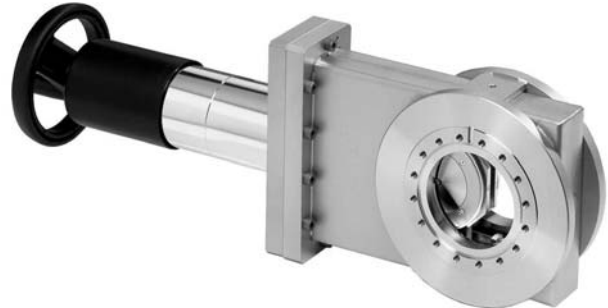


All-Metal Gate Valve manual actuator



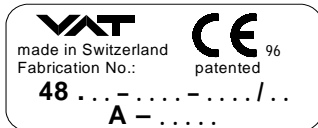
This manual is valid for the valve ordering numbers:

48236- . E01/05/08

48240- . E01/05/08

48244- . E01/05/08

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



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

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!



Installation, Operating, and Maintenance Instructions Series 48.2, DN 63 - 160 (2½" - 6")

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Installation, Operating, and Maintenance Instructions Series 48.2, DN 63 - 160 (2½" - 6")

Technical data

| | |
|---------------------------------------|---|
| Pressure range | extreme UHV to 2 bar (abs) |
| Differential pressure on the gate | 1 bar in either direction |
| Max. differential pressure at opening | 500 mbar, 1 bar with reduced cycle life |
| Admissible temperature: Valve | ≤ 300°C open and closed |
| Manual actuator | ≤ 140°C (option 200°C) |
| Position indicator (option) | ≤ 80°C or 200°C |
| Position indicator: Contact rating | ≤ 50 V AC / DC; ≤ 1.2 A (80°C version) ≤ 50 V AC / DC; ≤ 1 A (200°C version) |

Further data according to VAT catalogue «Vacuum Valves 2008».

Electrical connection (valves with position indicators)



Do not touch any electrically charged parts!



Electrical power may only be connected if
 - valve has been installed into the vacuum system
 The suitable sockets are supplied with the valve.

Wiring has to be performed according to the following diagrams:

Position indicators for max. 80°C — contact rating ≤ 50 V AC / DC; ≤ 1.2 A

| | |
|---|---|
| <p>Standard position indicator with make contact switch</p> <p>Lo = position indicator «open» Lg = position indicator «closed»</p> | <p>Double position indicator with make contact switches - two each (option)</p> <p>Lo = position indicator «open» Lg = position indicator «closed»</p> |
| <p>Position indicator with double throw switches (option)</p> <p>Lo = position indicator «open» Lg = position indicator «closed»</p> | <p>Double position indicator with double throw switches - two each (option)</p> <p>Lo = position indicator «open» Lg = position indicator «closed»</p> |

Position indicators for max. 200°C — contact rating ≤ 50 V AC / DC; ≤ 1 A

| | |
|---|---|
| <p>Single position indicator (option)</p> <p>Lo = position indicator «open» Lg = position indicator «closed»</p> | <p>Double position indicator (option)</p> <p>Lo = position indicator «open» Lg = position indicator «closed»</p> |
|---|---|



Installation, Operating, and Maintenance Instructions Series 48.2, DN 63 - 160 (2½" - 6")

Admissible forces

The valve must not support other components and has to be protected from forces of the system (e.g. by bellows sections).

Bake-out

| | |
|------------------------------|-------------------------------------|
| Valve: | ≤ 300°C in open and closed position |
| Actuator: | ≤ 140°C (option 200°C) |
| Position indicator (option): | ≤ 80°C or ≤ 200°C |
| Heating and cooling rate: | 50°C/h |

Operate the valve only after the bake-out temperature has been stable for two hours. If actuation during bake-out is required, the heating and cooling rate from 100°C to 300°C must not exceed 10°C/h.

Temperature differences exceeding 30°C throughout the valve are not allowed. They may affect the performance of the valve.

Trouble shooting

Whistling sound during opening/closing: When operating at atmosphere (not recommended):
No reason for concern
When operating at vacuum:
No reason for concern unless the sound gets extensive

Repairs

Contact VAT for repairs or maintenance. The fabrication No. (F48 . . . - - /) 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. electrical power) has to be disconnected for removal/installation of the valve from/into the system.



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. toxic, 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.

