

# Bell & Gossett

## 4WDA Submersible Sewage Pump



### FEATURES

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**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 or base elbow rail systems.

**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: 3"
- Discharge size: 4", 125 # ANSI flange
- Maximum capacity: 620 GPM
- Maximum total head: 60 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 - 7.5 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

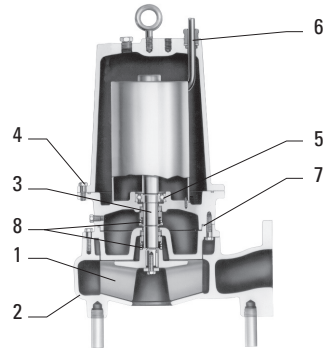


Tested to UL 778 and CSA 22.2 108 Standards  
By Canadian Standards Association File #218526

## 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 Efficiency %	Resistance		Wt. (lbs.)
											Start	Line-Line	
4WDA1518M	1.5	1	208	1750	5.63	17.2	50.8	B	14/3	80	1.1	0.9	195
4WDA1512M			230			14.7	29.5	E		70	1.4	1.8	
4WDA1538M		3	200			11.5	40.9	H	14/4	81	NA	1.7	
4WDA1532M			230			10.0	40.0	F		83		2.3	
4WDA1534M			460			5.0	20.0	F		83		9.3	
4WDA1537M			575			4.0	14.4	H		74		14.8	
4WDA1518	1.5	1	208	1750	6.25	17.2	50.8	B	14/3	80	1.1	0.9	195
4WDA1512			230			14.7	29.5	E		70	1.4	1.8	
4WDA1538		3	200			11.5	40.9	H	14/4	81	NA	1.7	
4WDA1532			230			10.0	40.0	F		83		2.3	
4WDA1534			460			5.0	20.0	F		83		9.3	
4WDA1537			575			4.0	14.4	H		74		14.8	
4WDA2018	2	1	208	1750	6.63	20.3	50.8	B	14/3	80	1.1	0.9	200
4WDA2012			230			17.3	36.9	D		75	1.4	1.5	
4WDA2038		3	200			13.3	40.9	H	14/4	81	NA	1.7	
4WDA2032			230			11.6	40.0	F		83		2.3	
4WDA2034			460			5.8	20.0	F		83		9.3	
4WDA2037			575			4.6	14.4	H		74		14.8	
4WDA3018	3	1	208	1750	7.00	25.5	50.8	B	10/3	80	1.1	0.9	208
4WDA3012			230			21.5	46.4	C		79	1.0	1.0	
4WDA3038		3	200			16.6	53.8	G	10/4	85	NA	1.3	205
4WDA3032			230			14.4	49.5	H		83		1.9	
4WDA3034			460			7.2	24.8	H		83		7.5	
4WDA3037			575			5.8	17.3	G		78		11.6	
4WDA5012	5	1	230	1750	7.25	26.5	57.7	A	10/3	80	1.0	0.8	213
4WDA5038			200			19.1	73.9	F		84	NA	0.9	
4WDA5032		3	230			16.6	63.6	E	10/4	85		1.2	210
4WDA5034			460			8.3	31.8	E		85		4.8	
4WDA5037			575			6.6	22.8	E		80		7.4	
4WDA7532			230			23.0	105.0	G		83	NA	0.7	
4WDA7534	7.5	3	460	1750	7.69	11.5	52.5	G	10/4	83		2.8	225
4WDA7537			575			9.2	42.0	E		84		4.4	

