

SERIES 670

SINGLE STAGE SEWAGE PUMPS

1.0 GENERAL

The contractor shall furnish (and install as shown on the plans) Aurora Model 672 Duplex centrifugal sewage pump size 3x3x12 of ?(standard fitted) (all iron) construction. Each pump shall have a capacity of G.P.M. 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 with ?(an above the floor discharge terminating at the baseplate) (a below the floor discharge terminating with a threaded 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. A 4" vent will be provided on all round or square baseplates.

2.1 CASING

The pump casing will be constructed of "APCO-LOY 33".

2.2 IMPELLER

The impeller is to be "APCO-LOY 33" and shall be capable of passing a maximum sphere size of ? inches. The impeller is to be dynamically balanced before assembly into the pump and shall be securely fastened to the shaft by means of a steel key and impeller lock nut.

2.3 COLUMN PIPE

The column pipe must be 4" diameter having machined tongue and groove joints to insure shaft alignment.

2.4 BEARINGS

A pump bearing will be located directly above the impeller and shall be ?(bronze sleeve) (iron sleeve) (stainless steel sleeve) or relief type with ?(iron) (bronze) (cutless rubber) (graphitar) (filled teflon) bushing. Spool bearing with ?(steel) (stainless steel) housing with ?(iron) (bronze) (cutless rubber) (graphitar) (filled teflon) bushing. Line bearings must be provided on pit depths of 6'-6" and one additional bearing for each 5' of setting thereafter. All standard sleeve or relief pump and line bearings must be ?(grease) (oil) (water) lubricated through separate Nylon tube lubrication lines terminating at the ?(baseplate) (discharge pipe). Standard bearings will be grease lubricated (unless otherwise specified).

2.5 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.

2.6 STUFFING BOX

A packed stuffing box complete with a split gland shall be provided for gastight construction. The upper head shall be of sufficient height to elevate the motor shaft extension should the motor be removed for servicing.

2.7 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.

2.8 FLOAT

The pump shall be controlled by an enclosed (heavy duty) (water tight and explosion resisting) (explosion proof) type float operated switch 6" above the baseplate with plastic float and float rod. A flexible bellows will provide gas-tight construction.

3.0 MOTOR

An automatic alternator shall be furnished on duplex pumps to allow the pumps to alternate on each successive cycle of operation. The pumps are to be driven by a flexible coupled standard H.P., volt 60 cycle 900 R.P.M., vertical motor.

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	3 in
Suction Size, minimum	3 in
Sphere Size, minimum	? in
Design Capacity	US gpm
Design Head	ft
Efficiency at Design, minimum	%
Rotative Speed, maximum	885 RPM
Shut-off Head, minimum	38.4 ft
Driver Horsepower, minimum	8.13 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. 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.