

mody ELECTRIC SUBMERSIBLE SEWAGE PUMP

MODY MSPG1 SERIES SUBMERSIBLE GRINDER PUMPS:

**DRY PIT
WET PIT
PORTABLE**

**2-POLE: 3-5 kW
380V-400V-415V/3PH/50HZ**

FLOWS to 26 M3/HR

HEADS to 50 M TDH

**SEMI-OPEN, MULTI-VANE,
IMPELLER**

**DUPLEX STAINLESS STEEL
GRINDING MECHANISM**



FEATURES

- 2-INCH DISCHARGE FLANGE
- EASY RETROFIT TO ABS® AND MOST OTHER BRAND INSTALLATIONS
- HIGH EFFICIENCY MOTORS WITH CLASS H (180°C) INSULATION SYSTEM
 - EXTENDED SERVICE LIFE CYCLE
 - EXCELLENT FOR VFD APPLICATIONS
- INTEGRAL "ECO-FRIENDLY" COOLING SYSTEM
 - NO EXTERNAL COOLING WATER SYSTEM REQUIRED
 - ELIMINATES FOULING FROM PUMPAGE COOLED DESIGNS
 - EXCELLENT FOR CONTINUOUS RUN, DRY PIT APPLICATIONS
- MODULAR DESIGN: INTERCHANGEABLE MOTOR WITH MODY MSP1-80-2 PUMP MODEL
- "FAST - CHANGE" CARTRIDGE MECHANICAL SEALS WITH SILICON CARBIDE SEAL FACES
 - EXTENDED SERVICE LIFE CYCLE
 - EASY MAINTENANCE IN FIELD
 - NO SPECIAL TOOL REQUIREMENTS
- REDUCER SYSTEM - GRINDER MECHANISM CLEARANCE REDUCTION SYSTEM
 - EXTENDED SERVICE LIFE CYCLE
 - EASY MAINTENANCE OF CLEARANCES IN THE FIELD FOR EFFECTIVE GRINDING OPERATION
 - NO SPECIAL TOOL REQUIREMENTS
- SEMI-OPEN, MULTI-VANE, IMPELLER
 - DUCTILE IRON
 - TRIMMED TO MATCH DUTY POINT
- "FAST - LOCK", QUICK-RELEASE, LATCH-BOLTS
 - EASY MAINTENANCE IN THE FIELD
- OIL TAP DRAIN



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MSPG1 SERIES

SPECIFICATIONS

Solid Handling: Grinder Pump

Impeller Type: Semi-Open, Multi-Vane

Max. Temp. of Pumped Fluid: 104°F/40°C

Max. Starts/Stop Per Hour: 15

Max. Submergence: 66'/20m



MOTOR: NEMA B design, die cast aluminum squirrel cage rotor, induction motor rated for continuous duty with 1.15 service factor. High Efficiency in compliance with “NEMA Energy Efficient Class”. Moisture resistant Class “H” (180°C temperature rating) insulated stator windings, watertight air-filled IP68 enclosure. UL listed components, rated for VFD operation. Siemens design with 2, 4 and 6-pole speed options. Klixon temperature sensors embedded in stator windings for thermal overload protection. Moisture detection probes in main motor cavity, top-end power cable terminal chamber and seal oil reservoir. Optional maintenance free, integral closed loop cooling system available for dry pit or partial submerged continuous duty. Cooling system is separate from pumped liquid. No external cooling source required.

POWER SUPPLY: 380 / 400 / 415 volts +/-10%, 3-phase, 50-hz AC Supply.

SHAFT: The pump shaft is integral with the motor. The shaft material is AISI 431 stainless steel for corrosion resistance and strength, and conservative in design to accommodate maximum torque requirements at normal start-up condition or any operating point in the system. The shaft has a polished finish with accurately machined shoulders to accommodate bearings, seals and impeller.

