

# **Bulk Material Equipment**

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# **BME Line Card**

BME Company Overview2
INDUSTRIES, INC.
EIRICH
RHEWUM®
Enjoy the Difference
BAGGING & PALLETIZING SOLUTIONS
Nederman
S S S S S S S S S S S S S S S S S S S
VYILLIAMS Interve Crusseler and Pluverizer Co., Inc. 9
Tarsco Bolted Tank® a TF Warren Company
LEVEL CONTROL
DUCT 12





# **BME** Company Overview

Bulk Material Equipment, with corporate offices located in Conroe, Texas, is an industrial Design/Build Contractor and Manufacture's Rep firm that specializes in dry bulk solids material handling, processing, storage, packaging, air pollution control equipment & systems, offering EPC Services for the equipment we provide. Founded in 2015, the company has grown steadily, and serves a wide array of industries nationwide.

The company was built upon the foundation of consistent execution of projects – high quality equipment and services, on-time delivery, and high value to each of our clients. We specialize in projects that are critical to our clients, where delays and downtime are not an option.

Our greatest asset is our study of dry bulk solids particles: angle of repose, specific gravity, bulk density, segregation, degradation, agglomeration, bridging, corrosive & explosive properties, how they dry, screen, blend, crush, flow, feed, store, package and are captured in a dust collector. We are considered SMEs in the equipment we provide.

Engineering services include mechanical, equipment, structural, civil, process, chemical, power, controls, instrumentation, controls systems integration, computer aided drafting services, technical services, and project management and consulting.

Construction Services include equipment, electrical, instrumentation, control systems, civil, structural, piping, mechanical, concrete and erection.

Fabrication Services include structural steel, conveyors, hoppers, chutes, custom BME designed equipment, control cabinets, MCCs, handrails, ladders and stairs and platforms.

Our strategy is to offer all the engineering, construction, and fabrication services necessary to size, manufacture, integrate and commission the equipment we provide to our customers' existing, or greenfield plants turnkey.

Below you will find information on our trusted Channel Partners on the Equipment side of our business.

We look forward to exceeding your expectations,

Thomas Meade President and CEO <u>Thomas@BulkMaterialEquipment.com</u> <u>Sales@BulkMaterialEquipment.com</u> BulkMaterialEquipment.com





Young

ADVANCED PROVEN DESIGN

#### PNEUMATIC CONVEYING SYSTEMS





#### FACTORY ACCEPTANCE TESTING





ASME U / UM CERTI SCAN FOR MORE INFO







JST COLLECTI



VERTER VALVE



SCAN FOR MO

YOUR U.S.A. MADE PROVIDER

Contact Us : +1 (800) 546-3165 www.younginds.com







Technology and Innovation... OptimaBlend® Mixing Technology OptimaBlend\* by American Process Systems\* is the newest and most innovative industry's most comprehensive line of mixing equipment, offering a balance of mi speed and efficiency with low equipment cost and consumed power. ion to the speed and entoency winn low equipment cost and consume optimabiliting<sup>4</sup> eminimates roll lagrat suggestion caused by gravity when mixing ingredients of greatly varying density, happen and size by fuldiding, Fuldication is achieved by a combination of a defined geometry lifting action with a triple paddle, multi-zoned rotor turning about 80% faster than a traditional inbon blender. Incredibly precise low CV blends are achieved in less than 60 seconds for meet providered in contract of the second seco 30 Seconds from Start to Mixed! 4 1/ Design Features and Process Benefits esign Features and Process Benefits Innovative technology: • Ideal for manual and automated systems High efficiency design: • Fuidataton assures homogeneous mixes independent of large range of particle jaze, shape or density • 30-60 second mix times typical • Low CO-Coefficient of Variation values • Low consumed power and HP/Dn Increased production capacity: • Up to 10 times the throuphout versus ribbon blenders Low shape design: Up to 10 times the throughput versus ribbon bi Low shear design:
 Extremely gentle with fragile ingredients
 Minimal heat generated due to internal friction High particle movement:
 Fast, even liquid addition and coating Ideal for applomerating No over mixing Turning Mixing Art into Mixing Science in our Test Lab!

