

Swing Gate Diverter Valves

Precision built for smooth operation, low maintenance, and long life.

Young Industries Swing Gate Diverter Valves are designed for use in pneumatic conveying systems. These diverter valves are adaptable to a wide variety of process applications, handling dry, free-flowing powders, pellets, or granular materials. Young's swing gate diverter valves can be used for routing product flow from one line to either of two lines, or from either of two lines to one. Valves can be installed in series to provide multiple outlets, and are designed to be mounted in any position without loss of efficiency.

Young Industries makes two standard model swing gate diverter valves. Valve Model B and C differ only in design configuration, allowing users to choose the swing gate diverter valve best suited for their conveying system. Standard Model B swing gate diverter valves are designed with one diversion leg offset 30° from the straight through leg (see fig. A). Standard Model C swing gate diverter valves are designed so that each diversion leg is offset 30° from the inlet leg providing a total diversion angle of 60° (see fig. B).

Tight Sealing

All sealing surfaces in the swing gate diverter valve are precision machined. The gate is of heavy duty cast construction, having teflon sealing strips located on each side. White neoprene sealing strips are located in the diverter valve housing to provide a tight seal around the swing gate. Young's swing gate diverter valves are designed to provide a tight seal in positive and negative pressure pneumatic conveying systems. O-rings are used for sealing at the gate shaft area. These features enable the swing gate diverter valves to handle a broad range of products.

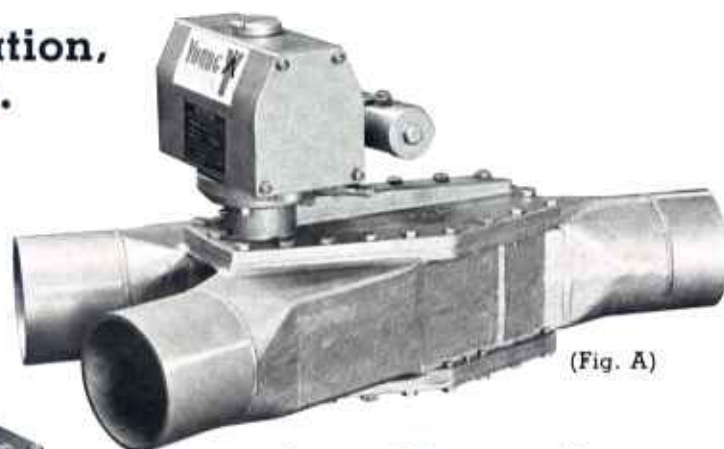
Low Maintenance

The diverter valve's gate shaft is supported by ball bearings, assuring proper alignment of gate to housing. The diverter valve's actuator is direct coupled to the gate shaft. This arrangement distributes torque directly to the gate shaft, eliminating stress to

valve components. Since the swing gate diverter valve has only one internal moving part, maintenance is kept to a minimum. Interior surfaces can be serviced through removable side plates without dismantling the diverter valve from the system. Production loss and downtime for cleaning and maintenance is kept to a minimum.

Construction & Sizing

Swing gate diverter valves are of cast construction in iron, aluminum or stainless steel. Special materials of construction are also available. Sizing for the swing gate diverter valves range from 2 through 18", with larger valves available upon request. Diverter valves are supplied with plain ends for compression couplings or flanged ends.



(Fig. A)



(Fig. B)

Pressure & Temperature Ranges

Young Industries standard swing gate diverter valves are designed to operate in positive or negative pressure up to 15 PSIG in combination with temperatures up to 250°F. Diverter valves are available for pressures up to 350 PSIG or temperatures up to 1500°F. When temperature and pressure ratings are required above standard, a review of design may be required.

Standard Operators

Swing gate diverter valves can be provided for automatic operation with either pneumatic or electric actuators. Manual actuators are available with handwheel or chainwheel.

For Specific Requirements Options and additions are available for the standard line of swing gate diverter valves.

Special Platings & Coatings

Electroless nickel or chrome plating as well as tungsten carbide or teflon coatings are available. Other types of platings and coatings may be supplied when required.

Special Seals Standard swing gate diverter valves are equipped with seals to meet most applications. Various materials may be supplied for the gate and side sealing strips when dictated by operating conditions.

High Pressure Standard swing gate diverter valves are designed for 15 PSIG with special diverter valves available for pressures up to 350 PSIG.

High Temperatures Standard swing gate diverter valves are designed for 250°F., with special diverter valves available for temperatures up to 1500°F.

THE
Young
INDUSTRIES, INC.

Standard Swing Gate Diverter Valves



Model B Swing Gate Diverter Valves are designed with one diversion leg offset 30° from the straight through leg.

Standard Specifications Model B and C

Operation

Heavy-duty service; to 15 PSIG positive or negative pressure. Temperatures up to 250°F.

