



# MODEL 10ASX SPECIFICATION

## 1.0 General Specifications

There shall be furnished one (1) one only Grind Hog™ Model 10ASX Comminutor as manufactured by **G.E.T. Industries Inc.** with rotation in a counter-clockwise direction.

## 1.1 Design Criteria

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

- a) hydraulic capacity 850 GPM (53.6 l/s)
- 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 exists vertically downward to facilitate the flushing of solids

## 1.2 Rotating Drum Screen

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

## 1.3 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 bar shall be of high-quality 01 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

## 1.4 Flanged Body

- a) the body of the comminutor shall be of high quality cast iron and so designed to allow free unobstructed flow of influent through the unit. A Neoprene "O" Ring shall seal the chamber, allowing for operation under conditions of abnormally high head
- b) the inlet flange shall be 8" (203 mm)

## 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
- **Stator Insulation** - specially treated class "F" and "H" non-hydroscopic 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

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

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# SPECIFICATION cont'd...

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- **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

## OPTIONAL INSTALLATION ARRANGEMENTS

### A) Auto-Coupling Slide Rail System - Wet Well

- a) each Grind Hog™ shall be equipped with a Slide Rail System allowing for removal without entering the wet well
- b) a stationary PVC Overflow Coupling Box shall be flange mounted to the gravity sewer pipe as shown on the drawings. An open top will allow for overflow in the event of a disruption in service
- c) Wall Mounted Support Brackets shall be 304 stainless steel and shall be attached to the wet well wall
- d) Guide Rails shall be of 304 stainless steel pipe, 1.5" in diameter, and shall be of adequate length as shown on the drawings
- e) all anchorage hardware shall be of stainless steel, supplied by the contractor

### B) Auto-Coupling Slide Rail System - Chamber

- a) each Grind Hog™ shall be equipped with a Slide Rail System allowing for removal without entering the manhole
- b) a stationary PVC Overflow Coupling Box shall be flange mounted to the gravity sewer pipe as shown on the drawings. An open top will allow for overflow in the event of a disruption in service

.... alternatively....

a stationary galvanized steel Overflow Bar Screen and influent trough shall be mounted under the gravity sewer pipe as shown on the drawing. Stainless steel support brackets and hardware shall be provided

- c) supports brackets shall be of stainless steel and shall be mounted to the:
  - \* Manhole Wall - PVC Overflow option
  - \* Manhole Floor - Overflow Bar Screen Option

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## **SPECIFICATION cont'd...**

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- d) Guide Rail Supports shall be 304 stainless steel pipe. 1.5" diameter, and of adequate length as shown on the drawing
- e) all anchorage hardware shall be of stainless steel, supplied by the contractor

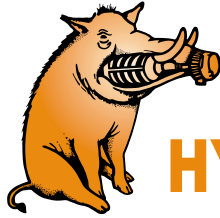
### **C) Trash Basket - Optional**

- a) a Trash Basket compatible with the Slide Rail System shall be provided, allowing for continued screening during comminutor maintenance. Materials of construction are:
  - \* 10 Gauge Aluminum
  - \* 2" (51 mm) holes on 3" (76 mm) centers

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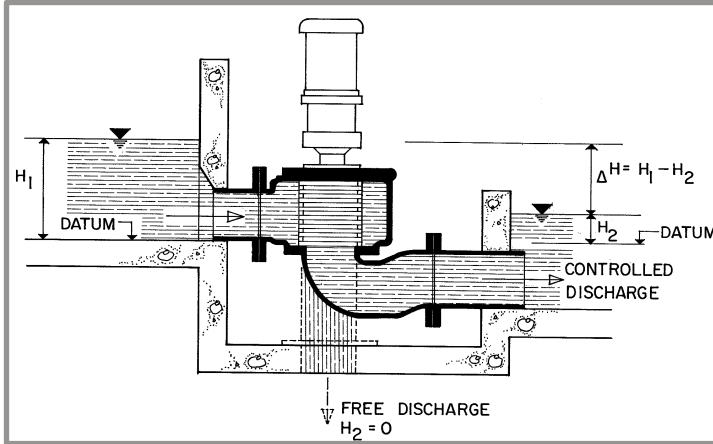
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# Grind Hog™

