

# 2MK/MV **impact**<sup>™</sup> Submersible 2" Sewage Pump

Dual Seal with Seal Sensor Probe

## FEATURES

**Impeller:** Non-clog 304 stainless steel and Vortex Cast Iron style, dynamically balanced with pump out vanes for mechanical seal protection.

**K model** designation for non-clog impeller  
**V model** designation for vortex impeller

**Casing:** Cast iron 2" NPT self-cleaning design for non-clogging.

Efficient air-filled motor

**Dual Mechanical Seals:** For standard and Explosion Proof models, Tungsten Carbide vs. Ceramic seal faces standard on outer seals. Carbon vs. Ceramic seal faces standard on inner seals.

**Seal Sensor / High Temperature Probe:** Located in motor housing. If pumpage should begin to leak past both seals it indicates to pump control panel a fault has occurred. **Requires device in the control panel.**

Capable of running dry without damage to components.

Designed for continuous operation, when fully submerged.

**Explosion-proof FM** available as option. FM approved.

**Shaft:** Corrosion resistant, 400 series stainless steel. Taper lock and impeller bolt on all models to guard against component damage on accidental reverse rotation.

**Fasteners:** 300 series stainless steel.

Grease for life bearings



## Wastewater

### APPLICATIONS

Specifically designed for the following uses:

- Sewage systems
- Dewatering/Effluent
- Water transfer
- Light industrial
- Commercial applications

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

### SPECIFICATIONS

#### Pump:

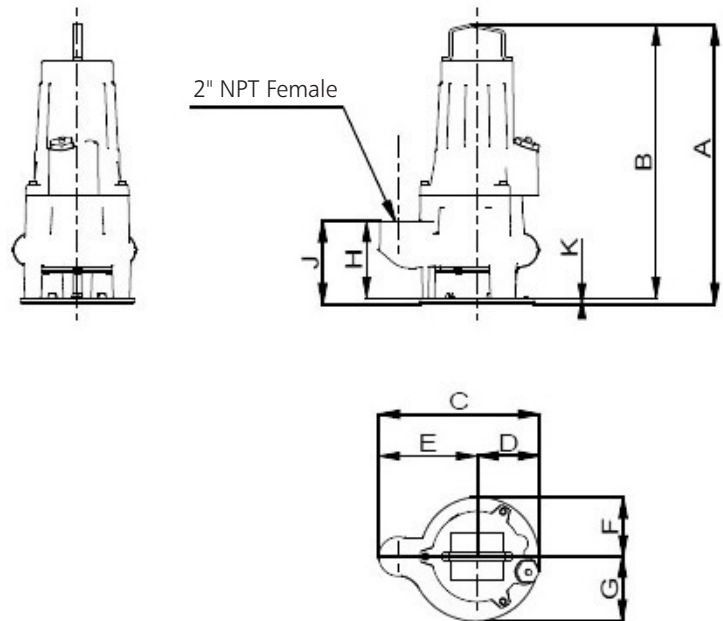
- Maximum soft solid size: 2"
- Capacities: up to 275 GPM
- Total heads: up to 82' TDH
- Discharge size: 2" NPT

#### Motor:

- Maximum ambient temperature: 104° F (40° C) continuous duty
- Rated for continuous duty when fully submerged
- Insulation: Class H; XP = Class F
- 60 Hertz
- Single row ball bearings
- 400 Series stainless steel tapered shaft
- Requires external motor components for single phase (not included)
- Requires overload protection in panel (not included)
- Includes high temperature sensor for winding protection

### AIR-FILLED MOTOR

- Efficient heat dissipation
- Run dry capability
- **Class H insulation; XP = Class F**
- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits and can be operated continuously without damage when fully submerged.
- **Bearings:** Upper and lower heavy duty ball bearing construction for precision positioning of parts and to carry thrust loads.
- High temperature winding protection
- **Cord:** Severe duty rated, oil and water resistant. 30 foot standard.
- **O-ring:** Assures positive sealing against contaminants and oil leakage.



