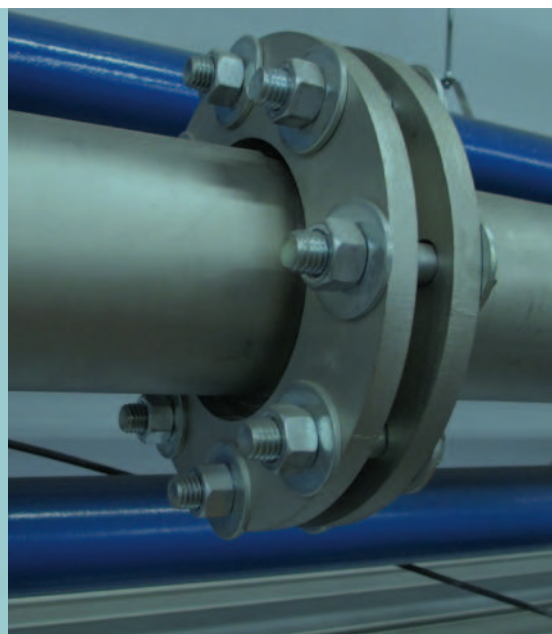


schenckprocess 

# Quality knows no compromise

Parts and components catalog





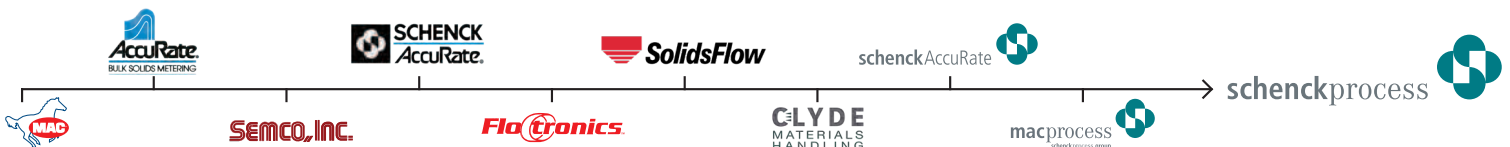
- » Headquartered in Kansas City, MO
- » Additional locations in Sabetha, KS and Whitewater, WI
- » Over 50 years of customer service experience

## Your complete source for parts, components and accessories

The Schenck Process aftermarket team is staffed with well-trained personnel ready to answer questions and provide solutions. Not only do we offer Schenck Process components and replacement parts, but also a large selection of OEM brands, at a competitive price. With our large inventory of replacement parts and components, we can often fill orders immediately. Let our expert team help you find the solution for your aftermarket needs.

By combining the technologies of Mac Process and Schenck AccuRate to form Schenck Process LLC, customers now have a complete global source of highly accurate industrial solutions for weighing, feeding, conveying and dust collection applications.

Our names have changed, but our world-class service has stayed the same.



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# Scale Hopper

- Measures, transports and stores material
- Easy access design simplifies maintenance
- Handles a wide variety of bulk materials
- Designed to easily integrate with the Schenck Process scale diverter valve



## Application

Scale hoppers are used with scale valves to measure, transport and store bulk solid materials. The inlet flange of the scale hopper is designed to match the Schenck Process scale diverter valve. A flanged conical top and a bolted inspection opening make it easy to perform maintenance on the hopper.

## Features

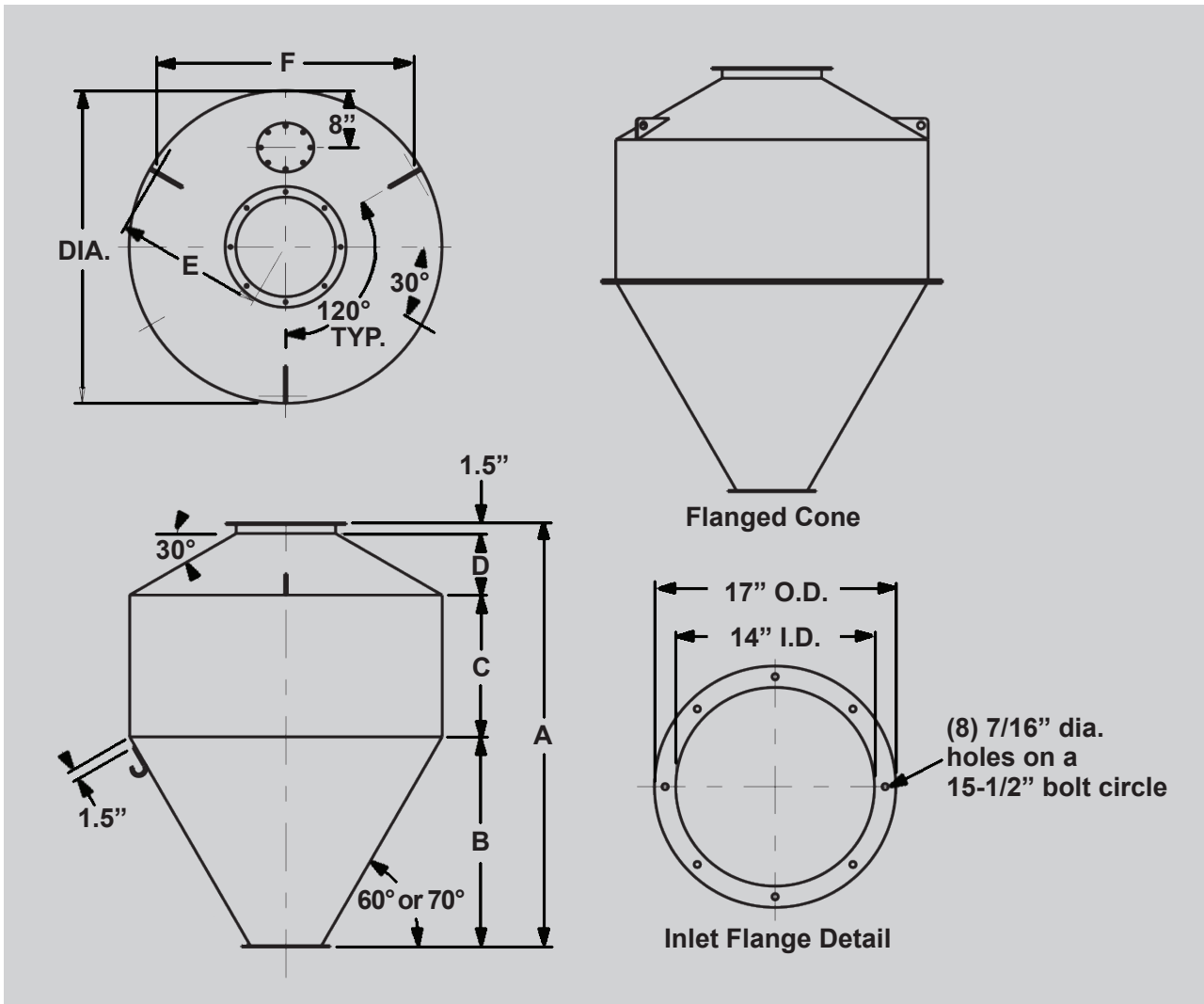
- Carbon steel, 304 stainless steel or aluminum construction
- Scale support brackets
- Flanged conical top
- Mounting for scale diverter

- Bolted inspection opening
- Plate flanges on air inlet, outlet and product discharge
- 8" inspection port

## Options

- 316 stainless steel
- Pressure relief port with dust sock assembly
- Industrial gray epoxy coated interior
- CG24, 80 or 120 interior welds
- Cable suspension assembly
- Additional inlets

# Scale Hopper Dimensions



Model	44" Diameter x 60" Hopper					44" Diameter x 70" Hopper				60" Diameter x 60" Hopper					
	500	750	1,000	1,250	1,500	750	1,000	1,250	1,500	1,000	1,500	2,000	3,000	4,000	5,000
Capacity in Lbs. @ 35 Lbs./cu. ft.	500	750	1,000	1,250	1,500	750	1,000	1,250	1,500	1,000	1,500	2,000	3,000	4,000	5,000
Actual usable capacity (cu. ft.)	19	22	29	36	43	21	28	35	43	38	43	58	87	117	143
A	44.31	51.81	59.81	67.81	75.81	61.63	69.13	77.13	86.13	64.31	67.31	76.31	94.31	112.31	128.31
B	29.69	29.69	29.69	29.69	29.69	47	47	47	47	43.56	43.56	43.56	43.56	43.56	43.56
C	4.5	12	20	28	36	4.5	12	20	29	6	9	18	36	54	70
D	8.63	8.63	8.63	8.63	8.63	8.63	8.63	8.63	8.63	13.25	13.25	13.25	13.25	13.25	13.25
E	21	21	21	21	21	21	21	21	21	29	29	29	29	29	29
F	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	36.38	50.25	50.25	50.25	50.25	50.25	50.25
10 gauge weight	210	260	300	350	390	270	310	350	405	400	425	495	640	775	900
12 gauge weight	170	200	232	273	306	210	240	272	315	313	330	385	495	600	695
3/16" aluminum weight	100	118	137	161	181	124	142	161	186	185	196	228	293	355	412

# Work Bin

- Carbon steel, 304 stainless steel, or aluminum construction
- 7' diameter models and larger are 10 gauge, 3' to 6' units are 12 gauge
- Continuous exterior welds
- Skip welds on interior

## Application

These storage bins provide a convenient and secure place for long or short term storage of product. The 60 degree hopper encourages free flow of product and reduces plugging and bridging.

## Features

- Carbon steel, 304 stainless steel, or aluminum construction
- Bolted top cover, housing flange, or inspection port
- Stub inlet port, size as required
- 60° cone hopper
- All 3' diameter tanks have flat bolted top lid and no inspection opening
- Models with capacities over 500 cubic feet



## Options

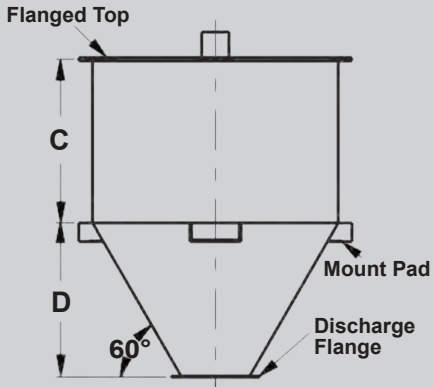
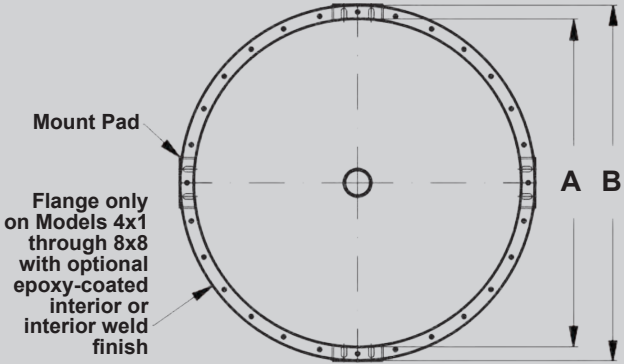
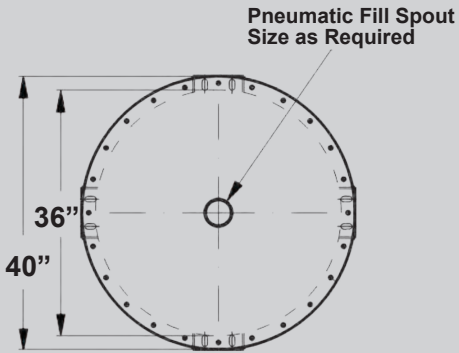
- Level indicator mounting
- Leg support frame
- Product inlet, flanged
- Flanged vent filter opening
- Bolted/sealed 18" diameter inspection opening
- Tool-free access door
- CG24, CG80, or CG120 interior weld grind
- 70 degree cone hopper
- Multiple inlet ports
- Tangential style inlet
- Design for 17" HG vacuum (includes 30 degree top cone)
- Design for full vacuum (includes 30 degree top cone)

# Work Bin Dimensions

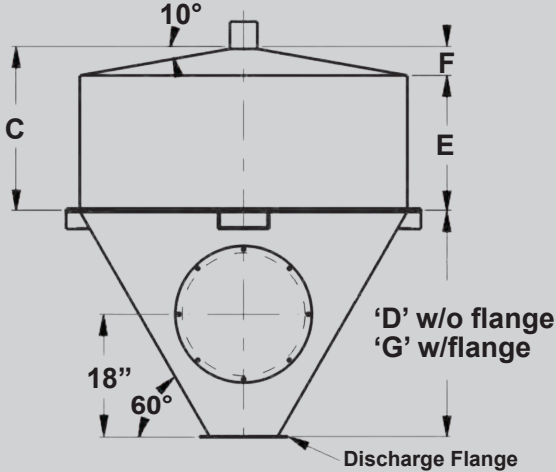
Model	Dimensions (inches)							Weight (lbs.)	Max. Capacity (Cu.Ft.)	Capacity Per Each Additional Ft.
	A	B	C	D	E	F	G			
3x0			0					100	6	
3x1			12					140	13	
3x2			24					180	20	
3x3	36	40	36	22.75	--	--	--	225	27	7
3x4			48					265	34	
3x5			60					310	41	
4x1			12		8.30			220	27	
4x2			24		24.00			280	39	
4x3			36		36.00			340	52	
4x4	48	52	48	33.19	48.00	3.70	33.38	400	64	12
4x5			60		60.00			460	77	
4x6			72		72.00			520	90	
5x2			24		19.25			400	67	
5x3			36		36.00			480	87	
5x4			48		48.00			555	106	
5x5	60	64	60	43.56	60.00	4.75	43.75	630	126	20
5x6			72		72.00			705	146	
5x7			84		84.00			780	166	
6x2			24		18.19			700	105	
6x3			36		36.00			800	133	
6x4			48		48.00			900	161	
6x5			60		60.00			1000	190	
6x6	72	76	72	53.94	72.00	5.81	54.18	1100	218	28
6x7			84		84.00			1200	246	
6x8			96		96.00			1300	274	
7x3			36		29.13			1100	192	
7x4			48		48.00			1125	230	
7x5			60		60.00			1250	268	
7x6	84	88	72	64.31	72.00	6.87	64.5	1375	306	38
7x7			84		84.00			1500	344	
7x8			96		96.00			1625	382	
8x4			48		40.07			1455	328	
8x5			60		60.00			1610	378	
8x6			72		72.00			1765	428	
8x7			84		84.00			1920	478	
8x8	96	100	96	74.75	96.00	7.93	74.94	2075	528	50
8x9			108		108.00			2230	578	
8x10			120		120.00			2385	628	
10x6			72		61.94			3650	696	
10x7			84		84.00			3825	774	
10x8			96		96.00			4000	852	
10x9			108		108.00			4175	930	
10x10	120	124	120	95.50	120.00	10.06	95.69	4350	1008	78
10x11			132		132.00			4525	1086	
10x12			144		144.00			4700	1164	



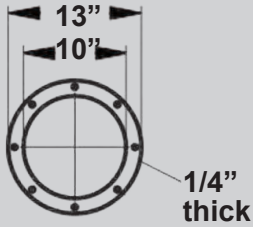
# Work Bin Dimensions



**3x0 through 3x5**



**4x1 through 10x12**



**Discharge Flange**

# Capacitance Level Sensors

## VRF® II Series

- **Universal power: connect to AC or DC without adjustment**
- **Custom process fittings available**
- **Wide variety of probe options including cable probe and probe extensions**
- **Remote electronics, up to 100 ft (30 m)**

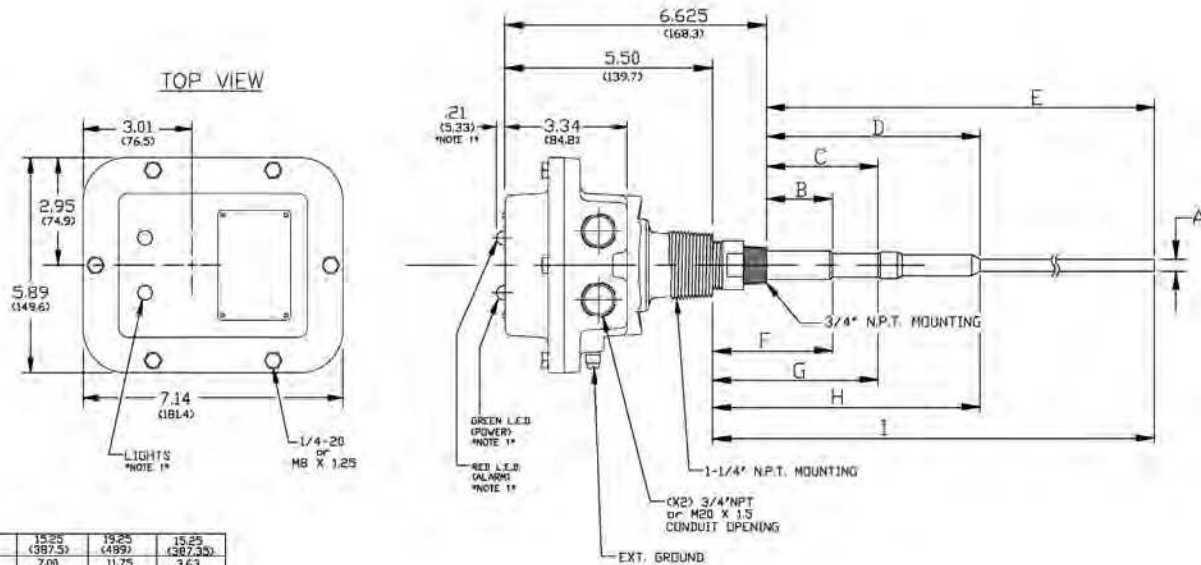
Offering the complete line of capacitance level sensors, featuring 1-step calibration and Test-In-Place, saves you time and money. Quality, wave-soldered, solid-state electronics and high pressure injection molded probes with PRO-GUARD® are just two unique manufacturing features that make this level sensor reliable.

### Benefits

- Sensitivity and control
- Adjustable sensitivity to detect a wide range of materials from grains to plastics
- Adjustable time delay
- Ignores non-conductive build-up on the probe
- Field selectable fail-safe
- Easy to use
- Test in place and calibrate with magnetic key FOB
- Automatic calibration – no potentiometers involved



# VRF® II Series Dimensions



I	15.25 (387.5)	19.25 (499)	15.25 (387.5)
H	7.00 (178)	11.75 (299.5)	3.63 (92.2)
G	4.50 (114.5)	10.00 (254)	3.25 (82.55)
F	3.38 (86)	9.3 (236.5)	2.75 (69.85)
E	14.25 (362)	18.25 (463.5)	14.25 (362)
D	6.50 (165.5)	10.75 (273)	2.63 (66.8)
C	3.50 (89)	9.00 (228.5)	2.25 (57.2)
B	2.38 (60.5)	7.50 (190.5)	1.75 (44.5)
A	.31 DIA (8)	.38 DIA (9.5)	.31 DIA (8)
APPROX DIM'S	STD. & FOODGRADE	H.D.	ST1UB
PROBE TYPE	0 & 2	5 & 9	4

**\*NOTE\***  
 1-ONLY UNITS WITH ADVANCED ELECTRONICS WILL HAVE LIGHTS.  
 2-FOR HORIZONTAL MOUNTING, CONDUIT OPENINGS MUST FACE  
 DOWNWARDS AND INCLUDE DRIPLOOP.

## Specifications

Power Requirements	Universal 110-240 VAC, 50/60 Hz; 24-48 VDC
Temperature	Electronics: -40° to 158° F (-40° to 70° C) Probe: -40° to 993° F (-40° to 534° C) depending on probe *Lagging and/or remote electronics available for higher temperature applications
Output	DPDT 8A resistive @ 240 VAC or 30 VDC Auxiliary relay available
Pressure Rating	Up to 150 psi (10 bar)
Sensitivity	Materials with dielectric constants down to 1.2
Remote Electronics Distance	Up to 100 ft (30 m)
Approvals	Approvals: UL (US and Canada) Ordinary & Hazardous Location; CE

# Rotary Level Indicators

## Roto-Bin-Dicator®

- Few moving parts
- Motor heats cavity, reducing moisture build-up
- High and low level fail-safe protection

The Roto-Bin-Dicator® Rotary Level Indicator eliminates damage and waste from bin overflow, empty bins, clogged conveyors, and choked elevators. Applications include chemical, food, mining, plastics, ceramics, pulp and paper, grain, foundry, and cement.

Versatile Rotary Level Indicator controls are recommended for the majority of dry material level control applications.

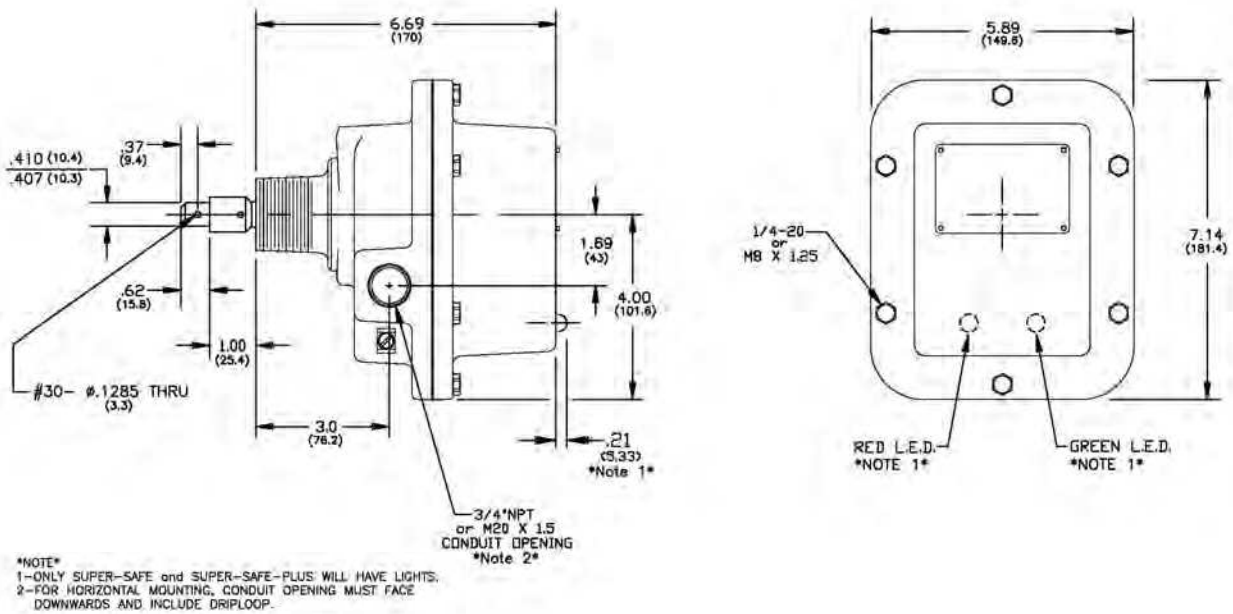


### Benefits

- Easy to install
- No calibration required
- Simple mechanical device
- Test in place with magnetic key FOB
- SuperSafe versions
- Flexible
- Wide variety of paddle options
- Custom process fittings available
- Custom shaft extensions
- Mount in any orientation



# Roto-Bin-Dicator® Dimensions



## Specifications

Power Requirements	24/120/240 VAC, 24 VDC
Fail-Safe Operation	Low and high depending on model
Process Temperature	-40° to 200° F (-40° to 194° C) standard Higher temps achieved with optional extension
Switch or Relay Output	SPDT up to 10 amps dependent on version
Approvals	Approvals: UL (US and Canada) Ordinary & Hazardous Location; CE

## Paddle Matrix

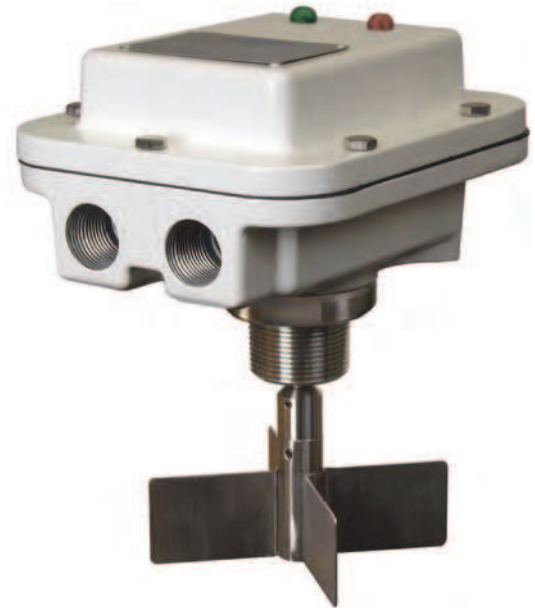
Model	Description	Material	Dimensions	Insertion Length	Application Considerations
H-370	4-Vane	Stainless steel	1.5" x 5"	3.75"	Med. weight material - max. particle size of 3/4"
H-371	4-Vane	Stainless steel	2" x 7"	3.75"	Light weight material - max. particle size 3/4"
H-373	Multiflex	Neoprene	1.5" x 24"	26.5"	Heavy large particle size
H-374	Multiflex	Stainless steel	1.5" x 17"	22"	Heavy large particle size; for higher temps.
H-379	Curved banana	Stainless steel	4.56" x 7.5"	8.25"	Low to med. weight materials Max. particle size 1/4"
H-372A	1-Vane with 45° cut	Stainless steel	1" x 2.88"	3.75"	Typically side mount, heavy material Max. particle size 1"
H-380	2-Vance collapsible	Stainless steel	Closed 5" x 8.75" Opened 7.5" x 1.22"	5.94"	Low to med. weight materials, highly aerated Max. particle size 1/4"

# Rotary Level Indicators

## Roto-Bin-Dicator® PRO

- Wide variety of paddle options
- Custom process fittings available
- Custom shaft extensions
- Mount in any orientation
- Red and green lights indicate power an alarm status

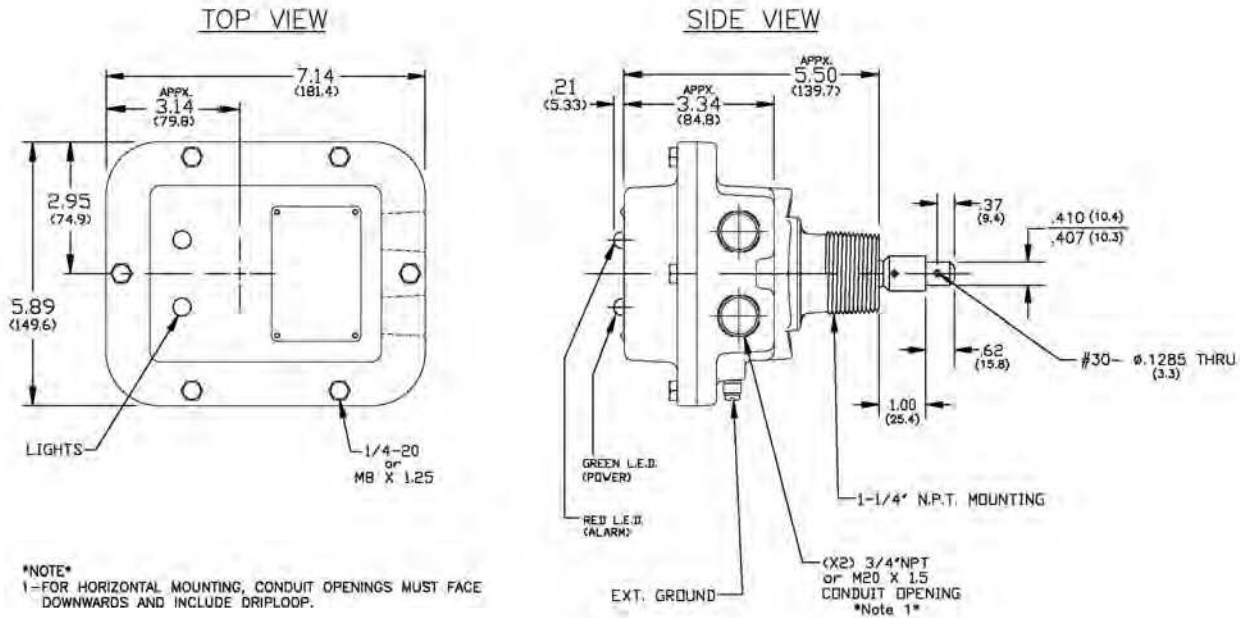
The Roto-Bin-Dicator® PRO paddle wheel is unique in the bulk solids industry with its ability to detect faults while the paddle is in material. It is a true fail-safe device that is able to perform complete self-diagnostics in and out of material, compared to other devices that only provide diagnostics when the paddle is out of material.



### Benefits

- Self-diagnostics
- Supply voltage fault
- Motor not connected
- Motor failure
- Gear train failure
- Electronics temperature range
- Electronics fault

# Roto-Bin-Dicator® PRO Dimensions



## Specifications

Power Requirements	120 - 240 VAC 50/60 Hz or 24 - 48 VDC
Power Consumption	3 watts (1.8 watts in Pause Mode)
Process Temperature	-20° to 302° F (-29° to 150° C) standard Higher temps achieved with optional extension
Switch or Relay Output	Main Relay 8 A DPDT @ 240 VAC or 30 VDC (resistive); Auxiliary Relay: 0.46 A SPDT @ 150 VAC or 1 A @ 30 VDC
Approvals	Approvals: UL (US and Canada) Ordinary & Hazardous Location; CE

## Paddle Matrix

Model	Description	Material	Dimensions	Insertion Length	Application Considerations
H-370	4-Vane	Stainless steel	1.5" x 5"	3.75"	Med. weight material - max. particle size of 3/4"
H-371	4-Vane	Stainless steel	2" x 7"	3.75"	Light weight material - max. particle size 3/4"
H-373	Multiflex	Neoprene	1.5" x 24"	26.5"	Heavy large particle size
H-374	Multiflex	Stainless steel	1.5" x 17"	22"	Heavy large particle size; for higher temps.
H-379	Curved banana	Stainless steel	4.56" x 7.5"	8.25"	Low to med. weight materials Max. particle size 1/4"
H-372A	1-Vane with 45° cut	Stainless steel	1" x 2.88"	3.75"	Typically side mount, heavy material Max. particle size 1"
H-380	2-Vance collapsible	Stainless steel	Closed 5" x 8.75" Opened 7.5" x 1.22"	5.94"	Low to med. weight materials, highly aerated Max. particle size 1/4"

# Tuning Fork Level Sensors

## Pulse Point™

- **Universal power: connect to AC or DC without adjustment**
- **Custom process fittings available**
- **Extended assemblies to 15 feet**
- **Remote electronics available**

The Pulse Point™ is a tuning fork point level sensor that may be used to detect high and low levels in bins, tanks, and silos. These sensors can be used to detect the presence or absence of granular, solid, or powder materials with densities as low as 2 lbs./cu.ft. It requires no calibration and offers higher reliability than other types of sensing technology. This sensor does not depend on material electrical properties – only the material's physical presence at the tuning fork.

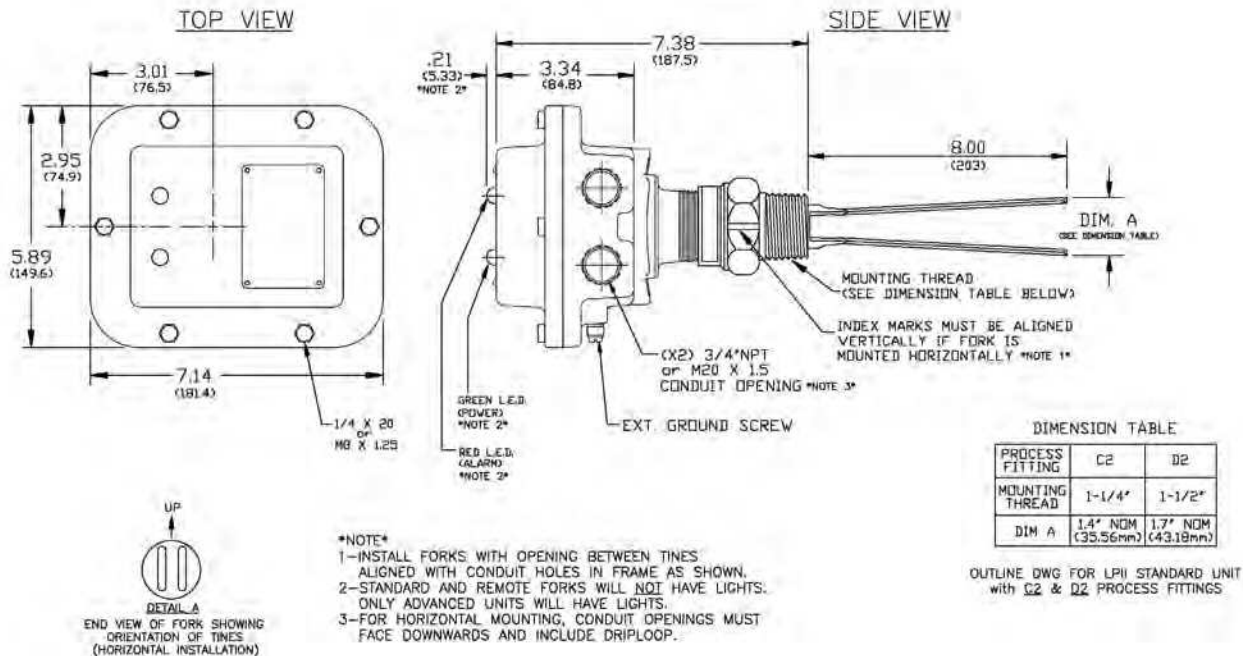
### Benefits

- Versatile
- Liquid/solid interface for detection of solids in liquid
- Adjustable time delay
- Adjustable sensitivity settings detect material densities as low as 0.5 lbs/ft<sup>3</sup> (8 kg/m<sup>3</sup>)
- Build-up detection
- Ease of use
- Test in place with magnetic key FOB
- No calibration required





# Pulse Point™ Dimensions



## Specifications

Power Requirements	Universal 110-240 VAC 50/60 Hz; 24-48 VDC
Temperature	Electronics: -40° to 158° F (-40° to 70° C) Fork: -55° to 302° F (-48° to 150° C) depending on fork *Lagging and/or remote electronics available for higher temperature applications
Output	DPDT 8A resistive @ 277 VAC or 30 VDC Auxiliary relay available
Pressure Rating	Up to 150 psi (10 bar)
Sensitivity	Adjustable; bulk density down to 0.5 lbs/ft <sup>3</sup> (8 kg/m <sup>3</sup> )
Maximum Particle Size	3/8 in (9.5 mm)
Remote Electronics Distance	Up to 100 ft (30 m)
Approvals	Approvals: UL (US and Canada) Ordinary & Hazardous Location; CE

# Acoustic Flow Monitor

- Remotely monitors material flow
- Signal is generated when flow stops during normal operation
- Highly reliable with highly abrasive material conditions
- Provides signal to trip a feeder before head seal is lost
- Strength at the splice is comparable to that of the belt body
- Adjustable time delay
- No nuclear sources



**Acoustic Flow Monitors provide a positive indication of flow or a loss of flow in your feed systems.**

The acoustic flow monitor has been developed to provide a reliable method of detecting material flow or flow interruption in pipes and downspouts. It is particularly suited to installations where, due to licensing or administrative restraints, nuclear type detectors are impractical.

The acoustic flow monitor consists of two sub-assemblies: a detector probe that mounts on the downspout and a control unit suitable for wall mounting in a convenient location. The detector probe includes a stainless steel alloy tip that protrudes through the downspout wall into direct contact with the moving material.

The control unit includes the required electronics, comparator circuitry and alarm relay to advise system status. Adjustment and calibration are easily accomplished at the control unit.

Should flow stop during normal operation, the alarm signal can be used to automate vibrators, air cannons or other devices. A second acoustic flow monitor may be located immediately above the feed system and used to trip the feeder if material

flow has not been reestablished prior to loss of all material within the system. As an alternate, this secondary alarm indication can be provided with a Stock® microprocessor controlled gravimetric feeder through “countdown” circuit within the feeder controls. Optional mounting fixtures and hardware are available upon request.

## System Components

The detector unit consists of a stainless steel probe which contacts the moving material and provides the physical link to the piezoelectric element housed in the detector assembly. Mechanical vibrations are converted by the piezoelectric element, resulting in a signal that is transmitted to the control unit. The detector is isolated with elastomers to prevent misalignment and ensure positive transmission of mechanical vibrations from the flow material.

## Control Unit

The detector control unit consists of a dust and water-tight enclosure housing the electronic circuitry. The control features status light indicators, signal strength monitor (visual), and provisions for calibration during operation without false alarms through a “guarded” relay circuit.

# Acoustic Flow Monitor

## Application

The acoustic flow monitor should be mounted on the downspout as close to the bunker (or silo) outlet as is physically practical. By so doing, the earliest possible indication of loss of flow is ensured.

## Operation

As material flows through the downspout, sonic waves are generated at the friction interface between the material and downspout wall, material and sensor probe, and by material particles moving against one another. This sound vibration is transmitted as a physical motion through the tip of the sensor probe. This motion is proportionally converted by a piezoelectric element to an electrical signal, which is forwarded to the control unit. Within the control unit, the signal is amplified and filtered to eliminate non-flow related interference. The incoming signal activates and maintains a "material motion" status. In the event of an empty downspout or one full or partially loaded with non-moving material, the "material motion" signal drops below a set point, providing a contact closure showing pluggage has occurred. An adjustable 10 to 90 second time delay is included in the circuit to prevent nuisance alarms caused by spike vibratory conditions.

## System Specifications

Type: Contact - Acoustic Flow Detector

Size: Detector - 9" long, Flange - 7-1/2" dia, Control Unit - 9-3/4"w x 12-1/2"h x 5-1/4"d, suitable for wall mounting, bottom cable entry, front door access

Power Requirement: 120V ac, single phase, 50/60 Hz, 5 VA or 240 V ac, single phase, 50/60 Hz, 5 VA

Outputs: One normally open (form A) dry relay contact rated at 120 V ac, 3A, 360 VA, resistive or 125 V dc, 0.24 A, 30 W, resistive. One normally closed (form B) dry relay contact rated at 125 V ac, 3A, 150 VA, resistive or 125 V dc, 0.24 A, 30 W, resistive. Adjustable time delay - 10 to 90 seconds. (Factory set @ 10 seconds)

Ambient Requirements: -20°C to 65°C (-4°F to 150°F)  
 - Detector, -20°C to 60°C (-4°F to 140°F) - Control Unit, (NEMA 4 - Standard)

Type of Sensor: Contact - Piezoelectric Transducer

# Microwave Level Detector

## Material presence detection

- Remotely monitors material presence
- Signal is generated when flow stops during normal operation
- Highly reliable with highly abrasive material conditions
- Provides signal to trip a feeder before head seal is lost
- Adjustable time delay
- No nuclear sources

### Application

The microwave level detector has been developed to provide a reliable method of detecting material presence in valves, and downspouts. It is particularly suited to installations where, due to licensing or administrative restraints, nuclear type detectors are impractical.

The microwave level detector consists of three sub-assemblies: a transmitter and a receiver that mount on the downspout and a control unit suitable for wall mounting in a convenient location. The transmitter and receiver have UHMW polyethylene windows that are flush-mounted to the interior of a valve or downspout wall that allow the microwaves to pass, while also providing a long wear life against abrasive materials.

The control unit includes the electronics, comparator circuitry and alarm relay to advise system status. Adjustment and calibration are easily accomplished at the control unit. If a material void occurs during normal operation, the alarm signal can be used to automate vibrators, air cannons or other devices. A second microwave level detector may be located immediately above the feed system and used to trip the feeder



if material presence has not been reestablished prior to loss of all material within the system.

As an alternative, this secondary alarm indication can be provided with a microprocessor controlled Stock® gravimetric feeder through “countdown” circuit within the feeder controls. Optional mounting fixtures and hardware are also available upon request.

### Function

A relatively fixed amount of microwave energy will pass through a particular dielectric. Materials such as coal and limestone have dielectric constants that are significantly different than air. Because of the electrical characteristics of air versus other bulk solids, the presence of a bulk solid can be detected by monitoring the attenuation of a fixed power microwave signal. Under normal operation in a coal or limestone feed system, the amplitude of a microwave signal, as monitored by a detector located on a downspout, across from a transmitter, is relatively low. If there is a void in the downspout, the amplitude of the signal will increase, above a preset threshold, and a state change in a contact will occur.

An adjustable time delay, up to 30 seconds, is included to prevent nuisance alarms caused by temporary voids. This delay can be extended within a microprocessor controlled Stock® gravimetric feeder through “countdown” circuit within the feeder controls.

**System Components**

The transmitter unit consists of a power supply, pulse modulator, Gunn oscillator and directional antenna. The receiver unit consists of a directional antenna, microwave mixer cavity, amplifier, pulse coding network, voltage comparator and relay driver circuit.

**Control Unit**

The detector control unit consists of a NEMA 4x, dust- and watertight enclosure housing the electronic circuitry. The control features status light indicators, signal strength monitor (visual) and self-test switch.

**Application**

The microwave level detector should be mounted on the downspout as close to the bunker (or silo) outlet as is physically practical. By so doing, the earliest possible indication of loss of material is ensured. A microwave level detector has an advantage over acoustic flow monitors, in that there is no minimum material velocity. It will work on most feed systems, without regard to feed rate, or inlet size or shape. In addition, there is no protruding cone into the material path to cause hang-ups.

**System Specification**

**Type**

Flush-mounted microwave presence detector

**Size**

Transmitter and receiver – 2 ½” (64mm) pipe, 9” (229mm)long, Control Unit - 9-3/8”w (238mm) x 4-7/8”h (124mm) x 2 ½” d (61mm), suitable for wall mounting, bottom cable entry, front cover access

**Power Requirement**

120V ac, single phase, 50/60 Hz, 5 VA, 240 V ac, single phase, 50/60 Hz, 5 VA, or 24V dc, 5 VA

**Outputs**

DPDT Form C dry relay contact rated at 120 V ac, 5A resistive, 240 V ac, 3A resistive, or 24V dc, 3A resistive. Adjustable time delay - 10 to 30 seconds (Factory set @ 10 seconds)

**Ambient Requirements**

-30°C to 60°C (-20°F to 140°F) –  
 Transmitter/Receiver, -40°C to 71°C (-40°F to 160°F)  
 - Control Unit, (NEMA 4x - Standard)

**Agency Approvals**

CSA and FM approved for Class II, Division 1 –  
 Groups E, F & G hazardous locations.

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# Vacuum Bonded Ceramic Wear Liners

- Bolt-in, plug weld or direct bond
- Ceramic thickness 1/8", 1/4", 1", or 2"
- Impact resistance is increased with use of small ceramic shapes
- Can be blended in same chute with other liners (match ceramic/carbon thickness to existing liner thickness)
- Lighter weight than other metal liners



Vacuum bonding utilizes a thermosetting organic plastic adhesive that combines temperature and pressure to bond dissimilar materials. Developed in the Aerospace industry to bond aluminum to aluminum, the technology has been adapted to bond high performance wear ceramic to a metal substrate, providing excellent wear resistance and improved impact resistance.

Vacuum bonding provides the highest strength for joining non-metallic materials. The bond strength achieved from vacuum bonding is 6000 PSI tensile and 4000 PSI shear. Full bond strength is maintained in operating temperatures less than 250° F.

Alumina ceramic is 50% of the weight of carbon steel and will exhibit wear life approximately 10 times longer than carbon steel and 3 to 4 times longer than AR400 or chrome carbide overlay. Although up to 2" thick ceramic can be vacuum bonded, typical liners are comprised of 3/4" thick alumina ceramic bonded to 3/4" carbon steel. The 1/2" thick panels can easily be blended with 1/2" chrome carbide or AR liners in the same chute. Panels can be plug welded to chutes or bolted in for easy replacement. Ceramic can also be directly bonded to the inside surface of the chutes.

## Applications

- Chute liners
- Diverter / flop gates
- Conveyor skirt boards
- Hoppers
- Valve housings
- Silo bottoms
- Reclaim hoppers
- Baffles
- Head chutes
- Transitions
- Dustless transfer chutes



# Bag Dump Station

- 12 gauge carbon steel housing and hopper
- Integral pulse jet air filter
- Fully welded exterior and skip welded interior
- Hinged door with gas springs at grate opening



## Application

The Schenck Process bag dump station is ideal for manually emptying or unloading small bags of bulk solid materials. Integrated bags and bag cages effectively reduce dust.

## Equipment

Schenck Process bag dump stations are offered in two different configurations, vacuum style and pressure style. The vacuum unit has a discharge flanged to match a Schenck Process probe box while the pressure unit discharge flange matches a Schenck Process airlock. Both the vacuum and pressure style units are available with a dust draw off hood that is equipped with a 4" O.D. draw off stub in place of a dust filter.

## Features

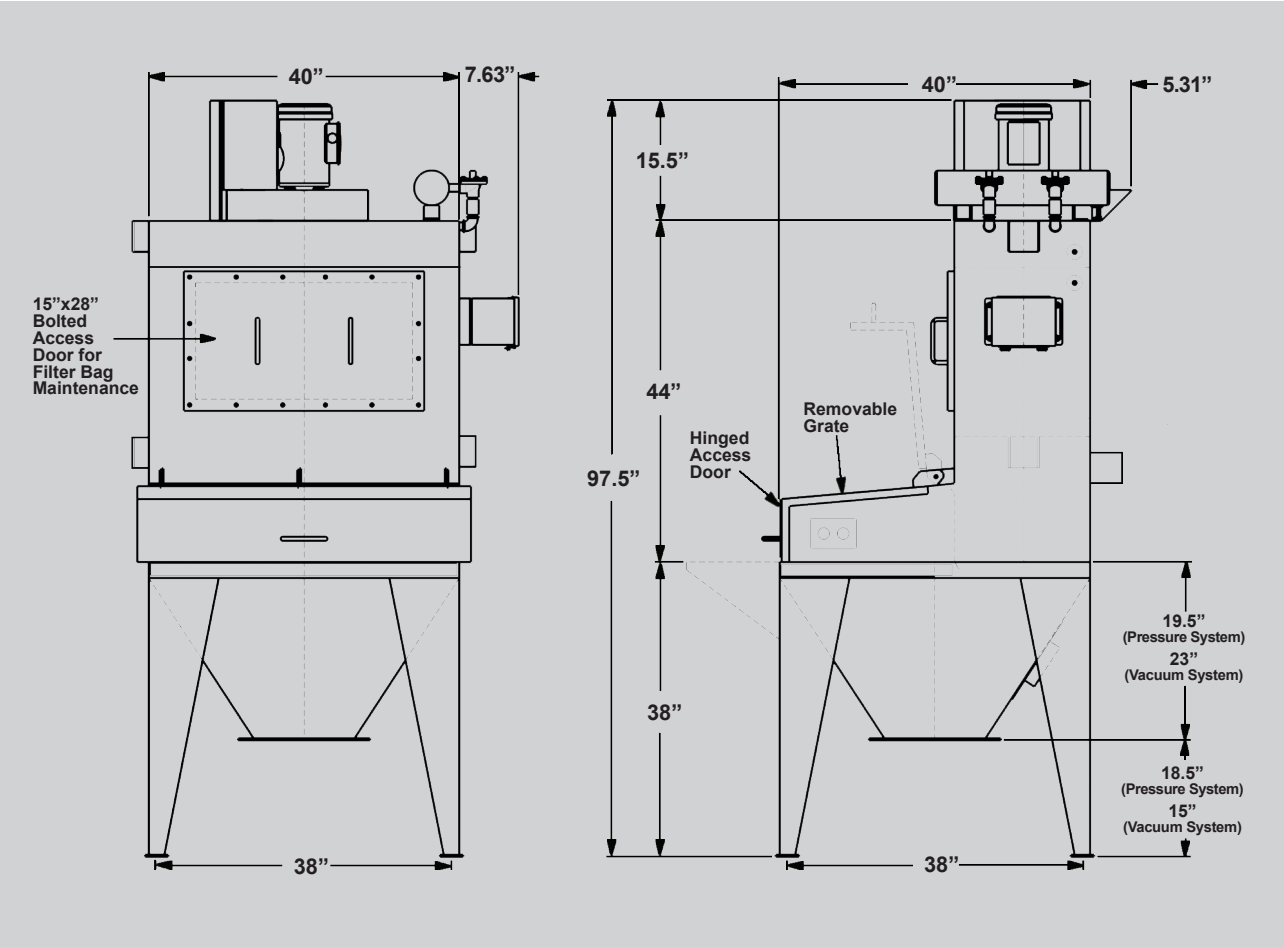
- Carbon steel grate
- 10 gauge formed carbon steel legs
- Bag cups: mineral reinforced nylon
- Bag cages: galvanized carbon steel

- Bags: 16 oz. singed dacron polyester snap band, top removal
- Bag cup caulk: FDA approved silicone sealant
- 15" x 28" bolted service door
- Top mounted #12 SB fan with 2 HP, 3600 RPM, TEFC 230/460 V/3PH motor (CW-BH)
- Removable grate
- Vacuum unit hopper discharge to mate standard Schenck Process probe
- Pressure unit hopper discharge to mate Schenck Process airlock

## Options

- Aluminum or 304 stainless steel product contact
- Industrial grade epoxy interior
- GC24, CG80 or CG120 welds in product contact areas
- On/off switch and NEMA 12 prewire package for fan/filter operation
- NEMA 9 electrical components
- Latched and sealed door design on product inlet door

# Bag Dump Station Dimensions





# Hygienic Bag Dump (HBD) Station

- 7 gauge stainless steel housing and hopper
- Integral pulse jet air filter
- Interior and exterior finish to meet 3-A sanitary requirements
- Hinged door with gas springs



## Application

The Schenck Process hygienic bag dump (HBD) station is ideal for manually emptying or unloading small bags of bulk solid materials. Integrated bags and bag cages effectively reduce dust.

## Equipment

Schenck Process hygienic bag dump stations are offered in two different configurations, non-filtered style and filtered style. Both bag dump styles meet sanitary design requirements. The non-filtered style bag dump is equipped with a 4" (102 mm) O.D. ferrule for dust draw off. The filtered style bag dump is equipped with a 5" (127mm) O.D. ferrule exhaust.

## Features

- Interior and exterior finish to meet 3-A sanitary requirements
- Ferrules mounted for use with clean-in-place (CIP) skid
- Large openings enable a sanitary method for internal CIP cleaning
- Removable internal bag rest

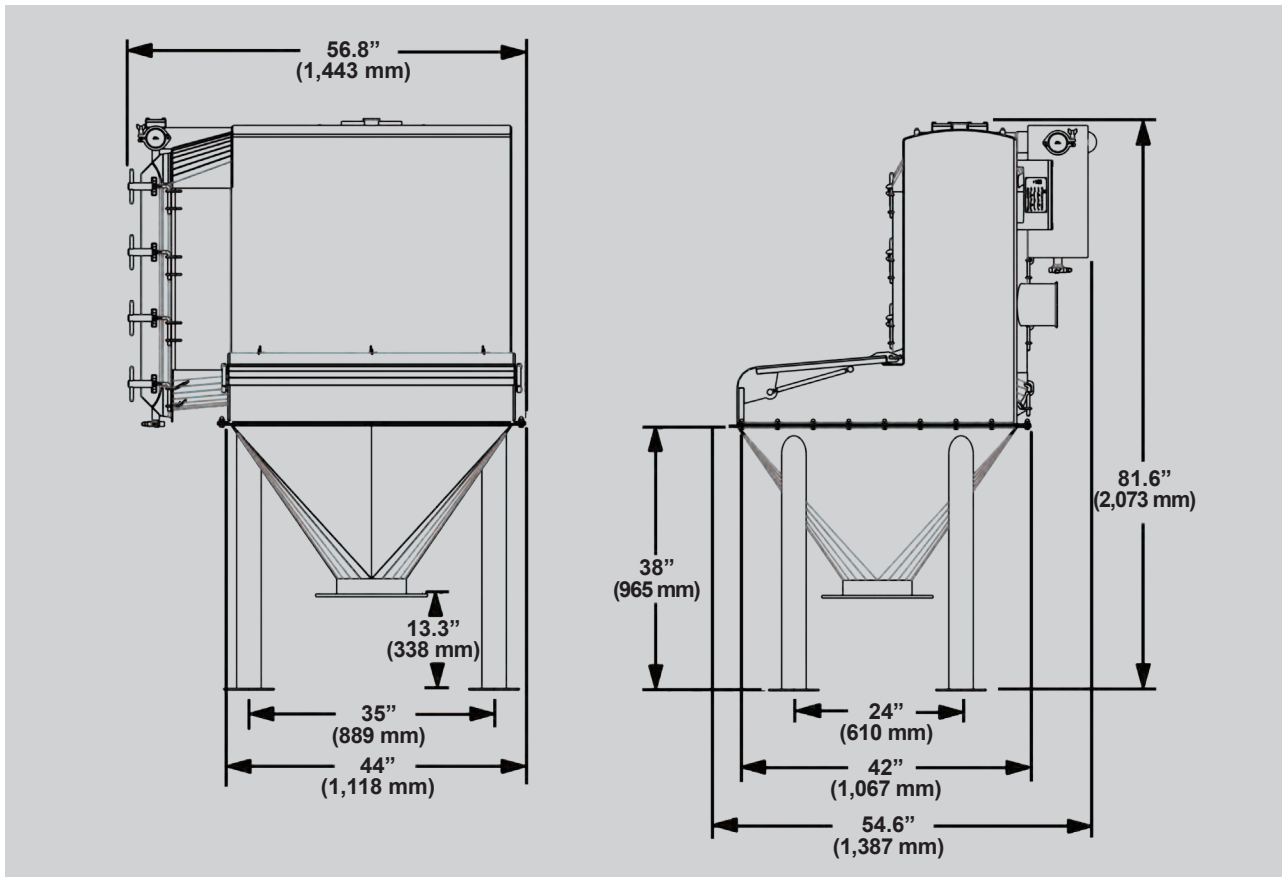
- Hopper discharge to mate Schenck Process airlock or other customer request
- Diaphragm bodies are all stainless steel as opposed to others on the market that use aluminum
- Bag cages: 304 stainless steel
- Bags: 16 oz. (454 g) singed polyester, side removal (meets 3-A requirements)
- Sanitary ferrule exhaust

## Options

- Mount pad covers (welded on site)
- Magnetic internal bag rest
- Cartridge filter element
- Polished exterior welds

NOTE: Hygienic Bag Dump (HBD) Station holds a 3-A SSI Replacement Parts and System Component Qualification Certificate and conforms to 3-A Sanitary Standard #39- for pneumatic conveyors of dry products.

## Hygienic Bag Dump (HBD) Station Dimensions



### Weight

Filtered: 1,030 lbs. (467 kg)

Non-filtered: 580 lbs. (263 kg)

## Air Vent Round (AVR/AVRC) Filter

- Style II without a hopper is ideally suited as a bin vent filter for storage tanks, work bins and surge hoppers
- Style III with a 60° hopper, the filter receives dust through the hopper inlet and discharges the collected dust through an airlock for dust disposal or recycling
- Filter receiver designed to receive product from a vacuum or pressure system and is a bottom bag removal filter



### Application

Designed for heavy dust loads and for vacuum, pressure, and combination vacuum/pressure bulk pneumatic receiving and dust collection systems. Can be configured with an optional receiver. The AVR filter is a circular bodied pulse jet cleaned bag filter unit designed to handle low air volumes and higher pressure applications. It's also suitable for sites with low headroom, since the bottom-load bags are removed from the dirty side of the filter via an access door in the filter body.

The filter housing can be fitted with pleated cartridges (AVRC) to offer higher filtration efficiencies and more filter area.

### Equipment

Dust laden air enters the AVR near the bottom of the unit. Rows of filter bags are mounted on a horizontal tubesheet and suspended in the filter housing. A remote fan on the exhaust side draws air through the filter. Filtered dust collects on the outside of the filter media, and falls into the hopper where it can be collected. Filtered air passes through the center of the filter bags and out through the clean air discharge at the top of the unit.

An air pulse cleaning system cleans the filter bags and dislodges filtered product so that it drops into the hopper. The cleaning system includes a compressed air manifold with a diaphragm valve and purge tube assembly centered above each row of filter bags. A pulse of compressed air is periodically directed downwards through the bag. The pulse flexes the filter bag, causing accumulated dust to be dislodged and fall to the hopper below.

The cleaning pulse is controlled by a solid state electronic timer which automatically sequences through the bank of filter bags, one row at a time, energizing a solenoid valve which controls the release of compressed air through the diaphragm valve. The timer can be set to operate at a pre-determined interval.

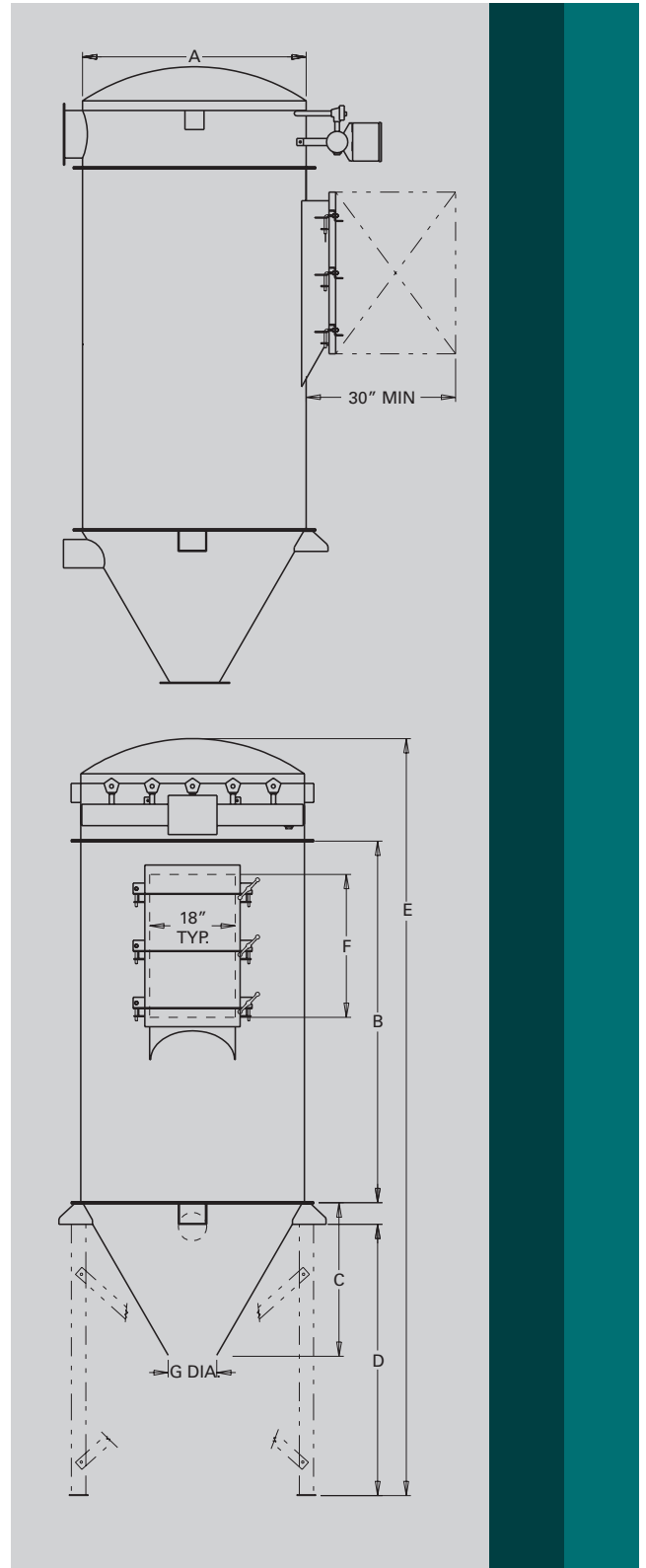
The pulse can also be controlled by a photohelic differential pressure gauge which responds to pressure differences across the filter. When controlled by the switch/gauge, cleaning occurs only when needed, decreasing air consumption and increasing filter bag life by avoiding unnecessary pulsing.

# Air Vent Round (AVR/AVRC) Filter Dimensions

Model	Cloth Area (Sq. Ft.)	No. of Bags	Dimensions (inches)						
			A	B	C	D	E	F	G
18AVR7	13	7	28	28	17 9/16	40 3/4	90 3/8	20	8
36AVR7	30	7	28	40	17 9/16	40 3/4	102 3/8	22	8
54AVR7	46	7	28	58	17 9/16	40 3/4	120 3/8	30	8
72AVR7	63	7	28	76	17 9/16	40 3/4	138 3/8	38	8
18AVR14	27	14	40	28	26 1/4	51	104	20	10
36AVR14	60	14	40	40	26 1/4	51	116	22	10
54AVR14	93	14	40	58	26 1/4	51	134	30	10
72AVR14	127	14	40	76	26 1/4	51	152	38	10
96AVR14	172	14	40	100	26 1/4	51	176	48	10
36AVR21	90	21	47	40	32 5/16	57	122 13/16	22	10
54AVR21	140	21	47	58	32 5/16	57	140 13/16	30	10
72AVR21	191	21	47	76	32 5/16	57	158 13/16	38	10
96AVR21	258	21	47	100	32 5/16	57	182 13/16	48	10
54AVR32	214	32	60	58	43 9/16	68 1/4	153 11/16	30	10
72AVR32	291	32	60	76	43 9/16	68 1/4	171 1 1/16	38	10
96AVR32	393	32	60	100	43 9/16	68 1/4	195 11/16	48	10
54AVR39	261	39	66	58	48 3/4	73 1/2	159 13/16	30	10
72AVR39	354	39	66	76	48 3/4	73 1/2	177 13/16	38	10
96AVR39	479	39	66	100	48 3/4	73 1/2	201 13/16	48	10
72AVR52	473	52	72	76	54	78 5/8	183 11/16	38	10
96AVR52	639	52	72	100	54	78 5/8	207 11/16	48	10
72AVR62	564	62	84	76	62 5/8	89 1/4	195 15/16	38	12
96AVR62	761	62	84	100	62 5/8	89 1/4	219 15/16	48	12
72AVR80	728	80	93	76	67	97	204 7/8	38	16
96AVR80	983	80	93	100	67	97	228 7/8	48	16

### Compressed air requirements

For most applications, 80 - 100 psi compressed air at the filter header is adequate for the proper cleaning of the filter bags. Pressures between 100 - 120 psi may be appropriate for some critical applications. Operations at pressures over 100 psi should be reviewed with Schenck Process filtration experts for recommendations. Compressed air pressures under 80 psi require special considerations in the design and sizing of the filter and should also be reviewed by Schenck Process.



# Air Vent Square (AVS/AVSC) Filter

- Suited for low headroom applications
- Side door access to bottom load filter media
- Can be fitted with either bags or pleated cartridges, depending on efficiency requirements
- Compressed air dislodges captured dust from filter media



## Application

Typically used as a nuisance dust collector for heavy dustloads. Because the AVS filter offers bottom bag replacement through side doors, it's well suited for applications with low headroom. The AVS can also be fitted with pleated cartridge media to improve efficiencies. When fitted with cartridges, the unit is designated as an AVSC.

## Equipment

Electronically timed compressed air is released into a row of filter bags during operation. These pulses dislodge the captured dust and allow the filter to clean itself without shutting down the operation. Schenck Process offers this filter in two styles: with and without a hopper.

Without the hopper (Style II) the filter is ideally suited as a bin vent filter for storage tanks, work bins and surge hoppers.

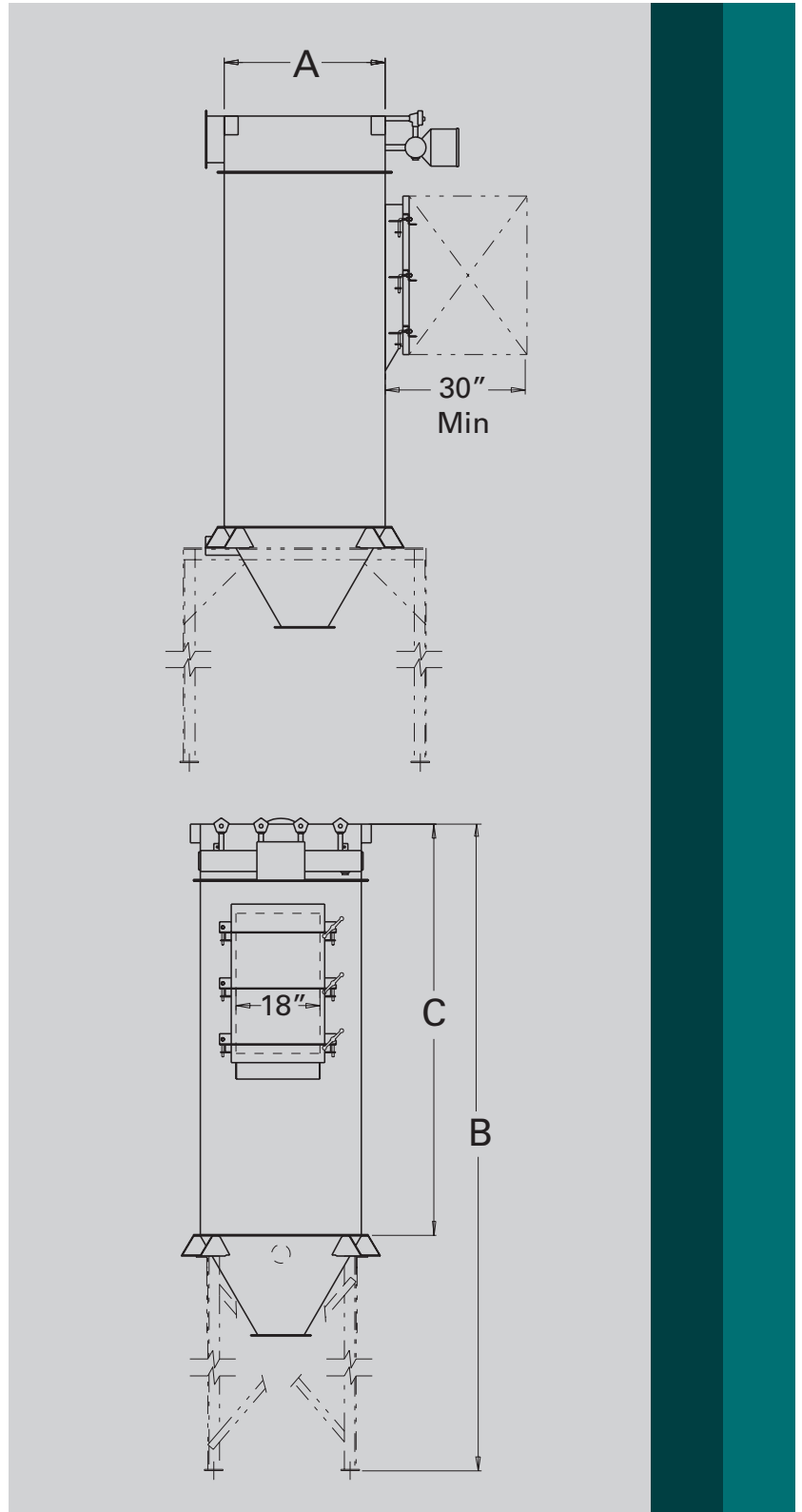
With a 60° hopper (Style III) the filter receives dust through a hopper entry inlet and discharges the collected dust through an airlock for dust disposal or recycling.

## Standard specifications

- Unit stressed for 17" W.C. and 180 °F standard temperature. AVS Filters can also be customized for higher operating static pressures to meet specific application requirements.
- Carbon steel construction:
  - Top plenum and baghouse: 12 ga.
  - Hopper AVS9 and 16: 10 ga.
  - Hopper AVS25 and larger: 7 ga.
- Full welded exterior and skip welded interior
- 36 bag units and larger have reinforced housing and tubesheet
- Broke lip flange on top plenum, baghouse, and hopper
- Hopper discharge flange: 1/4" x 1-1/2" flat bar
- Arrangement:
  - Service door and header @ 3:00
  - Exhaust @ 9:00
  - Inlet @ 9:00
  - (Flanged hopper does allow for rotating hopper relative to housing on 90° increments)

## Air Vent Square (AVS/AVSC) Filter Dimensions

Model	Cloth Area (Sq. Ft.)	Number of Bags	Dimensions (inches)		
			A	B	C
18AVS9	17	9	26	82-5/8	40-1/8
36AVS9	38			94-5/8	52-1/8
54AVS9	60			112-5/8	70-1/8
72AVS9	81			130-5/8	88-1/8
18AVS16	30	16	34-1/2	90-5/8	40-1/8
36AVS16	69			102-5/8	52-1/8
54AVS16	107			120-5/8	70-1/8
72AVS16	145			138-5/8	88-1/8
96AVS16	196	25	43	162-5/8	112-1/8
18AVS25	48			98-5/8	40-1/8
36AVS25	108			110-5/8	52-1/8
54AVS25	167			128-5/8	70-1/8
72AVS25	227	36	51-1/2	146-5/8	88-1/8
96AVS25	307			170-5/8	112-1/8
36AVS36	155			118-5/8	52-1/8
54AVS36	241			136-5/8	70-1/8
72AVS36	327	49	60	154-5/8	88-1/8
96AVS36	442			178-5/8	112-1/8
36AVS49	211			126-5/8	52-1/8
54AVS49	328			144-5/8	70-1/8
72AVS49	445	64	68-1/2	162-5/8	88-1/8
96AVS49	602			186-5/8	112-1/8
36AVS64	276			134-5/8	52-1/8
54AVS64	429			152-5/8	70-1/8
72AVS64	582	64	68-1/2	170-5/8	88-1/8
96AVS64	786			194-5/8	112-1/8



# Airlock Vent (AV) Filter

- Cleans air vented from rotary airlocks and surge hoppers
- Compact rectangular or square designs
- Vents small volumes of displaced air
- 2 or 4 bag filter arrangements

## Application

The Airlock Vent Filters (AV) are ideally suited for cleaning the air vented from rotary airlocks and surge hoppers or for venting small volumes of displaced air.

## Equipment

AV filters are designed in both 2 and 4 bag configurations with 12 gauge housing. Features also include a compressed air header, tubesheet, internal air piping, bolted lift-off top plenum to provide top bag removal and an air outlet. The bin vent has a single diaphragm and a direct mounted NEMA 4 solenoid control valve that can be operated from a remote PLC. Compact rectangular (AV2) or square (AV4) models are available.



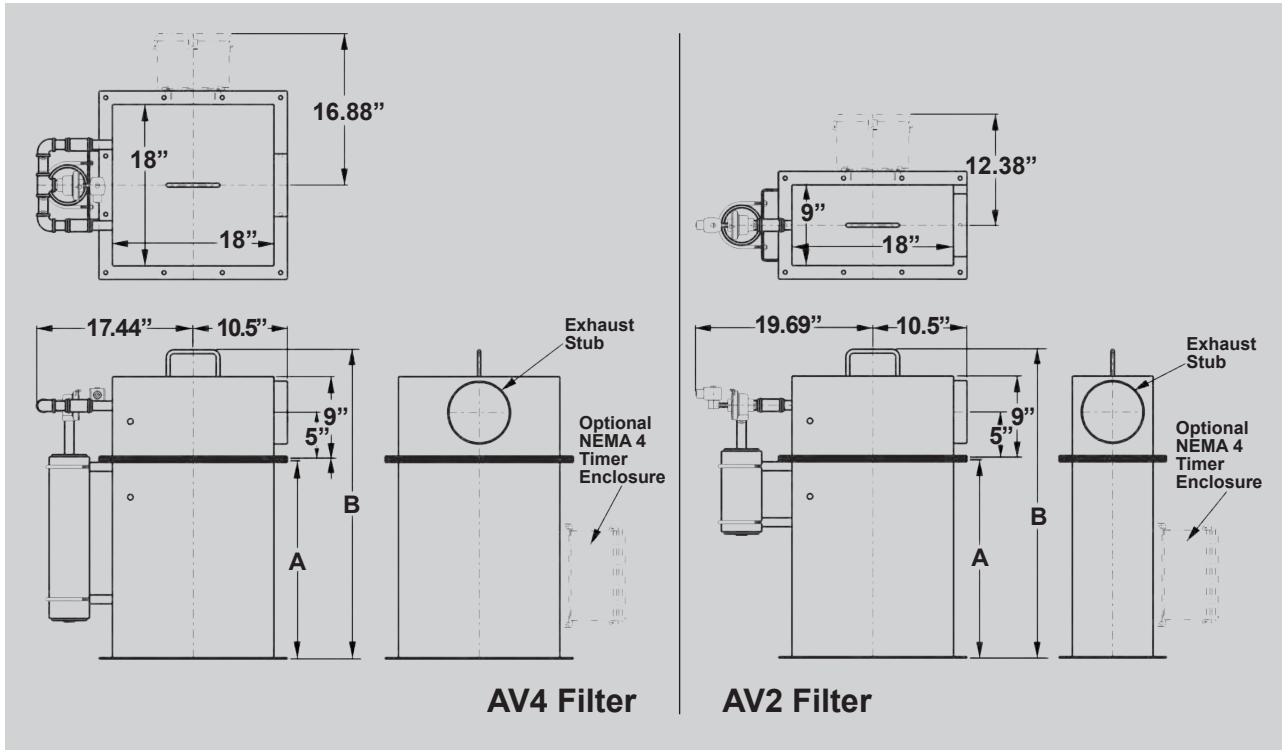
## Features

- Exterior welds continuous where possible, skip welded interior
- Removable plenum section
- 4" compressed air header
- Top removal bag cage
- Snap band 16 oz. singed polyester bags
- Stainless steel or carbon steel housing

## Options

- Industrial grade epoxy coated product contact areas
- Food grade epoxy coated product contact areas
- CG24, CG80 or CG120 product contact welds
- Magnehelic gauge kit
- NEMA 4 timer enclosure
- 304 stainless steel clean air plenum including manifold

# Airlock Vent (AV) Filter Dimensions



Model	SCFM	Cloth Area Sq./Ft.	Dimensions (inches)		Weight (lbs.)	
			A	B	CS	304
18AV2	0.5	4	22	20.31	300	300
18AV4		8			335	335
36AV2	1	9	40	52.44	530	530
36AV4		18			575	575



# Cleanable Side Entry Receiver (CSER)

- Low headroom applications
- Requires less plant space
- Side entry and tool-free cartridge removal speeds maintenance with no confined space entry
- Loose parts minimized with captured fasteners
- Single point access to both clean and dirty volumes of the filter
- Simple design with minimal internal structure enables thorough clean-down



## Application

The CSER filter is designed to meet challenging requirements for sanitation and inspection in the food, pet food and chemical industries. A horizontal cartridge filter, CSER is ideally suited for low headroom applications under pressure or vacuum and is primarily used as a filter receiver at the end of a pneumatic conveying system to separate the product being conveyed from the convey air. Well suited for a variety of indoor locations, the CSER has a small footprint requirement and can be easily explosion vented through the roof or from the side.

## Equipment

The compressed purge air delivery system, including the header, diaphragms, and purge pipes, is located in the hinged plenum door, delivering media cartridge access without having to remove purge pipes. Less complicated than competitive products, the hinged tubesheet provides a single point of access to the baghouse section through the clean air plenum; eliminating additional platform or mezzanine access requirements.

The CSER utilizes clean design concepts, minimizing horizontal surfaces where product or water might collect. The tubesheet design incorporates a machined insert which provides a flush internal surface and a rigid surface to seal the filter elements.

The exclusive Schenck Process design allows for complete disassembly simplifying sanitation processes. Only the welded stud requires in-place cleaning.

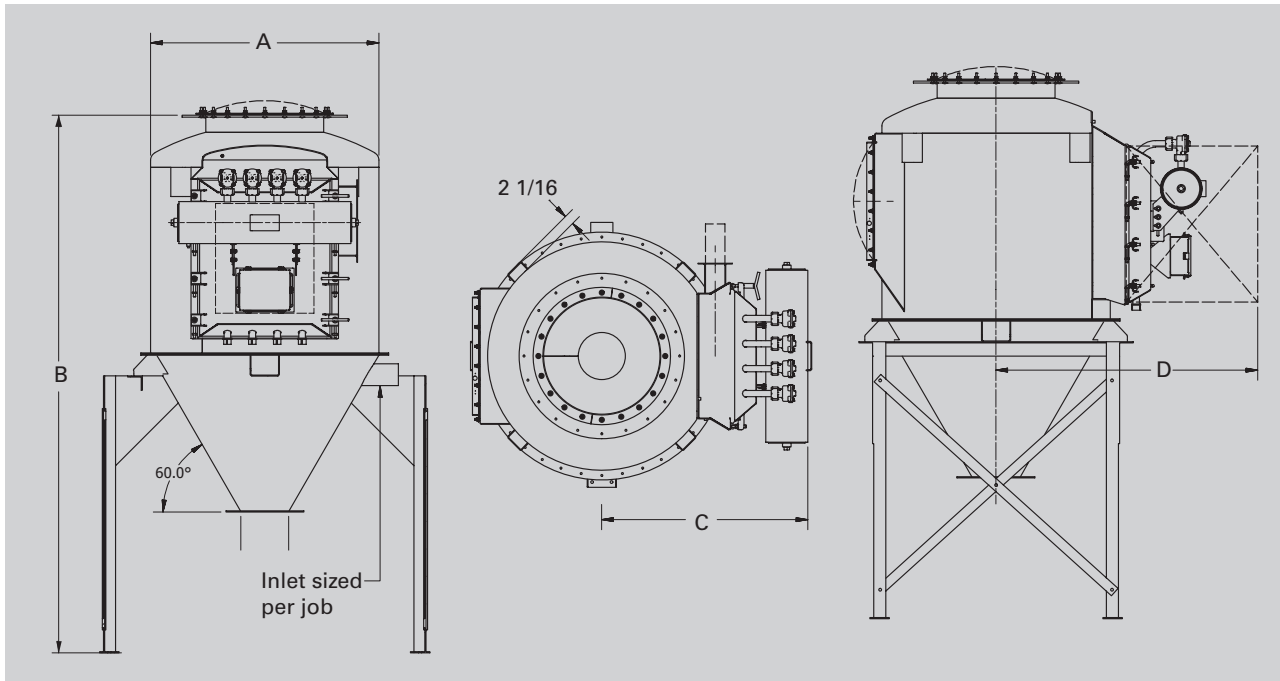
The CSER cartridge support system includes a single pipe welded at each end to the sidewall, which significantly reduces the weld and simplifies the cleaning process by minimizing internal structure. Loose parts are kept to a minimum during changeouts with only removal of the one-piece venturi/hold-down required for access to the media. The sanitary envelope-styled cartridge minimizes product retention on the media. Wide pleat arrangement allows for high air-to-cloth ratios up to 5:1.

## Operating principle

An air pulse cleaning system periodically releases a pulse of compressed air directed through the cartridge, cleaning it and dislodging filtered material so it drops into the hopper below.

The cleaning pulse can be controlled by an optional photohelic differential pressure switch which responds to pressure difference across the tubesheet. When controlled by the switch, cleaning occurs only when needed, decreasing air consumption and increasing cartridge life by avoiding unnecessary pulsing.