## HYDRAULIC DATA SHEET PIPE MOUNTED MODEL 10

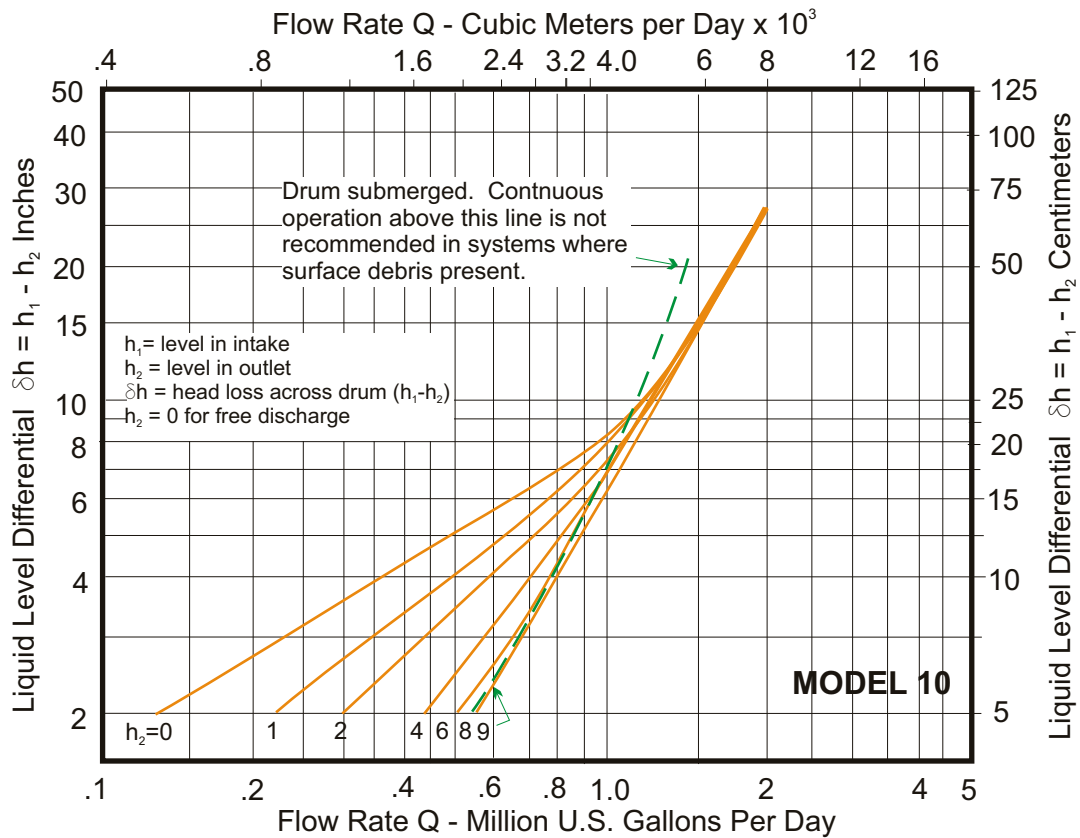


### GENERAL DATA

<b>Capacity</b>	0-850 GPM (US)	0-53.6 L/s
<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

**MODEL 10A** - FREE DISCHARGE  
**MODEL 10B** - CONTROLLED DISCHARGE WITH  
 CAST IRON RETURN BEND  
 PVC RETURN BEND

### HYDRAULIC PERFORMANCE CURVE





# PIPE MOUNTED MODEL 10 cont'd...

## DESIGN FEATURES

### SM-CYCLO® SPEED REDUCERS

- HIGHEST OVERLOAD CAPACITY FOR FREQUENT STOP-START AND SEVERE REVERSING
- RELIABLE, MAINTENANCE-FREE SERVICE
- 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%.

