

Application

The 2424 powder receiver provides a high capacity sequencing system designed to handle fine bulk materials. Recommended uses are for silo-to-daybin transfer, in-plant transfer or railcar unloading applications up to 3,175 kg/h [7,000 lb/h].

The 2424 receiver is available in two versions for either general keep full conveying or loss-in-weight (LIW) feeder refill applications, with a selection of various discharge valve types (gravity, orifice and butterfly), depending on the application and material to be fed.

Receivers for keep-full applications are fitted with a gravity gate discharge valve. When material level in the storage hopper drops below the level indicator, the receiver is signaled to begin drawing material. The fill sequence continues until the material level in the hopper is above the level indicator.

Receivers designed for loss-in-weight feeder refill applications are fitted with a level sensor and require a slide/orifice or butterfly valve. The receiver draws material until it is full and waits for a signal from the feeder below to open the discharge valve and dispense the material. This cycle is then repeated.

Design

The 2424 receiver is available in either carbon steel (painted) or stainless steel construction. Each receiver has a stainless steel check valve to allow multiple receivers to draw material from a common conveying line. The 2424 powder receiver utilizes a cartridge filter.

Central system units for the 2424 receivers utilize a common vacuum blower package, and are primarily used on multiple-destination applications where larger conveying rates or long distances are required.

Mechanical Features

- Rugged modular design
- Quick-connect clamps for easy cleaning and filter maintenance
- Full support discharge flange for mounting

Controls

The receiver is available with controls suitable for use with either a solid state microprocessor controller (MPC) or a programmable logic controller (PLC). Both control systems utilize 24 VDC low voltage and are available with installation kits making installation easy and more economical. The receiver controls include color coded quick connectors and provide communication to the central controller.

For single receiver applications, we offer the LSR Controller. In loss-in-weight feeder refill applications, the LSR Controller seamlessly interfaces with Coperion K-Tron Feeder controls.

Conveying Rates

Based on a distance of 15 m [50 ft] and bulk density of 0.5 kg/dm³ [31 lb/ft³]. Rates vary with material characteristics, conveying distance and plant layout.

Powder Receiver

- Up to 3,175 kg/h [7,000 lb/h]



2424 powder receiver in painted carbon steel with gravity discharge gate

Technical Data

Standard Mechanical Specifications

- Available in carbon steel with painted primer interior and painted RAL 7035 gray exterior or 1.4301 (AISI 304) stainless steel construction
- Holding capacity: keep full version 134 dm³ [4.74 ft³]
LIW refill version 106 dm³ [3.74 ft³]
- 559 mm [22 in] diameter housing
- Up to 102 mm [4 in] tangential inlet with stainless steel check valve assembly
- Stainless steel band clamps
- Integral fill valve with backside vent, dual acting air cylinder with solenoid control 24 VDC
- Discharge gate valve
 - Keep full version: One-piece stainless steel 254 mm [10 in] gravity gate discharge with white Neoprene seal
 - LIW feeder refill version: Butterfly or orifice gate valve; with single coil solenoid (energize to open valve)
- Automatic reverse jet cleaning
5.7 dm³ [0.2 ft³] air reservoir; max 6.9 bar(g) [100 psi(g)]

Standard Filtration Specifications

- 100% spunbond polyester pleated cartridge filter for powder, total 4.6 or 9.3 m² [50 or 100 ft²] filter area

