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SECTION: Z1.20.160

ZM1726

0720

Supersedes

0616

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## MODELS 6292 - 6293 - 6294 - 6295 SUBMERSIBLE PUMP GUIDE SPECIFICATIONS Commercial Duty Sewage Ejectors



### 1.01 GENERAL:

Contractor shall furnish all labor, material, equipment and incidentals required to provide \_\_\_\_\_ (QTY.)  
MODEL \_\_\_\_\_ submersible centrifugal 2" (50 mm) solids handling pump(s) with vortex impeller as specified herein.

### 2.01 OPERATING CONDITIONS

Each submersible pump shall be rated at \_\_\_\_\_ H.P., \_\_\_\_\_ volts, \_\_\_\_\_ phase, \_\_\_\_\_ HZ., 3450 R.P.M. The unit shall produce \_\_\_\_\_ G.P.M. at \_\_\_\_\_ feet of T.D.H.

The submersible pump shall be non-overloading throughout the length of the curve and be capable of operating not submerged without damaging the pump. The reserve service factor shall be a minimum of 1.15. The submersible pump shall pass a 2.0" (50 mm) spherical solid. The submitted performance curve shall show the flow and head capacity of the pump.

The pump housing configuration shall have a  
\_\_\_\_ 2.0" N.P.T. vertical discharge.  
\_\_\_\_ 3.0" N.P.T. vertical discharge.

### 3.01 CONSTRUCTION

Each pump shall be of the close coupled cCSAus listed model \_\_\_\_\_ submersible pump as manufactured by Zoeller Engineered Products of Louisville, Ky. (800-928-7867). The castings shall be constructed of epoxy coated cast iron. The motor housing shall be finned and oil-filled to dissipate heat. All external-mating parts shall be machined and sealed with a Viton square ring. All fasteners exposed to the liquid shall be 300 series stainless steel. The motor shall be protected on the lower side with a tandem mechanical seal arrangement with each seal having a separate spring assembly. The upper and lower ball bearings shall be capable of handling all thrust loads. The pump housing shall be of the concentric design thereby equalizing the pressure forces inside the housing which will extend the service life of the seals and bearings. The top cap shall have a stainless steel lifting handle.

As an optional feature include \_\_\_\_\_ seal leak probes in the seal chamber.

### 4.01 ELECTRICAL POWER CORD

The pump shall be supplied with \_\_\_\_\_ 25' (7.6 m) / \_\_\_\_\_ 35' (10.7 m) / \_\_\_\_\_ 50' (15.2 m) of multiconductor power cord. It shall be SO type cord capable of continued exposure to the pumped liquid. Power cord shall be sized for the rated full load amp loading of the pump in accordance with the National Electric Code. Power cable shall enter into the junction box through a compression type-sealing gland. Water sealing and strain relief are separated. The entire junction chamber shall be sealed off from the motor housing by thru wall terminals to protect the motor from moisture.

### 5.01 MOTOR

The motor shall be an oil filled NEMA B design. At maximum load, the winding temperature will stabilize below the insulation class. Since air-filled motors are not capable of dissipating heat, they shall not be considered equal. Single-phase motors shall include an integral thermal overload switch and the capacitor circuit shall be located in the pump assembly. Three phase motors shall use magnetic starters with overload relays in the control panel for further protection.

### 6.01 BEARINGS AND SHAFT

The upper and lower ball bearing are continually lubricated by the oil which fills the motor housing. The motor shaft shall be made of 416 SS and have a minimum diameter of .625" (15.9 mm).

### 7.01 SEALS

Pump shall have a dual mechanical seal configuration with the seals mounted in tandem. The lower silicon carbide / carbon and upper carbon / ceramic seals are constructed with buna-n elastomers and a 316 SS spring. It shall be equal to a Crane Type 6a configuration. Double seals with a common intermediate spring shall not be considered equal.

Optional seal faces shall be

- Silicon carbide / carbon  Upper.
- Silicon carbide / silicon carbide —  Lower /  Upper.

### 8.01 IMPELLER

The impeller shall be of a fully balanced cast iron vortex design. It shall be capable of passing a solid sphere of 2.0" (50 mm) under the impeller. It shall have pump out vanes located on the back shroud to keep debris away from the seal area. Attempts to improve efficiency by coating impeller shall not be acceptable.

Optional impeller shall be

- Bronze vortex design

### 9.01 PAINTING

The castings shall be protected with a green powder-coated finish.

Optional coating shall be

- double epoxy finish protecting all castings coming in contact with the liquid.

### 10.01 SERVICEABILITY

Components required for the repair of the pump shall be readily available within 24 hours. Components such as mechanical seals and bearings shall not be of a proprietary design and be available from local industrial supply houses. Special tools shall not be required to service the pump. A network of service stations shall be available nationwide in those cases where service requirements are beyond the scope of in-house service mechanics.

### 11.01 SUPPORT

The pump shall have cast iron support legs enabling it to be a freestanding unit.

When ground level access and retrieval is preferred, the following system is available.

- The Z-Rail® disconnect system, consisting of an epoxy coated ductile iron disconnect fitting, slide assembly and upper rail support. Rail pipes and lifting cables are not included.
- SS intermediate stabilizer required for rail systems used where basin depths are greater than 12 feet (3.6m).

For those "Outdoor" installations requiring a factory assembled basin package:

- Simplex system with a \_\_\_ diameter by \_\_\_ depth basin.
- Duplex system with a \_\_\_ diameter by \_\_\_ depth basin.

### 12.01 TESTING

Each pump shall run in liquid before being shipped. It shall be checked at its maximum running point for performance, amps, grounding, winding insulation, and water tightness.

- An optional certified performance test based on the Hydraulic Institute Test Standard for submersible pumps.
- Start up services at the job site by an authorized representative of Zoeller Engineered Products shall be required.  
Start-up report form ZM1074 should be completed in the presence of the installers and returned to the Project Engineer or Zoeller Engineered Products.

### 13.01 WARRANTY

Standard warranty shall be 18 months from date of manufacture, 12 months from date of purchase (proof of purchase required) or 12 months from the date of start up when a start up report is on file with Zoeller Company.



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