# Cleanable Side Entry Receiver (CSER) Dimensions



Model	Cloth Area (Sq. ft.)	Number of Carts	Dimensions (inches)				
			A	B		C	D
				Std	Top X-Vent		
24CSER2	58.8	2	28	89-1/8	--	34-9/16	39-1/4
24CSER3	88.2	3	36	97-7/16	99-7/16	35-1/2	49-3/8
24CSER4	117.6	4	36	97-7/16	99-7/16	35-1/2	49-3/8
39CSER4	200.4	4	47	108-11/16	110-5/8	42-3/8	60-5/8
39CSER5	250.5	5	54	115-3/8	117-1/2	44-11/16	65-1/2
39CSER6	300.6	6	60	121-15/16	124-3/16	46-11/16	80
39CSER8	400.8	8	47	129-5/16	131-1/4	45-9/16	60-1/2
39CSER10	501	10	54	136	138-1/8	48-1/16	65-9/16
39CSER12	601.2	12	60	142-9/16	144-13/16	49-7/8	70-3/4

# Cyclone Collectors

- Designed to separate product from an air stream
- Highly efficient system
- No moving parts or maintenance
- Wide range of cyclones for dust collection or product receiving



## Application

Cyclones are capable of handling very heavy dust loads. Because cyclones are easy to wash down and sanitize, the risk of cross contamination is minimized. Cyclones are more efficient on particulate 50 micron and larger. Used in applications such as:

- Human/pet food where high moisture and high fat content are commonly used in equipment configurations, that include dryers and coolers, coating drums for flavors, centrifuge exhausts and extruder negative lift applications.
- Areas where the potential for fire is high such as wood sanders, direct fired dryers, cabinet and furniture manufacturing, coffee and grain roasters, wood and hay grinding operations.
- Pre-separators for material that may not be suited to collect directly in a baghouse such as paper trim, buffing dust, biomass from land fill products and wood chips.
- Reducing loading into a baghouse so that a high entry inlet may be used to reduce interstitial velocity and protect product from degradation.

## Operating Principle

Standard efficiencies have relatively low differential pressure – 3”-7” W.C. Adding expansion chambers increases efficiency. The higher the pressure drop, the more efficient the cyclone.

## H Cyclone

H Cyclone was designed to efficiently handle large air volumes economically. It is often used as a primary pre-collector in a dust collection system or as a product receiver. This is the largest cyclone receiver Schenck Process offers with airflow ranging from 6,000 to 71,000 CFM.

## High Efficiency (HE) Cyclone

The Schenck Process HE Cyclone is most efficient as a pneumatic receiver for material separation of particles up to 20 microns. Pressure loss across collectors within the recommended CFM range is 3.25” W.C. or less. Inlet and outlet flanges can be drilled to mate existing or new equipment. For larger airflows, multiple collector units are available in “In-Line” arrangements of 2, 3 or 4 units. Multiple cyclone units include ducting to a common inlet and a common screw conveyor at cyclone discharge (drive package not included). Airflows available from 2,188 - 50,400 CFM.

# Cyclone Collectors

## **Ultra HE Cyclone**

Offers very high efficiency under normal operating conditions. Each system is designed and manufactured to meet the unique efficiency needs of your application. The UHE can be configured as a clean-in-place system. Typical applications include, but are not limited to: pharmaceutical, fluid bed dryer exhaust, food and wood. Ultra high efficiency models will have high differential pressure – 10"-15" W.C.

## **CT Cyclone**

Primarily used as a pneumatic receiver and in plastic pellet de-dusting. Multiple inlet sizes accommodate appropriate convey line size. An expansion chamber can be added for higher efficiency. Available in sizes from 13" to 68" and airflows from 120 CFM – 8,000 CFM.

## **HECR Cyclone**

Used to collect product out of an air stream. This collector was designed for use with powders and is available in aluminum, stainless steel and carbon steel.

## **Fan Powered Cyclone**

FPC is a high efficiency centrifugal collector with a deep body and long cone. The FPC is an economical solution for a wide range of dust collection applications, including woodworking, metal grinding, buffing, etc. The FPC can also be used on operations that create sparks.

# Hygienic Conical Top (HCT) Cyclone

- Designed for sanitary process applications
- Internal wash-down
- Handles heavy dust loads
- Ideal for high moisture areas

## Application

The Schenck Process Hygienic Conical Top (HCT) Cyclone fulfills the requirements for use in highly sanitary applications in the food, pet food, and beverage industries. HCT Cyclones are capable of handling very heavy dust loads. Additionally, they are perfect for human/pet food applications where high moisture and high fat content are commonly used in equipment configurations that include dryers and coolers, coating drums for flavors, centrifuge exhausts and extruder negative airlift systems.

## Equipment

HCT Cyclones incorporate sanitary design features by minimizing internal and external horizontal surfaces where product or water may collect. Sanitary, infinitely adjustable clamped connections have replaced bolted flanges. This improves installation versatility while eliminating hard to clean external harborage points. A tool-free clamped dome with a ferrule used for cleaning the riser tube and draw-through area simplifies maintenance. The cone top has 3 ferrules for ease of cleaning the housing and hopper region. Internal wash-down is possible with design of the riser



tube dome and housing cone top. Additional cleaning may be performed through the inlet and exhaust.

The HCT is designed for mounting to on-edge sanitary structures, but can be customized to meet application needs.

## Features

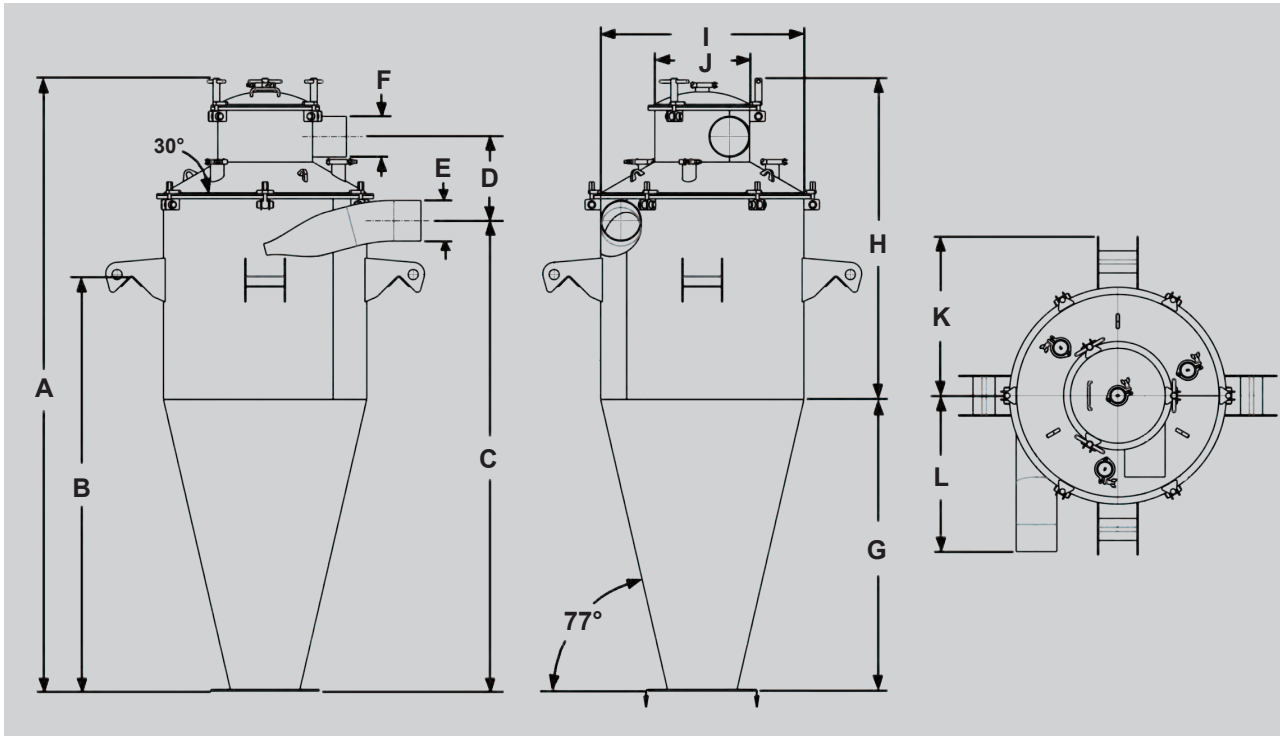
- Infinite position exhaust
- 304 stainless steel construction
- Interior and exterior finishes to meet 3-A sanitary requirements
- Ferrules mounted for use with clean-in-place (CIP) skid

## Options

- Sanitary support structure
- Polished exterior welds
- Sanitary ferrule inlet and exhaust connections
- Explosion venting

NOTE: Hygienic Conical Top (HCT) Cyclone holds a 3-A SSI Replacement Parts and System Component Qualification Certificate and conforms to 3-A Sanitary Standard #608- for instantizing systems.

# Hygienic Conical Top (HCT) Cyclone Dimensions



Model	Dimensions – inches (mm)												Weight (lbs.)	Weight (kg)
	A	B	C	D	E	F	G	H	I	J	K	L		
HCT30	91" (2,311 mm)	61" (1,549 mm)	69.4" (1,763 mm)	12.4" (315 mm)	Ø6" (152 mm)	Ø6" (152 mm)	43" (1,092 mm)	48" (1,219 mm)	Ø30" (762 mm)	Ø14" (356 mm)	23" (584 mm)	23.5" (597 mm)	440	200
HCT36	111" (2,819 mm)	80.2" (2,037 mm)	88.8" (2,256 mm)	13" (330 mm)	Ø6" (152 mm)	Ø6" (152 mm)	56" (1,422 mm)	55" (1,397 mm)	Ø36" (914 mm)	Ø17" (432 mm)	24.5" (622 mm)	26.6" (676 mm)	610	277
HCT42	131" (3,327 mm)	97.7" (2,482 mm)	107.6" (2,733 mm)	14.6" (371 mm)	Ø6" (152 mm)	Ø6" (152 mm)	69" (1,753 mm)	62" (1,575 mm)	Ø42" (1,067 mm)	Ø20" (508 mm)	27.5" (699 mm)	29.6" (752 mm)	820	372
HCT51	163" (4,140 mm)	118.7" (3,015 mm)	132.3" (3,360 mm)	19.1" (485 mm)	Ø10" (254 mm)	Ø10" (254 mm)	88.5" (2,248 mm)	75" (1,905 mm)	Ø51" (1,295 mm)	Ø24" (610 mm)	32" (813 mm)	34.3" (871 mm)	1,200	544
HCT60	195" (4,953 mm)	142.6" (3,622 mm)	159.1" (4,041 mm)	22.5" (572 mm)	Ø12" (305 mm)	Ø12" (305 mm)	108" (2,743 mm)	87" (2,210 mm)	Ø60" (1,524 mm)	Ø28" (711 mm)	36.5" (927 mm)	38.8" (986 mm)	1,600	726
HCT68	225" (5,715 mm)	163.4" (4,150 mm)	184.5" (4,686 mm)	26.2" (665 mm)	Ø14" (356 mm)	Ø14" (356 mm)	125.3" (3,183 mm)	101" (2,565 mm)	Ø68" (1,727 mm)	Ø32" (813 mm)	40.5" (1,029 mm)	42.8" (1,087 mm)	2,100	953



# Horizontal Material Separator (HMS)

- Decreased vertical footprint compared to conventional separators
- Better interior access keeping operators safe during cleaning and maintenance
- Equipment design allows for easier mounting of explosion panel
- Tangential inlet over the top allows the gas-solid mixture to fan out across the main housing unit
- The attached transition cone acts as the point of dropout



## Application

The Horizontal Material Separator (HMS) cyclone separates conveyed material from the conveying airstream, minimizing the amount of air that exits with discharge material. The horizontal cyclone design is similar to a standard cyclone however; the main housing unit is turned 90° with both cylinder ends capped. Functionality of the HMS is also proven to have comparable efficiencies to a standard cyclone. Testing has confirmed that minimal carryover takes place while conveying with an HMS. The HMS is ideal for handling large and small kibble, large flakes and fish feed.

## Features

- Interior product contact welds ground smooth to resist buildup, free of cracks and crevices
- Exterior welds are continuous, cleaned of weld slag and splatter, and safe and sealed from harmful contaminants
- Tool free access door located on opposite end of inlet makes operation easy and safe

## Materials of Construction

- Housing and hopper: 10 gauge stainless steel construction

- Full welded exterior and interior
- Housing/Hopper/Tangential: fully welded on outside and inside
- Exhaust: 10 gauge or Schedule 10 pipe, stainless steel construction

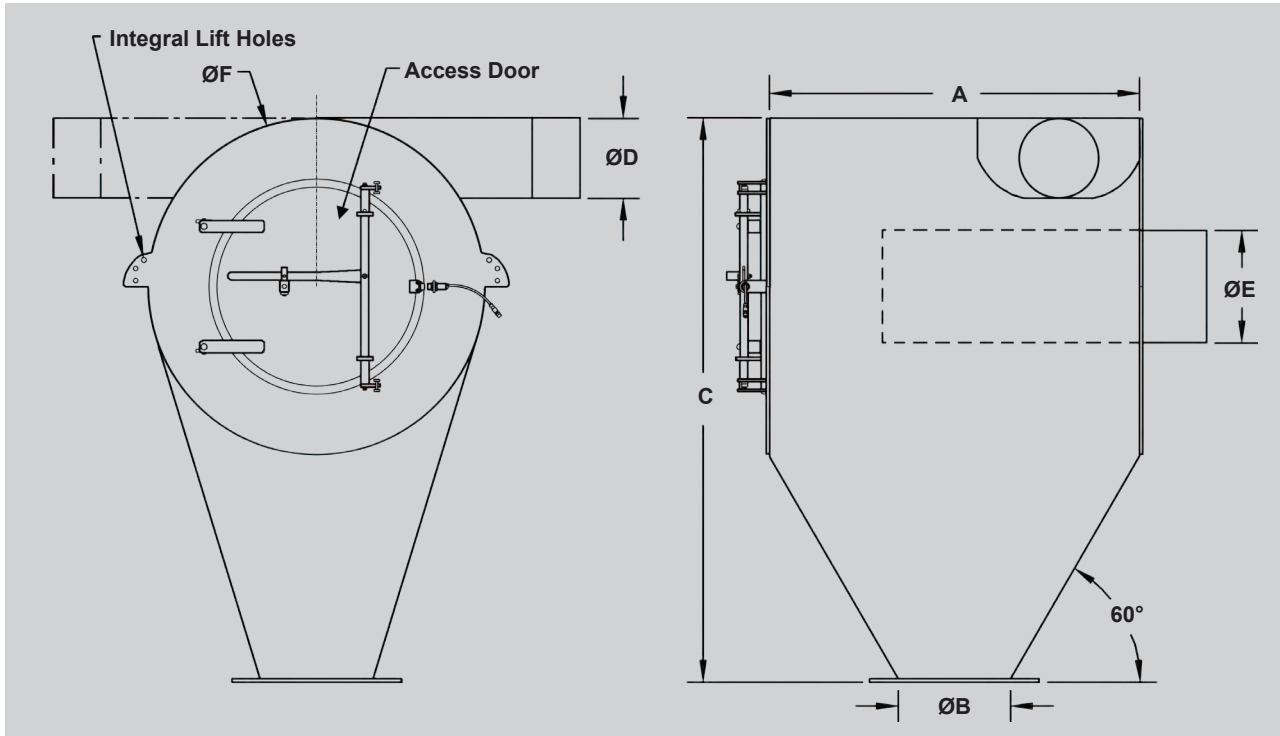
## Major Components

- Combination lift lugs and mount (4 each)
- Tangential inlet-diffuser
- Housing
- Hopper
- Flanged product discharge
- Horizontal exhaust

## Options

- 304 or 316 stainless steel construction or carbon steel
- Inlet: Tube or Schedule 10 pipe
- Clockwise or counterclockwise tangential inlet (as viewed from exhaust)
- Extended wear housing (standard housing is 10 gauge, extended wear is 0.25" thick)
- Small or large product outlet
- Hinge location – Access door: left or right

# Horizontal Material Separator (HMS) Dimensions



Model	Dimensions – inches (mm)					
	A	B	C	D	E	F
HMS 40	22" (559 mm)	6" (152 mm)	34" (864 mm)	4" (102 mm)	6" (152 mm)	20" (508 mm)
		8" (203 mm)	33" (838 mm)			
HMS 60	30" (762 mm)	8" (203 mm)	48" (1,219 mm)	6" (152 mm)	10" (254 mm)	28" (711 mm)
		10" (254 mm)	46" (1,168 mm)			
HMS 80	38" (965 mm)	10" (254 mm)	61" (1,549 mm)	8" (203 mm)	12" (305 mm)	36" (914 mm)
		12" (305 mm)	59" (1,499 mm)			
HMS 100	46" (1,168 mm)	12" (305 mm)	72" (1,829 mm)	10" (254 mm)	14" (356 mm)	42" (1,067 mm)
		14" (356 mm)	70" (1,778 mm)			
HMS 120	54" (1,372 mm)	12" (305 mm)	85" (2,159 mm)	12" (305 mm)	16" (406 mm)	48" (1,219 mm)
		14" (356 mm)	83" (2,108 mm)			
HMS 140	62" (1,575 mm)	14" (356 mm)	97" (2,464 mm)	14" (356 mm)	18" (457 mm)	55" (1,397 mm)
		16" (406 mm)	96" (2,438 mm)			
HMS 160	70" (1,778 mm)	14" (356 mm)	109" (2,769 mm)	16" (406 mm)	20" (508 mm)	60" (1,524 mm)
		16" (406 mm)	107" (2,718 mm)			



# Hygienic Round Top Removal (HRT) 3-A Filter

- Round housing handles higher pressures
- Topside bag replacement speeds changeout of filter media
- Hinged top dome allows clean air access to filter media



## Application

This circular bodied 3-A approved pulse jet filter features a convenient and efficient top hinged dome. With top entry there is no need to enter the dirty portion of the filter. Top removal snap band filter bags require no tools for removal and can quickly be changed out.

## Equipment

HRT filters work in low-capacity pneumatic conveying systems, such as vacuum loading of extruders or refilling minor/micro hoppers. Designed for low air volumes, the HRT can handle higher pressures than a square or rectangular unit.

Schenck Process offers the HRT 3-A Filter in two styles. Without the hopper (Style II) the filter is ideally suited as a bin vent filter for storage tanks, work bins and surge hoppers. With a 60° hopper (Style III) the filter receives dust through the hopper inlet and discharges the collected dust through an airlock for dust disposal or recycling. When fitted with a pneumatic receiver,

the Schenck Process HRT 3-A filter becomes an excellent product receiver. Product enters the filter and is discharged from the bottom through an airlock. Centrifugal force separates the product from the airstream and gently discharges it.

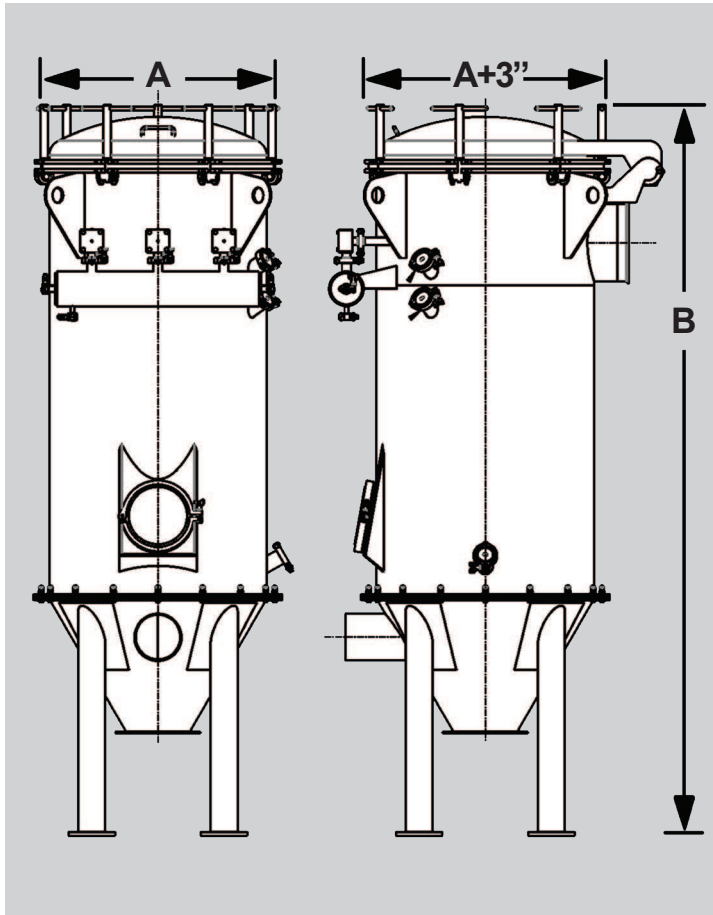
## Features

- Unit rated for 17" Hg and 250 °F standard temperature
- 8" viewport/inspection opening mounted in baghouse
- 304 Stainless Steel construction
  - Housing: HRT1-HRT14: 10ga.; HRT21-HRT32: 7ga.
  - Hopper: HRT7-HRT32: 10ga.
  - Housing flanges: 1/4" x 2"
- Interior and exterior finishes to meet 3-A sanitary requirements
- Ferrules mounted for use with clean-in-place (CIP) skid

## Options

- Differential pressure transmitter
- Sanitary ferrule inlet and exhaust connections
- Explosion venting

# Hygienic Round Top Removal (HRT) 3-A Filter Dimensions



Model	Sq. Ft. Cloth (Sq. M Cloth)	Number of Bags	Dimensions inches (mm)		Weight lbs. (kg)
			A	B	
18HRT1	5 (0.47)	1	13 (330)	42.3 (1074)	122 (55.3)
36HRT1	10 (0.93)	1	13 (330)	60.3 (1532)	145 (65.8)
18HRT3	16 (1.49)	3	22.2 (564)	43.3 (1100)	224 (101.6)
36HRT3	30 (2.79)	3	22.2 (564)	61.3 (1557)	265 (120.2)
36HRT7	32 (3)	7	28 (711)	94.10 (2,390)	710 (322)
54HRT7	48 (4.5)			112.10 (2,847)	790 (358)
72HRT7	65 (6)			130.10 (3,305)	860 (390)
36HRT14	64 (6)	14	40 (1,016)	104.10 (2,644)	1,100 (499)
54HRT14	97 (9)			122.10 (3,101)	1,200 (544)
72HRT14	131 (12.2)			140.10 (3,559)	1,400 (635)
36HRT21	96 (8.9)	21	47 (1,194)	109.10 (2,771)	1,500 (680)
54HRT21	146 (13.6)			127.10 (3,228)	1,700 (771)
72HRT21	196 (18.2)			145.10 (3,686)	1,900 (862)
54HRT32	223 (20.7)	32	60 (1,524)	145.33 (3,691)	2,400 (1089)
72HRT32	299 (27.8)			163.33 (4,149)	2,600 (1179)

# Hygienic Side Entry Receiver (HSER)

- Low headroom applications
- Compact design, requires less plant space
- Side entry and tool-free filter element removal allows quick maintenance
- No confined space entry for conducting maintenance
- Single point access to both clean and dirty volumes of the filter
- Simple design with minimal internal structure enables thorough clean-down



## Application

The HSER filter is designed to meet challenging requirements for sanitation and inspection in the food, pet food and chemical industries. With a horizontal cartridge (or bag) filter, the HSER is ideally suited for low headroom applications under pressure or vacuum and is primarily used as a filter receiver at the end of a pneumatic conveying system to separate the product being conveyed from the convey air. A small footprint makes the HSER well suited for a variety of indoor locations. Explosion venting or suppression can be easily accomplished by venting out the top or sides of the filter. This can be achieved affordably due to the higher reduced pressure this filter can withstand. These features allow the operator the flexibility to use smaller or fewer explosion vent or suppression devices, reducing the complexity and cost of the overall system.

## Equipment

The compressed purge air delivery system, including the header, diaphragms, and purge pipes, is located in the hinged plenum door. This provides media cartridge access without having to remove purge pipes.

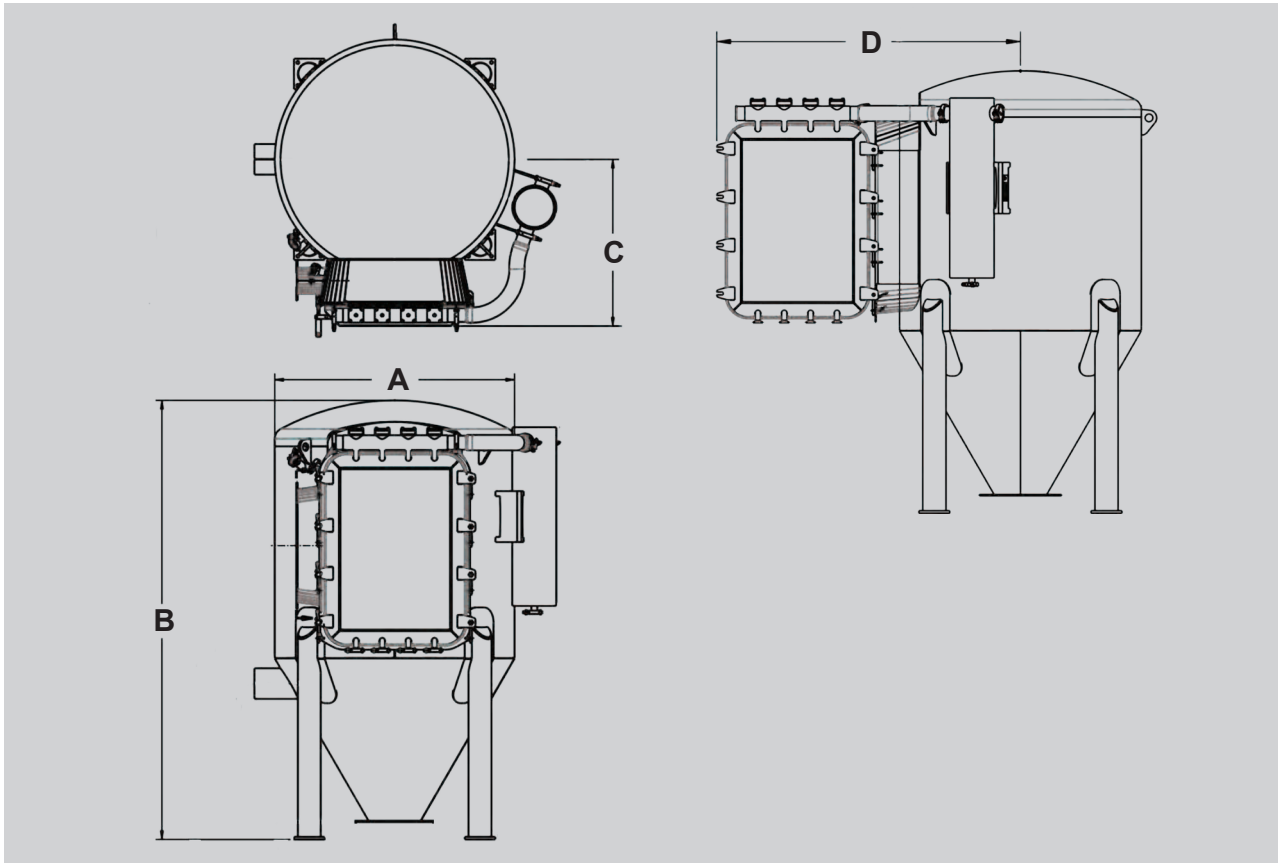
Less complicated than competitive products, the hinged tubesheet provides a single point of access to the baghouse section through the clean air plenum; eliminating additional platform or mezzanine access requirements.

The HSER utilizes clean design concepts, minimizing horizontal surfaces where product or water might collect. The tubesheet design incorporates a machined insert which provides a flush internal surface and a rigid surface to seal the filter elements. The exclusive Schenck Process design allows for complete disassembly simplifying sanitation processes. Only the ACME threaded welded studs require in-place cleaning. There is no internal structure in the product contact area, which makes it easier to clean.

Loose parts are kept to a minimum during change-outs with only removal of the venturi required for access to the media. The sanitary envelope-styled cartridge minimizes product retention on the media. For even higher sanitary needs bag filter elements may be used.

Note: The HSER can be optionally manufactured to meet 3-A standards. This is possible only if bag style filter elements are incorporated in addition to 3-A compliant design options. When manufactured with 3-A design the HSER is named HSER 3-A.

# Hygienic Side Entry Receiver (HSER) Dimensions



Model	Cloth Area				# of Filter Elements	Dimensions – Inches (mm)			
	Cartridge (Sq. Ft.)	Cartridge (Sq. M)	Bag (Sq. Ft.)	Bag (Sq. M)		A	B	C	D
24HSER2	38.8	3.6	14.6	1.4	2	28" (711 mm)	77.9" (1,979 mm)	24.3" (617 mm)	40.7" (1,034 mm)
24HSER3	58.2	5.4	21.9	2.0	3	36" (914 mm)	84.7" (2,151 mm)	25.2" (640 mm)	51.8" (1,316 mm)
24HSER4	77.6	7.2	29.2	2.7	4	36" (914 mm)	84.7" (2,151 mm)	25.5" (648 mm)	51.8" (1,316 mm)
39HSER4	142	13.2	47.6	4.4	4	47" (1,194 mm)	86.1" (2,187 mm)	32.7" (831 mm)	59.1" (1,501 mm)
39HSER5	177.5	16.5	59.5	5.5	5	54" (1,372 mm)	97" (2,464 mm)	34.8" (884 mm)	66.6" (1,692 mm)
39HSER6	213	19.8	71.4	6.6	6	60" (1,524 mm)	102.8" (2,611 mm)	36.8" (925 mm)	73.6" (1,869 mm)

# Mac2Flo® Dust Collector

- Reduced installation, maintenance and inventory costs
- Modular design reduces initial capital cost, and eases future expansion
- Compact design takes up less floor space
- Ultra high efficiency MEGABond filter media is standard
- Cartridge life is lengthened with optimized air distribution



## Application

Built tough – the most efficient cartridge collector on the market is modular for low cost expansion. A sample of applications best suited for Mac2Flo® include light dust loads with high volume of air flow, such as:

- |                          |                   |
|--------------------------|-------------------|
| ■ Asbestos               | ■ Mica            |
| ■ Baking soda            | ■ Paint pigment   |
| ■ Ceramic dust           | ■ Pharmaceuticals |
| ■ Cosmetic dust          | ■ Plasma cutting  |
| ■ Diatomaceous dust      | ■ Talc            |
| ■ Epoxy dust             | ■ Toner           |
| ■ Fertilizers            | ■ Weld fumes      |
| ■ Foundry dust and smoke | ■ And much more   |

## Operating Principle

With a large square footage of media per cartridge, the Mac2Flo® allows for increased air flow with no increase in pressure drop. Dust-laden air enters the top of the filter – which provides a true downward airflow resulting in increased cleaning efficiency.

The modular construction with a fabricated housing frame has bolted, gasketed panels which allows for easy expansion of the number of modules installed. Mac2Flo® can be configured in housings with a maximum of 144 cartridges.

The mini Mac2Flo® can be configured in 1-, 2- and 3- cartridge housings and has an integral fan.

## Standard Features

- Multiple inlet/outlet locations
- Tool-free cartridge removal
- Timer in Nema 4 enclosure
- Guaranteed outlet emission levels
- Ultra high efficiency MEGABond™ nanofiber cartridges

## Options

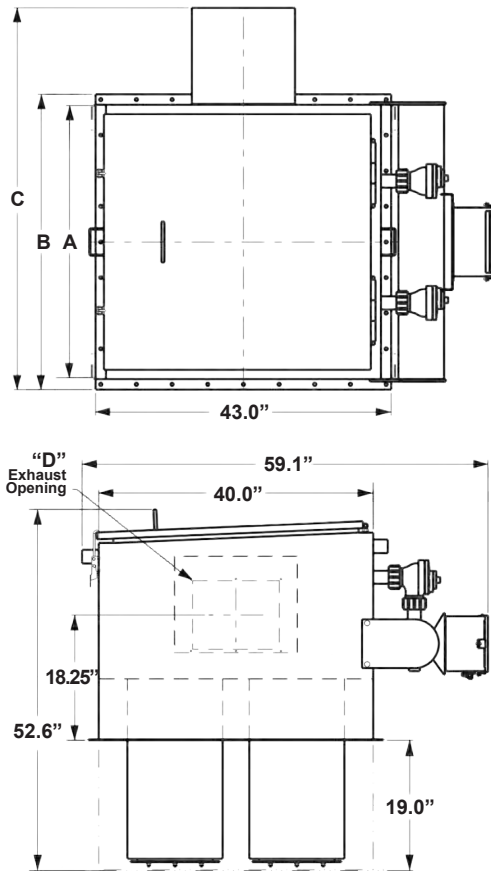
- Explosion venting
- Abrasion resistant inlets
- Stainless steel construction
- Rotary valves
- Slide gate/drum cover kits
- Inlet collars
- Integral fan packages
- Bag-in/bag-out cartridge access
- Platform and ladder
- Electrical control panels
- Screw conveyors

# Mac2Flo® Dust Collector Dimensions

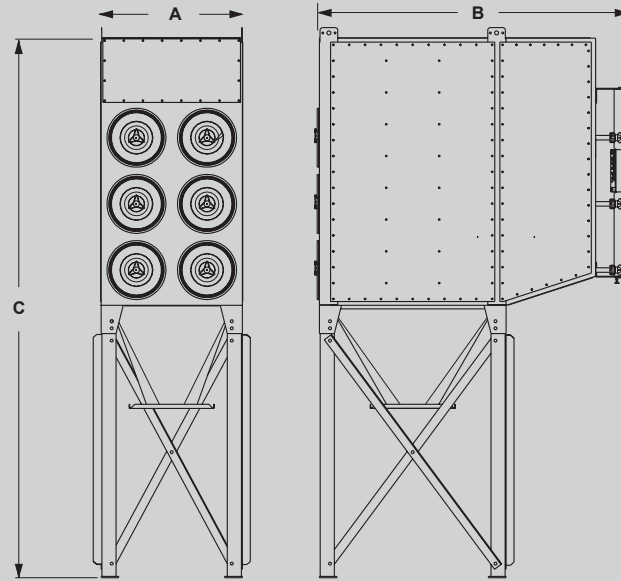
## Mac2Vent

The Mac2Vent is a compact design bin vent that is capable of large air volumes. A low profile, top access cartridge removal, and no ladder access make it the ideal candidate for silos, belt conveyor transfer points and other hard to access applications. Models range from 2, 4 and 6 cartridge units that will handle airflows from 500 cfm to 3,800 cfm.

## MAC2 VENT SPECIFICATIONS



## STANDARD MAC2FLO® SPECIFICATIONS



## STANDARD MAC2FLO® DIMENSIONS

Model	Cloth Area (Sq. Ft.)	SCF Per Pulse at 90 PSIG	Dimensions (inches)			Weight (lbs.) less Support Structure
			A	B	C	
1M2F1	225	0.8	36	64.50	56.13	710
2M2F2	450	1.7	36	64.50	74.88	950
2M2F4	900	1.7	40.25	61.75	123.31	1,160
2M2F8	1,800	1.7	40.25	87.75	134.13	1,560
2M2F16	3,600	1.7	80.25	87.75	134.13	2,850
2M2F24	5,400	1.7	120.25	87.75	134.13	4,140
2M2F32	7,200	1.7	160.25	87.75	134.13	5,430
2M2F40	9,000	1.7	200.25	87.75	134.13	6,720
2M2F48	10,800	1.7	200.25	87.75	134.13	8,010
3M2F3	675	2.7	36	64.50	93.63	1,195
3M2F12	2,700	2.7	40.25	87.75	152.88	1,965
3M2F24	5,400	2.7	80.25	87.75	152.88	3,565
3M2F36	8,100	2.7	120.25	87.75	152.88	5,165
3M2F48	10,800	2.7	160.25	87.75	152.88	6,765
3M2F60	13,500	2.7	200.25	87.75	152.88	8,365
3M2F72	16,200	2.7	240.25	87.75	152.88	9,965
4M2F16	3,600	3.6	40.25	87.75	171.63	2,365
4M2F32	7,200	3.6	80.25	87.75	171.63	4,720
4M2F48	10,800	3.6	120.25	87.75	171.63	6,175
4M2F64	14,400	3.6	160.25	87.75	171.63	8,080
4M2F80	18,000	3.6	200.25	87.75	171.63	9,985
4M2F96	21,600	3.6	240.25	87.75	171.63	11,890
4M2F112	25,200	3.6	280.25	87.75	171.63	13,800
4M2F128	28,800	3.6	320.25	87.75	171.63	15,700
4M2F144	32,400	3.6	360.25	87.75	171.63	17,605

## MAC2VENT SPECIFICATIONS

Model	Number of Cartridges	Cloth Area (Sq. Ft.)	Cubic Ft. per Pulse	Dimensions (inches)				Insertable	Plenum
				A	B	C	D		
M2V2	2	450	1.3	22.25	25.25	34.19	8" dia.	365	440
M2V4	4	900	2.4	40	43	55.63	10 x 12.63	555	650
M2V6	6	1350	3.4	57.75	60.75	73.38	12 x 15.75	754	870



# Round Top Removal (RT/RTC) Filter

- Round housing handles higher pressures
- Topside bag replacement speeds changeout of filter media
- Hinged top doors allow clean air access to filter media
- Can be fitted with either bags or pleated cartridges, depending on efficiency requirement



## Application

This circular bodied pulse jet filter features convenient and efficient top hinged doors. With a top entry there is no need to enter the dirty portion of the filter. Top removal snap band filter bags require no tools for removal and can quickly be changed out.

RT filters work in low-capacity pneumatic conveying systems, such as vacuum loading of extruders or refilling minor/micro hoppers. Designed for low air volumes, the RT can handle higher pressures than a square or rectangular unit.

Schenck Process offers this filter in two styles: without the hopper (Style II) the filter is ideally suited as a bin vent filter for storage tanks, work bins and surge hoppers. With a 60° hopper (Style III) the filter receives dust through the hopper inlet and discharges the collected dust through an airlock for dust disposal or recycling.

When fitted with a pneumatic receiver, the Schenck Process RT filter becomes an excellent product receiver. Product enters the filter and is discharged from the bottom through an airlock. Centrifugal force separates the product from the airstream and gently discharges it.

## Equipment

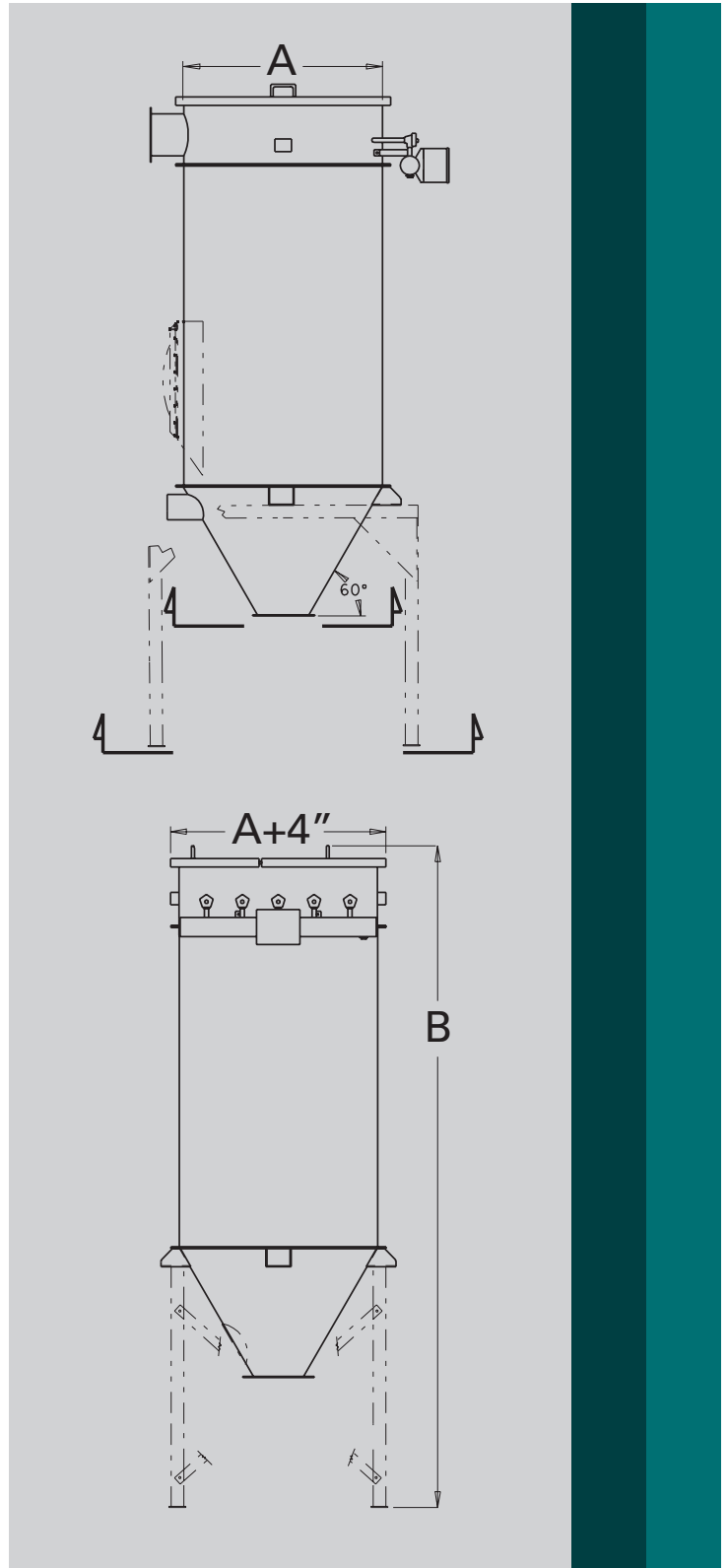
The same filter housing can be fitted with pleated cartridges for higher filtration efficiencies, and is then designated as an RTC. RTC models can handle higher air volumes than the RT model.

## Standard Specifications

- Unit stressed for 40" W.C. and 200 °F standard temperature
- Carbon steel or stainless steel construction:
  - Top plenum: 7 ga. sidewall and doors
  - Cylinder:
    - RT7 and RT14: 10 ga.; RT 21 - 80 7 ga.
  - Hopper:
    - RT7 - RT39: 10 ga.; RT42 - RT80 7 ga.
  - Housing flanges: 1/4" x 2"
- Full welded exterior and skip welded interior
- Hopper interior welds ground smooth

# Round Top Removal (RT/RTC) Filter Dimensions

Model	Cloth Area (Sq. Ft.)	Number of Bags	Dimensions (inches)	
			A	B
18RT7	15	7	28	86-7/16
36RT7	32			104-7/16
54RT7	48			122-7/16
72RT7	65			140-7/16
18RT14	30	14	40	96-11/16
36RT14	64			114-11/16
54RT14	97			132-11/16
72RT14	131			150-11/16
96RT14	175			174-11/16
36RT21	96	21	47	120-11/16
54RT21	146			138-11/16
72RT21	196			156-11/16
96RT21	263			180-11/16
54RT32	223	32	60	149-15/16
72RT32	299			167-15/16
96RT32	401			191-15/16
54RT39	271	39	66	155-3/16
72RT39	365			173-3/16
96RT39	489			197-3/16
72RT52	486	52	72	178-5/16
96RT52	652			202-5/16
72RT62	580	62	84	188-15/16
96RT62	778			212-15/16
72RT780	748	80	93	196-11/16
96RT80	1004			220-11/16





## RTC 1/3 Filter

- Available in carbon steel, 304 stainless steel and aluminum
- Designed for 17" Hg service
- 60° conical hopper
- Housing lengths for .5 meter or 1 meter cartridges
- NEMA 4 solenoid valve
- Flanged discharge

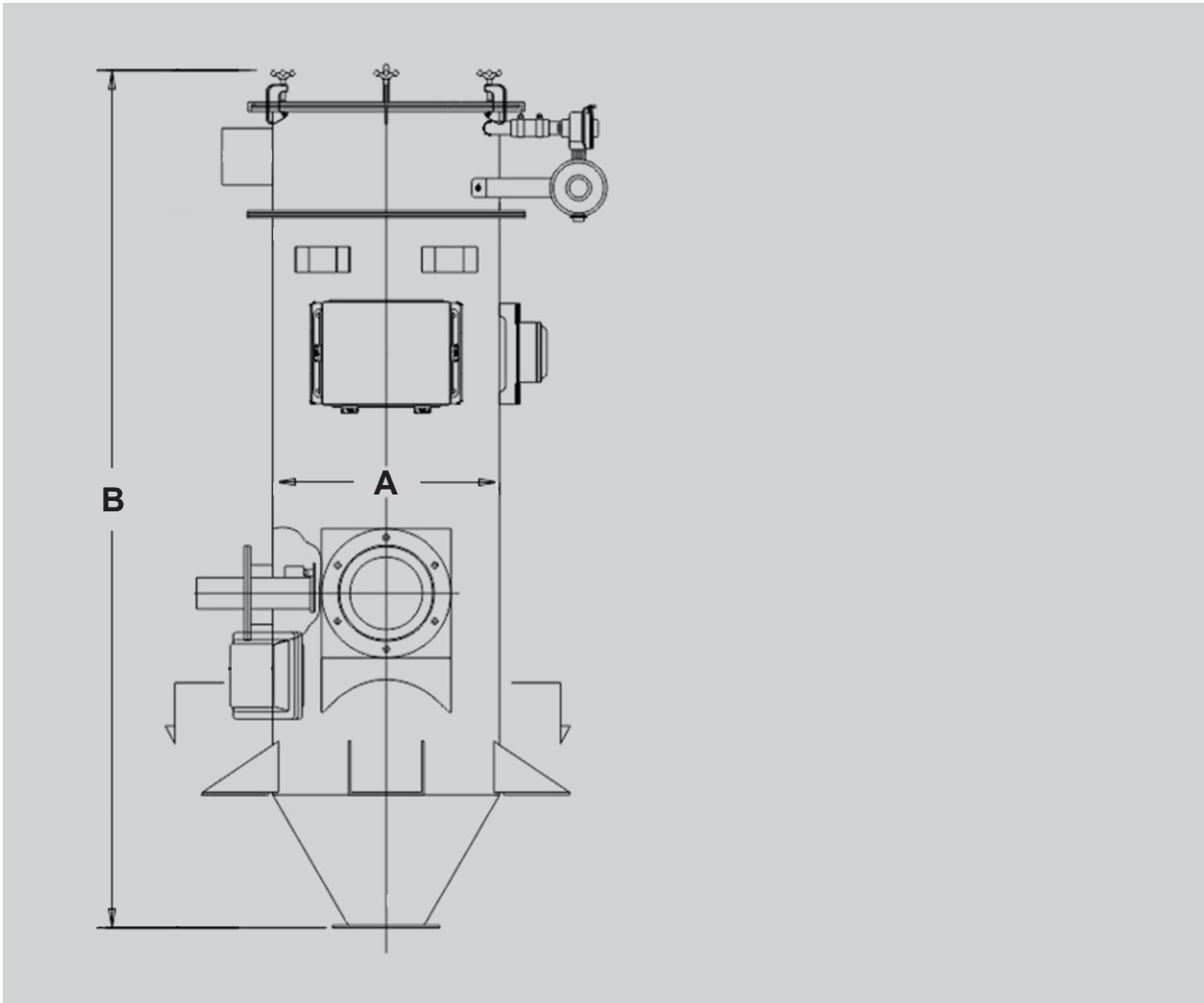
Schenck Process RTC 1/3 Filters are compact units. Their round housings contain three Polipleet® filters. They are designed for low-capacity pneumatic conveying systems, such as vacuum loading extruders or refilling minor/micro hoppers. This filter is available with or without a hopper.



### Options

- Gravity discharge gate
- Industrial grade epoxy coated product contact areas
- Food grade epoxy coated product contact areas (carbon steel units only)
- CG 24 80 and 120 welds on stainless steel units
- Magehelic gauge kit
- NEMA 7 or 9 solenoid valve
- Timer board with NEMA 4, 9 or 12 enclosure
- Side mounted fan bracket
- Structural steel legs, 12" clearance
- Flanged air inlet
- Mount pads
- Side mounted fans (restrictions exist – please contact your Schenck Process Representative)

## RTC 1/3 Filter Dimensions



Model	Capacity (Cu. Ft.)	Cloth Area (Sq. Ft.)	Number of Cartridges	Dimensions (inches)	
				A	B
19RTC1	NA	17	1	10	30.94
39RTC1	NA	36	1	10	56.94
19RTC3	1	51	3	18	61.88
19RTC3	2	51	3	18	68.88
19RTC3	3	51	3	18	75.88
39RTC3	1	108	3	18	81.88
39RTC3	2	108	3	18	88.88
39RTC3	3	108	3	18	95.88

## Side Entry (SEntry) Pulse Jet Filter

- Suited for applications where confined space entry or sanitation is critical
- Side access to filter media and tool-free removal speeds maintenance
- Can be used as a dust collector, or as a primary receiver in pneumatic conveying applications
- Compressed air pulses the cartridge dislodging accumulated dust



### Application

The SEntry is a versatile cartridge filter ideally suited for pressure and vacuum applications requiring low headroom. Designed to handle low air volume and high pressure, the SEntry can be used in a wide range of process applications in the food, chemical, petrochem and pharmaceutical industries.

The SEntry can be used as a dust collector, or as a primary receiver in pneumatic conveying applications under heavy grain loading, including rail unloading. Vertical explosion venting makes this collector safer to maintain and ideal for applications within a plant where there is no access to an exterior wall to vent through.

### Equipment

Side entry, coupled with tool-free cartridge removal, provide easy access for quick maintenance and cartridge change from the outside. Since the filter elements are removed horizontally from the clean air plenum via a hinged access door, there is no reason to access the dirty side of the filter, which eliminates many safety issues.

The sanitary envelope-styled cartridge design minimizes product retention on the cartridge. Wide pleat arrangement allows for high air-to-cloth ratios.

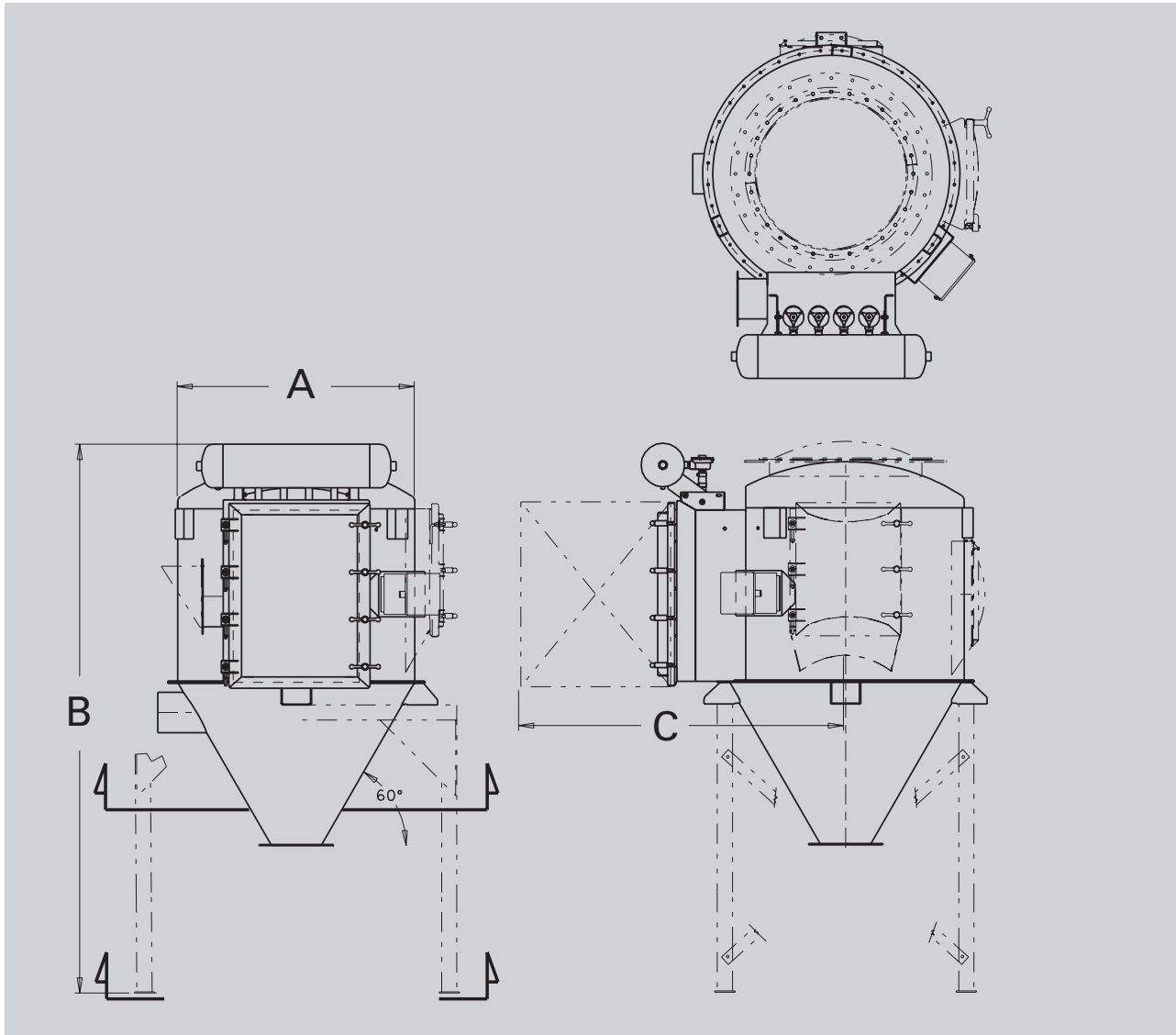
An air pulse cleaning system cleans the cartridges and dislodges filtered product so that it drops into the hopper. A system of compressed air manifolds is mounted above the bank of cartridges. A pulse of compressed air is periodically directed through the cartridge. The pulse flexes the cartridge, causing accumulated dust to be dislodged and fall to the hopper below.

The cleaning pulse can be controlled by an optional photohelic differential pressure gauge which responds to pressure differences across the filter. When controlled by the gauge, cleaning occurs only when needed, decreasing air consumption and increasing cartridge life by avoiding unnecessary pulsing.

### Standard Specifications

- Unit stressed for 17" W.C. and 175 °F standard temperature
- Carbon or stainless steel construction
- Round unit designed for 17" W.C.
- Square unit designed for 20" W.C.
- Top or side inlet options

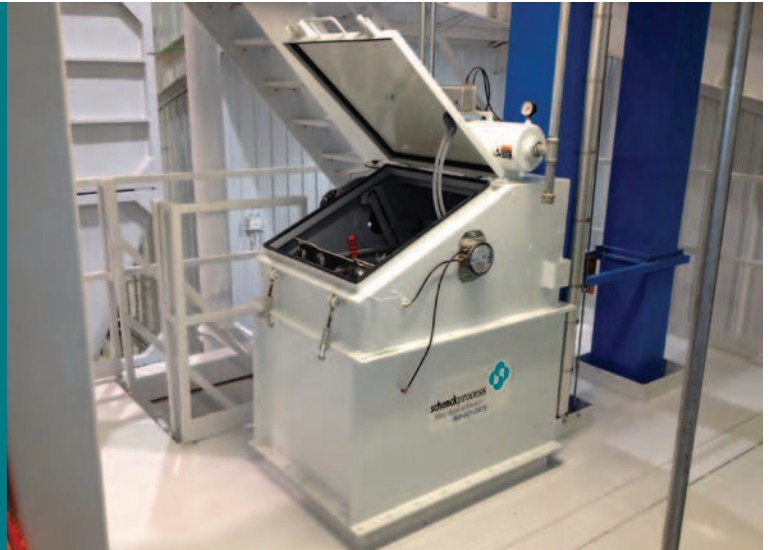
## Side Entry (SEntry) Pulse Jet Filter Dimensions



Model	Cloth Area (sq. ft.)	Dimensions (inches)		
		A	B	C
4	200	47	108-11/16	64-16/32
5	250	54	114-7/8	69-15/16
6	300	60	121-7/16	76-7/8
8	400	47	144-5/16	64-13/32
10	500	54	150-1/2	69-15/16
12	600	60	157-1/16	76-7/8

# SpaceSaver<sup>®</sup> Dust Collector

- Designed for use in areas with limited space, vertical clearance, and areas not easily connected to central dust collection systems
- 75% smaller than traditional baghouses
- No confined space entry issues
- Self-contained dust collections



## Application

The patented SpaceSaver<sup>®</sup> dust collector is the smallest on the market. This low profile, compact design is perfect for anyone who needs high efficiency dust collection, but has limited footprint space or available headroom.

- Bucket elevator aspiration
- Belt conveyor transfer points
- Mixer ventilation
- Scale hopper ventilation
- Super Sack fillers & unloaders
- Silo venting
- Hammer mill aspiration
- Seed cleaning

## Operating principle

Driven by customer needs – the SpaceSaver<sup>®</sup> gets very positive response from plant managers, maintenance staff and plant personnel. The patented cleaning mechanism thoroughly pulses the cartridges using directed airflow.

This technology saves energy with more efficient use of compressed air. Cartridge life is also extended, which means you don't have to replace them as often. The SpaceSaver is engineered for NFPA compliance and includes a low emissions guarantee.

## Features

- Many different cartridge media types available, tailored to best fit your application
- Sizes range from 2 to 48 cartridges per collector
- Footprint as small as 27" x 38" (686 mm x 965 mm)
- Completely tool-free cartridge changeout
- Unique blowpipe configuration speeds maintenance
- No loose parts to manage during maintenance
- Directed air flow cleans the cartridge more effectively, resulting in less cartridge wear and longer life
- Frees up valuable footprint space and headroom
- Fits into tight spaces
- Less expensive to ship and install
- Fewer elements and tool-free maintenance reduce service costs

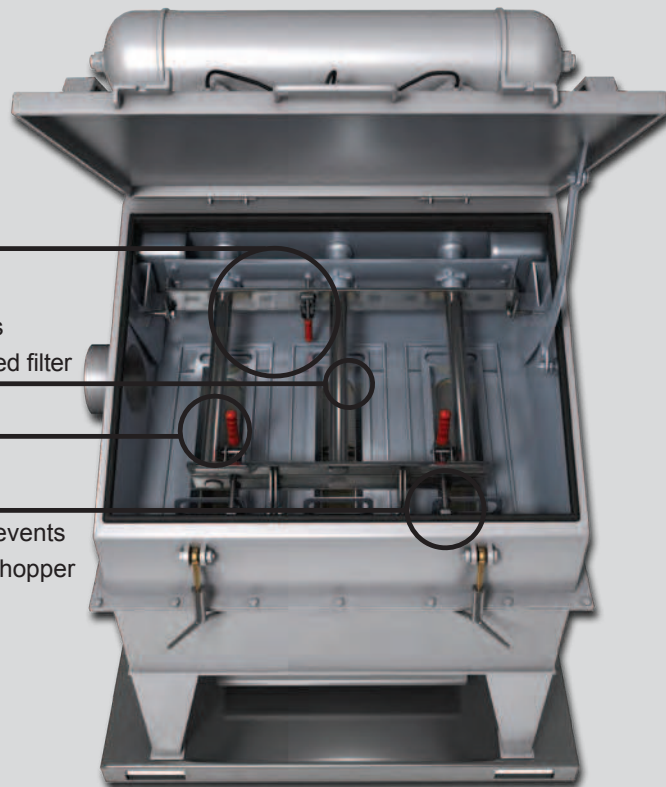
# SpaceSaver® Dust Collector

Integral frame assembly allows for sectional removal of blow pipes and guarantees that blow pipe holes will always be properly aligned when reinstalled

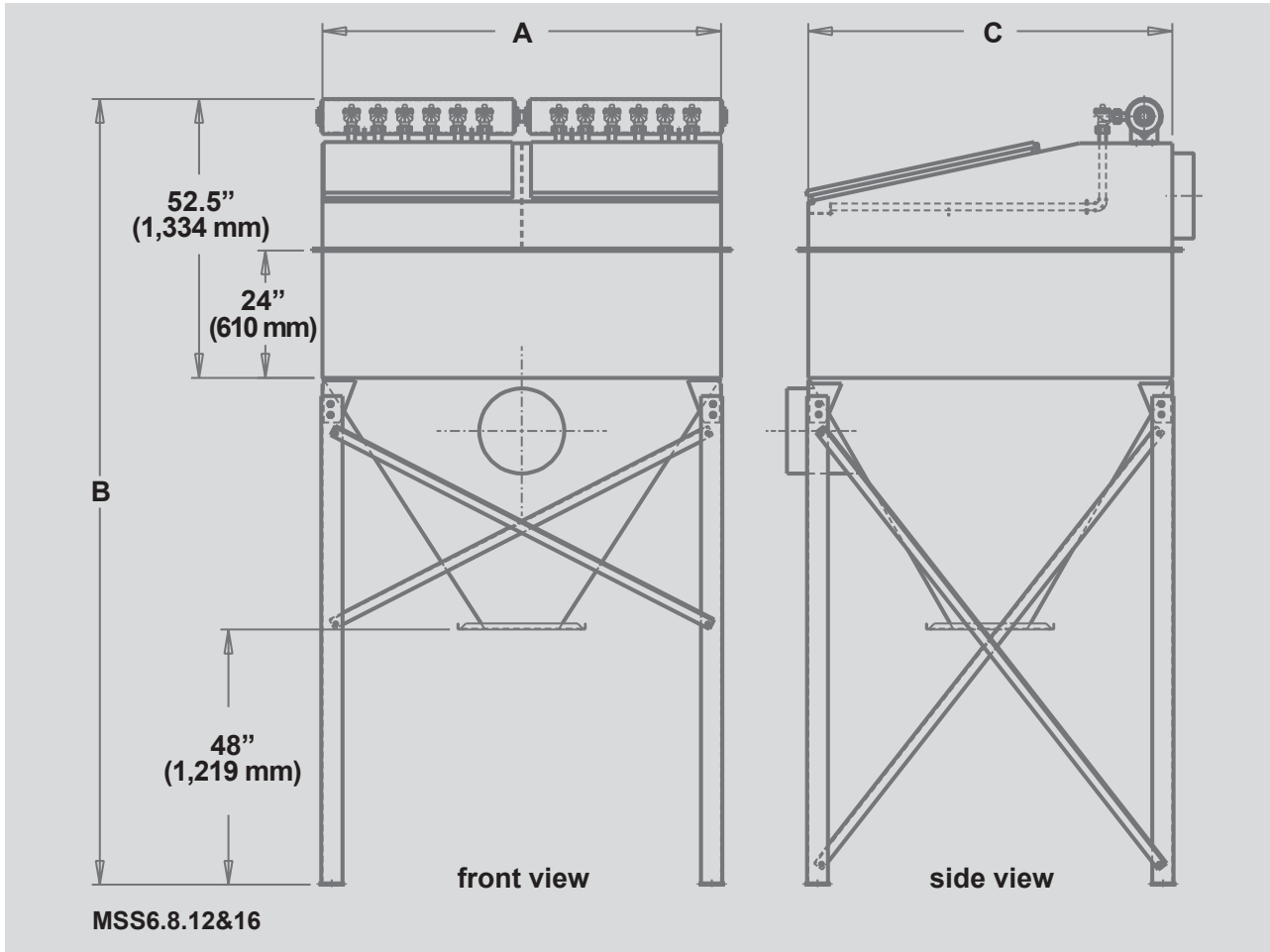
Quick release handles allow fast, tool-less removal of entire blow pipe section

Chamfered lip prevents mis-installation of pleated filter

Captured lock down nut prevents hold down from falling into hopper



# SpaceSaver<sup>®</sup> Dust Collector Dimensions



Model	Cartridges	Cloth Area (Sq. Ft.)	Cloth Area (Sq. M)	Dimensions – inches (mm)		
				A	B	C
MSS2	2	232	22	27 (686)	121.5 (3,086)	38 (965)
MSS3	3	348	32	34 (864)	121.5 (3,086)	38 (965)
MSS4	4	464	43	44 (1,118)	126.4 (3,211)	38 (965)
MSS6	6	696	65	38 (965)	136.6 (3,470)	68.5 (1,740)
MSS8	8	928	86	48 (1,219)	139.6 (3,546)	68.5 (1,740)
MSS12	12	1,392	129	76 (1,930)	147.9 (3,757)	68.5 (1,740)
MSS16	16	1,856	172	96 (2,438)	159.1 (4,041)	68.5 (1,740)
MSS20	20	2,320	216	124 (3,150)	147.9 (3,757)	68.5 (1,740)
MSS24	24	2,784	259	144 (3,658)	147.9 (3,757)	68.5 (1,740)
MSS28	28	3,248	302	172 (4,369)	159.1 (4,041)	68.5 (1,740)
MSS32	32	3,712	345	192 (4,877)	159.1 (4,041)	68.5 (1,740)
MSS40	40	4,640	431	240 (6,096)	159.1 (4,041)	68.5 (1,740)
MSS48	48	5,568	517	288 (7,315)	159.1 (4,041)	68.5 (1,740)

- When cartridge service door is open, allow additional 16" (406 mm) to the overall height for the MSS2-4 and 21" (533 mm) for the MSS6-48
- Timer enclosure (shipped loose) requires 110 volt power supply
- 90-100 psig. clean, dry compressed air required
- 1.5 scfm cleaning air per cartridge
- Filter housing rated for 20" (508 mm) WC
- Style II filters are less hopper & structure but include a flange at base of housing
- Call to see complete set of drawings



## Square Top Removal (ST/STC) Filter

- Fast changeout of filter media
- Hinged top doors allow clean air access to filter media
- Can be fitted with either bags or pleated cartridges, depending on efficiency requirements



### Application

The ST filter has a square housing and hinged top doors in the clean air plenum for easy access to the tubesheet and filter media.

This square bodied pulse jet cleaned filter unit is designed to handle low air volumes. It is typically used as a nuisance dust collector in applications where floor space is limited. As filter media is removed vertically from the top clean section, the ST filter is also suitable for hazardous dusts.

### Equipment

Style II filter includes the clean air plenum with hinged top doors, tubesheet, flanged air outlet, removable internal air piping, 4" compressed air header, 3/4" diaphragm air valves, and adjustable timer. Timer and solenoid valves are mounted and pre-wired in a NEMA 12 enclosure mounted on a compressed air header. There is a 12 ga. bag housing flanged to the plenum and mounting flange at the base of the housing.

Style III filter includes all above components plus a 60° hopper flanged to the housing, and stub air inlet.

The same filter housing can be fitted with pleated cartridges for higher filtration efficiencies, and is then designated as an STC. STC models can handle higher air volumes than the ST model.

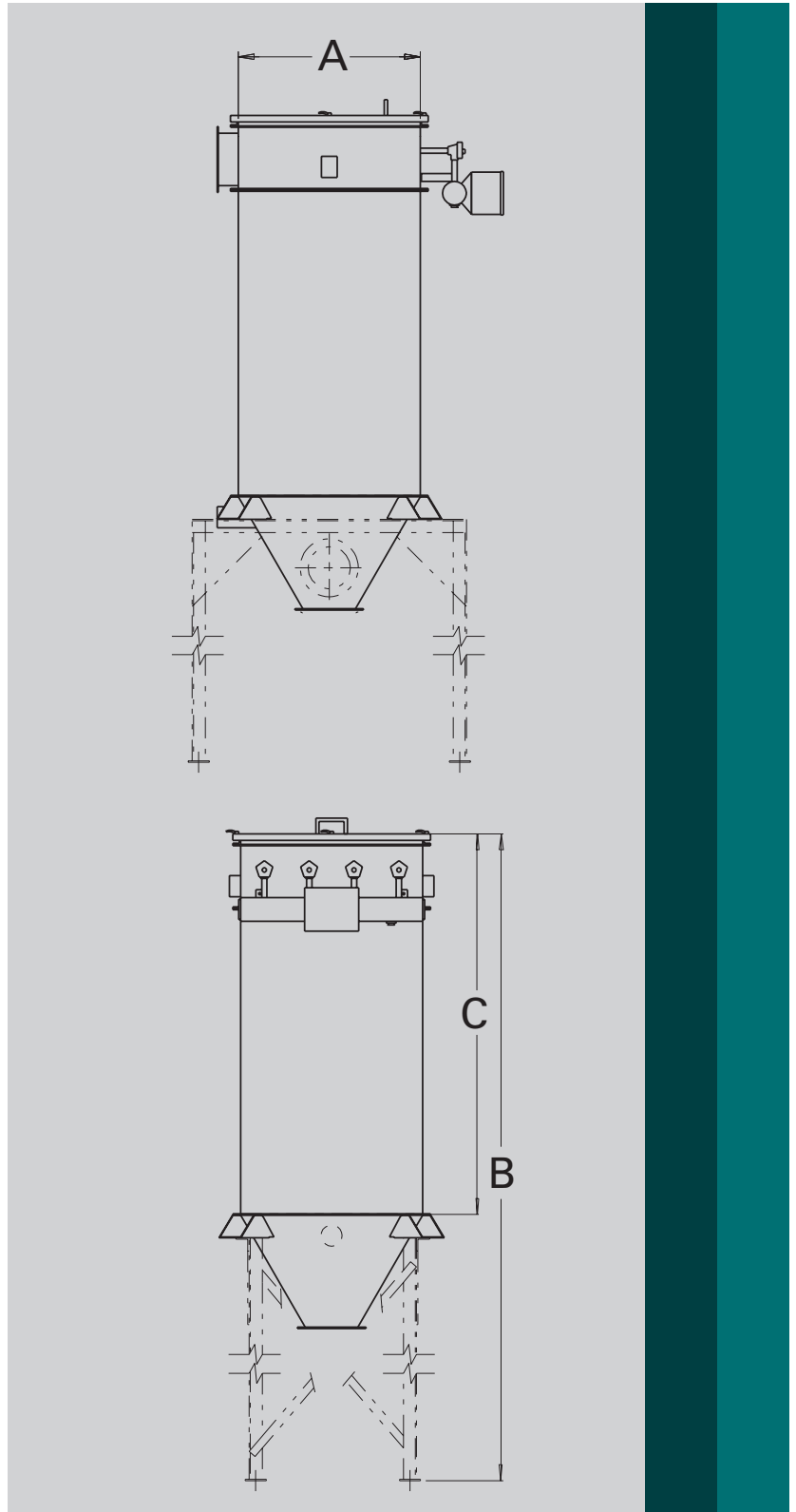
### Standard specifications

- Unit stressed for 17" W.C. and 180 °F standard temperature
- Carbon steel construction:
  - Top plenum and baghouse: 12 ga.
  - Hopper ST9 and 16: 10 ga.
  - Hopper ST25 and larger: 7 ga.
- Full welded exterior and skip welded interior
- 36 bag units and larger have reinforced housing and tubesheet
- Broke lip flange on top plenum, baghouse, and hopper
- Hopper discharge flange: 1/4" x 1-1/2" flat bar



# Square Top Removal (ST/STC) Filter Dimensions

Model	Cloth Area (Sq. Ft.)	Number of Bags	Dimensions (inches)		
			A	B	C
18ST9	19	9	26	78-11/16	36-3/16
36ST9	41			96-11/16	54-3/16
54ST9	62			114-11/16	72-3/16
72ST9	84			132-11/16	90-3/16
18ST16	35	16	34-1/2	86-11/16	36-3/16
36ST16	73			104-11/16	54-3/16
54ST16	111			122-11/16	72-3/16
72ST16	149			140-11/16	90-3/16
96ST16	200			164-11/16	114-3/16
18ST25	54	25	43	94-11/16	36-3/16
36ST25	114			112-11/16	54-3/16
54ST25	174			130-11/16	72-3/16
72ST25	234			148-11/16	90-3/16
96ST25	313			172-11/16	114-3/16
36ST36	164	36	51-1/2	120-11/16	54-3/16
54ST36	250			138-11/16	72-3/16
72ST36	336			156-11/16	90-3/16
96ST36	451			180-11/16	114-3/16
36ST49	224	49	60	128-11/16	54-3/16
54ST49	341			146-11/16	72-3/16
72ST49	458			164-11/16	90-3/16
96ST49	614			188-11/16	114-3/16
36ST64	293	64	68-1/2	136-11/16	54-3/16
54ST64	446			154-11/16	72-3/16
72ST64	599			172-11/16	90-3/16
96ST64	803			196-11/16	114-3/16



## Additional Product Offerings



### MCF PowerSaver® Dust Collector

Requiring no integrated plant air to function, the MCF PowerSaver® generates energy cost-savings of up to 50% over conventional high pressure pulse jet or reverse air cleaning systems.

- ❖ Operates with medium-pressure cleaning air (7-9 psig) (.4-6 barg)
- ❖ Cleaning capacities over 250,000 CFM (425,000 m3/h)



### Mac PowerHouse (MPH)® Baghouse

The MPH® is built to handle fine particulates and heavy dust loads.

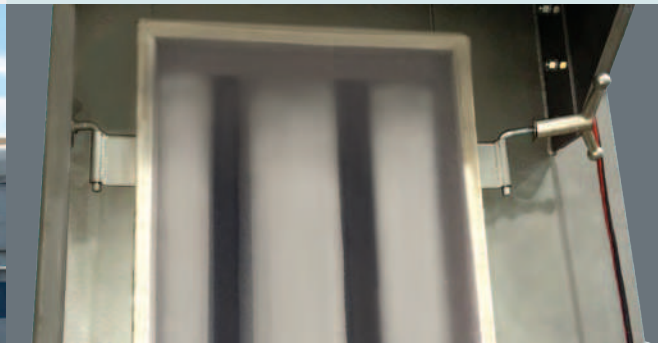
- ❖ Low pressure/high volume cleaning mechanism incorporates a centrifugal fan to produce the bag cleaning air
- ❖ Centrifugal fan blows continuously into a rotating arm passing over bags



### LST/LSTC Filter (Large Square Top-Removal)

The filter media is installed and removed through the clean air plenum of the filter.

- ❖ The plenum can be designed as a walk-in plenum so the filter media replacement and maintenance can occur in an enclosure
- ❖ When the option of a walk-in plenum is not selected, hinged doors on top of the plenum provide access to the filter media



### LVS/LVSC Filter (Large Vent Square)

Bottom removal filters designed to handle medium to high air volumes.

- ❖ Particularly suited for applications where head room is an issue
- ❖ Bags can be removed via an access door on the side of the unit



### RPT Filter (Rectangular Pulse Top-Removal)

A rectangular top removal bodied filter unit designed to handle high air volumes.

- ❖ Bags are removed vertically from the top clean section
- ❖ The plenum can be designed as a walk-in plenum so the filter media replacement and maintenance can occur in an enclosure

# Filter Application Form

schenck process



**Name**  
   
First Name Last Name

**Job Title**

**Company Name**

**Address**  
      
Street Address Line City State Zip Code Country

**Phone Number**  
   
Area Code Phone Number

**Email**

## Is it a Replacement or New Application?

- Replacement  New Application

Manufacturer Model Number Serial Number

## Location

- Indoors  Outdoors

## Hazardous Area Certification

## Operating Pressure

- PSI  HG  H<sub>2</sub>O

## Pressure Type

- Atmospheric  Positive  Negative

## Desired Rating of Dust Collector

- PSI  In HG  WC

## Inlet Type

- Tangential  Radial  Hopper  High Entry  
 Bin Vent  Pneumatic Receiver  Other

## Inlet Loading

- lb/hr  grains/ft<sup>3</sup>

## Pmax

- bar

## Explosion Vents

- Unknown  Yes  No

## KST

- bar-m/sec

## Required Outlet Emission

- gr/ft<sup>3</sup>  mg/m<sup>3</sup>

## Housing Type

- Round  Square

## Insulated

- Photohelic  Magnehelic

## Hopper Discharge

- size

## Clearance below discharge

## Support Structure

- Yes  No

## Timer Controls

- Yes  No

## Air to Cloth Ratio

## Service Platform

- Yes  No

## Other Options and Requirements

## Product Name/Description

## ACFM

## SCFM

## Elevation

## Max Temperature Range

- °F  °C

## Bulk Density

## Moisture Percentage

- %

## Filtration Gas

- Air  Nitrogen

## Product Characteristic

- Abrasive  Sticky  Hygroscopic  Wet  
 Corrosive  Fume  Other

## Particle Size

- inches  Millimeters  Mesh  Microns

## Bag Accessibility

- Top  Bottom

## Cartridge/Bag

- Bag  Cartridge

## Voltage Requirements

## Level Indicator

- High  Low

Volts (V) / Phase / Frequency (Hz)

## Airlines

- Polyflo (Standard)  Copper  304 Stainless Steel

## Rotation and Discharge (check all that apply)

- Clockwise  Top  Upblast  Horizontal  
 Counterclockwise  Bottom  Downblast  TBD

## Fan Information

## Static Pressure

## Fan Mount

- Top  Side

## Arrangement

- V-Belt  Direct Drive

## Outlet Damper

- Yes  No

## Exterior Paint

- Standard Schenck White  Other

## Materials of Construction Clean Air Plenum

- Aluminum  Carbon Steel  304 Stainless Steel  316 Stainless Steel

## Materials of Construction Dirty Air Plenum

- Aluminum  Carbon Steel  304 Stainless Steel  316 Stainless Steel

## Epoxy Options

- Industrial  Food Grade

## Filter Media (if not chosen by vendor)

## Weld Requirements

- CG 24  CG80  CG80  Other

## Ground Wire Required

- Yes  No

## Filter Cage

- Galvanized  Stainless Steel  Epoxy

# Bags and Cages

- Variety of bag fabrics available
- Singed, glazed, flame retardant, and PTFE membrane finishes available
- Filter cages available in Carbon Steel, Stainless Steel, Epoxy Coated and Galvanized

Schenck Process stocks a variety of filter media and cages to best fit your application. Replacement filter bags and cages are in stock for Schenck Process top and bottom load filter receivers, and both round and square units. We can retrofit older filter models, and carry bags and cages that fit other manufacturers' equipment.

## Cages

Filter cages available in Carbon Steel, Stainless Steel, Epoxy Coated, Vinyl Coated, and Galvanized.

## Bag Fabrics

Singed, glazed, flame retardant, and PTFE membrane finishes available.

**Polyester** fiber has good energy absorption characteristics, but is susceptible to moist heat hydrolysis. Recommended operating temperature is 275 °F.

**PTFE Teflon®\*** is a fluorocarbon fiber composed of long chain carbon molecules in which all of the available bonds are saturated



with fluorine. These strong carbon-to-fluorine bonds create fibers that are exceptionally stable to both heat and chemicals. Recommended operating temperature is 500 °F.

**Homopolymer Acrylics** offer a combination of abrasion resistance and resistance to wet heat degradation, particularly under acid conditions. Recommended operating temperature is 275 °F.

**Polypropylene** has excellent resistance to most acids and alkalis. It has one of the lowest specific gravities of any synthetic fiber, and is one of the most economical synthetics. Recommended operating temperature is 170 °F.

**PPS** is resistant to sulphur oxides, and is used for high temperature gas streams, up to 375 °F. PPS does not hydrolyze and has flame retarding characteristics.

**P-84** is a non-thermoplastic, and can be used for temperatures of 475 °F. Its fiber is highly convoluted, having a high surface area-to-diameter ratio, providing excellent efficiencies.

