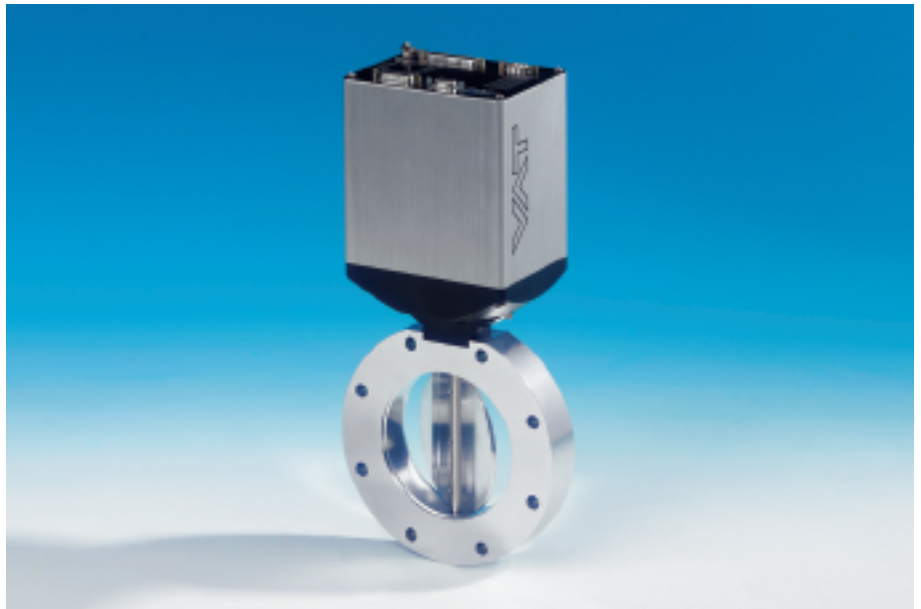


Downstream pressure control valve
 Very fast operation
 High-performance, integrated controller



Body material

aluminum or stainless steel

Valve with integrated controller

DN		Ordering numbers							
		aluminum				stainless steel			
mm	inch	ISO-KF		ISO-F		ISO-KF		ISO-F	
40	1 1/2	61232-KA	x	y			61232-KE	x	y
50	2	61234-KA	x	y			61234-KE	x	y
63	2 1/2				61236-PA	x	y		
80	3				61238-PA	x	y		
100	4				61240-PA	x	y		
160	6				61244-PA	x	y		
200	8				61246-PA	x	y		

optional controller configurations

SPS = ±15VDC Sensor Power Supply

PFO = Power Failure Option
 (valve closes or opens automatically at power failure)

x
 G = basic version
 A = with SPS
 H = with PFO
 C = with SPS and PFO

y
Interface
 G = RS232, 1 sensor
 H = RS232, 2 sensors
 C = Logic, 1 sensor
 E = Logic, 2 sensors
 P = DeviceNet®, 1 sensor
 Q = DeviceNet®, 2 sensors

Ordering number example:

61240-PAGG

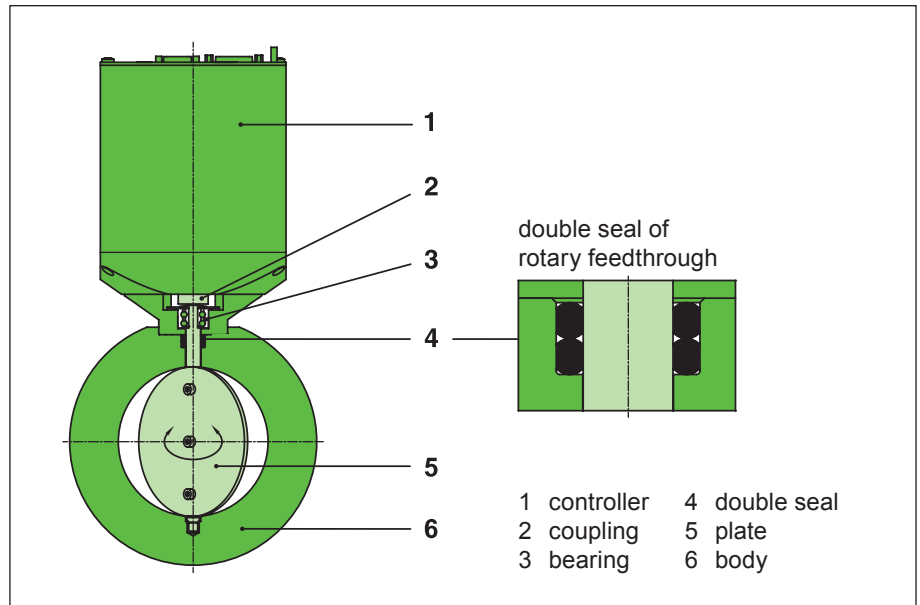
= aluminum valve with ISO-F DN 100 flanges, RS232 interface, for 1 sensor

