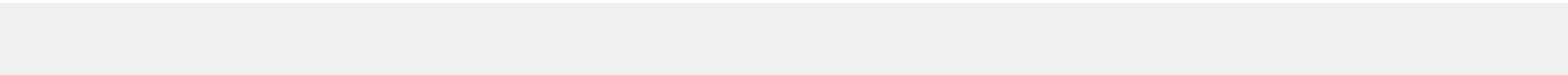


CAMCORP

A MEMBER OF THE SCHEUCH GROUP

PNEUMATIC CONVEYING SYSTEM OPTIONS: HOW TO SELECT EQUIPMENT FOR THE APPLICATION



WELCOME



*Please mute your
sound*

*Please turn
your cell
phones off*

*Limit your
distractions to a
few pets and/or
children 😊*

INTRODUCTIONS

Tom Leach

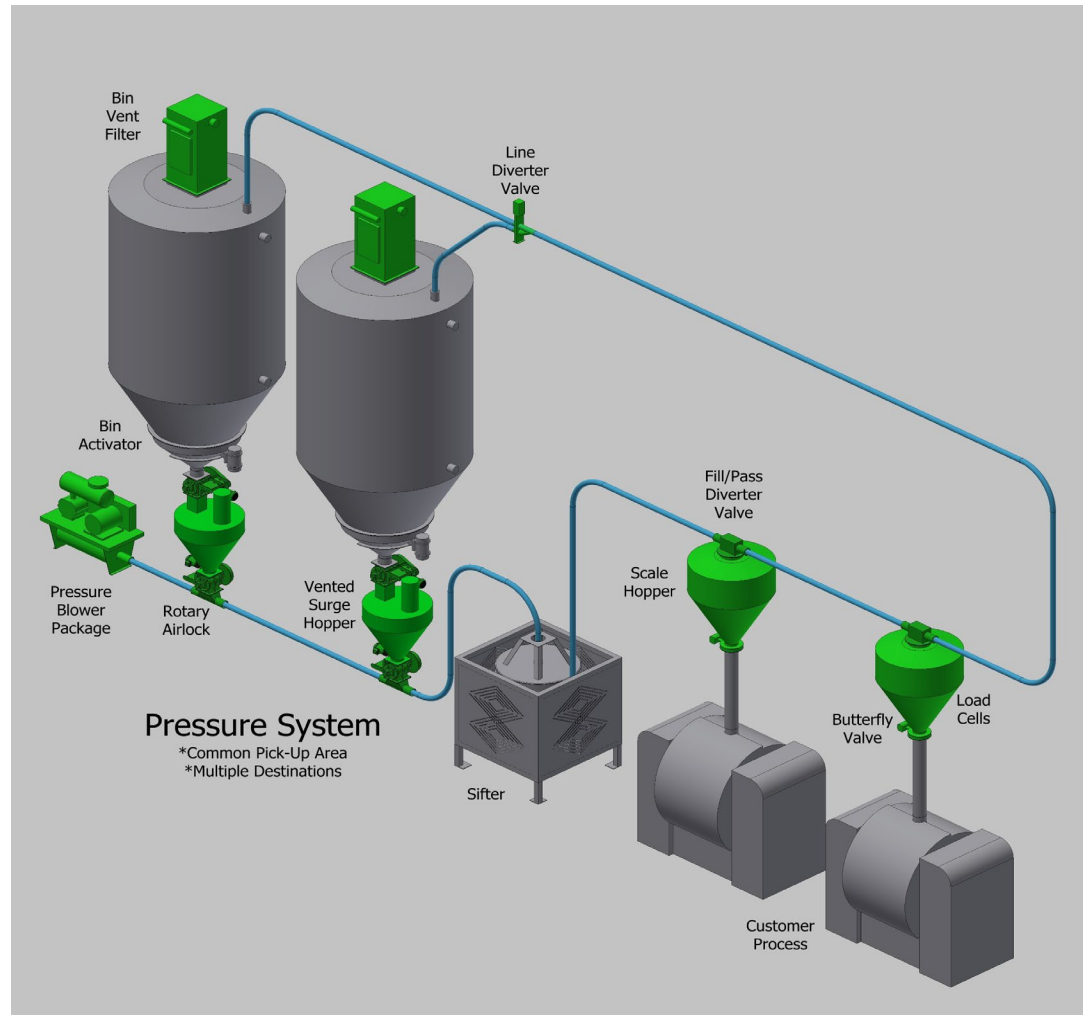
National Sales Manager, Pneumatic Conveying Systems

Mike Abare

National Sales Manager, Outside Sales Representatives

PNEUMATIC CONVEYING SYSTEM OPTIONS

Pressure Loop Conveying Schematic



PNEUMATIC CONVEYING SYSTEM OPTIONS

List of Products Handled

- Flour
- Calcium Carbonate
- Hydrated Lime
- Sugar
- Salt
- Sodium Bicarbonate
- Milled Peanut Shells
- Plastic Pellets/ Resins
- Gypsum Powder
- Bone Poultry
- Clay
- Cocoa Powder
- Green Coffee Beans
- Corn Starch
- Garlic Powder
- Gypsum
- Maltodextrin
- Oats
- PVA
- Rice
- Soda Ash
- Talc
- Yeast Powder
- Peanuts
- Baking Powder
- Ground Chili Pepper
- Corn Gluten Meal
- Dry Powdered Milk
- Ink
- Farina
- And more!

PNEUMATIC CONVEYING SYSTEM OPTIONS

Typical Equipment

- Bag Dumps
- Bulk Bag Unloaders
- Bin Vents
- Filter Receivers
- Sale Hoppers
- Cyclones
- Use Bins
- Dust Collectors
- Inline Vacuum Filters
- Probe Boxes
- Surge Hoppers
- Silos
- Sifters
- Diverter Valves
- Level Indicators
- Silo Discharge Equipment
- Blowers
- Airlocks
- Dehumidification
- Volumetric Feeders
- Process Controls

PNEUMATIC CONVEYING SYSTEM OPTIONS

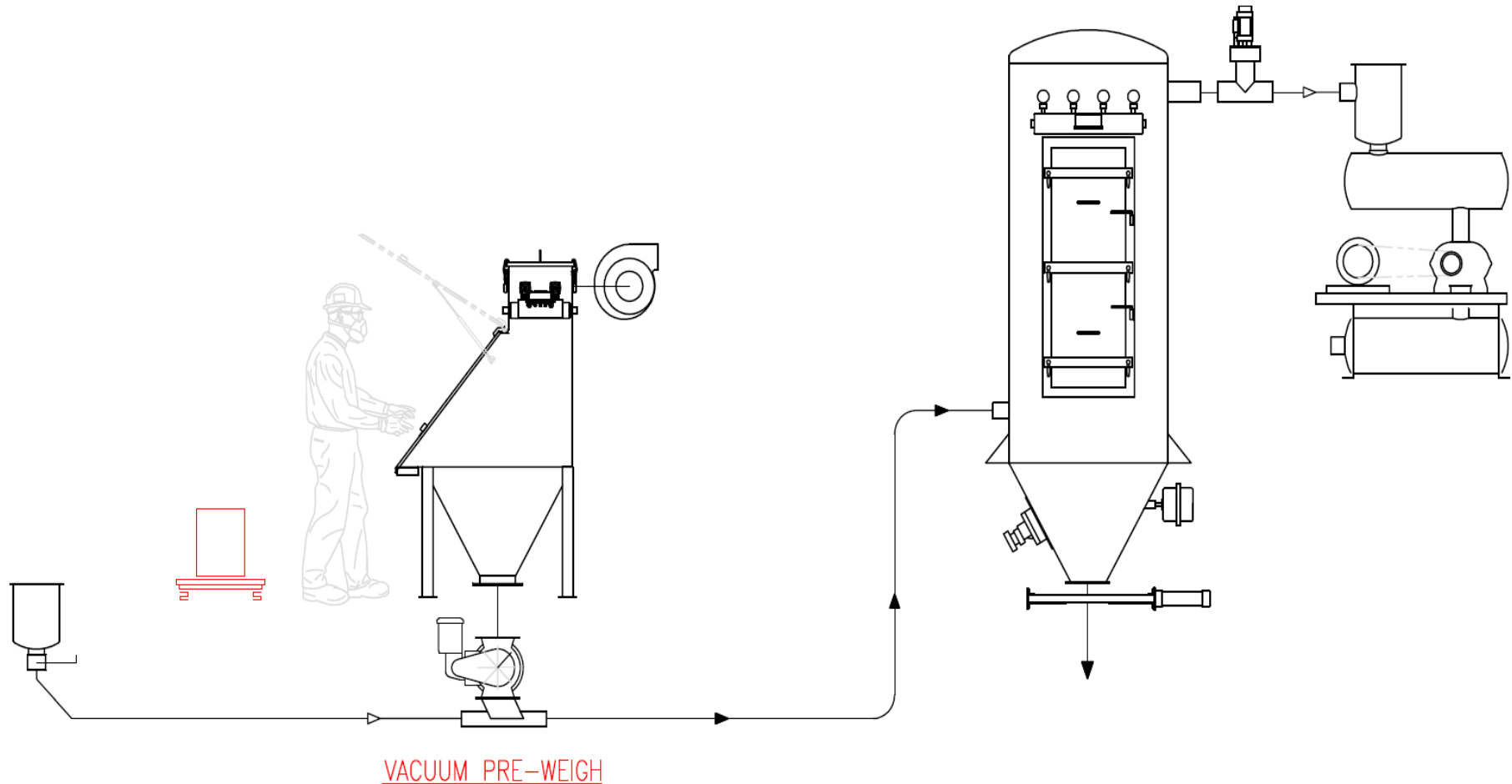
Bag Dump Stations

- Filtered & Unfiltered
 - Pulsing Mechanism
 - To a Central Dust Collector
- Cartridge or Bag Filters
- Integral Fans
- Bar Magnets
- Special Configurations



