

SERIES 530

SINGLE STAGE SUMP PUMPS

1.0 GENERAL

The contractor shall furnish (and install as shown on the plans) Aurora Model 531 Simplex centrifugal sump pump size 1.5x2x11 of ? (bronze fitted) (all bronze) (all iron) (stainless steel) construction. Each pump shall have a capacity of US gpm at ft total head, with a temperature of 60 °F, 1 specific gravity. The units shall be designed for a sump depth of ? feet and shall be furnished an ? (above the floor discharge terminating at the baseplate with a threaded connection) (below the floor discharge terminating with a threaded pipe connection).

2.0 BASEPLATE

A steel baseplate ? (oval) (round) (square) (simplex) (simplex with oval) (simplex with oval and manhole) (duplex with ovals and manhole) will be provided.

2.1 CASING

The pump casing and bearing cover shall be cast of iron. The casing is to be provided with ? wearing rings held securely in place by means of a press fit.

2.2 STRAINER

A strainer of sufficient size shall be bolted to the pump casing.

2.3 IMPELLER

The impeller is of the ? (enclosed) (semi-open) standard type and shall be constructed of (vacuum cast bronze) (cast iron). The impeller is to be dynamically balanced and keyed to the pump shaft.

2.4 COLUMN PIPE

The column pipe must be with a minimum diameter of ? " having machined

tongue and groove joints to insure shaft alignment.

2.5 BEARINGS/SLEEVE

A pump bearing will be located directly above the impeller and shall be of the (bronze sleeve) (graphitar) (cutless rubber) (filled Teflon) (relief) type. Line bearings must be provided with a setting of 6'-2" and one bearing or each additional 5' of setting thereafter. All standard sleeves, throttle or relief pump and line bearings must be (grease) (oil) (water) lubricated through separate Nylon tube lubrication lines terminating at the baseplate.

2.6 MOTOR PEDESTAL

The motor pedestal is to be of cast iron, two piece construction, fitted with a sealed thrust ball bearing located 6" above the baseplate.

2.7 STUFFING BOX

A packed stuffing box complete with lantern ring and split gland shall be provided for gas-tight construction.

2.8 BEARING COLLAR/GREASE SEAL

The ball bearing collar will be arranged to allow external axial adjustment of the shaft and impeller. Grease seals shall be provided to retain grease and to prevent contamination of the vertically mounted ball bearing. A grease fitting will be provided to allow regreasing of the bearing.

2.9 FLOAT

The pump shall be controlled by an enclosed (heavy duty) (water tight and explosion resisting) (heavy duty with built in overload protection) (explosion proof) type float operated switch 6" above the baseplate high density Polyethylene float and float rod. A flexible bellow will provide gas-tight construction.

3.0 MOTOR

The pumps are to be driven by and flexible coupled to a standard "HP" ? H.P., ? volt, 60 cycle, 1200 R.P.M., ? vertical electric motor.

PART III - PERFORMANCE

3.01 CONDITIONS OF SERVICE

The following conditions of service shall be strictly adhered to:

- Number of Units..... ?
- Type of Drive..... ? (variable or constant)
- Discharge Size, minimum..... 1.5 in
- Suction Size, minimum..... 2 in
- Sphere Size, minimum..... ? in
- Design Capacity..... US gpm
- Design Head..... ft
- Efficiency at Design, minimum..... %,
- Rotative Speed, maximum..... 1150 RPM
- Shut-off Head, minimum..... 53.9 ft
- Driver Horsepower, minimum..... 2.1 hp
- NPSHR at Design, maximum..... ft
- Secondary Capacity..... ? US gpm (at maximum RPM)
- Secondary Head..... ? ft (at maximum RPM)

3.02 INSPECTION AND FACTORY TESTS

A. The Engineer shall have the right to inspect or witness test any material or equipment to be furnished, under this section, prior to their shipment from point of manufacture. The Engineer shall be notified at least ten (10) working days in advance of any testing in order to exercise or waive the right to witness any testing.

B. Each centrifugal wastewater pump furnished under these

specifications shall be tested at the factory in accordance with the latest edition of the Hydraulic Institute Standards for both hydrostatic pressure and performance. Certified copies of all test reports shall be submitted to the Engineer for approval prior to shipment.

C. Each pump shall be tested at the full load speed of the respective driver for head, capacity, brake horsepower and efficiency from shut-off to 150% of design capacity. In addition, for variable speed units, one (1) pump of each service shall be tested at the minimum design

conditions plus three (3) equally spaced speeds between the minimum and maximum conditions.

D. Tests on all motors shall be conducted in accordance with IEEE Standards. All test results shall be submitted to the Engineer for approval prior to shipment.

1. Each motor shall be given a short commercial test which includes the following:

- a. No load running current
- b. High potential
- c. Winding resistance

3.03 INSTALLATION AND ACCEPTANCE TESTS

A. The pumping units shall be installed in accordance with the instructions of the manufacturer and as shown on the drawings by the Contractor.

B. Installation shall include furnishing the required oil and grease for initial operation. The grades of oil and grease shall be in accordance with the manufacturer's recommendations.

C. Furnish the services of an authorized factory representative to inspect the final installation, perform initial start-up and supervise the field acceptance tests of the equipment.

D. Field acceptance testing shall be conducted after the installation of all equipment has been completed and the equipment operated for an initial period to make all necessary adjustments and corrections. Each pumping unit shall be tested to determine satisfactory operation and compliance with these specifications in the presence of the Engineer or his representative. Testing shall be conducted for a sufficient time to demonstrate compliance and satisfactory operation. All expenses for conducting the field acceptance tests shall be borne by the Contractor.

NOTES: Teflon is a registered trademark of E.I. DuPont.

Additional information is available from any Aurora Pump authorized distributor.

Aurora Pump reserves the right to make revisions to its products and their specifications without notice.