

# 12VLDP and 12VLXDP

## Submersible Dry Pit

12" Non-Clog Wastewater Pumps

Standard (12VLDP) and Explosion-Proof (12VLXDP)



**T**HE 12VLDP AND 12VLXDP (EXPLOSION-PROOF) SUBMERSIBLE DRY PIT WASTEWATER PUMPS ARE DESIGNED ESPECIALLY FOR HIGH FLOW MEDIUM HEAD APPLICATIONS SUCH AS: large municipal stations, treatment plants, transfer stations and dewatering. The pump handles solids up to 5¼ inches in diameter and 2 available motor speeds make it ideal for most high flow wastewater applications. Call your Myers distributor, or the Myers Ohio sales office at 419-289-1144 for more details.

### ADVANTAGES BY DESIGN

**HIGH EFFICIENCY HYDRAULIC DESIGN CUTS PUMPING COSTS AND EXTENDS LIFE OF FLUID END COMPONENTS.**

- Two-vane, rounded port impeller handles 5¼" solids with ease at high operating efficiencies.

- High efficiency volute offers quiet operation, low radial loads over extended portion of performance curve.

### DURABLE MOTOR WILL PROVIDE MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor and seal cavity for maximum heat dissipation and continuous lubrication.
- Heat sensor thermostats imbedded in windings protect motor from over heat conditions.
- Seal leak probes warn of moisture entry; helps prevent costly motor burn-out.

### PRODUCT CAPABILITIES

Capacities To	7750 gpm	29331 lpm
Heads To	72 ft.	21.9 m
Solids Handling	5¼ in.	1133.3 mm
Liquids Handling	raw unscreened sewage, drain water, effluent	
Intermittent Liquid Temp.	up to 140°F	up to 60°C
Winding Insulation Temp. (Class H)	356°F	180°C
Available Motors	<b>1150 RPM:</b> 40, 50 HP 230/460/575V 3Ø, 60 Hz. 60, 75 HP 460/575V, 3Ø 60 Hz. <b>870 RPM:</b> 15, 20, 25 HP 200/230/460/575V, 3Ø, 60 Hz 30 HP 230/460/575V, 3Øm 60 Hz	
Std. Third Party Approvals	CSA (pending)	
Optional Approvals	FM Class 1, Groups C & D (pending - 12VLXDP only)	
Acceptable pH Range	6 - 9	
Specific Gravity	.9 - 1.1	
Viscosity	28 - 35 SSU	
Discharge, Horizontal Flange	12 in. 125 lb. ANSI	304.8 mm

NOTE: Consult factory for applications outside of these recommendations.

Construction Materials	
Motor Housing, Seal Housing, Cord Cap and Volute Case	cast iron, Class30 ASTM A48
Enclosed 2-Vane Impeller	ductile iron, Class 65 ASTM A536
Power and Control Cord	25 ft. SOOW
Mechanical Seals Standard Optional	double tandem, type 21 carbon and ceramic lower tungsten, carbide
Pump, Motor Shaft	416 SST
Fasteners	300 Series SST
Case Wear Ring	bronze
Base Elbow	cast iron, Class 30, ASTM A48

WHERE INNOVATION MEETS TRADITION

**Myers®**

Pentair Water

---

## PUMP FEATURES

### CABLE ENTRY SYSTEM

Cable jacket sealed with clamped, rubber grommet. Individual wires sealed with epoxy to prevent wicking in case of cable damage.

### TERMINAL BOARD

Provides easy connections from power and control cables to stator. Allows voltage change infield on dual winding motors.

### HEAT SENSORS ON MOTOR WINDING

Opens to de-energize motor starter if winding temperature reaches 150°C.

### MOTOR STATOR

Oil-filled for continuous lubrication of bearings and seals. Class H insulation.

### BALL BEARINGS

Upper and lower ball bearings support shaft and rotor and take axial and radial loads.

### DOUBLE TANDEM SHAFT SEALS

Protect motor, operates in clean oil.

### DUAL SEAL LEAK PROBES

Detect water in seal housing. Activates warning light in control panel.