Accessories

Designation	Ordering No.
'VAT Control View' package, consisting of software and service cable	600SP-99NN-000
'VAT Control Performance Analyzer' package, consisting of software and service cable	600SP-99NN-AAA
Connector kit for valves with RS232 or Logic interface consisting of counter plugs for INTERFACE, SENSOR and POWER connections	242411
Connector kit for valves with DeviceNet® consisting of counter plugs for SENSOR and POWER connections	242410
AC power supply unit (input: 100 - 240 VAC, output: 24 VDC)	249775

Feedthrough

Rotary feedthrough VITON
(double seal)



B

Features

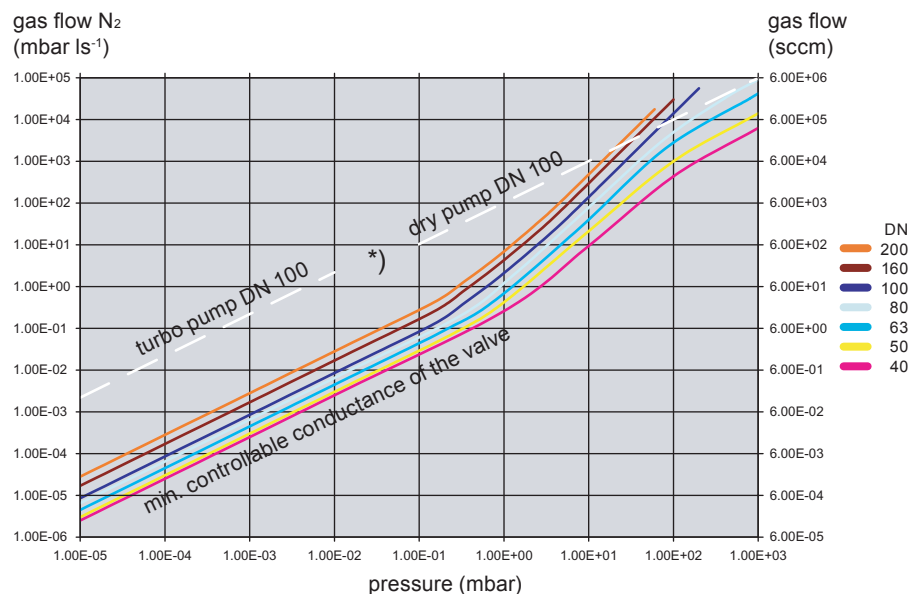
- Very fast operation
- Extremely short control response times
- Integrated controller
- Automatic service signal (contamination)
- Position indication
- Actuator unit easy to remove/mount
- Service port (computer connection)
- Excellent resistance to contaminating processes

Function

The valve plate acts as a throttling element and varies the conductance of the valve opening. The integrated controller calculates the required plate position to achieve the setpoint pressure. See also principle drawing on page 199. Actuation is performed by a stepper motor. An encoder monitors the position. This principle ensures very fast and accurate process pressure control even in demanding contaminating processes.

Control range

VAT has a software «Valve Evaluation Tool» to determine the most suitable product for a specific application. Please contact us to assist you when selecting a product.



*) approx. upper pressure limit
(depending on pump size, pump type and customer system)

Technical data

Actuator unit with controller

Power consumption	+ 24 VDC ($\pm 10\%$) 38 W max. (controller + motor) 10 W max. for Power Failure Option 36 W max. for Sensor Power Supply
Sensor supply	24 VDC or ± 15 VDC
Sensor input	
- Signal voltage	0 - 10 VDC linear with pressure
- Input resistance	Ri = 100k Ω
- Resolution	0.23 mV
- Sampling rate	10 ms
Control accuracy	0.1% of maximum sensor range
Position resolution	20000 (steps = 0 - 90° rotation)
Ambient temperature	50°C max. (<35°C recommended)

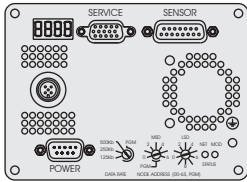
Valve unit

Pressure range at 20°C	1 · 10 ⁻⁸ mbar to 1.2 bar (abs)
Leak rate to the outside at 20°C	1 · 10 ⁻⁹ mbar ls ⁻¹
Cycles until first service	2 million under clean conditions
Operating temperature ¹⁾	10°C - 150°C
Mounting position	any
Material in vacuum	
- Valve body, plate	aluminum 3.2315 (AA6082) or stainless steel 1.4435 (316L)
- Shaft	stainless steel 1.4435 (316L)
- Other parts	iglidur [®] X, stainless steel A2 (304)
- Feedthrough seals	VITON

