



VAT Vakuumventile AG
CH-9469 Haag, Schweiz

Product data sheet

All-metal gate valve
Series 481, DN 320 (ID 12'')
Ordering No. 48150-RE24-ARG1

Description

| | | |
|--------------|-------|--|
| Flange | | Weld neck N.D. 300 schedule 10S |
| Actuator | | Pneumatic double acting - without solenoid valve - with position indicator |
| Feed through | | Bellows |
| Option | ARG = | Product: valve type ITER 1; Flange A+B: weld stub flange schedule 10S; 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, reduced cycle life |
| Conductance (molecular flow) | | 8 300 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 |
| | - Weld neck | AISI 316 L |
| | - 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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| Created by: Phil Schneider | Release date: 05.06.2020 | 1/2 |
| Modified by: Phil Schneider | Release date: 05.02.2021 | 846995EB |



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| | | |
|--|---|---|
| Mounting position | | any |
| Radiation resistance | <ul style="list-style-type: none"> - Valve body - Actuator - Position indicators | <ul style="list-style-type: none"> 10⁸ Gy (10¹⁰ rad) 10⁶ Gy (10⁸ rad) 10⁶ Gy (10⁸ rad) |
| Maximum magnetic field levels | | ≤ 150 mT |
| Volume of pneumatic actuator | | 12.9 l / 0.456 ft ³ |
| Compressed air min. – max. overpressure | | 5 - 8 bar / 73 - 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) | <ul style="list-style-type: none"> - Closing - Opening | <ul style="list-style-type: none"> ≤ 20.0 sec ≤ 20.0 sec |
| Weight | <ul style="list-style-type: none"> - Valve complete - Actuator | <ul style="list-style-type: none"> 335.8 kg / 740.3 lbs 17.9 kg / 36.5 lbs |
| Behavior in case of compressed air pressure drop | <ul style="list-style-type: none"> - Valve closed - Valve open | <ul style="list-style-type: none"> Valve remains in closed position Undefined |
| Behavior in case of power failure | | Depending on control |

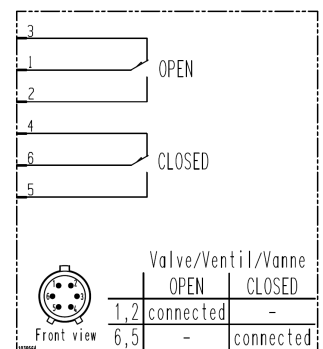
Related documents

| | | |
|-------------------------|--------|-------|
| Dimensional drawing No. | 825434 | Rev B |
| STEP file No. | 825429 | Rev B |

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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