### HEAVY 416 SST SHAFT

Reduces deflection from impeller radial loads. Tapered and keyed to accept impeller.

### HIGH EFFICIENCY IMPELLER

Two-vane, rounded port, non-clogging design. Passes 5/4" spherical solids.

### HORIZONTAL DISCHARGE VOLUTE CASE

12" 125 lb. flange.

### PUMP OUT VANES

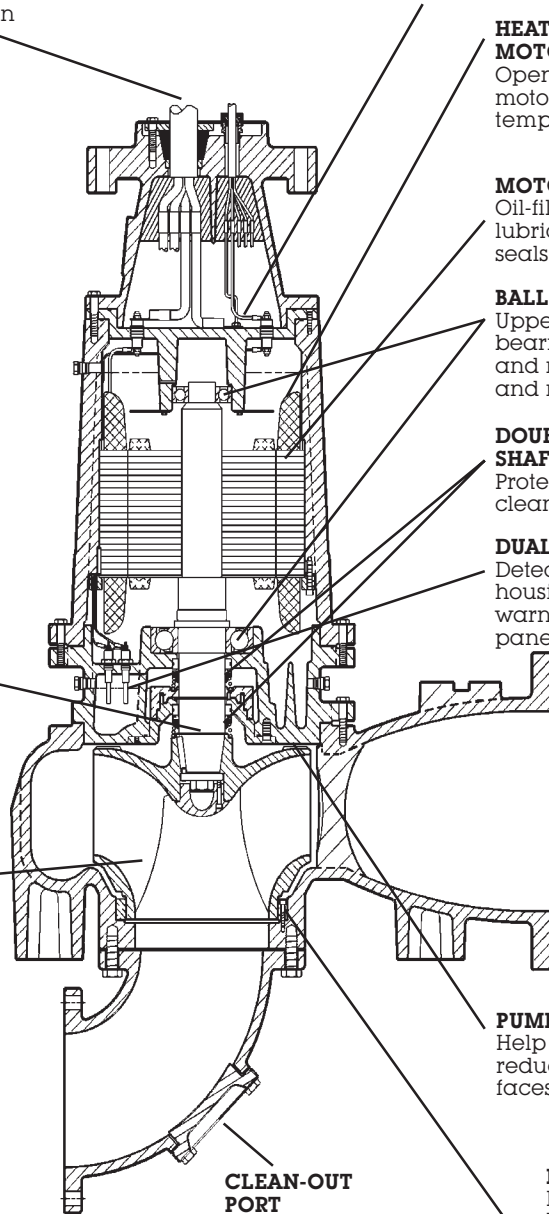
Help keep trash from seal, reduces pressure at seal faces.

### CLEAN-OUT PORT

Easy access for servicing.

