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DeZURIK
APCO | HILTON

VALVE SELECTION GUIDE

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Plug Valves

DeZURIK Eccentric Plug Valves (PEC)

Eccentric PEC Plug valves comply with AWWA C517 and are capable of handling clean and dirty liquids and gases, sludge and slurries. Eccentric action, low friction bearings and excellent pressure recovery factor make the Eccentric Plug Valve ideal for throttling applications. Resilient plug facings assure lasting bubble-tight shutoff. Heavy-duty stainless steel bearings, welded-in corrosion resistant nickel seat, adjustable packing and a variety of end styles are available.

Size Range:	½-72" (15-1800mm)
Temperature Range:	to 450°F (232°C)
Pressure Rating:	125-450 psi (860-3100 kPa) CWP
Shutoff Class:	Resilient plug face, bubble-tight shutoff rating to 175 psi (1200 kPa), Bi-Directional. Options to 450 psi (3100 kPa)
Body Materials:	Cast iron, aluminum, carbon steel, 316 stainless steel, Alloy 20, Monel, ductile iron, acid resistant bronze
End Connections:	Flanged, mechanical joint, grooved, threaded
Actuator Type:	Lever, handwheel, chainwheel, square nut, cylinder, electric motor

DeZURIK 3-Way and 4-Way Plug Valves (PTW/PFW)

3-Way and 4-Way Plug Valves are designed for throttling and diverting of clean, dirty, viscous and corrosive liquids; sludge; abrasive and fibrous slurries; clean and dirty corrosive gases. Single and double plug styles can be arranged in a variety of flow combinations. Features include heavy-duty stainless steel bearings, long-life stem seal, resilient plug facings for dead-tight shutoff and metal plugs for high temperature applications.

Size Range:	2-16" (50-400mm)
Temperature Range:	to 400°F (200°C)
Pressure Rating:	125 psi (860 kPa) CWP
Body Materials:	Cast iron, aluminum, carbon steel, 316 stainless steel
End Connections:	Flanged
Actuator Type:	Lever, handwheel, chainwheel, cylinder, electric motor

DeZURIK Pump Check Valves

Pump Check Valves are specially designed to protect pumps from water hammer, reverse flow and backspin. DeZURIK can provide custom-designed and engineered PEC or PEF Eccentric Plug Valves for pump flow control applications.

DeZURIK 100% Port Eccentric Plug Valves (PEF)

Eccentric PEF Plug valves comply with AWWA C517 and are capable of handling clean and dirty liquids and gases, sludge and slurries. Port is 100% of standard pipe area, including straight through body design with flushing port to maximize flow capacity and reduce head loss. Rectangular port design provides wide tolerance seating geometry for lasting superior shutoff. Standard features include corrosion resistant bearings, welded nickel seat, grit excluders, adjustable packing and a choice of resilient plug facings.

Size Range:	3-36" (80-900mm)
Temperature Range:	to 250°F (121°C)
Pressure Rating:	3-12" 175 psi (1200 kPa); 14-36" 150 psi (1030 kPa)
Shutoff Class:	Resilient plug face: bubble-tight shutoff rating to 175 psi (1200 kPa) Bi-Directional
Body Materials:	Cast iron body with ductile iron plug
End Connections:	Flanged, mechanical joint
Actuator Type:	Lever, handwheel, chainwheel, square nut, cylinder, electric motor

DeZURIK Balancing Valves

Balancing Valves are designed specifically for heating/air conditioning systems in multi-story commercial buildings. Balancing Valves provide a means of adjusting and reading the flow in condenser and hot or chilled water systems. These valves help maintain the desired flow, balance point and temperature throughout the building. Balancing valves are available in 1–24" (25–600mm) sizes of the proven PEC Eccentric Plug Valve design with two options for upstream and downstream flow taps.

DeZURIK Soft Rubber Lined Eccentric Plug Valves

Soft Rubber Lined Eccentric Plug Valves are ideal for on-off service of corrosive and/or abrasive slurries. Soft rubber lined valves are available in either the PEC or PEF Eccentric Plug Valve design and are used in grit, ash handling and tailing systems.

DeZURIK Glass Lined Eccentric Plug Valves

In applications where mineral build-up can be an issue, Glass Lined PEC or PEF Eccentric Plug Valves provide a smooth, non-stick glasslined interior that can inhibit crystalline formation inside the valve. Glass Lined valves are commonly used in wastewater treatment plants where Struvite (magnesium ammonium phosphate) can build up in valves, piping and equipment.

Butterfly Valves

DeZURIK AWWA Butterfly Valves (BAW)

DeZURIK AWWA Butterfly Valves meet the requirements of AWWA C504 and C516 standards. They are used for shutoff on clean water and gases. Offset disc design, corrosion resistant shaft, stainless steel disc edge, and self-compensating shaft seals are features on all DeZURIK AWWA valves. Molded-in body seat with disc locators provides positive sealing and longer seat life on sizes 3-20" (80-500mm). Large valves, 24-144" (600-3600mm), feature adjustable, replaceable seat, non-hollow disc structure, and rubber seat retained within a dovetail groove in the valve body and locked in place by an epoxy wedge.

Size Range:	3-144" (80-3600mm)
Temperature Range:	to 290°F (143°C)
AWWA Class:	75B, 150B, 250B
Pressure Rating:	75 psi (520 kPa); 150 psi (1030 kPa); 250 psi (1700 kPa)
Shutoff Class:	Bubble tight to full rated pressure.
Body Materials:	Cast iron, ductile iron, carbon steel, stainless steel
End Connections:	Flanged, mechanical joint
Actuator Type:	Lever, handwheel, chainwheel, square nut, cylinder, electric motor

DeZURIK Uninterrupted Seat Resilient-Seated Butterfly Valves (BOS-US)

BOS-US Resilient-Seated Butterfly Valves feature an uninterrupted seat design, one-piece body, solid one-piece shaft and a high performance resilient seat. Sizes 2-20" (50-500mm) feature seat bonded to the body while sizes 24" (600mm) and larger feature a seat bonded to a solid backing ring.

Size Range:	2- 20" (50-500mm) Larger sizes on application
Temperature Range:	to 250°F (121°C)
Pressure Rating:	2-20" (50-500mm) = 250 psi (1720 kPa) with ductile iron/nickel plated disc; 200 psi (1380 kPa) with 316 stainless steel disc
Shutoff Capability:	Bubble-Tight, full rated bi-directional shutoff; lugged valves provide dead end service to full valve rating.
Body Styles:	Wafer or lugged
Body Materials:	2-20" (50-500mm) ductile iron; 24-42" (600-900mm) cast iron
Actuator Type:	Lever, handwheel, chainwheel, square nut, PowerRac double-acting and spring-return cylinder, G-Series cylinder

Butterfly Valves

DeZURIK On-Center Resilient-Seated Butterfly Valves (BOS-CL)

BOS-CL Resilient-Seated Butterfly Valves are designed to handle a wide variety of liquids and gases. BOS-CL valves feature an on-center disc; one-piece body; high-performance resilient seat bonded to a solid backing ring, three heavy duty bearings, and a blow-out proof shaft to the full valve rating; dead end service with downstream flange attached. BOS-CL valves have bi-directional bubble-tight shutoff to the full valve rating; dead end service with downstream flange attached.

Size Range:	2-24" (50-600mm)
Temperature Range:	to 250°F (121°C)
Pressure Rating:	2-12" (50-300mm) = 175 psi (1210 kPa); 14-24" (350-600mm) = 150 psi (1030 kPa)
Body Styles:	Lugged
Body Material:	Ductile iron
Actuator Type:	Lever, handwheel, chainwheel, PowerRac double-acting and spring-return cylinder, Compak double-acting cylinder, G-Series cylinder

Control Valves

DeZURIK High Performance Butterfly Valves (BHP)

High Performance Butterfly Valves comply with API 609 Category B and can be used for shutoff and throttling control. They are designed to handle everything from general applications to viscous and corrosive liquids; corrosive gases and steam. A wide variety of seat types are available including the dynamic PTFE seat which provides bubble-tight shutoff in both directions; dual metal/PTFE seat for dirty, viscous services; and the Fyre Block seat, designed for fire safe applications, which meets API607 fire test standards. NACE trim, stem seal options for fugitive emissions control, pressurized neck extensions for cryogenic applications, plus many other options are available.

Size Range:	2-60" (50-1500mm)
Temperature Range:	to 700°F (370°C). On application to 1000°F (to 540°C)
ASME Class Rating:	150, 300
Pressure Rating:	275-740 psi (1890-5100 kPa); 150 psi (1030 kPa) option 36" (900m) and larger.
Shutoff Class (ASME B16.104):	PTFE, Dual and Fyre-Bl ock Seat, Class Vl; Metal seat, Class IV or V
Body Styles:	Wafer or lugged
Body Materials:	Carbon steel, 316 or 317 stainless steel
Actuator Type:	Lever, handwheel, chainwheel, square nut, PowerRac double-acting and spring- return cyinder, spring-return diaphragm, Compak double-acting and spring-return cylinder

Control Valves

DeZURIK Rotary Control Valve (RCV)

The RCV Valve is an eccentric rotary control valve for throttling liquids, gases and slurries. It combines precise throttling accuracy and control over a full 90° of rotation. Tungsten carbide coated trim components and design features provide superior erosion resistance. The RCV valve is designed for bi-directional flow capability and includes four trim options for flexibility. It is designed for ease of maintenance with no internal threaded components and self-aligning seat and plug. Flanged or flangeless designs meet ASME or ISA face-to-face dimensions.

Size Range:	1-12" (25-300mm)
Temperature Range:	to 1000°F (540°C)
ASME Class Rating:	150, 300
Pressure Rating:	285-740 psi (1965-5100 kPa)
Shutoff Class (ASME B16.104):	Up to 20 times better than ASME Class IV standard
Body Styles:	Flanged or flangeless
Body Materials:	316 and 317 stainless steel, carbon steel, Hastelloy C, Titanium
Trim Sizes:	High, Full, .5 Reduced, .2 Reduced
Actuator Type:	Handwheel, chainwheel, PowerRac double-acting and spring-return cylinder actuators, spring-return diaphragm actuator

DeZURIK V-Port Ball Valves (VPB)

V-Port Ball Valves are versatile valves designed for accurate throttling control of fibrous suspension applications plus clean, dirty, viscous and corrosive liquids and gases. They are designed to meet the highest industry standards for dynamic performance. Flanged or flangeless designs meet ASME or ISA face-to-face dimensions. Design features include blow-out proof shaft protection, high flow capacity, splined ball-to-shaft connection for ease of maintenance and zero backlash. Seat options include flexible metal, rigid metal, clearance and reinforced PTFE seats.

Size Range:	1-20" (25-500mm)
Temperature Range:	to 1000°F (540°C)
ASME Class Rating:	150, 300
Shell Pressure Rating:	to 275-740 psi (1890-5102 kPa)
Shut Off Pressure Rating:	to 275 psi (1890 kPa)
Shutoff Class (ASME B16.104):	Flexible Metal ASME Class IV; Reinforced PTFE ASME Class VI; Rigid Metal ASME Class IV; Clearance is 5% of valve's maximum flow when closed
Body Style:	Flanged or flangeless
Body Materials:	Carbon steel, 316 and 317 stainless steel, Hastelloy C
Actuator Types:	Lever, handwheel, chainwheel, PowerRac double-acting and spring-return cylinder actuators, spring-return diaphragm actuator

Control Valves

DeZURIK Precision Electric Control Valves (PPE)

DeZURIK's Precision Electric Control Valve is recognized industry wide as the most accurate and reliable basis weight control valve available. This high-resolution control valve is specifically designed for critical paper stock control, and is used for basis weight and head box level control applications. It provides unmatched control accuracy, positioning and repeatability with up to 7760 repeatable positions. The Precision Electric Valve accepts digital or analog signals. It features total electric operation with backlash that is essentially zero. Flange drilling is per ASME standards.

Size Range:	4-20" (100-500mm)
Temperature Range:	32-450°F (0-232°C)
Pressure Rating:	275 psi (1890 kPa) CWP
Body Materials:	316 stainless steel
Plug Type:	V-port concentric or straight concentric
Actuator Type:	AC synchronous motor
Feedback Mechanisms:	Potentiometer or resolver

Tail Gas High Performance Butterfly Valves (BTG)

DeZURIK has specially designed the Tail Gas High Performance Butterfly Valve to meet the rigorous requirements of services where polymerization or solidification of media can prevent valve operation, including tail gas service in refinery sulfur recovery units, polymer processing, asphalt service and adhesive manufacturing. Tail Gas Valves feature the dual seat design and include steam jackets and other unique features which keep the valve at process temperature and protect critical bearing and seat areas.

Knife Gate Valves

DeZURIK Unidirectional Cast Stainless Steel Knife Gate (KGN-MSU)

The KGN-MSU Unidirectional Metal Seated Cast Stainless Steel Knife Gate Valves are designed to meet MSS-SP81 and have a one-piece body with integral metal seat to meet shut-off requirements. The packing gland is the same material as the body and supports a variety of packing types. Valves can be mounted with a variety of accessories including cylinders with limit switches and solenoids.

