



# MODEL 10LSX SPECIFICATION

## 1.0 General Specifications

There will be furnished one (1) only Grind Hog™ Model 10LSX Comminutor as manufactured by G.E.T. Industries, Inc. Rotation shall be in a  clockwise (standard) /  counter-clockwise (optional) direction.

## 1.1 Design Criteria

The comminutor shall be designed to handle the flows indicated below, within the head loss noted.

- (a) hydraulic capacity 1.2 MGD (4500m<sup>3</sup>/day)
- (b) satisfactory operation shall occur under conditions of zero flow
- (c) head loss at peak flow shall not exceed 10 inches (254 mm)
- (d) design shall be such that the flow enters the size reduction and screening device horizontally and exits vertically downward to facilitate the flushing of solids

## 1.2 Casing and Curb Ring

Shall be:

- (a) of heavy-duty construction and of high quality cast iron
- (b) machined flat and complete with three (3) holes for anchor bolts
- (c) of the open type allowing free access for complete cutting bar and shear bar mechanism maintenance and inspection without dismantling the unit

## 1.3 Rotating Drum Screen

- (a) heavy-duty Cast Ductile Iron ASTM 536, grade 60-45-18

## 1.4 Cutting Elements

- (a) replaceable shear bars constructed of high-quality A2 tool-steel shall be attached to the rotating drum. Each shear bar shall be machined from solid bar stock, surface ground to establish exact tolerances
- (b) stationary cutting bars (3), shall be of high-quality O1 tool steel hardened to a minimum of 56 Rockwell C, and shall be reversible, allowing for four (4) sets of cutting edges prior to sharpening or replacement
- (c) all submerged fasteners shall be of stainless steel

## 1.5 Motor

Submersible, Explosion-proof 1 Hp. (.746 kw), 1750 RPM \_\_\_\_\_ volt, 3 phase, 60 HZ, rated for continuous-in-air or submerged in sewage service. Power control cable of 25 ft (7.6 m) included. Class 1, Group C and D, Division 1 Hazardous locations. The motor shall feature:

- **Frame** - rugged cast iron ASTM type A-48, class 30
- **Hardware** - 316 stainless steel

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**G.E.T. INDUSTRIES INC.**

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## SPECIFICATION cont'd...

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- **Stator Insulation** - specially treated class "F" and "H" non-hygroscopic insulation with multiple dips and brakes. Phase insulation included for inverter duty
- **Rotor** - die cast aluminum, dynamically balanced. Exceeds NEMA limits per MGI - 12.06
- **Shaft** - high strength 416 stainless steel
- **Bearings** - specially adapted for vertical assembly. Both upper and lower bearings are pre-packed and sealed for life with special high temperature grease
- **Cable Entry System** - epoxy sealed butt spliced connect for non-wicking cable entry design
- **Moisture System** - two wire /two probe monitoring system constantly monitors oil chamber and stator housing for moisture
- **Seals** - tandem (dual) shaft seal system working independent of each other. Designed to withstand 100 PSI at all seal locations

### 1.6 Drive Arrangement

- a) the motor shall be close-coupled to a speed reducer drive, a heavy duty planetary gear of the totally enclosed non-vented type suitable for total submergence during emergencies
- b) double seals on the output shaft shall ensure flood-proof operation through a reduction ratio of 35:1
- c) the cycloidal reducer shall be capable of withstanding shock loads to 500% of its mechanical rating of 4.27 Hp. and be warranted for two (2) years
- d) the drive shall have a minimum full load efficiency of 90% and be pre-lubricated with grease, requiring routing maintenance every 500 to 1,000 hours

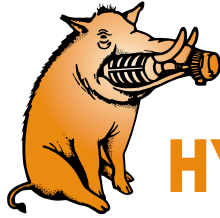
### A) 'KWIK-LIFT' WET WELL REMOVAL SYSTEM

The Comminutor shall be equipped with a slide rail system which will allow the Grind Hog™ to be removed without entering the wet well. The guide rails shall be 304 schedule 40 stainless steel pipe, 1.5 inches in diameter, and shall be of adequate length as shown on the drawings. Guide rail support shall be 304 stainless steel and shall be mounted to the wet well wall. All attaching hardware shall be of stainless steel and shall be supplied by the contractor.

