

# THE ROTARY STEEL GRIT DRYER


## Mobile Steel Grit Drying System

February 2025 Ron Tribble



There is a large ship building and repair industry that needs to deal with moist to wet environments, as well as environmental and worker safety when blasting surfaces to remove old paint and rust in preparation for repainting

▶ Our first of its kind Rotary Steel Grit Dryer will address major concerns in the Surface Preparation and Refinishing Industry

- ▶ Reduction of environmental impact
  - ▶ Less Hazardous Waste
  - ▶ Worker Health and Safety
  - ▶ Productivity and cost reduction
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The refinishing of any large metal surface requires media blasting to prepare for the application of a protective coating , be it a ship, bridge, or a large tank.

Seasonal weather conditions and the region of the country can significantly impact the jobsite. Coverings and containments are limited in their ability to protect the work area from humidity, moisture and rain.

Environmental impact regulations and rain effect the choice of grit  
Hazardous waste deposal is a major concern.

Worker Safety is critically important and the regulatory controls are tightening.

Steel Grit has become the gold standard for industrial blasting to prepare metal surfaces for refinishing with a protective coating

Steel Grit can be recycled and reused over 50X under the right conditions

Steel Grit produces less dust and is more effective and productive than other common blasting media and when recycled produces far less hazardous waste product to dispose of in a landfill

However, there is a downside to the use of steel grit

Wet steel grit will rust and clump together resulting in wasted blast media that now requires disposal

# The solution is to dry the grit with our Rotary Steel Grit Dryer and recycle it for reuse

Workers can continue blasting operations in wet conditions which would otherwise shutdown the jobsite

The Rotary Steel Grit Dryer is designed to be connected to the vacuum system that vacuums up the used blast media and contaminated waste from the work area

The Rotary Steel Grit Dryer separates out large debris dries the wet grit and conveys the dry grit to the magnetic recycler typically used in the blasting process

## The Rotary Steel Grit Dryer will quickly dry Steel Grit

Dust and debris is removed and then the steel grit is conveyed into the magnetic recycler which separates out any remaining waste

The grit dryer will process both moist or wet grit with variable settings available. The result is more productive days and less down time caused by the weather

Recycling steel grit means lower costs and less hazardous waste

Use of the higher productivity steel grit vs garnet, as an example, produces less dust and is safer for workers in the working containment area



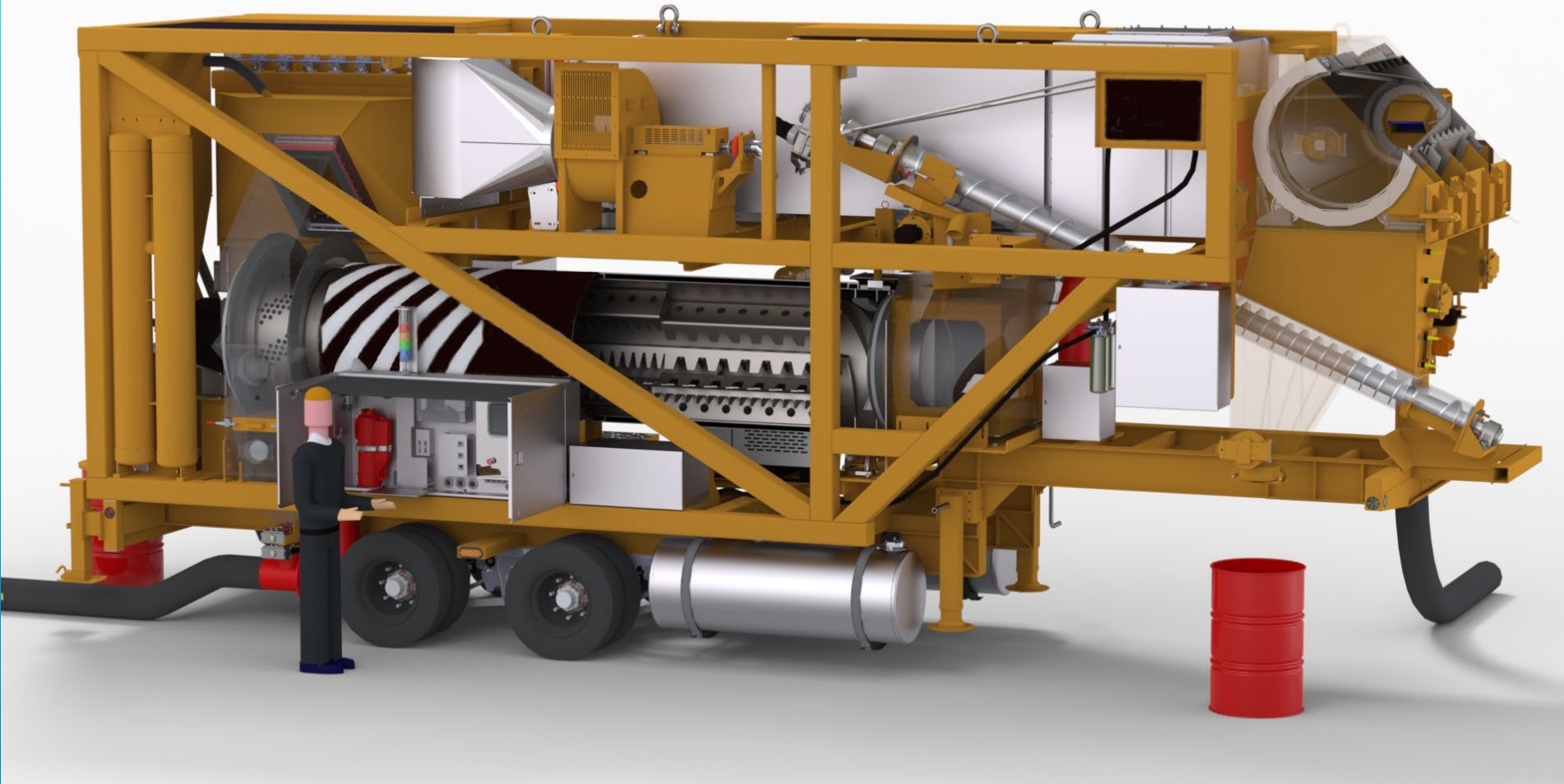
**The Grit Dryer**  
Is a trailer mounted  
system with a group of  
modules that function  
together to dry steel  
grit and prevent rusting  
and clumping



## Major components would be built as modules for ease of servicing and maintenance



- Inlet, Pre-Classifier
- Trommel
- Rotary drying drum
- Heat source
- Heat exchanger
- Motor power source (gasoline , electric, diesel)
- Dust collector, Classifier
- Master control panel
- Outlet to recycler



Cutaway  
showing  
internal  
components of  
various  
modules



## Addressable market

Industrial Contractors – Bridges, Marine, Tank farms

Department of Defense – primarily the US Navy, but all branches of the military deal with significant corrosion issues

## Value Proposition

Potential for rental model with service contracts

Contractor sales - smaller versions, all in one units with Grit Dryer/Recycler

Global market untapped

# U.S. Department of Defense spends nearly \$23 billion annually on corrosion maintenance

All branches of the military have equipment that requires exterior maintenance and protection

The prevention and repair of corrosion is a key component of maintaining everything from a large naval vessel to a tank. Metal infrastructure at our many bases require protection from corrosion.

Media blasting is the typical process used in surface preparation before recoating. Steel Grit is one of the primary types of media used

The Rotary Grit Dryer would be a valuable asset for the DoD to add to its arsenal for all the same reasons it will be a commercial industrial refinishing game changer

# Addressing new OSHA Worker Safety Standards

California's new OSHA worker standards took effect on January 1, 2025

There will be a reduction of the airborne time-weighted average for permissible exposure limits for lead from 50 micrograms per cubic meter to 10 micrograms

There are a significant number of ships, bridges, tanks etc. that have lead based paints and primers. Estimates are that over 40% of bridges still have hazardous lead coatings

The significant reduction in permissible lead exposure will be very difficult to achieve without new technology or reduction of the time workers can be in a containment on the job

**New standards will eventually impact all industrial blasting contractors**

# The Solution

## The Rotary Steel Grit Dryer combined with the use of Vapor Blasting

Fresh air positive pressure hoods are an important part of reducing worker exposure, but they are not enough

**Vapor blasting reduces dust by up to 95%** which would reduce dust and lead exposure

Water would be added at the media blasting gun, **additives can prevent flash rusting**

The Roto Grit Dryer will effectively dry the wet steel grit

**This game changing combination of using steel grit with vapor blasting has the potential to greatly reduce worker exposure to hazardous dust for all blasting needs while reducing environmental impact from hazardous waste**

# IP - Rotary Steel Grit Dryer

**Seven granted patents** - cover the dryer, its functions , and monitoring.

Through research and development, we have generated significant IP using SolidWorks and CAD modeling. We have significant knowhow which has led to our 7 patents.

While extensive modeling and engineering has been accomplished there is a need for final modeling , design and engineering before a full scale functional prototype can be built.

# The Team

Owner – Ron Tribble

Design consultant - David Stickle DLS Consultants

Engineering – Matt Michel – Universal Engineering

Industrial Surface Preparation Consultant – Vasili Trikoupis

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# The Business Plan

Partner with a contract manufacturer or manufacturer within the industry to complete the final design and engineering before building a functional prototype, testing and commercialization.

We own our patents and IP, are debt free and open to discussions regarding how best to structure a deal to bring the Rotary steel grit dryer to market. We believe it will make a real difference for the industry, the environment and improve safety for its workers

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