

Pump Requirements For Residential Wastewater Application

Lakeway Municipal Utility District

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Purpose of Document

This document is to advise and guide both existing and future residences and their contractors of the requirements regarding permitting, design, installation and inspection of a pressure wastewater residential pumping unit tying into the Lakeway Municipal Utility District's (District) pressure or gravity wastewater collection system.

In Lakeway, the most common method to transport wastewater from the point of use, such as a sink drain, toilet or washing machine, is to let it flow by gravity to the District's wastewater collection system. Once in the main collection system, it continues to flow by gravity to a pump station that lifts the wastewater to the water recycling plant for treatment and reuse. However, in some locations a home is built below the District's collection main and the wastewater must be pumped to the collection main pipeline. In some locations, waste from the upper part of the home can flow by gravity to the District's main, while waste from the lower floor must be pumped up to the main. In other cases, the District's main pipeline at the street is a pressurized line, and a grinder pump is required in order to reduce the size of the solids and to provide sufficient pressure to discharge the wastewater into the main pipeline.

It is important to first determine the options for tie-in to the District collection system. The point of discharge for the proposed pressure wastewater service lateral into the District's pressure collection system is critical. There are two types of wastewater collection system pipes in the District; gravity and pressure. Thus, there are the following possibilities for connection:

- The new service will pump to the District's gravity wastewater main.
- The new service will pump to the District's pressure wastewater main.
- If the house has both gravity and pressure service lateral, it must have two separate taps into the gravity main. A house pressure service lateral may not connect to the house gravity service lateral.

Steps for Obtaining Out-of-District Wastewater Service

The process described below generally applies to obtaining service in Out-of-District locations. The owner should carefully review this document. In some cases, a private developer has installed the main wastewater pressure collection line. If this is the case, the District will need written acknowledgement that the customer has paid the developer's fees.

- The owner must apply to the District for wastewater service. This requires a short letter, signed by the owner and payment of an application fee.
- The District will determine the feasibility of the request and inform the owner.
- To proceed, the owner must pay the Capacity Reservation Fee to the District.
- The owner chooses an installation contractor.
- Owner and contractor(s) agree on design and scope of project as well as procedures, schedule and cost estimate. If necessary, owner should make arrangements for a hotel stay depending on the scope and timing of work involved.
- Owner/contractor must submit a design drawing of the proposed pumping system and the type of pumping equipment for District review and approval.
- The District may modify and then will approve the plan and materials.
- The owner's contractor must obtain a permit from the District and pre-pay inspection fees. A licensed plumber and a licensed electrician must sign the permit and must provide proper identification.
- The owner must sign a Contract for Services with the Addendum to the Service Contract for the pump.
- Owner/contractor installs the pump system with District inspection.

- Decommission septic tank (if applicable).

Design Drawing and Equipment Submittal

Before the District can approve a proposed pumping system, the owner must provide the District a scale sketch of the project site and a listing of the pumping equipment to be used. Prior to beginning the sketch contact Dig-Tess at 800/690-1291 and the District to have all existing underground utilities located. It is useful to start with a copy of the lot survey that shows the structures. This sketch can be prepared by the contractor for the project.

Basic information required in the project sketch:

- Service address
- House, large trees, pool, sidewalks, driveways and any other major features
- All existing underground utilities
- Pipe route from the house to the pump tank
- Pump tank location
- Power source for pump
- Pipe route from the pump tank to the tie-in at the main
- Tie-in location (gravity or pressure main)
- Proposed pump, control panel and pipe materials
- Septic tank and drain field location (if applicable)
- Any other pertinent information

With this information, the District will verify the type of service and pressure requirements for the system. The District may require modification of the plan and then will approve the project for construction. After approval, the District will issue a permit, after all fees are paid.

Design Details for the Pumping System

The following sections pertain to the District's requirements for the components of a residential wastewater pumping system.

Gravity flow pipeline from the house to the pump tank

The gravity wastewater pipeline from the house will exit the foundation below the floor elevation. The District requires a dual clean-out just outside the foundation. Single clean-outs on existing lines are acceptable, but if the existing pipe must be substantially rebuilt, install a new dual clean-out. This clean-out (existing or new) must extend at least four (4) inches above finished soil elevation and must be at least four (4) inches below the top of the pump tank. The cleanout must include a pop-up pressure relief cap. This pressure relief cap is available for purchase at the District Office.

Pump Tank

Pump tank must be installed outdoors, in a location that provides easy access for pump repair. For existing homes, the top of the tank must be above 715 feet mean sea level elevation. For new construction, the top of the tank must be above 722 feet mean sea level elevation. The preferred location will be adjacent to a driveway or sidewalk. No tank will be allowed to be installed indoors or under any structure (such as a deck). When set on top of the ground, or more than 18 inches of the tank is exposed above ground, the tank must be fenced or rocked in per City of Lakeway requirements. The top of the tank must be accessible with no obstructions such

as bushes, fences, etc. The fiberglass fabricated tank shall have minimum inside diameter of 30 inches and a minimum depth of 48 inches. The tank must provide 70 gallons minimum of storage capacity without backing up into the inflow line. Homes with more than three bathrooms require an additional 20 gallons of storage per additional bathroom or half bath. For example, a residence with four and one-half bathrooms will require a minimum working volume of 110 gallons between the tank bottom and the inflow line.

The tank shall be manufactured with a single wall laminated fiberglass construction. Polyethylene tanks are not acceptable. Resin and reinforcing material shall be commercial grade glass fiber fully bonded with the resin. Inner surfaces shall have a smooth finish and be free of cracks. Exterior tank surface shall be relatively smooth with no exposed fibers or sharp projections. Tank bottom and wall shall be of sufficient thickness and construction to withstand the imposed loads from saturated soils at the specified burial depth when the tank is completely empty. Tank bottom shall be reinforced with a fiberglass plate extending beyond the tank walls to support concrete anchoring to counter flotation. Tank shall include a solid fiberglass lid and be secured with threaded stainless fasteners and provide a low profile mounting. The finished surface of the lid must be a minimum of six (6) inches above soil final grade.

Wastewater Pump

For discharge into the District's gravity wastewater collection system main line, and for pumping heads below 20 feet, the District requires the Barnes two (2) inch centrifugal ½ HP, SE-51, 115 vac pump with the Barnes control Panel #GP-2015.

A grinder pump is required for discharge into the District's pressurized wastewater collection system. A grinder chops the solids in the wastewater to a slurry that can be pumped longer distances. The grinder pump will be the Barnes 1-1/4-inch centrifugal 2 HP, OGVH or OGP. The OGVH or OGP are suitable for total dynamic pumping head to 90 or 170 feet, respectively. Either will require the GP-2012 control panel. Among these two pumps, the choice is based on the amount of head pressure the pump must provide. For ease of maintenance, the District will not accept other pump brands.

Commercial, duplex and multi-family housing units require duplex pumping units for pump back-up protection from pump failure and from unusual high flows. The commercial and multi-family pump installation shall be sized specifically to the site conditions.

The Barnes Catalogue pages appended are illustrative only. Final approval of all equipment will be at the discretion of the District.

The District can assist in determining the amount of pressure the pump must deliver. The pump supplier can assist in pump selection.

Pump Control Panel

Controls turn the pump on and off and provide an alarm when the pump fails. The pump panels must be GP-2015 for the ½ HP pump or GP-2012 for the two (2) HP pumps. The control panel enclosure shall be NEMA 4X fiberglass or NEMA 3R zinc plated steel with gasket and latches with padlocking provision. The panel shall be installed between four (4) feet and five (5) feet above final grade. Exterior of the metal panel shall be coated with gray enamel paint. The interior removable steel back-plate shall be coated with white enamel paint. A wiring diagram shall be permanently affixed to the inside of the panel and shall include model number, voltage, phase, and hertz rating for the panel and for the pump. A warning label against electric shock shall be permanently affixed to the outer door.

For the ½ HP pump, incoming power will be 115 vac, single phase 20 amps. For the 2 HP grinder unit, incoming power shall be 240 volt, 30 amps, 1 phase, 60 cycle service from the main breaker box for the house. For either pump type, a separate 120 volt circuit on a separate supply breaker will provide power to the alarm even if the pump trips its breaker. If these supply circuits to the panel are run outside of walls, they must be in a (minimum) 3/4-inch conduit. Terminal blocks shall be provided to terminate all wiring for incoming power, and float switches. Pump leads shall terminate at the overload relay.

The pump power supply cable and the float cables to the control panel will be in conduit. Buried electrical conduit shall be grey PVC and have a minimum nominal diameter of 1-1/2 inches. Metal conduit will not be allowed for use underground. The District recommends above ground conduit be rigid minimum 1-1/2-inch galvanized metal. Use electrical sweeps for bends or LB type fittings for elbows. The conduit will penetrate the tank a minimum of six (6) inches below ground level using a waterproof hub. Seal the conduit at both ends using Duck Seal flexible clay specifically manufactured for this purpose.

Controls shall include, run-off-auto switch, run light, high water flashing red alarm light mounted on the top of the enclosure, control voltage fuse (120 volts), start relay, appropriately sized circuit breaker to disconnect the pump from the incoming power and current fault protection. Capacitors can be in the panel or in the pump. If the panel is located in an area not likely to be noticed when the pump fails, provide a remote alarm light in a more suitable location.

All wiring shall be color coded or numbered to facilitate maintenance and repair. Wire ties shall be used to maintain panel wiring in neat bundles and to prevent interference with operating devices. All ground connections shall be made with ring tongue terminals and star washers. Wiring of the hands-off-auto switch, run light, contactor and overload to the pump controller shall be by terminal connections.