\*Teflon® is a registered trademark of E.I. du Pont de Nemours and Company or its affiliates.

# Bags and Cages

**Aramid** is perfect for applications requiring dimensional stability and high heat resistance. Aramid is a non-thermoplastic so it does not melt, but to prevent degradation its recommended temperature is 375 °F.

**Fiberglass** – Woven fiberglass and felted fiberglass medias are available for pulse jet applications. Fiberglass medias are used for specific applications involving high temperatures (up to 500 °F).

**UltraMaxx** felts are engineered with micro-denier fibers which provide the highest filtration efficiency of any non-membrane filter felt. Tests run by an independent environmental testing agency show that when compared to the industry standard, polyester felt.

- Over 50% improved cleaning over standard felt media's, which can lead to longer filter life
- Excellent filtering efficiency for PM10 and PM2.5

Available fibers for UltraMaxx felt:

- Polyester
- Homopolymer Acrylic
- PPS
- Aramid
- P-84

Fiber	Resistance to Acids	Resistance to Alkalis	Flex & Abrasion	Temperature
Polyester	Fair to Good	Fair to Good	Good	275 °F
PTFE Teflon®	Very Good	Very Good**	Fair	500 °F
Acrylic	Good***	Fair to Good	Fair	275 °F
Polypropylene	Very Good	Very Good**	Good***	170 °F
PPS	Very Good	Very Good	Good	375 °F
P-84	Good	Fair	Good	475 °F
Aramid	Poor*	Fair	Good	375 °F
Fiberglass	Fair	Fair	Poor	500 °F

\* Acid resistance is generally fair in environments above acid dew point.

\*\* Not to be used with aromatics and chlorinated hydrocarbons.

\*\*\* Affected by aniline, glyoxal, phenol, and pyridine.

# UltraMaxx Felt Filter Media

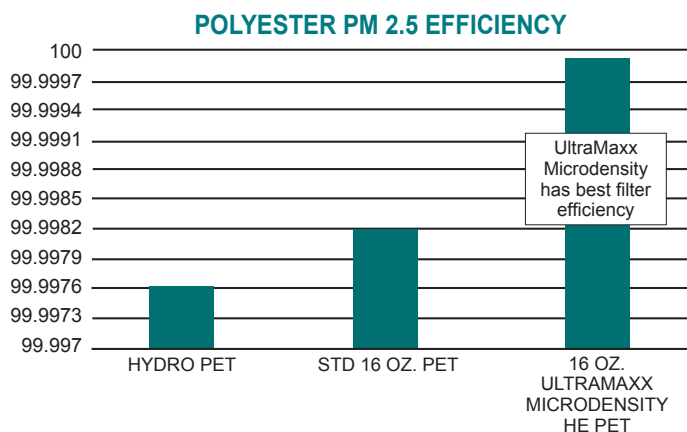
- Serves as the filter material in baghouses
- Microdensity polyester for higher filtration efficiencies and extended bag life
- Excellent filtering efficiency for PM10 and PM2.5



## Felt Efficiency

The UltraMaxx Microdensity felt filter media has shown to remove dust and micron particles better than standard polyester felts in dust collection applications. Results from an independent third party testing house illustrated in the chart below provides empirical proof that UltraMaxx Microdensity felt provides superior filtration efficiencies.

## Filtration Efficiency for UltraMaxx Microdensity vs. Standard Polyester Felts



## Other Third Party Testing Results Show:

- UltraMaxx Microdensity polyester has the lowest pressure drop compared to other needle felt and hydra felt media's.
- Over 50% improved cleaning over standard felt media's, which can lead to longer filter life.

## Specifications

- Style: 648
- Construction: self-supported
- Composition: 100% self supported polyester microdensity needlefelt
- Finish: heatset, single one side
- Weight: 15.00 -17.00 ozs./yd.<sup>2</sup>
- Thickness: .060-.080 in.
- Air Permeability: 15-35 CFM @½ in. W.G.
- Minimum Breaking Strength: Warp: 75 lbs. Filling: 150 lbs.
- Minimum Mullen Bursting Strength: 400 lbs./in.<sup>2</sup>
- Dimensional Stability: 3% maximum lineal shrinkage after 2 hours unrestrained exposure to dry heat @ 300 °F
- Fiber Manufacturer's Recommended Maximum Continuous Operating Temperature: 275 °F



# DYNA-MAC Felt Filter Media

- Lower operating costs
- Higher filter efficiencies
- Reduced consumption of compressed air
- Highest filtration efficiency of any non-membrane filter felt



## Overview

Ever tightening environmental restrictions are placing new demands on the fabric filtration industry. Fortunately, the answer to tighter restrictions can be found today in DYNA-MAC felt.

DYNA-MAC felts are engineered with micro-denier fibers which provide the highest filtration efficiency of any non-membrane filter felt. Tests run by an independent environmental testing agency show that when compared to the industry standard, polyester felt, the DYNA-MAC filter media:

- Improved efficiency 67% (ASTM D6830-02; PM 2.5)
- Lowered  $\Delta P$  45%
- Required 46% fewer pulses to maintain a set  $\Delta P$

## Available fibers for DYNA-MAC felt:

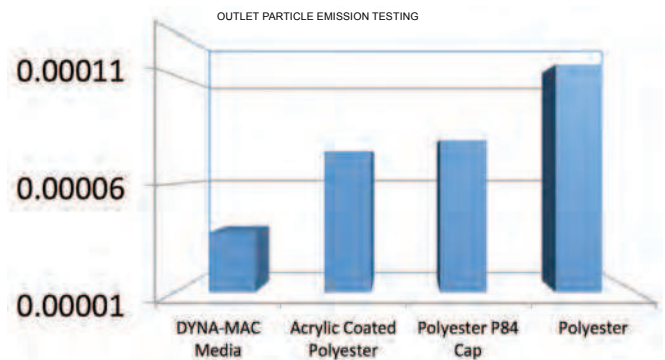
- Polyester - Homopolymer Acrylic
- PPS (Ryton)
- Aramid (Nomex)
- P-84
- Kermeltech

PM 2.5 efficiency tests compared DYNA-MAC felt to polyester felt, acrylic coated polyester felt and polyester felt with a P-84 cap.

DYNA-MAC felt was 53% more efficient than polyester felt with a P-84 cap, which has for several years been the “high efficiency” felt of choice for many difficult applications.

## PM 2.5 Efficiency Testing

### DYNA-MAC Felt



# DYNA-MAC Felt Filter Media

## Operating principle

Increased surface area of the micro-denier fibers keep the dust particles on the surface of a DYNA-MAC felt filter bag.

The improvement in surface filtration provides outstanding cake release in addition to the excellent filtration efficiency. The improved cake release and lower  $\Delta P$  leads to lower fan horsepower requirements and fewer pulses to maintain production demand.

Less cleaning means reduced consumption of compressed air. Therefore, switching from regular felt bags to DYNA-MAC felt lowers operating costs and increases profits.



DYNA-MAC 0.7 denier polyester fiber



2.25 denier polyester fiber



# Polipleet® Pleated Cartridge Filter Media

- High efficiency
- Space savings
- Versatility
- Proven superior performance

## Application

Polipleet® cartridge media provides more efficient fine-particulate filtration than conventional felted media. Superior efficiency results in lower emissions and improves environmental quality indoors and outdoors.

Effective filtration area is maintained because of the generous pleat spacing and shallow pleat depth.

Filter elements are compact, saving valuable production space. Most existing fabric collector housings can be retrofitted to increase production capacity and to reduce emissions. New installations benefit from smaller housing sizes.

All materials used in the Polipleet® cartridge have been tested and passed by an independent laboratory in accordance with FDA rules for direct dry food contact.



## Operating principle

Polipleet® media is 100% polyester spun bound. It is created by having two different polyester resins continuously sprayed through miniature nozzles onto a moving web. One of the resins has a slightly lower melting point. The mat is drawn through heated rollers that compact and fuse the fibers together, forming surface patterns into both sides of the media. The resulting media has the following characteristics:

- Strong continuous fibers
- Small fiber size
- Burst strength similar to felt
- Dense, thick mat
- Small pore size
- Strength in all directions
- Thermally stable
- Same permeability as needed felt

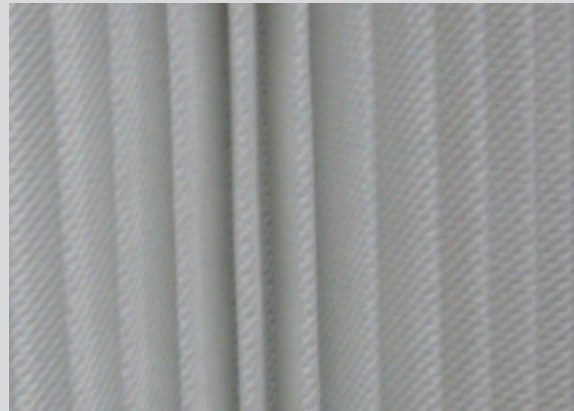
# Polipleet® Pleated Cartridge Filter Media

## Specifications

Standard materials used for Polipleet® are: polyurethane in the top and bottom caps; polypropylene inner core, and polyester media. There are no metal components used in cartridges rated up to temperatures of 200 °F (93 °C).

On the cartridges rated up to 265 °F (129 °C), the inner polypropylene core is replaced with a zinc plated carbon steel perforated tube. The polyurethane top and bottom are replaced with galvanized steel and utilize a top of a snap band bag to snap into the tubesheet which performs the function of sealing the cartridge to the tubesheet.

For special applications, stainless steel components can be utilized as well as a variety of filter medias such as Aramid and PPS.



# MEGABond™ Filter Media

- Ultra high efficiency MERV 15 rating
- Lower pressure drop means longer life and greater energy savings
- Accommodates twice the air to cloth area of competing cartridges
- FixedPleat design vastly improves durability and extends life
- Available for SpaceSaver® and Mac2Flo® cartridge dust collectors

## Application

The new yardstick for measuring filter media, MEGABond™ delivers high efficiencies for a wide variety of dust collection applications. Now, MEGABond™ is available for SpaceSaver® and Mac2Flo® cartridge dust collectors.

With the ability to operate at air to cloth ratios twice that of competing cartridges, MEGABond™ opens a new window of opportunity to aggressively size collectors; while maintaining the same high levels of efficiency you expect from Schenck Process.

## Advanced media for superior performance

MEGABond™ can withstand rigorous pulse-cleaning. We start with a high quality blended base media, and then tightly bond uniformly consistent nanotechnology fibers to the substrate. The result? Superior mechanical strength and extreme durability with increased surface dust loading, fractional efficiency and better dust holding capacity.

Nanofiber technology offers MERV 15 operational efficiency. This delivers outstanding efficiencies on submicron particles.



MEGABond™ nanofibers will not flake off during pleating or pulsing.

## Operating principle

Throughout the duration of tests on various dust samples, MEGABond™ cartridges outperformed the current standard, accommodating twice the air to cloth ratio in the process without increased emissions.

Air pulse cleaning is more efficient and effective with MEGABond™'s FixedPleat feature. The unique pleat spacing design allows for more systematic cleaning between the pleats of the media. This improved cleaning extends the life span of the cartridge.

Fiber flexibility, toughness and elasticity generates multiple cost-efficiency benefits:

- Increased energy savings
- Longer filter media life
- Reduced filter replacement frequency
- Reduced downtime
- Promotes self-cleaning

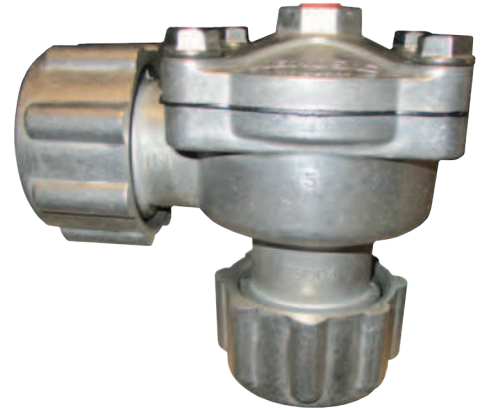
## Filter Accessories

- Offering best-in-class filter accessories and components



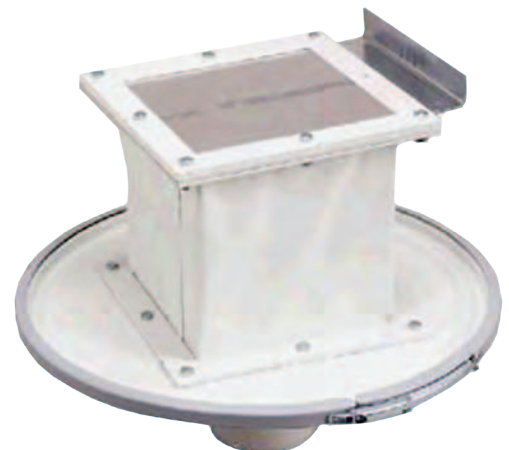
### Diaphragm Valves

Diaphragm valves are designed for filter cleaning in dust collection systems. Include dresser nut connection ports for reverse pulse jet systems.



### Drum Cover Kit

The drum cover kit includes a manual hand-pull slide gate to seal discharge of filter during normal operation and a shut off flow of material from filter when the drum is full. A flexible cloth sleeve connects the filter to the drum for easy drum removal. CS, aluminum and stainless construction available. It connects filter discharge to dust collection arm for disposal. 10" sq. inlet standard. Drum cover to fit lip of 55 gallon drum.



## Filter Accessories

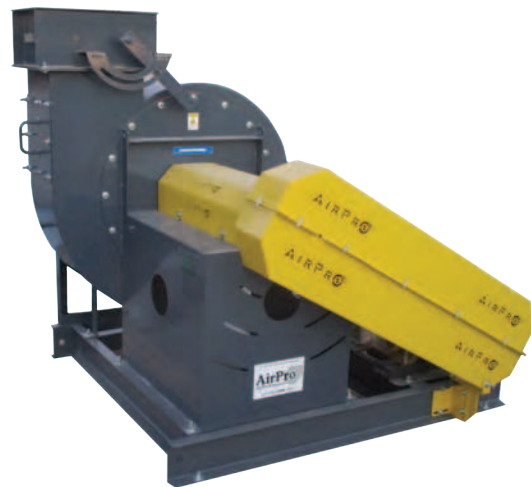
### Explosion Vents

Schenck Process supplies a wide variety of explosion vents, offering over pressure protection from potential industrial explosion hazards. Explosion vents provide planned pathways for expanding gases to escape.



### Fans

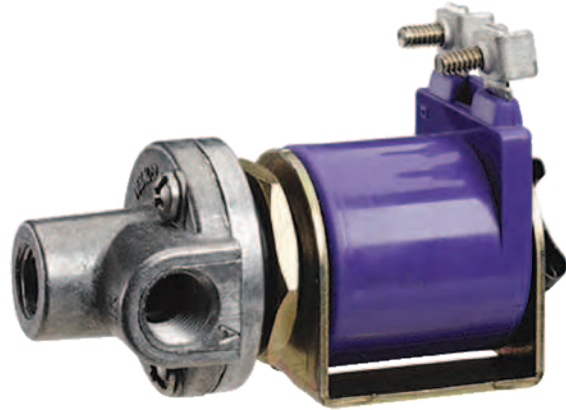
Offering centrifugal fans designed for industrial applications where large volumes of clean air are required at low to moderate pressures. Available in single-wide or double-wide configurations.



## Filter Accessories

### Solenoid Valves

Solenoid valves have pilot bodies and covers manufactured from pressure die cast aluminum. They are designed to operate with compressed air manifold pressures from 5 PSI to 125 PSI.



### Timer Boards

Timer boards designed to provide "on-demand" pulse jet cleaning systems.



# Integral Broken Bag Detector

- Economical cost, superior technology
- Advanced detector for dust emissions and process flow applications
- Easily selectable alarm threshold level and time delay
- One SPDT relay contact for alarm indications with selectable fail-safe mode
- No manual zero check required



Schenck Process offers Integral Broken Bag Detectors from Auburn Systems. The TRIBO.dsp U3200 Integral model is an advanced and economical particulate detector for dust collector compliance, maintenance, and process applications. The U3200 is designed to monitor fabric filter baghouses, cartridge filters, cyclones, and all types of dust collection equipment. For dry solids flow applications the U3200 can detect flow / no flow and even high or low flow conditions in pneumatic conveying, injection, or gravity fed process flow applications.

## Applications

- Emission monitoring
- Bag leak detection
- Dust collection maintenance
- Product loss prevention
- Equipment protection
- Cyclone overflow
- Flow / no flow detection



# Impactors

- Aids the flow of dry materials
- Produces blows of high intensity but low frequency
- Can be mounted in any position
- Explosion proof controls are available



## Equipment

The Impactor is designed to aid the flow of dry materials that tend to bridge or compact in storage tanks or hoppers. The Impactor produces blows of high intensity but low frequency, and can be adjusted for blow intensity as well as the number of blows per minute. The Impactor and solenoid valve can be mounted in any position. Clean, dry plant air (60 - 120 PSI) is required for operation.

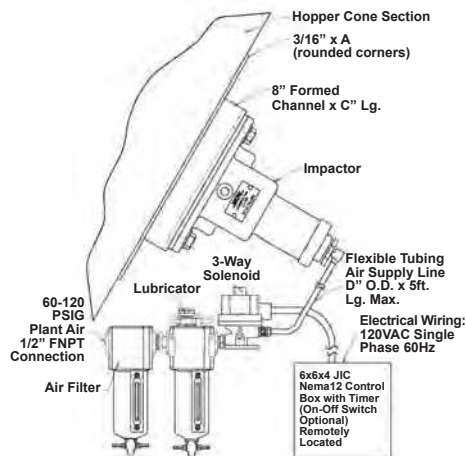
There are several methods to control the operation of the Impactor. Each of them can be wired into an overall system control panel or can be mounted separately in a dust tight control box. Explosion proof controls can also be provided.

The various methods to control the operation are as follows:

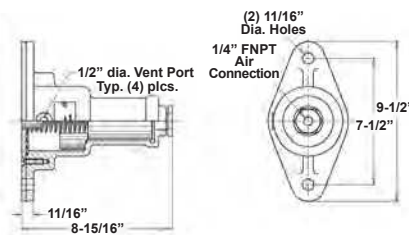
- **Manual selection operation** - The operator must turn

a spring return switch for each single impact desired.

- **On-Off switch operation** - The operator turns on the Impactor when the control panel indicates material is not flowing from the bin. An adjustable timer is provided to automatically pulse the control circuit. The operator must turn the control switch off when operation of the Impactor is no longer desired.
- **Parallel to metering valve operation** - This control is used when the Impactor is mounted on a bin having a rotary airlock valve on the discharge.
- **Low pressure switch operation** - A low pressure switch closes contact when the conveying line pressure is down.
- **Mechanical operation** - No electrical controls are provided. A spring return manual control valve is utilized instead of a solenoid valve. The valve must be actuated for each impact desired.

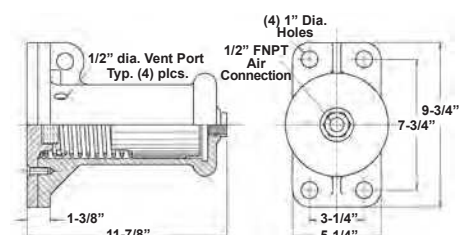


**I-2 Impactor Cross Section**



Impacts/Min.	Air consumption (SCFM at 80psig supply)	
	1-2	1-4
5	< 1	< 2
10	< 2	< 4
15	< 2	< 8
20	< 3	< 12

**I-4 Impactor Cross Section**



Model	Dimensions (inches)				Weight (lbs.)
	A	B	C	D	
I-2	8x12	4	10	5/16	18
I-4	16x38	8	34	1/2	45

# Aerators

- Aids the flow of dry materials
- Produces blows of high intensity but low frequency
- Can be mounted in any position
- Explosion proof controls are available



## Bin Aerators

Bin-Flo aerators introduce low pressure air into any finely ground material. The air is equally distributed in controlled quantities to give the material an ability to flow – by gravity- from bins, hoppers or chutes.

## Silo Fluidizers

- Aerates along bin walls
- Silicone disk resists tearing, hardening, or cracking
- Will not clog or wear like a fabric aeration pad
- Easy to install

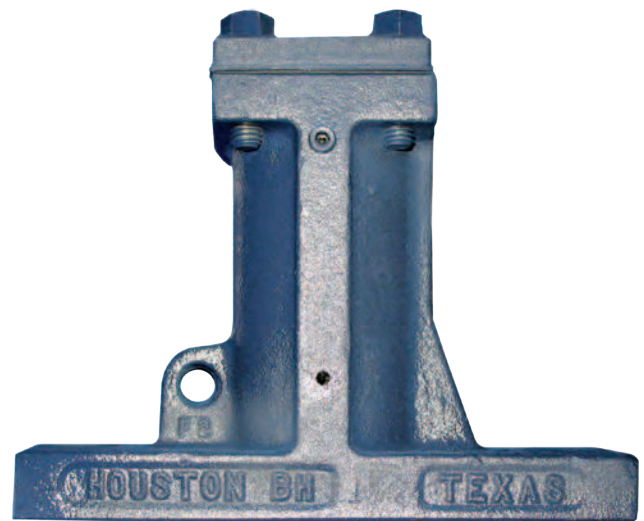
	Air Consumption		
	10	20	30
Pressure (psig)	10	20	30
Air Use (SCFM)	10	15	20
Pressure (bar)	.7	1.4	2.0
Air Volume (m3/min)	.3	.4	.6

## Equipment

The Silo Fluidizer combines aeration and gentle vibration to help discharge most dry bulk products. The robust design does not crack, tear or harden. A variety of Silo Fluidizers are available depending on your material and air source. Silo Fluidizers can be used in most hopper shapes, whether curved or flat. The Silo Fluidizers can be installed from the outside using the Fast-Fit Kit or EZ-In Kit. There is also a Mini Silo Fluidizer that can be used in smaller hoppers, transitions, and pipes down to a 4" diameter.

# Vibrators

- Aids the flow of dry materials
- Produces blows of high intensity but low frequency
- Can be mounted in any position
- Explosion proof controls are available



## Equipment

Solenoid control valves with adequate orifice openings must be used to ensure full starting force even at low regulator settings.

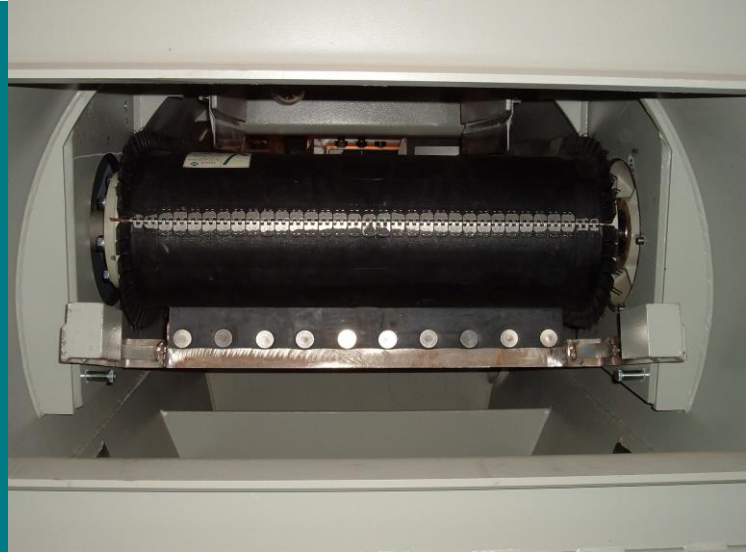
- For vibrators with 1/4" inlets, use a solenoid valve with a minimum orifice of 3/16" diameter. Use 3/8" O.D. flex-tubing not to exceed 12' in length from the operating valve.
- For vibrators with 3/8" inlets, use a solenoid valve with a minimum orifice of 1/4" diameter. Use 1/2" O.D. flex-tubing not to exceed 12' in length from the operating valve.

- For vibrators with 1/2" inlets, use a solenoid valve with a minimum orifice of 3/8" diameter. Use 5/8" O.D. flex-tubing not to exceed 12' in length from the operating valve.
- All vibrators must be installed with an inline filter, regulator, and lubricator.

Model	Weight (lbs.)	Hopper / Bin		Dimensions (inches)			Inlet NPT	Mounting Centers	Bolt		SCFM
		Cap. Cu. Ft.	Thk. In.	Height	Length	Width			Qty.	Dia.	
BH1	3	3	1/8	3-3/4	4-1/2	2	1/4	3-1/2	2	1/2	3.3
BH1-1/4	8	7	1/8	5-5/8	6	2-1/2	1/4	4-1/2	2	1/2	4.2
BH1-5/8	18	20	1/4	7-1/4	9	3-1/4	1/4	7-1/2	2	5/8	7.5
BH2	20	50	1/4	7-1/4	9-1/2	3-1/4	1/4	7-1/2	2	5/8	8.3
BH3S	50	10 ton +	3/8	9-1/2	10-1/2	5	3/8	7-3/4 x 3-1/4	4	7/8	11.6
BH3L	64	20 ton +	3/8	12	10-1/2	5	3/8	7-3/4 x 3-1/4	4	7/8	14.0
BH4	105	50 ton +	1/2	11-3/4	14-1/2	6-1/2	1/2	4 x 12	4	1	18.2
HCP3	68	Hopper Car	--	14-1/4	--	8	3/8	Dovetail Bracket	--	--	11.0
HCP4	115	Hopper Car	--	16-3/4	--	8	1/2	Dovetail Bracket	--	--	18.0

## Stock® ACCUFLEX™ Belt

- Three year guarantee
- Flexibility and uniformity provide unmatched accuracy
- Equal in strength to two ply belting
- Patented recessed metal splice
- Strength at the splice is comparable to that of the belt body
- Molded V-guide and automatic tensioning feature maintains proper belt tracking and alignment
- Molded siped curbs minimize spillage



Stock® is the brand name known for gravimetric feeding and bulk material handling in the Power industry since 1929. To date, we have over 18,000 Stock® feeders installed over the world. Stock® is a brand of the Schenck Process Group.

AccuFlex™ is a patented, mechanically spliced, single ply, flexible feeder belt that provides the best possible performance to transfer the absolute weight of the material being transported to the weighing system. The Accuflex™ design is unequalled. Its unique single ply belting and splice have the strength of a two-ply belt that can be easily installed. The molded V-guide has an automatic feature that maintains proper belt tracking. The molded, siped belt curbs minimize feeder fuel spillage.

Stock's AccuFlex™ Belt provides the highest possible level of performance for belt feeders. Belt feeder accuracy requires consistent and complete transfer of the material being transported to the weighing system in spite of variations in temperature, tension and time. The unique single-ply belting, molded curbs and V-guide of the AccuFlex™ belt are simultaneously cured into one integral part. This provides unequalled flexibility and uniformity which results in feeding accuracy.

The Stock® gravimetric feeder controls the flow of fuel into boilers. Therefore, the operations of the feeder directly affect the performance of the boiler. For example, the efficiency and the cost of operating coal fed boilers depends on the design, condition and maintenance of the coal feeders.

Our AccuFlex™ belt was developed by a research staff in the full scale testing facility at Stock Equipment Company. Actual material tests proved that belt characteristics affected the feeder weighing accuracy. Researchers also found that the industry standard belting was sorely lacking when it was expected to remain conveying while not influencing the feeder weighing accuracy. Typical industry splices appeared as huge eruptions to the load cells when crossing the delicate weigh span of the feeder. The inflexibility of the industry belts made them appear solid compared to the flexibility needed to deliver fuel accurately.

Belt flexibility is one of the most important factors in achieving feeder accuracy. A flexible belt will lay flat on the weighing system. The AccuFlex™ belt is a single ply belt that is very flexible and strong, yet equal in strength to typical two-ply belting.

## Stock® ACCUFLEX™ Belt

The AccuFlex™ belt has uniform weight and a patented recessed metal splice. The largest cause for failure of the typical belt is damage to the splice or the mechanical fastening system. The AccuFlex™ belt provides strength at the splice comparable to the strength of the belt body.

Belts seldom wear out. They are more often damaged by tramp or oversize materials jamming in the feed system or by belt mis-tracking. Stock's molded V-guide tracking system has an automatic tensioning feature that maintains proper belt tracking.

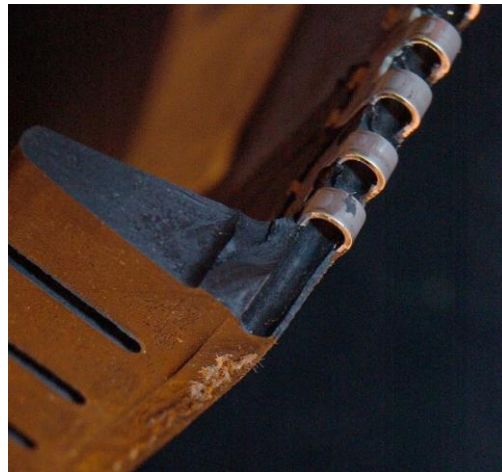
A major advantage of the AccuFlex™ belt is that it can be replaced without taking the feeder apart because it is a spliced belt. A continuous belt typically requires eight man-hours to install while the AccuFlex™ belt installs in less than one man-hour.

### Three-Year Guarantee

Replacement of any AccuFlex™ belt up to three years from date of shipment if the splice fails under normal use. Guaranteed replacement of any AccuFlex™ belt for two years from date of shipment if that belt proves to be defective under normal use. Damage caused by belt mistracking, over tensioning or by tramp materials is excluded.



Molded V-guide maintains proper belt tracking and alignment



Molded sipped curves minimize fuel spillage



## Stock® EcoFlex Feeder Belt

- Greater flexibility and uniformity than competitor belts
- Molded siped curbs minimize spillage
- Two ply carcass with a working tension of 220 pounds per inch
- Molded V-guide aids in tracking
- Belt can be replaced quickly without taking feeder apart
- Six month warranty after shipment



### **The EcoFlex Belt provides the most economical solution for the gravimetric feeder while minimizing performance losses.**

Belt feeder accuracy requires consistent and complete transfer of the material being transported to the weighing system in spite of variations in temperature, tension and time. This is possible through our expertise in the construction of uniform belts. The unique two-ply belting, molded curbs and V-guide are pressure cured into one integral part. This provides a quality belt at a reasonable price designed to provide accuracy comparable to other similarly priced belts.

Stock® gravimetric feeders control the flow of coal into boilers. Therefore, the operation of your Stock® feeder directly affects the performance of the boiler. The efficiency and the cost of operating coal fed boilers depends on the design, condition and maintenance of the coal feeders.

Stock® gravimetric feeder belts are developed by a research staff in our full scale testing facility. Actual AccuCheck™ Roller Test Chain tests proved the effect of belt characteristics on the weighing accuracy of the feeder.

Belt flexibility is one of the most important factors for achieving feeder accuracy. A flexible belt will lay flat on the weighing system. The EcoFlex belt is extra flexible, and is recommended for use in applications where a premium more accurate belt is not required. The EcoFlex belt is a two ply belt, equal in strength to similar two-ply belting.

Belts seldom wear out. They are more often damaged by tramp or oversize materials jamming in the feed system or by belt mis-tracking. The EcoFlex belt has a molded V-guide tracking system with an automatic feature that maintains proper belt tracking.

A major advantage of the EcoFlex belt is that it can be replaced without taking your feeder apart because it is a spliced belt. Consequently, it takes a fraction of the time to change an endless belt compared to changing an Ecoflex. A continuous belt typically requires eight man-hours to install. The EcoFlex belt installs in less than one man-hour.

# Stock<sup>®</sup> EcoFlex Feeder Belt

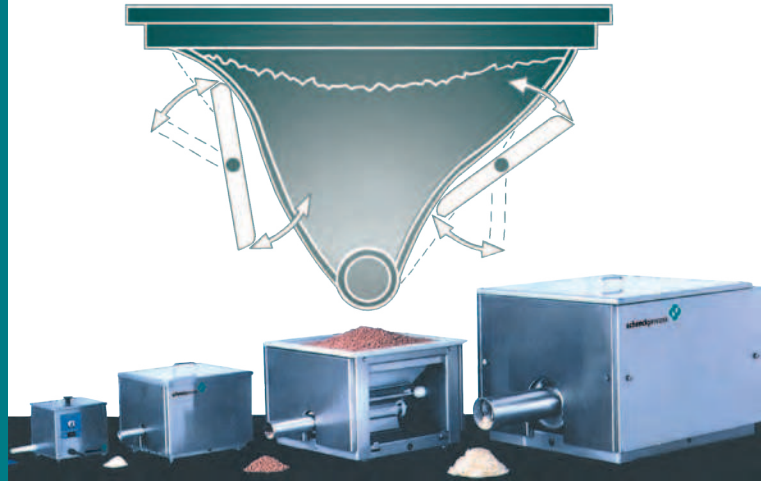
Features	AccuFlex™	X940	EcoFlex
Splice	Patented Recessed	Patented Recessed	Standard
Ply Construction	1	2	2
Curbs / V Guide	Raw Rubber Molded	Raw Rubber Molded	Pressure Cured
Accuracy	+/- 0.5% *up to 0.25%	+/- 0.5% *up to 0.25%	+/- 1%
Flexibility at Installation	Excellent	2x less flexible	3x less flexible
Warranty	3 year splice 2 year carcass	1 year	6 months
OEM Approved, Design, Application	Yes	Yes	Yes

\* When verified with AccuCheck™ chain testing



# AccuRate® Volumetric Series Feeders

- Volumetric feeding in rates from .000017 to 280 cubic feet (.0005 to 7,928 liters) per hour
- Paddle agitation to the Tuf-Flex™ vinyl hopper gently massages materials into the feeding screw
- Proven technology with installations in a wide range of industries throughout the world



## Application

The AccuRate® Series Feeders are an economical solution for volumetric feeding of bulk solids.

With a feed rate range of .000017 to 280 cubic feet (.0005 to 7,928 liters) per hour, these feed systems can be used for:

- continuous feeding
  - batching and blending
- of materials up to 0.4 inches (10 mm) grain size.

The AccuRate® Volumetric Series Feeders have been proven to handle a wide range of materials from powders to pellets and flakes for multiple applications in process industries throughout the world. Their simple, compact design not only ensures easy service and maintenance, but also economical integration into existing production plants.

## Features

The AccuRate® Volumetric Series Feeders are equipped with the following features:

- Housing (rugged welded structure) of stainless steel, with easily removable side panels
- Tuf-Flex™ vinyl flexible hopper

- “Massaging” paddle system
- Double shaft seals to prevent powder leakage
- Digital touchpad potentiometers
- Protective screen
- Lifetime lubricated bearings
- Gasketed covers
- DC motor control

## Options

- Extended or specially designed helixes
- Mounted or free-standing carbon or stainless steel hopper extensions

## Function

AccuRate® Volumetric Series Feeders operate using flex-wall technology introduced by Schenck AccuRate more than 40 years ago.

Instead of the usual internal agitators, all feeders are fitted with one or two external paddles that gently massage the vinyl hopper. This ensures a continuous, even flow of material into the helix with a uniform bulk density while alleviating bridging and material build-up.

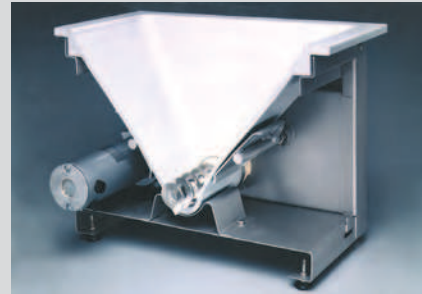
# AccuRate® Volumetric Series Feeders

## Industry Leading Accuracy and Dependability

### Designed to deliver accuracy

Features designed into all Schenck Process AccuRate® Volumetric Series Feeders that contribute to their high degree of accuracy include:

- Large inlet to prevent bridging
- Seamless hopper with rounded corners for uninterrupted flow
- Four-way hopper flexing action
- Adjustable amplitude and frequency of the hopper flexing mechanism to gain optimum performance for each material



Volumetric feeding deviations generally range from  $\pm 5$  to 3% for most materials. Loss-in-weight feeding systems are available for even more precise accuracies.

### Four AccuRate® volumetric series feeders are available

AccuRate® Series Feeders range in size from 8-1/2" square to 31-1/2" square and can deliver feed rates ranging from a few grams up to 280 cubic feet per hour.



Top to bottom: Models 102, 302, 602 and 902.

#### 100 Series

The smallest of the four AccuRate® Series Feeders is the 100. The 100 is commonly used for feeding soap powder, nutraceuticals, Arizona road dust, and colors like cobalt, iron oxide, and gold for the production of glass. Many customers mount the 100 inside other pieces of equipment to feed very small quantities.

#### 300 Series

The 300 Series is often found in food processing and plastic compounding plants because of its ability to feed flour, salt, vitamins, and color additives. It is also used in industrial applications with size and/or weight restrictions.

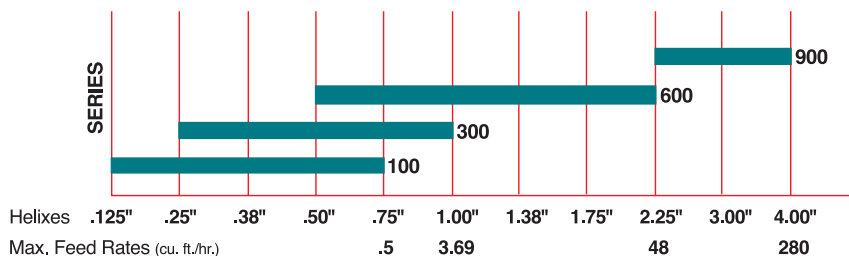
#### 600 Series

The 600 Series, with its wide range of available helixes and feed rates, is the most versatile and consequently the most widely used AccuRate® Series Feeder.

#### 900 Series

For higher feed rates, the 900 Series is used for applications up to 280 cubic feet per hour.

## HELIX SIZES BY FEEDER SERIES



# AccuRate® Volumetric Series Feeders

## Standard models

Descriptions of the standard models are listed below. Each two-digit number shown is preceded by a series number; for instance, the standard variable-speed feeder in the 300 Series is a Model 302.

### Model 02

The AccuRate® Model 02 is a standard variable-speed dry materials feeder with a 50:1 turndown.

### Model 04

The AccuRate® Model 04 is the same basic design as the Model 02, but has a separate speed control for the dual mechanical devices that create the agitation on the Tuf-Flex™ hopper. The feed screw is also equipped with its own speed control. This unit allows the user to vary the agitation while maintaining a constant feed rate or vice versa.

### Model 10

The AccuRate® Model 10 is easily disassembled for cleaning or for applications that require separate hoppers for different materials. The Tuf-Flex™ hopper in the Model 10 can be changed in less than two minutes without tools.

### Model 12

The AccuRate® Model 12 is a sanitary design, encompassing quick disassembly features for easy cleaning.

## Extension hoppers

Schenck Process offers hopper extensions and storage bins ranging in sizes from .25 cubic foot up to 50 cubic foot. Standard hoppers are provided in stainless steel and have gasketed covers.



Hopper extensions (.25 - 10 cubic foot) fit down inside the feeder's Tuf-Flex™ hopper, as well as form a lip overlapping the outside of the feeder. A gasket inside the lip prevents material leakage.

Larger capacity storage hoppers (20 - 50 cubic foot) are free standing. Available in stainless or carbon steel, these hoppers angle down to a guillotine slide gate. Sanitary storage hoppers have no cracks or crevices with continuously welded and ground corners.

Special hoppers are also available such as 2 and 4 cubic foot round stainless hoppers for sanitary applications, and bag dump hoppers for easy handling of bagged products up to 100 pounds.

Dimensional drawings on each hopper are available upon request.

## Control modules

A wide range of standard optional controls can be specified. These include:

**Loss-in-weight control:** Feeders can be equipped with a scale and loss-in-weight controller to obtain excellent accuracies and verification of the amount fed.

**Tach feedback:** Keeps motor RPM at a constant speed where plant voltages fluctuate, headloads vary, or accuracy is critical over long continuous feeding periods.

**Batch timer:** Allows feeder to automatically shut off after dispensing proper amount of material; accurate to .01 second; various range timers available.

**Dual touchpad potentiometers:** Used for fast and dribble feed rates.

**Automatic input control:** For applications where automatic control is necessary; a fluctuating signal speeds up or slows down the feeder as necessary.

**Dual controls:** Separate control of agitation speed and screw speed (see Model 04).

**Totalizer:** Total number of screw revolutions are multiplied by the amount of material dispensed on each revolution, giving total amount of material dispensed over a long period of time.

**Special enclosures:** Schenck Process controls can be mounted in special enclosures, ranging from NEMA or IP-rated dust-tight to full explosion-proof boxes.

# Series Feeder Application Form

schenckprocess



**Name**   **Job Title**  **Company Name**   
First Name Last Name

**Address**  
      
Street Address Line City State Zip Code Country

**Phone Number**   **Email**   
Area Code Phone Number

## Is it a Replacement or New Application?

Replacement  New Application  
    
Manufacturer Model Number Serial Number

## Product Description

**Product Temperature**   °F  °C **Bulk Density Min-Max**  PCF PPH

**Product Characteristic**  
 Abrasive  Explosive  Hygroscopic  Heat Sensor  
 Corrosive  Tends to Pack  Other

**Particle Shape**  
 Spherical  Fibrous  Crystal  
 Granular  Flake  Other

**Particle Size Min-Max**  
  Inches  Millimeters  Mesh  Microns

**Process Feed Rate**   kg/h  lbs/hr **Process**  Batch  Continuous

**Flow**  
 Measuring Only  Measuring and Controlling

**Accuracy Required** +/-  **Feed Rate Verification**  Required  Not Required

**Refill Device Used**  
 Bulk Bag  Rotary Feeder  Slide Gate  Screw Conveyor  
 Manual  Pneumatic Conveyor  Other

**Equipment Below Feeder**  
 Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

**Volumetric Refill Rate for Equipment Below Feeder**  
  kg/h  lbs/hr

**Material Degradation a Detriment to the Process**  
 Yes  No

**Downstream Device Inlet Dimensions**

**Downstream Vapors**

**Downstream Temperature**

**Downstream Pressure**

**Center of Inlet to Center of Discharge Dimension**

## Ambient Room Temperature Min-Max

°F  °C

**Location**  Indoor  Outdoor **Motor Proximity to Equipment**

## Computer Controller Proximity to Equipment

## Allowable Equipment Envelope

Wide:  Deep:  High:

## Environmental Conditions

Water Washdown  Chemical Washdown  Dust-Free  Sanitary

## Explosive Atmosphere (Class, Division, Group(s))

## Service

Industrial  Food  Pharmaceutical  Dairy

## Motor Drive

Volts (V) / Phase / Frequency (Hz)

## Instrumentation

Volts (V) / Phase / Frequency (Hz)

## Host Communication

Yes  No

## Device Brand/Model

## Communication Protocol

## Enclosure Mounting Style

Loose  19" Rack  Wall  Panel

## NEMA Rating

Drive: \_\_\_\_\_ Instrumentation:

## Estimated Wire Run Distance from Control to Equipment

## Agency Approvals Required

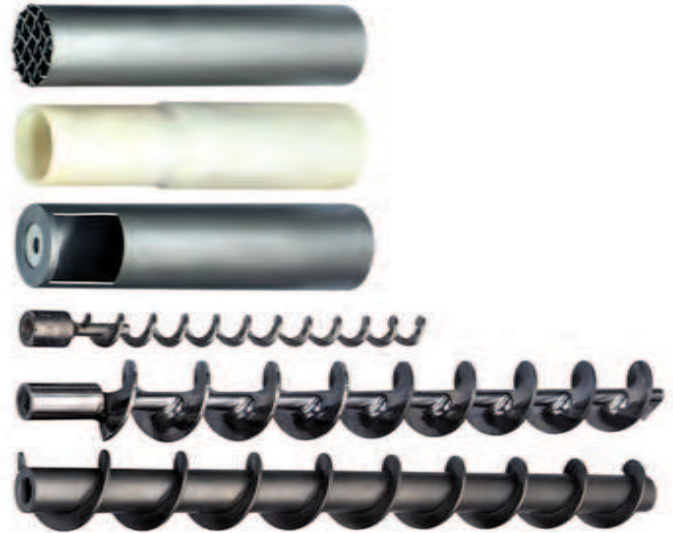
UL  CSA  CE  Other

## Other Options and Requirements

(ex. Air Punge, Motion Switch, etc.)

# Helixes & Nozzles

- Helixes that handle cohesive or adhesive materials
- Sanitary pharmaceutical grade helixes available
- Nozzles with cross wires for minimizing material pulsations
- Adaptations for complete material discharge



## Application

Helixes and nozzles designed for:

- Handling pellets, beads, and irregular materials
- Feeding cohesive/adhesive materials such as TiO<sub>2</sub>, Zinc Oxide, and Iron Oxide
- Low feed rates
- Friable materials
- Floodable materials
- Batching applications
- Abrasive materials
- Spreading applications

## Operating principle

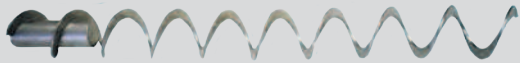
Selecting the correct helix (screw, auger, etc.) and nozzle is critical to the performance of any dry material feeder. Over the last 40 years, Schenck Process has used application and

lab-based experiences with more than 9,000 materials to develop an array of individual helixes, nozzles and specific combinations that have been field-proven to offer the best metering possible.

Current configurations include the use of 304, 316 and 316L stainless steel as well as various coatings, which can extend helix and nozzle life and reduce material build up. A wide variety of helixes and nozzles are available for handling adhesive/cohesive, floodable and irregularly sized materials. Special custom designs are also available.

Our staff of sales applications engineers are standing by to discuss your specific application and the helix and nozzle combination that is best for your feeding process.

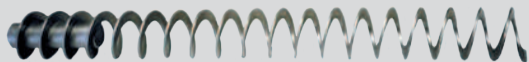
# Helixes



**Full Pitch Open Flight Helix** – A standard helix used for most applications. The helix pitch equals the diameter of the helix.



**Full Pitch Open Flight Helix with End Stub** – Used with an over size nozzle with end bushing on pellets, beads, and irregular materials. Provides a clearance between the helix and nozzle adapter to prevent binding.



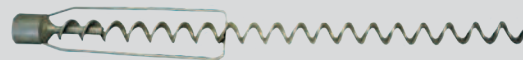
**Half Pitch Open Flight Helix** – Used when you need the larger diameter flights to get cohesive materials to drop into the flights, but has reduced output compared to a full pitch open flight helix. The helix pitch is one half the size of the helix diameter.



**Full Pitch Helix with Center Rod** – The center rod is used for added strength in smaller diameter helixes and to reduce possible flooding. Cannot be used with adhesive/cohesive materials.



**Double Pitch Open Flight Helix** – The increased spacing between the flights promotes filling of the flights on very cohesive materials. The helix pitch is two times the size of the helix diameter.



**Full Pitch Open Flight Helix with Stirring Rods** – Promotes flight filling of smaller diameter helixes on light density materials that do not easily fill the flights.



**Double Open Flight Helix** – Helix has two discharge flights and is used in batching applications to reduce the deviation caused when the flight stops and a small amount of material drops off the end.



**Machined Sanitary Full Pitch Helix with Center Rod** – Polished, machined, stainless steel bar stock that is typically used for food and pharmaceutical applications.



**Knife-Edged Open Flight Helix** – Used with a tight fit poly nozzle adapter for adhesive/cohesive materials such as TiO<sub>2</sub>, Zinc Oxide, and Iron Oxide. The helix continuously cleans the nozzle walls to prevent material build up.



**Twin Screw Helix** – Excellent for adhesive/cohesive materials like TiO<sub>2</sub> and Calcium Carbonate. The reduction of material build up and pulsing is also realized with a twin screw system.

**OTHER HELIXES ARE AVAILABLE:** Contact our Sales Application Engineers for further details.



# Nozzles



**Stainless Nozzle** – A standard nozzle used in most applications.



**Poly-Lined Nozzle** – Used in applications where materials cannot come into contact with metal. A tight fit version of the nozzle with a knife-edge helix is available for feeding adhesive/cohesive materials.



**Nozzle with End Bushing** – Primarily utilized with an end stub helix for pellet, bead, and irregular shaped material feeding applications. The design provides clearance between the helix and nozzle adapter to prevent binding.



**Total Hopper Cleanout Nozzle** – Typically used in sanitary applications for the food and pharmaceutical industries. The nozzle allows complete material discharge minimizing residual material left in the feeder.



**Nozzle with End Screen/Cross Wires** – The screen or cross wires are used to break up the material as it comes out of the nozzle. Used in continuous or batching applications for reducing deviations by not allowing the material to “extrude” out the end of the nozzle. The nozzle also minimizes material pulsations by providing back pressure, which promotes fuller flights.



**Vinyl Nozzle** – For adhesive/cohesive materials that have a wide range of particle size distribution or materials that cannot come into contact with metal.



**Side Discharge Nozzle** – Used for free flowing materials. For batching applications the nozzle offers a positive material flow cut off reducing deviations. Provides back pressure for promoting fuller flights.



**Spreading Nozzle** – Discharges a curtain of material across a given width. Typically used in applications where spreading materials across a belt or on to a tumble drum is required.

**OTHER NOZZLES ARE AVAILABLE:** Contact our Sales Application Engineers for further details.



# Helixes & Nozzles

## HELIXES:

- (1) Full Pitch Open Flight Helix
- (2) Half Pitch Open Flight Helix
- (3) Double Pitch Open Flight Helix
- (4) Double Open Flight Helix
- (5) Knife-Edged Open Flight Helix
- (6) Full Pitch Open Flight Helix with End Stub
- (7) Full Pitch Helix with Center Rod
- (8) Machined Polyethylene Helix with Center Rod
- (9) Full Pitch Open Flight Helix with Stirring Rods
- (10) Machined Sanitary Full Pitch Helix with Center Rod
- (11) Twin Screw Helix

## NOZZLES:

- (12) Stainless Nozzle
- (13) Poly Nozzle
- (14) Nozzle with End Bushing
- (15) Total Hopper Cleanout Nozzle
- (16) Nozzle with End Screen/Cross Wires
- (17) Vinyl Nozzle
- (18) Side Discharge Nozzle
- (19) Spreading Nozzle

NOTE: This is a random sample of the materials Schenck Process has experience feeding. Please contact our sales department for information on your specific application. Avicel is a registered trademark of FMC Corporation, Borax is a registered trademark of U.S. Borax, Inc., and Irganox is a registered trademark of CIBA Specialty Chemicals Corporation.

Materials	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Activated Carbon	X	X	X	X								X				X		X	
Aluminum Oxide	X	X	X	X	X							X	X			X			
Aspartame	X	X	X	X								X			X	X		X	
Avicel®	X	X	X	X								X			X	X		X	
Borax®	X	X	X	X		X						X		X		X			
Cabosil							X	X			X							X	
Calcium Carbonate	X	X	X	X	X						X	X	X			X			
Calcium Stearate	X	X	X	X								X	X			X			
Carbon Black	X	X	X	X	X						X	X	X			X			
Cellulose	X	X	X	X		X	X					X	X						
Citric Acid	X	X	X	X			X	X		X		X			X		X	X	X
Coffee						X				X		X		X				X	
Corn Meal	X	X	X	X								X			X			X	
Diatomaceous Earth	X	X	X	X			X	X				X	X			X		X	
Egg Powder	X	X	X	X						X		X	X		X				
Floculant	X	X	X	X		X	X	X				X	X					X	
Flour	X	X	X	X						X	X	X			X	X	X	X	X
Flux	X	X	X	X								X							
Fly Ash	X	X	X	X		X	X	X				X	X			X		X	
Graphite	X	X	X	X								X				X			X
Guar Gum	X	X	X	X								X						X	
Irganox®	X	X	X	X	X	X					X	X	X	X		X	X	X	
Iron Oxide					X								X				X		
Lactose	X	X	X	X		X						X		X		X			
Lime	X	X	X	X		X						X		X		X	X	X	X
Magnesium Oxide	X	X	X	X			X		X			X		X		X	X		
Manganese	X	X	X	X	X							X	X			X			
Nylon Powder	X	X	X	X		X					X	X		X		X		X	
Phenolic Resin	X	X	X	X		X	X					X		X		X		X	
Phosphor	X	X	X	X								X				X		X	
Polyethylene Resin	X	X	X	X		X	X	X				X	X	X		X		X	
Polypropylene Resin	X	X	X	X		X	X	X				X	X	X		X		X	
PVC Compound							X												
Salt	X	X	X	X															X
Sap						X								X					
Silica Sand	X	X	X	X								X				X		X	
Soda Ash	X	X	X	X			X					X				X		X	
Sodium Bicarbonate	X	X	X	X		X	X	X				X		X		X		X	
Sodium Perborate	X	X	X	X		X	X	X				X	X	X		X	X	X	
Solka Floc	X	X	X	X								X				X		X	
Spices	X	X	X	X						X		X			X	X	X	X	X
Starch	X	X	X	X			X		X			X			X	X		X	
Stearic Acid	X	X	X	X								X	X			X			
Talc	X	X	X	X			X		X		X	X				X		X	
TiO2					X								X				X		
Toner	X	X	X	X			X		X			X	X			X		X	
Tungsten Carbide	X	X	X	X	X							X		X		X		X	
Whey Powder	X	X	X	X								X				X		X	
Wood Flour	X	X	X	X					X			X	X			X			
Zeolite	X	X	X	X							X	X				X		X	
Zinc Oxide					X								X				X		
Zinc Powder	X	X	X	X	X							X	X			X	X		

# Hoppers

- Offering flexible hoppers in vinyl and polyurethane materials, including FDA-compliant, static-dissipative and chem-duty options.



## Vinyl Hoppers

The vinyl material performs well against abrasive solids and most harsh chemicals.

### Options

- Gray PVC, FDA-compliant, EC 1935 compliant for dry food contact
- White PVC, FDA-compliant, EC 1935 compliant for dry food contact
- White PVC, static-dissipative, FDA-compliant, EC 1935 compliant for dry food contact

### Specifications

- Temperature Range: 10 - 180 °F (-12 to +82 °C) continuous
- Chemical Exposure:
  - Avoid aromatic hydrocarbons (benzene, naphthalene, toluene);
  - Limit exposure to aromatic ketones (MEK, acetone, cyclohexanone)
  - Some powders (e.g., calcium carbonate) could leach plasticizer
- Internal pressures: 3 psi maximum

## Polyurethane Hoppers

In addition to having excellent abrasion/tear resistance, polyester polyurethanes offer exceptional resistance to chemicals, such as oils, fuels and solvents.

### Options

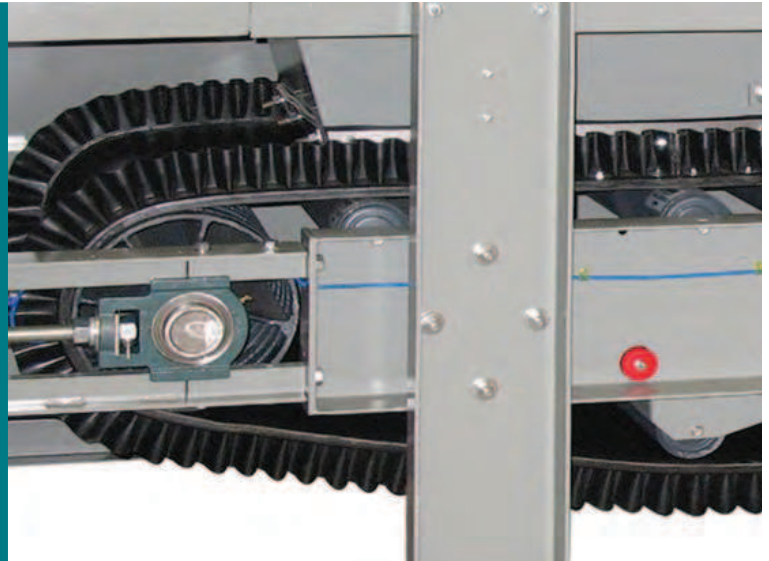
- Black Polyurethane, chem-duty
- Black Polyurethane, static-dissipative
- White Polyurethane, industrial (non-food grade)
- White Polyurethane, FDA-compliant, 3A-compliant, EC 1935 compliant for dry food contact

### Specifications

- Temperature Range:
  - -30 to +180 °F (-34 to +82 °C) continuous, high relative humidity (>35%)
  - -30 to +220 °F (-34 to +104 °C) continuous, low relative humidity (<35%), dry products
- Internal pressures: 3 psi maximum

# Weighing and Feeding Accessories

- Offering a wide range of weighing and feeding product accessories such as belts for our Multidos® DMO and Multidos® DEA weighbelts, idlers, and motors.



## Belts

### Belt options for the MULTIDOS® DMO Weighbelts

- 24", 30", 36", 42", 48", 54", and 60" belt widths available (special designs up to 72" available)
- Standard lengths: 7'8", 20'2", and 30" increments
- Belt types: flat, 1" side gum-drop flange, 3" corrugated flange and 5" corrugated flange
- Other belt types available based on material characteristics

### Belt options for the MULTIDOS® DEA Weighbelt Feeders

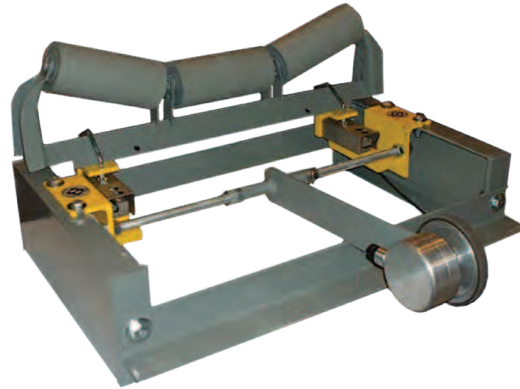
- Belt widths: 12" (300 model) and 24" (600 model)
- Belt material: white polyurethane, FDA approved
  - other belt materials are available for high temperatures or extreme chemical exposure



## Idlers

### Modular BEMP™ Belt Scale

The Modular BEMP™ Belt Scale is suitable for use with trough or flat idlers 18" to 60" (450 mm to 1,500 mm) CEMA. Accuracies:  $\pm 1\%$  totalized weight over a 3:1 design capacity range when installed on a Schenck Process- approved conveyor. Dual-idler belt scales with  $\pm 0.5\%$  accuracy are also available.



## Motors

Schenck Process offers a wide variety of motors for all weighing and feeding products.

### Options

- AC/DC motors
- Explosion proof
- Chem-duty washdown options
- Horsepower upgrades



# Additional Product Offerings



### MechaTron® Feeders

A choice of multiple configurations that include: single screw, twin screw, vibratory, high and low capacities, flexible or stainless steel conical hoppers provide the versatility to accommodate any unique dry material feeding application.

- ❖ Suited for volumetric or gravimetric feeding applications
- ❖ Feed rates ranging from .0002 to 1,100 ft<sup>3</sup> per hour



### PureFeed® Feeders

Designed in both sanitary and industrial models, the PureFeed® feeders meet the application needs for a number of industries such as pharmaceutical, nutraceutical, food, plastics and chemicals.

- ❖ Quick and easy disassembly for cleaning and maintenance
- ❖ Feed rates from 0.5 Kg to 150 Kg per hour



### SolidsFlow™ 2000 Feeders

SolidsFlow™ 2000 Vibratory Feeders have sanitary USDA accepted and industrial models that provide feeding for a number of industries ranging from dairy to plastics.

- ❖ No moving parts reduce maintenance and parts replacement
- ❖ Natural mass flow feeding device that eliminates material segregation



### SolidsFlow™ 5000 Streamout Feeders

Designed for spreading, topping or coating a uniform curtain-like flow of material across areas from 8" to 66" wide.

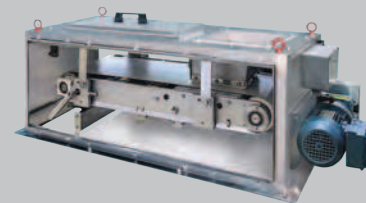
- ❖ Instant cut-off, without the need of cut-off gates for optimal batch accuracy
- ❖ Perfect for spreading food seasonings, flavors, granules, and abrasives



### SolidsFlow™ 7000 Fibrous Feeders

The SolidsFlow™ 7000 feeder was designed to solve the flow problems typically associated with feeding fibrous materials.

- ❖ A natural mass flow feeding device that handles difficult to feed materials
- ❖ Excellent for feeding wet chopped fiberglass



### MULTIDOS® DEA Weighbelts

Weighbelt feeder that can be used for weight controlled feeding, as a weight indicator and totalizer, or for batching.

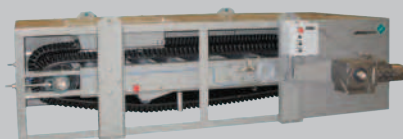
- ❖ Perfect for weighing and feeding easily damaged materials
- ❖ Feed rates up to 1,680 cubic feet (47,578 liters) per hour



### MULTICOR® Mass Flow Meters

Designed as an enclosed measuring system for the acquisition of flow rates and totalized amounts.

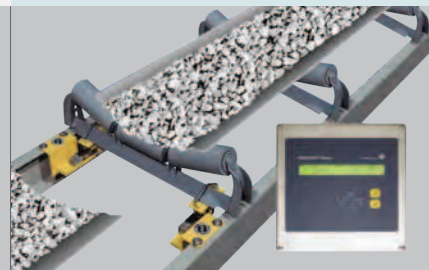
- ❖ Continuous mass flow measurement based on the Coriolis Principle
- ❖ Direct weighing technology eliminates outside forces on measuring and feeding accuracy



### Weighfeeder

Weighfeeder robustly designed for challenging environmental conditions.

- ❖ Direct multiple cell weighing systems without levers or counterbalance weights
- ❖ Feed rates up to 650 tons per hour



### BEMP™ Belt Scales

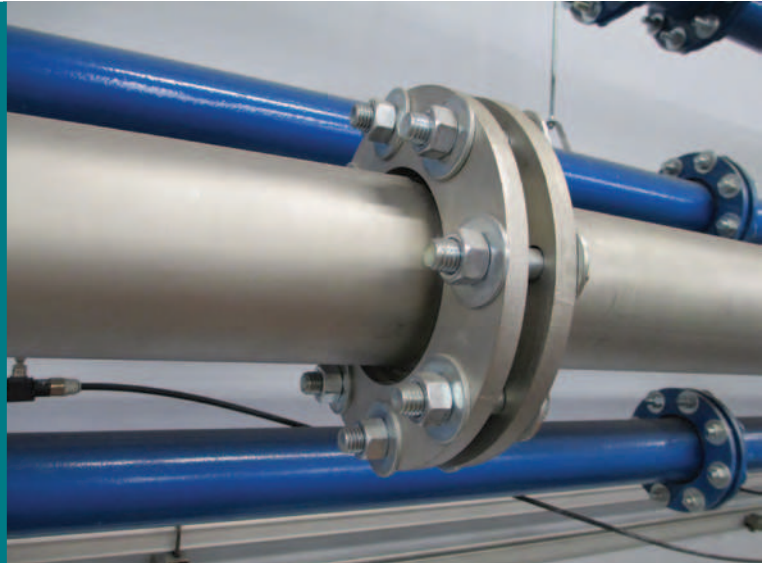
A single-idler belt scale commonly used in belt conveying applications to continuously measure and report flow rates and totalized amounts.

- ❖ Accuracy of ±1% totalized weight over a 3:1 design capacity range
- ❖ Easily mounts on 18" to 60" wide CEMA idlers using only four bolts
- ❖ Measures and totalizes continuous flow rates up to 15,000 tons per hour



# Conveying Line Components

- Offering a wide variety of line components: tube, pipe, elbows, specialty fittings, flanges, couplings, hose, railcar accessories and more



## Abrasion Elbows

- Made of 12 ga. steel with 10 ga.
- Abrasion-resistant removable backs
- Also available in stainless steel

### Ceramic-Back Elbows

Ceramic-Back elbows have a jacket across the back of the core elbow, which is approximately 1/2" of ceramic compound. This compound has a MOH hardness of 9+, second only to diamonds which have a MOH hardness of 10. The ceramic jacket and core elbow are then wrapped with an exterior material to maintain the hoop strength.

### Porcelain-Lined Elbows

The Porcelain-Lined elbow made of carbon steel, is first heat treated and pickled. Next the elbow is dipped in an acid bath, which is followed by a nickel etching treatment. After a rust inhibitor is applied, the elbow is dipped in a porcelain glass solution. The elbow is then dried and the powdered coated elbow is placed in a furnace at 1,560 °F for 10 minutes. The result is 8-10 mils of porcelain coating. A double dip in the porcelain glass solution will result in a coating of 12-15 mils.



Ceramic-Back Elbow

# Conveying Line Components

## Abrasion Elbows

### Flatback Elbows

Flatback elbows designed to handle abrasive products, are an economical alternative to standard elbows. Instead of replacing the whole elbow, simply unbolt and replace the worn back.

Size	Dimensions (inches)				Weight (lbs.)		
	A	B	C	D	36"R	48"R	72"R
3	3	3	2.5	12	37	47	63
4	4	4	3.375	12	49	61	83
5	5	5	4.125	12	59	73	93
6	6	6	4.75	18	78	95	129
8	8	8	6.5	18	105	128	174
10	10	10	8	18	131	158	213
12	12	12	9.5	18	155	188	254
14	14	14	11.25	18	180	218	295



\*Shown in blue, also available in white

## Diamond EI Elbows

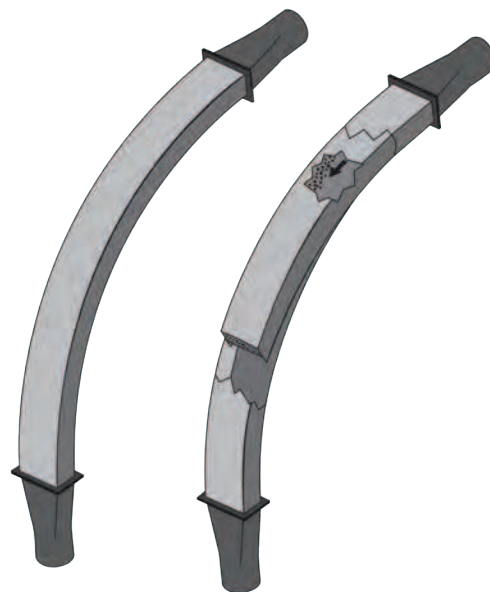
- Long sweep radius
- Diamond-hard ceramic tile lining (rating 9 on MOH scale)
- Made in common sizes and specifications

### User Benefits

- Abrasion resistant product contact surface
- Normal static loss
- No sacrifice in product conveying capacity or increases in horsepower
- Standard off-the-shelf product
- One centerline radius (36") with custom tangent lengths fits all line sweeps

Diamond EI Elbows are available with standard centerline radius of 36" (Dimension "R"). Other radii are available based on application.

An optional outlet extension tangent is available for each Diamond EI size. This extension tangent has Schenck Process' standard ceramic bricks and is used for extremely abrasive applications. Just ask for the Diamond EI II configuration.



Standard Size OD	Dimensions (inches)			
	A	B	C	D
3	4	2.5	36	21
3.5	4	3	36	21
4	4	4	36	21
4.5	6	3	36	21
5	6	4	36	21
5.5	6	4.5	36	21
6	6	5	36	21
6.62	6	5	36	21



# Conveying Line Components

## Bulk Commodity Hose

This hose is recommended for transfer of bulk materials via suction, gravity or pneumatic systems where abrasion resistance is the primary requirement. General applications include: dry cement, sand, gravel, feed, sand, slurries, etc.

Tubing is type D (SBR), abrasion resistant and static conductive. The standard thickness is .19" (is also available in .38"). Its wire reinforcement allows suction; static wire built-in is available on special order. The Bulk Master™ Plus includes standard plain ends standard; enlarged or straight ends available on special order.



### 30 Specifications (.19" tube)

I.D. (inches)	Piles	O.D. Str. Ends (inches)	I.D. Enl. Ends (inches)	O.D. Enl. Ends (inches)	Suction (inches HG)	Rated W.P. (PSI)	Min. Bend Radius (inches)	Weight Per Ft. (lbs.)
2	2	2.78	2.38	3.16	30	60	16	1.6
2.5	2	3.28	2.88	3.66	30	60	20	1.9
2.75	2	3.53	---	---	30	60	22	2.1
3	2	3.78	3.50	4.28	30	60	24	2.4
4	2	4.86	4.50	5.36	30	45	32	3.5
4.5	2	5.36	5.00	5.86	30	40	36	3.9
5	2	5.98	5.56	6.54	30	40	40	4.2
5.5	2	6.47	---	---	30	40	44	4.6
6	2	6.96	6.62	7.60	30	40	48	5.0
6.63	2	7.68	---	---	30	35	53	6.3
7	2	8.06	7.62	8.68	30	35	56	6.7
8	2	9.06	8.62	9.68	30	35	64	7.5
8.63	2	9.68	---	---	30	30	70	8.1
9	2	10.06	---	---	30	30	72	8.4
10	2	11.10	10.75	11.85	30	25	80	10.7
10.75	2	11.85	---	---	30	20	86	11.4
11	2	12.10	---	---	30	20	88	11.7
11.25	2	12.35	---	---	30	20	90	11.9
12	2	13.10	12.75	13.85	30	20	96	12.7
12.75	2	13.85	---	---	30	15	102	13.5

# Conveying Line Components

## Bulk Commodity Hose

This hose is recommended for transfer of bulk food products via suction, pneumatic, or gravity systems where sanitary, nontaste tube stock is required. General applications include: flour, sugar, syrup, edible grains, etc. (Not recommended for vinegar, mustard or other compounds containing acetic acid).

Tubing is type D2 food grade natural rubber and meets FDA requirements. Standard thickness is .19".



I.D. (inches)	Piles	O.D. (inches)	Suction (inches HG)	Rated W.P. (PSI)	Min. Bend Radius (inches)	Weight Per Ft. (lbs.)
1.5	2	2.47	30	150	10	1.3
1.75	2	2.72	30	150	11	1.5
2	2	2.99	30	150	12	1.8
2.38	2	3.36	30	125	14	2.0
2.5	2	3.49	30	125	15	2.1
3	2	4.01	30	100	18	2.5
3.5	2	4.51	30	85	21	2.9
4	2	5.01	30	75	24	3.3
4.5	2	5.51	30	60	27	3.6
5	2	6.01	12	55	30	4.0
6	2	7.05	12	50	36	6.2
6.62	2	7.68	12	35	40	6.8
7	2	8.08	12	35	42	7.8
8	2	9.08	12	30	48	8.9
8.62	2	9.71	12	30	52	9.4
10	2	11.17	12	25	60	10.3
12	2	13.17	12	25	72	12.3
14	2	15.17	12	15	84	14.2

# Conveying Line Components

## Cam and Groove Couplings

- Eight standard couplings pictured
- Swivel, reducing and special couplings available
- Materials of construction vary
- Sizes 5" and 8"-12" are not industry interchangeable

 <p>Part A Male Adapters - Female Thread</p>	 <p>Part B Female Couplers - Male Thread</p>	<p>Sizes</p> <p>0.50"</p> <p>0.75"</p> <p>1.00"</p> <p>1.25"</p> <p>1.50"</p> <p>2.00"</p> <p>2.50"</p> <p>3.00"</p> <p>4.00"</p> <p>5.00"</p> <p>6.00"</p>
 <p>Part C Female Couplers - Hose Shank</p>	 <p>Part D Female Couplers - Female Thread</p>	 <p>Part E Male Adapters - Hose Shank</p>
 <p>Part F Male Adapters - Male Thread</p>	 <p>Dust Plug For Use with Couplers</p>	 <p>Dust Cap For Use with Adapters</p>

# Conveying Line Components

## Couplings

Schenck Process compression couplings provide an economical means of connecting pipe and tubing. They offer low initial cost, plus reduce installation time and expense. In joining O.D.'s from 1.5" to 14", Schenck Process couplings ensure fast, positive connections in pressure and vacuum piping systems and in conduit for electrical lines.

### Line Support Couplings

- Extra holding power
- Kits available to convert existing couplings

### Tool-Less Compression Couplings

- Wing-nut clamps
- 100% stainless steel
- Silicone and FDA-approved gaskets available

### Line Couplings

Line couplings (LC series) are designed for joining two lengths of piping in a straight run and can be used interchangeably for connecting with conveying or air piping. Line couplings are available for 2", 3", 4", 5", 6", 8", 10" and 12" pipe as well as 3" and 5" O.D. tubing.

### Style 99 Roust-A-Bout

Designed for heavy duty service, curved jays of case hardened, electroplated carbon steel engage into the pipe.



Line Support Coupling



Tool-Less Compression Coupling



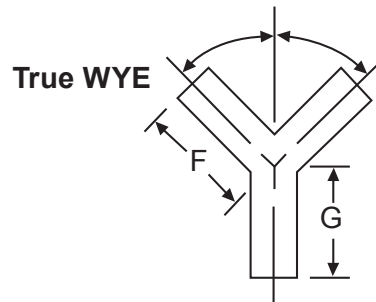
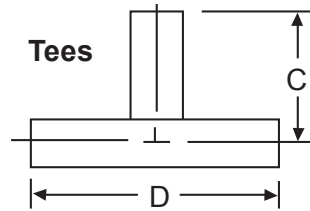
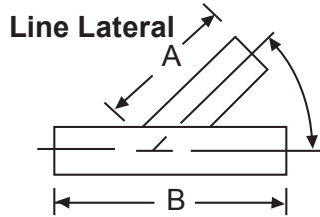
Line Coupling



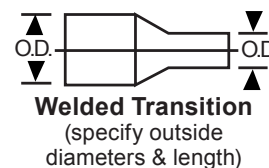
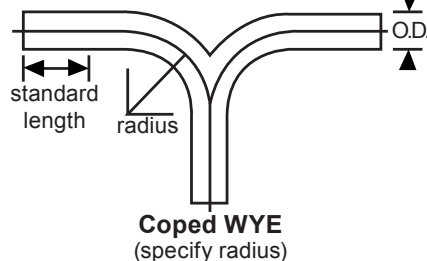
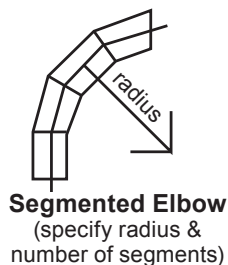
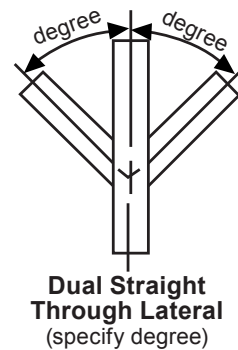
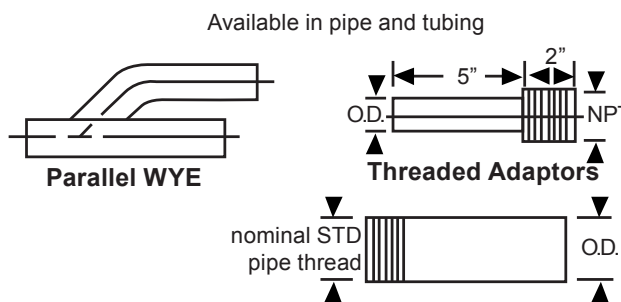
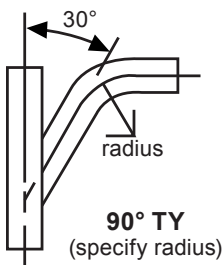
Style 99 Roust-A-Bout

# Conveying Line Components

## Fabricated Fittings



Size	Line Lateral				Tees				True WYE					
	30°		45°		60°				30°		45°		60°	
	A	B	A	B	A	B	D	C	F	G	F	G	F	G
1-1/2	10	16	10	16	8	14	12	6	8	8	8	8	8	8
1-3/4	10	16	10	16	8	14	12	6	8	8	8	8	8	8
2	10	16	10	16	8	14	12	6	8	8	8	8	8	8
2-1/4	10	16	10	16	8	14	12	6	8	8	8	8	8	8
2-1/2	12	18	10	16	8	16	16	8	10	10	10	10	10	10
3	12	18	10	16	8	16	16	8	10	10	10	10	10	10
3-1/2	16	24	12	24	12	24	16	8	10	10	10	10	10	10
4	16	24	12	24	12	24	16	8	10	10	10	10	10	10
4-1/2	18	24	16	24	16	24	18	10	12	12	12	12	12	12
5	18	30	18	24	18	24	18	10	12	12	12	12	12	12
6	24	36	20	30	20	30	18	12	14	14	14	14	14	14
8	28	36	18	36	18	36	24	14	18	18	18	18	18	18

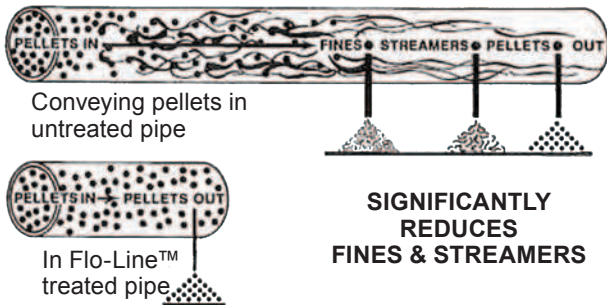
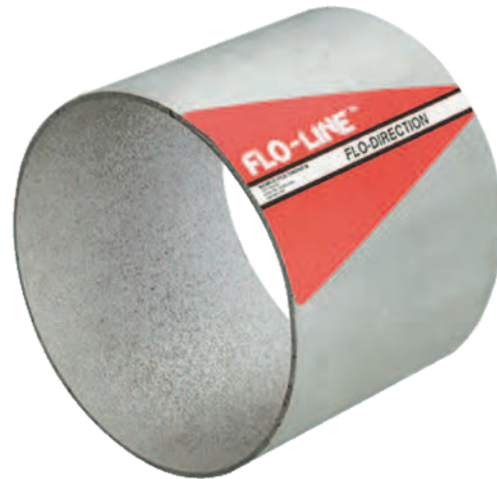


Order fabricated fittings by O.D., type of metal, wall thickness, radius and/or degree as applicable. Belled and special end configurations available upon request. Offsets are available.

# Conveying Line Components

## Flo-Line™ Pipe Treatment

Flo-Line™ internal finish is a patented, technologically advanced pipe treatment process that has been proven in both laboratory testing and field use to significantly reduce the formation of fines and streamers. The Flo-Line™ finish consists of a directional roughness applied by a proprietary shot peening process. The finish is consistent and covers 100% of the internal surface of the pipe. The impact of the round shot compresses and flows the surface to produce a form of cratered roughness. A side benefit to the treatment process is work hardening of the surface – by as much as 20% on aluminum. Treatment life can be improved by applying a hard anodic coating to treated aluminum or by applying one of many surface hardening processes to stainless or carbon steel pipe. Flo-Line™ treated pipe is cleaned, checked, labeled for flow direction, and then capped with water- and rust-proof covers prior to shipment.



## Heavy Duty Fittings

Made of cast ductile iron, Schenck Process corner fittings are available in 30°, 45°, 60° or 90° configurations. Corner fittings cause conveyed material to impinge against material already trapped in the fitting recess rather than against the fitting wall itself. This reduces wear and slows degradation of the conveyed material.

Corner fittings can be used with either abrasive or non-abrasive materials. The pipe plug is a feature of the 90° fitting. This option allows for additional air to be supplied to the system.





