



# WS\_D3 Series

## Model 3888D3

SUBMERSIBLE SEWAGE PUMPS

### FEATURES

**Impeller:** Cast iron, ASTM A48, Class 30, two vane semi-open, non-clog design with pump out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller is an option.

**Casing:** Heavy duty gray cast iron, ASTM A48, Class 30. Volute type casing with 3", 125#, ANSI flanged, horizontal discharge. Compatible with A10-30 cast iron or A10-30B 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.

Warranty: 3 year standard (4 year GPDA)

### APPLICATIONS

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

- Sewage systems, flood and pollution control, dewatering/effluent, farms, hospitals, trailer courts and motels

### SPECIFICATIONS

#### Pump:

- Maximum solid size: 2.5"
- Discharge size: 3", 125 # ANSI flange
- Maximum capacity: 470 GPM
- Maximum total head: 65 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
- 60 Hertz
- Single row ball bearings
- 300 Series stainless steel keyed shaft

#### Single Phase:

- 1.5 - 5 HP; 208 and 230 volts
- Built-in thermal overloads with automatic reset
- Built-in capacitors

#### Three Phase:

- 1.5 - 5 HP; 200, 230, 460 and 575 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



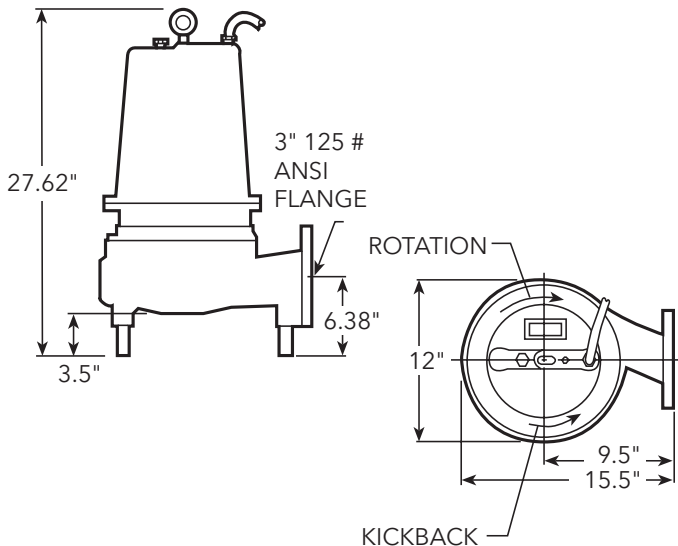
Tested to UL 778 and CSA 22.2 108 Standards  
By Canadian Standards Association  
File #LR38549

### MODEL AND MOTOR INFORMATION

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Power Cable	Full Load Motor Efficiency %	Resistance		Weight (lbs.)
											Start	Line-Line	
WS1518D3M	1.5	1	208	1750	5.25	15.0	50.8	B	14/3	80	1.1	0.9	192
WS1512D3M			230			12.5	29.5	E		70	1.4	1.8	
WS1538D3M		3	200			11.5	40.9	H	14/4	81	NA	1.7	190
WS1532D3M			230			10.0	40.0	F		83		2.3	
WS1534D3M			460			5.0	20.0	F		83		9.3	
WS1537D3M			575			4.0	14.4	H		74		14.8	
WS1518D3		1	208		6.50	15.0	50.8	B	14/3	80	1.1	0.9	192
WS1512D3			230			12.5	29.5	E		70	1.4	1.8	
WS1538D3		3	200			11.5	40.9	H	14/4	81	NA	1.7	190
WS1532D3			230			10.0	40.0	F		83		2.3	
WS1534D3			460			5.0	20.0	F		83		9.3	
WS1537D3			575			4.0	14.4	H		74		14.8	
WS2018D3	2	1	208	1750	7.00	19.0	50.8	B	14/3	80	1.1	0.9	196
WS2012D3			230			16.0	36.9	D		75	1.4	1.5	
WS2038D3		3	200			11.5	40.9	H	14/4	81	NA	1.7	194
WS2032D3			230			10.0	40.0	F		83		2.3	
WS2034D3			460			5.0	20.0	F		83		9.3	
WS2037D3			575			4.0	14.4	H		74		14.8	
WS3018D3	3	1	208		7.25	25.5	50.8	B	10/3	80	1.1	0.9	205
WS3012D3			230			21.5	46.4	C		79	1.0	1.0	
WS3038D3		3	200			15.2	53.8	G	10/4	85	NA	1.3	200
WS3032D3			230			12.0	49.5	H	14/4	83		1.9	
WS3034D3			460			6.0	24.8	H		83		7.5	
WS3037D3			575			4.8	17.3	G		78		11.6	
WS5012D3	5	1	230	1750	8.00	26.5	57.7	A	10/3	80	1.0	0.8	210
WS5038D3		3	200			18.8	73.9	F	10/4	84	NA	0.9	205
WS5032D3			230			16.4	63.6	E		85		1.2	
WS5034D3			460			8.2	31.8	E	14/4	85		4.8	
WS5037D3			575			6.8	22.8	E		80		7.4	