The pump control panel should be located near to and within sight of the pump tank. If this is not practical, safety code requires a separate power disconnect safety switch installed adjacent to the pump tank to completely disconnect the residential grinder pump station from incoming power. The safety disconnect enclosure shall be a NEMA 3R or District approved equal.

The water level operating and alarm controls use float switches hanging within the fiberglass pump tank. Mercury float switches shall be sealed in a solid polyurethane float for corrosion and shock resistance. The float switches shall hang near the top of the tank supported by a stainless steel hook specifically for this purpose. Floats may not be attached to the pump or piping.

Pump discharge piping

The ½ HP wastewater pump requires 2-inch discharge piping while the 2 HP grinder pumps require 1-1/4-inch piping. Fittings & pipe within pump tank include the vertical pump discharge pipe, tee with plug, nipple, pipe union, and tank exit pipe. All pipe and fittings within the tank shall be 304 stainless steel, schedule 40. The pipe will exit the tank through a waterproof grommet designed specifically for this purpose.

Check Valve and Isolation Valve

Adjacent to and outside of the pump tank, install a check valve and isolation valve the same size as the piping. The stainless steel check valve shall be gravity operated flapper-style with full-ported passageway when open. All metal parts shall be series 300 stainless steel and the seat shall be of Teflon construction.

The stainless steel isolation ball valve shall have a straight-through flow passage. Seats and all "O" ring seals shall be Buna-N. Valves shall be lever operated for quarter turn operation. Lever position shall indicate

whether the valve is in the open or closed position.

Install a tee in the service line just after the isolation valve for use in pressure testing the line. This tee will be capped after the pressure test.

Manual Air Release Valve (required in some cases)

In cases where the tank and pump are located more than five (5) feet in elevation above the main line (for example, on the high side of the street where the house is above the street), provide a manual air release valve. The air release can be manually opened briefly to remove accumulated gases trapped in the service lateral. This procedure can cure pump air-lock. The air release shall consist of a tee in the service lateral just downstream from the isolation valve located near the pump tank. The tee will then elbow back toward the pump tank. A stainless steel ball valve, identical in construction to the isolation ball valve, will be located in the same equipment box as the isolation valve and check valve. The discharge of the manual air release pipe will be back into the pump tank. The tank penetration will be through a waterproof grommet.

Box for Isolation and Check Valves

The isolation ball valve and check valve (and the manual air release valve, if required) will be installed below ground level inside a round plastic box with a cast iron lid. The box shall be an East Jordon Iron Works #548P-18/24/36 (where 18, 24 or 36 indicates the depth of the box in inches). The box lid will be situated a minimum of three (3) inches above final soil grade.

Customer Service Lateral Pipeline

Prior to any construction that requires digging, contact Dig-Tess at 800/690-1291 and the District to have all underground utilities located. Damage to any marked utility shall be repaired to utility owner's satisfaction and at the project owner or contractor's expense.

The service lateral pipeline from the pump isolation valve to the connection at the District's main shall be 2-inch or 1-1/4-inch diameter with no 90-degree bends. For house service laterals in excess of 150 feet, the grinder pump may require a 2-inch diameter line if pipe-friction pressure loss is critical. This will depend on the available pressure at the pump and the pressure at the point of connection. Service lateral pipelines will be white or dark grey in color. Blue pipe is not allowed.

The discharge line leaving the basin shall have a minimum depth of 12 inches of backfill to the first 45-degree bend; the balance of the line shall maintain a depth of 20 inches to the wastewater tap.

Service lines using glued joints shall include at minimum, one expansion coupling near the center of the longest straight run. One additional expansion coupling is required for each additional hundred feet. If using gasket SDR 21/200 psi rated working pressure pipe, the gasketed ends eliminate the need for expansion couplings.

The service lateral pipe shall have a #10 copper wire with a PVC jacket attached above it with vinyl electrical at two-foot intervals to aid in future pipe location using an electronic instrument. Wire shall be coiled at both ends providing two feet of spare wire at all valve boxes and other access points. Splices in the wire shall be waterproof.

Pressure wastewater service lateral pipe installation will require a minimum of 8-inch wide sawed trench, 30 inches deep. Bedding under the pipe shall be a minimum of four (4) inches of 3/8-inch pea gravel under the pipe and six (6) inches of gravel bedding over the pipe. There will be no rocks larger than one inch allowed in

the remaining backfill cover. Backfill shall be placed (which can include rock saw fines) in 8-inch lifts and compacted to the surface. Depths less than 30 inches may be considered where solid rock is present. The District will have final authority for bury depth.

Place a continuous 6-inch wide strip of detectable underground marking tape, between one foot and six (6) inches, below final grade in all trenches. Marking tape shall be plastic coated aluminum and state in large letters "Caution Wastewater Line Buried Below" at maximum 4-foot intervals. Acceptable Manufacturer: Pro Line Safety Products Co. six (6) inches wide or District approved equal.

All pressure wastewater laterals crossing under driveways, sidewalks and paved streets shall be installed in PVC sleeves of minimum 4-inch diameter.

Good practice will protect landscape from excavated material, etc., by covering the grass with a continuous mat of plywood, tarpaulins, or two (2) layers of 8-mil plastic film, and the excavated material, etc., shall then be stacked upon this protective mat. Such materials should also be covered watertight at the close of the day.

Pressure Testing of Service Lateral Pipeline

Prior to connecting the service line to the District's isolation valve at the main, the service lateral pipe lines shall be hydrostatically tested by the contractor for leakage. Test pressure shall be 100 psi maintained for a 4-hour duration after all defective joints, pipe, valves, or breaks have been satisfactorily corrected. Tests shall be made on the line between the main line connection and the pump isolation valve. Representatives of the District and contractor shall witness the test.

The section of pipe shall be slowly filled with water so as to expel all air from the line prior to application of test pressure. Test pressure shall be applied by means of a satisfactory pump installation furnished by the contractor, including pressure regulator, fittings, valves, pipe, water measuring device, pressure gauges, and other apparatus and labor necessary to conduct the tests. The pressure gauge shall read directly in pounds per square inch (psi) with a total range of 0-200 psi with figure intervals of 20 psi and intermediate gradations of five (5) psi. The pump shall be disconnected from the pipeline during the test period.

The pipe will not be accepted until there is no leakage. The contractor should pre-test line to assure that it will pass a test before requesting an official test to be witnessed by the District. In the event it is necessary to re-test a line which has failed, the District will charge re-inspection fees.

After the line passes the pressure test, connect the service lateral line to the District's main.

Service Lateral Connections

In some cases the tap to the District's main will already be in place and ready for customer connection. In the case where the tap does not exist, the contractor will need to coordinate to have the District tap the main at the owner's expense. The following apply for pressure main taps:

All street crossings and pipelines within streets will be constructed in accordance with the requirements of the City of Lakeway. Service laterals under streets will be encased in a 4-inch sleeve.

Tapping Saddles - Service taps to main line shall be Cascade Waterworks Manufacturing Company Style CCTL "Tiger Tee" 150 psi working pressure complete with:

Shell T-304 Stainless Steel

Gasket	Virgin SBR
Lugs	T-304 Stainless Steel
Studs	18-8 Stainless Steel
Nuts	18-8 Stainless Steel
...or District approved equal.	

A 2-inch stainless steel ball valve with stainless nipple shall be installed adjacent to the saddle. For different size main lines a reducer may be required. Reducers shall be of 304 Stainless Steel.

All main line tap valves require a cast iron screw-adjustable valve box for access. The valve box lid shall state "WASTE" within the casting. Valve boxes shall be East Jordan Iron Works 4905 of suitable length with non-locking cover or District approved equal.

The pipeline from the 2-inch valve at the main tap to the customer service lateral ball and check valve will be 2-inch diameter.

The customer service lateral wastewater connection tie-in location will consist of a 1-1/4-inch stainless steel check valve and ball valve inside an equipment box with a cast iron locking lid. This set-up is similar to the valves located adjacent to the pump tank.

Pump Testing

The contractor shall be responsible for coordination of all testing and shall supply copies of the manufacturer's written testing procedures to the District inspector at the beginning of all tests. The pump system may not be placed in service until all required testing and inspections have been approved by the District.

Decommission Septic Tank

For installations that replace a septic system, the LCRA requires that the septic tank be pumped and cleaned. The owner should retain the invoice and inspection certificate from septic pumping and cleaning company and provide a copy to the District.

After pumping and cleaning, the contractor must crush septic tank lid, drill holes in the tank bottom and fill it with sand or dirt. Obtain District or LCRA inspection of decommissioned tank.

Inspections

The District has engaged McComis Inspections Inc. to perform all plumbing and electrical inspections. They can be contacted at 512/301-7801 to schedule an inspection. The inspector will be reviewing all elements discussed in this document. The contractor should have a copy of the approved Design Drawing and Equipment Submittal (described earlier in this document). Inspections are required while the service lateral pipeline is in the ground with under-bedding, ready for the pressure test, but not yet covered up. The same applies for electrical rough-in, which can have the wires inside the conduit, with all components in place but not yet energized. The final inspection will review the system in full operation, and see the septic tank lid collapsed and ready to fill with dirt.

More than two (2) inspections may be required, but with full compliance and proper coordination a single inspection and a final inspection will be all that is required. Sites that require more than three inspections will require additional payment directly to McComis.

