

Application

The Coperion K-Tron P-Series Venturi loader is designed to convey powders and meets the rigid 3A Dairy sanitary requirements. With the choice of various discharge valve types (powered flap and active driven butterfly valves) the P-Series Venturi loader can be used for conveying applications such as hopper loading, as well as loss-in-weight feeder refill applications, where the loader is not always emptied completely. The venturi power unit utilizes compressed air to create a vacuum convey source.

Design

The P10 loader is available in two outlet configurations: powered flap valve (FP) or butterfly valve (BV). The loader body is made of stainless steel DIN 1.4404 [AISI 316L], with internal and external electropolished surface passivation. The modular construction and sanitary design without pockets or dead spaces allow for easy disassembly and cleaning as well as simple expansion with extension modules. Tri-Clover quick release fittings ensure quick disconnection from conveying and vacuum (air) lines. All units have reverse jet filter cleaning.

Mechanical Features

- Enclosed venturi power unit
- Sanitary design for easy cleaning
- Rugged modular design
- Steep cone angles ensure excellent discharge
- Large area reverse jet filter for efficient powder conveying

Controls

The P10 venturi loader is equipped with the LSR Controller. Front panel controls include a potentiometer to set the draw time and an on/off switch. The controls are capable of handling future add-on options, such as hopper high level probes. The control is provided by a 15 amp, 115/230 VAC, single-phase, grounded panel.

Conveying Rates

P10-FP-150 flap valve versions Ø 150 mm [6 in]
up to 300 kg/h [660 lb/h]

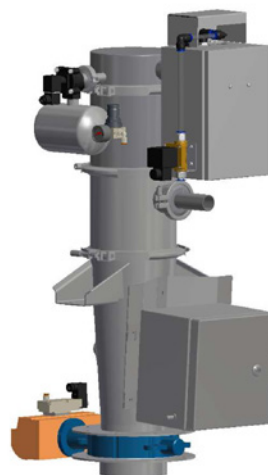
P10-BV-100/150 butterfly valve versions Ø 100 or 150 mm [4 or 6 in]
up to 300 kg/h [660 lb/h]

Based on a distance of 6 m [20 ft] and bulk density of 0.5 kg/dm³ [31 lb/ft³]. Rates vary with material characteristics, conveying distance and plant layout.

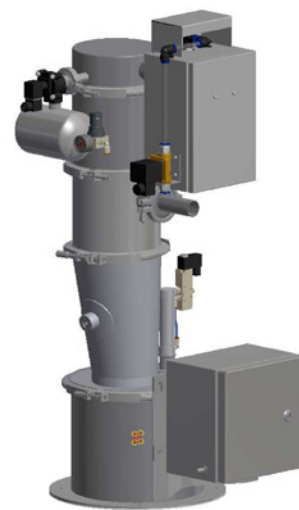
Technical Data

Standard Mechanical Specifications

- Stainless steel DIN 1.4404 [AISI 316L] for material contact parts
- Venturi supply air: 6 bar(g) [87 psi(g)]
- Venturi air consumption: 14.2 Ndm³/s @ 6 bar(g) [31 SCFM @87 psi(g)]
- Stainless steel enclosure for venturi power unit
- Surface finish electropolished
- Welds continuous as laid
- Holding capacity: P10-FP-150 9.5 dm³ [0.34 ft³],
P10-BV-100/150 7.3 dm³ [0.26 ft³]
- Stainless steel band clamps
- Sealing and gaskets, FDA listed food grade materials:
 - Clamp ring: silicone, translucent
 - Tri-clamp: white silicone, FDA approved
 - Flap valve: flap bonded silicone sheet, translucent
 - Butterfly valve rubber sleeve: EPDM, black



*P10 Venturi Loader
with 150 mm (6 in)
butterfly valve and
SST ATEX LSR
Controller*



*P10 Venturi Loader
with 150 mm (6 in)
powered flap discharge*

- Convey line connection; spigots with Tri-clamps, 38.1 mm [1.5 in], 50.8 mm [2 in]
- Discharge valve:
 - Butterfly valve, Ø DN 100 or 150 [4 or 6 in]
 - Power flap, Ø 150 mm [6 in]
- 100% spunbond polyester pleated cartridge filter with stainless steel end caps
 - 1 filter, total 0.25 m² [2.7 ft²]; length 200 mm [7.9 in]
- Automatic reverse jet filter
 - 2 dm³ [0.07 ft³] SS air reservoir; maximum 4 bar(g) [60 psi(g)]
- Maximum Allowable Vacuum (MAV): -0.8 bar(g) [-11.6 psi(g)]
- Maximum Allowable Working Pressure (MAWP) (dust tightness): 50 mbar [0.725 psi]
- Material certificate EN 10204-2.1

Standard Electrical Specifications

- Signal voltage 24 VDC
- Supply power for LSR: 115/230 VAC, 15 Amp, auto switching

Weights

- The approximate weights are:
 - P10-BV-100-VE 44 kg
 - P10-BV-150-VE 46 kg
 - P10-FP-150-VE 41 kg

