



DRY SCREENING

DRY SCREENING TECHNOLOGY

Derrick® Dry Sizing machines have been providing the industrial minerals industry solutions for fine dry screening application for over 60 years.

Traditional Derrick Dry Sizing machines have utilized high speed, low amplitude, vertical elliptical motion to solve countless difficult mineral sizing challenges. Derrick's commitment to pioneering technology has resulted in the recent evolution of dry screening technology. New Dry Sizing machines utilize true linear motion to achieve higher capacity with small floor footprints. Alternate Dry Sizing machine designs utilize parallel-to-flow screen panel tensioning system ("Front-To-Back" tensioning) to achieve higher capacity within the traditional Derrick machine footprint. Derrick innovative Polyweb® long slot, short slot, and square mesh urethane screen panels provide the added benefit of long life, anti-blinding surfaces. Numerous machines can be found worldwide screening silica sand, iron powder, nickel powder, crushed glass, coal, polyethylene pellets/resins and many other materials.

Three types of Derrick Dry Sizing machines are available to meet the ever-changing needs of the industrial mineral industries – Traditional Single and Double-Deck machines, "Front-To-Back" Single and Double-Deck machines and Multi-Deck machines. The traditional Single and Double-Deck machines' versatile design allows for the use of both traditional wire and Derrick anti-blinding, high open area Polyweb urethane screen panels. The new "Front-To-Back" Single and Double-Deck machines utilize traditional wire screen panels while the new Multi-Deck machines exclusively utilize Derrick Polyweb urethane screen panels. Sealed-for-life Derrick vibratory motors assure long-life, low maintenance operation.

Derrick dry screening technology includes a combination of features that ensures outstanding dry screening performance for applications that require separations from approximately ½ inch (12.7 mm) to 400 mesh (38 microns). Each machine is manufactured with Derrick's core principle – manufacture a robust machine with operator-friendly operation that reduces operating costs through the use of long lasting, low-maintenance components.



Double-Deck Dry Machine

FEATURES & BENEFITS

1. Health, Safety & Environment (HSE)

- Low sound production
- Full enclosures with hinged and clamped top covers and side access doors for dust suppression
- Easy screen inspection, removal and installation
- Light-weight screen panels for easy installation

2. Multiple Machine Sizes & Configurations

- Traditional Single-Deck available in 3 ft x 8 ft (0.9 x 2.4 m), 4 ft x 10 ft (1.2 x 3.0 m), 4 ft x 12 ft (1.2 x 3.6 m), and 5 ft x 14 ft (1.5 x 4.3 m) sizes
- Traditional Double-Deck available in 3 ft x 10 ft (0.9 x 3.0 m), 5 ft x 12 ft (1.5 x 3.6 m), and 5 ft x 14 ft (1.5 x 4.3 m) sizes
- Single, double and triple undersize discharge hoppers available
- Multiple feed box styles available
- Provides dry screening capability for a wide range of mass and volumetric feed capacities

3. Traditional Convex Screen Frame

- Allows use of both Derrick Polyweb urethane and traditional wire screen panels
- Fast, easy screen panel installation and tensioning with sealing, rapid change bolt assemblies
- Unique non-blinding design for optimum efficiency and performance

4. Derrick Integrated Vibratory Motors

- Zero maintenance
- Multiple options available – SE3 or W vibratory motors
- Powerful, quiet and low energy consumption
- SE3 and Super G vibratory motors have greased-for-life bearings (Two-year Warranty)



Stainless Dry Pellet Screener

FRONT-TO-BACK

SCREEN TENSIONING

Offering the most innovative hardware available in dry screening equipment, Derrick proudly introduces the latest in dry screening technology, the Front-To-Back (FTB) screen tensioning system. Increased capacity, improved efficiency, and extremely fast panel changes are all features of Derrick's new FTB tensioning system.

