



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.

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: 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



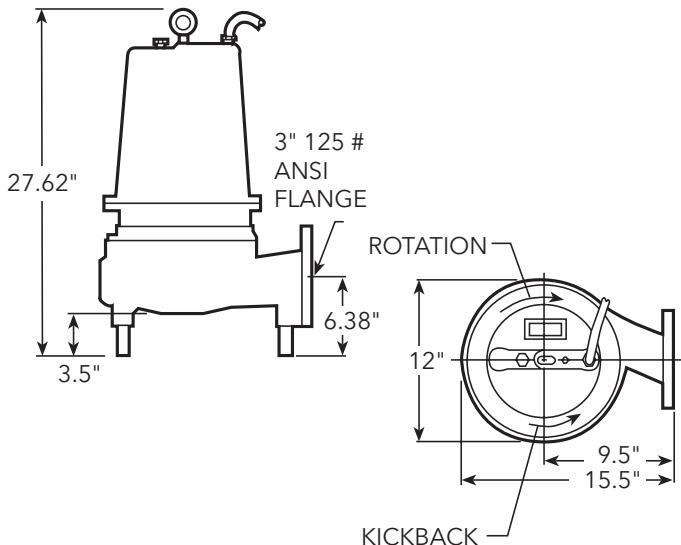
Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549

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 | | | 200 | | | 11.5 | 40.9 | H | 14/4 | 81 | | 1.7 | 190 |
| WS1532D3M | | | 230 | | | 10.0 | 40.0 | F | | 83 | | 2.3 | |
| WS1534D3M | | | 460 | | | 5.0 | 20.0 | F | | 83 | | 9.3 | |
| WS1537D3M | | 3 | 575 | | | 4.0 | 14.4 | H | | 74 | | 14.8 | |
| WS1518D3 | | | 208 | | 6.50 | 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 | | | 200 | | | 11.5 | 40.9 | H | 14/4 | 81 | | 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 | | | 200 | | | 11.5 | 40.9 | H | 14/4 | 81 | | 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 | | | 200 | | | 15.2 | 53.8 | G | 10/4 | 85 | | 1.3 | 200 |
| WS3032D3 | | | 230 | | | 12.0 | 49.5 | H | | 83 | | 1.9 | |
| WS3034D3 | | | 460 | | | 6.0 | 24.8 | H | 14/4 | 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 | | 84 | | 0.9 | |
| WS5032D3 | | | 230 | | | 16.4 | 63.6 | E | 10/4 | 85 | | 1.2 | |
| WS5034D3 | | | 460 | | | 8.2 | 31.8 | E | | 85 | | 4.8 | |
| WS5037D3 | | | 575 | | | 6.8 | 22.8 | E | 14/4 | 80 | | 7.4 | |

