

TECHNICAL BROCHURE

B4WDA R4

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 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.

4WDA

SUBMERSIBLE SEWAGE PUMP



Bell & Gossett
a xylem brand

Wastewater

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:

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

Three Phase:

- o 1.5 - 7.5 HP; 200, 230, 460 and 575 volts
- o Class 10 overload protection must be provided in control panel

MOTORS

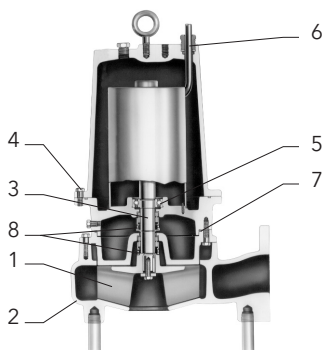
- Fully submerged in oil-filled chamber: High grade turbine oil surrounds motor for more efficient heat dissipation, permanent lubrication of bearings and mechanical seal for complete protection against outside environment.
- Class F insulation
- **Designed for Continuous Operation:** Pump ratings are 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.

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	14/4	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	14/4	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	

Wastewater

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
	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	510
	35				160	275	440
	40				80	175	355
	45					85	260
	50						155
	55						80

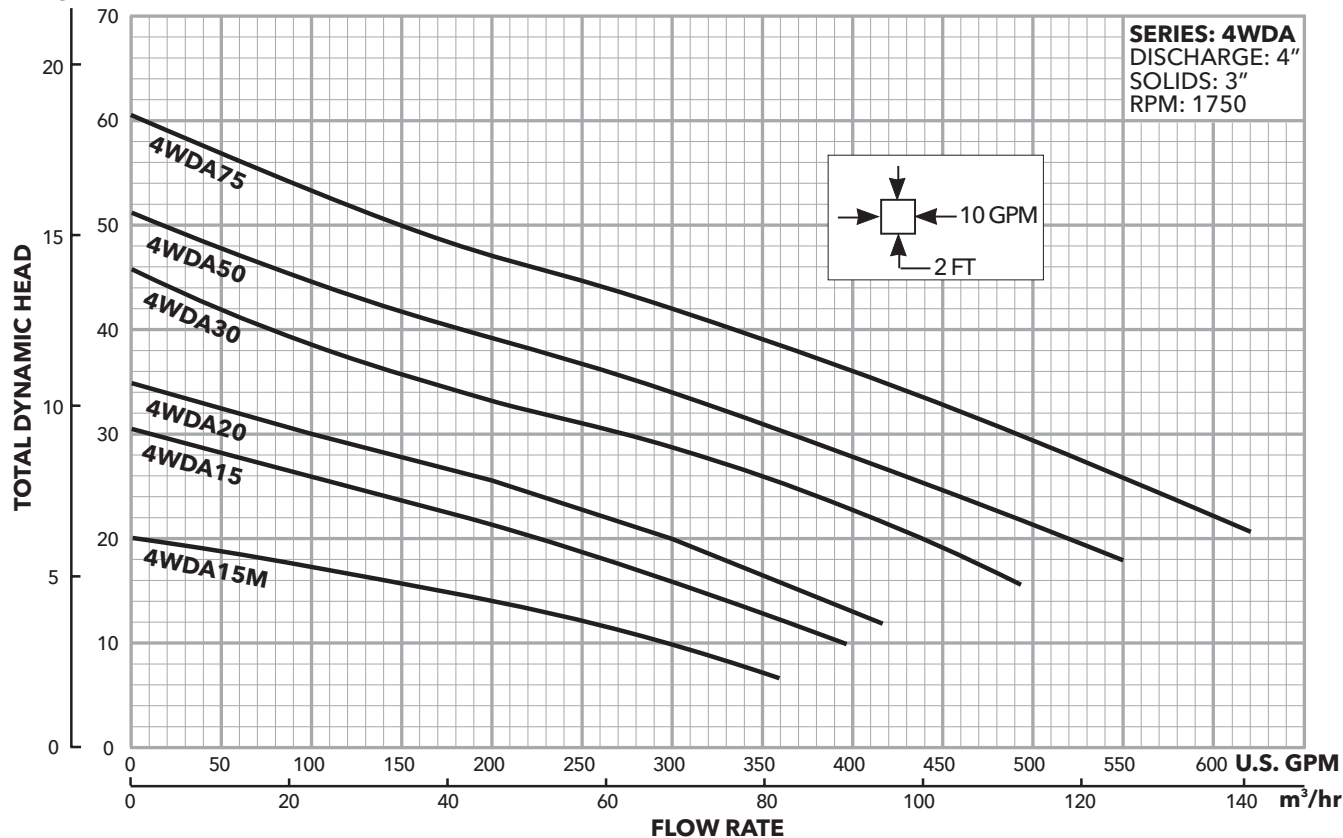
AGENCY LISTINGS



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

CURVES

METERS FEET



APPLICATION DATA AND CONSTRUCTION DETAILS

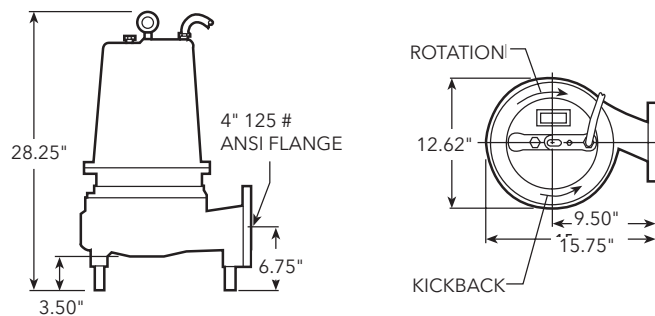
Maximum Solid Size		3"
Minimum Casing Thickness		5/16"
Casing Corrosion Allowance		1/8"
Maximum Working Pressure		30 PSI
Maximum Submergence		50 feet
Minimum Submergence		Fully submerged for continuous operation
		6" below top of motor for intermittent operation
Maximum Environmental Temperature		40° 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 1/2 and 2 HP