### BRONZE WEAR RING

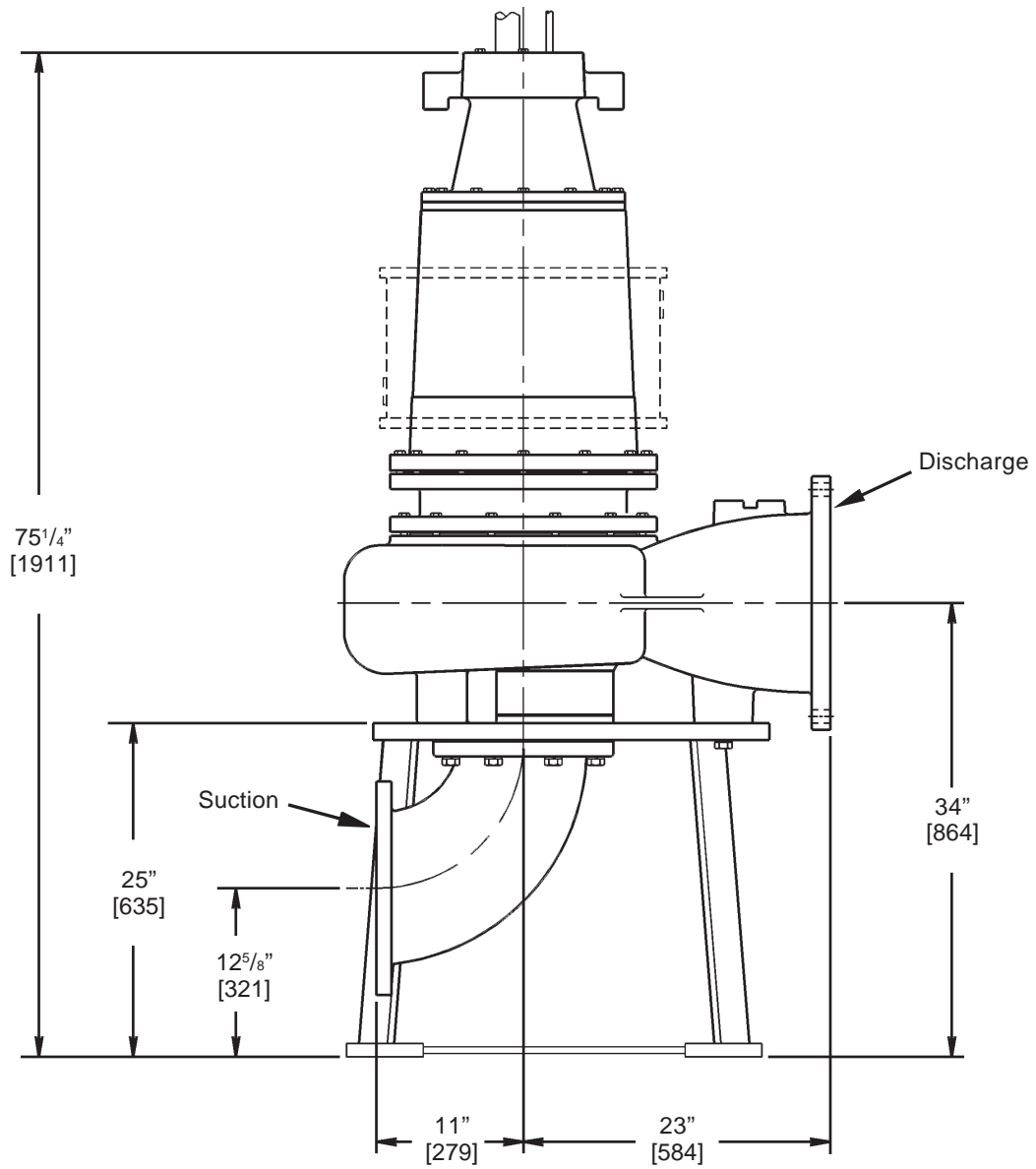
Reduces by-pass leakage and wear. Replaceable to restore original running clearances and pump efficiencies.



