MODEL 7ASX-6 *HD* HEAVY DUTY
SPECIFICATION

1.0 General Specifications
There shall be furnished one (1) one only Grind Hog™ Model 7ASX-6 **HEAVY DUTY** 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 315 GPM (19.9 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 6" (152 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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·   **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 steal 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
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:
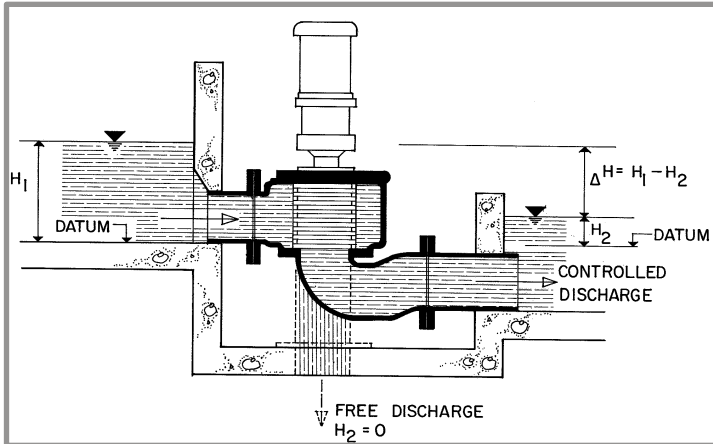   * 10 Gauge Aluminum
   * 2" (51 mm) holes on 3" (76 mm) centers
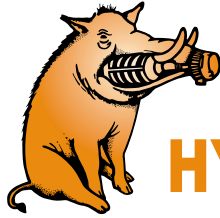
GrindHog™
HYDRAULIC DATA SHEET
PIPE MOUNTED MODEL 7

GENERAL DATA

Capacity	0-315 GPM (US)	0-19.9 L/s
Drum Diam.	6.8 in	17.3 cm
Inlet Area	34 in²	219.4 cm²
Outlet Area	20 in²	129 cm²
Slot Width	0.470 in	12 mm

MODEL 7A - FREE DISCHARGE
MODEL 7B - CONTROLLED DISCHARGE WITH
CAST IRON RETURN BEND
PVC RETURN BEND

HYDRAULIC PERFORMANCE CURVE

Flow Rate Q - Cubic Meters per Day x 10²

h_1 = level in intake
h_2 = level in outlet
δh = head loss across drum (h_1-h_2)
h_2 = 0 for free discharge

Drum submerged. Continuous operation above this line is not recommended in systems where surface debris present.