#### ... To Increase Your Profits

Out with the Old - In with the NEW!

Methodology	Inner & outer paddles on the triple action, multi- zone rotor.
RPM	Higher tip speed - more than twice that of comparably sized Ribbon Blenders - creating the optimum fluidized bed mixing evironment.
Mix Time	30-60 seconds for dry applications.
luct CharacteristicsParticle SizeDensity	The OptimaBlend® mixing technology provides the ideal environment for effectively mixing a wide distribution of particle size and bulk densities without segregation.
Mix Quality	$\leq 0.5\%$ standard deviation and $\leq 5\%$ coefficient of variation with 0.25 lb sample.
Product Degradation	None
P / Energy Consumption	By virtue of the OptimaBiend® Mixer's ability to mix in approximately 30-60 seconds, the consumed energy is potentially 80% less for any given batch.
Shear / Heat	None
Filling / Loading	Random location.
Rexibility	Suitable for jacketing / pressure / vacuum and with countiess options 'tailoring' the unit to engineered solution based on individual process requirements.
Price Competitiveness	Comparable to ribbon or paddle blenders - product and feature dependent.
	RPM Mix Time Mix Time Mix Time Mix Time Mix Time Mix Time Mix Touristice/Particle StarDmixily Product Departation Product Departation Product Departation Shear / Heat Filling / Loading

#### The advantages of an innovative system

EIRICH intensive mixers were developed for The advantages resulting for the user are the most diverse jobs in the processing of considerable: new materials, mechanical mixtures and com-punds. Variable setting of machine compo-nents and the energy range ensures a high degree of efficiency.

# snortest mixing times Excellent, constant quality of process material Little wear A rotating mixing pan

2. A rotating mixing tool 3. An adjustable multi-purpose

wall-bottom scraper

Continuous or batchwise mode of operation

# The spectrum of applications covered by EIRCH intensive mixers is as varied mixing, reacting, dispersing, dissolving, as the range of industrial processing survivo, plasticitori, deserating, theritory, and environmental processing survivo).

Conventional ERICH mixers are used for driving under atmospheric pressure whereas EVACTHERM® mixers are used for mixing under vacuum and/or for combining complex preparation processes. Processing steps can be performed either singly or in combinations in one machine

and environmental protection. pelletizing, granulating, kneading, moistening,



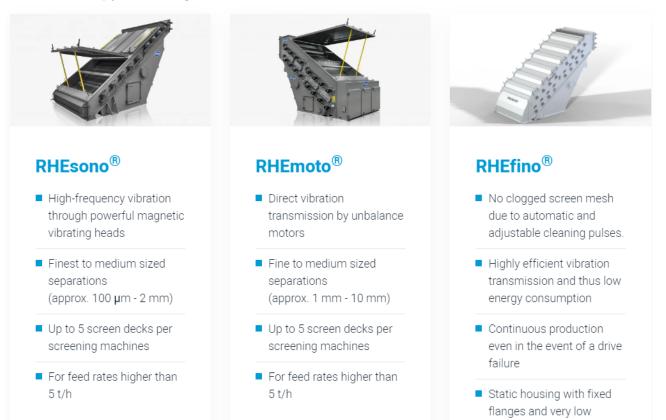


# Vibration Screens with Direct Excitation of the Screen

Our vibration screens are characterized by high-frequency vibration, which is directly transmitted to the screen cloth. The screen housing remains static and does not move with the screen. This is not only **energy-efficient** and **extremely precise**, but also **protects the building** or steel structure from dynamic loads during screening, since no vibrations are transmitted, unlike conventional screeners.

This special vibration transmission also enables automatically adjustable cleaning impulses to free the screen mesh from stuck material at regular intervals, thereby reducing clogging and **preventing costly production downtimes**.

