

Vacuum Valves



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VACUUM VALVES Introduction

Overview:

ANCORP offers three main types of vacuum shut-off valves for your application: Ball Valves, Poppet Valves and Gate Valves. Each type regulates gas flow through your system with simple open or close commands. These valves are designed to perform fully opened or closed. The standard design is not meant for flow control, but is a simple off/on control mechanism for your vacuum system.

BALL VALVES offer straight, unimpeded flow with minimal impact on system space needed to accommodate the valve body. Ball valves are durable valves that are less sensitive to particulate contamination than the other valve types and are especially useful in dirty vacuum applications.

The valve is opened and closed by turning the stem 90° back and forth. The hole in the ball provides unobstructed flow in the open position and the sealing seat for the ball wipes the ball clean as it is opened and closed providing a consistent seal.

POPPET VALVES are made of a body, actuator and internal poppet.

The actuator transports the poppet linearly. When the poppet is moved toward the top of the valve, the internal body cavity is open to the system and flow is unimpeded. Once the actuator moves the poppet to the bottom of the valve, an elastomer sealing ring is compressed onto a sealing surface on the lower body of the valve. This creates a vacuum



tight seal and stops flow. Poppet valves are available in two body styles: 90° Angle and In-Line.

GATE VALVES provide straight through, unimpeded flow with the smallest valve body profile. Gate valves are ideal for space-constrained applications that require maximum conductance. A central carriage or gate is raised and lowered by the actuator within the body. In the open position, the gate retracts completely from the tube aperture allowing unrestricted flow. In the closed position, an elastomer sealing ring is compressed against a sealing surface on the inside of one of the body ports.



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ANCORP

INDUSTRY LEADING HIGH VACUUM BALL VALVES

5

ANCORP Ball Valves



BALL VALVE CONFIGURATOR

To configure an **ANCORP REFERENCE ID** for a basic high vacuum ball valve, use Steps 1 - 4. To add available options, use Steps 5 - 9.

BASIC

OPTIONS

1	2	3	4	5	6	7	8	9	10	11
BODY SERIES	VALVE MATERIAL	FLANGE TUBE SIZE	FLANGE TYPE	ACTUATOR TYPE	POSITION INDICATOR	ACTUATOR CONFIG.	HEATER READY	SOLENOID	LOCKING KIT	OVERALL LENGTH
D	4	150	- QF40 -	XX	- XXXX -	XX	- X	- XXX	- XX	- XXX

EXAMPLE 1:

B4075-QF16

is a "B" series manual ball valve with a 0.57" ball port, "4" stainless steel, 0.75" flange tube size and "QF16" Quick Flange port terminations.



EXAMPLE 2:

F4200-QF50-AA

is an "F" series ball valve with a 1.87" ball port, stainless steel, 2.0" Flange tube size, "QF50" port terminations, with an "AA" air-to-air actuator.



1 Body Series

Choose from one of our 7 Body styles. Call for more options.

BODY SERIES	BALL PORT SIZE	FLANGE TYPE OPTIONS
B	0.57"	QF16, QF25, TE, SE
C	0.81"	QF25, QF40, TE, SE
D	1.25"	QF40, TE, SE
E	1.50"	QF50, TE, SE
F	1.87"	QF50, LF63
HC	2.375, 2.875, 3.875"	LF63, LF80, LF100
TL	1.375"	QF40, QF50

2 Valve Material

Unlike cast or forged ball valves, **ANCORP** ball valves are machined from solid corrosive resistant 316L stainless steel bar. Our experience has shown that for vacuum applications, cast and forged ball valves are subject to voids, microscopic leak paths, porosity and inclusions in the material. This leads to virtual leaks, outgassing, permeation and longer pump down times.

CODE	MATERIAL
4	316L Stainless Steel

3 Flange Tube Size

The Flange Tube Size is dependent on the Body Series selected in Step 1 and the Flange Type selected in Step 4.

CODE	TUBE SIZE	BODY SERIES
050	0.5"	B
075	0.75"	B
100	1.0"	B, C
150	1.5"	C, D, TL
200	2.0"	E, F, TL
250	2.5"	HC
300	3.0"	HC
400	4.0"	HC

4 Flange Type

The available port terminations are dependent on the Body Series selected in Step 1. The chart above shows a current list of our standard configurations; however, other configurations are available upon request (i.e. ASA/ANSI, ConFlat®, etc).

PORT TERMINATION	FLANGE TYPE	BODY SERIES
QF16	ISO-Quick Flange	B
QF25	ISO-Quick Flange	B, C
QF40	ISO-Quick Flange	C, D, TL
QF50	ISO-Quick Flange	E, F, TL
LF63	ISO-Large Flange	F, HC
LF80	ISO-Large Flange	HC
LF100	ISO-Large Flange	HC
TE	Tube Ends	B - E
SE	Pipe Thread	B - E

5 Actuator Type

Any valve can be configured with a pneumatic actuator. Air-to-spring or air-to-air are both available and have a temperature range of 20°C to 150°C (-4°F to 302°F).

CODE	ACTUATOR TYPE
(Blank)	Manual
AS	Air-to-Spring
AA	Air-to-Air

NOTE: Only for actuated valves.

6 Position Indicator

If you chose an actuator in Step 5, you may want to add a position indicator. A position indicator has a visual indicator on the top as well as two mechanical or proximity switches for electrical output. Switches can be wired to provide signals when the valve is opened, closed or both. Other wiring options available.

CODE	POSITION INDICATOR
(Blank)	Not Present
PI04	Present

NOTE: Only for actuated valves and manual TL.

7 Actuator Configuration

If you chose an air-to-spring actuator in Step 5, it can be configured spring to close (Normally Closed) or spring to open (Normally Opened). Normally closed is the standard fail safe configuration.

CODE	CONFIGURATION
(Blank)	Normally Closed
NO	Normally Open

NOTE: Only for spring return actuated valves.

8 Heater Ready

The **ANCORP** ball valve can be assembled to allow space for a heater jacket. This space is referred to as a standoff. The standard standoff is 3/8" (038); however, the valve can be assembled with other sized standoffs to accommodate other sized heaters. Custom standoffs are represented with an "H" then three digits (XXX). For example, a 3/4" (0.75") standoff is represented as 075.

TL Series ball valves have a standard 3/4" and 5/8" standoffs respectively for manual and pneumatic valves. HC brackets allow for 1/2" minimum clearance for all sizes.

CODE	STANDOFF
(Blank)	No Standoffs
H	3/8" Standoffs
HXXX	Custom Standoff (XXX = X.xx")

NOTE: Only for C, D, E, & F valves.

9 Solenoid

If an actuator is chosen in Step 5, it can be configured with a solenoid from this list.

CODE	SOLENOID TYPE
(Blank)	No Solenoid
S3A	3-Way 120 VAC (AS)
S3C	3-Way 24 VDC (AS)
S4A	4-Way 120 VAC (AA)
S4C	4-Way 24 VDC (AA)

NOTE: Only for actuated valves.

11 Overall Length

All **ANCORP** ball valves have a standard overall length (OAL) from flange to flange which is represented as Dimension A. The ball valve can be manufactured with a custom OAL. If a custom length is preferred, use three digits to represent the OAL in inches. For example, an OAL of 4.56 inch would be represented as "456".

CODE	LENGTH
(Blank)	Standard
XXX	Custom Length

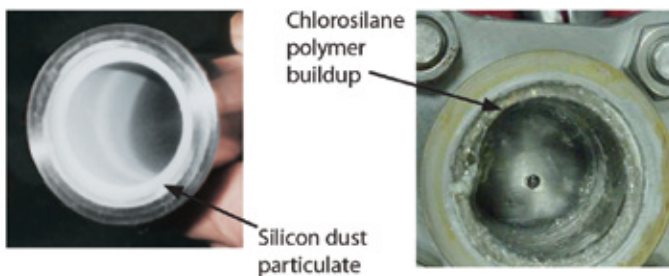
NOTE: Some custom lengths may not be available due to certain size and cost constraints, check with a technical sales representative before ordering a custom length.

10 Locking Kit

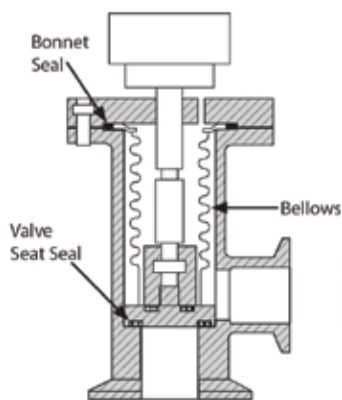
CODE	LOCKING KIT
(Blank)	No Locking Kit
LK	Locking Kit Installed

NOTE: Only for C, D, E, & F manual valves. The TL series has lock kits for manual and pneumatic. HC manual valves feature a standard locking handle.

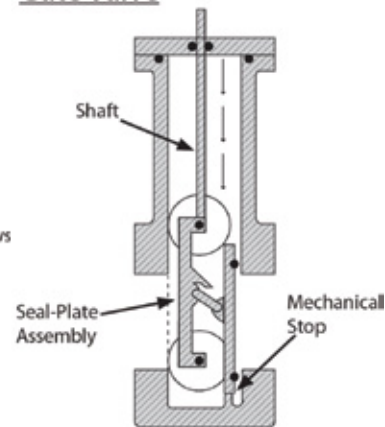
2-Way Ball Valves Introduction



Poppet Valve



Gate Valve



PROCESS CHALLENGES

Byproduct buildup is one of the major challenges of many coating operations in which metals, plastics or glass are deposited in vapor form inside and around chambers, valves and other vacuum components. The buildup of these particles greatly reduces efficiency of the application process leading to eventual system failure.

Conductance Limiters such as: Chlorosilane polymers, Siloxane polymers and Silicon dust contribute to byproduct buildup.

The Solution to Byproduct Buildup:

Foreline/Exhaust temperatures range from 80° C to > 250° C.

High Throughput: Process uptime critical to reduce cost.

INSTALL CHALLENGES

Poppet Valve

- Byproducts can etch/crack bellows
- Sealing surface can accumulate byproduct

Gate Valve

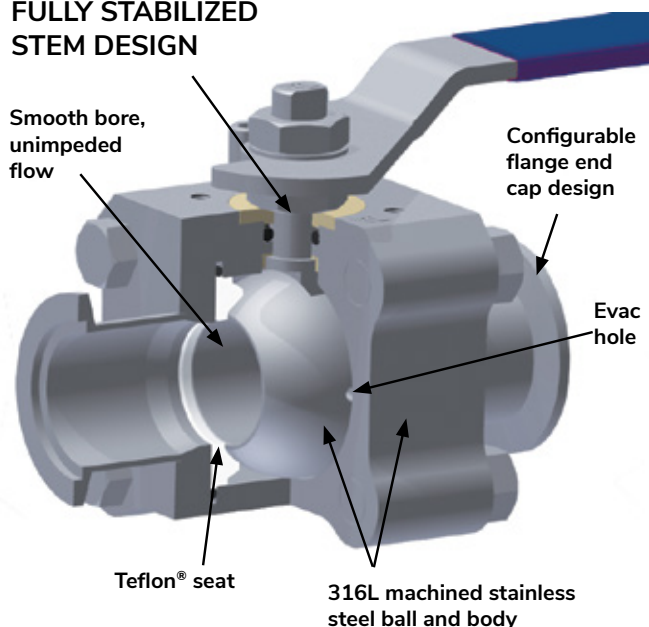
- Numerous surfaces for byproduct to collect
- Sealing surface can accumulate byproduct
- Complicated internals

ANCORP's Engineered Solution for Process Challenges: Extended Life (XL) Ball Valves

When leading OEM's came to **ANCORP** looking for a more durable valve for today's harsh coating processes, our engineers went to work testing new stem designs - the Extended Life (XL) Stem Design was born. This new patented design extends the stem seal life by 10X, has fewer wetted components, and a fully stabilized stem along with all the other features of **ANCORP** ball valves.

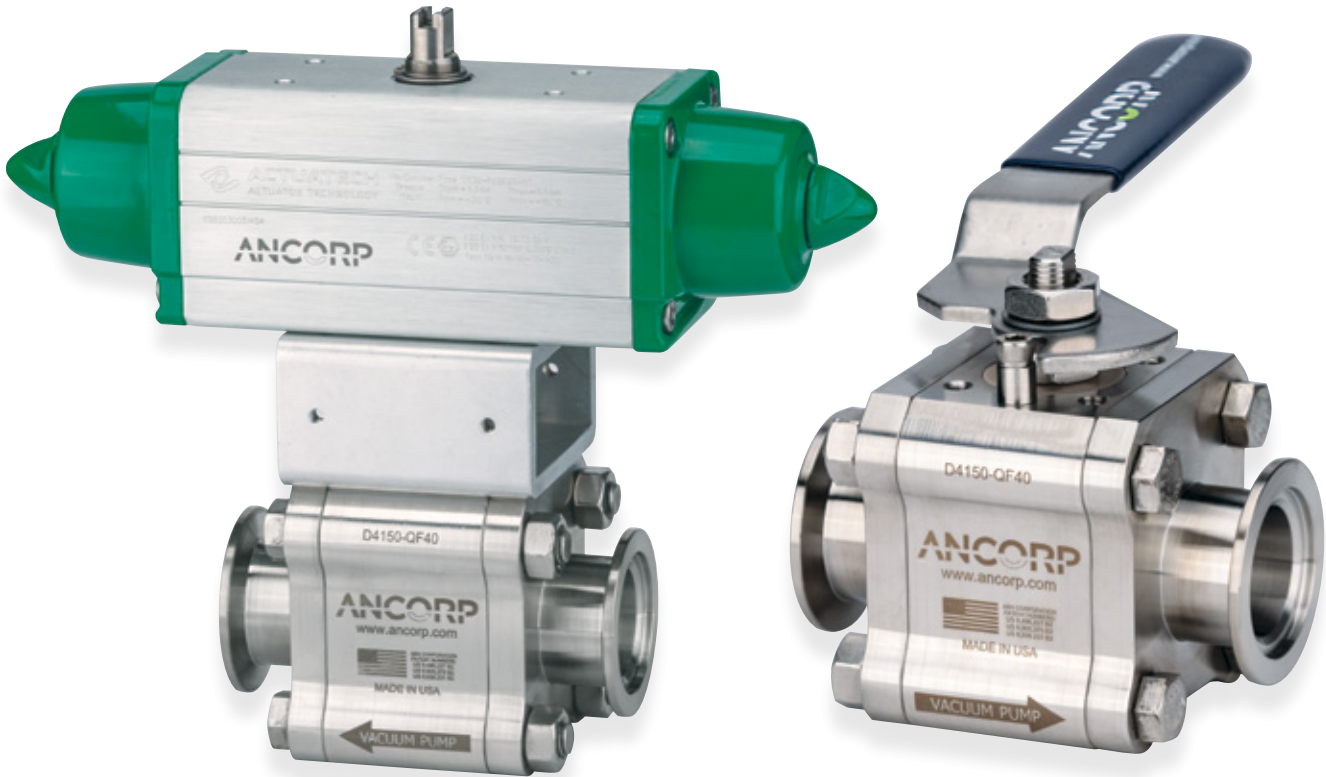
In short, the XL ball valve reduces valve maintenance, reduces tool downtime, and increases throughput. It's one of the main reasons **ANCORP** remains the leading innovator in high vacuum ball valves.

ANCORP'S PATENTED FULLY STABILIZED STEM DESIGN



5 2-Way Ball Valves Introduction

2-Way Ball Valve Specifications



5

2-Way Ball Valves

Features:

General:

- Straight-through, unimpeded flow
- Higher conductance than a comparable poppet valve
- Poppetless design has less wetted surface
- 1/4 turn, quick actuation
- "Self-cleaning" action prevents deposition buildup
- Valves can be easily serviced with ANCORP's standard maintenance kits

Additional Options:

Call for price and availability

- Configurable to meet system requirements
 - Port terminations
 - Overall length
 - Heater ready
 - Fail-safe position
- Other o-ring materials and lubricants available

Specifications:

Vacuum and Temperature Ratings:

- Vacuum rated to 1×10^{-8} Torr
- Helium leak rated less than 1×10^{-9} std. cc/s
- Standard fluoroelastomer seal (i.e. Viton®): -26°C to 205°C (-15°F to 400°F)
- Sizes: 3/4" up to 4"

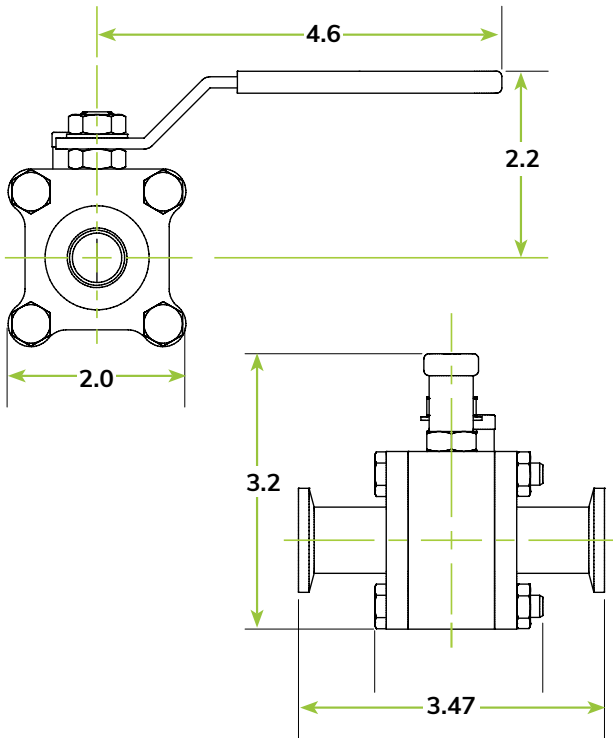
Materials:

- Valve body, ball, stem, and end caps: machined from solid 316L stainless steel
- Standard o-ring material: fluoroelastomer (i.e. Viton®)
- Bearings: PEEK
- Seats: PTFE Teflon®
- Lubricant: Dow Corning® High Vacuum Grease

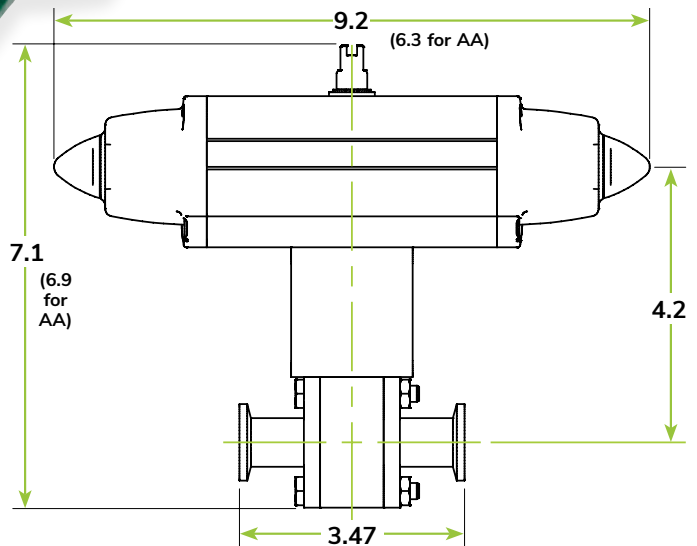
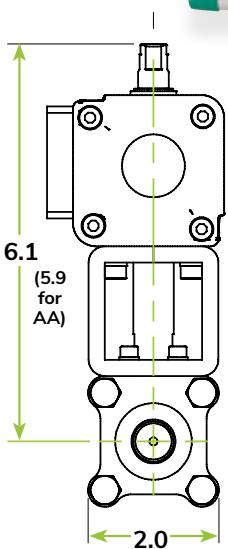
Pneumatic:

- Actuator operating pressure: 80 - 120 psig
- Actuator temperature range:
 - Moist air: 0°C to 150°C (32°F to 302°F)
 - Dry air: -20°C to 150°C (-4°F to 302°F)
- Both Air-to-Open, Spring-to-Close (AS) single acting actuators and Air-to-Open, Air-to-Close (AA) double acting actuators are available
- "Fail-safe open" or "fail-safe closed" configuration available for ball valves with AS actuators
- 1/8 NPT air line hook-up
- Visual and mechanical position indicators available
- Solenoids available for 120VAC, 240VAC or 24VDC versions

3/4" B-Series Ball Valves - Manual



3/4" B-Series Ball Valves - Pneumatic



3/4" B-Series 2-Way Ball Valves

5

3/4" B-Series Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3000028	B4075-QF16	QF16	0.56	.75" O.D.	5	\$275.00

3/4" B-Series Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3009120	B4075-QF16-AS	QF16	0.56	.75" O.D.	5	\$1,000.00
3008120	B4075-QF16-AA	QF16	0.56	.75" O.D.	5	\$720.00

Maintenance Kit for B-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010068	B-RK-S	B Series Maintenance Kit	\$85.00

Kit Contains:

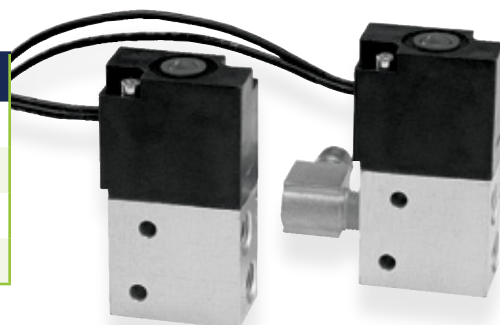
(1) stem o-ring, (2) body o-rings, (2) Teflon® seats, (1) Teflon® spacer, (1) PEEK stem bearing, (1) nylon lock nut
 Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for B-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023003	B-LK	Lock Kit for B-Series Manual Ball Valve	\$75.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



Position Indicator

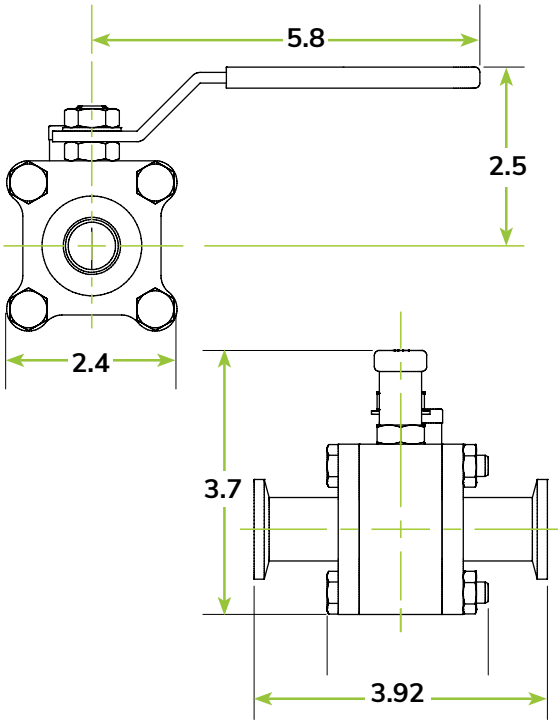
PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

Other wiring options available upon request.

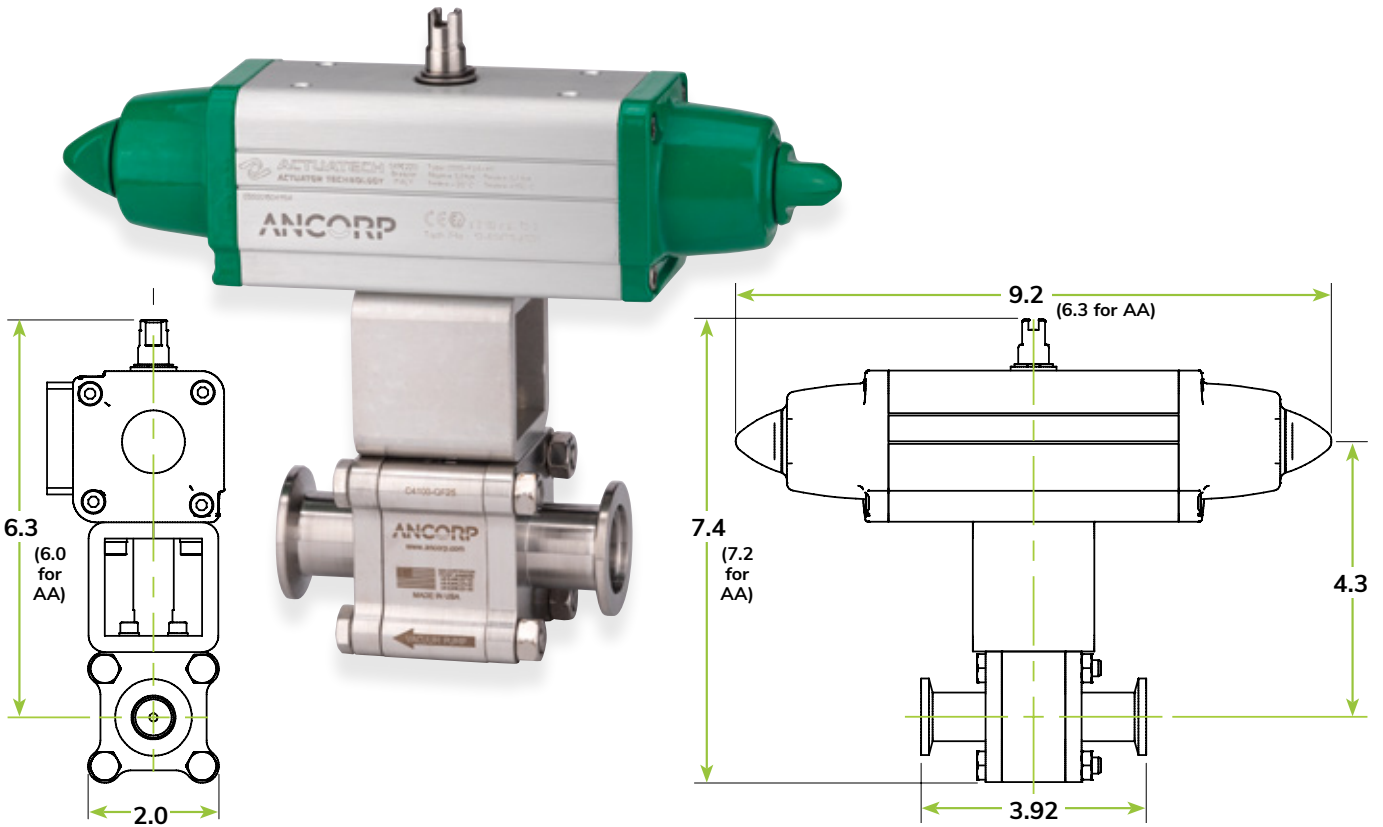


5
3/4" B-Series 2-Way Ball Valves

1" C-Series 2-Way Ball Valves - Manual



1" C-Series 2-Way Ball Valves - Pneumatic



5
1" C-Series 2-Way Ball Valves

1" C-Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3000030	C4100-QF25	QF25	0.81	1" O.D.	13	\$395.00

1" C-Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3009128	C4100-QF25-AS	QF25	0.81	1" O.D.	13	\$1,120.00
3008128	C4100-QF25-AA	QF25	0.81	1" O.D.	13	\$835.00

Maintenance Kit for C-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010109	C-RK-S	C Series Maintenance Kit	\$105.00

Kit Contains:

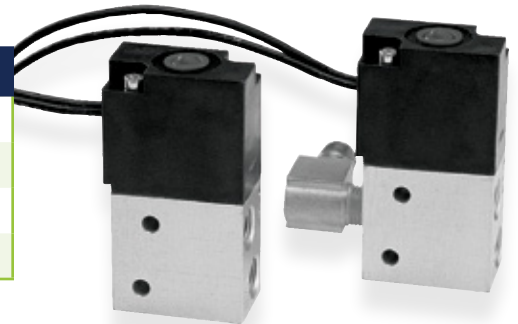
(1) stem o-ring, (2) body o-rings, (2) Teflon® seats, (1) Teflon® spacer, (1) PEEK stem bearing, (1) nylon lock nut
 Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for C-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023004	C-LK	Lock Kit for C-Series Manual Ball Valve	\$85.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



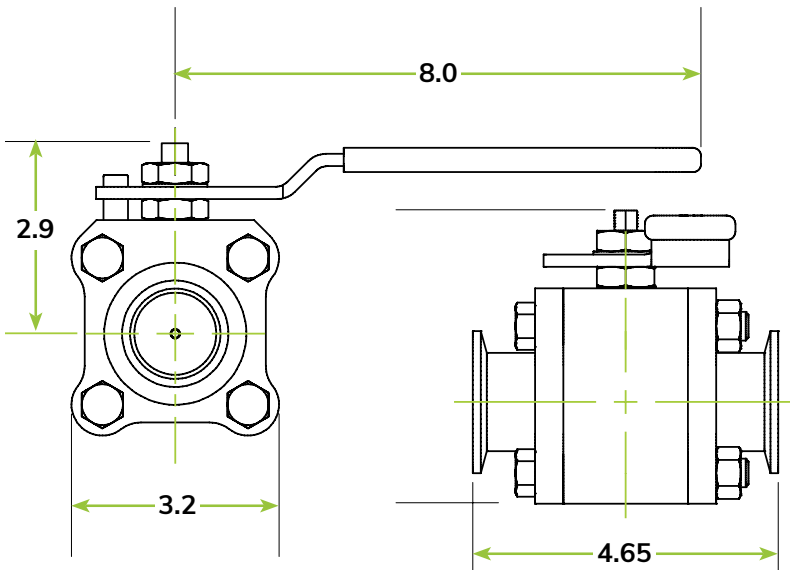
Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

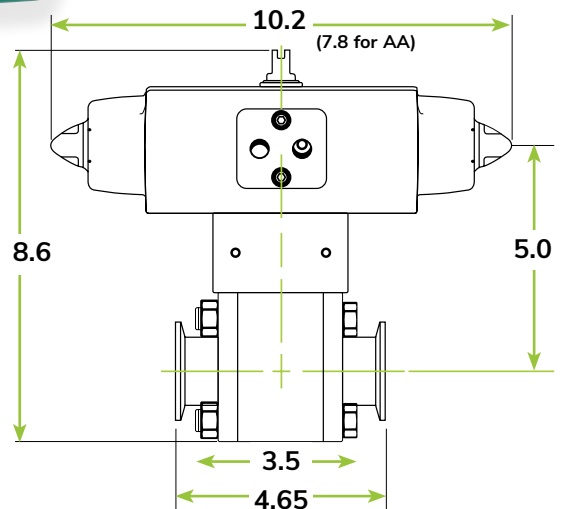
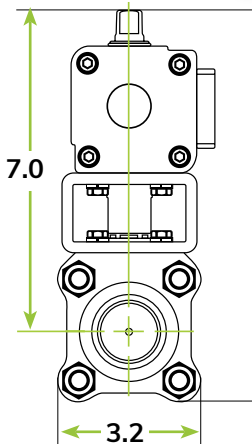
Other wiring options available upon request.



