Precision Rotary Airlocks and Diverter Valves

Utilizing over 40 Years of Mac Process Bulk Material Conveying Technology
Schenck Process offers a wide range of airlocks and diverter valves for numerous pneumatic conveying applications.

- Easy to disassemble and clean airlocks for food and pet food process applications
- High throughput airlocks with handling capacities up to 220,000 lbs. per hour
- Diverters available in 22.5, 30 and 45 degree divert angles for use in diverting air-conveyed or gravity-flow materials into either of two destinations; or from either of two sources to one destination
- Airlocks and diverters available in stainless steel, carbon steel, cast iron or aluminum
High Efficiency (HE) Airlocks
HE Airlocks provide high-quality, reliable service during continuous on-stream duty.
- Features angled cast inlets to reduce shear and distribute wear
- Ideally suited for applications where adjustable tip to bore tolerances need to be maintained and it’s not convenient to remove the airlock from service
- The removable inspection panel allows easy access to the adjustable tips

Multi-Duty Airlocks (MD, CMD, WRMD)
The Multi-Duty Airlock family consists of a standard industrial model (MD), a cleanable model (CMD) and a wear resistant model (WRMD). All three models are suited for multiple process applications.
- All Multi-Duty Airlocks are designed for use in dilute phase vacuum, pressure or a combination vacuum/pressure pneumatic convey system
- Rated up to a 15 psi pressure differential
- Wear resistant models feature cast machined gray iron housings coated with ceramic for excellent abrasion resistance
- CMD models are designed with a rail system that provides quick and easy disassembly for cleaning and maintenance

Round Airlock Multi-Duty (RAM)
The RAM Airlock uses many of the same design features as the MD Airlock, but includes round, flanged inlet and outlet connections with 150 lb. drilling.
- Designed for 15 psi differential pressure service and is equipped with a fabricated, machined, eight-vane open end rotor
- Available in six sizes with options that include closed end rotors, wear resistant designs, adjustable tip rotors, abrasion resistant coatings and elevated temperature service
- Materials of construction include cast gray iron or stainless steel

Heavy Duty (HD) Airlocks
Typically are used in pneumatic conveying systems or for the gravity discharge of filters, cyclones and storage tanks.
- Available in eight standard sizes ranging from .175 CFR to 16.6 CFR
- Materials of construction include cast iron or fabricated carbon steel
- Rated up to a 15 psi pressure differential

MTA Airlocks
Ideal for high pressure continuous dense phase applications requiring a valve capable of operating at differential pressures up to 30 psi.
- A precision-machined valve designed with a heavy duty cast
- Temperature range from -20˚ to 225˚F (-29˚ to 107˚C)
- Available in cast iron, anodized aluminum and stainless steel

GCA Airlocks
An easy to clean airlock that is perfect for high process rate applications.
- Suited for sanitary processes making it ideal for pet food and food manufacturing
- Quick and easy disassembly make it simple to clean and maintain
- Oversized rotor shaft creates a naturally radiused rotor pocket for more complete product release
- FDA and EC 1935/2004 approved materials of construction in product contact areas

High Pressure (HP) Airlocks
Operates in the range of 30 to 60 psi.
- HP8 and H16 units are designed with a machined tapered 316 stainless steel cast housing that includes a ceramic bore and end plates
- The HP850 can handle product rates up to 220,000 lbs. (99,790 kg) per hour
- Available in aluminum for the HP650 and HP850 models and stainless steel in the HP8 and HP16 units

CV Valve
The Conveying Valve blow-through design allows the airlock to meter product from the rotating pockets directly into the conveying line.
- Available in either baffled or non-baffled inlet arrangements
- Ideal for applications with limited head height
- Maximum operating pressure of 15 psi

Fabricated Square and Round (FS and FR) Airlocks
Equipped with flexible wiper blade rotors to provide superior handling for stringy or fibrous materials.
- Typically applied where little or no pressure differential is present across the inlet or outlet ports and temperature is ambient
- Suited for use in the wood, grain and agricultural industries
- Designed in carbon steel, but can be optionally constructed in 304 stainless steel
**WG Airlocks**
The WG Airlock is fabricated in a wiper style design.
- Fabricated non-machined housing with a 6-vane urethane flex tip rotor
- With a high capacity throughput, the WG Airlock is ideal for handling wood and grain dust from a dust collector hopper discharge
- Designed in carbon steel

**Convey Heavy Duty (CHD) Airlocks**
Designed for pressure or vacuum pneumatic conveying applications where the system requires very large conveying rates.
- Equipped with a heavy duty, 12-vane machined rotor, machined housing, over-sized shaft and bearings to reduce shaft deflection at higher differential pressures
- Available in several sizes with a wide range of options and accessories

**Spheri® Valve**
A valve that provides totally unrestricted full bore material flow through a uniquely designed dome assembly.
- Forms a pressure tight seal when closed and handles pressures up to 435 psi
- Designed to withstand a wide range of temperatures from -40˚ to 900˚F (-40˚ to 482˚C)
- Long lasting, 1 million cycles between major overhauls

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**Airlocks and Valves for Customer Replacement Only (Model Types):**
- Rotary Valve (RV)
- Outboard Bearing Rotary Valve (OBRV)
- Side Entry Airlock (SEA)
- FloTronics Airlock (FTA)
- Tapered Rotary Airlock (TRA)

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### Rebuilds and Parts

**Airlocks and Valve Rebuilds**
Our skilled technicians will complete a full evaluation of your equipment and provide you with a detailed estimate of what needs repair and how much it will cost.

