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Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

ZOELLER® PUMP COMPANY

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SECTION: 2.20.090
FM1020
0513
Supersedes
0503

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Submersible Wastewater Pump Association SWPA MEMBER

GUIDE SPECIFICATIONS
600 SERIES PUMPS

FAMILY OWNED AMERICAN PROUD

1-7½ BHP / 1750 RPM

1BHP	1½ BHP	2BHP	3BHP	5BHP	7½BHP
611	621	631	641	651	661

1.01 GENERAL: Contractor shall furnish all labor, material, equipment and incidentals required to provide _____ (QTY.) non-clog submersible centrifugal sewage pump(s) as specified herein.

2.01 OPERATING CONDITIONS: Each pump shall be rated at _____ B.H.P., _____ volts, _____ phase, 60 HZ., 1750 R.P.M. The unit shall produce _____ G.P.M. at _____ feet of T.D.H.

The pump shall be nonoverloading throughout the length of the curve and be capable of operating continuously unsubmerged without damaging the pump. The reserve service factor shall be a minimum of 1.20, in all models except Model 661. The submitted performance curve shall show in addition to the head and capacity performance, the efficiency, K.W. input and the motor rating curve. The curve data shall be per the SWPA (Submersible Wastewater Pump Association) approved curve format.

The pump housing configuration shall have a ____ 3" N.P.T. vertical discharge w/ 2.5" solids capacity.
____ 3" flanged horizontal discharge w/ 2.5" solids capacity.
____ 4" flanged horizontal discharge w/ 2.5" solids capacity.

3.01 CONSTRUCTION: Each pump shall be of the close coupled Model _____ submersible type as manufactured by the Zoeller Pump Company of Louisville, Ky. (800-928-7867). The castings shall be constructed of epoxy coated class 30 cast iron. The motor housing shall be finned and oil-filled to dissipate heat and enable the unit to operate for continuous duty unsubmerged without damage to the motor. All external mating parts shall be machined and sealed with a buna-n square ring. All fasteners exposed to the liquid shall be 300 series stainless steel. The motor shall be protected on the top side with sealed junction chamber which in the event of cord damage will prevent moisture wicking into the motor housing. 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 cast iron lifting lugs.

4.01 ELECTRICAL POWER CORD: The pump shall be supplied with ____ 25' / ____ 35' / ____ 50' / ____ 75' 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 chamber through a compression type sealing gland. Water sealing and strain relief are separated. Each individual conductor shall be sealed against wicking should the cable become damaged. 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 oil-filled motor shall a Class F insulated NEMA B design rated for continuous duty. At maximum load, the winding temperature will not exceed 250 degrees Fahrenheit unsubmerged. Since air-filled motors are not capable of dissipating heat, they shall not be considered equal.

6.01 BEARINGS AND SHAFT: Upper and lower ball bearings made of high carbon chromium steel shall be provided to prevent shaft deflection by withstanding all thrust and radial loads. The motor shaft shall be made of 416 SS and have a minimum diameter of 1.125".

7.01 SEALS: Pump shall have a dual mechanical seal configuration with the seals mounted in tandem. Each seal assembly shall have carbon rotary and ceramic stationary faces with buna-n elastomer and 316SS spring. It shall be equal to a Crane Type 21 configuration. Double seals with a common intermediate spring shall not be considered equal.

8.01 IMPELLER: The impeller shall be a fully balanced semi-open design not requiring wear ring for maintaining efficiency. The impeller shall be made of class 30 cast iron. It shall be capable of passing a 2½" solid sphere. It shall have pump out vanes located on the back shroud to keep debris away from the seal area. It is to be keyed and bolted to the shaft. Attempts to improve efficiency by painting impeller shall not be acceptable.

9.01 PAINTING: The pump shall have a corrosion resistant baked on epoxy powder coating on all exterior surfaces of 5 mils thick. The color finish will be green.

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 free standing unit. The legs will be high enough to allow a 2½" solid to pass below the housing.

For those situations where a free standing unit is not desired, the following support components are available.

____ Rail system with pump suspended from a base elbow by means of a sealed pump plate attached to the pump. Rail and guide brackets shall be SS. Rail pipes to be provided by others.

____ SS intermediate stabilizer required for rail systems used where basin depths are greater than 15 feet.

12.01 TESTING: Each pump shall have a 20-30 minute operational test before shipment. The test shall be conducted with the pump submerged in a tank thereby duplicating its actual performance. A computer generated report shall be available following this test. The report will show pump performance, amp draws, efficiencies and power consumption at various performance points for each pump supplied at various heads.

____ An optional certified test based on the Hydraulic Institute's standard or SWPA Test Standard for submersible pumps.

____ Start-up services at the job site by an authorized representative of Zoeller Pump Company shall be required. Start-up report form FM0990 should be completed in the presence of the installers and returned to the Project Engineer or Zoeller Pump Company.

13.01 WARRANTY: The manufacturer shall warrant the pump for 12 months from the date of purchase or 18 months from the date of manufacture. For the full conditions of the written warranty from the manufacture see the available reference document FM1798.

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