Size Range:	2-36" (50-900mm)
Temperature Range:	1000°F (540°C)
Pressure Rating:	2-24" (50-600mm) 150 psi (1030 kPa) CWP; above 24" (600mm) 100 psi (690 kPa) CWP
Body Materials:	304 and 316 stainless steel
Actuator Type:	Handwheel, bevel gear, cylinder

DeZURIK Bi-Directional Cast Stainless Steel Knife Gate (KGN-RSB)

The KGN-RSB Bi-Directional Cast Stainless Steel Knife Gate Valves are resilient seated valves designed to meet MSS-SP81 that provide bubble-tight shutoff in both directions. The body and gate are available in 304 or 316 stainless steel. Valves come standard with handwheel actuators.

Size Range:	2-24" (50-600mm)
Temperature Range:	to 400°F (204°C)
Pressure Rating:	150 psi (1030 kPa) CWP
Body Materials:	304 and 316 stainless steel
Actuator Type:	Handwheel as standard

DeZURIK Extended Service Cast Stainless Steel Knife Gate (KGC-ES)

Extended Service Cast Stainless Steel Knife Gate Valves are designed to meet MSS-SP81 and provide improved sealing, extended packing life and reduced maintenance in the toughest corrosive, abrasive liquid, slurry or dry material applications. The full port knife gate valve features a corrosion-resistant cast stainless steel body, gate, stem and packing gland. Resilient seats provide unidirectional driptight shutoff; metal seats meet MSS-SP81 standard. KGC Valves can withstand full reverse pressure. A V-orifice design is available for throttling applications. DeZURIK 2-24" KGC Knife Gate Valves conform to the requirements for design and production testing of AWWA C520.

Size Range:	2-48" (50-900mm)
Temperature Range:	to 1000°F (540°C)
Pressure Rating:	150 psi (1030 kPa) CWP; Optional 30 & 36" (750 & 900mm) 100 psi (690 kPa) CWP
Body Materials:	304, 316, 317, 254-SMO, 2205 Duplex stainless steel, Hastelloy C 276
Actuator Type:	Lever, handwheel, chainwheel, bevel gear, cylinder, electric motor

DeZURIK Bi-Directional Cast Stainless Steel Knife Gate Valve (KGC-BD)

Bi-Directional Cast Stainless Steel Knife Gate Valves are designed to meet MSS-SP81 and feature a unique, patented perimeter resilient seat design that provides bubble-tight shutoff in either direction, even on dead end service. The valve is designed for isolation and on/off applications in the paper, chemical, mining, power and waste water industries. It is designed to handle clean, dirty, viscous and corrosive liquids, sludge, fibrous slurries, clean and corrosive gases.

Size Range:	2-36" (50-900mm)
Temperature Range:	to 400°F (204°C)
Pressure Rating:	2-28" (50-700mm) 150 psi (1030 kPa) CWP; 30-36" (750-900mm) 100 psi (690 kPa) CWP
Body Materials:	304, 316, 317, 254-SMO and 2205 Duplex stainless steel; Hastelloy C
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

DeZURIK Metal Cutting Cast Stainless Steel Knife Gate Valve (KGC-MC)

DeZURIK KGC-MC Metal Cutting Cast Stainless Steel Knife Gate Valves are designed to provide long service life in applications requiring shearing capabilities like those found in Pulp and Paper Recycle and Rejects Cyclone applications. The KGC-MC valve is designed to cut the media flow with no jamming problems. To withstand the high loads necessary to shear wires, staples or glass, the valves have a replaceable, serrated seat constructed of 410 Stainless Steel. The seat ring's teeth and teeth arrangement are designed to prevent bunching or clogging while cutting through wire and heavy trash.

Size Range:	3-24" (80-600mm)
Temperature Range:	to 500°F (260°C)
Pressure Rating:	150 psi (1030 kPa) CWP
Body Materials:	316 and 317 stainless steel
Actuator Type:	Cylinder

Knife Gate Valves

DeZURIK Maximum Duty Cast Stainless Steel Knife Gate (KGC-MD)

The Maximum Duty Cast Stainless Steel Knife Gate Valve is designed to meet MSS-SP81 and provides the sealing capabilities needed in highly abrasive applications such as sand cleaners. To withstand highly abrasive media, the valves have a replaceable hardened seat, hardened gate, full 100% port opening, high performance packing system with wire scraper rings, and heavy-duty superstructure.

Size Range:	3-24" (80-600mm)
Temperature Range:	to 500°F (260°C)
Pressure Rating:	150 psi (1030 kPa) CWP
Body Materials:	304 and 316 stainless steel
Actuator Type:	Cylinder, electric motor

DeZURIK Urethane Lined Knife Gate Valves (KUL)

KUL Urethane Lined Knife Gate Valves are designed for on-off applications of abrasive slurry and dry abrasive materials. Urethane Lined Knife Gate Valves are 100% port area and are ideally suited for applications in mining, chemical and food industries. KUL valves feature a one-piece, cast-in-place liner that provides bi-directional, drip-tight shutoff to the full valve rating. All wetted surfaces of the ductile iron body are lined with urethane. KUL can be used on dead-end service.

Size Range:	2-48" (50-1200mm)
Temperature Range:	-40 to 180°F (-40 to 82°C)
Pressure Rating:	150 psi (1030 kPa) CWP or 250 psi (1720 kPa)
Body Materials:	Ductile iron with stainless steel gate
End Connetions:	Flanged, mechanical joint
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

DeZURIK Slurry Knife Gate Valves (KSL)

KSL Slurry Knife Gate Valves are designed for on-off (isolation) service in applications consisting of abrasive, high solids content, slurry service. KSL Slurry Knife Gate Valves are ideally suited for applications in the mining, power, and aggregate industries. The Slurry Valve features sleeves of natural rubber or other elastomers that are compressed by sleeve retainers that allow the valve to provide drip-tight shutoff. The Slurry Valve provides bi-directional, drip tight shutoff to full pressure rating. The gate fully retracts out of the flow path in the open position. The full port reduces turbulence and pressure drop across the valve. Slurry valves are available in long body face-to-face or short body per MSS SP-81.

Size Range:	2-24" (50-600mm) with larger sizes available on application
Temperature Range:	to 177°F (81°C) as standard; up to 300°F (150°C) with optional seat materials
Pressure Rating:	KSL-SD 2-16" 150 psi CWP (1030kPa), 18-24" 100 psi CWP (690 kPa) KSL-LA 100 psi CWP (690kPa), 100 psi CWP (690 kPa); higher pressures available with optional gate materials
Body Materials:	Ductile iron, carbon steel and various stainless steel or higher alloy materials

DeZURIK Severe Service Knife Gate Valves (KSV)

The KSV Severe Service Knife Gate valve is an ASME Class valve and complies with MSS-SP135. It is specially designed to withstand high pressures and abrasive slurries – some of the toughest services in mining, (including oil sands processing), steel, power, chemical, municipal sludge, bio-fuels production, and paper industries. Numerous features make this valve style ideal for isolation in high-pressure, high-density slurry lines. The rigid one-piece body, 100% diameter port, hard-faced gate and rotatable seat rings allow this valve to perform reliably in rigorous applications.

Size Range:	3-60" (80-1500mm)
Temperature Range:	to 450°F (232°C)
Pressure Rating (ASME B16.34:	Class 150 to 285 psi (1960 kPa) or Class 300 to 740 psi (5100 kPa)
Actuator Type:	Bevel gear handwheel and chainwheel, cylinder

Knife Gate Valves

Hilton Bonnetless Knife Gate Valves (H-200)

Fabricated Bonnetless Gate Valves can be built to US or International Standards. Available with wafer or special extended face-to-face dimensions for replacement of existing valves.

Size Range:	to 144" (to 3700mm)
Temperature Range:	-40°F to 2000°F (-40°C to 1050°C)
Pressure Rating:	25-300 psi (170-2070 kPa)
Seating:	Metal or resilient with options for removable seat, inflatable seal or grease seal
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hilton Bonneted Knife Gate Valves (H-200-B)

Fabricated Bonneted Knife Gate Valves are built to US or International Standards. Available with wafer or special extended face-to-face dimensions for replacement of existing valves. Bonnets are full pressure rated with optional flushing or drain ports. Valves furnished with a backseating ring so valve can be repacked under pressure. Bonneted Knife Gate Valves have much lower packing loads, thus allowing for smaller sized actuation.

Size Range:	2-144" (50-3700mm)
Temperature Range:	-40°F to 2000°F (-40°C to 1050°C)
Pressure Rating:	to 400 psi (2800 kPa)
Seating:	Metal or Resilient, unidirectional or bi-directional with options for removable seat, inflatable seal or grease seal.
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hilton Bonneted Throttling Knife Gate Valves (H-300-B)

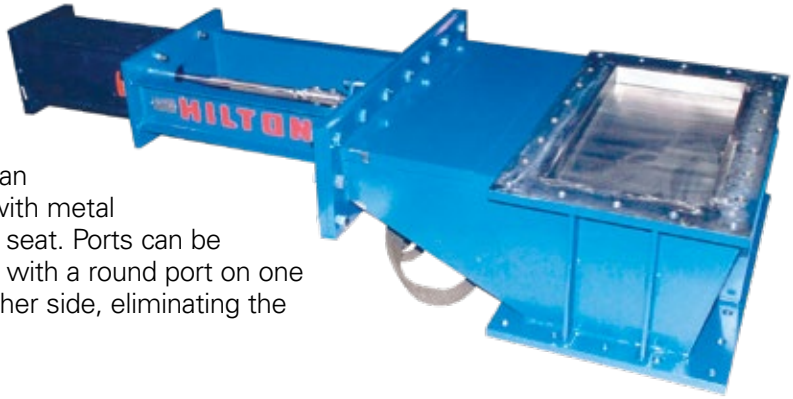
Fabricated Throttling Gate Valves can be built to U.S. or International Standards in wafer or extended face-to-face dimensions. The heavy duty bonneted throttling is designed for full rated pressure. Throttling Knife Gate Vales feature a square bottom gate. Round or V-Port configurations are available.

Size Range:	to 144" (to 3700mm)
Temperature Range:	-40°F to 2000°F (-40°C to 1050°C)
Pressure Rating:	to 400 psi (2800 kPa)
Seating:	Metal or Resilient
Materials:	Valves and wetted parts are available in any weldable alloy, including stainless steel, Hastelloy, Inconel, Monel and Titanium. Optional abrasion and corrosion resistant designs with hard facing are available.

Special Service Gate Valves

Hilton Material Handling Knife Gate Valves (H-290)

Fabricated Material Handling Knife Gate Valves are specifically designed to be used on dry bulk materials where the valve is installed horizontally in a vertical pipe. A displacement pocket is provided which enables the valve to close through a standing column of packed material. Material Handling Knife Gate Valves can be bonneted or bonnetless, and are available with metal or resilient seats, with options for a removable seat. Ports can be round, square, rectangular or combination port with a round port on one side and a square or rectangular port on the other side, eliminating the need for a transition piece.



Size Range:	to 48" (1200mm)
Temperature Range:	to 2000°F (1050°C)
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Special Service Gate Valves

DeZURIK Level Sensor Isolation Valve (KLS)

Level Sensor Isolation Valves are specially designed for pulp & paper mills to mount between the stock chest and the level sensor. The Level Sensor Isolation Valve allows removal of sensor without draining stock chest. Ratchet or socket drive actuator allows close mounting of valve to tank.

Size Range:	3" (80mm)
Temperature Range:	to 450°F (233°C)
Pressure Rating:	150 psi (1030 kPa) CWP
Body Materials	316 and 317 stainless steel, Hastelloy C, 254 SMO stainless steel
Actuator Type:	Ratchet handle or square drive with non-rising stem

DeZURIK/Hilton Coal Burner Isolation Valves (KCI/BIV)

Specially designed to isolate pulverized coal burner lines on coal-fired boilers during periodic maintenance shutdowns, providing increased safety by reducing the risk of fires and accidents. Features include rugged body construction, removable and rotatable seat ring, stainless steel rising or non-rising stem, and internal explosion pressure rating to 50 psi (340 kPa) per NFPA standards. A variety of hard faced seats for extended service life are available. ASME 125/150, NFPA and Babcock & Wilcox end connections available.

Size Range:	6-24" (150-600mm)
Temperature Range:	On application
Pressure Rating:	150 psi (1030 kPa) CWP
Body Materials	304 and 316 stainless steel, carbon steel
Actuator Type:	Handwheel, chainwheel, nut, cylinder

DeZURIK Double Block & Bleed Knife Gate Valve (KSV-DBB)

The design of the Double Block & Bleed Knife Gate Valve is based on the successful KSV Severe Service Knife Gate Valve design. It combines two ASME Class 150 or 300 pressure rated knife gate valves into a single unit with a single actuator and a central bleed port. This compact design provides a dual isolation solution, allowing personnel to isolate and drain downstream system media while safely maintaining upstream pressure. The integral double valve/single actuator design minimizes leak paths, reduces weight and saves costs. The Double Block & Bleed Knife Gate Valve is ideal for extremely abrasive media in the mining, petro-chemical and other industries.