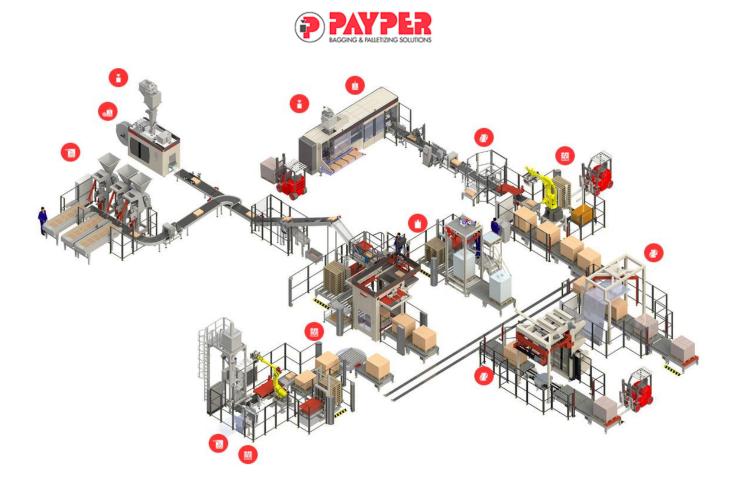
Furthermore, RHEWUM vibration screens with direct excitation allow fixed connections which completely **avoid dust emissions** and therefore comply with ATEX regulations.



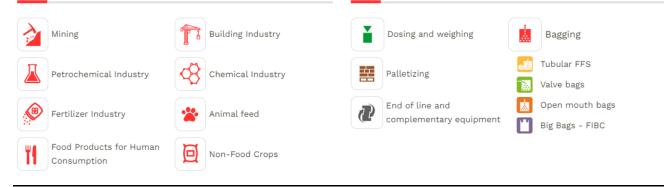
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dynamic loads





#### MAIN SECTORS



MACHINE TYPE



#### **MIKROPUL**

#### Nederman

#### **Baghouse Dust Collectors**



#### Flat Bag Filter Dust Collector



#### Pulse let Collectors

Pulse jet baghouse dust collectors are used when it is

impractical to shut down your dust collector to clean the bags. A pulse of compressed air is blasted through the

bags to blow loose the built up particles on the bags to maintain optimum filtration efficiency



**Reverse Air Baghouse Dust** Collectors

Reverse air baghouse dust collectors are categorized by their unique reverse air flow methodology to remove dust cake build up.

For industrial plant operators such as foundries, smelters, asphalt production and many others, the FS flat dust collector with horizontally installed flat bags provides pollution control in a compact and easy-to-install package



#### Cyclone Dust Collectors

Nederman MikroPul High Efficiency Cyclones are the most



Skimmer



Spin Pre Separator

A lower cost pre-separator for long ducting runs

#### cost-effective solution for separating dry particulate (5 microns or larger) from gas streams



#### Venturi Wet Scrubber

Venturi Scrubbers are used where high inlet gas temperatures, high particle loading and high percentage of solids in liquid recirculation are needed, for example in mining, food, and metallurgy, 99%+ efficiency for sub-micron particles, with minimal maintenance and long perating life

READ MORE



#### **Dynamic Wet Scrubber**

This wet scrubber with integral wetted fan can be used in all industrial applications where dust, aerosol, and gas are present, especially in the metals and chemical industries. It can also be used for dust control in spray drying and incineration plants and odor control.

READ MORE

industrial gases

Packed Bed Scrubber

Designed to neutralize many gaseous pollutants, packed

bed scrubbers offer a compact design and low capital cost.

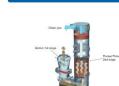
Nederman MikroPul Packed Tower systems can be applied as gas absorbers, coolers, air humidifiers, or condensers. They are widely applied in the field of purification of



#### Mikro-Vane Wet Scrubber

This basic wet scrubber has the capability of tolerating high inlet dust loadings without sacrificing its collection efficiency, which is 99+% at around the 5 micron size range

READ MORE



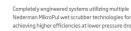
#### Two Stage Wet Scrubber

achieving higher efficiencies at lower pressure drops or increasing performance of existing scrubbers.



#### **Rotary Scrubber**

Rotary Scrubbers can remove fine dust particles and harmful gases as well as odors that might cause concern for communities around an industrial plant. They can be supplied in one or two stage configurations that consume low quantities of fresh water and occupy a small footprint in either vertical or horizontal installations.