Notes for Work in the City Of Lakeway's Street Right-of-Way

If the project requires that the customer's wastewater service lateral enter the right of way and/or cross the street the following apply:

The City of Lakeway Planning, Development & Code Enforcement will require the submission and approval of an Application for Utility Maintenance Permit for all proposed construction in the City's Right-of-Way.

Repairs of City streets shall be in strict accordance with the Utility Development Ordinance (Ordinance No. 96-05-02-2, as amended) of the City of Lakeway. All areas affected by the project must be returned to original conditions within ten (10) working days of completion.

Under the permit, the applicant shall warrant all street repairs included in the permit for a period of two (2) years.

Applicants shall contact all utility service providers and comply with the Underground Facility Damage Prevention and Safety Act, Tex. Util. Code 251.001, et. seq., prior to beginning excavation. Except as otherwise provided by law, applicants will be responsible for damage to utilities and other improvements in connection with their work.

The applicant shall verify, and provide upon request, that the contractor has adequate liability insurance to protect the City of Lakeway. The contractor shall provide a two-year Maintenance Bond to City of Lakeway.

The City may have other requirements.

Plumber's Installation Check List

Contact Dig-Tess at 800/690-1291 and the District to have all underground utilities located.

The gravity line from the house to the pump tank will have a dual cleanout with relief valve. The relief valve will be four (4) inches above final grade.

Pump tank must be installed outdoors and in-ground with the top of the tank at least eight (8) inches above final grade. For existing homes, the top of the tank must be above 715 feet mean sea level elevation. For new construction, the top of the tank must be above 722 feet mean sea level elevation.

Install the inlet hub from the house to the basin at least 24 inches from the inlet pipe to the bottom of the basin. Note that the working volume requirements vary with the bathroom count.

Venting of the tank shall be through the house drain ventilation system.

The pump will be Barnes 1/2 –HP SE-51 2-inch pump or 2-HP grinder, OGVH or OGP depending on pressure.

Plumbing in tank will be schedule 40, 304 stainless steel and will penetrate through a waterproof grommet.

Outside the tank, will be a stainless steel check valve and ball valve inside an in-ground plastic box with a cast iron lid. When the grinder tank is above the main line a manual air release valve is required.

Discharge lateral service line shall be 2-inch or 1-1/4-inch in diameter, schedule 40 PVC pipe, depending on the pump selected. The pipe shall have a #10 copper wire with a PVC jacket attached above it with vinyl electrical at two foot intervals. All lines that must go under a driveway or other barrier must be in a 4-inch sleeve.

The pipe trench will be minimum eight (8) inches wide and 30 inches deep. The service line must be bedded in 3/8-inch pea gravel. There shall be a minimum of four (4) inches of pea gravel below the pipe, and a minimum of six (6) inches above.

Install a 6-inch wide magnetic marking tape over the pipe, at a depth of 6 to 12 inches.

Pressure test the service line prior to connection to the main line tie-in.

When construction of main line tap is required, contact the District for coordination.

Test the pump system operation and secure District approval.

The Lakeway General Manager or the Field Operations Supervisor must approve any variations from the above requirements.

Electrician's Installation Checklist

The pump control panel shall have two separate circuits; one for the pump, and a separate 120-volt circuit for the controls and alarm.

The 110-volt, ½ HP pump circuit will come from the house panel at 20 amp breaker. The 240-volt 2 HP circuit will come from the house panel at 30 amp breaker. The control and alarm power to the panel will be a separate 120-volt circuit on a separate 15 or 20 amp breaker. Panel will be supplied using minimum ¾-inch conduit, where wiring is outside walls or ceiling.

Panel must be installed a minimum of three (3) feet and a maximum of five (5) feet above final grade.

Panel must be installed on outside wall or on an approved support device, and no further than 15 feet and within sight of the pump tank. If both of these cannot be achieved, a separate local disconnect safety switch must be provided adjacent to the pump tank.

Minimum 1-1/2-inch grey schedule 40 PVC electrical conduit is required for underground and 1-1/2-inch metal galvanized rigid conduit is recommended above ground.

All connectors must be approved rain-tight fittings; gluing of fittings to liquid-tight conduit is not acceptable.

Electrical sweeps for bends or LB type fittings for conduits must be used. Water pipe elbows are not acceptable.

A waterproof bulkhead fitting must be used for connection of the conduit to the basin.

Both ends of the conduit will use duck seal flexible clay to seal the cables to the conduit opening.

Exhibits

Application for Service

Contract for Services

Addendum to Service Contract (for pump system)

Application for Plumbing Permit

Application for Electrical Permit (for pump system)

Barnes Catalog Cuts: SE, OGVF & OGP

District Standard Details

**LAKEWAY MUNICIPAL UTILITY DISTRICT
APPLICATION FOR SERVICE**

DATE _____

OWNER'S
NAME: _____ TEL # _____

SERVICE ADDRESS: _____ LAKEWAY, TX 787 _____

BILL TO: _____ SS# _____

ADDRESS: _____
Street Address or P.O. Box # CITY/STATE/ZIP

TEL # _____

*GRINDER PUMP SYSTEM: _____ YES _____ NO
*MUST BE INITIALED
BEFORE PERMIT IS ISSUED

The undersigned certifies that as Owner, Builder, or Agent of Owner of Section _____, Lot _____, for the granting of water and/or wastewater service, to abide by, and pay and conform to all Rules, Regulations, Plumbing Code Requirements, Charges and Fees of the Lakeway Municipal Utility District and that the above information is true and correct to the best of my knowledge. All water and/or wastewater bi-monthly charges and fees will begin when meter is set. I hereby agree to locate and expose the appropriate wastewater tap location (if applicable) prior to installation of the water meter or initiation of any new construction of any kind. I understand that the water meter will not be installed until the wastewater tap location (if applicable) has been approved by the District for location and flow.

NAME: _____ SIGNATURE: _____
Please Print Owner / Builder / Other

I RECEIVED THE INFORMATION PACKET PROVIDED _____ (PLEASE INITIAL)

NEW _____ Remodel _____ S/P _____ S/S _____ Other _____

DO NOT WRITE BELOW THIS LINE ***** DO NOT WRITE BELOW THIS LINE

WATER SERVICE

4140- WT	Meter Size	_____	\$	_____
4160- WI	Plumbing Insp. Fees	_____		_____
2140- SD	S/D Receipt #	_____		_____
1340- 31	Standby A/R	_____		_____

WASTEWATER SERVICE

4240- ST	Tap Size	_____	\$	_____
4260- SI	Plumbing Insp. Fees	_____		_____
4285-WWA	OD Application Fee	_____		_____
	Approved/Denied *	_____		_____
4285-WWA	Capacity Reservation Fee	_____		_____
	Other	_____		_____
	TOTAL FEES		\$	_____

DATE PAID: _____ RECEIVED BY: _____

WORK ORDER # _____ PLMB PERMIT _____ AVR _____

DATE INSTALLED _____ METER # _____ BEGINNING READ _____

PRESSURE PLANE _____ METER COUNT _____
MAP _____ S/B FINALED _____ NEW ACCT# _____ SEQ. # _____

* cc to RE _____

STATE OF TEXAS }
 }
COUNTY OF TRAVIS }

LAKEWAY MUD
CONTRACT FOR SERVICES

RECEIPT # _____
DEPOSIT AMOUNT: \$ _____
SERVICE FEE: \$50.00
EFFECTIVE
DATE ____/____/____

_____ LAST NAME		_____ FIRST NAME		(Please print)	_____ SOCIAL SECURITY #
_____ LAST NAME		_____ FIRST NAME		(Please print)	_____ SOCIAL SECURITY #
_____ Email address (optional**)				_____ Home phone and/or alternate number (optional**)	

** Your email address and phone number may be used by the District at our discretion. Your information will not be shared with anyone else.

I certify that I am the OWNER () BUILDER () LESSEE () AGENT OF OWNER () ["Customer"] and contract with the LAKEWAY MUNICIPAL UTILITY DISTRICT to provide water, and/or wastewater service to the following property.

SERVICE ADDRESS: _____ Lakeway, TX _____

BILLING ADDRESS: _____

Does Customer have or intend to have a 'grinder pump' system? YES () NO (). If yes, Customer agrees to abide by and be bound by the attached Addendum to Service Contract.

The Customer agrees to pay all established rates, charges and fees, and to comply with all rules and regulations of the District now existing or revised. The District will maintain a copy of this contract as long as the Customer and/or the premise is connected to the Water and/or Wastewater System.

The Customer grants to the District, any easements or rights-of-way for the purpose of installing, inspecting, maintaining, and operating pipelines, meters, valves and any other equipment that may be required to extend or improve service for existing or future Customers. The Customer agrees to waive, release, and hold the District harmless from any claims and damages resulting from malfunction, failure, or absence of check valves, backflow prevention devices, and pressure relief valves, including without limitation, damages to persons or property, direct damages, special damages, incidental damages, consequential damages, or loss of profit or revenue.

The District has adopted the 2000 Edition of the Uniform Plumbing Code (Code) with Local Amendments. All plumbing work done in the District must meet the requirements set forth in the Code.

DEPOSITS – A non-interest bearing Security Deposit and a \$50.00 service fee is required for each new service account. The District reserves the right to increase the amount of the deposit for any existing account. The deposit will be based on current deposit requirements or the highest billing for the previous six (6) billings, whichever is larger. If service is terminated for non-payment, where previously a Security Deposit was not required, a Security Deposit and payment of all other applicable fees will be required prior to the restoration of service. After one year of timely payments, the deposit may be applied to your account. If the account is finalized, the deposit, if any, will be applied upon termination of the account to the final bill and any remaining amount refunded.