### SUBMERGED FASTENERS OF STAINLESS STEEL

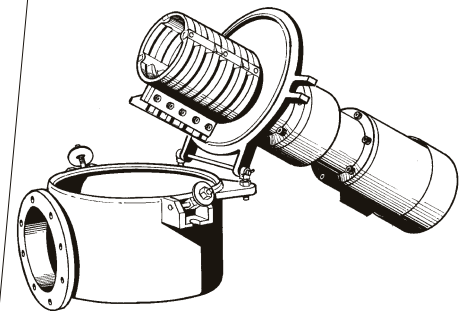
### HEAVY DUTY CAST IRON CONSTRUCTION

### DISCHARGE OPTIONS

- FREE DISCHARGE TO TANK OR WET WELL
- CONTROLLED DISCHARGE — CAST IRON OR PVC RETURN BEND

### HINGED MECHANISM

- EASE OF INSPECTION
- RELEASE CLIPS TO REMOVE COVER OF CASING FOR INSPECTION AND MAINTENANCE



### SEALED CHAMBER

- NEOPRENE "O" RING SEAL ALLOWS FOR SURCHARGED OPERATION

### CAST DUCTILE IRON SEWAGE SCREEN

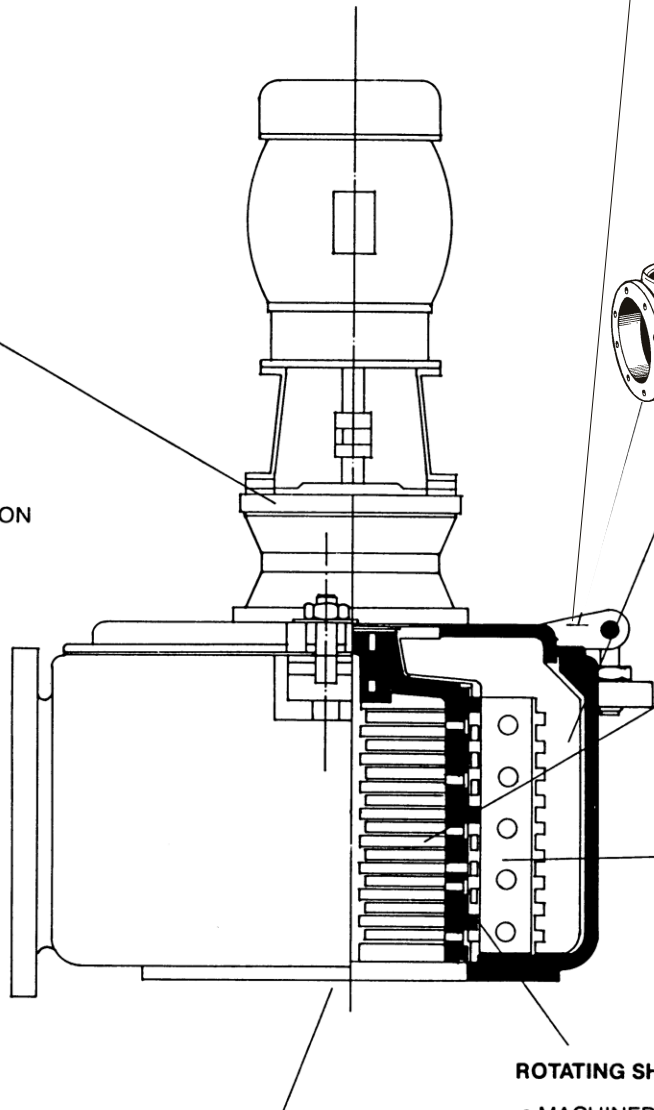
- LONG LIFE UNDER ABRASIVE CONDITIONS

### STATIONARY CUTTING BAR

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

### ROTATING SHEAR BAR ASSEMBLY

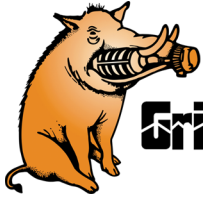
- MACHINED FROM SOLID BARSTOCK
- PRECISE TOLERANCES MAINTAINED.