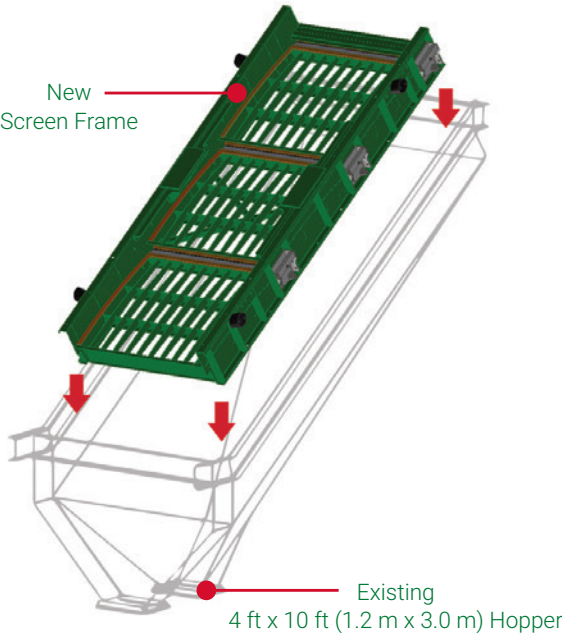
Customers using the Derrick 4 ft x 10 ft FTB screen frame report capacity increases up to 50 percent with improved efficiencies in products ranging from 0.25 in (6.35 mm) down to 400 mesh (38 microns). Increases are attributable to rotating the screen panel tensioning 90 degrees, thereby positioning the crown of the screen parallel to the material flow. This change in crown orientation assures an even distribution of material across the entire width of the screen, increasing capacity and efficiency while reducing panel wear and virtually eliminating blinding.



Single-Deck FTB Dry Machine

RETROFIT

FOR EXISTING DERRICK MACHINES



Easy Conversion, Extraordinary Results

Derrick Front-To-Back screen tensioning systems are not only fast and efficient but also cost effective. A new FTB screen frame is available for retrofit on most standard Derrick 4 ft x 10 ft (1.2 m x 3.0 m) machines. Although the conversion can be completed in less than a day, the resulting dramatic improvement is long-lasting. To upgrade your equipment, contact Derrick Corporation or your local Derrick representative today!

FEATURES & BENEFITS

1. Health, Safety & Environment (HSE)

- Low sound production
- Full enclosures with hinged and clamped top covers and side access doors for dust suppression
- Easy screen inspection, removal and installation
- Light-weight screen panels for easy installation

2. Multiple Machine Sizes & Configurations

- Traditional Single-Deck and Double Deck available in 4 ft x 10 ft (1.2 x 3.0 m) sizes
- Single, double and triple undersize discharge hoppers available
- Multiple feed box styles available
- Provides dry screening capability for a wide range of mass and volumetric feed capacities

3. “Front-To-Back” Screen Frame

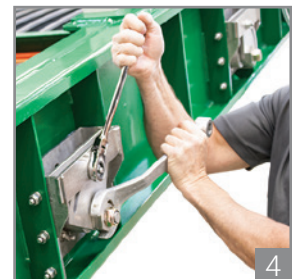
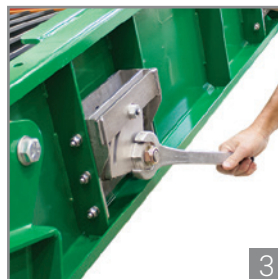
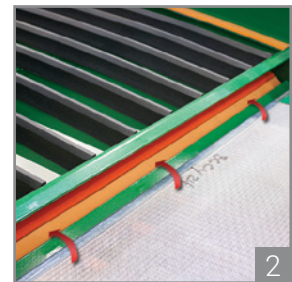
- Convex screen panel sections oriented parallel to material flow
- Extremely fast, easy screen panel installation and tensioning with single tensioning point for each screen panel
- Results in high capacity as a result of full-width dispersion of solids over entire length of vibrating screen frame
- Can be fitted with various Derrick vibratory motors
- Retrofit available for most standard Derrick 4 ft x 10 ft machines

4. Derrick Integrated Vibratory Motors

- Zero maintenance
- Multiple options available – SE3 or Super G vibratory motors
- Powerful, quiet and low energy consumption
- SE3 and Super G vibratory motors have greased-for-life bearings (Two-year warranty)

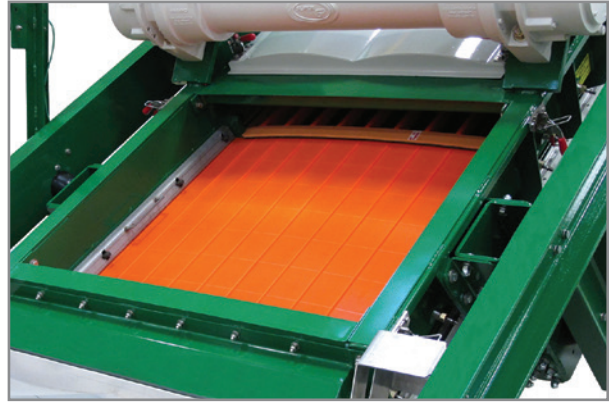
Screen Panel Changes in Four Simple Steps!