Size Range:	3-48" (80-1200mm)
Temperature Range:	to 450°F (232°C)
Pressure Rating: (ASME B16.34)	Class 150 to 285 psi (1960 kPa) or Class 300 to 740 psi (5100 kPa)

Special Service Gate Valves

DeZURIK Lateral & Y Pattern Valve Assemblies (KGY)

Mixing and Diverting Knife Gate Valves are available with either an integral body or a replaceable body. Valves with the replaceable body design are bolted to a Y-pattern pipe, allowing easy replacement of a single valve rather than the entire assembly.

They can be mounted in Y-pattern or Y-lateral configurations for either direct or reverse flow operation. Diverter valves with one inlet and two, three or four outlets are available in Y-pattern arrangements, with 60 or 90 degree angled valves. Mixing valves are available with one outlet and two, three or four inlets.

Hilton Diverter Knife Gate Valves (H-2200)

Fabricated Diverter Knife Gate Valves are custom manufactured in true-wye, branch-wye, tee or special configurations. Diverter Knife Gate Valves are available with metal or resilient seats in bonneted or bonnetless configurations.

Size Range:	through 24" (600mm)
Temperature Range:	to 2000°F (1093°C)
Pressure Rating:	to 300 psi (2070 kPa)
Materials	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Special Construction Gate Valves

Hilton Square/Rectangular Knife Gate Valves (H-200-R)

Fabricated Square and Rectangular port knife gates are custom manufactured for each specific application. Square/Rectangular Knife Gate Valves are available with either metal or resilient seats for tight shut-off. Bonneted or bonnetless configurations available.

Size Range:	2-72" (50-1800mm)
Temperature Range:	to 2000°F (1093°C)
Pressure Rating:	to 300 psi (2070 kPa)
Materials	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Special Construction Gate Valves

Hilton Wedge Gate Valves (H-110)

Fabricated Wedge Gate Valves employ a solid wedge design which provides tight shutoff. Wedge Gate Valves are available with metal or resilient seats in specialty and custom designs including narrow or custom face-to-face dimension.

Size Range:	through 72" (1800mm)
Temperature Range:	to 2000°F (1093°C)
Pressure Rating:	to 600 psi (4140 kPa)
Materials	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hilton Bonneted Slide Gate Valves (H-500-B)

Fabricated Bonneted Slide Gate Valves feature lightweight construction for low pressure systems with displacement pocket and tapered body for column-cutting material handling service. Metal seated. Bonnet can have access panel for cleanout.

Size Range:	through 48" (1200mm)
Temperature Range:	to 2000°F (1093°C)
Pressure Rating:	to application requirements
Materials	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hilton High Pressure / Temperature Knife Gate Valves (H-200-B)

Fabricated High Pressure/Temperature Valves are designed to specific application severe services needs in custom styles, configurations and materials.

Size Range:	to 72" (1800mm)
Temperature Range:	to 2000°F (to 1050°C)
Pressure Rating:	through ASME Class 900
Seating:	Metal or resilient with options for removable seat
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Special Construction Gate Valves

Hilton Split Gate (H-2150)

Specially designed cylinder actuated knife gate valve with double packing and overlapping gates to overcome the difficulties in handling steel mill blast furnace dust.

Size Range:	to 48" (1200mm)
Temperature Range:	to 2000ºF (1093ºC)
Pressure Rating:	to 150 psi (1030 kPa)
Seating:	Metal or resilient with options for removable seat
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Thru-Port Gate Valves

DeZURIK O-Port Knife Gate (KGO)

Specially designed to handle high-density paper stock, wood chips, plastic pellets, cleaners, trash dump, and refiner bypass isolation applications. KGO O-Port Valves are designed to provide shutoff on a standing column of dry material. Adjustable chest guides provide positive gate-to-seat support and eliminate stock build-up and gate jamming. Flush ports allow prevention of stock dewatering in the valve body. Full standard port diameter minimizes turbulence and pressure loss. A resilient or hardened metal seat is available.

Size Range:	3-24" (80-600mm) Larger sizes on application
Temperature Range:	to 1000°F (540°C)
Pressure Rating:	150 psi (1030 kPa) CWP
Body Materials:	316 stainless steel
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Thru-Port Gate Valves

Hilton Thru-Port Gate Valves (H-1500)

Fabricated Thru-Port bonneted or bonnetless designs with unobstructed round port or diamond shaped opening for precise throttling. Thru-Port Gate Valves can be used for slurries, solids or granular applications. Available with resilient seat for tight shut-off.

Size Range:	to 48" (1200 mm)
Temperature Range:	to 2000°F (1093°C)
Pressure Rating:	to 400 psi (2800 kPa)
Seating:	Metal or resilient with options for removable seat
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hydro Valves

Hilton Jet Flow Gates (H-2500)

Jet Flow Gates are used for free water discharge and flow control on dams and reservoirs. Jet Flow Gates are precision manufactured throttling valves designed for high pressure / high head service, and are built to U.S. Bureau of Reclamation specifications or designed for specific application requirements. Split body design with stainless steel gate, bronze gate guides and bronze seat ring. The bronze seat ring is tapered to direct the flow inward and prevent cavitation damage. Downstream side of the valve is larger than the upstream side for protection from cavitation. Unique features permit the valve to open smoothly in free discharge conditions, where there is pressure on the upstream side and zero pressure on the downstream side. Jet Flow Gates provide precise throttling capability throughout the entire stroke.

Size Range:	to 96" (2400mm)
Pressure Rating:	to 400 psi (2800 kPa)
Materials:	Valves are normally supplied with epoxy coated carbon steel body with bronze seat ring and stainless steel gate. Other material available upon request.

Hilton Hydro Guard Gate Valves (H-300-B)

Fabricated Hydro Guard Valves are specially designed to provide shutoff or isolate a flow control valve for maintenance, such as Jet Flow Gates, Throttling Knife Gate Valves, or Fixed Cone Valves. Hydro Guard Gate Valves have a square bottom gate and are capable of closing under full flow in the event that the control valve cannot be closed. They can be metal or resilient seated. They are normally bonneted, but can also be supplied bonnetless.

Size Range:	to 144" (3700mm)
Pressure Rating:	to 400 psi (2800 kPa)
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hilton Bonneted Throttling Knife Gate Valves (H-340-B)

Fabricated Bonneted Throttling Gate Valves are constructed with heavy duty bonnets are designed for throttling service to full rated pressure. Valves are built to US or International Standards. Configurations include square bottom gate, round or V-Port. Bonneted Throttling valves are available with metal or resilient seats in wafer or extended face-to-face dimensions.

Size Range:	to 144" (to 3700mm)
Temperature Range:	-40°F to 2000°F (-40°C to 1050°C)
Pressure Rating:	to 400 psi (2800 kPa)
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.
Actuator Type:	Handwheel, chainwheel, bevel gear, cylinder, electric motor

Hilton Fixed Cone Valves

Hilton Fixed Cone Valves are designed for continuous flow control with free discharge. Fixed Cone Valves are commonly used on reservoirs for water level control and turbine by-pass. These custom-fabricated valves include a unique rib design to reduce vibration. Their robust construction is designed to deliver years of trouble-free service.

Materials:	Typically provided in carbon steel with stainless steel in critical components. Can be provided in all stainless or other weldable alloys. Epoxy coating options available.
Seating:	Metal to Metal or resilient seat designs available.
Actuator Type:	Options include manual, electric and hydraulic. Hydraulic power units available

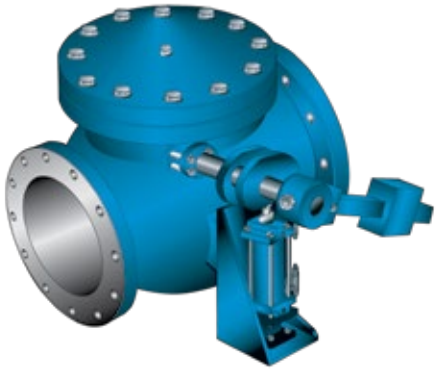
Check Valves

APCO Cushioned Swing Check Valves (CVS-6000/6000A)

Swing Check Valves prevent the back flow of fluid by closing before flow reversal, preventing slam and water hammer. APCO Swing Check Valves have been successfully installed in clean and dirty applications including sewage treatment, water treatment, water distribution, industrial water and wastewater services. Swing Check Valves are available with ASME Class 125/150 or Class 250/300 flanges. The designs meet or exceed the current revision of AWWA standard C-508. Closure control devices include Air Cushioned Cylinder, Oil Controlled Cylinder, Bottom Mounted Buffer, Lever & Spring and Lever & Weight. The CVS-6000/6000A may be ordered as convertible model that allows field conversion of the closure device.

Size Range:	2-66" (50-1700mm)
Body Style:	6000/6000A
Pressure Rating:	up to 640 psi (4400 kPa) CWP
Body Materials:	Cast iron or ductile iron

APCO Swing Check Valves (CVS-250/250A)



APCO CVS-250/250A Swing Check Valves have a heavy ductile iron body, a stainless steel body seat ring, and a single continuous stainless steel shaft for the attachment of the outside closure control devices. The valve provides an efficient flow path with an area equal to or greater than the area of the nominal valve size. The resilient seat provides drip tight shut-off up to the full rating of the valve. Available with ASME Class 125/150 flanges. Closure control devices include air cushion side mounted cylinder with lever and weight, lever and weight, or a lever and spring.

Size Range:	2-42" (50-1100mm)
Body Style:	250/250A
Pressure Rating:	up to 250 psi (1725 kPa) CWP
Body Materials:	Ductile iron

APCO Swing Check Valves (CVS-EDV)

CVS-EDV Swing Check Valves provide long-term, dependable service in water, wastewater and raw sewage applications. The designs meet or exceed the current revision of AWWA standard C-508. Closure control devices include air cushion side mounted cylinder with lever and weight, lever and weight, or a lever and spring.

Size Range:	3-30" (80-750mm)
Body Style:	EDV
Pressure Rating:	up to 250 psi (1725 kPa) CWP
Body Materials:	Ductile iron

APCO Slanting Disc Check Valves (CSD)

Slanting Disc Check Valves are a reliable and efficient check valve design. The disc pivot point is off center which slows the closing of the disc. Split body design increases the flow area around the disc by 40% creating very low head loss. Seating is metal to metal. Slanting Disc Check Valves are available as a free swinging, free open/controlled close, or controlled open/close. Slanting Disc Check Valves are recommended for maximum efficiency in power plants and water pumping stations.

Size Range:	2-72" (50-1800mm)
Body Style:	800
Pressure Ratings:	125, 150, 250, 300, class
Body Materials:	Cast iron, ductile iron, carbon steel or 316 stainless steel

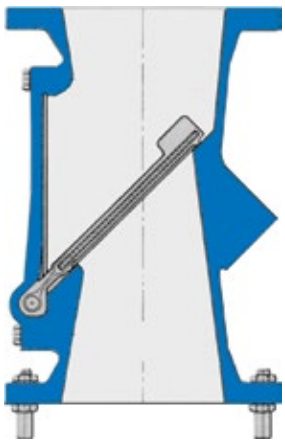
APCO Double Door Check Valves (CDD)

Double Door Check Valves are designed to automatically prevent back-flow in systems where it is desirable to permit flow in one direction and prevent flow in the opposite direction. Double door check valves are recommended for clean liquids and gasses and have an excellent performance reputation in refineries, petrochemical, gas liquefaction, other process industries and HVAC applications because of their cost-efficient design and non-slam properties. The low weight and short laying length saves initial cost, requires less space, and is easier to install when compared to full-body, swing-type check valves. APCO carbon steel and stainless steel CDD Double Door Check Valves meet ASME/API 594 face-to-face dimensions and ASME B16.5 Flange Dimensions.

Size Range:	2-36" (50-900mm); larger sizes available on application
Body Style:	9000T
Pressure Ratings:	ASME Class 150 for lugged valves; ASME Class 150/300 dual rated for 2-6" (50-150mm) wafer valves; ASME Class 150 for 8" (200mm) and larger wafer valves
Body Materials:	Ductile iron, carbon steel, stainless steel, other materials available on application

APCO Full Flow Rubber Flapper Foot Valves (FRF)

Full Flow Rubber Flapper Foot Valves are designed for water or sewage, and are suitable for submerged service. The Rubber Flapper Foot Valve is installed in the vertical position with the direction of flow in upwards. In this position the Foot Valve is normally closed. The Foot Valve opens while the centrifugal pump is running and closes when the pump stops running to maintain a flooded suction and primed pump.