		Type STOW: single phase, 1 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

PUMP-TO-PANEL PART NUMBERS

Pump	HP	Phase	Voltage	Amps	Simplex Panel	Duplex Panel
4WDA1518M	1.5	1	208	17.2	C4S10020	C4D10020
4WDA1512M	1.5	1	230	14.7	C4S10020	C4D10020
4WDA1538M	1.5	3	200	11.5	C4S31016	C4D31016
4WDA1532M	1.5	3	230	10	C4S31016	C4D31016
4WDA1534M	1.5	3	460	5	C4S34063	C4D34063
4WDA1537M	1.5	3	575	4	C4S34063	C4D34063
4WDA1518	1.5	1	208	17.2	C4S10020	C4D10020
4WDA1512	1.5	1	230	14.7	C4S10020	C4D10020
4WDA1538	1.5	3	200	11.5	C4S31016	C4D31016
4WDA1532	1.5	3	230	10	C4S31016	C4D31016
4WDA1534	1.5	3	460	5	C4S34063	C4D34063
4WDA1537	1.5	3	575	4	C4S34063	C4D34063
4WDA2018	2	1	208	20.3	C4S12136	C4D12136
4WDA2012	2	1	230	17.3	C4S10020	C4D10020
4WDA2038	2	3	200	13.3	C4S31016	C4D31016
4WDA2032	2	3	230	11.6	C4S31016	C4D31016
4WDA2034	2	3	460	5.8	C4S34063	C4D34063
4WDA2037	2	3	575	4.6	C4S34063	C4D34063
4WDA3018	3	1	208	25.5	C4S12136	C4D12136
4WDA3012	3	1	230	21.5	C4S12136	C4D12136
4WDA3038	3	3	200	16.6	C4S31620	C4D31620
4WDA3032	3	3	230	14.4	C4S31016	C4D31016
4WDA3034	3	3	460	7.2	C4S36310	C4D36310
4WDA3037	3	3	575	5.8	C4S34063	C4D34063
4WDA5012	5	1	230	26.5	C4S12136	C4D12136
4WDA5038	5	3	200	19.1	C4S31620	C4D31620
4WDA5032	5	3	230	16.6	C4S31620	C4D31620
4WDA5034	5	3	460	8.3	C4S36310	C4D36310
4WDA5037	5	3	575	6.6	C4S36310	C4D36310
4WDA7532	7.5	3	230	23	C4S32025	C4D32025
4WDA7534	7.5	3	460	11.5	C4S31016	C4D31016
4WDA7537	7.5	3	575	9.2	C4S36310	C4D36310

DIMENSIONS

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



xylem
Let's Solve Water

Xylem, Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13148
Phone: (866) 325-4210
Fax: (888) 322-5877
www.xylem.com/bellgossett

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