

LARGE PENDULUM VALVE, SERIES 16.8

For applications requiring a compact design in large DN sizes. Especially suited to large coating and FPD production systems.



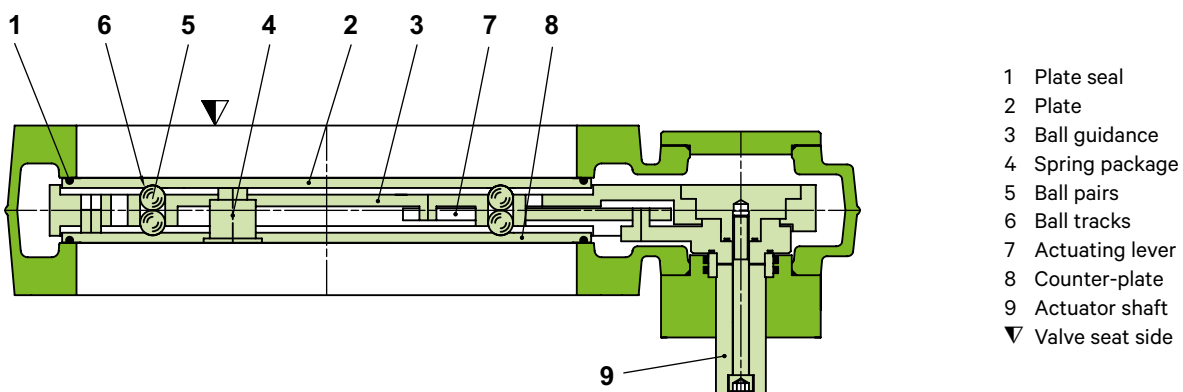
Low vibration level during operation

Split body design for fast and easy maintenance

MAIN FEATURES

Sizes	DN 400 – 500 mm (16" – 20")
Actuators	pneumatic: double acting 3-position pneumatic: double acting
Body material	aluminum
Feedthrough	rotary feedthrough
Standard flanges	ISO-F, ASA, JIS

FUNCTIONAL PRINCIPLE



- 1 Plate seal
- 2 Plate
- 3 Ball guidance
- 4 Spring package
- 5 Ball pairs
- 6 Ball tracks
- 7 Actuating lever
- 8 Counter-plate
- 9 Actuator shaft
- ▼ Valve seat side

TECHNICAL DATA

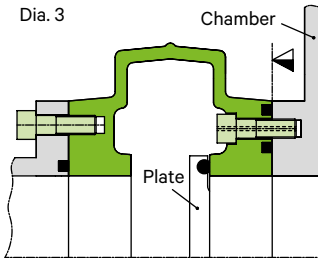
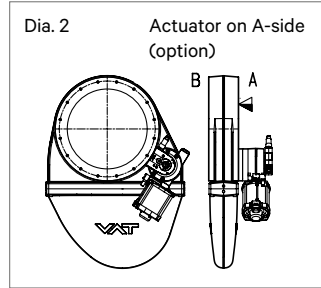
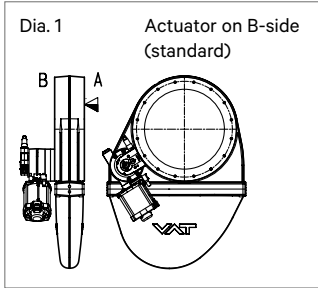
Leak rate	Valve body, valve seat	$<1 \cdot 10^{-9}$ mbar ls ⁻¹
Pressure range		$1 \cdot 10^{-8}$ mbar to 1.2 bar (abs)
Differential pressure on the plate		≤ 1.2 bar
Differential pressure at opening		≤ 30 mbar
Cycles until first service		100 000
Temperature ¹⁾	Valve body	≤ 120 °C
	Actuator	≤ 80 °C
	Solenoid valve	≤ 50 °C
	Position indicator	≤ 80 °C
Heating and cooling rate		≤ 30 °C h ⁻¹
Material	Valve body	EN AC-42100 (3.2371)
	Plate	EN AW-6082 (3.2315)
	Feedthrough (parts in contact with media)	EN AW-6082 (3.2315), AISI 303 (1.4305)
Seal	Bonnet, plate, feedthrough	FKM (Viton®)
Feedthrough		rotary feedthrough
Mounting position		any
Solenoid valve		24 VDC, 5.4 W (others on request)
Position indicator: contact rating	Voltage	≤ 50 V AC/DC
	Current	≤ 3 A
Valve position indication		visual (mechanical)

