

# SMVT – Vertical Multistage Pump Specifications 200.F.06

## I. Scope

The contractor shall provide \_\_\_\_\_(quantity) vertical multistage pump unit/s, Model SMVT as manufactured by Goulds Water Technology 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	_____	_____	_____
<b>Note:</b> 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 ASTM A53, Gr. A schedule 40 welded steel pipe and shall be capable of withstanding maximum pressures of 450 psi.

#### A.2 Pump Body

Pump body shall be made of ASTM A48, Class 30 cast iron. Piping connections shall be in-line and shall be compatible with ANSI raised face flanges.

#### A.3 Impeller

The impellers shall be constructed from ASTM A744 Type 316 Stainless Steel and shall be the enclosed type. They shall be free from defects and must be accurately cast, machined and filed for optimum performance and minimum vibration. Impellers shall be balanced to grade G6.3 of ISO 1940 as minimum. They shall be securely fastened to the bowl shaft with taper locks of ASTM A276 Type 316 Stainless Steel.

#### A.4 Diffuser Bowl

Each stage bowls shall be flanged type constructed of cast iron conform to ASTM A48, Class 30. They shall be free from sand holes, blowholes or other faults and must be accurately machined and fitted to close tolerances. The intermediate bowls shall have enamel lined waterways for maximum efficiency and wear protection.

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## A.5 Bearings

Each stage of bowls shall be fitted with sleeve type bearings of ASTM B584 Bronze.

## A.6 Shaft

The bowl shaft shall be constructed from ASTM 582 type 416 stainless steel. It shall be precision ground and polished with surface finish better than 40 RMS.

## A.7 Shaft Coupling

These shall be 2-piece design to allow sufficient space between the motor shaft and the pump shaft so that seal can be removed and reinstalled without removing the motor.

## A.8 Mechanical Seal

The pump shaft seal shall be cartridge type and shall be of the following material of constructions:

Rotary Face	Carbon
Stationary Face	Silicon Carbide
Elastomer	Buna
Seal Parts	316SS
Gland, Sleeve, Collar	316SS

## IV. Electric Motor

The pump drive motor shall be NEMA C-face design T or TS frame suitable for vertical mounting and close coupled to the pump unit. Motor shall have thrust bearing of ample capacity to carry the weight of all rotating parts plus the maximum hydraulic thrust load under all conditions of operation calculated L10 life shall be no less than 17,600 hours. The motor rating shall be:

\_\_\_\_\_ HP, \_\_\_\_\_ RPM  
\_\_\_\_\_ phase, \_\_\_\_\_ Hz, \_\_\_\_\_ volts  
ODP or TEFC Enclosure  
1.15 Service Factor

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