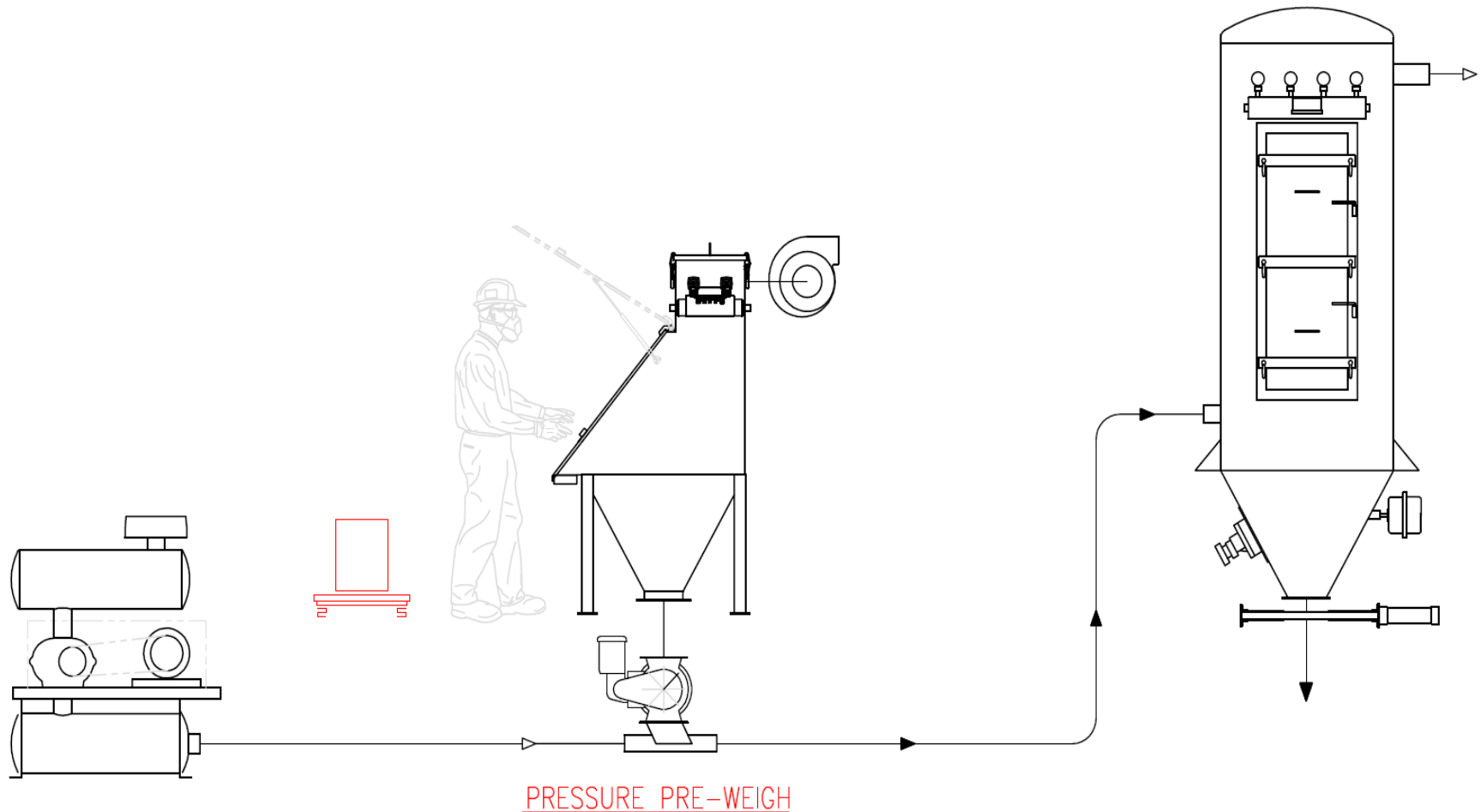
PNEUMATIC CONVEYING SYSTEM OPTIONS

Bag Dump Station Configurations – Vacuum Pre-Weigh



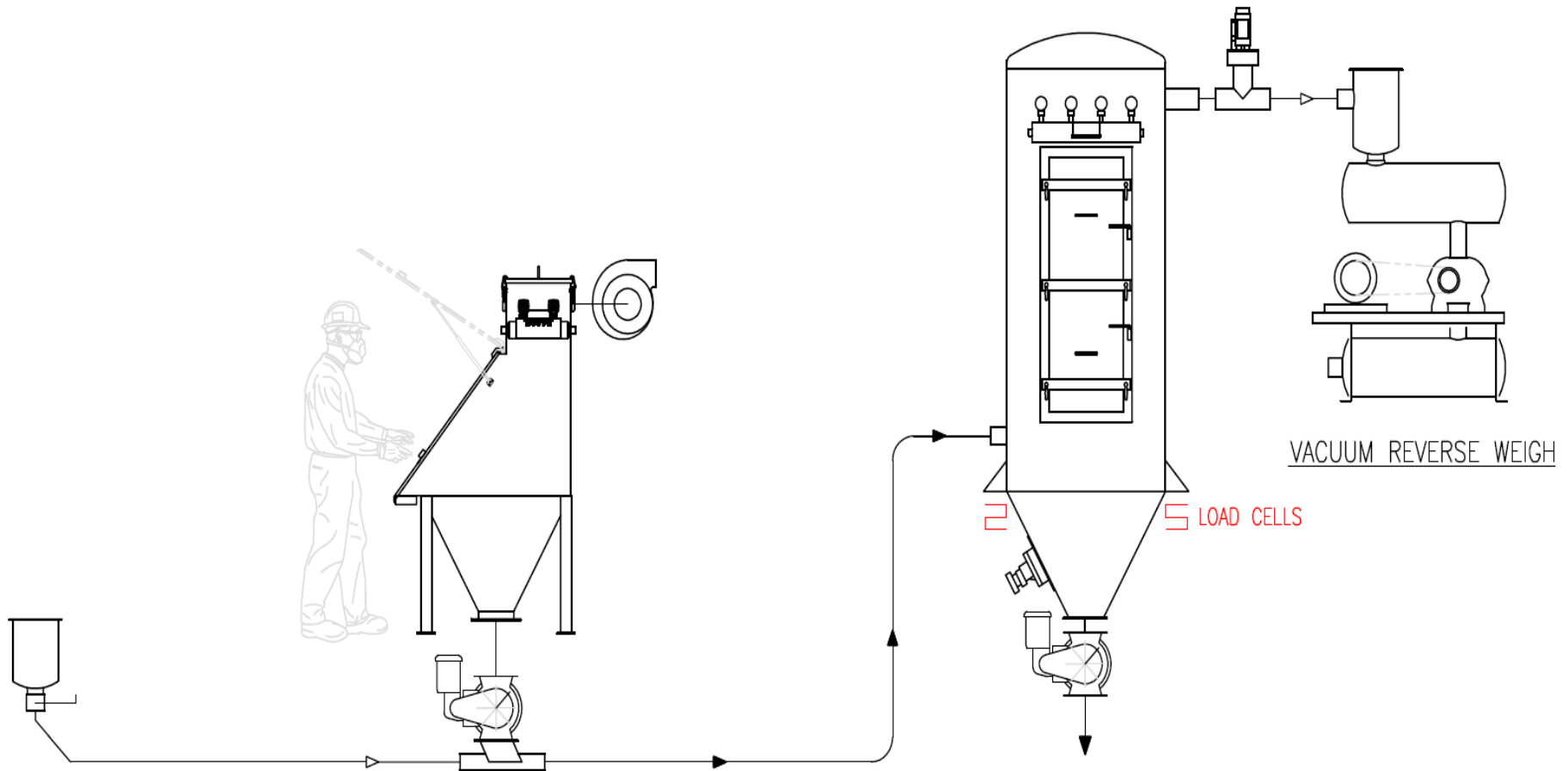
PNEUMATIC CONVEYING SYSTEM OPTIONS

Bag Dump Station Configurations – Pressure Pre-Weigh



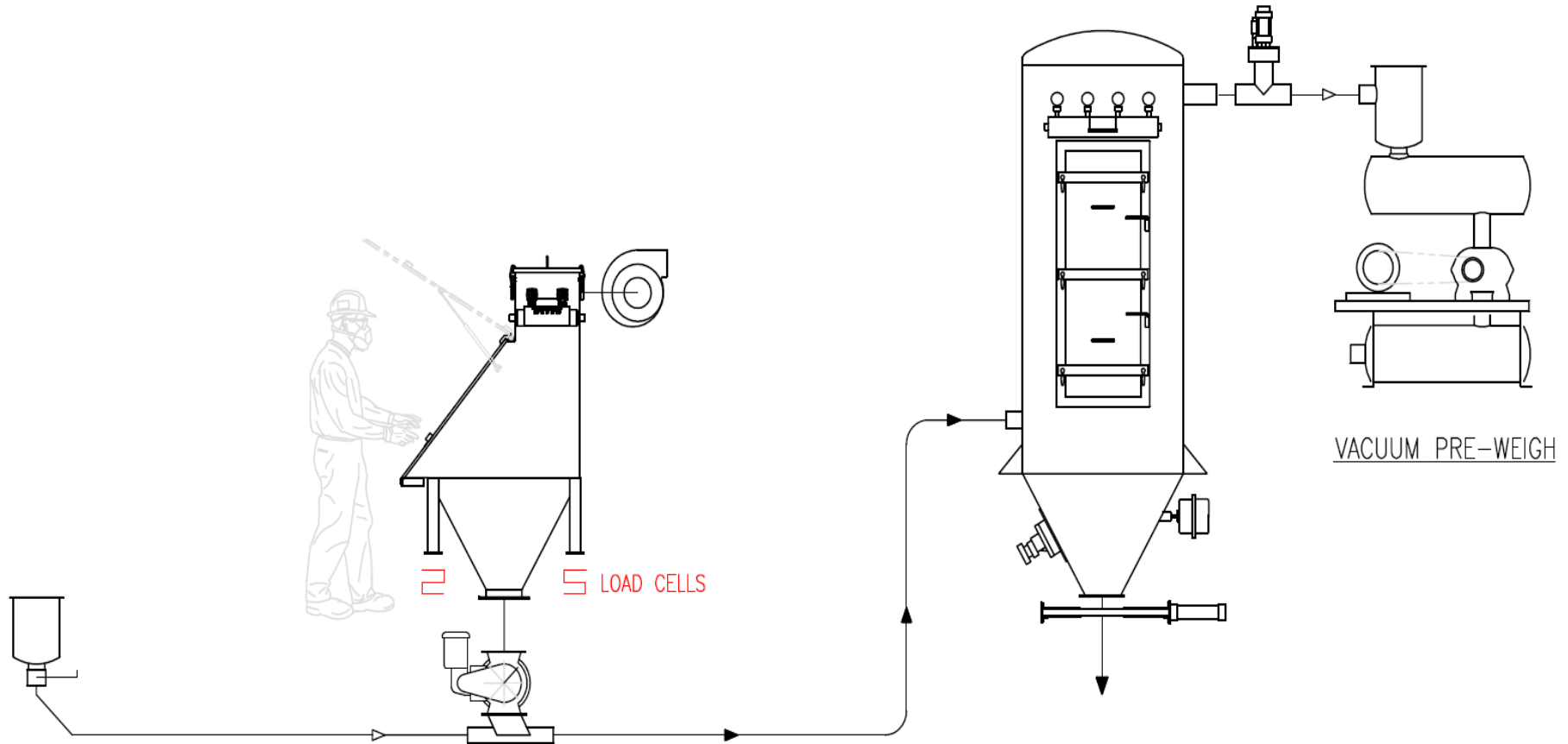
PNEUMATIC CONVEYING SYSTEM OPTIONS

Bag Dump Station Configurations – Vacuum Terminal Scaling



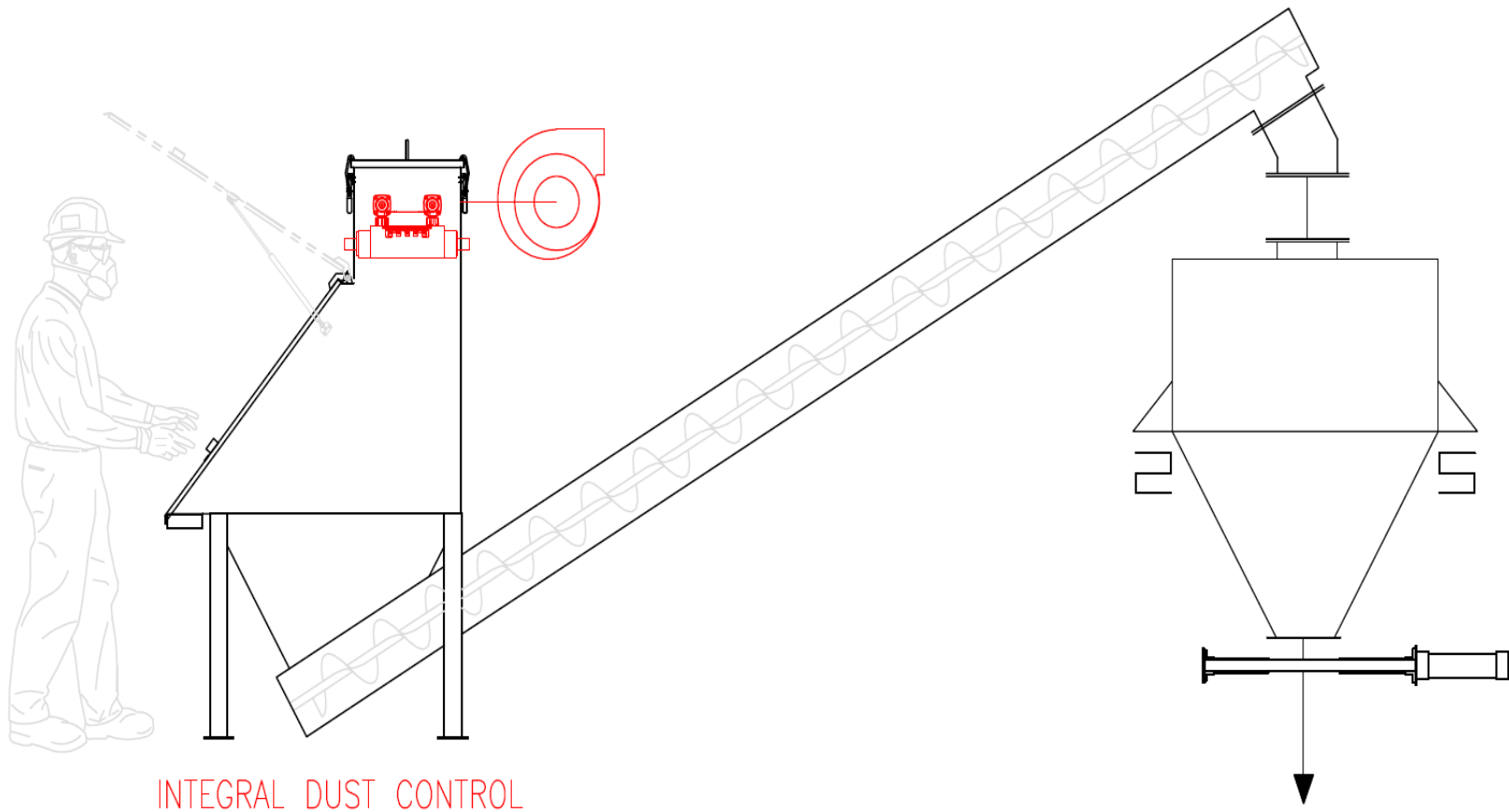
PNEUMATIC CONVEYING SYSTEM OPTIONS

Bag Dump Station Configurations – Bag Dump Station Scaling



PNEUMATIC CONVEYING SYSTEM OPTIONS

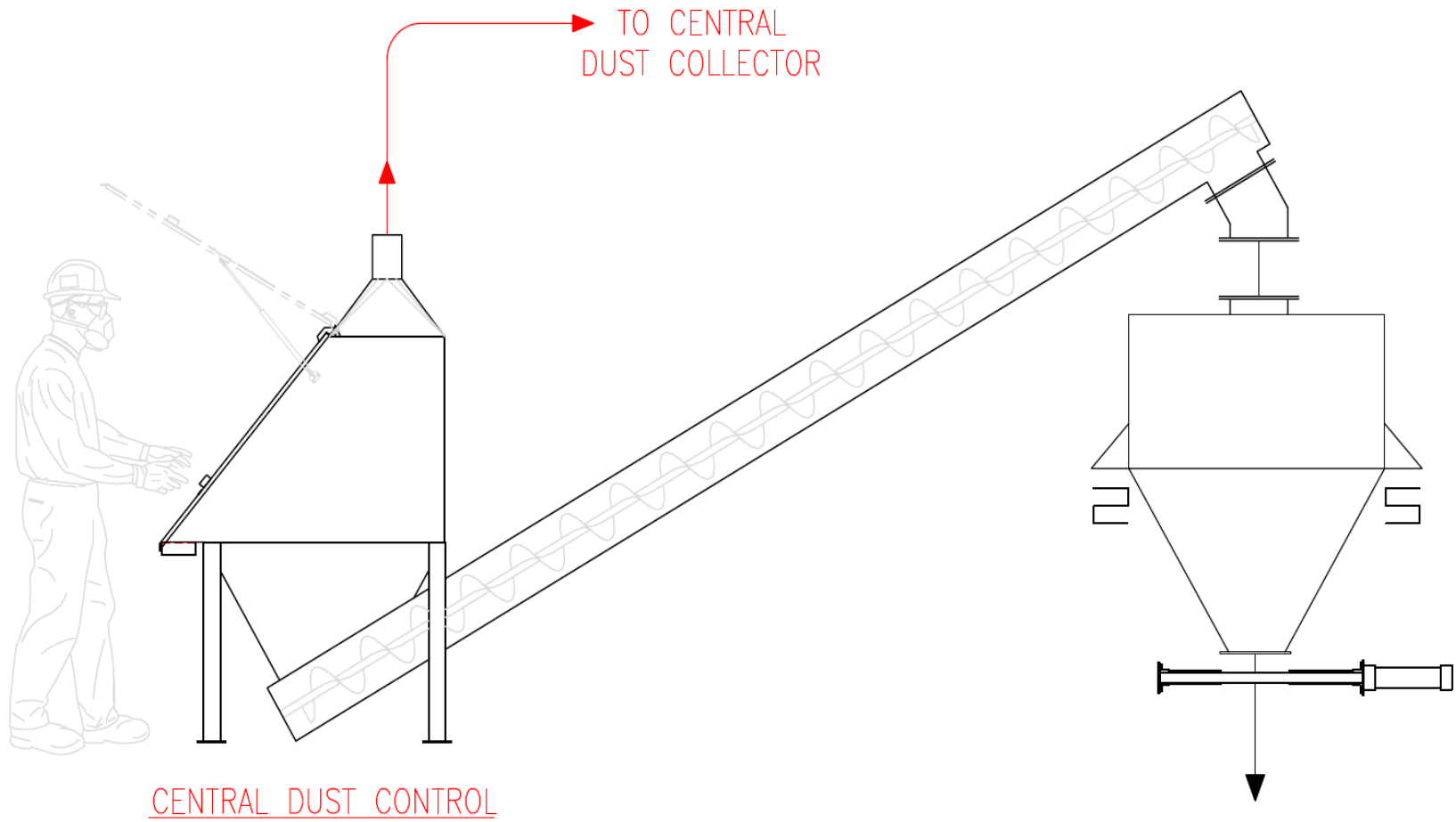
Bag Dump Station Configurations – Bag Dump Station (Local Air Filtration) with Incline



BAG DUMP W/ INCLINE SCREW

PNEUMATIC CONVEYING SYSTEM OPTIONS

Bag Dump Station Configurations – Bag Dump Station with Stub for Central Dust Collection with an Incline Screw