DN (nominal I.D.)		Conductance (molecular flow) (depending on A-dimension and flange type)	Minimum adjustable conductance with 3-position pneumatic actuator	Max. differential pressure in closed position	Compressed air min. – max. overpressure		Volume of pneumatic actuator		Closing or opening time ²⁾	Weight	
mm	inch				ls ⁻¹	mbar	bar	psi		l	ft ³
400	16	50 000	150	1200	5–7	73–102	2.0	0.071	12	85	187
457	16	68 000	200	1200	5–7	73–102	3.3	0.116	14	125	276
500	20	90 000	200	1200	5–7	73–102	3.3	0.116	14	115	254

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

²⁾ Extended closing/opening time with 3-position pneumatic actuator.

OPTIONS, CUSTOMIZED SOLUTIONS



ACTUATOR

- Other solenoid valve voltage (standard 24VDC)
- Actuator on A-side (Dia. 2). B-side (Dia. 1) is standard.

VALVE

- Customer specified flanges
- Splinter shield grid for turbo pump
- For direct mounting to chamber (Dia. 3)
- Ports for roughing (by-pass), venting or for gauges
- Window in plate

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 pneumatic actuator
double acting
without solenoid valve
with position indicator

DN		Ordering numbers		
mm	inch	ISO-F	ASA	JIS
400	16	16852-PA24	on request	16852-JA24
500	20	16854-PA24	16854-AA24	16854-JA24

without solenoid valve, without position indicator: 168 . . - A14

with solenoid valve, with position indicator: 168 . . - A44 (specify control voltage)

Valve with 3-position pneumatic actuator
double acting
without solenoid valve
with position indicator

DN		Ordering numbers		
mm	inch	ISO-F	ASA	JIS
400	16	16852-PA28	on request	16852-JA28
500	20	16854-PA28	16854-AA28	16854-JA28

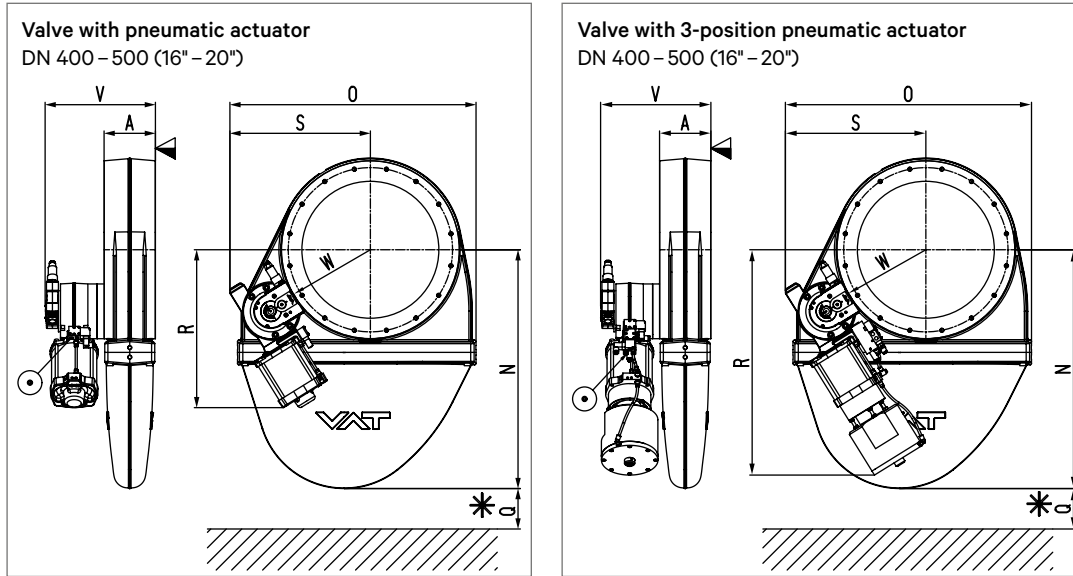
with solenoid valve, with position indicator: 168 . . - A48 (specify control voltage)