Size Range:	2-36" (50-900mm)
Body Style:	100F
Pressure Ratings:	150, 175 and 250 psi CWP (1030, 1210 and 1720 kPa)
Body Materials:	Cast iron, ductile iron, bronze

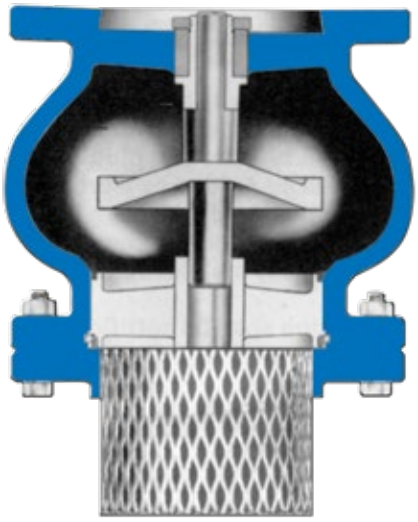
Check Valves

APCO Rubber Flapper Swing Check Valves (CRF)

Rubber Flapper Swing Check Valves feature a unique, simple design with no moving parts. The flapper does not swing from a hinge pin; it simply flexes open. The seat is on a 45° angle. The flapper travels 35° from open to close usually before column reversal can occur. It has non-slam characteristics. The valve requires no regular maintenance. Recommended for water, sewage, gas, oil and rubber lined for chemicals.

Size Range:	2-48" (50-1200mm)
Body Style:	100, 100A, 100SA, 100SR
Pressure Ratings:	175 and 250 psi CWP (1210 and 1720 kPa).
Body Materials:	Bronze, cast iron, ductile iron
Rubber Flapper Materials:	Acrylonitrile Butadiene (NBR), Chloroprene (CR), Fluoro Rubber (FKM), and Terpolymer of Ethylene Propylene and a Diene (EPDM)

APCO Full Flow Foot Valves (FFF)



Full Flow Foot Valves can be installed at the bottom of a pump suction line, inside the wet well. Foot valves are an inexpensive way to maintain prime on a single centrifugal pump. The Foot Valve is designed with a 10% larger flow area (including heavy stainless steel strainer) than the pipe size to insure minimal head loss. APCO Full Flow Foot Valves designed to have the high quality, long wearing construction necessary for valves that are continually submerged in a wet well and not readily accessible for inspection or repair. Foot Valves have heavy cast bodies, rugged bronze internals and drip-tight resilient seating to prevent loss of suction. The resilient seal is compression molded (not glued or chemically bonded) onto the seat for long life.

Size Range:	3-36" (75-900mm)
Body Style:	1400
Pressure Ratings:	ASME 125 and 250 class
Body Materials:	Cast iron, ductile iron, carbon steel, 304 or 316 stainless steel

APCO Silent Check Valves (CSC)

600A Globe

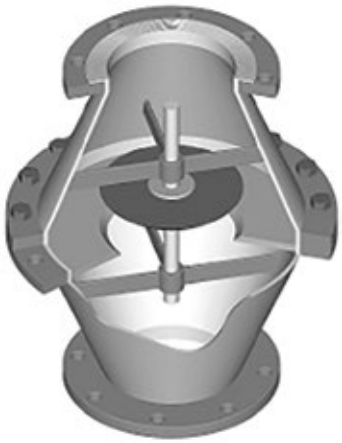
300A Wafer

Silent Check Valves are designed to prevent water hammer in multi-story buildings and for use in vertical turbine pump installations when pumping from a well to an elevated reservoir. Silent Check Valves are recommended for commercial and industrial HVAC applications such as heating systems and condensate return lines. The valve closes silently, is low in cost, reliable and requires no regular maintenance. When the pump stops, the spring forces disc closed against slight pump head at zero velocity which results in silent closure.

Size Range:	Wafer 1-10" (15-250mm); Globe 3-42" (80-1100mm)
Body Style:	300A Wafer and 600A Globe
Pressure Ratings:	ASME 125 - 600 class
Body Materials:	Cast iron, ductile iron, carbon steel, 316 stainless steel

Hilton Vertical Check Valve (H-700)

The H-700 Vertical Check Valve is designed for vertical flow (not suitable for down-flow applications). The disc shaft is fully guided to insure proper alignment between disc and seat. The disc and seat are accurately machined for precise seating. An optional resilient seat is available for drip tight shut-off. The valve has an angled body design to provide full flow area, and has a two-piece body to facilitate maintenance.



Size Range:	3-36" (80-900mm)
Temperature Range:	to 1000°F (540°C)
Pressure Rating:	to 300 psi (2070 kPa) CW
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.

Hilton Slanting Disc Check Valve (H-900)

The Angle Disc Check Valve is designed for horizontal or vertical flow with a large flow area (not suitable for down-flow applications). The angled seat reduces disc travel from full closed to full open. The valve is equipped with a shaft pivot located slightly above centerline; pressure on disc area above pivot partiality balances pressure on area below pivot to reduce slamming. The valve is available with external counterweight and dampener. The H-900 can be fabricated from any weldable alloy and is clearly marked to show direction of flow.

Size Range:	3-60" (80-1500mm)
Temperature Range:	to 1000°F (540°C)
Pressure Rating:	to 300 psi (2070 kPa) CWP
Seating:	Metal or resilient
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.

Check Valves

Hilton Wafer Swing Check Valve (H-920)

The H-920 is designed for horizontal flow. The narrow face to face saves room in piping systems and the disc stop prevents interference between the disc and downstream piping. The valve is available with an external spring, counterweight or dampener. Seats can be metal or resilient, and body style can be wafer or with full flange with threaded bolt holes.

Size Range:	12-60" (300-1500mm)
Temperature Range:	to 1000°F (540°C)
Pressure Rating:	to 300 psi (2070 kPa) CWP
Seating:	Metal or resilient
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.

Hilton Tilting Disc Check Valve (H-940)

The Tilting Disc Check Valve is designed with the shaft close to valve centerline which balances the disc so that the valve will open at a low pressure differential. O-ring shaft seals reduce friction. Seats can be metal or resilient, and body style can be wafer or with full flange with threaded bolt holes. Tilting Disc Check Valves are available with external counterweight or spring.

Size Range:	12-60" (300-1500mm)
Temperature Range:	to 1000°F (540°C)
Pressure Ratings:	to 300 psi (2070 kPa) CWP
Materials:	Solid alloy or alloy wetted parts construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs with hard facing available.

Hilton Swing Check Valve (H-950)

The H-950 Swing Check Valve is designed for horizontal or vertical flow (not suitable for down-flow applications). When fully open the valve disc is out of the flow area allowing for 100% uninterrupted flow. Seating can be metal or resilient. The valve comes equipped with a bolted cover which can be removed while the valve is in the line. The connection between the disc and disc arm allows disc to move for precise alignment with the seating surface. The valve is available with external counterweight and bottom mounted buffer.

Size Range:	3-60" (80-1500mm)
Temperature Range:	to 1000°F (540°C)
Pressure Ratings:	to 300 psi (2070 kPa) CWP
Materials:	Solid or wetted parts construction in any weldable alloy. Optional abrasion and corrosion resistant designs with hard facing are available.

APCO SmartCHECK™ Pump Control Valve (CPC)

The SmartCHECK Pump Control Valve is designed to control pressure surge during pump startup and shutdown, and close reliably when the pump stops - even during a power outage. The SmartCHECK Pump Control Valve includes the best features of APCO's CVS-6000 swing check valve integrated with a unique torque unit and an electric motor operator. SmartCHECK Pump Control Valves are ideal for applications in many industries, such as water, wastewater, mining and power.

Size Range:	4-20" (100-500mm)
Materials:	Ductile Iron with 17-4 PH stainless steel shaft. The disc seat is durable Ultra High Molecular Weight Polyethylene (UHMW-PE). Body seat is Type 316 stainless steel.

Pump and Control Valve Interface

The optional DeZURIK ECB Pump & Control Valve Interface is suggested to provide control between the pump and the SmartCHECK Pump Control Valve. The ECB Pump & Control Valve Interface is designed to start and stop the pumps and properly sequence the pump operation with the opening and closing of the pump control valve. In addition, it protects the pumping system from damage in the event of mechanical or power failure.

Surge Relief Valve

APCO Surge Relief Angle Valves (SRA)

Surge Relief Angle Valves are designed to prevent damage from water hammer in the system by opening when the system pressure exceeds the set shut-off pressure of the valve disc. As the disc opens, the surge pressure rise that caused it to open is spilled and dissipated through the open valve. When system pressure drops below the set shut-off pressure, the valve disc slowly closes against the oil contained in the cushion chamber and cylinder. Surge Relief Valves are designed with a smooth flow and minimal obstruction to flow for efficient surge relief.

Size Range:	2-16" (50-400mm)
Body Style:	3000A
Pressure Relief Range:	to 200 psi (1380 kPa) CWP, depending on valve size
Body Materials:	Ductile iron

Automatic Air Valves

APCO Air Release Valves (ARV)

ARV-50

ARV-200A

Air Release Valves function to release air pockets that collect at each high point of a pressured pipeline, and are essential for pipeline efficiency and water hammer protection. Air Release Valves are available in a wide variety of orifice sizes and materials of construction to meet a wide range of applications.

Size Range:	½ -6" (15-150mm)
Body Styles:	50A, 200, 200A, 205, 206, 207
Body Materials:	Bronze, ductile iron, carbon steel, 316 stainless steel

APCO Combination Air Valves (AVC & AVV)

AVC

AVV-1800

Air Release Valves function to release air pockets that collect at each high point of a pressured pipeline, and are essential for pipeline efficiency and water hammer protection. Air Release Valves are available in a wide variety of orifice sizes and materials of construction to meet a wide range of applications.

Size Range:	Single Body 1-8" (25-200mm); Dual Body 1-24" (25-600mm)
Body Styles:	Single Body 143C, 145C, 147C, 149C, 150C, 151C; Dual Body 1800 or 1800K
Body Materials:	Ductile iron, cast iron, carbon steel, 316 stainless steel

APCO Air/Vacuum Valves (AVV)

AVV-140

AVV-150

Air/Vacuum Valves are float operated and have a large discharge orifice equal in size to the valve's inlet. Air/Vacuum valves allow large volumes of air to be exhausted from or admitted into a pipeline as it is being filled or drained. As the pipeline fills, fluid enters the valve, raises the float and shuts-off. When draining the pipeline, the float drops and allows air to enter, preventing a vacuum and possible pipeline collapse or damaging water column separation.

Size Range:	½-24" (15-600mm)
Body Styles:	140, 140H,150
Body Materials:	Ductile iron, cast iron, carbon steel, 316 stainless steel

APCO Air Valves for Vertical Turbine Pumps

Air/Vacuum Valves for Vertical Turbine Pumps vent air from the pump column at the point of discharge from the pump (in advance of the pump check valve).

Valves ½-3" are equipped with a water diffuser which breaks down the column of water into an aerated non-destructive stream of water. The Double Acting Throttling Device permits regulation of the flow of air escaping from the valve to establish a back pressure, slowing the rising column of water and reducing start up surges. The Double Acting Throttling Device spring loaded mechanism allows full flow air in during draining of the system. This action results in smoother operation of the pumping system.

Valves 4-24" are equipped with a surge check valve to ensure gentle closing of the air/vacuum valve. Controlled closure of the vertical turbine air valve reduces chance of water hammer or damage to the valve pump.

AVV with DAT

AVV with CSV

Size Range:	½- 24" (15-600mm)
Body Styles:	AVV with DAT or AVV with CSV Slow Close Surge Check Valve

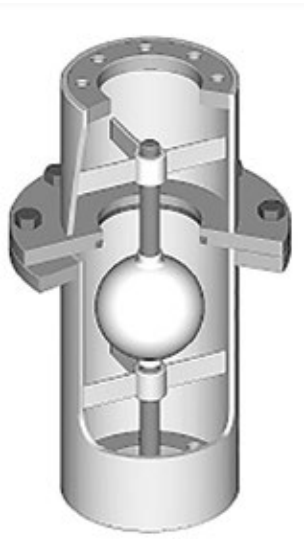
APCO Slow Closing Air/Vacuum Valves (CSV Option)

Slow Closing Air/Vacuum Valves are standard Air/Vacuum Valves mounted on a Surge Check Valve. The Air/Vacuum Valve allows air to escape freely. The Surge Check is a normally open valve so that air passes through unrestricted, but when water rushes into the Surge Check Valve the disc closes and reduces the rate of flow of water into the air valve by means of throttling holes in the disc. This ensures normal gentle closing of the Air/Vacuum Valve and minimizes surges.

Size Range:	1-24" (25-600mm)

Hilton Vertical Vent Valve (H-750)

The Vertical Vent Valve is used to exhaust air from a pipeline while it is being filled and to prevent a vacuum from forming when the line is drained. The ball shaft is fully guided to insure proper alignment between ball and seat. The seat is accurately machined for precise seating. An optional resilient seat is available for drip tight shut-off. The valve has a two-piece body to facilitate maintenance.



Size Range:	3-12" (80-300mm)
Temperature Range:	to 1000°F (540°C)
Pressure Rating:	to 150 psi (1030 kPa) CWP
Materials:	Solid alloy construction. Available in any weldable alloy including stainless steel, Hastelloy, Inconel, Monel or Titanium. Optional abrasion and corrosion resistant designs available.

