

2014

TIRE RECYCLING SYSTEM



CRUMB RUBBER SYSTEM

COARSE GRIND PROCESS DESCRIPTION

1st Stage - Primary Reduction - Dena Model 62-32HTE

Whole tires will be fed to the Dena 62-32HTE tire shredder. This unit will reduce the whole passenger tires to a variable size strip. The shredded tire strips will average 2"-4" wide x 6"-10" long with occasional pieces up to 12"-16" long. Returning the shreds back to the shredder allows the shredder to produce a consistently sized chip averaging 50-150mm in size. This increases production and reduces wear for the Grizzly.



2nd Stage - Reduction to Chips - Granutech Model 50 Grizzly

Primary tire chips are then fed to the Granutech Model 50 Grizzly. This unit is an intermediate-speed grinder that utilizes an internal screen. The primary tire shreds are reduced to a minus 3/8" material in the Grizzly. This reduction will allow ferrous metal from the bead and tread area to be liberated, and then magnetically separated, providing a material that is up to 98% metal-free for ease of further processing. An aspiration system evacuates airborne particulate produced from dust and fiber. Material at this stage can be marketed as high quality low-steel tire derived fuel (TDF) for a wide variety of combustion applications. Further steel separation allows production of steel free rubber.





3rd Stage - Fine Grind Module - G-4 Refiner Mill

The near steel-free, low fiber content granules are fed to the fine grind mill for grinding to ultra-fine powder. The Refiner Mill reduces material to the desired end product of 30 mesh and smaller. Changing the screens after Mill allows the client to produce virtually any size product a client will request. Further metal and fiber separation assure the crumb rubber is the cleanest available material.



4th Stage - Custom Packaging - Automated Weighing and Bagging

Materials of specific sizes can be automatically dispensed into a variety of storing or shipping containers.

Material is electronically weighed and mechanically shaken to ensure consistent and accurate weight and density.

