xylem
Let's Solve Water

TECHNICAL BROCHURE
B3888D4 R5

WS_D4 Series

Model 3888D4

SUBMERSIBLE SEWAGE PUMPS

GOULDS
WATER TECHNOLOGY
a xylem brand

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.

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: 3”
- Discharge size: 4”, 125 # ANSI flange
- Maximum capacity: 620 GPM
- Maximum total head: 60 feet
- 300 Series stainess 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

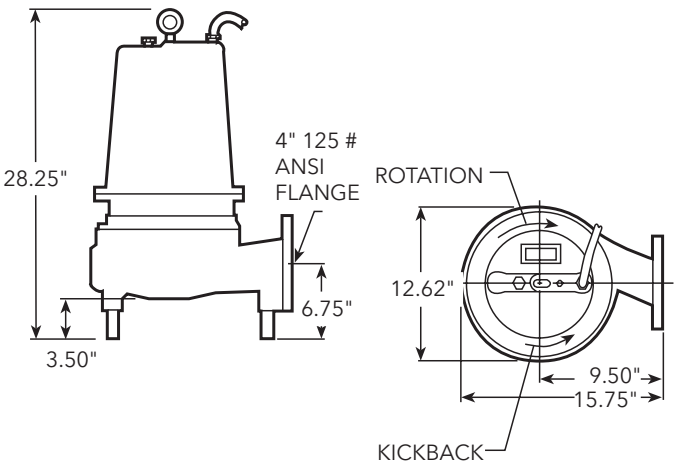
Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549

MODEL AND MOTOR INFORMATION

Order Number	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	
WS1518D4M	1.5	1	208	1750	5.63	17.2	50.8	B	14/3	80	1.1	0.9	195
WS1512D4M			230			14.7	29.5	E		70	1.4	1.8	
WS1538D4M		3	200			11.5	40.9	H	14/4	81	NA	1.7	
WS1532D4M			230			10.0	40.0	F		83		2.3	
WS1534D4M			460			5.0	20.0	F		83		9.3	
WS1537D4M			575			4.0	14.4	H		74		14.8	
WS1518D4		1	208		6.25	17.2	50.8	B	14/3	80	1.1	0.9	195
WS1512D4			230			14.7	29.5	E		70	1.4	1.8	
WS1538D4		3	200			11.5	40.9	H	14/4	81	NA	1.7	
WS1532D4			230			10.0	40.0	F		83		2.3	
WS1534D4			460			5.0	20.0	F		83		9.3	
WS1537D4			575			4.0	14.4	H		74		14.8	
WS2018D4	2	1	208		6.63	20.3	50.8	B	14/3	80	1.1	0.9	200
WS2012D4			230			17.3	36.9	D		75	1.4	1.5	
WS2038D4		3	200			13.3	40.9	H	14/4	81	NA	1.7	
WS2032D4			230			11.6	40.0	F		83		2.3	
WS2034D4			460			5.8	20.0	F		83		9.3	
WS2037D4			575			4.6	14.4	H		74		14.8	
WS3018D4	3	1	208		7.00	25.5	50.8	B	10/3	80	1.1	0.9	208
WS3012D4			230			21.5	46.4	C		79	1.0	1.0	
WS3038D4		3	200			16.6	53.8	G	10/4	85	NA	1.3	205
WS3032D4			230			14.4	49.5	H	14/4	83		1.9	
WS3034D4			460			7.2	24.8	H		83		7.5	
WS3037D4			575			5.8	17.3	G		78		11.6	
WS5012D4	5	1	230		7.25	26.5	57.7	A	10/3	80	1.0	0.8	213
WS5038D4		3	200			19.1	73.9	F	10/4	84	NA	0.9	210
WS5032D4			230			16.6	63.6	E		85		1.2	
WS5034D4			460			8.3	31.8	E	14/4	85		4.8	
WS5037D4			575			6.6	22.8	E		80		7.4	
WS7532D4	7.5	3	230		7.69	23.0	105.0	G	10/4	83	NA	0.7	225
WS7534D4			460			11.5	52.5	G		83		2.8	
WS7537D4			575			9.2	42.0	E		84		4.4	