# Conveying Line Components

## Interlocked Bore Lined Hose

Unlined interlock hose is a very economical hose made from either galvanized or stainless steel. Its interlocked construction permits excellent flexibility as well as strength. Smooth bore lined interlock hose combines less friction, less energy and greater flexibility. Its normal configuration is in an unlined state. However, upon request, unlined interlocked hose can be packed to minimize leakage.



Inside Diameter (inches)	UF_15_G,S/C,S,4		UF_18_G,S,6/C,S,4		UF_25_G,S/G,S		UF_20_A/C,S	
	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)
1.5	1.2	7	1.3	8	---	---	---	---
2	1.6	9	1.7	10	---	---	---	---
2.5	1.9	11	2.2	12	---	---	---	---
3	2.3	13	2.6	14	3.2	18	1.6	18
3.5	2.6	15	3.0	16	3.7	21	1.8	21
4	3.0	17	3.4	18	4.2	23	2.1	23
4.5	3.4	19	3.8	21	4.	26	2.3	26
5	3.7	21	4.2	23	5.2	29	2.6	29
6	4.5	25	5.0	27	6.2	34	3.1	34
7	5.2	29	5.8	32	7.2	40	3.6	40
8	5.9	33	6.6	36	8.2	45	4.1	45
9	6.6	37	7.4	40	9.2	51	4.6	51
10	7.4	40	8.2	45	10.2	56	5.1	56
11	---	---	9.0	49	11.2	62	5.6	62
12	---	---	9.8	53	12.2	67	6.1	67
13	---	---	10.6	58	13.2	73	6.6	7.
14	---	---	11.4	62	14.2	78	7.1	78
15	---	---	2.2	66	15.2	84	7.6	84
16	---	---	13.1	71	16.2	89	8.1	89

Armor Materials  
A = Aluminum  
G = Galvanized Steel  
S = T304 Stainless Steel  
6 = T316 Stainless Steel

Armor Strip  
15 = Light Weight  
18 = Medium Weight  
20 = Light Heavy Weight  
25 = Heavy Weight

Liner Materials  
S = T301 Stainless Steel  
4 = T410 Stainless Steel  
C = Carbon Steel

Other diameters are available on request. For packed hose, add 10% to both weight per foot and minimum bend radius. Minimum bend radius is measured from the center line of the hose.

### Packing Options

Packing is a continuous filament inserted into a packing groove. It is placed during manufacture and lies within the interlock where it cannot contaminate the product within the hose. (Recommended for pressure systems only). Minor contamination can be tolerated in the transfer of many dry bulk materials. But plastics and foods cannot tolerate contamination. When cleanliness of product is imperative, always choose hose with a stainless steel liner. FDA considers it non-contaminating.

Packing Type	Features	Temp. Ability
Cotton	Lowest cost packing	180 °F
Elastomeric	Used to provide the maximum pressure/vacuum resistance	180 °F
High Temp. Fiber	Coated high temperature filament	1000 °F
Hard Packing (Copper, Stainless)	For extremely high temperature	200 °F

Steel Type	Temp. Ability	Fabrication	Temp. Ability
Stainless Steel	175 °F	Welding	1200 °F
Carbon Steel	850 °F	Brazing	700 °F
Galvanized Zinc	450 °F	Epoxy	250 °F



# Conveying Line Components

## No-Ledge Line Coupling

### Application

The Schenck Process No-Ledge coupling is designed for food and light industry conveying of fragile materials or materials requiring a high degree of sanitation. It can also be used for systems where color-changeouts are common; or for hazardous or inert materials where piping connections must maintain a positive seal.

### Equipment

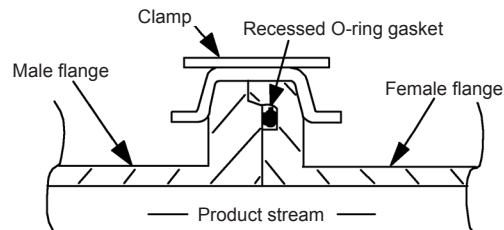
Unlike a compression coupling, which can have frequent pipe misalignment during installation, the Schenck Process No-Ledge coupling delivers a machined tolerance joint. This ensures proper alignment and creates a ledge-free interior environment on connection points. As a result, friction and crevices which catch product and cause fines are greatly reduced.

O-rings located in the product stream can eventually abrade away and expose a sharp metal edge, increasing the risk of contamination. The No-Ledge coupling offers a recessed O-ring gasket that delivers a smooth transition through a positive sealing metal-to-metal joint. This eliminates gasket contact with the product stream – a critical improvement in sanitary piping system design.

### Operating principle

Available with a single T-handle or nut, or backing flanges that tightens the clamp around the male and female flanges. The clamp presses the face of the male and female flanges together by way of a bevel on the edge of each flange compressing the O-ring creating an air tight seal.

When inspection or cleaning is required, simply loosen the single T-handle or nut and pull the piping apart. The clamp does not need to be removed, due to a slotted quick release latch with a hinge that releases the T-bolt quick access.



# Conveying Line Components

## Pellbow®

- Compact and easy to install
- 100% self-cleaning
- Reduced noise level
- Minimized pressure drop
- No rotation – no friction

The Pellbow® Resists Wear — Naturally. In traditional long radius elbow installations, the conveyed product drags along the outside elbow wall at a high velocity. Heat and friction create streamers, dust and wear in the elbow.

By design, material flowing through the Pellbow® accumulates in the pocket or “impact zone” and moves gently upward and then out of the Pellbow®. Incoming material is deflected 90° with minimum resistance and no damage from impact.

All sizes are available in aluminum and stainless steel and select sizes in cast ductile iron.

- Abrasive resistant alloy versions are available for heavy duty applications
- Stub end version for compression coupling connection is available for tube and pipe
- Loose flanges available in aluminum and stainless steel
- Special designs and fittings are available upon request



# Conveying Line Components

## Probe Boxes

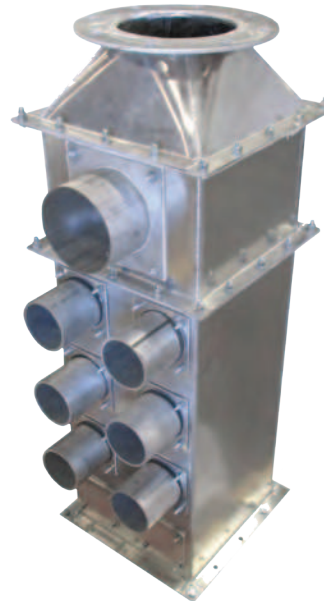
- Single probe box accepts one probe of any standard size
- Dual probe box accepts up to two probes of any standard size (specify if bottom plate is required when ordering)
- Dual probe box extension accepts up to two probes of any standard size and has a flanged, open bottom designed for mounting on top of any other standard Schenck Process probe box
- Quad probe box accepts up to four probes of any standard size

### Options

- 0.125 aluminum box or 304 stainless steel
- Probes available:
  - 2" O.D. tube, 14 ga.
  - 2.5", 3", 4" and 5" O.D. tube, 11 ga.
  - 2" and 2.5" pipe, sch. 10
- Flocked screen air inlet
- Air adjustment sleeve

### Features

- All probes fit on all probe boxes
- Flange details are identical for all models of take-out boxes
- All aluminum parts - cleaned and degreased. No paint.



Probe Box



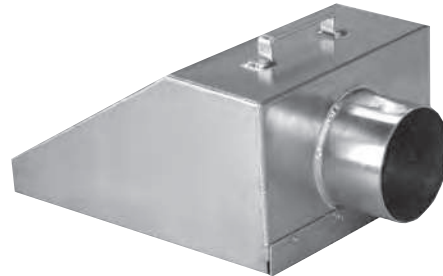
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# Conveying Line Components

## Railcar Accessories

### Air Inlet

The air inlet filter is a ruggedly built aluminum accessory designed to fit most standard railroad hopper cars having 6" pneumatic outlets or in combination with adapter units. The air inlet slips on the air intake side to ensure that incoming air is free of ambient contamination.



Air Inlet

### Adapter

The adapter is used on railcars with pneumatic outlets in a special type slip adapter with thumb-screw holds and quick connecting Kamlok fitting. The adapters are ready to attach to ACF, Naccomatic and GATX Dri-Flo Chemical for pneumatic conveying systems. Aluminum construction and 4" – 6" sizes available.



Adapter

### Hatch Filter

The hatch filter, composed of a special lightweight media, is used as an air inlet for a 20" diameter top opening on closed hopper cars or trucks to permit clean incoming displacement air. The housing is furnished with brackets for lugging down with dome clamps.



Hatch Filter

### Vacuum Pick-Up Pan

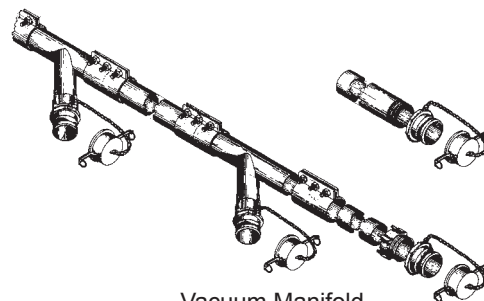
The railcar vacuum pick-up pan serves as an unloader connect with air slide dry flow and railcar with 13" x 42" enterprise outlets. Available for free air inlet and air inlet damper (GATX car) situations. 4" -6" sizes available. Also available in a 3" railcar outlet probe and 2" – 6" railcar loading nozzle with distribution arm and Type A quick coupler.



Vacuum Pick-Up Pan

### Vacuum Manifold

The vacuum manifold package includes tubing or pipe, formed elbows, line "Y", compression couplings, stainless steel flexible hose with quick couplings, male-threaded adapter, aluminum FPT to male coupler and a dust cap with safety chain.



Vacuum Manifold

# Conveying Line Components

## Separation Magnets

### Clean Flow™ Drawer-In-Housing Magnet

- Recommended for the plastics industry to ensure a pure product flow and protect machinery
- Reduces downtime
- Cast in three sizes
- Available options: purging spout, dump tube, slide gate and NPT plugs



Clean Flow™ Drawer-In-Housing Magnet

### EZ Clean Drawer-In-Housing

- Removes ferrous tramp metal from dry, bulk products in a gravity fed system
- Available in standard and custom sizes, this extremely powerful magnetic separator can remove very fine ferrous material
- Cleaning is made easy by simply pulling the magnetic drawer through the stripper seals, allowing collected tramp metal to fall free of the magnets

### Vacuum 4JIT

- Provides machinery protection and product purification for Just-In-Time material systems in the plastics industry
- Captures ferrous tramp metal from pellets that could cause expensive damage to processing equipment
- Available from 1.5" to 2.5 " line sizes



Vacuum 4JIT

### Exposed Pole (E.P.) Tube Magnet

- Used in pneumatic systems to control ferrous tramp metal in the lines
- Used where product lumping or larger physical size of a product is evident
- Located outside the assembly and does not restrict flow of product
- Ideal for receiving areas
- Available in most standard line sizes
- Single probe box accepts one probe of any standard size

### Bullet™ Magnet

- Bullet™ Magnets can be used anywhere in a pneumatic system to remove tramp metal in receiving areas or ahead of process equipment
- The straight-through flow of the Bullet™ Magnet allows tramp metal to be removed from the line with negligible line pressure loss. The tramp metal is captured and remains on the magnetic poles
- Bullet™ Magnets are available in a variety of sizes and can be mounted in any position or angle
- A lexan window, built into the removable cover, enables plant personnel to observe pneumatic flow and tramp metal collection during operation
- It has a magnetic loss approximately .5 of 1 percent per 100 years



Bullet™ Magnet

# Conveying Line Components

## Sight Glass

- Available in carbon steel, stainless steel and aluminum
- Sight glass: cast acrylic resin
- All pipe sizes available; schedule 40, 55 or 10
- 11 ga. wall: 14 & 16 available upon request
- Air-tight seal
- Easy installation
- Grounding strip eliminates buildup of static electricity

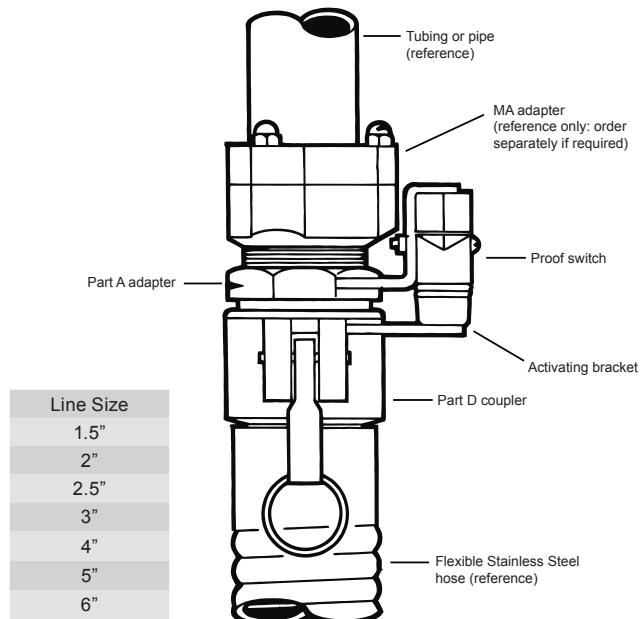
In-line sight glass gives you a good, clear look at the material flowing in your bulk conveying system. The precise alignment of the clear acrylic and metal tubing provides a smooth “straight-thru” interior to prevent turbulence.

Prices of special sized and materials, including Pyrex sighting section, available on request.



## Switch Assembly

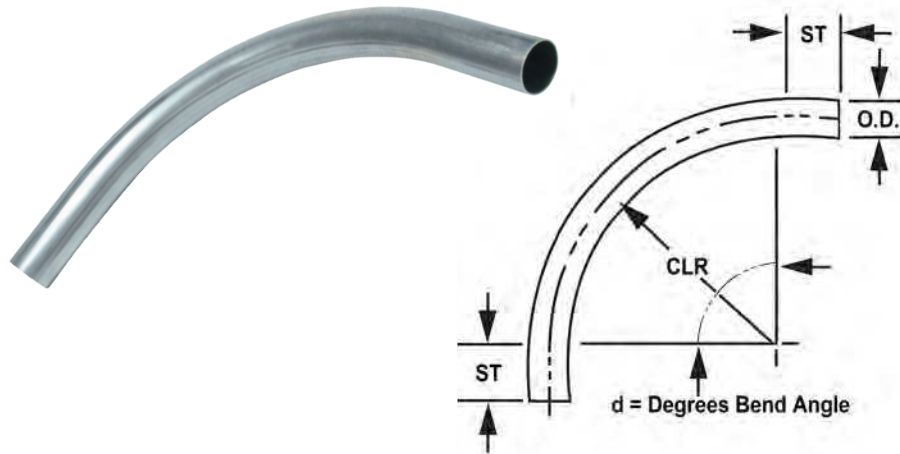
- Part A adaptor
- Mounting and activating brackets
- Position proof switch – standard enclosure SPDT
- Part D coupler



# Line Components

## Standard Formed Elbows

Pipe and tube bends of up to 180 degrees are readily available in aluminum, stainless, carbon steel and galvanized in the sizes listed below. Other centerline radii are available but not shown. Special shapes, "U" bends, offsets, and bifurcated bends available upon request.



**Order Bends:** By O.D., wall thickness, alloy, degree of bend, centerline radius and tangent.

**Wall Thickness:** 16 ga. (.063), 14 ga. (.083), and 11 ga. (.120) in tubing. Schedules 5, 10 and 40 pipe. Other wall thicknesses on request.

**Materials:** Aluminum is 6063-T1 extruded. Stainless is T304 ASTM A312 for pipe and T304 ASTM A249 for tubing. Carbon steel ASTM A53 for pipe; A513 for tubing. Galvanized A53 for galvanized-coated pipe and A513 for galvanized-coated tubing. Aluminized tubing is ASTM A787.

**Tube Bending Capabilities**

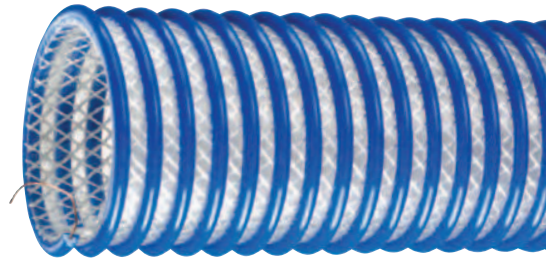
Tube Size	Pipe Size	Outside Diameter		Common Centerline Radii (CLR) (inches)	Std. Tangent (ST)
		Inches	Millimeters		
1"		1.0	25.4	3, 4, 6, 12	4"
	1"	1.315	33.4	3, 5	4"
1-1/4"		1.25	31.8	3, 7.25	4"
	1-1/4"	1.660	42.2	3.5, 4, 6.25	4"
1-1/2"		1.5	38.1	2.5, 6, 7.5, 9, 12, 15, 18, 24, 30, 36	4"
1-3/4"		1.75	44.5	2.5, 8, 9, 12, 15, 24, 30, 36, 48	4"
	1-1/2"	1.9	48.3	5, 6, 7.5, 9, 10, 12, 18, 24, 30, 36, 48	4"
2"		2.0	50.8	2.5, 3, 3.5, 4, 5, 6, 8, 8.5, 9, 10, 12, 15, 18, 24, 30, 36, 48	4"
2-1/8"		2.125	54.0	3, 5, 12, 24, 30, 36	4-1/2"
2-1/4"		2.25	57.2	3, 9, 12, 15, 17, 24, 30, 36	4-1/2"
	2"	2.375	60.2	6, 7.5, 10, 12, 15, 17, 24, 30, 36, 48	4"
2-1/2"		2.5	63.5	4, 6, 9, 12, 15, 17, 24, 30, 36, 48	5"
2-3/4"		2.75	69.9	2.75, 4, 17, 30, 36, 48	5-1/2"
	2-1/2"	2.875	73.0	12, 12.5, 15, 17, 24, 30, 36, 60	5"
3"		3.0	76.2	4, 4.5, 7.5, 9, 10, 12, 15, 18, 24, 30, 36, 48, 60	6"
3-1/4"		3.25	82.6	17, 30, 36	6-1/2"
3-1/2"	3"	3.5	88.9	3.5, 4.5, 6, 8.75, 12, 15, 16, 18, 24, 30, 36, 48	7" (6" - pipe)
3-3/4"		3.75	95.3	17, 24, 32, 36	7-1/2"
4"	3-1/2"	4.0	101.6	4, 5, 6, 7.75, 10, 12, 16, 18, 20, 24, 30, 32, 36, 48, 60	8" (7" - pipe)
4-1/4"		4.25	107.9	16, 30, 36, 48, 60	8-1/2"
4-1/2"	4"	4.5	114.3	6, 9, 12, 16, 18, 20, 24, 30, 32, 36, 48, 60	9" (8" - pipe)
4-3/4"		4.75	120.7	36	9-1/2"
5"		5.0	127.0	5.5, 7.5, 12.5, 17, 22, 30, 36, 42, 48, 60	10"
	5"	5.563	141.3	15, 20, 24, 30, 36, 42, 48, 60, 72	10"
5-1/2"		5.5	139.7	30, 36	11"
6"		6.0	152.4	9, 15, 18, 24, 30, 36, 42, 48, 60, 72	12"
	6"	6.625	168.2	18, 24, 30, 36, 42, 48, 60, 72	12"
8"		8.0	203.2	12, 20, 32, 48, 60, 72	16"
	8"	8.625	219.1	24, 32, 40, 42, 48, 60, 72	16"
	10"	10.75	273.1	40, 48, 50	20"



## Conveying Line Components

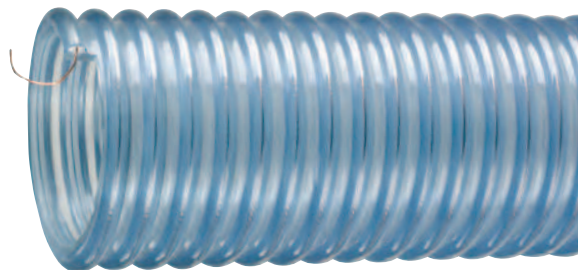
### Tigerflex 2001® Hose

The Tigerflex 2001® is a polyurethane-lined PVC food grade material handling hose with embedded static wire. The smooth polyurethane liner reduces material build-up, provides high abrasion resistance and quiet operation and is food grade, complying with FDA and USDA requirements. The embedded static wire prevents the build-up of static electricity and helps keep material flowing smoothly. A clear cover and translucent liner allows visual confirmation that material is flowing freely. Service temperature range of -4 °F to 150 °F.



### Tigerflex 2020® Hose

The Tigerflex 2020® is reinforced polyurethane-lined material handling hose with embedded static wire. Smooth bore construction reduces material build-up and provides high abrasion resistance and quiet operation. Polyester fabric reinforcement provides increase ability to withstand positive pressures. The exposed blue rigid PVC helix is abrasion-resistant, allows the hose to slide easily and is easier to handle. The embedded static wire prevents the build-up of static electricity and helps keep material flowing smoothly. The food grade polyurethane liner complies with FDA and USDA requirements. Service temperature range of -4 °F to 150 °F.



### Tigerclamp™

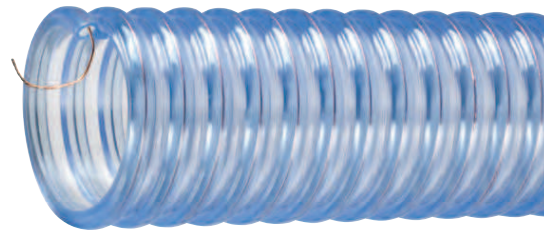
The Tigerclamp™ has spiral double bolt clams designed for use on Tigerflex® hoses with convoluted cover (counter-clockwise spiral only). These strong clams have a threaded protective cap that helps prevent inquiry. For adequate holding power, a single clamp may be used on each end for 1.5"- 4" I.D. hose. Two clamps are recommended for each end on 5" I.D. hose or larger. Proper evaluation of holding power for clams must be mined for each individual installation.



# Conveying Line Components

## Tigerflex® Series 'WE' Hose

The Tigerflex® Series 'WE' Hose is a PVC, food grade material handling, vacuum and transfer hose with embedded static wire for grounding. Designed with a convoluted cover for increased flexibility and a smooth bore to eliminate material build-up. PVC compound complies with applicable FDA requirements. Service temperatures for static condition range from -4 °F to 150 °F and for dynamic condition range from 14 °F to 104 °F.

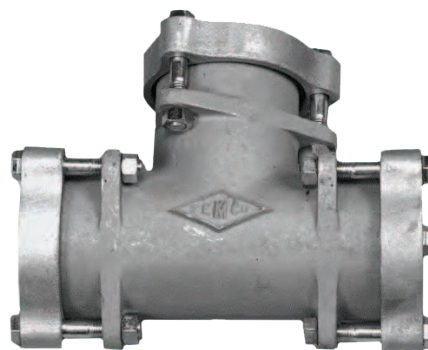


Series	Part #	I.D. (inches)	O.D. (inches)	Working Pressure (PSI)		Vacuum Rating (in. HG)		Min. Bend Rad. (inches) @ 68 °F	Clamp Required	Max. Length (ft.)	Approx. Weight (lbs./100 ft.)
				68 °F	104 °F	68 °F	104 °F				
WE-150	141925	1.5	1.83	50	25	28	28	5	---	60	49
WE-200	141852	2	2.40	40	20	28	24	4	102756	60	58
WE-250	141895	2.5	2.99	40	20	28	24	5	332542	60	88
WE-300	141941	3	3.64	40	20	28	24	6	345938	60	125
WE-400	141976	4	4.72	35	18	24	20	10	332615	60	192
WE-500	142000	5	5.75	30	15	24	20	16	320218	60	253
WE-600	142034	6	6.81	30	15	24	20	18	103212	60	320

## Tees

### Line Tees

The Line Tee (LT series) is used in any application where an airtight connection of air piping is required.



# Conveying Line Components

## Vacuum Products

### Vacuum Tubing and Fittings

Schenck Process can provide you with a complete line of tubular components for your vacuum cleaning system. Tubing and fittings, stocked in a variety of materials, are manufactured to exacting standards.



### Vacuum Hose and Tools

Schenck Process supplies a variety of industrial vacuum hose tools and accessories, ranging from hose, tool holders, hangers and other tool kits.



## 510 Blower Package

- Pneumatic conveying blower package for industrial applications
- Motor horsepower up to 100 HP
- Available with line sizes ranging from 2" to 5"
- Intake filter and silencer assembly

### Application

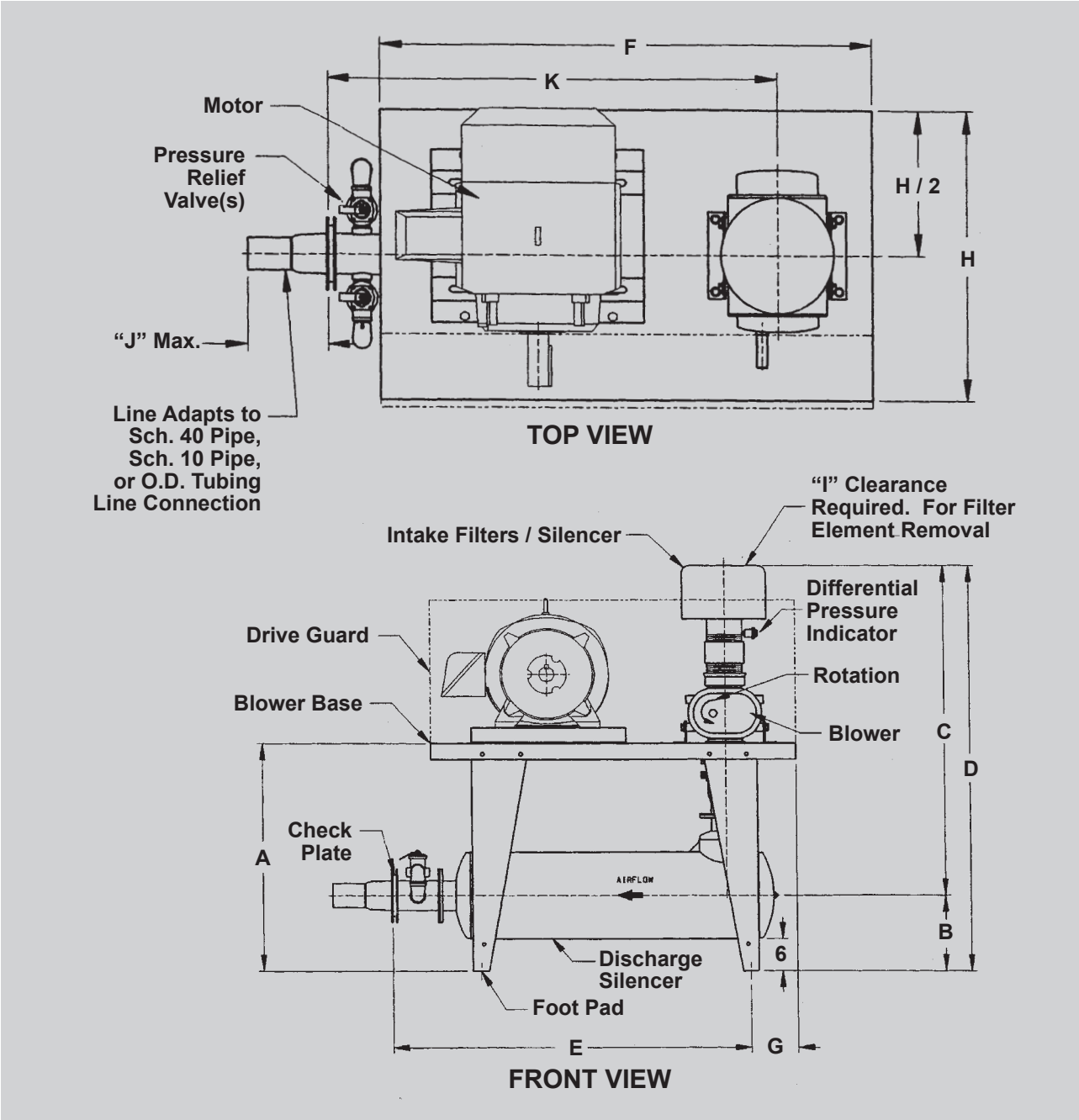
The Schenck Process 510 Series of pressure style blower packages is intended to be used in industrial applications where sanitary design is not a concern. These packages have formed angle legs and top bases and an integrally mounted intake filter and silencer assembly. 510 packages are available with several different pumps and with motor horsepower up to 100 HP.

### Specifications

- Carbon steel painted horizontal base
- Pressure relief valve set at 15 PSI
- Carbon steel drive guard
- Pressure gauge
- Check valve
- Expansion joints
- Carbon steel intake filter/silencer combination with pressure differential indicator
- Positive displacement blower
- Single set point pressure switch set at 12 PSI
- V-belt drive assembly



# 510 Blower Package Dimensions



Model	Blower	H.P.	Dimensions (inches)											Weight (lbs.)
			A	B	C	D	E	F	G	H	I	J	K	
513	4506	50	37-1/2	13-1/8	62	75-1/8	53-1/8	56	9-1/4	36	11	10-1/8	48	1666
514	4509	75	37-1/2	13-1/8	56-1/2	69-5/8	52	56	8-1/2	36	11	10-1/8	48	2015
515	4512	100	42-5/8	14-1/8	61-7/8	76	66-1/2	68	9	40	11	11-1/8	62	2537

NOTE: Dimensional information shown applies only to Duroflow Blower models.  
Refer to Schenck Process drawing DO2384 for dimensional information on other models.

## 520 Blower Package

- Premium pressure style blower package
- Equipped with intake filter, intake silencer and discharge silencer
- Available with line sizes ranging from 2" to 8"
- Chamber designed silencers for maximum noise reduction

### Application

The Schenck Process 520 Series of pressure style blower packages are configured around the size and performance of the blower to optimize operation. There are 6 models in the series with line sizes ranging from 2" to 8". The silencers are premium grade chamber designed for maximum noise reduction. A wide variety of blowers manufactured by Roots, Sutorbilt and Duroflow are available with this package.

The 520 package with horizontal tabletop style base is generally available on units up through 125 HP. Larger units may require a skid style base arrangement. Consult the factory for more information.

### Specifications

- Positive displacement blower
- Tabletop base (painted) sanitary design
- Adjustable motor base
- V-belt drive
- OSHA standard drive guard
- Relief valve

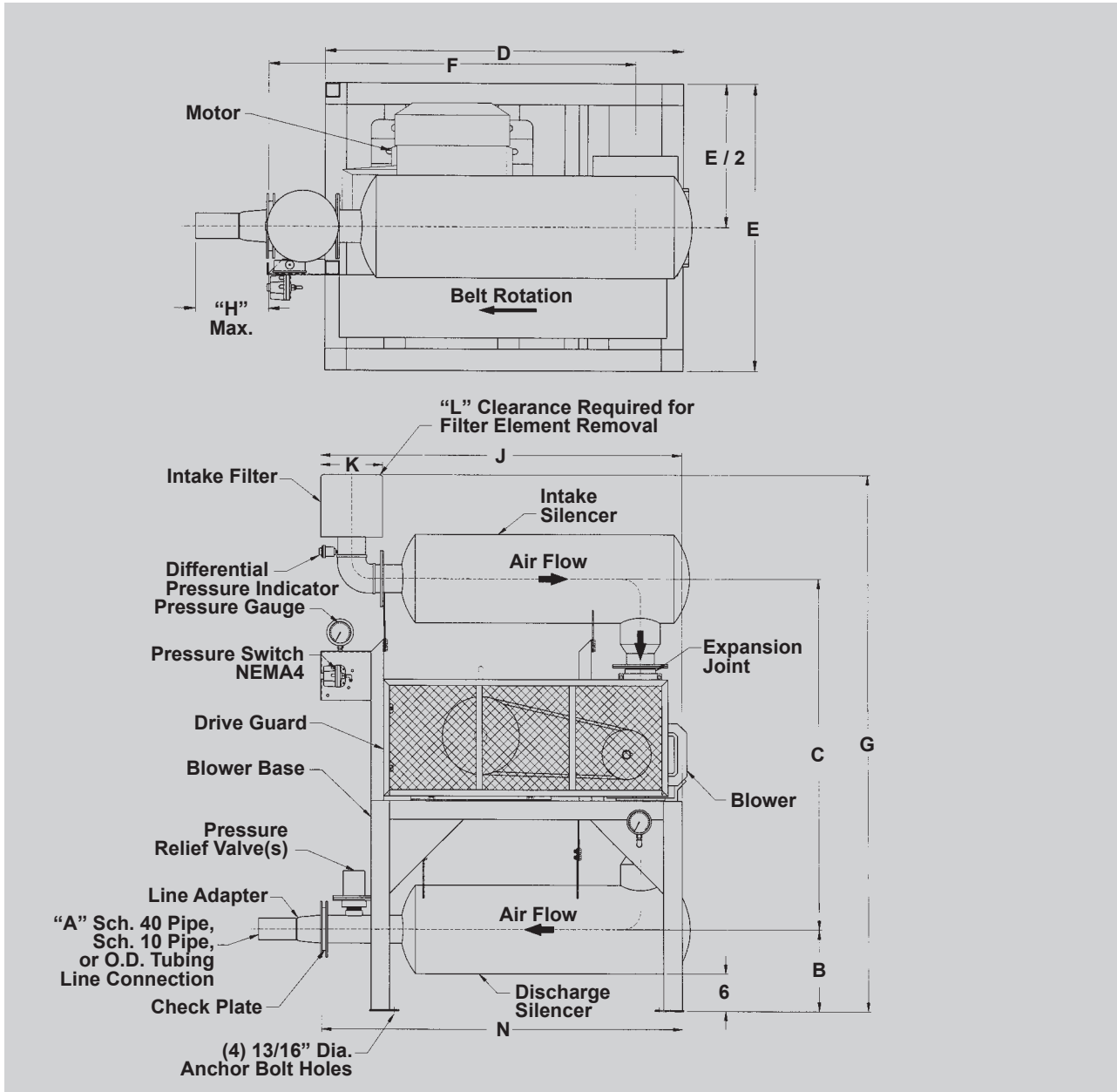


- Check valve
- Inter-connecting hardware
- Discharge silencer (absorptive type)
- Inlet filter and inlet silencer
- Pressure gauge
- All blower volumes are based on standard inlet conditions (14.7 PSIA, 70 °F)
- Schenck Process white paint standard

### Options

- Pressure switch (NEMA 4, NEMA 7/9 and dual settings available)
- Temperature gauge
- Temperature switch
- Galvanized base
- Expansion joints
- Tachometer
- Acoustically treated guard and silencers
- Vibration isolators
- If noise levels must be guaranteed at less than 90 dBa, a sound enclosure or acoustic treated components will be necessary. Consult factory for more information.

# 520 Blower Package Dimensions



Model	Dimensions (inches)												Weight (lbs.)
	A	B	C	D	E	F	G	H	J	K	L	N	
522	2	10-1/8	39	40	30	29-13/16	62-7/8	10-1/8	35-1/2	10	11	34-13/16	1075
523	3	11-1/8	62-1/4	45-1/2	33-1/2	47-11/16	88-7/16	10-1/8	59-9/16	10	11	58-1/8	2050
524	4	13-1/8	57-3/4	50-1/2	33-1/2	51-11/16	87-9/16	10-1/8	60-9/16	10	11	60-7/16	2275
525	5	14-1/8	65-3/8	50-1/2	40	62-13/16	96-3/4	11-1/8	74-3/8	16	11	70-13/16	2900
526	6	15-1/8	71-13/16	55	40	72-3/4	105-3/4	11-5/8	85-13/16	16	17	85-1/2	3650
528	8	17-3/16	82	70	45	93-5/16	134-7/16	12-1/8	118	22-1/2	18	105-1/4	4300

NOTE: Dimensional information is specific to motor and blower combination selected. For actual dimensions, refer to Schenck Process drawing DO1918.



# 540 Blower Package

- Skid mounted pressure style blower package
- 5 standard models
- Available with line sizes ranging from 4" to 10"

The Schenck Process 540 Series of skid mounted pressure style blower packages provide a complete range of structural base packages to meet any need.

## Specifications

- Rotary positive displacement blower
- Galvanized carbon steel structural base
- Adjustable motor mounting base
- V-belt drive
- OSHA standard aluminum drive guard
- Pressure relief valve
- Check valve
- Liquid filled pressure gauge
- Chamber-absorptive type inlet and discharge silencers
- Inlet air filter
- Factory assembled with all interconnecting hardware
- All blowers are rated for 15 PSIG
- All blower volumes are based on standard inlet conditions (14.7 PSIA, 70 °F)



## Options

- Pressure switch (single or dual setpoint)
- Temperature switch
- Painted base
- Expansion joints
- Direct drive arrangement
- Tachometer
- Acoustically treated guard and silencers
- Vibration isolation
- Acoustically treated drive guard and silencers
- Acoustical enclosure
- If noise levels must be guaranteed at less than 90 dBa, a sound enclosure or acoustic treated components will be necessary
- Designed for your application – approval drawings provided at no charge when the order is placed

## 560 Blower Package

- Premium vacuum style blower package
- Equipped with intake filter, intake silencer and discharge silencer
- Available with line sizes ranging from 2" to 8"
- Chamber designed silencers for maximum noise reduction



### Application

The Schenck Process 560 Series of vacuum style blower packages are configured around the size and performance of the blower to optimize operation. There are 6 models in the series with line sizes ranging from 2" to 8". The silencers are premium grade chamber designed for maximum noise reduction. A wide variety of blowers manufactured by Roots, Sutorbilt and Duroflow are available with this package.

The 560 package with horizontal tabletop style base is generally available on units up through 125 HP. Larger units may require a skid style base arrangement. Consult the factory for more information.

### Specifications

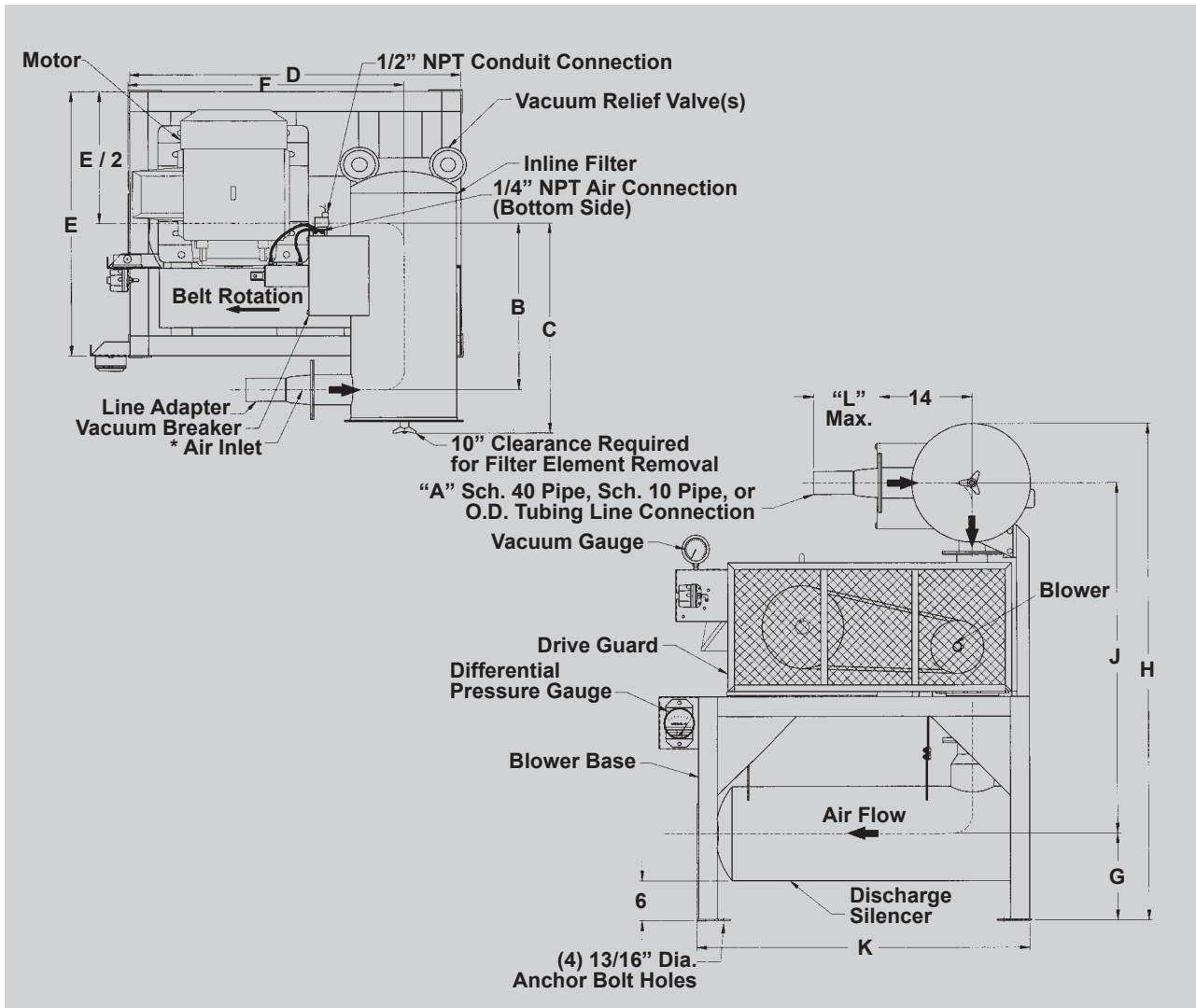
- Positive displacement blower
- Tabletop base (painted) sanitary design
- Adjustable motor base
- V-belt drive
- Belt guard
- Relief valve

- Inter-connecting hardware
- Discharge silencer (absorptive type)
- Combination inlet filter/vacuum breaker
- Vacuum gauge
- All blower volumes are based on standard inlet conditions (14.7 PSIA, 70 °F)
- Schenck Process white paint standard

### Options

- Vacuum switch (NEMA 4, NEMA 7/9 and dual settings available)
- Temperature gauge
- Temperature switch
- Galvanized base
- Expansion joints
- Tachometer
- Acoustically treated guard and silencers
- Vibration isolators
- If noise levels must be guaranteed at less than 90 dBa, a sound enclosure or acoustic treated components will be necessary. Consult factory for more information.

# 560 Blower Package Dimensions



Model	Dimensions (inches)											Weight (lbs.)
	A	B	C	D	E	F	G	H	J	K	L	
562	2	25-3/16	31-13/16	35	30	42	13-1/8	74-3/4	51-5/8	51	10-1/8	1025
563	3	25-3/16	31-13/16	45-1/2	33-1/2	42	13-1/8	73-3/16	50-1/16	50	10-1/8	1225
564	4	25-3/16	31-13/16	50-1/2	33-1/2	42	13-1/8	72-3/8	49-1/8	52-3/16	10-1/8	1625
565	5	25-3/16	31-13/16	50-1/2	40	53	14-1/8	74-5/16	50-3/16	64-1/2	11-1/8	1700
566	6	25-3/16	31-13/16	55	40	59	15-1/8	79-1/4	51-5/8	70-11/16	11-5/8	2325
568	8	36-7/16	43-1/16	65	45	83	17-3/16	90-5/16	63-1/8	94-3/4	12-1/8	3400

NOTE: Dimensional information is specific to motor and blower combination selected.  
For actual dimensions, refer to Schenck Process drawing DO1917.

## 580 Blower Package

- Vacuum style blower package
- 5 standard models
- Available with line sizes ranging from 4" to 10"



The Schenck Process 580 series of vacuum producing blower packages consists of 5 models. Matched with a variety of motor horsepower choices this package can meet virtually every gas flow and pressure combination.

### Specifications

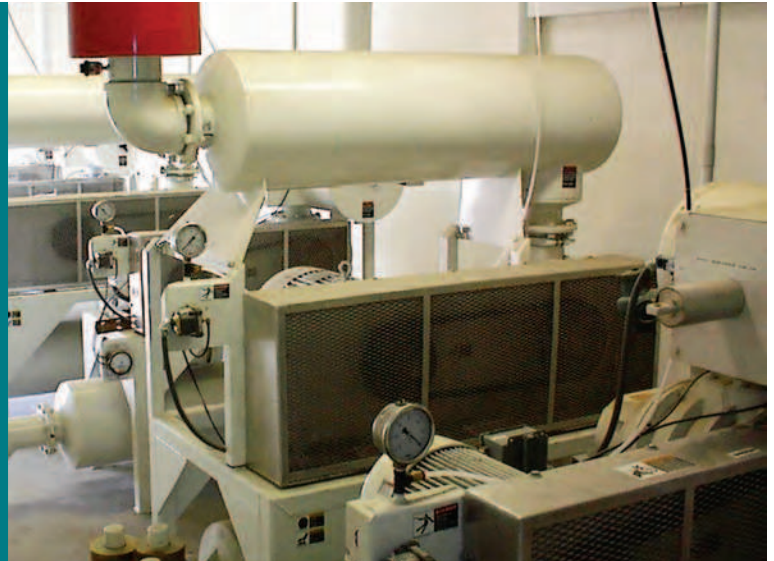
- Rotary positive displacement blower
- Galvanized steel structural base
- Adjustable motor mounting base
- V-belt drive
- OSHA standard aluminum drive guard
- Vacuum relief valve
- Discharge raincap
- Liquid filled vacuum gauge
- Chamber-absorptive type inlet and discharge silencers
- Factory assembled with all interconnecting hardware
- All blowers are rated for 15" Hg.
- All blower volumes are based on standard inlet conditions (14.7 PSIA, 70 °F)

### Options

- Vacuum switch (single or dual setpoint)
- Temperature switch
- Painted base
- Expansion joints
- Direct drive arrangement
- Tachometer
- Vibration isolation
- Acoustically treated drive guard and silencers
- Acoustical enclosure
- If noise levels must be guaranteed at less than 90 dBa, a sound enclosure or acoustic treated components will be necessary
- Designed for your application – approval drawings provided at no charge when the order is placed

## Blower Accessories

- Offering blower accessories to maintain ideal conditions in your pneumatic conveying system



### Blowers

Positive displacement (PD) blowers draw in air through an inlet and then against the system pressure forcing that trapped air out the outlet side. They deliver constant pressures for maximum reliability.



### Check Plates

Check plates are designed for protection of pneumatic air pumps to prevent conveyed material back flow into the pump in case of motor shutdown.

Check Plates are constructed of aluminum body and disc, Teflon seat, stainless steel shaft and screws. They can fit line sizes 2"-12".



# Blower Accessories

## Gauges, Switches and Transmitters

### Pressure and Vacuum Gauges

A broad line of liquid filled and dry instruments for demanding pressure and vacuum applications. STD liquid fill is glycerin. Silicon and mineral oils are available. Specify dial size and MTG mounting configuration when ordering.



Pressure Gauge

### Barksdale Limit Switches

Diaphragm switches are ideal for applications where pressure pulsations are less than 25 cycles per minute. Available in various pressure ranges up to 150 PSI, diaphragm switches are suitable for use in either positive pressure or vacuum applications.

### Temperature Switches

Temperature switches measure temperature of the blower.

### Wika Transmitters

Pressure transmitters measure the gauge, absolute and differential pressure. These instruments come supplied with standardized current or voltage output signals, interfaces and protocols for various fieldbuses.



Wika Transmitter

## Inline Air Cooler

Inline air coolers consist of a fabricated housing assembly with copper tube cooling coils, aluminum fins and galvanized casing. The units are non-code design for 14.0 PSIG and 15" HG based on maximum temperatures of 250 °F. Coolers are designed to cool 250 °F inlet air to a temperature of 120 °F at air discharge. An optional carbon steel or 204 stainless steel line tee with compression coupling can be provided to adapt the valve into the conveying line.





## Blower Accessories

### Inline Air Filter

Inline air filters have a 99+% removal efficiency to 10 micron. These filters are built to last from durable carbon steel with a baked enamel finish and feature interchangeable elements. Inline air filters can handle continuous temperatures from -15 °F to 220 °F.

Includes a dry type cartridge filter complete with housing stressed for 17" HG, stub pipe inlet and outlet with differential pressure gauge, removable gasketed top and bottom for service and legs for 6" of clearance.



### Intake Filter

The intake filter's fully drawn weatherhood contains no welds that could rust or vibrate apart. With a low velocity air gap between base and cover and a center bracket located for minimal flow restriction, these filters deliver worry free performance. Intake filters can handle continuous temperatures from -15 °F to 220 °F.



### AEON Oil

AEON positive displacement blower lubricants are synthetic hydrocarbon based lubricants that provide numerous advantages over mineral oils. With a service life 4 times longer than most mineral based fluids AEON reduces maintenance and disposal costs. a high flash point (460 °F) significantly minimizes fire hazards and AOEN is non-hazardous per OSHA and EPA guidelines. AEON PD lubricants are specially formulated for all environments and all applications. If your application requires a food-grade blend then we recommend AEON PDF-FG; authorized by the USDA as an H-1 lubricant suitable for incidental food contact.





# Blower Accessories

## Relief Valves

Pressure relief valves are designed to protect the blower against damage caused by operation at greater than design pressure or vacuum.

### Kunkle Valves

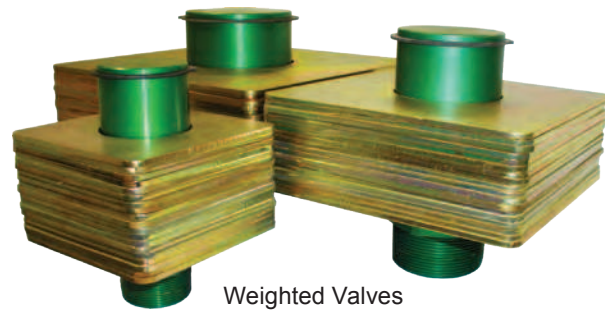
Iron safety valves with extra high capacity for industrial use. The kunkle valve is cast iron with a bronze nozzle, disc, and guide. A large seat and guide area ratio, along with disc pivot design insures top valve performance. Flat bronze valve seats are lapped for optimum performance.



Kunkle Valves

### Weighted Valves

Removable weights have been carefully designed to permit accurate pressure settings in ½ and 1 PSI increments; the weights are cut from uniform steel plate or uniformly cast to give accurate pressure adjustment. Available in 1" through 8" sizes. As the service line air pressure reaches the pressure setting, the weight loaded cap is forced upwards of the valve seat. As pressure increases, the cap rises to expose the discharge ports. The flow-through capacity of the valve is such that no damage can be caused to the blower or related systems. The valve automatically reseats itself as line pressure is reduced.

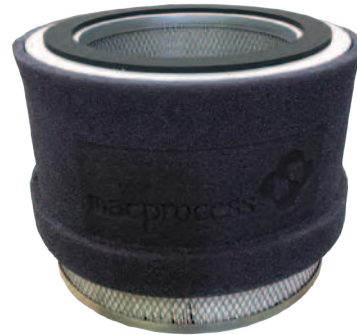


Weighted Valves

## Blower Accessories

### Replacement Filter Elements

Schenck Process offers a full line of polyester and paper replacement filter elements. End caps available in molded plastisol; closed one end with bolt hole, open on other end; galvanized metal end caps; and neoprene blended gasket on open end caps.



### Sound Enclosures

Constructed of high quality heavy gauge aluminum, our sound enclosures are corrosion resistant, strong and lightweight. They are designed for long lasting performance either inside or outside your plant. We offer a variety of models that meet current OSHA dBA regulations and will be customized to meet your specific application needs. The average sound enclosure provides a 20 dBA noise reduction.



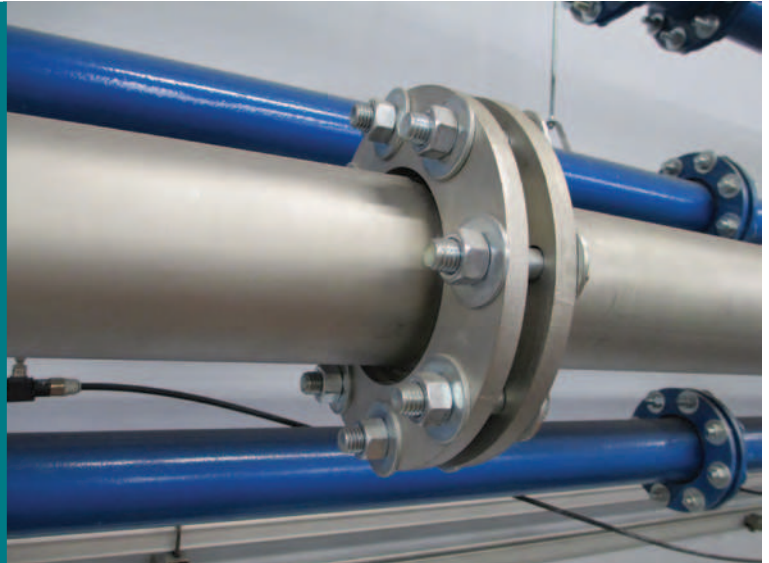
### Vacuum Breaker

Vacuum breakers are designed to protect the blower against damaged caused by vacuum pressure.



# Conveying Line Components

- Offering a wide variety of line components: tube, pipe, elbows, specialty fittings, flanges, couplings, hose, railcar accessories and more



## Abrasion Elbows

- Made of 12 ga. steel with 10 ga.
- Abrasion-resistant removable backs
- Also available in stainless steel

### Ceramic-Back Elbows

Ceramic-Back elbows have a jacket across the back of the core elbow, which is approximately 1/2" of ceramic compound. This compound has a MOH hardness of 9+, second only to diamonds which have a MOH hardness of 10. The ceramic jacket and core elbow are then wrapped with an exterior material to maintain the hoop strength.

### Porcelain-Lined Elbows

The Porcelain-Lined elbow made of carbon steel, is first heat treated and pickled. Next the elbow is dipped in an acid bath, which is followed by a nickel etching treatment. After a rust inhibitor is applied, the elbow is dipped in a porcelain glass solution. The elbow is then dried and the powdered coated elbow is placed in a furnace at 1,560 °F for 10 minutes. The result is 8-10 mils of porcelain coating. A double dip in the porcelain glass solution will result in a coating of 12-15 mils.



Ceramic-Back Elbow

# Conveying Line Components

## Abrasion Elbows

### Flatback Elbows

Flatback elbows designed to handle abrasive products, are an economical alternative to standard elbows. Instead of replacing the whole elbow, simply unbolt and replace the worn back.



\*Shown in blue, also available in white

Size	Dimensions (inches)				Weight (lbs.)		
	A	B	C	D	36"R	48"R	72"R
3	3	3	2.5	12	37	47	63
4	4	4	3.375	12	49	61	83
5	5	5	4.125	12	59	73	93
6	6	6	4.75	18	78	95	129
8	8	8	6.5	18	105	128	174
10	10	10	8	18	131	158	213
12	12	12	9.5	18	155	188	254
14	14	14	11.25	18	180	218	295

## Diamond EI Elbows

- Long sweep radius
- Diamond-hard ceramic tile lining (rating 9 on MOH scale)
- Made in common sizes and specifications

### User Benefits

- Abrasion resistant product contact surface
- Normal static loss
- No sacrifice in product conveying capacity or increases in horsepower
- Standard off-the-shelf product
- One centerline radius (36") with custom tangent lengths fits all line sweeps



Diamond EI Elbows are available with standard centerline radius of 36" (Dimension "R"). Other radii are available based on application.

An optional outlet extension tangent is available for each Diamond EI size. This extension tangent has Schenck Process' standard ceramic bricks and is used for extremely abrasive applications. Just ask for the Diamond EI II configuration.

Standard Size OD	Dimensions (inches)			
	A	B	C	D
3	4	2.5	36	21
3.5	4	3	36	21
4	4	4	36	21
4.5	6	3	36	21
5	6	4	36	21
5.5	6	4.5	36	21
6	6	5	36	21
6.62	6	5	36	21

# Conveying Line Components

## Bulk Commodity Hose

This hose is recommended for transfer of bulk materials via suction, gravity or pneumatic systems where abrasion resistance is the primary requirement. General applications include: dry cement, sand, gravel, feed, sand, slurries, etc.

Tubing is type D (SBR), abrasion resistant and static conductive. The standard thickness is .19" (is also available in .38"). Its wire reinforcement allows suction; static wire built-in is available on special order. The Bulk Master™ Plus includes standard plain ends standard; enlarged or straight ends available on special order.



### 30 Specifications (.19" tube)

I.D. (inches)	Piles	O.D. Str. Ends (inches)	I.D. Enl. Ends (inches)	O.D. Enl. Ends (inches)	Suction (inches HG)	Rated W.P. (PSI)	Min. Bend Radius (inches)	Weight Per Ft. (lbs.)
2	2	2.78	2.38	3.16	30	60	16	1.6
2.5	2	3.28	2.88	3.66	30	60	20	1.9
2.75	2	3.53	---	---	30	60	22	2.1
3	2	3.78	3.50	4.28	30	60	24	2.4
4	2	4.86	4.50	5.36	30	45	32	3.5
4.5	2	5.36	5.00	5.86	30	40	36	3.9
5	2	5.98	5.56	6.54	30	40	40	4.2
5.5	2	6.47	---	---	30	40	44	4.6
6	2	6.96	6.62	7.60	30	40	48	5.0
6.63	2	7.68	---	---	30	35	53	6.3
7	2	8.06	7.62	8.68	30	35	56	6.7
8	2	9.06	8.62	9.68	30	35	64	7.5
8.63	2	9.68	---	---	30	30	70	8.1
9	2	10.06	---	---	30	30	72	8.4
10	2	11.10	10.75	11.85	30	25	80	10.7
10.75	2	11.85	---	---	30	20	86	11.4
11	2	12.10	---	---	30	20	88	11.7
11.25	2	12.35	---	---	30	20	90	11.9
12	2	13.10	12.75	13.85	30	20	96	12.7
12.75	2	13.85	---	---	30	15	102	13.5

# Conveying Line Components

## Bulk Commodity Hose

This hose is recommended for transfer of bulk food products via suction, pneumatic, or gravity systems where sanitary, nontaste tube stock is required. General applications include: flour, sugar, syrup, edible grains, etc. (Not recommended for vinegar, mustard or other compounds containing acetic acid).

Tubing is type D2 food grade natural rubber and meets FDA requirements. Standard thickness is .19".



I.D. (inches)	Piles	O.D. (inches)	Suction (inches HG)	Rated W.P. (PSI)	Min. Bend Radius (inches)	Weight Per Ft. (lbs.)
1.5	2	2.47	30	150	10	1.3
1.75	2	2.72	30	150	11	1.5
2	2	2.99	30	150	12	1.8
2.38	2	3.36	30	125	14	2.0
2.5	2	3.49	30	125	15	2.1
3	2	4.01	30	100	18	2.5
3.5	2	4.51	30	85	21	2.9
4	2	5.01	30	75	24	3.3
4.5	2	5.51	30	60	27	3.6
5	2	6.01	12	55	30	4.0
6	2	7.05	12	50	36	6.2
6.62	2	7.68	12	35	40	6.8
7	2	8.08	12	35	42	7.8
8	2	9.08	12	30	48	8.9
8.62	2	9.71	12	30	52	9.4
10	2	11.17	12	25	60	10.3
12	2	13.17	12	25	72	12.3
14	2	15.17	12	15	84	14.2



# Conveying Line Components

## Cam and Groove Couplings

- Eight standard couplings pictured
- Swivel, reducing and special couplings available
- Materials of construction vary
- Sizes 5" and 8"-12" are not industry interchangeable

 <p>Part A Male Adapters - Female Thread</p>	 <p>Part B Female Couplers - Male Thread</p>	<p>Sizes</p> <p>0.50"</p> <p>0.75"</p> <p>1.00"</p> <p>1.25"</p> <p>1.50"</p> <p>2.00"</p> <p>2.50"</p> <p>3.00"</p> <p>4.00"</p> <p>5.00"</p> <p>6.00"</p>
 <p>Part C Female Couplers - Hose Shank</p>	 <p>Part D Female Couplers - Female Thread</p>	 <p>Part E Male Adapters - Hose Shank</p>
 <p>Part F Male Adapters - Male Thread</p>	 <p>Dust Plug For Use with Couplers</p>	 <p>Dust Cap For Use with Adapters</p>



# Conveying Line Components

## Couplings

Schenck Process compression couplings provide an economical means of connecting pipe and tubing. They offer low initial cost, plus reduce installation time and expense. In joining O.D.'s from 1.5" to 14", Schenck Process couplings ensure fast, positive connections in pressure and vacuum piping systems and in conduit for electrical lines.

### Line Support Couplings

- Extra holding power
- Kits available to convert existing couplings

### Tool-Less Compression Couplings

- Wing-nut clamps
- 100% stainless steel
- Silicone and FDA-approved gaskets available

### Line Couplings

Line couplings (LC series) are designed for joining two lengths of piping in a straight run and can be used interchangeably for connecting with conveying or air piping. Line couplings are available for 2", 3", 4", 5", 6", 8", 10" and 12" pipe as well as 3" and 5" O.D. tubing.

### Style 99 Roust-A-Bout

Designed for heavy duty service, curved jays of case hardened, electroplated carbon steel engage into the pipe.



Line Support Coupling



Tool-Less Compression Coupling



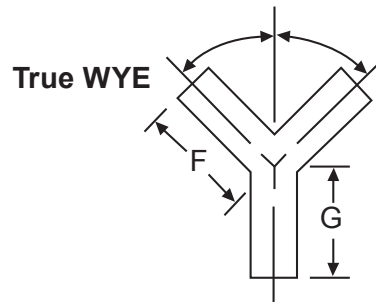
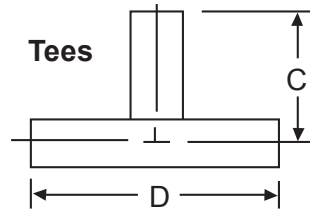
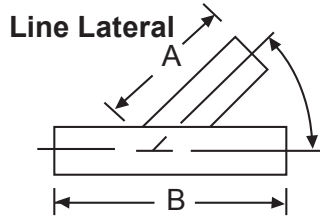
Line Coupling



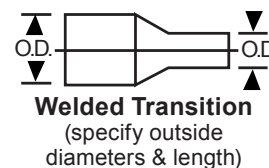
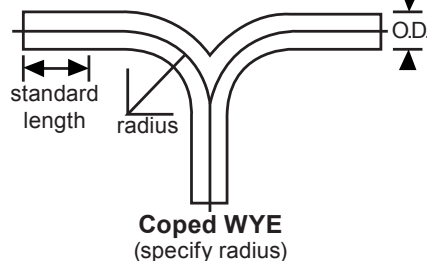
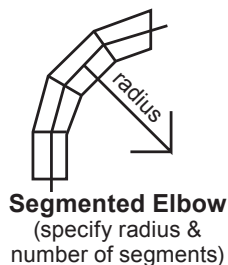
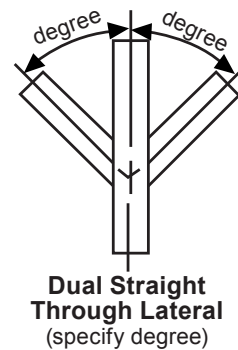
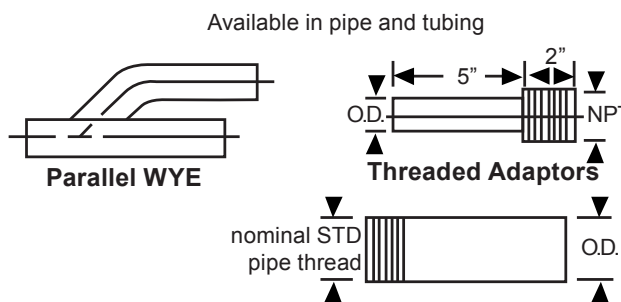
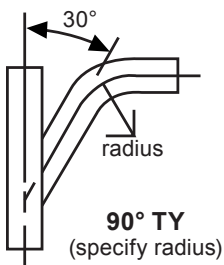
Style 99 Roust-A-Bout

# Conveying Line Components

## Fabricated Fittings



Size	Line Lateral				Tees				True WYE					
	30°		45°		60°				30°		45°		60°	
	A	B	A	B	A	B	D	C	F	G	F	G	F	G
1-1/2	10	16	10	16	8	14	12	6	8	8	8	8	8	8
1-3/4	10	16	10	16	8	14	12	6	8	8	8	8	8	8
2	10	16	10	16	8	14	12	6	8	8	8	8	8	8
2-1/4	10	16	10	16	8	14	12	6	8	8	8	8	8	8
2-1/2	12	18	10	16	8	16	16	8	10	10	10	10	10	10
3	12	18	10	16	8	16	16	8	10	10	10	10	10	10
3-1/2	16	24	12	24	12	24	16	8	10	10	10	10	10	10
4	16	24	12	24	12	24	16	8	10	10	10	10	10	10
4-1/2	18	24	16	24	16	24	18	10	12	12	12	12	12	12
5	18	30	18	24	18	24	18	10	12	12	12	12	12	12
6	24	36	20	30	20	30	18	12	14	14	14	14	14	14
8	28	36	18	36	18	36	24	14	18	18	18	18	18	18

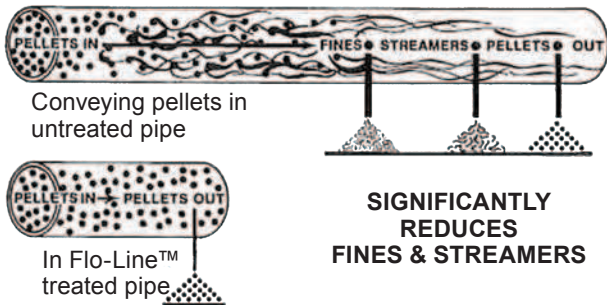


Order fabricated fittings by O.D., type of metal, wall thickness, radius and/or degree as applicable. Belled and special end configurations available upon request. Offsets are available.

# Conveying Line Components

## Flo-Line™ Pipe Treatment

Flo-Line™ internal finish is a patented, technologically advanced pipe treatment process that has been proven in both laboratory testing and field use to significantly reduce the formation of fines and streamers. The Flo-Line™ finish consists of a directional roughness applied by a proprietary shot peening process. The finish is consistent and covers 100% of the internal surface of the pipe. The impact of the round shot compresses and flows the surface to produce a form of cratered roughness. A side benefit to the treatment process is work hardening of the surface – by as much as 20% on aluminum. Treatment life can be improved by applying a hard anodic coating to treated aluminum or by applying one of many surface hardening processes to stainless or carbon steel pipe. Flo-Line™ treated pipe is cleaned, checked, labeled for flow direction, and then capped with water- and rust-proof covers prior to shipment.



## Heavy Duty Fittings

Made of cast ductile iron, Schenck Process corner fittings are available in 30°, 45°, 60° or 90° configurations. Corner fittings cause conveyed material to impinge against material already trapped in the fitting recess rather than against the fitting wall itself. This reduces wear and slows degradation of the conveyed material.

Corner fittings can be used with either abrasive or non-abrasive materials. The pipe plug is a feature of the 90° fitting. This option allows for additional air to be supplied to the system.



# Conveying Line Components

## Interlocked Bore Lined Hose

Unlined interlock hose is a very economical hose made from either galvanized or stainless steel. Its interlocked construction permits excellent flexibility as well as strength. Smooth bore lined interlock hose combines less friction, less energy and greater flexibility. Its normal configuration is in an unlined state. However, upon request, unlined interlocked hose can be packed to minimize leakage.



Inside Diameter (inches)	UF_15_G,S/C,S,4		UF_18_G,S,6/C,S,4		UF_25_G,S/G,S		UF_20_A/C,S	
	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)	Wt. Per Ft. (lbs.)	Min. Bend Radius (inches)
1.5	1.2	7	1.3	8	---	---	---	---
2	1.6	9	1.7	10	---	---	---	---
2.5	1.9	11	2.2	12	---	---	---	---
3	2.3	13	2.6	14	3.2	18	1.6	18
3.5	2.6	15	3.0	16	3.7	21	1.8	21
4	3.0	17	3.4	18	4.2	23	2.1	23
4.5	3.4	19	3.8	21	4.	26	2.3	26
5	3.7	21	4.2	23	5.2	29	2.6	29
6	4.5	25	5.0	27	6.2	34	3.1	34
7	5.2	29	5.8	32	7.2	40	3.6	40
8	5.9	33	6.6	36	8.2	45	4.1	45
9	6.6	37	7.4	40	9.2	51	4.6	51
10	7.4	40	8.2	45	10.2	56	5.1	56
11	---	---	9.0	49	11.2	62	5.6	62
12	---	---	9.8	53	12.2	67	6.1	67
13	---	---	10.6	58	13.2	73	6.6	7.
14	---	---	11.4	62	14.2	78	7.1	78
15	---	---	2.2	66	15.2	84	7.6	84
16	---	---	13.1	71	16.2	89	8.1	89

Armor Materials  
A = Aluminum  
G = Galvanized Steel  
S = T304 Stainless Steel  
6 = T316 Stainless Steel

Armor Strip  
15 = Light Weight  
18 = Medium Weight  
20 = Light Heavy Weight  
25 = Heavy Weight

Liner Materials  
S = T301 Stainless Steel  
4 = T410 Stainless Steel  
C = Carbon Steel

Other diameters are available on request. For packed hose, add 10% to both weight per foot and minimum bend radius. Minimum bend radius is measured from the center line of the hose.

### Packing Options

Packing is a continuous filament inserted into a packing groove. It is placed during manufacture and lies within the interlock where it cannot contaminate the product within the hose. (Recommended for pressure systems only). Minor contamination can be tolerated in the transfer of many dry bulk materials. But plastics and foods cannot tolerate contamination. When cleanliness of product is imperative, always choose hose with a stainless steel liner. FDA considers it non-contaminating.

Packing Type	Features	Temp. Ability
Cotton	Lowest cost packing	180 °F
Elastomeric	Used to provide the maximum pressure/vacuum resistance	180 °F
High Temp. Fiber	Coated high temperature filament	1000 °F
Hard Packing (Copper, Stainless)	For extremely high temperature	200 °F

Steel Type	Temp. Ability	Fabrication	Temp. Ability
Stainless Steel	175 °F	Welding	1200 °F
Carbon Steel	850 °F	Brazing	700 °F
Galvanized Zinc	450 °F	Epoxy	250 °F

# Conveying Line Components

## No-Ledge Line Coupling

### Application

The Schenck Process No-Ledge coupling is designed for food and light industry conveying of fragile materials or materials requiring a high degree of sanitation. It can also be used for systems where color-changeouts are common; or for hazardous or inert materials where piping connections must maintain a positive seal.

### Equipment

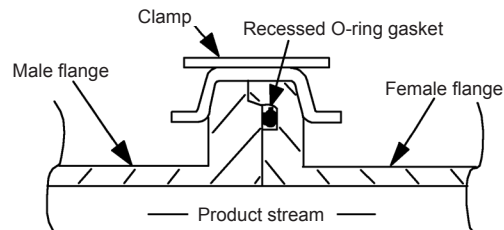
Unlike a compression coupling, which can have frequent pipe misalignment during installation, the Schenck Process No-Ledge coupling delivers a machined tolerance joint. This ensures proper alignment and creates a ledge-free interior environment on connection points. As a result, friction and crevices which catch product and cause fines are greatly reduced.

O-rings located in the product stream can eventually abrade away and expose a sharp metal edge, increasing the risk of contamination. The No-Ledge coupling offers a recessed O-ring gasket that delivers a smooth transition through a positive sealing metal-to-metal joint. This eliminates gasket contact with the product stream – a critical improvement in sanitary piping system design.

### Operating principle

Available with a single T-handle or nut, or backing flanges that tightens the clamp around the male and female flanges. The clamp presses the face of the male and female flanges together by way of a bevel on the edge of each flange compressing the O-ring creating an air tight seal.

When inspection or cleaning is required, simply loosen the single T-handle or nut and pull the piping apart. The clamp does not need to be removed, due to a slotted quick release latch with a hinge that releases the T-bolt quick access.



# Conveying Line Components

## Pellbow®

- Compact and easy to install
- 100% self-cleaning
- Reduced noise level
- Minimized pressure drop
- No rotation – no friction

The Pellbow® Resists Wear — Naturally. In traditional long radius elbow installations, the conveyed product drags along the outside elbow wall at a high velocity. Heat and friction create streamers, dust and wear in the elbow.

By design, material flowing through the Pellbow® accumulates in the pocket or “impact zone” and moves gently upward and then out of the Pellbow®. Incoming material is deflected 90° with minimum resistance and no damage from impact.

All sizes are available in aluminum and stainless steel and select sizes in cast ductile iron.

- Abrasive resistant alloy versions are available for heavy duty applications
- Stub end version for compression coupling connection is available for tube and pipe
- Loose flanges available in aluminum and stainless steel
- Special designs and fittings are available upon request





# Conveying Line Components

## Probe Boxes

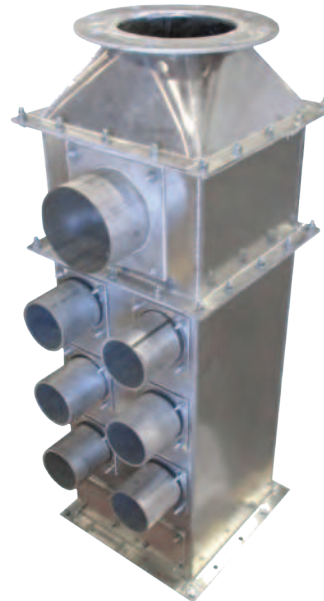
- Single probe box accepts one probe of any standard size
- Dual probe box accepts up to two probes of any standard size (specify if bottom plate is required when ordering)
- Dual probe box extension accepts up to two probes of any standard size and has a flanged, open bottom designed for mounting on top of any other standard Schenck Process probe box
- Quad probe box accepts up to four probes of any standard size

### Options

- 0.125 aluminum box or 304 stainless steel
- Probes available:
  - 2" O.D. tube, 14 ga.
  - 2.5", 3", 4" and 5" O.D. tube, 11 ga.
  - 2" and 2.5" pipe, sch. 10
- Flocked screen air inlet
- Air adjustment sleeve

### Features

- All probes fit on all probe boxes
- Flange details are identical for all models of take-out boxes
- All aluminum parts - cleaned and degreased. No paint.



Probe Box



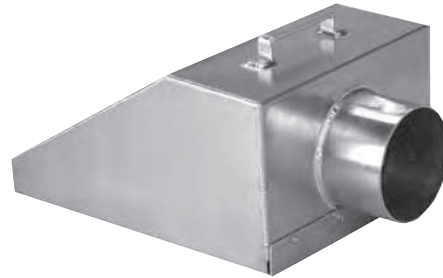
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# Conveying Line Components

## Railcar Accessories

### Air Inlet

The air inlet filter is a ruggedly built aluminum accessory designed to fit most standard railroad hopper cars having 6" pneumatic outlets or in combination with adapter units. The air inlet slips on the air intake side to ensure that incoming air is free of ambient contamination.



Air Inlet

### Adapter

The adapter is used on railcars with pneumatic outlets in a special type slip adapter with thumb-screw holds and quick connecting Kamlok fitting. The adapters are ready to attach to ACF, Nacomatic and GATX Dri-Flo Chemical for pneumatic conveying systems. Aluminum construction and 4" – 6" sizes available.



Adapter

### Hatch Filter

The hatch filter, composed of a special lightweight media, is used as an air inlet for a 20" diameter top opening on closed hopper cars or trucks to permit clean incoming displacement air. The housing is furnished with brackets for lugging down with dome clamps.



Hatch Filter

### Vacuum Pick-Up Pan

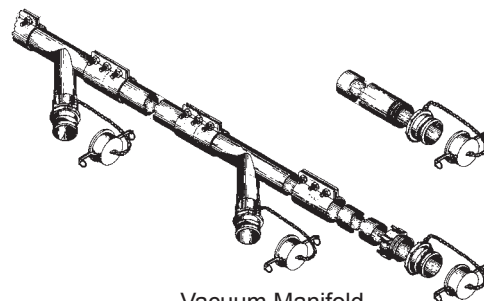
The railcar vacuum pick-up pan serves as an unloader connect with air slide dry flow and railcar with 13" x 42" enterprise outlets. Available for free air inlet and air inlet damper (GATX car) situations. 4" -6" sizes available. Also available in a 3" railcar outlet probe and 2" – 6" railcar loading nozzle with distribution arm and Type A quick coupler.



Vacuum Pick-Up Pan

### Vacuum Manifold

The vacuum manifold package includes tubing or pipe, formed elbows, line "Y", compression couplings, stainless steel flexible hose with quick couplings, male-threaded adapter, aluminum FPT to male coupler and a dust cap with safety chain.



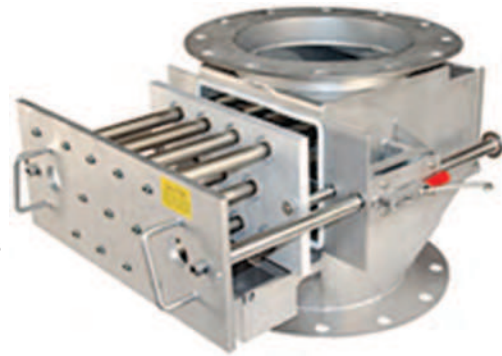
Vacuum Manifold

# Conveying Line Components

## Separation Magnets

### Clean Flow™ Drawer-In-Housing Magnet

- Recommended for the plastics industry to ensure a pure product flow and protect machinery
- Reduces downtime
- Cast in three sizes
- Available options: purging spout, dump tube, slide gate and NPT plugs



Clean Flow™ Drawer-In-Housing Magnet

### EZ Clean Drawer-In-Housing

- Removes ferrous tramp metal from dry, bulk products in a gravity fed system
- Available in standard and custom sizes, this extremely powerful magnetic separator can remove very fine ferrous material
- Cleaning is made easy by simply pulling the magnetic drawer through the stripper seals, allowing collected tramp metal to fall free of the magnets

### Vacuum 4JIT

- Provides machinery protection and product purification for Just-In-Time material systems in the plastics industry
- Captures ferrous tramp metal from pellets that could cause expensive damage to processing equipment
- Available from 1.5" to 2.5 " line sizes



Vacuum 4JIT

### Exposed Pole (E.P.) Tube Magnet

- Used in pneumatic systems to control ferrous tramp metal in the lines
- Used where product lumping or larger physical size of a product is evident
- Located outside the assembly and does not restrict flow of product
- Ideal for receiving areas
- Available in most standard line sizes
- Single probe box accepts one probe of any standard size

### Bullet™ Magnet

- Bullet™ Magnets can be used anywhere in a pneumatic system to remove tramp metal in receiving areas or ahead of process equipment
- The straight-through flow of the Bullet™ Magnet allows tramp metal to be removed from the line with negligible line pressure loss. The tramp metal is captured and remains on the magnetic poles
- Bullet™ Magnets are available in a variety of sizes and can be mounted in any position or angle
- A lexan window, built into the removable cover, enables plant personnel to observe pneumatic flow and tramp metal collection during operation
- It has a magnetic loss approximately .5 of 1 percent per 100 years



Bullet™ Magnet

# Conveying Line Components

## Sight Glass

- Available in carbon steel, stainless steel and aluminum
- Sight glass: cast acrylic resin
- All pipe sizes available; schedule 40, 55 or 10
- 11 ga. wall: 14 & 16 available upon request
- Air-tight seal
- Easy installation
- Grounding strip eliminates buildup of static electricity

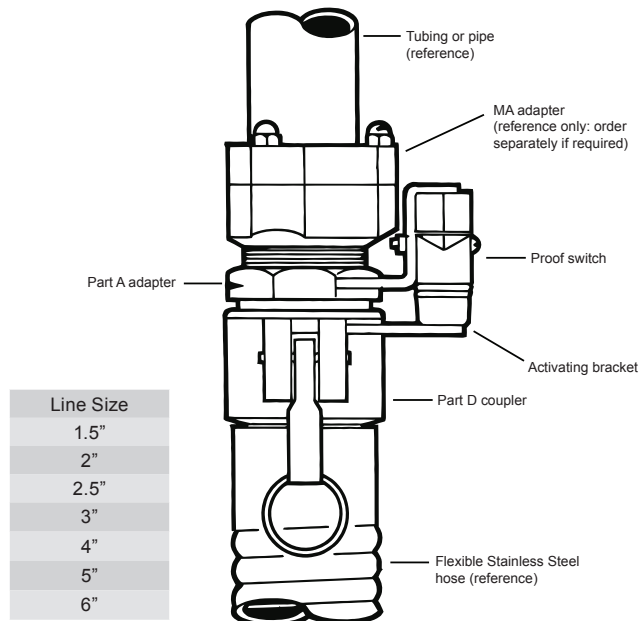
In-line sight glass gives you a good, clear look at the material flowing in your bulk conveying system. The precise alignment of the clear acrylic and metal tubing provides a smooth “straight-thru” interior to prevent turbulence.