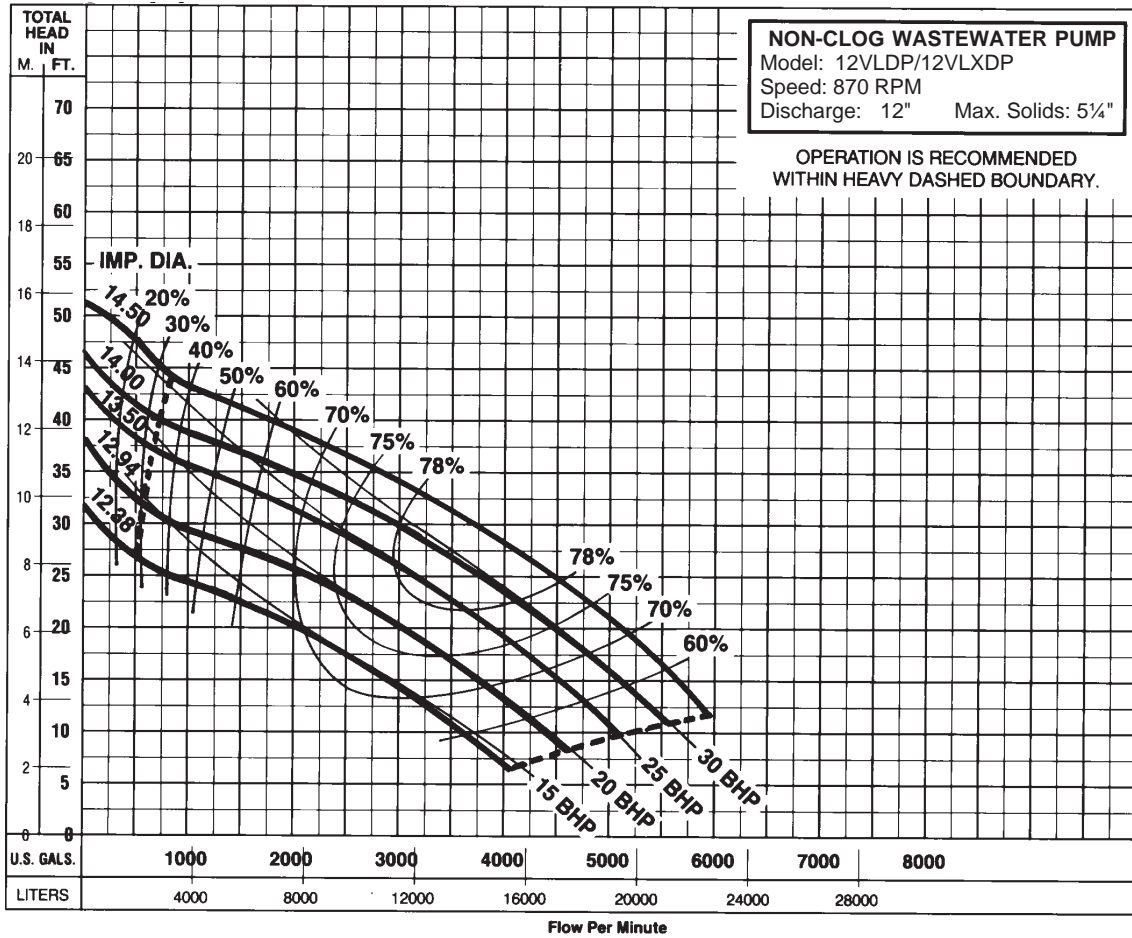
---

## DIMENSIONS

[ ] Dimensions in mm



# PUMP PERFORMANCE 870 RPM



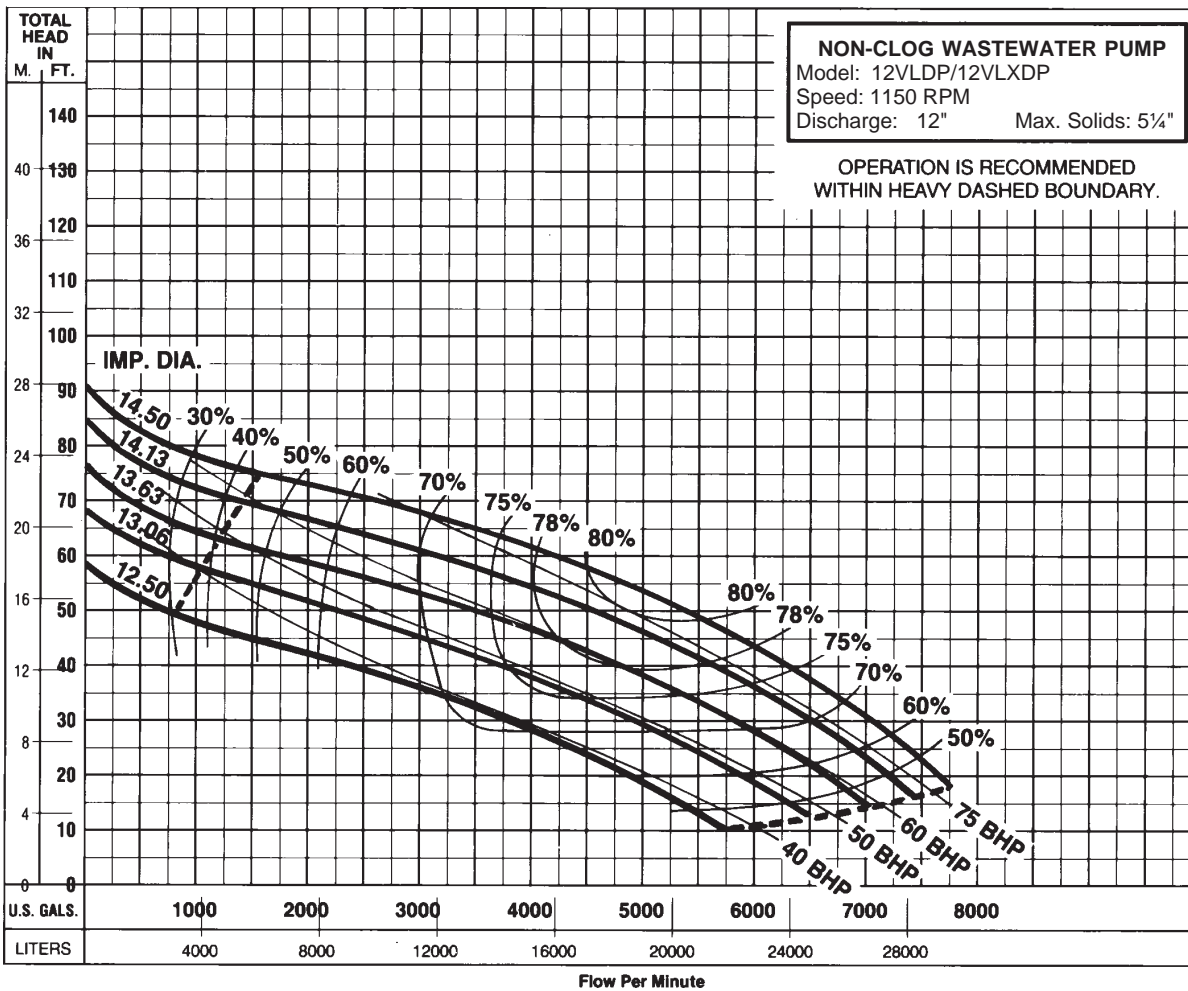
Pump performance is based on clear water (1.0 specific gravity @ 68°F) and pump fluid end (hydraulic) efficiency. Motor data based on 40°C ambient temperature.

Available Models		Motor Electrical Data												
Standard	Explosion Proof	HP	Volts	Phase	Start Hz	Run Amps	Factor Amps	Service Run Amps	Factor KW	Service Start KW	Run KVA	Code KVA	NEC Service Letter	Factor
12VLDP150M8-03	12VLXDP150M8-03	15	200	3	60	334	53.4	61.2	13.4	15.8	116	18.5	J	1.2
12VLDP150M8-23	12VLXDP150M8-23	15	230	3	60	290	46.4	53.2	13.4	15.8	116	18.5	J	1.2
12VLDP150M8-43	12VLXDP150M8-43	15	460	3	60	145	23.2	26.6	13.4	15.8	116	18.5	J	1.2
12VLDP150M8-53	12VLXDP150M8-53	15	575	3	60	116	18.6	21.3	13.4	15.8	116	18.5	J	1.2
