

Vacuum Valves

Ball Valves



Angle Valves



In-line Valves



Special Valves



Gate Valves



Valve Accessories



Introduction	Page 6-3
Ball Valves	
2-way ball valves, manual	Page 6-4
3-way ball valves, manual	Page 6-5
Angle Valves	
Manual	Page 6-6 to 6-8
Pneumatic	Page 6-9 to 6-16
Electromagnetic	Page 6-17 to 6-18
In-line Valves	
Manual	Page 6-19 to 6-21
Pneumatic	Page 6-22 to 6-24
Electromagnetic	Page 6-25
Special Valves	
Smooth exhaust angle valves	Page 6-26 to 6-27
Gas shut-off valves	Page 6-28
Overpressure valves	Page 6-29
Vent valves	Page 6-30
Soft vent valves	Page 6-31
High vacuum needle valves	Page 6-31
UHV gas dosing valves	Page 6-32 to 6-33
Gate Valves	
Manual	Page 6-34 to 6-35
Pneumatic	Page 6-36 to 6-43
With special equipment	Page 6-44
Valve Accessories	
Solenoid valves (assembly kit included)	Page 6-45 to 6-46
Autoswitches	Page 6-47
Socket outlets	Page 6-47
Connectors	Page 6-48 to 6-49
Baffles	Page 6-49
Air pressure hoses	Page 6-49
Replacement gaskets	Page 6-49

Introduction

Vacuum valves are essential shut-off elements for any vacuum system. They are used in the vacuum lines or directly at the vacuum chamber. VACOM offers a large selection of vacuum valves for many applications in rough, medium, high and ultra high vacuum. In the following we give an overview of the available vacuum valves and their applications.

Ball valves are particularly suitable for rough vacuum. Under certain conditions they can also be used in medium vacuum. VACOM offers two- and three-way ball valves of brass or stainless steel. Two-way ball valves possess an in the flow direction axially bored ball, which by turning 90 ° opens or closes the flow passage. Actuation is realised by a handle that also serves as position indicator. Pneumatic or electric actuators are available as an option. Three-way ball valves have three ports and the ball has either an L-bore or a T-bore. Depending on the position, several connections can be combined.

VACOM's angle and in-line valves are available in a number of versions in nominal sizes DN16 to DN630. They are proven and cost-effective shut-off elements and most valves are suitable for use in high vacuum for industrial and research and development applications. The leak rates of these valves are very low and special attention has been directed to materials and design, with respect to the demands of vacuum technology. The range covers valves of aluminium and stainless steel construction with manual, pneumatic and electromagnetic variants. Depending on the design KF, ISO-K or CF ports are available and usually the valves are FKM sealed. Angle valves for UHV applications are also equipped with metal seals. The valve drive is bellows-sealed using edge welded bellows and hydroformed bellows. The description of all variants and models is beyond the scope of this introduction but we will be pleased to help you choose the optimum product for your application.

VACOM's gate valves are suitable for both high and ultra high vacuum applications. They have a very small installation length with maximum conductance and are primarily used as stop valves for pumping or sluice systems. Our standard gate valves of the American manufacturer HVA have a circular flow passage and a drive with linear feedthrough.

High vacuum and ultra high vacuum valves are available, depending on application. Housings and valve seats of high-vacuum valves are FKM-sealed whereas metal seals are used in valves intended for UHV applications. The drives are manually or electropneumatically actuated and the linear feedthroughs are bellows-sealed.

In addition to standard valves VACOM also offers rectangle gate valves of the Japanese manufacturer SMC. These were specifically designed for demanding applications of the semiconductor industry and in development and research. These valves are offered in different styles: with cassette housing or a rectangular door.

New to this catalogue are pendulum gate valves by HVA. Due to the special housing design they offer advantages in the installation, where standard gate valves can not be used. These valves are suitable for high vacuum applications, but they can also be supplied with CF flanges for UHV systems. Pendulum gate valves are available with aluminium or combined aluminium/stainless steel housings. The drive is pneumatically operated and the rotary feedthrough of the drive is bellows-sealed.

In addition to the above mentioned valves VACOM also offers a wide range of special valves. There are vent valves with manual or electromagnetic drive and mechanical overpressure valves for rough and medium vacuum help to protect your vacuum system.

VACOM can supply gas dosing valves and shut-off valves with manual or electric drive. Depending on the model, they are applicable for HV to UHV and our UHV all-metal gas dosing valves comply with the highest standards of reproducibility and precision.

Soft start and soft vent valves are especially designed for use in automated systems. Using a special two-stage switch they prevent turbulence and provide the controlled evacuation or venting of the vacuum systems.

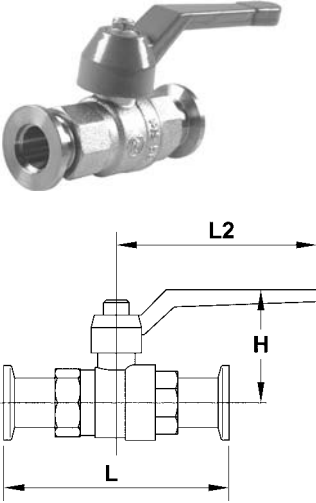
Special gate valves, such as 3-position gate valves or control gate valves are available on request.

At the end of the chapter you will find accessories for the installation of our valves, especially position indicator switches and screw connections for compressed-air connections.

We would also like to draw your attention to our service department. VACOM is the official service partner for the valves of the manufacturers SMC and HVA. We can maintain and repair your vacuum valves and also offer you a spare part service for bellows and other worn parts.

2-way ball valves, manual

Brass (nickel plated) housing

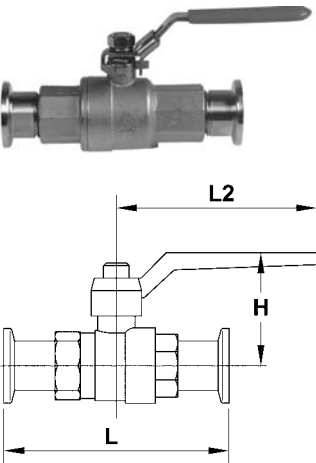


Technical data

■ Series	ZKH-M
■ Specifications	2-way ball valve for use in rough vacuum - applicable for noncorrosive media
■ Actuation	manual with handle
■ Connection	KF flanges
■ Pressure range	1 mbar to atmospheric pressure
■ Pressure resistance	PN20 (without flange tube)
■ Pass	optically free
■ Leak rate	< 1.0E-7 mbar l/s
■ Housing construction	one-part
■ Housing material	brass nickel-plated
■ Flange material	stainless steel
■ Ball seal material	PTFE
■ Drive seal material	FKM
■ Thread seal material	PTFE (fixed with glue)
■ Operating temperature	-20 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	position handle
■ Options	- other connections on request - pneumatic and electric drives on request

Order code	Connection	H	L	L2
ZKH-16M	DN16KF	50	100	100
ZKH-25M	DN25KF	72	103	120
ZKH-40M	DN40KF	90	137	180
ZKH-50M	DN50KF	98	168	185

Stainless steel housing



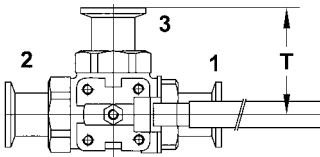
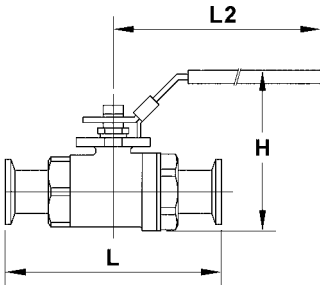
Technical data

■ Series	ZKH-S
■ Specifications	2-way ball valve for use in rough vacuum - applicable for noncorrosive or slightly corrosive media
■ Actuation	manual with handle
■ Connection	KF flanges
■ Pressure range	1 mbar to atmospheric pressure
■ Pass	optically free
■ Pressure resistance	PN30 (without flange tube)
■ Leak rate	< 1.0E-7 mbar l/s
■ Housing construction	one-part
■ Housing material	stainless steel
■ Flange material	stainless steel
■ Ball seal material	PTFE
■ Drive seal material	PTFE
■ Thread seal material	PTFE (fixed with glue)
■ Operating temperature	-20 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	position handle
■ Options	- other connections on request - pneumatic and electric drives on request

Order code	Connection	H	L	L2
ZKH-16S	DN16KF	45	90	80
ZKH-25S	DN25KF	55	102	115
ZKH-40S	DN40KF	75	122	150
ZKH-50S	DN50KF	86	146	170

3-way ball valves, manual

Stainless steel housing

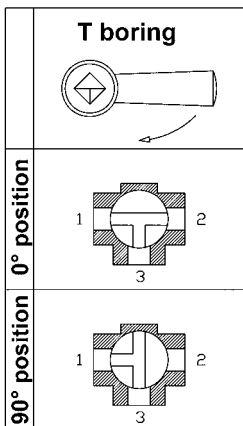
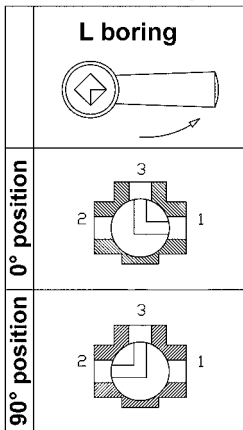


Technical data

■ Series	DKH-S
■ Specifications	3-way ball valve with L or T boring for use in rough vacuum - applicable for non or slightly corrosive media
■ Actuation	manual with handle, switchover possibly overlapping
■ Connection	KF flanges
■ Pressure range	1 mbar to atmospheric pressure
■ Pressure resistance	PN30 (without flange tube)
■ Leak rate	< 1.0E-7 mbar l/s
■ Housing construction	one-part
■ Housing material	stainless steel
■ Flange material	stainless steel
■ Ball seal material	PTFE
■ Drive seal material	FKM / PTFE
■ Thread seal material	PTFE (fixed with glue)
■ Operating temperature	-20 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	position handle
■ Options	- other connections on request - pneumatic and electric drives on request

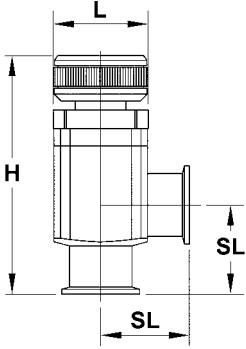
Order code	Connection	Boring	H	L	L2	T
DKH-16S	DN16KF	L	65	120	160	60
DKH-25S	DN25KF	L	81	144	190	72
DKH-40S	DN40KF	L	93	171	250	86
DKH-50S	DN50KF	L	105	200	250	100
DKH-16S-T	DN16KF	T	65	120	160	60
DKH-25S-T	DN25KF	T	81	144	190	72
DKH-40S-T	DN40KF	T	93	171	250	86
DKH-50S-T	DN50KF	T	105	200	250	100

Drive fitting



Compact, manual

Aluminium housing

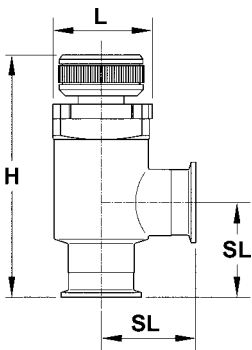


Technical data

■ Series	XLH
■ Specifications	compact and light high vacuum angle valve, aluminium - applicable for noncorrosive processes and applications
■ Actuation	manual with handwheel
■ Connection	KF flanges
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	aluminium
■ Bellows material	stainless steel
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	within handwheel
■ Durability	up to 100,000 cycles

Order code	Connection	Conductance (l/s)	H	L	SL
XLH-16	DN16KF	5	101	38	40
XLH-25	DN25KF	14	114	48	50
XLH-40	DN40KF	45	163	66	65
XLH-50	DN50KF	80	180	79	70

Stainless steel housing



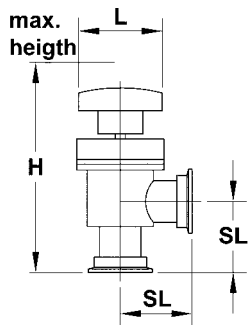
Technical data

■ Series	XMH
■ Specifications	compact high vacuum angle valve, stainless steel - for all vacuum applications - applicable for corrosive processes
■ Actuation	manual with handwheel
■ Connection	KF flanges
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	stainless steel
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	within handwheel
■ Durability	up to 100,000 cycles
■ Option	- other seals on request

Order code	Connection	Conductance (l/s)	H	L	SL
XMH-16	DN16KF	5	101	38	40
XMH-25	DN25KF	14	114	48	50
XMH-40	DN40KF	45	163	66	65
XMH-50	DN50KF	80	180	79	70

