

NSF 61 / 372 - Split Case Pumps

General

Furnish and install as shown on the plans, _____ (qty) Weinman®-Deming® NSF 61/372 certified horizontal split-case Series 1210 size (____x____x____) model _____. Each shall be capable of pumping _____ GPM when operating against a total pumping head of _____ feet (suction lift/suction pressure) at the temperature, specific gravity and viscosity indicated. The pump shall operate at _____ RPM and shall have _____ percent minimum efficiency at the design point. Rotation shall be (clockwise/counter-clockwise) when viewed from the driver end. The pump(s) shall be rated for continuous service, and shall be aluminum bronze and cast iron (Ductile iron for high pressure) fitted construction suitable for pumping a liquid with the following characteristics:

Liquid handled _____
Specific Gravity _____
Temperature 73°F / 23°C MAXIMUM
NPSHA _____

Note: Add any additional facts concerning the nature of the liquid or installation which might affect the pump construction, application or operation.

Construction

The pump casing shall be of extra heavy cast iron, with minimum tensile strength of 30,000 psi. High pressure cases shall be ductile iron with minimum tensile strength of 60,000 psi, split parallel to the shaft. Bearing housing supports, suction and discharge flanges shall be cast, bored and machined integrally with the lower casing half. Bearing housings shall be machined, bolted and rabbet fitted to the bearing housing supports for positive alignment. Upper and lower casing shall be doweled and bolted together. Removable upper and lower half casing and bearing caps permit inspection or removal of the entire rotating assembly without disturbing the piping. Seals are replaceable without removing the upper case. Flanges shall be standard 125# ANSI drilled flat face (300# ANSI drilled, flat face). The upper case shall be fitted with lifting lugs, 3/4" P.T. vent, 1/2" P.T. drains and 1/4" P.T. gauge connections on the suction and discharge nozzles. The impeller shall be of one-piece cast aluminum bronze of the enclosed, Francis design double suction type, accurately machined, dynamically and hydraulically balanced to minimize thrust load on the bearings.

The impeller shall be keyed and axially adjusted on a 416 S.S. shaft with lock collars.

Shaft design shall be 416 stainless steel designed to limit maximum deflection at the seal cavities to .002 in and shall have no shaft sleeves. Casing wear ring shall be aluminum bronze. Optional impeller wear ring shall be aluminum bronze or 12% chrome stainless steel and held in place with pins. Heavy-duty grease lubricated ball bearings shall support the rotating assembly. The outboard bearing shall be locked in position by a snap ring. The inboard bearing shall be free to move axially in the bearing housing. Removable bearing caps and bearing covers shall permit inspection or service of the bearing without disturbing the pump casing or piping. Bearing housings shall be designed for grease lubrication. Grease relief shall prevent over-lubrication.

Stuffing boxes shall be fitted with FDA approved single stainless steel spring type mechanical seals with carbon/ceramic faces and Buna elastomers (or optional silicon carbide, silicon carbide faces and Buna elastomers).

The pump base plate shall be fabricated from 1/4" rigid steel plate and shall have a 1 1/2" wide anchorage flanges down each side, 2 grouting holes, a drip trough running the full length of the base with closed plates at both ends fitted with a 3/4" P.T. couplings for drain pipe connection. Motor risers shall be of the platform type with no motor blocks higher than 1". The coupling shall be (flexible) (steel) type; size rated for full torque. The coupling guard shall be (standard) (OSHA) type.

Motor

The motor shall be not less than _____ hp _____ RPM, NEMA design B squirrel cage type, (drip proof)(TEFC) EISA efficiency motor with (1.15)(1.0) service factor and suitable for operation on (115)(230) volt, 1 phase, (50) (60) Hertz power supply OR (200)(230)(460)(575) volt, 3 phase, 60 hertz power supply. Motor size shall be sufficient to prevent overloading at operating conditions or at the lowest listed head conditions whichever point requires greater horsepower. Following installation, grouting and connection of all piping, pump and motor must be checked for alignment in accordance with standards of the Hydraulic Institute.

Typical Specification

Horizontally Mounted
Models L7, L8

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Shaft design shall be SAE-4140 alloy designed to limit maximum deflection at the seal cavities to .002 in. Casing wear ring shall be of aluminum bronze and optional impeller wear ring shall be aluminum bronze (12% chrome stainless steel). Heavy-duty grease lubricated ball bearings shall support the rotating assembly. The outboard bearing shall be locked in position by bearing lock nuts. The inboard bearing shall be free to move axially in the bearing housing. Removable bearing caps and bearing covers shall permit inspection or service of the bearing without disturbing the pump casing or piping. Bearing housings shall be designed for grease lubrication. Grease relief shall prevent over-lubrication.

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Testing

The following (witnessed/non-witnessed) tests are to be performed in accordance to Hydraulic Institute test standard.

_____ Pump performance (A,B) level
Routine Motor Test
Hydrostatic - Completed Pump