DIMENSIONS

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



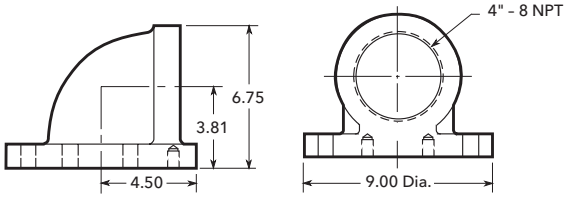
FITTINGS

PIPE CONNECTORS

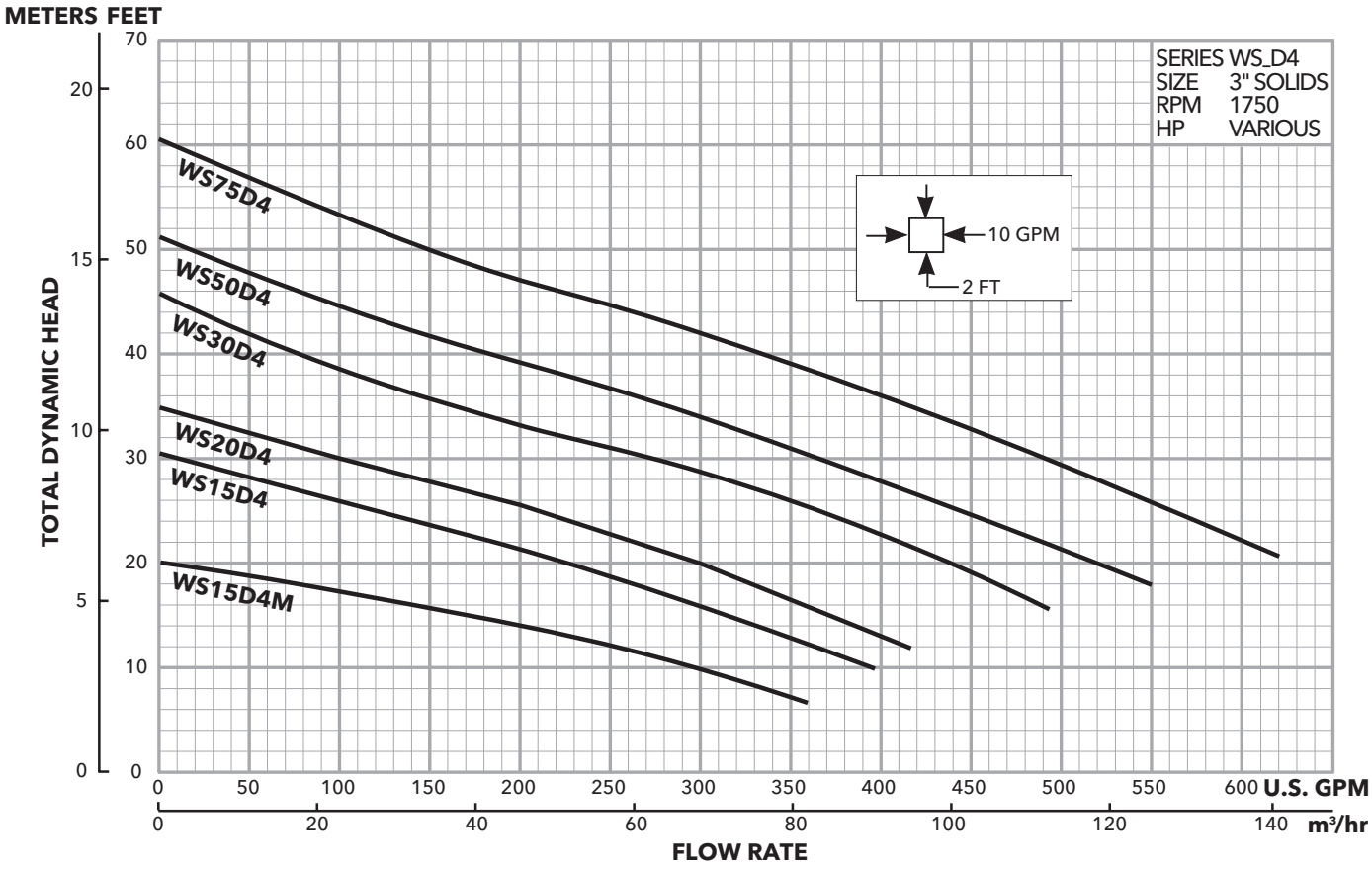
Short Radius Elbow

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

Flange Size	Order Number	Used With
4"	A1-6	4", 125# ANSI Flange



PERFORMANCE CURVES



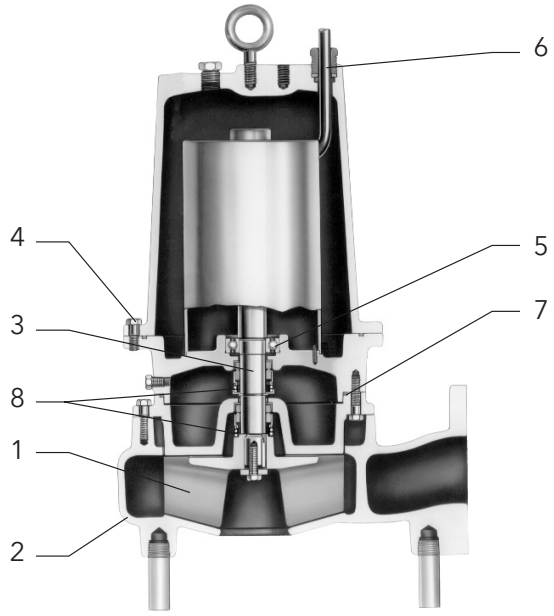
PERFORMANCE RATINGS (gallons per minute)

Series No.		WS15D4M	WS15D4	WS20D4	WS30D4	WS50D4	WS75D4
Total Head Feet of Water	HP	1½	1½	2	3	5	7½
	RPM	1750					
	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

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, 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 and 7½ 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		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

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

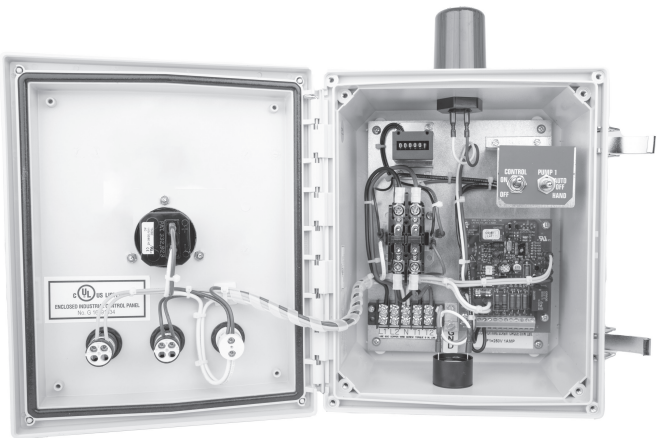
STANDARD PANEL OPTIONS

Pump	HP	Phase	Voltage	Amps	Simplex Panel	Duplex Panel
WS1518D4M	1.5	1	208	17.2	C4S10020	C4D10020
WS1512D4M	1.5	1	230	14.7	C4S10020	C4D10020
WS1538D4M	1.5	3	200	11.5	C4S31016	C4D31016
WS1532D4M	1.5	3	230	10	C4S31016	C4D31016
WS1534D4M	1.5	3	460	5	C4S34063	C4D34063
WS1537D4M	1.5	3	575	4	C4S34063	C4D34063
WS1518D4	1.5	1	208	17.2	C4S10020	C4D10020