Standard HV, manual

Stainless steel housing



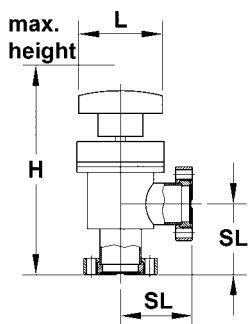
Technical data

■ Series	MAV
■ Specifications	rugged, versatile applicable HV angle valve, stainless steel - O-ring sealed housing
■ Actuation	manual with handwheel
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	handwheel position
■ Durability	up to 100,000 cycles

Order code	Connection	H	L	SL
MAV16K-EU	DN16KF	142	57	40
MAV25K-EU	DN25KF	147	57	50
MAV40K-EU	DN40KF	199	76	65
MAV50K-EU	DN50KF	236	89	70
MAV63K-EU	DN63ISO-K	292	102	88

CF standard UHV, manual

Stainless steel housing



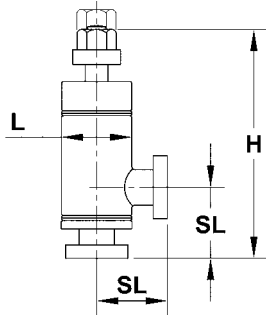
Technical data

■ Series	MAM
■ Specifications	competitive, rugged and versatile applicable UHV angle valve - metal sealed housing
■ Actuation	manual with handwheel
■ Pressure range	1.0E-9 mbar to atmospheric pressure
■ Impermeability valve seat	< 1.0E-9 mbar l/s
■ Impermeability equipment	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	copper
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Bakeout temperature opened	max. 200 °C
■ Mounting position	arbitrary
■ Visual position indicator	handwheel position
■ Durability	up to 100,000 cycles

Order code	Connection	H	L	SL
MAM16C-EU	DN16CF-R	139	57	38
MAM40C-EU	DN40CF-R	202	76	63
MAM63C-EU	DN63CF-R	309	102	105

All-metal, manual

Stainless steel housing



Technical data

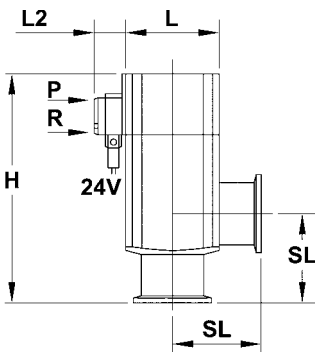
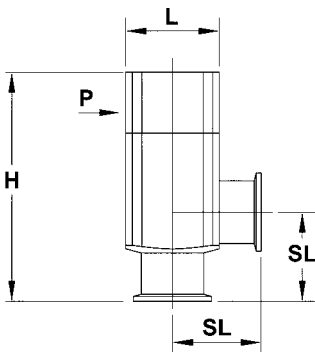
■ Series	VUV
■ Specifications	all metal UHV angle valve - copper sealed housing and valve seat - for use in UHV and extreme UHV
■ Actuation	manual with hexagon key or allen screw
■ Connection	CF flanges - rotatable
■ Pressure range	1.0E-12 mbar to atmospheric pressure
■ Leak rate	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	stainless steel
■ Housing seal material	copper
■ Seal valve plate material	replaceable copper gasket
■ Bakeout temperature opened	to 400 °C
■ Bakeout temperature closed	to 250 °C
■ Mounting position	arbitrary
■ Visual position indicator	position hexagon bolt
■ Remark	gasket exchange through lateral flange

Order code	Connection	H	L	SL
GMV-16R	DN16CF-R	122	38	38
GMV-40R	DN40CF-R	170	54	63

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Compact, pneumatic

Aluminium housing



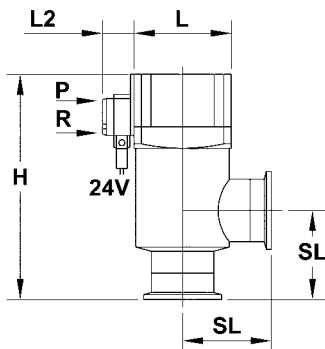
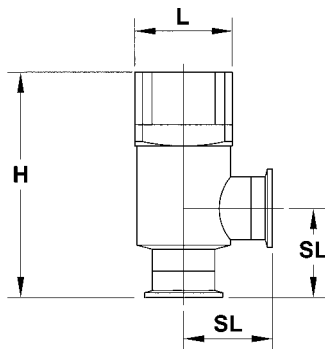
Technical data

- Series XLA
- Specifications compact and light high vacuum angle valve, aluminium, with pneumatic drive,
 - series XLA without solenoid valve
 - series XLAV with integrated solenoid valve
- Actuation pneumatic, single-acting, pressureless closed
- Connection KF and ISO-K flanges
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 7 bar
- Housing construction 2-parts, drive removable
- Housing material aluminium
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature
 - series XLA 5 °C to 60 °C
 - series XLAV 5 °C to 50 °C
- Power supply control valve 24 V DC, 0.55 W
- Scope of delivery model XLAV 3 m solenoid connection cable, baffle and plug connection for hose Ø 6 mm incl.
- Mounting position arbitrary
- Visual position indicator within drive cap
- Electric position indicator prepared for mounting of electronic autoswitches from nominal width DN25 also Reed switches
- Durability up to 2,000,000 cycles
- Accessories
 - autoswitches
 - solenoid valves
 - air pressure accessories
- Further options
 - high temperature version to 150 °C
 - other sealing materials
 - double-acting drives
 - other nominal widths on request

Order code	Connection	Conductance (l/s)	H	L	L2	SL	Air pressure connection
XLA-16G	DN16KF	5	103	38	-	40	M5
XLA-25G	DN25KF	14	113	48	-	50	M5
XLA-40G	DN40KF	45	158	66	-	65	Rc 1/8
XLA-50G	DN50KF	80	170	79	-	70	Rc 1/8
XLA-63DG	DN63ISO-K	160	196	100	-	88	Rc 1/8
XLAV-16G-PACK	DN16KF	5	103	38	16.5	40	M5
XLAV-25G-PACK	DN25KF	14	113	48	16.5	50	M5
XLAV-40G-PACK	DN40KF	45	158	66	17.5	65	M5
XLAV-50G-PACK	DN50KF	80	170	79	17.5	70	M5
XLAV-63DG-PACK	DN63ISO-K	160	196	100	29	88	Rc 1/8, M5

Compact, pneumatic

Stainless steel housing



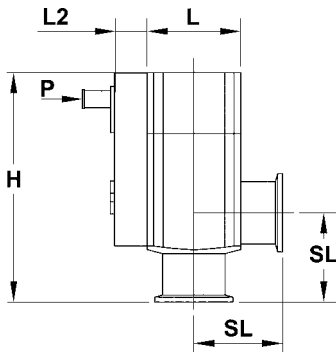
Technical data

- Series XMA
- Specifications compact high vacuum angle valve, stainless steel with pneumatic drive,
 - series XMA without solenoid valve
 - series XMAV with integrated solenoid valve
- Actuation pneumatic, single-acting, pressureless closed
- Connection KF and ISO-K flanges
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 7 bar
- Housing construction 2-parts, drive removable
- Housing material stainless steel
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature
 - series XMA 5 °C to 60 °C
 - series XMAV 5 °C to 50 °C
- Power supply control valve 24 V DC, 0.55 W
- Scope of delivery model XMAV 3 m solenoid connection cable, baffle and plug connection for hose Ø 6 mm incl.
- Mounting position arbitrary
- Visual position indicator within drive cap
- Electric position indicator prepared for mounting of electronic autoswitches from nominal width DN25 also Reed switches
- Durability up to 2,000,000 cycles
- Accessories
 - autoswitches
 - solenoid valves
 - air pressure accessories
- Further options
 - high temperature version to 150 °C
 - other sealing materials
 - double-acting drives

Order code	Connection	Conductance (l/s)	H	L	L2	SL	Air pressure connection
XMA-16G	DN16KF	5	103	30	-	40	M5
XMA-25G	DN25KF	14	113	40	-	50	M5
XMA-40G	DN40KF	45	158	55	-	65	Rc 1/8
XMA-50G	DN50KF	80	170	75	-	70	Rc 1/8
XMA-63DG	DN63ISO-K	160	209	100	-	88	Rc 1/8
XMAV-16G-PACK	DN16KF	5	103	38	16.5	40	M5
XMAV-25G-PACK	DN25KF	14	113	48	16.5	50	M5
XMAV-40G-PACK	DN40KF	45	158	66	17.5	65	M5
XMAV-50G-PACK	DN50KF	80	170	79	28	70	M5
XMAV-63DG-PAC	DN63ISO-K	160	196	100	29	88	-

Compact - ready for installation, pneumatic

Aluminium housing



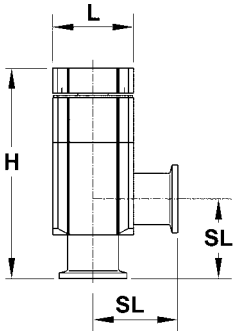
Technical data

■ Series	XLAV-PA
■ Specifications	compact and light high vacuum angle valve, aluminium - pneumatic drive - ideal for automated processes - ready for connection with solenoid valve and autoswitches incl. pneumatic, single-acting, pressureless closed
■ Actuation	KF flanges
■ Connection	internal thread M5
■ Air pressure connection	port RJ45, 8-pin
■ Electrical connections	1.0E-8 mbar to atmospheric pressure
■ Pressure range	< 1.0E-9 mbar l/s
■ Leak rate	hydroformed bellows
■ Drive seal	4 to 7 bar
■ Air pressure	2-parts, drive removable, solenoid valve and plate contact with touch-proof cover
■ Housing construction	aluminium
■ Housing material	stainless steel
■ Bellows material	stainless steel
■ Valve plate material	FKM
■ Housing seal material	FKM
■ Seal valve plate material	5 °C to 50 °C
■ Operating temperature	24 V DC, 0.55 W
■ Power supply control valve	arbitrary
■ Mounting position	LED - red (closed) - green (open)
■ Visual position indicator	2 Reed switches, 24 V DC, max. 0.2 A switching current
■ Electric position indicator	up to 2,000,000 cycles
■ Durability	

Order code	Connection	Conductance (l/s)	H	L	L2	SL
XLAV-16G-PA	DN16KF	5	103	38	16.5	40
XLAV-25G-PA	DN25KF	14	113	48	16.5	50
XLAV-40G-PA	DN40KF	45	158	66	17.5	65

Compact with snap closure, pneumatic

Aluminium housing



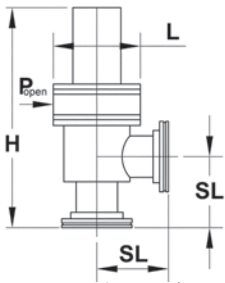
Technical data

- Series XLAQ
- Specifications high vacuum angle valve, aluminium
 - housing snap closure
 - compact and low weight
 - for applications with maintenance intensive processes
 - pneumatic and valve drive removable for cleaning and maintenance via snap closure without demounting of the valve housing
- Actuation pneumatic, single-acting, pressureless closed
- Connection KF flanges
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 7 bar
- Housing construction 2-parts, drive with snap closure removable
- Housing material aluminium
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature 5 °C to 60 °C
- Mounting position arbitrary
- Visual position indicator within drive cap
- Electric position indicator prepared for mounting of electronic autoswitches from nominal diameter DN25 also Reed switches
- Accessories
 - autoswitches
 - solenoid valves
 - air pressure accessories
- Further options
 - high temperature version to 150 °C
 - inner surface oxalic acid oxidised
 - other sealing materials

Order code	Connection	Conductance (l/s)	H	L	SL	Air pressure connection
XLAQ-16G	DN16KF	5	120	38	40	M5
XLAQ-25G	DN25KF	14	133	48	50	M5
XLAQ-40G	DN40KF	45	178	66	65	Rc 1/8
XLAQ-50G	DN50KF	80	190	79	70	Rc 1/8

KF standard HV, pneumatic

Stainless steel housing



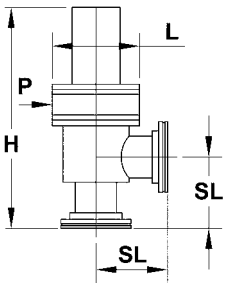
Technical data

■ Series	PAV-KF
■ Specifications	rugged high vacuum angle valve, stainless steel with KF flanges and pneumatic drive - versatile use - metric and imperial dimensions
■ Actuation	pneumatic, single-acting, pressureless closed
■ Connection	KF flanges
■ Air pressure connection	internal thread Rc 1/8
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Blade dimension	ISO or ANSI standard
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	4 to 6.5 bar
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	not available
■ Electric position indicator	2 Reed switches (optional) 4 to 240 V AC/DC, 5 to 40 mA (temperature max. 50 °C)
■ Durability	up to 1,000,000 cycles
■ Accessories	- solenoid valves - air pressure accessories