Vacuum Relief/Air Inlet Valves

APCO Vacuum Relief/Air Inlet Valves (AVR)

Vacuum Relief/Air Inlet Valves are normally closed valves. When the system pressure becomes negative, the valve opens, allowing air into the system to prevent a vacuum from building. When system pressure returns to positive, the Vacuum Relief/Air Inlet Valve closes air tight. Standard Vacuum Relief/Air Inlet Valves are designed to open with a minimal, 1/4 psi pressure differential across the orifice. Higher or lower relief settings are available to suit the application.

Size Range:	3-36" (80-900 mm)
Body Styles:	1500
Pressure Rating:	ASME 125 and 250 class
Body Materials:	Cast iron, ductile iron, carbon steel, 316 stainless steel

Wastewater/Sewage Air Valves

APCO Single Body Combination Air Valves (ASU)

APCO Single Body Combination Air Valves (ASU) are ideally suited for wastewater and sewage services. Clean interior design and direct shaft mounted float eliminates troublesome linkages that can lead to frequent maintenance. The shape of the upper valve body creates an air compression chamber to limit fluid level and solids interference. The funnel shaped lower body reduces solids buildup on sewage applications where solids may interfere with operation, yet it still allows for maximum outflow and self-cleaning. The unique venting design provides varied and predictable air flow over a wide range of air release and air/vacuum conditions.

Size Sizes:	1-6" (25-150mm)
Operating Range:	2-150 psi (14-1035 kPa) or 2-300 psi (14-2070 kPa)

APCO Sewage Air Release Valves (ASR)

Because sewage media generates large quantities of gas, the potential for air entrapped with sewage pipelines is even greater than in water lines. It is recommended that each high point be protected with a Sewage Air Release Valve. The elongated body of the Sewage Air Release Valve minimizes clogging by permitting use of a much longer float stem to prevent the sewage from fouling up the mechanism.

Size Ranges:	2-4" (50-100mm)
Body Style:	400, 450
Body Materials:	Ductile iron, carbon steel, 316 stainless steel

APCO Sewage Air/Vacuum Valves (ASV)

Air/Vacuum valves allow large volumes of air to be exhausted from or admitted into a pipeline as it is being filled or drained. The elongated body of the Sewage Air/Vacuum Valve minimizes clogging by permitting use of a much longer float stem to prevent the sewage from fouling up the mechanism.

Size Range:	1-14" (25-350mm)
Body Styles:	401, 402, 403, 404, 406, 408, 410, 412, 414
Body Materials:	Cast iron, ductile iron, carbon steel, 316 stainless steel

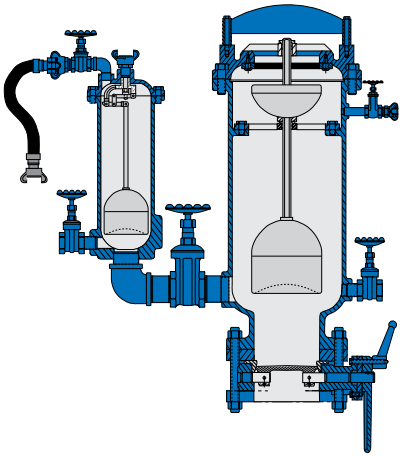
APCO Single Body Sewage Combination Air Valves (ASC)

Combination Air Valves are installed on all high points of a system where dual function Air Release and Air/Vacuum Valves are needed to release air and also to protect the pipeline from vacuum. The elongated body of the Single Body Sewage Combination Air Valve minimizes clogging by permitting use of a much longer float stem to prevent the sewage from fouling up the mechanism.

Size Range:	1-6" (25-150mm)
Body Styles:	443, 445, 447, 449, 456
Body Materials:	Cast iron, ductile iron, carbon steel, 316 stainless steel

APCO Dual Body Sewage Combination Air Valves (ASD)

Dual Body Combination Sewage Air Valves vent large volumes of air through the large orifice and small pockets of air through the small orifice. During normal operation, pockets of air collecting will be vented through the small orifice automatically. Should vacuum develop in the force main, the upper spherical float will open the large orifice permitting large volumes of air to re-enter the force main to break the vacuum. The upper float is protected against opening vacuum impact with a resilient bumper. When the force main returns to normal pressure, the Dual Body Combination Sewage Air Valve will close without spillage.



Size Range:	1-14" (25-350mm)
Body Styles:	401C, 402C, 403C, 404C, 406C, 408C, 410C, 412C, 414C
Body Materials:	Cast iron, ductile iron, carbon steel, 316 stainless steel

Ball & Cone Valves

Willamette AWWA Metal Seated Ball Valves (VBL)

Willamette AWWA Metal Seated Ball Valves meet AWWA C507 and have full bore unobstructed waterways resulting in the lowest amount of head loss compared to other inline valve styles. Ball valves utilize a torque unit to provide controlled opening and closing. Metal Seated Ball Valves are ideally suited for pump stop/start and check service, controlling flow discharge to prevent pressure surges. These ball valves are recommended for high velocities (above 15 FPS), flow control or buried service with critical isolation applications. Willamette AWWA Metal Seated Ball Valves are ruggedly designed with metal-to-metal seating to last for decades. Valves can be single or double seated. VBL Ball Valves can be furnished with Electric, Hydraulic or Pneumatic or Manual Handwheel operators.

Size Range:	6-54" (150-1400mm)
Body Styles:	Series 2600
Pressure Rating:	125, 150, 300 psi (860, 1030, 2070 kPa) CWP service
Body Materials:	Ductile iron

Willamette Metal Seated Cone Valves (VMC)

Willamette Metal Seated Cone Valves are built to last under the most severe conditions. They are 100% full port, conical plug type valves with a circular waterway through both body and plug in the full open position. Each valve consists of a tapered cone/plug that fits precisely into a mating body. Valves can have a Double Seat Plug with the seat in the closed position as standard or an optional Four Seat Plug with a seat in both the open and closed position. Valves can be furnished with Electric, Hydraulic or Pneumatic or Manual Handwheel operators.

Size Range:	6-48" (150-1200mm)
Body Styles:	Series 2200
Pressure Rating:	125, 150, 300 psi (860, 1030, 2070 kPa) CWP service
Body Materials:	Ductile iron

Hydraulic Power Units

DeZURIK HydraStorm Hydraulic Power Unit (HPU-DHS)

DeZURIK's HydraStorm Hydraulic Power Unit (HPU-DHS) generates a tremendous amount of power to drive most valves fitted with hydraulic cylinder actuators. The HPU-DHS is designed with rugged construction and diverse capabilities to suit the needs of tough indoor/outdoor applications in numerous industries including mining, power, hydropower, water, wastewater, and others.

HPU-DHS Hydraulic Power Units are available in a variety of AC and DC voltages, three reservoir sizes, flow rates up to 24 gpm (90 l/min), pressures up to 3000 psi (20,684 kPa), and an operating temperature range from -49 to 140°F (-45 to 60°C). The HPU-DHS system is compact, portable, quiet and fully enclosed with IP66 protection (dust tight, water jet protected). Offered with intuitive operator controls and capable of operating a number of valve actuators, the HPU-DHS is both user friendly and easy to maintain. The CANBUS friendly interface allows integration with other common industrial communications protocols.

DeZURIK Custom Hydraulic Power Units

DeZURIK custom designed hydraulic power units are available to provide a tremendous range of power to fit a wide variety of industry applications. Hydraulic Power Units (HPU) can be configured to deliver continual power for valve operation, or they can be configured to provide emergency power in case of power failure.

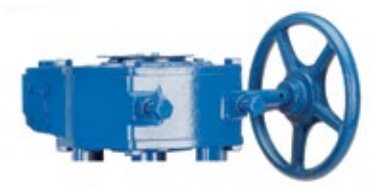
Choose from Custom Designed, Standard Traditional AC Unit or Portable Hydraulic Power Pack that can provide power in the field for valves in remote locations.

DeZURIK HPU Systems can be designed to provide efficient power distribution for up to 12 valves. For throttling or valve positioning applications, HPUs deliver a steady supply of power for accurate control.

Custom Hydraulic Power Units can also be designed to operate in extreme conditions including hazardous atmospheres or in submerged applications.

Actuators

DeZURIK G-Series Manual Actuators



DeZURIK manual actuators are constructed for dependable and lasting performance. Rugged worm gear design and heavy duty-corrosion resistant bearings provide easy valve operation and reliable long life. Both above ground and buried actuators are equipped with corrosion resistant stainless steel input shaft and bolting as standard. Housing is fully sealed and grease filled for maintenance-free service.

DeZURIK G-Series Cylinder Actuators

DeZURIK cylinder actuators have demonstrated reliability and performance to match. These actuators utilize a rack and pinion design for smooth and efficient operation. The cylinder barrel is not only corrosion resistant but also highly impact resistant fiberglass resin composite. At the heart of the cylinder is a unique piston seal design that applies a triple PTFE wiper with nitrile rubber backing for resiliency.

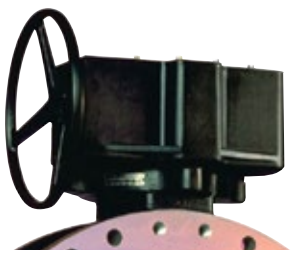
DeZURIK Compak Actuators

Compak cylinder actuators are a versatile rack and pinion design. The compact, modular design allows the actuator to be mounted for a low profile assembly.

DeZURIK Rotary Diaphragm Actuators

DeZURIK Diaphragm Actuators are designed specifically for use on quarter-turn valves. They feature all steel, cast iron and stainless steel construction for corrosion resistance in caustic environments. The actuators are designed for on/ off or modulating service in either a fail-open or fail-closed mode. Action can be easily changed in the field with no additional parts required. The spring cartridge is cage retained at the factory for increased safety. The output shaft is supported at the top and bottom with bronze bearings that absorb side thrust and insure smooth, efficient, and accurate throttling control. Diaphragm Actuators are available with safety lockout devices.

DeZURIK LA-Series Actuators



LA-Series Actuators are designed for use on large DeZURIK AWWA Butterfly Valves. The LA-Series Actuator meets the requirements of AWWA C504 standards. The link-arm mechanism allows the LA-Series Actuator to provide characterized closure that slows valve travel and increases torque as the disc comes into the seat. The actuators feature high compressive strength yoke nut bearings that ensure reliable operation and increased cycle life. The actuator is self-locking, maintaining valve position under varying flow conditions.

DeZURIK MG-Series Actuators

Manual Gear Actuators feature a ductile iron gear with sintered bronze bearings on each end of the stainless steel input shaft for durability and performance.

DeZURIK PowerRac Cylinder Actuators

The rack and pinion design of PowerRac Actuators provides high-operating torque for accurate control in modulating services, and high opening torque for on/off services. The unique square collet coupling rigidly clamps the drive pinion to the valve shaft, eliminating backlash in the drive connection. Positioners are solidly mounted on the actuator housing with a square nut, feeding exact valve position directly to the positioner. The modular design and compact size allow the actuator to be close coupled to the valve. Standard ISO bolt circle allows PowerRac Actuators to be used on all DeZURIK quarter turn valves. Double-acting or fail-safe spring-return cylinder options are available.

Quarter Turn Valves Selection Chart

	DeZURIK					
	Plug Valves			Butterfly Valves		
	Eccentric Plug Valves		3-Way & 4-Way	AWWA	Resilient Seated	
						
MODEL	**PEC**	**PEF**	**PTW/PFW**	**BAW**	**BOS-US**	**BOS-CL**
Size Range	½-72" (15-1800 mm)	3-36" (80-900 mm)	2-16" (50-400 mm)	3-144" (80-3700 mm)	2-20" (50-500 mm) Larger sizes on application	2-24" (50-600 mm)
Seat Type	Metal & Resilient	Resilient	Metal & Resilient	Resilient	Resilient	Resilient
Cavitation (Kc) @ 60% Open	0.59	0.59	N/A	0.35	0.35	0.35
Recovery Factor F_L^2 at 60% Open	0.7	0.7	N/A	0.4	0.4	0.4
Shutoff Class	ANSI/FCI 70-2, VI or better	ANSI/FCI 70-2, VI or better	N/A	AWWA C504	ANSI/FCI 70-2, VI or better	ANSI/FCI 70-2, VI or better
Pressure Rating	125-450 psi CWP (860-3100 kPa)	150-175 psi CWP (1030-1210 kPa)	125 psi CWP (860 kPa)	AWWA 25, 75, 150 & 250	200-250 psi CWP (1380-1720 kPa)	150-175 psi CWP (1030-1210 lPa)
On-Off	Typical Application	Typical Application	Not Used	Typical Application	Typical Application	Typical Application
Throttling	Typical Application	Typical Application	May Be Used	Typical Application	Typical Application	Typical Application
Control	Typical Application	Typical Application	Limited Application	Typical Application	Typical Application	Limited Application
Diversion	Not Used	Not Used	Typical Application	Limited Application	Limited Application	Limited Application
Liquids (Clean)	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Liquids (Dirty)	Typical Application	Typical Application	Typical Application	Limited Application	Limited Application	Limited Application
Liquids (Viscous)	Typical Application	Typical Application	Typical Application	Limited Application	Limited Application	Limited Application
Liquids (Corrosive)	Typical Application	Typical Application	Typical Application	Not Used	Limited Application	Limited Application
Slurries (Sludge)	Typical Application	Typical Application	Typical Application	Not Used	Not Used	Not Used
Liquids & Slurries (Scaling)	May Be Used	May Be Used	Not Used	Not Used	Not Used	Not Used
Slurries (Abrasive)	May Be Used	May Be Used	May Be Used	Not Used	Not Used	Not Used
Slurries (Fibrous)	May Be Used	May Be Used	Typical Application	Not Used	Not Used	Not Used
High Pressure Steam (+150lbs.)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Low Pressure Steam	Limited Application	Limited Application	Limited Application	Not Used	Not Used	Not Used
Gasses (Clean)	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Gasses (Dirty)	Typical Application	Typical Application	Typical Application	May Be Used	May Be Used	May Be Used
Gasses (Corrosive)	Typical Application	Typical Application	Typical Application	Not Used	May Be Used	May Be Used
Dry Materials	May Be Used	May Be Used	Not Used	Not Used	Limited Application	Limited Application
High Flow Capacity	May Be Used	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Low Head Loss (Wide Open)	May Be Used	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Low Torque/Thrust	May Be Used	May Be Used	Typical Application	May Be Used	May Be Used	May Be Used
High Temp., 800°F+ (425°C+)	Limited Application	Limited Application	Not Used	Not Used	Not Used	Not Used
Cryogenic	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Erosion Resistance	May Be Used	May Be Used	Limited Application	Not Used	Limited Application	Limited Application

