

Volkmann PowTReXi

Safe Metal Powder Transfer, Recovery and Extraction Systems for AM

- ▶ *high performance, fully inert process*
- ▶ *two O₂ sensors for double checking (O₂-Range: 2% to max. 5%)*
- ▶ *active container and system purging*
- ▶ *as easy to use as the non-inert system*



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 PowTRexi

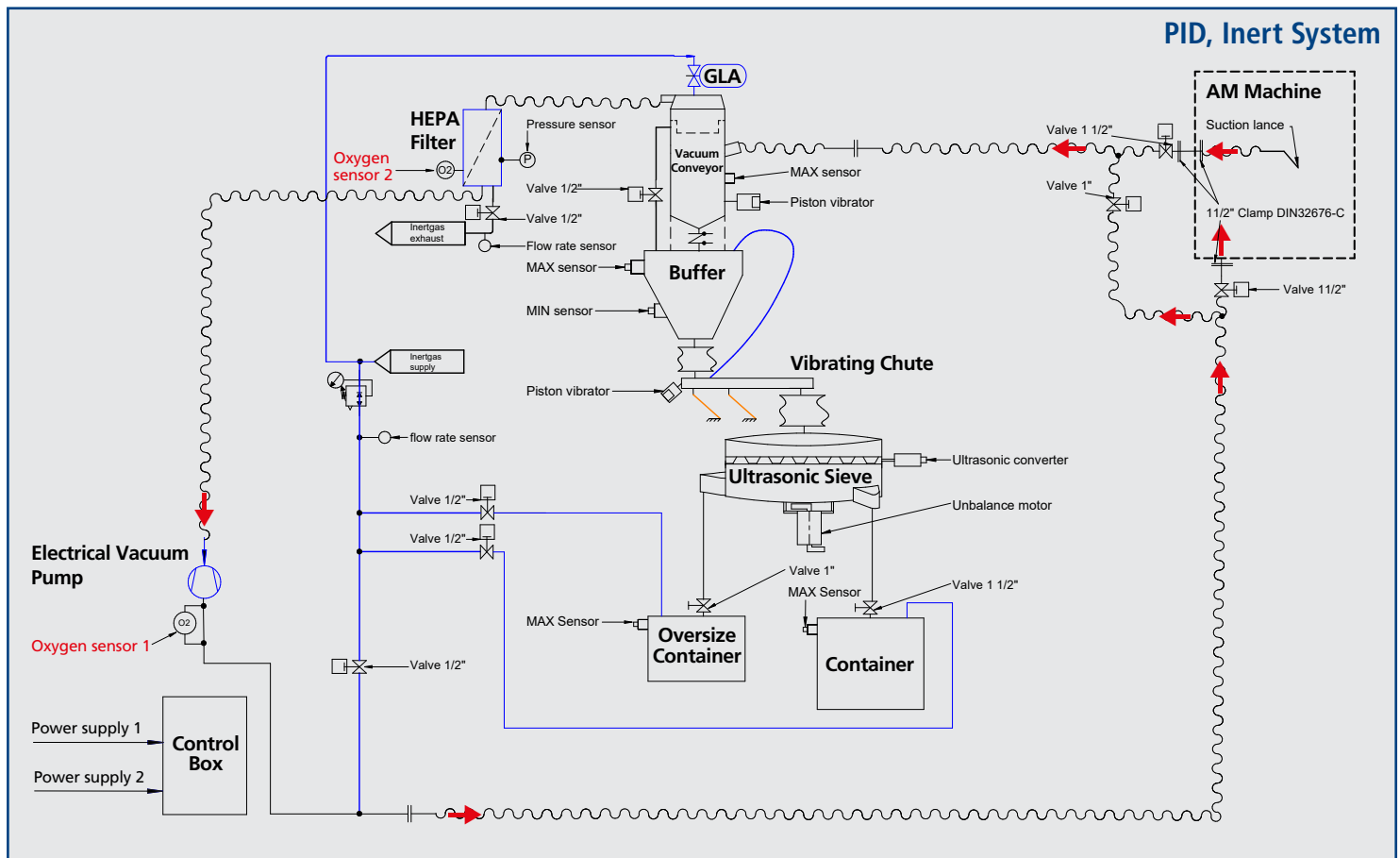
Safe Metal Powder Transfer, Recovery and Extraction Systems for AM

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, 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.