Order code	Connection	H	L	SL	Dimensions	Autoswitch
PAV16K-EU	DN16KF	142	57	40	metric	no
PAV25K-EU	DN25KF	149	57	50	metric	no
PAV40K-EU	DN40KF	199	76	65	metric	no
PAV50K-EU	DN50KF	246	89	70	metric	no
PAV16K	DN16KF	157	57	55	imperial	no
PAV25K	DN25KF	150	57	52	imperial	no
PAV40K	DN40KF	118	76	61	imperial	no
PAV50K	DN50KF	262	89	86	imperial	no
PAV16KL-EU	DN16KF	158	57	40	metric	yes
PAV25KL-EU	DN25KF	164	57	50	metric	yes
PAV40KL-EU	DN40KF	214	76	65	metric	yes
PAV50KL-EU	DN50KF	251	88	70	metric	yes
PAV16KL	DN16KF	172	57	55	imperial	yes
PAV25KL	DN25KF	166	57	52	imperial	yes
PAV40KL	DN40KF	210	76	61	imperial	yes
PAV50KL	DN50KF	263	89	86	imperial	yes

ISO-K standard HV, pneumatic

Stainless steel housing



6

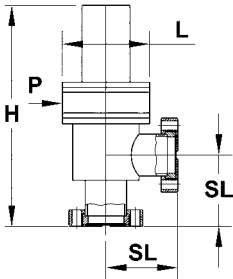
Technical data

■ Series	PAV-ISO
■ Specifications	rugged high vacuum angle valve, stainless steel with ISO-K flanges and pneumatic drive - versatile use - metric and imperial dimensions
■ Actuation	pneumatic, double-acting
■ Connection	ISO-K flanges
■ Air pressure connection	internal thread Rc 1/8
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Blade dimension	ISO or ANSI standard
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	4 to 6.5 bar
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	not available
■ Electric position indicator	2 Reed switches (optional) 4 to 240 V AC/DC, 5 to 40 mA (temperature max. 50 °C)
■ Durability	up to 500,000 cycles
■ Accessories	- solenoid valves - air pressure accessories

Order code	Connection	H	L	SL	Dimensions	Autoswitch
PAV63K-EU	DN63ISO-K	280	102	88	metric	no
PAV100K-EU	DN100ISO-K	364.5	165	108	metric	no
PAV63K	DN63ISO-K	274	102	83	imperial	no
PAV100K	DN100ISO-K	370	165	114	imperial	no
PAV63KL-EU	DN63ISO-K	281	100	88	metric	yes
PAV100KL-EU	DN100ISO-K	347	152	108	metric	yes
PAV63KL	DN63ISO-K	281	100	88	imperial	yes
PAV100KL	DN100ISO-K	347	152	108	imperial	yes

Standard UHV, pneumatic

Stainless steel housing



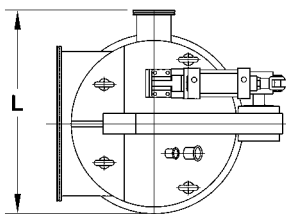
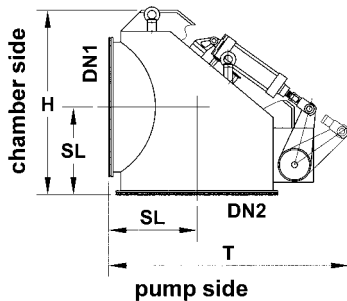
Technical data

■ Series	PAM
■ Specifications	rugged UHV angle valve, stainless steel with pneumatic drive - versatile use - metal sealed housing
■ Actuation	pneumatic, single-acting, pressureless closed
■ Connection	CF flanges, rotatable
■ Air pressure connection	internal thread Rc 1/8
■ Pressure range	1.0E-9 mbar to atmospheric pressure
■ Blade dimension	ISO or ANSI standard
■ Impermeability valve seat	< 1.0E-9 mbar l/s
■ Impermeability equipment	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	4 to 6.5 bar
■ Housing construction	2-parts, actuator removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	copper
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Bakeout temperature opened	max. 200 °C
■ Mounting position	arbitrary
■ Visual position indicator	not available
■ Electric position indicator	2 Reed switches (optional) 4 to 240 V AC/DC, 5 to 40 mA (temperature max. 50 °C)
■ Durability	up to 1,000,000 cycles
■ Accessories	- solenoid valves - air pressure accessories

Order code	Connection	H	L	SL	Dimensions	Autoswitch
PAM16C-EU	DN16CF-R	140	57	38	metric	no
PAM40C-EU	DN40CF-R	198	76	63	metric	no
PAM16C	DN16CF-R	166	57	64	imperial	no
PAM40C	DN40CF-R	196	76	62	imperial	no
PAM16CL-EU	DN16CF-R	156	57	38	metric	yes
PAM40CL-EU	DN40CF-R	212	76	63	metric	yes
PAM16CL	DN16CF-R	181	57	64	imperial	yes
PAM40CL	DN40CF-R	212	76	62	imperial	yes

Big nominal sizes - flap valve, pneumatic

Mild steel or stainless steel housing



Technical data

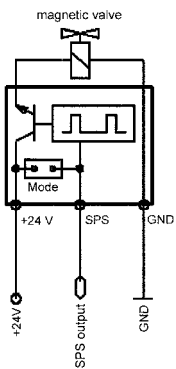
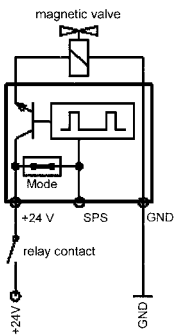
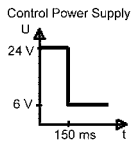
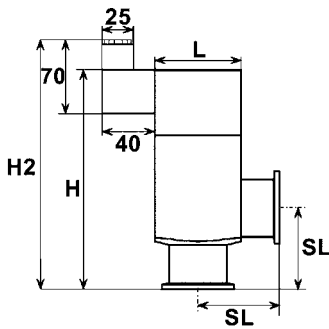
■ Series	PAV
■ Specifications	high vacuum angle valve with great nominal widths - ideal for use with diffusion pumps - versions of mild steel or stainless steel - swivelling butterfly valve plate - high conductivity - rugged design
■ Actuation	pneumatic, double-acting
■ Connection chamber-sided	ISO-K flanges
■ Connection pump-sided	ISO-F flanges
■ Bypass connection	1 x DN100ISO-K
■ Air pressure connection	plug connection PA/PE hose Ø 8 mm
■ Electrical connections	control wire 24 V
■ Further connections	1 x DN25KF, 1 x DN16KF
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Air pressure	4 to 6 bar
■ Housing construction	one-part, welded
■ Housing material	mild steel or stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	NBR or FKM
■ Seal valve plate material	NBR or FKM
■ Operating temperature	5 °C to 40 °C
■ Power supply control valve	24 V DC
■ Opening/Closing times at 6 bar	approx. 5 s
■ Mounting position	vertical mounting
■ Visual position indicator	lever position
■ Electric position indicator	2 Reed switches 24 V DC/ max. 25 mA with LED
■ Durability	up to 600,000 cycles

Nominal diameter	Molecular flow conductance (l/s)	Weight (kg)
DN400ISO	12	270
DN500ISO	15	300
DN630ISO	18	350

Order code	Connection	H	L	SL	T	Material
PAVN400KMS	DN400ISO-F	649	604	320	838	mild steel / NBR
PAVN500KMS	DN500ISO-F	735	703	350	950	mild steel / NBR
PAVN630KMS	DN630ISO-F	870	841	430	1067	mild steel / NBR
PAVV400KSS	DN400ISO-F	649	604	320	838	stainless steel / FKM
PAVV500KSS	DN500ISO-F	735	703	350	950	stainless steel / FKM
PAVV630KSS	DN630ISO-F	870	841	430	1067	stainless steel / FKM
PAVN400KSS	DN400ISO-F	649	604	320	838	stainless steel / NBR
PAVN500KSS	DN500ISO-F	735	703	350	950	stainless steel / NBR
PAVN630KSS	DN630ISO-F	870	841	430	1067	stainless steel / NBR

Compact, electromagnetic

Aluminium housing



Technical data

- Series XLS
- Specifications electromagnetic high vacuum angle valve, aluminium
- for closure of prevacuum lines and automatic applications
- integrated control electronics for coil performance
- compact and competitive
- Actuation electromagnetic, single-acting, currentless closed
- Connection KF flanges
- Electrical connections DIN angle plug
- Pressure range 1.0E-8 mbar to 2 bar
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Housing construction 2-parts, drive removable
- Housing material aluminium
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature 5 °C to 40 °C
- Power supply 24 V DC
- Max. voltage fluctuation +/-10 %
- Max. switching frequency 10 / minute
- Inductor insulation class B
- Mounting position arbitrary
- Visual position indicator LED (red)
- Durability up to 500,000 cycles
- CE Marking

Nominal diameter	Conductance (l/s)	Power input		Current input	
		open	hold	open	hold
DN16KF	5	36	5	1.5	0.2
DN25KF	8	48	5	2.0	0.2

Order code	Connection	H	H2	L	SL
XLS-16-5D-RE	DN16KF	110	145	38	40
XLS-25-5D-RE	DN25KF	140	175	48	50

Power Supply Control

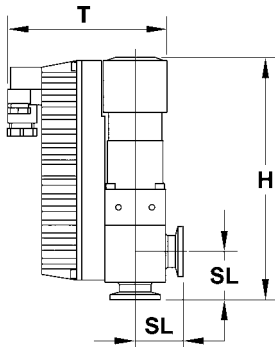
- Model DIN - angular connector
- Supply Voltage 22...24...30 V DC, ripple smaller 2.0 V
- Inverse-polarity protection yes
- Current draw approximately 1.8 A für approximately 150 ms to open
approximately 0.15 A to hold
- Switching Frequency max. 0.5 Hz
- Signaling LED bright to open (24 V at magnetic valve)
LED dark to hold (6 V after 150 ms at magnetic valve)

Control Possibilities

- Option 1 Relay control: Jumper plugged, 24 V are directly switched, for approximately 150 ms a current of 1.8 A flows through the contact, double poled circuit
- Option 2 SPS Control: Jumper open, 24 V (static), the valve is switched using a control input (24 V / 3 mA)

KF standard HV, electromagnetic

Aluminium or stainless steel housing



Technical data

■ Series	PVEK
■ Specifications	electromagnetic high vacuum angle valve - versatile use - versions made of aluminium or stainless steel - autoswitches incl. - high conductivity - rugged
■ Actuation	electromagnetic, single-acting, currentless closed
■ Connection	KF flanges
■ Electrical connections	DIN angle plug
■ Pressure range	1.0E-9 mbar to 2.1 bar
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	aluminium or stainless steel
■ Bellows material	stainless steel
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Power supply	240 V AC, 50 / 60 Hz
■ Max. switching frequency	400 / h
■ Max. differential pressure while opening	1 bar
■ Mounting position	arbitrary
■ Electric position indicator	2 Reed switches, max. 24 V AC / V DC, max. 0.25 A, max. 3 W

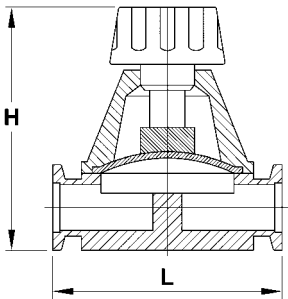
Nominal diameter	Conductance (l/s)	Lifetime (cycles)	Operating temperature (°C)	Power input (VA)	
				open	hold
DN16KF	4	500000	45	417	4.7
DN25KF	10	130000	50	993	8.6
DN40KF	34	130000	50	1986	8.6

Order code	Connection	H	SL	T	Material
PV16EKA	DN16KF	160	40	126	aluminium
PV25EKA	DN25KF	182	50	142	aluminium
PV40EKA	DN40KF	230	65	170	aluminium
PV16EKS	DN16KF	160	40	126	stainless steel
PV25EKS	DN25KF	182	50	142	stainless steel
PV40EKS	DN40KF	230	65	170	stainless steel

6

Diaphragm valve, manual

Aluminium housing



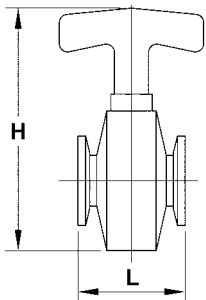
Technical data

■ Series	MMV
■ Specifications	diaphragm valve, aluminium for use in rough and medium vacuum - easy and compact
■ Actuation	manual with handwheel
■ Connection	KF flanges
■ Pressure range	1.0E-6 mbar to atmospheric pressure
■ Leak rate	< 1.0E-7 mbar l/s
■ Drive seal	FKM diaphragm
■ Housing construction	2-parts, drive removable
■ Housing material	aluminium
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	handwheel position