- Hook the panel at the discharge end onto the edge of the screen bed section.
- Hook the opposite end of the panel onto the tension bar at the feed end.
- Rotate the tensioning nut to apply desired tension.
- Tighten the locking nut to secure panel tension.



MULTI-DECK DRY SCREENING

Derrick's newly developed Multi-Deck Dry Screen is the high capacity, highly efficient dry fine screening machine in the world. Consisting of up to four decks, the Multi-Deck screening machine – with linear motion action produced by dual SG3 high speed low amplitude vibratory motors – and with Derrick's high open area, non-blinding dry urethane screen surface technology, which is available in the size range from 5.3 mm down to 104 micron, has redefined the concept of dry fine screening. With ever-growing demand of high capacity and efficient dry screen, Multi-Deck Screening machine, coupled with highly innovative Polyweb screen technology will be the wave of the future for fine dry screens.



Multi-Deck Screen Bed



Four-Deck Multi-Deck Dry Machine

FEATURES & BENEFITS

1. Health, Safety & Environment (HSE)

- Low sound production
- Full enclosures with hinged and clamped top covers and side access doors for dust suppression
- Easy screen inspection, removal and installation
- Light-weight screen panels for easy installation

2. Multiple Machine Sizes & Configurations

- Machines are available with up to four 4 ft x 10 ft (1.2 x 3.0 m) decks all operating in parallel
- Provides dry screening capability for a wide range of mass and volumetric feed capacities
- Deck can be operated independently to make a different cut on each deck or in parallel to make the same cut on each deck

3. Multi-Deck Dry Sizing Machines

- Latest Derrick dry screening machine technology
- Incorporates dual motor, true-linear motion that allows stacking of multiple single-deck machines
- Designed for exclusive use of Derrick Polyweb urethane screen panels
- Results in high capacity screening with a small floor footprint

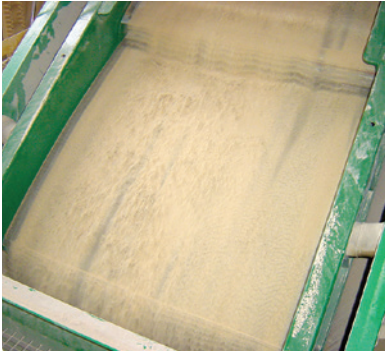
4. Derrick Integrated Vibratory Motors

- Zero maintenance
- Super G3 vibratory motors
- Powerful, quiet and low energy consumption
- Sealed oil bath bearings



Double-Deck Multi-Deck Dry Machine

KEY BENEFITS



Front-To-Back Tensioning

“Front-To-Back” Screen Panel Tensioning System

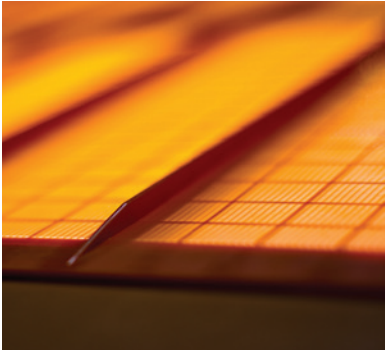
Rotation of the Derrick traditional convex vibrating screen panel sections from perpendicular-to-flow to parallel-to-flow resulted a higher capacity screening machine due to full-width dispersion of solids along the entire length of the screen deck. Screen panel changes are extremely fast and easy as a result of the single tensioning point for each screen panel. Screen panel tensioning draw bars and draw bolts were eliminated.