12VLDP200M8-03	12VLXDP200M8-03	20	200	3	60	334	67.2	78.5	17.6	20.9	116	23.2	G	1.2
12VLDP200M8-23	12VLXDP200M8-23	20	230	3	60	290	58.4	68.3	17.6	20.9	116	23.2	G	1.2
12VLDP200M8-43	12VLXDP200M8-43	20	460	3	60	145	29.2	34.1	17.6	20.9	116	23.2	G	1.2
12VLDP200M8-53	12VLXDP200M8-53	20	575	3	60	116	23.3	27.3	17.6	20.9	116	23.2	G	1.2
12VLDP250M8-03	12VLXDP250M8-03	25	200	3	60	501	84.2	101.0	21.2	26.4	175	29.2	H	1.2
12VLDP250M8-23	12VLXDP250M8-23	25	230	3	60	436	73.2	87.8	21.2	26.4	175	29.2	H	1.2
12VLDP250M8-43	12VLXDP250M8-43	25	460	3	60	218	36.6	44.0	21.2	26.4	175	29.2	H	1.2
12VLDP250M8-53	12VLXDP250M8-53	25	575	3	60	174	29.3	35.1	21.2	26.4	175	29.2	H	1.2
12VLDP300M8-23	12VLXDP300M8-23	30	230	3	60	436	88.0	105.6	26.4	31.6	175	35.1	G	1.2
12VLDP300M8-43	12VLXDP300M8-43	30	460	3	60	218	44.0	52.8	26.4	31.6	175	35.1	G	1.2
12VLDP300M8-53	12VLXDP300M8-53	30	575	3	60	174	35.2	42.2	26.4	31.6	175	35.1	G	1.2

