



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

Vacuum Angle valve (Series 244)

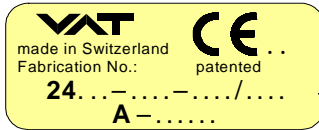
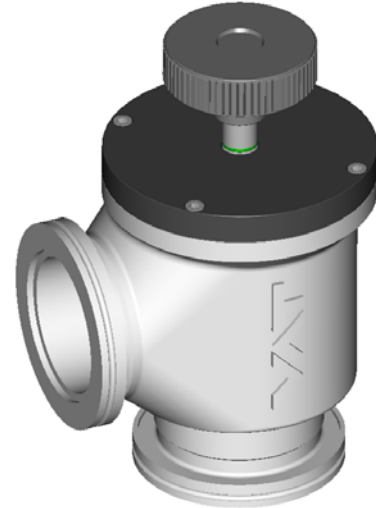
Vacuum Inline valve (Series 245)

- with manual actuator

This manual is valid for the valve ordering number(s):

24436-QA/QH/QE/GE/01
24438-QA/QH/QE/GE/01
24536-QA/QH/QE/GE/01
24538-QA/QH/QE/GE/01

The fabrication number is indicated on each product as per the label below (or similar):



← Fabrication number

Explanation of symbols:



Read declaration carefully before you start any other action!



Keep body parts and objects away from the valve opening!



Attention!



Hot surfaces; do not touch!



Product is in conformity with EC guidelines, if applicable!



Loaded springs and/or air cushions are potential hazards!



Disconnect electrical power and compressed air lines. Do not touch parts under voltage!



Wear gloves!



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")
Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")



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

Imprint:

Manufacturer VAT Vakuumventile AG, CH-9469 Haag, Switzerland

Website	Phone	Fax	Email
www.vatvalve.com	+41 81 771 61 61	+41 81 771 48 30	CH@vatvalve.com

Publisher VAT Vakuumventile AG, CH-9469 Haag, Switzerland

Editor VAT Vakuumventile AG, CH-9469 Haag, Switzerland

Print VAT Vakuumventile AG, CH-9469 Haag, Switzerland

Copyright © VAT Vakuumventile AG 2008

No part of these Instructions may be reproduced in any way (photocopies, microfilms or any other reproduction processes) nor may it be manipulated with electronic systems, duplicated or distributed without written permission from VAT. Offenders are liable to pay damages.

The original VAT firmware and updated state of the art versions of the VAT firmware are intended for use with VAT products. The VAT firmware contains a limited, time unlimited user license. The VAT firmware may not be used for purposes other than those intended nor is it permitted to make copies of the VAT firmware. In particular, it is strictly forbidden to give copies of the VAT firmware to other people.

The use of trade names, brand names, trademarks, etc. in these Instructions does not entitle third parties to consider these names to be unprotected and to use them freely. This is in accordance with the meaning of the laws and acts covering brand names and trademarks.



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

Contents:

1	Use of product	5
1.1	Technical data for standard valve	5
2	Installation.....	5
2.1	Unpacking	5
2.2	Installation into the system.....	6
3	Operation	6
3.1	Normal operation.....	6
3.2	Operation under increased temperature	6
4	Maintenance & repairs	7
4.1	Replacement of vacuum seals	8
4.1.1	Dismantling of "actuator/plate assembly".....	8
4.1.2	Replacement of plate seal	8
4.1.3	Installation of "actuator/gate assembly"	8
5	Drawing.....	9
6	Spare parts	10
7	Warranty	10



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

1 Use of product

Use product for clean and dry indoor vacuum applications under the conditions indicated in chapter «Technical data» only!
Other applications are only allowed with the written permission of VAT.

1.1 Technical data for standard valve

Leak rate	1 x 10 ⁻⁹ mbar l / s
Pressure range when valve is open	1 x 10 ⁻⁷ mbar to 4 bar (abs)
Conductance in high vacuum	DN 63: 160 l s ⁻¹ DN 80: 200 l s ⁻¹
Differential pressure on the plate in opening / closing direction	DN63 ≤ 5 bar, DN80 ≤ 4 bar
Differential pressure at opening	≤ 1 bar in either direction
Admissible temperature: valve body, actuator and handwheel	0°C to 120°C

Technical data for valve with specific options according to «product data sheet».
Product data sheet on request.

2 Installation

2.1 Unpacking

Before unpacking the valve, make sure that the packaging is in impeccable condition and the valve has not suffered damage.

Note! The plastic packing material and/or protective covers may only be removed immediately before the valve is mounted into the system. Unprotected sealing surfaces must be treated with care and kept clean.



Series 244, DN 63 - 80 (I.D.2 1/2" - 3")
Series 245, DN 63 - 80 (I.D.2 1/2" - 3")

2.2 Installation into the system

DN (nom. I.D.)		Axial tensile or compressive force «F _A »		Bending moment «M»	
mm	inch	N	lbf	Nm	lbf · ft
63	2 1/2	200	45	18	13
80	3	225	50	22	16

The diagram shows a cross-section of a valve. A horizontal arrow labeled F_A points to the right from the center of the valve body. A curved arrow labeled M indicates a clockwise bending moment around the vertical axis of the valve.

A combination of both forces «F_A» and «M» is prohibited. Please contact VAT.

3 Operation

3.1 Normal operation

The valve is fully open when the green marking on the spindle is visible.

