



**MYERS<sup>®</sup>**

**MODELS 4VE AND 4VEX**

**4" HIGH HEAD SOLIDS HANDLING  
WASTEWATER PUMPS**

**STANDARD (4VE) AND HAZARDOUS LOCATION (4VEX) CONSTRUCTION**



# MYERS® MODELS 4VE AND 4VEX

## Solids Handling Wastewater Pumps

### Designed for Use In Municipal Lift Stations, Treatment Plants and Industrial Waste Applications

The 4VE and 4VEX submersible wastewater pumps are a heavy-duty 4" solids handling series capable of passing a full 3" spherical solid. Myers rounded port, single vane, enclosed impeller prevents solids from binding or clogging and offers high operating efficiencies to cut your pumping costs. The 4VE series modified constant velocity volute case provides smooth operation over an extended portion of the performance curve for longer seal and bearing life. Myers offers a complete line of wastewater pumps, lift-out rail assemblies, controls and accessories to meet your needs. Call your Myers distributor or the Myers sales office at 419-289-1144 for more details.



#### Product Capabilities

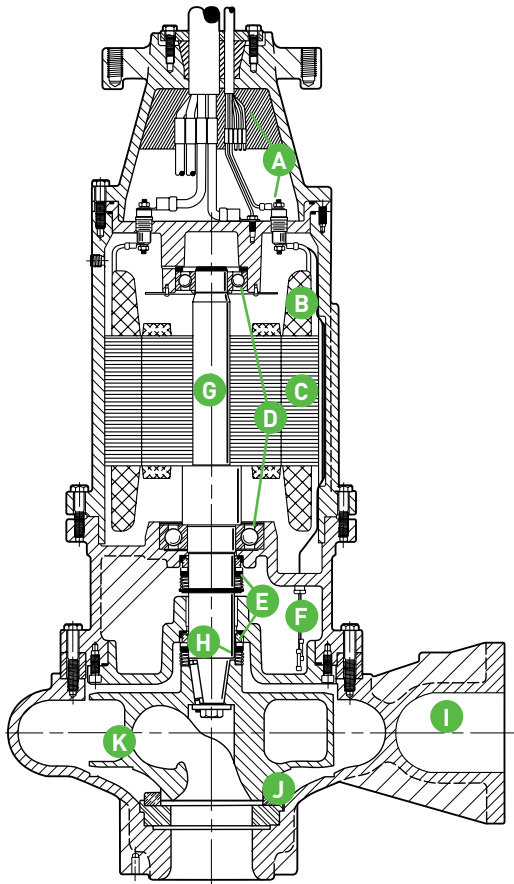
|  |   |            |
|--|---|------------|
| Capacities To                            | 700 gpm   | 2650 lpm   |
| Heads To                                 | 165 ft.   | 50 m       |
| Solids Handling                          | 3 in.   | 76 mm      |
| Liquids Handling                         | Raw unscreened sewage, effluent, storm water                      |            |
| Intermittent Liquid Temp.                | up to 140°F   | up to 60°C |
| Winding Insulation Temp. (Class H)       | 356°F   | 180°C      |
| Available Motors                         | 1750 RPM<br>20 – 30 HP<br>200/230/460/575 volts<br>3 phase, 60 Hz |            |
| Std. Third Party Approvals               | CSA   |            |
| Optional Approvals                       | FM Class 1, Groups C & D<br>(4VEX only)                           |            |
| Acceptable pH Range                      | 6 – 9   |            |
| Specific Gravity                         | .9 – 1.1  |            |
| Viscosity                                | 28 – 35 SSU   |            |
| Discharge, Horizontal Flanged Centerline | 4 in.<br>125 lb. ANSI   | 101.6 mm   |

Note: Consult factory for applications outside these recommendations.

#### Construction Materials

|   |  |
|---|--|
| Motor Housing, Seal Housing, Cord Cap and Volute Case | cast iron, Class 30, ASTM A48          |
| Impeller  | ductile iron, Class 65, ASTM A536      |
| Power and Control Cord                                | S00W, W                                |
| Mechanical Seals Standard                             | dbl. tandem, type 21, carbon & ceramic |
| Optional  | lower tungsten, carbide                |
| Pump, Motor Shaft                                     | 416 SST                                |
| Fasteners   | 300 series SST                         |
| Volute Wear Ring                                      | brass                                  |

# Pump Features and Applications



## A. Cable Entry System

Provides triple seal protection. Cable jacket sealed by compression grommet. Individual wires sealed by epoxy potting. Terminal board separates motor chamber from cord cap.