BAG DUMP W/ INCLINE SCREW

BULK BAG UNLOADERS

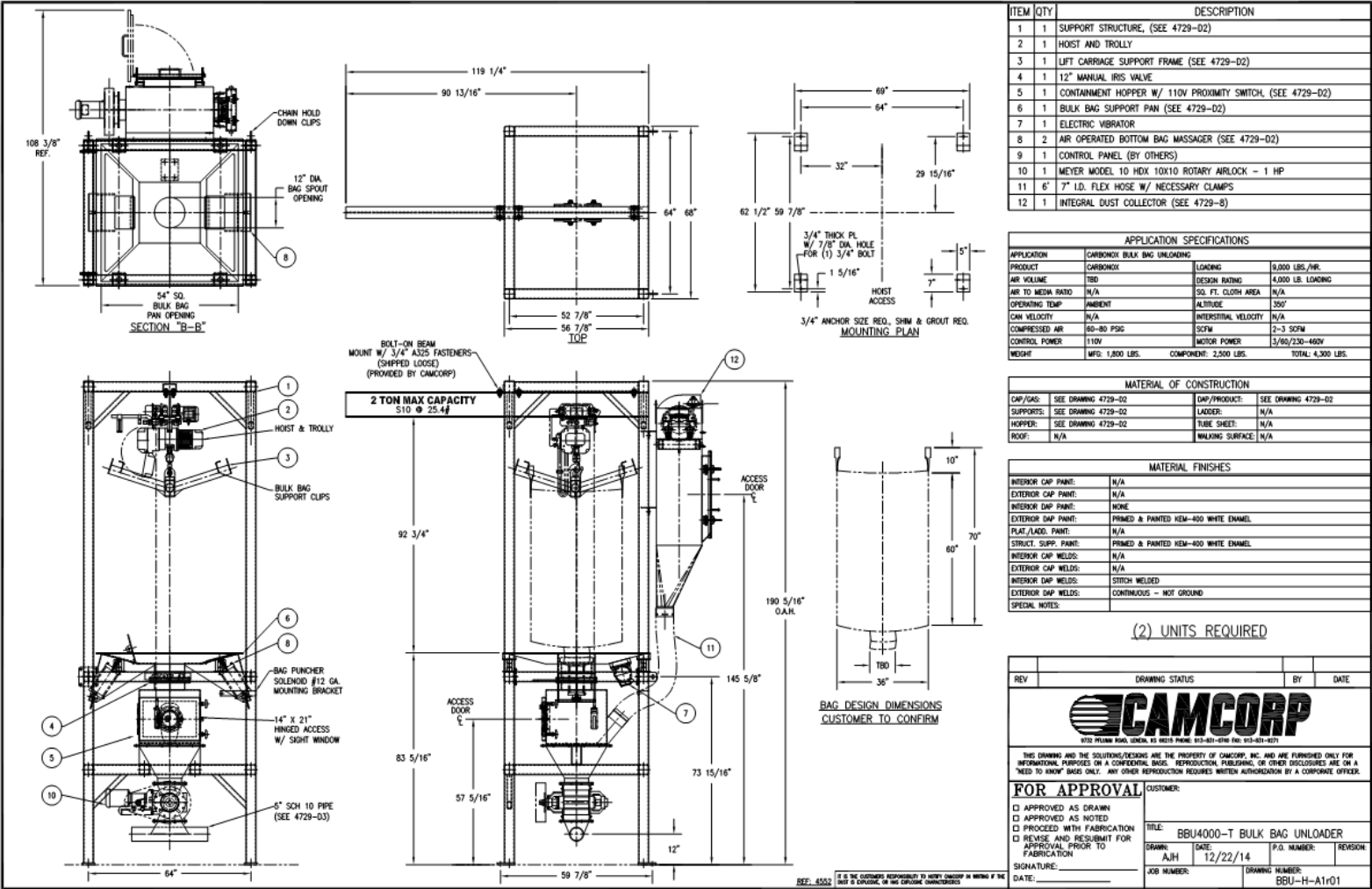
Product Overview

- 2-TON Capacity!!
- Fork-Lift/Manual Loading
- Hoist / Trolley Loading
- Spout Containment Chamber
- 12" Iris Flow Control Valve
- Discharge Vibrator
- Bag Punchers
 - High & Resting Pan
- Integral Dust Collection
- Food Grade Construction
- Control Panel
- Load Cells – Loss-in-Weight
- Pneumatic or Mechanical Product Removal