Construction

Cast iron, stainless steel, or aluminum.

Flanges

Choice of plain ends in tubing or pipe sizes, round or square flanges.

Seals

O-ring seals at gate shaft. Teflon sealing strips on both sides of swing gate. White neoprene sealing strips are used at the hub and tip areas of the gate.

Operator

Choice of pneumatic, electric, or manual operation.

Pneumatic

Rotary pneumatic operator, with NEMA IV single solenoid is standard. NEMA VII/IX single or dual solenoid valves are available. Two, single-pole, double-throw NEMA IV position indicating switches are standard. NEMA VII/IX limit switches are available. Air at 80-100 PSIG. Electrical at 120v.

Electric

Rotary actuator. 120v, single phase, 60 Hz motor and NEMA IV enclosure is standard. NEMA VII/IX electric actuators are available. Actuator complete with manual override and position indicating switches.

Manual

Handwheel or chainwheel operator is available.

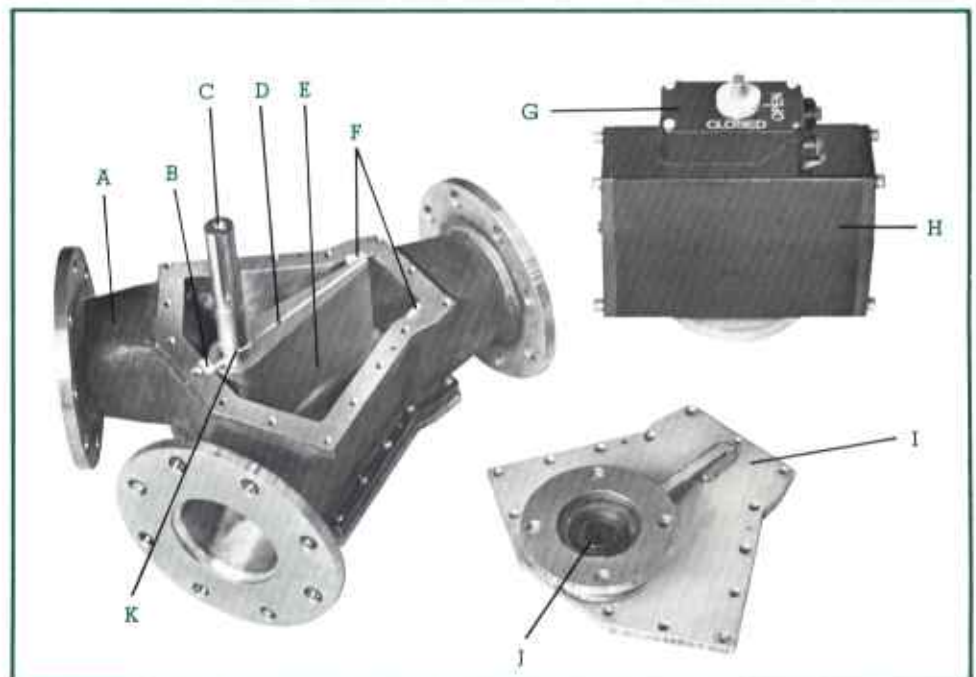


Model C Swing Gate Diverter Valves are designed with each diversion leg offset 30° from the inlet leg for a total diversion angle of 60°.

Standard Features

- Compact design
- Tight sealing
- Heavy-duty cast gate
- Sealing areas precision machined
- One internal moving part
- In-line servicing
- Low maintenance
- For use in positive or negative conveying systems
- Choice of automatic or manual operators
- Choice of construction materials

- A. Housing
- B. Hub Seal
- C. Gate Shaft
- D. Side Seal
- E. Gate
- F. Tip Seals
- G. Position Indicating Switch Enclosure
- H. Pneumatic Actuator
- I. Side Plate
- J. Ball Bearing
- K. O-ring Seal