### DIMENSIONS

Bell & Gossett Model No.	Phase	A	B	C	D	E	F	G	H	J	K
2MK/MV	1Ø	21.30" [541]	21.14" [537]	12.20" [310]	4.72" [120]	7.48" [190]	4.53" [115]	4.92" [125]	6.18" [157]	6.34" [161]	0.16" [4]
	3Ø	19.96" [507]	19.80" [503]	12.17" [309]	4.69" [119]	7.48" [190]	4.53" [115]	4.92" [125]	6.18" [157]	6.34" [161]	0.16" [4]
2MK/MV XP	1Ø or 3Ø	21.30" [541]	21.14" [537]	12.20" [310]	4.72" [120]	7.48" [190]	4.53" [115]	4.92" [125]	6.18" [157]	6.34" [161]	0.16" [4]

## Wastewater

### MODEL AND MOTOR INFORMATION

Bell & Gossett Model No.	HP	Volts	Phase /Hz	Rated Current (Amps)	RPM	Imp. Dia. In (mm)	Insulation Class	Run Cap. (mfd/volt)	Start Cap. (mfd/volt)	Resistance (Ohms)	Aux. Resistance (Ohms)	Start Current (LR Amps)	Rated Motor kVA [Code]	Rated Motor Eff. (%)	Rated Power Factor (cos phi)	Starting Torque (NM)	Max. Torque (NM)	Pump Weight (lbs.)	Cable Size with water detector and thermostats	
2MK3818AD	3.8 (2.8Kw)	208	1 / 60	18.0	3450	"A" 4.41" (112 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MK3811AD		230		16.0				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MK3812AD		200	3 / 60	12.0				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MK3813AD		230		10.0							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MK3814AD		460		5.0							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MK3815AD		575		3.8							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MK3018BD	3.0 (2.2Kw)	208	1 / 60	14.5	3450	"B" 4.09" (104 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MK3011BD		230		13.5				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MK3012BD		200	3 / 60	10.3				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MK3013BD		230		8.6							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MK3014BD		460		4.3							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MK3015BD		575		3.3							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MK2318CD	2.3 (1.7Kw)	208	1 / 60	11.7	3450	"C" 3.90" (99 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MK2311CD		230		10.8				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MK2312CD		200	3 / 60	8.2				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MK2313CD		230		6.8							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MK2314CD		460		3.4							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MK2315CD		575		2.6							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MK1818DD	1.8 (1.3Kw)	208	1 / 60	10.0	3450	"D" 3.70" (94 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MK1811DD		230		9.2				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MK1812DD		200	3 / 60	7.7				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MK1813DD		230		6.4							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MK1814DD		460		3.2							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MK1815DD		575		2.4							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV3818AD	3.8 (2.8Kw)	208	1 / 60	18.0	3450	"A" 4.65" (118 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MV3811AD		230		16.0				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MV3812AD		200	3 / 60	12.0				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MV3813AD		230		10.0							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV3814AD		460		5.0							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MV3815AD		575		3.8							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV3018BD	3.0 (2.2Kw)	208	1 / 60	14.5	3450	"B" 4.37" (111 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MV3011BD		230		13.5				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MV3012BD		200	3 / 60	10.3				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MV3013BD		230		8.6							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV3014BD		460		4.3							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MV3015BD		575		3.3							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV2318CD	2.3 (1.7Kw)	208	1 / 60	11.7	3450	"C" 4.09" (104 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MV2311CD		230		10.8				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MV2312CD		200	3 / 60	8.2				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MV2313CD		230		6.8							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV2314CD		460		3.4							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MV2315CD		575		2.6							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV1818DD	1.8 (1.3Kw)	208	1 / 60	10.0	3450	"D" 3.86" (98 mm)	H	50mfd/400v	300mfd/330v	0.309	1.32	67	3.7 [C]	78.4	0.95	13.0	28.0	95	14AWG /7	
2MV1811DD		230		9.2				40mfd/400v	240mfd/330v	0.802	1.66	57	3.5 [B]	78.2	0.95	12.0	27.0			
2MV1812DD		200	3 / 60	7.7				N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0		85
2MV1813DD		230		6.4							1.38		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV1814DD		460		3.2							5.52		32	6.8 [H]	82.7	0.84	22.0	25.0		
2MV1815DD		575		2.4							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		

