

## Column Sump Pumps

### General

Furnish and install as shown on the plans, \_\_\_\_\_ (qty) Weinman Series 700 size (\_\_\_\_x\_\_\_\_x\_\_\_\_) model \_\_\_\_\_ column type sump pump(s). 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 unit shall be designed for installation in a sump \_\_\_\_\_ feet deep and furnished with a cover plate and discharge of \_\_\_\_\_ inches in diameter. The pump shall be floor mounted (Model S) suspended from the cover plate (Model SA). The pump shall operate at \_\_\_\_\_ RPM and shall have \_\_\_\_\_ percent minimum efficiency at the design point and shall have construction suitable for pumping a liquid with the following characteristics:

- Liquid handled \_\_\_\_\_
- Specific Gravity \_\_\_\_\_
- Temperature \_\_\_\_\_
- Viscosity of liquid at pumping temperature \_\_\_\_\_
- 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, suction head, strainer and bearing housing shall be of extra heavy cast iron, with minimum tensile strength of 30,000 psi. The casing shall be of the double volute type to minimize radial load on the bearing and prolong the life of the bottom bearing. The impeller shall be semi-open type, of non-corrosive bronze material. The impeller shall be fully adjustable, without dismantling the pump, by means of an adjusting coupling and thrust bearing in the motor pedestal. Column pipe shall be full weight steel pipe machined at each end for a perfect alignment fit at all assembly points to assure concentric alignment. The pump shaft shall be ground and polished stainless steel and of sufficient size to transmit the required horsepower. Replaceable shaft guide bearings, of self-lubricated bronze material suitable for the liquid being pumped, shall be contained in precision machined bearing housings with machined register fit, spaced on recommended bearing centers, but not to exceed 5-feet. The bottom bearing assembly shall be self-lubricated

bronze. The pump assembly shall include a heavy steel support \_\_\_\_\_ inches in diameter, for mounting on a sump \_\_\_\_\_ inches in diameter. Duplex pump sump covers shall include a manhole 11 x 15 inches, with cover and with \_\_\_\_\_ inch (flanged)(threaded) vent connection.

### Control

For single pump, a float switch shall be mounted on a motor bracket attached to the driver pedestal and shall be operated by a guided float. The switch shall operate the motor directly or with a starter, as required. The switch shall be (watertight)(explosion proof). A high water alarm with warning horn (watertight)(explosion proof) enclosure shall be included. For duplex pumps, supply a mechanical or electric alternator and controls in a (watertight)(explosion proof) enclosure, that will alternate the normal operation of the two pumps, operate both pumps simultaneous if required, and provide standby control should one pump become inoperative.

### Testing

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

- \_\_\_\_\_ Pump performance (A)(B) tolerance level
- \_\_\_\_\_ Routine Motor test
- \_\_\_\_\_ Hydrostatic - Complete Pump

### Motor

The motor shall be not less than \_\_\_\_\_ hp \_\_\_\_\_ RPM, NEMA C-face vertical mount, design B squirrel cage type, (drip proof)(TEFC)(EISA)(premium) 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.