



VAT Vakuumventile AG
CH-9469 Haag, Schweiz

Product data sheet

All-metal gate valve
Series 481, DN 250 (ID 10")
Ordering No. 48148-XE24-APV1

Description

Flange		ITER style DN 250
Actuator		Pneumatic double acting - without solenoid valve - with position indicator
Feed through		Bellows
Option	APV =	Product: valve type ITER 1; Flange A+B: type ITER; Body: double wall body; Actuator: radiation resistant 10 ⁶ Gy; Position indicator: double; 200 °C; Glenair 6 pin connector; 125 °C; radiation resistant 10 ⁶ Gy; Bonnet flange: vacuum feedthrough double bellows; kind of seal double; VATSEAL; intermediate pumping between two bellows, double wall body and double bonnet seal; VCR ¼"

Technical data

Leak rate (Test method acc. VAT Standard N-2100; He/air mix, ΔP = 1 bar)	- Valve body	< 1 · 10 ⁻⁹ mbar ls ⁻¹
	- Valve seat	< 1 · 10 ⁻⁹ mbar ls ⁻¹
Pressure range		XUHV to 2 bar (abs)
Test pressure		1 bar
Differential pressure on the gate		≤ 2 bar
Differential pressure at opening		≤ 500 mbar, 1 bar with reduced cycle life
Conductance (molecular flow)		8 100 ls ⁻¹
Cycles until first service (Maximum values: depending on operating conditions and valve contamination)	- Normal conditions ¹	5 000
	- Extreme conditions ²	1 000
Bake-out temperature (Maximum values: depending on operating conditions and sealing materials)	- Valve body	≤ 240 °C
	- Actuator	≤ 140 °C (for max. 100h)
	- Position indicator	≤ 200 °C
Heating and cooling rate		≤ 10 °C h ⁻¹
Material	- Valve body	AISI 316 L
	- Flange	AISI 316 L ESR
	- Gate	AISI 316 L
	- Mechanism	AISI 316 L
	- Bellows	AISI 316 L
	- Actuator	AISI 304; aluminium
Seal	- Bonnet	metal, silver plated
	- Gate	metal, silver plated
	- Actuator	EPDM

¹ Normal conditions: External pressure 0.1 MPa, pressure inside valve 0 MPa, bellows interspace pressure 0.05 MPa temperatures ambient.

² Extreme conditions: External pressure 0.2 MPa, pressure inside valve 0 MPa, bellows interspace pressure 0 MPa, temperature 100 °C

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Modified by: Phil Schneider	Release date: 05.02.2021	751299ED



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Mounting position		any
Radiation resistance	– Valve body	10 ⁸ Gy (10 ¹⁰ rad)
	– Actuator	10 ⁶ Gy (10 ⁸ rad)
	– Position indicators	10 ⁶ Gy (10 ⁸ rad)
Maximum magnetic field levels		≤ 150 mT
Volume of pneumatic actuator		10.7 l / 0.378 ft ³
Compressed air min. – max. overpressure		4 - 8 bar / 58 - 116 psig
Compressed air connections		1/8" ISO/NPT
Actuation time (valid for RT, Ø6mm tubing at 4 bar with flow rate of 400 l/min)	– Closing	≤ 20.0 sec
	– Opening	≤ 20.0 sec
Weight	– Valve complete	253 kg / 558 lbs
	– Actuator	16.9 kg / 37.3 lbs
Behavior in case of compressed air pressure drop	– Valve closed	Valve remains in closed position
	– Valve open	Undefined
Behavior in case of power failure		Depending on control

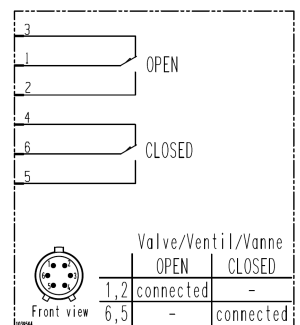
Related documents

Dimensional drawing No.	751028 Rev C
STEP file No.	751026 Rev D

Electrical connections

Position indicator (2x)

Type	micro switch
Voltage	≤ 50 V AC / DC
Current max.	≤ 1.0 A
Connector on the valve:	8070-2530-02Z16-6PA
Mating connector:*	8070-3039-01Z16-6KA (pins compatible with AWG 20 wire)



Wiring diagram

References

The product data is based on either VAT internally/externally performed lab tests or supplier product information. Relevant references listed on document 838738.

*The mating connector is not part of the valve and needs to be ordered separately at Glenair.

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