1 1/2" D-Series 2-Way Ball Valves - Manual



1 1/2" D-Series 2-Way Ball Valves - Pneumatic



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1 1/2" D-Series 2-Way Ball Valves

1 1/2" D-Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3000032	D4150-QF40	QF40	1.25	1.5" O.D.	35	\$685.00

1 1/2" D-Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	A (in)	UNIT PRICE
3009135	D4150-QF40-AS	QF40	1.25	1.5" O.D.	35	10.2	\$1,450.00
3008135	D4150-QF40-AA	QF40	1.25	1.5" O.D.	35	7.8	\$1,225.00

Maintenance Kits for D-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010141	D-RK-S	D Series Maintenance Kit	\$155.00

Kit Contains:

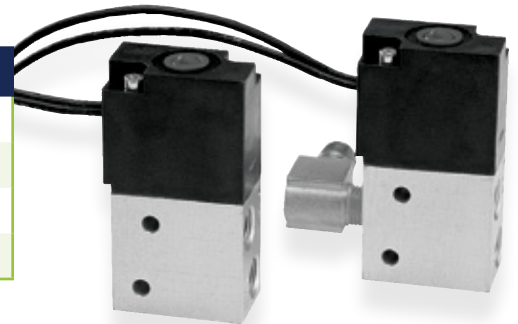
(1) stem o-ring, (2) body o-rings, (2) Teflon® seats, (1) Teflon® spacer, (1) PEEK stem bearing, (1) nylon lock nut
 Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for D-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023005	D/E/F-LK	Lock Kit for D, E, or F-Series Manual Ball Valve	\$60.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



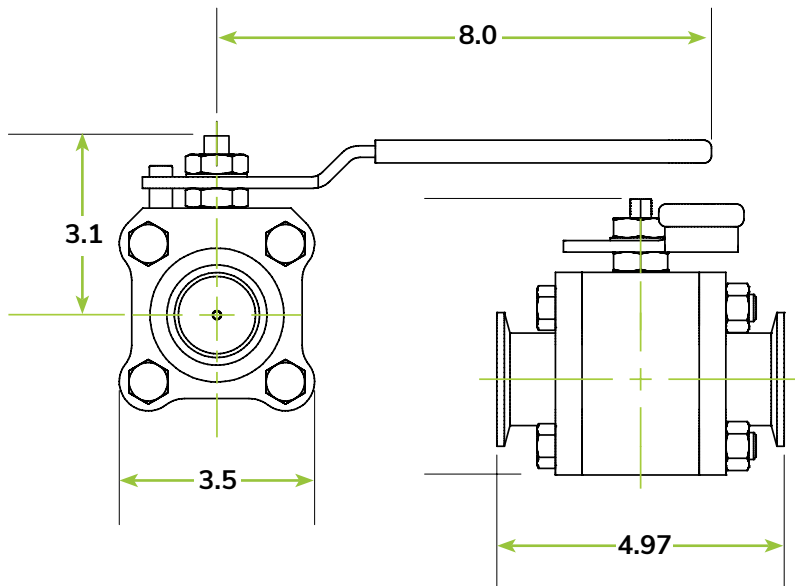
Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

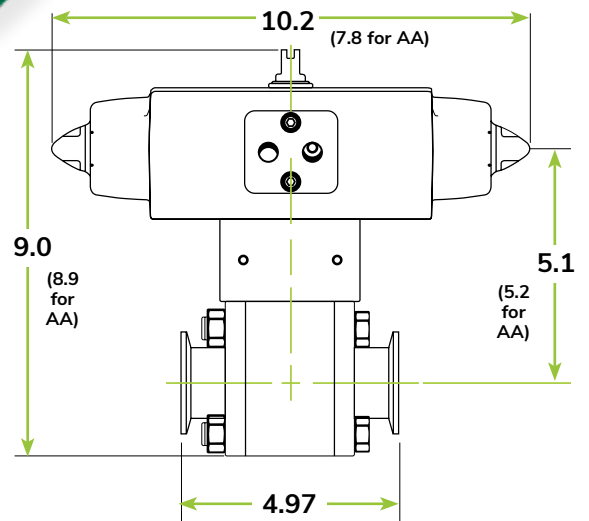
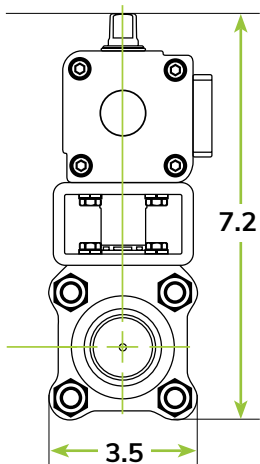
Other wiring options available upon request.



2" E-Series 2-Way Ball Valves - Manual



2" E-Series 2-Way Ball Valves - Pneumatic



2" E-Series 2-Way Ball Valves

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2" E-Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3000035	E4200-QF50	QF50	1.5	2" O.D.	57	\$800.00

2" E-Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3009150	E4200-QF50-AS	QF50	1.5	2" O.D.	57	\$1,680.00
3008150	E4200-QF50-AA	QF50	1.5	2" O.D.	57	\$1,345.00

Maintenance Kits for E-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010181	E-RK-S	E Series Maintenance Kit	\$180.00

Kit Contains:

(1) stem o-ring, (2) body o-rings, (2) Teflon® seats, (1) Teflon® spacer, (1) PEEK stem bearing, (1) nylon lock nut, (2) stem bushings

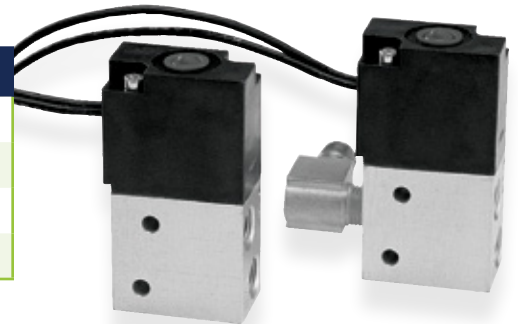
Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for E-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023005	D/E/F-LK	Lock Kit for D, E, or F-Series Manual Ball Valve	\$60.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



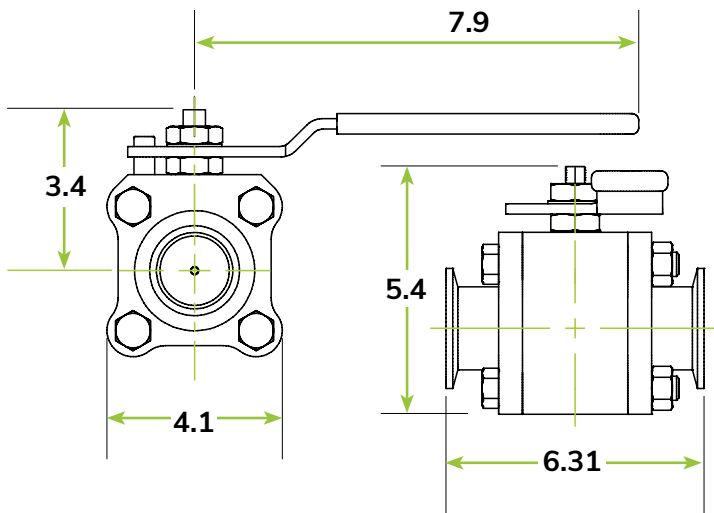
Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

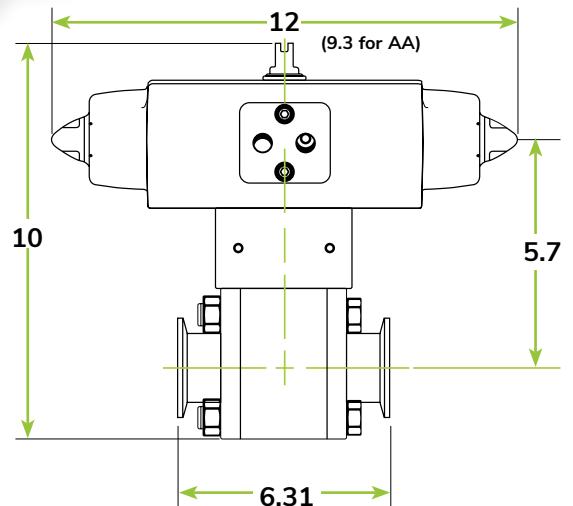
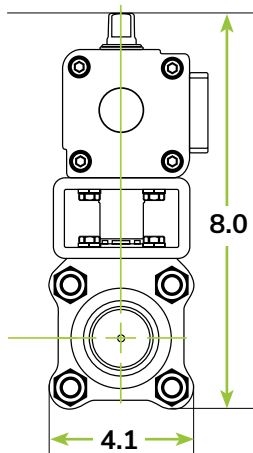
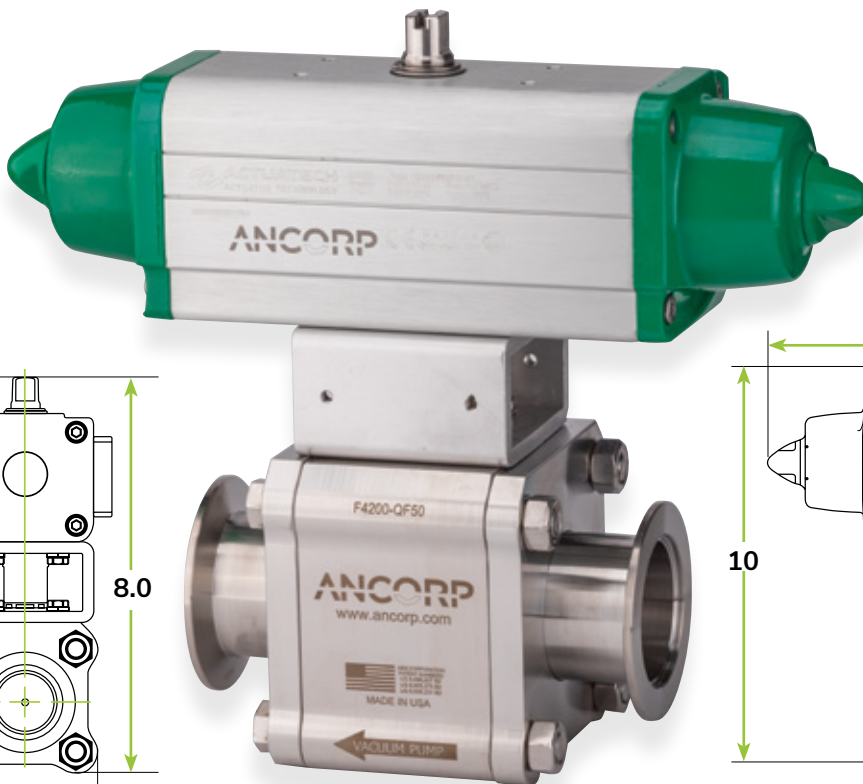
Other wiring options available upon request.



2" F-Series 2-Way Ball Valves - Manual



2" F-Series 2-Way Ball Valves - Pneumatic



2" F-Series 2-Way Ball Valves

5

2" F-Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3002035	F4200-QF50	QF50	1.87	2" O.D.	87	\$1,195.00

2" F-Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3009160	F4200-QF50-AS	QF50	1.87	2" O.D.	87	\$2,075.00
3008160	F4200-QF50-AA	QF50	1.87	2" O.D.	87	\$1,740.00

Maintenance Kits for F-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010084	F-RK-S	F Series Maintenance Kit	\$205.00

Kit Contains: (1) stem o-ring, (2) body o-rings, (2) Teflon® seats, (1) Teflon® spacer, (1) PEEK stem bearing, (1) nylon lock nut, (2) stem bushings

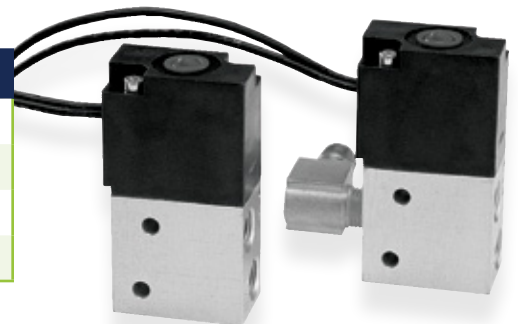
Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for F-Series Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023005	D/E/F-LK	Lock Kit for D, E, or F-Series Manual Ball Valve	\$60.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

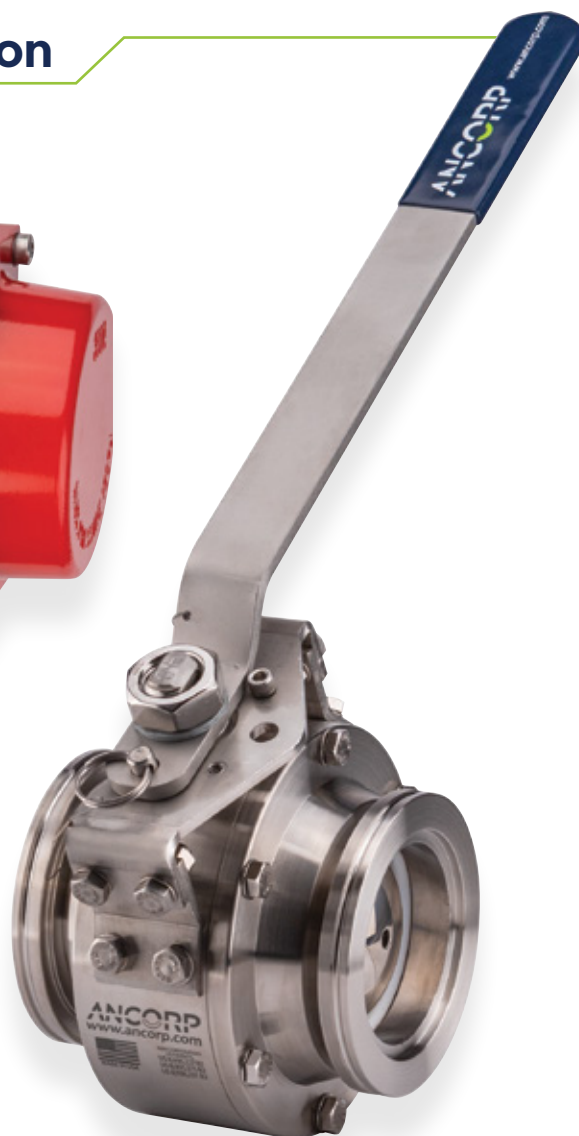
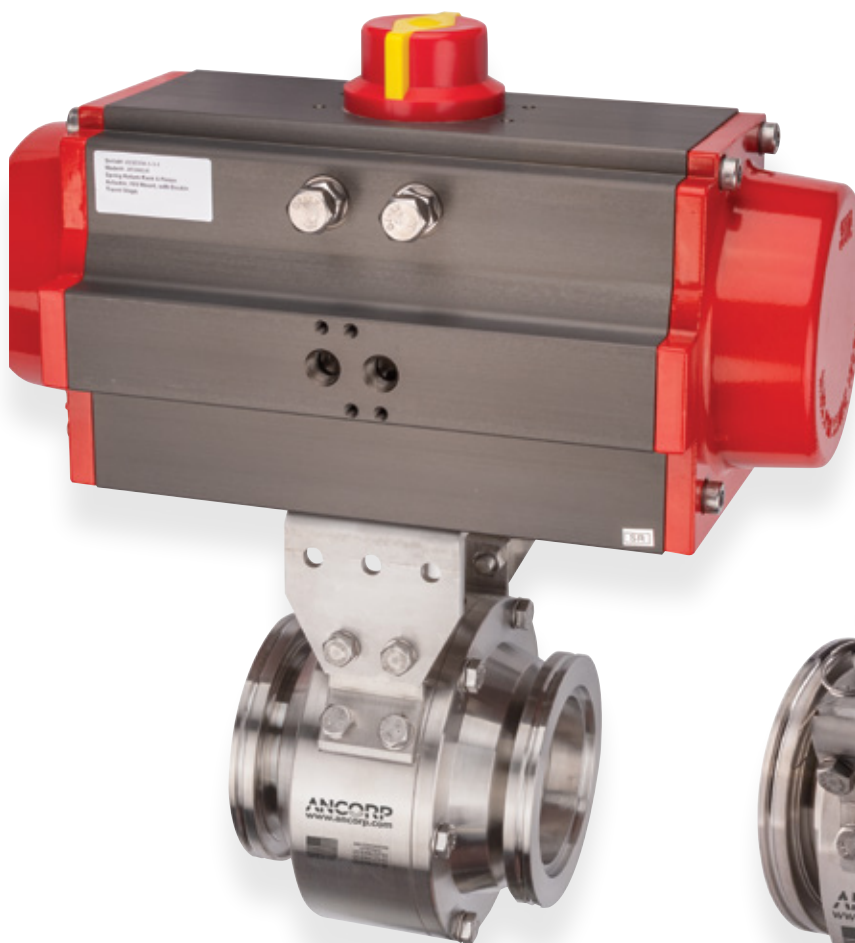
Other wiring options available upon request.



HC Series Ball Valves Introduction

5

HC Series 2-Way Ball Valves



Description

ANCORP's High Conductance (HC) Vacuum Ball Valve is the latest and largest addition to the patented Extended Life ball valve series. The HC provides maximum conductance with its fully ported ball and reduced overall length, two-piece 316L stainless steel body.

Its improved smooth contour maximizes heat transfer between the valve and heating components. The valve is opened or closed manually or pneumatically by 1/4 turn, quick actuation.

Applications

The HC Ball Valve is manufactured from corrosive resistant materials to perform impressively in aggressive processes and on exhaust lines. This valve can be

configured to be heated and insulated for temperature stability inside the valve. Body and stem seals can be changed to meet customer specific processes as required.

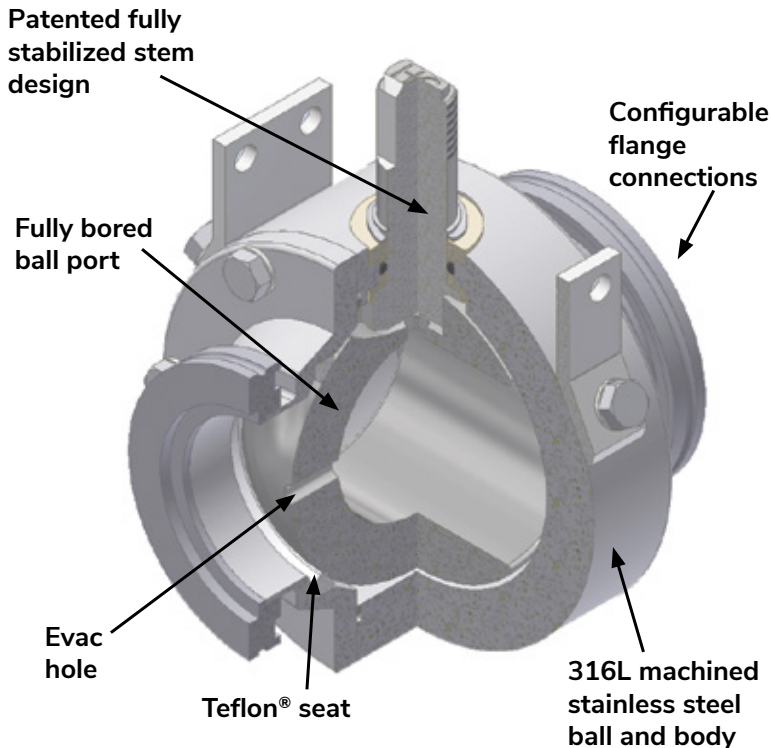
This valve also works exceptionally well in systems that create deposition within the vacuum lines. The Teflon® sealing surface is protected from direct deposition, maintaining a clean dynamic seal to prevent failure due to contamination. The HC Ball Valve is an extremely robust high vacuum valve designed to perform in the most challenging of environments.

PATENTED FULLY STABILIZED STEM DESIGN

XL Stem Design minimizes wetted components

A&N CORPORATION US PATENTS:
US 8,496,227 B2, US 8,905,375 B2, US 8,936,231 B2

HC Series Ball Valves Specifications



Features:

- **Fully Bored Ball Port:** Maximizes conductance with straight-through, unimpeded flow
- **Minimized Overall Length and Slimmer Profile:** Increases conductance and reduces weight and footprint.
- **Two-Piece Body:** One less body o-ring seal means one less potential leak path and huge maintenance cost reductions when using perfluoroelastomers.
- **Smooth Contour:** Maximizes heat transfer from heating components.
- **Extra Space Between Body & Handle Brackets:** Minimum of 5/8" clearance allows more room for heating components
- **Adjustable Stroke Pneumatic Actuator:** Adjusts to +/-5° to ensure proper open/close over life of the valve.
- **Integrated Handle Lock:** Prevents accidental opening/closing. Lock out-tag out ready.

Specifications:

Vacuum and Temperature Ratings:

- Vacuum rated to 1×10^{-8} Torr
- Helium leak rated less than 1×10^{-9} std. cc/s
- Standard fluoroelastomer seal: -26°C to 150°C (-15°F to 302°F)

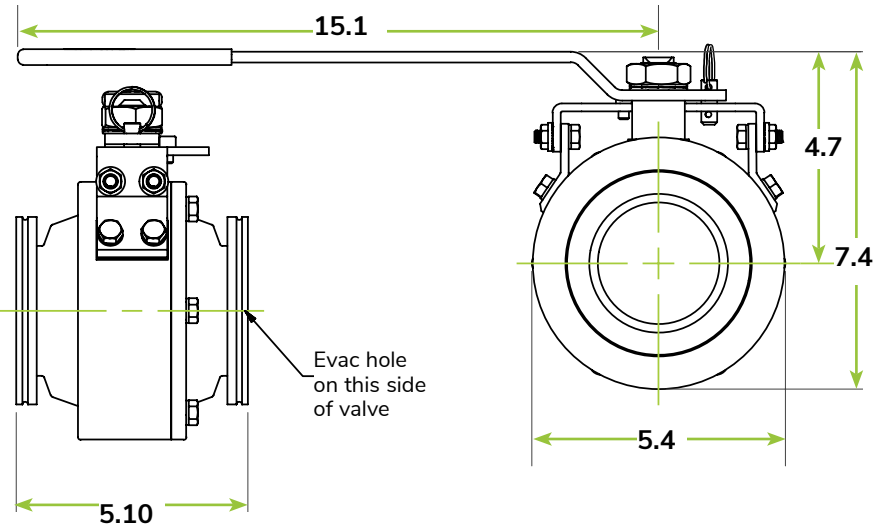
Materials:

- Valve body, ball, stem, and end cap body: machined from solid 316L stainless steel
- Standard seal: fluoroelastomer (other options available)
- Seats: PTFE
- Lubricant: Dow Corning® High Vacuum Grease (other options available)

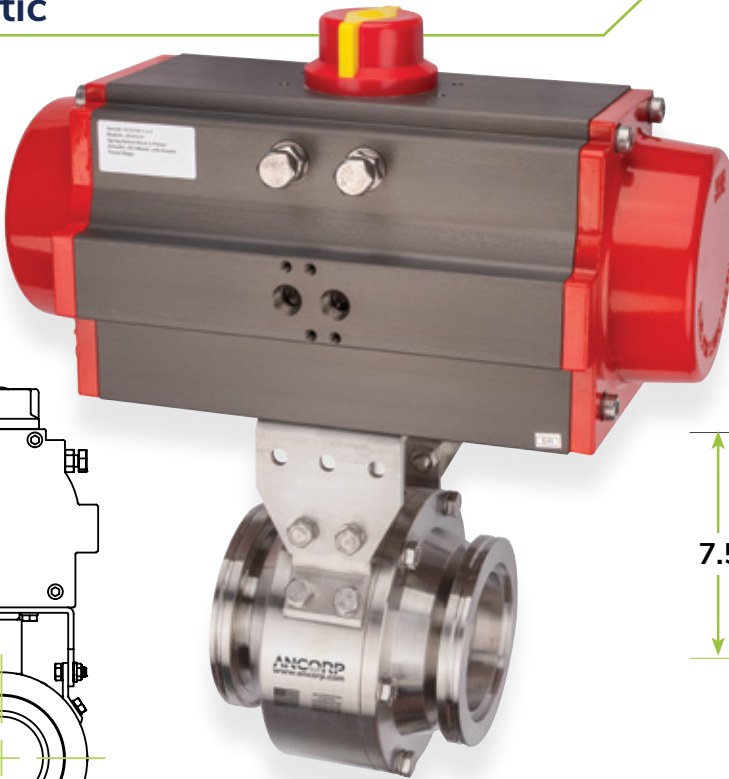
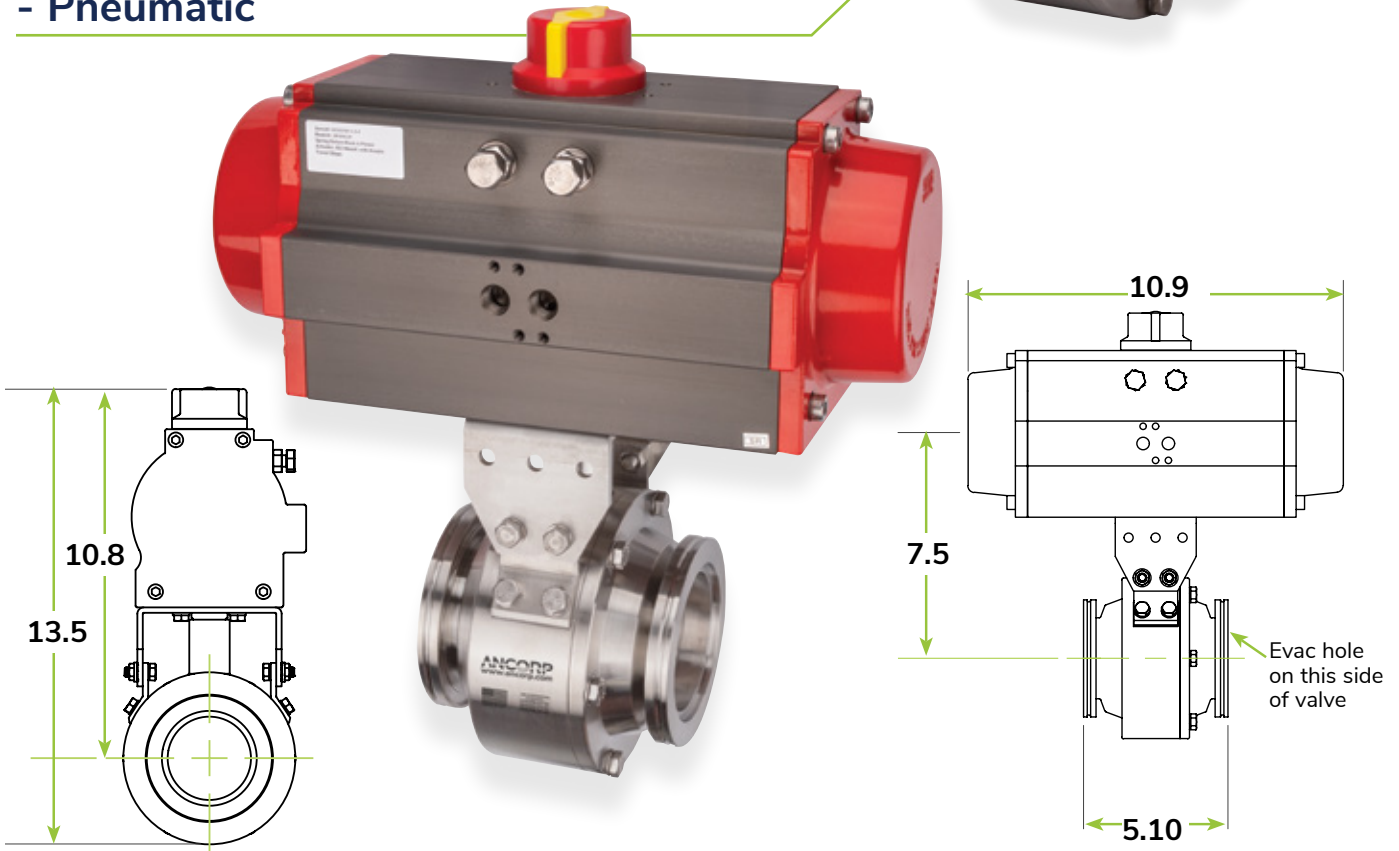
Pneumatic:

- Actuator operating pressure: 80 psig
- Actuator temperature range: - Dry air: -18°C to 149°C (0°F to 300°F)
- Both Air-to-Open, Spring-to-Close (AS) single acting actuators and Air-to-Open, Air-to-Close (AA) double acting actuators are available
- "Fail-safe open" or "fail-safe closed" configuration available for ball valves with AS actuators
- 1/4 NPT air line hook-up
- The actuators used with HC valves have visual position indication as standard, and electrical position indicators are available
- Solenoids available for 120VAC or 24VDC versions

2 1/2" HC Series 2-Way Ball Valves - Manual



2 1/2" HC Series 2-Way Ball Valves - Pneumatic



5
2 1/2" HC Series 2-Way Ball Valves

2 1/2" HC Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3007210	HC4250-LF63	LF63	2.375	2.5	205	\$3,000.00

2 1/2" HC Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3007220	HC4250-LF63-AS	LF63	2.375	2.5	205	\$3,450.00
3007230	HC4250-LF63-AA	LF63	2.375	2.5	205	\$3,450.00

2 1/2" HC Series 2-Way Ball Valve Maintenance Kit

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010799	HC250-RK-S	HC Series 2 1/2" Ball Valve Maintenance Kit	CALL

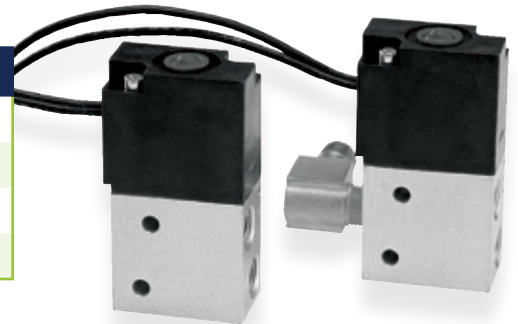
Kit Contains:

(1) stem o-ring, (1) body o-ring, (2) Teflon® seats, (1) bottom stem bearing, (1) top stem bearing, (1) wave spring washer, (1) spiral retaining ring.

Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



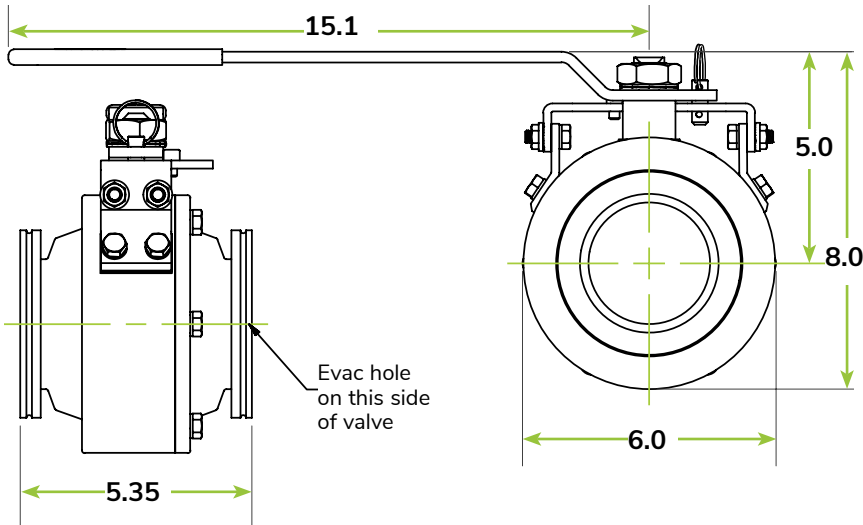
Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

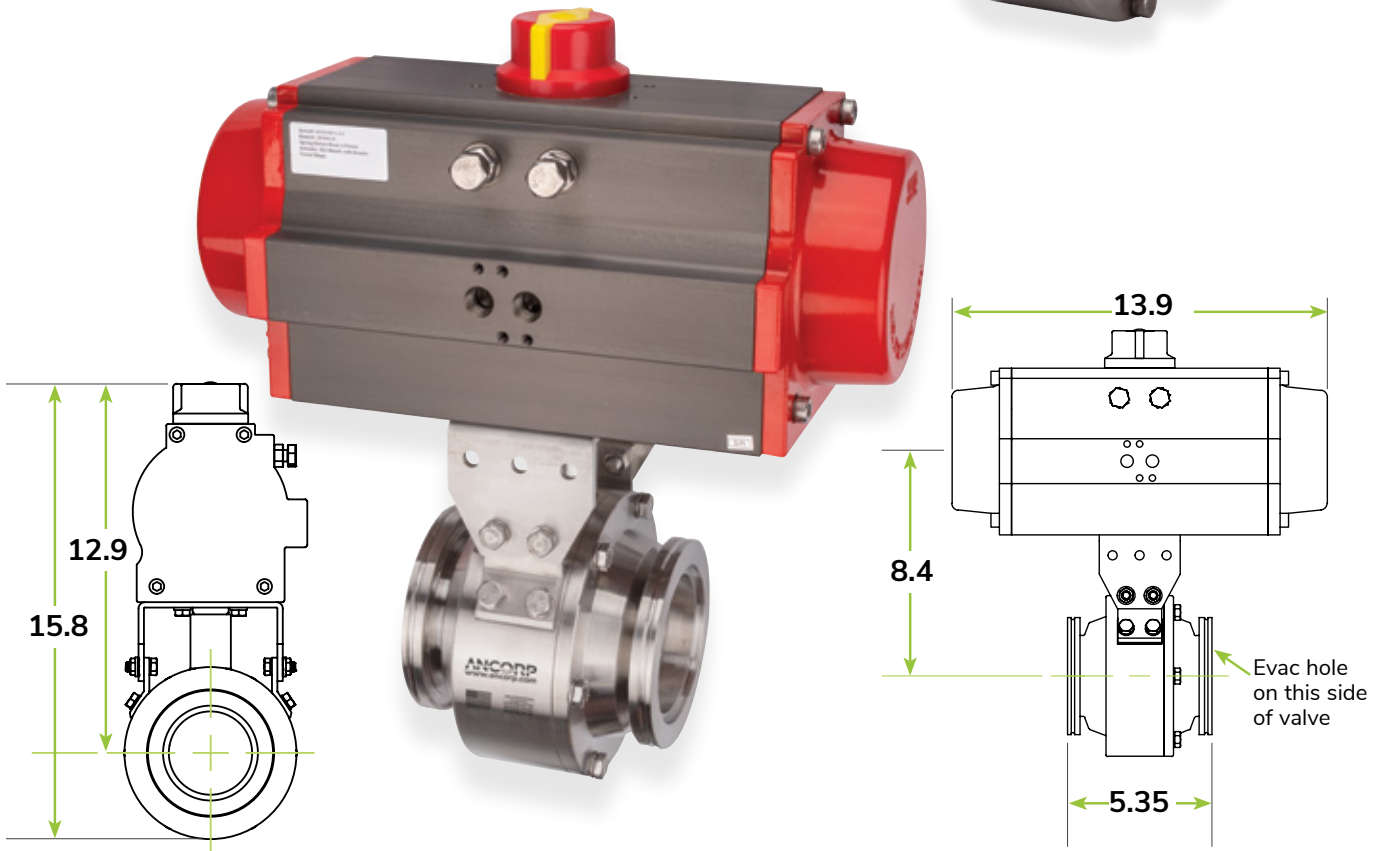
Other wiring options available upon request.



3" HC Series 2-Way Ball Valves - Manual



3" HC Series 2-Way Ball Valves - Pneumatic



5
3" HC Series 2-Way Ball Valves

3" HC Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3007310	HC4300-LF80	LF80	2.875	3.0	347	\$3,500.00

3" HC Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3007320	HC4300-LF80-AS	LF80	2.875	3.0	347	\$4,160.00
3007330	HC4300-LF80-AA	LF80	2.875	3.0	347	\$4,160.00

3" HC Series 2-Way Ball Valve Maintenance Kit

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010849	HC300-RK-S	HC Series 3" Ball Valve Maintenance Kit	CALL

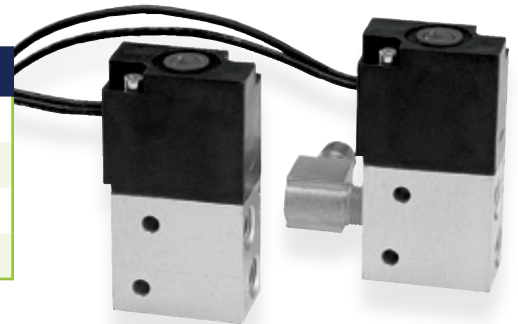
Kit Contains:

(1) stem o-ring, (1) body o-ring, (2) Teflon® seats, (1) bottom stem bearing, (1) top stem bearing, (1) wave spring washer, (1) spiral retaining ring.

Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



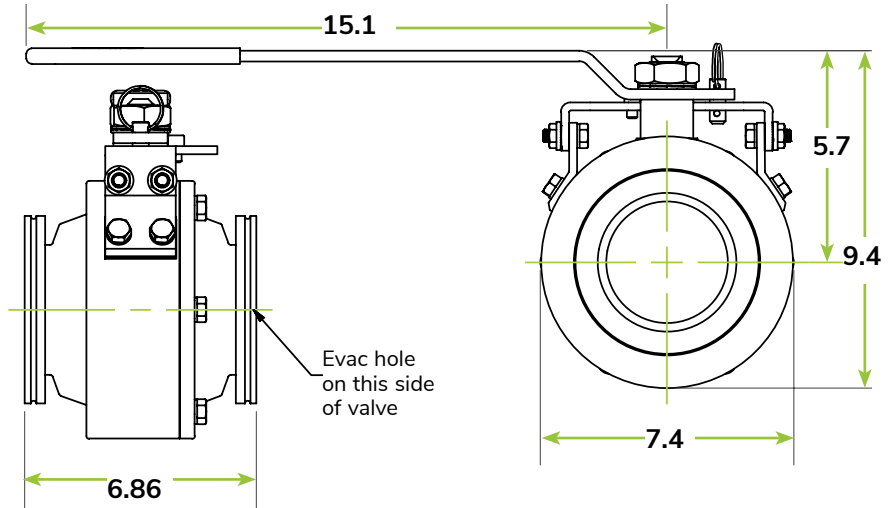
Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

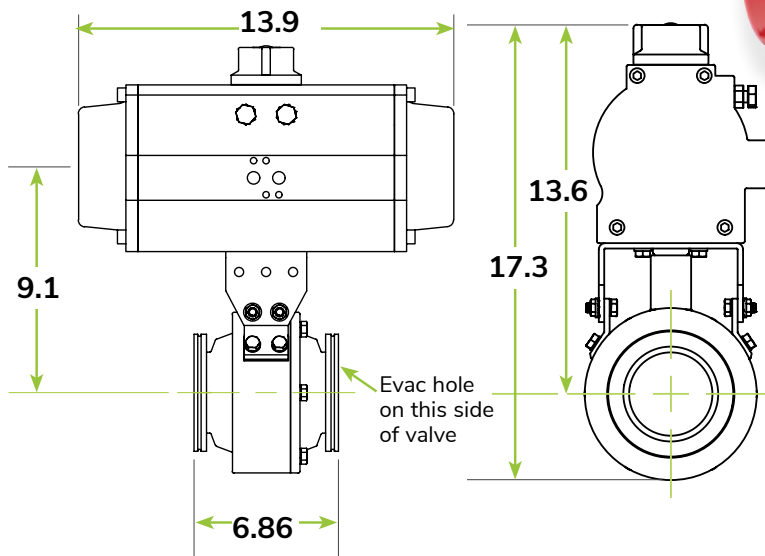
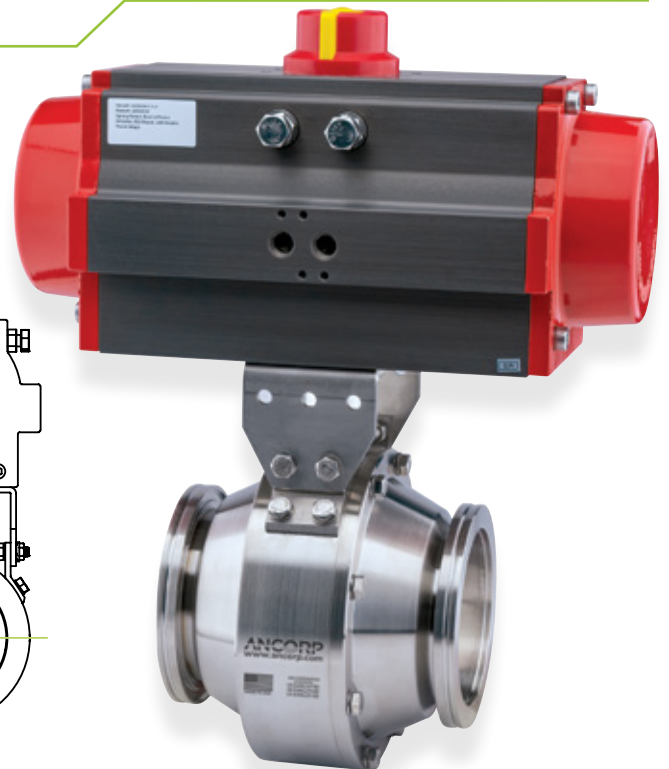
Other wiring options available upon request.



4" HC Series 2-Way Ball Valves - Manual



4" HC Series 2-Way Ball Valves - Pneumatic



5
4" HC Series 2-Way Ball Valves

4" HC Series 2-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3007410	HC4400-LF100	LF100	3.875	4.0	657	\$ 4,500.00

4" HC Series 2-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3007420	HC4400-LF100-AS	LF100	3.875	4.0	657	\$5,160.00
3007430	HC4400-LF100-AA	LF100	3.875	4.0	657	\$5,160.00

4" HC Series 2-Way Ball Valve Maintenance Kit

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010899	HC400-RK-S	HC Series 4" Ball Valve Maintenance Kit	CALL

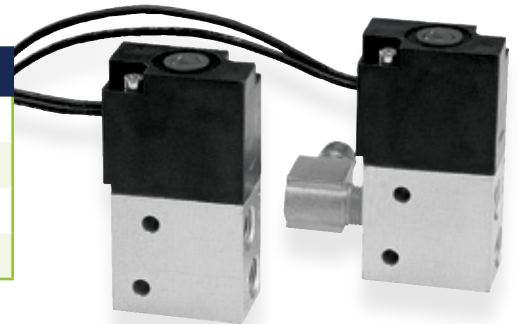
Kit Contains:

(1) stem o-ring, (1) body o-ring, (2) Teflon® seats, (1) bottom stem bearing, (1) top stem bearing, (1) wave spring washer, (1) spiral retaining ring.

Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122065	SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

Other wiring options available upon request.

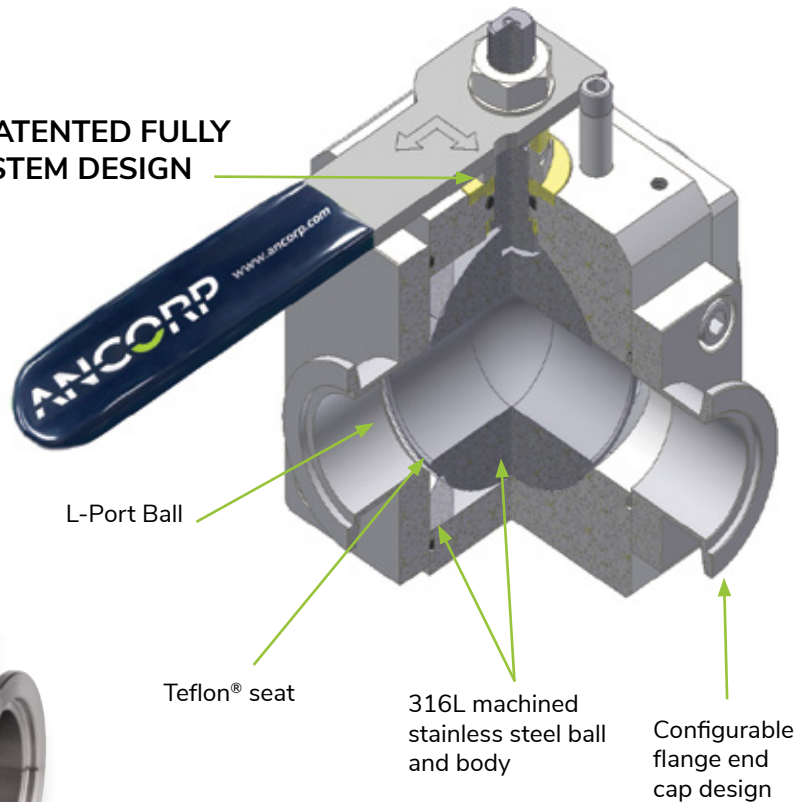


TL Series 3-Way Ball Valves Introduction

5 TL Series 3-Way Ball Valves



ANCORP'S PATENTED FULLY STABILIZED STEM DESIGN



Description

ANCORP's 3-way ball valve is designed to divert flow between a common port and either of two side ports. The 3-way ball valve consists of a body, stem, L-port ball, and three end caps. Components are machined from corrosive resistant 316L stainless steel. Fluoroelastomers are used to seal the stem and end caps from atmosphere while Teflon® seats cold flow around the ball to isolate one port while diverting flow through the other. Flow through the valve is diverted manually or pneumatically by 1/4 turn, quick actuation.

Applications

The corrosion resistant design of ANCORP's 3-way vacuum ball valves makes them ideal for diverting flow or isolating pumping lines, reactors, traps, and scrubbers on vacuum process tools.

PATENTED FULLY STABILIZED STEM DESIGN

XL Stem Design minimizes wetted components

A&N CORPORATION US PATENTS:

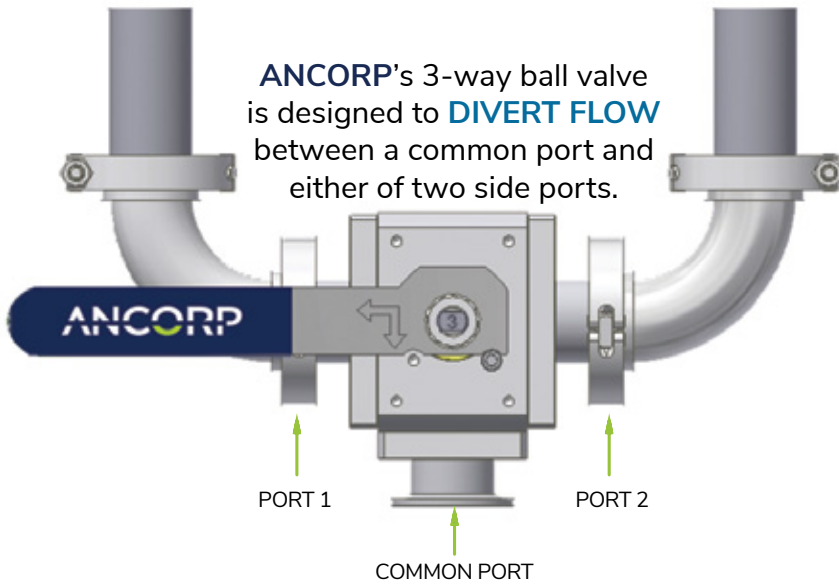
US 8,496,227 B2, US 8,905,375 B2, US 8,936,231 B2

Features:

ANCORP's 3-way ball valve maximizes design efficiencies in high vacuum systems when compared to multi-valve systems with equivalent functionality:

- Reduced bill of materials
- Reduced footprint
- Reduced overall weight
- Reduced design complexity
- Fewer actuated components
- Fewer leak paths
- Less total area to heat
- Reduced maintenance costs from MRO parts

TL Series 3-Way Ball Valves Specifications



ANCORP's ball valves are routinely configured with non-standard seals and greases to meet system requirements for high temperature or highly corrosive applications. To have an ANCORP ball valve configured for your system, contact one of our Application Engineers at 800-352-6431.

5

TL Series 3-Way Ball Valves



Specifications:

Vacuum and Temperature Ratings:

- Vacuum rated to 1×10^{-8} Torr
- Standard fluoroelastomer seal:
-26°C to 150°C (-15°F to 302°F)

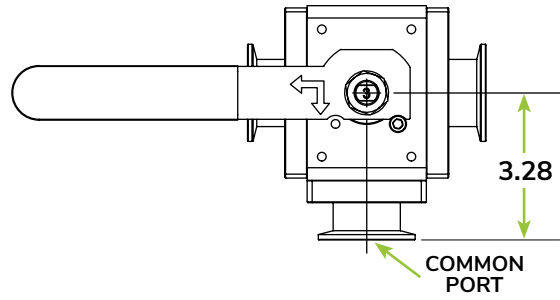
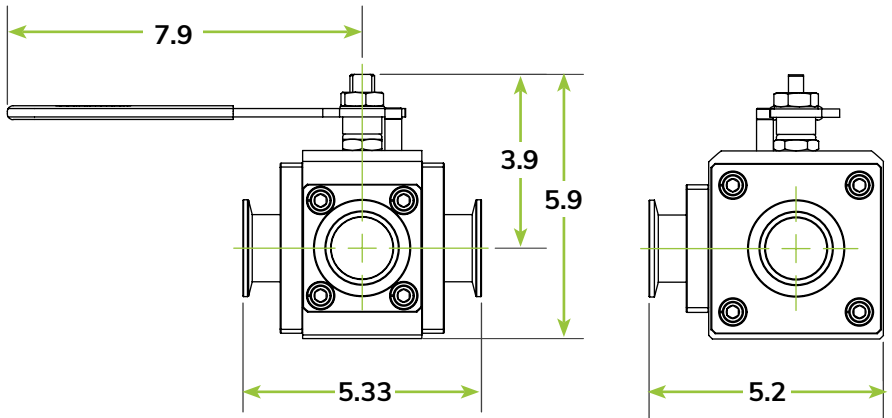
Materials:

- Valve body, ball, stem, and end caps: machined from solid 316L stainless steel
- Standard seal: fluoroelastomer
- Seats: Teflon® PTFE
- Lubricant: Dow Corning® High Vacuum Grease

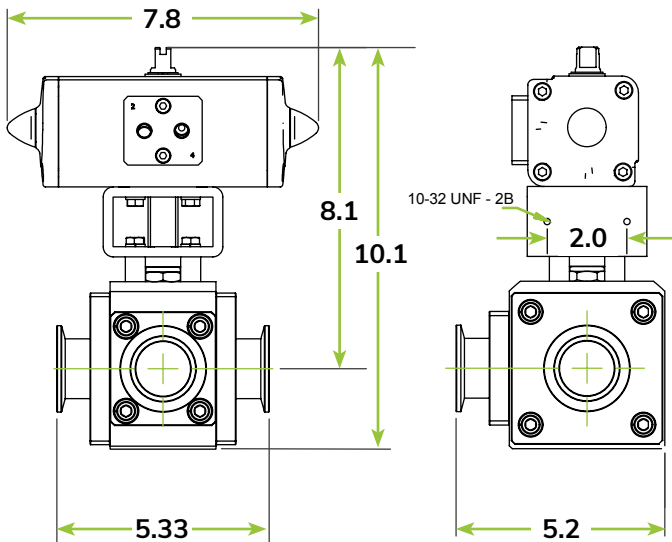
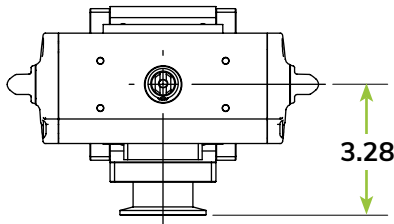
Pneumatic:

- Actuator operating pressure: 80 - 120 psig
- Actuator temperature range:
- Moist air: 0°C to 150°C (32°F to 302°F)
- Dry air: -20°C to 150°C (-4°F to 302°F)
- 1/8 NPT air line hook-up
- Visual and electromechanical position indicators available
- Solenoids available for 120VAC, or 24VDC versions

1 1/2" TL Series 3-Way Ball Valves - Manual



1 1/2" TL Series 3-Way Ball Valves - Pneumatic



5
1 1/2" TL Series 3-Way Ball Valves

1 1/2" TL Series 3-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3008305	TL4150-QF40-H075	QF40	1.375	1.5" O.D.	29	\$1,850.00

1 1/2" TL Series 3-Way Ball Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3008325	TL4150-QF40-AA-H062	QF40	1.375	1.5" O.D.	29	\$2,395.00

1 1/2" TL Series 3-Way Ball Valves Maintenance Kit

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010930	TL-RK-S	3-Way Series Ball Valve Maintenance Kit	\$205.00

Kit Contains:

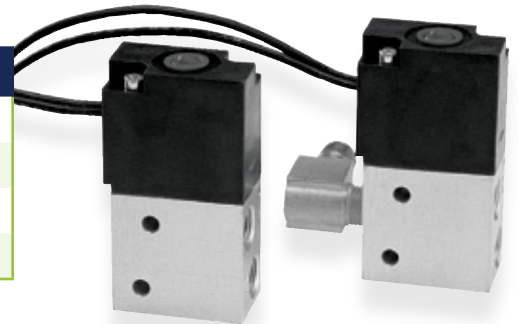
(1) stem o-ring, (3) body o-rings, (2) Teflon® seats, (1) PEEK stem bearing, (1) nylon lock nut
 Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for TL Series 3-Way Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023006	TL-LK-P	Lock Kit for 3-Way TL-Series Pneumatic Ball Valve	\$170.00
3023007	TL-LK-M	Lock Kit for 3-Way TL-Series Manual Ball Valve	\$170.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



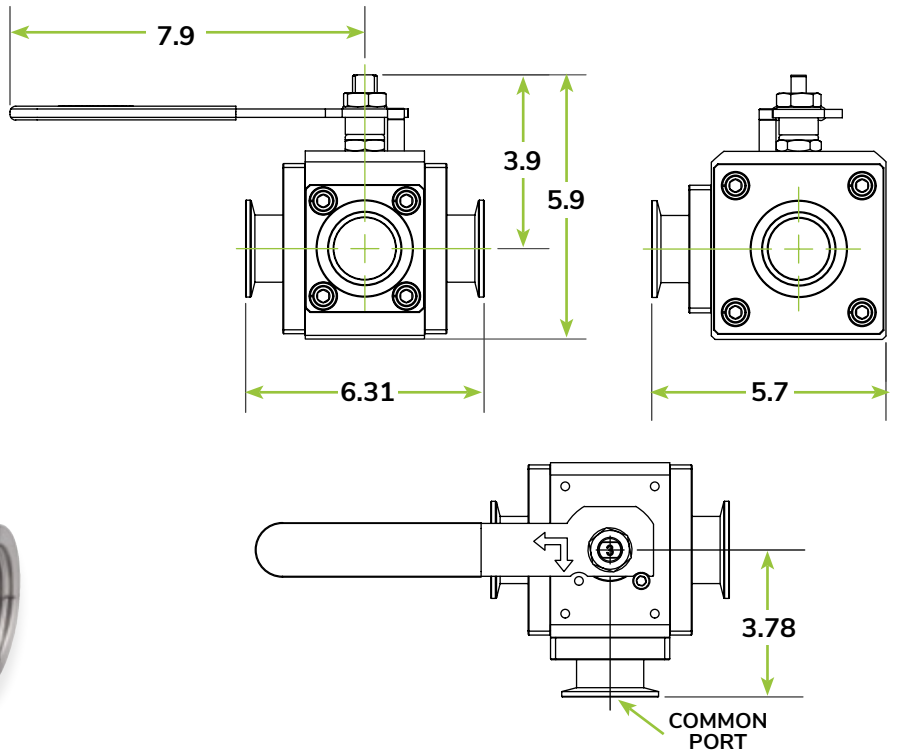
Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122165	TL-SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

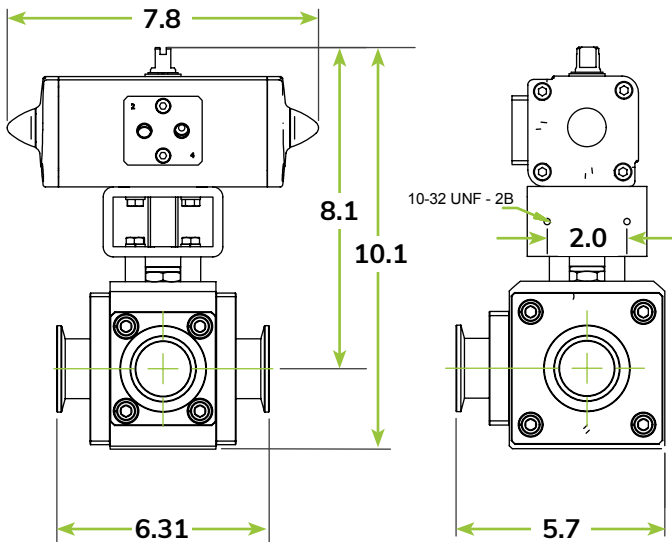
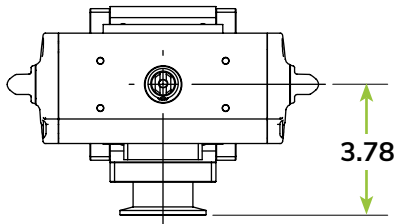
Other wiring options available upon request.



2" TL Series 3-Way Ball Valves - Manual



2" TL Series 3-Way Ball Valves - Pneumatic



TL4200-Q150-AA-H002
ANCORP
 www.ancorp.com
 MADE IN USA

5
2" TL Series 3-Way Ball Valves

2" TL Series 3-Way Ball Valves - Manual

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3008306	TL4200-QF50-H075	QF50	1.375	2" O.D.	34	\$1,950.00

2" TL Series 3-Way Valves - Pneumatic

PART #	REFERENCE ID	END CAP TYPE	BALL SIZE	END CAP TUBE SIZE	COND.(L/s)	UNIT PRICE
3008326	TL4200-QF50-AA-H062	QF50	1.375	2" O.D.	34	\$2,495.00

2" TL Series 3-Way Ball Valves Maintenance Kit

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3010930	TL-RK-S	3-Way Series Ball Valve Maintenance Kit	\$205.00

Kit Contains:

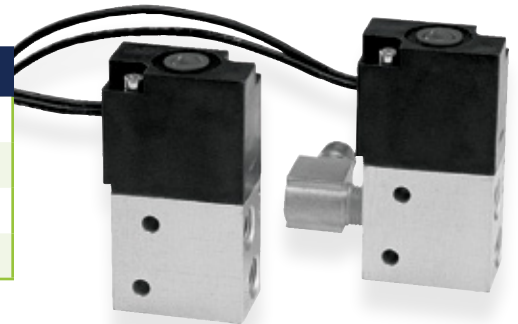
(1) stem o-ring, (3) body o-rings, (2) Teflon® seats, (1) PEEK stem bearing, (1) nylon lock nut
 Maintenance Instructions are available for download at: <https://ancorp.com/manuals-technical-data-sheets/>

Lock Kit for TL Series 3-Way Ball Valves

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3023006	TL-LK-P	Lock Kit for 3-Way TL-Series Pneumatic Ball Valve	\$170.00
3023007	TL-LK-M	Lock Kit for 3-Way TL-Series Manual Ball Valve	\$170.00

Solenoids

REFERENCE ID	DESCRIPTION	UNIT PRICE
-S3A	3-way 120VAC (AS) Air-to-Spring Solenoid	\$110.00
-S3C	3-way 24VDC (AS) Air-to-Spring Solenoid	\$110.00
-S4A	4-way 120VAC (AA) Air-to-Air Solenoid	\$110.00
-S4C	4-way 24VDC (AA) Air-to-Air Solenoid	\$110.00



Position Indicator

PART #	REFERENCE ID	DESCRIPTION	UNIT PRICE
3122165	TL-SB-PI-04	Standard Switchbox - 2-switch mechanical w/4 bare wires	\$110.00

Other wiring options available upon request.



5 2" TL Series 3-Way Ball Valves



VAT



WORLD MARKET LEADER IN VACUUM VALVES

5

VAT Valves



GATE VALVES

General purpose valve for isolation in UHV or other demanding applications.



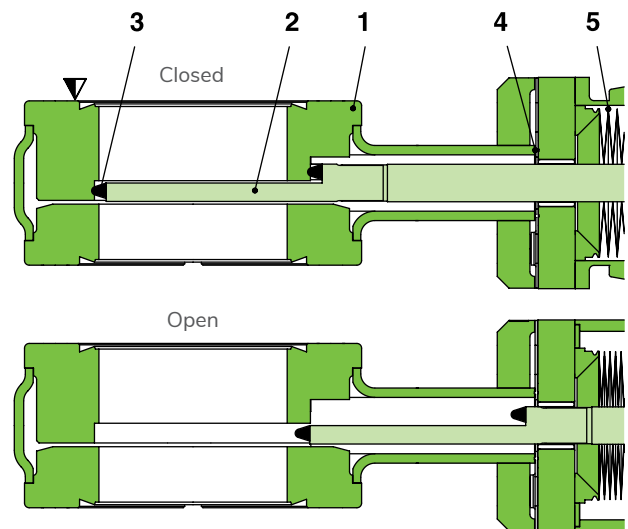
- Free of lubricants
- Low particle generation
- Low shock
- Vulcanized gate seal

5 Mini UHV Gate Valve, Series 01.0

Main Features

Sizes:	DN 16-50 mm (0.625" to 2")
Actuators:	Manual with turning handle Pneumatic: double acting
Body Material:	Stainless steel
Feedthrough:	Bellows
Standard Flanges:	ISO-QF (ISO-KF), CF-F
Sealing Technology:	MONOVAT
Sealing Gate:	FKM (VITON®)
Body Leak Rate	< 5 . 10 ⁻¹⁰ mbar ls ⁻¹
Seat Leak Rate:	< 1 . 10 ⁻⁹ mbar ls ⁻¹
Service Cycle:	50,000 cycles

Functional Principle



- 1 - Valve body
- 2 - Gate
- 3 - Gate Seal
- 4 - Bonnet Seal
- 5 - Bellows

Technical Data

Leak rate	Valve body Valve seat	$< 5 \cdot 10^{-10}$ mbar ls ⁻¹ $< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range		$1 \cdot 10^{-10}$ mbar to 2 bar (abs)
Differential pressure on the gate		≤ 2 bar
Differential pressure at opening		≤ 30 mbar
Cycles until first service		50 000
Temperature ¹⁾	Valve body Manual actuator Pneumatic actuator Solenoid valve Position indicator	≤ 250 °C open / ≤ 200 °C closed ≤ 250 °C ≤ 200 °C ≤ 50 °C ≤ 80 °C
Heating and cooling rate		≤ 50 °C h ⁻¹
Material	Valve body Mechanism Bellows	AISI 304 (1.4301), AISI 316L (1.4435) AISI 304 (1.4301), AISI 316L (1.4435)
Seal	Bonnet Gate	metal FKM (Viton®)
Feedthrough		bellows
Mounting position		any
Solenoid valve	Actuator double acting	24 V DC, 5.4 W (others on request)
Position indicator: contact rating	Voltage Current	≤ 250 V AC ≤ 50 V DC ≤ 5 A ≤ 3 A
Valve position indication		visual (mechanical)

				Valve with manual actuator			Valve with pneumatic actuator								
DN (nominal I. D.)		Conductance (molecular flow) (depending on A-dimension and flange type)		Turns per stroke	Weight		Compressed air m ³ – max. overpressure		Volume of pneumatic actuator		Closing or opening time	Weight			
mm	inch	ls ⁻¹	ls ⁻¹		kg	lbs	bar	psi	l	ft ³		s	kg	lbs	kg
16	5/8	9	–	5	1.50	3.30	5–7	73–102	0.10	0.004	0.70	4.20	9.26	2.20	4.85
25	1	38	–	5	1.50	3.30	5–7	73–102	0.10	0.004	0.70	4.20	9.26	2.20	4.85
40	1 1/2	160	220	5	1.50	3.30	5–7	73–102	0.10	0.004	0.70	4.20	9.26	2.20	4.85
50	2	160	–	5	1.50	3.30	5–7	73–102	0.10	0.004	0.70	4.20	9.26	2.20	4.85

¹⁾Maximum values: depending on operating conditions and sealing materials.

Ordering Information

Valve with Manual Actuator

Turning Handle

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT01024-KE01	5/8	16	QF16
VAT01028-KE01	1	25	QF25
VAT01032-KE01	1 1/2	40	QF40
VAT01034-KE01	2	50	QF50
VAT01032-UE01	1 1/2	40	CF275
VAT01032-CE01	1 1/2	40	CF275 - Metric



Valve with Pneumatic Actuator

Double Acting

Without Solenoid Valve

With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT01024-KE24	5/8	16	QF16
VAT01028-KE24	1	25	QF25
VAT01032-KE24	1 1/2	40	QF40
VAT01034-KE24	2	50	QF50
VAT01032-UE24	1 1/2	40	CF275
VAT01032-CE24	1 1/2	40	CF275 - Metric

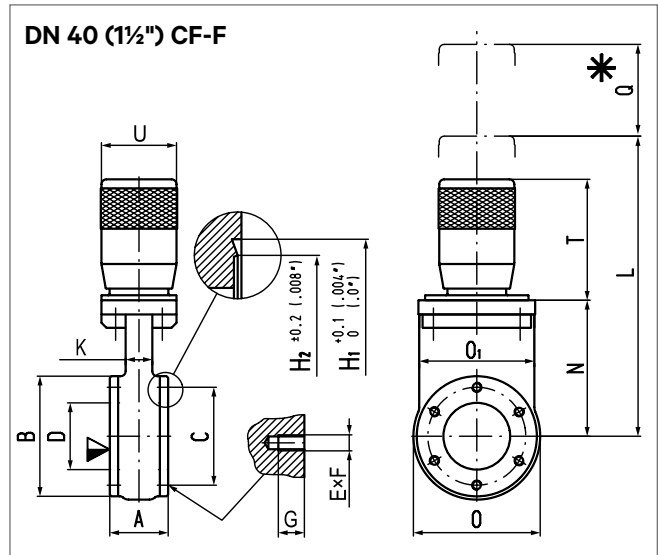
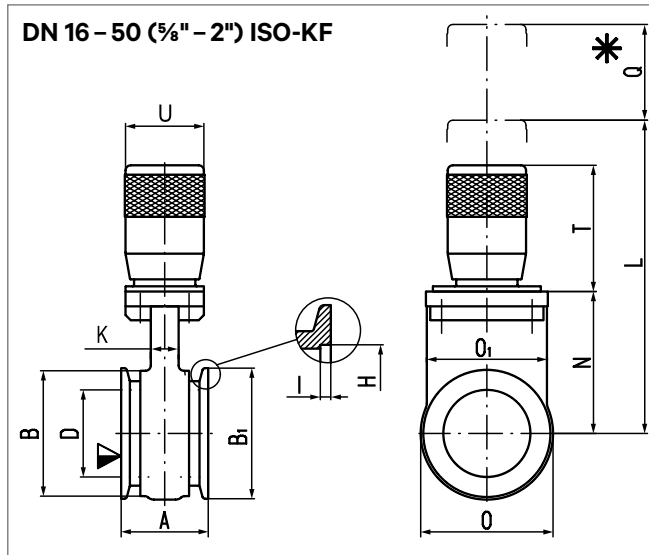


ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

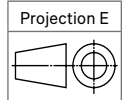
Service Kit for Mini UHV Gate Valve, Series 01.0

PART #	DESCRIPTION
VAT91984-R1	Service Kit for Mini UHV Gate Valves, Series 01.0

Dimensions: Valve with Manual Actuator



- ▼ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⊕ Electrical connection
- ⊖ Mechanical position indication
- ⊖ Emergency operation

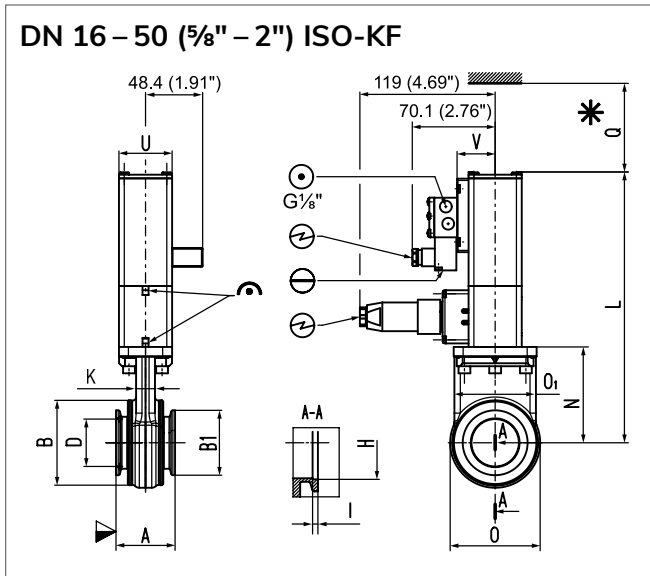


DN	mm inch	16 5/8	25 1	40 1 1/2	50 (ID 40) 2 (ID 1.57)
A	mm inch	50 1.97	50 1.97	50 1.97	50 1.97
B	mm inch	71.80 2.83	71.80 2.83	71.80 2.83	71.80 2.83
B1	mm inch	29.90 1.18	39.90 1.57	54.90 2.16	74.90 2.95
D	mm inch	16.10 0.63	25.10 0.99	40.10 1.58	40.10 1.58
H	mm inch	17.30 0.68	26.30 1.04	41.30 1.63	52.30 2.06
I	mm inch	3 0.12	3 0.12	3 0.12	3 0.12
K	mm inch	16 0.63	16 0.63	16 0.63	16 0.63
L	mm inch	197.80 7.79	197.80 7.79	197.80 7.79	197.80 7.79
N	mm inch	81.30 3.20	81.30 3.20	81.30 3.20	81.30 3.20
O	mm inch	76.20 3	76.20 3	76.20 3	76.20 3
O1	mm inch	70.20 2.76	70.20 2.76	70.20 2.76	70.20 2.76
Q	mm inch	55 2.17	55 2.17	55 2.17	55 2.17
T	mm inch	73.50 2.89	73.50 2.89	73.50 2.89	73.50 2.89
U	mm inch	45.80 1.80	45.80 1.80	45.80 1.80	45.80 1.80

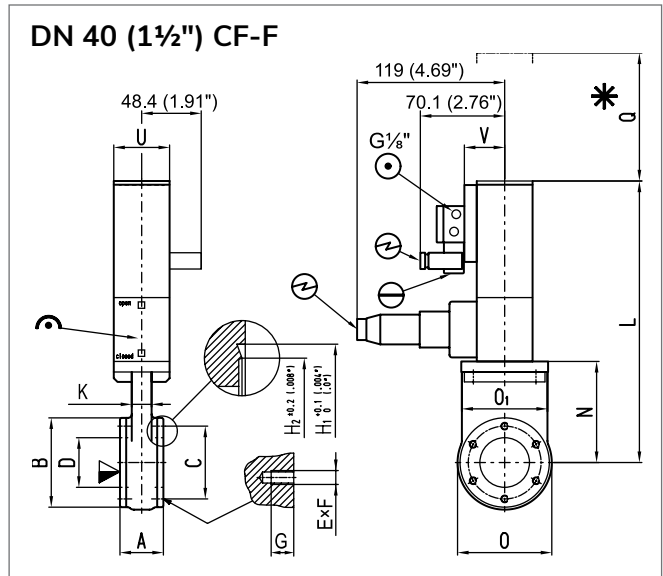
DN	mm inch	40 1 1/2
A	mm inch	35 1.38
B	mm inch	71.80 2.83
C	mm inch	58.70 2.31
D	mm inch	40.10 1.58
E x F		6 x M6 6 x 1/4"-28 UNF
G	mm inch	7 0.28
H1	mm inch	48.35 1.90
H2	mm inch	42 1.65
K	mm inch	16 0.63
L	mm inch	197.80 7.79
N	mm inch	81.30 3.20
O	mm inch	76.20 3
O1	mm inch	70.20 2.76
Q	mm inch	55 2.17
T	mm inch	73.50 2.89
U	mm inch	45.80 1.80

Dimensions: Valve with Pneumatic Actuator - Double Acting

DN 16 – 50 (5/8" – 2") ISO-KF



DN 40 (1 1/2") CF-F



▽ Valve seat side

* Required for dismantling

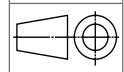
⊙ Compressed air connection

⊖ Electrical connection

↻ Mechanical position indication

⊖ Emergency operation

Projection E



DN	mm inch	16 5/8	25 1	40 1 1/2	50 (ID 40) 2 (ID 1.57)
A	mm inch	50 1.97	50 1.97	50 1.97	50 1.97
B	mm inch	71.80 2.83	71.80 2.83	71.80 2.83	71.80 2.83
B1	mm inch	29.90 1.18	39.90 1.57	54.90 2.16	74.90 2.95
D	mm inch	16.10 0.63	25.10 0.99	40.10 1.58	40.10 1.58
H	mm inch	17.30 0.68	26.30 1.04	41.30 1.63	52.30 2.06
I	mm inch	3 0.12	3 0.12	3 0.12	3 0.12
K	mm inch	16 0.63	16 0.63	16 0.63	16 0.63
L	mm inch	229.10 9.02	229.10 9.02	229.10 9.02	229.10 9.02
N	mm inch	81.30 3.20	81.30 3.20	81.30 3.20	81.30 3.20
O	mm inch	76.20 3	76.20 3	76.20 3	76.20 3
O1	mm inch	70.20 2.76	70.20 2.76	70.20 2.76	70.20 2.76
Q	mm inch	55 2.17	55 2.17	55 2.17	55 2.17
U	mm inch	45 1.77	45 1.77	45 1.77	45 1.77
V	mm inch	32.30 1.27	32.30 1.27	32.30 1.27	32.30 1.27

DN	mm inch	40 1 1/2
A	mm inch	35 1.38
B	mm inch	71.80 2.83
C	mm inch	58.70 2.31
D	mm inch	40.10 1.58
E x F		6 x M6 6 x 1/4"-28 UNF
G	mm inch	7 0.28
H1	mm inch	48.35 1.90
H2	mm inch	42 1.65
K	mm inch	16 0.63
L	mm inch	229.10 9.02
N	mm inch	81.30 3.20
O	mm inch	76.20 3
O1	mm inch	70.20 2.76
Q	mm inch	55 2.16
U	mm inch	45 1.77
V	mm inch	32.30 1.27

Mini UHV Gate Valve, Series 01.0

5

General purpose valve for isolation in vacuum applications.



- Low cost
- Compact and simple design
- Mechanically locked in closed position

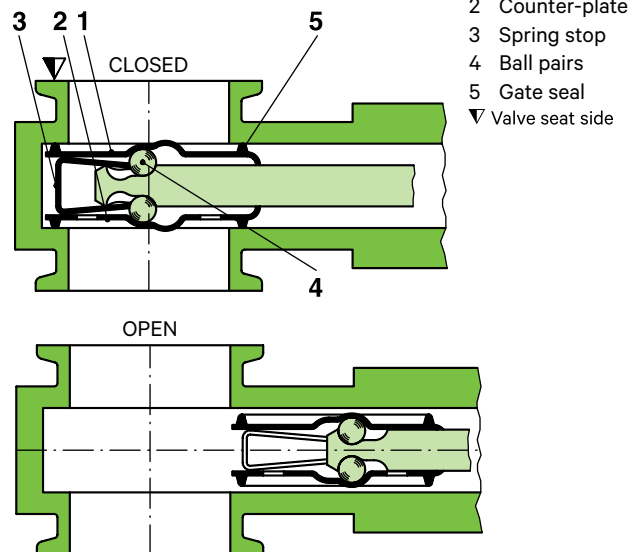
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Mini Vacuum Gate Valve, Series 01.2

Main Features

Sizes	DN 16 – 50 mm (5/8" – 2")
Actuators	manual with toggle lever pneumatic: double acting
Body material	aluminum
Feedthrough	shaft feedthrough
Standard flanges	ISO-QF (ISO-KF)
Sealing technology	VATLOCK

Functional Principle



Technical Data

Leak rate	Valve body, valve seat	$< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range		1 · 10 ⁻⁷ mbar to 1 bar (abs)
Differential pressure on the gate		≤ 1 bar
Differential pressure at opening		≤ 30 mbar
Cycles until first service ¹⁾		50 000
Temperature ¹⁾	Valve body Manual and pneumatic actuator Solenoid valve Position indicator	≤ 100 °C ≤ 80 °C ≤ 50 °C ≤ 80 °C
Heating and cooling rate		≤ 30 °C h ⁻¹
Material	Valve body Gate	EN AW-6082 (3.2315) AISI 301 (1.4310)
Seal	Bonnet, gate	FKM (Viton®)
Feedthrough		shaft feedthrough
Mounting position		any
Solenoid valve		24 V DC, 5.4 W (others on request)
Position indicator: contact rating	Voltage Current Power	≤ 50 V AC/DC ≤ 0.1 A max. 10 W
Valve position indication		visual (mechanical)

5

Mini Vacuum Gate Valve, Series 01.2

			Valve with manual actuator		Valve with pneumatic actuator						
DN (nominal I. D.)		Conductance (molecular flow) (depending on A-dimension and flange type)	Weight		Compressed air m ³ – max. overpressure		Volume of pneumatic actuator		Closing or opening time	Weight	
mm	inch		kg	lbs	bar	psi	l	ft ³		kg	lbs
16	5/8	10	0.40	0.90	4.5 – 7	65 – 102	0.01	0.0004	0.80	0.80	1.80
25	1	34	0.40	0.90	4.5 – 7	65 – 102	0.03	0.001	1.10	0.80	1.80
40	1 1/2	140	0.70	1.50	4.5 – 7	65 – 102	0.07	0.002	1.20	1.20	2.70
50	2	260	0.70	1.50	4.5 – 7	65 – 102	0.07	0.002	1.30	1.20	2.70

¹⁾ Maximum values: depending on operating conditions and sealing materials.

Ordering Information

Valve with Manual Actuator

Toggle Lever

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT01224-KA06	5/8	16	QF16
VAT01228-KA06	1	25	QF25
VAT01232-KA06	1 1/2	40	QF40
VAT01234-KA06	2	50	QF50



Valve with Pneumatic Actuator

Double Acting

Without Solenoid Valve

With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT01224-KA24	5/8	16	QF16
VAT01228-KA24	1	25	QF25
VAT01232-KA24	1 1/2	40	QF40
VAT01234-KA24	2	50	QF50



5

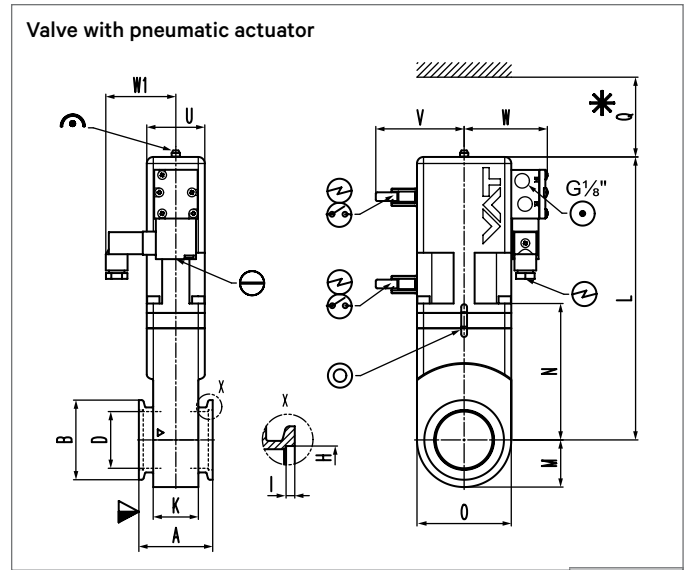
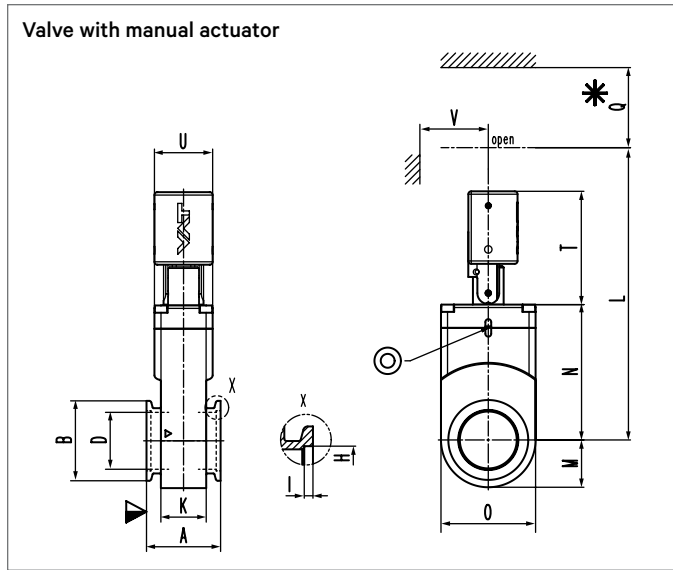
Mini Vacuum Gate Valve, Series 01.2

ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

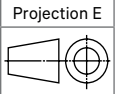
Service Kit for Mini Vacuum Gate Valve, Series 01.2

PART #	DESCRIPTION
VAT92578-R1	Service Kit for 5/8" Mini Vacuum Gate Valves, Series 01.2
VAT92554-R1	Service Kit for 1" Mini Vacuum Gate Valves, Series 01.2
VAT92485-R1	Service Kit for 1 1/2" Mini Vacuum Gate Valves, Series 01.2
VAT92523-R1	Service Kit for 2" Mini Vacuum Gate Valves, Series 01.2

Dimensions



- ▽ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⊕ Electrical connection
- ⊕ Mechanical position indication
- ⊙ Position indicator
- ⊖ Emergency operation

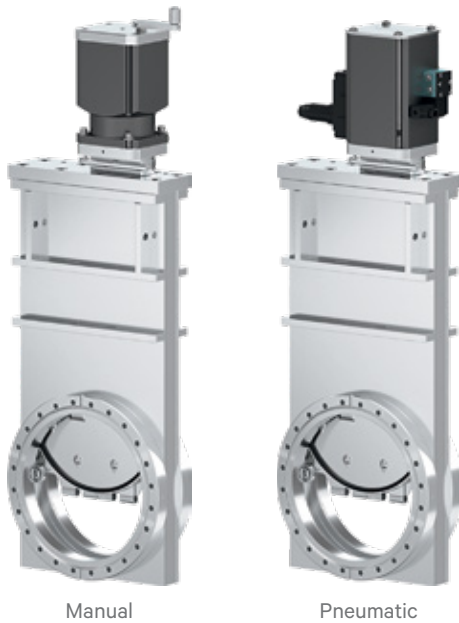


DN	mm inch	16 5/8	25 1	40 1 1/2	50 2
A	mm inch	40 1.57	50 1.97	51 2.01	55 2.17
B	mm inch	30 1.18	40 1.57	55 2.17	75 2.95
D	mm inch	15 0.59	24 0.94	39 1.54	49 1.93
H	mm inch	17.20 0.68	26.20 1.03	41.20 1.62	52.20 2.06
I	mm inch	3 0.12	3 0.12	3 0.12	3 0.12
K	mm inch	25 0.98	32 1.26	31 1.22	33 1.30
L	mm inch	97.30 3.83	139 5.47	200.80 7.91	235.80 9.28
M	mm inch	15 0.59	22 0.87	32.50 1.28	37.50 1.48
N	mm inch	39 1.55	58.50 2.30	93 3.66	108 4.25
O	mm inch	30 1.18	44 1.73	65 2.56	75 2.95
Q	mm inch	25 0.98	35 1.38	55 2.17	65 2.56
T	mm inch	33.30 1.31	47.50 1.87	77.80 3.06	87.80 3.46
U	mm inch	25 0.98	32 1.26	40 1.57	40 1.57
V	mm inch	20 0.79	30 1.18	47 1.85	52 2.05

DN	mm inch	16 5/8	25 1	40 1 1/2	50 2
A	mm inch	40 1.57	50 1.97	51 2.01	55 2.17
B	mm inch	30 1.18	40 1.57	55 2.17	75 2.95
D	mm inch	15 0.59	24 0.94	39 1.54	49 1.93
H	mm inch	17.20 0.68	26.20 1.03	41.20 1.62	52.20 2.06
I	mm inch	3 0.12	3 0.12	3 0.12	3 0.12
K	mm inch	25 0.98	32 1.26	31 1.22	33 1.30
L	mm inch	105 4.13	135.90 5.35	195.10 7.68	220.1 8.66
M	mm inch	15 0.59	22 0.87	32.50 1.28	37.50 1.48
N	mm inch	45.30 1.78	62.30 2.45	94 3.70	109 4.29
O	mm inch	30 1.18	44 1.73	65 2.56	75 2.95
Q	mm inch	25 0.98	35 1.38	55 2.17	65 2.56
U	mm inch	25 0.98	32 1.26	40 1.57	40 1.57
V	mm inch	52.80 2.08	57.40 2.26	60.90 2.40	64.70 2.55
W	mm inch	49.80 1.96	56.80 2.34	57.40 2.26	62.40 2.46
W1		48.40 1.91	48.40 1.91	48.30 1.90	48.30 1.90

Mini Vacuum Gate Valve, Series 01.2

The standard valve for UHV isolation applications in research and industry.



Free of lubricants

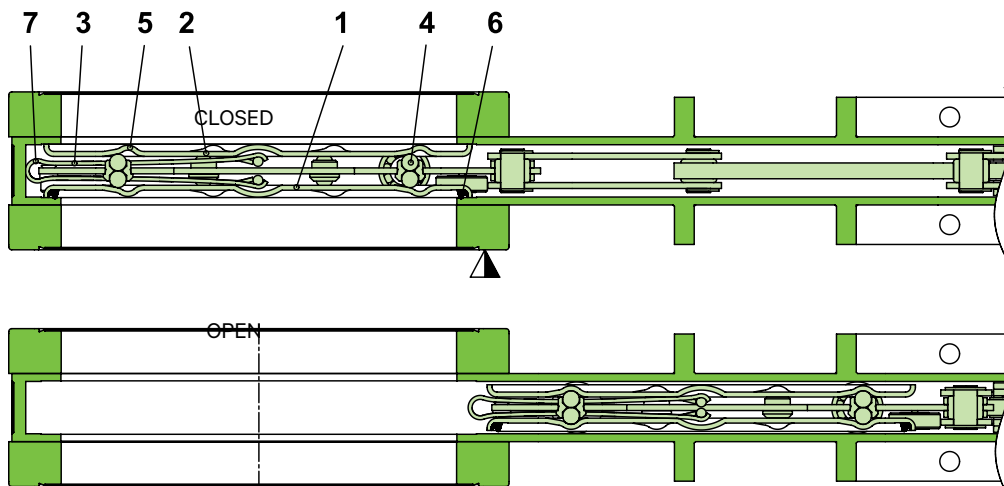
DN 63 – 200 with vulcanized gate seal

Easy maintenance

Main Features

Sizes	DN 63 – 320 mm (2½" – 12")
Actuators	manual with crank handle pneumatic: double acting
Body material	stainless steel
Feedthrough	bellows
Standard flanges	ISO-LFB (ISO-F), CF-F
Sealing technology	VATLOCK

Functional Principle



- 1 Gate
- 2 Counter-plate
- 3 Leaf springs
- 4 Ball pairs
- 5 Ball detents
- 6 Gate seal
- 7 Spring stop
- ▼ Valve seat side

Technical Data

Leak rate	Valve body Valve seat	$< 5 \cdot 10^{-10}$ mbar ls ⁻¹ $< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range	DN 63 – 200 DN 250 – 320	$1 \cdot 10^{-10}$ mbar to 1.6 bar (abs) $1 \cdot 10^{-10}$ mbar to 1.2 bar (abs)
Differential pressure on the gate	DN 63 – 200 DN 250 – 320	≤ 1.6 bar ≤ 1.2 bar
Differential pressure at opening		≤ 30 mbar
Cycles until first service		50 000
Temperature ¹⁾	Valve body Manual actuator Pneumatic actuator Solenoid valve Position indicator	≤ 250 °C open / ≤ 200 °C closed ≤ 250 °C ≤ 200 °C ≤ 50 °C ≤ 80 °C
Heating and cooling rate		≤ 50 °C h ⁻¹
Material	Valve body Mechanism DN 63 – 200 DN 250 – 320 Bellows	AISI 304 (1.4301) AISI 316L (1.4404) AISI 304 (1.4301) AISI 316L (1.4404, 1.4435)
Seal	Bonnet Gate	metal FKM (Viton®)
Feedthrough		bellows
Mounting position		any
Solenoid valve		24 V DC, 5.4 W (others on request)
Position indicator: contact rating	Voltage Current	≤ 50 V AC/DC ≤ 1.2 A
Valve position indication		visual (mechanical)

DN (nominal I. D.)		Conductance (molecular flow) (depending on A-dimension and flange type)	Valve with manual actuator			Valve with pneumatic actuator						
			Turns per stroke	Weight		Compressed air m ³ – max. overpressure		Volume of pneumatic actuator		Closing or opening time	Weight	
mm	inch	ls ⁻¹	n	kg	lbs	bar	psi	l	ft ³	s	kg	lbs
63	2 ½	600	10	9	20	4 – 7	58 – 102	0.08	0.0028	1	9	20
80	3	765	10	9	20	4 – 7	58 – 102	0.08	0.0028	1	9	20
100	4	1 740	13	11	24	4 – 7	58 – 102	0.11	0.0038	1.20	12	26
160	6	5 880	17	16	35	4 – 7	58 – 102	0.14	0.0049	1.50	17	37
200	8	12 200	17	29	64	4 – 7	58 – 102	0.25	0.0087	2	29	64
250	10	21 690	40	51	112	5 – 7	73 – 102	0.35	0.0122	4	52	115
320	12	29 130	45	89	196	5 – 7	73 – 102	0.48	0.0167	5	91	200

¹⁾ Maximum values: depending on operating conditions and sealing materials.

Ordering Information

Valve with Manual Actuator
Crank Handle

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT10836-PE01	2 1/2	63	LFB63
VAT10838-PE01	3	80	LFB80
VAT10840-PE01	4	100	LFB100
VAT10844-PE01	6	160	LFB160
VAT10846-PE01	8	200	LFB200
VAT10848-PE01	10	250	LFB250
VAT10850-PE01	12	320	LFB320
VAT10836-UE01	2 1/2	63	CF450
VAT10838-UE01	3	80	CF462
VAT10840-UE01	4	100	CF600
VAT10844-UE01	6	160	CF800
VAT10846-UE01	8	200	CF1000
VAT10848-UE01	10	250	CF1200
VAT10836-CE01	2 1/2	63	CF450 - Metric
VAT10838-CE01	3	80	CF462 - Metric
VAT10840-CE01	4	100	CF600 - Metric
VAT10844-CE01	6	160	CF800 - Metric
VAT10846-CE01	8	200	CF1000 - Metric
VAT10848-CE01	10	250	CF1200 - Metric



5

UHV Gate Valve, Series 10.8

Ordering Information

Valve with Pneumatic Actuator

Double Acting
Without Solenoid Valve
With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT10836-PE24	2 1/2	63	LFB63
VAT10838-PE24	3	80	LFB80
VAT10840-PE24	4	100	LFB100
VAT10844-PE24	6	160	LFB160
VAT10846-PE24	8	200	LFB200
VAT10848-PE24	10	250	LFB250
VAT10850-PE24	12	320	LFB320
VAT10836-UE24	2 1/2	63	CF450
VAT10838-UE24	3	80	CF462
VAT10840-UE24	4	100	CF600
VAT10844-UE24	6	160	CF800
VAT10846-UE24	8	200	CF1000
VAT10848-UE24	10	250	CF1200
VAT10836-CE24	2 1/2	63	CF450 - Metric
VAT10838-CE24	3	80	CF462 - Metric
VAT10840-CE24	4	100	CF600 - Metric
VAT10844-CE24	6	160	CF800 - Metric
VAT10846-CE24	8	200	CF1000 - Metric
VAT10848-CE24	10	250	CF1200 - Metric



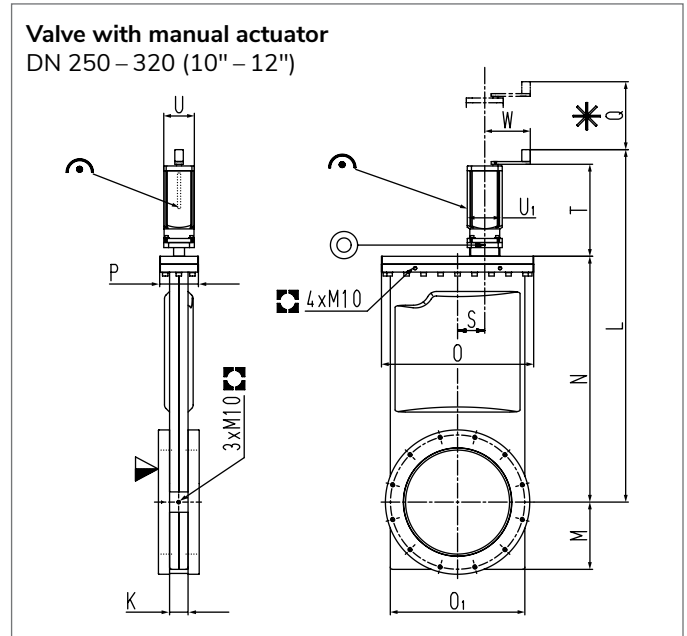
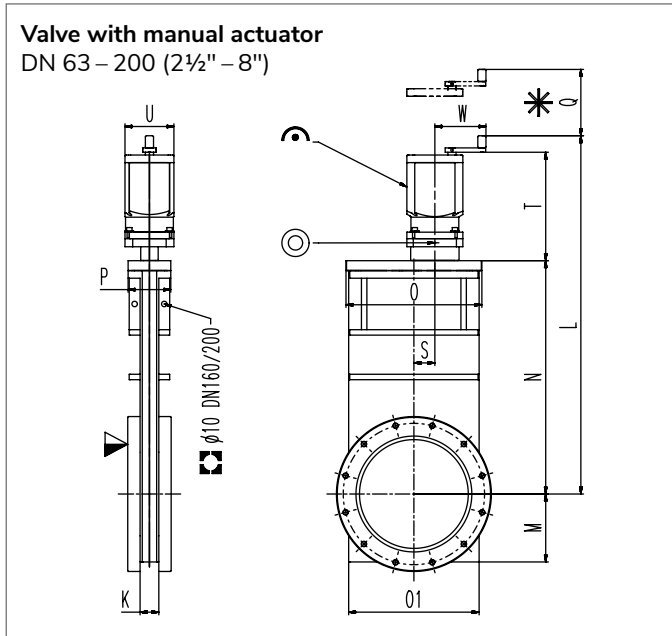
UHV Gate Valve, Series 10.8

ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

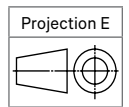
Service Kits for UHV Gate Valves, Series 10.8

PART #	DESCRIPTION
VAT82484-R1	Gate and Bonnet Seals for 2 1/2" UHV Gate Valves, Series 10.8
VAT222591	Gate and Bonnet Seals for 3" UHV Gate Valves, Series 10.8
VAT82485-R1	Gate and Bonnet Seals for 4" UHV Gate Valves, Series 10.8
VAT82486-R1	Gate and Bonnet Seals for 6" UHV Gate Valves, Series 10.8
VAT82487-R1	Gate and Bonnet Seals for 8" UHV Gate Valves, Series 10.8
VAT82689-R1	Gate and Bonnet Seals for 10" UHV Gate Valves, Series 10.8
VAT86835-R1	Gate and Bonnet Seals for 12" UHV Gate Valves, Series 10.8

Dimensions



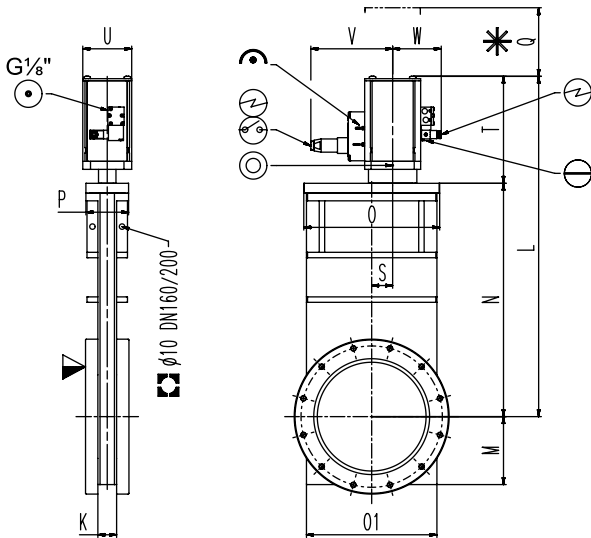
- ▼ Valve seat side
- * Required for dismantling
- ☉ Mechanical position indication
- ⊙ Leak detection hole
- ▣ For attachment



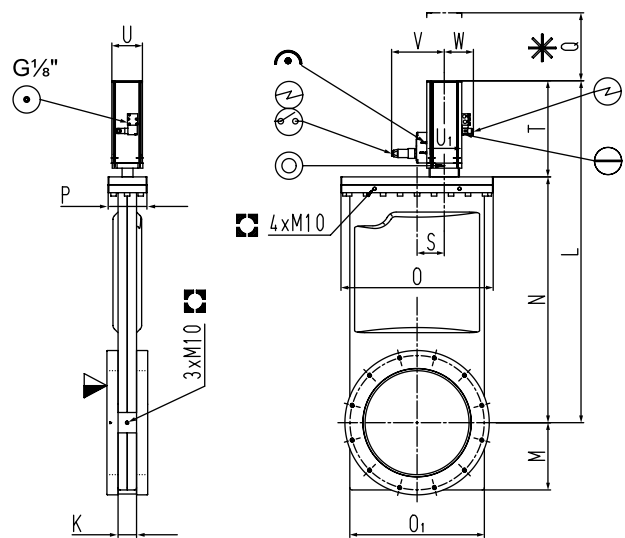
DN	mm	63	80	100	160	200	250	320
	inch	2½	3	4	6	8	10	12
K	mm	27	27	27	27	34.50	41	54
	inch	1.06	1.06	1.06	1.06	1.36	1.61	2.13
L	mm	406	421	461	551	660	841	1038
	inch	15.98	16.57	18.15	21.69	25.98	33.11	40.87
M	mm	57	57	73	99	125	160	198
	inch	2.24	2.24	2.87	3.90	4.92	6.30	7.80
N	mm	191	205	246	336	430	559	724
	inch	7.52	8.07	9.68	13.23	16.93	22.01	28.50
O	mm	115	115	145	200	250	344	448
	inch	4.53	4.53	5.71	7.87	9.84	13.54	17.64
O1	mm	112	112	143	192	240	321	396
	inch	4.41	4.41	5.63	7.56	9.45	12.64	15.59
P	mm	70	70	70	70	80	80	114
	inch	2.76	2.76	2.76	2.76	3.15	3.15	4.49
Q	mm	180	180	220	290	350	450	560
	inch	7.09	7.09	8.66	11.42	13.78	17.72	22.05
S	mm	11	11	9	25	38.50	65	80
	inch	0.43	0.43	0.35	0.98	1.52	2.56	3.15
T	mm	185	185	185	185	195	239	271
	inch	7.28	7.28	7.28	7.28	7.68	9.41	10.67
U	mm	70	70	70	70	90	90	90
	inch	2.76	2.76	2.76	2.76	3.54	3.54	3.54
U1	mm	83	83	83	83	103	103	103
	inch	3.27	3.27	3.27	3.27	4.06	4.06	4.06
W	mm	76	76	76	76	94	134	134
	inch	2.99	2.99	2.99	2.99	3.70	5.28	5.28

Main Dimensions

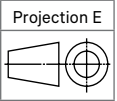
Valve with pneumatic actuator
DN 63 – 200 (2½" – 8")



Valve with pneumatic actuator
DN 250 – 320 (10" – 12")



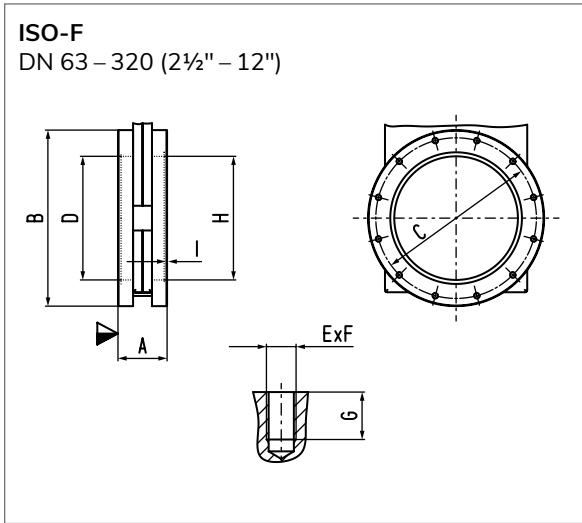
- ▼ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⊕ Electrical connection
- ↻ Mechanical position indication
- ⊙ Position indicator
- ⊙ Leak detection hole
- ⊖ Emergency operation
- For attachment



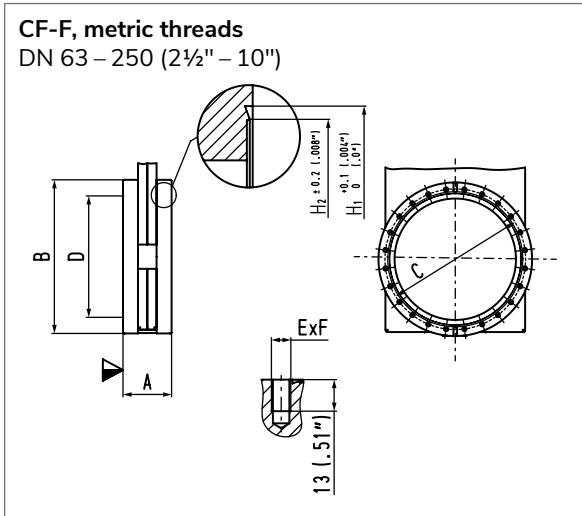
DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
K	mm inch	27 1.06	27 1.06	27 1.06	27 1.06	34.50 1.36	41 1.61	54 2.13
L	mm inch	342 13.46	358 14.07	414 16.30	521 20.51	626 24.65	796 31.34	1010 39.76
M	mm inch	57 2.24	57 2.24	73 2.87	99 3.90	120 4.73	161 6.34	198 7.80
N	mm inch	191 7.52	205 8.07	246 9.68	336 13.23	429 16.89	558 21.97	723 28.46
O	mm inch	115 4.53	115 4.53	145 5.71	200 7.87	250 9.84	344 13.54	448 17.64
O1	mm inch	112 4.41	112 4.41	143 5.63	192 7.56	230 9.06	321 12.64	396 15.59
P	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	80 3.15	114 4.49
Q	mm inch	180 7.09	180 7.09	220 8.66	290 11.42	350 13.78	450 17.72	560 22.05
S	mm inch	11 0.43	11 0.43	9 0.35	25 0.98	38.50 1.52	65 2.44	80 3.15
T	mm inch	151 5.94	151 5.94	168 6.61	185 7.28	197 7.76	238 9.37	287 11.30
U	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	90 3.54	90 3.54	90 3.54
U1	mm inch	83 3.27	83 3.27	83 3.27	83 3.27	103 4.06	103 4.06	103 4.06
V	mm inch	145 5.71	145 5.71	145 5.71	145 5.71	150 5.91	150 5.91	150 5.91
W	mm inch	80 3.15	80 3.15	80 3.15	80 3.15	89 3.50	89 3.50	89 3.50

UHV Gate Valve, Series 10.8

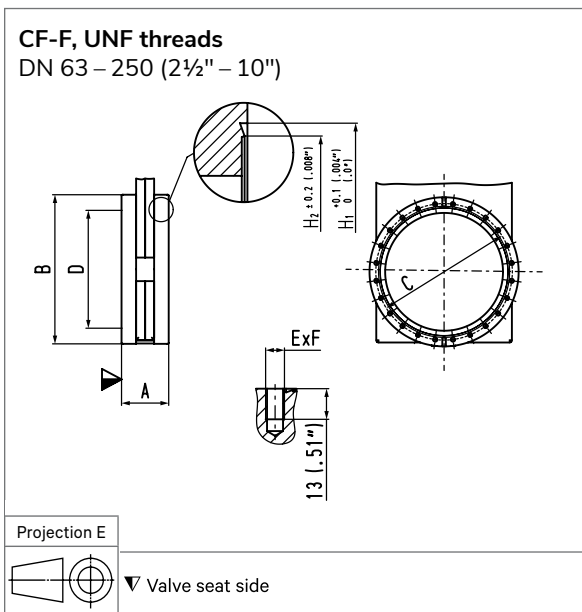
Flange Dimensions



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	120 4.72
B	mm inch	130 5.12	45 5.71	165 6.50	225 8.86	285 11.22	350 13.78	425 16.73
C	mm inch	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24	310 12.20	395 15.55
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	261 10.28	306 12.05
E x F		4 x M8	8 x M8	8 x M8	8 x M10	12 x M10	12 x M10	12 x M12
G	mm inch	13 0.51	13 0.51	13 0.51	13 0.51	15 0.59	15 0.59	18 0.71
H	mm inch	-	83 3.27	102 4.02	153 6.02	213 8.39	-	318 12.52
I	mm inch	-	3 0.12	3 0.12	5 0.20	5 0.20	-	5 0.20



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	
O. D.	inch	4½	4⅝	6	8	10	12	
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	
B	mm inch	113.50 4.47	117.50 4.63	151.60 5.97	202.40 7.97	253.20 9.97	350 13.78	
C	mm inch	92.10 3.63	102.40 4.03	130.20 5.13	181 7.13	231.80 9.13	284 11.18	
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	
E x F		8 x M8	10 x M8	16 x M8	20 x M8	24 x M8	32 x M8	
H1	mm inch	82.50 3.25	91.65 3.61	120.70 4.75	171.45 6.75	222.40 8.76	273.15 10.75	
H2	mm inch	77.40 3.05	86.30 3.40	115.50 4.55	166 6.54	217 8.54	267 10.51	



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 ¹⁾ 10	250 ²⁾ 10
O. D.	mm inch	4½	4⅝	6	8	10	12 ¹⁾	13¼ ²⁾
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	100 3.94
B	mm inch	113.50 4.47	117.50 4.63	151.60 5.97	202.40 7.97	253.20 9.97	350 13.78	350 13.78
C	mm inch	92.10 3.63	102.40 4.03	130.20 5.13	181 7.13	231.80 9.13	284 11.18	306.30 12.06
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	254 10.00
E x F		8 x 5/16" 24 UNF	10 x 5/16" 24 UNF	16 x 5/16" 24 UNF	20 x 5/16" 24 UNF	24 x 5/16" 24 UNF	32 x 5/16" 24 UNF	30 x 3/8" 24 UNF
H1	mm inch	82.50 3.25	91.65 3.61	120.70 4.75	171.45 6.75	222.40 8.76	273.15 10.75	294.64 11.60
H2	mm inch	77.40 3.05	86.30 3.40	115.50 4.55	166 6.54	217 8.54	267 10.51	288.30 11.35

¹⁾ VAT standard O. D. 12"
²⁾ Option O. D. 13¼": Ordering No. 10848-UE44-X, X = O. D. 13¼"

General purpose valve for isolation in high vacuum systems. Especially suited to pump isolation.