### DIMENSIONS

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



### FITTINGS

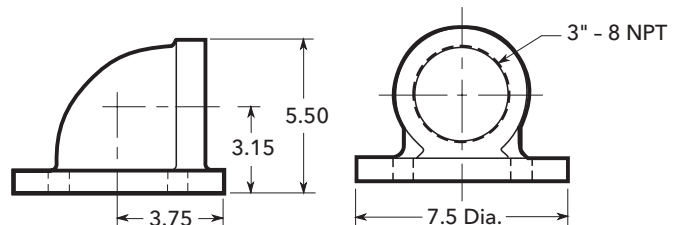
#### PIPE CONNECTORS

##### Short Radius Elbow

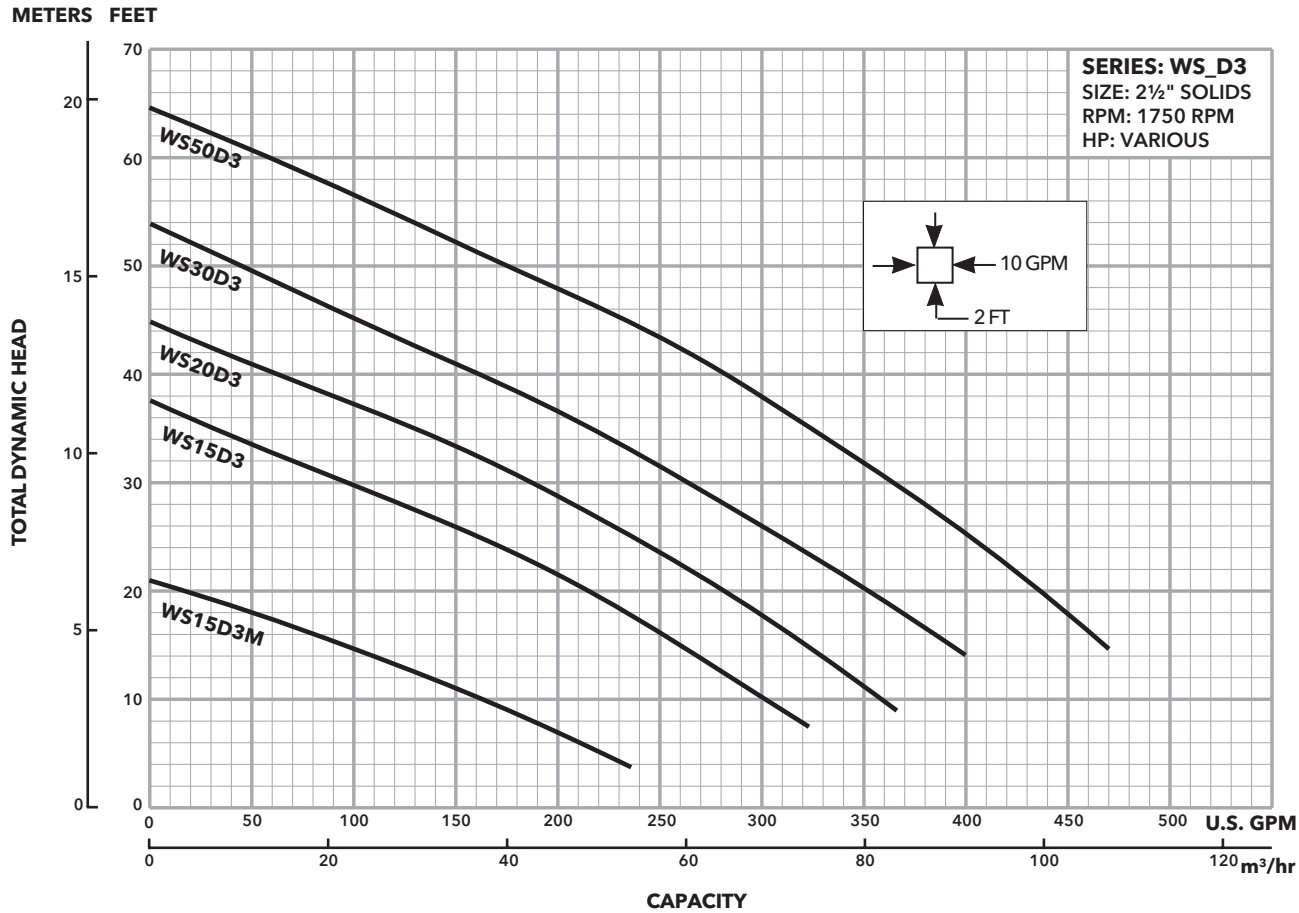
- Cast iron construction
- 125 lb. ANSI rated flange at pump end
- 3" NPT threaded connection for discharge pipe