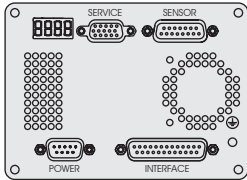
¹⁾ Maximum values: depending on operating conditions and sealing materials

DN (nominal I. D.)		conductance in open position (molecular flow)	minimum controllable conductance (molecular flow)	max. differential pressure	typical closing / opening time	weight (approx.)			
						aluminum		stainless steel	
mm	inch	ls ⁻¹	ls ⁻¹	mbar	s	kg	lbs	kg	lbs
40	1 1/2	80	0.25	1000	0.3	2.1	4.6	2.6	5.7
50	2	150	0.3	1000	0.3	2.4	5.3	3	6.6
63	2 1/2	360	0.45	1000	0.3	2.6	5.7	4.1	9
80	3	850	0.65	1000	0.3	2.8	6.2	4.7	10.4
100	4	1400	0.85	800	0.3	3	6.6	5	11.
160	6	3800	1.7	300	0.3	4.2	9.3	7.2	15.9
200	8	7800	2.8	150	0.3	4.7	10.4	8.1	17.9

Pressure controller



DeviceNet®



RS232, Logic

Features

- Very fast and accurate pressure control
- Automatic learning of system parameters
- Hold function for plasma ignition
- Valve position control
- Remote control
- Information display
- Inputs for 1 or 2 linear pressure sensors (capacitance manometers)
- Closing or opening of the valve at power failure (option)

Pressure control

The controller ensures very fast and accurate pressure control. By operating the LEARN function — needs to be done only once at start-up — the system parameters are automatically determined.

Due to the adaptive algorithm the controller continuously adapts to the process conditions (species of gas, gas flow) and thus ensures optimum pressure control.

Valve position control

In position control mode the valve plate can be moved to any position.

Display

Status and position are displayed by means of 4 bright digits.

Remote control

The valve can be controlled by a host computer via RS232, Logic or DeviceNet® interface.

The RS232 interface also has digital inputs to close and open the valve.

Control via Logic interface performs via digital and analog inputs and outputs.

Service port

The valve has a service port (RS232) for connecting a computer. VAT can provide the following two versions of software:



Basic version 'VAT Control View':

Available as freeware (see www.vatvalve.com). Independent of the host computer, it enables setup, operation, monitoring and diagnosis.

Extended version 'VAT Control Performance Analyzer':

Available on order. This sophisticated tool offers a much wider range of possibilities than the basic version. For instance, it is possible to graphically display the pressure behavior or to program and record sequences. Also several possibilities for data analysis and process optimization are available.

For connecting the valve both versions require a special cable from VAT.

Power Failure Option (PFO)

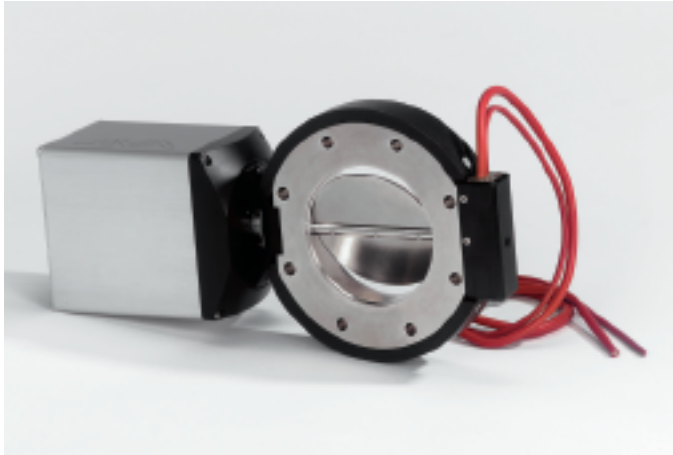
This function is available as an option. It closes (to the minimum conductance) or opens the valve automatically at power failure.

Sensor Power Supply (SPS)

Optionally, the valve can be provided with a ±15VDC power supply unit for the sensor(s).

Options

Picture 1



Picture 2



Certain options are not available for some nominal diameters or cannot be combined. Moreover, options can affect the general technical data.