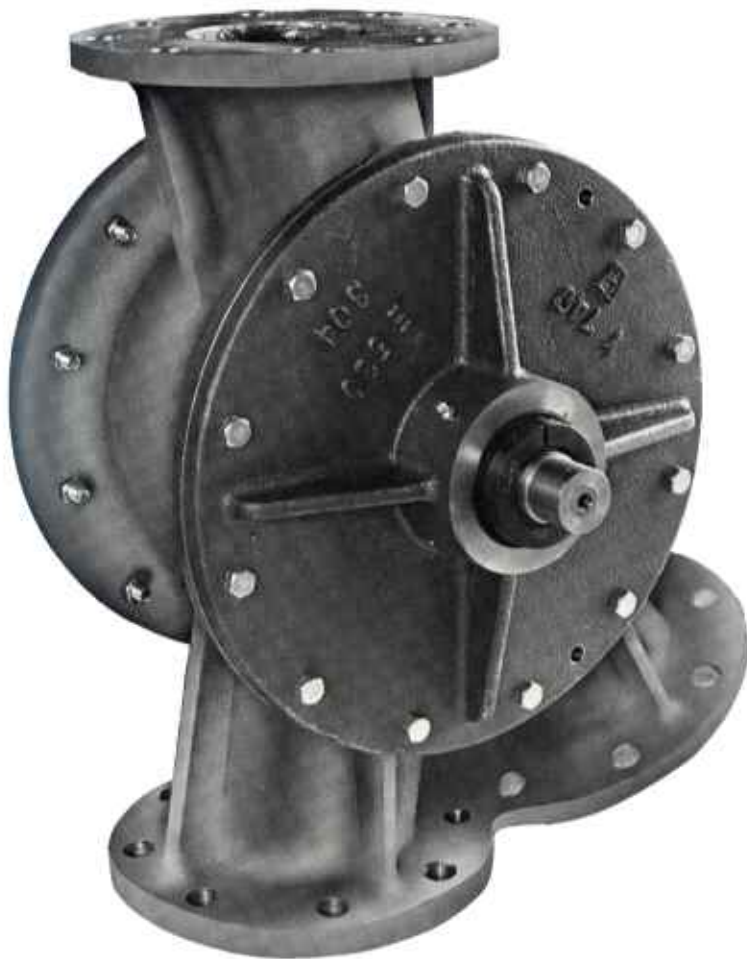


Rotary Plug Diverter Valve



**DESIGNED
AND BUILT
FOR MAXIMUM
PERFORMANCE**

Young Industries Rotary Plug



Young Industries Rotary Plug Diverter Valves are designed for applications in pneumatic or gravity fall conveying systems. They are precision constructed to provide dependable performance. They may be mounted in any position to adapt to your specific conveying needs.

The Rotary Plug Diverter Valve has been engineered to convey dry free flowing materials. The valves handle granular materials and pellets for a wide variety of applications. Some products handled by these valves include:

Chemicals	Meals	Powdered Metals
Clay	Graphite	Diatomaceous Earth
Coffee	Gypsum	Fly Ash
Detergents	Minerals/Ores	Sawdust
Dry Foods	Plastic Pellets	Soaps
Flour	Salt	Spices
Grains	Sugar	Starch

FEATURES

- Handles Granules, Cubes, Pellets, Chips, Flakes, Prills
- Rotor Only Internal Moving Part
- Precision Machined Sealing Areas
- Low Maintenance
- Positive or Negative Pressure Systems'
- Option of Automatic or Manual Operators
- Choice of Construction Materials
- Special Platings and Coatings Provided for Handling Abrasive Materials
- Easily Adaptable to Sanitary Applications
- Virtually Leakproof

The Rotary Plug Diverter Valve is designed to alternate product flow between two lines, one straight through and the other at a 30° angle. This provides you with the option to pass product from a main line through one of two lines or two lines can alternately pass product through one line. Product flow can be diverted from one line to the other at your discretion. Changing position of the rotor from one line to the other is achieved by an air/electric rotary actuator, or manual worm gear operator.