Lakeway Municipal Utility District

The District offers bank/credit card drafting to customers for convenience of payments. If a residential customer chooses to use drafting at the time of signing up for service, the Security Deposit will be waived. On a second occurrence of a bad "draft" in a 12-month period, a full deposit will be required to continue service. A deposit will not be required if a new customer presents a letter from another utility company on its letterhead stating satisfactory credit history for the previous year.

BILLING – The District uses a two-month billing period. Bills are mailed out on or around the first of February, April, June, August, October and December. A 10% penalty is added if payment is not received in the District Office before the 20th of the billing month. If payment is not received by the 25th day of that month, the District will mail a notice of intent to terminate service. In accordance with the District's Rate Order, service will be terminated on the 10th day of the following month if full payment is not received. A Customer's obligation to make timely payments for service is not released or diminished because a bill was not received. Returned checks will not be redeposited, a \$25.00 charge is added and the service is subject to termination.

RESTORATION OF SERVICE – A reconnection fee of \$50.00 is required with all other amounts due before the service is restored. Payments must be received during normal business hours for service to be restored the same day. If service is restored by anyone other than the District, the meter will be locked or removed and a fee of \$100.00 will be charged.

PAYMENTS – All payments must be made at the District Office.

The 1993 Texas Legislature provided for any customer who wishes to exercise the privilege of keeping confidential their address, telephone number, or social security number to file same with the providing utility company. This request for confidentiality does not prohibit the District from disclosing personal information in a customer's account record to an official or employee of the state, an employee of the District acting in connection with the employee's duties, a consumer reporting agency, a contractor or subcontractor approved by and providing services to the District, a person for whom the customer has contractually waived confidentiality for personal information, or another entity that provides utility services. If you wish to exercise this right, please initial the adjacent line _____.

SIGNATURE: _____

SIGNATURE: _____

DATE: _____

DATE: _____

APPROVED AND ACCEPTED BY THE DISTRICT: _____

District Office Personnel

Card type: V_____ MC_____ D_____ AE_____

Expiration Date _____

3 digit Security Number _____ (Found on back of card)

Credit Card Number

Name on Credit Card

Service Address (Street & zip code)

Present Phone Number

I, _____, authorize Lakeway Municipal Utility District to charge my credit card for the service fee and/or appropriate security deposit to establish service.

ADDENDUM TO SERVICE CONTRACT

This Addendum to Service Contract (the "Addendum") is entered into by the District and Customer because Customer has, or intends to have, a grinder pump system to deliver Customer's wastewater to the District's collection system. This Addendum is a legally binding contract, based on the District's agreement to provide the service in consideration for Customer's agreement to be bound by the terms set forth herein, as follows:

1. Customer has, or intends to have, a collection tank, grinder pump and pressure service line (the "Grinder Pump System") to deliver the Customer's wastewater to the District's wastewater collection system.
2. [This paragraph only applies to new systems.] Existing pump tanks that are to be used as part of the Grinder Pump System must be cleaned, inspected, repaired, modified or replaced if necessary, to minimize inflow and infiltration into the collection system prior to connection. Septic tanks may not be used as part of the grinder system.
3. [This paragraph only applies to new systems.] The design of the Grinder Pump System shall be submitted to the District for approval before the commencement of construction. The materials shall comply with standard specifications that the District has submitted to and had approved by the Executive Director of the Texas Commission on Environmental Quality (the receipt of which is herewith acknowledged). The Customer shall pay a design review fee at the time of submittal.
4. [This paragraph only applies to new systems.] The Grinder Pump System shall be installed by Customer's plumber at Customer's expense. The District must approve the installation of the Grinder Pump System after construction to ensure the installation was as specified. No service will be provided until the District has approved the installation. Customer shall pay an inspection fee. In the event an additional inspection is required, an additional fee shall be charged. These fees are shown in Exhibit A of the Plumbing Code.
5. The District has primary responsibility to ensure adequate operation and maintenance of the Grinder Pump System. The District's responsibility starts at the connection point where the residence laterals enter the Grinder Pump System. Customer shall operate, maintain and pay for the operation and maintenance of the Grinder Pump System to where it joins the District's wastewater collection line in the street right-of-way or easement. If Customer does not fulfill this contractual obligation, the District shall assume that obligation and shall make the necessary maintenance, repairs and improvements to assure that the waters of the State are protected from possible discharge of wastewater. Any expense related to the District's cost to operate or repair the Grinder Pump System shall be billed to Customer in the next monthly bill.
6. The District has authority to stop any discharges from any Grinder Pump System in order to prevent contamination of State waters.
7. The District has submitted a maintenance schedule to the Executive Director (the receipt of which is herewith acknowledged) which outlines routine service inspections and maintenance for Grinder Pump Systems. This maintenance schedule shall be followed.
8. Grinder Pump Systems shall be regarded as integral components of the District's system and not as a part of the residence plumbing.
9. Provision to ensure collection system integrity during a power outage (two-year event) shall be incorporated into the design of the Grinder Pump System as required by the District's guidelines.

SIGNATURE _____ DATE _____

APPROVED AND ACCEPTED BY THE DISTRICT _____
District Office Personnel

THE STATE OF TEXAS }
COUNTY OF TRAVIS }

**APPLICATION FOR PLUMBING PERMIT
LAKEWAY MUNICIPAL UTILITY DISTRICT**

The undersigned doing business as _____,
Firm/Individual

_____, Texas _____
Address City Zip

_____ being duly licensed by the Texas State Board of Plumbing Examiners,
Telephone No. _____

License No. _____, expiration date _____ 20____ hereby makes
Journeyman/Master

application for a plumbing permit to do work at Section _____ Lot _____

Address: _____

As a condition for granting the permit, applicant agrees to comply with all rules and regulations and pay all established charges and fees of the District now existing and acknowledges responsibility for requesting and verifying all inspections of any plumbing installed.

Will a grinder pump be used on this project:* _____ Yes _____ No

*Note there are special requirements for grinder pumps with a requirement of a licensed electrician for installation and the guidelines are available upon request.

I have read this application, understand its terms and conditions and have executed same voluntarily. The District's Plumbing Code is available in our office upon request.

Executed on _____ 20_____
Owner/Agent

Date Approved: _____ 20____ Approved By: _____

10/15/96

LAKEWAY MUD REVISED PLUMBING CODE

In order to avoid new construction tie-ins below the District's sewer gravity flow system the District has imposed the following requirements effective November 1, 1996.

Prior to establishing final slab elevation the contractor shall excavate & locate sewer service tap. When sewer line and tap is located, inspector will then check the elevation of the house to the main sewer line and determine the proper fall of the sewer line. When this is determined the hole will then be refilled for safety reasons until the sewer line is installed.

No water meters will be set until this requirement has been met, if applicable. Additionally, plumbing inspection fees have been increased. A copy of the Code and Fees are available at the District Office. P:\regina\forms\plumb.per

THE STATE OF TEXAS }
COUNTY OF TRAVIS }

**APPLICATION FOR ELECTRICAL PERMIT FOR WASTEWATER PUMP
LAKEWAY MUNICIPAL UTILITY DISTRICT**

The undersigned doing business as _____,
Firm/Individual

_____, _____, Texas _____
Address City Zip

_____ being duly licensed by the Texas Department of Licensing &
Telephone No.

Regulation (TDLR), License No. _____, expiration date _____ 20_____
Journeyman/Master

hereby makes application for an electrical permit to do work at Section _____ Lot_____

Address:_____

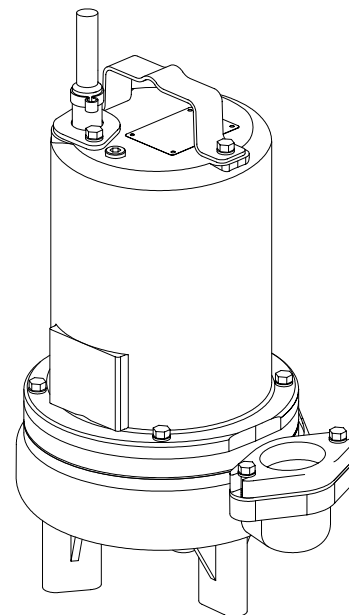
As a condition for granting the permit, applicant agrees to comply with all rules and regulations and pay all established charges and fees of the District now existing and acknowledges responsibility for requesting and verifying all inspections of any electrical components installed.

I have read this application, understand its terms and conditions and have executed same voluntarily. The District's Guidelines for Residential Pump installation is available in our office upon request.

