

Volkmann PowTReX

Safe Metal Powder Transfer, Recovery and Extraction Systems for AM



SYSTEM:
 NON-INERT
 INERT

It's not just recycling. It is Safe Return-to-Use.

AM Metal Powders are valuable. Keep the value high and avoid risks.

Because good AM metal parts are made from good powder.



VOLKMANN
IDEAS AHEAD

VOLKMANN PowTReX

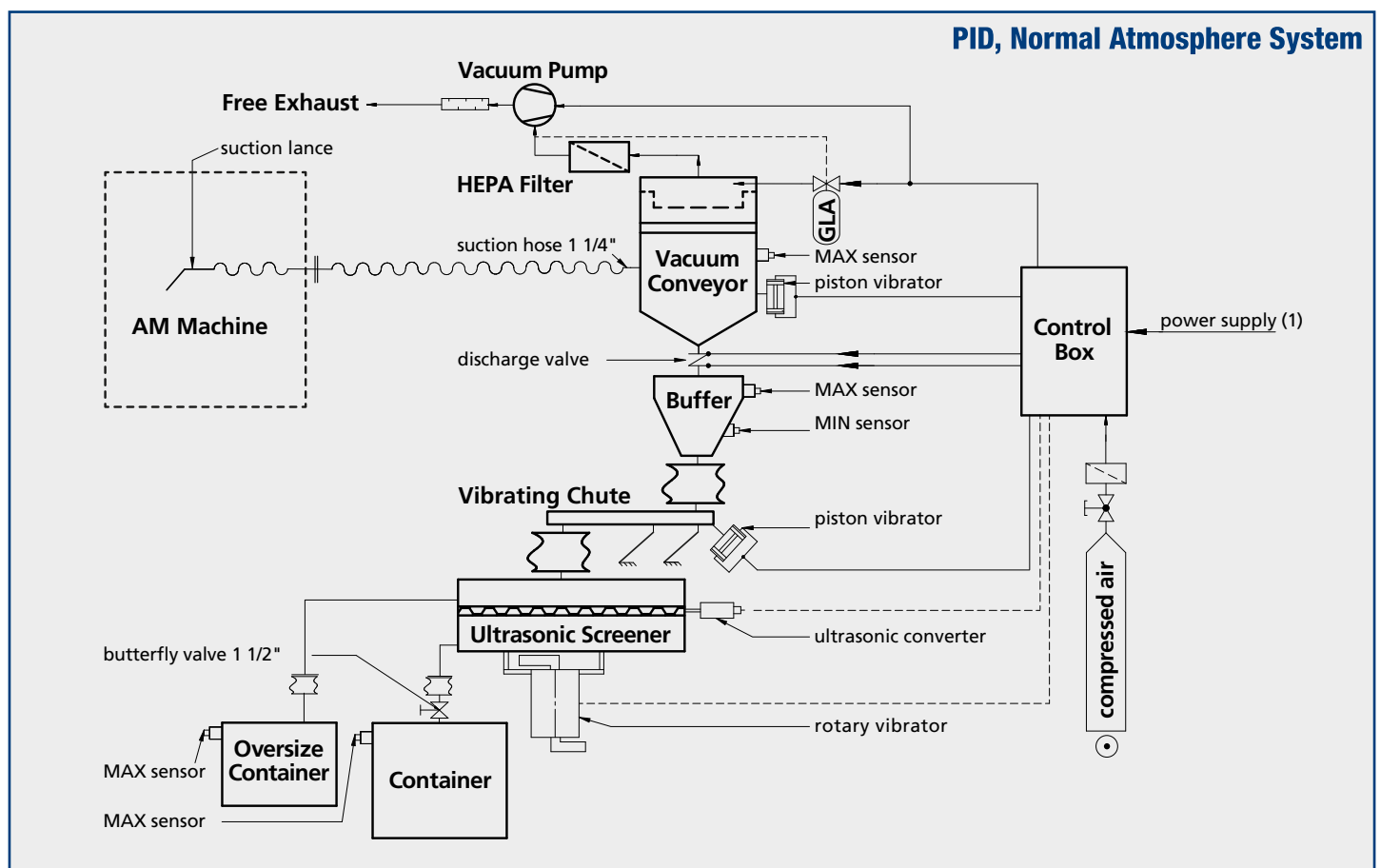
Safe Metal Powder Transfer, Recovery and Extraction Systems for AM