Multi-Deck Dry Sizing Machine

Multi-Deck Dry Sizing Machines

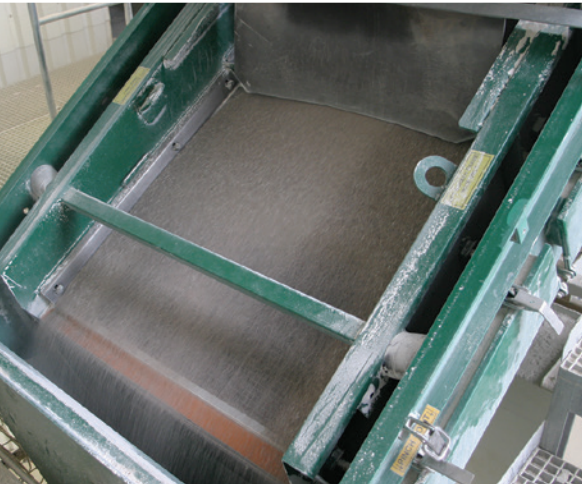
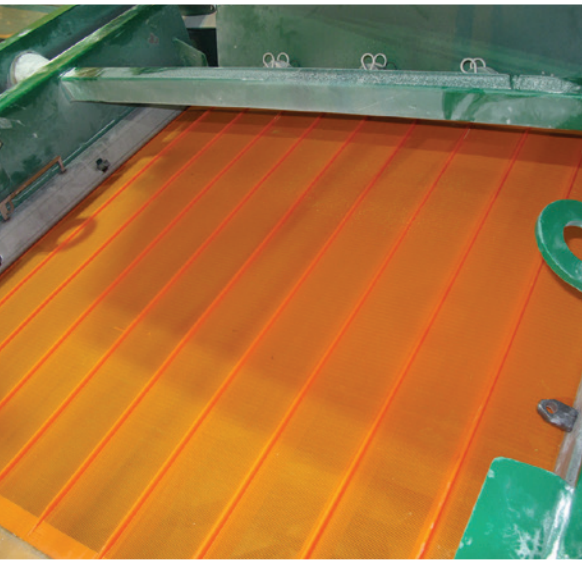
Derrick’s dual motor, true-linear motion machine design evolved into Derrick’s latest series of dry screening machines. This machine design allowed for the stacking of multiple Single-Deck machines onto a common vibrating frame. The Derrick Multi-Deck Dry Sizing machine is a small footprint machine due to the multiple Single-Deck machines operating in parallel. To assure low maintenance, operator-friendly operation, the machine was designed to utilize long life, anti-blinding Derrick Polyweb urethane screen panels exclusively and to utilize Derrick sealed-for-life Super G3® vibrators.



Polyweb Urethane Screens

Use of Derrick Polyweb Urethane and Traditional Wire Screen Panels

Derrick Multi-Deck Dry Sizing machines and traditional Single and Double-Deck machines can utilize both the Derrick TH and DU series Polyweb urethane screen panels. The DU series Polyweb screen panels are the latest in the cutting-edge tensionable urethane screen panel design. Derrick’s pursuit of pioneering technology resulted in a urethane screen panel series specifically designed for making dry products with tight product quality specifications by incorporating smaller slot length-to-width ratios than the TH Polyweb series and ultimately culminated with the development of tensionable square-opening urethane screen panels. With screen panel openings from 6.2 mm to 325 mesh (45 microns) and open area between 30 to 45 percent, Derrick TH and DU series Polyweb screen panels are suited for a wide variety of difficult screening applications.



AVAILABLE MODELS

Traditional Single-Deck Machines

Model 36-90D-3M

- Nominal 17.3 ft² (1.6 m²) screening area
- Single, double and triple unders discharge hoppers available
- Multiple feed box styles available

Model 48-126D-3 / 48-126D-3M

- Nominal 31.7 ft² (2.9 m²) screening area
- Single, double and triple unders discharge hoppers available
- Multiple feed box styles available

Model 48-144D-3 Pellet/Resin Machine

- 304 stainless steel construction
- Nominal 36.7 ft² (3.4 m²) screening area
- Single unders discharge hopper available
- Modified "Z" feed box

Model 48-168D-4 / 48-168D-4M

- Nominal 42.2 ft² (3.9 m²) screening area
- Single, double and triple unders discharge hoppers available
- Multiple feed box styles available

Model 56-168D-4 / 56-168D-4M

- Nominal 57.6 ft² (5.4 m²) screening area
- Single and double discharge hoppers available
- Multiple feed box styles available