BALL BEARINGS: The rotating element is carried by two ball bearings. The lower bearing is a double angular contact ball bearing, C3 with H7 fit, capable of carrying high thrust and radial loads. The upper bearing is a deep groove single row ball bearing, C3 with H7 fit. The bearings are filled with high temperature grease containing special anti-corrosive additive, maintenance free for life. Bearings are conservative in size and properly spaced to transfer all radial and axial loads to the pump housing and minimize shaft deflection. B10 bearing life is greater than 50,000 hours.

POWER CABLE: 33'/10m in length, sized according to IEC, NEC or CSA standards, water/oil resistant EPR insulated, copper conductor flexible cable and additional control cable for moisture sensor and thermals, capable of continuous submerged operation underwater at temperatures to 90°C and to a depth of 66 feet. Additional cable lengths optional.

CABLE ENTRY / JUNCTION CHAMBER SEAL: The cable entry design does not require specific torque requirements to insure a watertight seal. The cable entry consists of a cylindrical elastomer grommet, flanked by stainless steel washers. A cable cap incorporating a strain relief mounts to the cable entry boss compressing the grommet ID to the cable while the grommet OD seals against the bore of the cable entry.

The junction chamber is isolated and sealed from the motor by means of sealing glands and O-rings. Electrical connections between the power cables and motor leads are made via a post type terminal board.

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SHAFT SEALS: Cartridge double mechanical shaft seal system to facilitate easy seal changes in the field without special tools. Seal faces are silicon carbide against silicon carbide for long life and resistance to heat and abrasion. Seals operate maintenance free in a reservoir of food grade oil that hydro-dynamically lubricates the seal faces at a constant rate, providing superior heat transfer and maximum cooling. The reservoir is designed to prevent overfilling and to provide lubricant expansion capacity. The oil tap drain has a positive anti-leak seal and is easily accessible from the outside of the pump. The seal system does not rely upon the pumped media for lubrication and will not be damaged when the pump is run dry.

SEAL FAILURE EARLY WARNING SYSTEM: A moisture detection probe is provided in the seal oil chamber for detecting the presence of moisture. A relay device (by others) mounted in the pump control panel or in a separate enclosure sends a low voltage, low amperage signal to the probe. If moisture is present (determined by decreased resistance signals), the relay device energizes a warning light or shutdown circuit in the control panel, protecting the motor from damage.

IMPELLER: Semi-open, multi-vane specifically designed for non-clog grinder pump operation, dynamically balanced and trimmed to meet specified hydraulic operating conditions.

GRINDER MECHANISM: Duplex stainless steel for long service life.

CLEARANCE REDUCTION SYSTEM: The grinder mechanism is replaceable and capable of axial adjustment to maintain proper clearance for effective grinding operation. This adjustment does not require special tools.

FAST LOCK LATCH BOLTS: The pump includes fast lock / quick release mechanisms with 304 stainless steel latch bolts to allow easy removal of the motor unit from the pump volute without disturbing system piping and the need for special tools. With this feature, a volute hand-hole cover for cleanout access is not required.

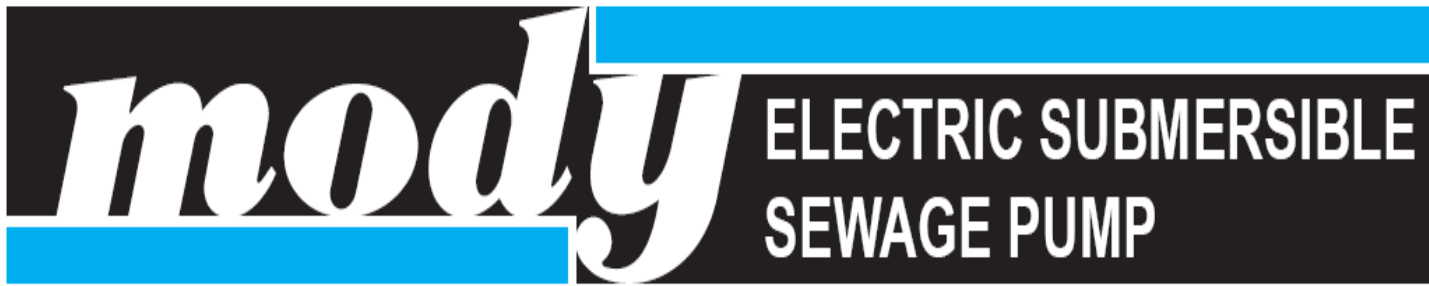
LIFTING HANDLE: The pump is supplied with a high quality, high strength stainless steel lifting handle. The handle has a wide opening for easy pump handling and simplified retrieval from any installation.