TECHNICAL SPECS

- Electrics (1) Screener: 230/460/3/60 hz or 110/1/60 hz (other Voltages on Request)
- (2) Control: 110/1/60 hz
- Pneumatics: 6 bar (87 psi), max. 500NL/min
- Materials: 304, 316L, (for parts w/powder contact)
- Weight: 470 kg (1040 lbs)
- Inert: 6bar, 150 NL/min (while purging)
20 NL/min (while conveying)

MATERIALS, THROUGHPUT CAPACITIES

- For AM Metal Powders: Stainless Steel, Aluminum Alloys, Titanium, Chromium-Nickel, Copper and others.
- 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

Screen 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

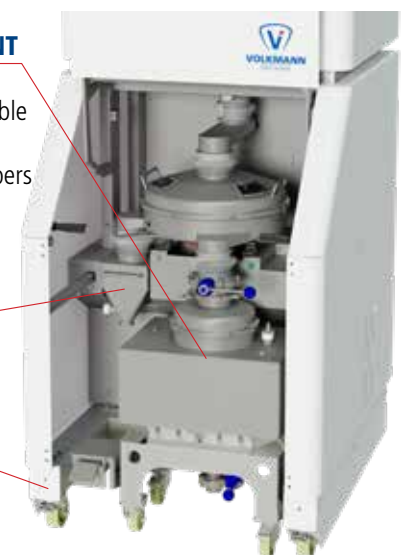
Sieve outlet port easily connectable to optional available PowTRex-Bin (fully purgeable and removeable under inert conditions), to Customer Bins, or to optional pick up hoppers to transport the sieved AM metal powder back to the AM machine.

OVERSIZE MATERIAL COLLECTOR

Easily exchangeable bin.

MOBILE or STATIONARY SYSTEM

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



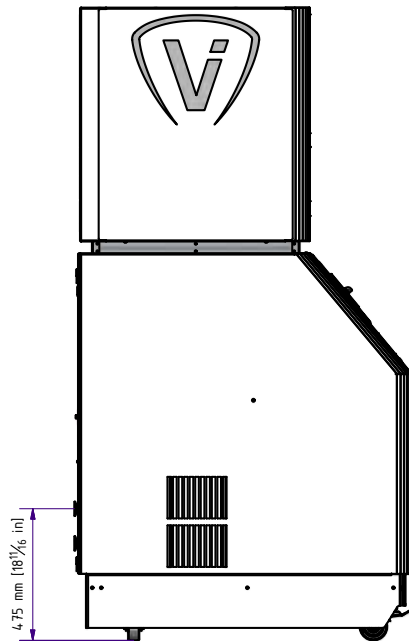
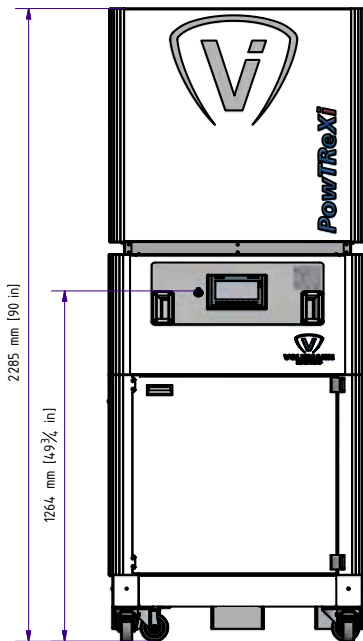
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IDEAS AHEAD

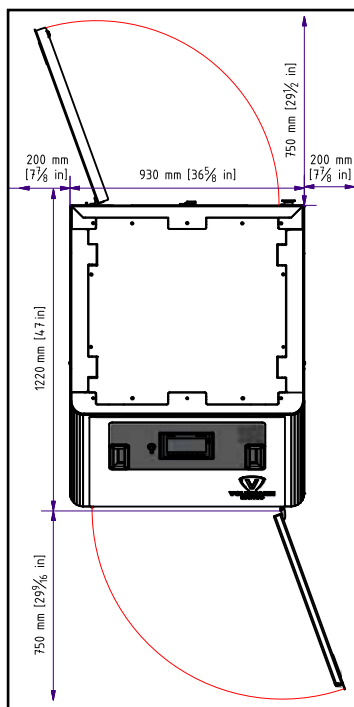
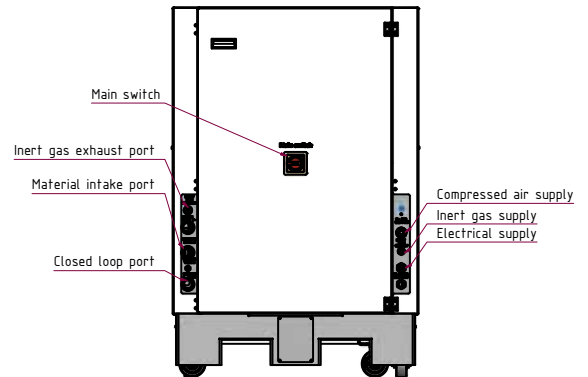


DIMENSIONS:

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

HEIGHT: 2385 mm (90")

CONNECTIONS:



ORDERING INFORMATION:

ID 142 901 Volkman PowTReX (i)
Standard: with electrical pump
with VS200 Conveyor/Powder Separator
with F9 Primary Filters and HEPA H14 Secondary Filter
with 32 ltr Powder Buffer (1.13 ft³)
with pneumatic Powder Feeder
with Ultrasonic Sieve, 63 microns
with PLC Control, 7" HMI

OPTIONS:

Volkman PowTReX IBCs
Mesh sizes available 50, 56, 63, 75, 85, 106 microns, other sizes upon request
Vacuum Conveyor for Return-to-Use available (Closed loop, fully inert)

YOUR LOCAL REP/DISTRIBUTOR:

