

## BUTTERFLY CONTROL VALVE, SERIES 61.2

Downstream pressure control valve for SEMI, FPD, PV, SOLAR and industrial processes. Optimal for fast and demanding processes, e. g. CVD.



DN 25 – 50

DN 63 – 320

Reliable operation in dirty processes

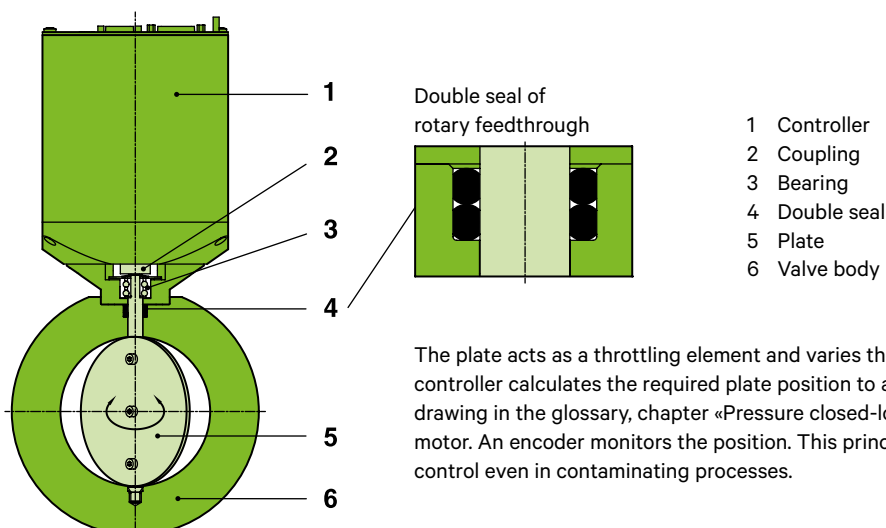
Excellent pressure control performance

Service port to connect a computer or a service box

### MAIN FEATURES

Sizes	DN 25 – 320 mm (1" – 12")
Actuator	integrated pressure controller with stepper motor
Body material	aluminum or stainless steel
Feedthrough	rotary feedthrough
Standard flanges	ISO-KF, ISO-F

### FUNCTIONAL PRINCIPLE



The plate acts as a throttling element and varies the conductance of the valve opening. The pressure controller calculates the required plate position to achieve the setpoint pressure. See also principle drawing in the glossary, chapter «Pressure closed-loop control». Actuation is performed by a stepper motor. An encoder monitors the position. This principle ensures fast and accurate process pressure control even in contaminating processes.

## TECHNICAL DATA

Leak rate <sup>1)</sup>	Valve body	<1·10 <sup>-9</sup> mbar ls <sup>-1</sup>
Pressure range <sup>1)</sup>		1·10 <sup>-8</sup> mbar to 1.2 bar (abs)
Cycles until first service <sup>2)</sup>		2 million
Temperature <sup>2)</sup>	Valve body Actuator: ambient	≤ 150 °C max. 50 °C (≤ 35 °C recommended)
Material	Aluminum valve body / plate Stainless steel valve body / plate Shaft Other parts	EN AW-6082 (3.2315) AISI 316L (1.4404 or 1.4435) AISI 316L (1.4404 or 1.4435) iglidur®X, AISI 316L (1.4404 or 1.4435)
Seal	Feedthrough	FKM (e.g. Viton®)
Feedthrough		rotary feedthrough
Mounting position		any (shaft on pump side recommended)

DN (nominal I.D.)		Conductance (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure on the plate	Typical closing or opening time		Typical closing or opening time "position only" version		Weight: aluminum valve		Weight: stainless steel valve	
mm	inch				aluminum	stainless steel	aluminum	stainless steel	kg	lbs	kg	lbs
25	1	22	0.15	1000	0.3	0.3	0.09	0.09	2	4.40	2.50	5.50
40	1½	80	0.25	1000	0.3	0.3	0.09	0.09	2.10	4.60	2.60	5.70
50	2	150	0.30	1000	0.3	0.3	0.09	0.09	2.40	5.30	3	6.60
63	2½	360	0.45	1000	0.3	0.3	0.09	0.09	2.60	5.70	4.10	9
80	3	850	0.65	1000	0.3	0.3	0.09	0.09	2.80	6.20	4.70	10.40
100	4	1400	0.85	800	0.3	0.3	0.09	0.1	3	6.60	5	11
160	6	3800	1.70	300	0.3	0.3	0.1	0.13	4.20	9.30	7.20	15.90
200	8	7800	2.80	150	0.3	0.3	0.13	0.17	4.70	10.40	10	22
250	10	15000	5	100	0.3	0.6	0.17	0.27	5.70	12.50	12.30	27.10
320	12	27000	6	75	0.6	n. a.	0.27	n. a.	10.40	23	n. a.	n. a.