MODEL 7

h_2=0   1   2   3 4 5

Liquid Level Differential $\delta h = h_1 - h_2$ Inches

Liquid Level Differential $\delta h = h_1 - h_2$ Centimeters

Flow Rate Q - Million U.S. Gallons Per Day

DESIGN FEATURES

HINGED MECHANISM

- EASE OF INSPECTION

- RELEASE EYE BOLTS SECURING COVER AND SWING CUTTING MECHANISM CLEAR OF CASING FOR INSPECTION AND MAINTENANCE
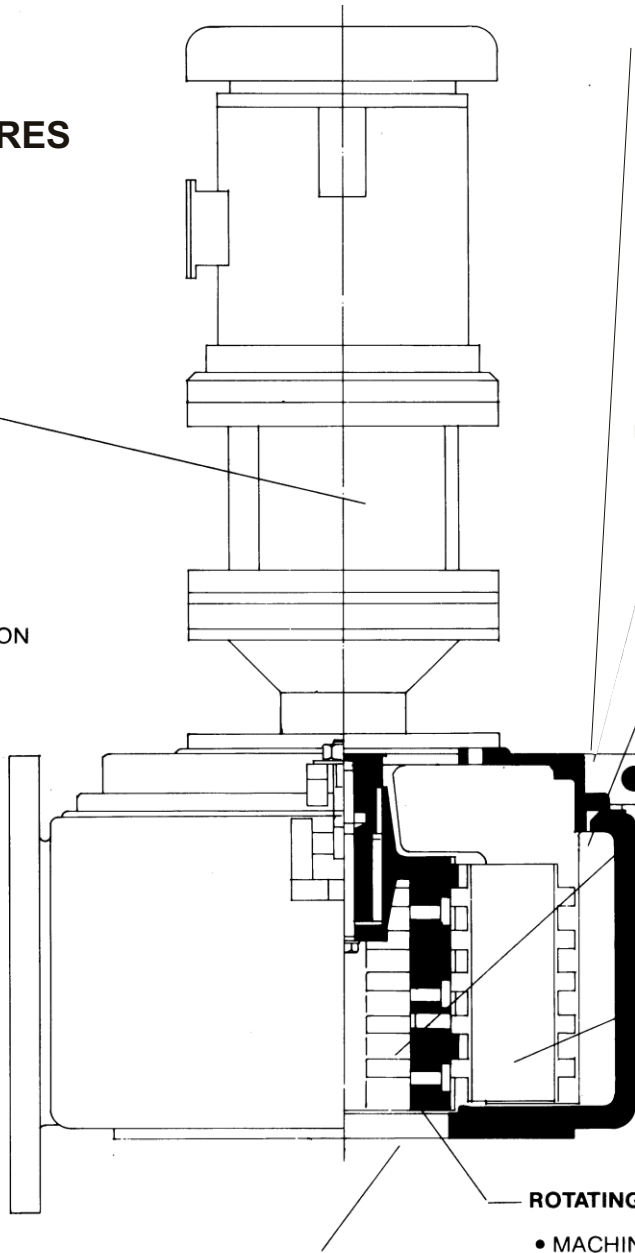

SM-CYCLO®
SPEED REDUCERS

- 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%.
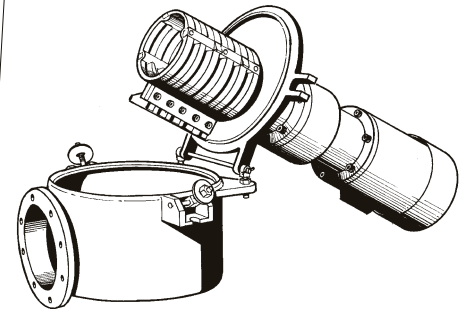
SEALED CHAMBER

- 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

SUBMERGED FASTENERS OF STAINLESS STEEL

HEAVY DUTY CAST IRON CONSTRUCTION

ROTATING SHEAR BAR ASSEMBLY

- MACHINED FROM SOLID BARSTOCK
- PRECISE TOLERANCES MAINTAINED.