Prices of special sized and materials, including Pyrex sighting section, available on request.



## Switch Assembly

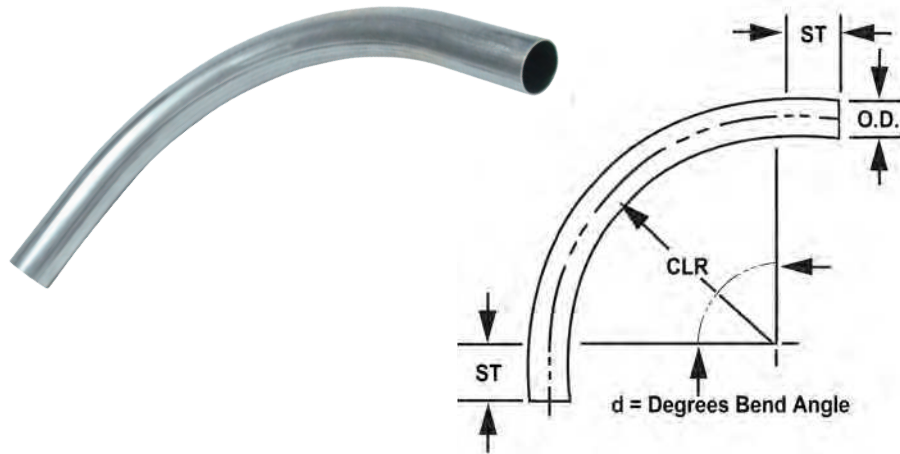
- Part A adaptor
- Mounting and activating brackets
- Position proof switch – standard enclosure SPDT
- Part D coupler



# Line Components

## Standard Formed Elbows

Pipe and tube bends of up to 180 degrees are readily available in aluminum, stainless, carbon steel and galvanized in the sizes listed below. Other centerline radii are available but not shown. Special shapes, "U" bends, offsets, and bifurcated bends available upon request.



**Order Bends:** By O.D., wall thickness, alloy, degree of bend, centerline radius and tangent.

**Wall Thickness:** 16 ga. (.063), 14 ga. (.083), and 11 ga. (.120) in tubing. Schedules 5, 10 and 40 pipe. Other wall thicknesses on request.

**Materials:** Aluminum is 6063-T1 extruded. Stainless is T304 ASTM A312 for pipe and T304 ASTM A249 for tubing. Carbon steel ASTM A53 for pipe; A513 for tubing. Galvanized A53 for galvanized-coated pipe and A513 for galvanized-coated tubing. Aluminized tubing is ASTM A787.

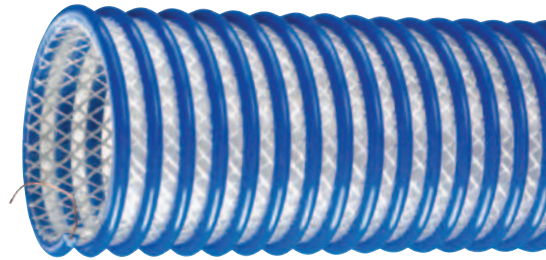
**Tube Bending Capabilities**

Tube Size	Pipe Size	Outside Diameter		Common Centerline Radii (CLR) (inches)	Std. Tangent (ST)
		Inches	Millimeters		
1"		1.0	25.4	3, 4, 6, 12	4"
	1"	1.315	33.4	3, 5	4"
1-1/4"		1.25	31.8	3, 7.25	4"
	1-1/4"	1.660	42.2	3.5, 4, 6.25	4"
1-1/2"		1.5	38.1	2.5, 6, 7.5, 9, 12, 15, 18, 24, 30, 36	4"
1-3/4"		1.75	44.5	2.5, 8, 9, 12, 15, 24, 30, 36, 48	4"
	1-1/2"	1.9	48.3	5, 6, 7.5, 9, 10, 12, 18, 24, 30, 36, 48	4"
2"		2.0	50.8	2.5, 3, 3.5, 4, 5, 6, 8, 8.5, 9, 10, 12, 15, 18, 24, 30, 36, 48	4"
2-1/8"		2.125	54.0	3, 5, 12, 24, 30, 36	4-1/2"
2-1/4"		2.25	57.2	3, 9, 12, 15, 17, 24, 30, 36	4-1/2"
	2"	2.375	60.2	6, 7.5, 10, 12, 15, 17, 24, 30, 36, 48	4"
2-1/2"		2.5	63.5	4, 6, 9, 12, 15, 17, 24, 30, 36, 48	5"
2-3/4"		2.75	69.9	2.75, 4, 17, 30, 36, 48	5-1/2"
	2-1/2"	2.875	73.0	12, 12.5, 15, 17, 24, 30, 36, 60	5"
3"		3.0	76.2	4, 4.5, 7.5, 9, 10, 12, 15, 18, 24, 30, 36, 48, 60	6"
3-1/4"		3.25	82.6	17, 30, 36	6-1/2"
3-1/2"	3"	3.5	88.9	3.5, 4.5, 6, 8.75, 12, 15, 16, 18, 24, 30, 36, 48	7" (6" - pipe)
3-3/4"		3.75	95.3	17, 24, 32, 36	7-1/2"
4"	3-1/2"	4.0	101.6	4, 5, 6, 7.75, 10, 12, 16, 18, 20, 24, 30, 32, 36, 48, 60	8" (7" - pipe)
4-1/4"		4.25	107.9	16, 30, 36, 48, 60	8-1/2"
4-1/2"	4"	4.5	114.3	6, 9, 12, 16, 18, 20, 24, 30, 32, 36, 48, 60	9" (8" - pipe)
4-3/4"		4.75	120.7	36	9-1/2"
5"		5.0	127.0	5.5, 7.5, 12.5, 17, 22, 30, 36, 42, 48, 60	10"
	5"	5.563	141.3	15, 20, 24, 30, 36, 42, 48, 60, 72	10"
5-1/2"		5.5	139.7	30, 36	11"
6"		6.0	152.4	9, 15, 18, 24, 30, 36, 42, 48, 60, 72	12"
	6"	6.625	168.2	18, 24, 30, 36, 42, 48, 60, 72	12"
8"		8.0	203.2	12, 20, 32, 48, 60, 72	16"
	8"	8.625	219.1	24, 32, 40, 42, 48, 60, 72	16"
	10"	10.75	273.1	40, 48, 50	20"

# Conveying Line Components

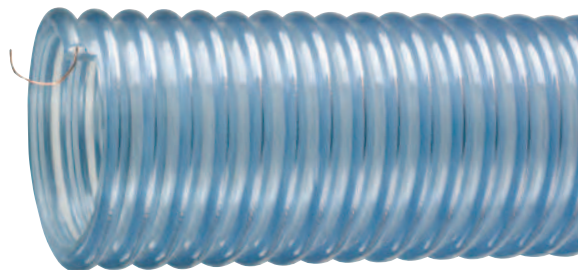
## Tigerflex 2001® Hose

The Tigerflex 2001® is a polyurethane-lined PVC food grade material handling hose with embedded static wire. The smooth polyurethane liner reduces material build-up, provides high abrasion resistance and quiet operation and is food grade, complying with FDA and USDA requirements. The embedded static wire prevents the build-up of static electricity and helps keep material flowing smoothly. A clear cover and translucent liner allows visual confirmation that material is flowing freely. Service temperature range of -4 °F to 150 °F.



## Tigerflex 2020® Hose

The Tigerflex 2020® is reinforced polyurethane-lined material handling hose with embedded static wire. Smooth bore construction reduces material build-up and provides high abrasion resistance and quiet operation. Polyester fabric reinforcement provides increase ability to withstand positive pressures. The exposed blue rigid PVC helix is abrasion-resistant, allows the hose to slide easily and is easier to handle. The embedded static wire prevents the build-up of static electricity and helps keep material flowing smoothly. The food grade polyurethane liner complies with FDA and USDA requirements. Service temperature range of -4 °F to 150 °F.



## Tigerclamp™

The Tigerclamp™ has spiral double bolt clams designed for use on Tigerflex® hoses with convoluted cover (counter-clockwise spiral only). These strong clams have a threaded protective cap that helps prevent inquiry. For adequate holding power, a single clamp may be used on each end for 1.5"- 4" I.D. hose. Two clamps are recommended for each end on 5" I.D. hose or larger. Proper evaluation of holding power for clams must be mined for each individual installation.





# Conveying Line Components

## Tigerflex® Series 'WE' Hose

The Tigerflex® Series 'WE' Hose is a PVC, food grade material handling, vacuum and transfer hose with embedded static wire for grounding. Designed with a convoluted cover for increased flexibility and a smooth bore to eliminate material build-up. PVC compound complies with applicable FDA requirements. Service temperatures for static condition range from -4 °F to 150 °F and for dynamic condition range from 14 °F to 104 °F.

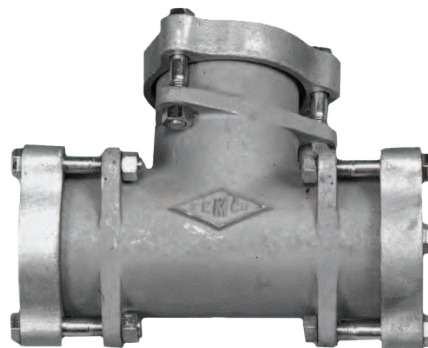


Series	Part #	I.D. (inches)	O.D. (inches)	Working Pressure (PSI)		Vacuum Rating (in. HG)		Min. Bend Rad. (inches) @ 68 °F	Clamp Required	Max. Length (ft.)	Approx. Weight (lbs./100 ft.)
				68 °F	104 °F	68 °F	104 °F				
WE-150	141925	1.5	1.83	50	25	28	28	5	---	60	49
WE-200	141852	2	2.40	40	20	28	24	4	102756	60	58
WE-250	141895	2.5	2.99	40	20	28	24	5	332542	60	88
WE-300	141941	3	3.64	40	20	28	24	6	345938	60	125
WE-400	141976	4	4.72	35	18	24	20	10	332615	60	192
WE-500	142000	5	5.75	30	15	24	20	16	320218	60	253
WE-600	142034	6	6.81	30	15	24	20	18	103212	60	320

## Tees

### Line Tees

The Line Tee (LT series) is used in any application where an airtight connection of air piping is required.



# Conveying Line Components

## Vacuum Products

### Vacuum Tubing and Fittings

Schenck Process can provide you with a complete line of tubular components for your vacuum cleaning system. Tubing and fittings, stocked in a variety of materials, are manufactured to exacting standards.



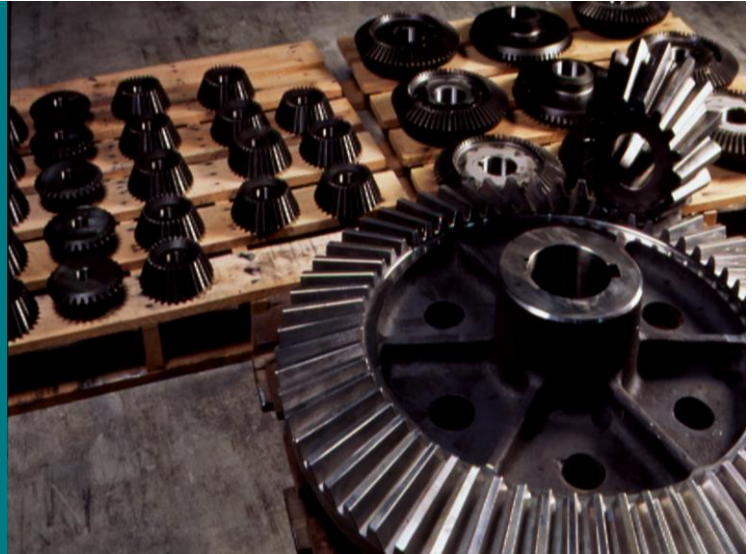
### Vacuum Hose and Tools

Schenck Process supplies a variety of industrial vacuum hose tools and accessories, ranging from hose, tool holders, hangers and other tool kits.



# Raymond® OEM Replacement Parts

- On-time delivery
- Inventory management program
- OEM reliability
- Customer confidence



Nobody knows Raymond® equipment like we do. We maintain a database by serial numbers of the original specifications for every piece of equipment we have sold. You can feel confident that the OEM replacement part you order will meet your specifications.

## On-time delivery

The majority of our customers insist on OEM replacement parts as standard policy, so we keep a large inventory on hand and ready to ship. Our goal is to ship your stock part order within two days after order receipt. Emergency orders with same day shipping are also available for stock items. Customer service is our top priority; we are committed to ship our parts on time, every time.

## Inventory management program

Our warehouse inventory is monitored by an automated system that triggers reorder points to assure adequate stock levels. We maintain a supply of most wear parts such as grinding rolls, bull rings, plow tips, liners, hammers, whizzer blades, and feed rolls, as well as bushings and bearings. We also stock many non-wear parts including journal heads and housings, complete journal assemblies, shafts, spiders, plow supports, drive mechanisms, gears and pinions.

## OEM reliability

It's always a good idea to buy genuine OEM parts so you know you are getting a quality part. We have the original manufacturing drawings that show exact metal compositions, fit tolerance, lubrication and other important details. Parts are continually reviewed to implement design improvements while maintaining compatibility with your original equipment.

## Customer confidence

We have the solution for all your replacement parts needs and can provide solid OEM answers. You'll have fewer problems, less downtime, and higher productivity when staying with the supplier of the original equipment.



# Raymond® OEM Replacement Parts

## **Wear parts**

Mill and classifier wear parts cover a broad range of individual components, metallurgies and manufacturing processes.

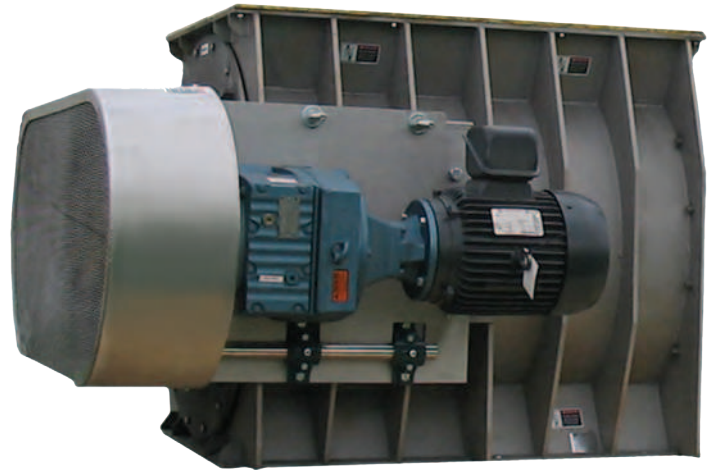
We have an ongoing product improvement program on wear parts metallurgies and designs to provide up to date compositions and manufacturing techniques. You need to have more than one standard choice in wear parts and we make that possible. Depending on your specific application, you will be able to optimize material wear rates and costs to ensure the best combination for your operation.

## **Non-wear parts**

Many equipment replacement parts fall into the non-wear category. These range from small machined components such as journal heads to large machined mill bases. A number of these items are forged and casted specifically for us by specialty manufacturers who keep a master set of our specifications to guarantee that proper manufacturing has been met.

# Convey Heavy Duty (CHD) Airlock

- Capacities up to 20 cu. ft. / revolution
- Available in carbon steel or 304 stainless steel construction
- 30x28 endplates are fabricated, 36x32 and 36x44 are cast
- Maximum differential operating pressure of 10 psig



## Application

The CHD is often used in the ethanol, grain and pet food industries where high convey rates at low pressures are required.

## Equipment

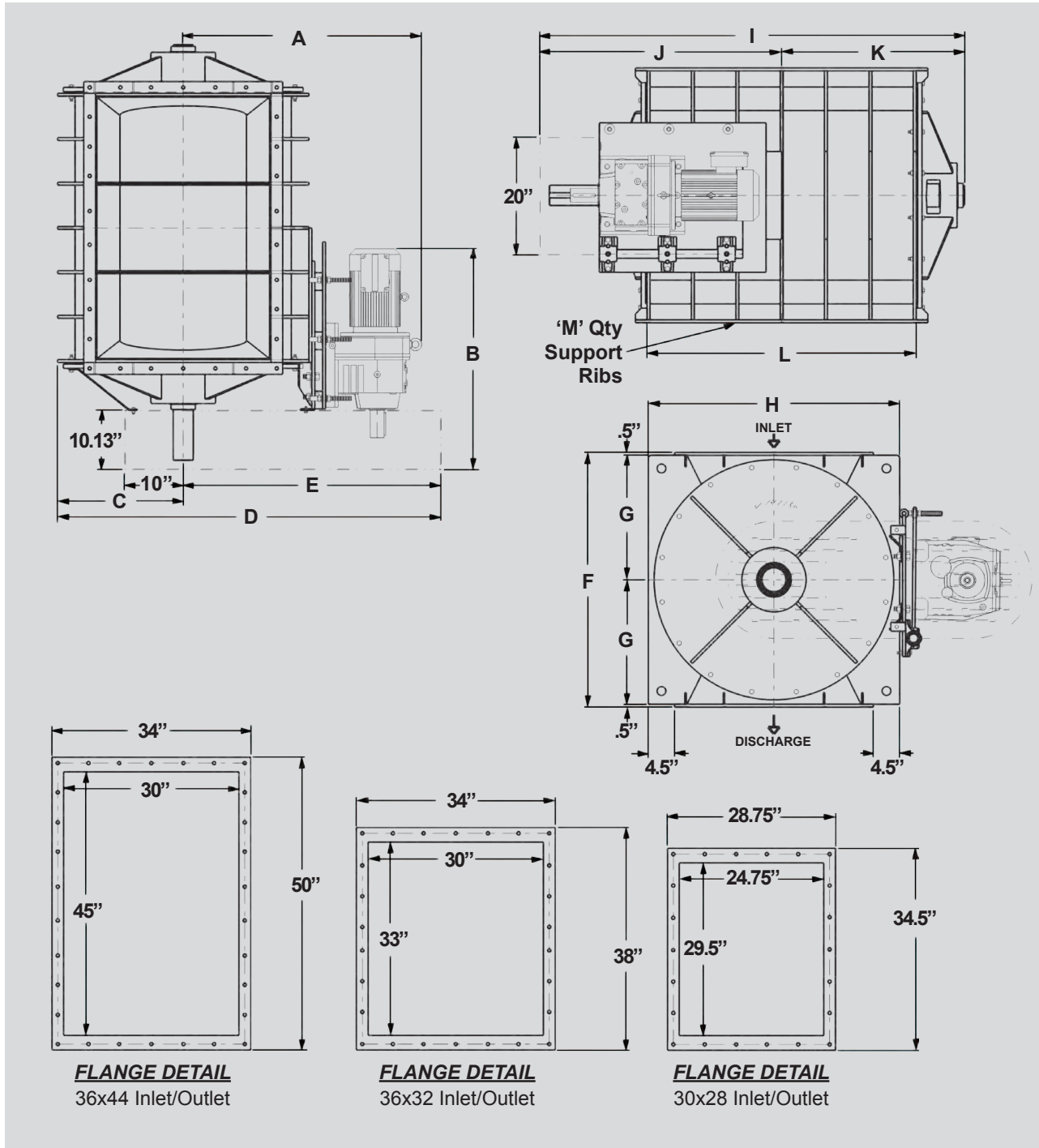
Convey Heavy Duty (CHD) airlocks are available in either carbon steel or 304 stainless steel and come standard with machined fabricated housings and cast endplates, outboard extended inner race bearings and spring loaded lip seals. The CHD30x28 model comes with a 10-vane rotor while the CHD36x32 and CHD36x44 models are equipped with 12-vane rotors. All three models come

standard with straight blade, closed end style, 1/8" land, fixed relieved tips. The CHD airlocks are designed and rated for a maximum differential operating pressure of 10 psig and a maximum operating temperature of 200° F.

## Options

- CG24, CG80 and CG120 rotor welds
- High temperature service 200° F to 350° F
- Packing gland seals
- Motion switch/NEMA 4, 7 and 9

# Convey Heavy Duty (CHD) Airlock Dimensions



Model	Dimensions (inches)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
30 x 28	39.44	41	18.88	60.38	41.5	38.25	18.63	37.75	56.63	33.5	23.13	30.5	2
36 x 32	42.06	41	21.5	65.63	44.13	43.5	21.25	43	60.56	35.25	25.31	34	3
36 x 44	42.06	41	21.5	65.63	44.13	43.5	21.25	43	72.56	41.25	31.31	46	5



# CMD Airlock

- Oversized rotor shaft creates a naturally radiused rotor pocket for more complete product release
- Differential pressure ranging up to 1.5 barg is possible without manipulating standard design or clearances
- FDA approved materials of construction in product contact areas
- Standard with integral rail system for endplate and rotor access



## Application

The CMD airlock is ideal for applications in systems where traditional Schenck Process MD airlocks handling dry raw or finished products have been utilized, but where increased levels of inspection or system clean-out are now required. Because the CMD is designed for high process rates and possesses a number of features suited for sanitary processes the airlock is perfect for food and pet food applications. The CMD is available in three model sizes consisting of the CMD75, CMD139 and CMD260.

## Equipment

The standard CMD is a square inlet, square outlet rotary valve which incorporates seals and product contact surfaces that meet food safety requirements. The CMD is designed with a rail system consisting of externally mounted precision shafts which are fixed to the tail side endplate on one end and are supported by special FDA compliant linear bearings pressed into the valve housing on the other. The endplate/rotor assembly can be unbolted from the housing and the assembly can be pulled from the housing and drive coupling while still remaining rigid to the housing via the rail system. These features simplify removal and provide access to the internal valve cavity, rotor pockets and all other product contact areas for quick and easy cleaning. The endplates have specifically been designed to access the seal area for cleaning or seal replacement. Once the cleaning process is complete, the endplate/rotor assembly simply slides back into place through use of the rail system and is secured with the supplied fasteners. Upon reassembly, the rotor end

clearances can be adjusted and set through by use of the integral adjustment screws included in each endplate.

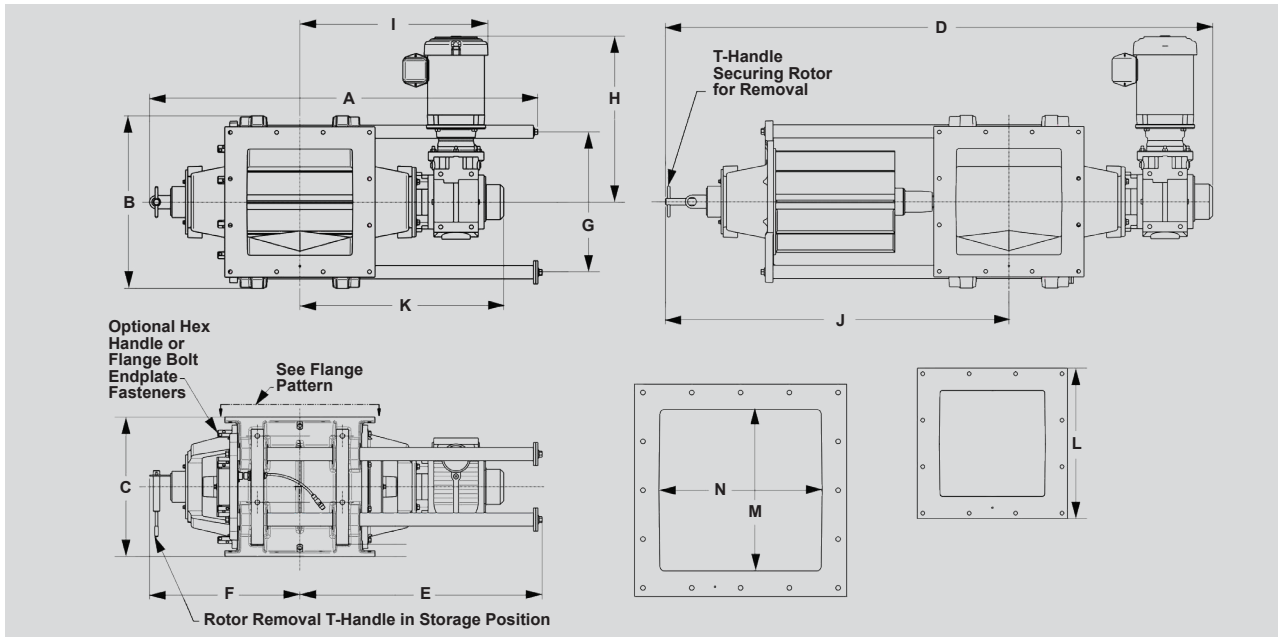
## Features and benefits

- Rugged construction with rotor design provides adequate resistance to deformation at any pressure within the intended use
- Easy access to seals with rotor removed from the endplate
- All stainless steel construction (endplate bearings and FDA compliant rail removal system are an exception)
- Inner endplate bearings can be replaced without full disassembly of the endplate from the valve
- Close clearance design reduces overall leakage through the valve and minimizes pneumatic system losses
- Maximum 32 Ra finish on all wetted (product contact) parts
- Rail removal system consisting of ceramic coated FDA linear bearings with PTFE liner pressed into machined housing bosses, steel precision rails with thin dense chrome coating and Allen Bradley non-contact safety switch for indication of endplate engagement

## Options

- Seal air purge kit with flow meter for each endplate
- NEMA motors
- Speed sensor in tail end cover
- Rotor Assist Device (RAD), two-hand controlled pneumatic system including filter/regulator
  - Available for the CMD260 model
  - Fabricated from 304 SS
  - Square ACME threads

# CMD Airlock Dimensions



Model	Dimensions (inches)																Weight (lbs.)	Motor (HP)	
	A	B	C	D	E	F	G	H	I	J	K	L	M Inlet	N Inlet	M Outlet	N Outlet			CFR OE
CMD75	44.38	19.5	15.75	62.5	27.38	17	19.69	15.88	21.5	38.88	23.25	17	12	12	12	13.25	0.71	726	1
CMD139	49.25	25	19.5	68.56	30.56	18.75	20.44	17.69	23.88	42.31	27.19	20	15.75	15.75	15.75	15.75	1.38	1,117	2
CMD260	57.19	32	26	79.13	36.5	20.69	26.25	22.13	27.75	48.5	31	25	19	19.75	19	19.25	2.66	2,245	3

## Standard specifications (with drive)

### 1. Airlock Specifications:

- CMD75, CMD139 and CMD260 model sizes
- Cast 304 SS housing and endplates (316 SS optional)
- Food grade rotary lip seals
- Deep groove, sealed, ball bearings

### 2. Rotor Specifications:

- Fabricated from 304 SS
- Straight blade
- Open end construction
- Fixed relieved 1/8" land
- Counter clockwise rotation (drive end)

### 3. Rail Specifications:

- Ceramic coated FDA linear bearings with

PTFE liner (press fit)

Hardened steel rails with thin dense chrome coating

### 4. Reducer Specifications:

- Manufacturer: Eurodrive
- Style: Helical worm gear, with right angle c-face adapter

### 5. Motor Specifications:

- NEMA or IEC motor design

### 6. Accessories:

- Zero speed sensor
- Air purge kit
- Shear protection (inlet)
- Blow through (outlet)

### 7. Weights in table:

- Calculated with closed end rotor (not shown)

# CV Airlock

- Highly efficient, rugged design
- Minimum leakage blow-back
- 15 PSI pressure differential
- Inboard bearing design offers maximum shaft support

## Application

The CV blow-thru design allows the airlock to meter product from rotating pockets directly into the conveying line. It is perfect for handling light bulk density product or powders. Special designs for handling frozen food products are also available.

## Equipment

CV Airlocks are available in cast iron, 304 stainless steel, or aluminum construction. Housings and end plates are cast construction while rotors are one-piece, fixed-relieved, open end fabricated construction. The "CV" units utilize dual, single lip seals and inboard press fit bearings. Rotors have 1/16" land rotor tips with options for various adjustable tips. The CV Airlock is available in either a baffled or non-baffled inlet arrangement.

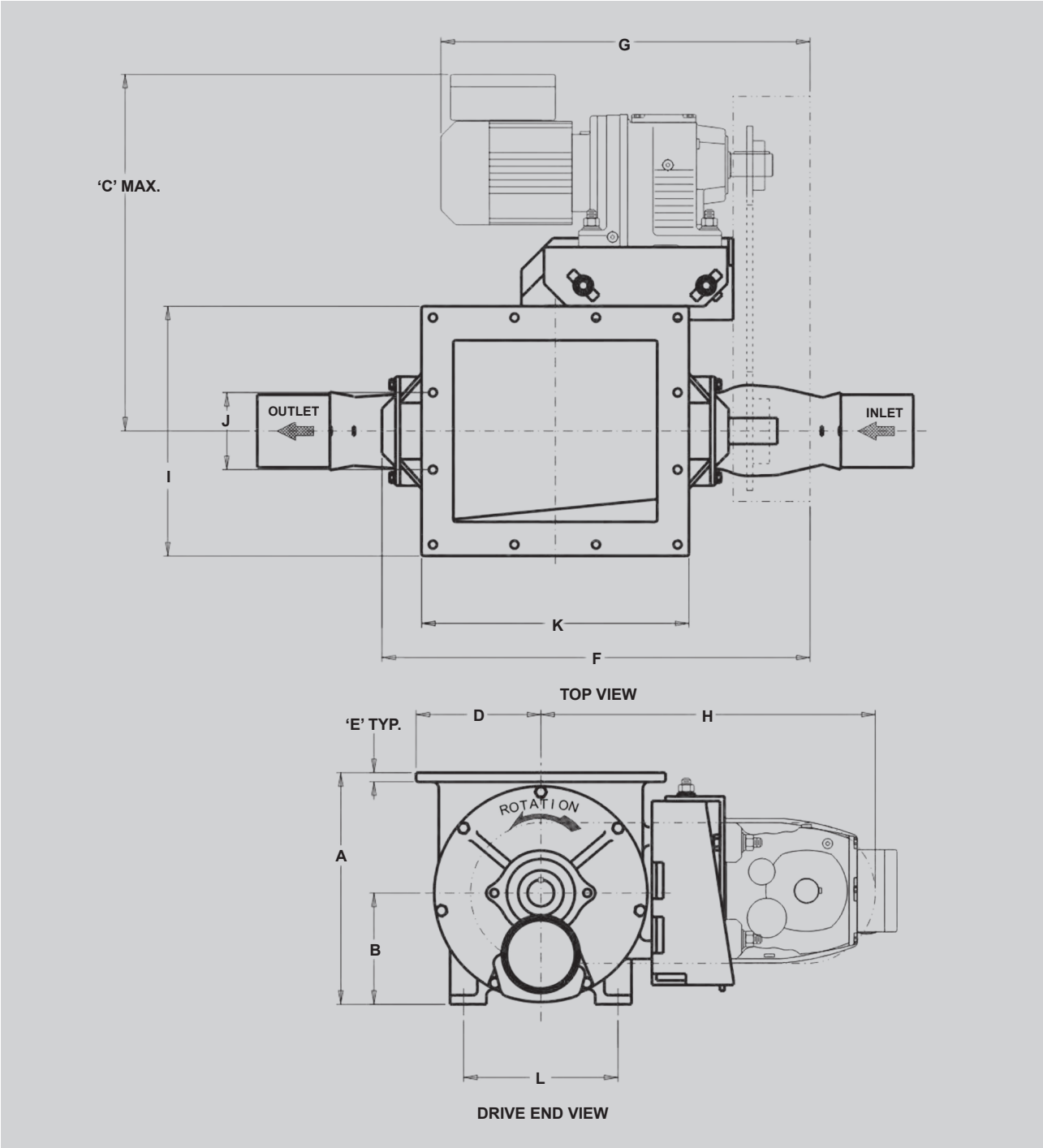


Housings with built-in baffles are recommended when handling light bulk density product or powders that would normally not flow well with blow-by air circulating through the product. CV Airlocks are available with inlet and outlet line connections in 3", 4", and 5" sizes.

## Available Options

- Adjustable tips in carbon or stainless steel
- 304SS rotor in place of a carbon steel rotor
- Reduced volume rotor
- Hard chrome bore and end plates
- Industrial grade Teflon coated rotor
- Silverstone coated rotor
- Shaft seal purge kit

# CV Airlock Dimensions



Model	CFR	Dimensions (inches)												Motor (HP)	Weight (lbs.)
		A	B	C	D	E	F	G	H	I	J	K	L		
CV-04	0.4	12.75	6.13	19.75	6.88	0.50	23.63	20.44	18.44	13.75	4.25	14.75	8.5	0.75	365
CV-12	1.2	17.13	8.25	24.44	9.25	0.63	29.25	24.38	22.75	18.50	5.75	19.75	12.0	1.00	675

# Fabricated Round (FR) Airlock

- Fabricated carbon steel housing
- Carbon steel 6 vane rotor
- 220° F maximum operating temperature
- Fabricated carbon steel endplates with 4 bolt flange bearings
- Rated for 20" w.c. maximum operating pressure



## Application

The Schenck Process Fabricated Round (FR) Airlock is equipped with flexible, wiper blade rotors. These extra flexible blades provide superior handling for stringy or fibrous products.

This airlock is designed for applications where little or no pressure differential is present across the inlet or outlet ports and temperature is ambient. The Fabricated Round (FR) Airlock is perfectly suited for use in the wood, grain and agriculture industries.

## Features

- Fabricated carbon steel endplates with 4 bolt flange bearings
- Carbon steel 6 vane rotor
- 220° F maximum operating temperature
- Sealed self-aligning flange
- Graphite filled urethane wiper blades
- Rated for 20" w.c. maximum operating pressure

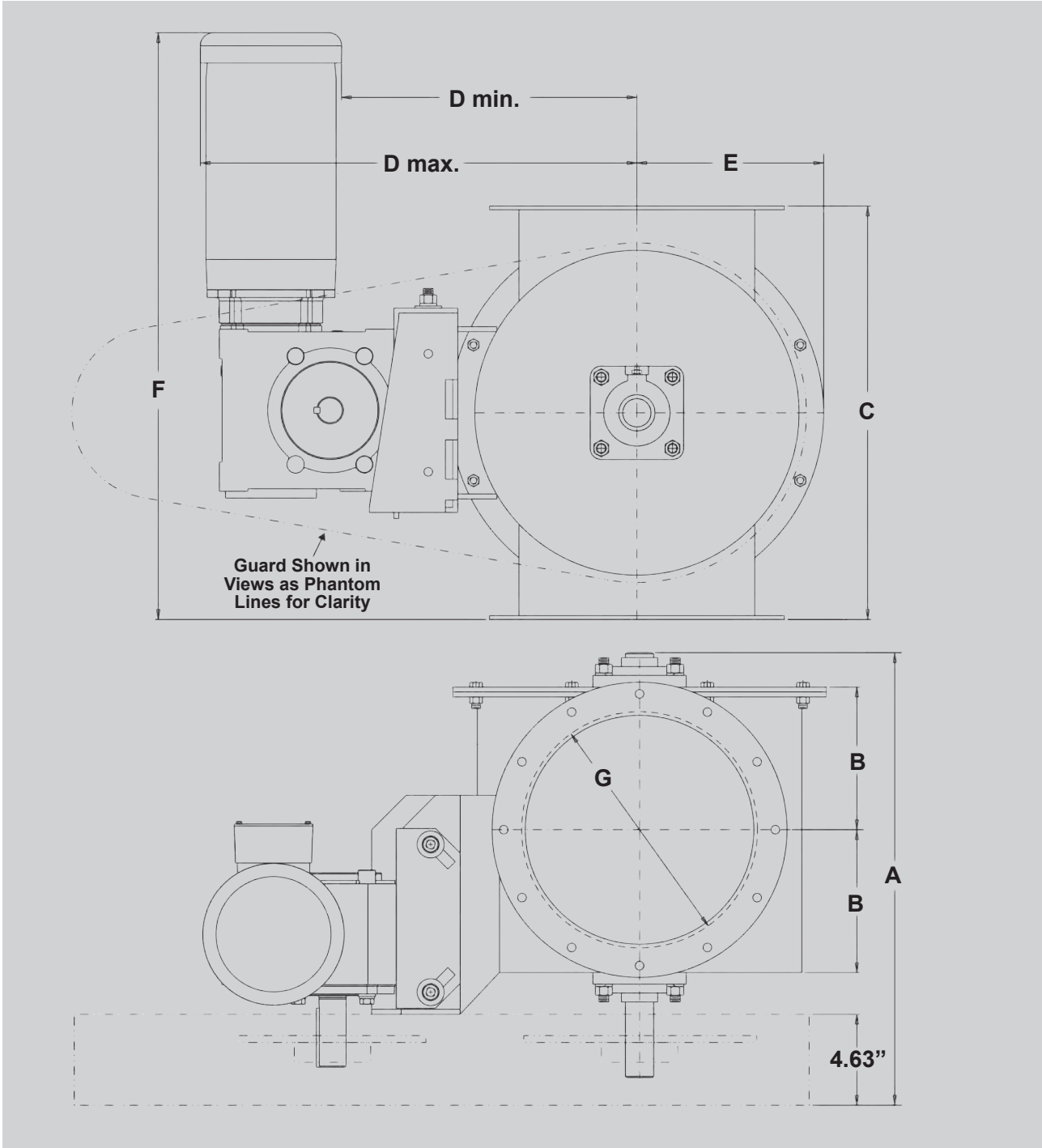
## With Drive

- 230/460V, 3PH, 60Hz; TEFC
- 18 RPM

## Option

- 304 stainless steel construction

# Fabricated Round (FR) Airlock Dimensions



Model	Dimensions (inches)								Motor (HP)	Weight (lbs.)	
	A	B	C	D		E	F	G			CFR
				Min.	Max.						
FR 16x12	23	7.25	21	15.09	23.53	9.5	29.81	9	1.47	1.5	430
FR 20x16	27.75	9.25	25	17.03	25.47	11.5	33.88	11.5	3	2	545



# Fabricated Square (FS) Airlock

- Fabricated carbon steel housing
- Carbon steel urethane sandwich rotor
- 220° F maximum operating temperature
- Fabricated carbon steel endplates with 4 bolt flange bearings
- Rated for 20" w.c. maximum operating pressure



## Application

The Schenck Process Fabricated Square (FS) Airlock is equipped with flexible, wiper blade rotors. These extra flexible blades provide superior handling for stringy or fibrous products.

This airlock is designed for applications where little or no pressure differential is present across the inlet or outlet ports and temperature is ambient. The Fabricated Square (FS) Airlock is perfectly suited for use in the wood, grain and agriculture industries.

## Standard Specifications

- Fabricated carbon steel housing
- Fabricated carbon steel endplates with 4 bolt flange bearings
- Carbon steel urethane sandwich rotor
- Carbon steel graphite filled 6 vane rotor
- Urethane flex tips
- Counter clockwise rotation (clockwise rotation for models FS 30x30 and larger)
- 220° F maximum operating temperature
- Rated for 20" w.c. maximum operating pressure

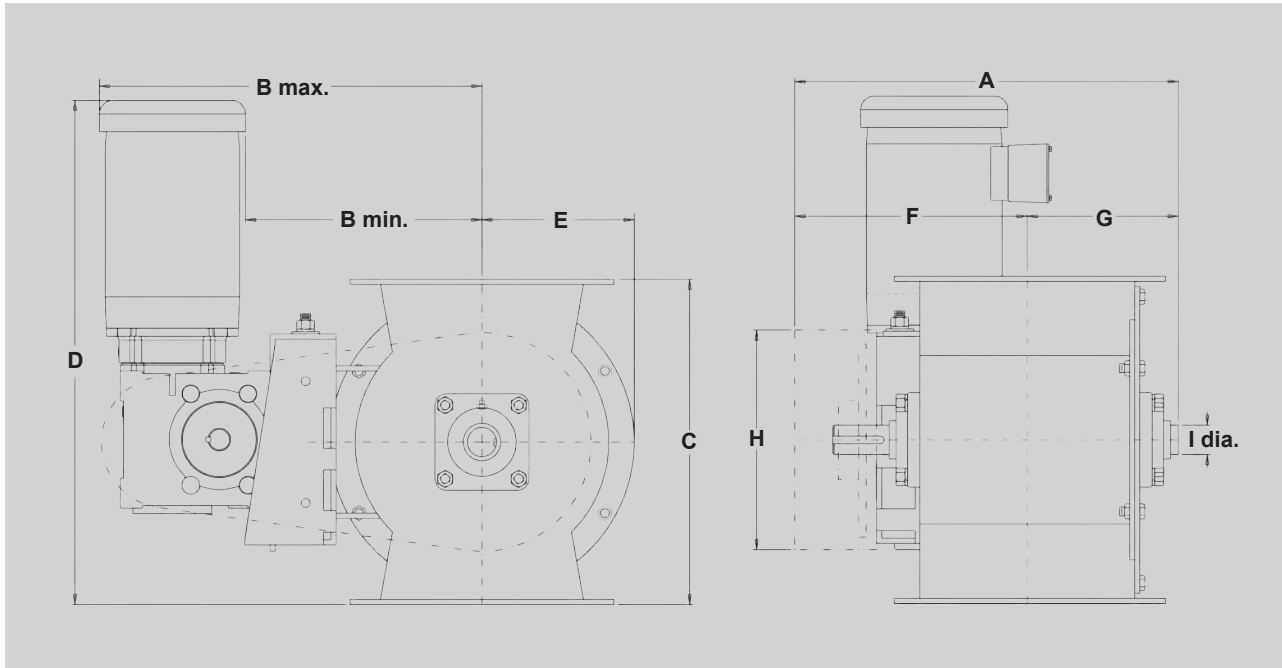
## With Drive

- 230/460V, 3 PH, 60Hz; TEFC
- 18 RPM (24 RPM for FS 24 x 24)

## Options

- 304 stainless steel construction
- Extended shaft (FS 12x10 model only)

# Fabricated Square (FS) Airlock Dimensions



Model	Dimensions (inches)										CFR	Motor (HP)	Weight (lbs.)
	A	B		C	D	E	F	G	H	I			
		Min.	Max.										
FS 10x8	16.75	10.59	18.59	13	23.31	6.13	10.50	6.25	10.75	1.44	0.34	1	220
FS 12x10	18.75	11.72	19.66	16	26.81	7.50	11.50	7.25	10.75	1.44	0.62	1	260
FS 16x12	21.25	15.09	23.53	20	29.94	9.50	13.00	8.25	17.25	1.44	1.32	1.5	425
FS 20x15	25.00	17.03	25.47	24	31.81	11.50	14.75	10.25	17.25	1.94	2.60	2	530
FS 24x24	33.88	19.00	28.88	28	38.31	13.50	19.13	14.75	17.25	1.94	6.00	3	750

# Global Hygienic Blow-Through Airlock (GHB)

- Oversized rotor shaft creates a naturally radiused rotor pocket for more complete product release
- Differential pressure up to 1.5 barg is possible without manipulating standard design or clearances
- Available design for NFPA 69 blocking valve requirements
- FDA and EC 1935/2004 approved materials of construction in product contact areas
- Integral rail system for endplate and rotor



## Application

The Global Hygienic Blow-Through Airlock (GHB) is a dismountable airlock that is ideal for applications where dry raw or finished products are being handled in the process and where inspection or system clean-out are required. Because the GHB is designed for high process rates it possesses a number of features suited for processes that have a higher sanitary requirement.

## Equipment

The GHB is a dismountable round inlet, blow through, convey line outlet rotary valve, which incorporates seals and product contact surfaces that meet food safety requirements. Endplates and rotor can be disassembled and removed from the valve housing for cleaning. The endplates have specifically been designed for access to the seal area for cleaning or seal replacement. Rotor removal and reassembly is completed with a few simple steps in minutes.

The GHB is designed with a rail system consisting of externally mounted precision shafts, which are fixed to the tail side endplate on one end and are supported by special linear bearings contained within the valve housing on the other. The endplate/rotor assembly can be unbolted from the housing and the assembly can be pulled from the housing and drive coupling while still remaining rigid to the housing via the rail system. These features simplify removal and provide access to the internal valve cavity, rotor pockets and all other product contact areas for quick and easy cleaning. Once the cleaning process is complete, the endplate/rotor assembly simply slides back into place through use of the rail system and is secured with the supplied fasteners.

## USDA Acceptance

The GHB has been reviewed and accepted by the Dairy Grading Branch, USDA for use in dairy plants surveyed and approved for USDA grading services.



#### Features and benefits

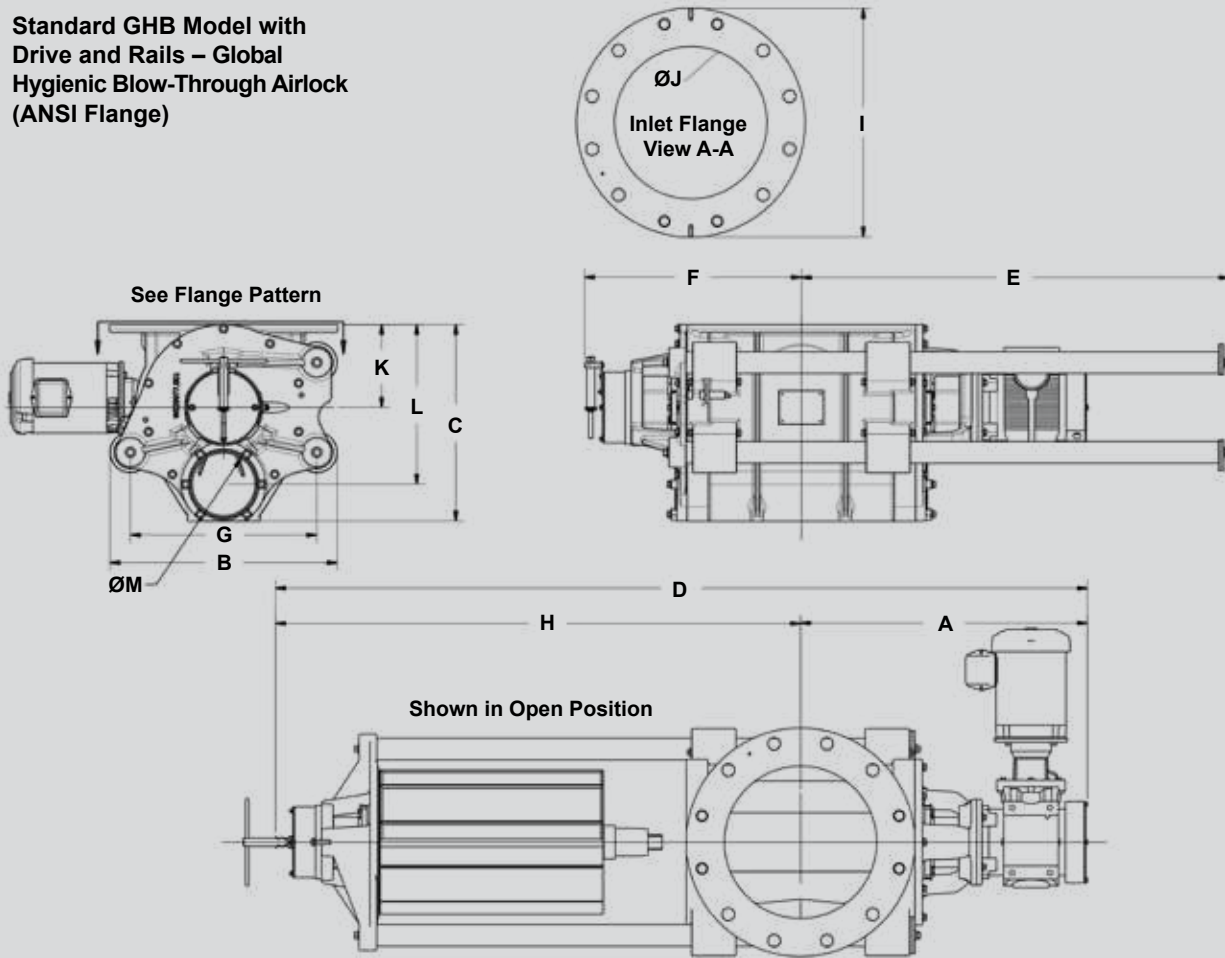
- Rugged construction with rotor design providing adequate resistance to deformation at any pressure within the intended use
- Easy access to seals with rotor removed from the endplate
- All stainless steel construction (outer endplate bearings are an exception)
- Housing and endplates designed for 10 Bar explosion shock resistance (requires additional testing prior to shipment)
- The valve's ability to resist deflection in the rotor during operation makes it suited for applications where convey pressure or vacuum could vary
- Close clearance design reduces overall leakage through the valve and minimizes pneumatic system losses
- Safety switch for use on GHB configurations to indicate when tail endplate has been disengaged

#### Options

- 1/16" fixed relieved tip rotor blades
- 3-stage compressed air filtration for all purge kits
  - Air filtration of 99.9999% efficiency
  - Flow metering
  - Final filter contains color indicator of element saturation
- Sanitary ferrule fittings for housing venting
- NEMA and IEC motors
- 32 Ra minimum finish on all product contact and sealing surfaces
- Speed sensor in tail end cover
- Seal air purge kit for each endplate

# Dimensions (inches)

Standard GHB Model with Drive and Rails – Global Hygienic Blow-Through Airlock (ANSI Flange)



Model	Dimensions (inches)													Weight (lbs.)	Motor (HP)
	A	B	C	D	E	F	G	H	I	J	K	L	M		
GHB10	22.36	17.13	14.48	63.86	32.24	16.80	14.00	40.50	16.00	10.00	6.00	12.06	3.83	608	0.75
GHB12	25.36	19.13	16.45	70.99	36.68	18.92	16.00	45.63	19.00	12.00	7.00	13.56	4.79	782	0.75
GHB14	26.35	20.88	18.05	74.59	39.30	19.92	17.13	48.24	21.00	14.00	7.63	14.69	5.78	935	1.00

## Standard specifications

### 1. Airlock Specifications:

- Cast 316 SS housing and endplates
- Seal purge shaft and FDA compliant O-ring and bushing

### 2. Rotor Specifications:

- Fabricated from 304 SS
- Straight blade
- Open end construction

### 3. Rail specifications:

- Plain linear bearings
- Marvalloy coated rails

### 4. Reducer Specifications:

- Manufacturer: Eurodrive

- Special shaft alloy surface for increased longevity on seal and bushing
- Fixed relieved 1/8" or 1/16" land
- Counter clockwise rotation (drive end)

- Style: Helical worm gear, with right angle c-face adapter

### 5. Motor Specifications:

- NEMA or IEC motor design

### 6. Accessories:

- Zero speed sensor
- Air purge kit
- Blow through (outlet)
- Valve interference detection (VID)

### 7. Weights in table:

- Calculated with open end rotor

## Easy disassembly of the Global Hygienic Blow-Through Airlock (GHB)



1. Remove endplate fasteners.



2. Remove shaft guards, outer cover and pull rotor to endplate with rotor removal tool.



3. Slide out endplate and rotor.



4. Endplate and rotor in fully open position.



5. Loosen the bolts around the bushing and seal assembly, then remove the bushing and seal assembly.

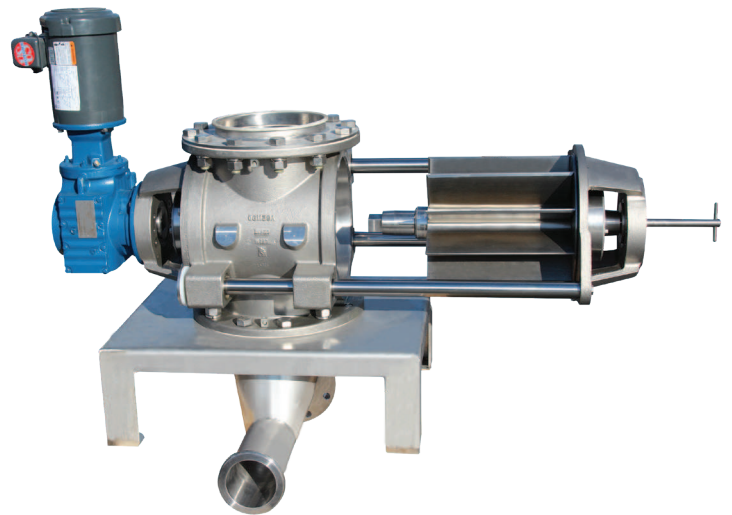


6. When bushing is removed unit is disassembled.



# Global Cleanable Airlock (GCA)

- Oversized rotor shaft creates a naturally radiused rotor pocket for more complete product release
- Differential pressure up to 1.5 barg is possible without manipulating standard design or clearances
- Available design for NFPA 69 blocking valve requirements
- FDA materials of construction in product contact areas
- Available with integral rail system for endplate and rotor



## Application

The GCA and GCA-D (dismountable) airlocks are ideal for applications where dry raw or finished products are being handled in the process and where inspection or system clean-out are required. Because the GCA is designed for high process rates and possesses a number of features suited for sanitary processes the airlock is perfect for food and pet food applications. Processes requiring frequent color change-outs that are found in plastics and pigment production are another fit for the GCA.

## Equipment

### GCA

The standard GCA is a round inlet, round outlet rotary valve which incorporates seals and product contact surfaces which meet food safety requirements. Endplates and rotor can be disassembled and removed from the valve housing for cleaning. The endplates have specifically been designed for access to the seal area for cleaning or seal replacement. Upon reassembly, the rotor end clearances can be adjusted and set through by use of the integral adjustment screws included in each

endplate. Though thorough cleaning is possible, the standard GCA is intended for applications where frequent access to the valve components is not required.

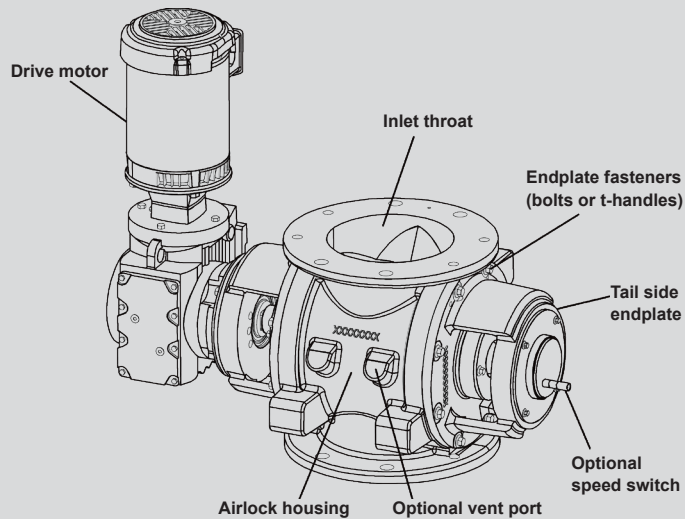
### GCA-D

For applications which require frequent access to the valve Schenck Process offers the demountable model GCA-D. The GCA-D is designed with a rail system consisting of externally mounted precision shafts which are fixed to the tail side endplate on one end and are supported by special composite linear bearings pressed into the valve housing on the other. The endplate/rotor assembly can be unbolted from the housing and the assembly can be pulled from the housing and drive coupling while still remaining rigid to the housing via the rail system. These features simplify removal and provide access to the internal valve cavity, rotor pockets and all other product contact areas for quick and easy cleaning. Once the cleaning process is complete, the endplate/rotor assembly simply slides back into place through use of the rail system and is secured with the supplied fasteners. The GCA-D includes all the same functionality as the GCA.

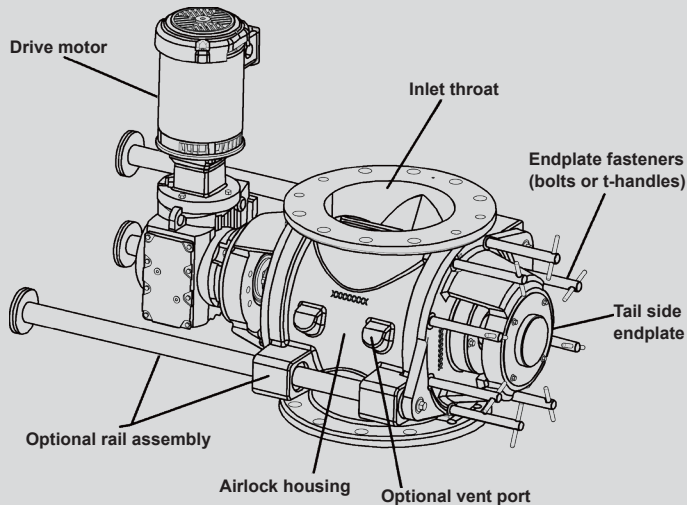
### Features and benefits

- Rugged construction with rotor design providing adequate resistance to deformation at any pressure within the intended use
- Easy access to seals with rotor removed from the endplate
- All stainless steel construction (endplate bearings are an exception)
- Housing and endplates designed for 10 Bar explosion shock resistance (requires additional testing prior to shipment)
- Inner endplate bearings can be replaced without full disassembly of the endplate from the valve
- The valves ability to resist deflection in the rotor during operation makes it suited for applications where convey pressure or vacuum could vary
- Close clearance design reduces overall leakage through the valve and minimizes pneumatic system losses

### Standard GCA Model



### GCA-D Demountable Model



### Options

- 1/16" fixed relieved tip rotor blades
- Closed end rotor
- Seal air purge kit with flow meter for each endplate
- Cavity air purge kit with flow meter for each endplate (closed end only)
- Housing vent ports drilled and tapped for customer connection
- Reduced volume open end rotor pockets (25% and 50% volume reduction only)
- Reduced volume closed end rotor pockets (15%, 30%, 40%, 50%, 60%, 75% volume reduction)
- NEMA and IEC motors provided by US
- Variety of internal finishes from CG120 rotor weld finish to a full polish on all wetted parts
- Shear protector, less vent, with upper and lower ANSI flanges and integral cone which extends inside the GCA housing to within 1/8" of the rotor O.D. (Lower flange I.D. to fit cone intersection so that there are no internal cavities)
- Round ANSI flange style blow through adapter
- Table style airlock support skid with integrated blow through adapter with ANSI flanges (welded to table)
- Safety switch for use on GCA-D configurations to indicate when tail endplate has been disengaged
- Speed sensor in tail end cover

**Options**

- Rotor Assist Device (RAD), two-hand controlled pneumatic system including filter/regulator
  - Available for GCA16-D, GCA14-D, and GCA12-D demountable models
  - Fabricated from 304 SS
  - Square ACME threads

**Actuator Specifications:**

- 22 In/Min Linear Speed
- No lubrication

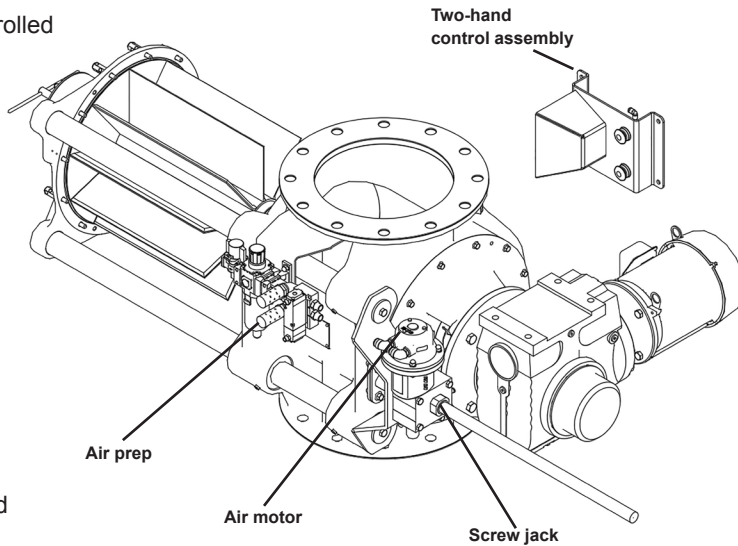
**Pneumatic Specifications:**

- 60 PSIG recommended pressure
- 100 PSIG maximum pressure
- 64 SCFM maximum consumption

**Two-hand control assembly:**

- Required for RAD Actuation

Available as both a new accessory and a field retrofit for GCA16/14/12-D model airlocks.



## Dimensions (inches)

Standard GCA Model with Drive and No Rails – Global Cleanable Airlock (ANSI Flange)	Model	Dimensions (inches)								CFR OE	CFR CE	Motor (HP)	Weight (lbs.)
		A	B	C	D	E	F	G	H				
GCA6		28.63	13.38	12	11.25	17.38	16.81	11.25	6	0.213	0.167	0.75	350
GCA8		30.56	15.5	13.88	11.75	18.88	18.63	13.5	8	0.352	0.320	0.75	625
GCA10		34.13	19.25	16.5	13.31	20.81	20.56	16.13	10	0.66	0.610	1	697
GCA12		37.38	26.5	21.5	14.5	23.06	23.69	19.13	12	1.42	1.30	2	1463
GCA14		44.38	28.38	26.75	16.88	27.81	27.69	21.13	14	2.35	2.16	3	2051
GCA16		45.63	32.5	29.13	17.5	28.44	28.38	23.63	16	3.22	2.87	5	3244

**Standard specifications**

**1. Airlock Specifications:**

- Cast 316 SS housing and endplates
- Food grade rotary lip seals
- Deep groove, sealed, ball bearings

**2. Rotor Specifications:**

- Fabricated from 304 SS
- Straight blade

**3. Reducer Specifications:**

- Open or closed end construction
- Fixed relieved 1/8" or 1/16" land
- Counter clockwise rotation (drive end)
- Manufacturer: Eurodrive
- Style: Helical worm gear, with right angle c-face adapter

**4. Motor Specifications:**

- NEMA motor design

**5. Accessories:**

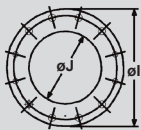
- Zero speed sensor
- Air purge kit
- Shear protection (inlet)
- Blow through (outlet)

**6. Weights in table:**

- Calculated with closed end rotor (not shown)

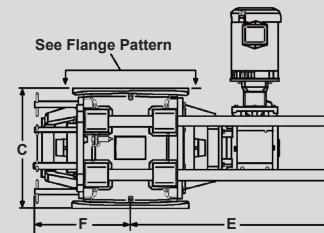
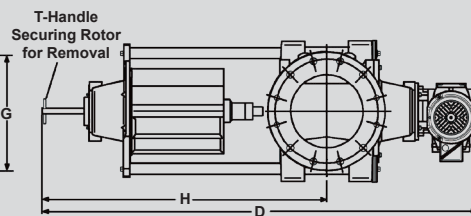
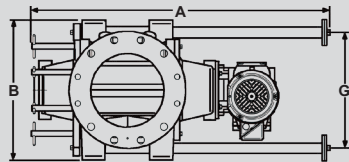
# Dimensions (inches)

## Standard GCA Model with Drive and Rails – Global Cleanable Airlock (ANSI Flange)



Inlet/Outlet  
Flange Pattern

Model	Dimensions (inches)											CFR OE	CFR CE	Motor (HP)	Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J					
GCA6	37.25	13.38	12	54.38	25.5	11.25	11.38	37	11.25	6	0.213	0.167	0.75	371	
GCA8	37.25	15.5	13.88	55.19	25.5	11.75	13.25	36.38	13.5	8	0.352	0.320	0.75	652	
GCA10	41.25	19.25	16.5	60.19	27.94	13.31	15.94	39.38	16.13	10	0.66	0.610	1	714	
GCA12	46.44	26.5	21.5	66.81	32	14.5	21.19	43.75	19.13	12	1.42	1.30	2	1579	
GCA14	54.56	28.38	26.75	77.69	37.75	16.88	23.88	49.94	21.13	14	2.35	2.16	3	2277	
GCA16	58.38	32.5	29.13	81.19	40.94	17.5	27.25	52.75	23.63	16	3.22	2.87	5	3610	



### Standard specifications

#### 1. Airlock Specifications:

- Cast 316 SS housing and endplates
- Food grade rotary lip seals
- Deep groove, sealed, ball bearings

#### 2. Rotor Specifications:

- Fabricated from 304 SS
- Straight blade
- Open or closed end

#### construction

- Fixed relieved 1/8" or 1/16" land
- Counter clockwise rotation (drive end)

#### 3. Rail specifications:

- Plain linear bearings (press fit)
- Stainless steel rails

#### 4. Reducer Specifications:

- Manufacturer: Eurodrive
- Style: Helical worm gear, with

#### right angle c-face adapter

#### 5. Motor Specifications:

- NEMA motor design

#### 6. Accessories:

- Zero speed sensor
- Air purge kit
- Shear protection (inlet)
- Blow through (outlet)

#### 7. Weights in table:

- Calculated with closed end rotor (not shown)

# Global Hygienic Airlock (GHA)

- Oversized rotor shaft creates a naturally radiused rotor pocket for more complete product release
- Differential pressure up to 1.5 barg is possible without manipulating standard design or clearances
- Available design for NFPA 69 blocking valve requirements
- FDA and EC 1935/2004 approved materials of construction in product contact areas
- Integral rail system for endplate and rotor



## Application

The GHA is a dismountable airlock that is ideal for applications where dry raw or finished products are being handled in the process and where inspection or system clean-out are required. Because the GHA is designed for high process rates it possesses a number of features suited for processes that have a higher sanitary requirement.

## Equipment

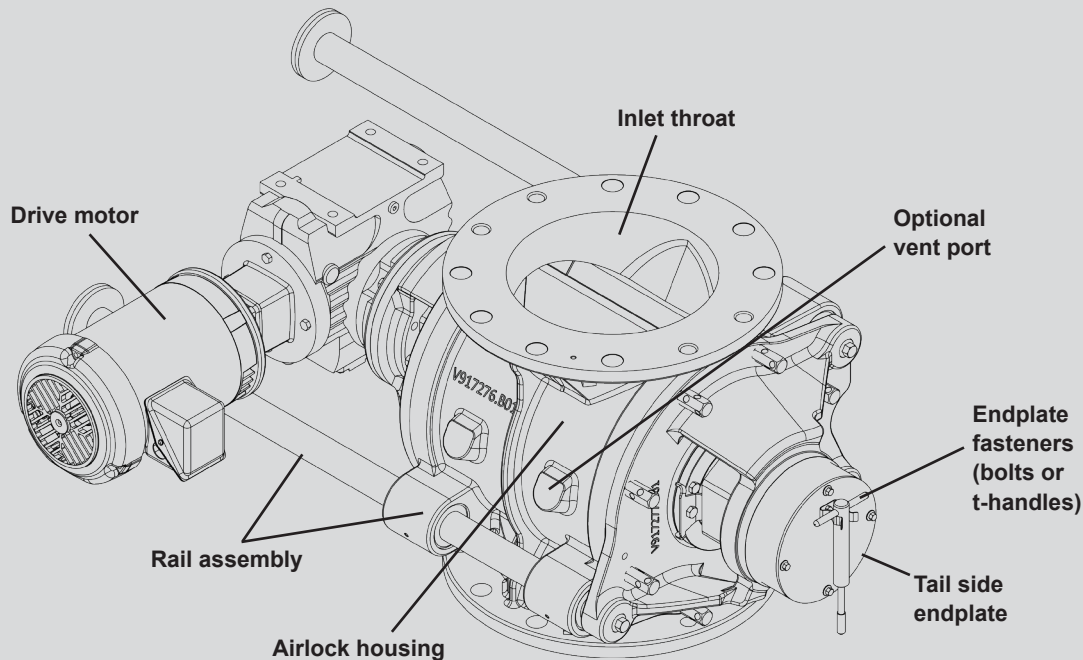
The GHA is a dismountable round inlet, round outlet rotary valve, which incorporates seals and product contact surfaces that meet food safety requirements. Endplates and rotor can be disassembled and removed from the valve housing for cleaning. The endplates have specifically been designed for access to the seal area for cleaning or seal replacement. Rotor removal and reassembly is completed with a few simple steps in minutes.

The GHA is designed with a rail system consisting of externally mounted precision shafts, which are fixed to the tail side endplate on one end and are supported by special composite linear bearings pressed into the valve housing on the other. The endplate/rotor assembly can be unbolted from the housing and the assembly can be pulled from the housing and drive coupling while still remaining rigid to the housing via the rail system. These features simplify removal and provide access to the internal valve cavity, rotor pockets and all other product contact areas for quick and easy cleaning. Once the cleaning process is complete, the endplate/rotor assembly simply slides back into place through use of the rail system and is secured with the supplied fasteners.

## USDA Acceptance

The GHA has been reviewed and accepted by the Dairy Grading Branch, USDA for use in dairy plants surveyed and approved for USDA grading services.





#### Features and benefits

- Easy access to seals with rotor removed from the endplate
- All stainless steel construction (outer endplate bearings are an exception)
- Housing and endplates designed for 10 Bar explosion shock resistance (requires additional testing prior to shipment)
- Inner endplate bearings can be replaced without full disassembly of the endplate from the valve
- The valves ability to resist deflection in the rotor during operation makes it suited for applications where convey pressure or vacuum could vary
- Close clearance design reduces overall leakage through the valve and minimizes pneumatic system losses

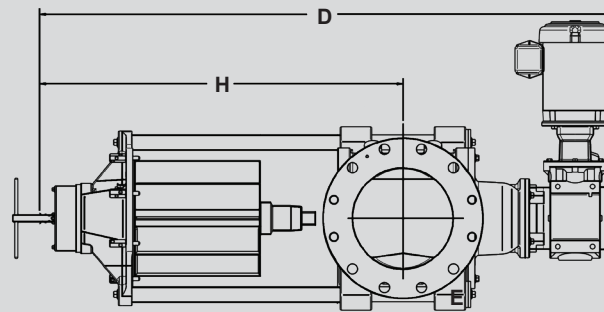
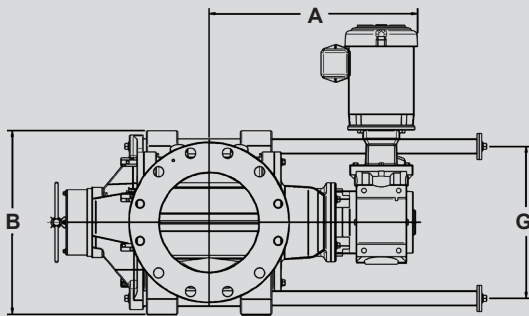
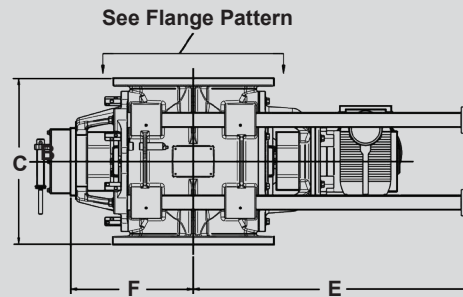
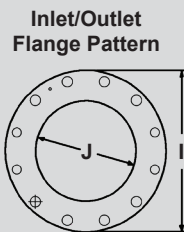
#### Options

- 1/16" fixed relieved tip rotor blades
- Closed end rotor
- Air filtration system that meets the requirements of 3-A standard 604 accepted practices for supplying air
  - Air filtration to 99.9999%
  - Flow metering for proper rate
  - Filters to aid in visual indication of a containment
- Sanitary ferrule fittings for housing venting
- NEMA and IEC motors provided by US or ABB respectively
- 32 Ra minimum finish on all product contact and sealing surfaces
- Round ANSI flange style blow through adapter
- Rotor Assist Device (RAD), two-hand controlled pneumatic system including filter/regulator
  - Available for GHA16-D, GHA14-D, and GHA12-D demountable models
  - Fabricated from 304 SS
  - Square ACME threads
- Table style airlock support skid with integrated blow through adapter with ANSI flange (welded to table)
- Safety switch for use on GHA configurations to indicate when tail endplate has been disengaged
- Speed sensor in tail end cover



# Dimensions (inches)

Standard GHA Model with Drive and Rails – Global Hygienic Airlock (ANSI Flange)



Model	Dimensions (inches)										Weight (lbs.)	Motor (HP)
	A	B	C	D	E	F	G	H	I	J		
GHA06	17.31	12.69	12	51.25	25.94	9.75	6.25	33.94	11.13	6	478	0.75
GHA08	18.75	15.06	13.88	52.06	25.38	10.19	7.88	33.31	13.5	8	608	0.75
GHA10	20.75	18.25	16.5	57.13	27.69	12.19	15.13	36.31	16	10	825	1
GHA12	23	24	21.5	63	31.38	13.31	19.94	40	19	12	1,141	2
GHA14	27.56	25.5	26.75	73.81	36.88	15.69	14.75	46.13	21	14	1,988	3
GHA16	28.19	29.75	29.13	77.13	39.75	16.31	17.5	48.81	23.5	16	2,549	5

## Standard specifications

### 1. Airlock Specifications:

- Cast 316 SS housing and endplates
- Seal purge shaft and FDA compliant O-ring and bushing

### 2. Rotor Specifications:

- Fabricated from 304 SS
- Straight blade
- Open end construction

### 3. Rail specifications:

- Plain linear bearings
- Marvalloy coated rails

### 4. Reducer Specifications:

- Manufacturer: Eurodrive

- Special shaft alloy surface for increased longevity on seal and bushing
- Fixed relieved 1/8" or 1/16" land
- Counter clockwise rotation (drive end)

- Style: Helical worm gear, with right angle c-face adapter

### 5. Motor Specifications:

- NEMA or IEC motor design

### 6. Accessories:

- Zero speed sensor
- Air purge kit
- Blow through (outlet)
- Valve interference detection (VID)

### 7. Weights in table:

- Calculated with open end rotor

## Easy disassembly of the Global Hygienic Airlock (GHA)



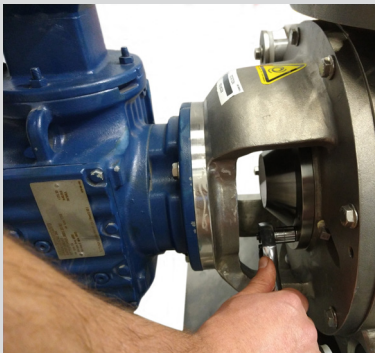
1. Remove endplate fasteners.



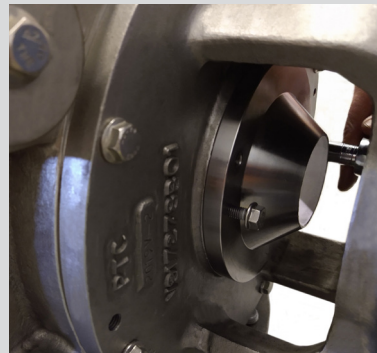
2. Remove shaft guards, outer cover and pull rotor to endplate with rotor removal tool.



3. Slide out endplate and rotor.



4. Loosen the bolts around the bushing and seal assembly.



5. After bolts are loosened remove bushing.



6. When bushing is removed unit is disassembled.

# Heavy Duty (HD) Airlock

- Rated up to 15 PSI pressure differential
- 8-vane fixed relieved tip rotor
- Outboard bearing and spring loaded double lip seals
- Ideally suited for low pressure or vacuum convey systems, can also be used as a bulk storage or filtration discharge device

## Application

The HD Airlock features a round inlet to square outlet (or reverse) and is ideally suited for low pressure or vacuum convey systems. HD Airlocks can also be used as a bulk storage or filtration discharge device.

## Standard HD Airlock Specifications

- Cast iron housings on the 8x6 through 24x24 models
- Fabricated carbon steel construction on the 30x30 and 36x36 units
- Double lip seal assembly
- Outboard sealed bearings
- Carbon steel machined rotors
- 8 vane rotor
- 8x6 through 20x15 models have open end rotors



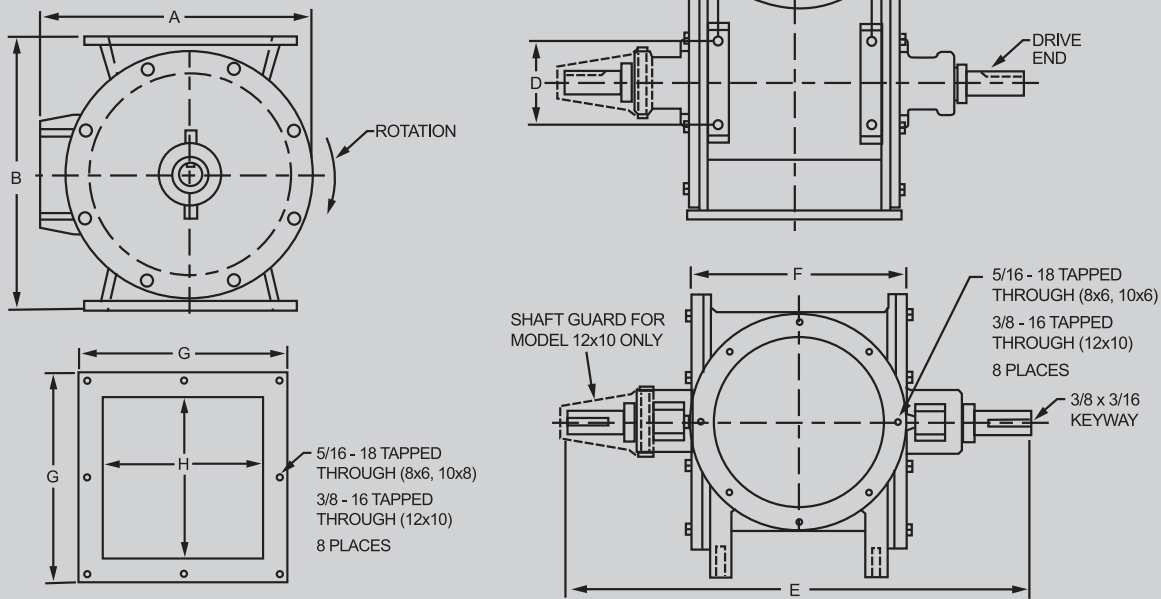
- 24x24, 30x30 and 36x36 models have closed end rotors
- Gasket material on flanges is silicone caulk
- Maximum temperature rating: -45 °F to 200 °F (-42 °C to 93 °C)
- Rated up to a 15 psi pressure differential

## Options

- Stainless steel rotor
- Adjustable tips (HD 12x10 and larger)
- High temperature service up to 450 °F (232 °C)
- Variable speed drives
- TS4 seals (up through HD 24x24 sizes)
- Hard chrome coating on bore and end plates
- Packing gland seals (HD 12x10 and smaller available with air purge)

# Heavy Duty (HD) Airlock Dimensions

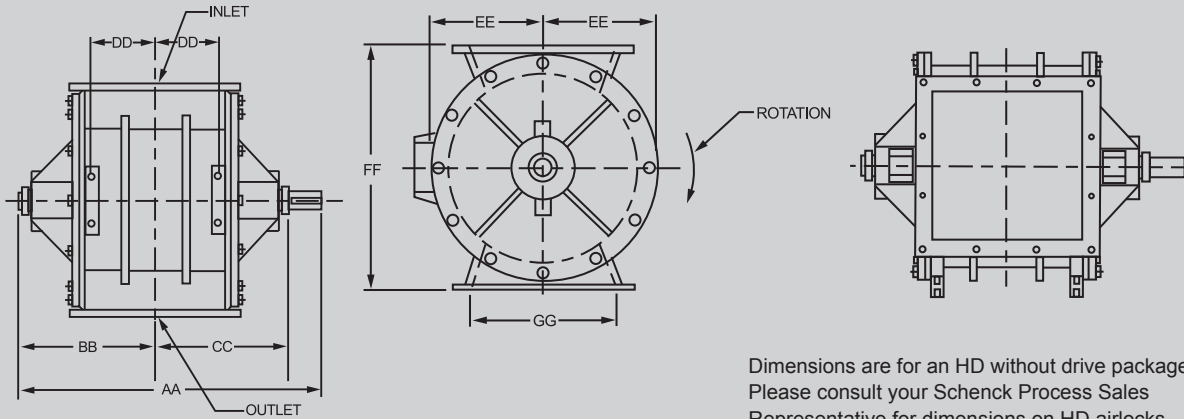
HD8x6 through 12x10 feature round inlet flanges and square discharge flanges



Model	Dimensions – inches (mm)								CFR	Weight
	A	B	C	D	E	F	G	H		
HD 8x6	10.25" (260 mm)	11.0" (279 mm)	3.0" (76 mm)	6.0" (152 mm)	19.44" (494 mm)	9.88" (251 mm)	9.75" (248 mm)	6.0" (152 mm)	0.17	105 lbs. (48 kg)
HD 10x8	11.8" (300 mm)	12.88" (327 mm)	3.88" (99 mm)	6.0" (152 mm)	21.44" (545 mm)	11.0" (279 mm)	11.0" (279 mm)	8.0" (203 mm)	0.34	145 lbs. (66 kg)
HD 12x10	16.63" (422 mm)	16.38" (416 mm)	4.63" (118 mm)	5.0" (127 mm)	27.5" (699 mm)	12.75" (324 mm)	13.0" (330 mm)	10.0" (254 mm)	0.60	400 lbs. (181 kg)

# Heavy Duty (HD) Airlock Dimensions

HD16x12 and larger feature square to square flanges.

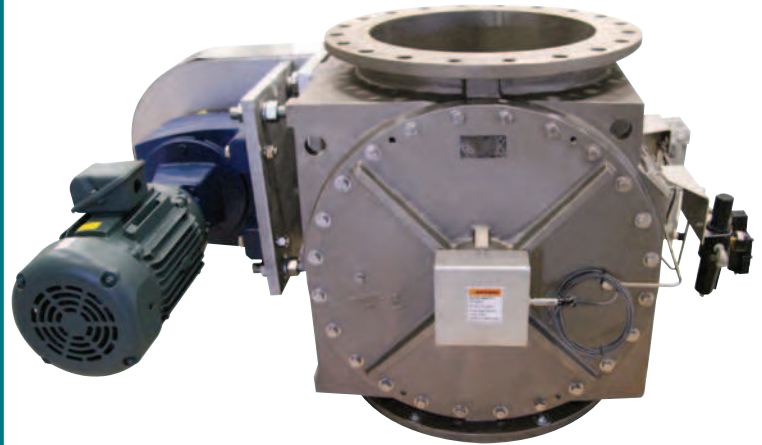


Dimensions are for an HD without drive package. Please consult your Schenck Process Sales Representative for dimensions on HD airlocks with right angle or parallel shaft drives.

Model	Dimensions – inches (mm)							CFR	Weight
	AA	BB	CC	DD	EE	FF	GG		
HD 16x20	29.25" (743 mm)	12.88" (327 mm)	12.63" (321 mm)	5.63" (143 mm)	9.5" (241 mm)	20.75" (527 mm)	12.0" (305 mm)	1.1	650 lbs. (295 kg)
HD 20x15	32.38" (822 mm)	14.38" (365 mm)	14.13" (359 mm)	7.0" (178 mm)	11.63" (295 mm)	25.0" (635 mm)	15.0" (381 mm)	2.3	900 lbs. (408 kg)
HD 24x24	52.0" (1,321 mm)	20.38" (518 mm)	20.13" (511 mm)	12.13" (308 mm)	14.0" (356 mm)	31.0" (787 mm)	17.75" (451 mm)	4.0	1,250 lbs. (567 kg)
HD 30x30	60.25" (1,530 mm)	24.25" (616 mm)	23.19" (589 mm)	NA	17.63" (448 mm)	38.0" (965 mm)	26.0" (660 mm)	9.4	1,960 lbs. (889 kg)
HD 36x36	70.0" (1,778 mm)	28.38" (721 mm)	27.75" (705 mm)	NA	20.5" (521 mm)	44.0" (1,118 mm)	30.0" (762 mm)	16.6	2,581 lbs. (1,171 kg)

# High Pressure (HP) Airlock

- Ideal for applications requiring a valve suited for operating in the range of 30-50 psi
- HP08 and HP16 models are designed with a 316 stainless steel cast housing and the HP650 and HP850 models in aluminum or stainless steel
- The HP features continuous product contact area welds that are free of cracks and crevices



## Application

The HP Airlock is ideal for applications requiring a valve suited for operating in the range of 30-50 psi. HP Airlocks include a range of model types that are suited for hygienic applications in food processing to the ruggedness of conveying materials in the petrochemical industry.

## Standard HP Airlock Specifications

- Cast 316SS (CF8M) housing and endplates (solution annealed per ASTM A743)
- Tapered 316 stainless steel cast housing with ceramic bore (HP08 and HP16 only)
- Rotor clearance is adjustable by sliding tapered rotor into the tapered housing (HP08 and HP16 only)
- Fabricated 17-4 PH SS (H1150) rotor:
  - 10 vane (HP08, 10 and 12);
  - 12 vane (HP14, 16, 650 and 850)
  - Closed end only
  - Plain blade and shroud tips
  - Tungsten carbide coating on shroud seal areas and shaft seal areas
  - 2° taper with threaded shaft ends for adjustable clearance
  - Clearance factory set @ .0035"-.005" (.09 - .13 mm)
- Filled PTFE shroud slide ring (food grade, 340 °F, [171 °C])
- High strength silicone inflatable shroud seal (food grade, 350 °F [177 °C])
- Filled PTFE shaft seal (food grade, 400 °F [204 °C])
- Inboard, zero-clearance, tapered roller bearing (200 °F [93 °C])
- Inflatable shroud seal connection assembly with pressure regulator
- Pressure transducer assembly with pressure gauge
- Gasket assembly (food grade, 400 °F [204 °C])
- Fabricated carbon steel tail shaft guard
- 230/460/3PH/60Hz SEW Eurodrive parallel shaft integral gear motor (TEFC)
- Mechanical drive clutch
- Carbon steel hinged drive mount assembly
- Carbon steel drive guard
- Cast 356-T6 aluminum housing vent with flanged stub adaptor
- Fabricated 304SS flanged inlet hopper
- Fabricated 304SS mounting skid
- Fabricated 304SS line injector designed for 90 psi
- SS ID tag and logo assembly
- Standard airlock designed for convey pressures up to 50 psi



# High Pressure (HP) Airlock

Specifically designed for the petrochemical industry, HP650 and HP850 valves can handle high rate, high pressure conveying applications such as pellet take-away systems at the discharge of extruders. Handles up to 220,000 lbs. per hour of product. System components are rated at 250 °F (121 °C) or higher.

## HP650/850 Specifications

- Designed for extreme high rate and pressure.
- HP650 offers 6.5 CFR 150,000 lbs. (68,039 kg) per hour of product.
- HP850 offers 8.5 CFR 220,000 lbs. (99,790 kg) per hour of product.
- Large capacity cast valve with flanged round inlet and outlet ports.
- Rotors are 12-vane closed end design manufactured from stainless steel.
- Closed end rotors only.
- Units have inboard bearings with spherical roller bearings, and food grade shroud and shaft seals.
- The standard drive package is a chain drive with parallel shaft reducer and c-face motor. Inlet is designed with a v-plow to help reduce product shearing.
- Components (bearings, seals, etc.) are all rated at 250 °F (121 °C) or higher. The valves are also available in an optional high temperature version.
- Designed for 3.5 bar (52 PSIG) design pressures.
- Available in either aluminum or stainless steel construction.



# Inboard Bearing Rotary Valve (RV)

- Rugged construction
- High efficiency
- Minimum leakage blow-back
- Inboard bearings
- Maximum shaft support with a minimum of rotor deflection



## Equipment

The Inboard Bearing Rotary Valve (RV) is a high efficiency airlock with minimum leakage blow-back. Its inboard bearings provide the airlock with maximum shaft support and minimize rotor deflection.

The RV features double opposed lip seals that protect the inboard bearings from product infiltration. It is designed for food applications in wash-down environments.

## Features

- Rugged construction
- High efficiency
- Inboard bearings

- Minimum leakage blow-back
- Maximum shaft support with a minimum of rotor deflection
- Double opposed lip seals (between the rotor ends and bearings) isolate bearings and protect from infiltration
- Locking collar secures the bearing and shaft assembly in proper end-to-end alignment

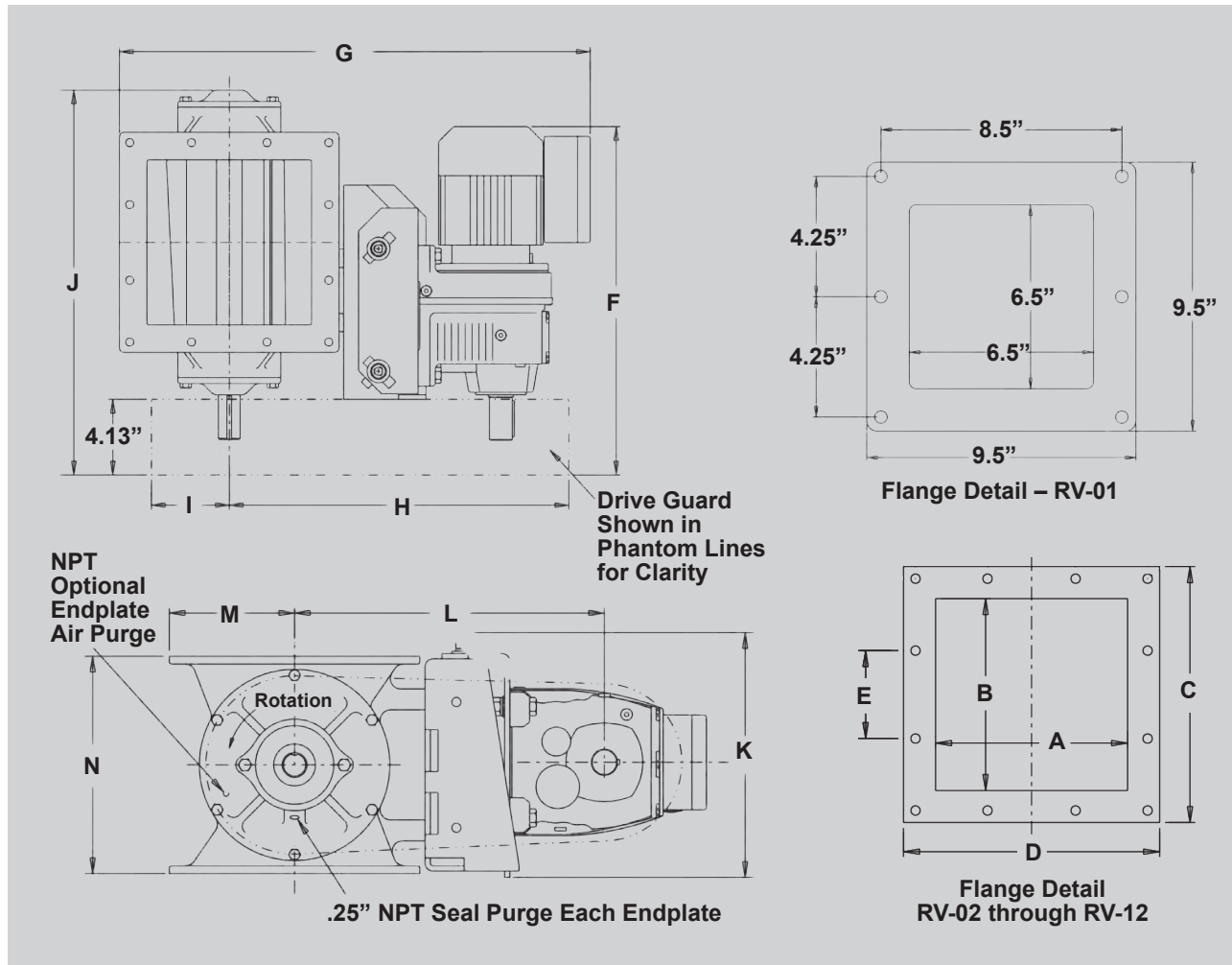
## Options

- Motion indicator
- Variable speed drives
- Seal purge
- Endplate purge (closed end rotors only)
- Hard chrome bore and endplates with epoxy coated throats

Construction (material designation – housing / end plates / rotor)				
	CI/CI/CS	CI/CI/SS	SS/SS/SS	AL/AL/SS
Housing	Gray Iron Class 30 Rectangular inlet/outlet flanges	Gray Iron Class 30 Rectangular inlet/outlet flanges	Cast Alloy CF-8 (304 SS) Rectangular inlet/outlet flanges	Aluminum Alloy 356-T6 Hard anodized Rectangular inlet/outlet flanges
End Plates	nboard bearing design	Gray Iron Class 30 Inboard bearing design	Cast Alloy CF-8 (304 SS) Inboard bearing design	Aluminum Alloy 356-T6 Hard anodized Inboard bearing design
Maximum Pressure Rating	15 PSI	15 PSI	15 PSI	15 PSI
Standard Rotor	Carbon Steel c1018 CRS 8 vanes* open end Fixed relieved tips	304 Stainless Steel 8 vanes* open end Adjustable beveled tip rotor	304 Stainless Steel 8 vanes* open end Adjustable beveled tip rotor	304 Stainless Steel 8 vanes* open end Adjustable beveled tip rotor

(\*RV-02 has 6 vanes) CI = Cast Iron CS = Carbon Steel SS = Stainless Steel AL = Aluminum

# Inboard Bearing Rotary Valve (RV) Dimensions



Model	Dimensions (inches)														Motor (HP)	CFR	Weight (lbs.)			# of Rotor Vanes
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			Gray Iron	Alu-minum	304 S.S.	
RV-01	6.5	6.5	See DTL	See DTL	See DTL	17.5	21.38	14.69	4	16.63	8.25	11.31	4.75	8.25	0.33	0.1	205	160	205	6
RV-02	9	9	12	12	4.13	18.94	25.69	19.69	5.5	21	11.69	14.81	6	10.38	0.5	0.2	225	170	225	6
RV-04	10	11.25	14.75	13.75	4.5	20.44	26.44	19.69	5.5	23.5	11.69	14.69	6.88	13.25	.75 or 1	0.4	350	250	350	8
RV-08	12	12	16.5	16.5	5	23.25	30.5	20.44	6.69	25.06	11.69	15.94	8.25	15.25	1 or 1.5	0.8	500	330	500	8
RV-012	14	15.25	19.75	18.5	5.75	23.25	32.88	22.5	7.44	29	16.06	17.31	9.25	17.75	1 or 1.5	1.2	655	410	655	8

# Multi Duty (MD) Airlock

- Versatile airlock can be connected to many different types of storage and conveying devices
- Square flanged inlet and outlet
- Highly reliable, rugged design delivers low maintenance service
- Sealed bearings require no lubrication and provide years of service
- Available in a wide range of sizes
- Special options extend service life in challenging applications

## Application

With tens of thousands of installations throughout the world, the Schenck Process MD airlock is a highly universal airlock used to meter dry bulk materials under feeding devices, such as bins, hoppers, mixers, screw conveyors and sifters.

Providing rugged service, the MD is suitable for use in dilute phase vacuum, pressure or combination vacuum/pressure pneumatic conveying systems. Low mounting height is ideal for space restricted applications. With a low profile and a wide flange width, the MD airlock is able to match drill hole patterns of many competitor's valves for easy replacement.

## Equipment

The MD has a cast housing and endplates with a square flange. The rotor and housing are precision machined to obtain a high degree of accuracy and close tolerances. Close tolerances hold the differential pressure across the valve to reduce air leakage. Reducing leakage saves supply gas, reduces spikes in velocity and stabilizes the system.

An exclusive TS4 quad ring shaft seal maintains superior performance lasting up to ten times longer than a typical seal.



Outboard press fit bearings provide better protection, resulting in longer service life. Special wear resistant MD designs are designed to be placed in abrasive environments. Field tests of these designs show a lifespan up to eight times longer than a standard MD airlock.

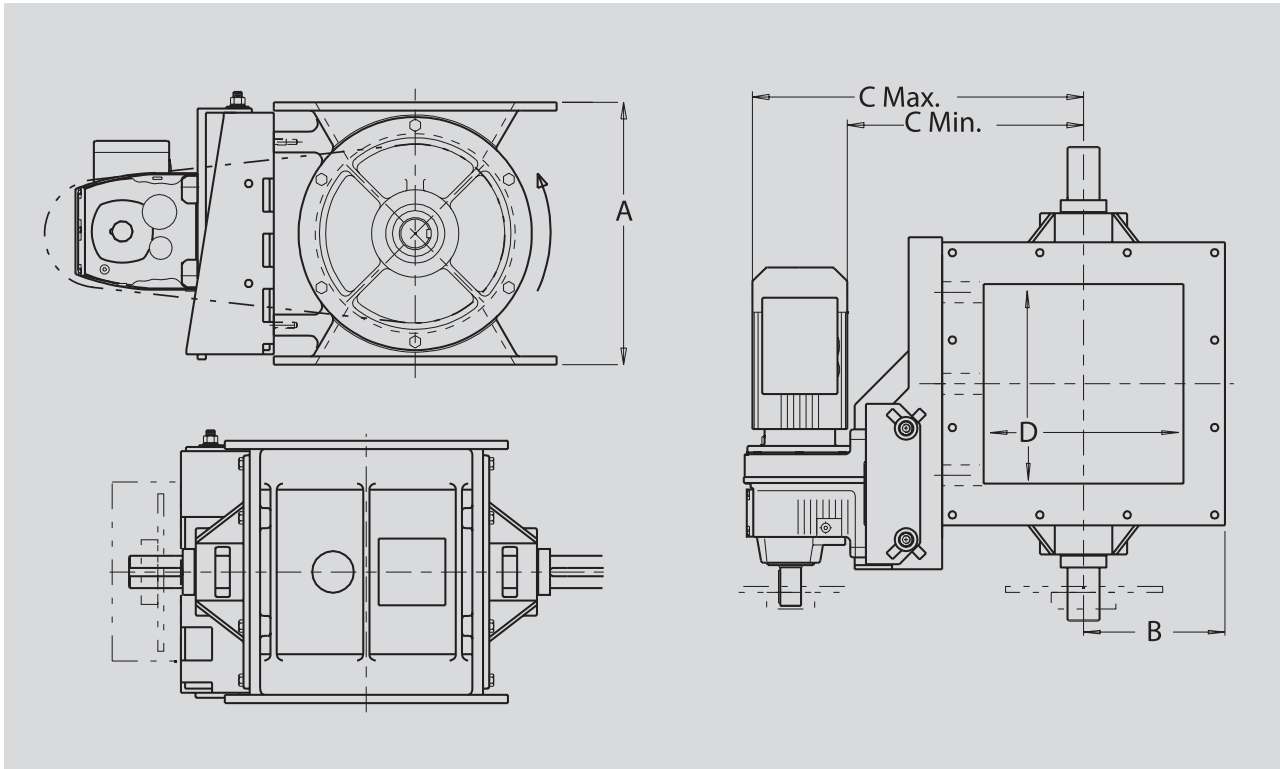
## Operating Principle

The airlock reliably meters products into conveying lines or storage areas. With open end rotors, the product comes in contact with the endplates of the housing. With closed end rotors, the product is confined within the pockets of the rotor.

## Features

- Rated up to 15 psi pressure differential
- Standard temperature rating is 200 °F (93 °C)
- Optional high-temperature rated to 450 °F (232 °C)
- Standard gray iron housing and endplates with carbon steel rotor for rugged service applications
- Optional stainless steel housing, endplates and rotor
- Rotors available with fixed or adjustable tips
- Rotors available with open or closed ends
- Radius pocket or reduced volume rotor available

## Multi Duty (MD) Airlock Dimensions



Model	Dimensions – inches (mm)					Motor (HP)	CFR	Weight
	A	B	C (Min.)	C (Max.)	D			
MD20	10.5" (267 mm)	6.0" (152 mm)	9.38" (238 mm)	18.0" (457 mm)	8" (203 mm)	0.75	0.2	285 lbs. (129 kg)
MD40	12.75" (324 mm)	7.38" (188 mm)	10.75" (273 mm)	19.31" (491 mm)	10" (254 mm)	0.75	0.4	340 lbs. (154 kg)
MD40 EX SH						1.5		
MD75	15.75" (400 mm)	8.5" (216 mm)	11.88" (302 mm)	22.06" (560 mm)	12" (305 mm)	1.0	0.75	580 lbs. (263 kg)
MD75 EX SH						1.5		
MD139	19.5" (495 mm)	10.0" (254 mm)	13.38" (340 mm)	26.19" (665 mm)	15.75" (400 mm)	1.5	1.39	720 lbs. (327 kg)
MD260	26.0" (660 mm)	12.5" (318 mm)	16.31" (414 mm)	28.19" (716 mm)	19" (483 mm)	2.0	2.6	1,220 lbs. (553 kg)
MD500	31.0" (787 mm)	12.63" (321 mm)	22.0" (559 mm)	32.19" (818 mm)	20.75" (527 mm)	3.0	5.6	1,550 lbs. (703 kg)

Dimensions are for an MD with a parallel drive package. Right angle drives are also available.

# MTA Airlock

- Heavy-duty cast, precision-machined valves
- For use in continuous dense phase convey systems
- ANSI drilling on the inlet and outlet connections
- Rated up to 30 psi pressure differential

## Application

The MTA is a logical choice for high pressure continuous dense phase convey applications requiring a valve capable of operating at differential pressures up to 30 psi.

## Equipment

The MTA is a heavy duty, precision-machined valve, complete with ANSI drilling on the inlet and outlet connections. Available in cast iron, anodized aluminum and stainless steel versions with a wide variety of options and accessories.

All MTA airlocks are standard with machined open-end, fixed relieved tip rotors, inboard bearings, machined housings and end plates. MTA-15 and MTA-30 valves have 8-vane rotors, MTA-60 and MTA-120 valves have 10-vane rotors, while the MTA-200, MTA-300 and MTA-400 valves have 12-vane rotors. Valves utilize an in-board bearing end plate design with precision clearance spherical roller bearings and PTFE spring loaded lip seals on the shaft to allow the valve to withstand the high psi differential pressure.



## MTA Specifications (Models 15 - 400)

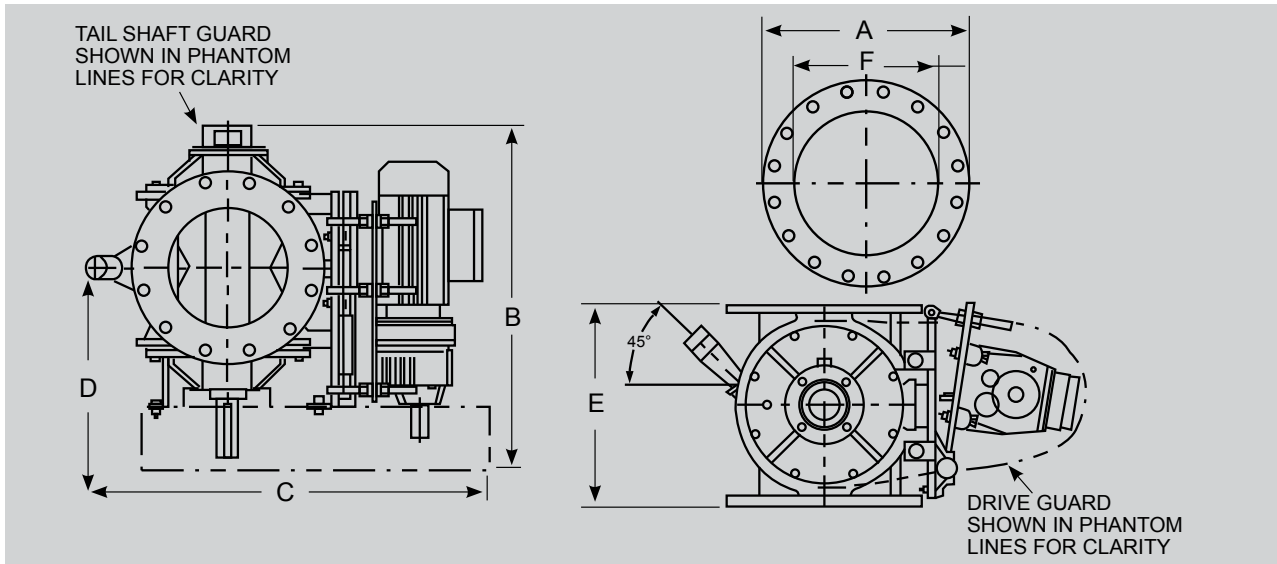
- Heavy duty cast gray iron housing, end plates (Class 30)
- Industrial grade, spring energized PTFE shaft seals
- Inboard high capacity double row spherical roller bearings
- Carbon steel rotor construction
- ANSI top and bottom flange drilling
- Housing vent with cover plate
- Clockwise rotation from drive end

## Options (Models 15 - 400)

- Stainless steel or hard anodized aluminum housing and end plates
- Parallel shaft drive
- 10-vane or 12-vane open end or closed end rotor with fixed plain tips
- Adjustable tips
- Abrasion resistant coatings
- Housing vent port adaptor
- Food grade shaft seals
- Motion indicator
- Variable speed drives
- Air purged seal with lantern ring
- End plate purge (closed end rotors only)
- Handles temperatures for service up to 350 °F (177 °C)
- Optional exterior coatings are available



# Dimensions



Model	Dimensions						CFR*	HP
	A	B	C	D	E	F		
MTA15	11.5" (292 mm)	22.13" (562 mm)	29.5" (749 mm)	13.25" (337 mm)	12.0" (305 mm)	6.0" (152 mm)	0.19	0.75
MTA30	13.5" (343 mm)	25.06" (637 mm)	31.56" (802 mm)	15.19" (386 mm)	13.88" (353 mm)	8.0" (203 mm)	0.33	0.75
MTA60	16.0" (406 mm)	27.94" (710 mm)	33.0" (838 mm)	16.56" (421 mm)	16.5" (419 mm)	10.0" (254 mm)	0.63	1.0
MTA120	19.0" (483 mm)	31.63" (803 mm)	38.19" (970 mm)	18.43" (468 mm)	21.5" (546 mm)	12.0" (305 mm)	1.37	1.5
MTA200	21.0" (533 mm)	36.13" (918 mm)	42.19" (1,072 mm)	20.38" (518 mm)	26.75" (679 mm)	14.0" (356 mm)	2.29	3.0
MTA300	23.5" (597 mm)	37.63" (956 mm)	50.56" (1,284 mm)	21.13" (537 mm)	29.13" (740 mm)	16.0" (406 mm)	2.99	3.0
MTA400	25.0" (635 mm)	43.47" (1,104 mm)	55.25" (1,403 mm)	23.56" (598 mm)	31.5" (800 mm)	18.0" (457 mm)	4.19	5.0
MTA650	32.25" (819 mm)	45.56" (1,157 mm)	56.25" (1,429 mm)	25.63" (651 mm)	35.0" (889 mm)	23.25" (591 mm)	6.50	5.0
MTA850	32.25" (819 mm)	45.56" (1,157 mm)	56.25" (1,429 mm)	25.63" (651 mm)	40.0" (1,016 mm)	23.25" (591 mm)	8.50	7.5

\* MTA Models 15 - 400 are available in closed end as well. CFR measurements are shown as open end.

## MTA Specifications (Models 650 - 850)

- Aluminum, 356-T6 alloy or 304 stainless steel, CF-8 housing and end plates
- 304 stainless steel rotor shaft and blades
- Fabricated rotor, 12 vane, straight blade, open end and fixed relieved tips
- Housing vent with vent cover
- Fabricated carbon steel tail shaft guard
- Clockwise rotation

## Options (Models 650 - 850)

- Blow-thru, 304 stainless steel or aluminum construction, 8", 10" or 12" pipe
- Open end rotor with fixed plain tips in place of relieved tips
- Motion indicator
- Aluminum housing vent adaptor with 5" 150 lb. outlet flange pattern
- Inlet shear protector with vent piping to housing vent
- C-face reducers with TEFC or explosion proof motors

# Outboard Bearing Rotary Valve (OBRV)

- Rugged construction
- High efficiency
- Outboard bearing design offers maximum bearing support
- Minimum leakage blow-back
- Variety of rotor configurations



## Equipment

The Outboard Bearing Rotary Valve (OBRV) is a high efficiency airlock with minimum leakage blow-back. Its outboard bearings provide the airlock with maximum bearing support.

The OBRV is designed with shaft braided packing seals that are most frequently used where product contact could damage the seals and cause bearing failure.

## Features

- Rugged construction
- High efficiency
- Outboard bearing design offers maximum support
- Minimum leakage blow-back

- Variety of rotor configurations
- Packing glands inside the housing endplates to seal the cavity from the bearings
- Bearings are fitted around the shaft ends in a separate cavity away from the valve body endplates with locking collar to hold the shaft in proper end-to-end alignment

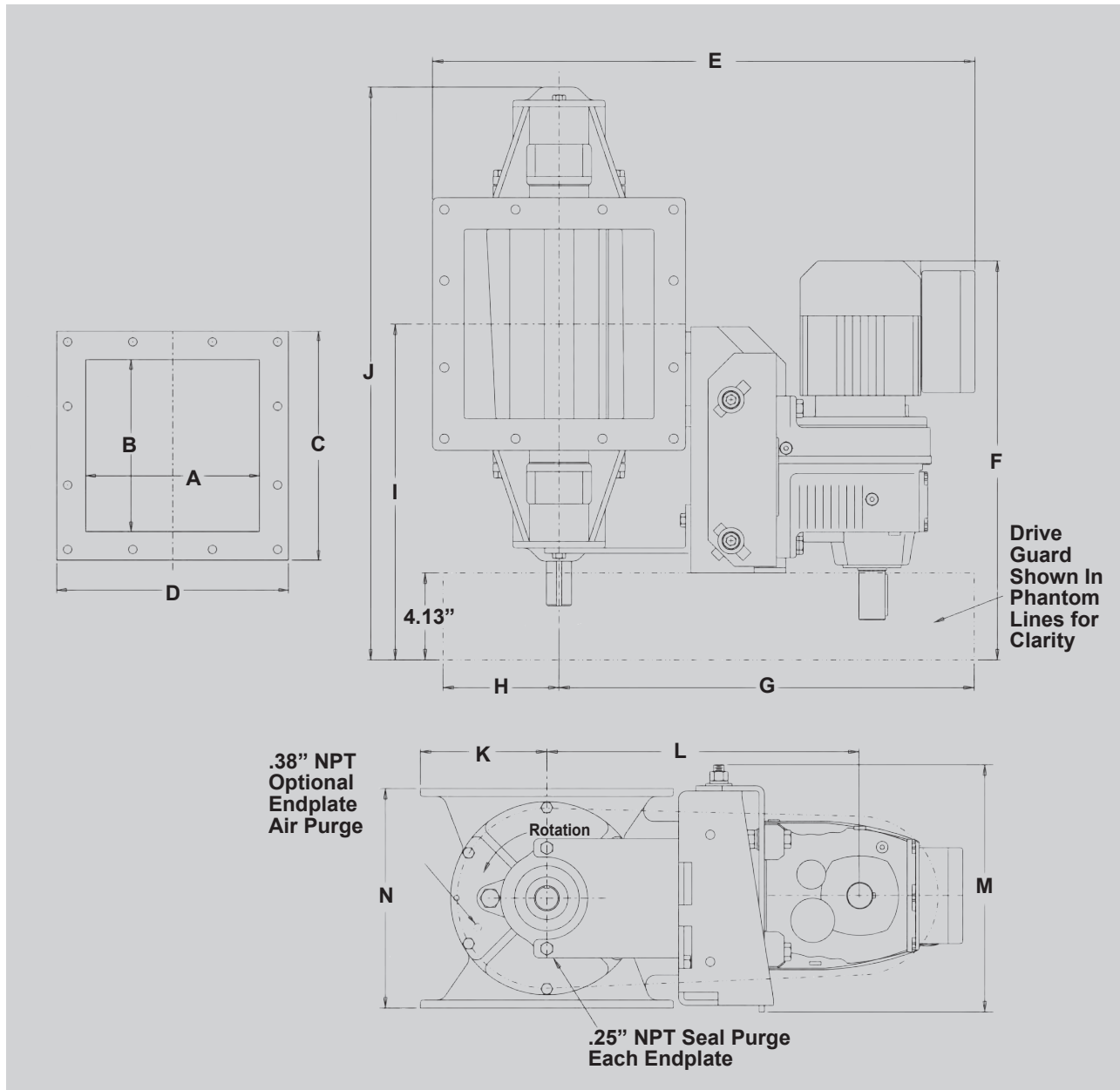
## Options

- Motion indicator
- Variable speed drives
- Seal purge
- Endplate purge (closed end rotors only)
- Hard chrome plated

Construction (material designation – housing / end plates / rotor)				
	CI/CI/CS	CI/CI/SS	SS/SS/SS	AL/AL/SS
Housing	Gray Iron Class 30 Outboard bearing design	Gray Iron Class 30 Outboard bearing design	Cast Alloy CF-8 (304 SS) Outboard bearing design	Aluminum Alloy 356-T6 Hard anodized Rectangular inlet/outlet flanges
End Plates	Gray Iron Class 30 Outboard bearing design	Gray Iron Class 30 Outboard bearing design	Cast Alloy CF-8 (304 SS) Outboard bearing design	Aluminum Alloy 356-T6 Hard anodized Outboard bearing design
Maximum Pressure Rating	15 PSI		15 PSI	15 PSI
Standard Rotor	Carbon Steel c1018 CRS 8 vanes* open adjustable beveled tip rotor	304 Stainless Steel 8 vanes* open adjustable beveled tip rotor	304 Stainless Steel 8 vanes* open adjustable beveled tip rotor	304 Stainless Steel 8 vanes* open adjustable beveled tip rotor

(\*OBRV-02 has 6 vanes) CI = Cast Iron CS = Carbon Steel SS = Stainless Steel AL = Aluminum

# Outboard Bearing Rotary Valve (OBRV) Dimensions



Model	Dimensions (inches)														Motor (HP)	CFR	Weight (lbs.)			# of Rotor Vanes
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			Grey Iron	Aluminum	304 S.S.	
OBRV-02	9	9	12	12	25.69	18.94	19.69	5.5	15.94	27.19	6	14.81	11.69	10.38	0.5	0.2	240	190	240	6
OBRV-04	10	11	14.75	13.75	26.44	20.38	19.69	5.5	17.19	29.81	6.88	14.69	11.69	13.25	.75 or 1	0.4	365	265	365	8
OBRV-08	12	12	16.5	16.5	30.5	22.88	20.44	6.69	17.94	31.31	8.25	15.94	11.69	15.25	1 or 1.5	0.8	515	345	515	8
OBRV-12	14	15.25	19.75	18.5	32.88	22.88	22.5	7.44	19.5	34.81	9.25	17.31	16.06	17.75	1 or 1.5	1.2	675	430	675	8

# Round Airlock Multi-Duty (RAM)

- Round flange housing can bolt directly to cone-shaped vessel
- Rotor and housing precision machined for high degree of accuracy and close tolerances
- Incorporates superior TS4 shaft seals on each endplate
- Rugged and durable universal valve



## Application

The Schenck Process RAM airlock is a highly universal airlock. Offering rugged service, the RAM is suitable for use in dilute phase vacuum, pressure or combination vacuum/pressure pneumatic conveying systems where a round flanged inlet is preferred.

## Equipment

The Schenck Process RAM Airlock includes rotors and housing that are precision machined to obtain a high degree of accuracy and close tolerances and features outboard bearings that require no lubrication. An exclusive TS4 packing gland seal maintains superior performance up to 10 times longer than a typical three-ring seal.

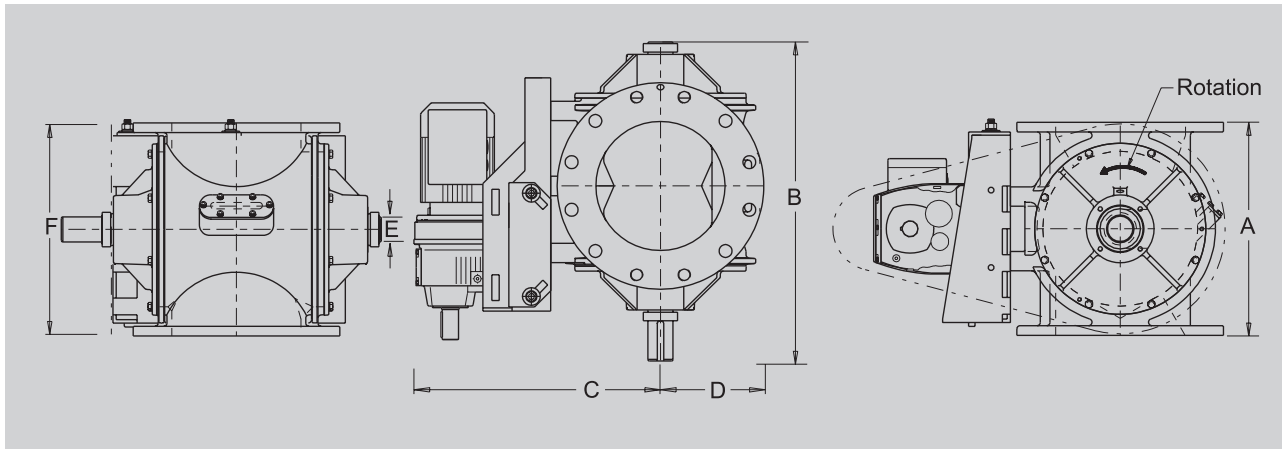
## Operating principle

The RAM airlock transfers granular or powdered materials into or out of a pressurized system. It can maintain either positive or negative pressures. The RAM is available with either open or closed end rotors. With open end rotors, the product comes in contact with the endplates of the housing. With closed end rotors, the product is confined within the pockets of the rotor.

## Specifications

- Rated up to 15 psi pressure differential
- Standard temperature rating is 200 °F
- Optional high-temperature rated to 450 °F
- Standard cast gray iron (Class 30) housing and end plates with a carbon steel rotor
- Optional stainless steel housing, endplates and rotor
- Rotors available with fixed or adjustable tips
- Rotors available with open or closed ends
- Radius pocket or reduced volume rotor available
- Chrome plated bore and endplates available.
- Optional industrial grade teflon coated rotor.
- Optional food grade silverstone coated rotor.

## Round Airlock Multi-Duty (RAM) Dimensions



Model	Dimensions – inches (mm)						CFR		HP
	A	B	C	D	E	F	OE	CE	
RAM06	12.0" (305 mm)	21.94" (557 mm)	18.75" (476 mm)	8.13" (207 mm)	1.5" (38 mm)	16.25" (413 mm)	0.19	0.17	0.75
RAM08	13.88" (353 mm)	22.88" (581 mm)	18.75" (476 mm)	5.38" (137 mm)	1.5" (38 mm)	16.25" (413 mm)	0.36	0.32	0.75
RAM10	16.5" (419 mm)	25.56" (649 mm)	22.19" (564 mm)	5.38" (137 mm)	1.94" (49 mm)	16.25" (413 mm)	0.7	0.64	1.0
RAM12	21.5" (546 mm)	28.44" (722 mm)	28.75" (730 mm)	10.13" (257 mm)	1.94" (49 mm)	20.25" (514 mm)	1.47	1.36	2.0
RAM14	26.75" (679 mm)	33.31" (846 mm)	28.75" (730 mm)	8.63" (219 mm)	2.19" (56 mm)	17.25" (438 mm)	2.39	2.25	3.0
RAM16	29.13" (740 mm)	38.44" (976 mm)	28.75" (730 mm)	10.13" (257 mm)	2.94" (75 mm)	20.25" (514 mm)	3.11	2.9	3.0

Dimensions are for RAM with a parallel drive package. Right angle drives are also available.

Model	Weight (lbs.)	
	Gray Iron	304 S.S.
RAM06	275	285
RAM08	335	345
RAM10	470	485
RAM12	800	835
RAM14	1,345	1,515
RAM16	1,940	1,980

# WG Airlock

- Urethane flex tip rotor
- Rated for -20" w.c. operation
- Fabricated housing
- Carbon steel construction

## Application

The WG Airlock is a fabricated wiper style airlock. It has a fabricated non-machined housing with a 6-vane urethane flex tip rotor. Handles a high capacity throughput. The WG Airlock is ideal for handling wood and grain dust from a dust collector hopper discharge.

## Features

- Urethane flex tip rotor
- Rated for -20" w.c. operation
- Fabricated housing
- Carbon steel construction
- Round inlet/outlet flanges



- Right angle gear box with chain drive
- Maximum operating temperature of 220 °F
- Fabricated 6 vane carbon steel rotor
- Sealed self-aligning 4 bolt flange

## With Drive

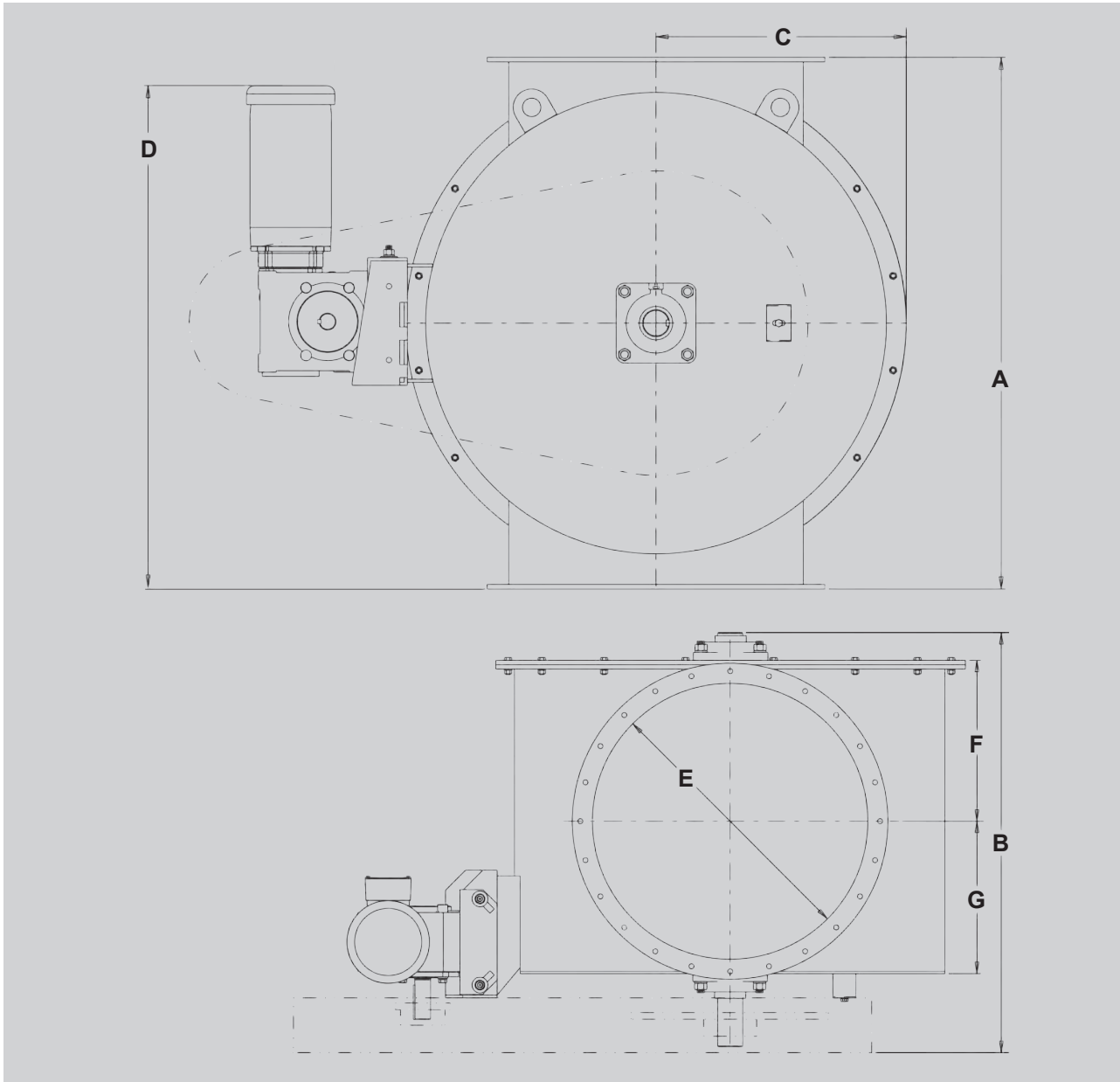
- 230/460V, 3 PH, 60 Hz

## Options

- Custom colors
- Custom bolt hole patterns
- Square inlet/outlet flanges
- Extended shaft (WG10 EXT only)



# WG Airlock Dimensions



Model	Dimensions (inches)							CFR	Motor (HP)	Weight (lbs.)
	A	B	C	D	E	F	G			
WG08	19	19.31	8.25	24.81	8	5.81	5.19	0.71	0.75	255
WG10	23	21.31	10.25	26.81	10	6.81	6.19	1.47	0.75	320
WG10 EXT	23	27.19	10.25	30.81	10	6.81	6.19	1.47	1.5	440
WG12	27	24	12.25	30.31	12	7.81	7.19	2.64	1	465
WG16	33.25	28	15.38	33.44	16	9.81	9.19	5.64	1	625
WG20	37.25	32.69	17.38	37.94	20	12	11.25	9.12	1.5	1,010
WG24	43.25	36.69	20.38	40.94	24	14	13.25	15.47	1.5	1,285
WG30	61.5	43.88	29.25	52.13	30	17	16.25	42.35	3	2,270

# Airlock Accessories

- Offering a wide range of airlock accessories: drives, purge kits, blow-thru adapters, surge hoppers and more



## Airlock Drives

### Right Angle

Right angle drives put the motor and rotor at a right angle. A very commonly used arrangement, right angle drives increase the required headroom for the airlock. The right angle drive is less expensive than the parallel shaft arrangement. Airlocks can be purchased with or without drives, right angle or parallel shaft.

### Parallel Shaft

Parallel shaft drives set the motor parallel to the rotor and airlock housing. A parallel shaft drive is more efficient than a right angle drive, enabling the use of a smaller motor while providing a higher amount of torque.



RAM Airlock with right angle drive

## Air Purge Kits

An air purge kit is added to an airlock to eliminate product degradation on the airlock seals and bearings. Air purge should be set at 5 PSI above the pressure in the conveying line.



# Wear Resistant Airlock Packages

- Extend airlock life
- Increase operation run time
- Reduce maintenance time
- Keep system running like new
- Increase profitability



Is airlock wear eroding your profit? Let Schenck Process increase the life of your airlock and your profit with wear resistant packages.

Wear is difficult to control, as there are many types and different ways to combat it. At Schenck Process, we examine and study wear patterns to find a solution that will extend the life of your airlock.

Wear can occur in pneumatic conveying or gravity applications. Each has specific characteristics that must be addressed in different ways.

Wear of a few thousandths of an inch on a rotor or housing can cause conveying air leakage. The conveying air leakage will result in a less efficient conveying system and decreased production levels, leading to higher energy costs.

When should you consider investing in wear resistant options? Any time you have an airlock that is not meeting the desired life, impacting production uptime or is difficult to replace.

Schenck Process would like to inspect your worn airlock. We look at wear patterns and recommend what wear resistant options you require. We document the wear history of your airlock and use that information to evaluate life cycles, recommend Preventative Maintenance Programs and improve your process.

## Application

- Wear resistance coatings can be applied to airlock housing bores, end plate faces, rotor tips/blades
- Coatings are dipped, sprayed (HVOF) or tiled
- All coatings are ground or machined finished for tight tolerance

# Wear Resistant Airlock Packages

## Options

### Hard Chrome

- Rockwell C 55 to 70, 0.001" - 0.003" thick on rotor blades, housing bore or end plate faces
- Most cost efficient solution that provides basic wear resistance and improves surface release

### Nedox

- Rockwell C 65, 0.001" - 0.002" thick (on all airlock surfaces)
- FDA approved food grade surface that will not chip or flake
- Provides basic wear resistance and greatly increases surface release characteristics

### Ceramic Spray

- Rockwell C 72, 0.012" - 0.018" thick on housing bore or end plate faces
- Excellent wear resistance and improves surface release
- More effective wear resistance than hard chrome or Nedox

### Tungsten Spray

- Rockwell C 64 to 78, 0.003" - 0.005" thick on rotor blade tips
- Excellent abrasion and sliding wear resistance combined with impact resistance
- More effective wear resistance than hard chrome or Nedox

### Ceramic Tiles

- Rockwell 45N 75, 0.125" thick tiles
- Superior wear resistance compared to coatings and sprays
- Individual tiles can be replaced at time of rebuild
- Tiles vacuum bonded to base metal

### Tungsten Tiles

- Rockwell HRA 91.3, 0.125" thick tiles
- Superior wear resistance compared to coatings and sprays
- Individual tiles can be replaced at time of rebuild
- Tiles brazed to base metal



# Rotary Airlock Application Form

schenckprocess



**Name**   **Job Title**  **Company Name**   
First Name Last Name

**Address**       
Street Address Line City State Zip Code Country

**Phone Number**   **Email**   
Area Code Phone Number

## Is it a Replacement or New Application?

Replacement  New Application

Manufacturer Model Number Serial Number

## Location

Indoors  Outdoors

## Hazardous Area Certification

## Equipment Above Rotary Valve

Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

## Pressure Type

Positive  Negative  Atmospheric

## Pressure Above

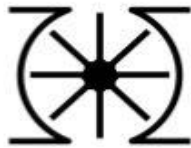
PSI  HG  H<sub>2</sub>O

## Size of Inlet/Outlet

Inches  Millimeters

## Inlet/Outlet Shape

Circle  Square  Rectangle  
 Head of Product  Continuous Feed



## Equipment Below Rotary Valve

Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo

## Pressure Type

Positive  Negative  Atmospheric

## Pressure Below

PSI  HG  H<sub>2</sub>O

Metering  Non-metering

## Exterior Paint

Standard Schenck White  Other

## Materials of Construction

Gray Iron  Aluminum  
 Carbon Steel  Stainless Steel

## Product Description

## Product Temperature

°F  °C

## Bulk Density

PCF  PPH

## Rate

kg/h  kg/m<sup>3</sup>

## Product Characteristic

Abrasive  Explosive  Tends to Pack  Heat Sensor  
 Hydroscopic  Corrosive  Other

## Particle Shape

Powder  Fibrous  Chip  
 Pellet  Flake

## Particle Size

Inches  Millimeters  Mesh  Microns

## Motor Requirements

Volts (V) / Phase / Frequency (Hz)

## Instrumentation

Volts (V) / Phase / Frequency (Hz)

## Motor Enclosure

TEFC  Explosion Proof  Inverter Duty  Other

## Drive Options

No Drive  Direct  Chain  Right Angle  
 Parallel  Slave Drive  Other

## Guard

Plastic  Aluminum  Carbon Steel  
 Carbon Steel with Front and Bottom  Other

## Other Options and Requirements

(ex. Air Purge, Motion Switch, etc.)

## Coatings

Chrome  Nedox  Ceramic  Tungsten Carbide  
 Epoxy  Other

## Packaging

Pallet (Standard)  Skeleton  Full Crate  Export Crate

# Filter Application Form

schenck process



**Name**  
   
First Name Last Name

**Job Title**

**Company Name**

**Address**  
      
Street Address Line City State Zip Code Country

**Phone Number**  
   
Area Code Phone Number

**Email**

## Is it a Replacement or New Application?

Replacement  New Application

Manufacturer Model Number Serial Number

## Location

Indoors  Outdoors

## Hazardous Area Certification

## Operating Pressure

PSI  HG  H<sub>2</sub>O

## Pressure Type

Atmospheric  Positive  Negative

## Desired Rating of Dust Collector

PSI  In HG  WC

## Inlet Type

Tangential  Radial  Hopper  High Entry  
 Bin Vent  Pneumatic Receiver  Other

## Inlet Loading

lb/hr  grains/ft<sup>3</sup>

## Pmax

bar

## Explosion Vents

Unknown  Yes  No

## KST

bar-m/sec

## Required Outlet Emission

gr/ft<sup>3</sup>  mg/m<sup>3</sup>

## Housing Type

Round  Square

## Insulated

Photohelic  Magnehelic

## Hopper Discharge

size

## Clearance below discharge

## Support Structure

Yes  No

## Timer Controls

Yes  No

## Air to Cloth Ratio

## Service Platform

Yes  No

## Other Options and Requirements

## Product Name/Description

## ACFM

## SCFM

## Elevation

## Max Temperature Range

°F  °C

## Bulk Density

## Moisture Percentage

%

## Filtration Gas

Air  Nitrogen

## Product Characteristic

Abrasive  Sticky  Hygroscopic  Wet  
 Corrosive  Fume  Other

## Particle Size

Inches  Millimeters  Mesh  Microns

## Bag Accessibility

Top  Bottom

## Cartridge/Bag

Bag  Cartridge

## Voltage Requirements

## Level Indicator

High  Low

Volts (V) / Phase / Frequency (Hz)

## Airlines

Polyflo (Standard)  Copper  304 Stainless Steel

## Rotation and Discharge (check all that apply)

Clockwise  Top  Upblast  Horizontal  
 Counterclockwise  Bottom  Downblast  TBD

## Fan Information

## Static Pressure

## Fan Mount

Top  Side

## Arrangement

V-Belt  Direct Drive

## Outlet Damper

Yes  No

## Exterior Paint

Standard Schenck White  Other

## Materials of Construction Clean Air Plenum

Aluminum  Carbon Steel  304 Stainless Steel  316 Stainless Steel

## Materials of Construction Dirty Air Plenum

Aluminum  Carbon Steel  304 Stainless Steel  316 Stainless Steel

## Epoxy Options

Industrial  Food Grade

## Filter Media (if not chosen by vendor)

## Weld Requirements

CG 24  CG80  CG80  Other

## Ground Wire Required

Yes  No

## Filter Cage

Galvanized  Stainless Steel  Epoxy



# Valve & Diverter Application Form

schenckprocess



## Name

First Name

Last Name

## Job Title

## Company Name

## Address

Street Address Line

City

State

Zip Code

Country

## Phone Number

Area Code

Phone Number

## Email

## Is it a Replacement or New Application?

- Replacement  New Application

Manufacturer

Model Number

Serial Number

## Location

- Indoors  Outdoors

## Hazardous Area Certification

## Pressure Type

- Positive  Negative  Gravity

## Line Pressure

 PSI  HG  H<sub>2</sub>O

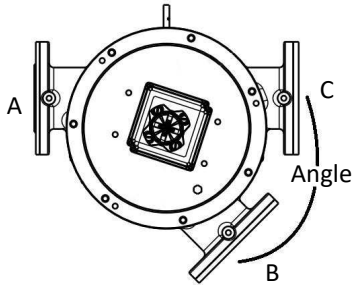
## Line Size

 Inches  Millimeters

## Inside Diameter

 Inches  Millimeters

## Outside Diameter

 Inches  Millimeters

Angle =

A to B & C

B & C to A

## End Type

- Flanged End  Stubbed End

## Actuator

- Not Required  Linear (Electric Actuator)  Rotary (Rack and Pinion)  
 Manual  Linear (Air Cylinder)  Rotary (Vane)

## Solenoid

- Not Required  Single Coil  Double Coil

## Limit Switch

- Not Required  Mechanical Type  Proximity Type

## Voltage Requirements

Volts (V) / Phase / Frequency (Hz)

## Cavity Purge Kit Required

- Yes  No

## Position Indicator

- Yes  No

## Product Description

## Product Temperature

 °F  °C

## Bulk Density

 PCF  kg/m<sup>3</sup>

## Rate

 kg/h  PPH

## Product Characteristic

- Abrasive  Explosive  Tends to Pack  Heat Sensitive  
 Hygroscopic  Corrosive  Other

## Particle Shape

- Powder  Fibrous  Chip  
 Pellet  Flake  Other

## Particle Size

 Inches  Millimeters  Mesh  Microns

## Housing Material of Construction

- Carbon Steel  Cast Iron  
 Stainless Steel  Aluminum

## Product Contact - Material of Construction

- Aluminum  Stainless Steel

## Packaging of Equipment

- Pallet (Standard)  Skeleton Crate  Full Crate  Export Crate

## Exterior Paint

- Standard Schenck White  Other

## Other Options and Requirements

(ex. Tag Number, Pre-Wire, etc)

# ProDV® (Spheri Valve®) Application Form

schenckprocess



Name  Job Title  Company Name   
First Name Last Name

Address       
Street Address Line City State Zip Code Country

Phone Number   Email   
Area Code Phone Number

## Is it a Replacement or New Application?

Replacement  New Application

Manufacturer Model Number Serial Number

## Location

Indoors  Outdoors

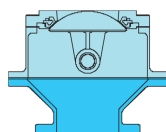
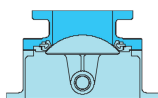
## Hazardous Area Certification

## ProDV® (Spheri Valve®) Size

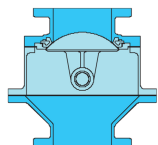
Inches

## ProDV® (Spheri Valve®) Type

Bulkhead with Top Adapter  Bulkhead with Bottom Adapter



In-line



## Inflatable Seal Material Type

Neoprene (Standard)  Viton  Blue Silicon (Food Grade)  
 Red Silicon (High Temp)  Other

## Tungsten Carbide Coating

Yes  No

## Plastite Interior Coating

Yes  No

## Air Tube

PolyFlo  Stainless Steel  Copper

## Exterior Paint Color

RAL9003 Signal White  
 RAL5002 Ultramarine Blue  
 Other

## Packaging of Equipment

Pallet (Std)  Skeleton Crate  
 Full Crate  Export Crate

## Product Description

## Operating Temperature

°F  °C

## Pressure Above Inlet Greater Than 7 PSI

Yes  No

## Bulk Density

PCF  kg/m3

## Rate

kg/h  PPH

## Product Characteristic

Abrasive  Explosive  Hygroscopic  Heat Sensitive  
 Corrosive  Tends to Pack  Other

## Particle Shape

Powder  Fibrous  Chip  
 Pellet  Flake  Other

## Particle Size

Inches  Millimeters  Mesh  Microns

## Actuator

Not Required  Rotary (Vane)  Linear (Air Cylinder)

## Solenoid

Not Required  Single  Double

## Voltage Requirements

Volts (V) / Phase / Frequency (Hz)

## Position Indicator

Yes  No

## Other Options and Requirements

# Gate Valves Application Form

schenckprocess



**Name**  
   
First Name Last Name

**Job Title**

**Company Name**

**Address**  
      
Street Address Line City State Zip Code Country

**Phone Number**  
   
Area Code Phone Number

**Email**

**Is it a Replacement or New Application?**  
 Replacement  New Application

Manufacturer Model Number Serial Number

**Location**  
 Indoors  Outdoors

**Purpose of Valve**  
 Divert Material Flow  Meter Material Flow  Process Gate  
 Maintenance Gate  Shut Off Material Flow

**Valve Size**

**Connection**  
 Flanged  Stub

**Valve Shape**  
 Round  Square  Rectangular

**Piping/Tubing**  
 Pipe Schedule   
 Tubing Gauge

**Conveyance**  
 Pressure  Vacuum  Gravity

**Pressure/Vacuum Rating**  
  PSI  HG  H<sub>2</sub>O

**Material Contact**  
 Carbon Steel  Aluminum  304 Stainless Steel  
 316L Stainless Steel

**Orientation of Valve**  
 Horizontally  Vertically

**Equipment Below Gate Valve**  
 Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

**Equipment Above Gate Valve**  
 Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

**Product Description**

**Product Temperature**  
  °F  °C

**Bulk Density**  
  PCF  PPH

**Product Characteristic**  
 Abrasive  Explosive  Hygroscopic  
 Corrosive  Tends to Pack  Other

**Particle Shape**  
 Powder  Fibrous  Chip  
 Pellet  Flake  Other

**Particle Size**  
  Inches  Mesh  Millimeters  Microns

**Actuator**  
 Electric  Air Cylinder  Hand Crank  Wheel

**Controls Required**  
 Solenoid  Position Indicator Switches  
 Pre-wired Terminal Box

**Close Through Material**  
 Yes  No

**Voltage**  
 110/120V  24VDC  220 VAC  Other

**Class, Division, and Group**

**NEMA Rating**  
 NEMA 4  NEMA 4X  NEMA 7/9

**ATEX Certification Required**  
 Gas  Dust  Both  Not Required

**Other Options and Requirements**

# Series Feeder Application Form

schenckprocess



**Name**   **Job Title**  **Company Name**   
First Name Last Name

**Address**  
      
Street Address Line City State Zip Code Country

**Phone Number**   **Email**   
Area Code Phone Number

## Is it a Replacement or New Application?

Replacement  New Application  
    
Manufacturer Model Number Serial Number

## Product Description

**Product Temperature**   °F  °C **Bulk Density Min-Max**  PCF PPH

**Product Characteristic**  
 Abrasive  Explosive  Hygroscopic  Heat Sensor  
 Corrosive  Tends to Pack  Other

**Particle Shape**  
 Spherical  Fibrous  Crystal  
 Granular  Flake  Other

**Particle Size Min-Max**   Inches  Millimeters  Mesh  Microns

**Process Feed Rate**   kg/h  lbs/hr **Process**  Batch  Continuous

**Flow**  
 Measuring Only  Measuring and Controlling

**Accuracy Required** +/-  **Feed Rate Verification**  Required  Not Required

**Refill Device Used**  
 Bulk Bag  Rotary Feeder  Slide Gate  Screw Conveyor  
 Manual  Pneumatic Conveyor  Other

**Equipment Below Feeder**  
 Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

**Volumetric Refill Rate for Equipment Below Feeder**   kg/h  lbs/hr

**Material Degradation a Detriment to the Process**  
 Yes  No

**Downstream Device Inlet Dimensions**

**Downstream Vapors**

**Downstream Temperature**

**Downstream Pressure**

**Center of Inlet to Center of Discharge Dimension**

## Ambient Room Temperature Min-Max

°F  °C

**Location**  Indoor  Outdoor **Motor Proximity to Equipment**

## Computer Controller Proximity to Equipment

## Allowable Equipment Envelope

Wide:  Deep:  High:

## Environmental Conditions

Water Washdown  Chemical Washdown  Dust-Free  Sanitary

## Explosive Atmosphere (Class, Division, Group(s))

## Service

Industrial  Food  Pharmaceutical  Dairy

## Motor Drive

Volts (V) / Phase / Frequency (Hz)

## Instrumentation

Volts (V) / Phase / Frequency (Hz)

## Host Communication

Yes  No

## Device Brand/Model

## Communication Protocol

## Enclosure Mounting Style

Loose  19" Rack  Wall  Panel

## NEMA Rating

Drive:  Instrumentation:

## Estimated Wire Run Distance from Control to Equipment

## Agency Approvals Required

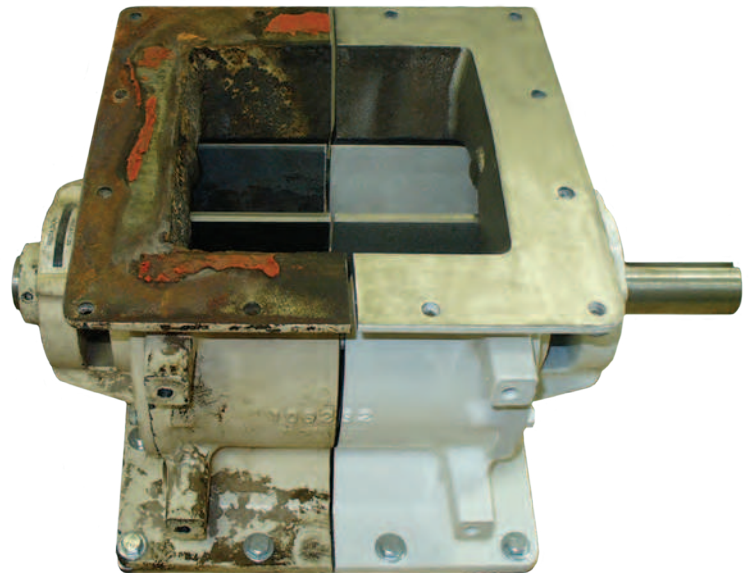
UL  CSA  CE  Other

## Other Options and Requirements

(ex. Air Punge, Motion Switch, etc.)

# Airlock and Valve Rebuild Program

- Rebuild of all brands of airlocks and valves
- No cost teardown and evaluation
- Airlocks and valves are rebuilt with OEM parts and specifications
- Recommendations will be provided based on our full understanding of your process/application
- Full factory warranty for 12 months



(Before) (After)

Rebuilt valves and airlocks are ideal for everyday operations or as emergency spares. The Schenck Process Valve and Airlock Rebuild Program can help you reduce total ownership costs by extending the life of your equipment.

Skilled factory-trained technicians at our Sabetha, Kansas facility will complete a thorough evaluation of your equipment. Our trusted experts can review the wear patterns, study the application and make recommendations to improve the performance and extend the life of your valve or airlock. Your product's rebuild history is documented and that information is used to evaluate life cycles, recommend preventative maintenance programs and changes to your process.

Equipment is rebuilt with high-quality OEM parts, and all major components are refurbished in our state-of-the-art machining center and fabrication facility. Our shop has the ability to repair and rebuild all brands of valves and airlocks to original manufacturer's tolerances and specifications.

## The Process

- Contact your Schenck Process Sales Representative for the Repair Evaluation Request
- Obtain Return Material Authorization (RMA) and ship equipment to the Schenck Process facility
- Upon teardown and evaluation, you will be provided a detailed report with a quotation for the rebuild and a new replacement comparison
- Issue a PO for a rebuilt or new replacement valve or airlock

## Guarantees

- 12-month full factory warranty for all parts and labor
- Direct access to skilled factory-trained rebuild technicians and trusted experts
- Stocked parts, components and complete valves and airlocks to ensure quick turnaround

# Airlock and Valve Rebuild Program

## Available Upgrades

Get more life out of your rebuild with upgrades such as:

- Hard Chrome
- Nedox Coating
- Ceramic Coating
- Tungsten Carbide Coating
- Ceramic Tiles
- Tungsten Tiles
- Teflon Coating
- Different Rotor Configurations (closed vs. open, replaceable tip vs. fixed or relieved, radius pocket)
- Different Finishes and Materials of Construction
- Air Purge and Shear Protectors
- Maintenance Gates

## On-Site Evaluations and Audits

Our on-site expert will find solutions to your everyday issues.

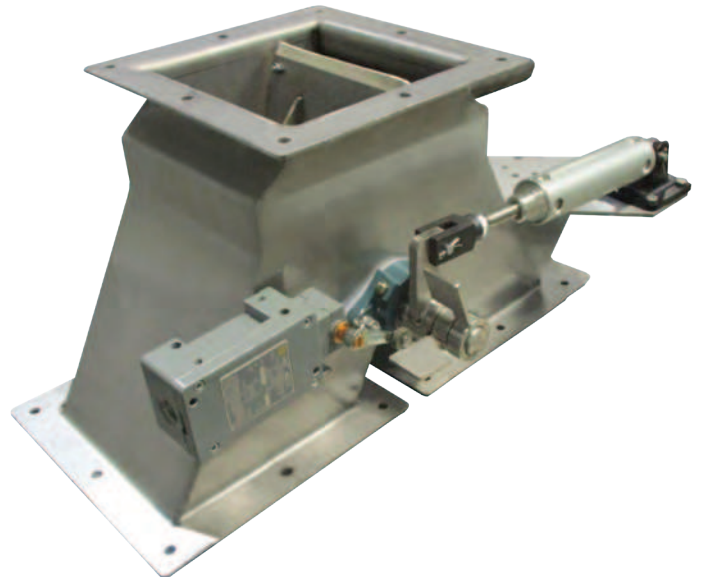
- A skilled expert will travel to your location and evaluate your equipment and process applications.
- They will work with engineering, operations and maintenance departments to help increase productivity, decrease down time and reduce maintenance costs.
- You will receive documentation of our findings for your reference, which can be used for future training.





## 2-Way “A” Valve

- Offered in both manual and air operated platforms
- Operated in gravity flow systems
- Equipped with square, flanged inlet and outlet ports
- Angle of both legs is 30° off vertical centerline



### Application

The Schenck Process manually and air-operated 2-way “A” Valves are used in gravity flow systems and come equipped with square, flanged inlet and outlet ports. The “A” Valve is designed to divert product flow from one source into two destinations. The angle of both legs is 30° off vertical centerline.

The “A” Valve is available with either a urethane flapper with shaft, bearings and bearing seal or a white, food grade neoprene flapper secured by a metal blade.

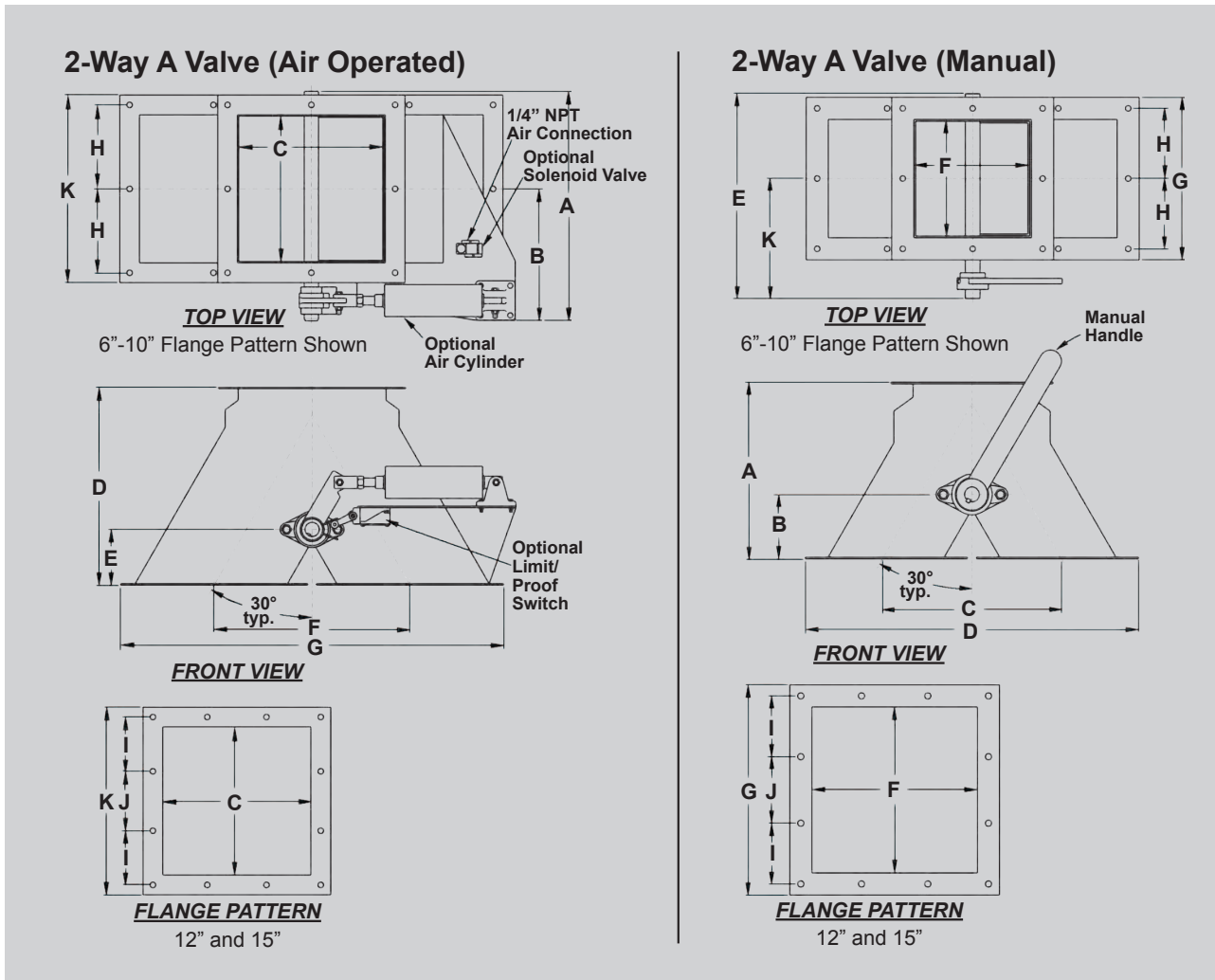
### Features

- Fully welded exterior
- Fabricated 10 gauge carbon steel, stainless steel or aluminum
- Flanged inlets and outlets
- White food grade neoprene flapper (55 durometer)
- Air operating unit requires 80 – 100 psig clean, dry air
- Temperature range -20 °F to 200 °F

### Options (Air Operated Only)

- 4-way, NEMA 4 or NEMA 9 solenoid air control valve requires 120 VAC, 60 Hz, single phase, 6.2 - 6.3 watt power source. ¼” FNPT air connection and ½” conduit connection.

# 2-Way "A" Valve Dimensions



## 2-Way A Valve (Air Operated)

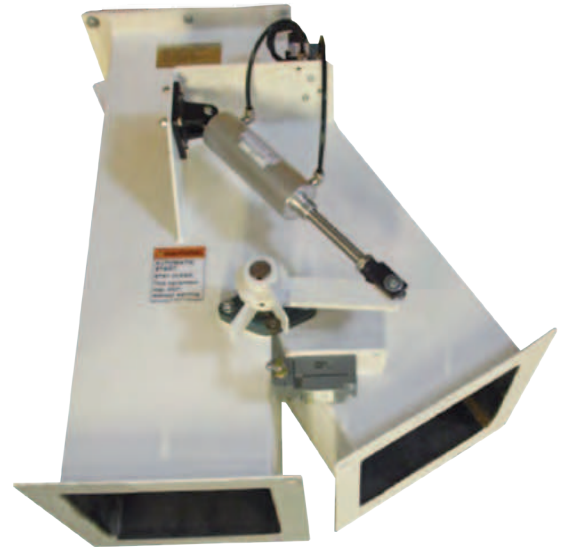
Model	Dimensions (inches)											Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	
6"	12.13	7.38	6	10	4.38	9.88	18.88	4.13	n/a	n/a	9	56
8"	14.13	8.38	8	12	4.38	11.88	22.88	4.13	n/a	n/a	11	70
10"	16.13	9.38	10	14	4.38	13.88	26.88	6	n/a	n/a	13	92
12"	18.38	10.38	12	17	5.38	17.13	33.13	n/a	4.69	4.63	16	123
15"	23.19	13.31	15	20	5.63	20.13	39.13	n/a	5.5	6	19	168

## 2-Way A Valve (Manual)

Model	Dimensions (inches)											Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	
6"	10	4.38	9.88	18.88	11.88	6	9	4.13	n/a	n/a	7.13	44
8"	12	4.38	11.88	22.88	13.88	8	11	4.75	n/a	n/a	8.13	57
10"	14	4.38	13.88	26.88	15.88	10	13	6	n/a	n/a	9.13	76
12"	17	5.38	17.13	33.13	18.13	12	16	n/a	4.69	4.63	10.13	106
15"	20	5.63	20.13	39.13	22.88	15	19	n/a	5.5	6	13	144

## 2-Way and 3-Way “Y” Valves

- Offered in both manual and air operated platforms
- Operated in gravity flow systems
- Equipped with square, flanged inlet, and outlet ports
- Fabricated 10 gauge carbon steel, stainless steel, or aluminum



### Application

The Schenck Process 2-Way and 3-Way ‘Y’ Valves are available in manual or air-operated platforms and are used in gravity flow systems. Both the manual and air-operated diverters come equipped with square, flanged inlet and outlet ports.

The 2-Way ‘Y’ Valve is designed to divert product flow in gravity systems from one source into two destinations. The valve has one straight through leg and a second leg to divert product flow at 30°.

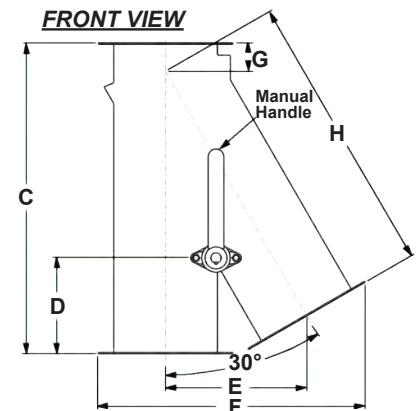
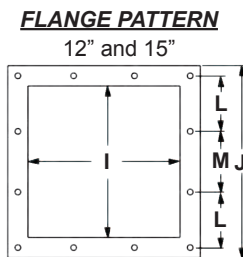
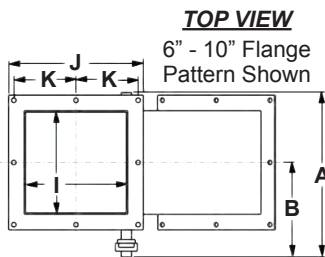
The 3-Way ‘Y’ Valve diverts product flow from one source into one of three destinations. It is designed with one straight through leg and two 30° off-vertical-centerline legs to divert product flow.