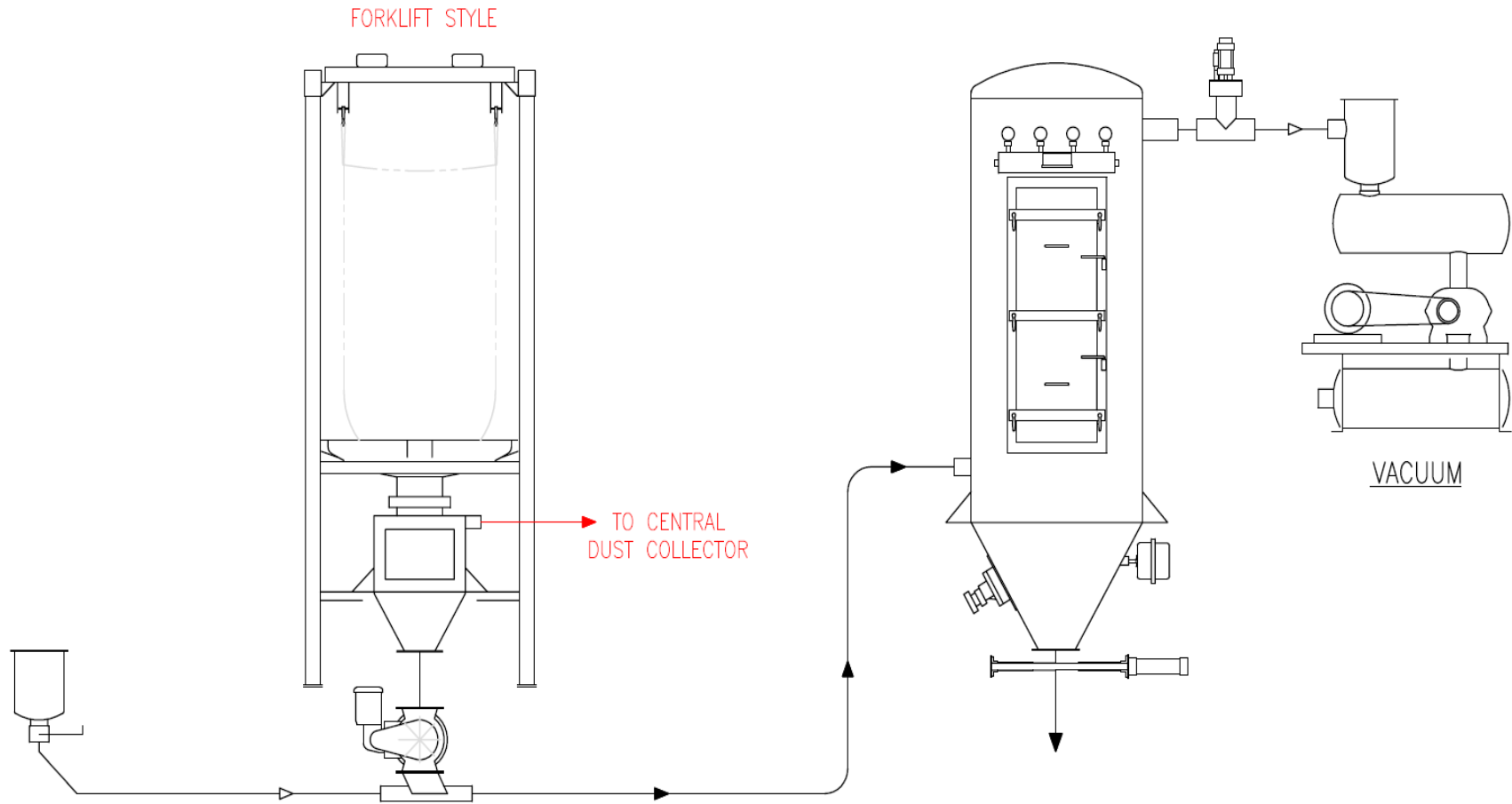
BULK BAG UNLOADERS

General Arrangement Drawing – Hoist & Trolley Style



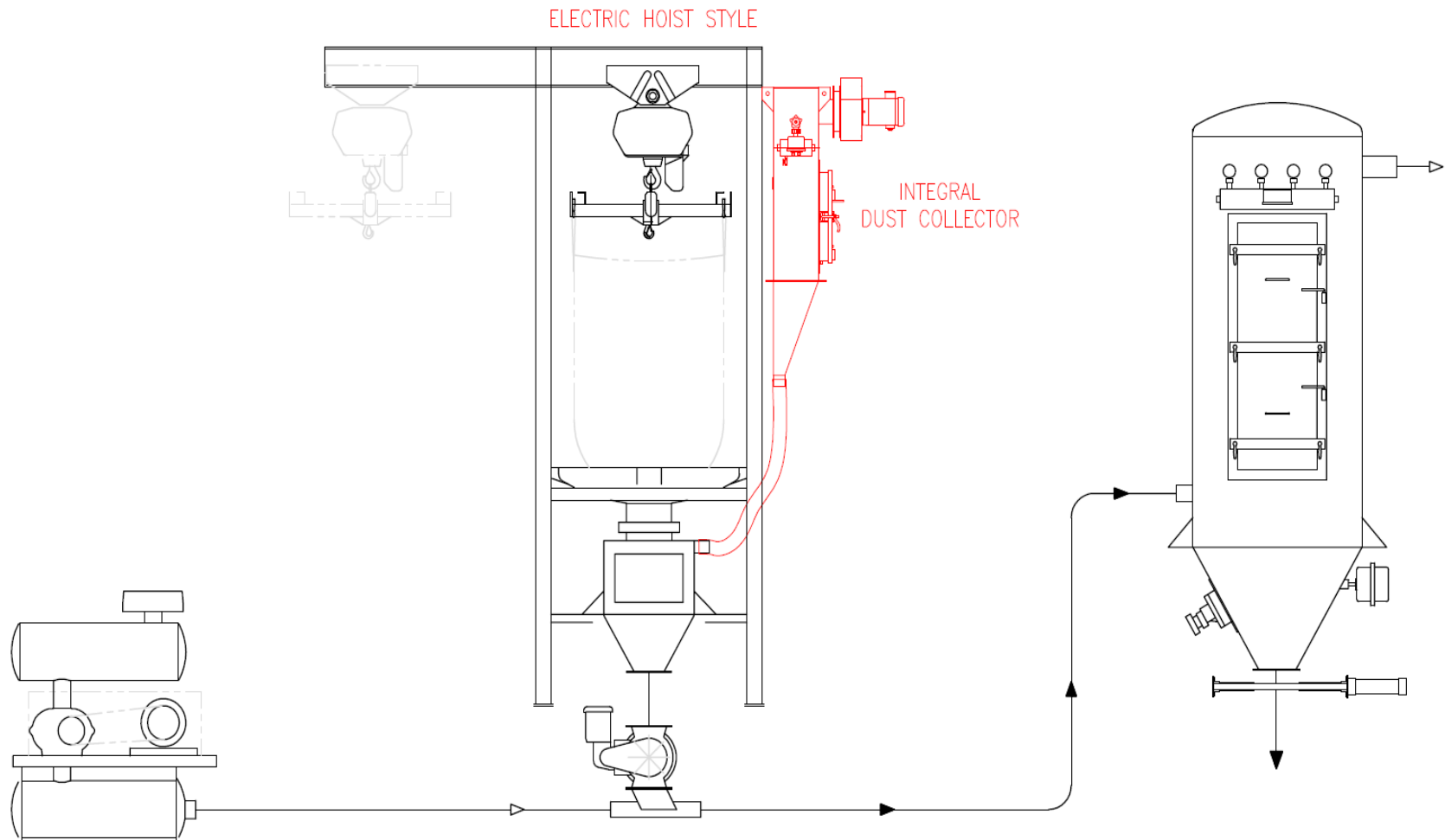
BULK BAG UNLOADERS

Forklift Style



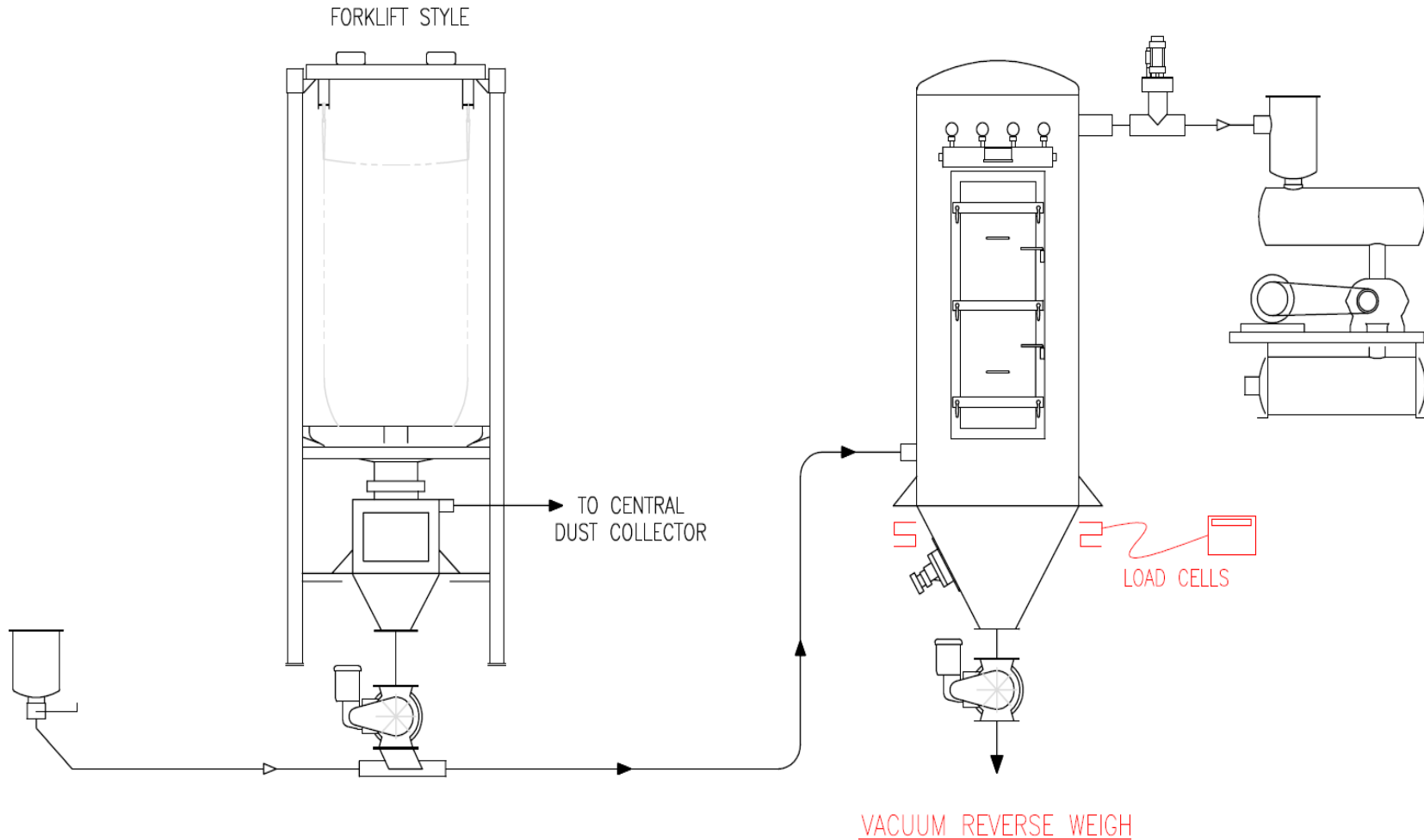
BULK BAG UNLOADERS

Hoist and Trolley Style



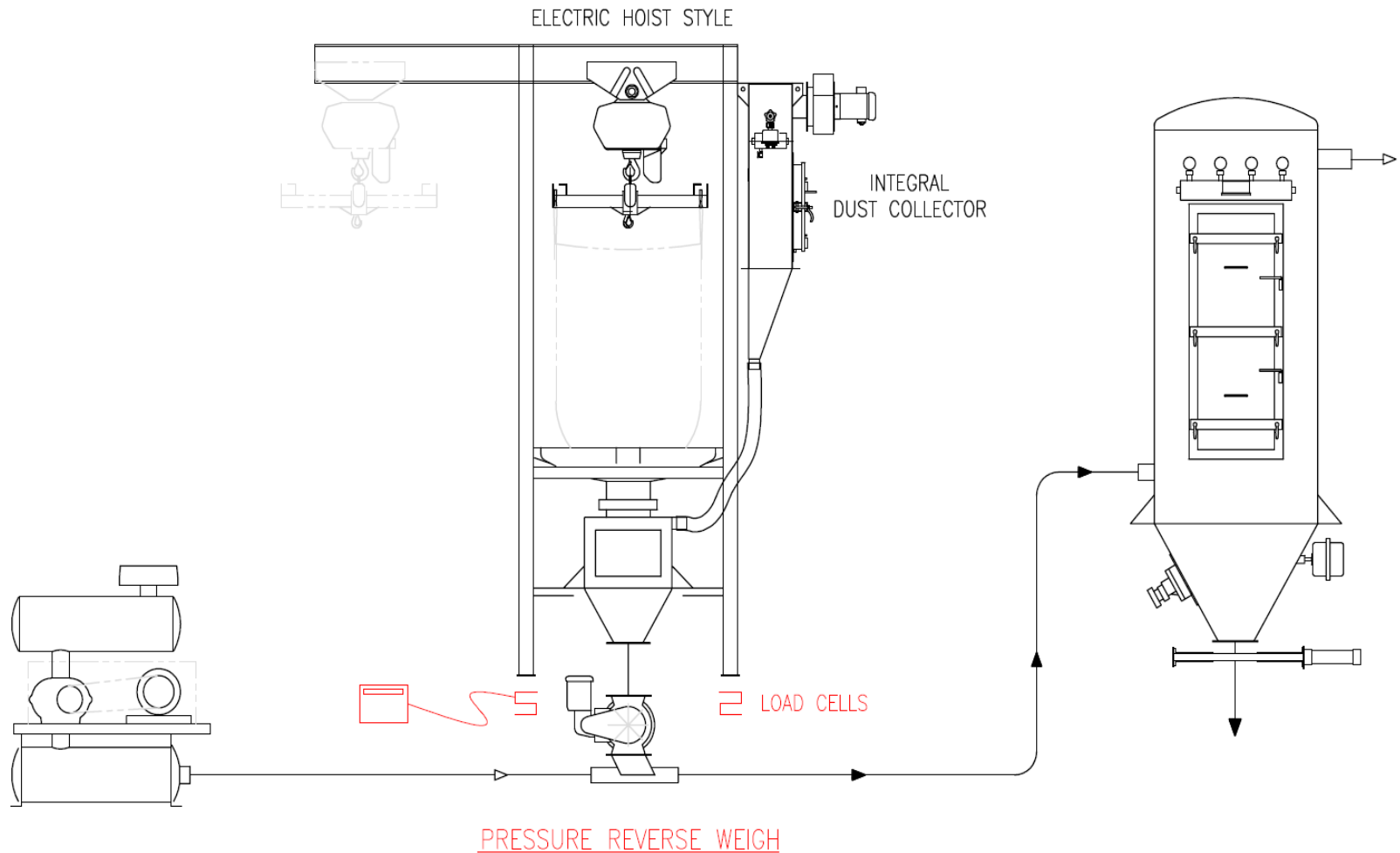
BULK BAG UNLOADERS

Bulk Bag Unloading with Vacuum Transfer and Reverse Weighing



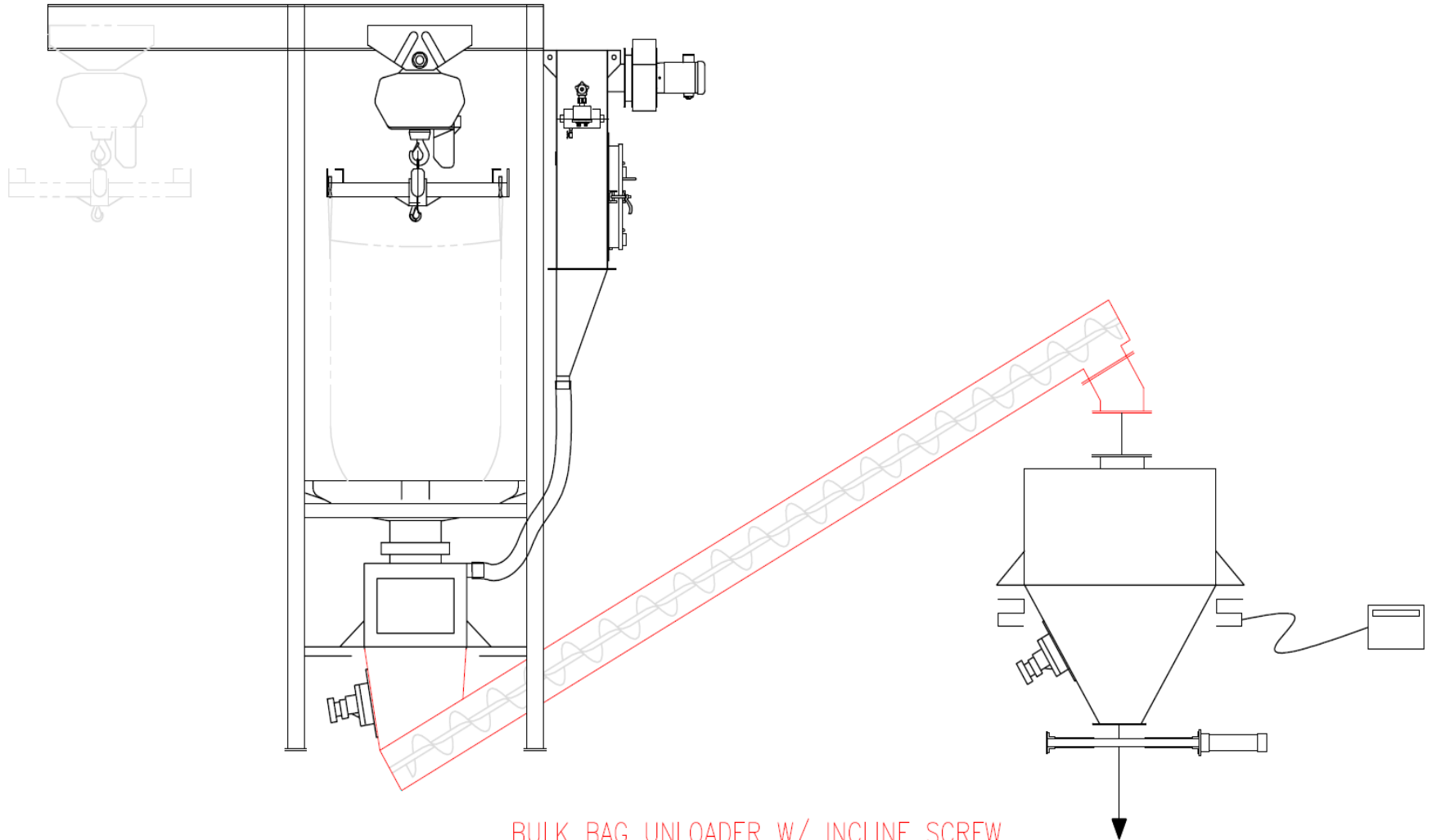
BULK BAG UNLOADERS

Bulk Bag Unloading with Reverse Weighing Discharging Into a Positive Pressure System