DIMENSIONS

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



FITTINGS

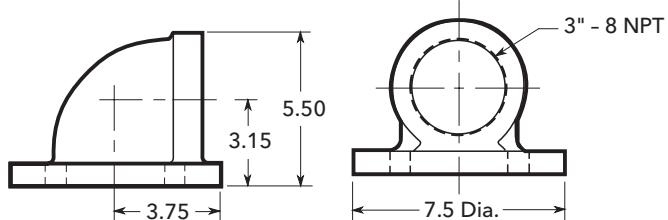
PIPE CONNECTORS



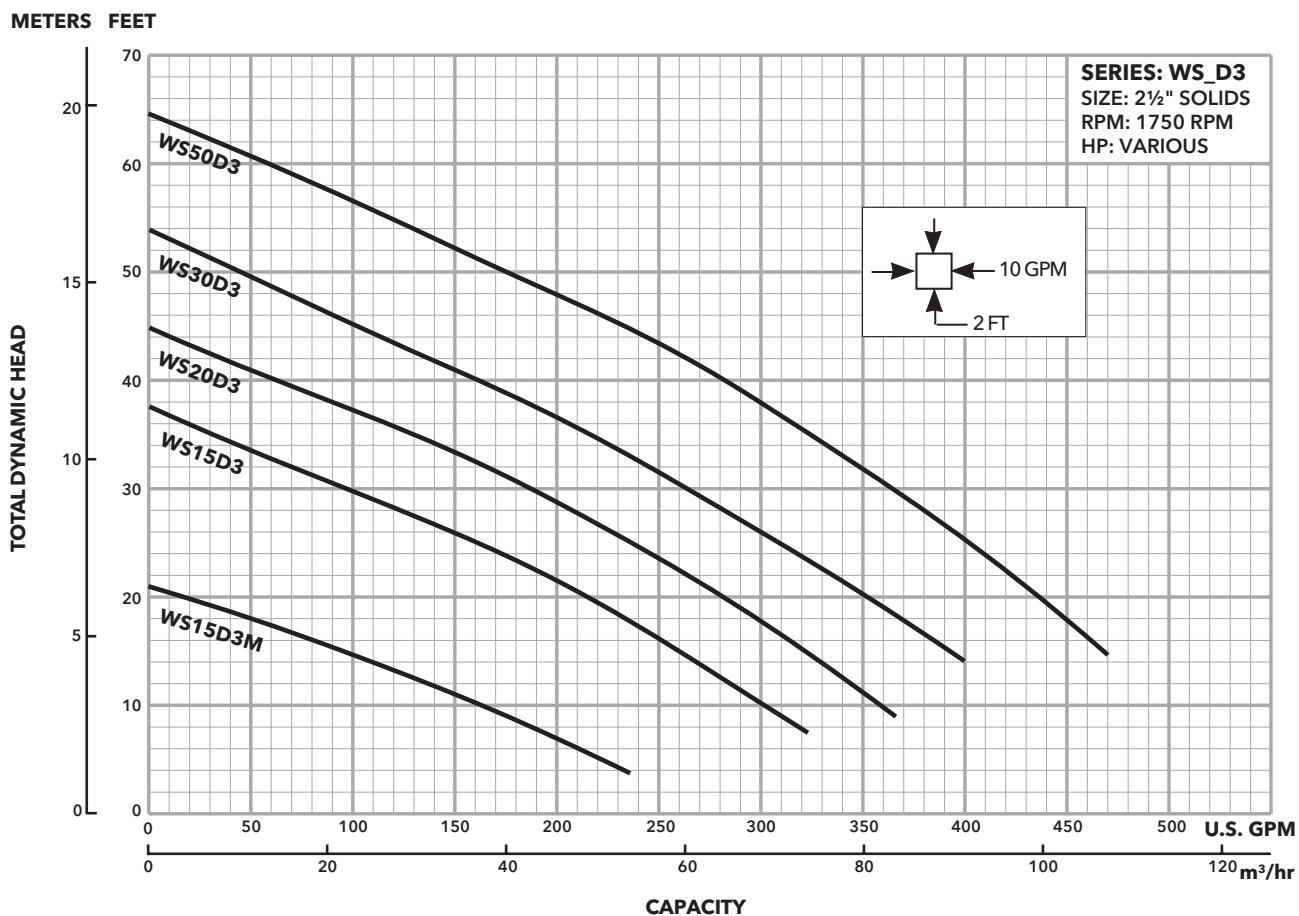
Short Radius Elbow

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

| Flange Size | Order Number | Used With |
|-------------|--------------|----------------------|
| 3" | A1-5 | 3", 125# ANSI Flange |



PERFORMANCE CURVES



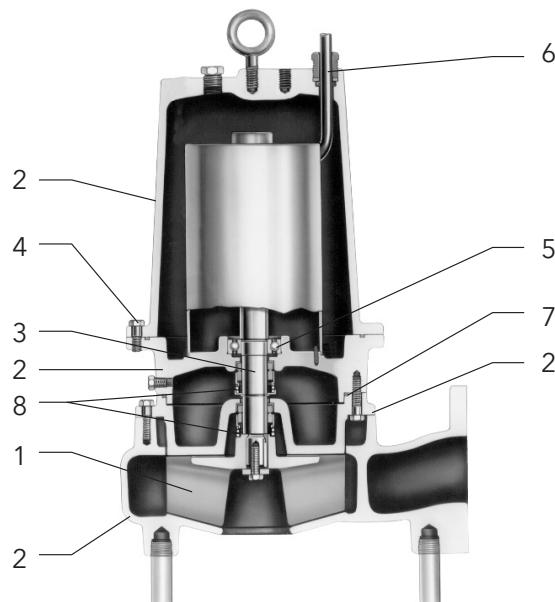
PERFORMANCE RATINGS (gallons per minute)

| Series No. | WS15D3M | WS15D3 | WS20D3 | WS30D3 | WS50D3 |
|------------|---------|--------|--------|--------|--------|
| HP | 1½ | 1½ | 2 | 3 | 5 |
| RPM | | | 1750 | | |
| 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, 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 | 1 1/2-5 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 | Service | Rotary | Stationary | Elastomers | Metal Parts |
| 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 | | | | | | |