Executed on _____ 20_____
Owner/Agent

Date Approved: _____ 20_____
Approved By: _____

DISCHARGE	2" NPT, Female, Vertical, Bolt-on Flange
LIQUID TEMPERATURE	104°F (40°C) Continuous
VOLUTE	Cast Iron ASTM A-48, Class 30
MOTOR HOUSING	Cast Iron ASTM A-48, Class 30
SEAL PLATE	Cast Iron ASTM A-48, Class 30
IMPELLER: Design	2 Vane, open, with pump out vanes on back side. Dynamically balanced, ISO G6.3
Material	Cast Iron ASTM A-48, Class 30
SHAFT	416 Stainless Steel
SQUARE RINGS	Buna-N
HARDWARE	300 Series Stainless Steel
PAINT	Air Dry Enamel
SEAL: Design	Single Mechanical
Material	Carbon/Ceramic/Buna-N
CORD ENTRY	Hardware -300 Series Stainless
	15 ft. (5m) Cord with plug on 120 volt & .5HP, 240 volt, 1 phase. Quick connect custom molded for sealing and strain relief
SPEED	1750 RPM (Nominal)
UPPER BEARING	Single Row, Ball, Oil lubricated
Load	Radial
LOWER BEARING	Single Row, Ball, Oil lubricated
Load	Radial & Thrust
MOTOR: Design	NEMA L -Single Phase, NEMA B -Three phase Torque Curve, Oil Filled, Squirrel Cage Induction
Insulation	Class B
SINGLE PHASE	Permanent Split Capacitor (PSC) Includes Overload Protection in Motor
THREE PHASE	200-240/480 is Tri-Voltage motor 600V. Requires overload Protection to be included in control panel
LEVEL CONTROL	"A" - Wide Angle, PVC, Mechanical, 15 ft (5m) cord with Piggy-Back Plug, N/O "AU"- Wide Angle, Polypropylene, Mechanical, N/O Integral to pump. ON and OFF Points are adjustable
OPTIONAL EQUIPMENT	Seal Material, Impeller Trims, Additional cord, Normally Closed Temperature Sensors with cord for 3 phase pumps (Requires relay in control panel),



Series: SE (SE51 & SE52)
.5, .75, 1.0HP, 1750RPM,
60Hz



Sample Specifications: [Section 1 Page 5.](#)

DESCRIPTION:

SUBMERSIBLE NON-CLOG SEWAGE PUMP
DESIGNED FOR TYPICAL RAW SEWAGE
APPLICATIONS

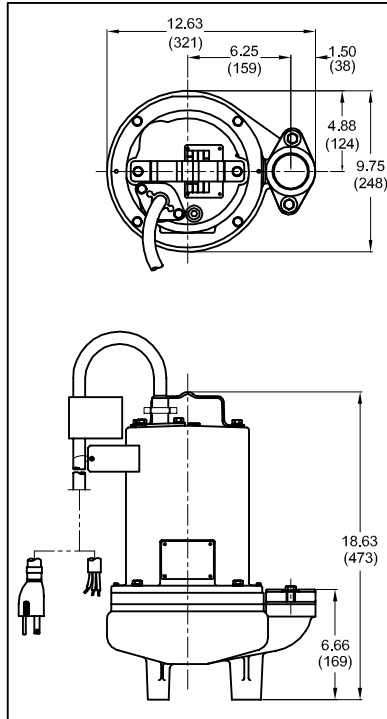
Series SE-L
2" Spherical Solids Handling
Manual & Automatic

BARNES®

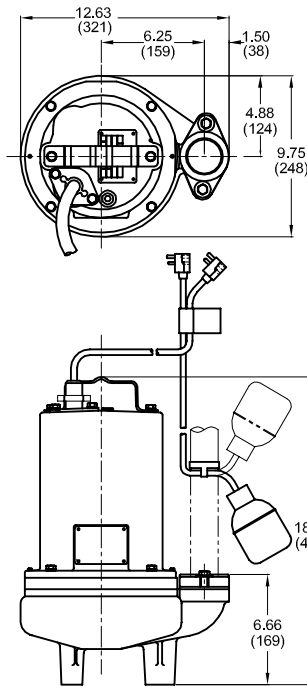
www.cranepumps.com

1½", 2" & 3" Discharge

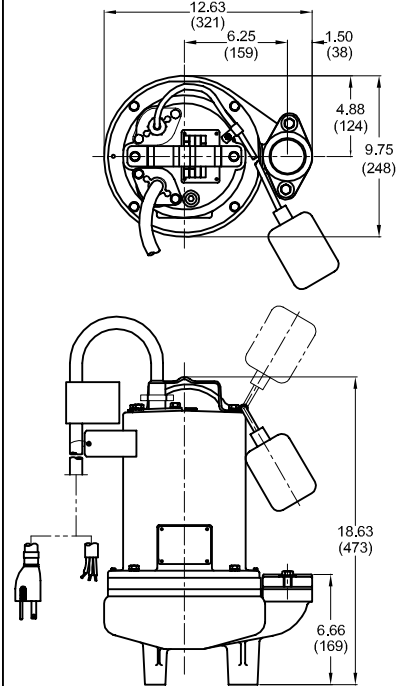
SE51, SE52, SE-L



SE51A, SE52A



SE51AU, SE52AU



inches
(mm)

MODEL NO	PART NO	HP	VOLT/PH	Hz	RPM (Nom)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D inch (mm)
SE51	104871	0.5	120/1	60	1750	F	11.6	21.3	14/3	SJTOW	0.375 (9.5)
SE51A	104872	0.5	120/1	60	1750	F	11.6	21.3	14/3	SJTOW	0.375 (9.5)
SE51AU	104873	0.5	120/1	60	1750	F	11.6	21.3	14/3	SJTOW	0.375 (9.5)
SE52	104874	0.5	240/1	60	1750	J	5.9	14.9	14/3	SOW	0.530 (13.5)
SE52AU	104875	0.5	240/1	60	1750	J	5.9	14.9	14/3	SOW	0.530 (13.5)
SE594L	104881	0.5	200-240/3	60	1750	H/L	3.2/3.0	9.8/11.0	14/4	SOW	0.570 (14.5)
SE544L	104882	0.5	480/3	60	1750	K	1.5	5.3	14/4	SOW	0.570 (14.5)
SE554L	104883	0.5	600/3	60	1750	H	1.0	3.4	14/4	SOW	0.570 (14.5)
SE774L	104884	0.75	200-240/1	60	1750	G/K	7.4/7.0	21.5/25.8	14/3	SOW	0.530 (13.5)
SE794L	104885	0.75	200-240/3	60	1750	H/K	4.8/4.5	13.7/15.4	14/4	SOW	0.570 (14.5)
SE744L	104886	0.75	480/3	60	1750	K	2.2	7.7	14/4	SOW	0.570 (14.5)
SE754L	104887	0.75	600/3	60	1750	L	1.5	7.2	14/4	SOW	0.570 (14.5)
SE1074L	104888	1.0	200-240/1	60	1750	D/G	8.8/8.3	21.5/25.8	14/3	SOW	0.530 (13.5)
SE1094L	104889	1.0	200-240/3	60	1750	E/H	5.1/4.9	13.7/15.4	14/4	SOW	0.570 (14.5)
SE1044L	104890	1.0	480/3	60	1750	H	2.4	7.7	14/4	SOW	0.570 (14.5)
SE1054L	104891	1.0	600/3	60	1750	J	1.9	7.2	14/4	SOW	0.570 (14.5)

Mechanical Switch on SE51A, cord 16/2, SJOW, 0.320 (8.1mm) O.D., Piggy-Back Plug
Mechanical Switch on SE-AU, cord 14/2, SJOW, 0.345 (8.8mm) O.D.

IMPORTANT !

- 1.) PUMP MAY BE OPERATED "DRY" FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.
- 2.) THIS PUMP IS APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION II HAZARDOUS LOCATIONS.
- 3.) THIS PUMP IS NOT APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION I HAZARDOUS LOCATIONS.
- 4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.