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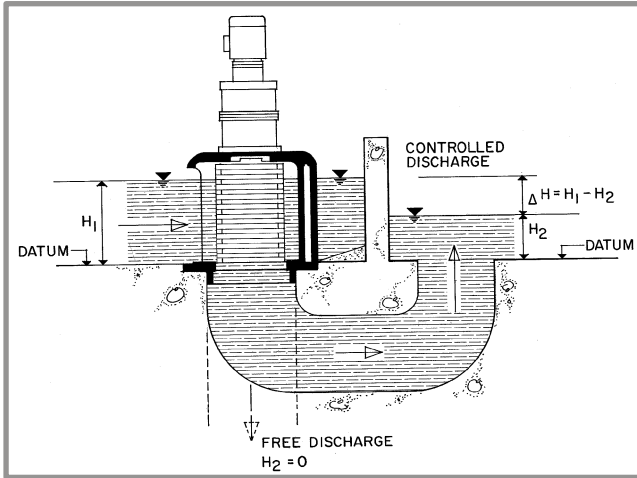
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# Grind Hog™

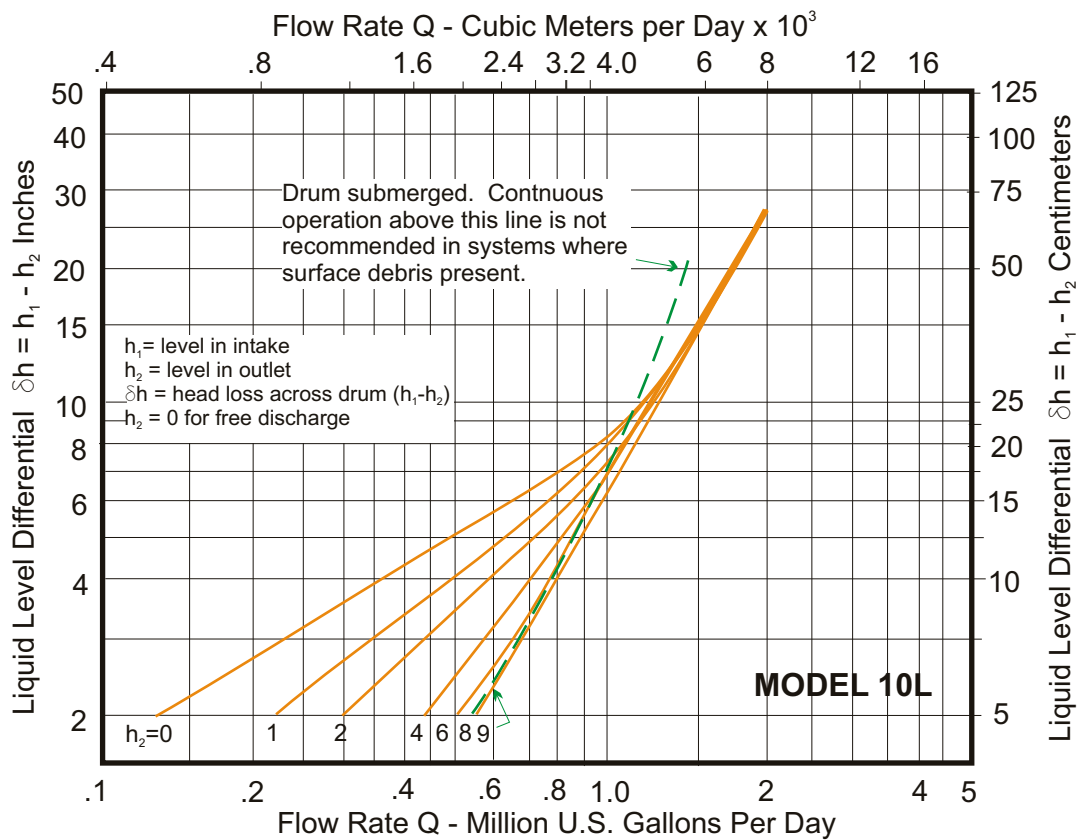
## HYDRAULIC DATA SHEET IN-CHANNEL MODEL 10L



### GENERAL DATA

<b>Capacity</b>	0-1.2 MGD (US)	0-4500 m <sup>3</sup> /day
<b>Drum Diam.</b>	9.4 in	23.9 cm
<b>Inlet Area</b>	97 in <sup>2</sup>	625.8 cm <sup>2</sup>
<b>Outlet Area</b>	45 in <sup>2</sup>	290.3 cm <sup>2</sup>
<b>Slot Width</b>	0.470 in	12 mm

### HYDRAULIC PERFORMANCE CURVE



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## IN-CHANNEL MODEL 10L cont'd...

### DESIGN FEATURES

#### SM-CYCLO® SPEED REDUCERS

- HIGHEST OVERLOAD CAPACITY FOR FREQUENT STOP-START AND SEVERE REVERSING
- SMOOTH, SILENT OPERATION
- EXCEPTIONAL LIFE

Torque transmitting parts roll, don't grind. There is no sliding friction, so output torque/input horsepower efficiency approaches 95%.