STANDARD PANEL OPTIONS

| Pump | HP | Phase | Voltage | Amps | Simplex Panel | Duplex Panel |
|-----------|-----|-------|---------|------|---------------|--------------|
| WS1518D3M | 1.5 | 1 | 208 | 15 | C4S10020 | C4D10020 |
| WS1512D3M | 1.5 | 1 | 230 | 12.5 | C4S10020 | C4D10020 |
| WS1538D3M | 1.5 | 3 | 200 | 11.5 | C4S31016 | C4D31016 |
| WS1532D3M | 1.5 | 3 | 230 | 10 | C4S31016 | C4D31016 |
| WS1534D3M | 1.5 | 3 | 460 | 5 | C4S34063 | C4D34063 |
| WS1537D3M | 1.5 | 3 | 575 | 4 | C4S34063 | C4D34063 |
| WS1518D3 | 1.5 | 1 | 208 | 15 | C4S10020 | C4D10020 |
| WS1512D3 | 1.5 | 1 | 230 | 12.5 | C4S10020 | C4D10020 |
| WS1538D3 | 1.5 | 3 | 200 | 11.5 | C4S31016 | C4D31016 |
| WS1532D3 | 1.5 | 3 | 230 | 10 | C4S31016 | C4D31016 |
| WS1534D3 | 1.5 | 3 | 460 | 5 | C4S34063 | C4D34063 |
| WS1537D3 | 1.5 | 3 | 575 | 4 | C4S34063 | C4D34063 |
| WS2018D3 | 2 | 1 | 208 | 19 | C4S10020 | C4D10020 |
| WS2012D3 | 2 | 1 | 230 | 16 | C4S10020 | C4D10020 |
| WS2038D3 | 2 | 3 | 200 | 11.5 | C4S31016 | C4D31016 |
| WS2032D3 | 2 | 3 | 230 | 10 | C4S31016 | C4D31016 |
| WS2034D3 | 2 | 3 | 460 | 5 | C4S34063 | C4D34063 |
| WS2037D3 | 2 | 3 | 575 | 4 | C4S34063 | C4D34063 |
| WS3018D3 | 3 | 1 | 208 | 25.5 | C4S12136 | C4D12127 |
| WS3012D3 | 3 | 1 | 230 | 21.5 | C4S12136 | C4D12127 |
| WS3038D3 | 3 | 3 | 200 | 15.2 | C4S31016 | C4D31016 |
| WS3032D3 | 3 | 3 | 230 | 12 | C4S31016 | C4D31016 |
| WS3034D3 | 3 | 3 | 460 | 6 | C4S34063 | C4D34063 |
| WS3037D3 | 3 | 3 | 575 | 4.8 | C4S34063 | C4D34063 |
| WS5012D3 | 5 | 1 | 230 | 26.5 | C4S12136 | C4D12836 |
| WS5038D3 | 5 | 3 | 200 | 18.8 | C4S31620 | C4D31620 |
| WS5032D3 | 5 | 3 | 230 | 16.4 | C4S31620 | C4D31620 |
| WS5034D3 | 5 | 3 | 460 | 8.2 | C4S36310 | C4D36310 |
| WS5037D3 | 5 | 3 | 575 | 6.8 | C4S36310 | C4D36310 |

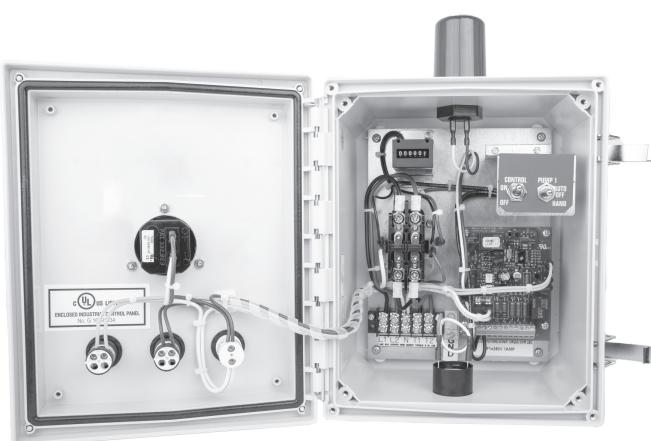
Wastewater



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:
 - Normally open (pump down) mechanical float switches with 20' cords
 - Simplex panels (three switches)
 - Duplex panels (four switches)
- Duplex panels include alternation
- NEMA 4X:
 - Flashing red alarm light,
 - Fiberglass enclosure with gasketed, hinged door and stainless-steel hardware
 - 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
 - Field adjustable for 115 or 230V, 60Hz
- Three Phase
 - Field adjustable for 208/230/460/575 V, 60 Hz
 - 115V control circuit transformer
 - Adjustable motor overload protectors