



**FEATURES**

Impeller: Cast iron, two vane semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

Casing: Heavy duty gray cast iron, ASTM A48, Class 30. Volute type casing with 4", 125#, ANSI flanged, horizontal discharge. Compatible with A10-40 cast iron or A10-40B cast iron and brass (non-sparking) guide rail assembly.

Dual Mechanical Seals: Silicon carbide vs. silicon carbide outer seal and ceramic vs. carbon inner seal, stainless steel metal parts, BUNA-N elastomers. Upper and lower shaft seals are positioned independently and are separated by an oil-filled chamber.

Shaft: 300 series stainless steel keyed design.

Fasteners: 300 series stainless steel.

Capable of running dry temporarily without damage to seals or motor.

# WS\_D4 Series

## Model 3888ZD4 50 Hz

SUBMERSIBLE SEWAGE PUMPS

## 50 Hz Wastewater

### APPLICATIONS

Used in a variety of residential, commercial and industrial applications such as:

- Sewage systems, Flood and Pollution Control, De-watering/ Effluent, Farms, Hospitals, Trailer Courts, Motels

### SPECIFICATIONS

#### Pump:

- Maximum solid size: 3"
- Discharge size: 4", 125 # ANSI flange
- Maximum capacity: 670 GPM
- Maximum total head: 38 feet
- 300 Series stainless steel fasteners
- 20' Power cord
- Standard silicon carbide/silicon carbide outer seal

#### Motor:

- Maximum ambient temperature: 104° F (40° C) continuous duty, 140° F (60° C) intermittent duty
- Rated for continuous duty when fully submerged
- Insulation: Class F
- 50 Hertz
- Single row ball bearings
- 300 Series stainless steel keyed shaft

#### Single Phase:

- 1.5 - 3 HP; 220 volts
- Built-in thermal overloads with automatic reset
- Built-in capacitors

#### Three Phase:

- 1.5 - 5 HP; 200, 380 volts
- Class 10 overload protection must be provided in control panel

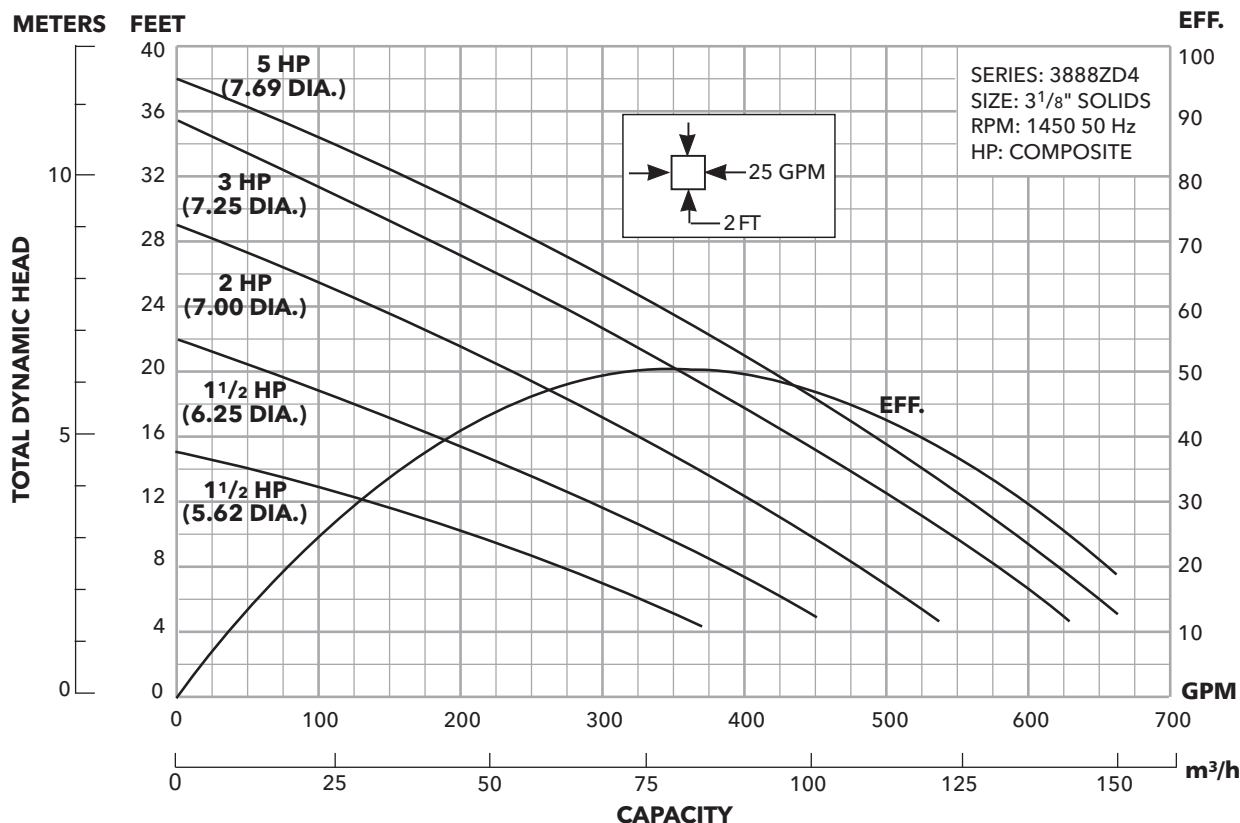
### MOTORS

- Fully submerged in oil-filled chamber. High grade turbine oil surrounds motor for more efficient heat dissipation, permanent lubrication of bearings and mechanical seal for complete protection against outside environment.
- Class F insulation
- 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.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. 20 foot standard with optional lengths available.
- O-ring: Assures positive sealing against contaminants and oil leakage.