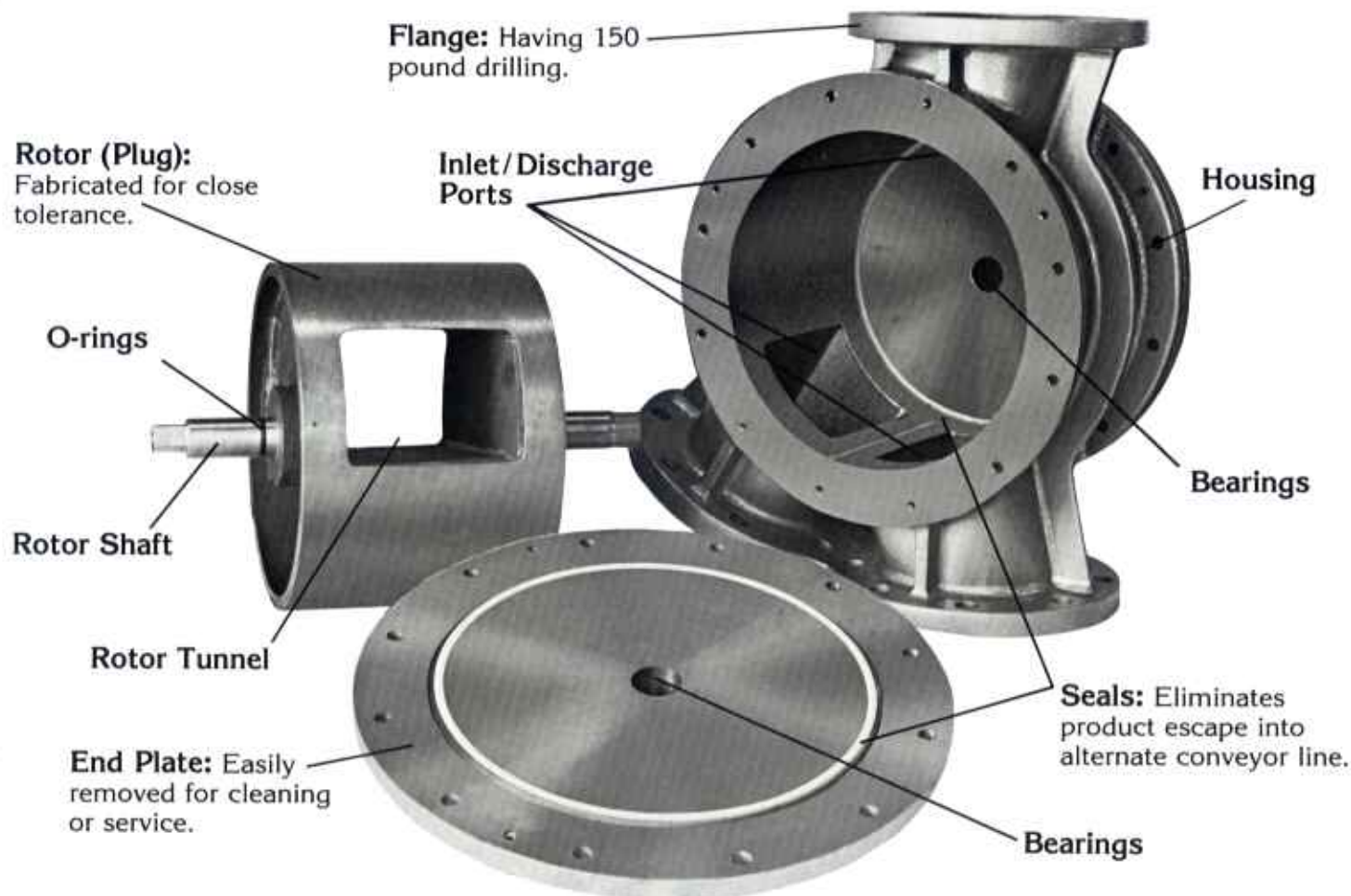
The combination of the closed rotor design, O-ring seals and close tolerance construction, provides a valve virtually leak-proof to the atmosphere and alternate line.

The closed design of the rotor creates a tunnel straight through the valve to the intended line eliminating product hang-up. Product flow through the rotor is diverted to the second line by a 150° clockwise or counter clockwise rotation. The convey lines must be purged of product prior to changing rotor position. The rotor shaft is supported by ball bearings in the end plates, providing smooth, clean operation during rotation.

NOTICE

The photographs, illustrations, drawings and descriptions contained in this publication are not intended to depict actual operating conditions or to suggest operating procedures. They are included only for the purpose of portraying the features of the machinery. The manufacturer's installation, operation and maintenance instructions and recommended safety procedures must be expressly followed during installation, operation or maintenance of the equipment.

Diverter Valves



O-ring seals are placed around the end plates sealing the sides of the rotor. Valves are precision machined to a close tolerance assuring the tightest possible seal between the rotor and the O-ring seals. To further maintain the cleanliness of the product lines, a barrier seal is placed in the housing wall between the legs. Shafts are also sealed with O-rings.

The standard Rotary Plug Diverter Valves are of cast construction in iron, stainless steel, or aluminum. Optional construction materials are available for your specific needs. The interior of the valves can be plated or coated with Electroless Nickel, Chrome, Tungsten Carbide or Teflon. Other types of platings and coatings are provided upon request.

WARNING

Some machines in this bulletin are shown with guards or covers removed for the purpose of illustration. Machines must not be operated with guards, covers or other protective devices removed or disabled.

STANDARD SPECIFICATIONS

OPERATION: Heavy-duty service to 15 PSIG, temperatures up to 250° F. Higher pressure and temperatures are available.

SIZES: Line sizes ranging from 2" to 18".

FLANGES: Standard 150 pound A.N.S.I. drilling.