Good value bellows sealed valve
 DN 63 – 200 with vulcanized gate seal
 High life cycle

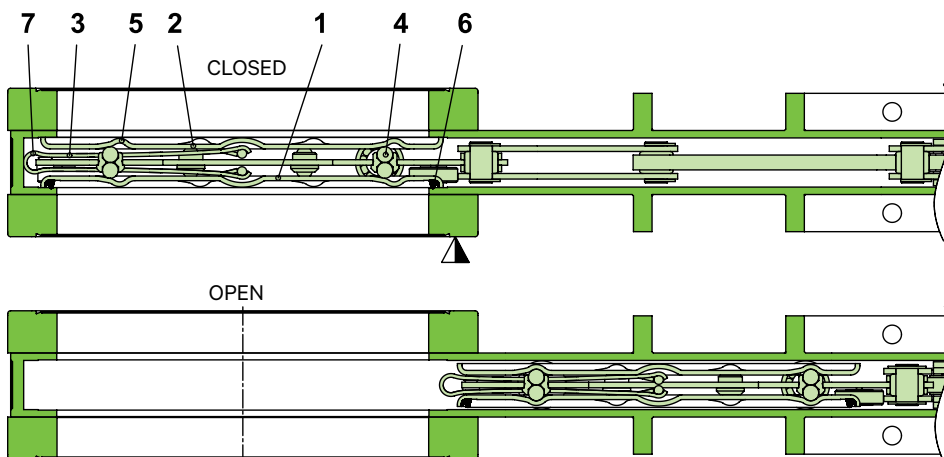
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HV Gate Valve, Series 11.0

Main Features

Sizes	DN 63 – 320 mm (2½" – 12")
Actuators	manual with crank handle pneumatic: double acting
Body material	stainless steel
Feedthrough	bellows
Standard flanges	ISO-LFB (ISO-F), CF-F
Sealing technology	VATLOCK

Functional Principle



- 1 Gate
- 2 Counter-plate
- 3 Leaf springs
- 4 Ball pairs
- 5 Ball detents
- 6 Gate seal
- 7 Spring stop
- ▼ Valve seat side

Technical Data

Leak rate	Valve body, valve seat	$< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range	DN 63 – 200 DN 250 – 320	1 · 10 ⁻⁸ mbar to 1.6 bar (abs) 1 · 10 ⁻⁸ mbar to 1.2 bar (abs)
Differential pressure on the gate	DN 63 – 200 DN 250 – 320	≤ 1.6 bar ≤ 1.2 bar
Differential pressure at opening		≤ 30 mbar
Cycles until first service		200 000
Temperature ¹⁾	Valve body Manual and pneumatic actuator Solenoid valve Position indicator	≤ 150 °C ≤ 80 °C ≤ 50 °C ≤ 50 °C
Heating and cooling rate		≤ 50 °C h ⁻¹
Material	Valve body Mechanism DN 63 – 200 DN 250 – 320 Bellows	AISI 304 (1.4301) AISI 316L (1.4404) AISI 304 (1.4301) AISI 633 (AM350)
Seal	Bonnet, gate	FKM (Viton®)
Feedthrough		bellows
Mounting position		any
Solenoid valve		24 V DC, 5.4 W (others on request)
Position indicator: contact rating	Voltage Current	≤ 50 V AC/DC ≤ 1.2 A
Valve position indication		visual (mechanical)

DN (nominal I. D.)		Conductance (molecular flow) (depending on A-dimension and flange type)	Valve with manual actuator			Valve with pneumatic actuator						
			Turns per stroke	Weight		Compressed air m ³ – max. overpressure		Volume of pneumatic actuator		Closing or opening time	Weight	
mm	inch	ls ⁻¹	n	kg	lbs	bar	psi	l	ft ³	s	kg	lbs
63	2 ½	600	10	9	20	4 – 7	58 – 102	0.08	0.0028	1	9	20
80	3	765	10	9	20	4 – 7	58 – 102	0.08	0.0028	1	9	20
100	4	1 740	13	11	24	4 – 7	58 – 102	0.11	0.0038	1.20	12	26
160	6	5 880	17	16	35	4 – 7	58 – 102	0.14	0.0049	1.50	17	37
200	8	12 200	17	29	64	4 – 7	58 – 102	0.25	0.0087	2	29	64
250	10	21 690	40	51	112	5 – 7	73 – 102	0.35	0.0122	4	52	115
320	12	29 130	45	89	196	5 – 7	73 – 102	0.48	0.0167	5	91	200

¹⁾ Maximum values: depending on operating conditions and sealing materials.

Ordering Information

Valve with Manual Actuator
Crank Handle

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT11036-PE01	2 1/2	63	LFB63
VAT11038-PE01	3	80	LFB80
VAT11040-PE01	4	100	LFB100
VAT11044-PE01	6	160	LFB160
VAT11046-PE01	8	200	LFB200
VAT11048-PE01	10	250	LFB250
VAT11050-PE01	12	320	LFB320 </td
VAT11036-UE01	2 1/2	63	CF450
VAT11038-UE01	3	80	CF462
VAT11040-UE01	4	100	CF600
VAT11044-UE01	6	160	CF800
VAT11046-UE01	8	200	CF1000
VAT11048-UE01	10	250	CF1200
VAT11036-CE01	2 1/2	63	CF450 - Metric
VAT11038-CE01	3	80	CF462 - Metric
VAT11040-CE01	4	100	CF600 - Metric
VAT11044-CE01	6	160	CF800 - Metric
VAT11046-CE01	8	200	CF1000 - Metric
VAT11048-CE01	10	250	CF1200 - Metric



5 HV Gate Valve, Series 11.0

Ordering Information

Valve with Pneumatic Actuator

Double Acting
Without Solenoid Valve
With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT11036-PE24	2 1/2	63	LFB63
VAT11038-PE24	3	80	LFB80
VAT11040-PE24	4	100	LFB100
VAT11044-PE24	6	160	LFB160
VAT11046-PE24	8	200	LFB200
VAT11048-PE24	10	250	LFB250
VAT11050-PE24	12	320	LFB320
VAT11036-UE24	2 1/2	63	CF450
VAT11038-UE24	3	80	CF462
VAT11040-UE24	4	100	CF600
VAT11044-UE24	6	160	CF800
VAT11046-UE24	8	200	CF1000
VAT11048-UE24	10	250	CF1200
VAT11036-CE24	2 1/2	63	CF450 - Metric
VAT11038-CE24	3	80	CF462 - Metric
VAT11040-CE24	4	100	CF600 - Metric
VAT11044-CE24	6	160	CF800 - Metric
VAT11046-CE24	8	200	CF1000 - Metric
VAT11048-CE24	10	250	CF1200 - Metric



5

HV Gate Valve, Series 11.0

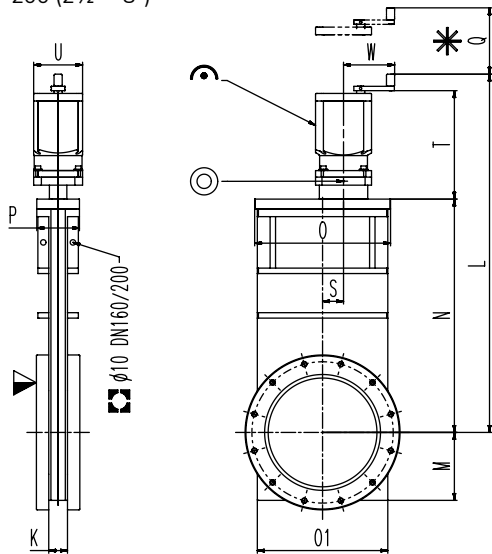
ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

Service Kits for HV Gate Valves, Series 11.0

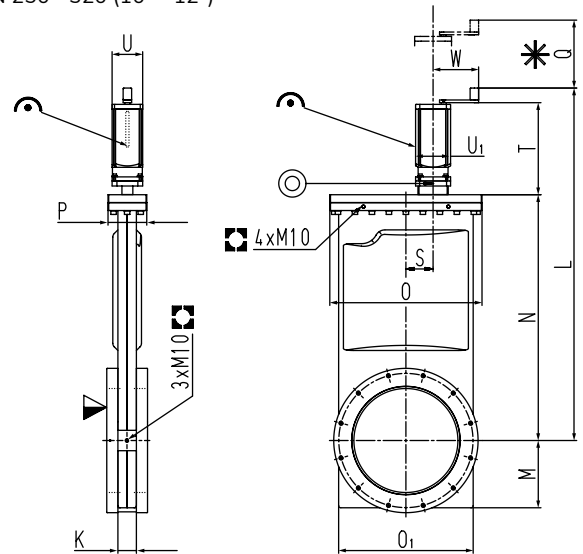
PART #	DESCRIPTION
VAT416947	Gate and Bonnet Seals for 2 1/2" HV Gate Valves, Series 11.0
VAT416948	Gate and Bonnet Seals for 3" HV Gate Valves, Series 11.0
VAT416949	Gate and Bonnet Seals for 4" HV Gate Valves, Series 11.0
VAT423178	Gate and Bonnet Seals for 6" HV Gate Valves, Series 11.0
VAT561716	Gate and Bonnet Seals for 8" HV Gate Valves, Series 11.0
VAT416952	Gate and Bonnet Seals for 10" HV Gate Valves, Series 11.0
VAT436855	Gate and Bonnet Seals for 12" HV Gate Valves, Series 11.0

Main Dimensions

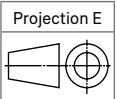
Valve with manual actuator
DN 63 – 200 (2½" – 8")



Valve with manual actuator
DN 250 – 320 (10" – 12")



- ▼ Valve seat side
- * Required for dismantling
- ⤵ Mechanical position indication
- ⊙ Leak detection hole
- For attachment

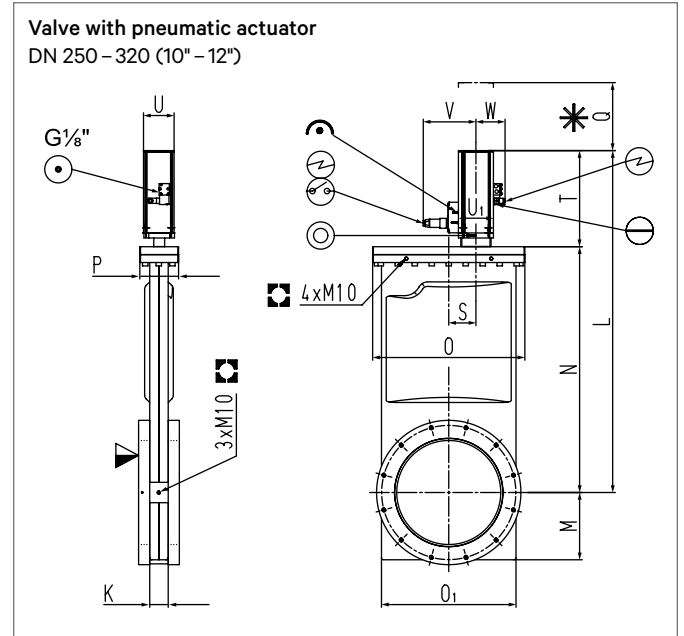
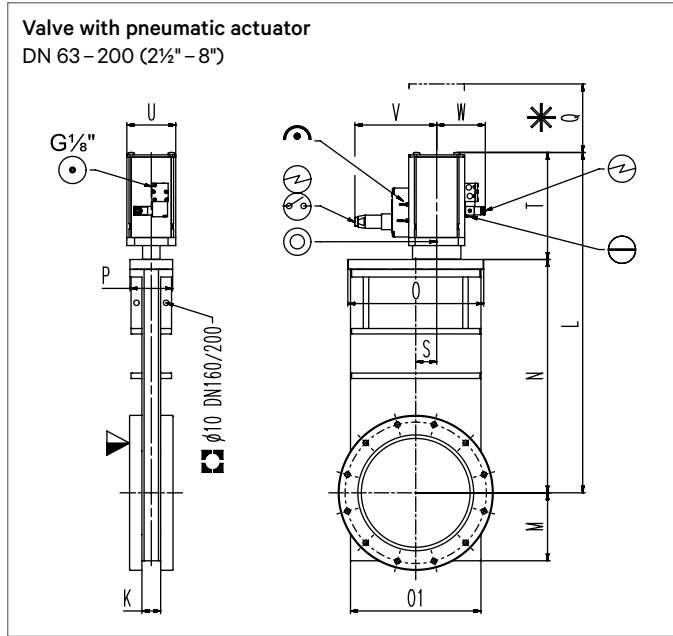


DN	mm	63	80	100	160	200	250	320
	inch	2½	3	4	6	8	10	12
K	mm	27	27	27	27	34.50	41	54
	inch	1.06	1.06	1.06	1.06	1.36	1.61	2.13
L	mm	406	421	461	551	660	841	1038
	inch	15.98	16.57	18.15	21.69	25.98	33.11	40.87
M	mm	57	57	73	99	125	160	198
	inch	2.24	2.24	2.87	3.90	4.92	6.30	7.80
N	mm	191	205	246	336	430	559	724
	inch	7.52	8.07	9.68	13.23	16.93	22.01	28.50
O	mm	115	115	145	200	250	344	448
	inch	4.53	4.53	5.71	7.87	9.84	13.54	17.64
O1	mm	112	112	143	192	240	321	396
	inch	4.41	4.41	5.63	7.56	9.45	12.64	15.59
P	mm	70	70	70	70	80	80	114
	inch	2.76	2.76	2.76	2.76	3.15	3.15	4.49
Q	mm	180	180	220	290	350	450	560
	inch	7.09	7.09	8.66	11.42	13.78	17.72	22.05
S	mm	11	11	9	25	38.50	65	80
	inch	0.43	0.43	0.35	0.98	1.52	2.56	3.15
T	mm	185	185	185	185	195	239	271
	inch	7.28	7.28	7.28	7.28	7.68	9.41	10.67
U	mm	70	70	70	70	90	90	90
	inch	2.76	2.76	2.76	2.76	3.54	3.54	3.54
U1	mm	83	83	83	83	103	103	103
	inch	3.27	3.27	3.27	3.27	4.06	4.06	4.06
W	mm	76	76	76	76	94	134	134
	inch	2.99	2.99	2.99	2.99	3.70	5.28	5.28

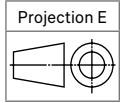
HV Gate Valve, Series 11.0

5

Main Dimensions



- ▼ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⊕ Electrical connection
- ⊖ Mechanical position indication
- ⊙ Position indicator
- ⊕ Leak detection hole
- ⊖ Emergency operation
- For attachment

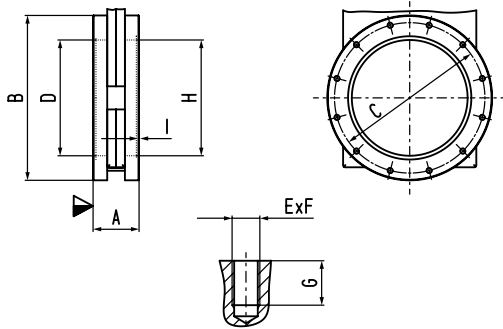


DN	mm	inch	63	80	100	160	200	250	320
			2½	3	4	6	8	10	12
K	mm	inch	27	27	27	27	34.50	41	54
			1.06	1.06	1.06	1.06	1.36	1.61	2.13
L	mm	inch	342	358	414	521	626	796	1010
			13.46	14.07	16.30	20.51	24.65	31.34	39.76
M	mm	inch	57	57	73	99	120	161	198
			2.24	2.24	2.87	3.90	4.73	6.34	7.80
N	mm	inch	191	205	246	336	429	558	723
			7.52	8.07	9.68	13.23	16.89	21.97	28.46
O	mm	inch	115	115	145	200	250	344	448
			4.53	4.53	5.71	7.87	9.84	13.54	17.64
O1	mm	inch	112	112	143	192	230	321	396
			4.41	4.41	5.63	7.56	9.06	12.64	15.59
P	mm	inch	70	70	70	70	80	80	114
			2.76	2.76	2.76	2.76	3.15	3.15	4.49
Q	mm	inch	180	180	220	290	350	450	560
			7.09	7.09	8.66	11.42	13.78	17.72	22.05
S	mm	inch	11	11	9	25	38.50	65	80
			0.43	0.43	0.35	0.98	1.52	2.44	3.15
T	mm	inch	151	151	168	185	197	238	287
			5.94	5.94	6.61	7.28	7.76	9.37	11.30
U	mm	inch	70	70	70	70	90	90	90
			2.76	2.76	2.76	2.76	3.54	3.54	3.54
U1	mm	inch	83	83	83	83	103	103	103
			3.27	3.27	3.27	3.27	4.06	4.06	4.06
V	mm	inch	145	145	145	145	150	150	150
			5.71	5.71	5.71	5.71	5.91	5.91	5.91
W	mm	inch	80	80	80	80	89	89	89
			3.15	3.15	3.15	3.15	3.50	3.50	3.50

Flange Dimensions

ISO-F

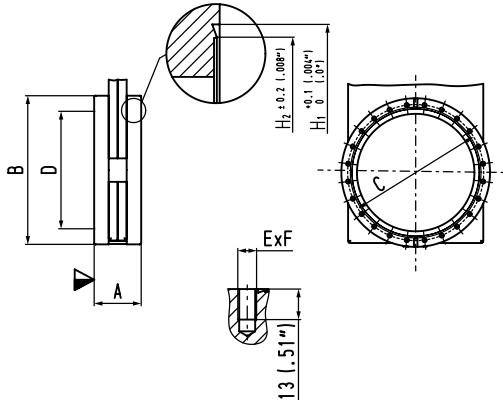
DN 63 – 320 (2½" – 12")



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	120 4.72
B	mm inch	130 5.12	145 5.71	165 6.50	225 8.86	285 11.22	350 13.78	425 16.73
C	mm inch	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24	310 12.20	395 15.55
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	261 10.28	306 12.05
E × F		4 × M8	8 × M8	8 × M8	8 × M10	12 × M10	12 × M10	12 × M12
G	mm inch	13 0.51	13 0.51	13 0.51	13 0.51	15 0.59	15 0.59	18 0.71
H	mm inch	-	83 3.27	102 4.02	153 6.02	213 8.39	-	318 12.52
I	mm inch	-	3 0.12	3 0.12	5 0.20	5 0.20	-	5 0.20

CF-F, metric threads

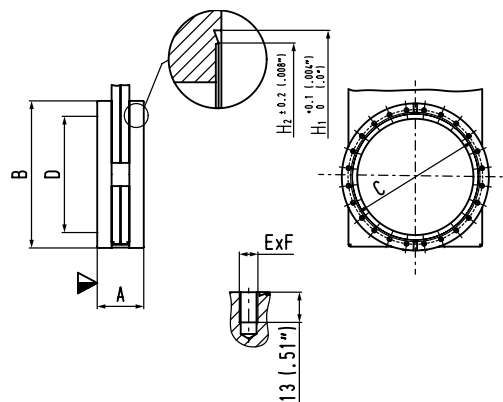
DN 63 – 250 (2½" – 10")



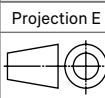
DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 10	
O.D.	inch	4½	4 5/8	6	8	10	12	
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	
B	mm inch	113.50 4.47	117.50 4.63	151.60 5.97	202.40 7.97	253.20 9.97	350 13.78	
C	mm inch	92.10 3.63	102.40 4.03	130.20 5.13	181 7.13	231.80 9.13	284 11.18	
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	
E × F		8 × M8	10 × M8	16 × M8	20 × M8	24 × M8	32 × M8	
H1	mm inch	82.50 3.25	91.65 3.61	120.70 4.75	171.45 6.75	222.40 8.76	273.15 10.75	
H2	mm inch	77.40 3.05	86.30 3.40	115.50 4.55	166 6.54	217 8.54	267 10.51	

CF-F, UNF threads

DN 63 – 250 (2½" – 10")



DN	mm inch	63 2½	80 3	100 4	160 6	200 8	250 ¹⁾ 10	250 ²⁾ 10
O.D.	mm inch	4½	4 5/8	6	8	10	12 ¹⁾	13 ¼ ²⁾
A	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	80 3.15	100 3.94	100 3.94
B	mm inch	113.50 4.47	117.50 4.63	151.60 5.97	202.40 7.97	253.20 9.97	350 13.78	350 13.78
C	mm inch	92.10 3.63	102.40 4.03	130.20 5.13	181 7.13	231.80 9.13	284 11.18	306.30 12.06
D	mm inch	70 2.76	76 2.99	100 3.94	150 5.91	200 7.87	254 10.00	254 10.00
E × F		8 × 5/16" 24 UNF	10 × 5/16" 24 UNF	16 × 5/16" 24 UNF	20 × 5/16" 24 UNF	24 × 5/16" 24 UNF	32 × 5/16" 24 UNF	30 × 3/8" 24 UNF
H1	mm inch	82.50 3.25	91.65 3.61	120.70 4.75	171.45 6.75	222.40 8.76	273.15 10.75	294.64 11.60
H2	mm inch	77.40 3.05	86.30 3.40	115.50 4.55	166 6.54	217 8.54	267 10.51	288.30 11.35



▽ Valve seat side

¹⁾ VAT standard O.D. 12"

²⁾ Option O.D. 13¼": Ordering No. 11048-UE44-X, X = O.D. 13¼"

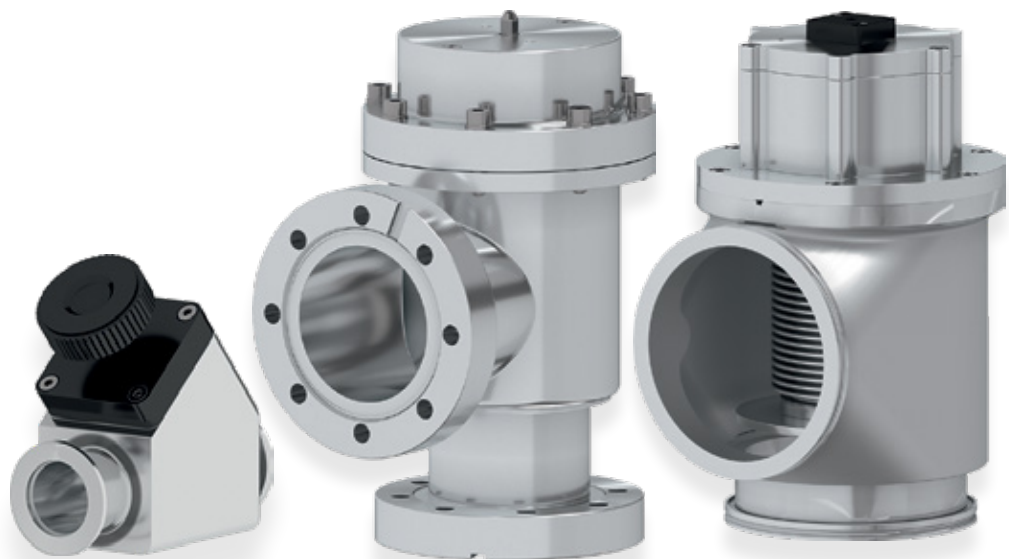
5 HV Gate Valve, Series 11.0



WORLD MARKET LEADER IN VACUUM VALVES

5

VAT Angle/Poppet Valves



ANGLE/POPPET VALVES

For pumping and venting of HV systems.

