



12GS

SUBMERSIBLE GRINDER PUMP



Bell & Gossett

a xylem brand

Wastewater

FEATURES

Design: Capable of grinding domestic sewage in individual residential applications.

Cutter System: Anti-roping design. Two blade rotary cutter is threaded to shaft. Stationary cutter ring is reversible for extended service.

Impeller: Silicon bronze, semi-open, non-overloading two-vane design with pump-out vanes for mechanical seal protection. Balanced for smooth operation.

Casing: Cast iron, volute type for high efficiency. Adaptable for guide rail system.

Motor: Fully submerged in oil-filled chamber. High grade turbine oil surrounds motor for more efficient heat dissipation, permanent lubrication of bearings and mechanical seal, and protection against outside environment.

Motor Shaft: 300 series stainless steel, short overhang for minimum shaft deflection.

Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

APPLICATIONS

Designed for high head residential sewage applications where a gravity system is not practical. Ideal for pressure sewage systems.

SPECIFICATIONS

Pump:

- Capacities: to 41 GPM
- Total heads: to 95' TDH
- Discharge: 1 1/4" NPT
- Temperature: 104°F (40°C) maximum continuous, 140°F (60°C) maximum intermittent
- Single mechanical seal: silicon carbide rotary/silicon carbide stationary, 300 series stainless steel metal parts, BUNA-N elastomers
- Fasteners: 300 series stainless steel
- Rotating cutter and cutter ring: 440 C hardened stainless steel

Bearings: Upper and lower ball bearings for precision positioning of parts and to carry all radial and thrust loads.

Mechanical Seal: Hardfaced Silicon carbide for longer life, stainless steel metal parts, BUNA-N elastomers.

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.

O-Ring: Assures positive sealing against contaminants and oil leakage.

Paint: Electro-coat paint process protects all casting surfaces.

May be used with optional guide rail. See Fittings or Pump Removal Systems.

AGENCY LISTINGS



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



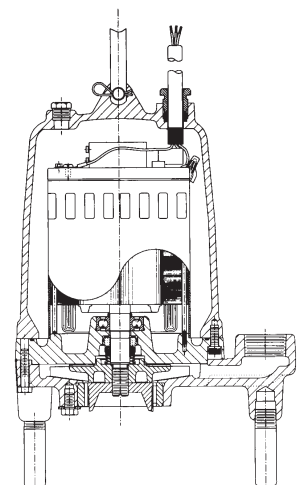
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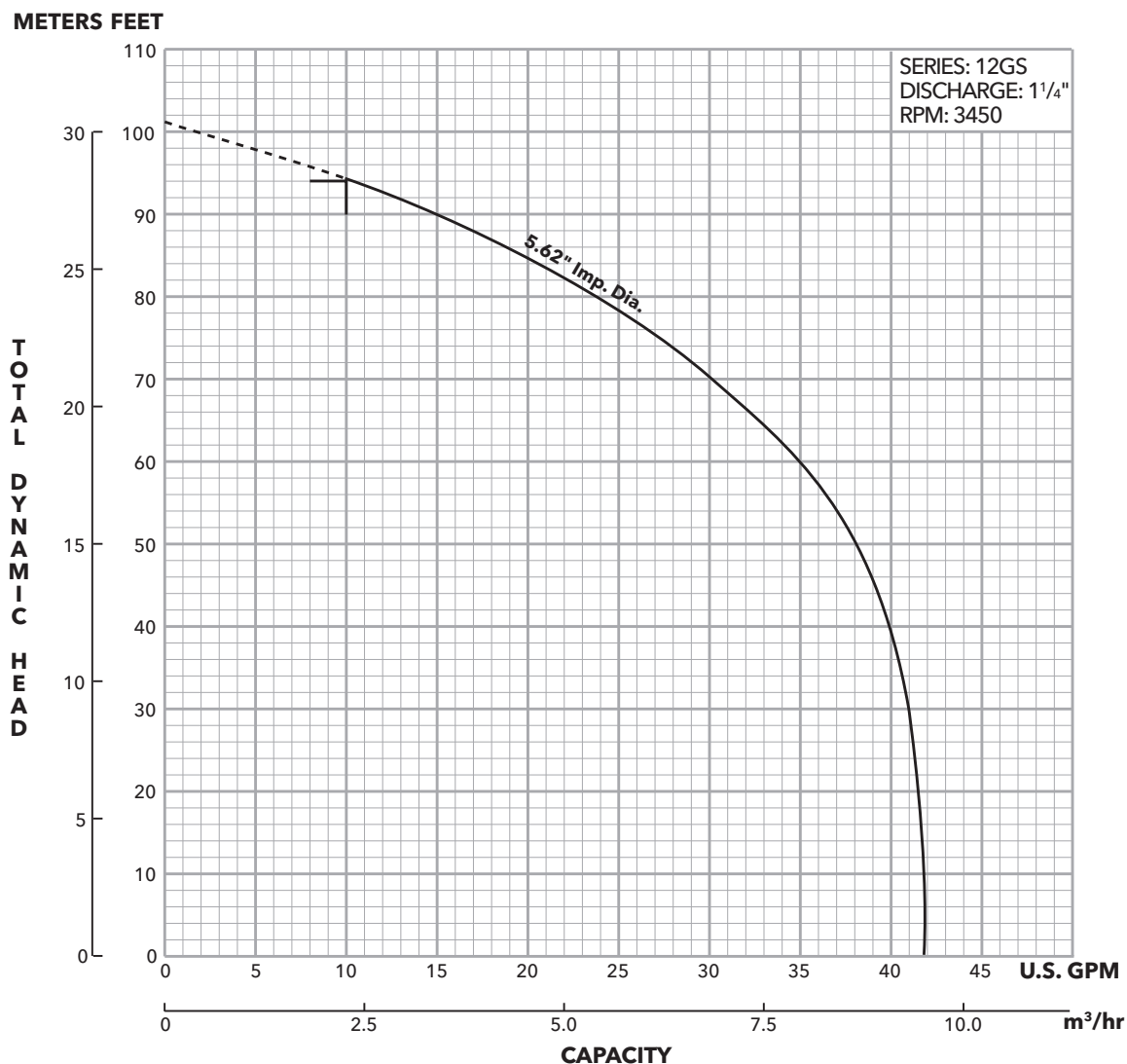
Motor:

- Single phase: 2 HP, 60 Hz, 3450 RPM, 208/230 V, capacitor start with on winding thermal protector.
No external capacitor kits required.
- Class F insulation
- Shaft: 300 series stainless steel threaded design
- Bearings: ball bearings upper and lower

Power Cord with bare lead ends:

- Use for connections in a control panel or junction box
- Standard length 20', 14/3 STOW
- Optional lengths of 30', 50' and 100'





⌋ = A 1 1/4" minimum discharge pipe requires a minimum flow of 10 gpm to maintain a 2 ft./sec. scouring velocity. Flows less than 10 gpm will allow solids to settle in the pipe.

MODEL INFORMATION

Order Number	HP	Volts	Phase	RPM	Operation	Discharge Size	Impeller Diameter (inches)	Maximum Amps	LRA	Power Cord	Weight (lbs.)
12GS2012	2	208/230	1	3450	Manual	1 1/4"	5.69"	15	59	20' with Bare Leads	75

Special ordered with optional legs by adding an "L" suffix to the Order Number. Example: 12GS2012L.
See "L" List Adder in price book.

MOTOR DATA

HP	Volts	Phase	RPM	Maximum Amps	LRA	Full Load Motor Efficiency	Resistance		Power Cable	Fuse/Circuit Breaker
							Start	Line-Line		
2	208/230	1	3450	15	59	70	2.47	1.1	14/3	30

APPLICATION DATA

Minimum Casing Thickness	5/16"
Casing Corrosion Allowance	1/8"
Maximum Working Pressure	50 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
Maximum Number of Evenly Distributed Starts per hour	10
Bearings	B-10 life of 30,000 hours min.
Minimum Basin Size	Simplex - 24" x 36" Fiberglass
	Duplex - 36" x 36" Fiberglass
1 1/4" Minimum Discharge Pipe Diameter	Requires a minimum flow of 10 gpm to maintain a 2 ft./sec. scouring velocity
2" Maximum Discharge Pipe Diameter	Requires a minimum flow of 21 gpm to maintain a 2 ft./sec. scouring velocity

STANDARD PARTS

Ball Bearing - upper	Single row ball - SKF 6203-2Z
Ball Bearing - lower	Single row ball - SKF 6204-2Z
Mechanical Seal	Silicon carbide/silicon carbide; Type 16
O-Ring - motor cover	BUNA-N, AS 568A-166

CONSTRUCTION DETAILS

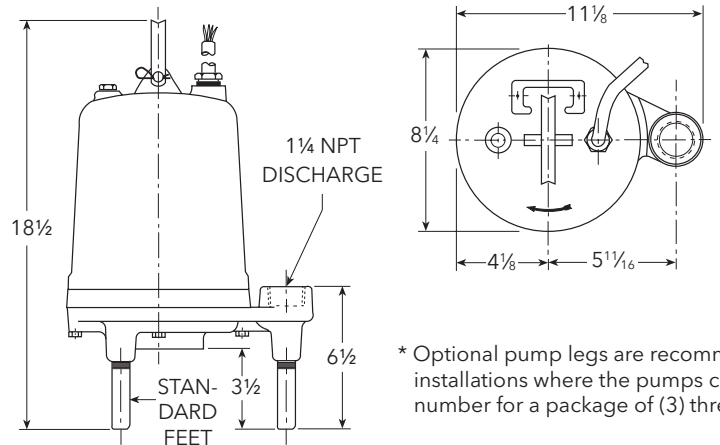
Power Cable - type	14/3 STOW, single phase with bare leads
Motor Cover	Gray cast iron - ASTM A48, Class 30
Bearing Housing	Gray cast iron - ASTM A48, Class 30
Seal Housing	Gray cast iron - ASTM A48, Class 30
Casing	Gray cast iron - ASTM A48, Class 30
Impeller	Cast silicon bronze - ASTM B584 C87600
Motor Shaft	AISI 300 series stainless steel
Motor Design	NEMA 48 frame, oil filled with Class F insulation
Motor Overload Protection	On winding thermal protector - auto reset
External Hardware	300 series stainless steel
Impeller Type	Semi-opened with pump out vanes on back shroud
Cutter	Two blades; type 440C hardened stainless steel
Oil Capacity - motor chamber	.88 gallons

CUTTER ASSEMBLY



DIMENSIONS

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



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