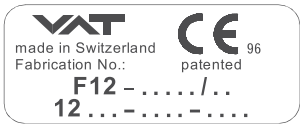
Vacuum Gate Valve
with manual actuator



This manual is valid for the valve ordering numbers:

12036-.A06
12040-.A06
12044-.A06
12046-.A06
12048-.A06
12050-.A06

The respective product identification is given on each valve in the following way (or similar):



STOP

Read these **«Installation, Operating and Maintenance Instructions»** and the enclosed **«General Safety Instructions»** carefully before you start any other action.

Technical data

Pressure range	DN 63 - 200: 1 x 10^{-7} mbar to 1.6 bar (abs) DN 250 - 320: 1 x 10^{-7} mbar to 1.2 bar (abs)
Differential pressure on the valve gate	DN 63 - 200: ≤ 1.6 bar in either direction DN 250 - 320: ≤ 1.2 bar in either direction
Differential pressure at opening	≤ 30 mbar
Admissible temperature: Valve	≤ 150°C
Manual actuator	≤ 80°C

Further data according to VAT catalogue «Vacuum Valves 2000».

VAT Vakuumventile AG, CH-9469 Haag, Switzerland
Tel ++41 81 771 61 61 Fax ++41 81 771 48 30 Email reception@vat.ch http://www.vat.ch

Installation into vacuum system

The screws of the flanges have to be tightened uniformly in crosswise order. The tightening torques indicated in the following table have to be observed.

DN		Tightening torque «Nm»			lbf ▪ ft		
mm	inch	ISO	JIS	ASA-LP	ISO	JIS	ASA-LP
63	2½	6 - 8			4.5 - 6		
100	4	6 - 8	10 - 12	10 - 12	4.5 - 6	7.5 - 9	7.5 - 9
160	6	8 - 10	10 - 12	10 - 12	6 - 7.5	7.5 - 9	7.5 - 9
200	8	8 - 10	16 - 18	60 - 80	6 - 7.5	12 - 13	44 - 60
250	10	8 - 10	16 - 18	60 - 80	6 - 7.5	12 - 13	44 - 60
320	12	14 - 16	16 - 18	60 - 80	10 - 12	12 - 13	44 - 60

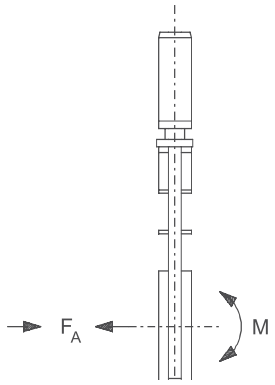
Higher tightening torques may deform the valve body. This can lead to an improper function of the valve or a leaky valve gate.

Admissible forces

Forces from evacuating the system, from the weight of other components, and from baking can lead to deformation of the valve body and to malfunction of the valve. The stress has to be relieved by suitable means, e.g. bellows sections. The following forces are admissible:

DN (nom. I.D.)		Axial tensile or compressive force «FA»		Bending moment «M»	
mm	inch	N	lbf	Nm	lbf ▪ ft
63	2½	980	220	39	29
100	4	1080	242	49	36
160	6	1080	242	59	43
200	8	1180	265	69	50
250	10	1180	265	78	57
320	12	1275	285	98	72

If a combination of both forces («FA» and «M») occurs, the values mentioned above are invalid. Please contact VAT for more information.



Trouble shooting

Leak at gate:	Clean valve seat and gate seal! Replace gate seal, if damaged!
Leak at body:	Flanges leaktight? Replace bonnet seal! Screws at bonnet tightened?

Repairs

Contact VAT for repairs or maintenance. The fabrication No. (F12- . . . . . / . . . .) marked on the valve body has always to be specified. It has to be individually decided whether the work can be performed by the customer or has to be carried out by VAT.

All supplies (e. g. compressed air, electrical power) have to be disconnected for removal/installation of the valve from/into the system.



Even with disconnected supply, loaded springs and/or air cushions in cylinders can be potential hazards.



Keep fingers and objects away from the valve opening!

Products returned to VAT for repair have to be free of harmful substances such as e.g. toxical, caustic or microbiological ones. For radioactively contaminated products the customer has to fill in the VAT form «Contamination and Radiation Report» and to send it with the product. The form is available at VAT. The maximum permissible values indicated in the form must not be exceeded.

