pump
- Pumps are Bronze Fitted to Resist Corrosion and Prevent Seizing
- Units are Available in Most Popular Voltages

SHIPCO® PUMPS FOR MADE IN THE USA QUALITY YOU CAN COUNT ON!

Type T51 Series close-coupled, mounted, regenerative turbine pumps represent the best, least expensive alternative for low flow (to 7 GPM) applications involving moderate to high pressures (heads to 370 feet).

Combining latest concepts in turbine hydraulic design with computer controlled manufacturing, state-of-the-art **T51 Series** pumps deliver high efficiency performance with low NPSH. Costs are controlled through efficient manufacturing, use of standard motors, lower horsepower for given pressure/capacity requirements, longer life, and easy serviceability.

Water Passage Design
Type T51 Series masters one of the most critical design considerations for regenerative turbines – the shaping of water passageways to achieve highest capacity and pressure with minimum horsepower. Evolving from previous models as well as regenerative pump concepts dating back to the 1920's, this series combines both round and rectangular passageway designs.

Impeller Profile
Perhaps the most notable improvement in regenerative turbine pump technology incorporated in these pumps involves the ability to determine optimum impeller width versus blade length, which controls the required horsepower versus pressure curve for regenerative turbine pumps. By optimizing its ratio for each pump, peak efficiency is improved and "off peak" horsepower requirements are reduced as well.

Impeller Blades
After the most favorable impeller profile has been determined for a particular water passage cross-section, the number of blades needed is calculated to maximize performance of that pump. Blade selection increases both efficiency and design pressure without accepting the manufacturing difficulties associated with producing contoured blade impellers.

State-of-the-art computer controlled machines simplify manufacturing the various impellers utilized in the **T51 Series**. The result is high performance pump exhibiting efficiency characteristics of much more expensive units.

NPSH Requirements
Type T51 Series regenerative turbine pumps meet low net positive suction head (NPSH) requirements without efficiency loss. This goal is achieved through low inlet fluid velocity and gentle acceleration to passageway velocity. Special ramps promote an almost shockless entry into the impeller blades where fluids reach their maximum velocities. These specially designed ramps account for the greater inlet efficiency.

STANDARD DESIGN FEATURES

Steep Head vs. Capacity Curve. Pumping capacity varies only slightly as pressure changes. High shut-off pressure overcomes temporary line resistance.

Standard Motor. These close-coupled pumps use standard "C" face motors. Service and replacement motors up to three horsepower are stock items anywhere in the U.S.A.

Best Efficiency. New pump design optimizes efficiency for each use.

Water Slinger. A water slinger provides added protection to ball bearings in event of seal leakage.

Mechanical Seals. Bronze fitted pumps have EPR runner, high temperature carbon, and Ni-resist® seats for best hot water service. Optional seats and materials also available.

300 # Case Working Pressure. Rigid structure is designed for maximum casing strength.

100% Tested. Every pump is fully tested to verify performance prior to shipment.

Volatile Fluid Handling. Turbine impeller handles vapor up to 20% by volume, minimizing the possibility of vapor locks.

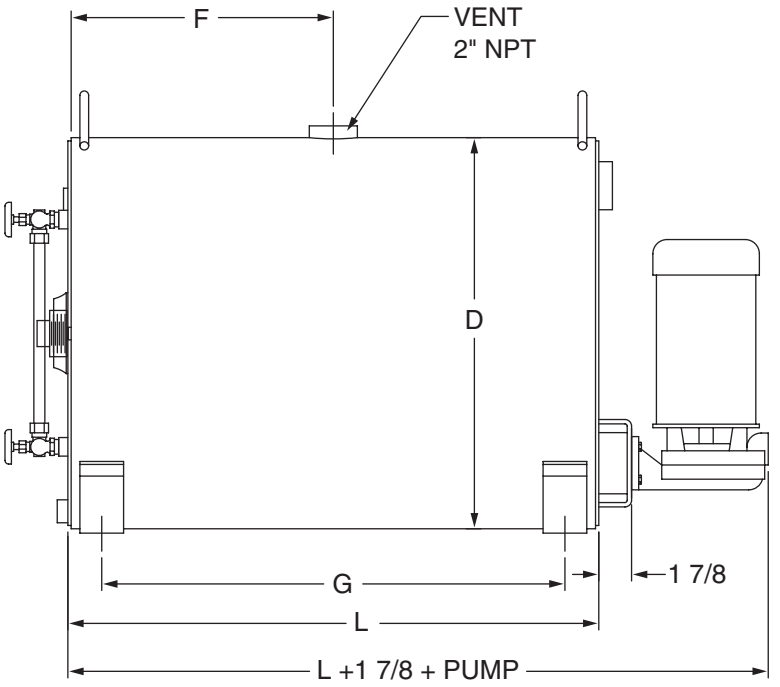
"O" Ring Gaskets. "O" ring seals are used through-out the **T51 Series** pumps to assure sealing and ease of service.