SECTION 1B
PAGE 14
DATE 6/04

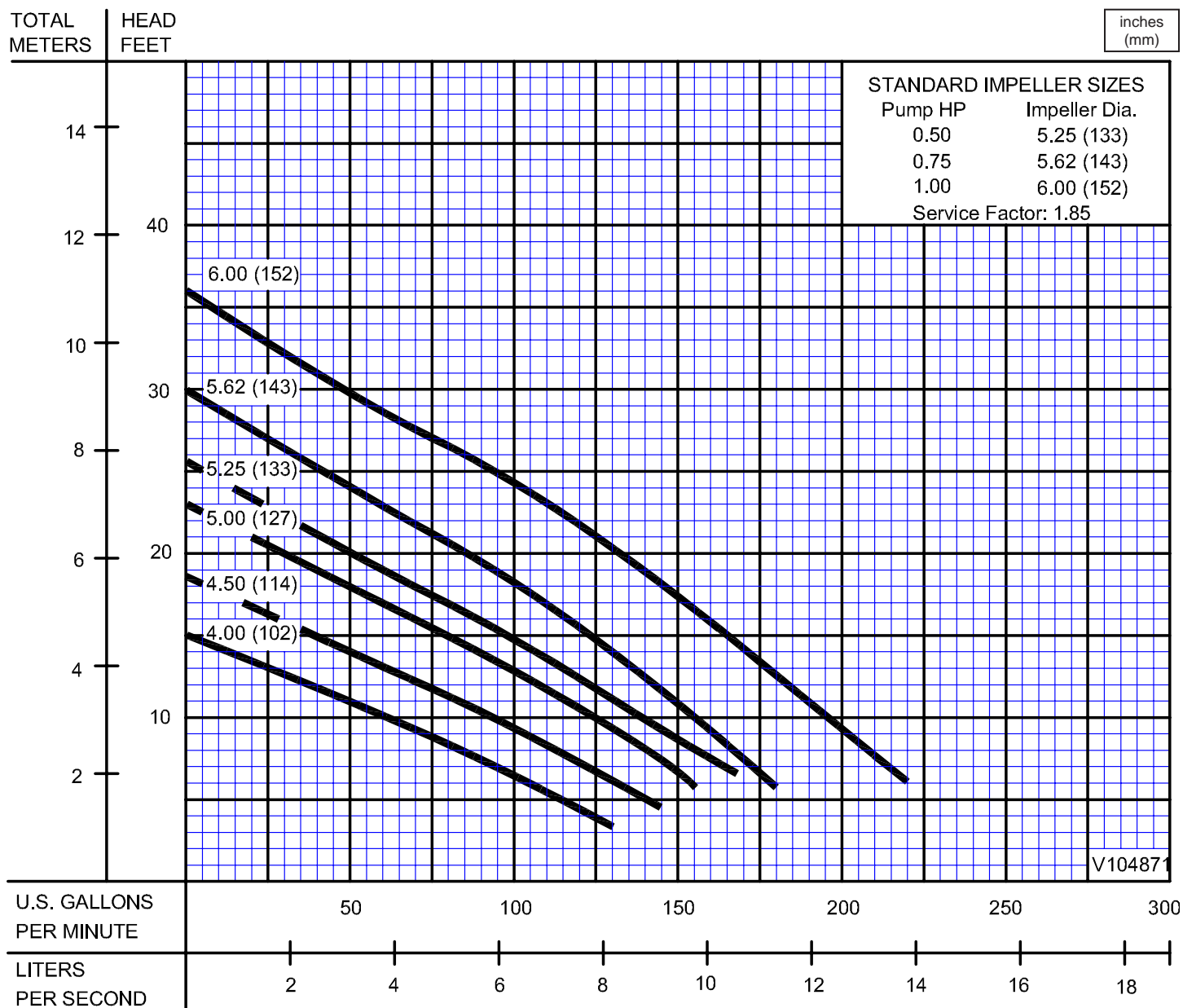
CRANE®

A Crane Co. Company

PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

1½", 2" & 3" Discharge



Testing is performed with water, specific gravity 1.0 @ 68° F @ (20°C), other fluids may vary performance

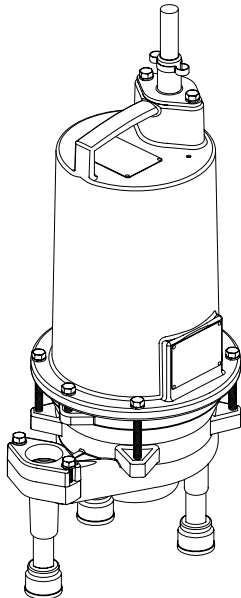
Series OGVF & OGVH

Recessed Vortex



www.cranepumps.com

Submersible Grinder Pumps



Series: OGVF & OGVH
2HP, 3450RPM, 60Hz
High-Flow and High Head



CSA 108 - File No. LR16567
UL 778

NRTL/C

Sample Specifications: Section 3 Page 11.

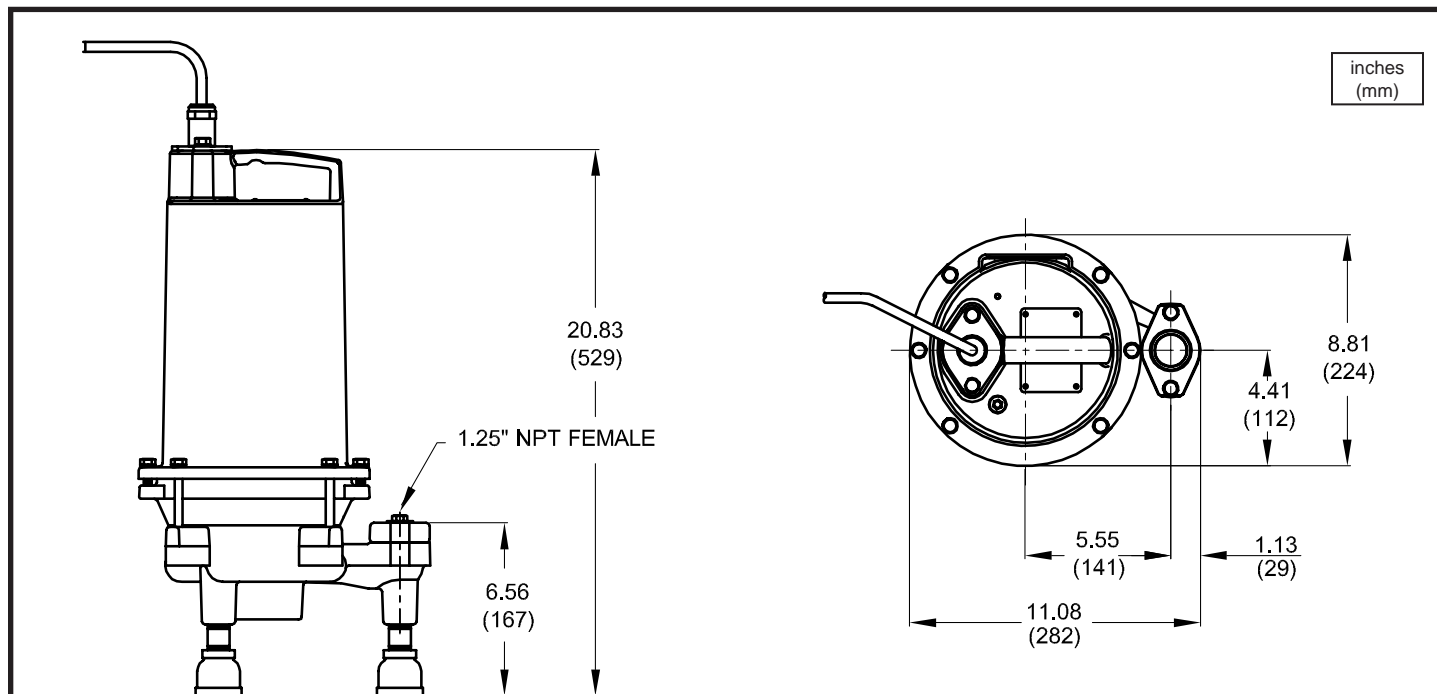
DESCRIPTION:

THE GRINDER PUMP IS DESIGNED TO REDUCE DOMESTIC, COMMERCIAL, INSTITUTIONAL AND LIGHT INDUSTRIAL SEWAGE TO A FINELY GROUND SLURRY.

Specifications:

DISCHARGE	1¼" NPT, Vertical, Bolt-on Flange
LIQUID TEMPERATURE	160°F (71°C)Intermittent
VOLUTE	Cast Iron ASTM A-48, Class 30
MOTOR HOUSING	Cast Iron ASTM A-48, Class 30
SEAL PLATE	Cast Iron ASTM A-48, Class 30
IMPELLER: Design	12 Vane,Vortex, With Pump Out Vanes On Back Side. Dynamically Balanced, ISO G6.3.
Material	85-5-5-5 Bronze
SHREDDING RING	Hardened 440C Stainless Steel Rockwell® C-55.
CUTTER	Hardened 440C Stainless Steel, Rockwell® C-55.
SHAFT	416 Stainless Steel
SQUARE RINGS	Buna-N
HARDWARE	300 Series Stainless Steel
PAINT	Air Dry Enamel.
SEAL: Design	Single Mechanical
Material	Rotating Faces - Silicon-Carbide Stationary Faces - Silicon-Carbide Elastomer - Buna-N
CORD ENTRY	Hardware - 300 Series Stainless 30 ft. (9.1 m) Std, Cord. Custom Molded Quick Connect, for Sealing and Strain Relief
CORD Manual	CSA/UL Approved 12/3 Type SOW
UPPER BEARING:	
Design	Single Row, Ball, Oil Lubricated
Load	Radial
LOWER BEARING:	
Design	Single Row, Ball, Oil Lubrication:
Load	Radial & Thrust
MOTOR: Design	NEMA L-Single Phase Torque Curve. Oil-Filled, Squirrel Cage Induction.
Insulation	Class F.
SINGLE PHASE	Capacitor Start/Capacitor Run.
OPTIONAL EQUIPMENT	Seal Material, Impeller Trims, Cord Length, Moveable Fitting