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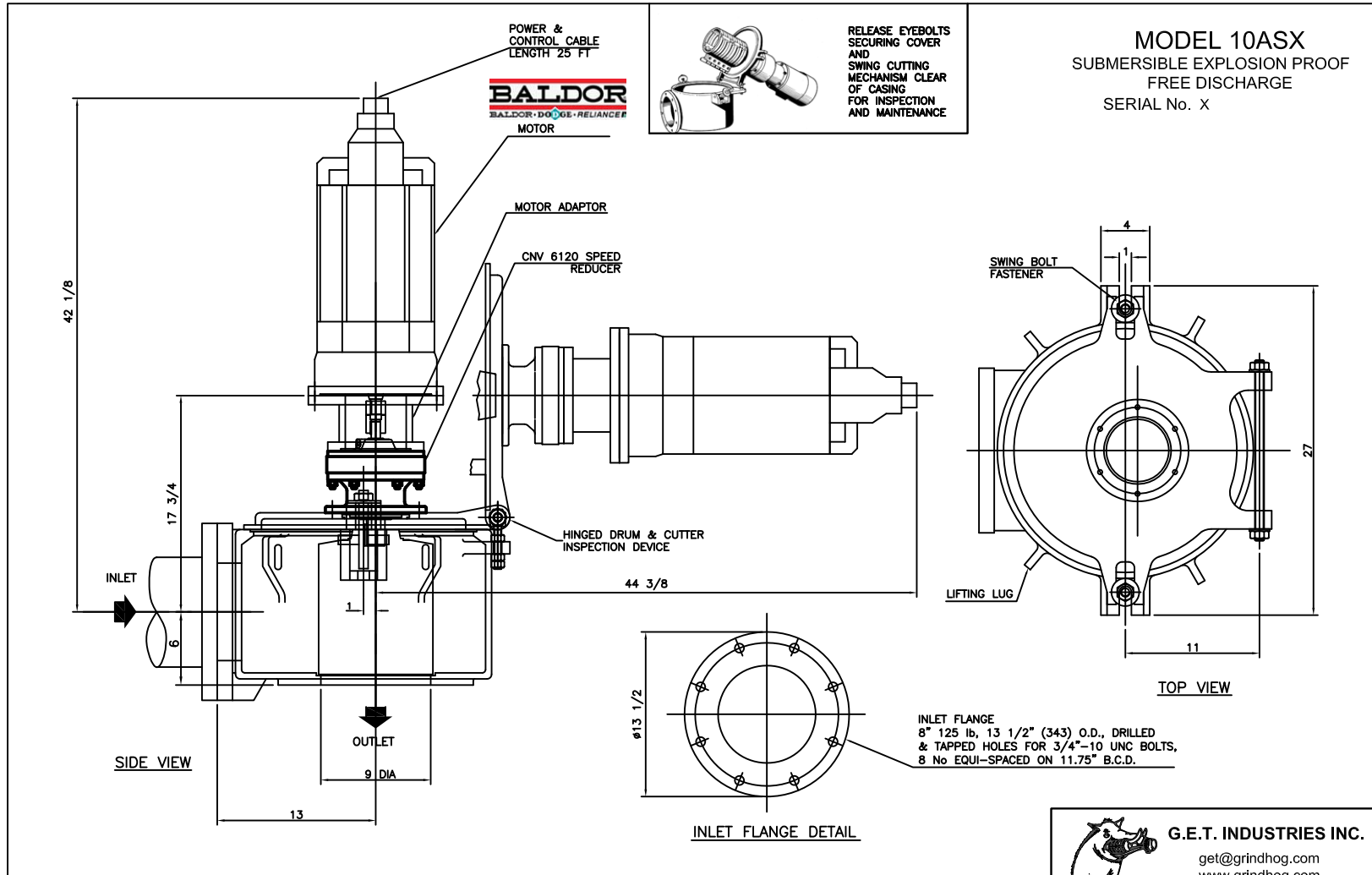
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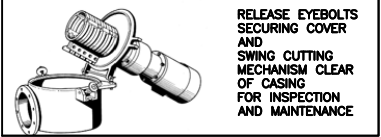