### MODEL AND MOTOR INFORMATION

Bell & Gossett Model No.	HP	Volts	Phase /Hz	Rated Current (Amps)	RPM	Imp. Dia. In (mm)	Insulation Class	Run Cap. (mfd/volt)	Start Cap. (mfd/volt)	Resistance (Ohms)	Aux. Resistance (Ohms)	Start Current (LR Amps)	Rated Motor kVA [Code]	Rated Motor Eff. (%)	Rated Power Factor (cos phi)	Starting Torque (NM)	Max. Torque (NM)	Pump Weight (lbs.)	Cable Size with water detector and thermostats	
2MK3812ADX	3.8	200	3/60	12.0	3450	"A" 4.41" (112mm)	F	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7	
2MK3813ADX		230		10.0						0.69		65	6.9 [H]	82.7	0.84	22.0	25.0			
2MK3814ADX		460		5.0						3.06		32	6.8 [G]	82.7	0.84	22.0	25.0			
2MK3815ADX		575		3.8						4.69		23	6.1 [G]	82.3	0.89	20.0	22.0			
2MK3012BDX	3	200	3/60	10.3		"B" 4.09" (104mm)		N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7
2MK3013BDX		230		8.6							0.69		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MK3014BDX		460		4.3							3.06		32	6.8 [G]	82.7	0.84	22.0	25.0		
2MK3015BDX		575		3.3							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MK2312CDX	2.3	200	3/60	8.2		"C" 3.90" (112mm)		N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7
2MK2313CDX		230		6.8							0.69		63	6.9 [H]	82.7	0.84	22.0	25.0		
2MK2314CDX		460		3.4							3.06		32	6.8 [G]	82.7	0.84	22.0	25.0		
2MK2315CDX		575		2.6							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MK1812DDX	1.8	200	3/60	7.7		"D" 3.70" (94mm)		N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7
2MK1813DDX		230		6.4							0.69		63	6.9 [H]	82.7	0.84	22.0	25.0		
2MK1814DDX		460		3.2							3.06		32	6.8 [G]	82.7	0.84	22.0	25.0		
2MK1815DDX		575		2.4							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV3812ADX	3.8	200	3/60	12.0	3450	"A" 4.65" (118mm)	F	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7	
2MV3813ADX		230		10.0						0.69		65	6.9 [H]	82.7	0.84	22.0	25.0			
2MV3814ADX		460		5.0						3.06		32	6.8 [G]	82.7	0.84	22.0	25.0			
2MV3815ADX		575		3.8						4.69		23	6.1 [G]	82.3	0.89	20.0	22.0			
2MV3012BDX	3	200	3/60	10.3		"B" 4.37" (111mm)		N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7
2MV3013BDX		230		8.6							0.69		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV3014BDX		460		4.3							3.06		32	6.8 [G]	82.7	0.84	22.0	25.0		
2MV3015BDX		575		3.3							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV2312CDX	2.3	200	3/60	8.2		"C" 4.09" (104mm)		N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7
2MV2313CDX		230		6.8							0.69		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV2314CDX		460		3.4							3.06		32	6.8 [G]	82.7	0.84	22.0	25.0		
2MV2315CDX		575		2.6							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		
2MV1812DDX	1.8	200	3/60	7.7		"D" 3.86" (98mm)		N/A	N/A	N/A	0.57	N/A	61	5.6 [G]	78.6	0.89	20.0	21.0	84	14AWG /7
2MV1813DDX		230		6.4							0.69		65	6.9 [H]	82.7	0.84	22.0	25.0		
2MV1814DDX		460		3.2							3.06		32	6.8 [G]	82.7	0.84	22.0	25.0		
2MV1815DDX		575		2.4							4.69		23	6.1 [G]	82.3	0.89	20.0	22.0		