#### STATIONARY CUTTING BAR

- REVERSIBLE-SPARE STANDARD EQUIPMENT
- A2 HIGH QUALITY TOOL STEEL
- HIGH RESISTANCE TO WEAR

VERTICAL "FREE"  
OR  
"CONTROLLED"  
DISCHARGE

#### CAST DUCTILE IRON SEWAGE SCREEN

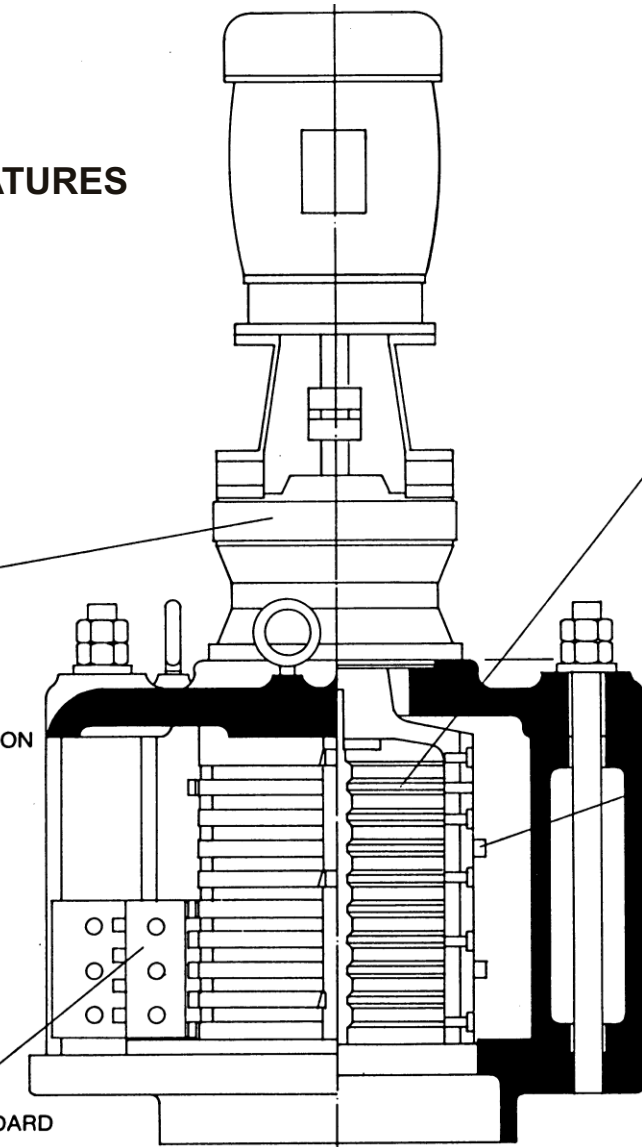
- LONG LIFE UNDER ABRASIVE CONDITIONS

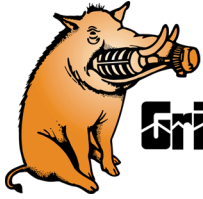
#### ROTATING SHEAR BAR ASSEMBLY

- MACHINED FROM SOLID BARSTOCK
- PRECISE TOLERANCES MAINTAINED.