Order code	Connection	H	L
MMV-10K	DN10KF	85	80
MMV-16K	DN16KF	85	80
MMV-25K	DN25KF	140	100

Butterfly valves, manual

Aluminium or stainless steel housing



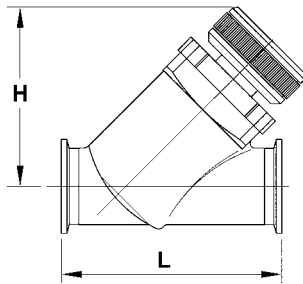
Technical data

■ Series	MBV
■ Specifications	high vacuum butterfly valve - versions of aluminium or stainless steel - O-ring sealed rotary feedthrough
■ Actuation	manual with T-handle
■ Connection	KF flanges
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	O-rings
■ Housing construction	one-part, driveshaft replaceable
■ Housing material	aluminium or stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	- aluminium: 80 °C - stainless steel: 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	position T-handle
■ Durability	up to 20,000 cycles

Order code	Connection	H	L	Material
MBV-25KA	DN25KF	117	50	aluminium
MBV-40KA	DN40KF	132	60	aluminium
MBV-50KA	DN50KF	140	60	aluminium
MBV-25KS	DN25KF	117	50	stainless steel
MBV-40KS	DN40KF	132	50	stainless steel
MBV-50KS	DN50KF	140	60	stainless steel

KF compact, manual

Stainless steel housing



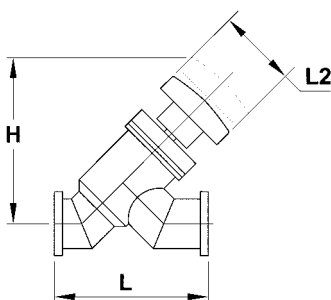
Technical data

■ Series	XYH
■ Specifications	compact high vacuum in-line valve, stainless steel - for all vacuum applications - applicable for corrosive processes
■ Actuation	manual with handwheel
■ Connection	KF flanges
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	stainless steel
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	within handwheel
■ Durability	up to 100,000 cycles

Order code	Connection	Conductance (l/s)	H	L
XYH-25	DN25KF	14	76	101
XYH-40	DN40KF	45	103	130
XYH-50	DN50KF	80	119	178

KF standard HV, manual

Stainless steel housing



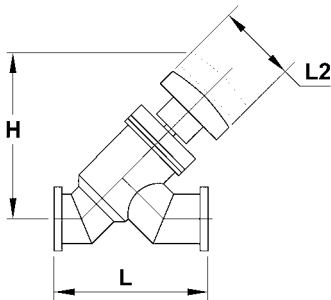
Technical data

■ Series	MIV
■ Specifications	competitive and rugged high vacuum in-line valve, stainless steel - versatile use
■ Actuation	manual with handwheel
■ Connection	KF flanges
■ Pressure range	1.0E-8 mbar to atmospheric pressure
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary
■ Visual position indicator	handwheel position
■ Durability	up to 100,000 cycles

Order code	Connection	H	L	L2
MIV16K	DN16KF	113	102	57
MIV25K	DN25KF	113	107	57
MIV40K	DN40KF	147	130	76
MIV50K	DN50KF	173	178	88

CF standard UHV, manual

Stainless steel housing



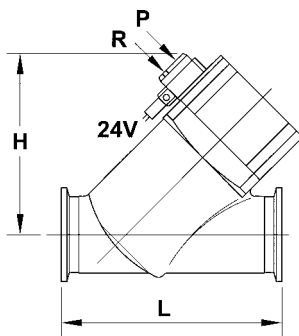
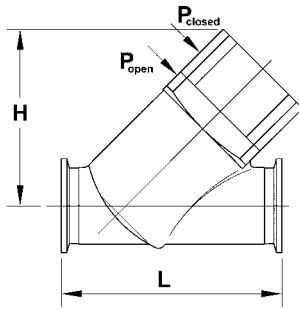
Technical data

■ Series	MIM
■ Specifications	rugged UHV in-line valve - versatile use - metal sealed housing
■ Actuation	manual with handwheel
■ Connection	CF flanges - rotatable
■ Pressure range	1.0E-9 mbar to atmospheric pressure
■ Impermeability valve seat	< 1.0E-9 mbar l/s
■ Impermeability equipment	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	copper
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Bakeout temperature opened	max. 200 °C
■ Mounting position	arbitrary
■ Visual position indicator	handwheel position
■ Durability	up to 100,000 cycles

Order code	Connection	H	L	L2
MIM16C	DN16CF-R	120	119	69
MIM40C	DN40CF-R	149	133	83

Compact, pneumatic

Stainless steel housing



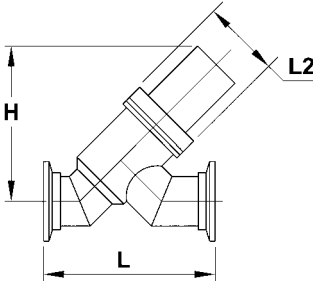
Technical data

- Series XYA
- Specifications compact high vacuum in-line valve, stainless steel with pneumatic drive
 - series XYA without solenoid valve
 - series XYAV with integrated solenoid valve
- Actuation pneumatic, single-acting, pressureless closed
- Connection KF and ISO-K flanges
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 7 bar
- Housing construction 2-parts, drive removable
- Housing material stainless steel
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature
 - series XYA 5 °C to 60 °C
 - series XYAV 5 °C to 50 °C
- Power supply control valve 24 V DC, 0.55 W
- Scope of delivery model XYAV 3 m solenoid connection cable, baffle and plug connection for hose Ø 6 mm incl.
- Mounting position arbitrary
- Visual position indicator within drive cap
- Electric position indicator prepared for mounting of electronic autoswitches from nominal width DN25 also Reed switches
- Durability up to 2,000,000 cycles
- Accessories
 - autoswitches
 - solenoid valves
 - air pressure accessories
- Further options
 - high temperature version to 150 °C
 - other sealing materials
 - double-acting drives

Order code	Connection	Conductance (l/s)	H	L	Air pressure connection
XYA-25G	DN25KF	14	80	101	M5
XYA-40G	DN40KF	45	106	130	Rc 1/8
XYA-50G	DN50KF	80	119	178	Rc 1/8
XYA-63DG	DN63ISO-K	160	149	209	Rc 1/8
XYAV-25G-PACK	DN25KF	14	79.5	101	M5
XYAV-40G-PACK	DN40KF	45	106	130	Rc 1/8
XYAV-50G-PACK	DN50KF	80	119	178	Rc 1/8
XYAV-63DG-PACK	DN63ISO-K	160	149	209	Rc 1/8

KF standard HV, pneumatic

Stainless steel housing



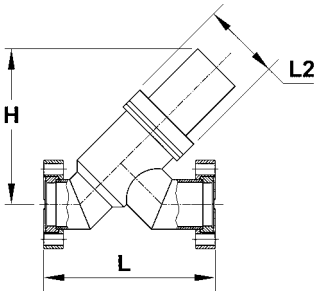
Technical data

- Series PIV
- Specifications rugged high vacuum in-line valve, stainless steel with pneumatic drive
- versatile use
- Actuation pneumatic, single-acting, pressureless closed
- Connection KF flanges
- Air pressure connection internal thread Rc 1/8
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 6.5 bar
- Housing construction 2-parts, drive removable
- Housing material stainless steel
- Bellows material AM350
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature 5 °C to 150 °C
- Mounting position arbitrary
- Visual position indicator not available
- Electric position indicator 2 Reed switches (optional)
4 to 240 V AC/DC, 5 to 40 mA (temperature max. 50 °C)
- Durability up to 1,000,000 cycles
- Accessories - solenoid valves
- air pressure accessories

Order code	Connection	H	L	L2	Autoswitch
PIV16K	DN16KF	105	102	57	no
PIV25K	DN25KF	106	107	57	no
PIV40K	DN40KF	145	130	76	no
PIV50K	DN50KF	182	178	88	no
PIV16KL	DN16KF	105	102	57	yes
PIV25KL	DN25KF	106	107	57	yes
PIV40KL	DN40KF	145	130	76	yes
PIV50KL	DN50KF	182	178	88	yes

Standard UHV, pneumatic

Stainless steel housing



Technical data

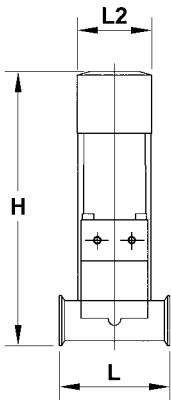
■ Series	PIM
■ Specifications	rugged UHV in-line valve, stainless steel with pneumatic drive - optically free channel - metal sealed housing
■ Actuation	pneumatic, single-acting, pressureless closed
■ Connection	CF flanges, rotatable
■ Air pressure connection	internal thread Rc 1/8
■ Pressure range	1.0E-9 mbar to atmospheric pressure
■ Impermeability valve seat	< 1.0E-9 mbar l/s
■ Impermeability equipment	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	4 to 6.5 bar
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	copper
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Bakeout temperature opened	max. 200 °C
■ Mounting position	arbitrary
■ Visual position indicator	not available
■ Electric position indicator	2 Reed switches (optional) 4 to 240 V AC/DC, 5 to 40 mA (temperature max. 50 °C)
■ Durability	up to 1,000,000 cycles
■ Accessories	- solenoid valves - air pressure accessories

Order code	Connection	H	L	L2	Autoswitch
PIM16C	DN16CF-R	105	119	57	no
PIM40C	DN40CF-R	142	133	76	no
PIM16CL	DN16CF-R	105	119	57	yes
PIM40CL	DN40CF-R	145	133	76	yes

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KF standard HV, electromagnetic

Aluminium or stainless steel housing



Technical data

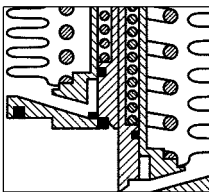
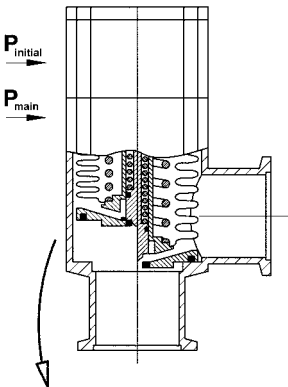
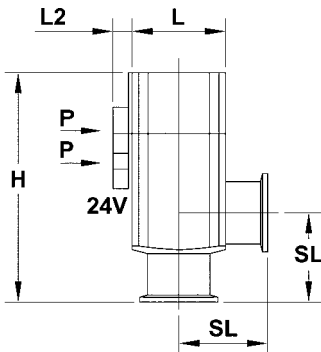
■ Series	IPVEK
■ Specifications	electromagnetic high vacuum in-line valve - versatile use - versions made of aluminium or stainless steel - autoswitches incl. - high conductivity - rugged
■ Actuation	electromagnetic, single-acting, currentless closed
■ Connection	KF flanges
■ Electrical connections	DIN angle plug
■ Pressure range	1.0E-9 mbar to 2.1 bar
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	aluminium or stainless steel
■ Bellows material	stainless steel
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Power supply	240 V AC, 50 / 60 Hz
■ Max. switching frequency	400 / h
■ Max. differential pressure while opening	1 bar
■ Mounting position	arbitrary
■ Electric position indicator	2 Reed switches, max. 24 V AC / V DC, max. 0.25 A, max. 3 W

Nominal diameter	Conductance (l/s)	Lifetime (cycles)	Operating temperature (°C)	Power input (VA)	
				open	hold
DN16KF	4	500000	45	417	4.7
DN25KF	10	130000	50	993	8.6
DN40KF	34	130000	50	1986	8.6

Order code	Connection	H	L	L2	Material
IPV16EKA	DN16KF	143	80	38	aluminium
IPV25EKA	DN25KF	172	100	51	aluminium
IPV40EKA	DN40KF	222	130	76	aluminium
IPV16EKS	DN16KF	143	80	38	stainless steel
IPV25EKS	DN25KF	172	100	51	stainless steel
IPV40EKS	DN40KF	222	130	76	stainless steel