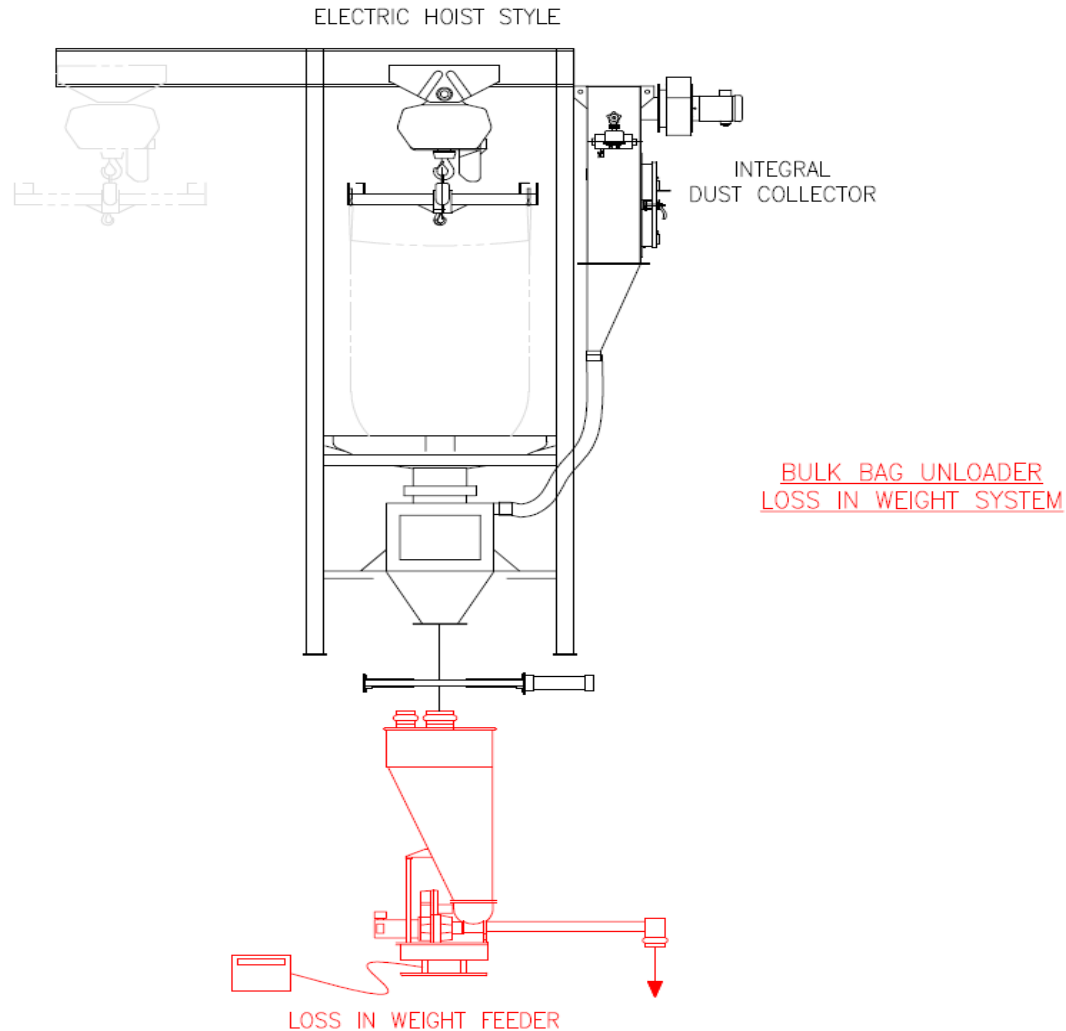
BULK BAG UNLOADERS

Bulk Bag Unloader with Incline Screw



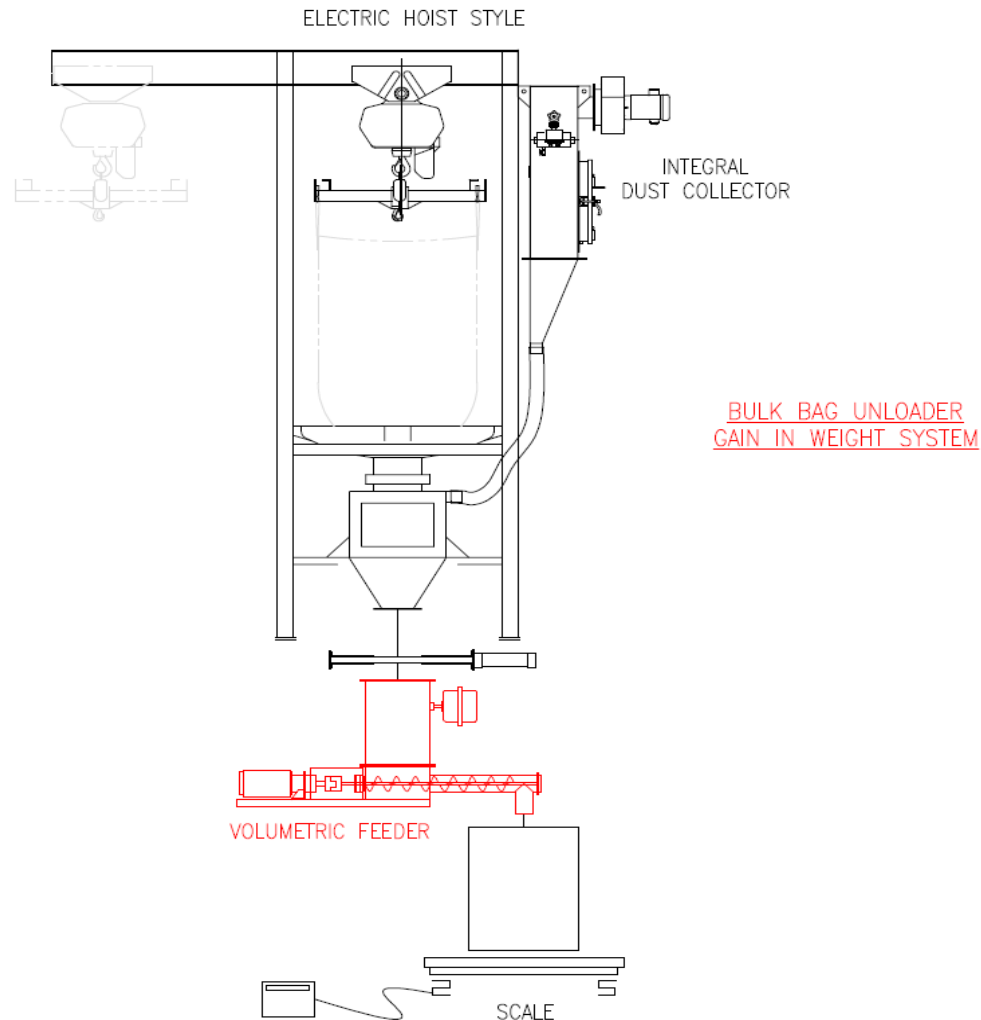
BULK BAG UNLOADERS

Bulk Bag Unloading with Loss-In-Weight Feeder (Gravimetric Feeder) Arrangement



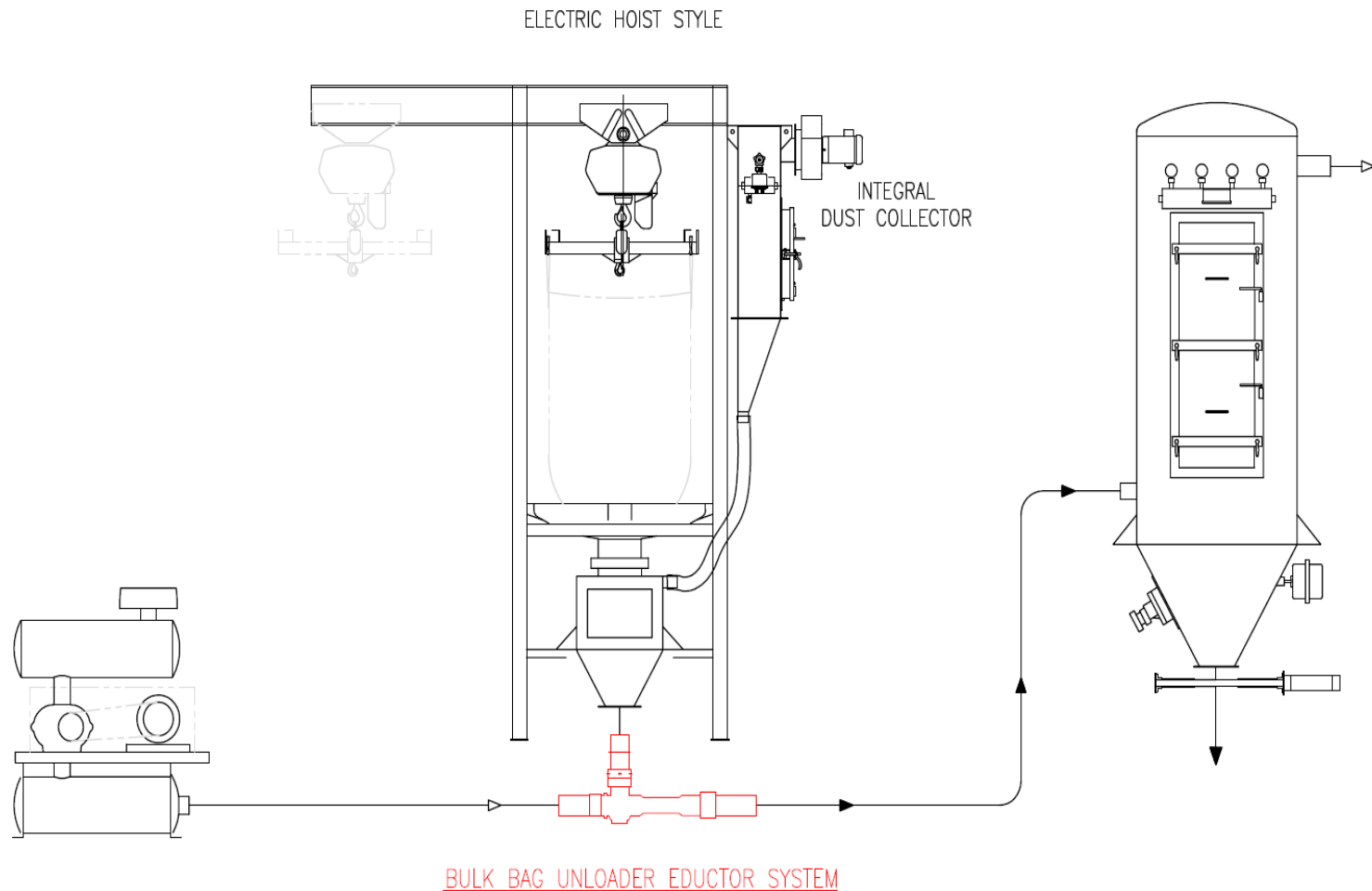
BULK BAG UNLOADERS

Bulk Bag Unloading with Gain-In-Weight (Volumetric Feeding) Arrangement



BULK BAG UNLOADERS

Bulk Bag Unloader with an Eductor Feeding a Pressure Convey System



BULK BAG UNLOADERS

Screw Feeders – Volumetric or Gravimetric



Screw Feeders



Load Cells

Trivia Question #1

Submit your answer through the chat function.

Who can name FIVE types of Level Indication?

Submit your answer through the chat function.

Will you be the first to submit a correct answer?

Trivia Question #1

Submit your answer through the chat function.

Who can name FIVE types of Level Indication?

Point Level Indication, Radar, Ultrasonic, Strain Gauge, Load Cells

Types of Level Indication – Point Level Indication

Point Level Indication

Point level indication provides a data point for only where the level indicator is installed. While there is a wide variety, the result is the same.

Application: Silos, use bins, process control, overfill protection

Pros: Inexpensive level monitoring.

Cons: Limited data

Accuracy: +/- 10%

Types of Point Level Indication

- Rotary Paddle Style Level Indicators
- RF Capacitance Level Probes
- Vibratory Level Sensors (Tuning Forks)



Types of Level Indication – Point Level Indication

Yoyo / Plumb-Bob

A Plumb Bob style of level indication measures levels by dropping a weighted cable into the silo cavity. When it hits an object (ideally the product in the silo) it provides a measurement which then can be translated into volume calculations.

Application: Typically used where a general idea of silo / use bin capacity is acceptable.

Pros: Fairly inexpensive. Remote monitoring.

Cons: Cable can get gummed up with product causing it to not ascend/descend well. Older versions required the operator to be on the top of the silo or use bin to operate.

Accuracy: +/- 10%



Types of Level Indication – Continuous

Ultrasonic

Ultrasonic sensors measure levels by calculating the duration and strength of high frequency sound waves that are reflected off the surface back to the sensor – the time taken is relative to the distance between the sensor and the product. The length of time in which the sensor takes to react is affected by various elements in the atmosphere above the media such as turbulence, foam, temperature etc. Non-contact applications for bulk solids.

Applications: Often used in systems that require remote monitoring.

Pros: No moving parts, compact, reliable

Cons: Expensive, invasive, performance can be affected by various elements in the environment

Accuracy: +/- 5%-7%



Types of Level Indication – Continuous

Radar / Microwave

In principle, radar works in a similar way to ultrasonic, but the pulses travel at the speed of light and again; the reliability and repeatability can be affected – but this time by the dielectric constant of the fluid. However, radar can provide very precise level information and compensate for fixed structures within the container.

Applications: Moist, vaporous, and dusty environments. They are also used in systems in which temperatures vary.

Pros: Very accurate, no calibration required, multiple output options

Cons: Expensive, can be affected by the environment, limited detection range

Accuracy: +/- 5%-7%



Types of Level Indication – Continuous

Strain Gauges

Strain gauges measure the compression of the strain gauge and then interprets that data to provide a readout. Strain gauges have become more popular when continuous level indication is desired, but the costs to retrofit load cells has become too uneconomical. Strain gauges work great when silo load cells are not a viable option.

Applications: Moist, vaporous, and dusty environments. They are also used in systems in which temperatures vary.

Pros: Very accurate, no calibration required, low maintenance

Cons: Expensive, limited detection range (i.e., significant weight is required to drive accuracies), wind and sun deflection impact accuracy.

Accuracy: Historically has been ~5%. Over the years the claim 1% accuracy.



Types of Level Indication – Continuous

Load Cells

Most load cells for silos and use bins are compression style load cells. For scale hoppers and smaller vessels, tension or compression load cells can be deployed. Load cells provide the most accurate form of level indication available.

Applications: Moist, vaporous, and dusty environments. They are also used in systems in which temperatures vary.

Pros: Very accurate, multiple output options, low maintenance.

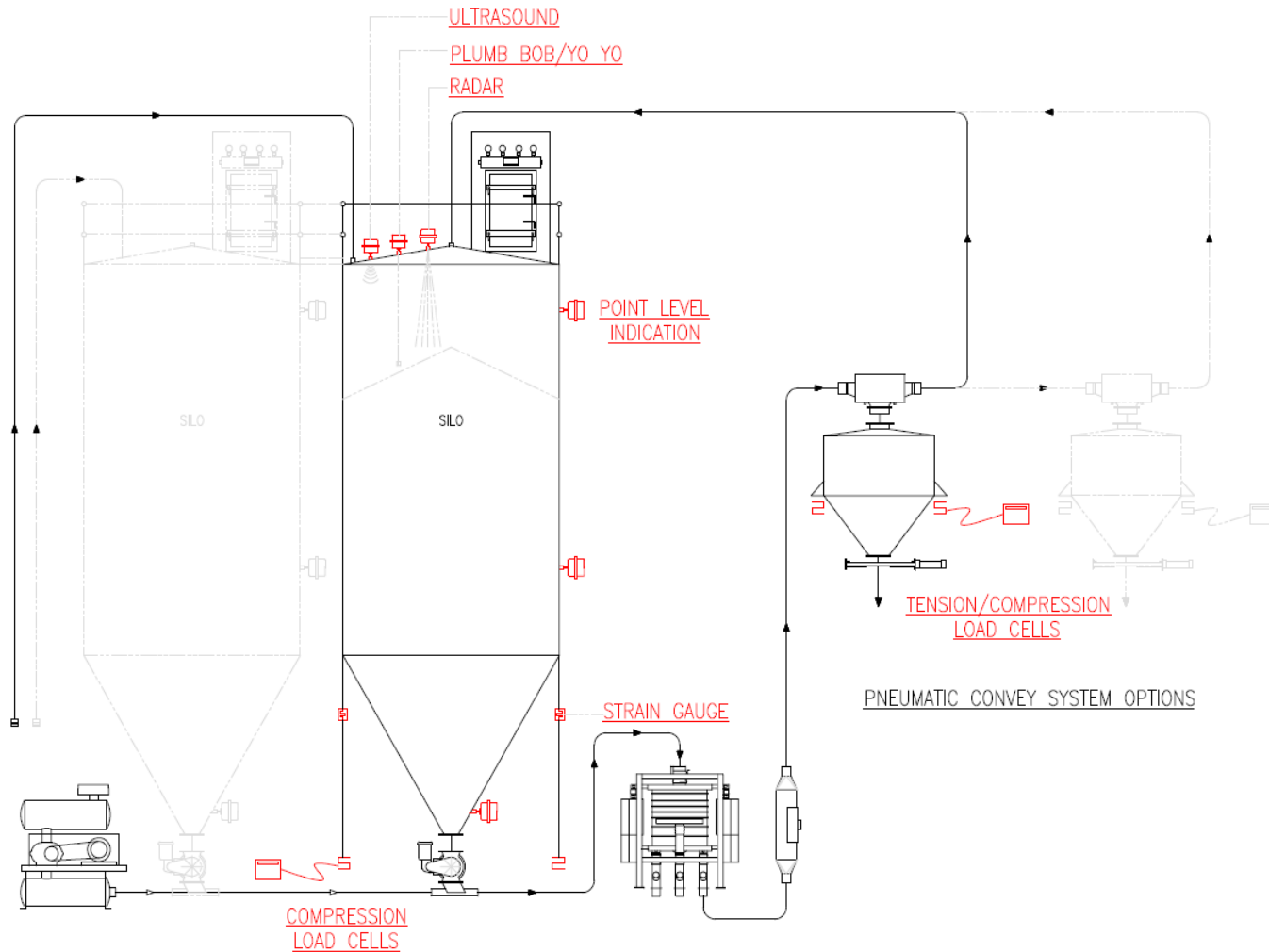
Cons: Expensive, can be affected by the environment
(wind and sun), limited detection range

Accuracy: Accuracies are typically stated at 1%.