Maintenance

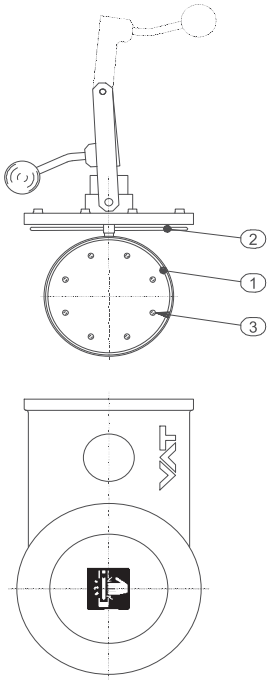
Replacement of actuator/mechanism assembly

1. Vent chambers on either side of valve
2. Open valve
3. Remove screws from bonnet
4. Withdraw actuator/mechanism assembly carefully from body and put it on a clean place
   Attention: When withdrawing the actuator/mechanism assembly be careful not to damage the actuator, mechanism and valve shaft!
5. Remove old gate seal and bonnet seal from groove
6. Clean and check groove
7. Clean and check sealing surfaces of bonnet and valve seat
8. Install new gate seal and bonnet seal
   Attention: Press O-ring uniformly in crosswise order (diagonal) into groove!
9. Insert actuator/mechanism assembly carefully
   Attention: Gate (O-ring) must be on the seat side (marked ∇ on body)!
10. Tighten screws at bonnet uniformly in crosswise order (diagonal)
    Tightening torque: DN 63 - 160 8 Nm / 6 lbf ▪ ft
    DN 200 - 250 15 Nm / 11 lbf ▪ ft
    DN 320 30 Nm / 22 lbf ▪ ft
11. Perform function and leak test

Valve is ready for operation

Spare parts

Item	Description	DN	Part No.
	Seal kit	63	100247-R1
		100	100248-R1
		160	100249-R1
		200	100250-R1
		250	100251-R1
		320	70665-R8
1	Gate seal	63	N-5102-231
		100	N-5102-243
		160	N-5103-720
		200	N-5102-371
		250	N-5102-378
		320	N-5102-454
2	Bonnet seal	63	79002-R1
		100	79547-R1
		160	N-5100-253
		200	N-5100-263
		250	N-5100-268
		320	N-5100-276
3	1 set of locking balls (lubricated)	63	200957
		100	200960
		160	200963
		200	200965
		250	200969
		320	200971



Warranty

Each product sold by VAT Vakuumventile AG (VAT) is warranted to be free from the manufacturing defects that adversely affect the normal functioning thereof during the one-year period immediately following delivery thereof by VAT, provided that the same is properly operated under conditions of normal use and that regular, periodic maintenance and service is performed or replacements made, in accordance with the instructions provided by VAT. The foregoing warranty shall not apply to any product or component that has been repaired or altered by anyone other than an authorized VAT representative or that has been subject to improper installation or abuse, misuse, negligence or accident. VAT shall not be liable for any damage, loss, or expense, whether consequential, special, incidental, direct or otherwise, caused by, arising out of or connected with the manufacture, delivery (including any delay in or failure to deliver), packaging, storage or use of any product sold or delivered by VAT shall fail to conform to the foregoing warranty or to the description thereof contained herein, the purchaser thereof, as its exclusive remedy, shall upon prompt notice to VAT of any such defect or failure and upon the return of the product, part or component in question to VAT at its factory, with transportation charges prepaid, and upon VAT's inspection confirming the existence of any defect inconsistent with said warranty or any such failure, be entitled to have such defect or failure cured at VAT's factory and at no charge therefor, by replacement or repair of said product, as VAT may elect. VAT MAKES NO WARRANTY OR REPRESENTATION OF ANY KIND, EXPRESS OR IMPLIED, (INCLUDING NO WARRANTY OR MERCHANTABILITY), EXCEPT FOR THE FOREGOING WARRANTY AND THE WARRANTY THAT EACH PRODUCT SHALL CONFORM TO THE DESCRIPTION THEREOF CONTAINED HEREIN, and no warranty shall be implied by law.

Furthermore, the «Terms of sale» at the back of the price list are applicable.