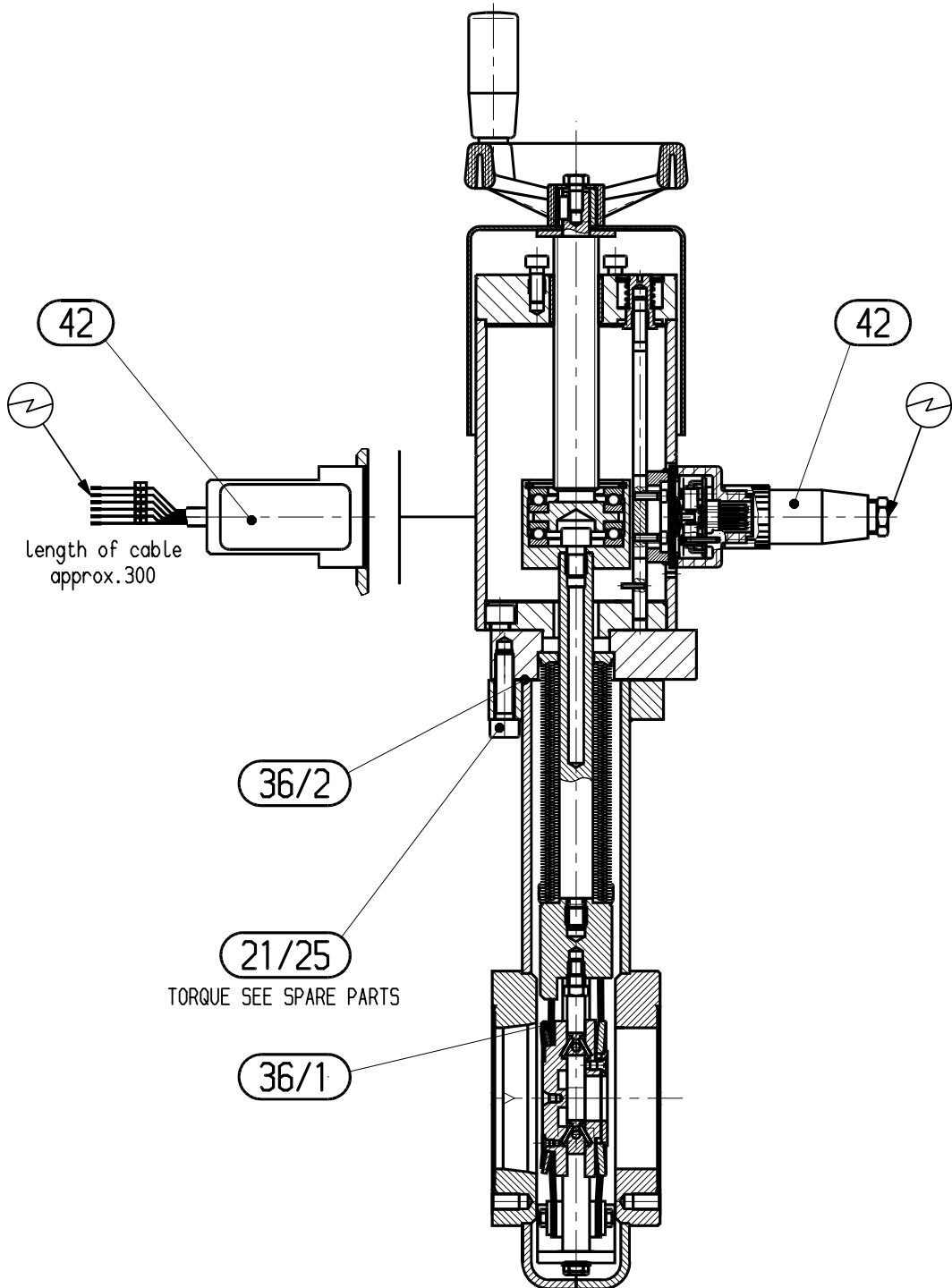


Installation, Operating, and Maintenance Instructions Series 48.2, DN 63 - 160 (2½" - 6")