Traditional Double-Deck Machines

Model 36-126D-3DD

- Nominal 25.3 ft² (2.4 m²) screening area per deck
- Single and double unders discharge hoppers available
- Single, double and triple overs discharge hoppers available
- Multiple feed box styles available

Model 56-144D-3DD

- Nominal 49.1 ft² (4.6 m²) screening area per deck
- Single and double unders discharge hoppers available
- Single, double and triple overs discharge hoppers available
- Multiple feed box styles available

Model 56-168D-4DD

- Nominal 57.6 ft² (5.4 m²) screening area per deck
- Single and double unders discharge hoppers available
- Single and double overs discharge hoppers available
- Multiple feed box styles available

"Front-To-Back" Single Deck Machines

Model 48-120DL-3

- Nominal 31.7 ft² (2.9 m²) screening area
- Single, double and triple unders discharge hoppers available
- Multiple feed box styles available

"Front-To-Back" Double-Deck Machines

Model 48-120DL-3DD

- Nominal 31.7 ft² (2.9 m²) screening area per deck
- Single, double and triple unders discharge hoppers available
- Single overs discharge hopper available
- Multiple feed box styles available

Multi-Deck Dry Sizing Machines

Model 2SG3-48-126D-1STK

- Nominal 31.7 ft² (2.9 m²) screening area
- Double stone box feeder

Model 2SG3-48-126D-2STK

- Two-Deck
- Nominal 63.4 ft² (5.8 m²) total screening area
- Double stone box feeder

Model 2SG3-48-126D-3STK

- Three-Deck
- Nominal 95.1 ft² (8.7 m²) total screening area
- Double stone box feeder

Model 2SG3-48-126D-4STK

- Four-Deck
- Nominal 126.8 ft² (11.6 m²) total screening area
- Double stone box feeder

Model 2SG3-48-126D-3DDSTK

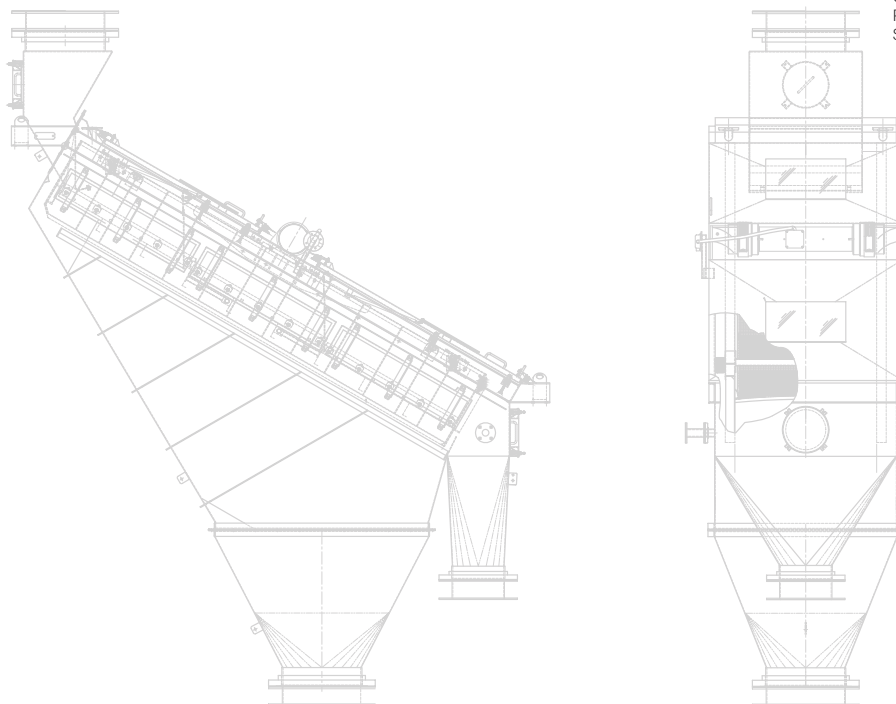
- Two (2) Double-Deck
- Nominal 31.7 ft² (2.9 m²) screening area per deck
- Two (2) double stone box feeders
- One (1) common air exhaust manifold