Flange Size	Order Number	Used With
3"	A1-5	3", 125# ANSI Flange



PERFORMANCE CURVES



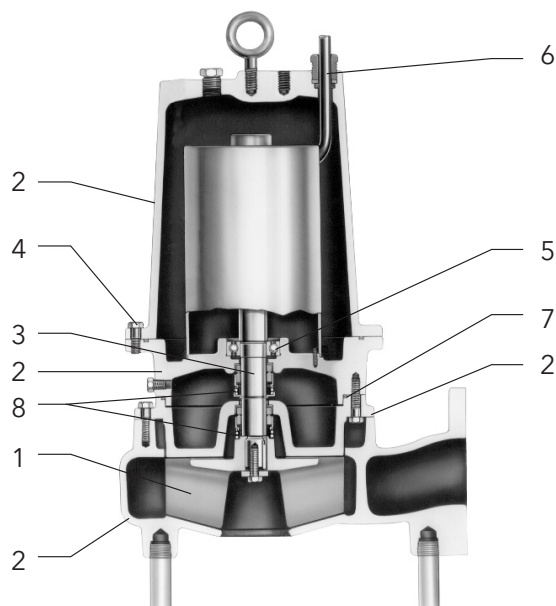
PERFORMANCE RATINGS (gallons per minute)

Series No.		WS15D3M	WS15D3	WS20D3	WS30D3	WS50D3
Total Head Feet of Water	HP	1½	1½	2	3	5
	RPM	1750				
	10	160	300			
	15	90	260	320		
	20		210	280	350	435
	25		160	235	310	400
	30		100	185	265	360
	35			130	210	325
	40			60	160	280
	45				100	230
	50					170
	55					115
	60					60

### APPLICATION DATA AND CONSTRUCTION DETAILS

Maximum Solid Size		2.5"
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, 460 V
		Type STOW: single phase, 3 and 5 HP, three phase 5 HP, 230 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

### MATERIALS OF CONSTRUCTION



Item No.	Part Name		Material			
			Standard		Optional	
1	Impeller, non-clog		1003		1179	
2	Castings		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
	Material Code		Engineering Standard			
	1003		Cast iron – ASTM A48 Class 30			
	1179		Silicon bronze – ASTM C87600			

