

PENDULUM CONTROL VALVE, SERIES 65.5

Downstream pressure control and isolation valve for SEMI and FPD processes.
Optimal for corrosive etching and cleaning processes.



Blank aluminum

Hard anodized aluminum

Fast, virtually particle-free operation

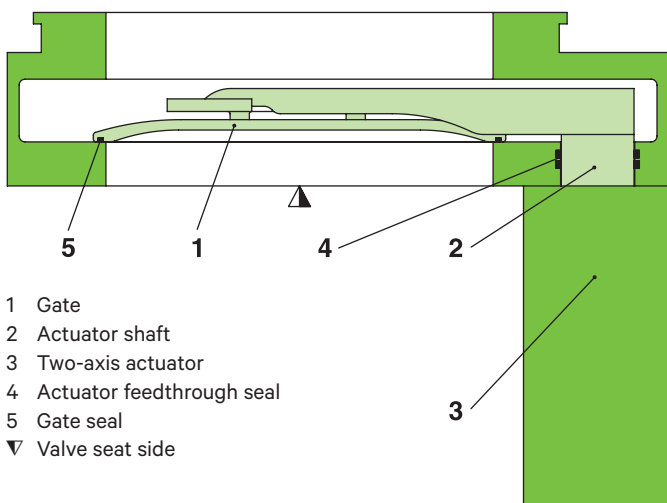
Excellent pressure control performance

Service port to connect a computer via USB and on-board Control Performance Analyzer (CPA) software

MAIN FEATURES

Sizes	DN 250 mm (10")
Actuator	integrated pressure controller with servo drive
Body material	blank or hard anodized aluminum
Feedthrough	rotary feedthrough
Standard flanges	ISO-F, JIS

FUNCTIONAL PRINCIPLE



The plate acts, due to its pendulum and stroke movement, 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 servo drive. This principle ensures very fast and accurate process pressure control.

For leaktight closing the plate moves downwards. Opening and closing are performed by the second actuator axis.

TECHNICAL DATA

Leak rate ¹⁾	Valve body: blank aluminum	<1·10 ⁻⁹ mbar ls ⁻¹
	hard anodized aluminum	<1·10 ⁻⁵ mbar ls ⁻¹
Leak rate ¹⁾	Valve seat: blank aluminum	<1·10 ⁻⁹ mbar ls ⁻¹
	hard anodized aluminum	<1·10 ⁻⁴ mbar ls ⁻¹
Pressure range ¹⁾	Blank aluminum	1·10 ⁻⁸ mbar to 1.2 bar (abs)
	Hard anodized aluminum	1·10 ⁻⁶ mbar to 1.2 bar (abs)
Cycles until first service ²⁾	Pressure control	2 million
	Closing / opening	50 000
Temperature ²⁾	Valve body	≤ 120 °C
	Controller	max. 50 °C (≤ 35 °C recommended)
Material	Valve body, plate	EN AW-6061 (3.2311) T651
	Other parts	AISI 316L (1.4404, 1.4435)
	Connection screw at plate	SST A4-80, Ni-PTFE, coated
Seal	Bonnet, plate, body, feedthrough	FKM (Viton®)
Feedthrough	Actuator	rotary feedthrough
Mounting position	any ³⁾	

DN (nominal I.D.)		Conductance (molecular flow)	Minimum controllable conductance (molecular flow)	Max. differential pressure on the plate	Max. differential pressure during operation	Operating time for throttling	Typical closing / opening time open → closed	Typical closing / opening time closed → open	Weight	
mm	inch	ls ⁻¹	ls ⁻¹	mbar	mbar	s	s	s	kg	lbs
250	10	22 000	2	1200	5	0.5	2	0.7	36	79

¹⁾ Unheated on delivery.

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

³⁾ Valve seat on chamber side recommended.

Technical data for pressure controller: see pages 184 – 189

OPTIONS, CUSTOMIZED SOLUTIONS

Pic. 1



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

ACTUATOR

- Special control algorithms (fix PID, upstream, soft-pump)

VALVE

- Customer specified flanges, e. g. rectangular flange for direct mounting to chamber
- Other sealing materials
- KF ports in body
- Heater with insulation (Pic. 1) for valve temperatures up to 120 °C

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 32

ORDERING INFORMATION FOR STANDARD VALVES

Valve with integrated pressure controller
and stepper motor

DN		Ordering numbers											
mm	inch	blank aluminum				hard anodized aluminum							
		ISO-F		JIS		ISO-F		JIS					
250	10	65548-PA	x	y	65548-JA	x	y	65548-PH	x	y	65548-JH	x	y

Controller configurations:

x	y	Interface	Number of sensors
G = basic version		H = RS232	2
A = with SPS		E = Logic (analog / digital)	2
H = with PFO		Q = DeviceNet®	2
C = with SPS and PFO		F = Profibus	2
T = basic version with VC master		K = RS485	2
V = with SPS and VC master		X = EtherCAT	2
U = with PFO and VC master		S = VC slave (without interface)	
W = with SPS, PFO and VC master			