WS1512D4	1.5	1	230	14.7	C4S10020	C4D10020
WS1538D4	1.5	3	200	11.5	C4S31016	C4D31016
WS1532D4	1.5	3	230	10	C4S31016	C4D31016
WS1534D4	1.5	3	460	5	C4S34063	C4D34063
WS1537D4	1.5	3	575	4	C4S34063	C4D34063
WS2018D4	2	1	208	20.3	C4S12136	C4D12127
WS2012D4	2	1	230	17.3	C4S10020	C4D10020
WS2038D4	2	3	200	13.3	C4S31016	C4D31016
WS2032D4	2	3	230	11.6	C4S31016	C4D31016
WS2034D4	2	3	460	5.8	C4S34063	C4D34063
WS2037D4	2	3	575	4.6	C4S34063	C4D34063
WS3018D4	3	1	208	25.5	C4S12136	C4D12836
WS3012D4	3	1	230	21.5	C4S12136	C4D12127
WS3038D4	3	3	200	16.6	C4S31620	C4D31620
WS3032D4	3	3	230	14.4	C4S31016	C4D31016
WS3034D4	3	3	460	7.2	C4S36310	C4D36310
WS3037D4	3	3	575	5.8	C4S34063	C4D34063
WS5012D4	5	1	230	26.5	C4S12136	C4D12836
WS5038D4	5	3	200	19.1	C4S31620	C4D31620
WS5032D4	5	3	230	16.6	C4S31620	C4D31620
WS5034D4	5	3	460	8.3	C4S36310	C4D36310
WS5037D4	5	3	575	6.6	C4S36310	C4D36310
WS7532D4	7.5	3	230	23	C4S32025	C4D32025
WS7534D4	7.5	3	460	11.5	C4S31016	C4D31016
WS7537D4	7.5	3	575	9.2	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

Xylem |'zīləm|

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

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com

Learn more about 3888D4 Pumps

Learn more about Core 4 Control Panels

xylem
Let's Solve Water

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