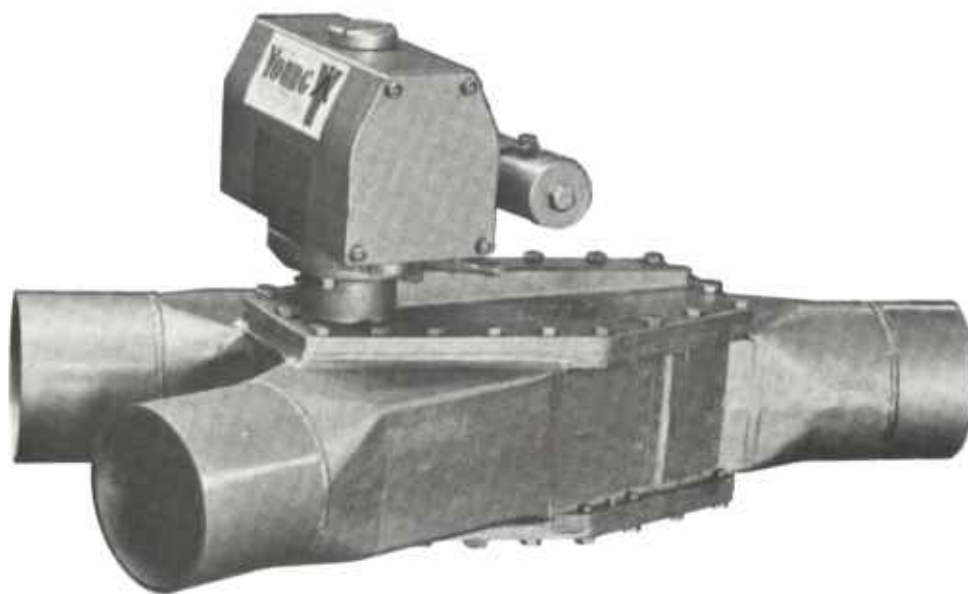
CONSTRUCTION: Iron, stainless steel or aluminum. Special materials of construction are also available.

SEALING: O-rings on rotor shaft and end plate interior.

PURGE PORTS: Furnished in the housing wall. Air regulators are optional.

OPERATOR: Air Rotary Actuator; Electric Rotary Actuator; Manual, worm gear.

IMPROVED DIVERTER VALVES



Young's Diverter Valves have been upgraded to reduce maintenance and extend operating life.

As a standard, all diverter valves are being equipped with ball bearings for shaft support. This assures proper alignment of diverter gate to housing, thus maintaining tight sealing for low leakage.

Also, rotary actuators have now replaced the linear type actuators. The rotary actuator is direct coupled to gate shaft, thus eliminating potentially hazardous lever arms and other moving parts. By direct coupling actuator to shaft, torque is distributed directly, minimizing stresses to valve components.

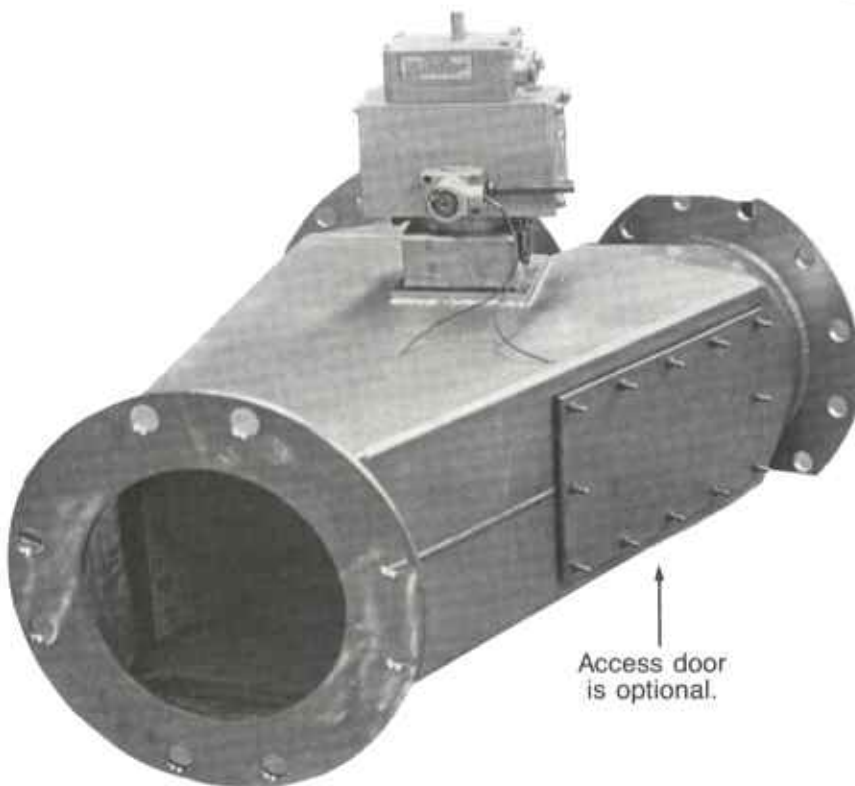
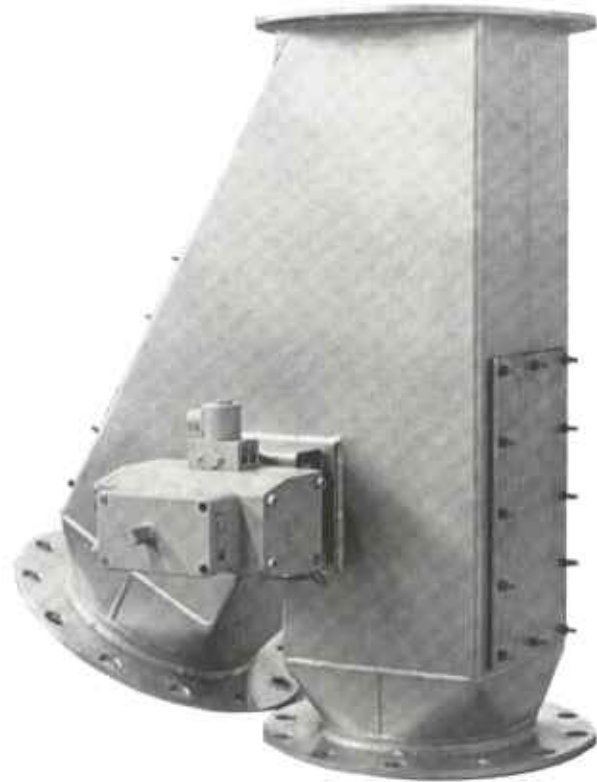
Young's Diverter Valves are available in size 2" and up. Valves are pneumatically, electrically, or manually operated. Available in carbon steel, stainless steel and aluminum, Young's Diverter Valves are superior.