Quarter Turn Valves Selection Chart

	DeZURIK			Willamette	
	Butterfly/Control Valves	Rotary Control Valves		Ball & Cone Valves	
	High Performance	Rotary Control Valves	V-Port Control Valve	Metal Seated Ball Valve	Metal Seated Cone Valve
					
MODEL	**BHP**	**RCV**	**VPB**	**VBL**	**VMC**
Size Range	2-60" (50-1500 mm)	1-12" (25-500 mm)	1-20" (25-500mm)	6-54" (150-1400mm)	6-48" (150-1200mm)
Seat Type	Metal & Resilient	Metal	Metal & Resilient	Metal	Metal
Cavitation (Kc) @ 60% Open	0.35	0.6	0.49	N/A	N/A
Recovery Factor F_L^2 at 60% Open	0.43	0.7	0.61	N/A	N/A
Shutoff Class	ANSI/FCI 70-2, IV, V, VI or better	ANSI/FCI 70-2, IV-VI	ANSI/FCI 70-2, II, IV, VI or better	AWWA C507	Drop-Tight
Pressure Rating	ASME 150 & 300	ASME 150 & 300	ASME 150 & 300	125, 150 or 300 psi CWP (860, 1030, 2070 kPa)	125, 150, 300 psi CWP
On-Off	Typical Application	Typical Application	May Be Used	Typical Application	Typical Application
Throttling	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Control	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Diversion	Limited Application	Not Used	Not Used	Not Used	Not Used
Liquids (Clean)	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Liquids (Dirty)	Limited Application	Typical Application	Typical Application	Typical Application	Typical Application
Liquids (Viscous)	May Be Used	Typical Application	Typical Application	Typical Application	Typical Application
Liquids (Corrosive)	Typical Application	Typical Application	Typical Application	May Be Used	May Be Used
Slurries (Sludge)	Limited Application	Typical Application	Limited Application	Typical Application	Typical Application
Liquids & Slurries (Scaling)	Not Used	May Be Used	Limited Application	Not Used	Not Used
Slurries (Abrasive)	May Be Used	Typical Application	Limited Application	Not Used	Not Used
Slurries (Fibrous)	May Be Used	Not Used	Typical Application	Not Used	Not Used
High Pressure Steam (+150lbs.)	Typical Application	Typical Application	Limited Application	Not Used	Not Used
Low Pressure Steam	Typical Application	Typical Application	Typical Application	Not Used	Not Used
Gasses (Clean)	Typical Application	Typical Application	Typical Application	Not Used	Not Used
Gasses (Dirty)	Limited Application	Typical Application	Typical Application	Not Used	Not Used
Gasses (Corrosive)	Typical Application	Typical Application	Typical Application	Not Used	Not Used
Dry Materials	Not Used	Not Used	Not Used	Not Used	Not Used
High Flow Capacity	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Low Head Loss (Wide Open)	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Low Torque/Thrust	Typical Application	May Be Used	Typical Application	Typical Application	Typical Application
High Temp., 800°F+ (425°C+)	Limited Application	Limited Application	Not Used	Not Used	Not Used
Cryogenic	Limited Application	May Be Used	Not Used	Not Used	Not Used
Erosion Resistance	May Be Used	Typical Application	Limited Application	Typical Application	Typical Application

Knife Gate Valves Selection Chart

	General Service					
						
MODEL	**KGN-MSU**	**KGN-RSB**	**KGC-ES**	**KGC-BD**	**KGC-MC**	**KGC-MD**
Valve Type	Metal Seat	Bi-Directional Resilient Seat	Extended Service Design Metal & Resilient Seat	Premium Bi-Directional Resilient Seat	Metal Cutting Design Metal Seat & Dual Metal/Resilient Seat	Maximum Duty Metal Seat & Dual Metal/Resilient Seat
Valve Design & Characteristics	Standard, Rugged & Economical	Perimeter Seat, Economical Direct & Reverse Shutoff	DeZURIK Premium Packing System for Extended Seal Life			
			Premium KGC	Perimeter Seat Direct & Reverse Shutoff	Shearing Action	Hardened Seats
GENERAL SPECIFICATIONS						
Size Range	2-36" (50-900mm)	2-24" (50-600mm)	2-48" (50-1200mm)	2-36" (50-900mm)	3-24" (80-600mm)	3-24" (50-600mm)
Face-To-Face	MSS-SP81	MSS-SP81	MSS-SP81	MSS-SP81	MSS-SP81	MSS-SP81
Maximum Pressure Rating	100 or 150 psi CWP (690-1030kPa)	150 psi CWP (1030 kPa)	150 psi CWP (1030 kPa)	to 150 psi CWP (1030 kPa)	150 psi CWP (1030 kPa)	150 psi CWP (1030 kPa)
Shutoff Class	MSS-SP81	Driptight	MSS-SP81 or Driptight*	Driptight	MSS-SP81 or Driptight*	MSS-SP81 or Driptight*
Temperature (Up To)	1000°F (540°C)	400°F (204°C)	1000°F (540°C)	400°F (204°C)	500°F (260°C)	500°F (260°C)
Throttling	Limited Application	Limited Application	May Be Used	Limited Application	Not Used	Limited Application
COMMON MEDIA						
Raw & Treated Water	May Be Used	May Be Used	Typical Application	Maximum Performance	May Be Used	Typical Application
Clean Liquids	May Be Used	May Be Used	Typical Application	Maximum Performance	May Be Used	Typical Application
Dirty Liquids	May Be Used	May Be Used	Maximum Performance	Typical Application	May Be Used	Typical Application
Viscous Fluids	May Be Used	May Be Used	Maximum Performance	May Be Used	May Be Used	Typical Application
Water Conveyed Solids	May Be Used	May Be Used	Maximum Performance	Limited Application	Limited Application	Typical Application
Scaling	Not Used	Not Used	Limited Application	Not Used	Limited Application	Limited Application
Dry Material	May Be Used	Not Used	Typical Application	Not Used	May Be Used	Typical Application
Hot Gasses	May Be Used	Limited Application	May Be Used	Limited Application	Not Used	May Be Used
PULP & PAPER						
Paper Stock To 3%	Typical Application	Typical Application	Maximum Performance	Typical Application	May Be Used	May Be Used
Paper Stock 3 To 6%	Typical Application	Limited Application	Maximum Performance	Typical Application	May Be Used	May Be Used
Paper Stock 6% Plus	May Be Used	Not Used	May Be Used	Not Used	May Be Used	May Be Used
Liquor Service	Limited Application	Limited Application	Maximum Performance	Maximum Performance	May Be Used	May Be Used
Recycle Trash	Limited Application	Limited Application	Typical Application	Limited Application	Maximum Performance	Typical Application
MINING, MINERALS PROCESSING						
Slurry: 0 To 15% Solids	May Be Used	May Be Used	Typical Application	May Be Used	Limited Application	Typical Application
Slurry: 15 To 30% Solids	Limited Application	Limited Application	May Be Used	Limited Application	Limited Application	May Be Used
Slurry: 30% Plus Solids	Limited Application	Not Used	Limited Application	Limited Application	Limited Application	Limited Application
Cyclones	Limited Application	Limited Application	May Be Used	Limited Application	Not Used	May Be Used
CHEMICAL & PETROCHEMICAL						
Pellets, Dry Material	May Be Used	Limited Application	Maximum Performance	May Be Used	May Be Used	May Be Used
Process Fluids, Chemicals	May Be Used	May Be Used	Maximum Performance	Maximum Performance	May Be Used	Typical Application
Petroleum Products	May Be Used	May Be Used	Maximum Performance	Maximum Performance	May Be Used	Typical Application
MUNICIPAL & HYDRO						
Pump/Equipment Isolation	May Be Used	Typical Application	Typical Application	Typical Application	Limited Application	Limited Application
Dewatered Sludge	Typical Application	May Be Used	Typical Application	May Be Used	Limited Application	Limited Application
POWER**						
Fly Ash	Limited Application	Not Used	Typical Application	Not Used	Limited Application	Maximum Performance
Bottom Ash	Limited Application	Not Used	Typical Application	Not Used	May Be Used	Maximum Performance
FGD Scrubbers	May Be Used	Not Used	Typical Application	Not Used	Limited Application	May Be Used
Hydraulic Flow Control	May Be Used	May Be Used	May Be Used	May Be Used	Limited Application	May Be Used
Hydro Power & Dams	May Be Used	May Be Used	May Be Used	May Be Used	Limited Application	May Be Used
FOOD & BEVERAGE						
Raw Material Handling	May Be Used	Limited Application	Typical Application	May Be Used	Not Used	Typical Application

*Resilient seated valves only **For Coal Burner Isolation applications, refer to KCI or BIV (Hilton) CWP = Cold Working Pressure NA = Not Applicable

Knife Gate Valves Selection Chart

	Abrasion Resistant		Severe Service	
				
MODEL	**KUL**	**KSL**	**KSV**	**DBB**
Valve Type	Urethane Lined Body Bi-Directional	Slurry Valve, Resilient Sleeve Lined, Bi-Directional	ASME Class 150 & 300 for Severe, Abrasive Services, Bi-Directional	Double Block & Bleed Design Bi-Directional
Valve Design & Characteristics	Economical, General Abrasion Resistance	Broad Range Abrasion & Corrosion Resistance	High Pressure, High Abrasive Shutoff & Direct & Reverse Shutoff	Dual KSV Bodies with Isolating Chamber Direct & Reverse Shutoff
GENERAL SPECIFICATIONS				
Size Range	2-48" (50-1200 mm)	2-24" (50-600mm)	3-60" (80-1500mm)	3-60" (80-1500mm)
Face-To-Face	MSS-SP81	NA	MSS-SP135	MSS-SP152
Maximum Pressure Rating	150 or 250 psi CWP (1030 or 1720 kPa)	KSL-SD 2-16" 150 psi CWP (1030 kPa) 18-24" 100 psi CWP (690 kPa) KSL-LA 100 psi CWP (690 kPa)	285 or 740 psi ASME (1960 or 5100 kPa)	285 or 740 psi ASME (1960 or 5100 kPa)
Shutoff Class	Driptight	Driptight	MSS-SP135 or Driptight*	MSS-SP135 or Driptight*
Temperature (Up To)	265°F (130°C)	to 300°F (149°C)	450°F (232°C)	450°F (232°C)
Throttling	Limited Application	Not Used	Limited Application	Limited Application
COMMON MEDIA				
Raw & Treated Water	Typical Application	May Be Used	May Be Used	May Be Used
Clean Liquids	Typical Application	May Be Used	May Be Used	May Be Used
Dirty Liquids	Maximum Performance	May Be Used	May Be Used	May Be Used
Viscous Fluids	Maximum Performance	Typical Application	May Be Used	May Be Used
Water Conveyed Solids	Maximum Performance	Typical Application	May Be Used	May Be Used
Scaling	May Be Used	Typical Application	May Be Used	May Be Used
Dry Material	Maximum Performance	Limited Application	Limited Application	Limited Application
Hot Gasses	Limited Application	May Be Used	May Be Used	May Be Used
PULP & PAPER				
Paper Stock To 3%	May Be Used	May Be Used	May Be Used	May Be Used
Paper Stock 3 To 6%	May Be Used	May Be Used	May Be Used	May Be Used
Paper Stock 6% Plus	Limited Application	May Be Used	May Be Used	May Be Used
Liquor Service	Limited Application	Limited Application	May Be Used	May Be Used
Recycle Trash	Limited Application	Limited Application	May Be Used	May Be Used
MINING, MINERALS PROCESSING				
Slurry: 0 To 15% Solids	Maximum Performance	Typical Application	Maximum Performance	Maximum Performance
Slurry: 15 To 30% Solids	Typical Application	Maximum Performance	Maximum Performance	Maximum Performance
Slurry: 30% Plus Solids	May Be Used	Maximum Performance	Maximum Performance	Maximum Performance
Cyclones	May Be Used	Typical Application	Maximum Performance	Not Used
CHEMICAL & PETROCHEMICAL				
Pellets, Dry Material	May Be Used	May Be Used	Limited Application	Limited Application
Process Fluids, Chemicals	Typical Application	May Be Used	Typical Application	Typical Application
Petroleum Products	Typical Application	May Be Used	Typical Application	Typical Application
MUNICIPAL & HYDRO				
Pump/Equipment Isolation	May Be Used	Limited Application	Limited Application	Not Used
Dewatered Sludge	May Be Used	Not Used	Limited Application	Not Used
POWER**				
Fly Ash	May Be Used	Limited Application	May Be Used	May Be Used
Bottom Ash	Maximum Performance	Limited Application	May Be Used	May Be Used
FGD Scrubbers	Typical Application	Maximum Performance	May Be Used	May Be Used
Hydraulic Flow Control	May Be Used	May Be Used	May Be Used	May Be Used
Hydro Power & Dams	May Be Used	May Be Used	May Be Used	May Be Used
FOOD & BEVERAGE				
Raw Material Handling	Maximum Performance	Limited Application	May Be Used	May Be Used