PNEUMATIC CONVEY SYSTEMS

Level Indication



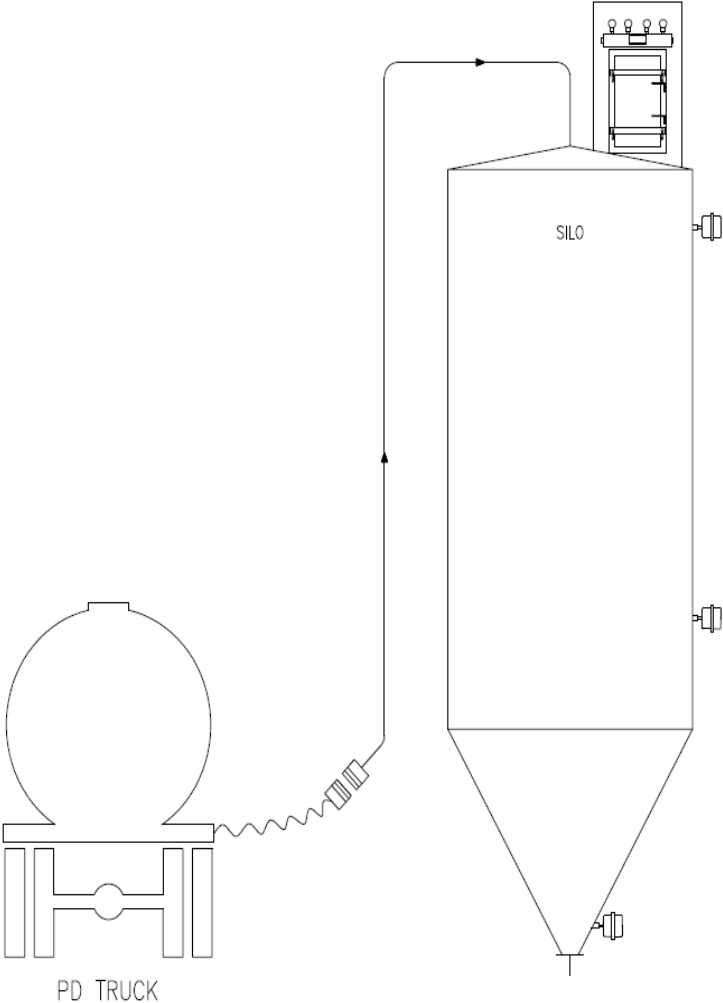
SILOS FILL SYSTEMS

PD Truck Unloading



SILOS FILL SYSTEMS

PD Truck Unloading



SILO PD TRUCK FILL

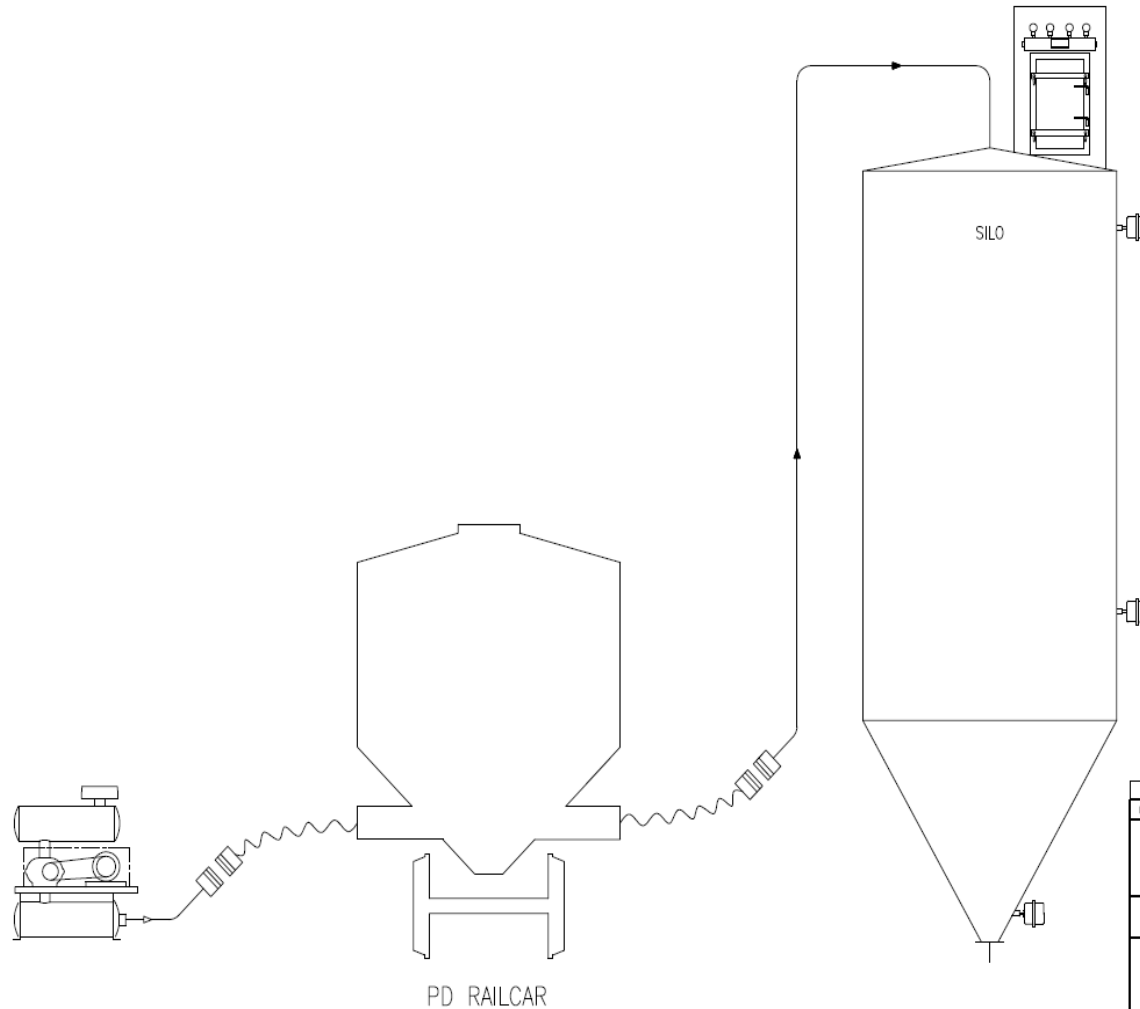
REV	DRAWING STATUS	BY	DATE
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		CUSTOMER	
		TITLE	
		STANDARD BULK SILO	
DRAWN:	DATE:	DESIGNED:	REVISION:

SILOS FILL SYSTEMS



SILOS FILL SYSTEMS

PD Railcar Unloading

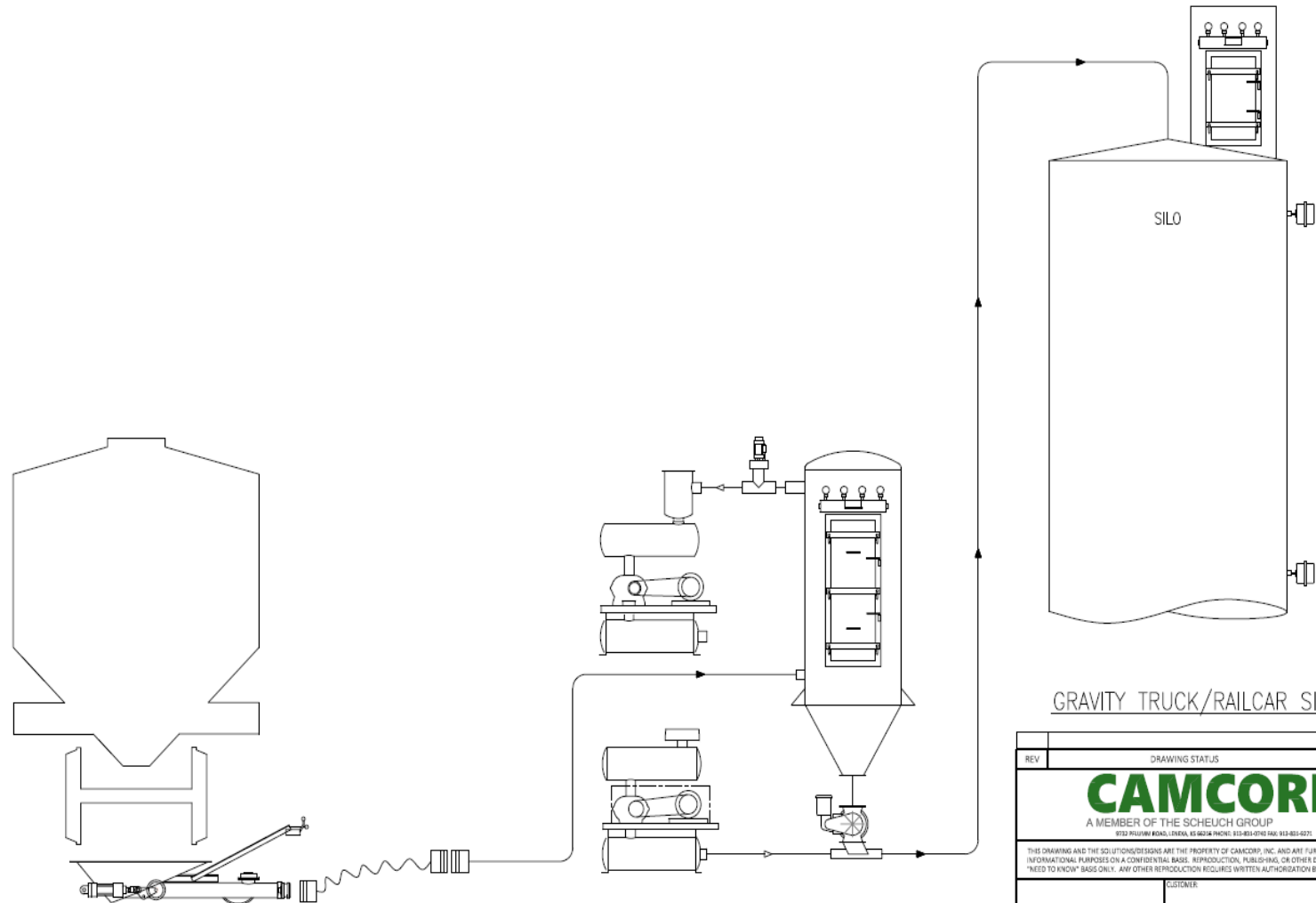


SILO PD RAILCAR FILL

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CUSTOMER:			
TITLE: STANDARD BULK SILO			
DRAWN:	DATE:	P.D. NUMBER:	REVISION:

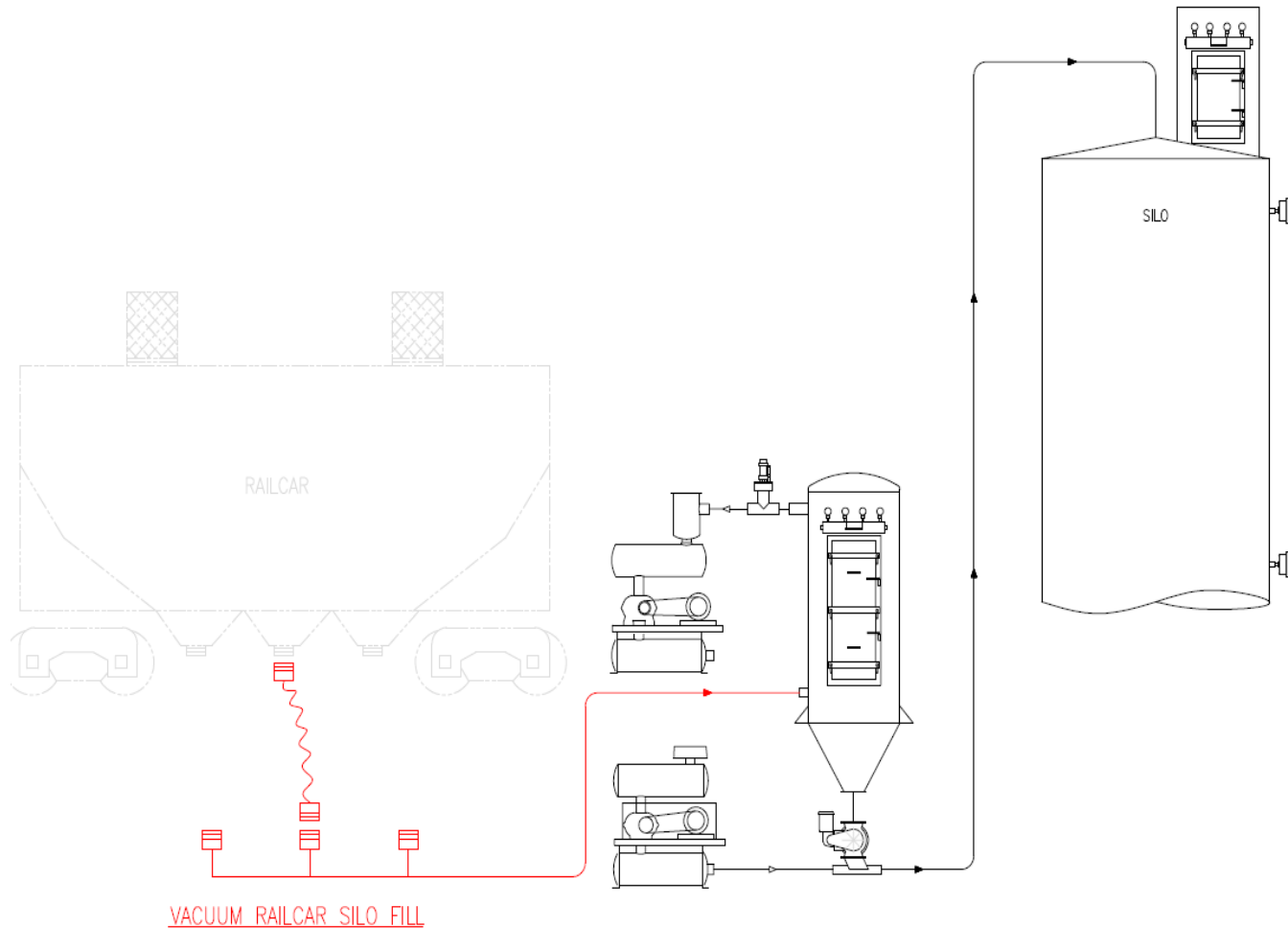
SILOS FILL SYSTEMS

Vacuum Unloading to Filter Receiver / Filter Receiver Pressure Transfer System to Silo



SILOS FILL SYSTEMS

Vacuum Unloading to Filter Receiver / Filter Receiver Pressure Transfer System to Silo