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### can take the place of two standard cyclones

Skimmers are modified cyclones for high air volumes that



10

with integrated chut



JVI equipment is masterfully

designed, easily installed, and provides low maintenance operation with precise, adjustable feed rates.

Whether you need equipment to Whether you need equipment to feed, screen, separate, reclaim, sift, spread, recycle, batch or elevate JVI Vibratory Equipment can design and manufacture an innovative custom vibratory solution for you!

Electromechanical Feeder with Integrated Chutework

JVI Vibrating Feeders are available with a variety of options. Offered options include:

- Mild steel, stainless steel, or

- Mild steel, stainless steel, or food grade construction
 - Abrasion resistant liners
 - Dust-tight covers
 Suspension hardware or suspension hardware or support structures
 - Explosion-proof designs
 - Pan or tube configurations



#### **Application Specific & Engineered to Order**

JVI Vibratory Equipment is an innovative designer and manufacturer of vibrating equipment used in the processing of bulk materials. Our in-house engineering team incorporates years of proven design experience, stringent manufacturing procedures, and extensive process knowledge to design specialized vibratory equipment to meet your specific application requirements. JVI custom engineers vibratory equipment such as:

- Feeders
- Dosing Feeders - Screens
- Spiral Elevators
  TITAN Discharge System - Grizzlies

#### **Vibrating Feeders**

- JVI Vibrating Feeders offer efficient and economical operation for a variety of applications, including:
- Discharging storage bins
- Feeding crushers, mixers, shredders, scales, or fluid bed dryers
- Feeding conveyors, bucket elevators or screens

- or screens Spreading material Charging furnaces Thermal treatment (heating/cooling) while conveying



Electromechanical Cone Crusher Feeder

www.jvivibratoryequipment.com

#### **Electromechanical Feeders**

.IVI Electromechanical Feeders utilize dual electromechanical unbalanced motors and are optimal performers in heavy-duty, rigorous applications.

#### Electromechanical Feeder Features

- Low maintenance, single mass design
- Rated for continuous duty Feed rate adjustability
- ✓ Designs for capacities up to 3500 TPH
- Feeder/grizzly designs for simultaneous conveying and coarse separation
- Explosion-proof designs available





LIPE Fle

chanical Pan Feed

#### **Electromagnetic Feeders**

Flectr

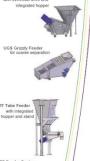
JVI Electromagnetic Feeders are driven by industrial electromagnetic drives and provide precision feeding in a variety of applications from light to heavy duty.

- Electromagnetic Feeder Features Low maintenance
- Accurate and precise feeding 0-100% feed rate adjustability, instant on/off, and PLC interface
- Explosion-proof designs





Installed Electromechanical Tube Feeder



Electromagnetic Tube Feeder Package on Load Cells





#### PARTICLE SIZE REDUCTION EQUIPMENT

Williams Patent Crusher proudly manufactures particle size reduction equipment to meet the unique needs of a variety of specialized industries. Our line of size reduction products includes customized systems for high-volume reduction. Browse our complete line of heavy-duty size reduction products, including shredders, crushers, grinders, pulverizers and more below to discover how Williams Crusher can bring efficiency and quality to your industry.

Contact us today to speak to our experienced sales engineers and find the right size reduction equipment for your job.

#### Why Choose Williams Crusher for Size Reduction Equipment?

Williams Patent Crusher has been a leader in the size reduction industry since 1871, with over 500 patents and trademarks to its credit. We set ourselves apart from other size reduction equipment companies with the diverse line of equipment and customization options for each machine. At Williams, we strive to provide the best equipment and solution for you and your application.

#### **Power Industry Equipment**

Williams is a leader in particle size reduction equipment within the Power Industry, offering unique products such as coal pulverizers for solid fuel combustion and limestone prep systems for fluid bed combustors. Learn more about these specific applications and other custom equipment Williams offers to customers in the Power Industry.