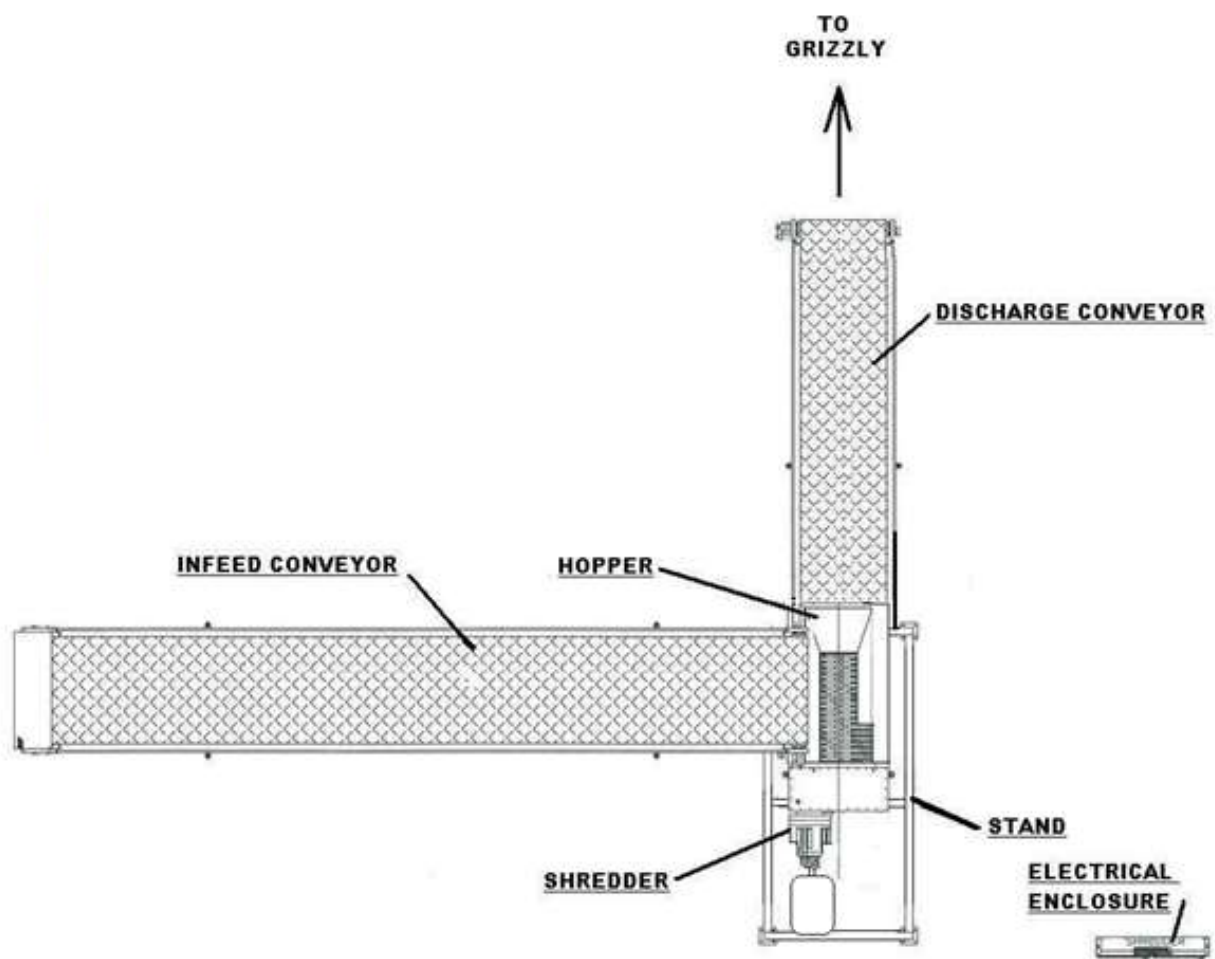
STAGE ONE



GRANUTECH DENA TIRE SHREDDER MODEL 62-32HTE

WHOLE TIRES REDUCED TO 50-250MM SHREDS

DENA SHREDDER WITH ELECTRIC DRIVE
INFEED CONVEYOR
SHREDDER STAND AND HOPPER
DISCHARGE CONVEYOR



STAGE TWO



MODEL 50 GRIZZLY