PUMP VOLUTE: The pump volute is a centerline discharge design, with optional inlet and discharge sizes as specified by technical documentation. Passages are smooth and sized to pass solids as grinding operation takes place..

MATERIALS OF CONSTRUCTION

Description	Material
Stator Casing:	Cast iron ASTM A-48, Class 35
Pump Volute/Casing:	Cast iron ASTM A-48, Class 35
Lifting Handle:	AISI 316 stainless steel
Impeller:	Ductile iron ASTM A-395, Grade 60-40-18
Grinder Mechanism:	Duplex Stainless Steel
Shaft:	AISI 431 stainless steel
Shaft Sleeve:	AISI 431 stainless steel
Hardware:	AISI 304 stainless steel
Mechanical Seal:	Fast change cartridge, double with silicon carbide vs. silicon carbide faces
O-Rings:	Nitrile rubber

SURFACE TREATMENT: Primer with Epoxy and subsequently coated with black air dry enamel.



LIMITED WARRANTY

WARRANTY PERIOD: We warrant that our pumps, when installed and maintained in accordance with our instructions, will be free of defects in material and workmanship under normal use and service, during the following time: **One (1) year from the date of installation, or (18) months from the date of shipment, whichever occurs first**

WARRANTY CLAIM PROCEDURE: Within the above Warranty Period, we will evaluate claims under this warranty, provided that such claims are submitted in the following sequential steps:

- (a) Customer submits to Mody Pumps, Inc. - via fax, e-mail attachment, or trackable mail service - a completed Warranty Evaluation Form (WEF) within five (5) days after discovery of the claimed defect;
- (b) Mody Pumps, Inc. issues the Customer a **written** Return Material Authorization (RMA), via fax or e-mail, within seven (7) business days of receiving the Customer's WEF;
- (c) No later than five (5) business days after the date recorded on the RMA, the subject pump must either be received at, or placed in the shipper's possession for transport to, Mody Pumps, Inc. or its Authorized Service Center. A warranty-claimed pump can only be received at Mody Pumps, Inc. or its Authorized Service Center if it is returned with a valid RMA from Mody Pumps, Inc.

VOIDING FACTORS: This warranty shall not apply when damage is caused by such factors as, but not limited to: (a) improper installation, (b) improper voltage, (c) lightning, (d) sand or other abrasive materials, (e) scale or corrosion build-up due to excessive chemical content, (f) errors in specifications, (g) errors in bills of materials, (h) any modification of the product. We will not be responsible for loss, damage, or labor and other related costs that result from interruption of service caused by defective parts. Neither will we accept charges incurred by others without our prior written approval. This warranty is void if our inspection reveals that the product was used in a manner inconsistent with normal industry practice and/or our recommendations or instructions. The Customer is responsible for communicating all vital information about the application and use of the product. **THE SOLE AND EXCLUSIVE REMEDY FOR A VALID CLAIM ON ANY AND ALL PRODUCT WARRANTIES SHALL BE PRODUCT REPLACEMENT OR REPAIR AT OUR ELECTION, FOB POINT OF MANUFACTURE OR AUTHORIZED REPAIR STATION, OF SUCH PRODUCTS AND/OR PARTS AS PROVEN DEFECTIVE.**