#### Impact Dryer Mills

Our Impact Dryer Mills utilize proven technology integrated into a complete system that simultaneously grinds and dries, accurately classifies, and conveys materials in one continuous, automated operation. This automation provides the perfect solution to get what you need out of your particle size redu equipment. Learn more about the mechanics and applications of our impact dryer mills.

#### Industrial Shredders

When evaluating size reduction equipment offering efficient recycling and fuel preparation of municipal and industrial wastes including paper, refuse, wood, pallets, metal and aluminum scrap, you'll find that Williams shredders are the perfect machine.

Learn more about our industrial shredders and how to determine which model will achieve your desired particle size reduction.

#### **Roll Crushers**

Williams heavy duty Roll Crushers are , long lasting, economical, and versatile, while boasting a simplistic design. Used for particle size reduction in the mining, recycling, and powe industries, our equipment is designed for materials such as bauxite, cement clinker, chalk cinders, coal, gypsum, and much more. Learn more about our Single and Double Roll Crusher models

#### **Forest Products**

Williams wood shredding machinery is the leading size reduction equipment in the forest products industry. We offer heavy-duty top feed and horizontal front feed hogs, featuring rugged construction, built for your biggest forestry jobs. Visit our Forest Products page to learn more about specific machines, such as our No-Nife Wood Hog and Chip Hogs®.



## Pulverizers

Pulverizers reduce the size of coarser materials like coal, limestone, phosphate rock, pigments, tobacco, clay, and barite. With our customization options, a Williams pulverizer can be the all-inone size reduction equipment you need for your application. Read more about the specifics of our pulverizers, such as our roller mill pulverizer machine.



Hammer Mills

Williams manufactures a large variety of Hammer Mills as part of our size reduction equipment line Williams Hammer Mills are designed to handle virtually any size reduction job, and use continual, high-speed hammers to shatter, materials, Visit our Hammer Mills page for a complete list of industry applications, material applications and our standard machine offerings.

#### Impact Crushers

Williams Primary and Secondary Impact Crushers, Impactors, and Nuggetizer® Crusher are designed to efficiently and effectively reduce materials including limestone, sand, gravel, asphalt, cement rock, concrete, and many types of minerals. Read more about our impact crushers, and how to choose the correct equipment for your particle size reduction project.

#### Air Classifiers

Williams Air Classifiers are most effective when used alongside our size reduction machines, such as a pulverizer. Common in the recycling industry air classifiers can sort metal, paper, and plastics that arrived mixed together. Learn more about our High Efficiency Air Classifiers, Turbine Separators, Mechanical Air Separators and their applications.



Williams offers a variety of Steel Conveyors and Apron Feeders that can be paired with our particle size reduction equipment to be used for almost any application you need. Learn how our conveyors and feeders can work together to create a heavy-duty solution capable of crushing and grinding even more material.















Page 10











#### Point Level Measurement

Level detectors detect media at a predefined position depending on the installation position.

Level detectors are mainly installed as full or empty detectors in the upper or lower part of a sill or container. This prevents the sill of from overfilling or running empty. In combination with a level sensor, the results in a redundant system which additionally increases plant safety. If a certain fill level is of particular inferest, the sensors can also be used as demand detectors.

There are different technologies for level detection, which have their advantages and disadvantages depending on the application. For the selection, numerous process conditions have to be considered, which the sensor technology has to cope with. In addition, the requirements for bulk solids sensors differ from those for liguid sensors. For this reason, UWT offers a broad portfolio of different technologies such as rotary paddle switches, vibration level switches and capacitive sensors. This allows us to individually address their requirements in order to always provide them with the best possible solution.

#### Typical challenges:

Media type (e.g. bulk, powder, liquid, paste, etc.)
 Media properties (e.g. bulk density, conductivity, viscosity, etc.)

- Input conditions (e.g. tank material, tank geometry, installation position, installations within the tank, etc.)
- Process conditions (e.g. pressure, temperature, ambient conditions, explosion protection, hygiene requirements, etc.)

In addition to our point level detection sensors our product portfolio also includes a variety of continuous level measurement sensors which unlike limit level sensors can detect the exact level of a medium in real time.