Motor Efficiencies and Power Factor									
Service Efficiency %					Power Factor %				
HP	Phase	Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
15	3	85.0	83.5	81.5	75	74.5	72.5	68.0	59.0
20	3	85.5	85.0	83.5	80	77.0	75.5	72.5	66.0
25	3	85.0	88.0	87.0	83	74.3	72.7	68.5	59.5
30	3	85.0	85.0	88.0	85	75.1	75.3	70.8	60.0

NOTE: COOLING JACKET REQUIRED ON 30 HP.

# PUMP PERFORMANCE 1150 RPM



Pump performance is based on clear water (1.0 specific gravity @ 68°F) and pump fluid end (hydraulic) efficiency. Motor data based on 40°C ambient temperature.

Available Models		Motor Electrical Data													
Standard	Explosion Proof	HP	Volts	Phase	Start Hz	Run Amps	Factor Amps	Service Run Amps	Factor KW	Service Start KW	Run KVA	Code KVA	NEC Service Letter	Factor	
12VLDP400M6-23	12VLXDP400M6-23	40	230	3	60	580	110.4	132.5	34.3	41.2	230	44.0	G	1.2	
12VLDP400M6-43	12VLXDP400M6-43	40	460	3	60	290	55.2	66.2	34.3	41.2	230	44.0	G	1.2	
12VLDP400M6-53	12VLXDP400M6-53	40	575	3	60	232	44.2	53.0	34.3	44.2	230	44.0	G	1.2	
12VLDP500M6-23	12VLXDP500M6-23	50	230	3	60	417	138.0	165.6	42.6	51.4	290	63.3	G	1.2	
12VLDP500M6-43	12VLXDP500M6-43	50	460	3	60	363	69.0	82.8	42.6	51.4	290	63.3	G	1.2	
12VLDP500M6-53	12VLXDP500M6-53	50	575	3	60	290	55.2	66.2	42.6	51.4	290	63.3	G	1.2	
12VLDP600M6-43	12VLXDP600M6-43	60	460	3	60	405	82.7	101.0	51.4	62.7	323	65.9	F	1.2	
12VLDP600M6-53	12VLXDP600M6-53	60	575	3	60	324	66.2	80.8	51.4	62.7	323	65.9	F	1.2	
12VLDP750M6-43	12VLXDP750M6-43	75	460	3	60	490	103.0	124.0	66.0	79.0	390	82.1	F	1.2	
12VLDP750M6-53	12VLXDP750M6-53	75	575	3	60	392	82.4	99.2	66.0	79.0	390	82.1	F	1.2	

Motor Efficiencies and Power Factor									
Motor Efficiency %						Power Factor %			
HP	Phase	Service Factor Load	100% Load	75% Load	50% Load	Service Factor Load	100% Load	75% Load	50% Load
40	3	87	87	86	82.5	78	78.0	73.8	65.2
50	3	87	88	87	85.0	78	77.5	77.5	68.0
60	3	86	87	87	86.0	78	78.0	78.0	72.5
75	3	85	85	87	87.0	80	80.4	79.0	71.0

NOTE: COOLING JACKETS REQUIRED FOR ALL MODELS.

# 12VLDP and 12VLXDP

---

## SPECIFICATIONS

**PUMP MODEL** - Pump shall be Myers Model Number 12VLDP/12VLXDP Non-Clog Submersible Dry Pit Pump with 2 vane enclosed impeller. All openings in pump impeller and volute case to be large enough to pass a 5-1/4" diameter sphere. Discharge flange shall be twelve (12) inch standard. The pump and motor assembly shall be FM listed for Class 1, Groups C and D explosion-proof service. (12VLXDP only)

The pump shall be fitted with a 8" x 10" suction elbow. A hand clean out shall be provided on the suction elbow. A steel pump stand shall be provided.