ORDERING INFORMATION FOR VALVES WITH OPTIONS

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

Example: 16852-PA24-X, X = window in plate

MAIN DIMENSIONS

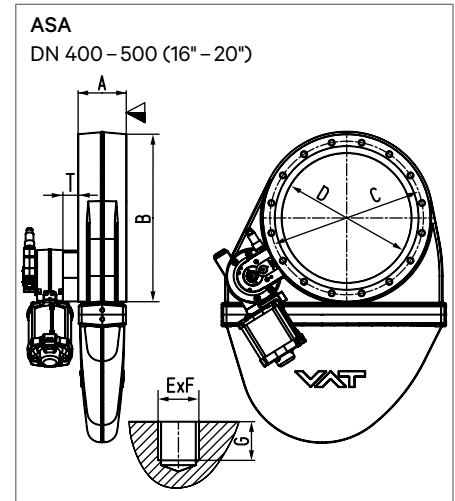
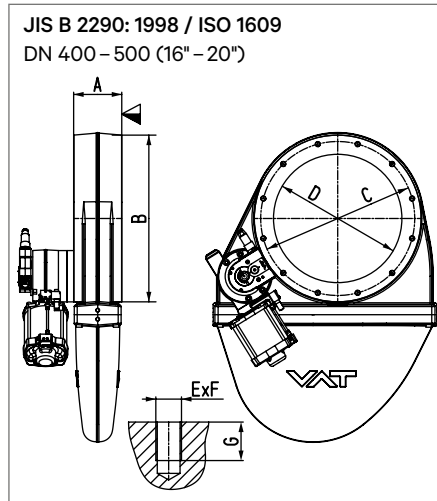
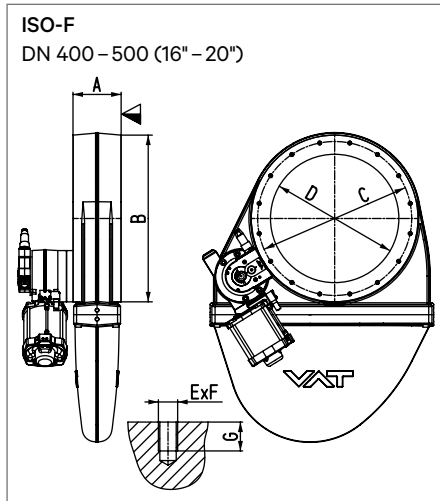


DN	mm	400	500
	inch	16	20
A	mm	150	170
	inch	5.91	6.69
N	mm	698	850
	inch	27.48	33.46
O	mm	716	854
	inch	28.19	33.62
Q	mm	200	230
	inch	7.87	9.06
R	mm ¹⁾	461	612
	inch ¹⁾	18.15	24.09
	mm ²⁾	659	805
	inch ²⁾	25.94	31.69
S	mm	410	466
	inch	16.14	18.35
V	mm	322	337
	inch	12.68	13.27
W	mm	260	320
	inch	10.24	12.60

▼ Valve seat side * Required for dismantling ⊙ Compressed air connection

¹⁾ Pneumatic actuator
²⁾ 3-position pneumatic actuator

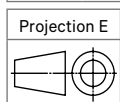
FLANGE DIMENSIONS



DN	mm	400	500
	inch	16	20
A	mm	128	150
	inch	5.04	5.91
B	mm	520	635
	inch	20.47	25
C	mm	480	580
	inch	18.90	22.83
D	mm	400	500
	inch	15.75	19.69
E x F		16 x M12	16 x M12
G	mm	20	20
	inch	0.79	0.79

DN	mm	400	500
	inch	16	20
A	mm	150	170
	inch	5.91	6.69
B	mm	520	625
	inch	20.47	24.61
C	mm	480	585
	inch	18.90	23.03
D	mm	400	500.20
	inch	15.75	19.69
E x F		12 x M16	16 x M16
G	mm	24	24
	inch	0.94	0.94

DN	mm	400	500
	inch	16	20
ASA / ANSI		16	20
A	mm	170	170
	inch	6.69	6.69
B	mm	625	700
	inch	24.61	27.56
C	mm	540	635
	inch	21.25	25
D	mm	457.20	500.20
	inch	18	19.69
E x F		16 x 1" / 8 UNC	20 x 1" / 8 UNC
G	mm	20	24
	inch	0.79	0.94
T	mm	-	42
	inch	-	1.65



▼ Valve seat side