Any additional guarantees involving special, unusual or extraordinary performance specifications must be in writing, and such writing must be signed by an authorized representative of Mody Pumps, Inc., BEFORE the subject pump is used under such additional guarantees. Whenever user-commissioned field testing results differ from our fieldconditions-adjusted lab results, our laboratory results shall control. Components or accessories that come with our pumps, but have been manufactured by others, are subject only to the original manufacturer's warranty. Recommendations for special applications, or those based on our systems analyses and evaluations, will be based on our best available experience and published or generally accepted industry standards. **SUCH RECOMMENDATIONS DO NOT CONSTITUTE A WARRANTY OF SATISFACTORY PERFORMANCE, AND NO SUCH WARRANTY IS EVER GIVEN.**

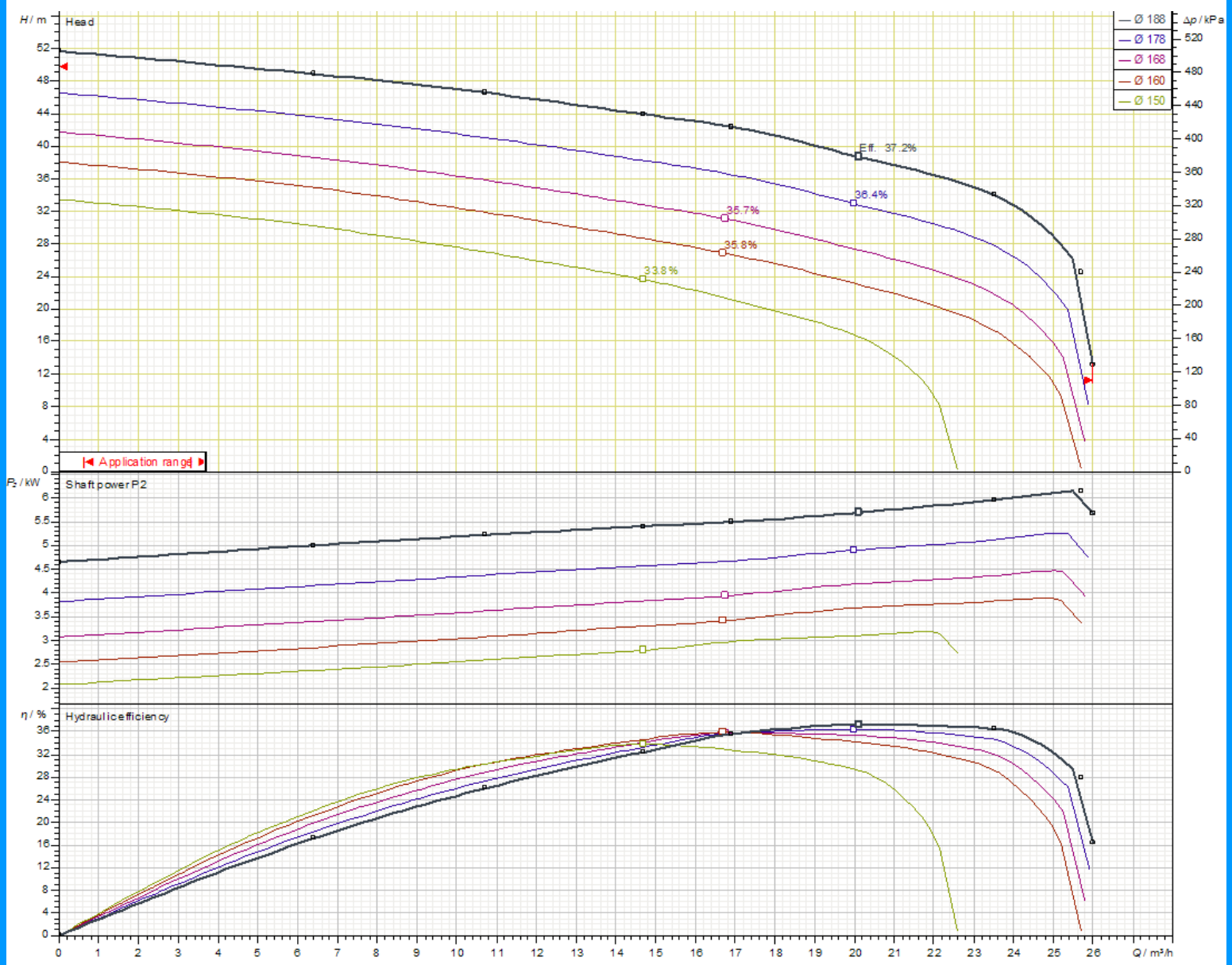
THIS WARRANTY RELATES ONLY TO OUR PRODUCT. WE WILL VIGOROUSLY DEFEND AGAINST ANY CLAIM OF OUR LIABILITY FOR DAMAGES AND COSTS THAT FLOW FROM FACTORS BEYOND OUR DIRECT AND PROXIMAL CONTROL, INFLUENCE, AND RESPONSIBILITY, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOST INCOME, LABOR CHARGES, OR DELAYS IN PRODUCTION. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