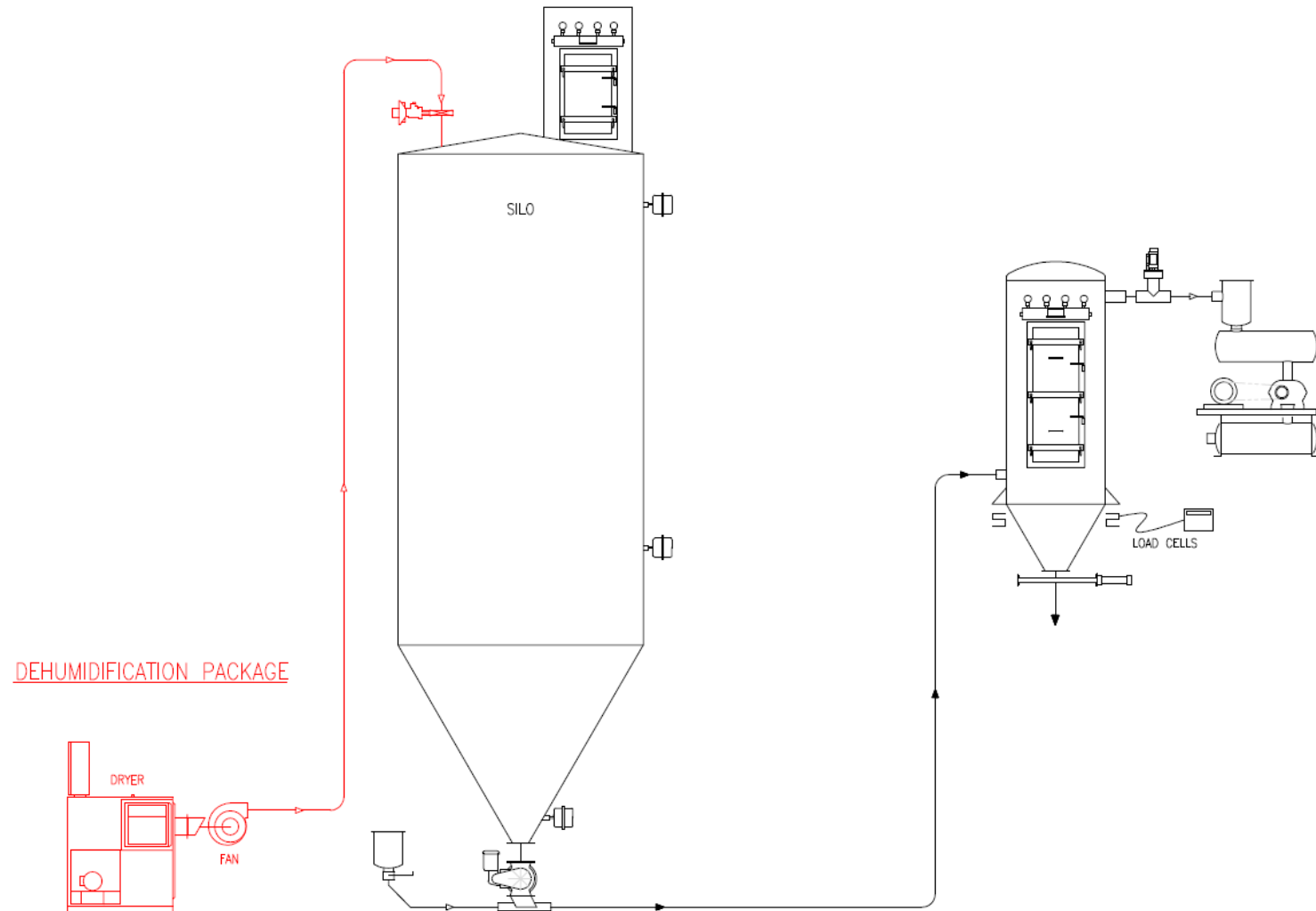


DEHUMIDIFICATION SYSTEMS



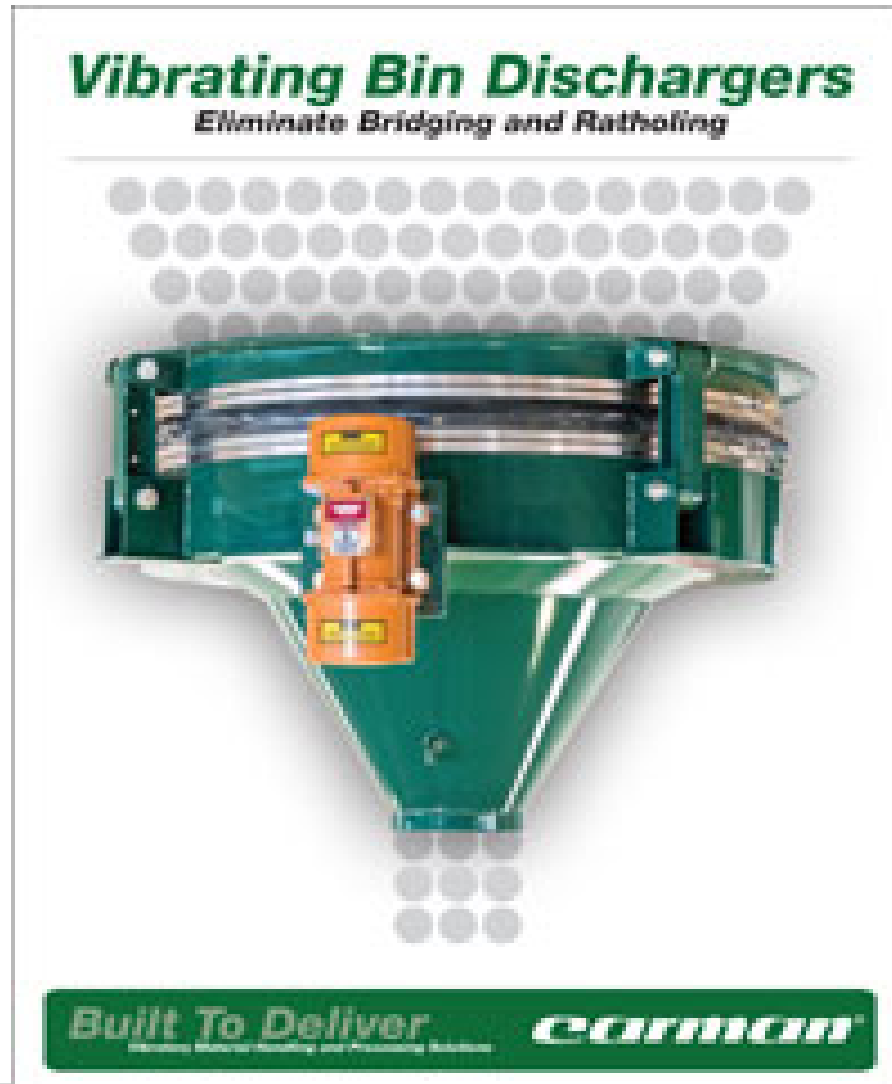
DEHUMIDIFICATION SYSTEMS

Silo Dehumidification



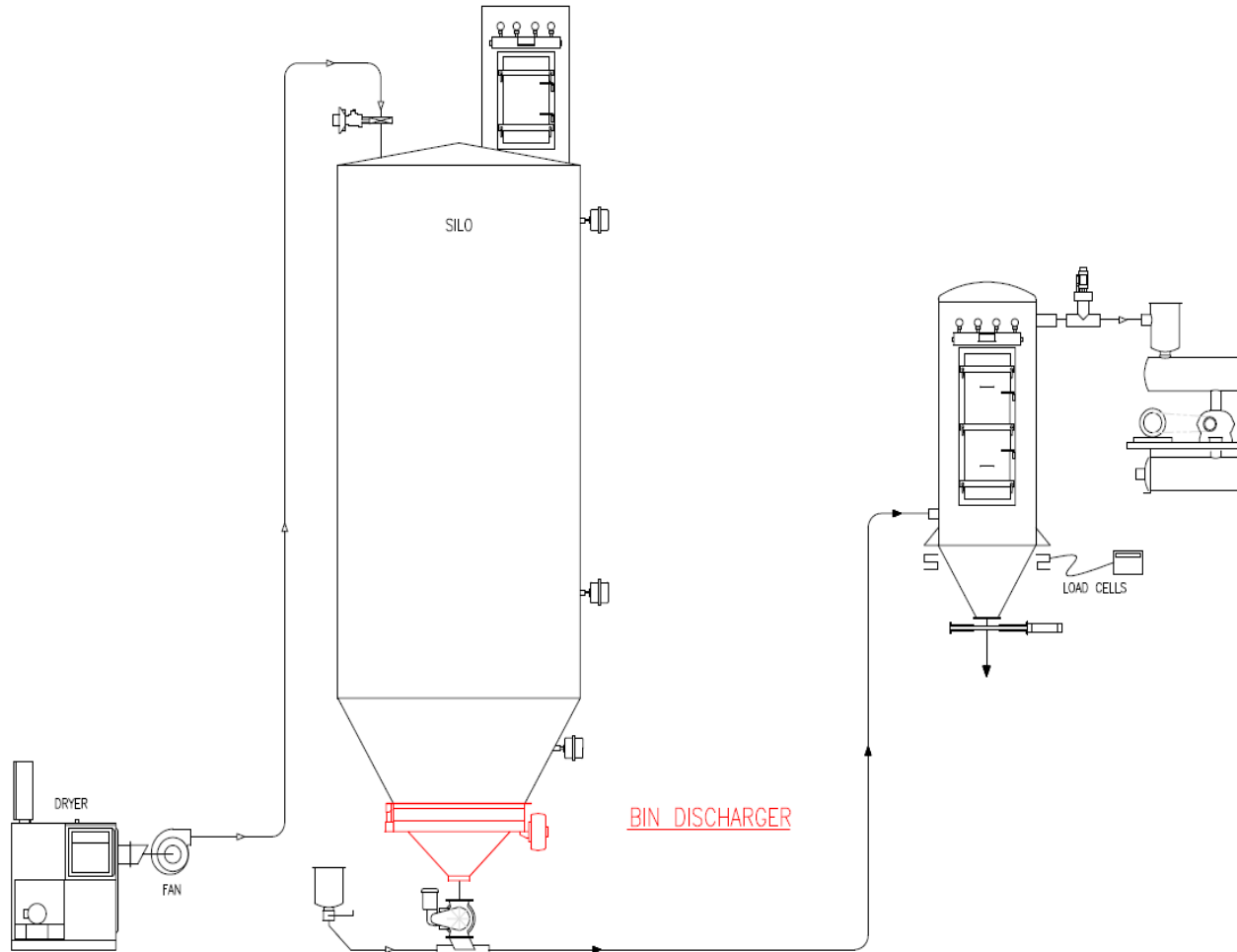
SILO DISCHARGE SYSTEMS

Bin Discharger



SILO DISCHARGE SYSTEMS

Bin Discharger



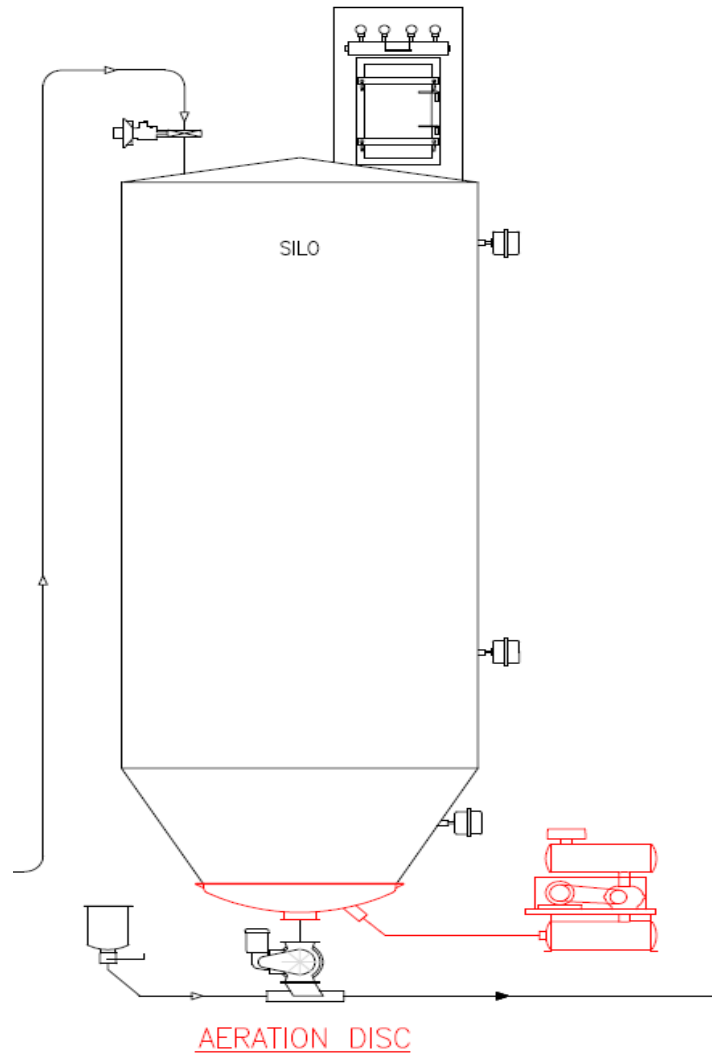
SILO DISCHARGE SYSTEMS

Airslides and Aeration Disc



SILO DISCHARGE SYSTEMS

Silo Aeration



SILO DISCHARGE SYSTEMS

Probe Boxes



PNEUMATIC CONVEYING EQUIPMENT

Rotary Lobe Blower Package

- Pressure Blower Packages
- Vacuum Blower Packages
- Standard Features & Accessories Include:
 - Rotary Lobe Blower (Roots, Sutorbilt, Gardner-Denver, M-D)
 - **High Efficiency or Explosion Proof Motor**
 - V-Belt Drive with OSHA Approved Guard
 - Inlet / Discharge Silencers
 - Inlet / In-line Filter
 - Pressure / Vacuum Relief Valve
 - Pressure / Vacuum Gauge
 - Pressure / Vacuum Switch
 - Differential Pressure Gauge or Switch
 - Discharge Check Valve
 - **Temperature Switch**
 - **Vibration Isolation**
 - **Transmitters**
 - **Sound Enclosure**