## B. Heat Sensor

Protects motor from burnout due to excessive heat from any overload condition. Automatically resets when motor has cooled.

## C. Motor Stator

Heat shrunk into housing for perfect alignment and best heat transfer. Oil-filled motor conducts heat and lubricates bearings. Class H insulation.

## D. Ball Bearings

Upper and lower ball bearings support shaft and rotor, take axial and radial loads.

## E. Shaft Seals

Double tandem mechanical shaft seals protect motor. Oil-filled seal chamber provides continuous lubrication.

## F. Seal Leak Probes

Detect water in seal housing. Activate warning light in control panel.

## G. Heavy 416 SST Shaft

Corrosion resistant.

## H. Sleeve Bearing

Takes radial shock load; provides flame path.

## I. Volute Case

Modified constant velocity volute handles 3" solids. 4" ANSI 125 lb. flange.

## J. Brass Wear Ring

Prevents rust buildup and reduces leakage and wear. Replaceable to restore original running clearances and pump efficiencies.

## K. High Efficiency Impeller

Single vane with rounded ports. Handles 3" solids.

## High Efficiency Hydraulic Design Cuts Pumping Costs and Extends The Life of the Pump.

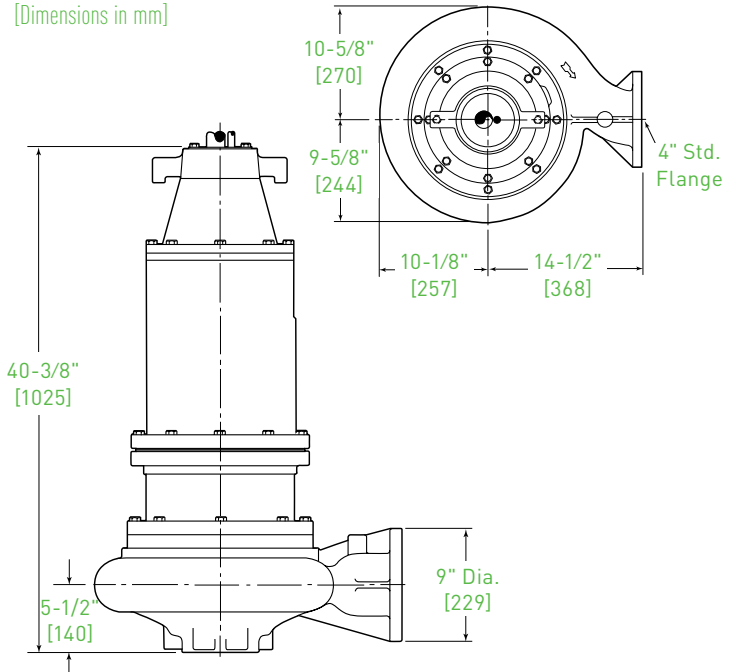
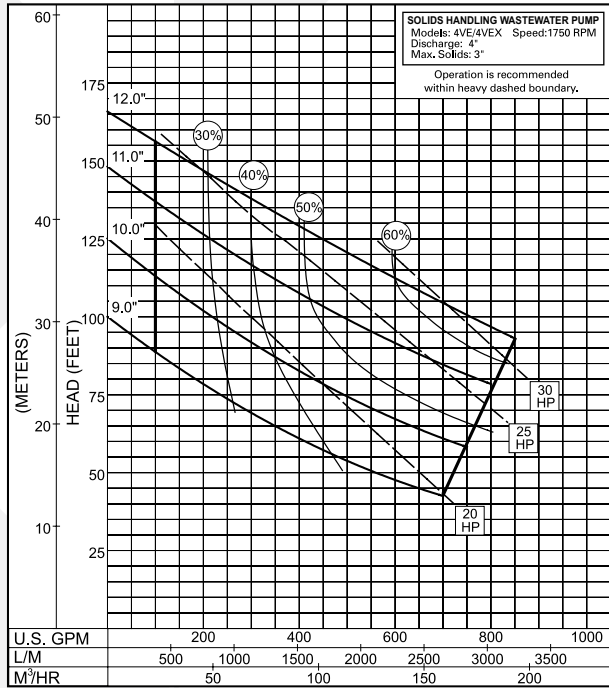
- Single vane, rounded port, enclosed impeller handles 3" solids with ease at high operating efficiencies.
- Solids handling design for trouble-free operation.
- Produces high heads.

## Durable Motor Will Deliver Many Years of Reliable Service.

- Class H insulation.
- Continuous duty/VFD rated.
- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- Internal thermal overload protection.
- Double tandem shaft seals prevent sewage from entering motor.
- Internal seal leak probes warn of moisture entry.
- Triple sealed power and control cables.

# Performance Data and Dimensions

## 1750 RPM



Pump performance is based on clear water (1.0 specific gravity @ 68°F) and pump fluid end (hydraulic) efficiency. Motor data based on 40°C ambient temperature.

| Available Models |                    | Motor Electrical Data |       |       |       |            |          |                     |        |                   |           |         |                 |                |
|------------------|--------------------|-----------------------|-------|-------|-------|------------|----------|---------------------|--------|-------------------|-----------|---------|-----------------|----------------|
| Standard         | Hazardous Location | HP                    | Volts | Phase | Hertz | Start Amps | Run Amps | Service Factor Amps | Run kW | Service Factor kW | Start KVA | Run KVA | NEC Code Letter | Service Factor |
| 4VE200M4-03      | 4VEX200M4-03       | 20                    | 208   | 3     | 60    | 334        | 62.5     | 75                  | 21.2   | 26.1              | 115.5     | 23.9    | G               | 1.2            |
| 4VE200M4-23      | 4VEX200M4-23       | 20                    | 230   | 3     | 60    | 290        | 60       | 72                  | 21.2   | 26.1              | 115.5     | 23.9    | G               | 1.2            |
| 4VE200M4-43      | 4VEX200M4-43       | 20                    | 460   | 3     | 60    | 145        | 30       | 36                  | 21.2   | 26.1              | 115.5     | 23.9    | G               | 1.2            |
| 4VE200M4-53      | 4VEX200M4-53       | 20                    | 575   | 3     | 60    | 116        | 24       | 28.8                | 21.2   | 26.1              | 115.5     | 23.9    | G               | 1.2            |
| 4VE250M4-03      | 4VEX250M4-03       | 25                    | 208   | 3     | 60    | 575        | 78.3     | 92.2                | 26.9   | 33.3              | 180.1     | 30.3    | G               | 1.2            |
| 4VE250M4-23      | 4VEX250M4-23       | 25                    | 230   | 3     | 60    | 452        | 76       | 92                  | 26.9   | 33.3              | 180.1     | 30.3    | G               | 1.2            |
| 4VE250M4-43      | 4VEX250M4-43       | 25                    | 460   | 3     | 60    | 226        | 38       | 46                  | 26.9   | 33.3              | 180.1     | 30.3    | G               | 1.2            |
| 4VE250M4-53      | 4VEX250M4-53       | 25                    | 575   | 3     | 60    | 181        | 30.4     | 36.8                | 26.9   | 33.3              | 180.1     | 30.3    | G               | 1.2            |
| 4VE300M4-03      | 4VEX300M4-03       | 30                    | 208   | 3     | 60    | 575        | 92.2     | 110.7               | 33.3   | 41.3              | 180.1     | 37.4    | G               | 1.2            |
| 4VE300M4-23      | 4VEX300M4-23       | 30                    | 230   | 3     | 60    | 452        | 94       | 114                 | 33.3   | 41.3              | 180.1     | 37.4    | G               | 1.2            |
| 4VE300M4-43      | 4VEX300M4-43       | 30                    | 460   | 3     | 60    | 226        | 47       | 57                  | 33.3   | 41.3              | 180.1     | 37.4    | G               | 1.2            |
| 4VE300M4-53      | 4VEX300M4-53       | 30                    | 575   | 3     | 60    | 181        | 37.6     | 45.6                | 33.3   | 41.3              | 180.1     | 37.4    | G               | 1.2            |

| Motor Efficiencies and Power Factor |       |                     |           |          |          |                     |           |          |          |
|-------------------------------------|-------|---------------------|-----------|----------|----------|---------------------|-----------|----------|----------|
| HP                                  | Phase | Motor Efficiency %  |           |          |          | Power Factor %      |           |          |          |
|                                     |       | Service Factor Load | 100% Load | 75% Load | 50% Load | Service Factor Load | 100% Load | 75% Load | 50% Load |
| 20                                  | 3     | 88                  | 87.5      | 81       | 72.5     | 91                  | 89        | 79       | 69       |
| 25                                  | 3     | 87                  | 86        | 81       | 73       | 91                  | 89        | 80       | 70       |
| 30                                  | 3     | 87                  | 86        | 83       | 79       | 91                  | 89        | 82       | 73       |



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