



# 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.

### 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, 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



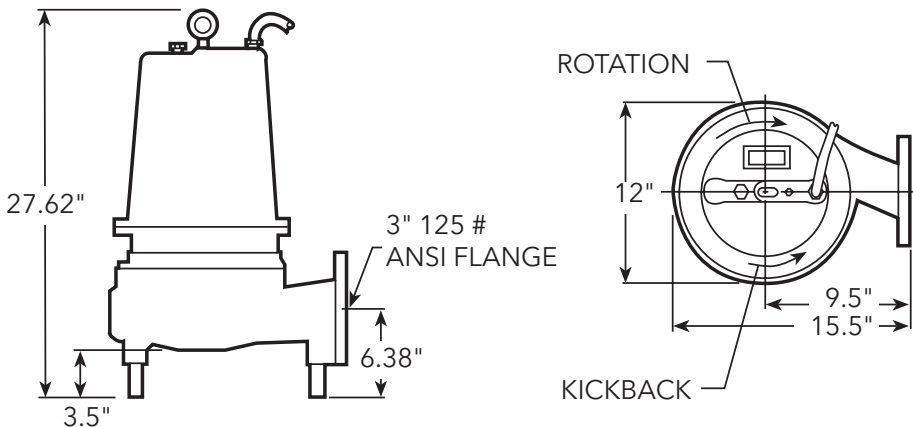
Tested to UL 778 and CSA 22.2 108 Standards  
By Canadian Standards Association  
File #LR38549

### MODEL AND MOTOR INFORMATION

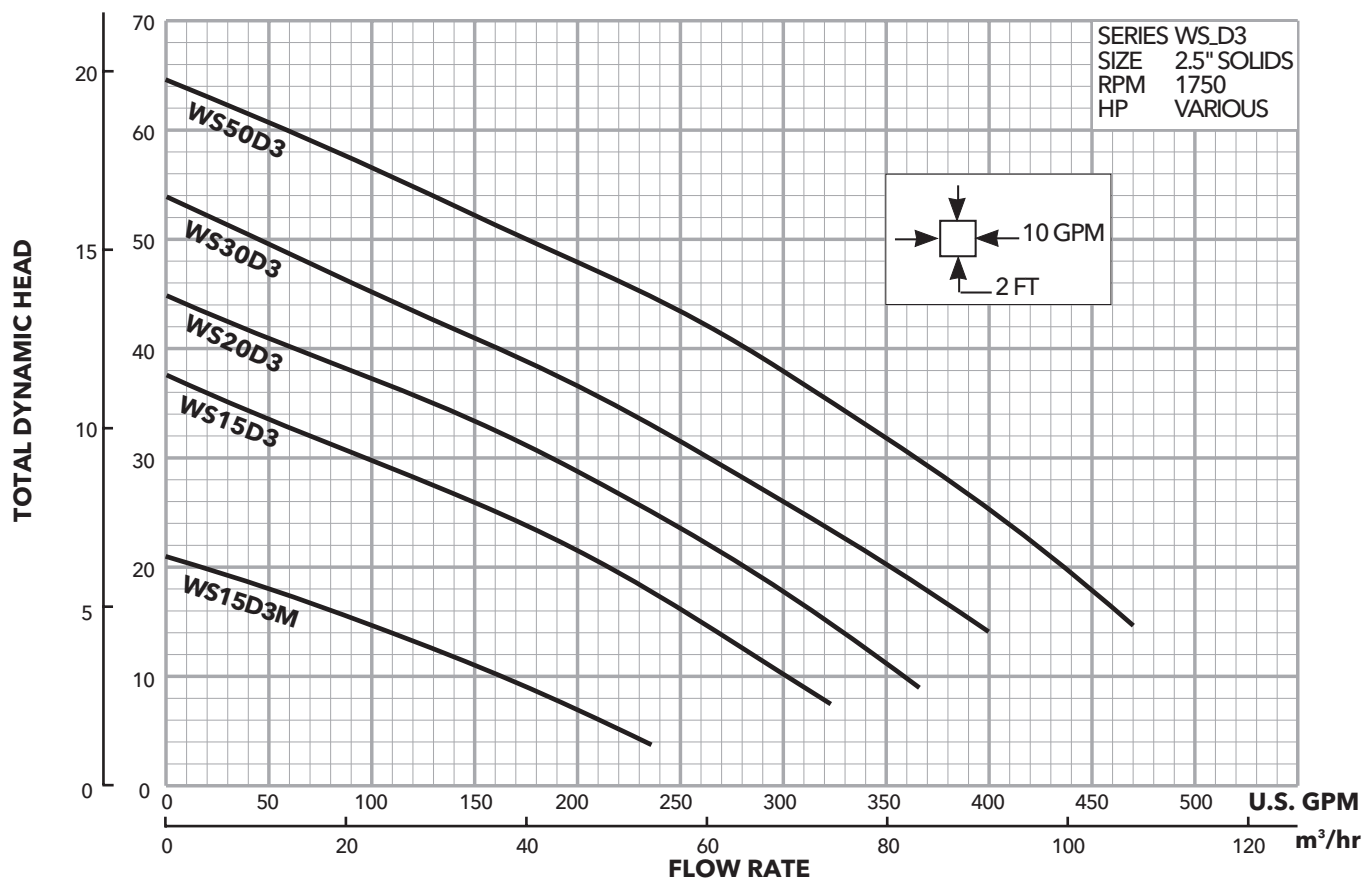
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Power Cable	Full Load Motor Efficiency %	Resistance		Weight (lbs.)			
											Start	Line-Line				
WS1518D3M	1.5	1	208	1750	5.25	15.0	50.8	B	14/3	80	1.1	0.9	192			
WS1512D3M			230			12.5	29.5	E		70	1.4	1.8				
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		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	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	14/4	85	NA	1.3	200				
WS3032D3			230		12.0	49.5	H		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	8.00	26.5	57.7	A	10/3	80	1.0	0.8	210				
WS5038D3			200		18.8	73.9	F		10/4	84	0.9					
WS5032D3		3	230		16.4	63.6	E	14/4		85	NA		1.2			
WS5034D3			460		8.2	31.8	E		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.)