#### NivoRadar® High Frequency Radar



SOLVING CHALLENGING LEVEL MEASUREMENT APPLICATIONS We are a worldwide leading manufacturer of level measurement sensors offering tried & tested solutions for most industries. Our point level sensors and continuous transmitters can accurately detect bulk goods, powders as well as liquids, pastes and foam

#### User-friendly All-rounder

The innovative NivoRadar® 80 GHz level transmitters are the latest in the series of non-contact radar sensors. Configuration is quick and easy using the UWT LevelApp.

They are internationally certified and are also suitable for use in hygiene processes. The devices work with high measurement accuracy and short response times, without blocking distances in the upper range.

A wide range of mounting accessories and flexible temperature solutions enable this compact measurement technology to be installed in a wide range of industrial applications. Contact Us 901-531-6090 info@uwtlevel.com www.uwtgroup.com









#### Clamp Together Duct -"Rolled Lip" Duct

US Duct's Clamp Together Duct system utilizes a rolled lip that is formed at the end of all parts. The lips (think a small version of a 55 gal barrel) of the mating parts are joined together with a gasketed, over-center clamp. The clamp pulls the ends together



clamp. The clamp pulls the ends together and envelopes them inside the sealing gasket. ALL parts and special hoods are available with rolled lip. The duct is available in galvanized or SS and in most gauges (depending upon diameter). Using the combination of a separate 11' long adjustable sleeve and/or the integral adjustable collar on each fitting, the US Duct Clamp Together system is infinitely adjustable. This feature along with the clamp enables the novice or professional to reduce installation time by 70%.

More on Clamp Together Duct →

#### Flanged Ductwork -Angle Rings or Mating Flanges

Flanged duct refers more to the joining method than the actual duct. Flanges (a.k.a. angle rings or mating flanges) are rolled angle iron with specifically punched holes. Bolts are used to "pull" the flanges together



Flanges and the duct are available in all sizes - 3" and up, in black iron, galvanized or SS. The duct fabrication and welding are based upon the customer's need and request. There are several options for affixing the flange to the duct.

More on Flanged Duct →

#### Providing the tight seal of flange connections and the convenience of Clamp Together Duct, US Tubing duct offers fully welded construction and Vanstone-gasket

US Tubing - Airtight

and Leak-Free

and clamp connecting system that creates a totally leak-free duct system for those applications that cannot have leakage: Oil Mist, positive pressure systems, food processing and many more.

More on US Tubing →

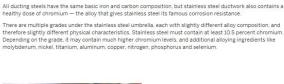
#### Spiral Ductwork -Longer Runs and Fewer Connections

Spiral ducting is inexpensive and a great consideration for long runs of ducting. It is a definite consideration for duct sizes between 16" and 36" where there are long



More on Spiral Ductwork →





A Word About Stainless Steel Ducting





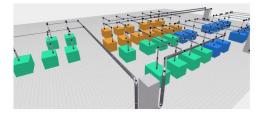
The two most common stainless steel grades for ducting are 304 and 316. The key difference is the addition of molybdenum, an alloy which drastically enhances corrosion resistance, especially for more saline or chloride-exposed environments. 316 stainless steel contains molybdenum, but 304 doesn't.

For outdoor and some corrosive ductwork applications, stainless steel is an ideal corrosion-resistant material, but It will only withstand long-term exposure if the grade is appropriate for its environment. 304 is an economical and practical choice for most environments, but it doesn't have the chloride resistance of 316. The slightly higher price point of 316 ducting and components may be will worth it in areas or applications with high chloride exposure. Each application for stainless steel ductwork has its own unique demands and needs a stainless steel that's up to the task.

With the launch of our new DuctOuote.com program, we hope to enable Industrial Ducting professionals to dramatically reduce system design and installation time

- Draws 3D systems
- · Calculates air flow
- Generates custom quotes using your logo and contact info · Creates parts list and install order documents

Users can access DuctQuote to design dust/mist/fume collection systems at a rate of 20 machine connections per hour. Because the program is web based, users can login from any browser using their unique user ID and password.



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runs with few fittings.