<sup>1)</sup> Unheated on delivery.

<sup>2)</sup> Maximum values: depending on operating conditions and sealing materials.

Technical data for pressure controller: see pages 184 - 189

## OPTIONS, CUSTOMIZED SOLUTIONS

Pic. 1



Pic. 2



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

### ACTUATOR

- Ultra fast actuator (0.1 s) up to DN 100
- Output for control of isolation valve
- Special control algorithms (fix PID, upstream, soft-pump)
- «Position only» control version with resolution of 4000 steps (Pic. 1):  
Ordering number 613 . . . . M1

### VALVE

- Special sizes, e. g. DN 10
- Other flanges, e. g. JIS, ASA-LP, CF-F
- Customer specified flanges
- Surface treatment, e. g. aluminum hard anodized or nickel-plated
- Other sealing materials
- Integrated heater with insulation (Pic. 2)
- 200 °C version with or without heater
- Industrial version up to DN 160 for harsh conditions,  
e. g. differential pressure up to 1 bar, heavy contamination
- «Butterfly and isolation valve»: see series 95.1 and 95.2

## SPARE PARTS

We can offer a wide variety of spare parts. Please contact us for details and an offer.

Thank you for specifying the fabrication number of the valve indicated on the identification tag when asking for spare parts.

## ACCESSORIES

Flange connections for installation of the valve: see series 31 and 32



ORDERING INFORMATION FOR STANDARD VALVES

Valve with integrated pressure controller and stepper motor

DN		Ordering numbers														
mm	inch	aluminum						stainless steel								
		ISO-KF			ISO-F			ISO-KF			ISO-F					
25	1	61228-KA	x	y						61228-KE	x	y				
40	1½	61232-KA	x	y						61232-KE	x	y				
50	2	61234-KA	x	y						61234-KE	x	y				
63	2½						61236-PA	x	y					61236-PE	x	y
80	3						61238-PA	x	y					61238-PE	x	y
100	4						61240-PA	x	y					61240-PE	x	y
160	6						61244-PA	x	y					61244-PE	x	y
200	8						61246-PA	x	y					61246-PE	x	y
250	10						61248-PA	x	y					61248-PE	x	y
320	12						61250-PA	x	y					-		

Controller configurations:

- G = basic version
- A = with SPS
- H = with PFO
- C = with SPS and PFO
- T = basic version with VC master
- V = with SPS and VC master
- U = with PFO and VC master
- W = with SPS, PFO and VC master

Interface

- G = RS232
- H = RS232
- V = RS232 + analog output
- W = RS232 + analog output
- C = Logic (analog / digital)
- E = Logic (analog / digital)
- P = DeviceNet®
- Q = DeviceNet®
- D = Profibus
- F = Profibus
- J = RS485
- K = RS485
- Y = Ethernet
- Z = Ethernet
- L = CC-Link
- N = CC-Link
- I = EtherCAT
- X = EtherCAT
- S = VC slave (without interface)

Number of sensors

- 1
- 2
- 1
- 2
- 1
- 2
- 1
- 2
- 1
- 2
- 1
- 2
- 1
- 2
- 1
- 2
- 1
- 2

SPS = Sensor Power Supply (±15 V DC power supply for sensor)

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

VC = Valve Cluster (for operating several valves synchronously)

Example: 61240-PAGG = aluminum valve with ISO-F DN 100 flanges, RS232 interface, for 1 sensor