Smooth exhaust angle valves, pneumatic

Aluminium housing



Detailed view

Technical data

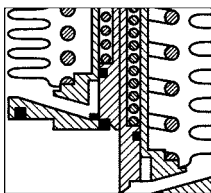
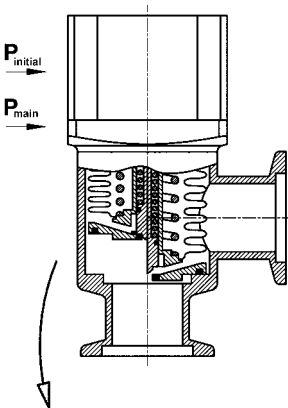
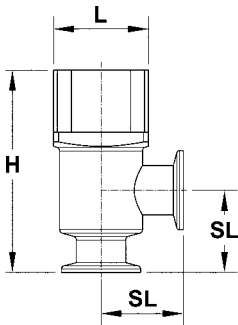
- Series XLD
- Specifications high vacuum angle valve with smooth exhaust
 - for evacuation of vacuum systems and chambers without turbulences
 - compact aluminium housing
 - pneumatic drive
 - series XLD without solenoid valve
 - series XLDV with integrated solenoid valve
- Actuation pneumatic, single-acting, two-stage switchable, pressureless closed
- Connection KF and ISO-K flanges
- Pressure range 1.0E-7 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 7 bar
- Housing construction 2-parts, drive removable
- Housing material aluminium
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature
 - series XLD 5 °C to 60 °C
 - series XLDV 5 °C to 50 °C
- Power supply control valve 24 V DC, 0.55 W
- Scope of delivery model XLDV 3 m solenoid connection cable, baffle and plug connection for hose Ø 6 mm incl.
- Visual position indicator within drive cap
- Electric position indicator prepared for mounting of electronic autoswitches for position of main valve
- Durability
 - nominal diameter DN25 to DN63 up to 2,000,000 cycles
 - nominal diameter DN100 to DN160 up to 1,000,000 cycles
- Accessories
 - autoswitches
 - solenoid valves
 - air pressure accessories
- Further options
 - high temperature version to 150 °C (only series XLD)
 - other sealing materials
 - other nominal diameters on request

Nominal diameter	Coductance main valve (l/s)	Conductance initial valve (l/s)	Air pressure connection	
			XLD	XLDV
DN25KF	14	0.5 - 3	M5	M5
DN40KF	45	2 - 3	Rc 1/8	M5
DN50KF	80	2.5 - 11	Rc 1/8	M5
DN63ISO	160	4 - 18	Rc 1/8	M5

Order code		Connection	H	L	L2	SL
without solenoid valve	with solenoid valve					
XLD-25	XLDV-25-PACK	DN25KF	123	48	11	50
XLD-40	XLDV-40-PACK	DN40KF	170	66	12	65
XLD-50	XLDV-50-PACK	DN50KF	183	79	12	70
XLD-63	XLDV-63-PACK	DN63ISO-K	217	100	13	88

Smooth exhaust angle valves, pneumatic

Stainless steel housing



Detailed view

Technical data

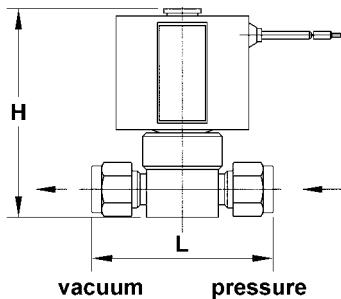
- Series XMD
- Specifications high vacuum angle valve with smooth exhaust
- for evacuation of vacuum systems and chambers without turbulences
- compact stainless steel housing
- pneumatic drive
- Actuation pneumatic, single-acting, two-stage switchable, pressureless closed
- Connection KF and ISO-K flanges
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Leak rate < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 7 bar
- Housing construction 2-parts, drive removable
- Housing material stainless steel
- Bellows material stainless steel
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature 5 °C to 60 °C
- Mounting position arbitrary
- Visual position indicator within drive cap
- Electric position indicator prepared for mounting of electronic autoswitches for position of main valve
- Durability up to 2,000,000 cycles
- Accessories
- autoswitches
- solenoid valves
- air pressure accessories
- Further options
- high temperature version to 150 °C
- other sealing materials

Nominal diameter	Conductance main valve (l/s)	Conductance initial valve (l/s)	Air pressure connection
DN25KF	14	0.5 - 3	M5
DN40KF	45	2 - 8	Rc 1/8
DN50KF	80	2.5 - 11	Rc 1/8
DN63ISO	160	4 - 18	Rc 1/8

Order code	Connection	H	L	SL
XMD-25	DN25KF	123	48	50
XMD-40	DN40KF	170	66	65
XMD-50	DN50KF	183	79	70
XMD-63	DN63ISO-K	217	100	88

Gas shut-off valves, electromagnetic

Stainless steel housing



Technical data

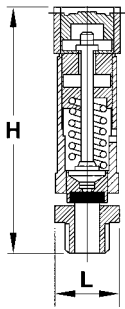
■ Series	XSA
■ Specifications	high vacuum gas shut-off valve for ventilation and inlet of process gases - metal-sealed - used for purest gas application - overpressure stable - stainless steel housing
■ Actuation	electromagnetic, single-acting, currentless closed
■ Connection	gas bolting VCR or Swagelok
■ Electrical connections	DIN angle plug
■ Pressure range vacuum-sided	to 1.0E-8 mbar
■ Leak rate	< 1.0E-8 mbar l/s
■ Drive seal	welded
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	stainless steel
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	stainless steel
■ Operating temperature	5 °C to 40 °C
■ Power supply	24 V DC, 5 - 11 W
■ Max. voltage fluctuation	+/-10 %
■ Max. differential pressure while opening	3 to 10 bar (see chart)
■ Mounting position	arbitrary
■ Visual position indicator	not available
■ Durability	up to 2,000,000 cycles

Order code	Max. pressure difference during opening (bar)	Max. inverse pressure difference (bar)
XSA1-12S	5	8
XSA2-22S	4	10
XSA3-32S	2	8
XSA1-12V	5	8
XSA2-22V	4	10
XSA3-32V	2	8

Order code	Connection	H	L	Inner diameter	CV value
XSA1-12S	Swagelok 1/4"	64	56	2	0.17
XSA2-22S	Swagelok 1/4"	75.5	61	3	0.33
XSA3-32S	Swagelok 1/4"	82	61	4.5	0.6
XSA1-12V	VCR 1/4"	64	51	2	0.17
XSA2-22V	VCR 1/4"	75.5	57	3	0.33
XSA3-32V	VCR 1/4"	82	57	4.5	0.6

Overpressure valves, manual

Stainless steel housing



Technical data

■ Series	OPV
■ Specifications	adjustable overpressure valve for rough and medium vacuum, stainless steel - easy handling - merely mechanical operating mode - low maintenance
■ Connection	KF flanges
■ Actuating pressure	1 - 2 bar free adjustable (1.3 bar recommended)
■ Pressure range	1.0E-6 mbar to 2 bar
■ Adjustment	manual with screwdriver
■ Leak rate	< 1.0E-8 mbar l/s
■ Housing material	stainless steel
■ Valve plate material	stainless steel
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 140 °C
■ Mounting position	arbitrary
■ Further options	other activation pressures on request

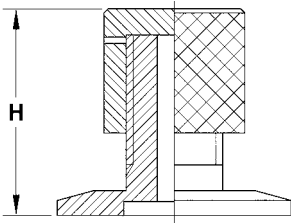
Order code	Connection	H	L
OPV-GA14	G 1/4"	65	20

Accessories

Order code	Description	Connection
KF10GI14	KF-G adapter, stainless steel	DN10KF - G 1/4"
KF16GI14	KF-G adapter, stainless steel	DN16KF - G 1/4"
KF25GI14	KF-G adapter, stainless steel	DN25KF - G 1/4"
VR11.5-3	O-ring, FKM	-

Vent valves, manual

Stainless steel housing



Technical data

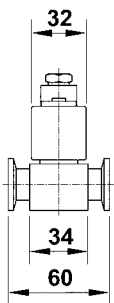
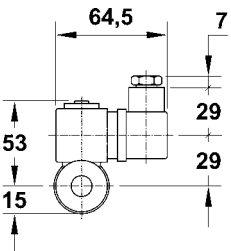
■ Series	VVK
■ Specifications	high vacuum venting valve, stainless steel - easy handling - low maintenance
■ Connection	KF flanges
■ Pressure range	1.0E-9 mbar to 2 bar
■ Closure principle	manual with knurled nut
■ Leak rate	< 1.0E-9 mbar l/s
■ Seal catch	O-ring
■ Housing material	stainless steel
■ Knurled nut material	stainless steel
■ Seal material	FKM
■ Operating temperature	5 °C to 150 °C
■ Mounting position	arbitrary

Order code	Connection	H
VV16K	DN16KF	32
VV25K	DN25KF	32
VV40K	DN40KF	32

6

Vent valves, electromagnetic

Aluminium housing



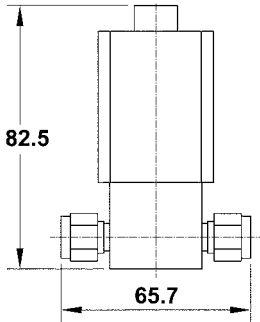
Technical data

■ Series	IPVA
■ Specifications	high vacuum venting valve, aluminium with electromagnetic drive - easy mounting - for inert gas and air
■ Actuation	electromagnetic, single-acting, currentless closed or opened
■ Connection	DN10KF flange
■ Electrical connections	DIN angle plug
■ Pressure range vacuum-sided	< 1.0E-8 mbar
■ Leak rate	< 1.0E-9 mbar l/s
■ Seal valve plate material	FKM
■ Operating temperature	- 20 °C to 55 °C
■ Media temperature	- 10 °C to 130 °C
■ Max. switching frequency	100 / minute
■ Max. flow	10 l in 12 s
■ Cycle time	30 ms
■ Inductor insulation	class F
■ Degree of protection	IP65
■ Durability	> 100,000 cycles

Order code	Power supply	Power input activate	Power input hold	Drive dead
IPVA10EK-C240VAC	240 VAC	9.5 VA	6.3 VA	closed
IPVA10EK-C24VDC	24 VDC	5 W	5 W	closed
IPVA10EK-240VAC	240 VAC	9.5 VA	6.3 VA	open
IPVA10EK-24VDC	24 VDC	5 W	5 W	open

Softvent valves, pneumatic

Stainless steel housing



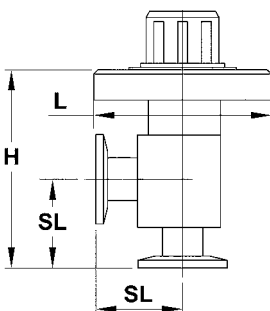
Technical data

■ Series	XVD
■ Specifications	high vacuum ventilation valve with softvent function to dose ventilation of vacuum systems and chambers, pneumatic drives, for air and inert gases
■ Actuation	pneumatic, single-acting, two-stage switchable, pressureless closed
■ Connection	gas bolting 1/4" VCR or 1/4" Swagelok
■ Air pressure connection	internal thread M5
■ Pressure range	1.0E-8 mbar to 2 bar
■ Leak rate	< 1.0E-9 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	4 to 7 bar
■ Valve equipment material	stainless steel, intern electropolished
■ Bellows material	stainless steel
■ Drive housing material	aluminium
■ Housing seal material	FKM
■ Seal valve plate material	stainless steel diaphragm
■ Operating temperature	5 °C to 60 °C
■ Bakeout temperature	max. 150 °C
■ Eff. cross-section inlet	4.6 mm ²
■ Eff. cross-section softvent inlet	0.2 to 4.6 mm ²
■ Diameter inlet bore	3 mm ²
■ Visual position indicator	within drive cap
■ Durability	up to 500,000 cycles
■ Accessories	- solenoid valves - air pressure accessories

Order code	Connection
XVD2-02S	Swagelok 1/4"
XVD2-02V	VCR 1/4"

High vacuum needle valves, manual

Aluminium housing



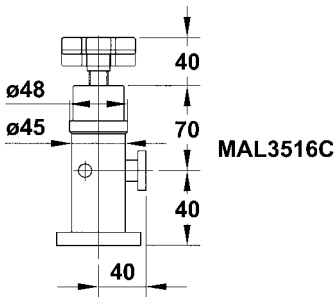
Technical data

■ Series	LV10K
■ Specifications	needle valve for rough, medium and high vacuum - easy handling - applicable for air and inert gases
■ Actuation	manual with handwheel
■ Connection	KF flanges
■ Pressure range	1.0E-5 mbar to 2.1 bar
■ Leak rate	< 1.0E-7 mbar l/s
■ Housing material	aluminium
■ Drive housing material	brass
■ Needle material	stainless steel
■ Housing seal material	FKM
■ Max. flow	0.1 l/s (at 1 bar pressure difference)
■ Mounting position	arbitrary
■ Visual position indicator	100-division scale at handwheel