WEIGHTS & DIMENSIONS

EQUIPMENT		DIMENSIONS			Weight lbs (kg)
Model	Size (ft) / Type	Nominal Width in (mm)	Nominal Length in (mm)	Nominal Height in (mm)	
TRADITIONAL DRY SIZING MACHINES					
36-90D-3M	3 x 8 / Single-Deck (PR,CA)	51 (1276)	126 (2114)	105 (2667)	4000 (1814)
48-126D-3	4 x 10 / Single-Deck (SA)	64-3/4 (1645)	162-1/4 (4121)	125-1/8 (3178)	4000 (1814)
48-126D-3M	4 x 10 / Single-Deck (CA)	64-3/4 (1645)	162-1/4 (4121)	125-1/8 (3178)	4000 (1814)
48-144D-3	4 x 12 / Single-Deck (PR, SA)	55 (1387)	162 (4099)	197 (4990)	6500 (2948)
48-168D-4M	4 x 14 / Single-Deck (CA)	64-3/4 (1645)	190 (4818)	154-3/4 (3931)	5000 (1995)
56-168D-4	5 x 14 / Single-Deck (SA)	82-1/2 (2096)	212 (5395)	209 (5299)	15000 (6803)
56-168D-4M	5 x 14 / Single-Deck (CA)	82-1/2 (2096)	212 (5395)	209 (5299)	15000 (6803)
36-126D-3DD	3 x 10 / Double-Deck (SA)	51 (1286)	169-13/16 (4314)	141-1/4 (3595)	4300 (1950)
56-144D-3DD	5 x 12 / Double-Deck (SA)	82-1/2 (2096)	205-13/16 (5228)	197-1/8 (5006)	14000 (6350)
56-168D-4DD	5 x 14 / Double-Deck (SA)	82-1/2 (2096)	212 (5395)	209 (5299)	15000 (6803)
"FRONT-TO-BACK" DRY SIZING MACHINES					
48-120DL-3	4 x 10 / Single-Deck (SFO)	48-1/4 (1226)	125-1/2 (3188)	-	1300 (590)
48-120DL-3	4 x 10 / Single-Deck (SA)	60-3/8 (1534)	162-1/4 (4121)	125-1/8 (3178)	4400 (1996)
48-120DL-3DD	4 x 10 / Double-Deck (SA)	60-3/8 (1534)	176-5/16 (4478)	159-5/8 (4054)	6500 (2948)
MULTI-DECK DRY SIZING MACHINES					
2SG/48-120D-1STK	4 x 10 / Single-Deck (SA)	64-3/4 (1645)	100-1/2 (2553)	88-11/16 (2252)	2500 (1136)
2SG/48-120D-2STK	4 x 10 / Two-Deck (SA)	64-3/4 (1645)	125-13/16 (3195)	130-7/16 (3314)	6100 (2773)
2SG/48-120D-3STK	4 x 10 / Three-Deck (SA)	64-3/4 (1645)	149-1/4 (3791)	143-11/16 (3650)	7500 (2948)
2SG/48-120D-4STK	4 x 10 / Four-Deck (SA)	64-3/4 (1645)	177-1/2 (4509)	159-5/8 (4054)	9000 (4082)

All photographs and specifications in this publication are for general information only and are based on the latest product information available at the time of initial publication. Derrick Corporation reserves the right to change its product offering at any time without prior notice. Any reliance on any information in this publication shall be at user's own risk. For additional information, please contact the Derrick Buffalo Engineering Department.

SA = Single Angle
CA = Compound Angle
PR = Pellet/Resin
SFO = Screen Frame Only





The Derrick Family is a community comprised of thousands of individuals in countries around the globe. We share a collective interest in **Community Enrichment** through our avid support of industry associations and charitable organizations. Aware of our worldwide impact, we support the recovery of natural resources in the most energy-efficient manner, placing vital importance on **Global Sustainability**. Our **Award-Winning Service** department works around-the-clock to provide unparalleled support to customers around the world.

Our pioneering spirit is best demonstrated by our long-term commitment to **Continuous Innovation** which drives manufacturing of our **Leading-Edge Solutions**. Clients partner with us to overcome their most difficult fine-separation challenges and we deliver with our team of **World-Class Technologists**, many of whom have been with us for well over two decades. Our vertically integrated approach ensures product dependability and reinforces our **Quality Commitment**.

We are a **Global Family**® focused on **Pioneering Technology**®.



**GLOBAL FAMILY.
PIONEERING TECHNOLOGY.®**

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