METERS FEET



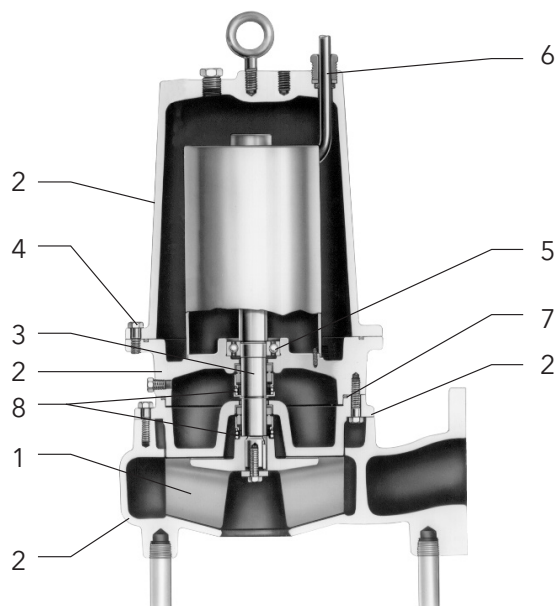
### PERFORMANCE RATINGS (gallons per minute)

Series No.	WS15D3M	WS15D3	WS20D3	WS30D3	WS50D3
<b>HP</b>	1½	1½	2	3	5
<b>RPM</b>	1750				
<b>Total Head Feet of Water</b>					
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	<b>Outer Mech. Seal</b>	<b>Service</b>	<b>Rotary</b>	<b>Stationary</b>	<b>Elastomers</b>	<b>Metal Parts</b>
	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				

### STANDARD PANEL OPTIONS

Pump Order Number	Boulay Series		Disconnect Style	
	Simplex	Duplex	Simplex	Duplex
WS1518D3M	S10020	D10020	CSD11016	CDD11016
WS1512D3M	S10020	D10020	CSD11016	CDD11016
WS1538D3M	S31016	D31016	CSD31016	CDD31016
WS1532D3M	S31016	D31016	CSD31016	CDD31016
WS1534D3M	S34063	D34063	CSD34063	CDD34063
WS1537D3M	S34063	D34063	CSD34063	CDD34063
WS1518D3	S10020	D10020	CSD11016	CDD11016
WS1512D3	S10020	D10020	CSD11016	CDD11016
WS1538D3	S31016	D31016	CSD31016	CDD31016
WS1532D3	S31016	D31016	CSD31016	CDD31016
WS1534D3	S34063	D34063	CSD34063	CDD34063
WS1537D3	S34063	D34063	CSD34063	CDD34063
WS2018D3	S10020	D10020	CSD11620	CDD11620
WS2012D3	S10020	D10020	CSD11620	CDD11620
WS2038D3	S31016	D31016	CSD31016	CDD31016
WS2032D3	S31016	D31016	CSD31016	CDD31016
WS2034D3	S34063	D34063	CSD34063	CDD34063
WS2037D3	S34063	D34063	CSD34063	CDD34063
WS3018D3	S12136	D12127	CSD12232	CDD12232
WS3012D3	S12136	D12127	CSD12025	CDD12025
WS3038D3	S31016	D31016	CSD31016	CDD31016
WS3032D3	S31016	D31016	CSD31016	CDD31016
WS3034D3	S34063	D34063	CSD34063	CDD34063
WS3037D3	S34063	D34063	CSD34063	CDD34063
WS5012D3	S12136	D12127	CSD12232	CDD12232
WS5038D3	S31620	D31620	CSD31620	CDD31620
WS5032D3	S31620	D31620	CSD31620	CDD31620
WS5034D3	S36310	D36310	CSD36310	CDD36310
WS5037D3	S36310	D36310	CSD36310	CDD36310

**Note:** All panel part numbers above have additional available features, see page 7 for more information.

**Note:** Panel part numbers above do not include float switches.



### BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models information

### DISCONNECT STYLE

- NEMA 4X outdoor rated enclosure, NEMA 1 also available
- Red alarm beacon
- Through door HOA selector switch
- Through door control on/off switch
- Through door main disconnect switch
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCPSDWWP R3" for additional information

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- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

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