BLADE DIVERTER

Young Industries Blade Diverter is for use in gravity drop convey line to minimize dust from product discharge leg to the idle leg.

Blade diverter valves are fabricated with square flange connections, transitions to round flange having 150 lb. drillings are optional.

Materials of construction are carbon steel, 304 or 316 stainless steel and aluminum.

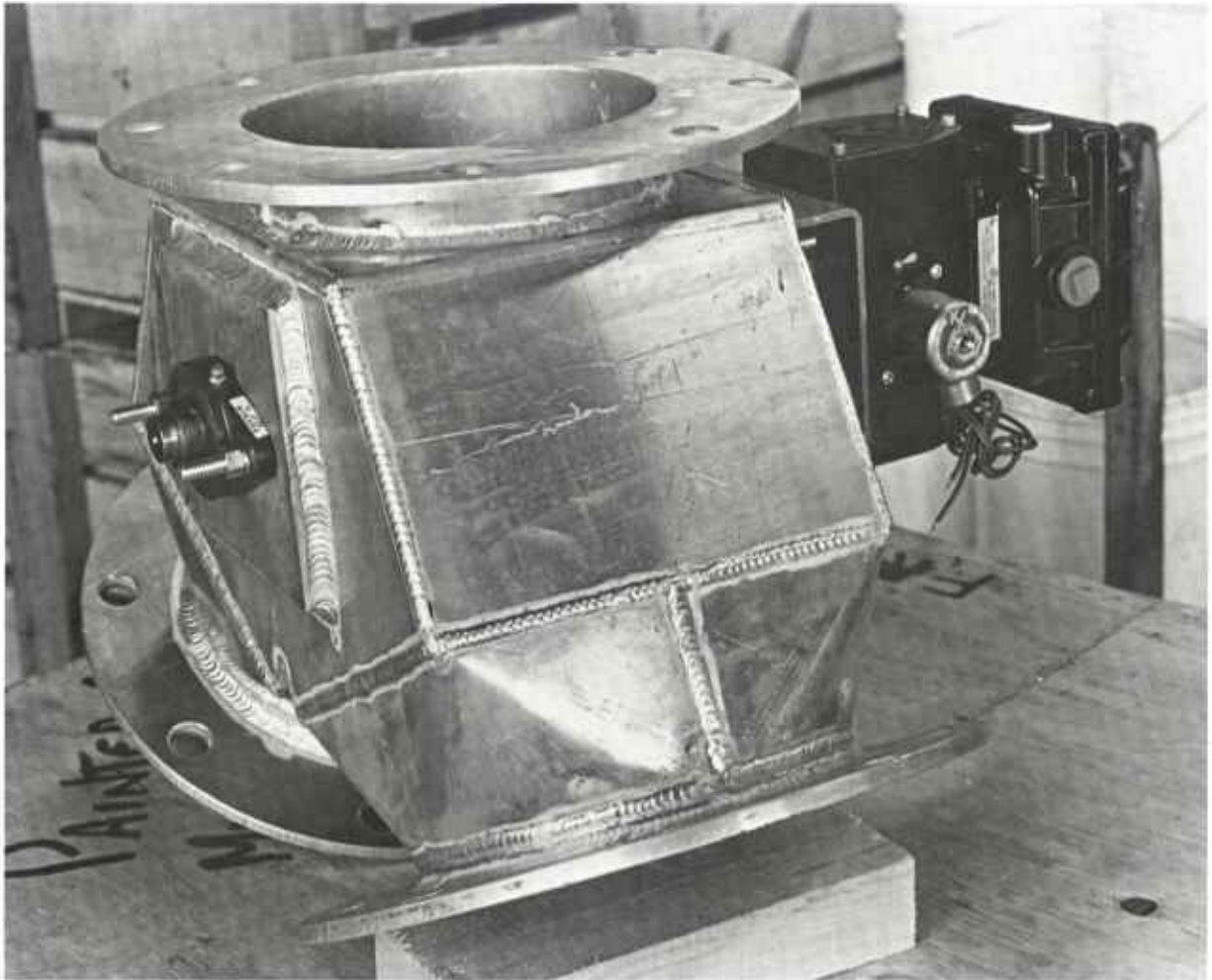


↑
Access door
is optional.

Standard actuator is manual spring loaded. Pneumatic, electric and worm-gear operators are optional.

The blade diverter body is fabricated construction. Flange ball bearing each end of shaft supports the split blade design, flexible urethane sandwiched between blade provides a seal.

BUCKET DIVERTER VALVES
IMPROVED



Young Industries Bucket Diverter Valves are for use in gravity drop convey lines.

As a standard, all diverter valves are being equipped with flanged ball bearings for shaft support and "O" ring for shaft seal.

Also, rotary actuators have now replaced the linear type actuators. The rotary actuator is direct coupled to gate shaft, thus eliminating potentially hazardous lever arms and other moving parts.