3.2 Operation under increased temperature

See «1.1 Technical data»

If you need any further information, please contact one of our service centers. You can find the addresses on our website: <http://www.vat.ch>



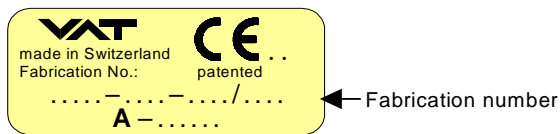
Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

4 Maintenance & repairs

Under clean operating conditions, the valve does not require any maintenance during the specified cycle life. Contamination from the process may influence the function and requires more frequent maintenance.

Before carrying out any maintenance or repairs, please contact VAT. It has to be individually decided whether the maintenance/repair can be performed by the customer or has to be carried out by VAT. The fabrication number on the valve



has always to be specified.

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



Keep fingers and objects away from the valve opening!

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



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

4.1 Replacement of vacuum seals

The item numbers in brackets refer to the drawing on page 9

4.1.1 Dismantling of "actuator/plate assembly"

- Untighten and remove 4 screws (60) uniformly and crosswise
- Carefully withdraw "actuator/plate assembly" from valve body
- Remove bonnet seal (O-ring, 62) from groove

4.1.2 Replacement of plate seal

- Pick O-ring (61) with a needle and pull it out of groove
Attention: Do not damage the sealing surface!
- Check condition of sealing surface and clean it with alcohol
- Put new O-ring (61) on gate groove and press it into groove, in crosswise order, at 4 locations
- Press whole O-ring uniformly into groove

4.1.3 Installation of "actuator/gate assembly"

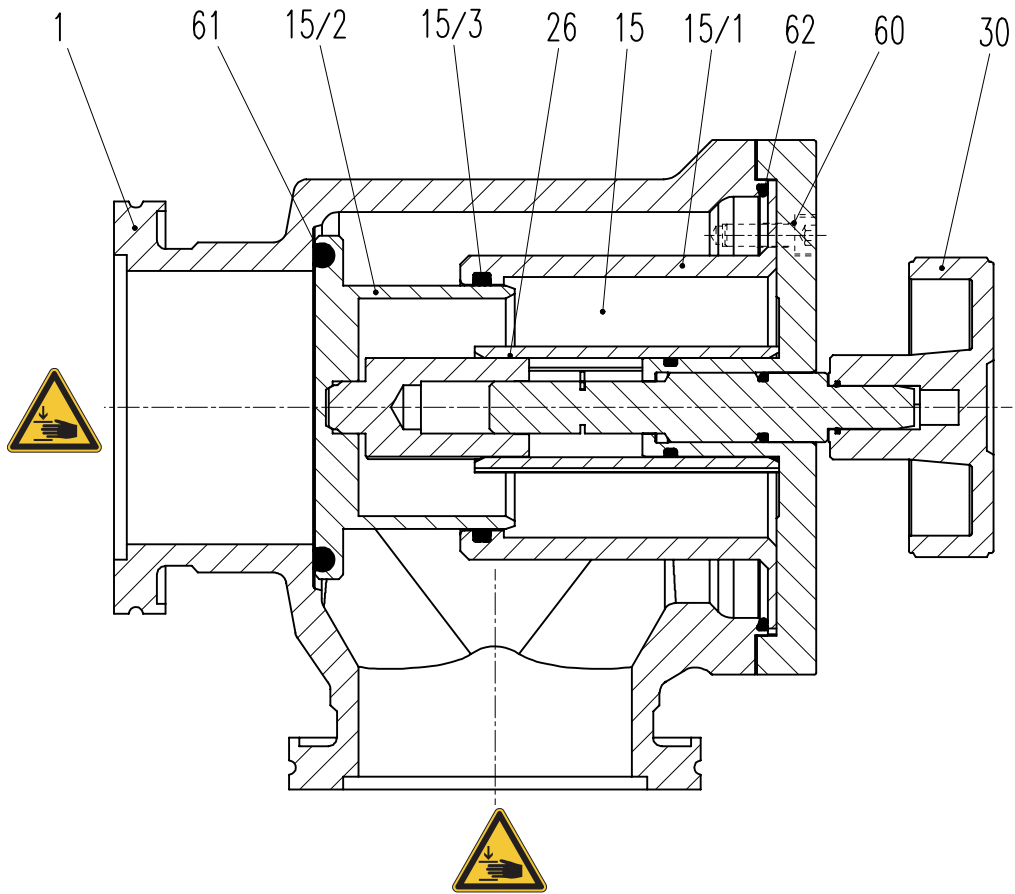
- Check condition of sealing surfaces at bonnet and valve seat and clean sealing surfaces with alcohol
- Put bonnet seal (O-ring, 62) into groove
- Carefully insert "actuator/gate assembly". Do not cant!
- Tighten 4 screws (60) uniformly and crosswise in 2 to 3 steps
- Perform function and leak test



Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")
Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

5 Drawing

(Drawing shows the angle valve version. Inline version has a different body.)





Series 244, DN 63 - 80 (I.D.2¹/₂" - 3")

Series 245, DN 63 - 80 (I.D.2¹/₂" - 3")

6 Spare parts



Please specify the **fabrication number of the valve** (see yellow label on valve) when ordering spare parts. This is to ensure that the appropriate spare parts are supplied.

Item	Description	Extras
1	Body	
15/1	Feedthrough end piece	
15/2	Plate	
15/3	Shaft feedthrough O-Ring	
26	Manual actuator complete	
30	Handle	
61	Plate seal (O-ring)	
62	Bonnet seal (O-ring)	
61/62	Seal kit vacuum	
	VAT vacuum grease	12g
	Loctite 222	10ml / 50ml / 250ml

7 Warranty

Each product sold by VAT Vakuumentile AG (VAT) is warranted to be free from the manufacturing defects that adversely affect the normal functioning thereof during the warranty period stated in VAT's «Terms of Sale» 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.