*TIRE SHREDS REDUCED TO 10 MM OR LESS
PRIMARY METAL SEPARATION*

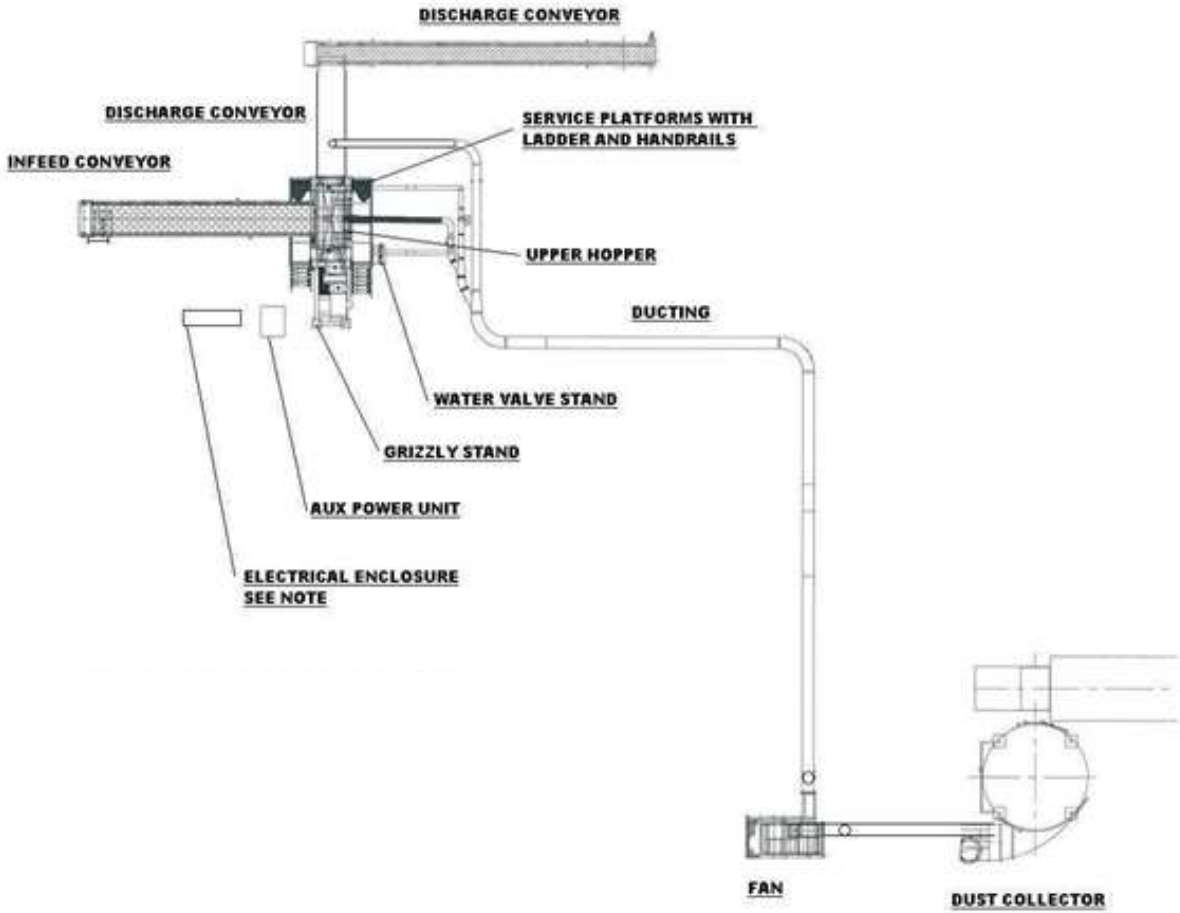
WITH INFEED CONVEYOR VIBRATORY
DISCHARGE AND BELT MAGNET DISCHARGE
CONVEYORS, FOR WIRE AND RUBBER DUST AND
FIBER COLLECTION SYSTEM
SPARK DETECTION / SUPPRESSION SYSTEM