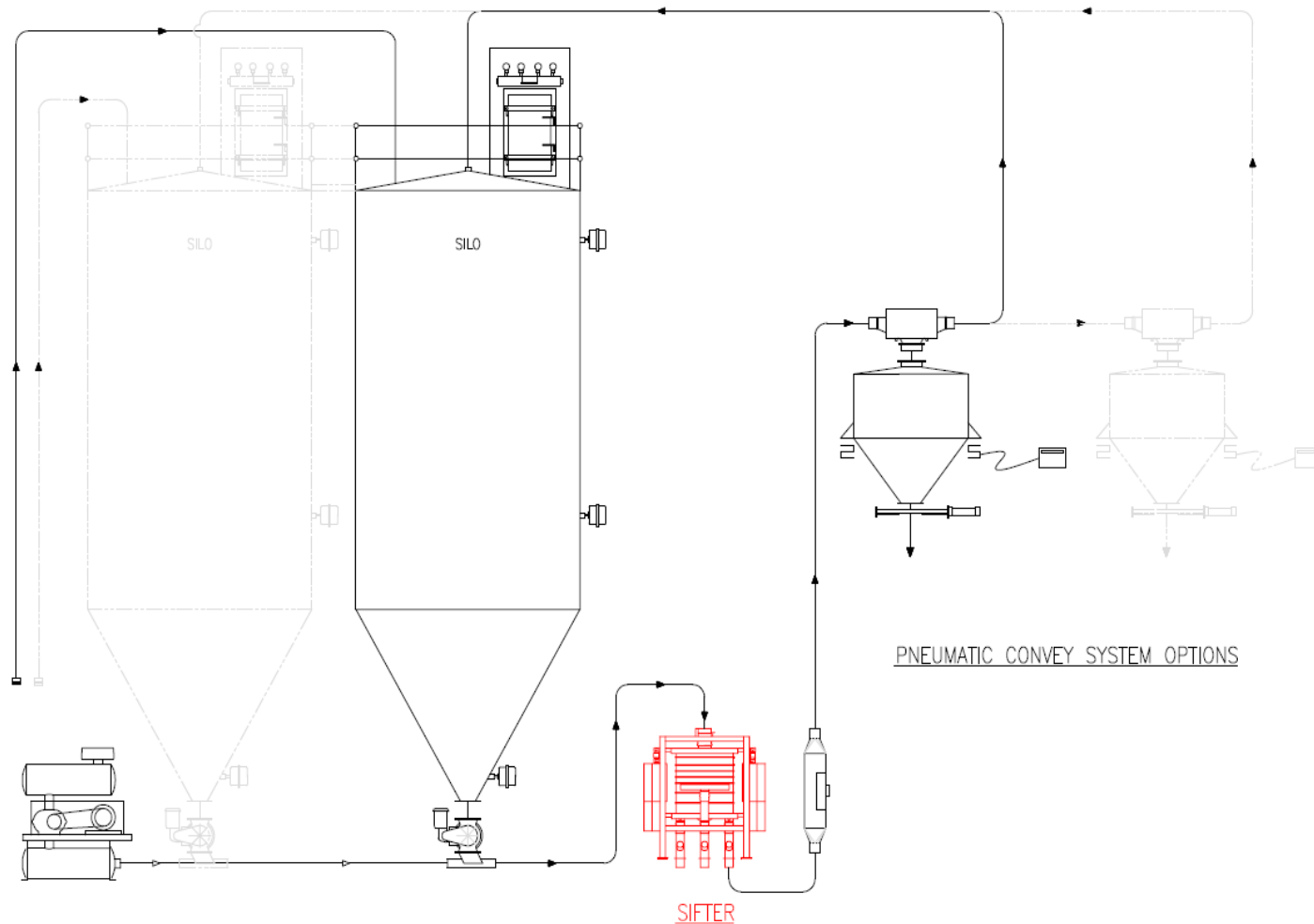
PNEUMATIC CONVEYING EQUIPMENT

Sound Enclosures



PNEUMATIC CONVEYING EQUIPMENT

Sifters / Scalpers / Screening



PNEUMATIC CONVEYING EQUIPMENT

Inline Deck Sifting – Pressure, Vacuum, or Gravity



PNEUMATIC CONVEYING EQUIPMENT

Inline Deck Sifting – Pressure, Vacuum, or Gravity



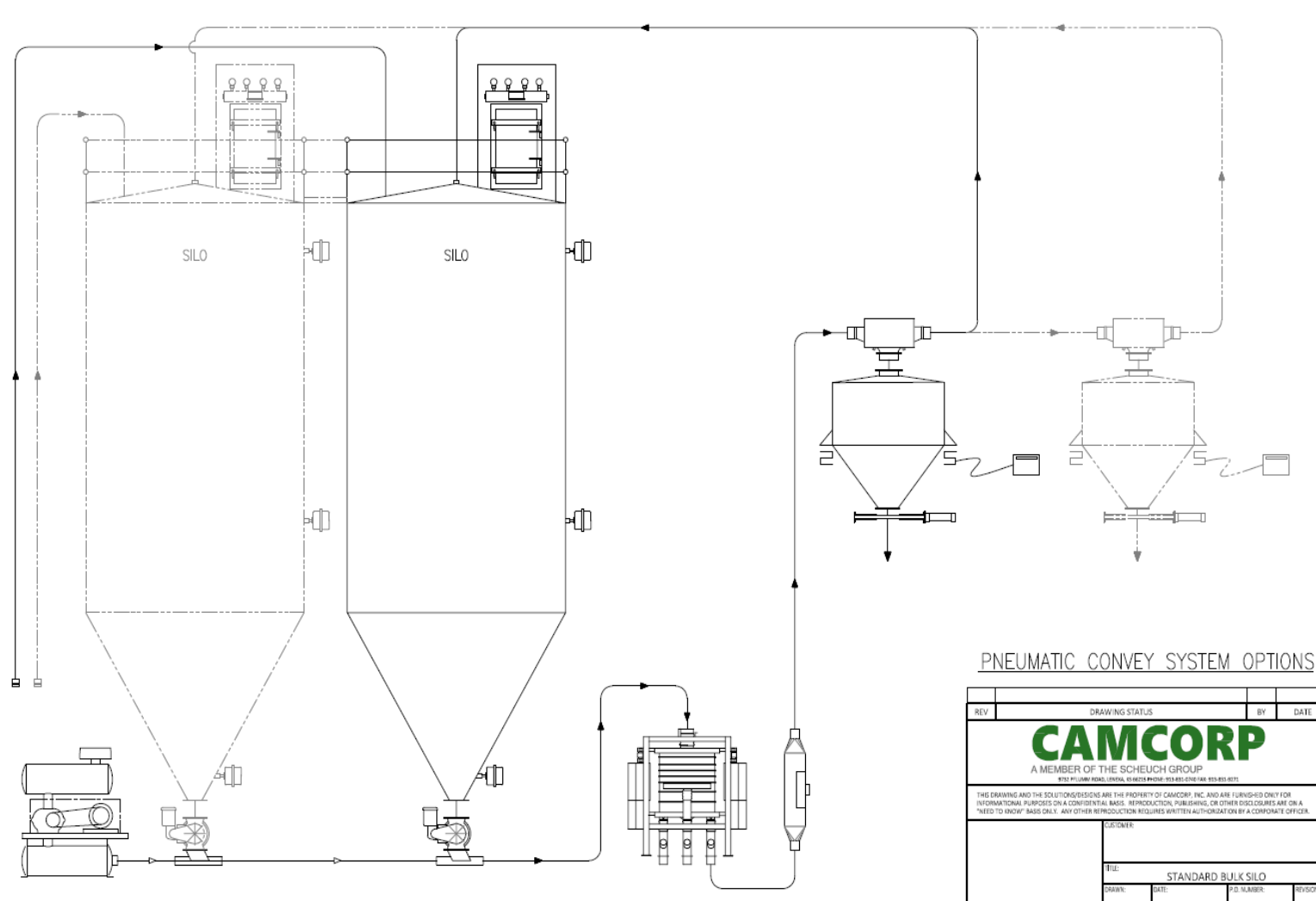
PNEUMATIC CONVEYING EQUIPMENT

Rotary Sifters – Pressure or Vacuum



PNEUMATIC CONVEYING EQUIPMENT

Flow Schematic with In-Line Sifter



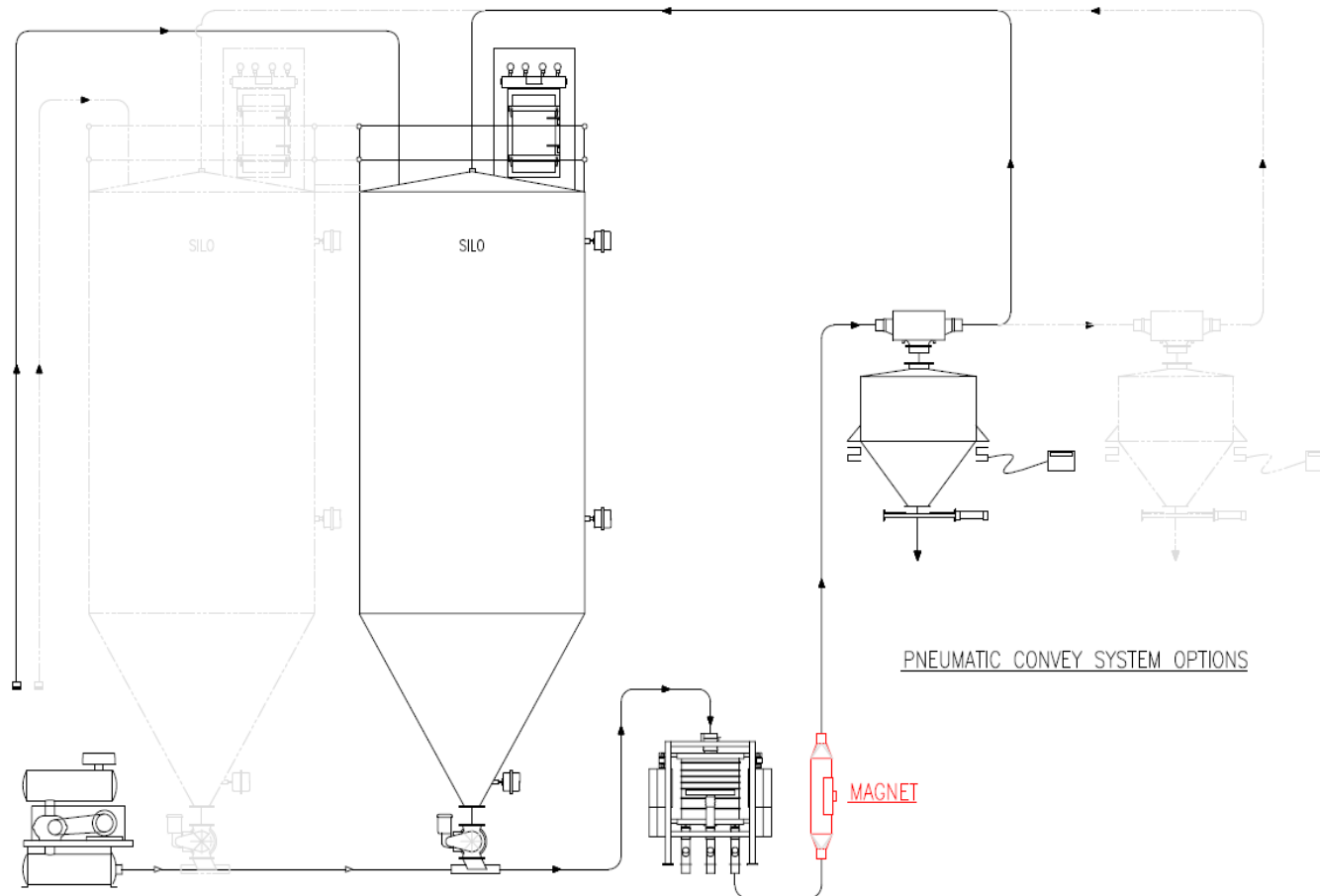
PNEUMATIC CONVEY SYSTEMS

In-Line Magnet



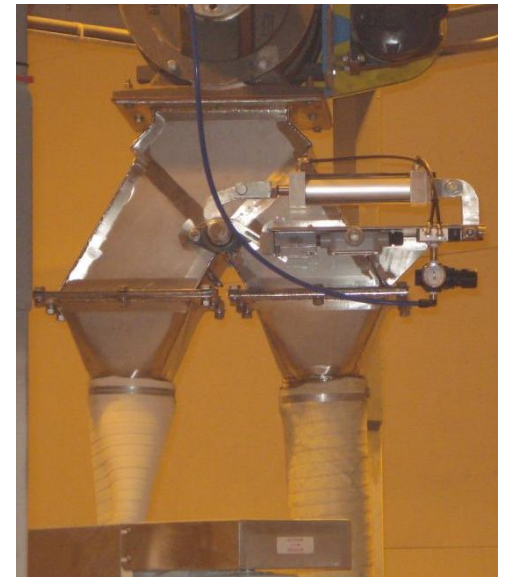
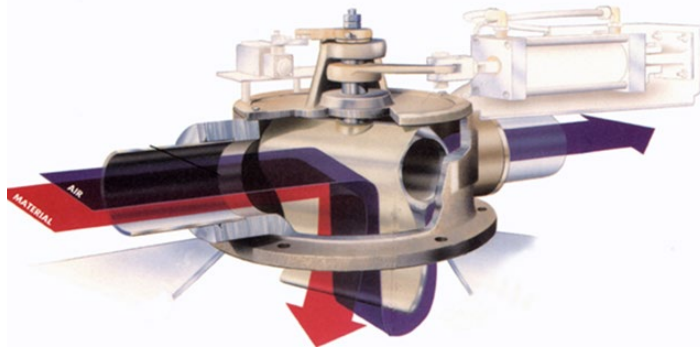
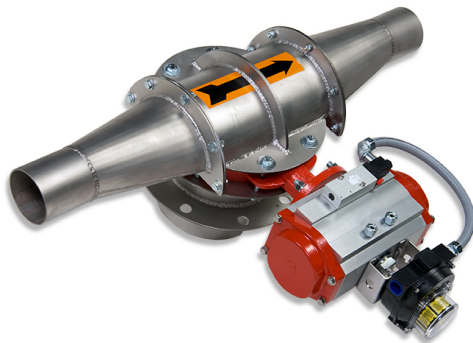
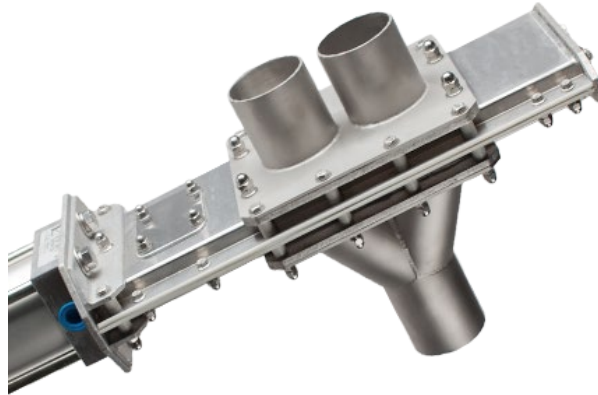
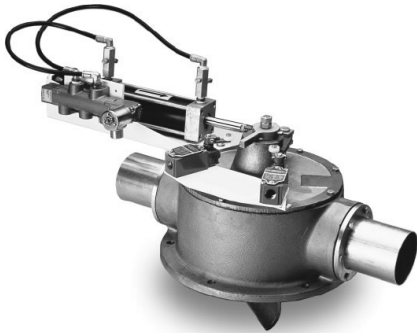
PNEUMATIC CONVEY SYSTEMS

Flow Schematic with In-line Magnet



PNEUMATIC CONVEY SYSTEMS

CAMCORP Valves



PNEUMATIC CONVEYING SYSTEM OPTIONS

Parts

Ordering replacement parts at CAMCORP is as easy as 1-2-3!



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REP Hub



TRAINING



REP KIT

We are constantly looking for concept, ideas, and tools in our efforts to support our valued representatives. If you have any items (sales ideas, strategies, concepts, tools, etc.) you wish to share with the other reps, please contact [Mike Abare](#).

[SUBMIT A PROJECT PROFILE](#)



PNEUMATIC CONVEYING SYSTEM OPTIONS

Please welcome

Angi Hamlin

Eastern Regional Sales Manager



Trivia Question #2

Submit your answer through the chat function.

Will you be the first to submit a correct answer?

Submit your answer through the chat function.

What was the TOPIC of the feature article in last month's REP newsletter, the **CAMCORP CONNECTION**?

Trivia Question #2

Submit your answer through the chat function.

What was the TOPIC of the feature article in last month's REP newsletter, the **CAMCORP CONNECTION**?



TRADESHOWS



- Non-GEAPS members can enter "23284" at registration and receive 50% off admittance. <https://geapsexchange.com/>
- Snack producer customers can receive a FREE exhibit hall-only pass to SNAXPO. Send this link to your customers to register (copy and paste):
<https://www.multisoftevents.com/SNAXPO21/Exhibitors/RegisterCustomerDayPass.aspx?ID=d43f4eb2-e163-475b-9c4e-2c9f3170c001>

UPCOMING TRAINING

Mid September– Dust Collection

Dates and Topics subject to change.

QUESTIONS

THANK YOU!