Materials of construction are carbon steel, 304 or 316 stainless steel and aluminum. Standard operator is a manual lever and spring loaded, pneumatic, and electric rotary actuators are optional.

Standard units have square flanges, from sizes 4" thru 16", with round flanges available as options.

ROTARY VANE GRAVITY DIVERTER

Young Industries now offers a Rotary Vane Diverter for use in gravity convey line to minimize dust from one discharge leg to the other.

The valve body is of fabricated construction designed for 250° F. maximum, square flange connections. Round flange having 150 lb. flange drilling are optional.

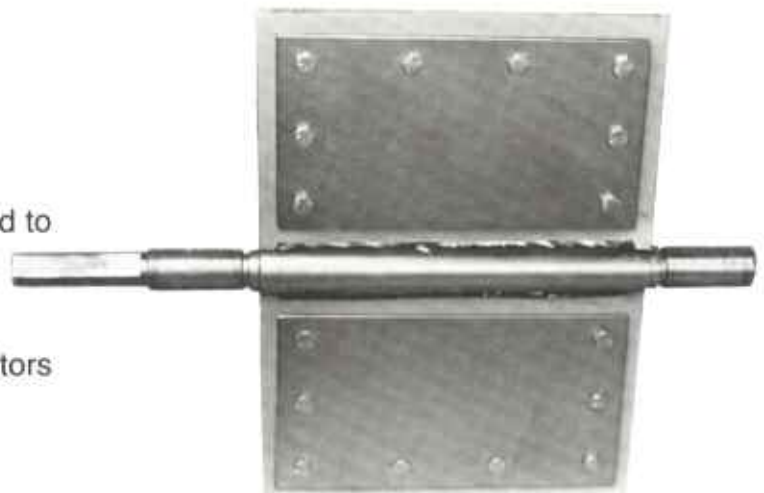
Material of construction; carbon steel, 304 or 316 stainless steel.



STANDARD ROTOR DESIGN:
Has flexible urethane wipers attached to the blades providing a seal.

OPERATORS:
Pneumatic, electric or manual operators are available.

OPTIONAL ROTOR DESIGN:
Has a shrouded single blade having no internal ledges for material hang up.