GRIZZLY STAGE



TYPICAL INSTALLATION



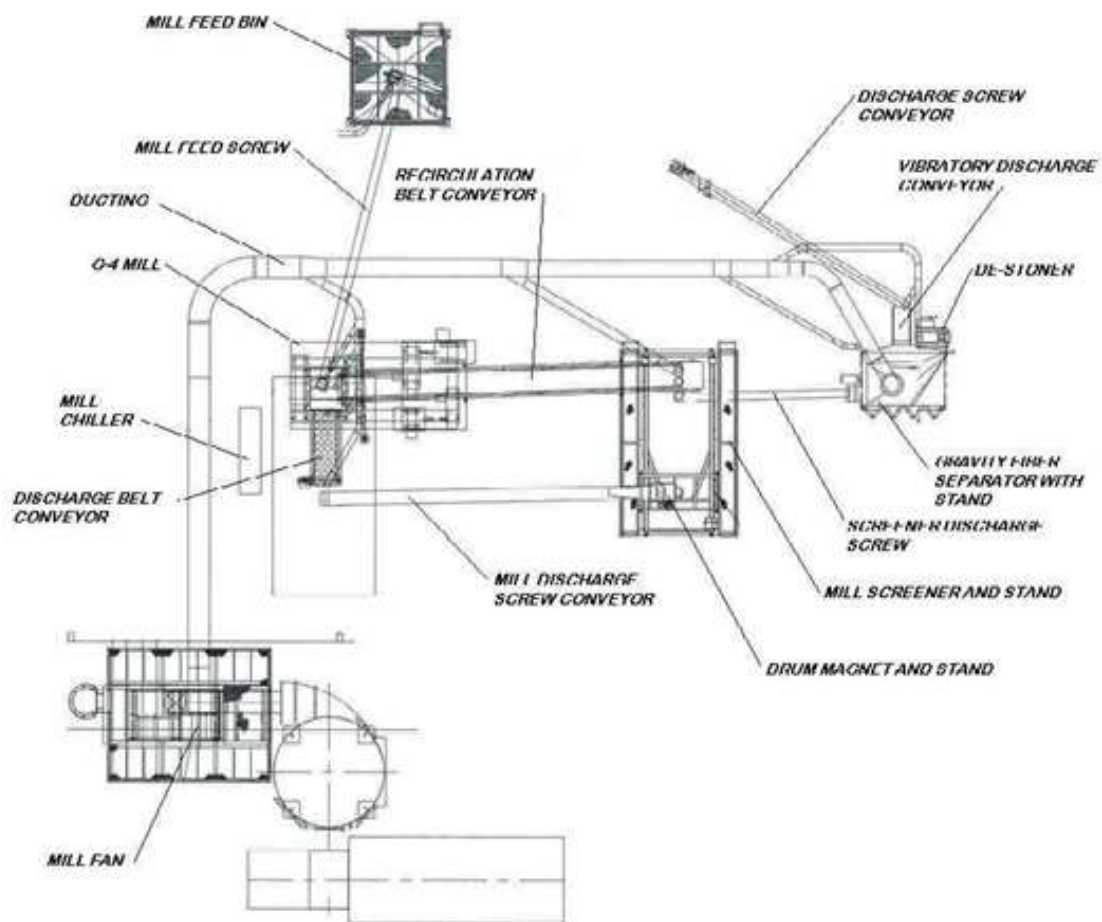
STAGE FOUR



G-4 DUAL DRIVE REFINER MILL

10MM CHIPS REDUCED TO 30 MESH

GRANULE FEED BIN WITH DISCHARGE SCREW
MILL FEED HOPPER
MILL CHILLER SYSTEM BELT
DISCHARGE CONVEYOR
SCREW DISCHARGE CONVEYOR ROTEX
GRANULE SCREENER WITH STAND
ROTEX DISCHARGE CONVEYOR
DRUM MAGNET
FIBER SEPARATOR WITH DE-STONER DUST
AND FIBER COLLECTION SYSTEM SPARK
DETECTION / SUPPRESSION SYSTEM FINAL
DISCHARGE SCREW



PACKAGING STAGE

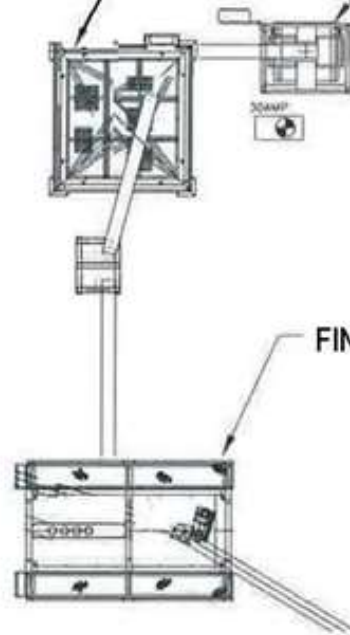


CRUMB STORAGE AND PACKAGING

**GRANUTECH DENA SINGLE STORAGE BIN
SCREW CONVEYORS
CUSTOM DESIGNED PACKAGING STATION
INDEPENDENT CONTROL SYSTEM**

GRANULE STORAGE BIN

AUTOMATIC BAGGING



FINAL SCREENER



STEEL FREE 10MM
MATERIAL FROM
GRIZZLY



ULTRA CLEAN CRUMB
RUBBER FROM THE
G-4 MILL STAGE

GRANUTECH-DENA GT3-SCA-I SYSTEM

Data Sheet

The Granutech-Dena GT-3-SCA-I is a three-stage tire processing system that produces high quality crumb rubber particles in a wide range of sizes. Utilizing scrap car tires as feedstock, this highly automated system will produce 10mm, 6mm, 5 mesh (4000 micron) to 20 mesh (800 micron) product sizes.