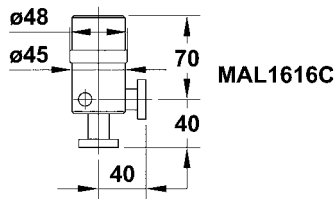
Order code	Connection	H	L	SL
LV10K	DN10KF	88.5	62	30

UHV gas dosing valves, pneumatic

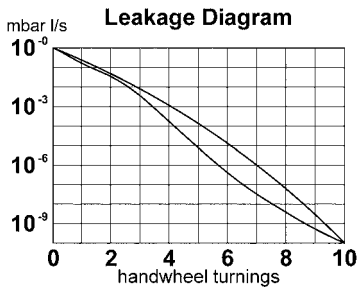
Stainless steel housing



MAL3516C



MAL1616C



Technical data

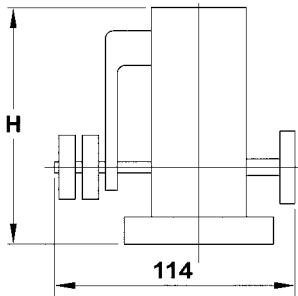
- Series MAL
- Specifications all metal UHV gas dosing valve with diaphragm-sealed valve seat
 - precise and reproducible proportioning
 - durable and low maintenance
 - motor drive retrofit
- Actuation manual with handwheel
- Connection CF flanges - rotatable, 1/4" VCR- or 1/4" Swagelok connection
- Range of control 1.0E-10 to 1 mbar l/s
- Pressure range 1.0E-10 mbar to 10 bar
- Leak rate < 1.0E-10 mbar l/s
- Housing construction multipart, drive replaceable (not demountable)
- Housing material stainless steel
- Drive and housing seal one combined gold plated stainless steel diaphragm
- Dead volume: main flange side 1.0 to 1.4 cm³
- Dead volume: lateral flange side 4.6 cm³
- Bakeout temperature opened to 450 °C
- Bakeout temperature valve adjustable to 300 °C
- Max. differential pressure 10 bar from any side
- Mounting position arbitrary
- Visual position indicator handwheel position, 0 - 10 revolutions
- Durability 100,000 cycles until first service
- Accessories
 - heating element with intergrated thermocouple
 - controller for heating element
- Option
 - step motor with controller (retrofit)
 - controllable via analog signal 0 to 10 V DC
- Further options
 - other connection combinations

Order code	Connection 1	Connection 2
MAL1616C	DN16CF-R	DN16CF-R
MAL4016C	DN40CF-R	DN16CF-R
MAL14VCR	VCR 1/4"	VCR 1/4"
MAL14SWA	Swagelok 1/4"	Swagelok 1/4"

Order code	Description
MAL-KIT-MC	step motor with controller

UHV gas dosing valves, pneumatic

Stainless steel housing



Technical data

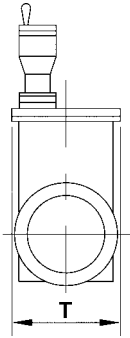
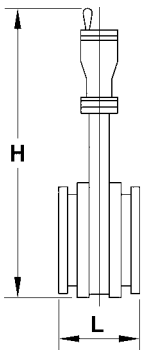
■ Series	VLVE
■ Specifications	all metal UHV gas metering valve with sapphire sealing - precise metering - easy handling
■ Actuation	manual with handwheel
■ Connection	CF flanges - inlet rotatable - outlet trapped
■ Range of control	2.0E-10 to 1 mbar l/s
■ Pressure range	1.0E-11 mbar l/s
■ Leak rate	< 1.0E-10 mbar l/s
■ Drive seal	stainless steel diaphragm
■ Housing construction	welded
■ Housing material	stainless steel
■ Valve plate material	copper alloy sealing elements (replaceable)
■ Seal valve plate material	sapphire gasket
■ Dead volume: main flange side	1.0 to 1.4 cm ³
■ Dead volume: lateral flange side	4.6 cm ³
■ Bakeout temperature	to 450 °C
■ Max. differential pressure	10 bar from any side
■ Mounting position	arbitrary
■ Durability	- approx. 300 cycles without baking - approx. 100 cycles at baking temperature 250 °C - approx. 20 to 30 cycles at baking temperature 450 °C

Order code	Connection vacuum	Connection inlet	H
VLVE-1000	DN40CF-F	DN16CF-R	109
VLVE-2000	DN16CF-F *	DN16CF-R	98

* Flange with imperial tapped holes

Standard HV, manual

Stainless steel housing



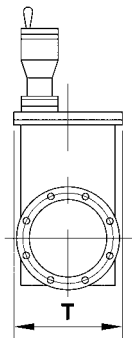
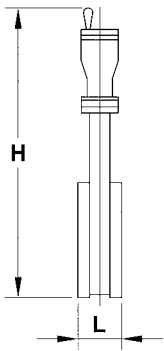
Technical data

■ Series	11110
■ Specifications	high vacuum gate valve, stainless steel - housing and valve seat O-ring sealed (replaceable) - intern and extern electropolished - rugged and durable
■ Actuation	manual with handwheel
■ Connection	KF and ISO-F flanges
■ Pressure range	1.0E-9 mbar to atmospheric pressure
■ Leak rate	< 2.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Housing construction	2-parts, drive removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	stainless steel
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	5 °C to 150 °C
■ Max. differential pressure while opening	25 mbar
■ Mounting position	arbitrary (from DN200 onwards please specify with ordering)
■ Visual position indicator	within handwheel
■ Durability	up to 100,000 cycles
■ Further options	- other flange standards - lateral measuring voltage

Order code	Connection	Conductance (l/s)	H	L	T
11110-0063	DN16KF	13	103	40	48
11110-0153	DN40KF	88	206	51	84
11110-0203	DN50KF	317	227	51	97
11110-0253	DN63ISO-F	615	273	52	90
11110-0403	DN100ISO-F	2122	477	61	178
11110-0603	DN160ISO-F	7140	574	60	222
11110-0803	DN200ISO-F	11597	687	68	286
11110-1003	DN250ISO-F	24990	907	80	344
11110-1203	DN320ISO-F	43268	1050	80	403

CF standard UHV, manual

Stainless steel housing



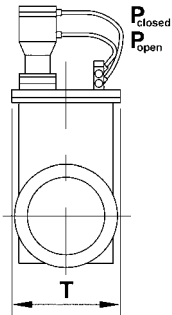
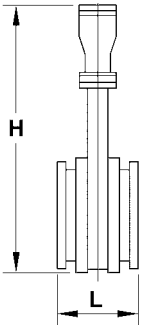
Technical data

- Series 11120
- Specifications UHV gate valve, stainless steel
 - metal sealed housing
 - valve seat O-ring sealed (replaceable)
 - intern and extern electropolished
 - rugged and durable
- Actuation manual with handwheel
- Connection CF flanges - fixed with metric threaded holes
- Pressure range 1.0E-10 mbar to atmospheric pressure
- Leak rate < 2.0E-10 mbar l/s
- Drive seal hydroformed bellows
- Housing construction 2-parts, drive removable, intern and extern electropolished
- Housing material stainless steel
- Bellows material AM350
- Valve plate material stainless steel
- Housing seal material copper
- Seal valve plate material FKM
- Operating temperature 5 °C to 150 °C
- Bakeout temperature opened max. 200 °C
- Max. differential pressure while opening 25 mbar
- Mounting position arbitrary (from DN200 onwards please specify with ordering)
- Visual position indicator within handwheel
- Durability up to 100,000 cycles
- Further options - lateral measuring flange

Order code	Connection	Conductance (l/s)	H	L	T
11120-0064	DN16CF-F	12	103	40	48
11120-0154	DN40CF-F	128	206	52	84
11120-0254	DN63CF-F	524	264	61	111
11120-0404	DN100CF-F	1726	473	75	178
11120-0604	DN160CF-F	5289	563	81	222
11120-0804	DN200CF-F	12006	671	85	286
11120-1004	DN250CF-F	21497	896	99	344

Standard HV, pneumatic

Stainless steel housing



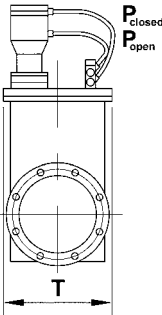
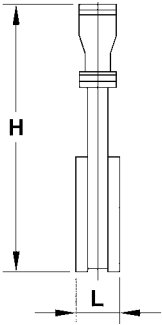
Technical data

- Series 11213
- Specifications high vacuum gate valve, stainless steel with pneumatic drive
 - solenoid valve and autoswitches incl.
 - housing and valve seat O-ring sealed (replaceable)
 - intern and extern electropolished
 - rugged and durable
- Actuation pneumatic, double-acting
- Connection KF and ISO-F flanges
- Air pressure connection internal thread NPT 1/8
- Pressure range 1.0E-9 mbar to atmospheric pressure
- Leak rate < 2.0E-10 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 6 bar
- Housing construction 2-parts, drive removable, intern and extern electropolished
- Housing material stainless steel
- Bellows material AM350
- Valve plate material stainless steel
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature valve and housing 5 °C to 150 °C
pneumatic drive to 60 °C
- Power supply control valve 220 V AC, 4 W
- Max. differential pressure while opening 25 mbar
- Mounting position arbitrary (from DN200 onwards please specify with ordering)
- Visual position indicator not available
- Electric position indicator 2 Reed switches, to 28 V DC, to 20 mA (only for valves with nominal width > DN40)
- Durability up to 100,000 cycles
- Further options
 - other flange standards
 - high temperature microswitch
 - differing operating voltage
 - lateral measuring voltage

Order code	Connection	Conductance (l/s)	H	L	T
11213-0063	DN16KF	13	109	40	48
11213-0153R	DN40KF	88	251	51	84
11213-0203R	DN50KF	317	272	51	97
11213-0253R	DN63ISO-F	615	318	52	111
11213-0403R	DN100ISO-F	2122	456	61	178
11213-0603R	DN160ISO-F	7140	553	60	222
11213-0803R	DN200ISO-F	11597	666	68	286
11213-1003R	DN250ISO-F	24990	863	80	344
11213-1203R	DN320ISO-F	43268	1006	80	403
11213-1603R	DN400ISO-F	74905	1247	109	503
11213-2003R	DN500ISO-F	132197	1500	121	645
11213-2403R	DN600ISO-F	228856	1746	121	813

CF standard UHV, pneumatic

Stainless steel housing



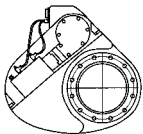
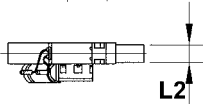
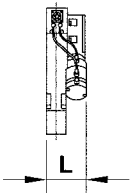
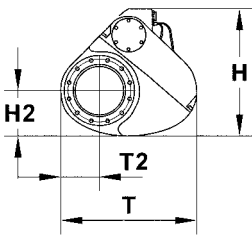
Technical data

- Series 11223
- Specifications UHV gate valve, stainless steel with pneumatic drive
 - solenoid valve and autoswitches incl.
 - metal sealed housing
 - valve seat O-ring sealed (replaceable)
 - intern and extern electropolished
 - rugged and durable
- Actuation pneumatic, double-acting
- Connection CF flanges - fixed with metric threaded holes
- Air pressure connection internal thread NPT 1/8
- Pressure range 1.0E-10 mbar to atmospheric pressure
- Leak rate < 2.0E-10 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4 to 6 bar
- Housing construction 2-parts, drive removable, intern and extern electropolished
- Housing material stainless steel
- Bellows material AM350
- Valve plate material stainless steel
- Housing seal material copper
- Seal valve plate material FKM
- Operating temperature valve and housing 5 °C to 150 °C
pneumatic drive to 60 °C
- Bakeout temperature opened max. 200 °C, with high temperature micro switches and drives
- Power supply control valve 220 V AC, 4 W
- Max. diff. pressure while opening 25 mbar
- Mounting position arbitrary (from DN200 onwards please specify with ordering)
- Visual position indicator not available
- Electric position indicator 2 Reed switches, to 28 V DC, to 20 mA (only for valves with nominal width > DN40)
- Durability up to 100,000 cycles
- Further options
 - other flange standards
 - high temperature microswitch
 - differing operating voltage
 - lateral measuring voltage
 - lateral measurement flange

Order code	Connection	Conductance (l/s)	H	L	T
11223-0064	DN16CF-F	12	108	40	48
11223-0154R	DN40CF-F	128	251	52	84
11223-0254R	DN63CF-F	524	309	61	111
11223-0404R	DN100CF-F	1726	452	75	178
11223-0604R	DN160CF-F	5289	542	81	222
11223-0804R	DN200CF-F	12006	650	85	286
11223-1004R	DN250CF-F	21497	852	99	344

Pendulum Gate Valve - compact drive, pneumatic

Aluminium housing



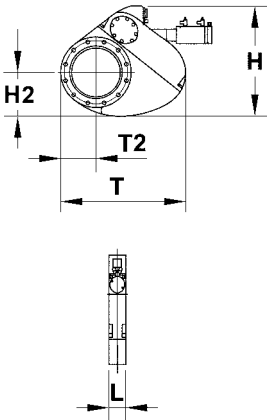
Technical data

■ Series	30411-RXA
■ Specifications	high vacuum pendulum gate valve, pneumatic actuator mounted compact at the housing
	- aluminium housing, valve plate and actuator
	- including solenoid valve and position indicator
	- seals against atmosphere in both directions
	- housing and bonnet O-ring sealed (replaceable)
	- actuator shaft bellows sealed
	- maintenance without remove of the housing
	- 2-parts, actuator demountable
■ Actuation	pneumatic, double-acting
■ Connection	ISO-F flanges
■ Pressure range	1.0E-9 mbar to atmosphere
■ Leak rate	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	5.5 bar
■ Housing construction	2-parts, actuator removable
■ Valve equipment material	aluminium
■ Bellows material	AM350
■ Valve plate material	aluminium 6061-T6
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	0 °C to 100 °C
■ Bakeout temperature	max. 150 °C (standard)
■ Power supply control valve	24 VDC
■ Max. differential pressure while opening	< 27 mbar
■ Mounting position	any
■ Visual position indicator	not available
■ Electric position indicator	2 Reed-switches, to 28 VDC, to 20 mA
■ Durability	to 1,000,000 cycles application depending
■ Further options	- other flange types and dimensions - additional gauge ports - high temperature microswitches - alternate voltage controls

Order code	Connection	Conductance (l/s)	H	L	T	H2	L2	T2
30411-0403RXA	DN100ISO-F	1825	336	135	338	99	71	87
30411-0603RXA	DN160ISO-F	7140	404	151	447	139	60	117
30411-0803RXA	DN200ISO-F	11597	491	146	523	174	68	149
30411-1003RXA	DN250ISO-F	24990	558	163	637	218	80	179
30411-1203RXA	DN320ISO-F	28990	646	222	723	270	120	217

Pendulum Gate Valve - straight drive, pneumatic

Aluminium housing



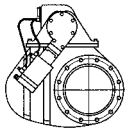
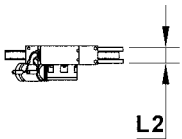
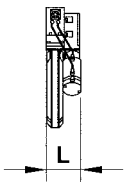
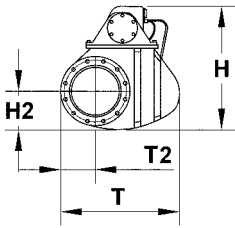
Technical data

- Series 30611-RXA
- Specifications high vacuum pendulum gate valve, pneumatic actuator mounted straight at the housing
 - aluminium housing, valve plate and actuator
 - including solenoid valve and position indicator
 - seals against atmosphere in both directions
 - housing and bonnet O-ring sealed (replaceable)
 - actuator shaft bellows sealed
 - maintenance without remove of the housing
 - 2-parts, actuator demountable
- Actuation pneumatic, double-acting
- Connection ISO-F flanges
- Pressure range 1.0E-9 mbar to atmosphere
- Leak rate < 1.0E-10 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 5.5 bar
- Housing construction 2-parts, actuator removable
- Housing material aluminium 6061-T6
- Bellows material AM350
- Valve plate material aluminium 6061-T6
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature 0 °C to 100 °C
- Bakeout temperature max. 150 °C (standard)
- Power supply control valve 24 VDC
- Max. differential pressure while opening < 27 mbar
- Mounting position any
- Visual position indicator not available
- Electric position indicator 2 Reed-switches, to 28 VDC, to 20 mA
- Durability to 1,000,000 cycles application depending
- Further options
 - other flange types and dimensions
 - additional gauge ports
 - high temperature microswitches
 - alternate voltage controls

Order code	Connection	Conductance (l/s)	H	L	T	H2	T2
30611-0403RXA	DN100ISO-F	1825	336	135	338	99	87
30611-0603RXA	DN160ISO-F	7140	404	151	447	139	117
30611-0803RXA	DN200ISO-F	11597	491	146	523	174	149
30611-1003RXA	DN250ISO-F	24990	558	163	637	218	179
30611-1203RXA	DN320ISO-F	28990	646	222	723	270	217

Pendulum Gate Valve - compact drive, pneumatic

Stainless steel-aluminium housing



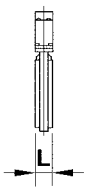
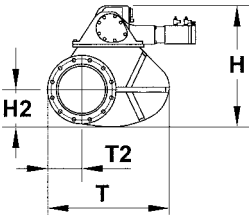
Technical data

■ Series	30411-RXT
■ Specifications	high vacuum pendulum gate valve, pneumatic actuator mounted compact at the housing
	- stainless steel housing
	- aluminium valve plate and actuator
	- including solenoid valve and position indicator
	- seals against atmosphere in both directions
	- housing and bonnet O-ring sealed (replaceable)
	- actuator shaft bellows sealed
	- maintenance without remove of the housing
	- 2-parts, actuator demountable
■ Actuation	pneumatic, double-acting
■ Connection	ISO-F flanges or metricCF flanges
■ Pressure range	1.0E-9 mbar to 1 bar
■ Leak rate	< 1.0E-10 mbar l/s
■ Drive seal	hydroformed bellows
■ Air pressure	5.5 bar
■ Housing construction	2-parts, actuator removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	aluminium 6061-T6
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	0 °C to 100 °C
■ Bakeout temperature	max. 150 °C (standard)
■ Power supply control valve	24 VDC
■ Max. diff. pressure while opening	< 27 mbar
■ Mounting position	any
■ Visual position indicator	not available
■ Electric position indicator	2 Reed-switches, to 28 VDC, to 20 mA
■ Durability	to 1,000,000 cycles application depending
■ Further options	- other flange types and dimensions - additional gauge ports - high temperature microswitches - alternate voltage controls

Order code	Connection	Conductance (l/s)	H	L	T	H2	L2	T2
30411-0403RXT	DN100ISO-F	1825	368	135	308	83	71	83
30411-0603RXT	DN160ISO-F	7140	419	151	388	113	60	118
30411-0803RXT	DN200ISO-F	11597	502	146	493	143	68	148
30411-1003RXT	DN250ISO-F	24990	588	163	600	168	80	183
30411-1203RXT	DN320ISO-F	28990	690	222	754	212	101	243
30411-0404RXT	DN100CF-F	1553	366	135	301	81	85	76
30411-0604RXT	DN160CF-F	5289	419	151	377	118	80	102
30411-0804RXT	DN200CF-F	12006	502	146	476	148	85	127
30411-1004RXT	DN250CF-F	21497	588	163	584	183	93	152

Pendulum Gate Valve - straight drive, pneumatic

Stainless steel-aluminium housing

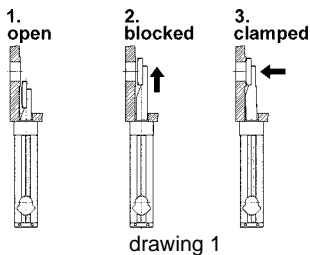


Technical data

■ Series	30611-RXT
■ Specifications	high vacuum pendulum gate valve, pneumatic actuator mounted straight at the housing
	- stainless steel housing
	- aluminium valve plate and actuator
	- including solenoid valve and position indicator
	- seals against atmosphere in both directions
	- housing and bonnet O-ring sealed (replaceable)
	- actuator shaft bellows sealed
	- maintenance without remove of the housing
	- 2-parts, actuator demountable
■ Actuation	pneumatic, double-acting
■ Connection	ISO-F flanges or metric CF flanges
■ Pressure range	1.0E-9 mbar to atmosphere
■ Pressure resistance	< 1.0E-10 mbar l / s
■ Drive seal	hydroformed bellows
■ Air pressure	5.5 bar
■ Housing construction	2-parts, actuator removable
■ Housing material	stainless steel
■ Bellows material	AM350
■ Valve plate material	aluminium 6061-T6
■ Housing seal material	FKM
■ Seal valve plate material	FKM
■ Operating temperature	0 °C to 100 °C
■ Bakeout temperature	max. 150 °C (standard)
■ Power supply control valve	24 VDC
■ Max. diff. pressure while opening	< 27 mbar
■ Mounting position	arbitrary
■ Visual position indicator	not available
■ Electric position indicator	2 Reed-switches, to 28 VDC, to 20 mA
■ Durability	to 1,000,000 cycles application depending
■ Further options	- other flange types and dimensions - additional gauge ports - high temperature microswitches - alternate voltage controls

Order code	Connection	Conductance (l/s)	H	L	T	H2	T2
30611-0403RXT	DN100ISO-F	1825	368	135	308	83	83
30611-0603RXT	DN160ISO-F	7140	419	151	388	113	118
30611-0803RXT	DN200ISO-F	11597	502	146	493	143	148
30611-1003RXT	DN250ISO-F	24990	588	163	600	168	148
30611-1203RXT	DN320ISO-F	28990	690	222	754	212	243
30611-0404RXT	DN100CF-F	1553	366	135	301	81	76
30611-0604RXT	DN160CF-F	5289	419	151	377	118	102
30611-0804RXT	DN200CF-F	12006	502	146	476	148	127
30611-1004RXT	DN250CF-F	21497	588	163	584	183	152

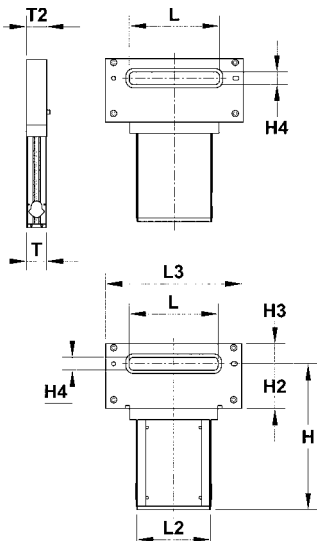
Rectangular gate valve, pneumatic



Technical data

- Series XGT
- Specifications rectangular gate valve, aluminium, with pneumatic drive for use in semiconductor production
 - versions as rectangular door or with cassette housing
 - autoswitches incl.
 - high durability
 - lowest particle emission
- Actuation pneumatic, double-acting
- Connection
 - cassette housing standard
 - cassette housing MESC-compatible (half height)
 - cassette housing MESC-compatible (complete height)
 - rectangular door without flange
- Pressure range 1.0E-8 mbar to atmospheric pressure
- Closure principle L motion (see drawing 1)
- Impermeability valve seat < 1.0E-8 mbar l/s
- Impermeability equipment < 1.0E-9 mbar l/s
- Drive seal hydroformed bellows
- Air pressure 4.5 to 6 bar
- Housing material aluminium
- Valve plate material aluminium
- Housing seal material FKM
- Seal valve plate material FKM
- Operating temperature valve and housing 5 °C to 150 °C
pneumatic drive 5 °C to 60 °C
- Max. differential pressure while opening 40 mbar
- Mounting position vertical
- Visual position indicator not available
- Electric position indicator 2 Reed switches, to 24 V DC, to 40 mA, with circular connector (6-pin)
- Durability to 2,000,000 cycles possible

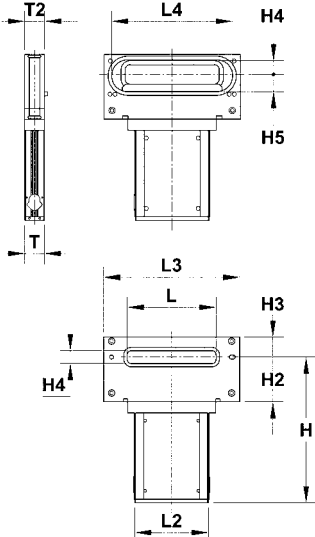
Connection: standard cassette housing



Order code	Wafer sizes	H	H2	H3	H4	L	L2	L3	T	T2
XGT222-32222	Ø 200 mm	365	112	36	32	222	184	340	49	50
XGT222-46236	Ø 200 mm	365	112	36	46	236	184	340	49	50
XGT312-50336	Ø 300 mm	377	112	50	50	336	224	440	59	60