No rights extended under this warranty shall be assigned to any person, whether by operation of law or otherwise, without our prior written approval. This warranty is subject to change without notice.

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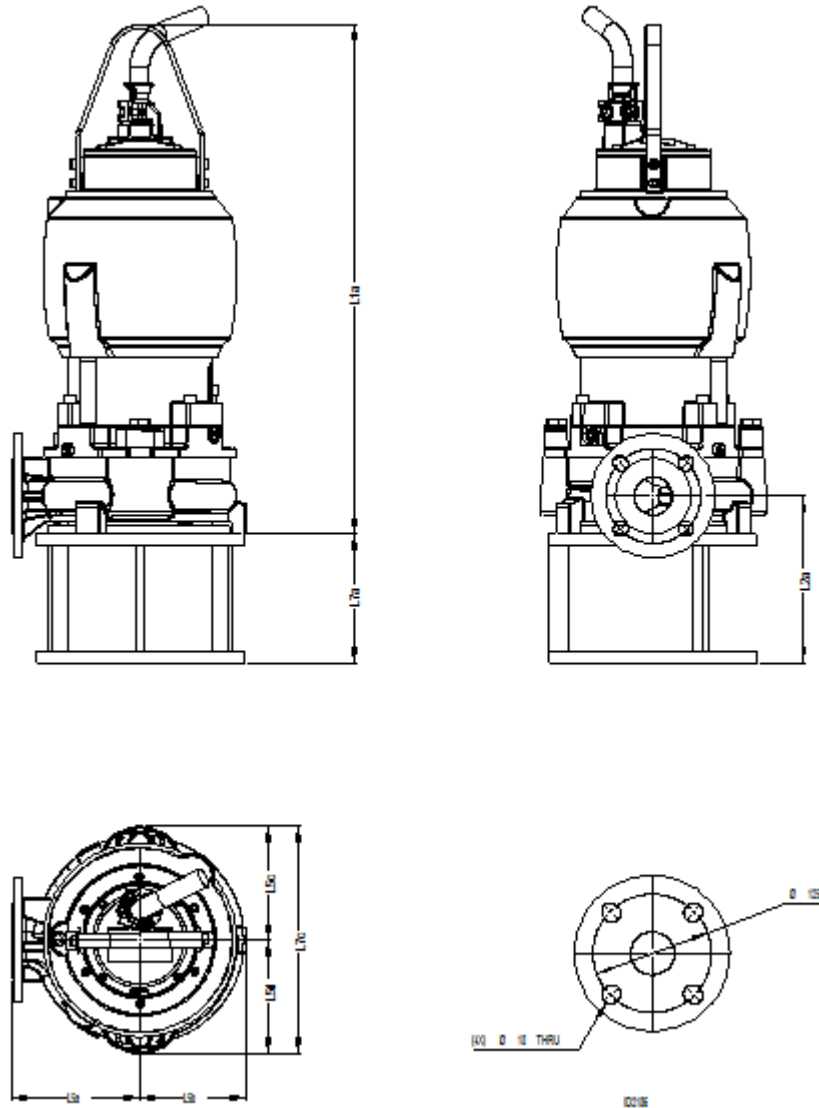
SEWAGE PUMP