**Grind Hog™**

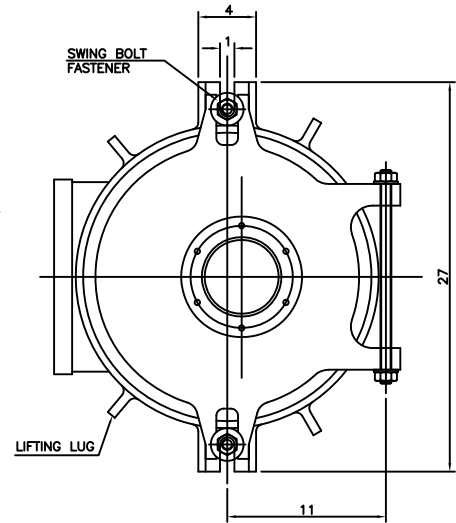
# MECHANICAL DETAIL



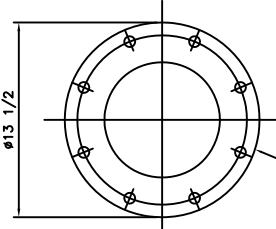
**MODEL 10ASX**  
 SUBMERSIBLE EXPLOSION PROOF  
 FREE DISCHARGE  
 SERIAL No. X



RELEASE EYEBOLTS  
 SECURING COVER  
 AND  
 SWING CUTTING  
 MECHANISM CLEAR  
 OF CASING  
 FOR INSPECTION  
 AND MAINTENANCE



TOP VIEW



INLET FLANGE DETAIL

INLET FLANGE  
 8" 125 lb, 13 1/2" (343) O.D., DRILLED  
 & TAPPED HOLES FOR 3/4"-10 UNC BOLTS,  
 8 No EQUI-SPACED ON 11.75" B.C.D.

**MATERIALS OF CONSTRUCTION & GENERAL ENGINEERING DATA**

HOUSING:	GREY IRON	CAPACITY:	315 GPM (US) / 19.9 L/s	INLET AREA:	34 SQ IN	219.4 cm sq							
DRUM (SCREEN):	DUCTILE IRON (ASTM 536 GRADE 60-45-18)	DRUM SPEED:	50 RPM	OUTLET AREA:	20 SQ IN	129 cm sq							
SHEAR BARS:	AISI-A2 HIGH ALLOY TOOL STEEL	ROTATION:	C / CLOCKWISE	DRUM DIAMETER:	6.5 IN	16.5 cm							
CUTTING BARS:	AISI-01 TOOL STEEL REVERSIBLE	SLOT WIDTH:	.470 IN / 12 mm	WEIGHT:	365 LB	166 kg							
HARDWARE & FASTENERS:	304 STAINLESS STEEL	No. OF SLOTS:	20										
MOTOR MANUFACTURER:	BALDOR	POWER:	1 / 1	RPM:	1750	REDUCER:	SM - CYCLO	MODEL:	V6120				
STYLE:	SUB XP C-1A	HP:	1.0	KW:	0.746	FRAME:	180TY	FLANGE:	140TY	RATIO:	35:1	RATING:	4.27 HP

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TOLERANCES	INFO.	SCALE
DECIMAL	INFO.	NTS
FRACTIONAL	INFO.	DRAWN BY
ANGULAR	INFO.	G.P.
DATE	FILE NO.	APPROVED BY
SEP. 2014		W.D.M.
	DWG. No.	REV.
	6 0150	