Load, Transfer, Screen, Extract and Return-to-Use Metal Powders with High Bulk Densities at High Rates

The Additive Manufacturing Powder Transfer, Recovery and Extraction System (PowTReX) is designed to enhance the new technology of additive manufacturing machines when handling metal powders or toxic materials. Consisting of three elements, the Volkmann PowTReX addresses the need to transfer material to the machine – both in a normal air environment or under an inert gas – recover the unused material, screen it, and finally return the material to the machine or a container for future use.

Inert Gas or Normal Atmosphere

Two options are provided (both with high levels of containment) to meet requirements due to potential environmental issues, operator safety, and applications using inert gases. Where inert transfer is required, the system is designed in a “closed loop” so that inert gas is both contained and reused, avoiding the additional cost of large volumes of inert gas. In this version, an electric pump is used to maintain system temperature and containment.



TECHNICAL SPECS

Electrics (1) Control: 400 V, 50 Hz, 3P, 500 W max.
 optional el. Vac.Pump: 400 V, 3P, 2300 W max.
 other Voltages on Request

Pneumatics: 6 bar (87 psi) 1500 NL/min (53 cfm) max

Materials: 304, 316L (for parts w/powder contact)

Weight: 380 kg (840 lbs), (El.Pump +90 kg / +200 lbs)

MATERIALS, THROUGHPUT CAPACITIES

For AM Metal Powders: Stainless Steel, Aluminum Alloys, Titanium, Chromium-Nickel, Copper, others (*inert system, if applicable*)

Conveying + Screening capacities reached (with 63 micron mesh):

Conveying Distance: 8 m (26 ft), total line length (longer distances possible on req.)

Stainless Steel Powder: more than 500 kg/h (1100 lbs/h)

Aluminum Powder: more than 200 kg/h (660 lbs/h)



**VACUUM POWDER SEPARATOR,
PRIMARY FILTER (F9), SECONDARY HEPA FILTER (H14)**

The Vacuum Receiver separates and collects the powder and releases powder batches to the buffer. The HEPA filter provides high exhaust air quality.

OPERATION PANEL

Visual operation and process information on a 7" color touchscreen HMI, manual ON/OFF switch.

POWDER BUFFER

Collects the metal powder before releasing it to the screener. Makes AM unloading independent of the screening rate.

POWDER FEEDER

Transports just the right amount of metal powder to the screener for optimum sieving performance.

ULTRASONIC SCREENER

Mesh size 63 μm (optional 50, 56, 75, 85, 106 μm , other sizes upon request).
With ultrasonic agitation of sieve to prevent blinding.
With outlets for the separated oversize grain and the material within specifications.

ELECTRICAL VACUUM PUMP



**COLLECTING BIN or
PICK UP HOPPER WITH FEEDING ELEMENT**

Sieve outlet port easily connectable to optional available PowTRex-Bin (optional: fully purgeable and removeable under inert conditions), to Customer Bins, or to optional pick up hoppers to transport the sieved AM metal powder back to the AM machine

OVERSIZE MATERIAL COLLECTOR

Easily exchangeable bin

MOBILE or STATIONARY SYSTEM

System can be installed stationary.
Mobile system on casters optional.