News Release

From: The Young Industries, Inc.
Muncy, PA 17756
570-546-3165

Distribution: YI Sales and
Area Representatives

Easy To Clean Rotary Vane Diverter Valve



Muncy, Pennsylvania - The Young Industries, Inc. provides an easy access rotary vane diverter valve designed in accordance with FDA requirements and good manufacturing practices (GMP) for food-grade and bulk pharmaceutical application. The design minimizes cracks, crevices and ledges making the valve easy to clean. The valve has a cantilevered shrouded-blade rotor that is removable from the end of the housing. A removable cover plate with hand knobs provides easy access to the internal components for maintenance and cleaning. The

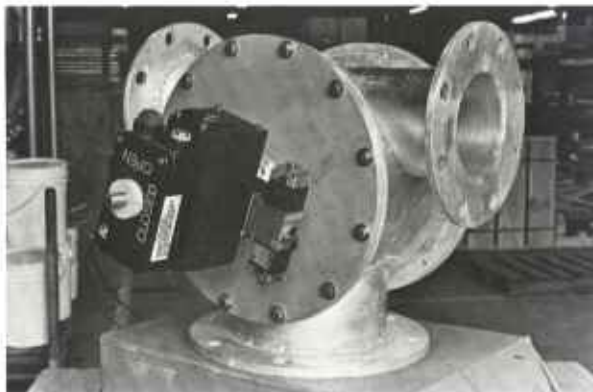
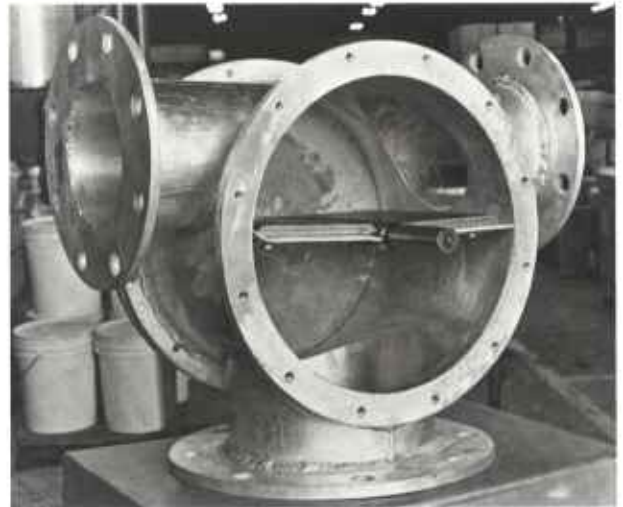
two-way valve is used for gravity flow applications. The discharge legs are an equal 30 degrees from vertical, and the internal vane diverts the flow of the product to either leg.

No tools are required to clean this valve. Easy rotor removal and reassembly without special handling. No loose components to contaminate your product. Unit is polished stainless steel, other materials of construction and non FDA designs are available.

VERTICAL/SCALE DIVERTER VALVE

Young Industries now offers a vertical/scale diverter valve. The application for this valve is to divert pneumatically conveyed material to silo, bins or scales and exhaust conveying air on through the system.

Standard design is for 15 PSIG internal pressure at 250 Deg. F., with plain end convey line connections and flanged bin charging connection. Flange convey lines are optional.



The valve body is of fabricated construction with ball bearings on each end of the rotor shaft, flexible urethane wipers are attached to the rotor blades to provide a seal.

Materials of construction are carbon steel, aluminum, 304 or 316 stainless steel. Pneumatic, electric or manual operators are available.



INDUSTRIES, INC.
16 PAINTER STREET
MUNCY, PENNSYLVANIA 17756-0030 PH: 570-546-3165
www.younginds.com FAX: 570-546-1888

Application Check List

Fill out as much information as you can.
(We will contact you if we have additional questions.)

Date: _____

Name: _____ Title: _____

Company: _____ Address: _____

City: _____ State: _____ Postal Code: _____ Telephone: _____

e-mail : _____

Equipment Required:

Check Box or Describe: _____

- | | | |
|--|---|--|
| <input type="checkbox"/> Rotary Valve | <input type="checkbox"/> Diverter Valve | <input type="checkbox"/> Pneumatic Conveyor |
| <input type="checkbox"/> TransVair Mechanical Conveyor | <input type="checkbox"/> Bulk Bag Unloading Frame | <input type="checkbox"/> Bulk Bag Filling Frame |
| <input type="checkbox"/> DFB Unloader | <input type="checkbox"/> Bag Dump Station | <input type="checkbox"/> Filter Receiver |
| <input type="checkbox"/> Bin Vent Filter | <input type="checkbox"/> Cyclone Collector | <input type="checkbox"/> Self-Aligning Flange Sets |
| <input type="checkbox"/> TransFlow Air Pads | <input type="checkbox"/> TransFlow Products | <input type="checkbox"/> SilentFlow Bin Discharger |
| <input type="checkbox"/> STINGER | <input type="checkbox"/> Gravity Blender | <input type="checkbox"/> Continuous Mixer |
| <input type="checkbox"/> Horizontal Blender | <input type="checkbox"/> Rotary Sifter | <input type="checkbox"/> Custom Fabrication |

Material Characteristics:

Material name: _____ Bulk density: _____

Particle size and shape: _____ Flowability: _____

Additional information: _____

Design Requirements:

Materials of construction: _____ Electrical characteristics: _____

Additional design information: _____

Describe application or problem: _____