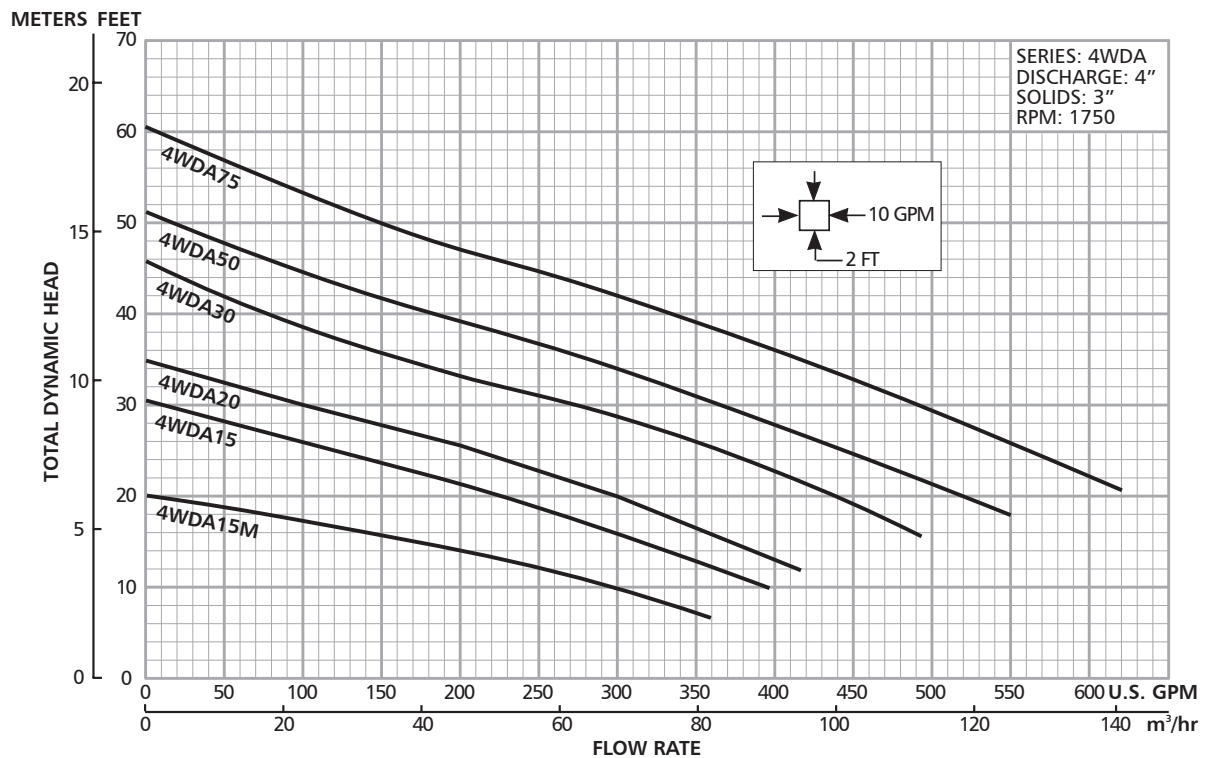
## MATERIALS OF CONSTRUCTION



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
	OPT	Heavy duty	Silicon Carbide	Tungsten Carbide	BUNA-N
	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			

## PERFORMANCE RATINGS (Gallons Per Minute)

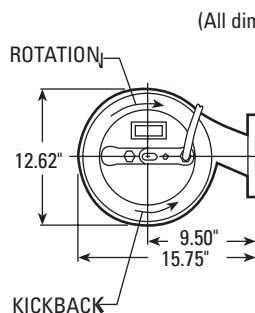
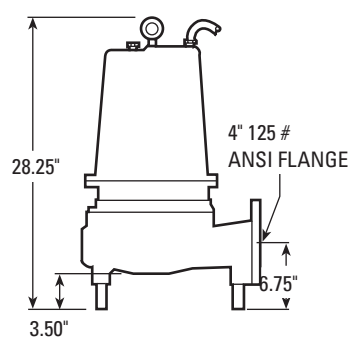
Series No. ▶	4WDA15M	4WDA15	4WDA20	4WDA30	4WDA50	4WDA75
HP ▶	1½	1½	2	3	5	7½
RPM ▶	1750					
Total Head Feet of Water	10	300	395			
	15	170	320	370		
	20		230	300	440	520
	25		120	205	365	440
	30			100	270	360
	35				160	275
	40				80	175
	45					85
	50					155
	55					80



## 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, 1/2 and 2 HP Type STOW: single phase, 1/2 – 3 HP and 5 HP, 460 V Type STOW: single phase, 3 and 5 HP, three phase 5 HP, 230 V and 7 1/2 HP
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		1 1/2-5 HP single and three phase: 7 quarts 7 1/2 HP three phase: 6.5 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

## DIMENSIONS



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



**Bell & Gossett**

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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