MSPG1-50.0-2 GRINDER



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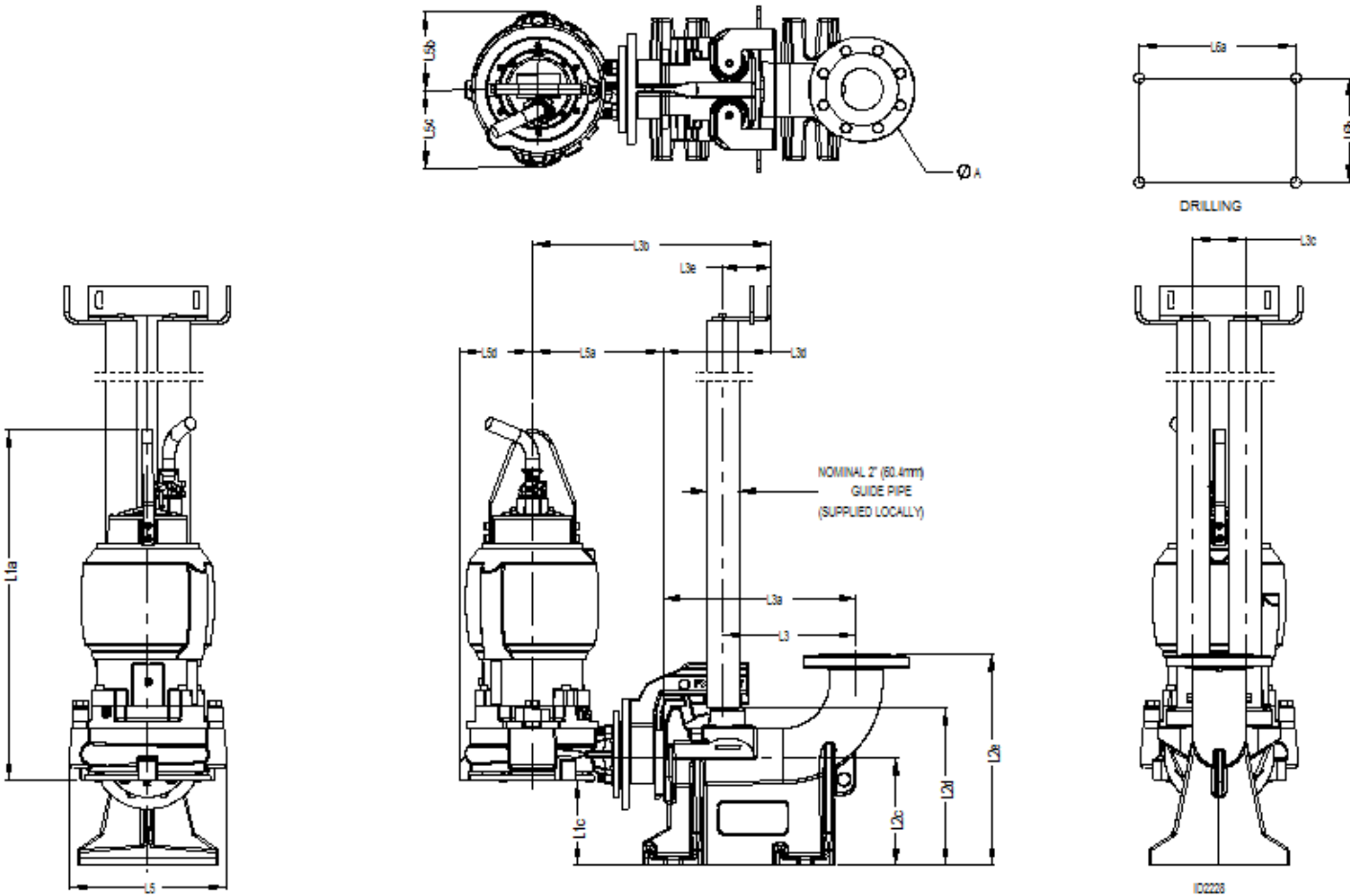
MSPG1-SERIES PORTABLE INSTALLATION



Consult Factory for Dimensions

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PARTS SCHEMATIC