Actuator / controller:

- Ultra fast actuator (90 ms)
- Output for control of isolation valve
- Controller with configurable PI parameters
- RS232 interface with 2 analog outputs
- Ethernet interface

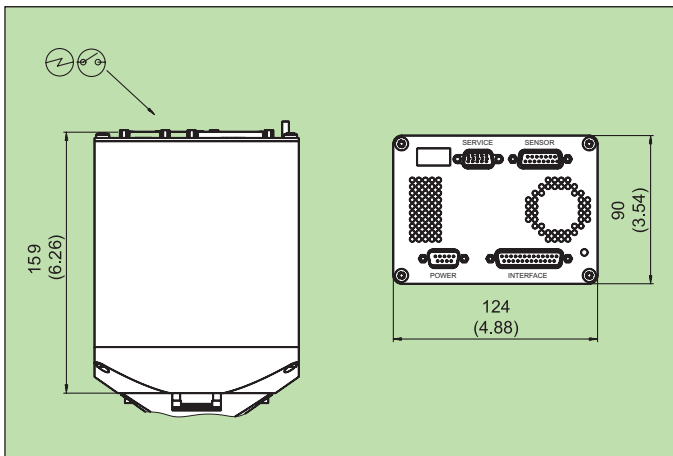
Valve:

- Sizes DN 25 and 250
- Other flange types (JIS, ASA-LP, CF-F)
- Customer specified flanges
- Aluminum hard anodized or nickel-plated
- Other sealing materials
- Heater (picture 1) with insulation for valve temperatures 80°C, 100°C, 120°C
- «Combo» body to combine a series 612 valve with a series 121 isolation valve (picture 2)

Ordering information for options:

Ordering No. of valve-X
(e. g. 61236-PEGG-X, X = valve with heater for 80°C)

Control unit

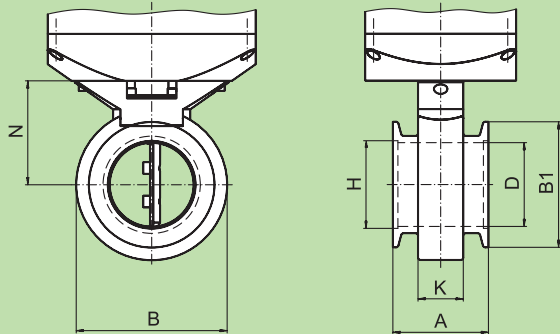


	Connection	Type
POWER	Power input	DB-9 male
SENSOR	Sensor input Sensor Power Supply	DB-15 female
INTERFACE	RS232 or Logic	DB-25 female
	DeviceNet®	Micro-style male

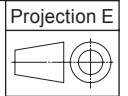
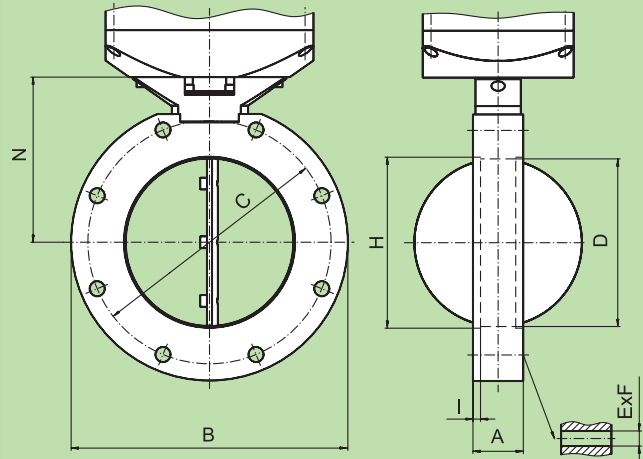
- ⊕ electrical connection
- ⊙ position indicator

Flange dimensions

ISO-KF DN 40 - 50 (1½" - 2")



ISO-F DN 63 - 200 (2½" - 8")



DN	mm inch	40 1½	50 2			
A	mm inch	57 2.25	57 2.25			
B	mm inch	80 3.15	90 3.54			
B1	mm inch	54.9 2.16	74.9 2.95			
C	mm inch	- -	- -			
D	mm inch	40 1.57	50 1.97			
ExF	mm inch	- -	- -			
H	mm inch	41.3 1.63	52.3 2.06			
I	mm inch	- -	- -			
K	mm inch	27 1.06	27 1.06			
N	mm inch	57 2.24	62 2.44			

DN	mm inch	63 2½	80 3	100 4	160 6	200 8
A	mm inch	30 1.18	30 1.18	30 1.18	30 1.18	30 1.18
B	mm inch	130 5.12	145 5.71	165 6.5	225 8.86	285 11.22
B1	mm inch	- -	- -	- -	- -	- -
C	mm inch	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24
D	mm inch	63 2.48	80 3.15	100 3.94	150 5.91	200 7.87
ExF	mm inch	4 x 9 4 x 0.35	8 x 9 8 x 0.35	8 x 9 8 x 0.35	8 x 11 8 x 0.43	12 x 11 12 x 0.43
H	mm inch	70 2.76	83 3.27	102 4.02	153 6.02	213 8.39
I	mm inch	4.5 0.18	4.5 0.18	4.5 0.18	4.5 0.18	4.5 0.18
K	mm inch	- -	- -	- -	- -	- -
N	mm inch	77.5 3.05	90.5 3.56	98.5 3.88	123.5 4.86	157 6.18