### STANDARD PANEL OPTIONS

Pump	HP	Phase	Voltage	Amps	Simplex Panel	Duplex Panel
WS1518D3M	1.5	1	208	15	C4S10020	C4D10020
WS1512D3M	1.5	1	230	12.5	C4S10020	C4D10020
WS1538D3M	1.5	3	200	11.5	C4S31016	C4D31016
WS1532D3M	1.5	3	230	10	C4S31016	C4D31016
WS1534D3M	1.5	3	460	5	C4S34063	C4D34063
WS1537D3M	1.5	3	575	4	C4S34063	C4D34063
WS1518D3	1.5	1	208	15	C4S10020	C4D10020
WS1512D3	1.5	1	230	12.5	C4S10020	C4D10020
WS1538D3	1.5	3	200	11.5	C4S31016	C4D31016
WS1532D3	1.5	3	230	10	C4S31016	C4D31016
WS1534D3	1.5	3	460	5	C4S34063	C4D34063
WS1537D3	1.5	3	575	4	C4S34063	C4D34063
WS2018D3	2	1	208	19	C4S10020	C4D10020
WS2012D3	2	1	230	16	C4S10020	C4D10020
WS2038D3	2	3	200	11.5	C4S31016	C4D31016
WS2032D3	2	3	230	10	C4S31016	C4D31016
WS2034D3	2	3	460	5	C4S34063	C4D34063
WS2037D3	2	3	575	4	C4S34063	C4D34063
WS3018D3	3	1	208	25.5	C4S12136	C4D12127
WS3012D3	3	1	230	21.5	C4S12136	C4D12127
WS3038D3	3	3	200	15.2	C4S31016	C4D31016
WS3032D3	3	3	230	12	C4S31016	C4D31016
WS3034D3	3	3	460	6	C4S34063	C4D34063
WS3037D3	3	3	575	4.8	C4S34063	C4D34063
WS5012D3	5	1	230	26.5	C4S12136	C4D12836
WS5038D3	5	3	200	18.8	C4S31620	C4D31620
WS5032D3	5	3	230	16.4	C4S31620	C4D31620
WS5034D3	5	3	460	8.2	C4S36310	C4D36310
WS5037D3	5	3	575	6.8	C4S36310	C4D36310



**Series "Core 4" Control Panels provide outstanding, automatic, liquid level control to help manage and maintain pump operation for a variety of effluent, sewage, and water transfer applications.**

### FEATURES

- Rugged, NEMA 4X construction withstands even the most severe weather conditions and prevents corrosion
- Solid-state control board displays float status for ease of installation and trouble-shooting
- Hinged door with lockable stainless-steel latch for safe operation indoors and out
- Through-door mounted alarm test switch ensures proper operation of the alarm circuit without the need to open the panel
- Panel can be wired for a single power feed and control circuit, or the control circuit can be wired to a separate power supply to ensure alarm integrity in case of a tripped pump breaker.
- Top-mounted, high intensity, flashing red light provides 360° visibility
- Auxiliary alarm contacts provided for remote alarm connection
- Field wiring diagram, panel schematic and installation instructions included
- Entire unit is UL and CUL listed

### APPLICATIONS

- Residential
- Effluent
- Sewage
- Water transfer

### PRODUCT SPECIFICATIONS

- Hand-off-automatic (H-O-A) pump selection switch(es)
- On-off control circuit switch
- Float switches:
  - o Normally open (pump down) mechanical float switches with 20' cords
  - o Simplex panels (three switches)
  - o Duplex panels (four switches)
- Duplex panels include alternation
- NEMA 4X:
  - o Flashing red alarm light,
  - o Fiberglass enclosure with gasketed, hinged door and stainless-steel hardware
  - o Alarm horn (95db)
- Solid state printed circuit control board with float indicator lights
- Auxiliary alarm dry contact
- Elapsed time meter(s)
- Cycle counter(s)
- Single Phase
  - o Field adjustable for 115 or 230V, 60Hz
- Three Phase
  - o Field adjustable for 208/230/460/575 V, 60 Hz
  - o 115V control circuit transformer
  - o Adjustable motor overload protectors