### Features

- Fully welded exterior
- Fabricated 10 gauge carbon steel, stainless steel or aluminum
- Flanged inlets and outlets
- Neoprene (55 Durometer) sandwiched flapper with shaft, bearings and bearing seal
- Temperature range -20 °F to 200 °F

### Options (Air Operated Only)

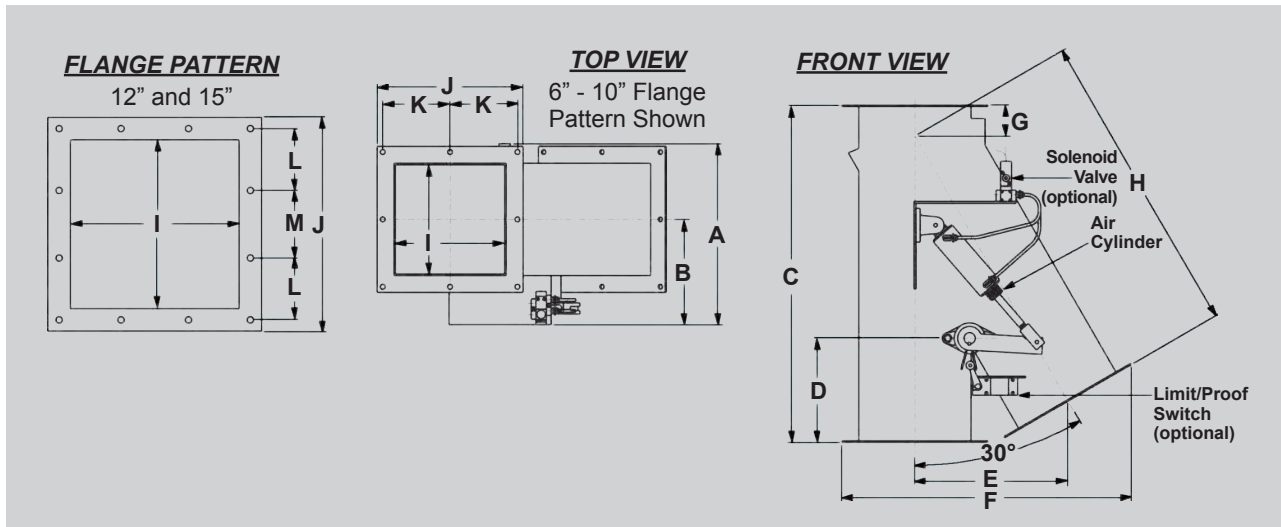
- Operating cylinder requires 80-100 psig clean, dry air
- 4-way, NEMA 4 or NEMA 9 solenoid air control valve requires 120 VAC, 60 Hz, single phase, 6.2 - 6.3 watt power source. ¼” FNPT air connection and ½” conduit connection.



### 2-Way “Y” Valve (Manual)

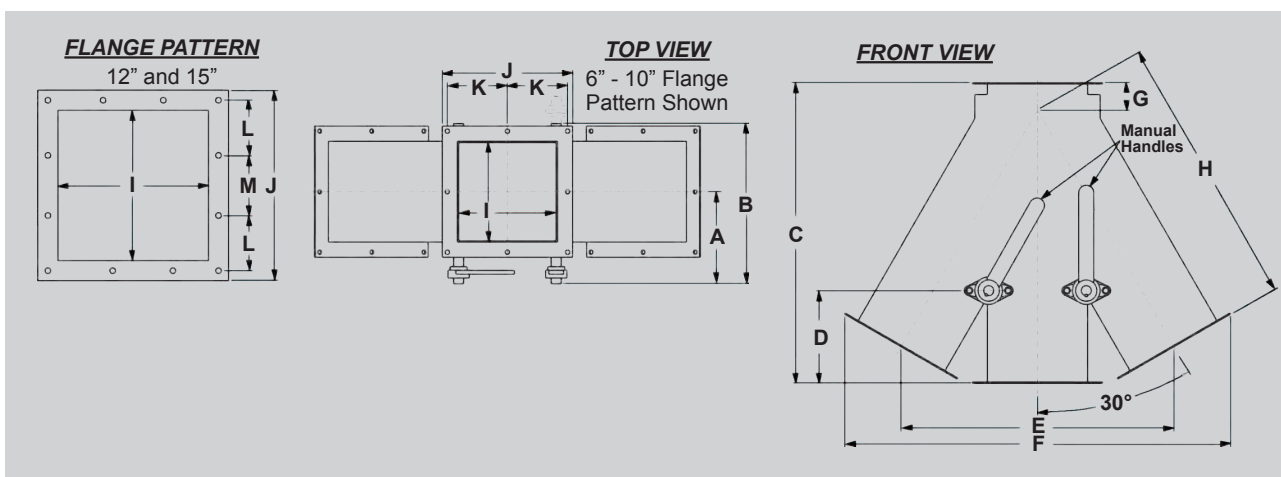
Model	Dimensions (inches)													Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M	
6”	11.88	7.13	22	9.25	9.88	18.31	2.25	19.75	6	9	4.13	n/a	n/a	71
8”	13.88	8.13	26	9.25	11.75	22	2.5	23.5	8	11	4.75	n/a	n/a	98
10”	15.88	9.13	30	9.25	13.63	25.75	2.75	27.25	10	13	6	n/a	n/a	128
12”	18.13	10.13	34	9.25	15.5	30.44	3	31	12	16	n/a	4.69	4.63	158
15”	22.8	13	40	9.5	18.25	36	3.5	36.5	15	19	n/a	5.5	6	233

# 2-Way and 3-Way “Y” Valve Dimensions



## 2-Way “Y” Valve (Air Operated)

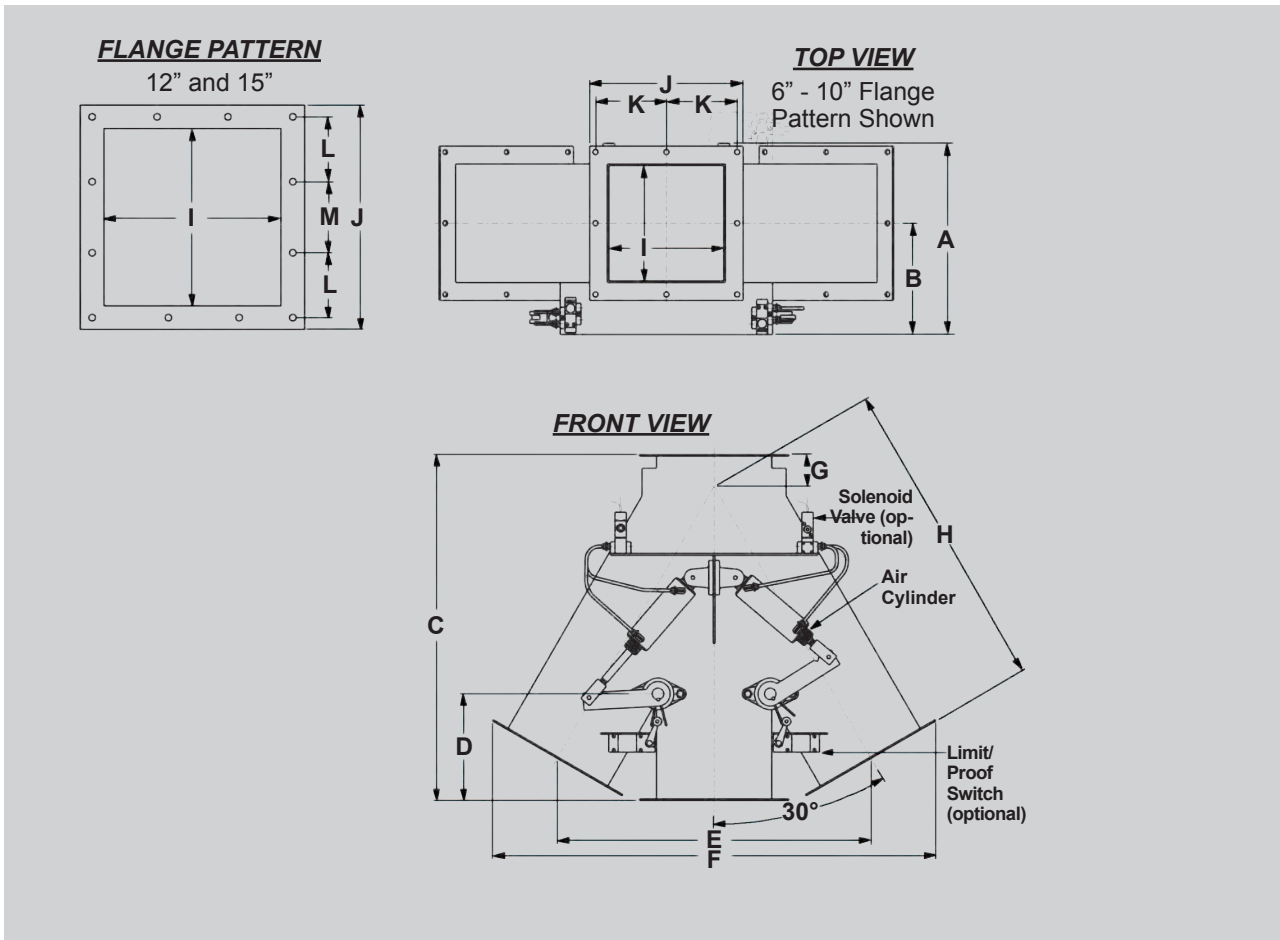
Model	Dimensions (inches)														Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M		
6"	11.88	7.38	22	9.25	9.88	18.31	2.25	19.75	6	9	4.13	n/a	n/a	93	
8"	14.13	8.38	26	9.25	11.75	22	2.5	23.5	8	11	4.75	n/a	n/a	120	
10"	16.13	9.38	30	9.25	13.63	25.75	2.75	27.25	10	13	6	n/a	n/a	154	
12"	18.38	10.38	34	9.25	15.5	30.44	3	31	12	16	n/a	4.69	4.63	186	
15"	23.19	13.31	40	9.5	18.25	36	3.5	36.5	15	19	n/a	5.5	6	260	



## 3-Way “Y” Valve (Manual)

Model	Dimensions (inches)														Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M		
6"	7.13	14.25	22	9.25	19.75	27.56	2.25	19.75	6	9	4.13	n/a	n/a	95	
8"	8.13	13.88	26	9.25	23.5	33	2.5	23.5	8	11	4.75	n/a	n/a	130	
10"	9.13	15.88	30	9.25	27.25	38.5	2.75	27.25	10	13	6	n/a	n/a	170	
12"	10.13	18.13	34	9.25	31	44.88	3	31	12	16	n/a	4.63	4.63	210	
15"	13	22.88	40	9.5	36.5	52.94	3.5	36.5	15	19	n/a	5.5	6	310	

## 2-Way and 3-Way “Y” Valve Dimensions



### 3-Way “Y” Valve (Air Operated)

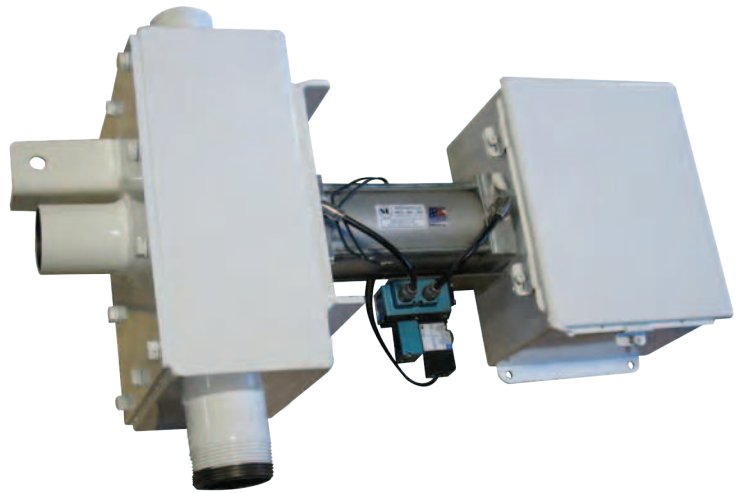
Model	Dimensions (inches)													Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M	
6"	14.75	7.38	22	9.25	19.75	27.56	2.25	19.75	6	9	4.13	n/a	n/a	123
8"	14.13	8.38	26	9.25	23.5	33	2.5	23.5	8	11	4.75	n/a	n/a	160
10"	16.13	9.38	30	9.25	27.25	38.5	2.75	27.25	10	13	6	n/a	n/a	205
12"	18.38	10.38	34	9.25	31	44.88	3	31	12	16	n/a	4.69	4.63	248
15"	23.19	13.31	40	9.5	36.5	52.94	3.5	36.5	15	19	n/a	5.5	6	346

# Air Diverter

- Automates the routing of clean air delivery to multiple locations
- Replaces manual hose switching stations
- Compact design provides easy installation
- Air tight assembly prevents loss of convey air

## Application

The Schenck Process Air Diverter with 3-way switching automates the routing of clean air delivery to multiple locations. Replace manual hose switching stations and use the Air Diverter to send air to additional product feed points or atmosphere without stopping and restarting the air source. The compact design eases installation while the diverter seal provides air tight assembly preventing loss of convey air.



## Features

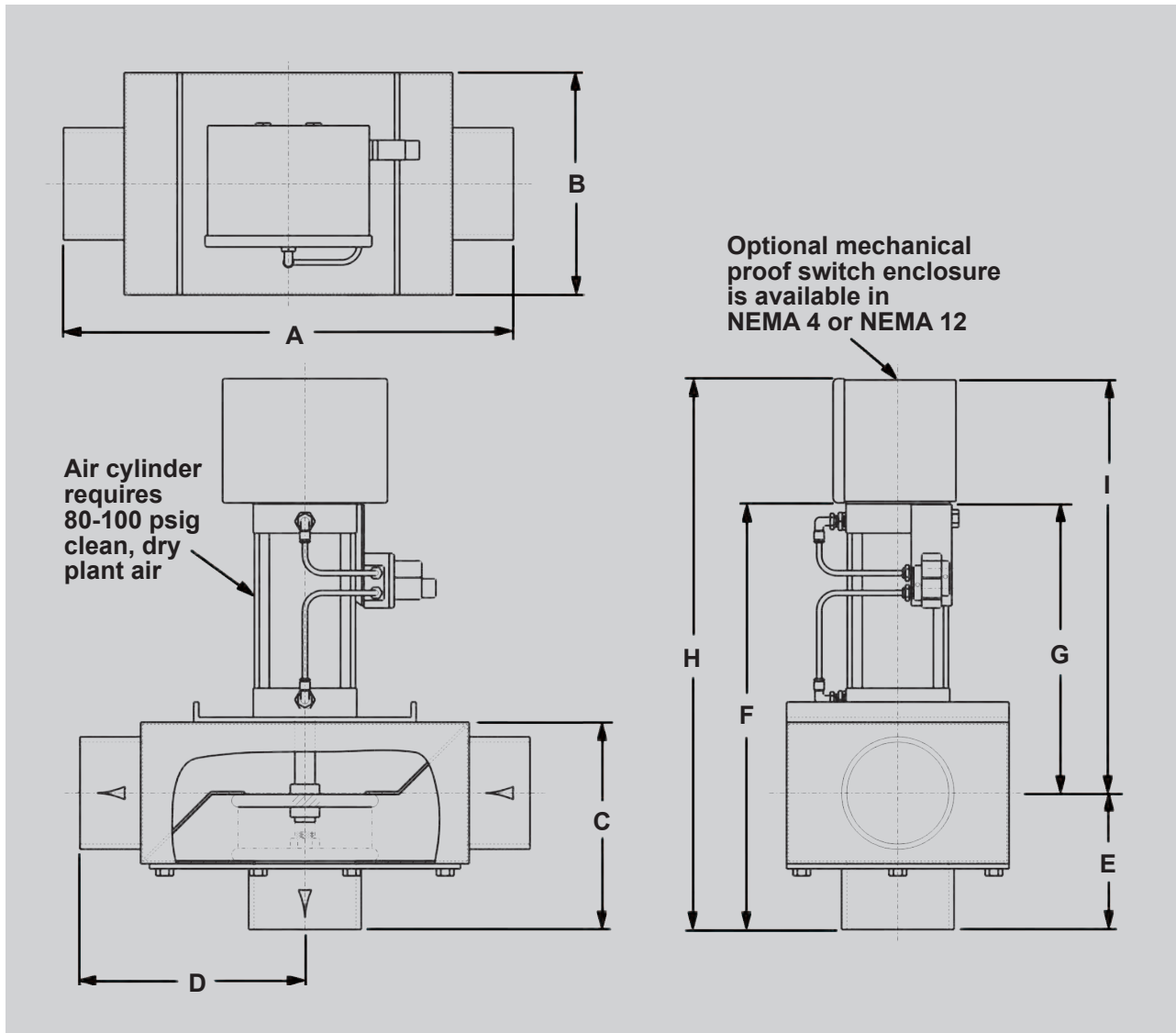
- Available in carbon steel, aluminum and stainless steel construction
- Food grade silicon seal
- Requires 80-100 psig clean, dry plant air (customer supplied)
- 4-way NEMA 4 single solenoid air control valve
- Temperature range -20 F° to 300 °F
- Pressure to 15 psig

## Options

- NEMA 4 position proof switch equipped with two spot switches – each rated to 15 amps at 125 VAC



# Air Diverter Dimensions



Line Size	Dimensions (inches)							Weight (lbs.) No Enclosure
	A	B	C	D	E	No Proof Switch F	G	
2-4	18.63	8.63	8.75	9.31	6	16.75	10.75	50
5-6	22.25	11	10.25	11.13	6.75	20.06	13.31	90

Line Size	Dimensions (inches)								Weight (lbs.) With Enclosure
	NEMA 4 Enclosure				NEMA 12 Enclosure				
	F	G	H	I	F	G	H	I	
2-4	17.75	11.75	26	20	17.75	11.75	23.88	17.88	60
5-6	21	14.25	27.19	20.44	21	14.25	27.19	20.44	100

# Blade Line Diverter

- Heavy duty wear blade with UHMW polyethylene blade seal
- Air operated, requires 90-100 psig clean, dry plant air
- Diverts product at a 30° angle
- Designed for vacuum or pressure systems



## Application

The Schenck Process Blade Line Diverter features a heavy duty wear blade with a synthetic polymer insert to seal against the valve end plates. The insert creates a tight seal reducing contamination possibilities.

The Blade Line diverts product at a 30° angle and is designed for use in vacuum or pressure systems directing material from two sources into one destination (or reverse).

## Schenck Process offers three versions of Blade Line Diverters:

- Cast iron with a pneumatic actuator in line sizes from 2-1/2" to 6"
- Cast iron with a manual actuator in line sizes from 2-1/2" to 6"
- Fabricated, air actuated model
  - line sizes 2-1/2" to 6" in stainless steel (8" and 10" are optional in stainless steel)
  - line sizes 8" and 10" in carbon steel

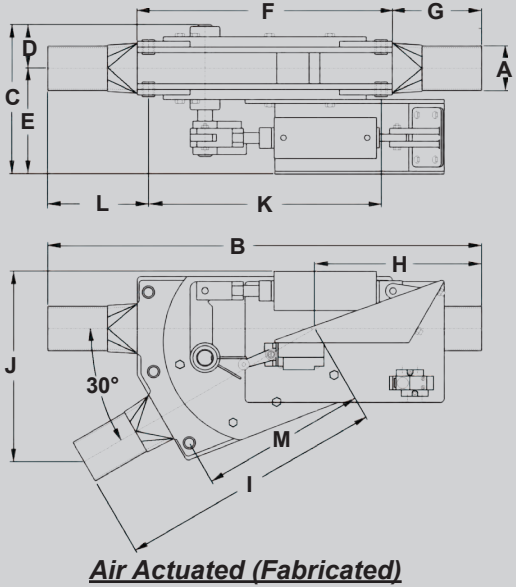
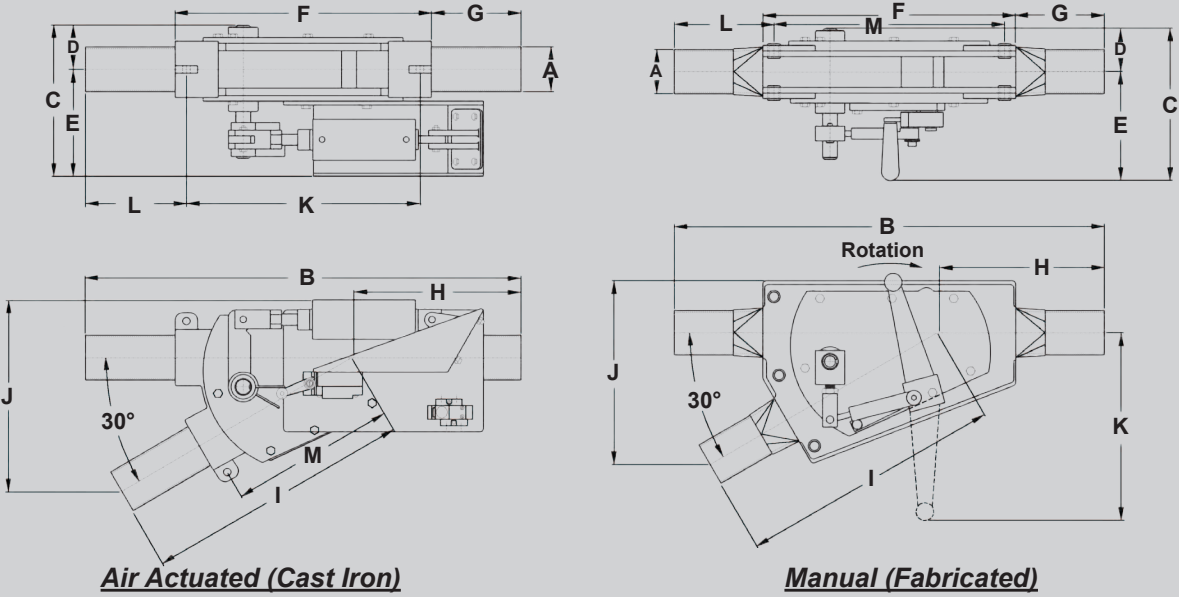
## Features

- Heavy duty wear blade with UHMW polyethylene blade seal
- Air operated, requires 90-100 psig clean, dry plant air
- Standard service temperature up to 160 °F maximum
- Maximum air pressure is 15 psig

## Options

- 4-way, NEMA 4 or single or double NEMA 9 solenoid air control valve requires 120 VAC, 60 Hz, single phase, 6.2 – 6.3 watt power source
- NEMA 4 or NEMA 9 position proof switch is equipped with 2 N.O. and 2 N.C. switches rate at 10 Amp continuous
- Fabricated 304 or 316 stainless steel construction

# Blade Line Diverter Dimensions



# Blade Line Diverter Dimensions

## Air Actuated (Cast Iron)

Model	Dimensions (inches)													Cyl.	Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M		
2.5	2.5	32.13	10.06	2.94	7.13	17.13	7.5	12.81	19.31	13.56	15.63	8.25	11.06	2-1/2 x 4	114
3	3	29.13	10.06	2.94	7.13	17.13	6	11.31	17.81	12.19	15.63	6.75	11.06	2-1/2 x 4	117
4	4	28.5	11.06	3.44	7.63	20.5	4	9.63	18.88	13.81	18.5	5	13.88	2-1/2 x 4	159
5	5	33.5	12.31	4	8.31	18.75	7.38	9.88	23.63	15.81	16.88	8.31	15.31	3 x 5	191
6	6	33.5	12.31	4	8.31	18.75	7.38	9.88	23.63	15.81	16.88	8.31	15.31	3 x 5	222

## Manual (Fabricated)

Model	Dimensions (inches)													Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M	
2.5	2.5	29.13	10.31	2.94	7.38	17.13	6	11.19	17.88	10.75	12.69	6.75	15.63	96
3	3	29.13	10.31	2.94	7.38	17.13	6	11.19	17.88	10.75	12.69	6.75	15.63	98
4	4	32.5	11.31	3.44	7.88	20.5	6	11.69	20.81	13.97	14.31	7	18.5	124
5	5	33.5	12.38	4	8.38	18.75	7.38	10	23.5	15.38	15	8.13	17.25	143
6	6	33.5	12.38	4	8.38	18.75	7.38	10	23.5	15.38	15	8.13	17.25	148

## Air Actuated (Fabricated)

Model	Dimensions (inches)													Weight (lbs.)
	A	B	C	D	E	F	G	H	I	J	K	L	M	
2.5	2.5	29.13	10.06	2.94	7.13	17.13	6	11.19	17.88	12.19	15.63	6.75	11.13	103
3	3	29.13	10.06	2.94	7.13	17.13	6	11.19	17.88	12.19	15.63	6.75	11.13	105
4	4	32.5	11.06	3.44	7.63	20.5	6	11.69	20.81	13.47	18.5	7	13.81	136
5	5	33.5	12.56	4.25	8.31	18.75	7.38	10	23.5	15.38	17.25	8.13	15.38	158
6	6	33.5	12.31	4.25	8.69	18.75	7.38	10	23.5	15.38	17.25	8.13	15.38	163
8	8	59.5	15.75	5.88	9.88	35.5	12	20	39.5	25	34	12.75	26.75	342
10	10	60	18.75	7.38	11.38	36	12	18	42	27.5	34.5	12.75	29.25	420

## Parallel Tunnel (PT45) Diverter Valve

- The 2nd generation PT diverter design introduces new features such as adjustable alignment stops located in the housing, position indication from the tunnel itself, additional actuation options and external tunnel position indication.
- Features a tunnel that rotates 45° port to port which prevents contamination and 2-way switching capability for either dilute or dense phase conveying applications
- The diverter's aluminum housing and tunnel are hard anodized for wear resistance
- This valve includes a positive food grade rubber silicone seal at each port, and can be used in convey line applications operating at line pressures up to 110 psi
- Units are available in either aluminum, 316 stainless steel or cast iron construction



### Application

This precision machined valve is designed to prevent contamination and provide line switching for either dilute or dense phase conveying. The two-way PT45 valve operates as a 1 to 2 way diverting valve or a 2 to 1 way converging valve in a pneumatic conveying system for powdered or granular materials.

### Equipment

- Cast aluminum (356-T6) housing, tunnel and endplates
- Aluminum housing and tunnel are hard anodized, .001" (.03 mm) thick, spec. AMS-2468
- Stainless steel actuator arms
- Food grade silicone rubber seal at each port
- Pneumatic cylinder actuator
- 120 volt double operator solenoid
- (2) Position indicating proximity sensors, stainless steel construction
- Ports flanged to mate 150# ANSI drilling
- Temperature: -20 °F to 200 °F (-29 °C to 93 °C)

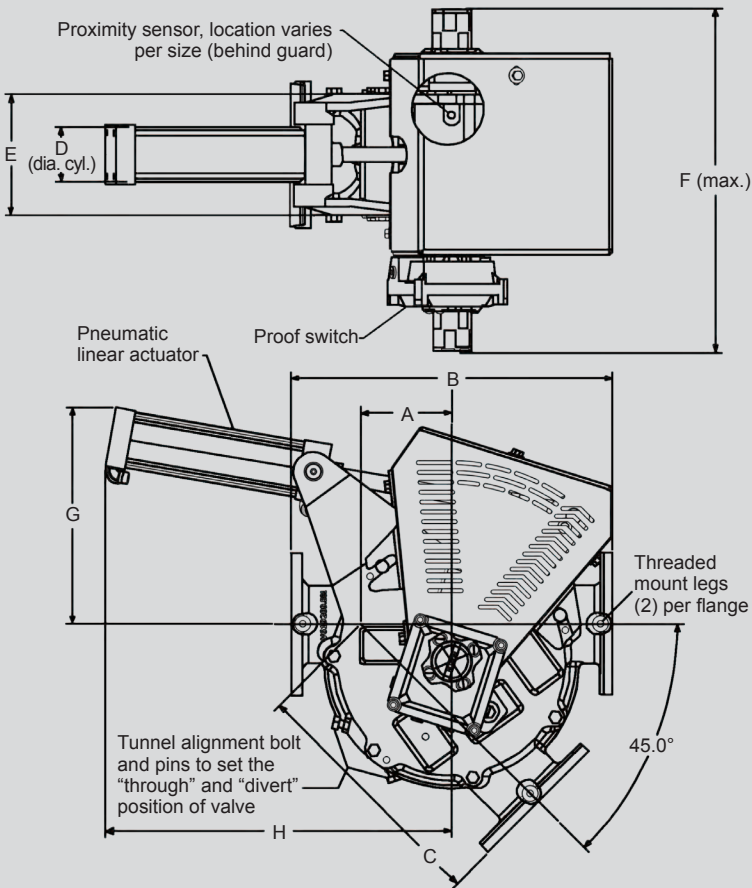
- Pressure (maximum convey):
  - 110 psig, models 20PT45 through 60PT45
  - 80 psig, model 80PT45
- Integral lifting and mounting accommodations

### Operating Principle

The tunnel is rotated forward and backwards in the housing by the actuator. This positions the tunnel to either the divert ports or the straight-through ports. The tunnel is supported by shaft bearings in the two endplates and between two thrust washers. The tunnel has position stops located in the housing for fine adjustment of both conveying positions.

Tunnel position, whether straight-through or divert, indication is made by two proximity switches mounted in the housing, sensing directly off of the tunnel. A positive seal is made through the selected position between the tunnel bore and the housing interior by seal rings. During tunnel position changes, the seal rings act like a wiper to clean the surface of the tunnel.

# Parallel Tunnel (PT45) Diverter Valve Dimensions



Proximity sensor, location varies per size (behind guard)

Pneumatic linear actuator

Proof switch

Threaded mount legs (2) per flange

Tunnel alignment bolt and pins to set the "through" and "divert" position of valve

45.0°

Options

- Cast 316 (CF8M) stainless steel housing, tunnel and endplates
- Cast iron (Class 40) housing and endplates w/cast ductile iron tunnel (Models 40PT45, 50PT45 and 60PT45 only)
- Designs for extreme temperatures as low as -45 °F (-43 °C) and as high as 300 °F (149 °C)
- 24 volt double operator solenoid
- 110 volt explosion proof or 24 volt intrinsically safe solenoids
- Intrinsically safe proximity sensors
- DPDT position proof switches (linear actuator only)
- Explosion proof DPDT position proof switches (linear actuator only)
- No-ledge coupling adaptors for housing flanges (30 - 80PT45 models)
- Electric actuator (20 - 60PT45 models)
- Pneumatic rotary actuator

Model	Pipe Size	Dimensions – Inches (mm)								Aluminum lbs. (kg)	316 Stainless Steel lbs. (kg)	Carbon Steel lbs. (kg)
		A	B	C	D	E	F	G	H			
20PT45	2	3.94 (100)	15 (381)	11.44 (291)	2.5 (64)	5.75 (146)	20.25 (514)	11.38 (289)	16 (406)	70 (31.7)	185 (83.9)	N/A
25PT45	2.5	3.88 (99)	15 (381)	11.38 (289)	2.5 (64)	5.75 (146)	20.25 (514)	11.38 (289)	16 (406)	70 (31.7)	185 (83.9)	N/A
30PT45	3	4.63 (118)	16.75 (425)	13 (330)	3.25 (83)	6.38 (162)	20.63 (524)	14 (356)	17.5 (445)	90 (40.8)	205 (93)	N/A
40PT45	4	5.75 (146)	20.31 (516)	15.91 (404)	3.25 (83)	7.63 (194)	21.75 (552)	17.25 (438)	22 (559)	125 (56.7)	290 (131.5)	290 (131.5)
50PT45	5	7.13 (181)	23.5 (597)	18.88 (480)	4 (102)	8.63 (219)	22.75 (578)	17 (432)	24.75 (629)	170 (77.1)	410 (186)	410 (186)
60PT45	6	8.38 (213)	26.44 (672)	21.59 (548)	4 (102)	9.69 (246)	24.13 (613)	18.75 (476)	24 (610)	215 (97.5)	596 (270.3)	596 (270.3)
80PT45	8	10.69 (272)	33 (838)	27.19 (691)	5 (127)	11.81 (300)	26.13 (664)	11.56 (294)	26.5 (673)	330 (149.7)	925 (419.6)	N/A



# Plug or Blade (PV/BV) Diverter Valve

- Completely enclosed and weathertight – can be used inside or outside
- Available in both 30 degree and 45 degree angles with port to port rotation of 135 or 150 degrees
- Featuring machined housings with Teflon packing gland seals, bronze shaft bushings and flanged 150 lb drilling inlet and outlet connections
- Valves are available in aluminum or stainless steel construction



## Application

PV/BV diverter valves are designed for pellet handling applications at temperatures of 250 °F maximum and line pressures up to 15 psi.

## Equipment

### Major Components BV30 Models (80-120)

- Cast aluminum (363-T5) or 304 (CF8) stainless steel housing, plug and end plates
- Aluminum parts hard anodized, .001" thk., spec. AMS-2468
- Ports flanged to mate 150# ANSI drilling
- Teflon packing gland shaft seals

### Major Components PV30 Models (20-60)

- Cast aluminum (363-T5) or 304 (CF8) stainless steel housing, plug and end plates
- Aluminum parts hard anodized, .001" thk., spec. AMS-2468
- Teflon O-ring seal between the end plate and plug periphery
- Ports flanged to mate 150# ANSI drilling
- Shaft seals: Double lip (20-60 PV30)

*For larger 30° sizes 80-120 see our PST Diverter Valve.*

### Major Components PV/BV45 Models (30-180)

- Cast aluminum (356-T6) or 304 (CF8) stainless steel housing, plug and end plates

- Aluminum parts hard anodized, .001" thk., spec. AMS-2468
- Ports flanged to mate 150# ANSI drilling
- Teflon packing gland shaft seals
- Bronze shaft bushings

## Operating principles

The Plug Valve model incorporates an internal plug and the Blade Valve model incorporates an internal blade to direct the flow of material and air through the valve housing. The internal plug or blade is rotated either 150° (30) or 135° (45) forward or backwards in the housing; this permits either diverted or straight-through material flow. The plug or blade is supported by shaft bearings or bushings in the two end plates.

The plug or blade is positioned either by a double-acting rack and pinion pneumatic actuator or by a manual handle. The pneumatic or manual actuator is fastened directly to the shaft of the plug or blade. Plug/blade position is indicated by a position switch on pneumatic models, and a visual indicator on manual models.

The housing is rendered leak-tight by plug periphery O-ring seals on PV models and packing gland shaft seals on BV models.

## Plug Style (PST30) Diverter Valve

- 30° diverter with internally, shim-able positive stops, inflatable pneumatic seals at each port and position indication
- Plug rotates port-to-port
- 2-way switching capability for either dilute or dense phase conveying
- Aluminum housing, endplates and plug are hard anodized for wear and corrosive resistance
- Can handle line pressures up to 60 psi
- Available in all aluminum or 316 stainless steel construction



### Application

This precision machined valve is designed to prevent contamination and provide line switching for either dilute or dense phase conveying. The two-way PST30 valve operates as a 1 to 2 way diverting valve or a 2 to 1 way converging valve in a pneumatic conveying system for powdered or granular materials.

### Equipment

- Cast aluminum (363) housing, plug
- Fabricated aluminum (6061-T651) end plates
- Aluminum housing, plug, and endplates are anodized, .001", spec. AMS-2468
- Food grade inflatable silicone rubber seal at each port
- Pneumatic rotary actuator
- 24VDC or 120 VAC double solenoid for rotary actuator
- 24VDC or 120 VAC single solenoid for inflatable seals
- (2) Position indicating proximity sensors, stainless steel construction
- Ports flanged to mate 150# ANSI or PN10-DIN drilling
- Temperature: -20 °F to 225 °F (-29 °C to 107 °C)
- Pressure (maximum convey): 60 psig, all models
- Integrated lifting and mounting accommodations

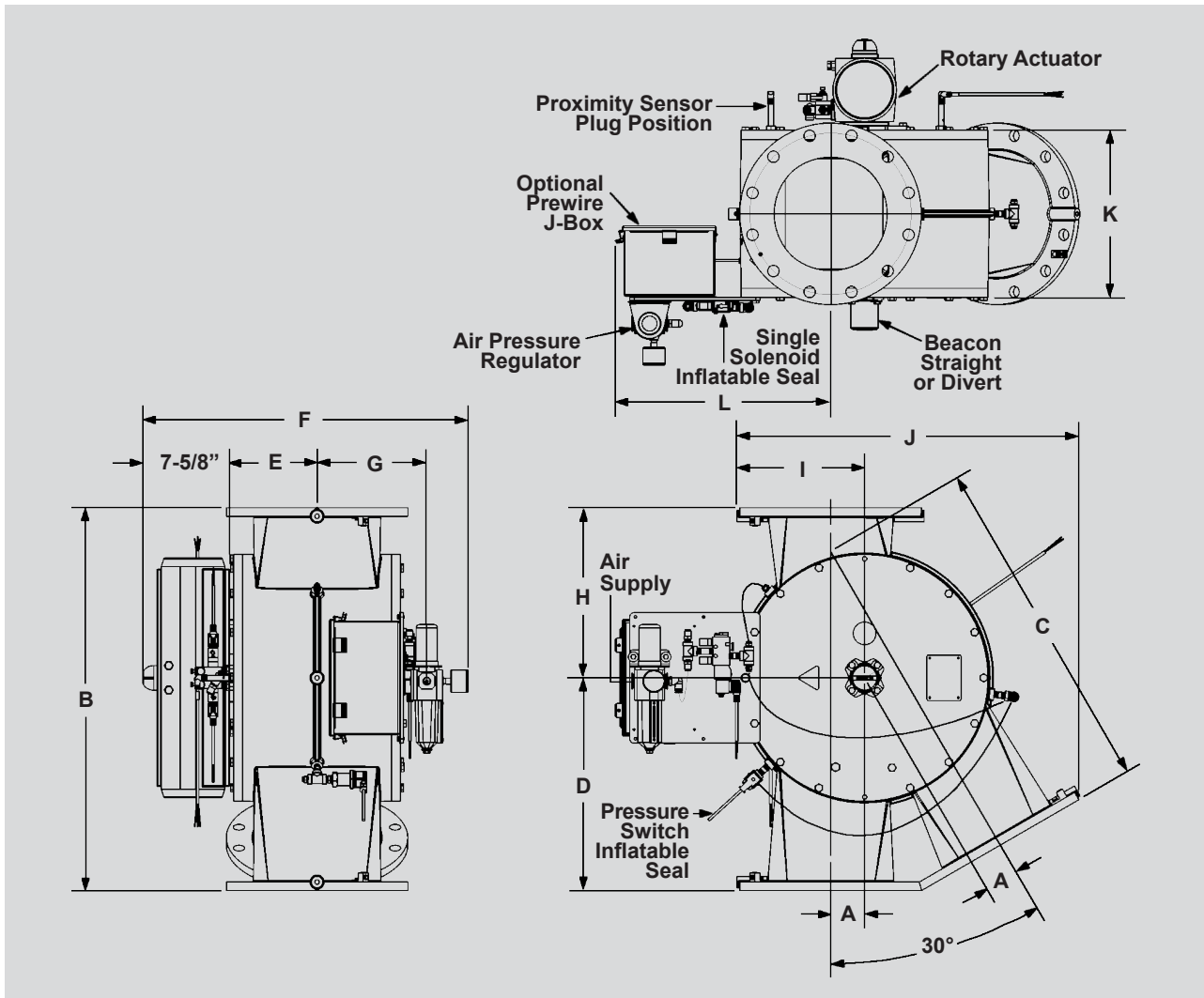
### Function

The plug is rotated forwards and backwards in the housing by the actuator, which positions the plug to either the divert ports or the straight-through ports. Shaft bearings in the two endplates and between two thrust washers provide support to the plug and positive stops located within the plug provide precise adjustment for both conveying positions.

Plug position, whether straight-through or divert, indication is made by two proximity switches mounted in the drive endplate, sensing directly off of the plug. A positive seal is made at each port, between the outside diameter of the plug and the inflated seals fixed to housing interior. During plug position changes, the seals must be deflated.

The PST30 can also be ordered without seals and serve as a drop in replacement for customers currently operating with Schenck Process PV valves. No changes in existing air lines or wiring are required as a result of replacement.

# Plug Style (PST30) Diverter Valve Dimensions



Model	Pipe Size	Dimensions (Inches)												Aluminum (lbs.)	316 SS (lbs.)
		A	B	C	D	E	F	G	H	I	J	K	L		
80PST30	8	3.19	25.5	25.03	13.5	7.75	28.69	9.69	12	10.19	25.63	14.72	15.66	226	580
100PST30	10	3	33.75	29.94	18.75	7.75	28.69	9.69	15	11.25	30.25	14.72	19	320	894
120PST30	12	4	36.75	35.69	20.75	9.88	32.97	11.81	16	13.75	35.91	19	18	425	1,118
140PST30	14	4.56	38.5	39.78	22.75	9.88	32.94	11.81	15.75	15.31	39.81	19	17.91	460	1,245

# Scale Valve (SD) Diverters

- Designed for use on top of silos
- Concurrently diverts air and product
- Temperature rating up to 250° F
- Available in cast iron, aluminum or stainless steel
- Handles operating pressures up to 15 PSI



## Application

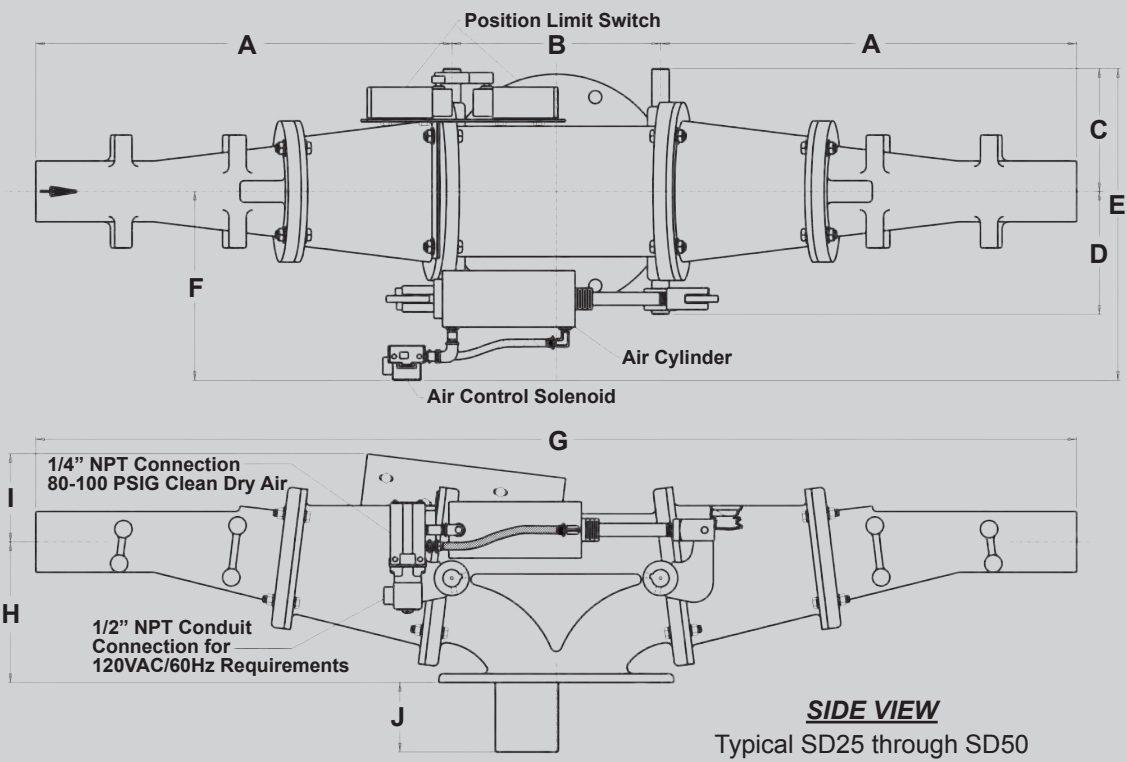
The Schenck Process Scale Valve (SD) Diverter is designed for use on top of silos and can concurrently divert air and product. Product is diverted into a receiving hopper while air continues into the return line back to the storage bin. When the desired

amount of product is delivered to the silo an electrical impulse from a level control or weigh scale triggers the SD and the valve automatically diverts the flow of product into the next receiver or back to storage.

Construction (material designation)			
	Cast Iron	Aluminum	Stainless Steel
Housing	3 parts Line adapter Cone section Body	3 parts Line adapter Cone section Body	3 parts Line adapter Cone section Body
Material	Gray iron Class 30 Cone section 356-T6	Aluminum alloy 356-T6	CF-8 cast stainless steel (304 stainless steel) Cone section 356-T6
Diverting Blades – Shafts	304 stainless steel	304 stainless steel	304 stainless steel
Sizes Available	2-1/2" x 6"	2-1/2" x 6"	3-1/2" 4" 4-1/2" 6"
Cone Section Sleeve	White polyurethane White nitrile	White polyurethane White or clear nitrile	White polyurethane White or clear nitrile
Divert Angle	90°	90°	90°
Diverter Pressure Rating	15 PSI	15 PSI	15 PSI
Temperature Rating	250° F Maximum	250° F Maximum	250° F Maximum
Option	Filter/lubricator assembly Oversized air cylinder Flanged connection on special order	Filter/lubricator assembly Oversized air cylinder Flanged connection on special order	Filter/lubricator assembly Oversized air cylinder Flanged connection on special order

Note: Line adapter and transition section denotes material of construction, cone section is always aluminum alloy.  
\*2-1/2" and 3" are 3" with transition.

# Scale Valve (SD) Diverter Dimensions

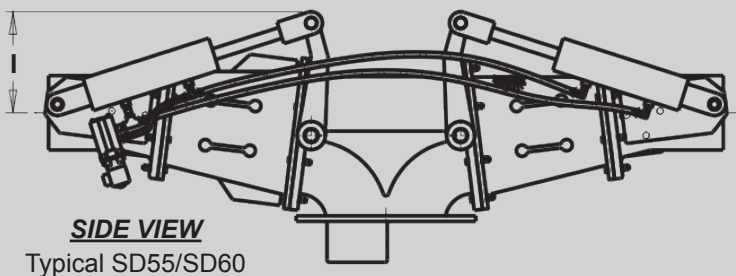


**Features**

- Stainless steel flapper and shaft
- Polyurethane or nitrile sleeve
- Standard plain end connections in pipe or tubing sizes. Flanged available by special order.

**Options**

- Limit switch proofing in NEMA 4 or NEMA 7/9
- Oversized air cylinder actuator
- Filter/lubricator assembly



**Features**

- Stainless steel flapper and shaft
- Polyurethane or nitrile sleeve
- Standard plain end connections in pipe or tubing sizes. Flanged available by special order.

**Options**

- Limit switch proofing in NEMA 4 or NEMA 7/9
- Oversized air cylinder actuator
- Filter/lubricator assembly

Model	Dimensions (inches)										Weight (lbs.)		
	A	B	C	D	E	F	G	H	I	J	GI	SS	AL
SD25	20.28	9	5.81	5.81	15.19	9.38	49.56	6.25	4	4	101	101	54
SD30	15.28	9	5.81	5.81	15.19	9.38	39.56	5.94	4.31	4	98	98	53
SD35	23.94	12	7.25	6.81	18.13	10.88	59.88	8.06	5.06	4	166	166	97
SD40	23.94	12	7.06	7.06	18.19	11.13	59.88	7.88	5.25	4	171	171	99
SD45	23.94	12	7.06	7.06	18.13	11.06	59.88	7.63	5.5	4	171	171	99
SD50	24.44	12	7.06	7.06	18.13	10.75	60.88	7.56	5.56	4	171	171	99
SD55	24.72	13.31	8.25	8.75	17.25	9	62.75	10.19	8.38	3.63	282	282	204
SD60	23.38	13.31	8.25	9.31	17.38	9.13	60.06	9.63	8.94	3.63	284	284	206

# Valve & Diverter Application Form

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## Name

First Name

Last Name

## Job Title

## Company Name

## Address

Street Address Line

City

State

Zip Code

Country

## Phone Number

Area Code

Phone Number

## Email

## Is it a Replacement or New Application?

- Replacement  New Application

Manufacturer

Model Number

Serial Number

## Location

- Indoors  Outdoors

## Hazardous Area Certification

## Pressure Type

- Positive  Negative  Gravity

## Line Pressure

 PSI  HG  H<sub>2</sub>O

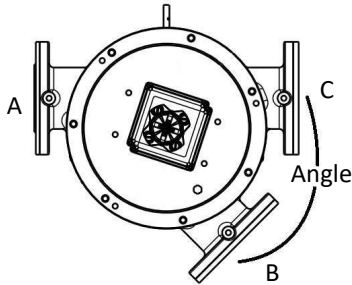
## Line Size

 Inches  Millimeters

## Inside Diameter

 Inches  Millimeters

## Outside Diameter

 Inches  Millimeters

Angle =

A to B & C

B & C to A

## End Type

- Flanged End  Stubbed End

## Actuator

- Not Required  Linear (Electric Actuator)  Rotary (Rack and Pinion)  
 Manual  Linear (Air Cylinder)  Rotary (Vane)

## Solenoid

- Not Required  Single Coil  Double Coil

## Limit Switch

- Not Required  Mechanical Type  Proximity Type

## Voltage Requirements

Volts (V) / Phase / Frequency (Hz)

## Cavity Purge Kit Required

- Yes  No

## Position Indicator

- Yes  No

## Product Description

## Product Temperature

 °F  °C

## Bulk Density

 PCF  kg/m<sup>3</sup>

## Rate

 kg/h  PPH

## Product Characteristic

- Abrasive  Explosive  Tends to Pack  Heat Sensitive  
 Hygroscopic  Corrosive  Other

## Particle Shape

- Powder  Fibrous  Chip  
 Pellet  Flake  Other

## Particle Size

 Inches  Millimeters  Mesh  Microns

## Housing Material of Construction

- Carbon Steel  Cast Iron  
 Stainless Steel  Aluminum

## Product Contact - Material of Construction

- Aluminum  Stainless Steel

## Packaging of Equipment

- Pallet (Standard)  Skeleton Crate  Full Crate  Export Crate

## Exterior Paint

- Standard Schenck White  Other

## Other Options and Requirements

(ex. Tag Number, Pre-Wire, etc)



## ProDV<sup>®</sup> (Spheri Valve<sup>®</sup>)

- “Fit and forget” reliable – up to 1,000,000 cycles between major overhauls with most materials
- One moving part ensures quick and easy maintenance
- Simple, fully proven design – no components in material flow to wear
- Can cut through moving or static columns of material
- Can handle pressures to 500 psig and material temperatures from -4 °F to 1,382 °F (-20 °C to +750 °C)
- Standard unit rated for 150 psig (10 Barg) design
- Forms pressure-tight seal when closed



### Application

More than 20,000 ProDV<sup>®</sup> (Spheri Valves<sup>®</sup>) have been sold worldwide for applications across a wide range of industries, including food, pharmaceuticals, chemicals, plastics, minerals, power, iron and steel. With a global reputation for reliability, the ProDV<sup>®</sup> has a simple robust design and only one moving part.

Common materials handled:

- |                       |             |
|-----------------------|-------------|
| ■ Abrasive            | ■ Fly Ash   |
| ■ Ash                 | ■ Friable   |
| ■ Blast Furnace Grits | ■ Hazardous |
| ■ Cement              | ■ Limestone |
| ■ Chemicals           | ■ Minerals  |
| ■ Cohesive            | ■ Ores      |
| ■ Copper Concentrate  | ■ Powders   |
| ■ Detergents          | ■ Toxic     |

### Appropriate uses for a ProDV<sup>®</sup>:

- Whenever more common valves such as knife gate, pinch, ball and butterfly valves fail when handling abrasive materials
- At pressure and where high temperatures are present

- Hopper discharge valve
- Pressure vessel inlet, outlet and vent
- Blast furnace dustcatchers vessel outlets
- High frequency duties
- Pipework isolation and routing
- Screw feeder inlet/outlet and isolation valves
- Abrasive products and differential pressures
- Reactor, dryer, lock hoppers

### Features of the ProDV<sup>®</sup>:

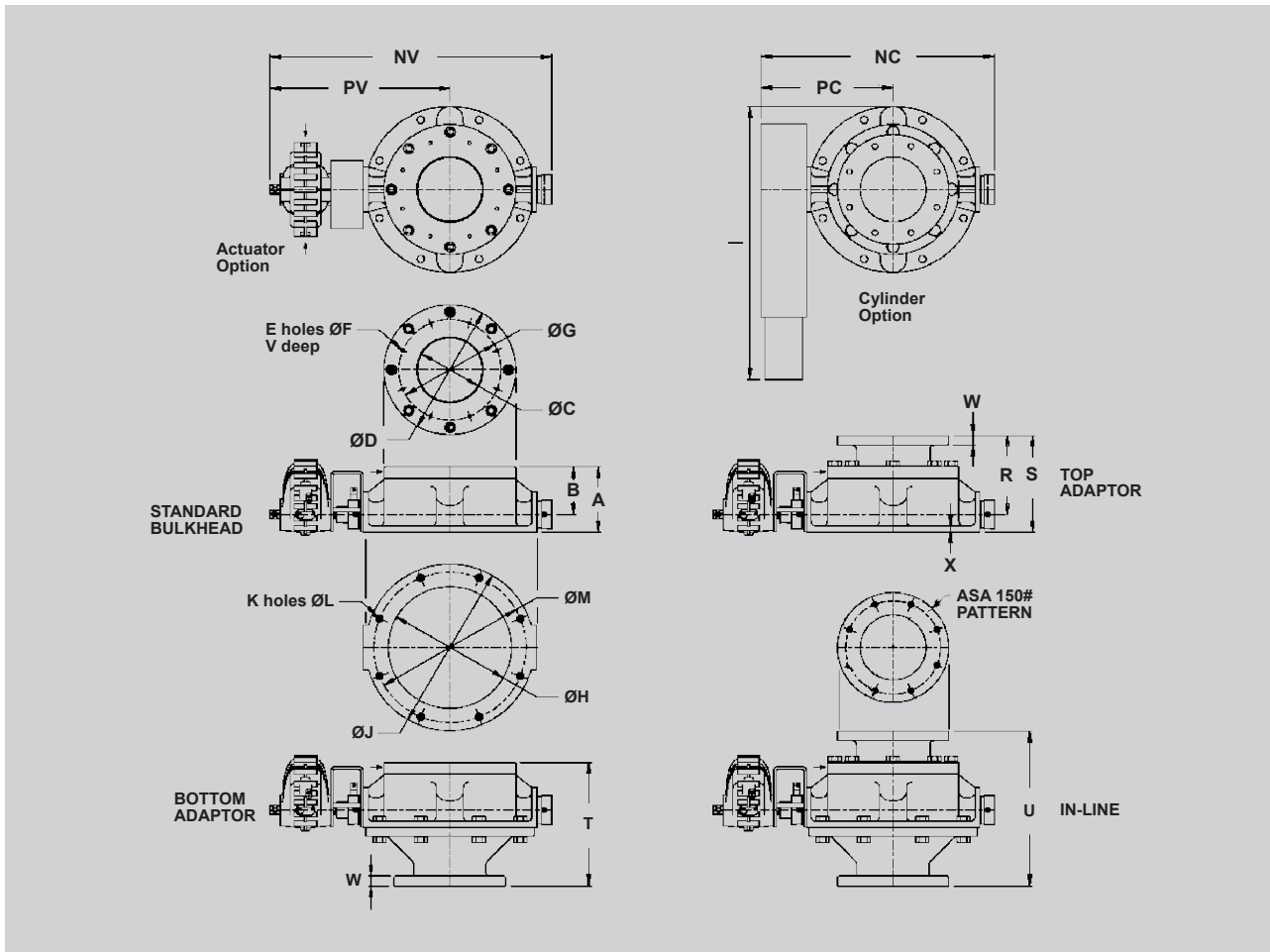
- Valve open proximity switch available
- Only a single moving part within main valve body
- Seal protection ring for abrasive products
- Choice of five pneumatic seals, depending on application

### Operating principles

Totally unrestricted full bore material flow is assured through the unique design of the ‘dome’ assembly. With one quarter turn, the valve moves from the fully closed to the fully open position. This action positions the dome completely clear of the material flow path.



# ProDV<sup>®</sup> (Spheri Valve<sup>®</sup>) Dimensions



Size	Dimensions (inches)																							
	A	B	C	D	E	F	G	H	I	J	K	L	M	NV	NC	PV	PC	R	S	T	U	V	W	X
2"	7.4	3	2	6.5	4	5/8" UNC	4.75	2		6.5	4	0.69	4.75	15		10							0.9	0.7
3"	9	3.54	3	7.78	8	5/8" UNC	6	3		7.87	8	0.69	6	18		12							0.9	0.8
4"	5.4	3.82	4	9.84	4	1/2" UNC	7.78	9.45		13.4	6	0.69	11.8	24		16		6.8	8.4	10.7	13.7	0.5	1	0.8
6"	6.7	4.9	6	12.6	6	1/2" UNC	10.2	12.3		17.3	8	0.88	15.4	31		20		8.4	10.1	14.3	17.7	0.6	1.1	0.8
8"	8	5.9	8	16	8	1/2" UNC	12.4	15.4	36.5	20.5	8	0.88	18.5	34	27	22	15	9.7	11.9	15.3	19.1	0.6	1.2	0.8
10"	9.8	7.44	10	15.4	6	1/2" UNC	13.8	18.9	47.7	24.4	8	1.06	22	44	34	29	19	10.5	12.9	19.2	22.3	0.7	1.3	1
12"	11.1	8.58	12	18	6	5/8" UNC	16.1	21.7	48.9	27.2	12	1.06	24.8	48	38	30	20	13.4	15.9	22	26.8	0.7	1.4	1.1
16"	14.6	11.3	16	23.4	16	5/8" UNC	21.5	29.1	59.4	39.4	12	1.5	34.3	64	54	40	30	17.6	20.9	28.5	34.8	1	1.8	1.4
20"	19	14.8	20	29.3	24	1" UNC	27	34.7	66.2	43.7	12	1.5	40.6		69		38			33.8		1.6	1.5	1.8

# ProDV<sup>®</sup> (Spheri Valve<sup>®</sup>) Application Form

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Name  Job Title  Company Name   
First Name Last Name

Address       
Street Address Line City State Zip Code Country

Phone Number   Email   
Area Code Phone Number

## Is it a Replacement or New Application?

Replacement  New Application

Manufacturer Model Number Serial Number

## Location

Indoors  Outdoors

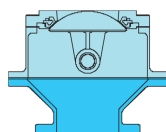
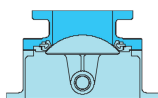
## Hazardous Area Certification

## ProDV<sup>®</sup> (Spheri Valve<sup>®</sup>) Size

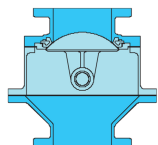
Inches

## ProDV<sup>®</sup> (Spheri Valve<sup>®</sup>) Type

Bulkhead with Top Adapter  Bulkhead with Bottom Adapter



In-line



## Inflatable Seal Material Type

Neoprene (Standard)  Viton  Blue Silicon (Food Grade)  
 Red Silicon (High Temp)  Other

## Tungsten Carbide Coating

Yes  No

## Plastite Interior Coating

Yes  No

## Air Tube

PolyFlo  Stainless Steel  Copper

## Exterior Paint Color

RAL9003 Signal White  
 RAL5002 Ultramarine Blue  
 Other

## Packaging of Equipment

Pallet (Std)  Skeleton Crate  
 Full Crate  Export Crate

## Product Description

## Operating Temperature

°F  °C

## Pressure Above Inlet Greater Than 7 PSI

Yes  No

## Bulk Density

PCF  kg/m<sup>3</sup>

## Rate

kg/h  PPH

## Product Characteristic

Abrasive  Explosive  Hygroscopic  Heat Sensitive  
 Corrosive  Tends to Pack  Other

## Particle Shape

Powder  Fibrous  Chip  
 Pellet  Flake  Other

## Particle Size

Inches  Millimeters  Mesh  Microns

## Actuator

Not Required  Rotary (Vane)  Linear (Air Cylinder)

## Solenoid

Not Required  Single  Double

## Voltage Requirements

Volts (V) / Phase / Frequency (Hz)

## Position Indicator

Yes  No

## Other Options and Requirements

## Butterfly Valve

- Designed to stop or slow air product flow by use of a turning disk
- An o-ring creates a tight seal when the disk is in the closed position
- Can be used in gravity flow or pneumatic systems
- Can have manual or pneumatic actuators

Schenck Process offers a wide variety of butterfly valves in wafer and lug styles as well as in a wide range of sizes.



## Knife Gate Valve

The knife gate valve is designed to control air or product flow. The knife gate uses a sliding disk to seal out product. When the gate is opened, the sliding disk is completely recessed allowing product to flow freely. The gate is an excellent choice for pneumatic conveying and gravity flow systems and comes with either a pneumatic or manual actuator.

### Features

- Ductile iron construction
- 316 stainless steel lined body for corrosion resistance
- 150 lbs. ANSI flange

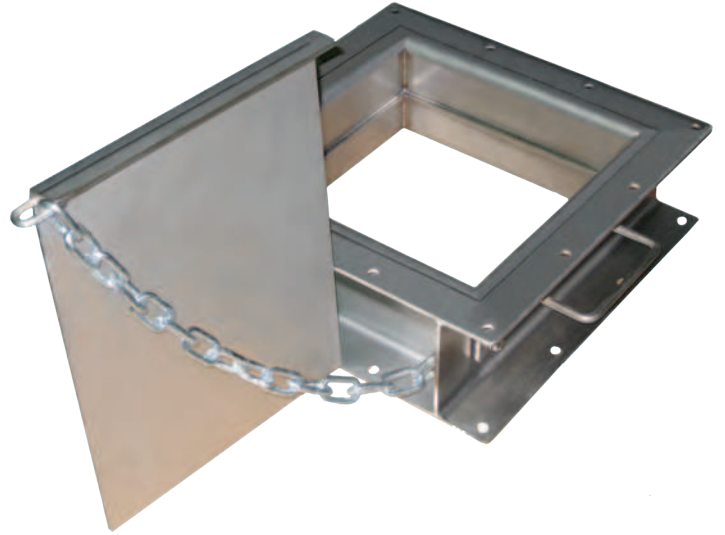
### Options

- Handwheel operation
- Chain operation
- Bevel gear operation
- Electric operation
- Hydraulic operation
- Pneumatic operation



## Maintenance Gate

- Low cost, shut off gate used while maintaining the airlock



The gate comes with a shut off slide gate that is secured to the unit by a security chain. When the gate is not in place it is also equipped with an air seal to prevent air leakage and product loss.

# Orifice Gate Valve

- 80 PSIG dry, filtered and lubricated air required
- Stud bolt pattern straddled the transverse center line on all models
- Sealing permits dust tight application up to 20 PSI
- Temperature range up to 180 °F

The orifice gate valve is an economical solution when unrestricted product flow is a necessity. A patented blade design prevents material from lodging in the gate's sides, providing a cleaner system and reducing down time.

## Options

- Single or double solenoid valves in general-purpose or explosion-proof enclosures
- Model B orifice gate consists of internal food grade corrosion resistant construction, lightweight external aluminum construction and double acting cylinder



- Model F orifice gate provides stainless steel in all contact areas
- Toggle actuator or manual pneumatic valve control for actuator
- Position-proof switch in water-tight NEMA 4 or explosion-proof enclosures
- Handwheel actuator option
- High temperature model (up to 400 °F)

# Roller Gate Valve

- Gravity flow applications
- No pinch points or exposed moving parts for safe operation
- Wear compensating hard polymer seals
- Serviceable while in-line
- Temperature range up to 180 °F

The roller gate is a great choice for handling dry material in gravity flow or low-pressure applications. This gate is available in a wide variety of configurations including rectangular sizes and customer specific hole patterns. It has live-loaded seals that extend the service life by compensating for wear. These seals provide an excellent material seal across the gate and to atmosphere.



## Options

- 6" to 30" and larger in square or rectangular sizes with round transition options
- 304 or 316L stainless steel
- Double acting air cylinder and solenoid operated air control valve, electric actuator, hand crank or chain wheel
- SVC flange, CEMA flange or custom flanges

# Seal Tite Diverter

- Gravity flow applications
- Leading edge of blade protected from material flow
- Wear compensating shaft seal prevents leakage
- Removable access doors
- Internal access without tools
- Temperature range up to 180 °F

The Seal Tite Diverter is designed for use in gravity flow applications where material can be diverted from one source to either two or three destinations. The Seal Tite Diverter offers a removable access door for interior inspection, cleaning and maintenance.



## Options

- Available in 2 and 3-way configurations
- 304 or 316L stainless steel and carbon steel
- SVC standard flange, ANSI, DIN, JIS or custom flanges
- 4" to 30" diameter square or rectangular with round transition options
- Double acting air cylinder with solenoid operated air control valve, electric actuator or hand lever
- Food friendly options available



# Wye Line Diverter Valve

- Maximum air pressure 15 PSIG
- Hard, food grade polymer seals and corrosion resistant construction
- Superior shearing action
- Powerful double acting air cylinder
- Self-cleaning on free-flowing materials
- Materials contact with seals is minimized

The Wye Line Diverter Valve is completely automatic and compact. The application of 2, 3 or 4-way diverters provides a versatile selection for multiple sources or destination. The diverter's unobstructed orifices and sliding orifice blades provide improved air conveying system performance, cleaner operation, reduced valve wear and minimal shearing of materials.

The Wye Line Diverter Valve is also equipped with hard, food-grade polymer seals and light weight corrosion-resistant construction. The valve offers positive sealing in both vacuum and pressure conveying systems, and diversion of air and materials in dilute phase pneumatic conveying systems.



## Options

- Installation versatility with 2, 3 or 4-way diverter valves
- Housing material: stainless steel, aluminum or carbon steel
- Choice of air control valves and position proof switches
- Oversized air cylinder option
- Hand wheel or electric actuators

# YV Diverter Valve

- Directs material from one source into two destinations (or reverse)
- Cylindrical cast housing provides a smooth material flow
- Diverting blades and shafts are 304 stainless steel
- Designed for use in vacuum or pressure systems



## Application

The Schenck Process YV Diverter is designed for use in vacuum or pressure systems. All YV Diverters feature a replaceable, resilient urethane sleeve to provide a tight seal for the diverting blade. When wear occurs the sleeve can be quickly and easily replaced.

YV Diverters direct material from one source into two destinations (or reverse); each leg is 22.5° off vertical centerline. Its cylindrical cast house provides a smooth, low resistance path, which prevents accumulation and degradation of the product.

## Features

- Stainless steel flapper and shaft

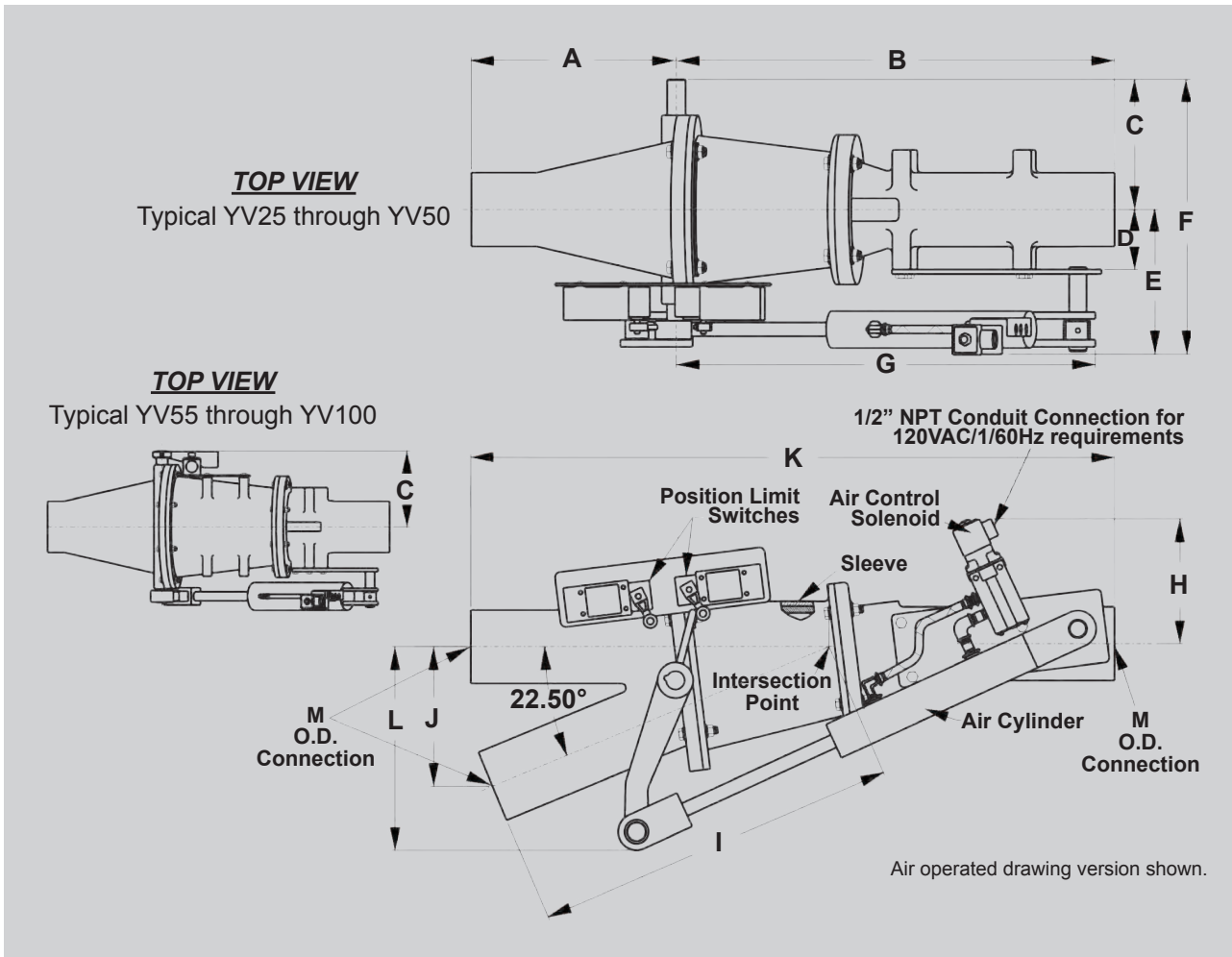
- Polyurethane sleeve
- Teflon shaft bushing
- Standard plain end connections in pipe or tubing sizes, flanged available by special order

## Options

- White polyurethane or white nitrile sleeve
- Limit switch proofing in NEMA 4 or NEMA 7/9
- Automatic or manual operators
  - Automatic operator is a pneumatic cylinder actuator
  - Manual operator is available on diverters up to 4-1/2"
- Filter/lubricator assembly
- Oversized air cylinder

Construction (material designation)			
	Cast Iron	Aluminum	Stainless Steel
Housing	3 parts Line adapter Cone section "Y" transition section	3 parts Line adapter Cone section "Y" transition section	3 parts Line adapter Cone section "Y" transition section
Material	Adapter section – gray iron Class 30 Cone section – aluminum cast alloy 356-T6 "Y" transition section – gray iron Class 30	Adapter section – aluminum cast alloy 356-T6 Cone section – aluminum cast alloy 356-T6 "Y" transition section – 356-T6 aluminum alloy	Adapter section – CF-8 cast stainless steel (Type 304) Cone section – aluminum cast alloy 356-T6 "Y" transition section – CF-8 cast stainless steel (Type 304)
Diverting Blades and Shafts	304 stainless steel	304 stainless steel	304 stainless steel
Sizes Available (plain end)	From 2-1/2" pipe size to 10" pipe size (also tubing sizes)	From 2-1/2" pipe size to 10" pipe size (also tubing sizes)	From 2-1/2" pipe size to 10" pipe size (also tubing sizes)
Cone Section Sleeve	White polyurethane White nitrile	White polyurethane White nitrile	White polyurethane White nitrile
Divert Angle	22.5°	22.5°	22.5°

# YV Diverter Valve Dimensions



Model	Dimensions (inches)													Weight (lbs.)		
	A	B	C	D	E	F	G	H	I	J	K	L	M	GI	SS	AL
YV25	13.69	20.31	5.81	2.75	6.63	12.44	24.50	8.56	19.1	7.34	34.00	--	2.38	62	62	39
YV30	8.69	15.31	5.81	2.75	6.63	12.44	24.81	8.56	14.19	5.44	24.00	--	3.00	56	56	37
YV35	10.94	23.88	7.06	3.25	7.88	14.94	22.81	6.44	21.06	8.06	34.81	11.50	3.50	93	93	61
YV40	11.19	23.88	7.06	3.25	7.88	14.94	22.81	6.81	19.81	7.56	35.06	11.31	4.00	93	93	61
YV45	10.63	23.94	7.06	3.25	7.94	15.00	22.81	7.13	19.75	7.56	34.56	11.00	4.50	93	93	61
YV50	11.25	24.38	7.06	3.25	7.94	15.00	22.81	7.44	19.25	7.38	35.63	10.88	5.00	93	93	61
YV55	12.44	24.81	8.25	4.50	9.06	17.31	23.56	5.94	25.31	9.69	37.25	13.44	5.56	159	159	104
YV60	12.44	23.38	8.25	4.50	9.13	17.38	23.44	6.75	26.81	10.25	35.81	--	6.63	161	161	106
YV80	12.56	26.38	9.69	6.06	10.31	20.00	21.50	--	32.31	12.38	38.94	18.06	8.63	217	217	142
YV100	14.44	29.25	11.13	7.25	12.31	23.44	20.94	--	41.00	15.69	43.69	--	10.75	217	217	181

# Gate Valves Application Form

schenckprocess



**Name**  
   
First Name Last Name

**Job Title**

**Company Name**

**Address**  
      
Street Address Line City State Zip Code Country

**Phone Number**  
   
Area Code Phone Number

**Email**

**Is it a Replacement or New Application?**  
 Replacement  New Application

Manufacturer Model Number Serial Number

**Location**  
 Indoors  Outdoors

**Purpose of Valve**  
 Divert Material Flow  Meter Material Flow  Process Gate  
 Maintenance Gate  Shut Off Material Flow

**Valve Size**

**Connection**  
 Flanged  Stub

**Valve Shape**  
 Round  Square  Rectangular

**Piping/Tubing**  
 Pipe Schedule   
 Tubing Gauge

**Conveyance**  
 Pressure  Vacuum  Gravity

**Pressure/Vacuum Rating**  
  PSI  HG  H<sub>2</sub>O

**Material Contact**  
 Carbon Steel  Aluminum  304 Stainless Steel  
 316L Stainless Steel

**Orientation of Valve**  
 Horizontally  Vertically

**Equipment Below Gate Valve**  
 Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

**Equipment Above Gate Valve**  
 Chute  Shredder  Screw  Vac. Line  
 Cyclone  Belt  Hopper  Pres. Line  
 Mixer  Silo  Other

**Product Description**

**Product Temperature**   °F  °C

**Bulk Density**   PCF  PPH

**Product Characteristic**  
 Abrasive  Explosive  Hygroscopic  
 Corrosive  Tends to Pack  Other

**Particle Shape**  
 Powder  Fibrous  Chip  
 Pellet  Flake  Other

**Particle Size**  
  Inches  Mesh  Millimeters  Microns

**Actuator**  
 Electric  Air Cylinder  Hand Crank  Wheel

**Controls Required**  
 Solenoid  Position Indicator Switches  
 Pre-wired Terminal Box

**Close Through Material**  
 Yes  No

**Voltage**  
 110/120V  24VDC  220 VAC  Other

**Class, Division, and Group**

**NEMA Rating**  
 NEMA 4  NEMA 4X  NEMA 7/9

**ATEX Certification Required**  
 Gas  Dust  Both  Not Required

**Other Options and Requirements**

# Stock® Air Coal Valves

## Feeder to pulverizer isolation

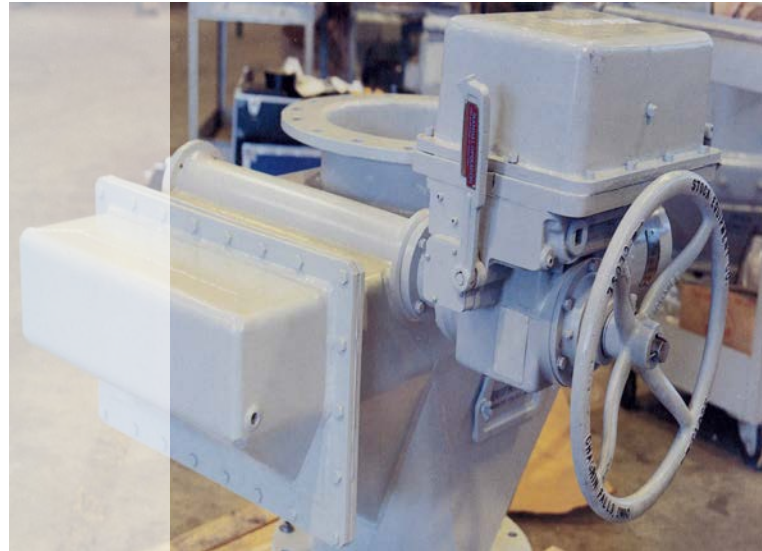
- Self cleaning, double rack and pinion valve
- Meets NFPA code to withstand a 50 psi explosion
- Restricts downstream flow of hot air and gases
- Dust tight body
- Custom sizes and options to fit your installation requirements

The Stock® Air Coal Valve (ACV) is a double rack and pinion style valve used as a means of isolation below a feeder. The air-tight body provides positive shut-off to minimize hot air and gases from entering the feeder during maintenance. This is accomplished by means of a precision machined gate and inlet surface. The gate is supported on adjustable slide bars located between the gate surface and inlet skirt.

Stock® ACVs are constructed to meet National Fire Protection Agency (NFPA) code and will withstand a 50 psi explosion. Because the ACV restricts the flow of hot air and gases in the downstream system, a safe environment is facilitated for workers to carry-out routine maintenance above the valve.

The ACVs self-cleaning rack and pinion design eliminates the possibility of gate binding. The pinions drive through the gate ladder rack, crushing any material accumulation on the top of the gate rack so that it may pass through. Stock® ACV's have dust-tight bodies to prevent any gas or fine materials from escaping to the outer vicinity of the plant.

The rack and pinion design also allows for valve closure through a standing column of material. This ability is especially beneficial for emergency situations where positive closure is required due to a plugged downspout.



### Air Coal Valve Design Options

#### Operator Location

Right- or left-hand operator mounting options are available.

#### Operation Type

- Electric Operation
- Hydraulic or Pneumatic
- Manual Operation
  - Pocket Sheave
  - Hand-wheel

#### End-of-Travel Indicator

Where local gate position indication is required, a highly visible pointer with legend plate is attached to the housing on the dead-end of the valve pinion shaft. If remote indication is required, cam-operated, NEMA rated limit switches and external housing are provided.

#### Custom Sizing

Valves can be made in any size to suit your application needs. Square, round, or rectangular inlets and outlets are available.

**Customized Materials of Construction**

A wide range of steel available: mild steel, 304 and 316 stainless steels. Other materials are available upon request, including various body liner materials. Upgrades are available for elevated temperatures.

**Features of the Stock® Air Coal Valve**

**Access Openings**

Dust-tight covers, fastened with wing nuts for easy removal, allow for routine maintenance and inspection of the inside of the valve without complete valve removal.

**Deep “U” Shaped Gate**

The gate is fabricated in the shape of a winged “U,” which keeps the supporting rollers, racks, and pinions completely out of the material stream and minimizes potential corrosion from moisture in the material.