STAGE ONE: Primary Shredder Module Including:

- (Dena) Model 62-32HTE (100HP) Tire Shredder ☐
- Infeed Conveyor
 - ☐ Infeed Hopper with water spray
 - ☐ Support Stand
 - ☐ Discharge conveyor

STAGE TWO: Secondary Chip Processing Module Including:

- (GSSC) Model 50 Grizzly (200HP)
 - ☐ Infeed Conveyor
 - ☐ Infeed Hopper with water spray and deluge system ☐
- Support Stand
- ☐ Vibratory Discharge Conveyor with Stainless Steel Section ☐
- Belt Magnetic Separator
 - ☐ Wire and Rubber Discharge Conveyors
 - ☐ Hydraulic Lid Opening System for Maintenance ☐
- Dust Collection System With Ducting
 - ☐ Spark Detection/Suppression System

STAGE FOUR: G-4 Fine Grind Module Including:

- ☐ Twin Drive Refiner Mill (325HP) With Auto Greasing System ☐
- Chip Storage Bin With Discharge Screw Conveyor
 - ☐ Mill cooling system
 - ☐ Mill Discharge Conveyor, Rubber Belt ☐
- Screener Feed Screw Conveyor
 - ☐ Oversize Forsberg Vibratory Screener with Stand
 - ☐ Permanent Magnetic Separation Drum With Stand
 - ☐ Oversize Product Re-circulation Conveyor, Rubber Belt
 - ☐ Forsberg Gravity Bed Separation Table with De-stoning Unit
 - ☐ Dust Collection System With Ducting, Cyclone, Filter, Airlock, and Fan ☐
- Spark Detection/Suppression System, Flamex or equal
 - ☐ Gravity Bed Discharge Screw/Auger

PACKAGING:

Weighing and Bagging Station Including: ☐
Powder Storage Bin
☐ Support Structure
☐ PLC Controlled Automatic Weighing System with Auto Stop ☐
Feed Screw

SALES PRICE:

£2,500,000.00 (GBP), C. & F. UK Port
Installation and Building Additional,
Installation Estimated at £150,000, Not Included In Above Machinery Price

TERMS: 30% Deposit with order, 65% prior to shipment, 5% on startup not to exceed 120 days following final shipment and covered by Letter of Credit

CONSUMABLES COST: £0.007-£0.008 PER POUND PROCESSED
(Machinery Wear Parts)

Note: Maintenance, Labor, Utilities, Depreciation, or Debt Service
Is not included in above consumables cost.

