



TECHNICAL BROCHURE

B3WDA R4

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 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.

3WDA

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, De-watering/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:

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

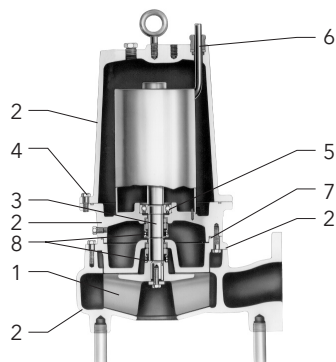
MOTORS

- 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	
3WDA1518M	1.5	1	208	1750	5.25	15.0	50.8	B	14/3	80	1.1	0.9	192
3WDA1512M			230			12.5	29.5	E		70	1.4	1.8	
3WDA1538M			200			11.5	40.9	H		81		1.7	
3WDA1532M		3	230			10.0	40.0	F	14/4	83	NA	2.3	190
3WDA1534M			460			5.0	20.0	F		83		9.3	
3WDA1537M			575			4.0	14.4	H		74		14.8	
3WDA1518	1.5	1	208	1750	6.50	15.0	50.8	B	14/3	80	1.1	0.9	192
3WDA1512			230			12.5	29.5	E		70	1.4	1.8	
3WDA1538			200			11.5	40.9	H		81	NA	1.7	
3WDA1532		3	230			10.0	40.0	F	14/4	83		2.3	190
3WDA1534			460			5.0	20.0	F		83		9.3	
3WDA1537			575			4.0	14.4	H		74		14.8	
3WDA2018	2	1	208	1750	7.00	19.0	50.8	B	14/3	80	1.1	0.9	196
3WDA2012			230			16.0	36.9	D		75	1.4	1.5	
3WDA2038			200			11.5	40.9	H		81	NA	1.7	
3WDA2032		3	230			10.0	40.0	F	14/4	83		2.3	194
3WDA2034			460			5.0	20.0	F		83		9.3	
3WDA2037			575			4.0	14.4	H		74		14.8	
3WDA3018	3	1	208	1750	7.25	25.5	50.8	B	10/3	80	1.1	0.9	205
3WDA3012			230			21.5	46.4	C		79	1.0	1.0	
3WDA3038			200			15.2	53.8	G	10/4	85	NA	1.3	200
3WDA3032		3	230			12.0	49.5	H		83		1.9	
3WDA3034			460			6.0	24.8	H	14/4	83		7.5	
3WDA3037			575			4.8	17.3	G		78		11.6	
3WDA5012	5	1	230	1750	8.00	26.5	57.7	A	10/3	80	1.0	0.8	210
3WDA5038			200			18.8	73.9	F	10/4	84	NA	0.9	
3WDA5032			230			16.4	63.6	E		85		1.2	
3WDA5034		3	460			8.2	31.8	E	14/4	85		4.8	
3WDA5037			575			6.8	22.8	E		80		7.4	

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			

PERFORMANCE RATINGS (gallons per minute)