### AGENCY LISTINGS



Tested to UL 778 and CSA 22.2 108 Standards  
By Canadian Standards Association File #LR38549

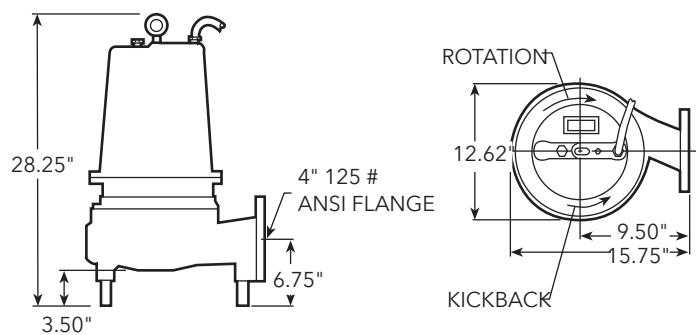


### SEWAGE PUMP 50 HZ: 3" FLANGED DISCHARGE, 3" SOLIDS MODEL AND MOTOR INFORMATION

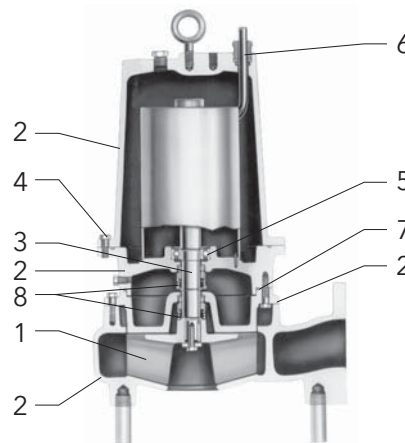
Order No.	HP	Phase	Volts	RPM	Impeller Dia. (in.)	Maximum Amps	L.R. Amps	KVA Code	Power Cable	F.L. Motor Eff. %	Resistance		Wt. (lbs.)
											Start	Line-Line	
WS1529D4M	1.5	1	220	1450	5.62"	7.5	32.7	D	14/3	80	2.1	1.2	195
WS1546D4M		3	380			3.2	24.2	F	14/4	83	N/A	9.3	195
WS1529D4	1.5	1	220		6.25"	10.2	32.7	D	14/3	80	2.1	1.2	195
WS1546D4		3	380			3.9	24.2	F	14/4	83	N/A	9.3	195
WS2029D4	2	1	220		7.0"	13.5	32.7	D	14/3	80	2.1	1.2	200
WS2046D4		3	380			5.6	24.2	F	14/4	83	N/A	9.3	200
WS3029D4	3	1	220		7.25"	17.9	52.1	A	10/3	80	1.3	0.9	208
WS3046D4		3	380			7.0	30.0	H	14/4	83	N/A	7.5	205
WS5029D4	5	1	220		7.69"	22.0	52.1	A	10/3	80	1.3	0.9	213
WS5046D4		3	380			8.1	38.5	E	14/4	85	N/A	4.8	210
WS5048D4		3	200	16.2		77.0	E	14/4	85	N/A	1.2	210	

### DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



### MATERIALS OF CONSTRUCTION



Item No.	Part Name		Material			
			Standard		Optional	
1	Impeller, non-clog		1003		1179	
2	Casing		1003			
3	Shaft-keyed		300 Series SS			
4	Fasteners		300 Series SS			
5	Ball bearings		Steel			
6	Power cable		STOW, 20 feet		Additional lengths	
7	O-ring		BUNA-N			
8	Outer Mech. Seal	Service	Rotary	Stationary	Elastomers	Metal Parts
	OPT	Heavy duty	Silicon Carbide	Tungsten Carbide	BUNA-N	300 Series SS
	STD	Mild abrasives	Silicon carbide		BUNA-N	300 Series SS
<b>Material Code</b>			<b>Engineering Standard</b>			
1003			Cast iron – ASTM A48 Class 30			
1179			Silicon bronze – ASTM C87600			

## APPLICATION DATA AND CONSTRUCTION DETAILS

Maximum Solid Size	3"	
Minimum Casing Thickness	5/16"	
Casing Corrosion Allowance	1/8"	
Maximum Working Pressure	30 PSI	
Maximum Submergence	50 feet	
Minimum Submergence	Fully submerged for continuous operation	
	6" below top of motor for intermittent operation	
Maximum Environmental Temperature	40° C (104° F) continuous operation, 60° C (140° F) intermittent operation	
Power Cable - Type (See Motor Information for AWG data/size.)	Type SJTOW: single phase, 1½ and 2 HP	
	Type STOW: single phase, 1½ - 3 HP and 5 HP, 380 V	
	Type STOW: single phase, 3 and 5 HP, three phase 5 HP, 220 V	
Motor Cover, Bearing Housing, Seal Housing, Casing	Gray Cast Iron - ASTM A48, Class 30	
Impeller - Standard, Optional	Gray Cast Iron - ASTM A48 or Cast Bronze - ASTM B584 C87600	
Motor Shaft	AISI 300 Series Stainless Steel	
Motor Design	NEMA 56 Frame, oil filled with Class F Insulation	
Motor Overload Protection	Single phase: on winding thermal overload protection auto reset	
	Three phase: requires Class 10 overloads in control panel	
External Hardware	300 Series Stainless Steel	
Impeller Type	Semi-open with pump out vanes on back shroud	
Oil Capacity - Seal Chamber	1.5 quarts	
Oil Capacity - Motor Chamber	1½-5 HP single and three phase: 7 quarts	
Mechanical Seals - Standard	Upper	Carbon/Ceramic; Type 21
	Lower	Silicon Carbide/Silicon Carbide; Type 31
Mechanical Seals - Optional Lower	Silicon Carbide/Tungsten Carbide; Type 31	



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