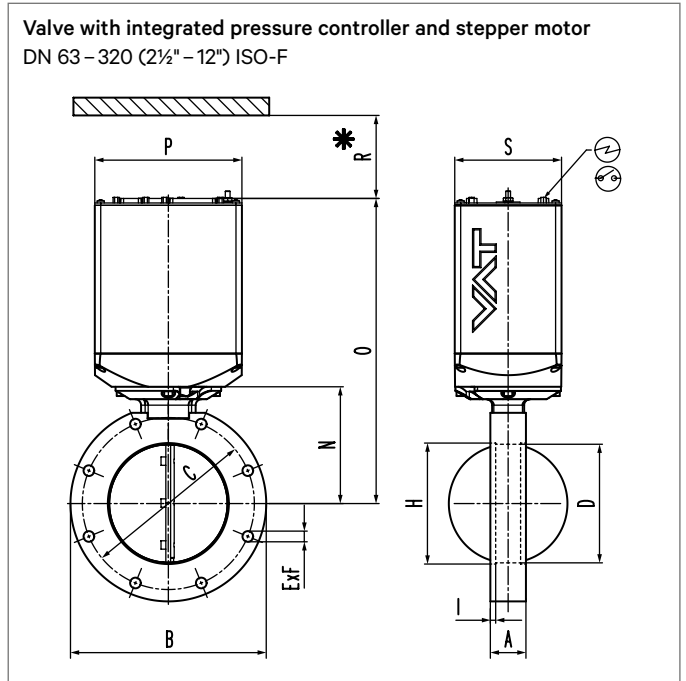
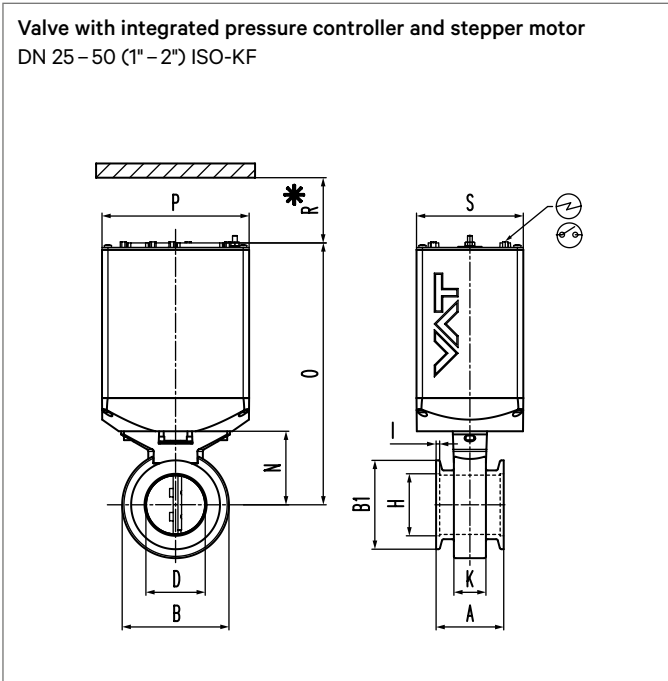
See OPTIONS for ordering information of «position only» version.

Pressure controller: see pages 184 – 189

ORDERING INFORMATION FOR VALVES WITH OPTIONS

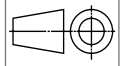
Basic ordering number plus «-X»: -X to be specified Example: 61236-PEGG-X, X = valve with heater for 150 °C

