

Multistage Centrifugal Pump Typical Engineering Specifications

I. Scope

The contractor shall provide _____(quantity) multistage centrifugal pump unit/s, Model SSV as manufactured by Goulds Pumps, ITT Industries or equal. All pump units shall be from one manufacturer and provided complete including electric motor drive.

II. Conditions of Service

- | | | | |
|---|-------|-------|-------|
| A. Equipment Item Number | _____ | _____ | _____ |
| B. Flange Inside Diameter | _____ | _____ | _____ |
| Note: Suction and discharge must be equal. | | | |
| C. Primary Service Condition | | | |
| Capacity (GPM) | _____ | _____ | _____ |
| Total Head (feet) | _____ | _____ | _____ |
| Efficiency (%) | _____ | _____ | _____ |
| D. Minimum Shutoff Head | _____ | _____ | _____ |
| E. Minimum Flow Allowed | _____ | _____ | _____ |
| F. Operating Speed | _____ | _____ | _____ |
| G. Maximum Motor HP | _____ | _____ | _____ |

III. Pump Construction

Each pump shall include the following design features:

A. Pump End Components

A.1 Casing

The pump casing shall be of deep drawn, laser welded AISI 304L or 316L stainless steel and shall be capable of withstanding maximum working pressures of 360 psi. Piping connections shall be in-line (optional top/bottom) and shall be compatible with ANSI raised face flanges (optional NPT or Victaulic).

A.2 Wear Ring

Wear rings shall be provided within each stage. Wear rings must be self centering and easily replaceable.

A.3 Impeller

Impellers shall be of enclosed design and constructed of AISI 316L stainless steel. Impellers shall provide internal thrust balance in each stage.

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A.4 Diffuser Bowl

Each stage shall have a bowl with attached diffuser and be constructed of AISI 304L or 316L stainless steel.

A.5 Seal Housing

The seal housing shall be of concave design and shall hold the seal faces below the topmost part of the pump casing.

A.6 Mechanical Seal

The pump shaft seal shall be one of the following configurations as indicated.

Rotary Face	Stationary Face	Elastomer
High Temperature Carbon	Silicon Carbide Graphite Filled	Viton or EPR
Silicon Carbide Graphite Filled	Silicon Carbide Graphite Filled	EPR

A.7 Shaft Sleeve and Bearing

The pump shall have shaft sleeves made of Tungsten Carbide and ceramic bearings. Shaft height shall be set with a standard spacer.

IV. Electric Motor

The pump drive motor shall be NEMA standard design TC frame suitable for vertical mounting and close coupled to the pump unit. Motors shall be of standard manufacturers catalog design and must not use special bearings as a thrust handling device. The motor rating shall be:

_____ HP, _____ RPM
 _____ phase, _____ Hz, _____ volts
 _____ Enclosure (ODP/TEFC/XP)
 High Efficiency, 1.15 Service Factor

V. Testing

- A. Each pump shall be hydrostatically tested by the manufacturer in accordance with Hydraulic Institute Standards at a minimum of 350 PSI.
- B. Production performance testing will be conducted by the manufacturer on each pump unit. Head at three operating points (70% of BEP, BEP and 120% of BEP) will be measured to verify performance.