Submersible Grinder Pumps

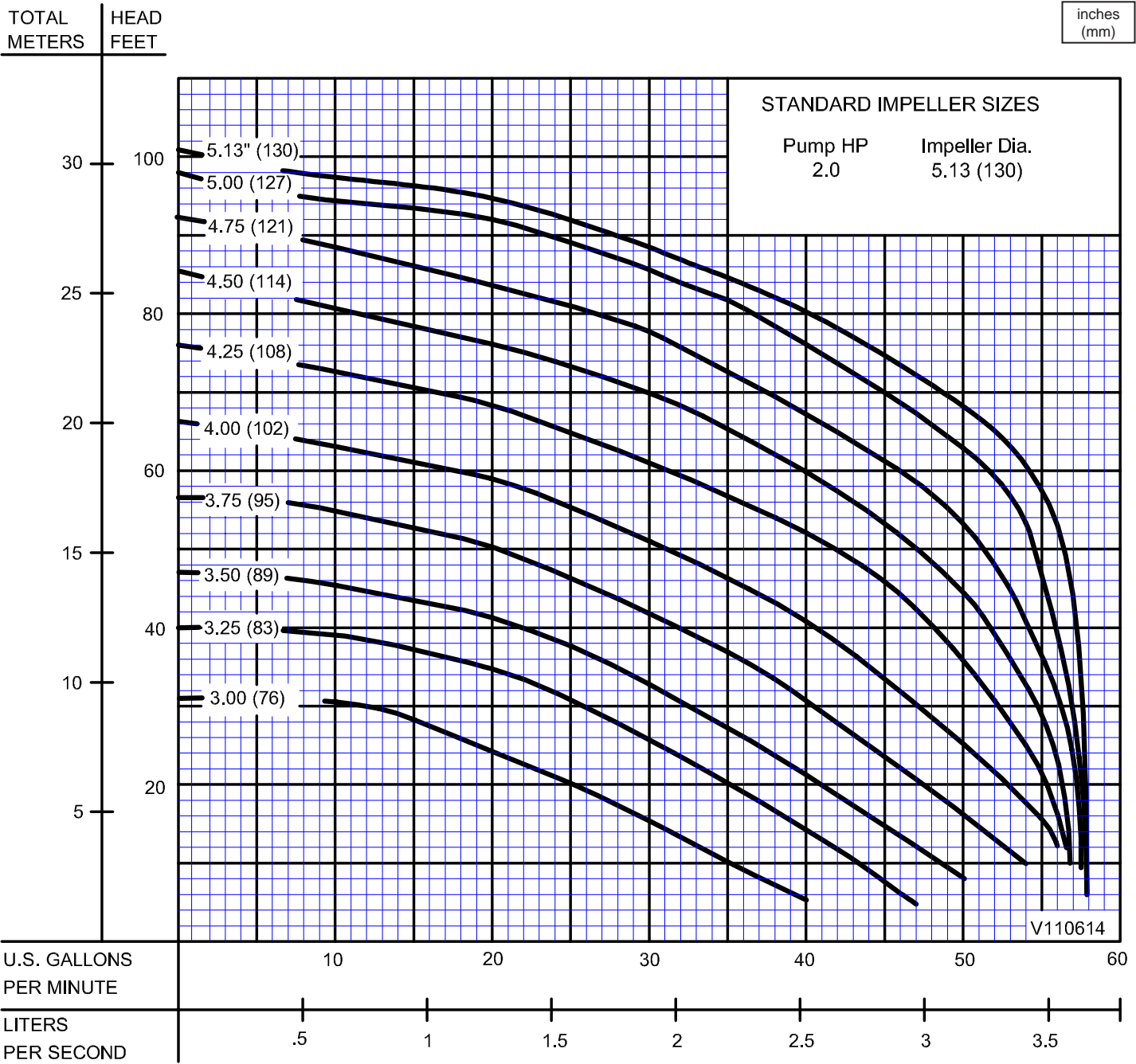


MODEL NO	PART NO	HP	VOLT	PH/Hz	RPM (Nom)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D. ± .02 (.5) in (mm)
HIGH-FLOW											
OGVF2022L	110651	2	240	1 / 60	3450	H	15.0	53.8	12/3	SOW	.61 (15.5)
HIGH-HEAD											
OGVH2022L	110649	2	240	1 / 60	3450	H	15.0	53.8	12/3	SOW	.61 (15.5)

IMPORTANT !

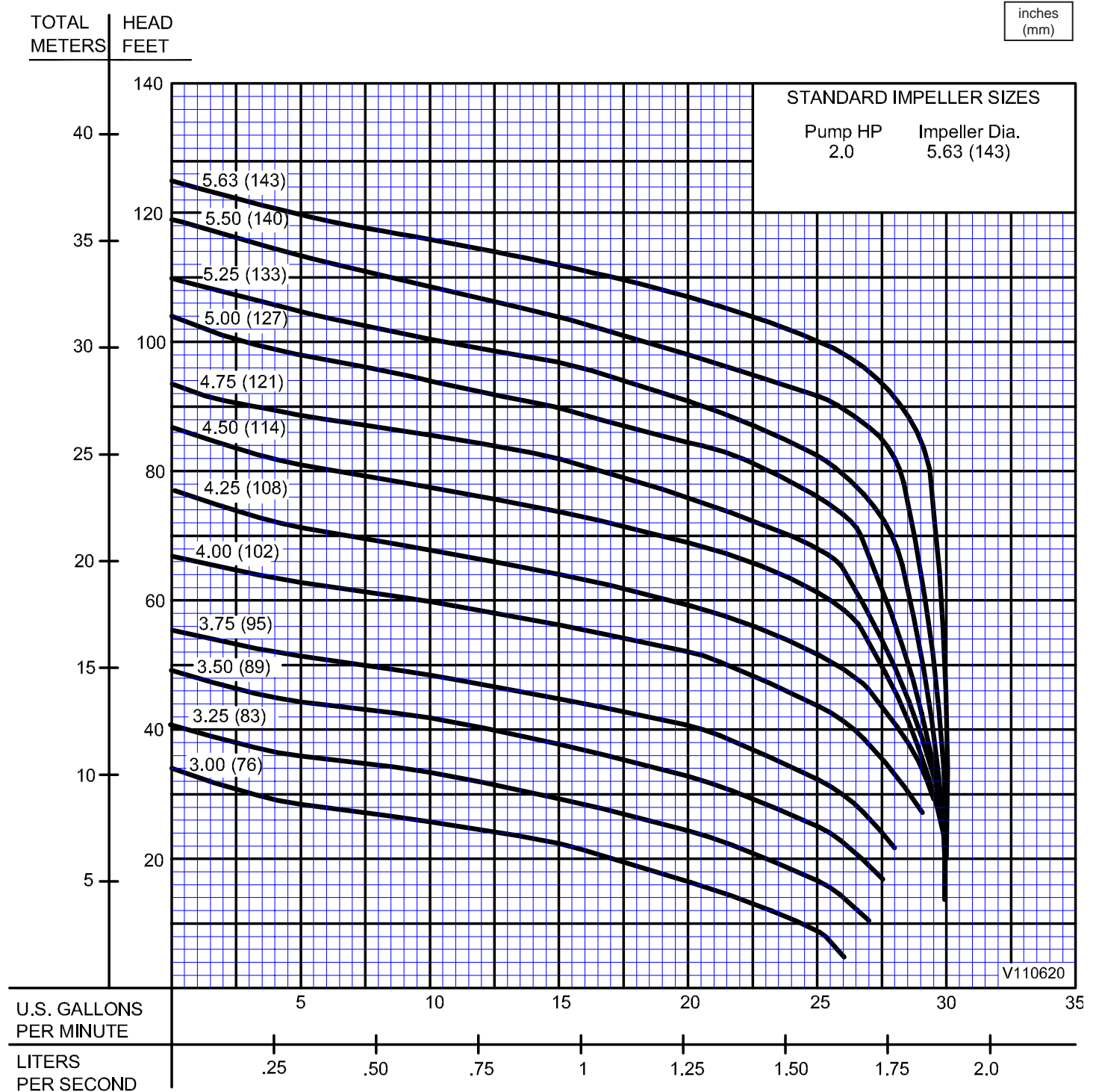
- 1.) PUMP MAY BE OPERATED "DRY" FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.
- 2.) THIS PUMP IS APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION II HAZARDOUS LOCATIONS.
- 3.) THIS PUMP IS NOT APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION I HAZARDOUS LOCATIONS.
- 4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ANSI/NFPA 70 AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER PARKS, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.

Submersible Grinder Pumps



Testing is performed with water, specific gravity 1.0 @ 68° F @ (20°C), other fluids may vary performance

Submersible Grinder Pumps



Testing is performed with water, specific gravity 1.0 @ 68° F @ (20°C), other fluids may vary performance

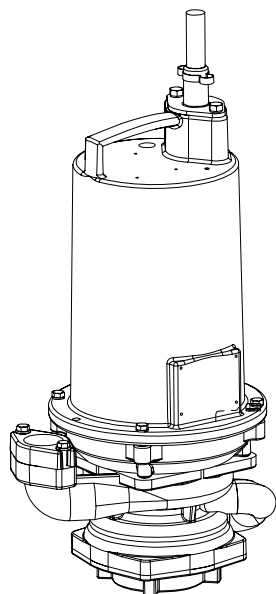
Series OGP

Recessed Vortex

BARNES®

www.cranepumps.com

Submersible Grinder Pumps



Series: OGP 2HP, 3450RPM, 60Hz



CSA 108 - File No. LR16567
UL 778

Sample Specifications: Section 3 Page 10.

DESCRIPTION:

THE GRINDER PUMP IS DESIGNED TO REDUCE DOMESTIC SEWAGE TO A FINELY GROUND SLURRY.

Specifications:

DISCHARGE	1¼" NPT, Vertical, Bolt-on Flange
LIQUID TEMPERATURE	104°F (40°C) Continuous
VOLUTE	Cast Iron ASTM A-48, Class 30
MOTOR HOUSING	Cast Iron ASTM A-48, Class 30
SEAL PLATE	Cast Iron ASTM A-48, Class 30
IMPELLERS: <i>Design</i>	12 Vane, Vortex, With Pump Out Vanes On Back Side. Dynamically Balanced, ISO G6.3.
<i>Material</i>	85-5-5-5 Bronze
IMPELLER SPACER	300 Series Stainless Steel
SHREDDING RING	Hardened 440C Stainless Steel Rockwell® C-55.
CUTTER	Hardened 440C Stainless Steel, Rockwell® C-55.
SHAFT	416 Stainless Steel
SQUARE RINGS	Buna-N
HARDWARE	300 Series Stainless Steel
PAINT	Air Dry Enamel.
SEAL: <i>Design</i>	Single Mechanical
<i>Material</i>	Rotating Faces - Silicon-Carbide Stationary Faces - Silicon-Carbide Elastomer - Buna-N Hardware -300 Series Stainless
CORD ENTRY	30 ft. (9.1 m) Std. Cord. Custom Molded Quick Connect, for Sealing and Strain Relief
CORD <i>Manual</i>	CSA/UL Approved 12/3 Type SOW
UPPER BEARING:	
<i>Design</i>	Single Row, Angular contact Ball
<i>Lubrication</i>	Oil
<i>Load</i>	Radial & Thrust
LOWER BEARING:	
<i>Design</i>	Single Row, Angular contact Ball
<i>Lubrication</i>	Oil
<i>Load</i>	Radial & Thrust
MOTOR: <i>Design</i>	NEMA L-Single Phase Torque Curve, Oil-Filled, Squirrel Cage Induction
<i>Insulation</i>	Class F
SINGLE PHASE	Capacitor Start/Capacitor Run.
OPTIONAL EQUIPMENT	Cord Length, Moveable Fitting