Resistant against high differential pressure

Long lifetime



Manual

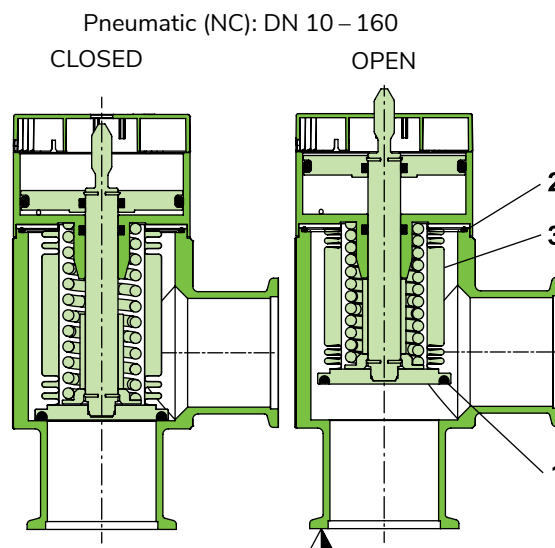
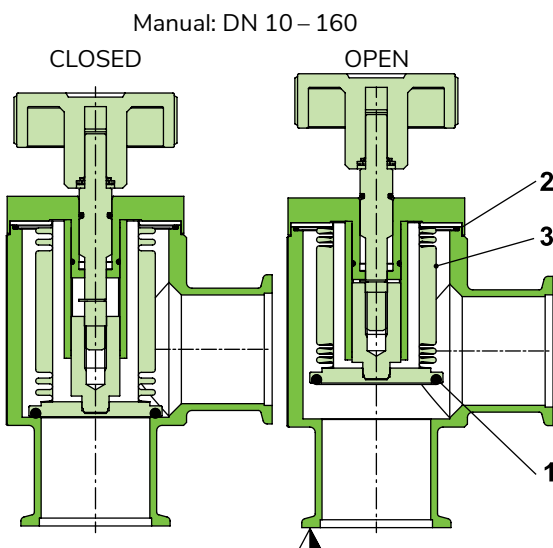


Pneumatic

Main Features

Sizes	DN 10 – 160 mm (3/8" – 6")
Actuators	manual: with removable handwheel pneumatic: single acting with closing spring (NC) or double acting
Body material	aluminum (available in stainless steel upon request)
Feedthrough	bellows
Standard flanges	ISO-QF (ISO-KF), ISO-LF (ISO-K)

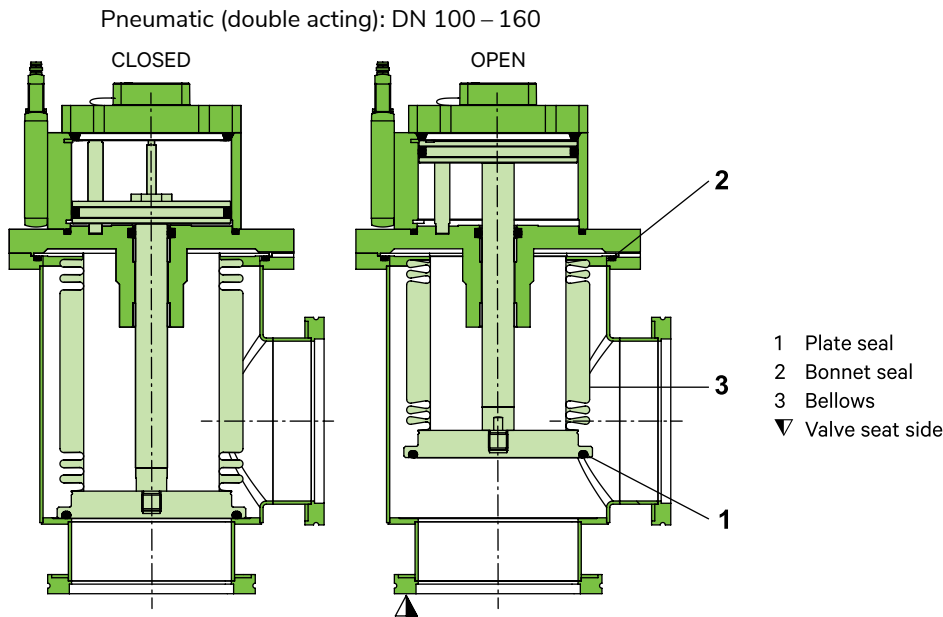
Functional Principle



- 1 Plate seal
- 2 Bonnet seal
- 3 Bellows
- ▼ Valve seat side

5 HV Angle/Inline Valve, Series 26.4 / 26.5

Functional Principle



Technical Data (Angle and Inline Valves)

Leak rate	Valve body, valve seat		$< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range	Valve with manual/pneumatic actuator	DN 10 – 50	$1 \cdot 10^{-8}$ mbar to 5 bar (abs)
		DN 63 – 80	$1 \cdot 10^{-8}$ mbar to 4 bar (abs)
		DN 100 – 160	$1 \cdot 10^{-8}$ mbar to 2 bar (abs)
Differential pressure on the plate	Valve with manual/pneumatic actuator	In opening direction	
		DN 10 – 50	≤ 2.0 bar
		DN 63 – 160	≤ 1.2 bar
		In closing direction	
		DN 10 – 50	≤ 5.0 bar
		DN 63 – 80	≤ 4.0 bar
		DN 100 – 160	≤ 2.0 bar
Differential pressure at opening			≤ 1 bar
Cycles until first service ¹⁾	Valve with manual actuator	DN 10 – 160	10 000
	Valve with pneumatic actuator	DN 10 – 80	3 million (NC)
		DN 100 – 160	1 million (NC, double acting)
Temperature ²⁾	Valve body: valve with manual/pneumatic actuator		≤ 150 °C
	Actuator: manual/pneumatic		≤ 120 °C
	Solenoid valve & position indicator	DN 10 – 80	≤ 80 °C
		DN 100 – 160	≤ 50 °C

Continued on next page

Material	Aluminum valve body	DN 16 – 63	EN AW-6060 (3.3206), EN AW-6061 (3.3211), EN AW-6063 (3.3206), EN AW-6082 (3.2315)
	Plate	DN 80 – 160	EN AC-42000
	Bellows		AISI 316L (1.4404, 1.4435)
Seal	Bonnet, plate		AISI 316L (1.4404, 1.4435), AISI 316 Ti (1.4571)
Feedthrough			FKM (Viton®)
Mounting position			bellows
Solenoid valve		DN 10 – 80 DN 100 – 160	any
Position indicator: contact rating	Voltage: valve with manual/pneumatic actuator		24 V DC, 2.5 W (others on request)
	Current: valve with manual/pneumatic actuator		24 V DC, 1.0 W (others on request)
Operating frequency: valve with electromagnetic actuator			5 – 50 V AC / DC
Valve position indication			5 – 100 mA
			max. 15 min ⁻¹ at 20 °C
			visual (mechanical)

¹⁾ Tested at room temperature under clean and static conditions.

²⁾ Maximum values: depending on operating conditions and sealing materials.

5

HV Angle/Inline Valve, Series 26.4/26.5

Angle Valves

			with manual actuator			with pneumatic actuator, single acting with closing spring (NC)						
DN (nominal I. D.)		Conductance (molecular flow)	Turns per stroke	Weight		Compressed air m ³ – max. overpressure		Volume of pneumatic actuator		Closing time	Weight	
mm	inch			kg	lbs	bar	psi	l	ft ³		kg	lbs
10	3/8	3	3.6	–	–	4 – 8	58 – 116	0.004	0.0001	0.10	–	–
16	5/8	5	3.6	0.20	0.44	4 – 8	58 – 116	0.004	0.0001	0.10	0.28	0.62
25	1	14	3.8	0.27	0.60	4 – 8	58 – 116	0.011	0.0004	0.20	0.41	0.90
40	1 1/2	45	4.5	0.60	1.32	4 – 8	58 – 116	0.035	0.0012	0.55	0.97	2.14
50	2	80	4.8	0.94	2.07	4 – 8	58 – 116	0.047	0.0017	0.65	1.45	3.20
63	2 1/2	160	6.6	2.90	6.39	4 – 8	58 – 116	0.112	0.0040	0.70	2.90	6.39
80	3	200	6.6	3.10	6.83	4 – 8	58 – 116	0.112	0.0040	0.70	3.10	6.83
100	4	440	11	5.79	12.76	4.5 – 7	65 – 102	0.330	0.0117	1	10	22
160	6	1000	11	8.83	19.47	4.5 – 7	65 – 102	1.050	0.0371	2	14	31

– continued next page –

Angle Valves

DN (nominal I. D.)		Conductance (molecular flow)	with pneumatic actuator, double acting						
			Compressed air m" – max. overpressure		Volume of pneumatic actuator		Closing time	Weight	
mm	inch	ls ⁻¹	bar	psi	l	ft ³		s	kg
100	4	440	4.5 – 7	65 – 102	0.330	0.0117	1	7.38	16.27
160	6	1000	4.5 – 7	65 – 102	0.380	0.0134	2	12.54	27.65

Inline Valves

DN (nominal I. D.)		Conductance (molecular flow)	with manual actuator			with pneumatic actuator, single acting with closing spring (NC)						
			Turns per stroke	Weight		Compressed air m" – max. overpressure		Volume of pneumatic actuator		Closing time	Weight	
mm	inch	ls ⁻¹		n	kg	lbs	bar	psi	l		ft ³	s
16	5/8	5	3.6	0.28	0.62	4 – 8	58 – 116	0.004	0.0001	0.10	0.50	1.10
25	1	14	3.8	0.42	0.93	4 – 8	58 – 116	0.011	0.0004	0.20	0.60	1.32
40	1 1/2	45	4.5	1	2.20	4 – 8	58 – 116	0.035	0.0012	0.55	1.40	3.09
50	2	80	4.8	1.61	3.55	4 – 8	58 – 116	0.047	0.0017	0.65	2.60	5.73
80	3	200	6.6	3	6.61	4 – 8	58 – 116	0.112	0.0040	0.70	3.75	8.27

Ordering Information

Valve with Manual Actuator

Removable Handwheel

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT26424-KA01	5/8	16	QF16
VAT26428-KA01	1	25	QF25
VAT26432-KA01	1 1/2	40	QF40
VAT26434-KA01	2	50	QF50
VAT26436-QA01	2 1/2	63	LF63
VAT26438-QA01	3	80	LF80
VAT26440-QA01	4	100	LF100
VAT26444-QA01	6	160	LF160



Valve with Pneumatic Actuator

Single Acting with Closing Spring (NC)

Without Solenoid Valve

With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT26424-KA21	5/8	16	QF16
VAT26428-KA21	1	25	QF25
VAT26432-KA21	1 1/2	40	QF40
VAT26434-KA21	2	50	QF50
VAT26436-QA21	2 1/2	63	LF63
VAT26438-QA21	3	80	LF80
VAT26440-QA21	4	100	LF100
VAT26444-QA21	6	160	LF160



ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

Valve with Pneumatic Actuator

Double-Acting

Without Solenoid Valve

With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT26440-QA24	4	100	LF100
VAT26444-QA24	6	160	LF160



5 HV Angle/Inline Valve, Series 26.4/26.5

Service Kits for HV Angle Valve, Series 26.4

PART #	DESCRIPTION
VAT242324	Service Kit for 5/8 " HV Angle Valves, Series 26.4
VAT241077	Service Kit for 1 " HV Angle Valves, Series 26.4
VAT241079	Service Kit for 1 1/2 " HV Angle Valves, Series 26.4
VAT245556	Service Kit for 2 " HV Angle Valves, Series 26.4
VAT250695	Service Kit for 2 1/2 " HV Angle Valves, Series 26.4
VAT250697	Service Kit for 3 " HV Angle Valves, Series 26.4
VAT577551	Service Kit for 4 " HV Angle Valves, Series 26.4
VAT577547	Service Kit for 6 " HV Angle Valves, Series 26.4

Ordering Information

HV In-Line Valve, Series 26.5

Valve with Manual Actuator

Removable Handwheel

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT26524-KA01	5/8	16	QF16
VAT26528-KA01	1	25	QF25
VAT26532-KA01	1 1/2	40	QF40
VAT26534-KA01	2	50	QF50
VAT26538-QA01	3	80	LF80

Valve with Pneumatic Actuator

Single Acting with Closing Spring (NC)

Without Solenoid Valve

With Position Indicator

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT26524-KA21	5/8	16	QF16
VAT26528-KA21	1	25	QF25
VAT26532-KA21	1 1/2	40	QF40
VAT26534-KA21	2	50	QF50
VAT26538-QA21	3	80	LF80

ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

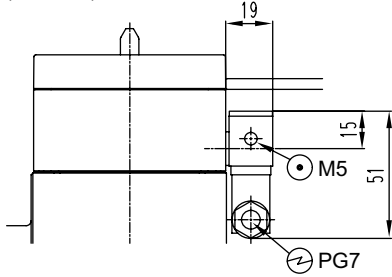
Service Kits for HV Inline Valve, Series 26.5

PART #	DESCRIPTION
VAT242324	Service Kit for 5/8" HV Inline Valves, Series 26.5
VAT241077	Service Kit for 1" HV Inline Valves, Series 26.5
VAT241079	Service Kit for 1 1/2" HV Inline Valves, Series 26.5
VAT245556	Service Kit for 2" HV Inline Valves, Series 26.5
VAT250697	Service Kit for 2 1/2" HV Inline Valves, Series 26.5

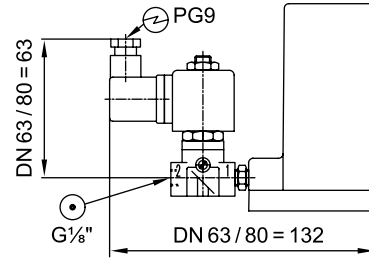


Solenoid Valves

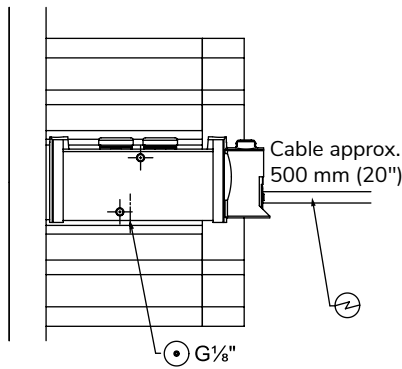
Solenoid valve
DN 10 – 50 (3/8" – 2")



Solenoid valve
DN 63 – 80 (2 1/2" – 3")



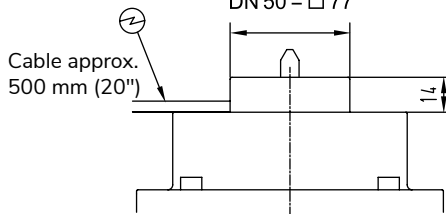
Solenoid valve
DN 100 – 160 (4" – 6")



Position Indicator

Position indicator
DN 10 – 160 (3/8" – 6")

- DN 10 / 16 = □ 40
- DN 25 / 63 / 80 / 100 / 160 = □ 48
- DN 40 / 200 / 250 = □ 65
- DN 50 = □ 77



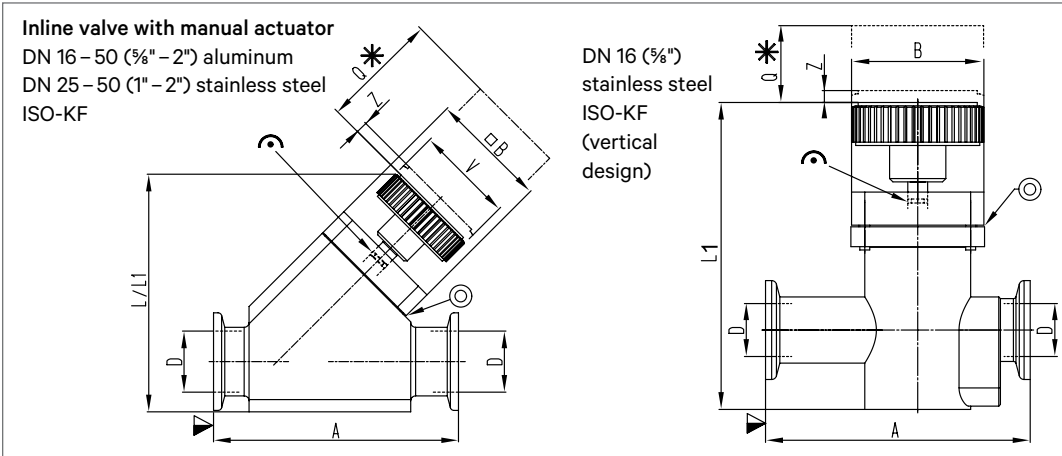
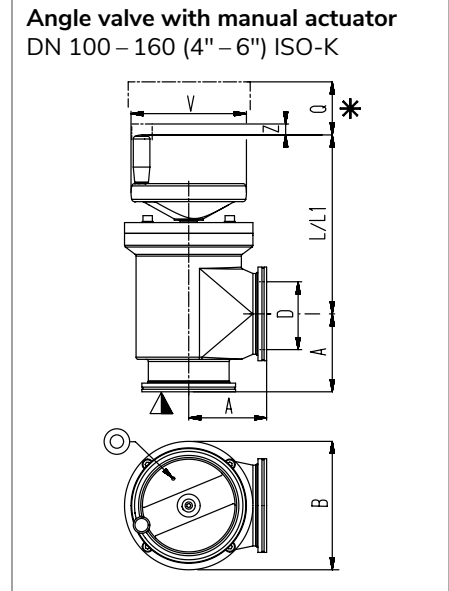
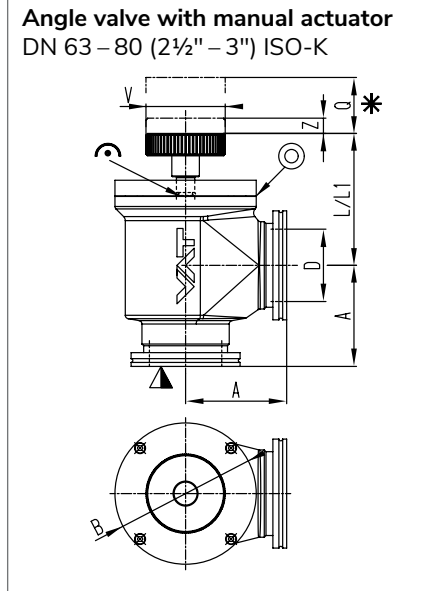
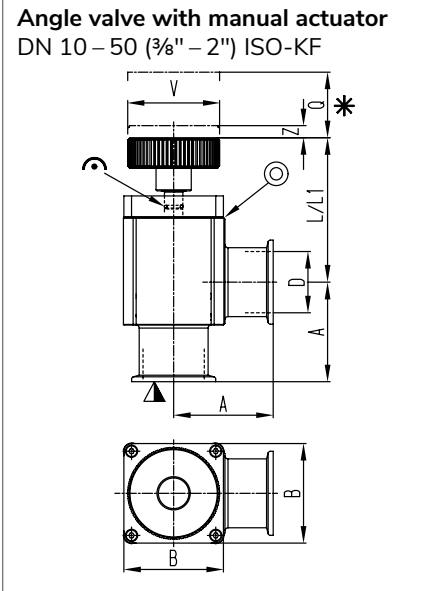
One closing contact each for the open and closed valve positions.

- ⊕ Compressed air connection
- ⊖ Electrical connection

5

HV Angle/Inline Valve, Series 26.4/26.5

Dimensions



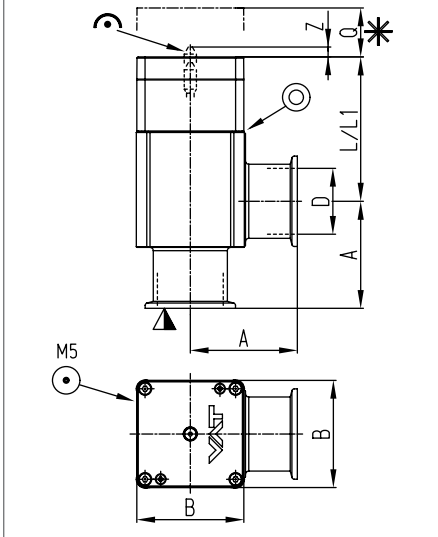
- ▽ Valve seat side
 - * Required for dismantling
 - ⊕ Mechanical position indication
 - ⊙ Leak detection hole
- L = aluminum
L1 = stainless steel

¹⁾ Gate stroke longer due to transmission

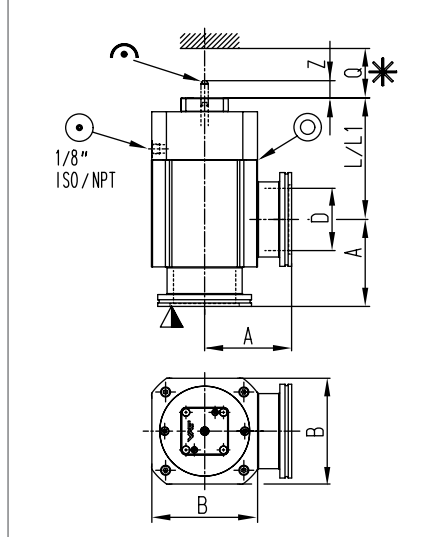
DN	Angle valves									Inline valves					
	mm inch	10 3/8	16 5/8	25 1	40 1 1/2	50 2	63 2 1/2	80 3	100 4	160 6	16 5/8	25 1	40 1 1/2	50 2	80 3
A	mm inch	30 1.18	40 1.57	50 1.97	65 2.56	70 2.76	88 3.46	90 3.54	108 4.25	138 5.43	80 3.15	100 3.94	130 5.12	178 7.01	on request
B	mm inch	40 1.57	40 1.57	48 1.89	65 2.56	77 3.03	123 4.84	123 4.84	154 6.06	215 8.46	40 1.57	48 1.89	65 2.56	77 3.03	
D	mm inch	12 0.47	16 0.63	25 0.98	40 1.57	50 1.97	63 2.48	80 3.15	100 3.94	153 6.02	16 0.63	25 0.98	40 1.57	50 1.97	
L	mm inch	-	64.90 2.56	60.90 2.40	94.30 3.71	101.10 3.98	112 4.41	111.70 4.40	225.10 8.86	240.50 9.47	90.60 3.57	97 3.82	143.50 5.65	167.20 6.58	
L1	mm inch	67.40 2.65	67.40 2.65	64.30 2.53	97.30 3.83	104.10 4.10	111.70 4.40	-	215.60 8.49	244.70 9.63	92.80 3.65	105.80 4.17	152.50 6	175.10 6.89	
Q	mm inch	46 1.81	46 1.81	44 1.73	73.50 2.89	85.50 3.37	105 4.13	105 4.13	170 6.69	195 7.68	46 1.81	44 1.73	73.50 2.89	85.50 3.37	
V	mm inch	40 1.57	40 1.57	40 1.57	60 2.36	60 2.36	60 2.36	60 2.36	100 3.94	160 6.30	40 1.57	40 1.57	60 2.36	60 2.36	
Z ¹⁾	mm inch	3.60 0.14	3.60 0.14	4.70 0.19	7.90 0.31	9.30 0.37	13.30 0.52	13.30 0.52	22 0.87	27.20 1.07	3.60 0.14	4.70 0.19	7.90 0.31	9.30 0.37	

Dimensions

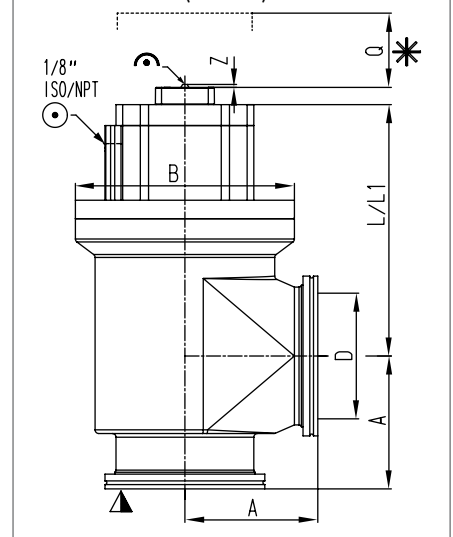
Angle valve with pneumatic actuator, single acting with closing spring (NC)
DN 10 – 50 (3/8" – 2") ISO-KF



Angle valve with pneumatic actuator, single acting with closing spring (NC)
DN 63 (2 1/2") ISO-K



Angle valve with pneumatic actuator, single acting with closing spring (NC)
DN 80 – 160 (3" – 6") ISO-K
double acting
DN 100 – 160 (4" – 6") ISO-K



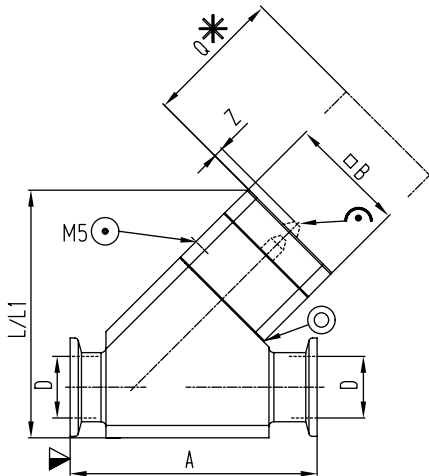
L = aluminum
L1 = stainless steel

	DN	mm	10	16	25	40	50	63	80	100	160
		inch	3/8	5/8	1	1 1/2	2	2 1/2	3	4	6
	A	mm	30	40	50	65	70	88	90	108	138
		inch	1.18	1.57	1.97	2.56	2.76	3.46	3.54	4.25	5.43
	B	mm	40	40	48	65	77	107.60	123	178	220
		inch	1.57	1.57	1.89	2.56	3.03	4.24	4.84	7.01	8.66
with closing spring	L	mm	-	65.20	60.60	87.70	96	123	109	218.30	221.50
		inch	-	2.57	2.39	3.45	3.78	4.84	4.29	8.59	8.72
double acting	L1	mm	67.70	67.70	64	90.70	99	118.40	-	211.70	228
		inch	2.67	2.67	2.52	3.57	3.90	4.66	-	8.33	8.98
double acting	L	mm	-	-	-	-	-	-	-	218.10	218.50
		inch	-	-	-	-	-	-	-	8.59	8.60
	Q	mm	46	46	44	73.50	85.50	105	115.60	170	200
		inch	1.81	1.81	1.73	2.89	3.37	4.13	4.55	6.69	7.87
	Z	mm	2	2	4	9.50	10.50	31.40	31.40	2.40	2.40
		inch	0.08	0.08	0.16	0.37	0.41	1.24	1.24	0.09	0.09

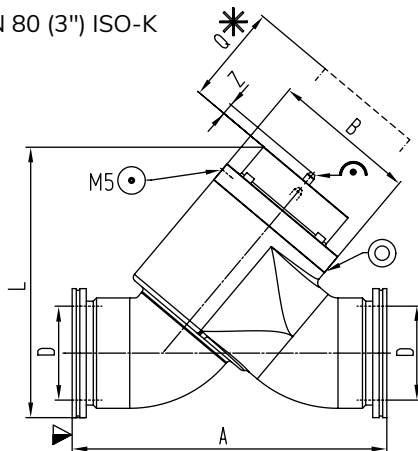
- ▼ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⌚ Mechanical position indication
- ⊙ Leak detection hole

Dimensions

Inline valve with pneumatic actuator,
single acting with closing spring (NC)
DN 16 – 50 (5/8" – 2") ISO-KF



DN 80 (3") ISO-K



L = aluminum
L1 = stainless steel

	DN	mm	16	25	40	50	80
	inch		5/8	1	1 1/2	2	3
	A	mm	80	100	130	178	268
	inch		3.15	3.94	5.12	7.01	10.55
	B	mm	40	48	65	77	123
	inch		1.57	1.89	2.56	3.03	4.84
	D	mm	16	25	40	50	80
	inch		0.63	0.98	1.57	1.97	3.15
with closing spring	L	mm	91.50	100.30	140.90	170.10	230.50
	inch		3.60	3.95	5.55	6.70	9.07
	L1	mm	93	108.90	149.90	171.80	-
	inch		3.66	4.29	5.90	6.76	-
	Q	mm	46	44	73.50	85.50	150
	inch		1.81	1.73	2.89	3.37	5.91
	Z	mm	2	4	9.50	10.50	31.40
	inch		0.08	0.16	0.37	0.41	1.24

- ▼ Valve seat side
- * Required for dismantling
- ⊕ Compressed air connection
- ⊖ Mechanical position indication
- ⊕ Control electronics connection
- ⊙ Leak detection hole