DISCHARGE OPTIONS

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

GrindHog™

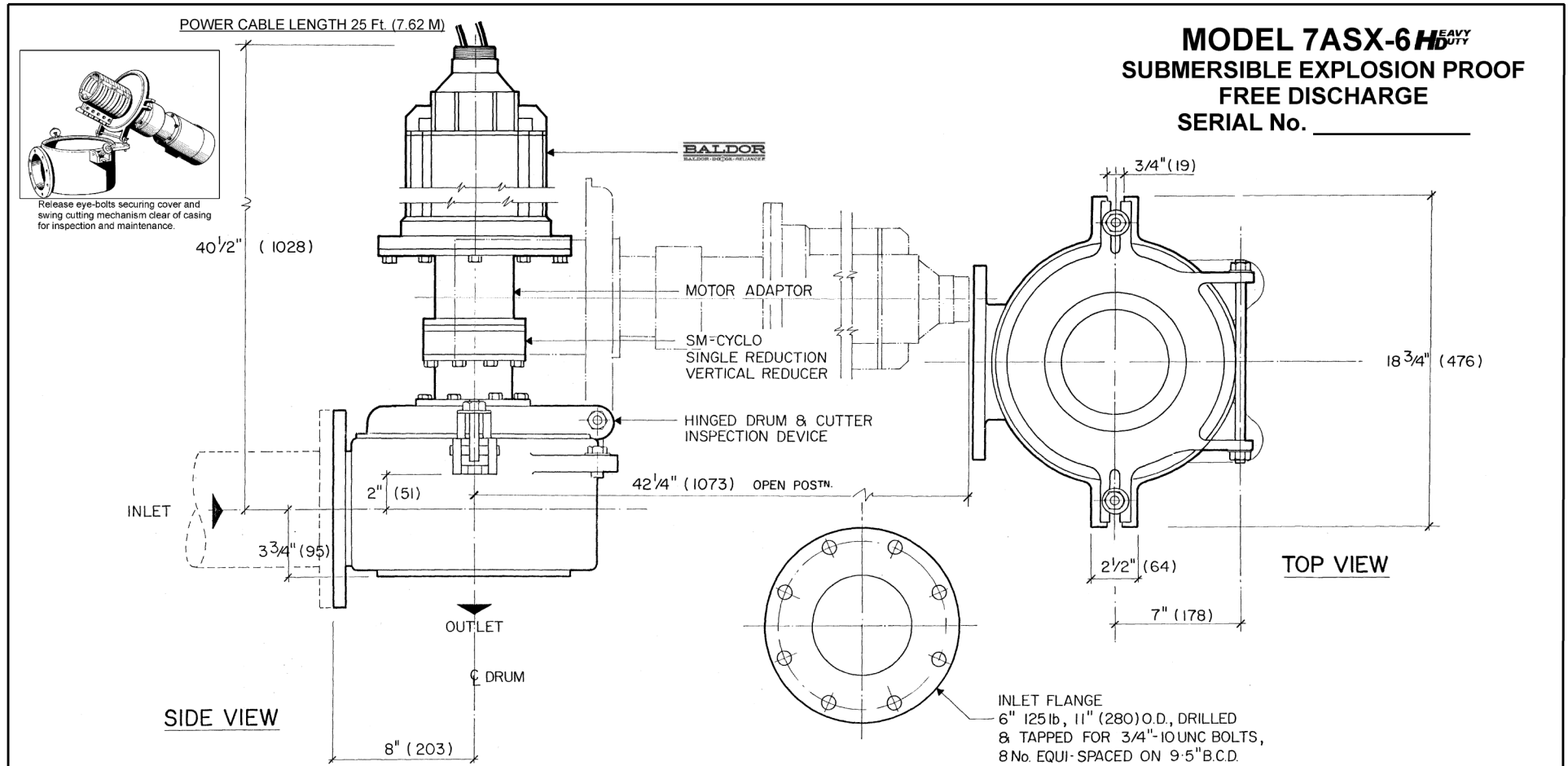POWER CABLE LENGTH 25 Ft. (7.62 M)

MODEL 7ASX-6 HD *HEAVY DUTY*
SUBMERSIBLE EXPLOSION PROOF
FREE DISCHARGE
SERIAL No. _____

Release eye-bolts securing cover and
swing cutting mechanism clear of casing
for inspection and maintenance.

BALDOR
BALDOR·DODGE·RELIANCE℠

3/4" (19)

40 1/2" (1028)

MOTOR ADAPTOR

SM-CYCLO
SINGLE REDUCTION
VERTICAL REDUCER

18 3/4" (476)

HINGED DRUM & CUTTER
INSPECTION DEVICE

INLET

2" (51)   42 1/4" (1073)   OPEN POST'N.

3 3/4" (95)

2 1/2" (64)

7" (178)

TOP VIEW

OUTLET

₵ DRUM

8" (203)

SIDE VIEW

INLET FLANGE
6" 125 lb, 11" (280) O.D., DRILLED
& TAPPED FOR 3/4"-10 UNC BOLTS,
8 No. EQUI-SPACED ON 9·5" B.C.D.

REVISIONS	BY	DATE	APP.

G.E.T. INDUSTRIES INC.
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		SCALE
TOLERANCES		3/8 Full
DECIMAL		DRAWN BY
FRACTIONAL		Techart
ANGULAR		APPROVED BY

DATE	PROJECT NO.	DRAWING NO.	REV.
Oct. 2006		6 0070	

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:	6.8 in	17.3 cm
CUTTING BARS:	AISI-01 TOOL STEEL REVERSIBLE	SLOT WIDTH:	0.470 in / 12 mm	WEIGHT:	365 lb	166 kg
HARDWARE & FASTENERS:	304 STAINLESS STEEL	NO OF SLOTS:	20			

MOTOR MANUFACTURER:	Baldor	POWER: ____ / ____ / ____	RPM: 1750	SM-CYCLO REDUCER MODEL: V6120
STYLE: SUB XP C-I-A	HP: 1.0 KW: 746	FRAME: 180TY	FLANGE: 140TY	RATIO: 35:1 RATING: 4.27 HP