SECTION 3B
PAGE 10
DATE 3/07

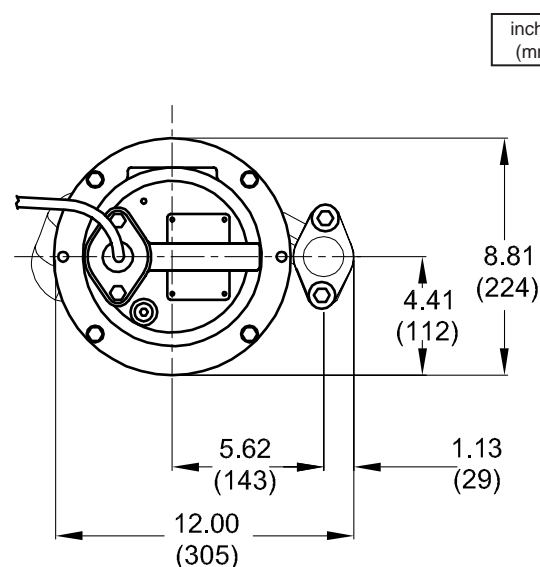
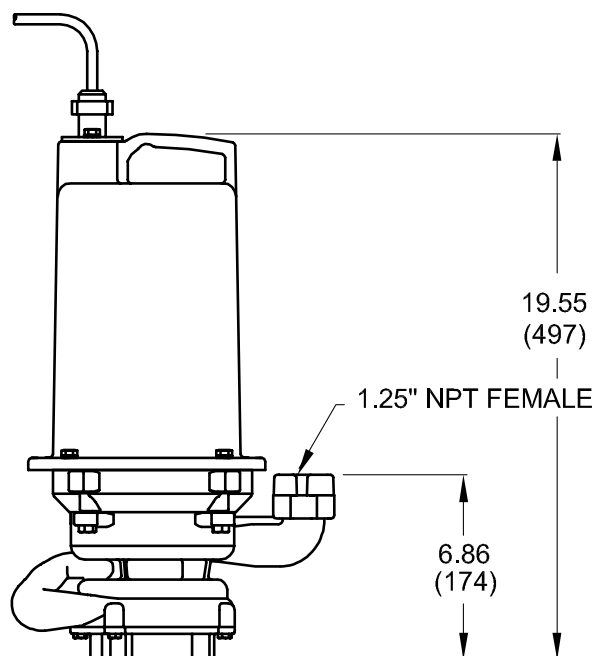
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Submersible Grinder Pumps



MODEL NO	PART NO	HP	VOLT	PH/HZ	RPM (Nom)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D. ± .02 (.5) in (mm)
OGP2022L	115328	2	240	1 / 60	3450	H	16.5	53.8	12/3	SOW	.61 (15.5)

IMPORTANT !

- 1.) PUMP MAY BE OPERATED "DRY" FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.
- 2.) THIS PUMP IS APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION II HAZARDOUS LOCATIONS.
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Submersible Grinder Pumps



Testing is performed with water, specific gravity 1.0 @ 68° F @ (20°C), other fluids may vary performance

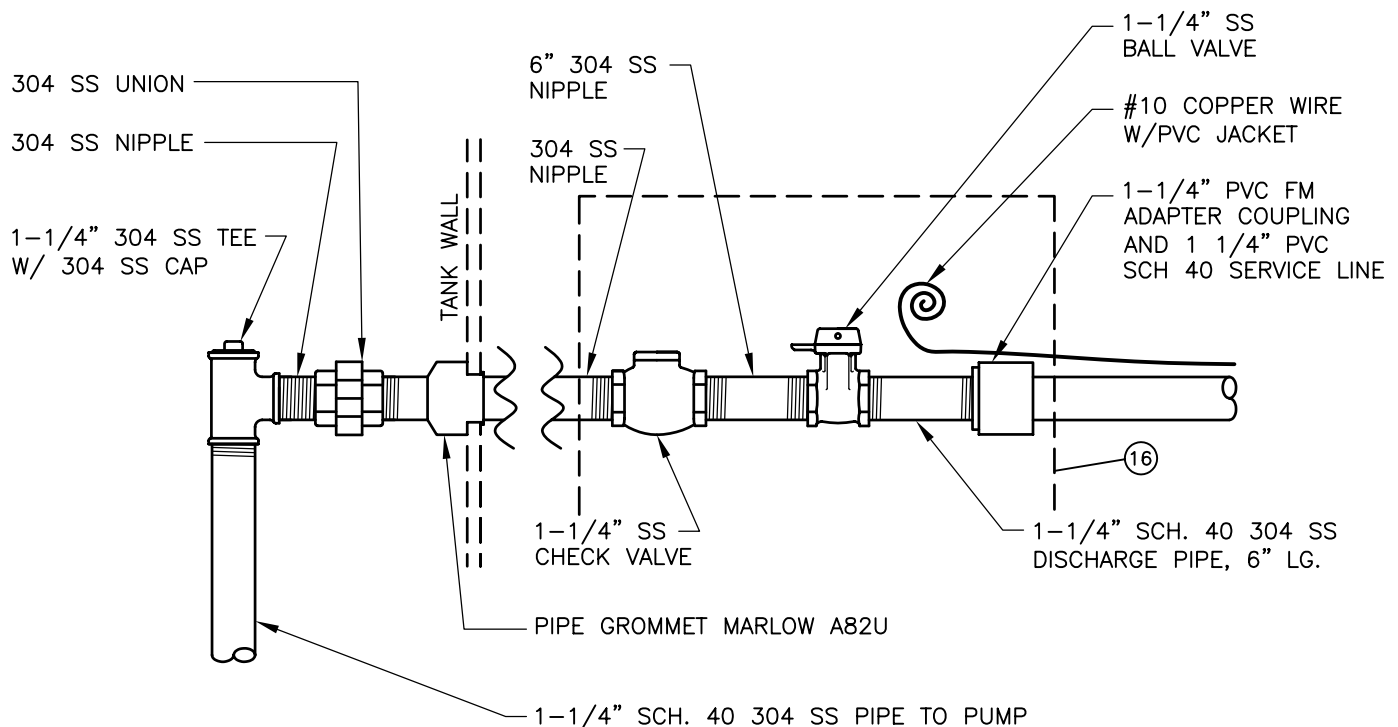


-
- The Lakeway logo consists of a golf ball with the word "Lakeway" written across its center, resting on a golf tee. The entire logo is rendered in a black and white, line-art style.

STANDARD
DETAIL
WW-11

INSIDE BASIN

INSIDE VALVE VAULT



DISCHARGE PIPING - AT GRINDER PUMP

CONTINUED NOTES:

10. DISCHARGE OUTLET - 1 1/4" MALE PIPE THREAD W/ 1 1/4" PVC ADAPTER BUSHING.

11. GRINDER PUMP DISCHARGE LINE WITH GROMMET - 1 1/4" SCH 40 304 SS NOMINAL PIPE SIZE.

12. CONCRETE ANCHOR: 900 LBS. (6 CU.FT.) PLUS 600 BLS. (4 CU.FT.) PER FOOT OF ACCESSWAY. EXAMPLE: W/2' ACCESSWAY - 900+1200=2100 lbs. (14 CU.FT.). SLEEVE OVER INLET LINE IS REQUIRED IF ANCHOR IS POURED TO A LEVEL ABOVE THE INLET. (REQUIRED IN FLOOD PLAIN AS DESIGNATED BY BUILDING INSPECTOR)

13. BEDDING MATERIAL - 6" MINIMUM, ROUNDED AGGREGATE (PEA GRAVEL).

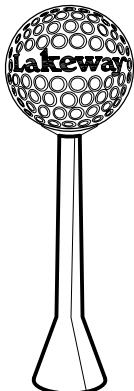
14. FINISHED GRADE - GRADE LINE TO BE 8" BELOW TOP OF ACCESSWAY AND SLOPE AWAY FROM ACCESSWAY OPENING.

15. 4" COMBINATION POP-UP RELIEF VALVE / CLEAN-OUT SET IN 4" PVC ADAPTER. POP-UP RELIEF VALVE SHALL BE 4" ABOVE GROUND AND 4" BELOW TOP OF TANK.

16. EAST JORDAN IRON WORKS VALVE BOX, STD. BOX #548P24 w/ "LAKEWAY" CAST IN LID.

17. WHERE PUMP IS LOCATED ABOVE MAIN LINE GRADE AT STREET, INSTALL 1-1/4" TEE AND BALL VALVE TO PIPE RETURN TO TANK THROUGH GROMMET.

18. ALL DISCHARGE PIPING, FITTINGS AND HARDWARE TO BE SCH. 40 304 STAINLESS STEEL



LAKEWAY MUNICIPAL UTILITY DISTRICT LAKEWAY, TEXAS

Scale: NTS

Date Issued: May 29, 2007

Rev.# Date By Remarks

TYPICAL GRINDER PUMP
INSTALLATION (SHEET 2 OF 2)

STANDARD
DETAIL
WW-11A