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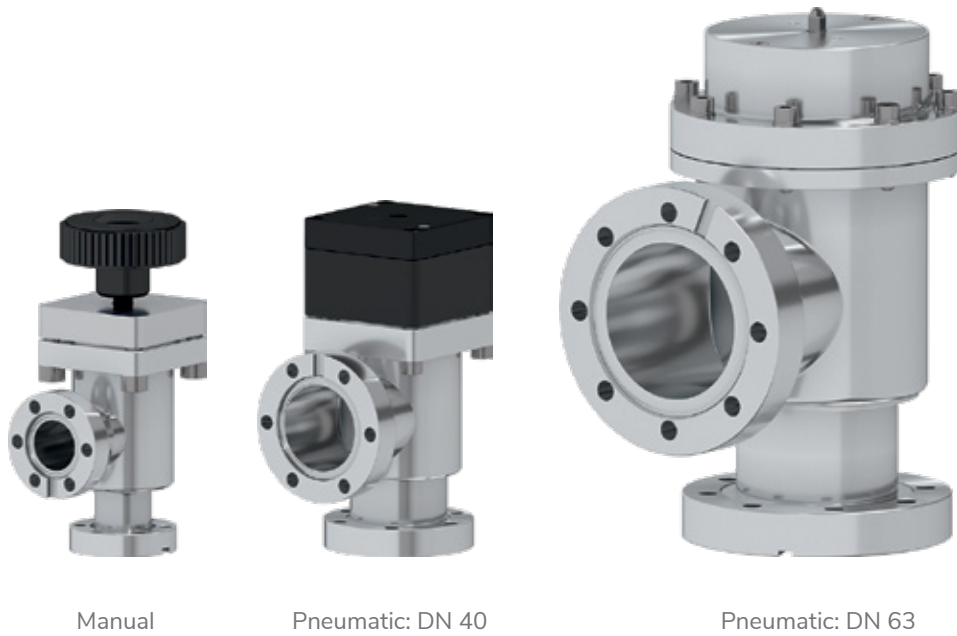
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Resistant against high differential pressure

Stationary rotatable CF flange

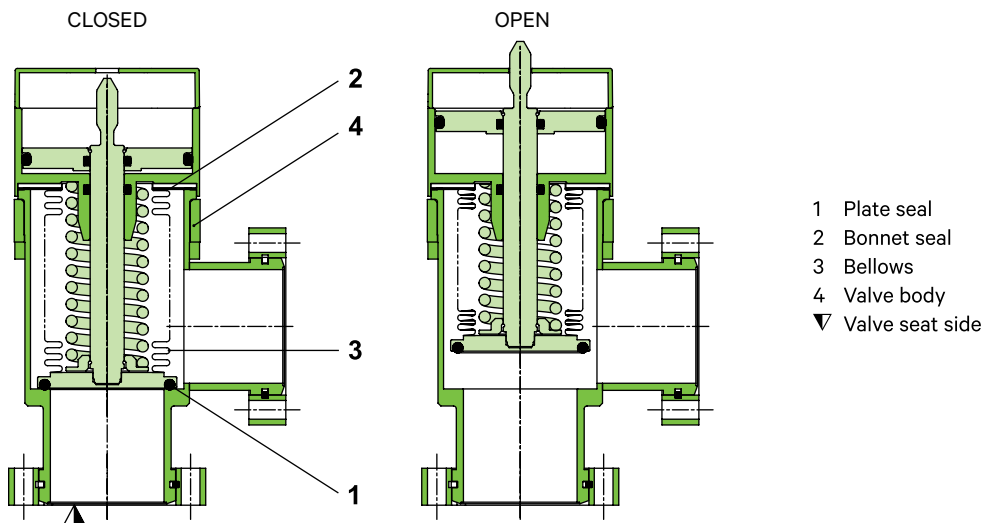
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UHV Angle Valve, Series 28.4

Main Features

Sizes	DN 16 – 63 mm (5/8" – 2½")
Actuators	manual: with removable handwheel pneumatic: single acting with closing spring (NC)
Body material	stainless steel
Feedthrough	bellows
Standard flanges	CF-R

Functional Principle



Technical Data

Leak rate	Valve body Valve seat	$< 5 \cdot 10^{-10}$ mbar ls ⁻¹ $< 1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range		5 · 10 ⁻¹⁰ mbar to 5 bar (abs)
Differential pressure on the plate	In opening direction In closing direction	≤ 2 bar ≤ 5 bar
Differential pressure at opening		≤ 1 bar
Cycles until first service		3 million
Temperature ¹⁾	Valve body Manual actuator Pneumatic actuator Solenoid valve & position indicator	≤ 150 °C ≤ 120 °C ≤ 150 °C ≤ 80 °C
Material	Valve body DN 16, 40 DN 63 Plate Bellows	AISI 304 (1.4301) AISI 316L (1.4404, 1.4435) AISI 316L (1.4404, 1.4435) AISI 316L (1.4404, 1.4435)
Seal	Bonnet Plate	metal FKM (Viton®)
Feedthrough		bellows
Mounting position		any
Solenoid valve		24 V DC (others on request)
Position indicator: contact rating	Voltage Current	5 – 50 V AC / DC 5 – 100 mA
Valve position indication		visual (mechanical)

¹⁾ Maximum values: depending on operating conditions and sealing materials.

			with manual actuator				with pneumatic actuator, single acting with closing spring (NC)						
DN (nominal I.D.)		CF-R flange	Conductance (molecular flow)	Turns per stroke	Weight		Compressed air m ³ – max. overpressure		Volume of pneumatic actuator		Closing time	Weight	
mm	inch		ls ⁻¹	n	kg	lbs	bar	psi	l	ft ³	s	kg	lbs
16	5/8	1 1/3	5	3.6	0.30	0.70	4 – 8	58 – 116	0.004	0.0001	0.10	0.40	0.90
40	1 1/2	2 3/4	45	4.5	1.50	3.30	4 – 8	58 – 116	0.035	0.0012	0.55	1.60	3.50
63	2 1/2	4 1/2	160	6.6	5.30	11.70	4 – 8	58 – 116	0.112	0.0040	0.70	6.00	13.20

UHV Angle Valve, Series 28.4

Ordering Information

Valve with Manual Actuator

Removable Handwheel

REFERENCE ID	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT28424-GE01	5/8	16	CF133
VAT28432-GE01	1 1/2	40	CF275
VAT28436-GE01	2 1/2	63	CF450



Valve with Pneumatic Actuator

Single acting with closing spring (NC)

Without Solenoid Valve

With Position Indicator

REFERENCE ID	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT28424-GE21	5/8	16	CF133
VAT28432-GE21	1 1/2	40	CF275
VAT28436-GE21	2 1/2	63	CF450



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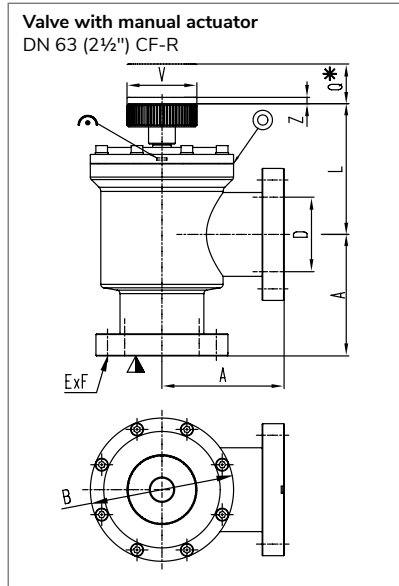
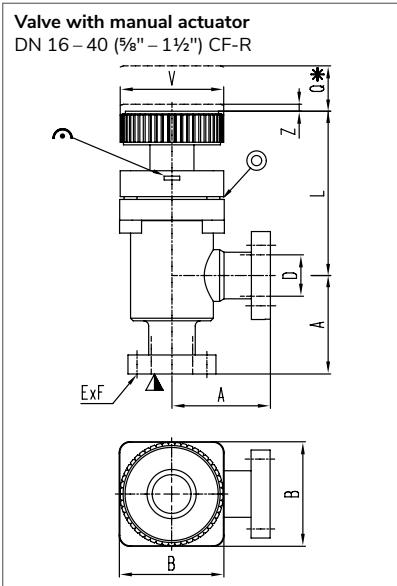
UHV Angle Valve, Series 28.4

ORDERING NOTE: 120V AC & 24V DC Solenoids are available upon request.

Service Kits for UHV Angle Valve, Series 28.4

PART #	DESCRIPTION
VAT313005	Service Kit for 5/8" UHV Angle Valves, Series 28.4
VAT313007	Service Kit for 1 1/2" UHV Angle Valves, Series 28.4
VAT313009	Service Kit for 1 1/2" UHV Angle Valves, Series 28.4

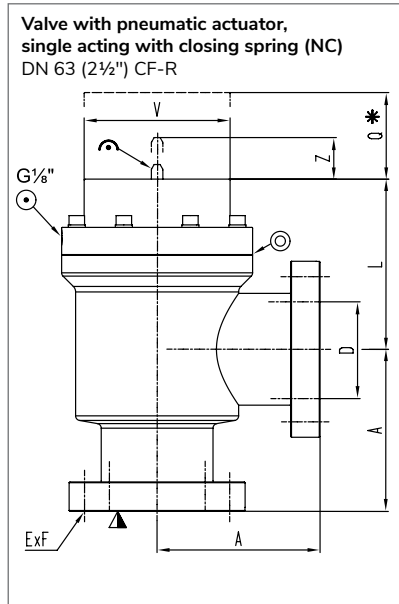
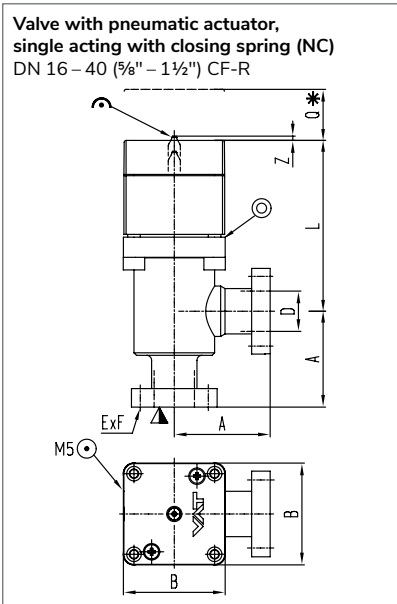
Dimensions



DN	mm	16	40	63
	inch	5/8	1 1/2	2 1/2
A	mm	38	63	105
	inch	1.50	2.48	4.13
B	mm	40	65	123
	inch	1.57	2.56	4.84
D	mm	16	40	64
	inch	0.63	1.57	2.52
E x F		6 x 4.30 6 x 0.17	6 x 6.60 6 x 0.26	8 x 8.40 8 x 0.33
L	mm	67.30	97.40	111.70
	inch	2.65	3.83	4.40
Q	mm	45	73.50	105
	inch	1.77	2.89	4.13
V	mm	40	60	60
	inch	1.57	2.36	2.36
Z	mm	3.60	7.90	13.40
	inch	0.14	0.31	0.53

DN	mm	16	40	63
	inch	5/8	1 1/2	2 1/2
A	mm	38	63	105
	inch	1.50	2.48	4.13
B	mm	40	65	-
	inch	1.57	2.56	-
D	mm	16	40	64
	inch	0.63	1.57	2.52
E x F		6 x 4.30 6 x 0.17	6 x 6.60 6 x 0.26	8 x 8.40 8 x 0.33
L	mm	67.80	90.80	109.60
	inch	2.67	3.57	4.31
Q	mm	45	71	105
	inch	1.77	2.80	4.13
V	mm	-	-	94
	inch	-	-	3.70
Z	mm	2	9.50	31.40
	inch	0.08	0.37	1.24

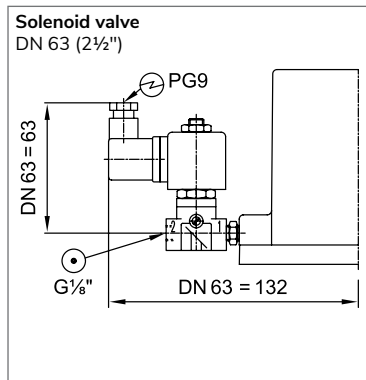
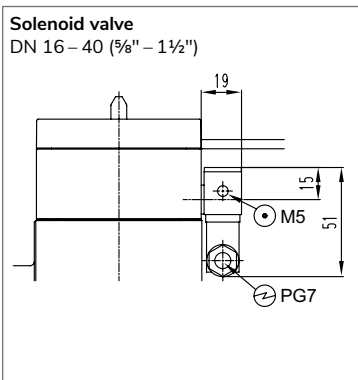
- ▼ Valve seat side
- * Required for dismantling
- ⊙ Compressed air connection
- ⌚ Mechanical position indication
- ⊙ Leak detection hole



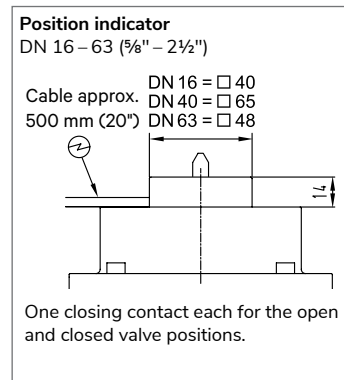
HV Angle Valve, Series 28.4

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Solenoid Valves

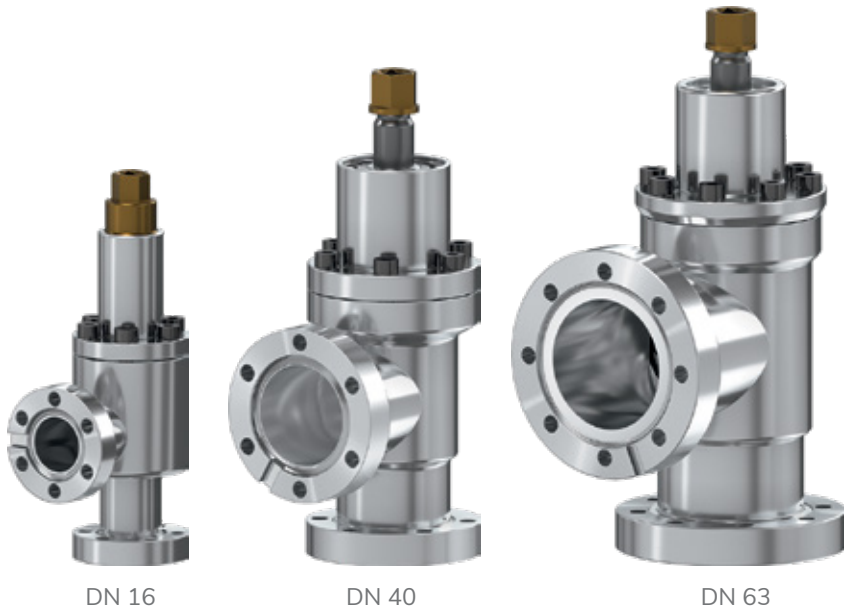


Position Indicator



- ⊙ Compressed air connection
- ⊙ Electrical connection

For vacuum processes with extreme UHV requirements.



Sealing surfaces are only elastically deformed

Convenient operation with a standard hexagon wrench – no torque wrench required

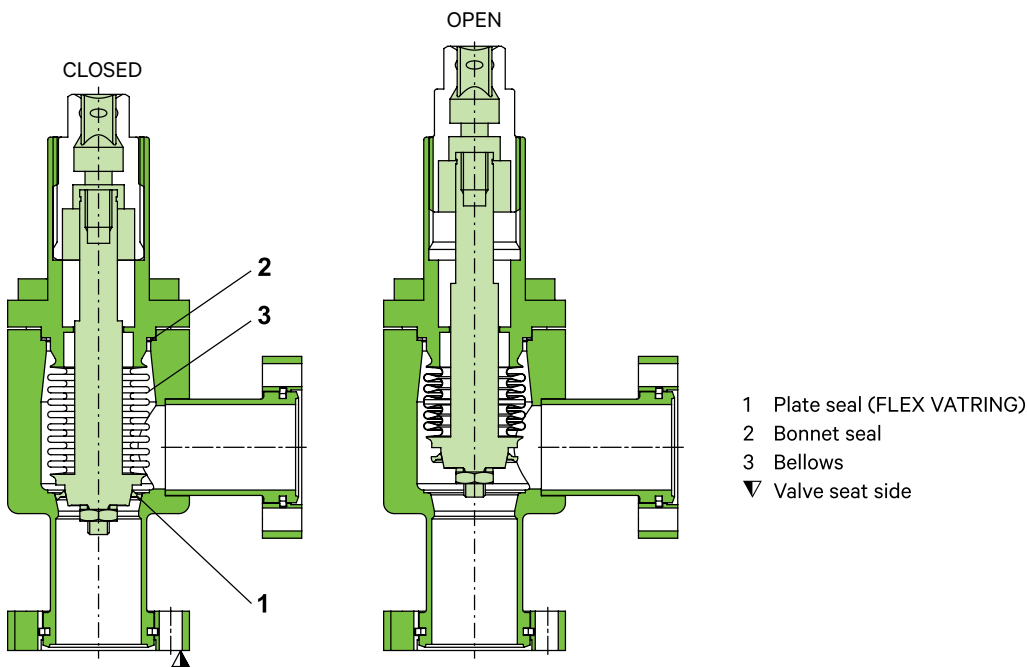
High conductance

FLEX VATRING exchangeable twice

Main Features

Sizes	DN 16 – 63 mm (5/8" – 2½")
Actuator	manual: hexagon head
Body material	stainless steel
Standard flanges	CF-R
Sealing technology	FLEX VATRING

Functional Principle



- 1 Plate seal (FLEX VATRING)
- 2 Bonnet seal
- 3 Bellows
- ▼ Valve seat side

Technical Data

Leak rate	Valve body, valve seat	$< 1 \cdot 10^{-10}$ mbar ls ⁻¹
Pressure range		XHV to 2 bar (abs)
Differential pressure on the plate		≤ 2 bar
Differential pressure at opening		≤ 1 bar ¹⁾
Lifetime		≥ 1 000 cycles
Bake-out temperature ²⁾	In open and closed position	≤ 300 °C
Heating and cooling rate		≤ 60 °C h ⁻¹
Material	Valve body, mechanism, bellows	AISI 316L (1.4404, 1.4435)
Seal	Bonnet, plate	metal
Feedthrough		bellows
Mounting position		any
Valve position indication		visual (mechanical)
Conductance (molecular flow)	DN 16	5 ls ⁻¹
	DN 40	50 ls ⁻¹
	DN 63	105 ls ⁻¹
Closing force		closes at a mechanical stop
Weight	DN 16	0.4 kg / 0.9 lbs
	DN 40	1.9 kg / 4.2 lbs
	DN 63	5.9 kg / 13 lbs

¹⁾ > 1 bar with reduced number of cycles.

²⁾ Maximum values: depending on operating conditions and sealing materials.

Ordering Information

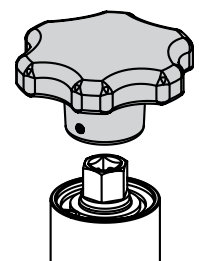
Easy Close All-Metal Angle Valve, Series 54.1

PART #	SIZE (in)	SIZE (mm)	FLANGE ENDS
VAT54124-GE02	5/8	16	CF133
VAT54132-GE02	1 1/2	40	CF275
VAT54136-GE02	2 1/2	63	CF450



Handwheel

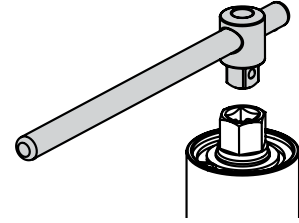
PART #	DESCRIPTION
VAT240039	Handwheel for 5/8" All-Metal Angle Valve, Series 54.1
VAT531966	Handwheel for 1 1/2" All-Metal Angle Valve, Series 54.1



5 Easy Close Angle Valve, Series 54.1

T-Bar Tool

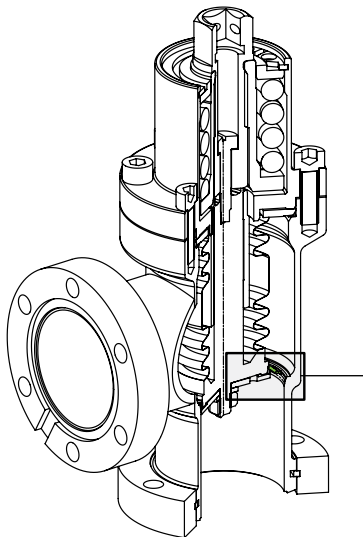
PART #	DESCRIPTION
VAT312699	T-Bar Tool for 5/8" All-Metal Angle Valve, Series 54.1
VAT530026	T-Bar Tool for 1 1/2" All-Metal Angle Valve, Series 54.1
VAT312731	T-Bar Tool for 2 1/2" All-Metal Angle Valve, Series 54.1



Service Kit for All-Metal Angle Valve, Series 54.1

The service kits allow you to exchange the FLEX VATRING without remachining the sealing surface on the valve seat. The FLEX VATRING may be replaced up to two times. The service kit 1 is for the first, the service kit 2 is for the second exchange.

PART #	DESCRIPTION
VAT529581	Service Kit 1 for 5/8" All-Metal Angle Valve, Series 54.1
VAT529582	Service Kit 2 for 5/8" All-Metal Angle Valve, Series 54.1
VAT530022	Service Kit 1 for 1 1/2" All-Metal Angle Valve, Series 54.1
VAT530023	Service Kit 2 for 1 1/2" All-Metal Angle Valve, Series 54.1
VAT530024	Service Kit 1 for 2 1/2" All-Metal Angle Valve, Series 54.1
VAT530025	Service Kit 2 for 2 1/2" All-Metal Angle Valve, Series 54.1

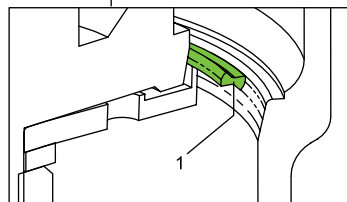


Easy replacement of FLEX VATRING

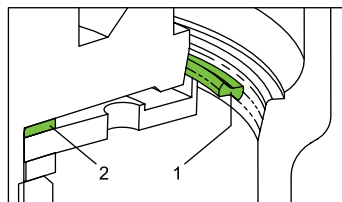
In case of a seat seal leak caused by environmental influences, the FLEX VATRING seal can be replaced twice without the need for re-machining the valve seat.

Three seal rings of different diameters enable leak tight sealing on three different levels of pre-prepared sealing surface provided in the valve body. If there is damage on one level, the replacement seal ring of a different diameter will seal at the next level.

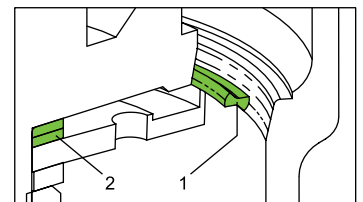
ANCORP offers a range of service kits, and the seal exchange can easily be carried out by the user.



Initial sealing system (maximum diameter of FLEX VATRING seal)

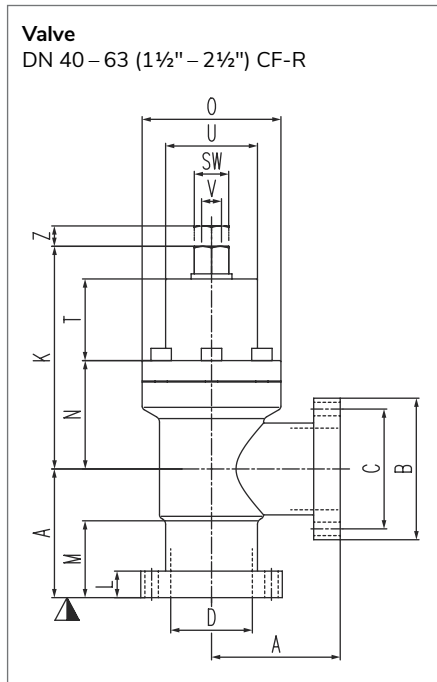
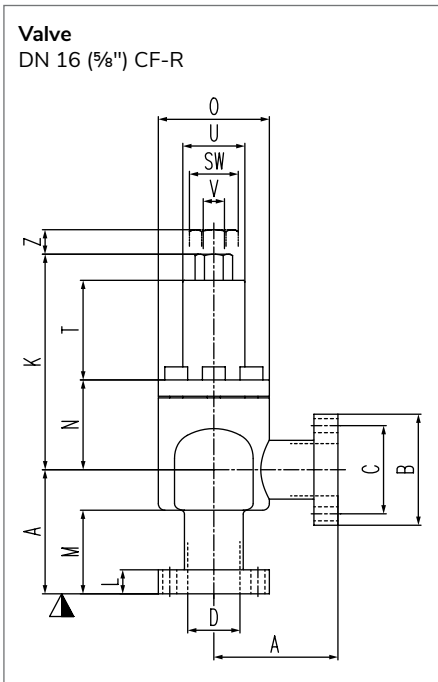


Sealing system after installation of the first service kit (medium diameter of FLEX VATRING seal)



Sealing system after installation of the second service kit (minimum diameter of FLEX VATRING seal)

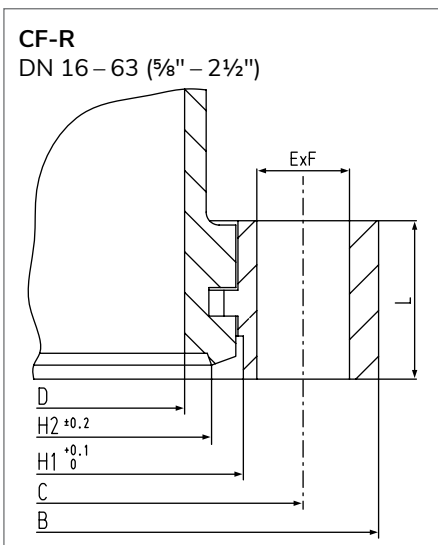
Main Dimensions



DN	mm	16	40	63
	inch	5/8	1 1/2	2 1/2
A	mm	38	63	105
	inch	1.50	2.48	4.13
B	mm	34	69.35	113.35
	inch	1.34	2.73	4.46
C	mm	27	58.70	92.10
	inch	1.06	2.31	3.63
D	mm	16	40	64
	inch	0.63	1.57	2.52
K	mm	66	109.10	141.50
	inch	2.60	4.30	5.57
L	mm	7.35	13	18.90
	inch	0.29	0.51	0.74
M	mm	25.60	37.60	56.60
	inch	1.01	1.48	2.23
N	mm	27.50	53.10	74
	inch	1.08	2.09	2.91
O	mm	34	68	94
	inch	1.34	2.68	3.70
SW	mm	10	17	22
	inch	0.39	0.67	0.87
T	mm	30.50	40	51.50
	inch	1.20	1.57	2.03
U	mm	19	45	54
	inch	0.75	1.77	2.13
V	mm	6.35	9.53	12.70
	inch	0.25	0.38	0.50
Z	mm	8.50	20	20
	inch	0.33	0.79	0.79

▼ Valve seat side

Flange Dimensions



DN	mm	16	40	63
	inch	5/8	1 1/2	2 1/2
B	mm	34	69.35	113.35
	inch	1.34	2.73	4.46
C	mm	27	58.70	92.10
	inch	1.06	2.31	3.63
D	mm	16	40	64
	inch	0.63	1.57	2.52
E x F	mm	6 x 4.30	6 x 6.60	8 x 8.40
	inch	6 x 0.17	6 x 0.26	8 x 0.33
H1	mm	21.40	48.30	82.50
	inch	0.84	1.90	3.25
H2	mm	18.50	42	77.40
	inch	0.73	1.65	3.05
L	mm	7.35	13	18.90
	inch	0.29	0.51	0.74

5 Easy Close Angle Valve, Series 54.1