## DIMENSIONS



- \* Required for dismantling
- ⊕ Electrical connection
- ⊙ Position indicator

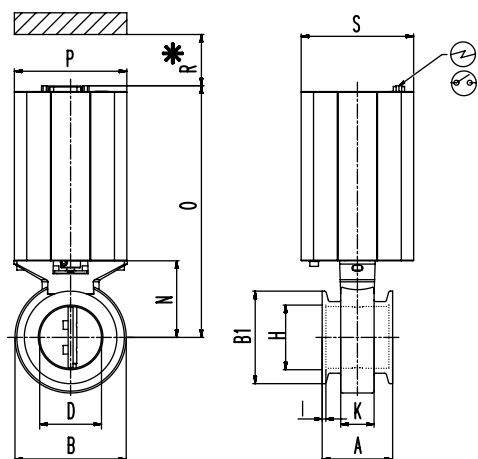
Projection E



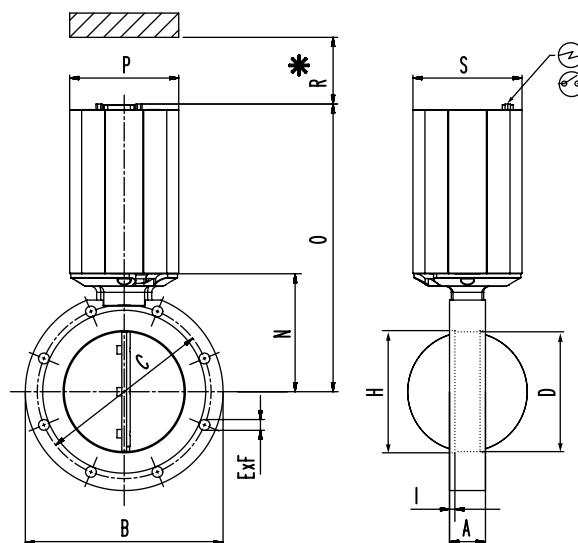
DN	mm inch	25 1	40 1½	50 2	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
A	mm inch	50 1.97	57 2.24	57 2.24	30 1.18	30 1.18	30 1.18	30 1.18	30 1.18	30 1.18	35 1.38
B	mm inch	65 2.56	80 3.15	90 3.54	130 5.12	145 5.71	165 6.50	225 8.86	285 11.22	335 13.19	425 16.73
B1	mm inch	39.90 1.57	54.90 2.16	74.90 2.95	-	-	-	-	-	-	-
C	mm inch	-	-	-	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24	310 12.20	395 15.55
D	mm inch	25 0.98	40 1.57	50 1.97	63 2.48	80 3.15	100 3.94	150 5.91	200 7.87	250 9.84	312 12.28
E x F	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	12 x 11 12 x 0.43	12 x 13 12 x 0.51
H	mm inch	26.30 1.04	41.30 1.63	52.30 2.06	70 2.76	83 3.27	102 4.02	153 6.02	213 8.39	261 10.28	318 12.52
I	mm inch	3 0.12	3 0.12	3 0.12	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18
K	mm inch	27 1.06	27 1.06	27 1.06	-	-	-	-	-	-	-
N	mm inch	49.50 1.95	57 2.24	62 2.44	77.50 3.05	90 3.54	98.50 3.88	123.50 4.86	157 6.18	182 7.17	233 9.17
O	mm inch	208 8.19	216 8.50	221 8.70	236 9.29	249 9.80	257 10.12	282 11.10	316 12.44	341 13.43	391 15.39
P	mm inch	124 4.88	124 4.88	124 4.88	124 4.88	124 4.88	124 4.88	124 4.88	124 4.88	124 4.88	124 4.88
R	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76
S	mm inch	90 3.54	90 3.54	90 3.54	90 3.54	90 3.54	90 3.54	90 3.54	90 3.54	90 3.54	90 3.54

## DIMENSIONS

Valve with integrated controller and stepper motor:  
«position only» version, ordering number 613 . . . M1  
DN 25 – 50 (1" – 2") ISO-KF

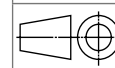


Valve with integrated controller and stepper motor:  
«position only» version, ordering number 613 . . . M1  
DN 63 – 320 (2½" – 12") ISO-F



- \* Required for dismantling
- ⊕ Electrical connection
- ⊙ Position indicator

Projection E



DN	mm inch	25 1	40 1½	50 2	63 2½	80 3	100 4	160 6	200 8	250 10	320 12
A	mm inch	50 1.97	57 2.24	57 2.24	30 1.18	30 1.18	30 1.18	30 1.18	30 1.18	30 1.18	35 1.38
B	mm inch	65 2.56	80 3.15	90 3.54	130 5.12	145 5.71	165 6.50	225 8.86	285 11.22	335 13.19	425 16.73
B1	mm inch	39.90 1.57	54.90 2.16	74.90 2.95	-	-	-	-	-	-	-
C	mm inch	-	-	-	110 4.33	125 4.92	145 5.71	200 7.87	260 10.24	310 12.20	395 15.55
D	mm inch	25 0.98	40 1.57	50 1.97	63 2.48	80 3.15	100 3.94	150 5.91	200 7.87	250 9.84	312 12.28
E × F	mm inch	-	-	-	4 × 9 4 × 0.35	8 × 9 8 × 0.35	8 × 9 8 × 0.35	8 × 11 8 × 0.43	12 × 11 12 × 0.43	12 × 11 12 × 0.43	12 × 13 12 × 0.51
H	mm inch	26.30 1.04	41.30 1.63	52.30 2.06	70 2.76	83 3.27	102 4.02	153 6.02	213 8.39	261 10.28	318 12.52
I	mm inch	3 0.12	3 0.12	3 0.12	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18	4.50 0.18
K	mm inch	27 1.06	27 1.06	27 1.06	-	-	-	-	-	-	-
N	mm inch	49.50 1.95	57 2.24	62 2.44	77.50 3.05	90 3.54	98.50 3.88	123.50 4.86	157 6.18	182 7.17	233 9.17
O	mm inch	191 7.52	198 7.80	204 8.03	219 8.62	232 9.13	240 9.45	265 10.43	299 11.77	323 12.72	373 14.69
P	mm inch	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58
R	mm inch	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76	70 2.76
S	mm inch	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58	91 3.58