Standard Electrical Specifications

- Signal voltage 24 VDC

Weights

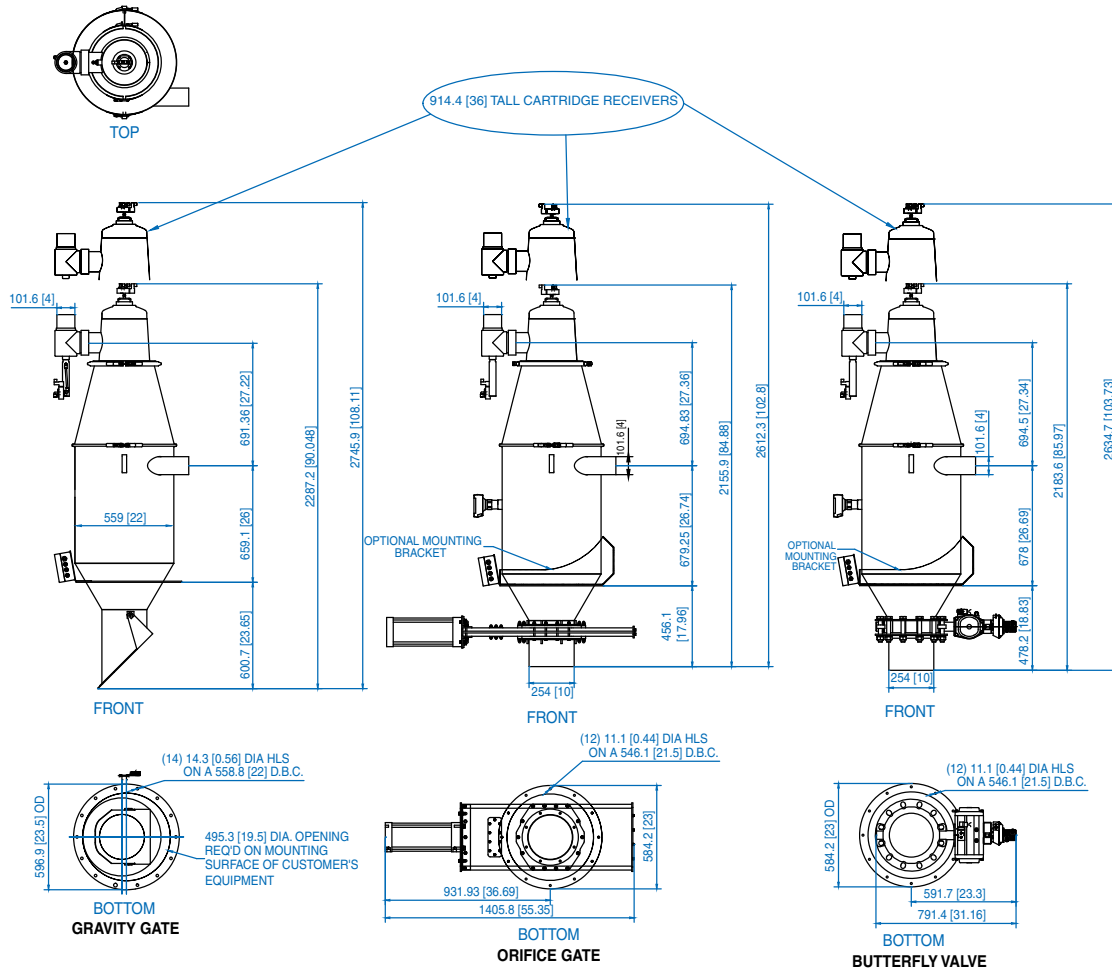
- Keep full version 96 kg [210 lb], 18 in [457 mm] filter length
114 kg [250 lb], 36 in [914 mm] filter length
- LIW refill version 143 kg [315 lb], 18 in [457 mm] filter length
161 kg [355 lb], 36 in [914 mm] filter length

Operating Temperature

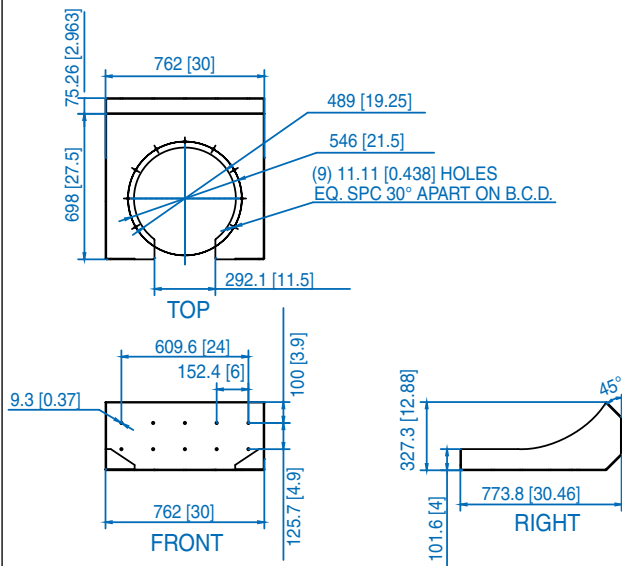
- -10 to 50°C [14 to 122°F]

Dimensions of 2424 Powder Receiver mm [in]
for general keep full conveying

for loss-in-weight feeder refill



Dimensions Optional Mounting Bracket mm [in]



Options

Mechanical

- Mounting bracket for LIW feeder refill versions
- Flange for alternate discharge gate valve
- Weatherhood for outdoor use
- Custom material combinations
- Reduced inlet tube size to meet smaller capacity applications
- Vibrator as discharge aid
- Aeration pads as discharge aid
- Enclosure for solenoids

Electrical

- Mounting bracket for terminal box or controller
- Level probes (capacitive or tuning fork type)
- Limit switches on butterfly or slide gate valve
- LSR controller
- Central Microprocessor or PLC Control
- Stainless steel options on solenoids, gauges as required
- Solenoid boxes supplied loose in mild or stainless steel finish
- Terminal box mounted in mild or stainless steel finish
- CSA or UL certified solenoids

Hazardous Locations

- NEC Contact factory

Caution: Measurements are for general reference only. Please consult dimensional drawing for exact measurements.