*Rebuild Services:*
- Re-machine castings
- Replacement of seals, o-rings and packing bearings
- Sandblast
- Paint
- Re-anodize
- Replace shaft blades
- New actuator packages

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**Airlock Parts and Accessories**
All Schenck Process airlocks can be purchased with or without drives. Schenck Process offers airlock drives as replacements or for use with bare Schenck Process airlocks. There are two types of drives offered, right angle and parallel shaft.

**Right Angle Drive**
- Most commonly used
- Less expensive than the parallel shaft arrangement
- For use on MD, HD, HE, FS, WG, RAM and FR airlocks

**Parallel Shaft Drive**
- The motor is set parallel to the rotor and housing
- More efficient than a right angle drive
- Available on all Schenck Process airlocks
- Comes standard on the RV, HP, OBRV, CV and MTA airlocks

**TS4 Seals**
Designed to provide superior sealing capabilities even in severe operating conditions. They are available on the HE, MD, RAM and HD style airlocks.
- Requires no adjustments to maintain seal integrity
- Designed to last as long as the airlock bore
- Air purging the seal is optional
**Convey Diverters**

**Butterfly Scale Diverters**

Heavy duty butterfly valve seal/divert blade combination available in aluminum or stainless steel construction.

- Mounts directly to the top of the receiver bin to solve low head height requirement.
- Facilitates accurate scaling/weighments into the receiver, while fill/pass arrangement allows multiple bins to be serviced.
- Suitable for line pressures up to 15 psi.

**BV Diverters**

BV Diverters are designed in both 30 degree and 45 degree angles with port to port rotation of 150 degrees.

- Features machined housings with Teflon packing gland seals, bronze shaft bushings and flanged 150 lb. drilling inlet and outlet connections.
- Handles line pressures up to 15 psi.
- Available in aluminum or stainless steel construction.

**PT45 Diverters**

The PT45 Diverter features a tunnel that rotates 45 degrees port to port with no contamination.

- Includes a positive food grade rubber silicone seal at each port.
- Can be used in convey line applications operating at line pressure up to 110 psi depending on size.
- Available in aluminum or 316 stainless steel construction. 4” and 6” sizes available in cast gray iron.

**PV Diverters**

PV Diverters are available in both 30 degree and 45 degree angles with port to port rotation of 150 degrees.

- Equipped with a plug, these diverters are designed for pellet handling applications at line pressures up to 15 psi.
- Features machined housings with Teflon packing gland seals, bronze shaft bushings and flanged 150 lb. drilling inlet and outlet connections.
- Available in aluminum or stainless steel construction.

**Sealed Blade Line Diverters**

These valves divert product at a 30 degree angle.

- Features a heavy-duty wear blade with a synthetic polymer insert to seal against the valve and plates.
- Designed for use in vacuum or press systems directing material from two sources into one destination.
- Suitable for line pressures up to 15 psi.

**YV Diverters**

The YV Diverters feature a stainless steel diverting blade that diverts at a 22.5 degree angle.

- Includes a replaceable resilient urethane sleeve to provide a tight seal for the diverting blade. A food grade nitrile sleeve is optionally available.
- Available in cast iron, aluminum or stainless steel.
- Suitable for line pressures up to 15 psi.

**Gravity Flow Diverters**

**GA Diverters**

Designed to divert product flow from one source to two use points within a gravity system. The angle of each leg is 30 degrees off vertical center line.

**GY2 and GY3 Diverters**

Constructed with one straight through leg and additional legs to divert product flow at 30 degrees.

**Air Diverters**

**AD Air Diverters**

The AD Air Diverter is designed to direct the flow of clean air from an air source to one of two use points. It can also be used for one of two air sources delivering to one use point.

**DV Dump Valves**

Designed to direct the flow of clean air from a vacuum filter receiver, or loader, to a vacuum source. The dump valve allows multiple vacuum receivers to share one common vacuum blower.
Schenck Process is the global market leader of solutions in measuring and process technologies for industrial weighing, feeding, conveying, screening, automation and air filtration technology.

Schenck Process develops, manufactures and markets a full range of solutions, products and turnkey systems on the basis of combining process engineering expertise, reliable components and field-proven technology.