**Double Rack and Pinions**

To assure closure of the gate without cocking or binding, two pinions on the operating shaft engage ladder racks which run down each side of the gate. The pinions are located above the racks providing positive tooth engagement.

**Dust-Tight Construction**

All joints are welded and ground smooth to eliminate any ledges on which material could accumulate. The end cover, provided for gate removal and interior access, is equipped with a rubber gasket, assuring dust-tight integrity of the valve.

**Gate Support Slide Bars**

Slide bars allow for the adjustment of valve clearance to suit the application. The top surfaces is machined flat for dust elimination. The slide bars are placed on each side, away from material flow.

**Gear Reducer**

A gear reducer for ease of operation is supplied on all manually operated valves 30” and larger.

**Manual Operation**

Valves are equipped with either a hand-wheel or pocket sheave in order for the valve to be controlled manually by the operator. A hand-wheel is provided when the valve is within reach of the operator. A pocket sheave is supplied when the valve is not readily accessible to the operator.

**Positive Shut-Off of Material Flow**

Gates are designed with four-sided overlap closure which provides positive shutoff of material flow every time.

**Self Cleaning Design**

The ladder racks consist of a series of rectangular, tapered holes that prevent material accumulation, resulting in virtually jam-proof operation.

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# Stock® Bulk Material Valves

## Self cleaning, dust tight, positive shut-off valves

- Engineered to close through a standing column of material
- U shaped gate keeps rollers, rack and pinion completely out of the material stream
- Double rack and pinions assure gate closure without cocking or binding
- Positive material shutoff
- Built to last



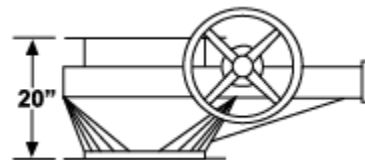
Stock® Bulk Material Valves (BMV) control material flow from bins, hoppers, chutes, silos, and long downspouts. The self-cleaning rack and pinion design makes this valve extremely suitable for bulk material applications where positive shut-off is required through a standing column of material. The pinions drive through the gate ladder rack, providing self-cleaning operation. Any material accumulating on top of the gate rack will be crushed and passed through, thus eliminating the possibility of gate binding.

Stock® BMV's are built to endure material handling applications that involve harsh environments, wide temperature ranges, pressure differentials, and unusual flow characteristics. All Stock® Bulk Material Valves are dust-tight. The overlap closure of the gate and self-cleaning racks makes these valves well suited for handling fine and dusty materials. The Stock® design allows for routine maintenance and inspection and permits the removal of the gate assembly while the valve remains in place. The gate operating shaft is located above the gate rack, keeping bearings, rollers and the pinion shaft out of the active material stream.

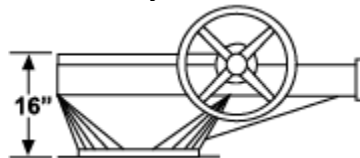
Stock® BMV's have a wide range of applications. For bunker/silo applications, a number of valve sizes with round or rectangular inlets are available. For feeder inlet shut-off, the same basic design is applied to the robust construction necessary to meet NFPA explosion requirements.

### Stock® Bulk Material Valve Designs

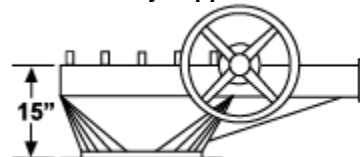
#### VB: Vertically Bolted



#### VS: Vertically Studded



#### VT: Vertically Tapped



Also available in designs suitable for inclined installations. Offset between the inlet and outlet reduces flow restrictions. Brake assembly included.



## Stock® Bulk Material Valve Features

### Access Openings

Dust-tight covers, fastened with wing nuts for easy removal, allow for routine maintenance and inspection of the inside of the valve without complete valve removal.

### Deep “U” Shaped Gate

The gate is fabricated in the shape of a winged “U” which keeps the supporting rollers, racks, and pinions completely out of the material stream and minimizes potential corrosion from moisture in the material.

### Double Rack and Pinions

To assure closure of the gate without binding or cocking, two pinions on the operating shaft engage ladder racks which run down each side of the gate. The pinions are located above the racks providing positive tooth engagement.

### Dust-Tight Construction

All joints are welded and ground smooth to eliminate any ledges on which material could accumulate. The end cover, provided for gate removal and interior access, is equipped with a rubber gasket, assuring dust-tight integrity of the valve.

### Gate Support Rollers

Support for the gate is provided with externally greasable rollers. The rollers contain sealed, anti-friction bearings to ensure long life and ease of gate operation.

### Gear Reducer

A gear reducer for ease of operation is supplied on manually operated valves 30” and larger and in applications with special chain pull requirements.

### Positive Shut-Off of Material Flow

Gates are designed with four-sided overlap closure which provides positive shutoff of material flow every time.

### Self Cleaning Design

The ladder racks consist of a series of rectangular, tapered holes that prevent material accumulation, resulting in virtually jam-proof operation.

## Stock® Bulk Material Valve Design Options

### Operator Location

Right- or left-hand operator mounting is available to suit the requirements of the installation.

- Operation Type
- Electric Operation
- Hydraulic or Pneumatic
- Manual Operation
  - › Pocket Sheave
  - › Hand-wheel

### End-of-Travel Indicator

Where local gate position indication is required, a highly visible pointer with legend plate is attached to the housing on the dead-end of the valve pinion shaft. If remote indication is required, cam-operated limit switches are provided in an external housing. These limit switches are double-pole, double-throw, NEMA 12 rated. Housings are available for NEMA 4, 7, and 9 areas.

### Custom Sizing

Valves can be made in virtually any size to suit your application needs. They are sized to exact interface dimensions. Square, round, or rectangular inlets and outlets are available.

### Materials of Construction

A wide range of construction materials are available: mild steel, Cor-Ten® steel, 304 and 316 stainless steels. Other materials are available upon request, including various body liner materials. Upgrades are available for elevated temperatures.

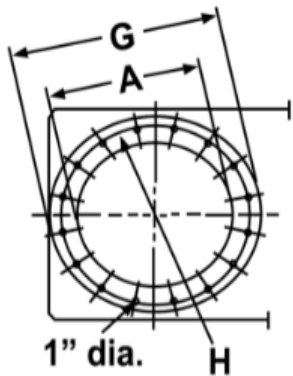
### Water Collecting Capability

When closed, valves with the water collecting capability can channel free water to a drain. This is particularly useful for applications that experience water accumulations in the silo, hopper or bunker. Valves with the water-collection feature have a stainless-steel-lined sloping gate. A brake is supplied to prevent gate slippage, and a top access door is provided for gate inspection and removal. These dust-tight valves have a six-inch diameter bottom outlet for connection to a drain pipe.

# Single Gate Dimensions

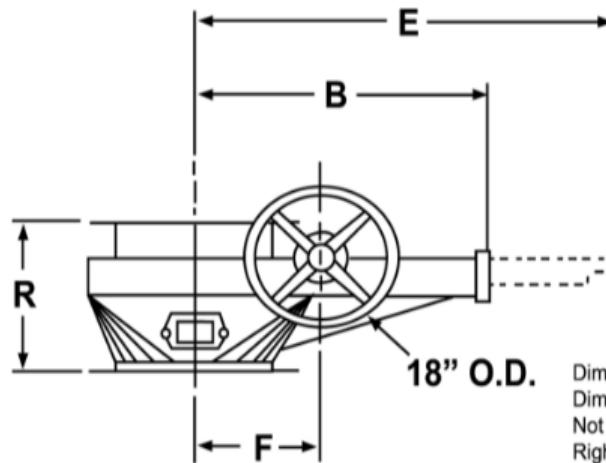
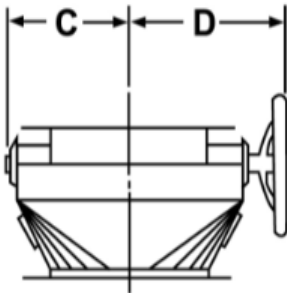
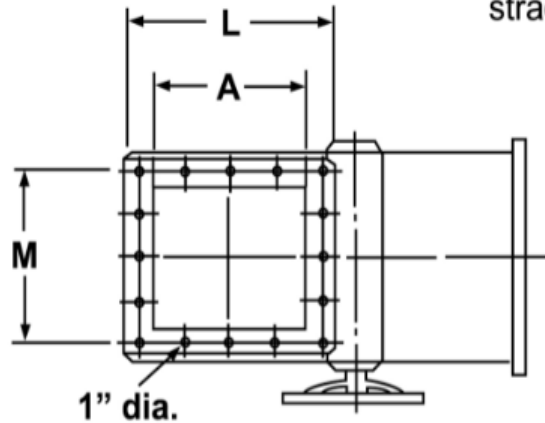
## Round Flange

- H** – Bolt circle diameter
- J** – Number of bolt holes
- K** – Bolt holes on or straddle centerline



## Square Flange

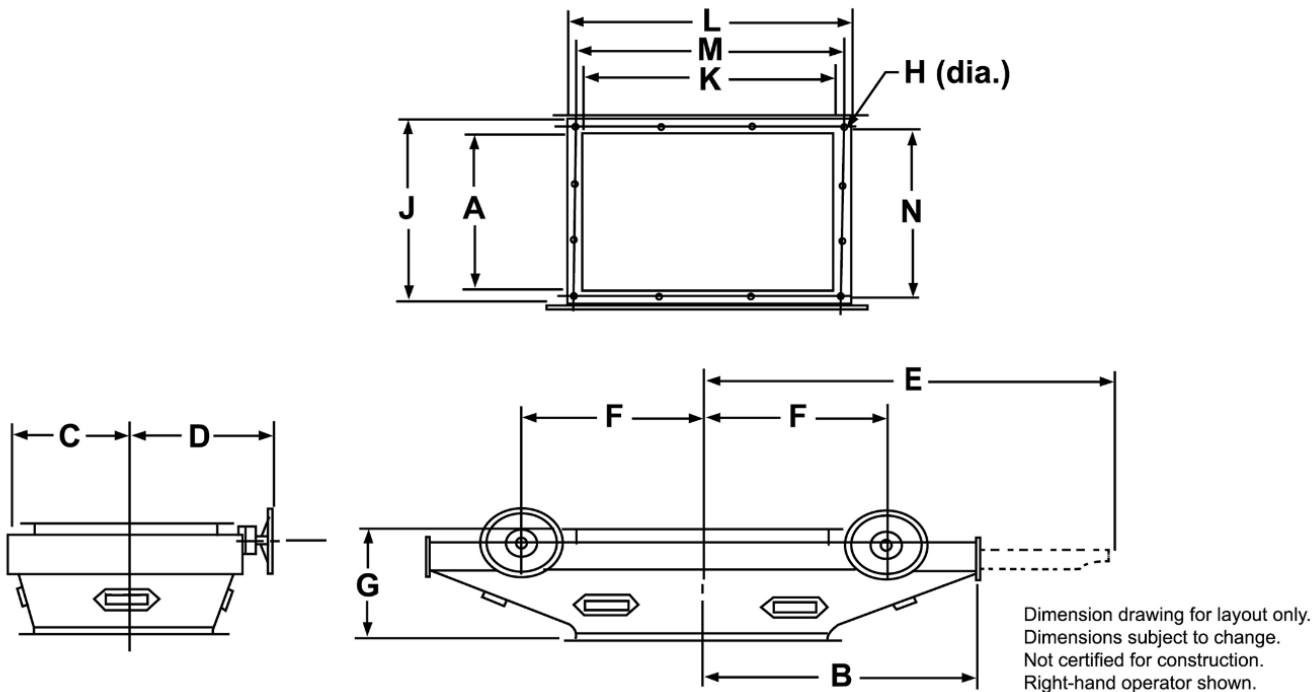
- N** – Number of bolt holes
- P** – Bolt hole spacing
- Q** – Bolt holes on or straddle centerline



Dimension drawing for layout only.  
 Dimensions subject to change.  
 Not certified for construction.  
 Right-hand operator shown.

Valve Size	Dimensions – inches															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
14	14	29	12-5/8	16-3/4	49	13	21	18-3/4	12	STRADDLE	20-3/4	18	12	6	STRADDLE	20
16	16	32	13-5/8	17-3/4	54	14	23-1/2	21-1/4	16	STRADDLE	22-3/4	20	16	5	ON	20
18	18	35	14-5/8	18-3/4	59	15	25	22-3/4	16	STRADDLE	24-3/4	22	16	5-1/2	ON	20
20	20	38	15-5/8	19-3/4	64	16	27	24-3/4	16	STRADDLE	26-3/4	24	15	6	ON	20
24	24	44	17-5/8	21-3/4	74	18	32	29-1/2	20	STRADDLE	31-3/4	28-3/4	20	5-3/4	STRADDLE	20
30	30	54-5/8	21-1/8	29-3/8	93	25	38 3/4	36	28	STRADDLE	38	35	24	VARIES	ON	25
36	36	63-5/8	24-1/8	32-3/8	108	28	46	42-3/4	32	STRADDLE	44	41	28	VARIES	ON	25
42	42	74-1/8	28	36	127	34-1/4	53	49-1/2	36	STRADDLE	51	47-1/2	32	VARIES	STRADDLE	30
48	48	83-1/8	31	39	142	37-1/4	59-1/2	56	44	STRADDLE	57	53-1/2	36	VARIES	STRADDLE	30
54	54	93-1/8	37-1/4	57-1/2	159	41-11/16	66-1/4	62-3/4	44	STRADDLE	63	60	40	VARIES	ON	40
60	60	102-1/8	40-1/4	60-1/2	174	44-11/16	73	69-1/4	52	STRADDLE	69	66	44	VARIES	ON	40

# Twin Gate Dimensions



Valve Size	Dimensions – inches												
	A	B	C	D	E	F	G	H	J	K	L	M	N
20	20	51	15-5/8	19-3/4	79	29	20	1	26-3/4	46	52-3/4	49-3/4	23-3/4
24	24	59	17-5/8	21-3/4	91	33	20	1	31-3/4	54	61-3/4	58-3/4	28-3/4
30	30	73-1/8	21-1/8	29-3/8	113	43-1/2	25	1-1/8	38	67	75	72	35-3/4
36	36	85-1/8	24-1/8	32-3/8	131	49-1/2	25	1-1/8	44	79	87	84	41
42	42	99-1/8	28	36	152	59-1/4	30	1-1/8	51	92	101	97	47
48	48	111-1/8	31	39	170	65-1/4	30	1-1/8	57	104	113	109	53

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# Stock® Knife Gate Valves

## Material isolation in harsh environments

- NFPA compliant at 50psi / 3.5 barg
- Manual, electric or pneumatic operator
- Low profile design
- Fully retractable gate
- Tungsten carbide coated wear surfaces
- Gate seating cam(s)
- Adjustable, high temperature packing



Stock® Knife Gate Valves (KGVs) are designed and manufactured in accordance with the National Fire Protection Association (NFPA) standard. The standard requires dust tight burner line isolation at the pulverizer and at the burners to provide safety during the operation and maintenance of pulverized fuel firing systems. Because of their positive shut-off capabilities, KGVs are vital for isolation in the burner line between a burner and pulverizer. This ability to isolate portions of the burner line allows routine maintenance to be performed safely.

KGVs are specially designed for extreme service. These valves are also used for the isolation of material feed downspouts located between the feeder and pulverizer, allowing safe access and maintenance of the feeders without exposure to dangerous hot air. The KGV is suitable for the adverse conditions experienced in power plants and bulk material handling applications with operating temperatures up to 700 °F / 370 °C with upgrade options available to 1000 °F / 540 °C.

KGVs are designed to handle high velocity material dust contamination, limited maintenance access, and infrequent valve operation. These valves will maintain operational integrity after continuous exposure to internal flow of high velocity material and air mixture. KGVs meet the NFPA requirements for containment of explosion pressures.

KGVs feature a low profile that adapts to new installations or retrofits. To isolate a pipe, the actuator turns the screw, which slides the knife gate into the pipe. As the valve closes, the gate seating cam lifts the gate into the seating surface for a dust tight seal. The packing gland keeps any dust from leaking out of the valve, and the tungsten carbide surface treatment slows valve surface wear. When retracted, no portion of the gate remains in the pipe, so the flowing coal does not wear the gate. Because of the tight seal provided by the gate seating cams, there is minimal leakage of gas, so workers can maintain the pulverizer without being subjected to extreme hot gases and dust.

## **Features of Stock® Knife Gate Valves**

### **Low profile design**

Maintains 2-1/2 in / 63.5 mm or 3 in / 76 mm flange-to-flange dimension to minimize space requirements. Adapts easily to new installations and retrofits.

### **Fully retractable gate**

Stainless steel gate is resistant to corrosion and is polished to prevent damage to packing seal.

### **Gate plow**

Cleans material from the gate guide during gate closure to prevent binding.

### **Tungsten carbide coated wear surfaces**

Protects the internal surface from abrasion to provide extended service life.

### **Gate seating cam(s)**

Forces gate into a dust tight, metal-to-metal seal to minimize leakage.

### **High temperature finish**

Protects the exterior surface from rust and corrosion, even at high temperatures.

### **Adjustable, high temperature packing**

Provides for external adjustments of the packing to compensate for wear. The packing is suitable for temperatures up to 700 °F / 370 °C.

### **Special fabrication**

Metals, packing and paint can be used for operating temperatures up to 1,000 °F / 540 °C.

### **Manual Actuation**

Standard hand-wheel or stub shaft operator

### **Pneumatic Actuation**

Optional operators include stub shaft (for use with pneumatic wrench), pneumatic cylinder, and electric motor actuator

### **Electric Actuation**

Rotary electric actuator with hand-wheel override

### **Self-cleaning actuator**

As operating screw rotates, thread-cutting nut on gate cleans dust from screw and minimizes operating force on manual and electric actuators.

### **Anti-friction thrust bearing**

Aligns and supports the actuator screw, reducing operating axial forces on manual and electric actuators.

### **Complete pneumatic control packages**

Limit switches and solenoid valves can be piped and wired for immediate connection to power and control sources.

### **Standard bolting flanges**

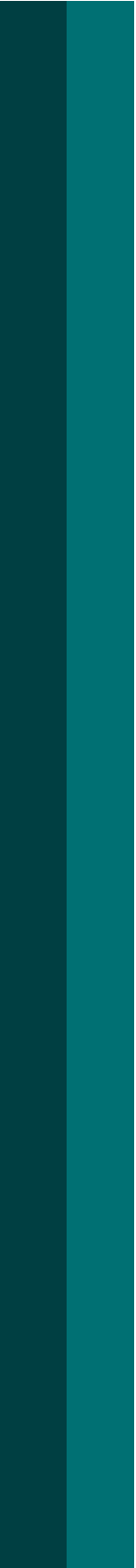
Bolts to ANSI standard flanges for easy installation.

### **Special dimensions**

Bolting patterns and valve sizes can be designed to fit most custom and lined pipes.

### **Complete factory support**

Application assistance, Stock Equipment field service, and one-year warranty ensures complete satisfaction.



Model	Nominal Size		Standard ID		Flange OD		Valve Body Thickness	
	in.	mm	in.	mm	in.	mm	in.	mm
<b>BLV 12</b>	12	300	12,00	304,8	19,00	482,6	2,50	65,0
<b>BLV 14</b>	14	350	13,25	336,6	21,00	533,4	2,50	65,0
<b>BLV 16</b>	16	400	15,25	387,4	23,50	596,9	2,50	65,0
<b>BLV 18</b>	18	450	17,25	438,2	25,00	635,0	2,50	65,0
<b>BLV 20</b>	20	500	19,25	489,0	27,50	698,5	2,50	65,0
<b>BLV 22</b>	22	550	21,25	539,8	29,50	749,3	3,00	75,0
<b>BLV 24</b>	24	600	23,25	590,6	32,00	812,8	3,00	75,0
<b>BLV 26</b>	26	650	25,25	641,4	34,25	870,0	3,00	75,0
<b>BLV 28</b>	28	700	27,25	692,2	36,50	927,1	3,00	75,0
<b>BLV 30</b>	30	750	29,25	743,0	38,75	984,3	3,00	75,0
<b>BLV 32</b>	32	800	31,25	793,8	41,75	1060,5	3,63	90,0
<b>BLV 34</b>	34	850	33,25	844,6	43,75	1111,3	3,63	90,0
<b>BLV 36</b>	36	900	35,25	895,4	46,00	1168,4	3,63	90,0
<b>BLV 38</b>	38	950	37,25	946,2	48,75	1238,3	3,75	96,0

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All information is given without obligation. All specifications are subject to change. © by Schenck Process LLC, 2019-07-23



# RTN Ring Torsion Load Cells

- Legal-for-trade design according to OIML (up to 5000 d and 7500 d for multi-interval scales)
- High accuracy, even for very small application areas (for legal-for-trade applications up to at least 15 %)
- Large output signal and this high-resolution useful signal range
- Because of the low power consumption, multi-scale systems can also be realized with simple control electronics
- Use in hazardous zone with protection class Ex ia IIC T4 Gb / Ex ia IIIC T125 °C Db or protection class Ex nA IIC T4 Gc / Ex tb IIIC T125 °C Db
- Protection class IP68



## Application

The load cell as transducer converts the mechanical input variable force proportionally into the electrical output variable voltage.

The consistent optimization of the ring torsion load cell offers the user specific advantages:

- The extremely small frame size simplifies the use in almost all weighing device applications
- The robust construction allows problem-free transport, installation and operation, also under very rough ambient conditions (disturbance forces, temperature)

## Construction

- Hermetically sealed encapsulation through laser welding (IP68)
- High corrosion protection through electrolytically polished stainless steel
- All electrical components are located inside the load cell and thus are optimally protected

- The high quality and robust connecting cable is guided radially into the load cell
- In connection with adapter kits the RTN load cells are compatible previous designs

## Function

- High measuring sensitivity
- High reproducibility
- High long-term stability and therefore consistently high accuracy permanently
- Extremely small measured value influence as a result of lateral forces
- High functional safety, even with frequently unavoidable impact loads and constraining forces, as well as with electrical interferences
- Integrated overvoltage protection
- Torque-free force input/output as a result of the direct, vertical power train



# RTN Ring Torsion Load Cells

## Variants

Design	Accuracy class		
	0.05	C3	C5 / C4 MI 7.5
RTN 1 t	D726173.04	D726173.02	D726173.10
RTN 2.2 t	D726174.04	D726174.02	D726174.10
RTN 4.7 t	D726175.04	D726175.02	D726175.10
RTN 10 t	D726176.04	D726176.02	D726176.10
RTN 15 t	D726177.04	D726177.02	D726177.10
RTN 22 t	D724781.04	D724781.02	D724781.10
RTN 33 t	D724754.04	D724754.02	D724754.10
RTN 47 t	D724782.04	D724782.02	D724782.10
RTN 68 t	D724783.04	D724783.02	D724783.10
RTN 100 t	D724784.04	D724784.02	D724784.10
RTN 150 t	D726178.04	D726178.02	
RTN 220 t	D726179.04	D726179.02	
RTN 330 t	D726180.04	D726180.02	
RTN 470 t	D726181.04	D726181.02	

### Optional feature ATEX/IECEX approval

Intrinsically safe explosion-proof design according to ATEX category 2GD and IECEx EPL Gb, Db:

Gas-Ex II 2G Ex ia IIC T4 Gb (Zone 1)

Dust-Ex II 2D Ex ia IIIC T125 C Db, IP67 (Zone 21)

Attention: The verification of intrinsically safe circuit must be verified. New barriers are provided in particular for new systems. Verifications of intrinsically safe circuit are available for all load cells and barriers.

Accuracy class		
0.05 2GD	C3 2GD	C5 / C4 MI 7.5 2GD
Model .82	Model .81	Model .83

Load cells marked as intrinsically safe - Ex "i" - are also operated intrinsically safely irrespective of the zone.

Not intrinsically safe explosion-proof design according to ATEX category 2D, 3G and IECEx EPL Db, Gc:

Gas-Ex II 3G Ex nA IIC T4 Gc (Zone 2)

Dust-Ex II 2D Ex tb IIIC T125 °C Db, IP67 (Zone 21)

Accuracy class		
0.05 2D3G	C3 2D3G	C5 / C4 MI 7.5 2D3G
Model .86	Model .85	Model .87

# SENSiQ® PWS

Platform load cell 10 ... 700 kg

- Very low corner load error
- Good cost-benefit ratio
- Available in accuracies of 0.05% and legal-for-trade design
- Option PWS Plus – Improved protection against increased humidity
- ATEX and IECEx certification
- Optimized by exact calibration for parallel circuits
- Six-wire circuitry
- 100% stainless steel



## Application

SENSiQ PWS load cells convert proportionally the mechanical input variable force into the electrical variable voltage. They are ideal for use in platform scales, weighfeeders and bin weighers. The compact design facilitates planning into any given construction.

## Construction

The PWS load cells are produced entirely from stainless steel. They are connected electrically by a high-quality, 6-wire screened PVC cable. The six-wire circuitry makes the measuring signal insensitive to differences in lengths of the connection cables.

## Function

- High calibration accuracy which provides ideal conditions for the parallel arrangement of load cells
- High reproducibility of the measuring signals
- Extremely low interference by transverse loads of the measured values

# SENSiQ® PWS Platform Load Cell 10 ... 700 kg

## Variants

Emax = Nominal Load	Accuracy Class	Material No.	A	B	C	Tightening Torque	Nominal Measured Displacement	Design	ATEX Category
10 kg	D1	V058895.B01	8.5	M8	23.8	32 N m	0.30 mm	Normal	
30 kg	D1	V058895.B02	8.5	M8	30.7	32 N m	0.35 mm	Normal	
60 kg	D1	V058895.B03	8.5	M8	30.7	32 N m	0.35 mm	Normal	
100 kg	D1	V058895.B04	8.5	M8	30.7	32 N m	0.45 mm	Normal	
150 kg	D1	V058895.B05	8.5	M8	30.7	32 N m	0.45 mm	Normal	
300 kg	D1	V058895.B06	8.5	M8	30.7	32 N m	0.50 mm	Normal	
500 kg	D1	V058895.B07	10.4	M10	36.5	79 N m	0.50 mm	Normal	
700 kg	D1	V058895.B08	10.4	M10	36.5	79 N m	0.50 mm	Normal	

PWS Plus	30 kg	D1	V741556.B02	8.5	M8	23.8	32 N m	0.30 mm	Protection against increased humidity	
	60 kg	D1	V741556.B03	8.5	M8	23.8	32 N m	0.30 mm	Protection against increased humidity	
	100 kg	D1	V741556.B04	8.5	M8	23.8	32 N m	0.30 mm	Protection against increased humidity	
	150 kg	D1	V741556.B05	8.5	M8	23.8	32 N m	0.30 mm	Protection against increased humidity	
	300 kg	D1	V741556.B06	8.5	M8	23.8	32 N m	0.30 mm	Protection against increased humidity	
	500 kg	D1	V741556.B07	10.4	M10	36.5	79 N m	0.50 mm	Protection against increased humidity	
	700 kg	D1	V741556.B08	10.4	M10	36.5	79 N m	0.50 mm	Protection against increased humidity	

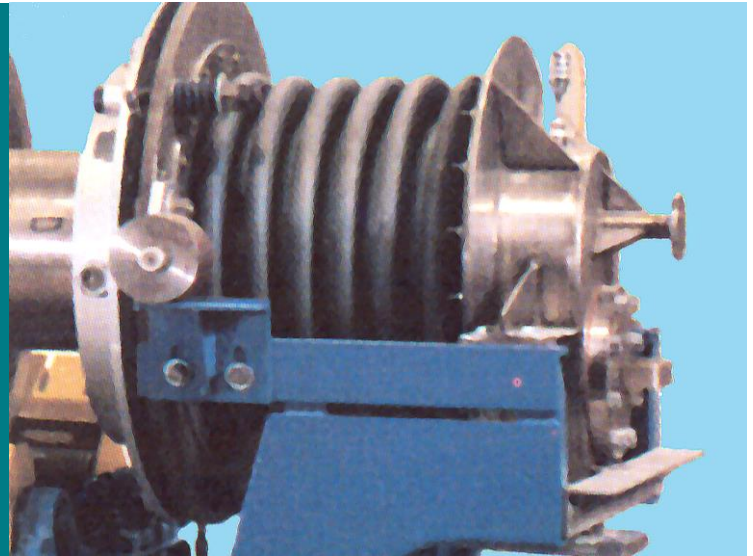
10 kg	C3	V058896.B01	8.5	M8	23.8	32 N m	0.30 mm	Increased accuracy	
30 kg	C3	V058896.B02	8.5	M8	30.7	32 N m	0.35 mm	Increased accuracy	
60 kg	C3	V058896.B03	8.5	M8	30.7	32 N m	0.35 mm	Increased accuracy	
100 kg	C3	V058896.B04	8.5	M8	30.7	32 N m	0.45 mm	Increased accuracy	
150 kg	C3	V058896.B05	8.5	M8	30.7	32 N m	0.45 mm	Increased accuracy	
300 kg	C3	V058896.B06	8.5	M8	30.7	32 N m	0.50 mm	Increased accuracy	

10 kg	D1	V058895.B31	8.5	M8	23.8	32 N m	0.30 mm	ATEX / IECEx	1D/2G
30 kg	D1	V058895.B32	8.5	M8	30.7	32 N m	0.35 mm	ATEX / IECEx	1D/2G
60 kg	D1	V058895.B33	8.5	M8	30.7	32 N m	0.35 mm	ATEX / IECEx	1D/2G
100 kg	D1	V058895.B34	8.5	M8	30.7	32 N m	0.45 mm	ATEX / IECEx	1D/2G
150 kg	D1	V058895.B35	8.5	M8	30.7	39 N m	0.45 mm	ATEX / IECEx	1D/2G
300 kg	D1	V058895.B36	8.5	M8	30.7	39 N m	0.50 mm	ATEX / IECEx	1D/2G
500 kg	D1	V058895.B37	10.4	M10	36.5	79 N m	0.50 mm	ATEX / IECEx	1D/2G
700 kg	D1	V058895.B38	10.4	M10	36.5	79 N m	0.50 mm	ATEX / IECEx	1D/2G

10 kg	D1	V058895.B41	8.5	M8	23.8	32 N m	0.30 mm	ATEX / IECEx	3GD
30 kg	D1	V058895.B42	8.5	M8	30.7	32 N m	0.35 mm	ATEX / IECEx	3GD
60 kg	D1	V058895.B43	8.5	M8	30.7	32 N m	0.35 mm	ATEX / IECEx	3GD
100 kg	D1	V058895.B44	8.5	M8	30.7	32 N m	0.45 mm	ATEX / IECEx	3GD
150 kg	D1	V058895.B45	8.5	M8	30.7	39 N m	0.45 mm	ATEX / IECEx	3GD
300 kg	D1	V058895.B46	8.5	M8	30.7	39 N m	0.50 mm	ATEX / IECEx	3GD
500 kg	D1	V058895.B47	10.4	M10	36.5	79 N m	0.50 mm	ATEX / IECEx	3GD
700 kg	D1	V058895.B48	10.4	M10	36.5	79 N m	0.50 mm	ATEX / IECEx	3GD

## Bartlett-Snow™ OEM Replacement Parts

- On-time delivery
- OEM reliability
- Customer confidence



We have the solution for all your replacement parts needs and can provide solid OEM answers. You'll have fewer problems, less downtime, and higher productivity when staying with the supplier of the original equipment.

### OEM reliability

We keep up to date records of the equipment we have supplied. Bartlett-Snow replacement parts are manufactured to the identical standards by utilizing the original drawings and specifications. These drawings specify the exact metallurgical compositions, fit tolerances, lubrications requirements, and many other critical details for the manufacture of a quality replacement part.

### Quality

We are committed to product quality replacement parts. Our products are manufactured in facilities that we have comprehensively assessed as possessing state-of-the-art manufacturing resource planning systems, production equipment, and quality assurance techniques in support of fabrication, welding, machining, assembly and testing.

### Bartlett-Snow™ OEM Parts

**Cylinders** – replacement cylinders fabricated from basic carbon steel through exotic alloys. Cylinders can be manufactured by use of rolled plate, molds for centrifugal and static castings, or dies for hot isostatically pressed extrusions.

**Riding rings** – forged high carbon steel alloy with straight or taper sided configurations. It is recommended that mounting hardware be replaced to ensure the riding rings are properly mounted and run true with respect to each other.

**Girt gears, girt sprockets & pinions** – forged or cast high carbon steel alloys, one piece or split, with surface or through hardening as required. The drive pinion should be changed for proper meshing between the girt gear and pinion. For chain drive units, girt sprockets are manufactured from carbon steel plate and in split construction.

## Bartlett-Snow™ OEM Replacement Parts

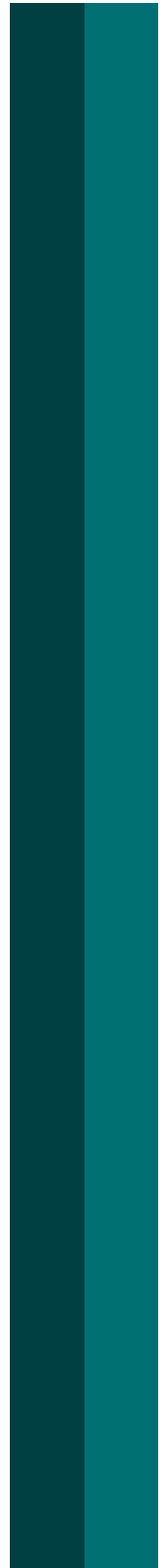
**Trunnion rolls, shafts & bearings** – forged high carbon steel alloys with heat treated tread surfaces. The machined trunnion rolls are shrunk-fit onto shafts that are fully machined in high strength carbon steel alloys.

**Thrust rolls, shafts & bearings** – straight or tapered sided thrust rolls in forged high carbon steel alloys with heat treated tread surfaces. Thrust rolls can be provided for units requiring either roller bearings or bronze bushings.

### Rotary Seal Components

There are four types of seals used on rotary equipment. For less maintenance, longer life and increased performance, retrofit packages can be provided for seal design upgrades.

- **Angle seals** – the most basic of the rotary seal design and are a non-contact labyrinth type for use on medium to high leakage applications. Replaceable seal segments can be supplied in ceramic, teflon and rubber materials.
- **Iris seals** – flexible overlapping segments that provide a more positive seal for medium to low leakage applications. Replaceable seal segments can be supplied in appropriate metallic materials.
- **Flex seals** – face contact seals for more positive seal on low leakage applications. Replaceable flex elements can be supplied in various non-metallic materials with replaceable floating seal rings in metallic, teflon and graphite materials.
- **Bellow seals** – most positive face contact type of seal and are utilized on gas tight applications. Replaceable bellows can be supplied in various metallic materials, with replaceable floating seal rings in metallic, teflon and graphite materials.



# Transformer / Rectifier Sets

## Electrostatic Precipitator Power Supply

- Durable steel tanks providing strength rated for 15 psi
- 100% copper-wound transformers
- Heavy-duty R/C compensated diode stacks
- Custom design center for high quality retrofits
- Replacement CLRs



Transformer Rectifier (T/R) Sets offer uncompromising quality, ruggedness and reliability. Our T/R sets provide dependable, low maintenance service for decades. Zero shortcuts are taken in the design of our T/R sets. Each T/R is equipped with 100% copper-wound transformers and heavy duty R/C compensated diode stacks. Our heavy duty steel tanks provide superior mechanical strength and full-vacuum processing capability.

Our T/R design center will custom design a T/R to your specifications. We design high quality retrofits for Research-Cottrell, NWL, GE and many others in a variety of ratings and form factors. Our exact replacements will save you time and money by eliminating high modification costs associated with proper installation of “off-the-shelf” equipment.

Not only will we customize the T/R design to your specifications, but we also offer a long list of options. We can provide metering, taps, alarm contacts and paint options as required. Finally, each T/R undergoes a battery of tests in our special test chamber to ensure quality. Tests include voltage ratios, impedance, grounding, spark over and six hour pressure tests. All this ensures that your order is designed to your specifications and built to last.

### T/R Set Optional Accessories and Equipment

- Internal Voltage Divider Resistor(s)  
Typically 80 megohms for feedback to Automatic Voltage Control
- External Voltage Metering Resistor
- External Current Metering Resistor
- Low voltage taps for varying the primary input voltage
- Vacuum-Pressure Gauge
- Alarm Contacts for:
  - Thermometer
  - Liquid Level Gauge
  - Vacuum Pressure
- Non-Standard Ambient  
Standard= 45°C avg/55°C max
- Altitude above 3,300 feet
- Premium Epoxy paint system for corrosive environments
- Special paint colors  
ANSI 70, Light Gray
- Current Limiting Reactor available with:
  - No Enclosures (Open Core & Coil assembly)
  - NEMA 3R Enclosure
  - T/R LV Bushing Enclosure
- Custom Retrofit Designs for replacement of existing T/R Sets
- Ground Switches

### T/R Set Specifications

#### Ratings

Secondary Voltage  
Outputs of 36 to 75k V DC, 126 kV Peak

Primary Voltage  
Inputs up to 600 VAC

Current  
100-2500 mA DC

#### Fluids

Mineral Oil  
DOW 561@ Silicone

#### Electrical and Leak Tests

- Resistance
  - LV Winding
  - HV Winding
  - Choke Coil
- Transformer Voltage Ratio
- No-Load and Impedance
- Diode Stack Forward and Reverse Meggar Reading:  
Repeated to assure rectifier was not damaged during the insulation test
- Resistor Test
- Induced Potential and Spark Test
- Applied Potential Test
- Grounding Switch Resistance Test
- Completed unit is pressure tested at 8 psi for 6 hours
- Tank is subjected to a full vacuum during the core/coil processing and filling operation

Schenck Process LLC  
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 Kansas City, MO 64153 USA  
 T +1 (816) 891-9300  
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[www.schenckprocess.com/contact](http://www.schenckprocess.com/contact)



# ERC 1001 Electronic Rapper Control

- Automatic program control based on process changes
- Power Off/Power Reduced rapping support provides maximum cleaning
- Customizable, modular design
- Anti-coincidence groups eliminate concurrent rapping in a passage, preventing re-entrainment problems
- FORRY™ Net enables control and monitoring anywhere in the plant



For years, the ERC 1001 Rapper Control has proven itself with trouble-free performance in hundreds of plants, with hundreds of configurations and conditions, worldwide. No matter what type of system you have – tumbling hammers, impactors, vibrator, sonic horns or others – the ERC 1001 will support your system. Its modular design can accommodate any combination of digital and analog I/O. Therefore, any system large or small, can be customized and expanded to meet your specific needs.

As conditions change, the rapper cleaning strategy needs modified. The ERC 1001 has many highly-configurable rapper programs can be automatically selected based on boiler load, time of day, DCS parameters or external signal inputs. For maximum cleaning, the ERC 1001 easily integrates with voltage controls to perform Power Off/Power Reduced rapping. Opacity excursions caused by re-entrainment are effectively minimized with automatic anti-coincidence control.

ERC 1001 increases rappers performance through a proactive monitoring and maintenance approach. ERC 1001 provides current feedback for each rapper and a dedicated maintenance program for fast rapper walkdowns. ERC 1001 allows for individual rapper testing without affecting the current rapping program. If a rapper fails, it will be bypassed automatically – without disturbing the other rapper's operation.

With our new FORRY™ Net graphical user interface, you can view rapper data remotely, for example, from the control room. In addition to remote monitoring, FORRY™ Net displays logging, configuration, programming of all rappers and critical process variables at a glance.

FORRY™ Net also provides detailed logging to track ESP performance over time, as well as customizable reporting features that make regulatory reporting simple and fast.

# ERC 1001 Electronic Rapper Control

## Standard Hardware

- CPU Card
- Communications Card (RS232, 485 and Fiber Optics)
- Power Supply Card
- Eurocard Rack

## For Impactors

- Firing Circuit Card
- Monitor Cards (Current Feedback)
- Output Cards

## For All Others

- Isolated Digital I/O Cards and/or Output Cards
- Optional Hardware
- DCUs (Distributed Control Units)
- Analog I/O Cards
- Digital I/O Cards
- Mimic Panel Display and Card
- MIU1001 Modbus Interface Card
- Portable Programming Terminal

## Rapper Types Supported

- AC/DC Vibrators
- Single/Multiple impactors
- Pneumatic Vibrators/Rappers
- Tumbling Hammers
- Sonic Horns

## System Capacity

- 512 rappers per control
- 8 linked controls per DCU
- Total of 4096 rappers per DCU

## Program Parameters

- On Time/Repeat Time
- Lift Pulses/Intensity/Frequency
- Starting Rapper/Rap Direction
- POR/PRR Power Down Delay
- Rest Time/Rest Method
- Anti-Coincidence Group

## Configuration Parameters

- Interweave
- Lift Correction
- Short/open Current Threshold

## Program Control

- Local/Remote
- Time of Day
- Boiler Load
- DCS Input
- External Analog/Digital Input

## Operations/Functions

- Start/Stop Rappers
- Bypass Rappers
- Clear Rapper Errors
- Select Local/Global Rapping Programs
- Rap Inhibit Input
- Rapper Program Input

## Diagnostics

- Rapper Test Fire
- Rapper Maintenance Program
- Rapper Current Display and logging
- Rapper Shorted/Open/Feedback Failure

## FORRY™Net Features

- Remote monitoring and control
- Single screen view for all ESP process data
- Integrated rapper and power supply data for each bus section with historian
- View, print and store compliance reports from HMI
- Simple and quick upgrade from DCU system
- No specialized software required
- No license fees
- Runs on modern web browser

# AVC XM Automatic Voltage Controller

- High-speed, high-resolution sampling for superior stability and control
- Advanced control modes allow more power to the ESP more frequently
- Triple level circuit protection for longer life
- FORRY™ Net interface for remote monitoring, control, logging and configuration



The AVC XM is the first voltage controller to combine optimum ESP control with advanced diagnostic features. Its high speed Digital Signal Processor (DSP) allows the most accurate and stable ESP control possible, while advanced control algorithms provide superior spark detection and management. While in Max Power mode, the AVC XM ignores self-quenching sparking, so it can send maximum power to your ESP more often. Standard features include: spark/arc control, back corona detection, intermittent energization and pulse blocking.

Our AVC XM high resolution color graphics display shows detailed primary and secondary voltage and current waveforms, so you'll never need to pull out a scope to diagnose your ESP again. It also lets you easily monitor all waveforms, VI curves, spark response graphs and more, right at the control. The AVC XM can be started, stopped, programmed and configured remotely, for incredible convenience.

With our new FORRY™ Net graphical user interface, you can view the same data remotely, for example, from the control room. This level of status and troubleshooting data will enable you to find and fix ESP problems faster than ever. FORRY™ Net displays all voltage control states and critical process variables at a glance.

FORRY™ Net also provides detailed logging to track ESP performance over time, as well as customizable reporting features that make regulatory reporting simple and fast.

To help ensure a long, reliable life span, the AVC XM's inputs are protected by a combination of special filtering, ESD protection, voltage limiting amplifiers and optical isolation. And unlike many competitive controls out there the AVC XM's electronics are produced on modern, automated equipment to guarantee quality.

# AVC XM Specifications

## Program Settings

- Sparks/Minute Set Point
- Arcs/Minute Set Point
- Max Power Mode
- Spark Mode
- Arc Mode
- Quench
- Recovery Ramp
- Setback
- Spark Sensitivity
- Pulse Blocking On/Off Cycles
- Energy Management
- Adjustable Background Power
- Back Corona Detection/Handling

## Status Indications

- Primary/Secondary Volts/Current
- Sparks/Arcs per Minute
- Kilowatts
- Firing Angle
- Actual Conditions vs. Program Parameters vs. T/R Ratings

## Limit Conditions

- Primary/Secondary Volts/Current Peak
- Primary/Secondary Volts/Current
- KW
- Firing Angle
- Undervoltage

## Alarms

- Unbalance Alarm
- Short Alarm
- Back Corona Alarm
- User-Defined Alarm Inputs
- Master Fuel Trip Input Alarm
- T/R Temp Input Alarm
- SCR Temp Input Alarm

## Diagnostics

- Immediate, peak and spark waveforms of primary/secondary volts/amps
- VI curves
- Spark Simulation
- 5 minute to 24 hour KW trends
- Integrated Help and Troubleshooting

## Electronics

- High resolution color graphics display
- State-of-the-art surface mount components
- Conformal coating protection for harsh environments
- Three levels of circuit protection
- Modern, high-speed 32-bit processor
- High-speed DSP

## Other Features

- DCS and OPC integration
- Power OFF/Power Reduced Rapping
- Upgrade kits for competitors' products
- In-cabinet tumbling hammer rapper controller
- Cabinet digital panel display
- Cabinet mounted terminal
- Support for Dual Bushing TRs

## FORRY™ Net Features

- Remote monitoring and control
- Single screen view for all ESP process data
- Integrated rapper and power supply data for each bus section with historian
- View, print and store compliance reports from HMI
- Simple and quick upgrade from DCU system
- No specialized software required
- No license fees
- Runs on modern web browser

# INTECONT® Tersus for Feeding Systems

- Compact measuring, control, and supervisory electronics for continuous feed applications
- High resolution color LCD-Display
- User language selectable and loadable
- Optimal communication structures for fieldbus and Ethernet-Networks
- EasyServe PC program for convenient commissioning and service
- Simple operation with automatic calibration programs



## Application

Designed for feeding applications in continuous processes, the INTECONT® Tersus measuring, control, and supervisory electronics are specially designed for single feeders and small groups controlled by a host system. The system is the right choice whenever bulk solids have to be fed with high accuracy using:

- Belt scales or weighbelts with controlled prefeeders
- Weighfeeders
- Coriolis mass flow feeders
- Loss-in-weight feeders (discharge and fill weighing)

The measuring, control, and supervisory electronics provide an economical solution particularly if the feed system is controlled locally in normal mode or from the display and control panel in a central control room.

## Equipment

The electronics are supplied with a front panel mounting unit or optionally with a wall-mount housing for installation on site. The system operates with an ergonomically designed keyboard organized by operating and service functions. The color LCD-display clearly shows measuring values and status information. Equipped with the appropriate communication

module, the INTECONT® Tersus optimally fits into any automated environment. The Ethernet network connection is included in the basic package.

## Operating principle

Although the INTECONT® Tersus functions vary with every scale type, the basic equipment is always the same:

- System accuracy for weighing tasks better than 0.05%
- Precise speed acquisition
- Optimal feed control for accurate batching via an adaptive control circuit
- High electromagnetic compatibility
- Galvanically isolated outputs
- Fail-safe data memory
- Integrated diagnostics and self-testing functions
- Preset with default values for quick and easy commissioning
- User language in German, English, Italian, Spanish and French. More languages loadable including Chinese or Russian (Cyrillic)
- Automatic calibration programs, theoretical span calibration without auxiliaries
- Configurable and selectable display modes
- Simulation mode for testing and learning
- Status, event, calibration and quantity reports

# INTECONT<sup>®</sup> Tersus for Feeding Systems

## Technical Data

<b>Display</b>	Graphical LCD display, adjustable brightness
<b>Keyboard</b>	22 keys
<b>Power supply</b>	24 VDC +50 % / -25 %, max. 20 VA
<b>Temperatures</b>	Operating temperature: -40 °C ... +60 °C Storage temperature: -40 °C ... +80 °C Legal-for-trade operating temperature: -10 °C ... +40 °C
<b>Load cell input</b>	Power supply: 6 VAC Load cell impedance: R min 80 Ω Cable length: max. 1000 m
<b>Housing</b>	IP65 rated panel mount
<b>Binary inputs</b>	5 x Optocoupler 18 - 36 VDC, typ. 5 mA 1 x NAMUR and 1 x NAMUR/Power 0.04 - 3000 Hz
<b>Binary outputs</b>	8 x Relays, max. 230 V, 8 A ohm. / 1 A inductive load
<b>Pulse outputs</b>	1 x Optocoupler for the totalizing counter 24 V, 0.1 A, max. 10 Hz
<b>Analog outputs</b>	2 x 0(4) - 20 mA, load max. 500 Ω
<b>Analog input</b>	0(4) - 20 mA, input impedance 100 Ω, or 0 - 10 V
<b>Serial connections</b>	Interface 1: EasyServe Interface 2: Printer Interface 3: Large display
<b>Fieldbus connections</b>	Selectable: Modbus, Modbus TCP, PROFIBUS DP, PROFIBUS I/O, DeviceNet, Ethernet/IP
<b>Analog board (optional) VEA 20451</b>	2 Analog outputs 0(4) - 20 mA, load max. 500 Ω, potential free, common reference 2 Analog inputs 0(4) - 20 mA, input impedance 100 Ω, potential free, common reference

<b>Wall housing</b>	Wall housing IP65, 380 mm x 300 mm x 236 mm Power supply 85 - 264 VAC / 24 VDC, 2 A
<b>Event printer</b>	Printer with serial interface RS232 and system cable
<b>Large displays</b>	Selectable: VLD 20100 (LED, 100 mm); VLZ 20045 (LCD, 45 mm); VLZ 20100 (LCD, 100 mm)



# INTECONT® Tersus for Measuring Systems

- Compact weighing electronics for continuous measuring systems
- High resolution color LCD-Display
- User language selectable and loadable
- Optimal communication structures for fieldbus and Ethernet-Networks
- EasyServe PC program for convenient commissioning and service
- Simple operation with automatic calibration programs



## Application

The INTECONT® Tersus weighing electronics are specially designed for weighing in continuous production processes. It is the ideal solution whenever material flows have to be measured and acquired with high accuracy using:

- Belt scales
- Solids flow meters
- Coriolis mass flow meters

The INTECONT® Tersus weighing electronics are primarily designed for applications requiring an easy to use dynamic display, control and monitoring, in addition to basic measuring functions. The weighing electronics ensures repeatability and transparency of the production process.

## Equipment

The electronics are supplied with a front panel mount unit or optionally with a wall-mount housing for installation on site. The system operates with an ergonomically designed keyboard organized by operating and service functions. The color LCD-display clearly shows measuring values and status information. Equipped with an appropriate communication module, the INTECONT® Tersus optimally fits into any automated environment. The Ethernet network connection is included in the basic package.

## Operating principle

Although the INTECONT® Tersus functions vary with every scale type, the basic equipment is always the same:

- System accuracy for weighing tasks better than 0.05%
- Manual and/or automatic zero setting
- Full feed/dribble feed control for accurate batching
- High electromagnetic compatibility
- Galvanically isolated outputs
- Totalizing counter pulses
- Fail-safe data memory
- Integrated diagnostics and self-testing functions
- Preset with default values for quick and easy commissioning
- User language in German, English, Italian, Spanish and French. More languages loadable including Chinese or Russian (Cyrillic)
- Automatic calibration programs, theoretical span calibration without auxiliaries
- Configurable and selectable display modes
- Simulation mode for testing and learning
- Status, event, calibration and quantity reports Russian (Cyrillic)
- Automatic calibration programs, theoretical span calibration without auxiliaries
- Configurable and selectable display modes
- Simulation mode for testing and learning
- Status, event, calibration and quantity reports



# INTECONT<sup>®</sup> Tersus for Measuring Systems

## Technical Data

<b>Display</b>	Graphical LCD display, adjustable brightness
<b>Keyboard</b>	22 keys
<b>Power supply</b>	24 VDC +50 % / -25 %, max. 20 VA
<b>Temperatures</b>	Operating temperature: -40 °C ... +60 °C Storage temperature: -40 °C ... +80 °C Legal-for-trade operating temperature: -10 °C ... +40 °C
<b>Load cell input</b>	Power supply: 6 VAC Load cell impedance: R min 80 Ω Cable length: max. 1000 m
<b>Housing</b>	IP65 rated panel mount
<b>Binary inputs</b>	5 x Optocoupler 18 - 36 VDC, typ. 5 mA 1 x NAMUR and 1 x NAMUR/Power 0.04 - 3000 Hz
<b>Binary outputs</b>	8 x Relays, max. 230 V, 8 A ohm. / 1 A inductive load
<b>Pulse outputs</b>	1 x Optocoupler for the totalizing counter 24 V, 0.1 A, max. 10 Hz
<b>Analog outputs</b>	2 x 0(4) - 20 mA, load max. 500 Ω
<b>Analog input</b>	0(4) - 20 mA, input impedance 100 Ω, or 0 - 10 V
<b>Serial connections</b>	Interface 1: EasyServe Interface 2: Printer Interface 3: Large display
<b>Fieldbus connections</b>	Selectable: Modbus, Modbus TCP, PROFIBUS DP, PROFIBUS I/O, DeviceNet, Ethernet/IP
<b>Analog board (optional) VEA 20451</b>	2 Analog outputs 0(4) - 20 mA, load max. 500 Ω, potential free, common reference 2 Analog inputs 0(4) - 20 mA, input impedance 100 Ω, potential free, common reference

<b>Wall housing</b>	Wall housing IP65, 380 mm x 300 mm x 236 mm Power supply 85 - 264 VAC / 24 VDC, 2 A
<b>Event printer</b>	Printer with serial interface RS232 and system cable
<b>Large displays</b>	Selectable: VLD 20100 (LED, 100 mm); VLZ 20045 (LCD, 45 mm); VLZ 20100 (LCD, 100 mm)

# DISOMAT® Opus Weight Indicators

- Legal for trade weighing indicator for a wide variety of applications
- Stainless steel - at a high protection class for table-top and wall mounting
- Top-hat rail design
- Panel installation version
- Built-in legal-for trade memory (optional)
- Fieldbus interface
- Ethernet interface, can also be used for configuration
- USB cable for optional α/n PC keyboard
- All components can be exchanged without re-verification
- For hazardous areas according to ATEX category 3D



## Application

The DISOMAT® Opus weighing indicator is perfectly suited to all applications where weights are recorded, displayed and printed legal-for-trade. Results can be transferred to master systems for further processing.

DISOMAT® Opus is also excellently suited to simple control jobs in process applications with its complete equipment of interfaces. This indicator fits easily into data processing and control systems with its extensive communication options, regardless of whether it's PLC or PC.

Some typical applications are:

- Platform scales without major control jobs
- Bin weighers (fill level control and fill or discharge weighing)
- Simple road weigh bridges and crane scales
- Applications as weight transducers for PC-based weighing and data processing systems (such as truck scales)

## Equipment

DISOMAT® Opus is available in three versions:

- The basic DISOMAT® Opus mini VKG 20710 has a serial interface and an analog output
- The expanded DISOMAT® Opus maxi design, VKG 20700 also has
  - More serial interfaces
  - Binary I/O
  - A wide range of communication capabilities

Both indicators have a standard stainless steel console shaped case in protection class IP65 that is suited for table-top and wall mounting (cable outlet downward with wall mounting).

These indicators have an easily readable back lighting LCD display for showing weight with clear text operator guidance. Data is keyed in via flexible membrane keyboard with 9 or 21 keys.

Beyond that, there is the

- VEG 20720 design for top-hat rail assembly in the control cabinet – also legal for trade and including a display
- VEG 20700, panel installation unit for installing into a control panel

These instruments also have extensive standard interface equipment that makes it suitable both for control and communication applications.

All instruments – including those with a keyboard – can be conveniently configured and calibrated via the DISOPLAN PC program.

Since Ethernet is increasingly becoming the communication standard even in industry, Opus maxi and the top-hat rail unit have a standard equipment 100 MBaud network connection.

The following options are available

- Legal for trade data memory
- Remote PC keyboard (only with the Opus maxi)
- Fieldbus cards and network cards
- DISOMAT® Opus maxi VKG: ATEX category 3D

# DISOMAT® Opus Weight Indicators

## Communication

With as many as three serial interfaces, DISOMAT® Opus is excellently equipped for exchanging data with its environment. For example:

- Printer
  - Large display
  - Data processing
- can be connected at the same time. Two of the interfaces are designed as RS232. The third (RS485-2/4-wire) is especially suited to communication on the bus and at greater distances.

The Ethernet connector (10/100 MBaud) is operated in the control systems via the Modbus-TCP protocol. Optionally, protocol EtherNet/IP is available as well. Another alternative is calling up HTML pages stored in the instrument via a standard web browser. The instrument can also be configured via the Ethernet connector.

Beyond this fieldbus systems and networks can be connected via optional communication modules.

## Parallel signal interchange

For control jobs, DISOMAT® Opus has the following parallel inputs and outputs (except Opus mini):

- 4 optocoupler inputs 24 V
- 4 relay outputs, suited for 230 VAC to switch a traffic light

Beyond this, all instruments (including the mini) have a 12 Bit analog output that can transfer weight or material flow to a PLC or display.

## Operation and settings

Standard DISOMAT® operation is in German and English. All operator guidance is carried out and data is entered in clear text.

You can easily load other operating languages into the instrument via the PC-assisted DISOPLAN configuration program (WINDOWS program) (Italian, French, Dutch, Polish, Slovakian, Slovenian, Spanish, Czech, Hungarian and Russian are presently available. Other languages are available at request).

DISOPLAN also allows:

- setting all instrument parameters
- calibrating the instrument
- conveniently configuring the print pattern
- read-out and display of weight signals
- reading out the complete instrument configuration (backup)
- restoring stored data into a DISOMAT®. This means a substitute can be prepared at short notice

All parameter and calibration data are stored power failure safe in the instrument. The real-time clock runs at least 7 days without a power supply.

## Functions

Beyond the basic scale functions such as

- Acquire and clear tare
- Set to zero
- Print

DISOMAT® Opus can also carry out a series of other functionalities.

To use them, one of the 'function variants' in the instrument is activated. This puts DISOMAT® into a configuration for specific applications that both allocates the essential actions to the six function keys and assigns the inputs and outputs of the instrument to the matching signals.

The following function variants can be activated:

- Cargo scale (weighing/ printing/balancing)
- Filling scale (single component butchering)
- Discharge scale (single component butchering)
- Crane Scale
- Road Weighbridge

## Print-out

Variable print pattern formatting allows you to freely lay out your weighing report. You can e. g. print out the following along with the weight data:

- the date and time
- Serial no.
- Balance totals
- the number of balanced weighings
- 5 strings with as many as 25 digits
- 3 stored texts with 26 characters each

You can conveniently format the print-out in the DISOPLAN program. The user arranges all of the printing elements the way they should appear on the print-out later. You no longer have to spend a lot of time keying in control sequences and the like.

## Legal-for trade memory

The optional built-in legal-for-trade memory releases the user from the necessity of creating and archiving legal for trade vouchers on paper.

## Equipment

In spite of its low price, DISOMAT® Opus has enormous processing performance. The 32 Bit ARM controller also has sufficient power reserves for fast weighing processes, simultaneous operation of various interfaces and also for future applications.

## Our dongle strategy

Our proven strategy of the intelligent load cell connector (dongle) is also used in DISOMAT® Opus: all of the scale's relevant setting and calibration data are stored in the dongle. Since all of our instruments are calibrated at the factory for identical sensitivity, you can interchange the electronic equipment at any time if there is a defect. After attaching the dongle, the scale is correctly configured and calibrated again. This means that even legal for trade scales do not have to be recalibrated or reverified.

## Pattern approval

DISOMAT® Opus is approved for non-automatic scales (throughout the European Union), with a maximum of 6,000 digits or as a multi-range/ multi-interval scale with as many as 3 x 4,000 digits. Together with the maximum resolution of 0.6 µV / increment, this instrument is well equipped for demanding jobs such as with a high preload.

# DISOMAT® Opus Weight Indicators

## Technical Data

<b>Display</b>	LCD back lighting. 1 row 20 characters. Characters 12 mm high
<b>Keyboard</b>	Flexible membrane keyboard Opus maxi, VKG 20700: 21 keys Opus mini, VKG 20710: 9 keys Opus flush mounting, VEG 20700: 21 keys VEG 20720 top-hat rail module: no keyboard
<b>Supply voltage for VKG/VEG 20700/710 desktop /wall units</b>	85 ... 250 VAC, 50 ... 60 Hz, max. 10 VA
<b>Supply voltage for VEG 20720 top-hat rail unit</b>	12 ... 36 VDC
<b>Temperature range</b>	Service temperature: -30 °C to +60 °C (legal for trade: -20 °C to +40 °C) Storage temperature: -40 °C to +80 °C
<b>Electro-magnetic environment</b>	E2 (OIML D11)
<b>Measuring channels</b>	1
<b>Load cell supply</b>	5 V alternating current supply
<b>Input signal</b>	0 ... 15 mV
<b>Sensitivity</b>	0.6 µV / d
<b>Unit</b>	kg, g, t, lb, N, kN
<b>Increment value</b>	1, 2 and 5, etc. adjustable from 0.01 ... 5000
<b>Number of digits</b>	Legal-for-trade operation: max. 6000 d Multi-range scale 3 x 4000 d Multi-interval scale 3 x 4000 d No limitation to resolution in non legal-for-trade operation
<b>Taring</b>	To 100 % of the weighing range
<b>Zero setting device</b>	Can be set max. 20 % Automatic zero tracking 0.5 d/s, can be selected; automatic zero setting can be selected
<b>Linearity error</b>	<0.05 % / 10 K
<b>Zero point stability, TK0</b>	<0.6 µV / 10 K corresponds to 0.04 % / 10 K
<b>Range stability, TKc</b>	<0.04 % / 10 K
<b>Accuracy, Fcomb</b>	<0.1 % / 10 K
<b>Load cell impedance</b>	Min. 47 Ω (equalling 8 x 350 Ω load cell or > 20 RT load cells per 4000 Ω)
<b>Date/Time</b>	Real-time clock (RTC), Back-up time at least 7 days
<b>Housing (VKG model)</b>	Stainless steel 1.4301; Protection class IP65, suitable for desk-top and wall mounting
<b>Binary inputs*</b>	4 x optocoupler, 18 ... 36 VDC, type 5 mA
<b>Binary outputs*</b>	4 x relay, 230 VAC, max. 60 W; 1 x optocoupler, 18 ... 36 VDC, max. 100 mA
<b>Analog output</b>	1 x 0(4) ... 20 mA, 12 Bit, max. load 500 Ω

<b>Serial interfaces</b>	3 interfaces for the printer, data processing or secondary display Interface 1: RS232 Interface 2: RS232 * Interface 3: RS485-2/4-wire * max. Baud rate: 38400
<b>Data processing procedures</b>	Siemens 3964R S5 (RK512) Schenck standard procedure DDP8672 Schenck poll procedure DDP8785 Modbus
<b>Secondary display procedures</b>	DTA DDP8861 DDP8850
<b>Ethernet interface *</b>	10/100 MBaud, on board, Protocol Modbus-TCP
<b>USB interface *</b>	On board, for PC keyboard
<b>Fieldbus (optional)</b>	PROFIBUS DP-V0 PROFINET IO CC-B DeviceNet EtherNet/IP Modbus-TCP
<b>Other options</b>	PC keyboard (USB) * Legal-for trade memory
<b>Protection class</b>	IP20
<b>Approvals</b>	CE, UL, ATEX

\* Only VKG 20700 (Opus maxi) top-hat rail version VEG 20720 and panel installation unit VEG 20700.

## Equipment supplied

<b>V040000.B11</b>	DISOMAT Opus maxi, VKG 20700, Stainless steel unit IP65
<b>V040001.B11</b>	DISOMAT Opus mini, VKG 20710, Stainless steel unit IP65
<b>V040003.B11</b>	DISOMAT Opus maxi, VKG 20740, Stainless steel unit IP65, 24 VDC supply
<b>V040002.B01</b>	DISOMAT Opus top-hat rail unit, VEG 20720
<b>V063320.B01</b>	DISOMAT Opus, Panel installation unit VEG 20700
<b>V063321.B01</b>	DISOMAT Opus, Panel installation unit VEG 20750, 24 VDC supply
<b>V081990.B01</b>	DISOMAT Opus maxi, stainless steel unit for ATEX category 3D, main supply
<b>V095580.B01</b>	DISOMAT Opus maxi, stainless steel unit for ATEX category 3D, 24 VDC supply
<b>V535499.B01</b>	PROFINET kit, VPN 28020 for VKG
<b>V054033.B01</b>	PROFIBUS DP kit, VPB 28020 for VKG
<b>V081906.B01</b>	DeviceNet kit, VCB 28020 for VKG
<b>V081908.B01</b>	PROFIBUS DP kit, VPB 28020 for VEG 20700
<b>V081909.B01</b>	DeviceNet kit, VCB 28020 for VEG 20700
<b>V064721.B06</b>	Procedure EtherNet/IP
<b>V040045.B01</b>	Remote PC keyboard (USB), German key assignment
<b>V040045.B02</b>	Remote PC keyboard (USB), English key assignment
<b>V040026.B01</b>	Legal-for-trade memory VMM 20407

# DISOCONT® Tersus Measurement, Control and Supervisory System

- Modular design
- Product line for Mechatronic scales; a combination of mechanical, electrical and software components
- Local or remote installation
- Reduced engineering planning and wiring costs
- Commissioning and diagnostics are graphically supported
- Optional wireless access for service



## Application

DISOCONT® Tersus is a modular system for controlling continuous weighing and feeding applications. The controller is used wherever bulk solids need to be measured, fed or batched with the use of:

- Loss-in-weight feeders (measuring/feeding)
- Weighfeeders
- Mass flow meters
- Solids flow meters
- Belt scales
- Weighing hoppers

The DISOCONT® Tersus is easily integrated into the automation structures of a plant using the built-in Ethernet interface or optional fieldbus modules.

## Equipment

The DISOCONT® Tersus electronics consist of a main VCU and multiple optional expansion VCU's. Because of its modular design approach, a cost-effective system configuration is achievable.

- Central unit VCU for all measurement and control functions with interface to operator panels and expansion VCU's
- EasyServe-PC-program for commissioning and service
- Fieldbus communication modules plug into the VCU for transfer of all relevant data to the user's control system
- Additional expansion VCU is for discrete I/O and provides expanded control of the scale system
- Operator panel with graphical display and touchscreen for operation of the scale and/or parameter modifications
- Integrated web server for browser server access to logs, HMI and service information
- Local control station for manual operation of motors to assist with setup and maintenance
- Compatible with DISOCONT® Master Group Controller, see data sheet for further details
- Optional access via LAN, WLAN and Bluetooth

The internal DISOCONT® Tersus communication bus permits a flexible arrangement of the VCU's, locally or in cabinets. All modules can be replaced with no need for recalibration and reconfiguration.



# DISOCONT® Tersus Measurement, Control and Supervisory System

## Technical features for all weighing and feeding systems

- System accuracy for scales better than 0.05 % (DIN EN 61143-1); Resolution of the weight signal: 24 million parts
- Galvanically isolated inputs/outputs
- Non-volatile process data retention
- Factory presets for easy and quick commissioning
- Interfaces are multilingual, selectable and loadable
- Status, event, calibration, and batch reports
- Batch control with adaptive accuracy improvement algorithm
- Simulation mode for testing and learning

## Functions

DISOCONT® Tersus is designed to acquire the actual feed rate, ex. [lb/h, t/h, etc.] via:

- Belt load and belt speed for belt scales and weigh feeder applications
- Changes in weight of material in weigh hopper per

unit of time for loss-in-weight feeders

- Reactive force for solids flow meters
- Direct mass flow measurement using the Coriolis force for mass flow meters
- The load of the feeding screw with automatic calibration via a check hopper for screw feeders

The VCU precisely controls the actual feed rate to match the setpoint. Depending on the type of scale, DISOCONT® Tersus routes a control signal to a:

- Speed-controlled weighfeeder drive or the drive of the feed helix
- Controllable loss-in-weight feeder discharge unit
- Controllable solid and mass flow feeder prefeeder

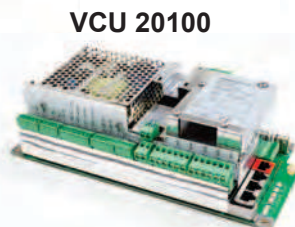
In a batch mode, the DISOCONT® Tersus feeds a preset amount of material and then automatically stops feeding at the end of the batch. The system has learning features which use the batch results for automatic adaptive accuracy improvement.

## Interfaces

Modbus/TCP (standard)  
 EtherNet/IP (standard)  
 DeviceNet VCB 28020  
 Modbus VSS 28020  
 Profibus VPB 28020  
 Profinet VPN 28020



Fieldbus



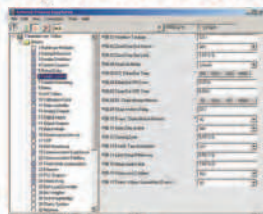
VCU 20100

Operator Panel VHM 20100

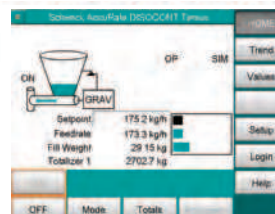


Ethernet Service Access

EasyServe VPC 20150



HMI via Web-Browser



# DISOCONT® Tersus Measurement, Control and Supervisory System

## DISOCONT Tersus Component – Overview

Type hardware	Functions
<b>VCU 20100</b>	Central control unit, minimum 1 x per system. Optional expansion via up to 2 additional VCU
<b>VAI 20100</b>	Single channel analog input card
<b>VAO 20100</b>	Single channel analog output card 0(4) ... 20 mA
<b>VAO 20103</b>	Single channel analog output card 0 ... 10 V
<b>VME 20102</b>	Load cell interface card (2 cards per VCU max.)
<b>VEG 20100</b>	VCU for cabinet enclosure
<b>VHM 20100</b>	Touchscreen for control panel mounting (powered by VCU)
<b>VHM 20110</b>	Portable enclosed touchscreen with cable
<b>VPB 28020</b>	Profibus Interface
<b>VSS 28020</b>	Modbus Interface
<b>VCB 28020</b>	DeviceNet Interface
<b>VPN 28020</b>	Profinet Interface
<b>VPC 20150</b>	Service-Software EasyServe for PC
<b>VMO 20101</b>	Local motor operator station

Type software for VCU 20100	Functions/Applications
<b>VBW 20170</b>	Belt Scales
<b>VWF 20170</b>	Weighfeeders; DMO, DEA, Multidos
<b>VLW 20172</b>	Loss-in-Weight Feeder; MECHATRON, ProFlex, PureFeed, SolidsFlow
<b>VIF 20170</b>	Solids flow meters and feeders; Multistream, DLM
<b>VMC 20170</b>	Mass flow meters; MULTICOR
<b>VBC 20170</b>	Multi ingredient batch feeding
<b>VSF 20170</b>	MULTI-FLEX; screw feeder
<b>VIO 20170</b>	Expansion VCU

## Technical Data

DISOCONT Tersus System Unit VCU 20100	
<b>Standard Inputs*)</b>	<ul style="list-style-type: none"> <li>• Load cell input <math>\pm 6</math> V, <math>R_i &gt; 87 \Omega</math></li> <li>• 2 NAMUR-Inputs 0.03 ... 3000 Hz for speed or belt sensor, flap limit switches</li> <li>• 5 Isolated, digital inputs 24 V, 20 mA</li> </ul>
<b>Optional Inputs*)</b>	<ul style="list-style-type: none"> <li>• Additional load cell input</li> <li>• Up to 2 analog input channels 0(4) ... 20 mA / 0 ... 10 V **)</li> </ul>
<b>Standard Outputs*)</b>	<ul style="list-style-type: none"> <li>• 1 isolated analog output 0(4) mA ... 20 mA, max. 11 V</li> <li>• 7 independent relay outputs 230 V / 1 A</li> <li>• Open collector output for external totalizer 30 VDC / 50 mA</li> </ul>
<b>Optional Outputs *)</b>	<ul style="list-style-type: none"> <li>• Up to 2 analog outputs 0(4) ... 20 mA or 0 ... 10 V **)</li> </ul>
<b>Serial interfaces</b>	<ul style="list-style-type: none"> <li>• 4 Ethernet RJ45, Ethernet/IP, Modbus/TCP</li> <li>• Interface for operator panel local bus</li> <li>• Interface for expansion VCU</li> <li>• Connection EasyServe RS232</li> <li>• Optional: 1 x Fieldbus plug in module</li> </ul>
<b>Power supply</b>	24 VDC $\pm 20$ %; 110 V ... 230 V -20 % +10 % 50 Hz or 60 Hz; 35 W
<b>Ambient temperature</b>	-25 °C ... +50 °C outside of the housing
<b>Protection class</b>	IP20
<b>Approvals</b>	CE, UL, ATEX

\*) Control functions are freely assigned using EasyServe.

\*\*) 2 cards per VCU max.

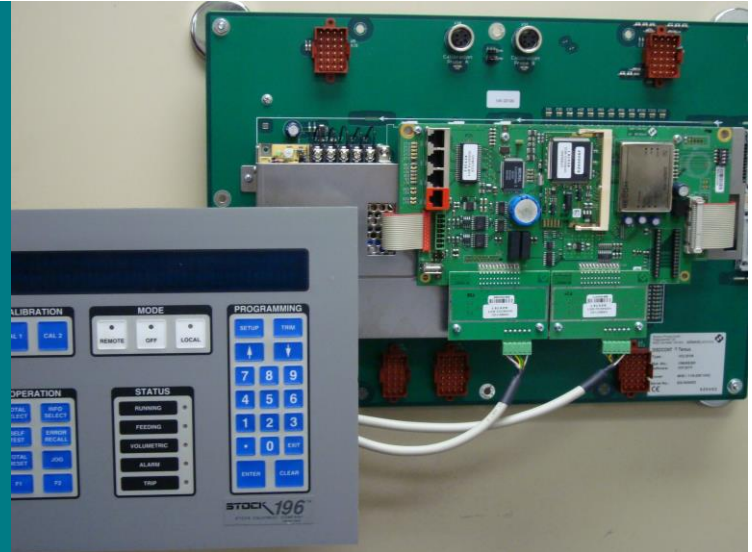
## VCU Housing VEG 20100

<b>Material</b>	Stainless steel
<b>Dimensions (mm)</b>	9.85" x 5.75" x 3.86" (250 mm x 146 mm x 98 mm) For installing DIN rail or for wall mounting
<b>Protection classes</b>	IP20 (IEC 60 529)



# DISOCONT<sup>®</sup> Tersus (DT-9) Legacy Stock<sup>®</sup> Feeder Controller Upgrade

- Upgrade from older controllers in a minimal amount of time
- Plug-in compatibility
- I/O compatibility
- Display compatibility
- New communications
- Configurable I/O
- EasyServe software



## Upgrade from 196NT and 8085 Controllers

The DISOCONT<sup>®</sup> Tersus (DT-9) Legacy Feeder Controller Upgrade uses your existing display and provides you with all the benefits associated with advanced technology available from the DT-9 processors. We support all of our original equipment with genuine Stock<sup>®</sup> feeder parts to maintain to OEM standards for accuracy, reliability and availability.

## Plug In Compatibility

DT-9 Legacy processors contain plug-in compatibility with 196NTs and 8085s for easy installation. No rewiring is necessary.

## I/O Compatibility

The DT-9 Legacy supports the various sensors inputs and safety feedbacks of the 196NT and 8085 designs. Therefore, all important interlocking and control capabilities are maintained without DCS or wiring changes.

## Display Compatibility

The DT-9 Legacy can use your existing 196NT display or the option to upgrade to a HMI graphics touch screen later. The interactive graphic touch-screen display provides the operator with detailed information about feeder performance. The display also shows a graphical representation of the feeder in operation and details pertaining to the feedrate, setpoint, belt speed, belt load and the total weight of the material.

Alerts appear on screen at the occurrence of important events such as pluggages or when maintenance is required. Service dates are scheduled into the system to display an alert when regular maintenance is required. Trend graphs are also supported on the display, allowing the user to observe detailed operational information over time.

## New Communications

Profibus, Ethernet, and Mod-bus support provide DCS integration without costly, individual wire runs. At the same time, this allows for more information to be available directly to your control room or for remote diagnostics.

## Configurable I/O

Configurable inputs and outputs give each plant more opportunity to customize their feeder control scheme and integrate the feeder with auxiliary equipment and sensors.

## EasyServe Software

EasyServe software lets plant personnel use their laptop to configure, troubleshoot, back up and quickly restore feeder configurations.

# DISOCONT<sup>®</sup> Tersus (DT-9) Legacy

## DISOCONT<sup>®</sup> Tersus (DT-9) Controller Features

- Choice of reusing your keyboard or upgrade to the large, color, graphic touch screen display.
- Powerful 32 bit ARM-9 processor
- Maximum/minimum feedrate limit setting
- Modbus, Profibus, Ethernet support
- Scheduled maintenance reminder
- Belt slip detection algorithm
- Moisture compensation input
- Remote/local mode
- Forward/reverse, jog/run
- Internal PID control settings
- Belt motion monitor input
- Discharge pluggage sensor
- Coal on belt switch input
- Coal flow monitor input
- Feedrate analog input/outputs
- Multiple language support
- Integrated clean-out chain control



## Variety of display and configuration units are available:

- Configurable error and warning reporting
- Hourly/daily feedrate totals
- Settings and I/O for calibration probes, calibration weights and belt travel
- Automatic switch to volumetric feed upon load cell failure
- Raise/lower feedrate inputs
- Three totalizer outputs
- Pre-feeder start output
- Release output for integration of auxiliary

# DISOCONT<sup>®</sup> Tersus (DT-9) Stock<sup>®</sup> Feeder Controller

- Interactive, color, touch-screen display of feeder operation and status
- Flexible design allows for configurable inputs/outputs
- EasyServe PC interface for configuration back-up and restore
- Simple access to information from control room
- Integrated clean-out chain control



The DISOCONT<sup>®</sup> Tersus (DT-9) controller is the new standard in weigh feeding control. The interactive graphic touch-screen display provides the operator with detailed information about feeder performance such as feeder efficiency and accurate calibration. The display shows a graphical representation of the feeder in operation and details pertaining to the feedrate, setpoint, belt speed, belt load and the total weight of the material.

Alerts appear on screen at the occurrence of important events such as pluggages or when maintenance is required. Service dates are scheduled into the system to display an alert when regular maintenance is required. Trend graphs are also supported on the control, allowing the user to observe detailed operational information over time.

The DT-9 supports many of the modern communications systems that power plants have adopted. By using systems such as Modbus, Ethernet, Profibus or DeviceNet, plants can put their equipment on a network and avoid costly, individual wire runs. This allows for more information to be available directly to the control room or remote diag

The new design is also more flexible, allowing the inputs and outputs to be more configurable without making changes to existing cabinets. This allows individual plants to customize their feeder control scheme and integrate the feeder with auxiliary equipment and sensors.

Incorporated EasyServe software allows plant personnel to use their laptops to configure, troubleshoot, back-up and restore feeder configurations.

Variety of display and configuration units are available:

- Configurable error and warning reporting
- Hourly/daily feedrate totals
- Settings and I/O for calibration probes, calibration weights and belt travel
- Automatic switch to volumetric feed upon load cell failure
- Raise/lower feedrate inputs
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# DISOCONT<sup>®</sup> Tersus (DT-9)

## DISOCONT<sup>®</sup> Tersus (DT-9) Controller Features

- Large, color, graphic touch screen display
- Powerful 32 bit ARM-9 processor
- Maximum/minimum feedrate limit setting
- Modbus, Profibus, Ethernet support
- Scheduled maintenance reminder
- Belt slip detection algorithm
- Moisture compensation input
- Remote/local mode
- Forward/reverse, jog/run
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# Quality delivers more flexibility

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