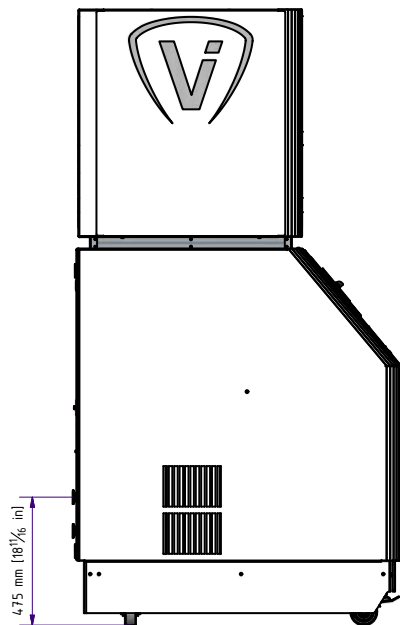
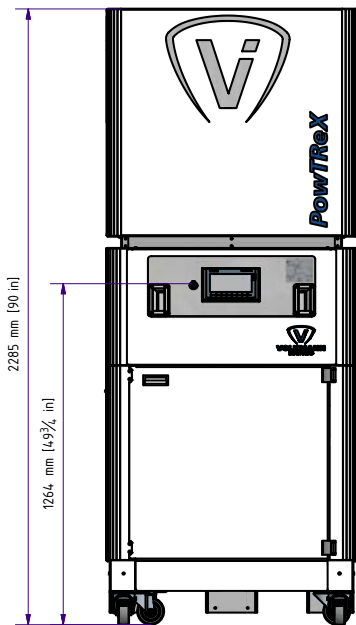


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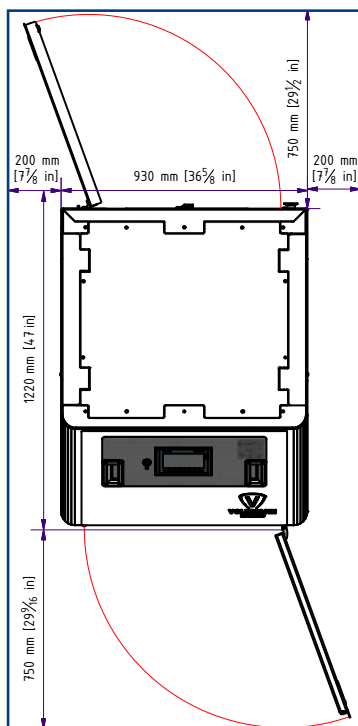
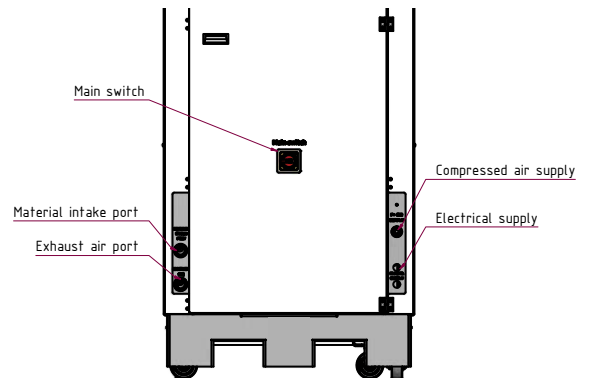


DIMENSIONS:

FOOTPRINT: 1200 x 930 mm (47" x 37")

HEIGHT: 2285 mm (90")

CONNECTIONS:



ORDERING INFORMATION

ID 142 900 Volkmann PowTReX (A)
 Standard: with Multijector G1260
 with VS200 Conveyor/Powder Separator
 with F9 Primary Filters and HEPA H14 Secondary Filter
 with 30 ltr Powder Buffer (1.13 ft³)
 with pneumatic Powder Feeder
 with Ultrasonic Sieve, 63 microns
 with PLC Control, 7" HMI

OPTIONS

Electric Pump, div. Voltages
 Volkmann PowTReX IBCs
 Mesh sizes available (50, 56, 63, 75, 85, 106 microns, other sizes upon request)
 Vacuum Conveyor for Return-to-Use available

YOUR LOCAL REP/DISTRIBUTOR

