

# SECTION 11197 - ANSI HORIZONTAL END SUCTION PUMPS

## City of San Diego, CWP Guidelines

### PART 1 – GENERAL

#### 1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing frame-mounted, centrifugal, horizontal end suction pumps, with horizontal electric motors and all appurtenant work, conforming to ANSI B 73 standard.

#### 1.2 RELATED SECTIONS

- A. The WORK of the following Section applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

1. Section 11175 Pumps, General

### PART 2 -- PRODUCTS

#### 2.1 PUMP NAME: [ ] (P-[ ] through P-[ ])

- A. **General:** Horizontal end suction pumps shall conform to the following requirements:

1. Number of pumping units -[ ]
2. Location - [ ]
3. Service -[ ]
4. Operation (hours per day) -[ ]
5. Drive -[Constant] [variable] speed.

- B. **Operating Conditions:**

1. Capacity (gpm)  
max. -[ ]  
at design point -[ ]  
min. -[ ]
2. NPSH available at suction (ft) -[ ]
3. Pump head (TDH-ft)  
at max. gpm -[ ]  
at design point -[ ]  
at min. gpm -[ ]
4. Total discharge head (ft) -[ ]

at min. capacity

5. Liquid to be pumped -[ ]
6. Specific gravity of liquid -[ ]
7. Liquid temperature (degrees F) -[ ]
8. Min pump efficiency at design point (percent) -[ ]
9. Max pump speed (rpm) -[ ]
10. Max motor speed (rpm) -[ ]
11. Min motor size (hp) -[ ]

**C. Pump Dimensions:**

1. Impeller diameter, min (in) -[ ]
2. Suction flange, min size (in) -[ ]
3. Discharge flange, min size (in) -[ ]

**2.2 PUMP REQUIREMENTS**

**A. Construction:** Construction of horizontal end-suction pumps shall conform to the following requirements:

1. Casing - Cast iron or ductile iron, foot-mounted, with gauge and drain connections. Backhead to permit removal of impeller, shaft, and bearings, without disturbing piping.
2. Pump base - Common baseplate with drain pan of cast iron or steel with drain connection and pipe.
3. Impeller - [Bronze] [ductile iron] [cast iron] [cast steel], open, single suction type, screwed to shaft, with O-ring seal.
- [4. Wear ring - [Bronze] [stainless steel]]
5. Shaft - Stainless steel, full size where in stuffing box.
6. Shaft sleeve - "NOT USED"
7. Seal - Split mechanical seal per Section 11175

- 8. Coupling - Flexible shaft coupling, heavy duty type, with guard.]
  - 9. Frame - Frame-mounted
  - 10. Bearings - Ball or roller bearings, with an L-10 life of [50,000] hours.
  - 11. Lubrication - [Grease] [Oil] lubricated.
- B. **Drive:** [Direct drive with flexible coupling] [variable speed drive] with heavy duty, horizontal, electric motor suitable for [ ]-volt, [ ]-phase, 60-Hz ac power supply, in accordance with Section 16040. [The variable speed drive shall comply with Section [ ]].

### 2.3 SPARE PARTS

- A. The following spare parts shall be provided for each pump:
  - 1. 3 sets of all gaskets and O-rings
  - 2. 1 set of all pump bearings
  - 3. 1 set of both wear rings
  - 4. 1 set of packing rings or mechanical seal
- B. Spare parts shall be packaged and boxed as indicated in Section 11000.

### 2.4 MANUFACTURERS

- A. Products shall be manufactured by one of the following (or equal):
  - 1. Allis-Chalmers, model [ ]
  - 2. Aurora, model [ ]
  - 3. Fairbanks Morse (Colt), model [ ]
  - 4. Goulds Pumps, model [ ]
  - 5. Ingersoll-Rand, model [ ]
  - 6. Pacific Pumping Company, model [ ]
  - 7. Peerless Pumps (FMC), model [ ]

## **PART 3 -- EXECUTION**

### **3.1 INSTALLATION**

- A. Pumping equipment shall be installed in accordance with approved procedures submitted with the shop drawings and as indicated.
- B. General installation requirements shall be as indicated in Section 11175.

**\*\* END OF SECTION \*\***