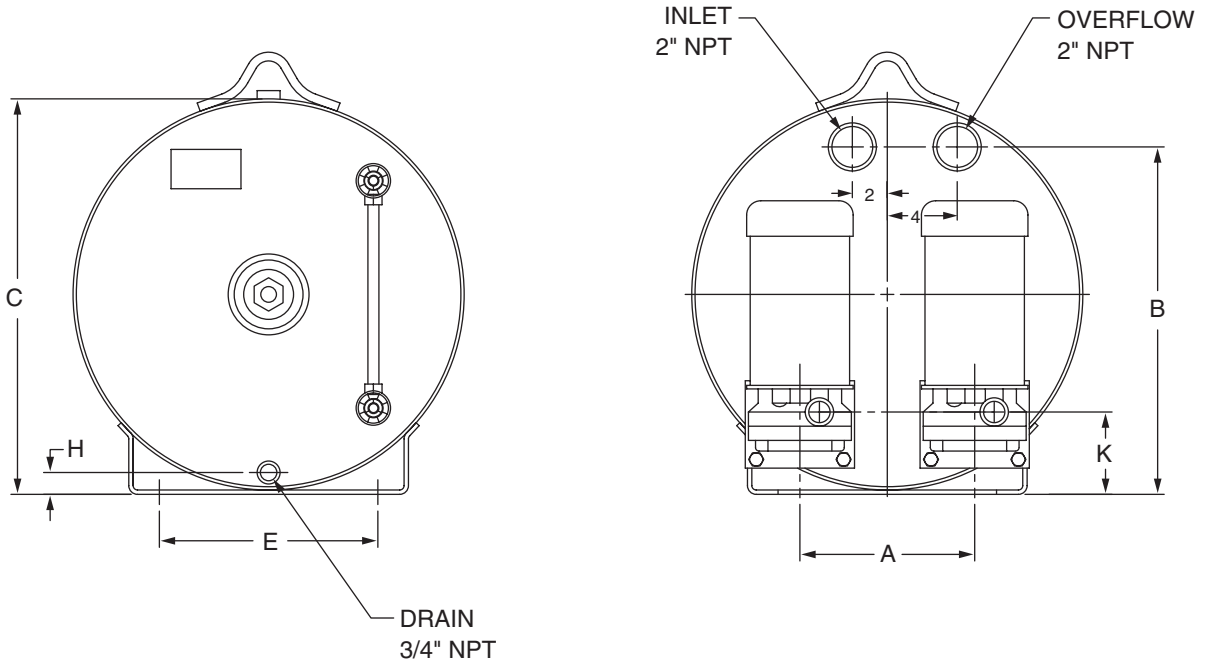
Shaft Sleeve. Units up to three horsepower have a shaft sleeve under the mechanical seal. Larger units have a 316 Stainless Steel shaft with an impeller sleeve.

Standard Accessories:
Receiver: Black Steel Receiver, 2" inlet, 2" Vent, 2" Overflow, Drain, Gauge Glass, Make-up Valve, Dial Thermometer, Inlet WYE Strainer, Required Pump Openings, Regenerative Turbine Pumps, 3500 RPM, ODP. Other units built to order.

Other Accessories Available:
Isolation Valves, Submerged Heater Tubes for Pre-heating Feed Water.

SHIPCO® PUMPS





Boiler Size	Motor Size	Pump GPM
10 HP Boiler	3/4 HP	1.38
20 HP Boiler	3/4 HP	2.76
25 HP Boiler	3/4 HP	3.45
30 HP Boiler	3/4 HP	4.00
40 HP Boiler	3/4 HP	5.52
50 HP Boiler	1-1/2 HP	6.90

RECEIVER SIZE DxL	GALLON	A	B	C	E	F	G	H	K
22 x 30	49	10	20 5/8	22 5/8	15	15	27 1/2	1 5/16	4 1/8
24 x 36	71	10	22 5/8	24 5/8	17	18	33 1/2	1 5/16	4 3/16
24 x 60	117	10	22 5/8	24 5/8	17	30	57 1/2	1 5/16	4 3/16
30 x 60	183	10	28 3/4	30 5/8	23	30	57 1/2	1 5/16	3 11/16
32 x 60	209	10	30 3/4	32 5/8	25	30	57 1/2	1 5/16	3 11/16

FORM BULL 127 *Revised 1/2023*

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