### APPLICATION DATA

Maximum Working Pressure	75 PSI (5 bar) – Standard
	150 PSI (10 bar) – Explosion Proof
Maximum Submergence	66 feet (20 m)
Minimum Submergence	Fully submerged for continuous operation
Maximum Environmental Temperature	40°C (104°F) continuous operation

### CONSTRUCTION DETAILS

Power / Sensor Cable	14/7, type SOW: single and three phase		
Motor Cover	Gray Cast Iron – ASTM A48 Class 30		
Seal / Bearing Housing	Gray Cast Iron – ASTM A48 Class 30		
Casing	Gray Cast Iron – ASTM A48 Class 30		
Impeller	Non-Clog 304SS and Vortex Cast Iron		
Motor Shaft	AISI 400 Series Stainless Steel		
Motor Design	Air filled Class H; XP = Class F		
Single Phase Capacitors	<b>Volt</b>	<b>Run</b>	<b>Start</b>
	208	50 MFD / 400V	300 MFD / 330V
	230	40 MFD / 400V	240 MFD / 330V
Motor Overload Protection	Single/Three Phase: require ambient compensated Class 10, quick trip overloads in the control panel.		
Motor Seal Fail / High Temp. Detection	Seal fail sensor and high temp. in motor chamber. Connect to optional relays in control panel.		
External Hardware	300 Series Stainless Steel		
Impeller Type	Vortex with pump out vanes on back shroud or Non-clog		
Oil Capacity – Seal Chamber	20.3 ounces		

### MATERIALS OF CONSTRUCTION

Item No.	Part Name	Material Standard				
		1	Impeller	Cast Iron or Stainless Steel		
2	Motor Cover	Cast Iron				
3	Shaft	400 Series SS				
4	Fasteners	300 Series SS				
5	Ball Bearings	Steel				
6	Cord	SOW, 30 feet				
7	O-Ring	BUNA-N				
8	<b>Mech. Seal</b>	<b>Service</b>	<b>Rotary</b>	<b>Stationary</b>	<b>Elastomers</b>	<b>Metal Parts</b>
	STD	Mild abrasives	Carbon / Ceramic – Upper Tung. Carb. / Ceramic – Lower		Nitrile or Viton*	300 Series SS

\* Depending on size and style.

### NOMENCLATURE DESCRIPTION

#### 1st Character – Discharge Size

2 = 2" discharge

#### 2nd and 3rd Characters – Series/Solids Size

MV = Vortex

MK = Non-clog

#### 4th Character – HP

18 = 1.8 HP

23 = 2.3 HP

30 = 3.0 HP

38 = 3.8 HP

#### 5th Character – Speed/RPM

1 = 60 Hz/3500 RPM

#### 6th Character – Phase/Voltage

1 = single phase, 230 V

8 = single phase, 208 V

2 = three phase, 200 V

3 = three phase, 230 V

4 = three phase, 460 V

5 = three phase, 575 V

#### 7th Character – Impeller Diameter

Vortex                      Non-Clog

A = 4.65"                      A = 4.41"

B = 4.37"                      B = 4.09"

C = 4.09"                      C = 3.90"

D = 3.86"                      D = 3.70"

#### 8th Character – Cord Length

D = 30' (standard)

J = 100' (optional)

#### 9th Character

X = FM Approved Explosion Proof

E = Epoxy Coat

XE = FM Approved Explosion Proof and Epoxy Coat







**Bell & Gossett**



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