Knife Gate Valves Selection Chart

	O-Port	Standard Sizes to 96"	Fabricated Custom Designs	
				
MODEL	**KGO**	**HILTON H-200-B**	**HILTON H-200-R**	**HILTON H-1500**
Valve Type	Metal Seat O-Port for Recycle Paper	Fabricated Standardized Design to 96" (2400mm)	Square & Rectangular Port Valves	Round or Diamond Thru-Port
Valve Design & Characteristics	Recycle Trash, Hi-Density Stock, Pellets, Wood Chips	Pressurized or un-pressurized bonnets, Custom designs to 144" (3600mm)	Designed to Application & Dimensional	Heavy Duty Construction for Slurries & Dry Materials
GENERAL SPECIFICATIONS				
Size Range	2-24" (50-600mm)	2-144" (50-3700mm)	2-72" (50-1800mm)	2-48" (50-1200mm)
Face-To-Face	MSS SP-81	MSS-SP81	As Specified	As Specified
Maximum Pressure Rating	150 psi CWP (1030 kPa)	to 400 psi CWP (2760 kPa)	300 psi CWP (2070 kPa)	400 psi CWP (2760 kPa)
Shutoff Class	MSS SP-81	MSS SP-81 or Driptight*	MSS SP-81 or Driptight*	MSS SP-81 or Driptight*
Temperature (Up To)	1000°F (537°C)	2000°F (1050°C)	2000°F (1050°C)	1200°F (650°C)
Throttling	May Be Used	Not Used	Not Used	Typical Application
COMMON MEDIA				
Raw & Treated Water	Typical Application	Maximum Performance	May Be Used	Not Used
Clean Liquids	Typical Application	Maximum Performance	May Be Used	Not Used
Dirty Liquids	Typical Application	Maximum Performance	May Be Used	Not Used
Viscous Fluids	Typical Application	Maximum Performance	May Be Used	Not Used
Water Conveyed Solids	Typical Application	Maximum Performance	May Be Used	Not Used
Scaling	Typical Application	May Be Used	Limited Application	Limited Application
Dry Material	Typical Application	May Be Used	May Be Used	Maximum Performance
Hot Gasses	Limited Application	May Be Used	Not Used	Not Used
PULP & PAPER				
Paper Stock To 3%	Typical Application	Typical Application	Typical Application	Maximum Performance
Paper Stock 3 To 6%	Typical Application	Typical Application	Typical Application	Maximum Performance
Paper Stock 6% Plus	Maximum Performance	Typical Application	May Be Used	May Be Used
Liquor Service	Limited Application	Typical Application	Typical Application	Typical Application
Recycle Trash	Typical Application	Typical Application	Typical Application	Typical Application
MINING, MINERALS PROCESSING				
Slurry: 0 To 15% Solids	Typical Application	Typical Application	Typical Application	Typical Application
Slurry: 15 To 30% Solids	Maximum Performance	May Be Used	May Be Used	May Be Used
Slurry: 30% Plus Solids	Maximum Performance	May Be Used	May Be Used	May Be Used
Cyclones	Limited Application	May Be Used	May Be Used	May Be Used
CHEMICAL & PETROCHEMICAL				
Pellets, Dry Material	Limited Application	Maximum Performance	May Be Used	Typical Application
Process Fluids, Chemicals	Not Used	May Be Used	Not Used	Not Used
Petroleum Products	Limited Application	May Be Used	Not Used	Not Used
MUNICIPAL & HYDRO				
Pump/Equipment Isolation	Limited Application	Maximum Performance	May Be Used	Not Used
Dewatered Sludge	Limited Application	Maximum Performance	May Be Used	Typical Application
POWER**				
Fly Ash	Typical Application	May Be Used	May Be Used	Typical Application
Bottom Ash	Typical Application	May Be Used	May Be Used	Typical Application
FGD Scrubbers	Limited Application	May Be Used	May Be Used	Typical Application
Hydraulic Flow Control	Limited Application	Typical Application	Not Used	Not Used
Hydro Power & Dams	Not Used	Typical Application	Not Used	Not Used
FOOD & BEVERAGE				
Raw Material Handling	Limited Application	May Be Used	Typical Application	Typical Application

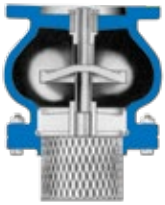
Hydro Valves Selection Chart

	Hilton Hydro Valves			
				
MODEL	**HYDRO GUARD H-300-B**	**THROTTLING H-340-B**	**JET FLOW H-2500**	**FIXED CONE VALVE**
Valve Type	Shutoff & Isolation Knife Gate Valves	Low Head Throttling Control	High Head Throttling Control	Flow Control on Free Discharge
Valve Design & Characteristics	Full Pressure Isolation of Flow Control	Economical High Capacity Throttling	Full Range Throttling on Critical	Robust Construction Rib Design to Reduce Vibration
GENERAL SPECIFICATIONS				
Size Range	to 144" (3600mm)	to 144" (3600mm)	to 96" (2400mm)	to 96" (2400mm)
Face-To-Face	As Specified	As Specified	As Specified	As Specified
Maximum Pressure Rating	400 psi CWP (2760 kPa)	100 psi CWP (690 kPa)	400 psi CWP (2760 kPa)	400 psi CWP (2760 kPa)
Shutoff Class	MSS SP-81 or Driptight*	MSS SP-81 or Driptight*	MSS SP-81 or Driptight*	MSS SP-81 or Driptight*
Temperature (Up To)	400°F (204°C)	2000°F (1050°C)	400°F (204°C)	400°F (204°C)
Throttling	Typical Application	Maximum Performance	Maximum Performance	Maximum Performance
COMMON MEDIA				
Raw & Treated Water	Typical Application	Maximum Performance	Not Used	Not Used
Clean Liquids	Typical Application	Maximum Performance	Not Used	Not Used
Dirty Liquids	Typical Application	Maximum Performance	Not Used	Not Used
Viscous Fluids	Typical Application	Maximum Performance	Not Used	Not Used
Water Conveyed Solids	Typical Application	May Be Used	Not Used	Not Used
Scaling	Typical Application	May Be Used	Not Used	Not Used
Dry Material	Typical Application	Not Used	Not Used	Not Used
Hot Gasses	Typical Application	Not Used	Not Used	Not Used
CHEMICAL & PETROCHEMICAL				
Pellets, Dry Material	Typical Application	Not Used	Not Used	Not Used
Process Fluids, Chemicals	Not Used	Typical Application	Not Used	Not Used
Petroleum Products	Not Used	Typical Application	Not Used	Not Used
MUNICIPAL & HYDRO				
Pump/Equipment Isolation	Maximum Performance	Maximum Performance	Not Used	Not Used
Dewatered Sludge	Maximum Performance	Maximum Performance	Not Used	Not Used
POWER**				
Hydraulic Flow Control	Maximum Performance	Maximum Performance	Maximum Performance	Maximum Performance
Hydro Power & Dams	Maximum Performance	Maximum Performance	Maximum Performance	Maximum Performance

Check Valves Selection Chart

	APCO			
	Swing Check Valve			SmartCHECK™ Pump Control Valve
				
MODEL	**CVS-6000**	**CVS-250**	**CVS-EDV**	**CPC**
Valve Design & Characteristics	Full Featured, Convertible, Oil Controlled Design	Meets AWWA C508. Fusion Bonded Epoxy Paint as Standard	Economical Swing Check Valve	Electric Motor Operated Pump Control
Size Range	2-66" (50-1700mm)	2-42" (50-1100mm)	3-30" (75-750mm)	4-20" (100-500mm)
Seat Type	Metal, Resilient	Resilient	Resilient	Resilient
Pressure Rating	to 640 psi CWP (4140 kPa)	250 psi CWP (1720 kPa)	250 psi CWP (1720 kPa)	to 640 psi CWP (4140 kPa)
Maximum Temperature (as standard)	to 250°F (121°C)	to 300°F (149°C)	to 250°F (121°C)	to 250°F (121°C)
Clean Water	Typical Application	Typical Application	Typical Application	Typical Application
Industrial Liquids	Typical Application	Typical Application	Typical Application	Typical Application
Gasses	Not Used	Not Used	Not Used	Not Used
Raw Sewage	Typical Application	Typical Application	Typical Application	Typical Application
Industrial Wastewater	Typical Application	Typical Application	Typical Application	Typical Application
Slurries	Typical Application	Typical Application	Typical Application	Typical Application
Slurries Abrasive (Rubber Lined)	Optional Constuction	Not Used	Not Used	Optional Constuction
Horizontal Application	Typical Application	Typical Application	Typical Application	Typical Application
Vertical Installation (Flow Up Only)	Typical Installation	Typical Installation	Typical Installation	Typical Application
Reverse Flow (For Drain)	Optional Constuction	Not Used	Not Used	Optional Constuction
Disc Position Indicator	Standard Construction	Standard Construction	Standard Construction	Standard Construction
Switches	Optional Constuction	Optional Constuction	Optional Constuction	Optional Constuction
Silent Closing Characteristics	Optional Constuction	Not Used	Not Used	Optional Constuction
Cushion Closing	Standard Feature	Standard Feature	Standard Feature	Standard Feature
Control Open and Close (Standard)	Not Used	Not Used	Not Used	Standard Feature
Control Slamming (Optional)	Standard Feature	Not Used	Not Used	Standard Feature
Outside Lever Available	Standard Feature	Standard Feature	Standard Feature	Standard Feature
Field Convertible Controls	Standard Feature	Limited Application	Not Used	Optional Constuction

Check Valves Selection Chart

	APCO			
	Rubber Flapper Swing Check Valve	Slanting Disc Check Valve	Full Flow Rubber Flapper Foot Valves	Full Flow Foot Valve with Strainer
				
MODEL	**CRF**	**CSD**	**FRF**	**FFF**
Valve Design & Characteristics	Low maintenance design. Unresticted full flow area. Meets AWWA C508.	Two piece body and slant disc postion. Lowest Head Loss	Installed vertically to maintain a flooded suction and primed centrifugal pump.	Installed vertically to maintain a flooded suction and primed centrifugal pump.
Size Range	2-48" (50-1200mm)	2-72" (50-1800mm)	2-36" (50-900mm)	3-36" (75-900mm)
Seat Type	Resilient	Metal	Resilient	Resilient
Pressure Rating	to 250 psi CWP (1720 kPa)	to 740 psi CWP (5100 kPa)	N/A	N/A
Maximum Temperature (as standard)	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)
Clean Water	Typical Application	Typical Application	Typical Application	Typical Application
Industrial Liquids	Typical Application	Typical Application	Typical Application	Typical Application
Gasses	Limited Application	Not Used	Not Used	Not Used
Raw Sewage	Typical Application	Not Used	Typical Application	Not Used
Industrial Wastewater	Typical Application	Not Used	Typical Application	Not Used
Slurries	Typical Application	Not Used	Typical Application	Not Used
Slurries Abrasive (Rubber Lined)	Optional Constuction	Not Used	Optional Constuction	Not Used
Horizontal Application	Typical Application	Typical Application	Typical Application	Typical Application
Vertical Installation (Flow Up Only)	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Reverse Flow (For Drain)	Optional Constuction	Optional Constuction	Not Used	Limited Application
Disc Position Indicator	Optional Constuction	Standard Construction	Not Used	Not Used
Switches	Optional Constuction	Standard Construction	Not Used	Not Used
Silent Closing Characteristics	Limited Application	Optional Constuction	Not Used	Standard Feature
Cushion Closing	Not Used	Not Used	Not Used	Not Used
Control Open and Close (Standard)	Not Used	Not Used	Not Used	Not Used
Control Close (Optional)	Standard Feature	Standard Feature	Not Used	Not Used
Outside Lever Available	Not Used	Standard Feature	Not Used	Not Used
Field Convertible Controls	Not Used	Standard Feature	Not Used	Not Used