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: 65548-PAGG

= aluminum valve with ISO-F DN 250 flanges, RS232 interface, for 1 sensor

Pressure controller: see pages 184 – 189

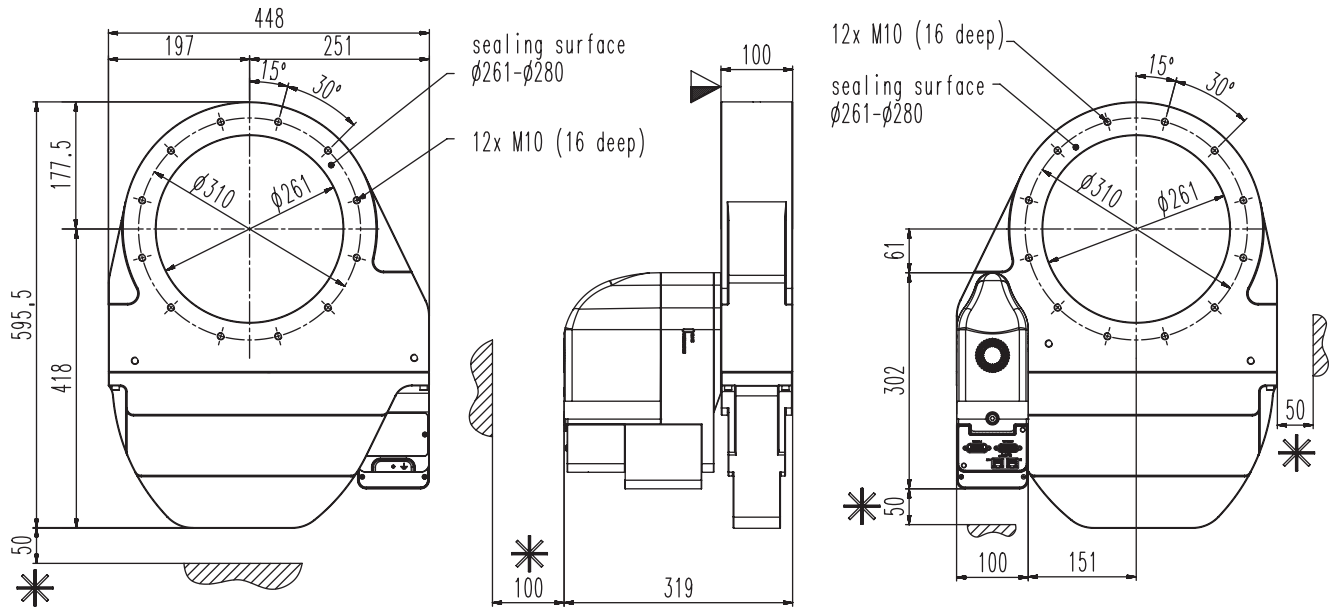
ORDERING INFORMATION FOR VALVES WITH OPTIONS

Basic ordering number plus «-X»: -X to be specified

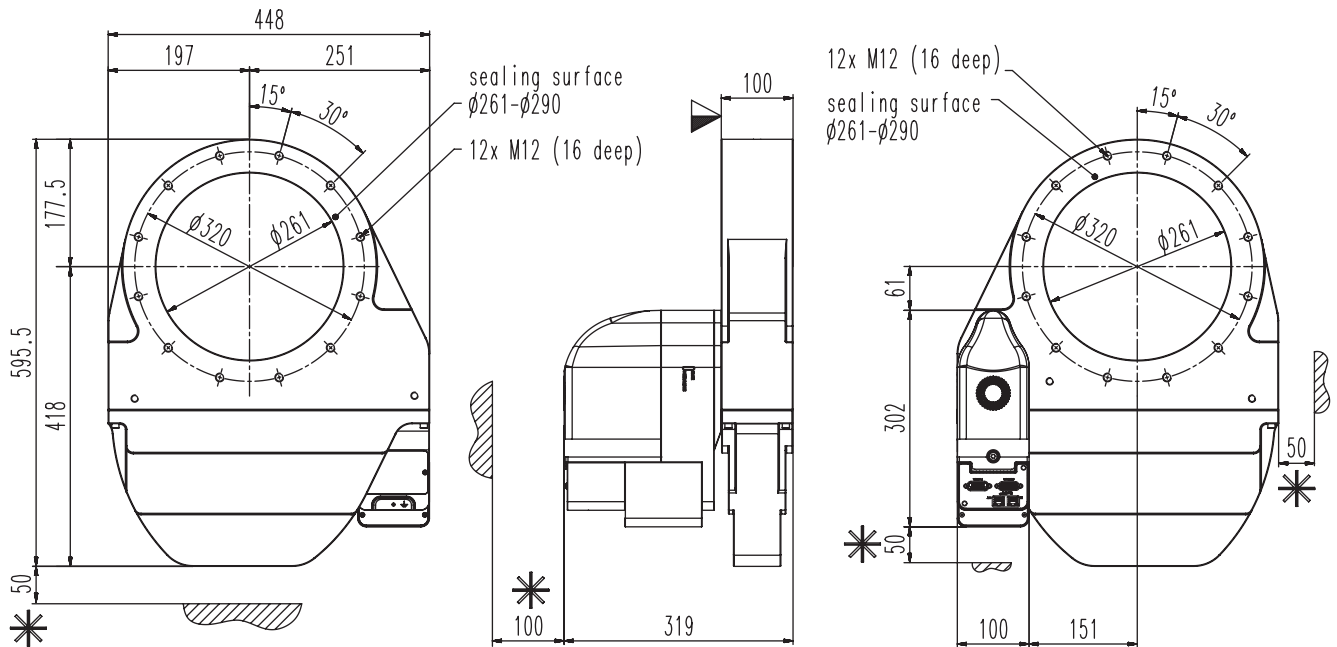
Example: 65548-PAGH-X, X = valve with heater for 120 °C

DIMENSIONS

Valve with integrated pressure controller and stepper motor
 DN 250 (10") with ISO-F flanges



Valve with integrated pressure controller and stepper motor
 DN 250 (10") with JIS flanges



- ▼ Valve seat side
- * Required for dismantling

Projection E

