SECTION 43 23 22
PUMPING EQUIPMENT: HORIZONTAL SPLIT CASE CENTRIFUGAL PUMPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Horizontal split case centrifugal pumps.

B. Related Sections include but are not necessarily limited to:

1. Division 00 - Procurement and Contracting Requirements.
2. Division 01 - General Requirements.
3. Section 43 21 00 - Pumping Equipment: Basic Requirements.

1.2 QUALITY ASSURANCE

A. Referenced Standards:

1. American Bearing Manufacturers Association (ABMA).
2. American Iron and Steel Institute (AISI):
   a. Steel Products Manual.
3. American National Standards Institute (ANSI).
4. ASTM International (ASTM):
   a. A48, Standard Specification for Gray Iron Castings.
   b. B505, Standard Specification for Copper Alloy Continuous Castings.
   c. B584, Standard Specification for Copper Alloy Sand Castings for General Applications.
5. Hydraulic Institute (HI):
   a. Standards for Centrifugal, Rotary and Reciprocating Pumps.

1.3 SUBMITTALS

A. Shop Drawings:

1. See Specification Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
2. See Specification Section 43 21 00.

B. Contract Closeout Information:

1. Operation and Maintenance Data:
   a. See Specification Section 01 33 04 for requirements for the mechanics, administration, and the content of Operation and Maintenance Manual submittals.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:

1. Horizontal split case centrifugal pumps:

a. Pump Works Industrial, quote number AZ2017-8846

2. Mechanical seals:

2.2 MATERIALS

A. Pump Service Category and Tag Number:

1. Pump casing: Cast iron, ASTM A48, Class 30.
2. Impellers: Bronze, ASTM B584-AL836.
3. Shaft: Stainless steel, AISI 416.
4. Impeller wear rings: Bronze, ASTM B505-AL932.
5. Shaft sleeve: Bronze, ASTM B505-AL932.
6. Baseplate: Cast iron.

2.3 EQUIPMENT

A. Performance and Configuration Requirements:

1. Pump service category and tag number:

a. Design condition: 200 gpm at 25 FT TDH with minimum pump efficiency of 72 percent.

b. Shutoff condition: 0 GPM at 1 FT TDH.

c. Pump configuration: Horizontal.

d. Maximum pump speed: 1175 rpm.

e. Nameplate driver horsepower: 3.

f. Drive type: Constant speed.

g. Drive configuration: Flexible coupled.

h. Net positive suction head required (NPSHR): 0 FT.

B. Provide pumps with net positive suction head requirements that are less than the available net positive suction head at design condition specified.

2.4 ACCESSORIES

A. See Section 43 21 00.

2.5 FABRICATION

A. Furnish casing to withstand 175 PSIG or 200 PCT of maximum working pressure.

B. Provide anti-friction type bearings rated for ABMA L-10 life of 40,000 HRS based on 24 HR continuous operation.

C. Utilize oil lubrication.

D. Furnish double suction impellers.

E. Balance impellers per HI standards.

F. Provide one-piece cast bearing housing with catch basin reservoir.

G. Furnish baseplate with drip lip to mount motor and pump.

H. Casing Rings:

1. Equip pump case with two case rings at each impeller skirt.
2. Provide pin to lock each ring in place.

I. Pump rotation to conform with piping arrangement shown on Drawings.

J. Couplings:

1. Flexible type.
2. Secure coupling hubs to driver and driven shafts by set screw over the key.

K. Suction and Discharge:

1. Provide units with ANSI Class 150 150 LB rated flanged suction and discharge nozzles of the following diameters:

SERVICE CATEGORY	SUCTION, IN	DISCHARGE, IN
Fill Pump	4	3

2.6 SOURCE QUALITY CONTROL

A. Factory test one pump of each service category.

2.7 MAINTENANCE MATERIALS

A. Extra Materials:

1. Furnish Owner the following extra parts for each pump service category:

PART 3 - EXECUTION

3.1 INSTALLATION

A. See Section 43 21 00.

3.2 FIELD QUALITY CONTROL

A. See Section 43 21 00.

END OF SECTION