Operating Temperature

- -10 to 50°C [14 to 122° F]
for indoor use only - not suitable for outdoor use

Options

Mechanical

- 6 dm³ [0.2 ft³] extension module
- Slide gate valves as alternative for butterfly type
- PTFE coated filter media
- Open pleated filter type for PTFE execution
- Filter basket with GORE-TEX® cloth
- EPDM white rubber sleeve for butterfly valve
- Vibrator as discharge aid
- Aeration pads as discharge aid
- Stainless steel enclosure for solenoids and pressure regulators supplied loose
- Material certificates type EN10204- 2.2 and EN 10204-3.1

Electrical

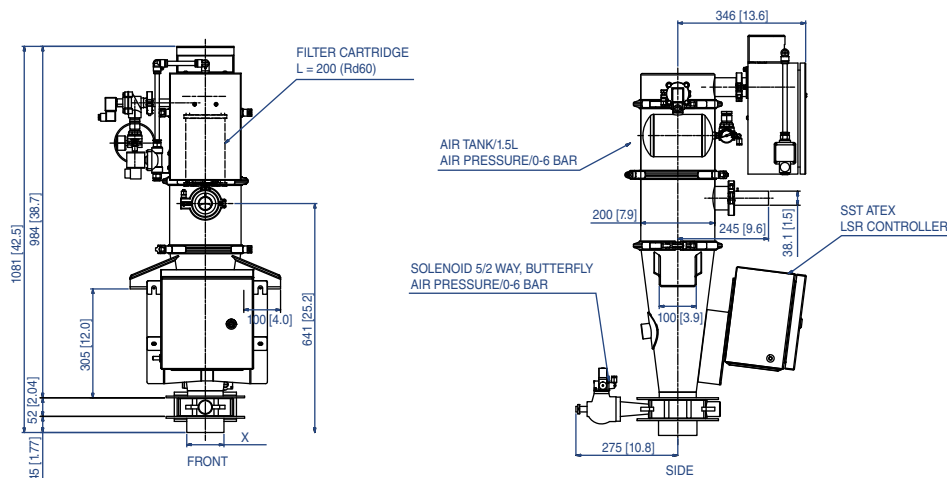
- Level probes (capacitive or tuning fork type)
- Terminal box mounted, painted aluminum or stainless steel finish
- CSA or UL certified solenoids

Hazardous Locations

- NEC Contact factory
 - ATEX (outside/inside/discharge)
 - with power flap: 3D / 1D / 2D
 - with butterfly valve: 3D / 1D / 1D
- EU-Type Examination Certificate SEV 17 ATEX 0149 X*

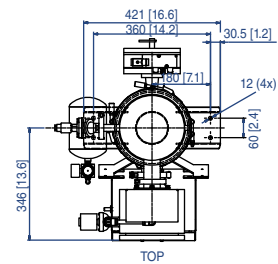
Dimensions mm [in]

P10 with butterfly valve - shown with 100 mm [4 in] valve

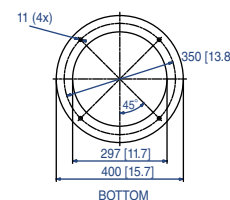
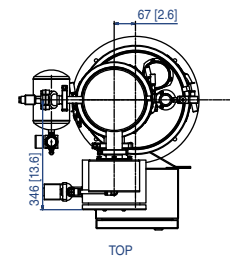
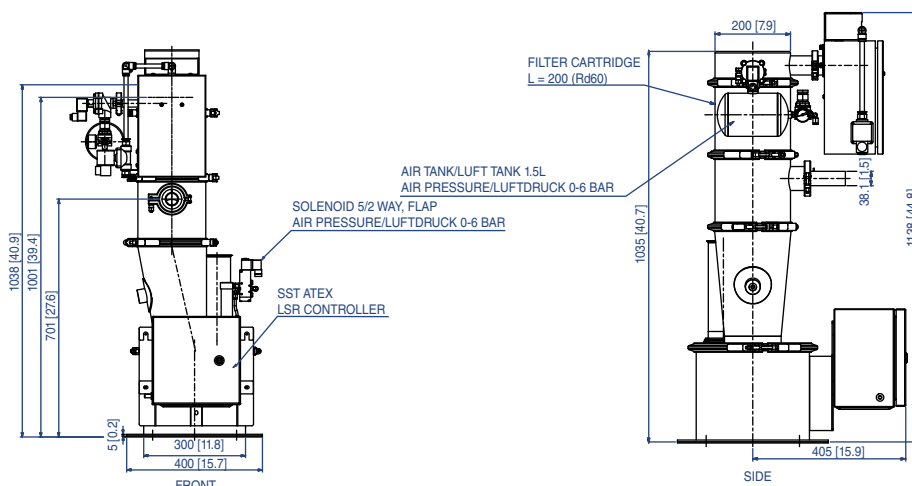


Available with DN100 [4"] or DN150 [6"] butterfly valve and choice of four outlet adapters:

X	(Bellows)	Butterfly valve
114 [4.5]	(4 in)	DN 100 (4 in)
104 [4.1]	(DN 100)	DN 100 (4 in)
168 [6.6]	(6 in)	DN 150 (6 in)
155 [6.1]	(DN 150)	DN 150 (6 in)



P10 with 150 mm [6 in] flap discharge



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