#### SUBMERGED FASTENERS OF STAINLESS STEEL

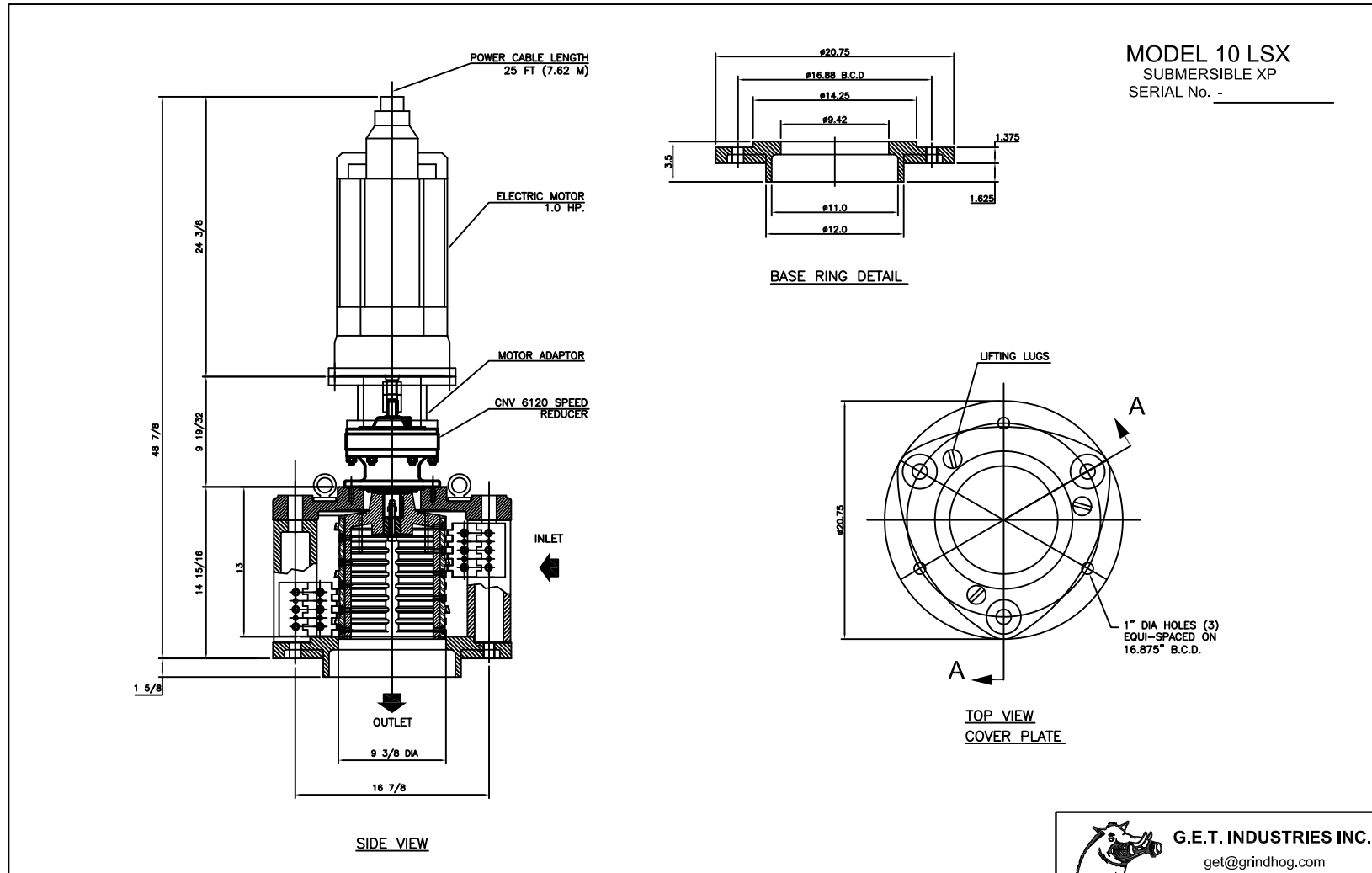
#### HEAVY DUTY CAST IRON CONSTRUCTION





**Grind Hog**

# MECHANICAL DETAIL



MODEL 10 LSX  
SUBMERSIBLE XP  
SERIAL No. - \_\_\_\_\_

MATERIALS OF CONSTRUCTION & GENERAL ENGINEERING DATA							
HOUSING:	GREY IRON	CAPACITY	1.2 MGD (US) / 4500 m3/day	INLET AREA	97 SQ IN	626 cm sq	
DRUM (SCREEN):	DUCTILE IRON (ASTM 536 GRADE 60-45-18)	DRUM SPEED	50 RPM	OUTLET AREA	45 SQ IN	290 cm sq	
SHEAR BARS:	AISI-A2 HIGH ALLOY TOOL STEEL	ROTATION	CLOCKWISE	DRUM DIAMETER	9.4 IN	23.9 cm	
CUTTING BARS:	AISI-01 TOOL STEEL REVERSIBLE	SLOT WIDTH	.470 IN / 12 mm	WEIGHT	500 LB	227 kg	
HARDWARE & FASTENERS:	304 STAINLESS STEEL	No. OF SLOTS	36				
MOTOR MANUFACTURER:	BALDOR	POWER:	- / - / -	RPM:	1750	REDUCER:	SM - CYCLO
						MODEL:	V6120 HS
STYLE:	SUB XP C+A	HP:	1.0	KW:	.746	FRAME:	180TY
						FLANGE:	140TY
						RATIO:	35:1
						RATING:	4.27 HP

**G.E.T. INDUSTRIES INC.**  
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DEC. 2013		6 0190	

TOLERANCES	INFO	SCALE	NTS
DECIMAL	INFO	DRAWN BY	G.P.
FRACTIONAL	INFO	APPROVED BY	W.D.M.
ANGULAR	INFO		