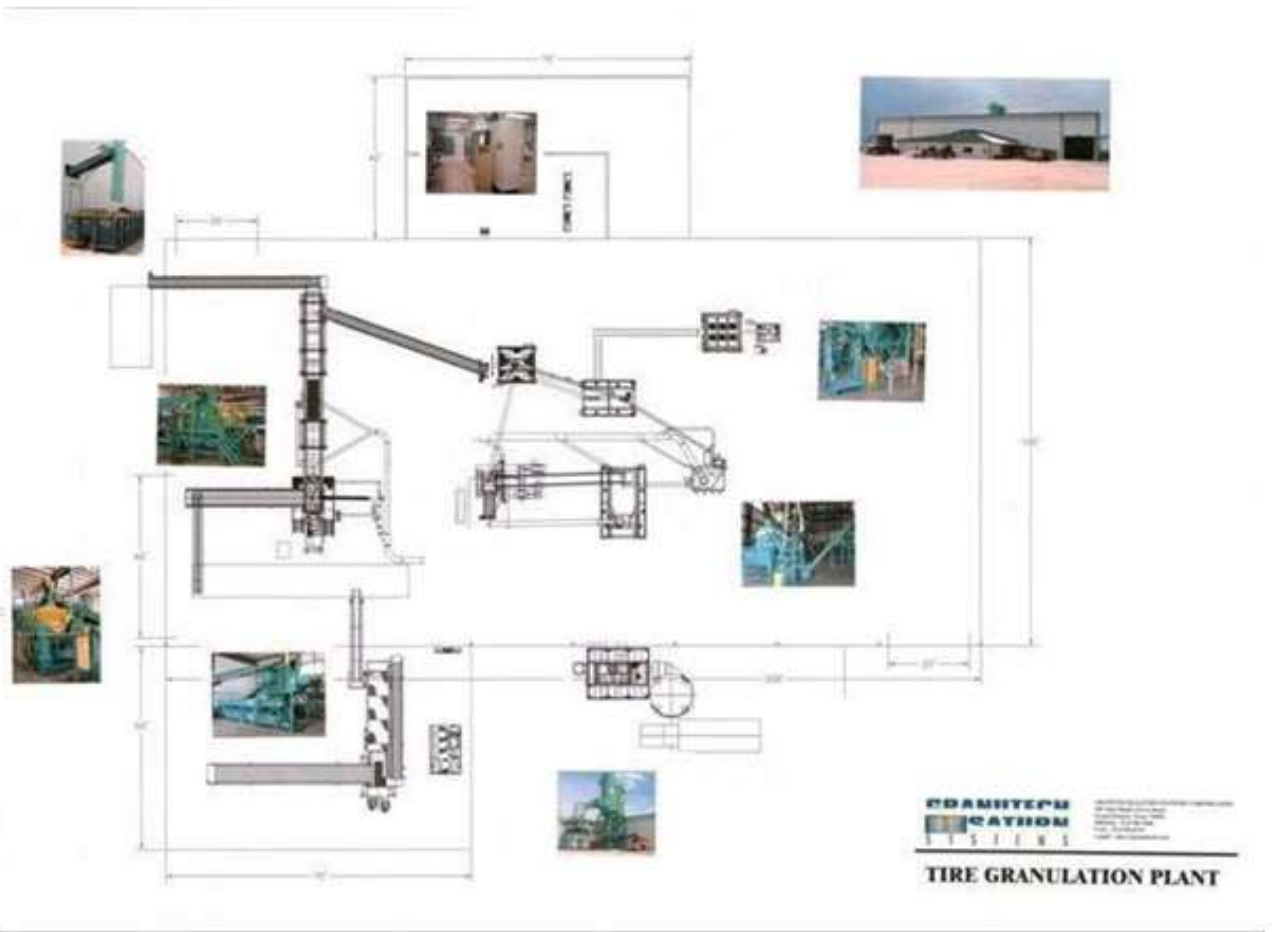
SPACE RECOMMENDATION: 12,000 Square Feet with 24 feet clear height, 1,200 square meters with 8 meter clear height

UTILITIES: 1600 amp service entrance - 380 volts AC - 50 hertz 3 phase. Average power usage is 450 kW/hr. compressed air (100 SCFM) @ 100 PSI required. Source of water for spark suppression/deluge required.

OPERATIONAL PERSONNEL: 6 people per shift, one strong mechanical leader, one strong electrical / electronic leader, and the balance general labourers.

BUYER REQUIREMENTS: All taxes, duties, or import fees. All civil works including building, foundation, utilities, ducting, etc. Supply of compressed air, electricity with primary disconnects for each panel, water at rates and pressure sufficient for spark detection / suppression system. Any permits required for operation.

PERFORMANCE DATA: The plant can operate 20 hours per day and 300 days per year, achieving 6,000 hours annually. The plant as offered will process 1.5 t/hr (9,000 t/a) of whole tires into approximately 6,750 t/a of granulate of 0.6 mm or less.



For questions or comments, please contact -

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