**OPERATING CONDITIONS** - Pump shall have a capacity of \_\_\_\_\_ GPM at a total head of \_\_\_\_\_ feet and shall use a \_\_\_\_\_ HP motor operating at \_\_\_\_\_ RPM.

**MOTOR** - Pump motor shall be of the sealed submersible type rated \_\_\_\_\_ HP at \_\_\_\_\_ RPM 60 Hertz. Motor shall be for three phase 200 volts \_\_\_\_\_, 230 volts \_\_\_\_\_, 460 volts \_\_\_\_\_, or 575 volts \_\_\_\_\_. Motor shall be NEMA B type.

Stator winding shall be of the open type with Class H insulation good for 180°C maximum temperature. Winding housing shall be filled with a clean high dielectric oil that lubricates bearings and seals and transfers heat from winding and rotor to outer shell. Air-filled motors which do not have the superior heat dissipating capabilities of oil-filled motors shall not be considered equal.

The pump shall be suitable operating continuously at full load in a dry pit application with ambient temperature of 95°F. The pump shall also be capable of operating fully submersed without damage. The pump shall employ the use of a cooling jacket as needed.

Motor shall have two heavy duty ball bearings to support pump shaft and take radial and thrust loads. Ball bearings shall be designed for 50,000 hours B-10 life. Stator shall be held in place by four (4) clamp rings on the upper end of the stator; each clamp ring shall be held by two (2) motor bolts.

A heat sensor thermostat shall be attached to and imbedded in the winding and be connected in series with the motor starter contractor coil to stop motor if temperature of winding is more than 302°F. Thermostat shall reset automatically when motor cools to safe operating temperature. Three heat sensors to be used on 3 phase motors. The common pump, motor shaft shall be of 416 stainless steel and shall be of tapered design.

**SEALS** - Motor shall be protected by two mechanical seals mounted in tandem with a seal chamber between the seals. Seal chamber shall be oil filled to lubricate seal face and to transmit heat from shaft to outer shell.

Seal faces shall be carbon and ceramic and lapped to a flatness of one light band. Lower seal faces shall be \_\_\_\_\_ carbide (optional).

A double electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control box. This signal shall not stop motor but shall act as a warning only, indicating service is required.

**IMPELLER** - The impeller shall be ductile iron and of the 2 vane non-clog enclosed type. Vane inlet tips shall be carefully rounded to prevent stringy material from catching in vanes. Pump-out vanes shall be used in front and back chamber. Impeller shall be dynamically balanced.

Impeller to be driven by stainless steel shaft key and impeller held in place with lock screw and washer on a tapered shaft. Impeller and motor shall lift off of case as a unit without disturbing discharge piping.

**PUMP CASE** - The volute case shall be cast iron and have a flanged center line discharge. Discharge flange shall be twelve (12) inch standard with bolt holes straddling center line. Bronze wear ring to be pressed into case for guiding impeller neck and to prevent corrosion freeze up. Wear ring to be held from rotating by locking with stainless steel set screw in end of ring.

**PUMP AND MOTOR CASTING** - All castings shall be of high tensile cast iron and shall be treated with phosphate and chromate rinse. All fasteners shall be 302 stainless steel.

**BEARING END CAP** - Upper motor bearing cap shall be a separate casting for easy mounting and replacement.

**POWER CABLES** - Power cord and control cord shall be triple sealed. The power and control conductor shall be single strand sealed with epoxy potting compound and then clamped in place with rubber seal bushing to seal outer jacket against leakage and to provide for strain pull. A third sealing area shall be provided by a terminal board to separate the cable entry chamber from the motor chamber. Cords shall withstand a pull of 300 pounds to meet FM requirements.

Insulation of power and control cords shall be type SOOW. Both control and power cords shall have a green carrier ground conductor that attaches to motor frame.