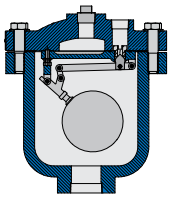
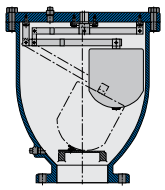
Check Valves Selection Chart

	APCO		
	Double Door Check Valve	**Silent Check Valve (Wafer)**	**Silent Check Valve (Globe)**
			
MODEL	**CDD**	**CSC-300**	**CSC-600**
Valve Design & Characteristics	Lowest Initial Cost & Shortest Laying Length	Highest Head Loss, FM Approved	Highest Head Loss, FM Approved
Size Range	2-60" (50-1500mm)	1-10" (15-250mm)	3-42" (75-1100mm)
Seat Type	Resilient	Metal, Resilient	Metal, Resilient
Pressure Rating	to 740 psi CWP (5100 kPa)	to 450 psi CWP (3100 kPa)	to 450 psi CWP (3100 kPa)
Maximum Temperature (as standard)	to 625°F (329°C)	to 325°F (163°C)	to 325°F (163°C)
Clean Water	Typical Application	Typical Application	Typical Application
Industrial Liquids	Typical Application	May Be Used	May Be Used
Gasses	Typical Application	Limited Application	Limited Application
Raw Sewage	Not Used	Not Used	Not Used
Industrial Wastewater	Not Used	Not Used	Not Used
Slurries	Not Used	Not Used	Not Used
Slurries Abrasive (Rubber Lined)	Not Used	Not Used	Not Used
Horizontal Application	Typical Application	Typical Application	Typical Application
Vertical Installation (Flow Up Only)	Typical Installation	Typical Application	Typical Application
Reverse Flow (For Drain)	Not Used	Not Used	Not Used
Disc Position Indicator	Not Used	Not Used	Not Used
Switches	Not Used	Not Used	Not Used
Silent Closing Characteristics	Not Used	Standard Feature	Standard Feature
Cushion Closing	Not Used	Not Used	Not Used
Control Open and Close (Standard)	Not Used	Not Used	Not Used
Control Close (Optional)	Not Used	Not Used	Not Used
Outside Lever Available	Not Used	Not Used	Not Used
Field Convertible Controls	Not Used	Not Used	Not Used

Fabricated Check Valves Selection Chart

	Hilton				
	Vertical Check Valve	Slanting Disc Check Valve	Wafer Swing Check Valve	Titling Disc Check Valve	Swing Check Valve
					
MODEL	**H-700**	**H-900**	**H-920**	**H-940**	**H-950**
Valve Design & Characteristics	Available in any weldable alloy	Available in any weldable alloy	Available in any weldable alloy	Available in any weldable alloy	Available in any weldable alloy
Size Range	3-36" (80-900mm)	3-60" (80-1500mm)	12-60" (300-1500mm)	12-60" (300-1500mm)	3-60" (80-1500mm)
Seat Type	Metal, Resilient	Metal, Resilient	Metal, Resilient	Metal, Resilient	Metal, Resilient
Pressure Rating	to 300 psi (2070 kPa)	to 300 psi (2070 kPa)	to 300 psi (2070 kPa)	to 300 psi (2070 kPa)	to 300 psi (2070 kPa)
Maximum Temperature (as standard)	to 1000°F (540°C)	to 1000°F (540°C)	to 1000°F (540°C)	to 1000°F (540°C)	to 1000°F (540°C)
Clean Water	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Industrial Liquids	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Gasses	Not Used	Not Used	Limited Application	Limited Application	Limited Application
Raw Sewage	Not Used	Not Used	Typical Application	Typical Application	Typical Application
Industrial Wastewater	Not Used	Not Used	Typical Application	Typical Application	Typical Application
Slurries	Not Used	Not Used	Typical Application	Typical Application	Typical Application
Slurries Abrasive (Rubber Lined)	Not Used	Not Used	Not Used	Not Used	Not Used
Horizontal Application	Not Used	Typical Application	Typical Application	Typical Application	Typical Application
Vertical Installation (Flow Up Only)	Typical Application	Typical Application	Typical Application	Typical Application	Typical Application
Reverse Flow (For Drain)	Limited Application	Typical Application	Limited Application	Limited Application	Typical Application
Disc Position Indicator	Not Used	Standard Feature	Standard Feature	Standard Feature	Standard Feature
Switches	Not Used	Optional Constuction	Optional Constuction	Optional Constuction	Optional Constuction
Silent Closing Characteristics	Not Used	May Be Used	Not Used	Not Used	Optional Constuction
Cushion Closing	Not Used	Optional Constuction	Optional Constuction	Optional Constuction	Optional Constuction
Control Open and Close (Standard)	Not Used	Standard Construction	Standard Construction	Standard Construction	Standard Construction
Control Close (Optional)	Not Used	Optional Constuction	Optional Constuction	Not Used	Optional Constuction
Outside Lever Available	Not Used	Standard Construction	Standard Construction	Standard Construction	Standard Construction
Field Convertible Controls	Not Used	Optional Constuction	Optional Constuction	Optional Constuction	Optional Constuction

Automatic Air Valves Selection Chart

	APCO					
	Air Release Valves					
	Water/Clean Service Air Release Valves					
						
MODEL	**ARV, 50A**	**ARV, 200A**	**ARV, 200**	**ARV, 205**	**ARV, 206**	**ARV, 207**
Valve Design & Characteristics	NBR Needle; 316 or 303 Stainless Steel Seat. Simple Lever	NBR Needle; POM or 316 Stainless Steel Seat. Compound Lever	NBR Needle; 316 Stainless Steel Seat. Compound Lever	316 Stainless Steel Needle; 316 Stainless Steel seat. Compound Lever	High Pressure. 316 Stainless Steel Needle; 316 Stainless Steel Seat. Compound Lever	Large Orifice. High Venting Capacity. 316 Stainless Steel Needle; NBR Seat. Compound Lever
Inlet Size / Valve Size	.5", .75", 1" (15, 20, 25mm)	1", 2" (25, 50mm)	2" (50mm)	2" (50mm)	2" (50mm)	6" (150mm)
Pressure Rating	175 or 300 psi CWP (1210 or 2070 kPa)	15, 50, 75, 150, 300, 600 psi CWP (100, 350, 520, 1030, 2070, 4140 kPa)	15, 75, 150, 300 psi CWP (100, 520, 1030, 2070 kPa)	100, 150, 500, 800 psi CWP (690, 1030, 3450, 5520 kPa)	1500 psi CWP (10,340 kPa)	15, 150, 300 psi CWP (100, 1030, 2070 kPa)
Maximum Temperature	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)
Air Release (normal operation)	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Admit Air (pipeline draining)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Exhaust Air (pipeline filling)	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Water	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Sewage	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used
Liquid Fuel	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

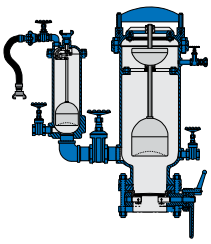
Automatic Air Valves Selection Chart

	APCO			
	Air/Vacuum Valves			
	Air/Vacuum Valves		Slow Closing Air Vacuum Valves	Vacuum Relief/ Air Inlet
				
MODEL	**AVV, 140 or 140H**	**AVV, 150**	**AVV with CSV**	**AVR**
Valve Design & Characteristics	Large venting orifice. Body Style 140H for high pressure service.	Large Sizes	Air Vacuum Valve (AVV) with CSV Surge Check Valve	Air Inlet to prevent vacuum formation.
Inlet Size / Valve Size	.5", 1", 2" 3" (15-80mm)	4-24" (100-600mm)	1", 2", 3" (25-80mm)	2-36" (50-900 mm)
Pressure Rating	to 1480 psi CWP (10,200 kPa)	up to 740 psi CWP (5100 kPa)	To 300 psi CWP (2070 kPa)	To 450 psi CWP (3100 kPa)
Maximum Temperature	to 425°F (218°C)	to 425°F (218°C)	to 425°F (218°C)	250°F (121°C)
Air Release (normal operation)	Not Used	Not Used	Not Used	Not Used
Admit Air (pipeline draining)	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Exhaust Air (pipeline filling)	Typical Installation	Typical Installation	Typical Installation	Not Used
Water	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Sewage	Not Used	Not Used	Not Used	Typical Installation
Liquid Fuel	Not Used	Not Used	Not Used	Not Used

Automatic Air Valves Selection Chart

	APCO					
	Combination Air Valves				Surge Control	
	Clean or Dirty Service, Single Body Combination Air Valve	Single Body Combination Air Valves	Dual Body Combination Air Valves	Dual Body Slow Closing Combination Air Valves	Surge Check Valves	Double Acting Throttling Device
						
MODEL	**ASU**	**AVC**	**AVV with ARV**	**AVV with ARV & CSV**	**CSV**	**DAT**
Valve Design & Characteristics	Patented design releases air while pressurized; vents air when filling and draining	Compact, tamper-proof design	Combination AVV and ARV Valve	Combination AVV and ARV Valve with CSV Surge Check Valve	Ensures gentle closing of Air/Vacuum Valve and minimizes surges.	Permits regulation of air flow escaping from air valve to reduce start up surges.
Inlet Size / Valve Size	1-6" (25-150mm)	1-8" (25-200mm)	1-24" (25-600mm)	1-24" (25-600mm)	1-24" (25-600mm)	1-24" (25-600mm)
Pressure Rating	To 300 psi CWP (2070 kPa)	To 300 psi CWP (2070 kPa)	To 300 psi CWP (2070 kPa)	To 300 psi CWP (2070 kPa)	to 400 psi (2760 kPa)	N/A
Maximum Temperature	to 180°F (82°C)	250°F (121°C)	to 180°F (82°C)	to 180°F (82°C)	to 400°F (205°C)	to 180°F (82°C)
Air Release (normal operation)	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Not Used	Not Used
Admit Air (pipeline draining)	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Exhaust Air (pipeline filling)	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Limited Application
Water	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Sewage	Typical Installation	Not Used	Not Used	Not Used	Not Used	Not Used
Liquid Fuel	Not Used	Not Used	Not Used	Not Used	Not Used	Not Used

Sewage Air Valves Selection Chart

	APCO			
	Sewage/Dirty Service Air Valves			
	Air Release Valves	Air/Vacuum Valves	Single Body Combination Air Valves	Dual Body Sewage Combination Air Valves
				
MODEL	**ASR**	**ASV**	**ASC**	**ASD**
Valve Design & Characteristics	Elongated body minimizes clogging in sewage applicatons.	Elongated body minimizes clogging in sewage applicatons.	Elongated body minimizes clogging in sewage applicatons.	Elongated body minimizes clogging in sewage applicatons.
Inlet Size / Valve Size	2-4" (80-100 mm)	1-14" (25-350 mm)	1-6" (25-150 mm)	1-14" (25-350 mm)
Pressure Rating	To 300 psi CWP (2070 kPa)	To 300 psi CWP (2070 kPa)	To 300 psi CWP (2070 kPa)	To 300 psi CWP (2070 kPa)
Maximum Temperature	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)
Air Release (normal operation)	Typical Installation	Not Used	Typical Installation	Typical Installation
Admit Air (pipeline draining)	Not Used	Typical Installation	Typical Installation	Typical Installation
Exhaust Air (pipeline filling)	Not Used	Typical Installation	Typical Installation	Typical Installation
Water	May Be Used	May Be Used	May Be Used	May Be Used
Sewage	Typical Installation	Typical Installation	Typical Installation	Typical Installation
Liquid Fuel	Not Used	Not Used	Not Used	Not Used

Rating System:

Not Used: Valve style not recommended for listed service.

Limited Application: Use valve with considerable caution. In most instances it would be uncommon to use a valve with this rating in the specified service.

May Be Used: Thoroughly evaluate the application before selecting this valve. Although this valve may be the lowest initial cost, it would seldom provide the lowest total cost of ownership. May require optional construction features such a hard facings, special coatings, etc.

Typical Application: Based on experience, it is very common to install this valve in the stated application.

Maximum Performance: The valve listed as a Maximum Performance has been specifically designed for the stated application in most cases. Although the initial cost will be higher than other valves, the total cost of ownership is typically much lower.

This valve selection chart is designed to provide you with a quick reference on valve style capabilities. The chart considers both cost and performance factors for a specific application when determining whether a valve style is rated Maximum Performance, Typical, May Be Used, or Limited Application. When evaluating a valve for any application, primary considerations are pressure rating, temperature limitations and fluid compatibility. Other considerations include importance of leak-free packing, seat leakage, and frequency of valve operation. Other factors include, but are not limited to fluid velocity, cycle frequency, speed of operation, dimensions and accessibility for installation or maintenance.

For more information, contact DeZURIK, Inc. or your local representative with your specific application

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DeZURIK Corporate Headquarters and Manufacturing Facility,
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DeZURIK Cambridge, Ontario, Canada
Established in 1961, 50,000 sq. ft.

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Established in 2018, 43,000 sq. ft.

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