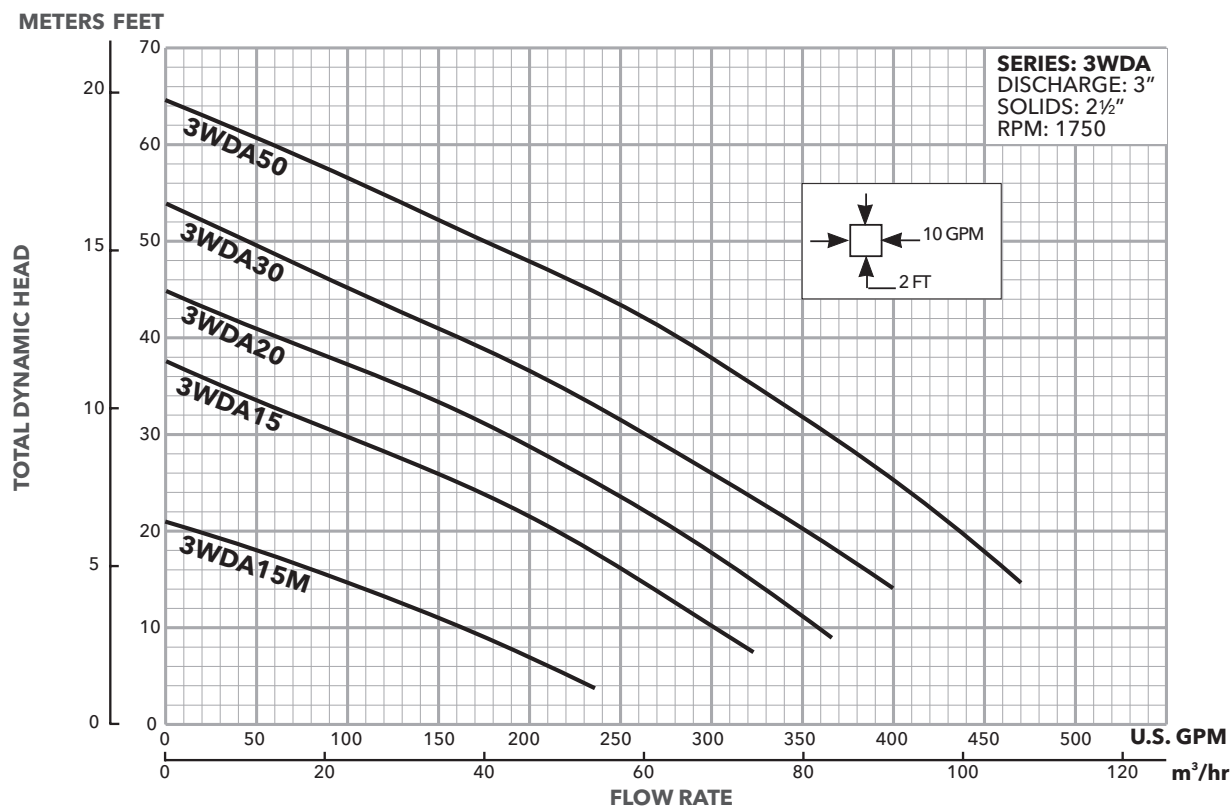
Series No. ▶	3WDA15M	3WDA15	3WDA20	3WDA30	3WDA50
HP ▶	1½	1½	2	3	5
RPM ▶	1750				
Total Head Feet of Water	10	160	300		
	15	90	260	320	
	20		210	280	350
	25		160	235	310
	30		100	185	265
	35			130	210
	40			60	160
	45				100
	50				230
	55				170
	60				115
					60

AGENCY LISTINGS



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

CURVES



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, 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	
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	
	7½ 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
3WDA1518M	1.5	1	208	15	C4S10020	C4D10020
3WDA1512M	1.5	1	230	12.5	C4S10020	C4D10020
3WDA1538M	1.5	3	200	11.5	C4S31016	C4D31016
3WDA1532M	1.5	3	230	10	C4S31016	C4D31016
3WDA1534M	1.5	3	460	5	C4S34063	C4D34063
3WDA1537M	1.5	3	575	4	C4S34063	C4D34063
3WDA1518	1.5	1	208	15	C4S10020	C4D10020
3WDA1512	1.5	1	230	12.5	C4S10020	C4D10020
3WDA1538	1.5	3	200	11.5	C4S31016	C4D31016
3WDA1532	1.5	3	230	10	C4S31016	C4D31016
3WDA1534	1.5	3	460	5	C4S34063	C4D34063
3WDA1537	1.5	3	575	4	C4S34063	C4D34063
3WDA2018	2	1	208	19	C4S10020	C4D10020
3WDA2012	2	1	230	16	C4S10020	C4D10020
3WDA2038	2	3	200	11.5	C4S31016	C4D31016
3WDA2032	2	3	230	10	C4S31016	C4D31016
3WDA2034	2	3	460	5	C4S34063	C4D34063
3WDA2037	2	3	575	4	C4S34063	C4D34063
3WDA3018	3	1	208	25.5	C4S12136	C4D12127
3WDA3012	3	1	230	21.5	C4S12136	C4D12127
3WDA3038	3	3	200	15.2	C4S31016	C4D31016
3WDA3032	3	3	230	12	C4S31016	C4D31016
3WDA3034	3	3	460	6	C4S34063	C4D34063
3WDA3037	3	3	575	4.8	C4S34063	C4D34063
3WDA5012	5	1	230	26.5	C4S12136	C4D12836
3WDA5038	5	3	200	18.8	C4S31620	C4D31620
3WDA5032	5	3	230	16.4	C4S31620	C4D31620
3WDA5034	5	3	460	8.2	C4S36310	C4D36310
3WDA5037	5	3	575	6.8	C4S36310	C4D36310

DIMENSIONS

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