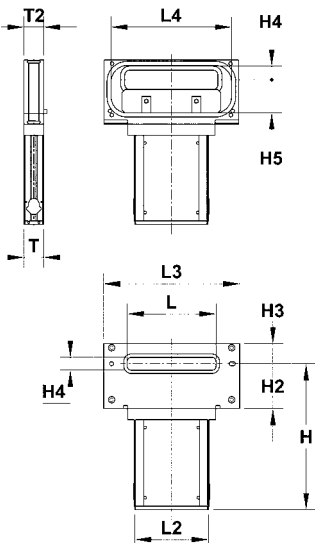
Rectangular gate valve, pneumatic

Connection: half MES-C cassette housing



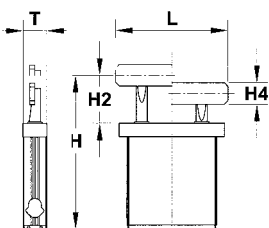
Order code	Wafer sizes	H	H2	H3	H4	H5	L	L2	L3	L4	T	T2
XGT223-46236	Ø 200 mm	365	112	50	36	44	236	184	340	49	50	305
XGT313-50336	Ø 300 mm	377	112	50	36	45	336	244	440	59	60	405

Connection: full MES-C cassette housing



Order code	Wafer sizes	H	H2	H3	H4	H5	L	L2	L3	L4	T	T2
XGT224-46236	Ø 200 mm	365	112	50	36	85	236	184	340	49	50	305

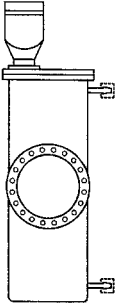
Connection: rectangle door without flange



Order code	Wafer sizes	H	H2	H4	L	T
XGT221-32222	Ø 200 mm	365	112	45	235	49
XGT221-46236	Ø 200 mm	365	112	59	249	49
XGT311-50336	Ø 300 mm	377	97	62	348	59

With special equipment

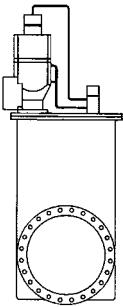
Laminar flow gate valves, series 13000



- These valves have a gas inlet through which an inert gas can be let into the valve to avoid a destruction of the valve mechanics while eliminating contact of the corrosive process gas.

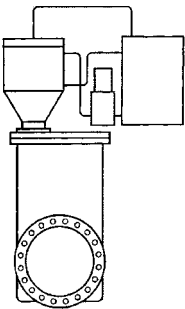
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3-position gate valves, series 21700



- These electropneumatic valves can be used maintenance-free up to 1,000,000 cycles (depending on application) and they can, besides the open and closed position, take any set third position. Thus the pumping speed of the attached pump can be reduced.

Throttle gate valves, series 21800



- These electropneumatic valves can take each position between the open and closed status. Thus together with pressure and flow controller, a pressure and flow regulation is possible. For these valves a maintenance-free handling up to 1,000,000 cycles (depending on application) can be warranted as well.

Solenoid valves including assembly kit for simply-acting pneumatic valves

Technical data

- Monostable, currentless closed, opened under voltage
- Pressure 4 - 7 bar

230 V AC, 1/8" connection

Order Code	Constituents	Specifications	Piece number
KITSTV1-230-18	<ul style="list-style-type: none"> ■ EVZ512M-4DO-01F ■ K31 ■ SD18F ■ DN18R ■ KQH06-U01 	<ul style="list-style-type: none"> solenoid valve monostable DIN power socket baffle for solenoid valve double nipple with external thread straight connector for hose 6 mm 	<ul style="list-style-type: none"> 1 1 1 1 1

24 V DC, 1/8" connection

Order Code	Constituents	Specifications	Piece number
KITSTV1-24-18	<ul style="list-style-type: none"> ■ EVZ512M-5DO-01F ■ K31 ■ SD18F ■ DN18R ■ KQH06-U01 	<ul style="list-style-type: none"> solenoid valve monostable DIN power socket baffle for solenoid valve double nipple with external thread straight connector for hose 6 mm 	<ul style="list-style-type: none"> 1 1 1 1 1

230 V AC, M5 connection

Order Code	Constituents	Specifications	Piece number
KITSTV1-230-M5	<ul style="list-style-type: none"> ■ VZ110-4DO-M5 ■ K31 ■ AN120-M5 ■ M-5UN ■ KJH06-M5 	<ul style="list-style-type: none"> solenoid valve monostable DIN power socket baffle for solenoid valve double nipple for compressed air straight connection for compressed air 	<ul style="list-style-type: none"> 1 1 1 1 1

24 V DC, M5 connection

Order Code	Constituents	Specifications	Piece number
KITSTV1-24-M5	<ul style="list-style-type: none"> ■ VZ110-5DO-M5 ■ K31 ■ AN120-M5 ■ M-5UN ■ KJH06-M5 	<ul style="list-style-type: none"> solenoid valve monostable DIN power socket baffle for solenoid valve double nipple for compressed air straight connection for compressed air 	<ul style="list-style-type: none"> 1 1 1 1 1

Solenoid valves including assembly kit for double-acting pneumatic valves

Technical data

- Impulse control. Position change via piloting each connection.
- Bistable, holds currentless the chosen position
- Pressure 4 - 7 mbar

230 V AC, 1/8" connection

Order Code	Constituents	Specifications	Piece number
KITSTV22-230-18	<ul style="list-style-type: none"> ■ SY5220-4YO-01F-Q ■ K41 ■ SD18F ■ WA18R ■ KQH06-U01 ■ KQL06-U01 ■ TU0604BU 	<ul style="list-style-type: none"> solenoid valve bistable DIN power socket baffle for solenoid valve angular connector with external thread straight connector for hose 6 mm angular connector for compressed air compressed air hose, polyurethane, blue, 6 mm 	<ul style="list-style-type: none"> 1 2 2 1 2 1 0.2 m

6

24 V DC, 1/8" connection

Order Code	Constituents	Specifications	Piece number
KITSTV22-24-18	<ul style="list-style-type: none"> ■ SY5220-5YO-01F-Q ■ K41 ■ SD18F ■ WA18R ■ KQH06-U01 ■ KQL06-U01 ■ TU0604BU 	<ul style="list-style-type: none"> solenoid valve bistable DIN power socket baffle for solenoid valve angular connector with external thread straight connector for hose 6 mm angular connector for compressed air compressed air hose, polyurethane, blue, 6 mm 	<ul style="list-style-type: none"> 1 2 2 1 2 1 0.2 m

230 V AC, M5 connection

Order Code	Constituents	Specifications	Piece number
KITSTV22-230-M5	<ul style="list-style-type: none"> ■ VZ3223-4DO-M5 ■ K31 ■ AN120-M5 ■ M-5UN ■ M-5UL ■ KJH06-M5 ■ KJL06-M5 ■ TU0604BU 	<ul style="list-style-type: none"> solenoid valve bistable DIN power socket baffle for solenoid valve double nipple for compressed air angular connector for compressed air straight connection for compressed air angular connector for compressed air compressed air hose, polyurethane, blue, 6 mm 	<ul style="list-style-type: none"> 1 2 2 1 1 2 1 0.2 m

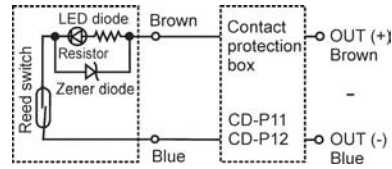
24 V DC, M5 connection

Order Code	Constituents	Specifications	Piece number
KITSTV22-24-M5	<ul style="list-style-type: none"> ■ VZ3223-5DO-M5 ■ K31 ■ AN120-M5 ■ M-5UN ■ M-5UL ■ KJH06-M5 ■ KJL06-M5 ■ TU0604BU 	<ul style="list-style-type: none"> solenoid valve bistable DIN power socket baffle for solenoid valve double nipple for compressed air angular connector for compressed air straight connection for compressed air angular connector for compressed air compressed air hose, polyurethane, blue, 6 mm 	<ul style="list-style-type: none"> 1 2 2 1 1 2 1 0.2 m

Valve Accessories

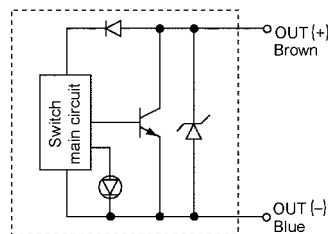
Autoswitches

Reed switch with LED, 2-pole



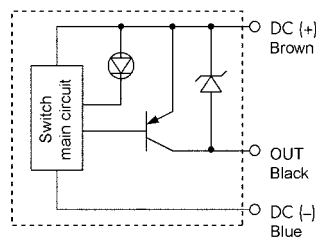
Order code	Connection	Length (m)
D-A93L	cable	3
D-A93-M8	M5 plug	0.5

Electronic switch with LED, 2-pole



Order code	Connection	Length (m)
D-M9BL	cable	3
D-M9BSAPC	M5 plug	0.5
D-M9BL-PAAR	cable	2 x 3

Electronic switch with LED, 3-pole



Order code	Connection	Length (m)
D-M9PL	cable	3
D-M9PSAPC	M5 plug	0.5
D-M9PL-PAAR	cable	2 x 3

Socket outlet with cable

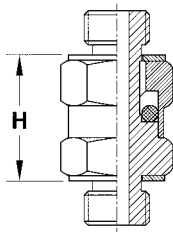
For solenoid valves of series XL, XM, XY, without switching



Order code	Length (m)
SY100-30-4A-10	1
SY100-30-4A-20	2
SY100-30-4A-30	3

Straight connectors

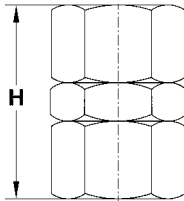
External thread double-sided



Order code	Connection	Type	H
M-5UN	M5	pivoting	10
DN18G	G1/8	fixed	12
DN18R	R1/8	fixed	12

- Screw connection with double-sided external thread as connection between internal threads.

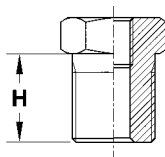
Internal thread double-sided



Order code	Connection	Type	H
MU18G	G1/8	fixed	18

- Screw connection with double-sided internal thread as connection between external threads.

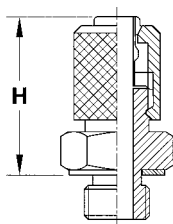
Internal and external thread



Order code	Inner thread	Outer thread	H
M-5B	M5	R1/8	7

- Screw connection with double-sided external and internal thread as connection between threads of different sizes.

Connectors from thread to 6 mm hose



Order code	Connection	Type	H
M-5H6	M5	fixed	12.5
KJH06-M5	M5	rotatable	14.7
M-01H-6	R1/8	fixed	16.5
KJH06-01S*	R1/8	rotatable	15.4
KQH06-U01	universal thread 1/8	rotatable	15.4

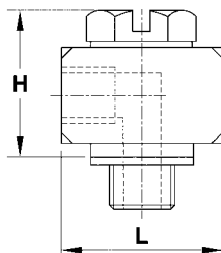
* Thread Teflon® plated

** gasket over gasket

- Straight connection between internal thread and hose (nylon, soft nylon, polyurethane) with external diameter 6 mm.

Angular connectors, pivoting

Internal and external thread

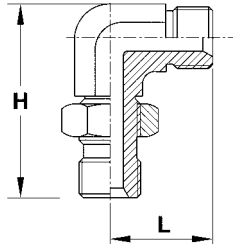


Order code	Connection	H	L
M-5UL	M5	11.3	13

Valve Accessories

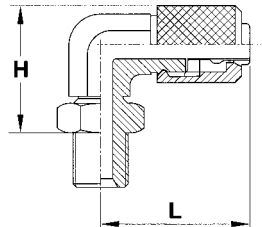
Angular connectors, pivoting

External thread double-sided



Order code	Connection	H	L
WA18R	R1/8	12	12

Plug connection - angular connectors from thread to 6 mm hose



Order code	Connection	H	L
M-5HL6	M5	10.2	13.5
KJL06-M5	M5	17.4	16.1
KJL06-01S*	R1/8	18.5	17.8
KQL06-U01**	universal thread 1/8	23.5	20

* Thread Teflon® plated

** gasket over gasket

- 90° connection between inner thread and hose (nylon, soft nylon, polyurethane) with external diameter 6 mm

Baffles



Order code	Connection	Material	Attenuation (dB) (A)
AN120-M5	M5	sintered bronze	> 18
AN110-01	R1/8	sintered bronze	> 19
AN103-01	R1/8	plastics	> 25
SD18F	G1/8	sintered bronze	-

Air pressure hose, polyurethane, material sold by metre



Order code	Outer diameter	Inner diameter
TU0604BU	6	4

Replacement gaskets



Order code	Outer thread
M-5G1	M5
KQG-U01	universal thread 1/8