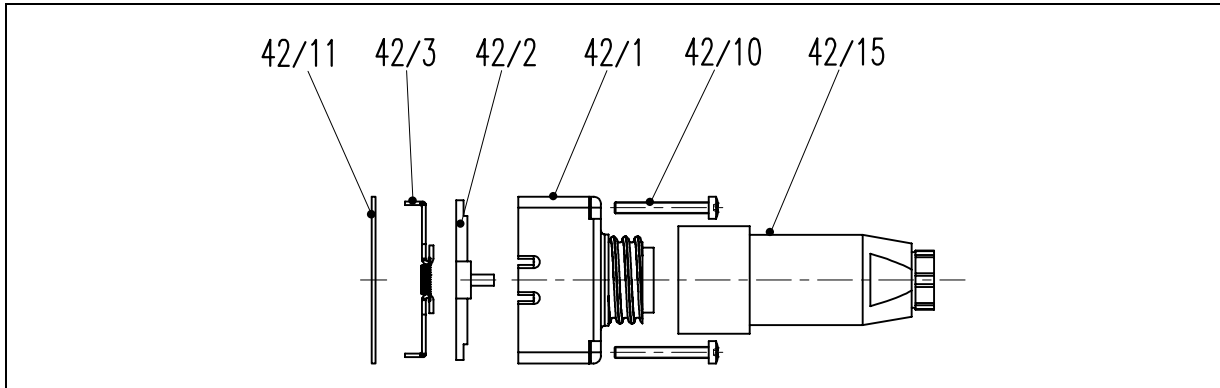
Spare parts

The item numbers refer to the drawing on the following page

| Item | Description | Qty | Part / Ordering number | | |
|-------|--|-----|----------------------------|----------------------------|----------------------------|
| | | | DN 63 | DN 100 | DN 160 |
| 21/25 | Treated hexagon socket head cap screw | 10 | 224837 | 224837 | 224837 |
| | required torque of bonnet screw | 14 | 20 Nm | 20 Nm | 24 Nm |
| 36/1 | VATRING | 1 | 39615-01 | 39986-01 | 35774-01 |
| 36/2 | VATSEAL | 1 | 80002-01 | 77130-01 | 247769 |
| | Vacuum seal kit, consisting of VATRING (36/1) and VATSEAL (36/2) | | D-48136-.... (80989-R1) | D-48140-.... (81458-R1) | D-48144-.... (83884-R1) |

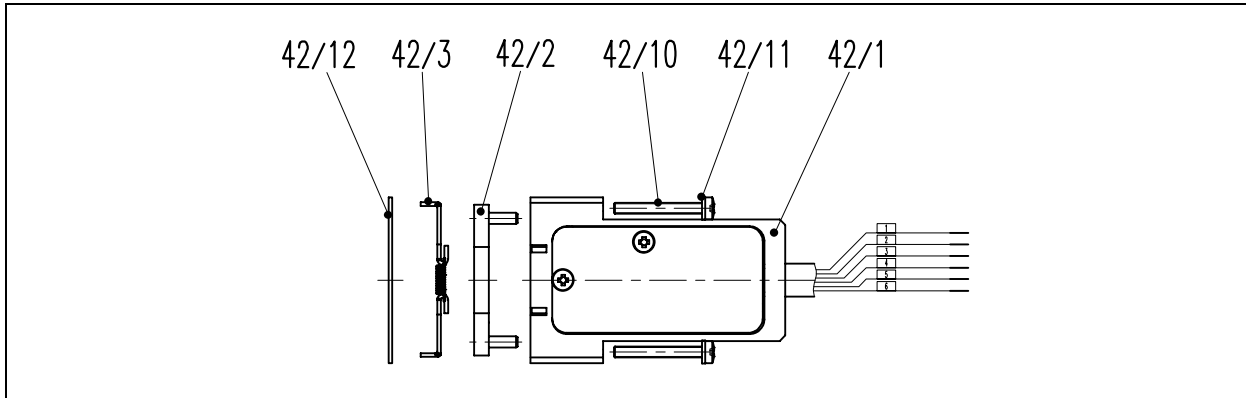


Position indicators 80°C (single + double) in various versions with adapter



| Item | Description | Version | Qty. | | Part No. |
|-------|----------------------------|----------------------------------|--------|--------|------------|
| | | | single | double | |
| 42 | BS Mini position indicator | make contact switches | 1 | 2 | 204103 |
| | | double throw switches | 1 | 2 | 204241 |
| | | make contact radiation resistant | 1 | 2 | 204246 |
| | | double throw radiation resistant | 1 | 2 | 204247 |
| 42/1 | Position indicator | make contact switches | 1 | 2 | 71852-R1 |
| | | double throw switches | 1 | 2 | 70606-R1 |
| | | make contact radiation resistant | 1 | 2 | 80075-R1 |
| | | double throw radiation resistant | 1 | 2 | 83954-R1 |
| 42/2 | Slider | | 1 | 2 | 69846-01 |
| 42/3 | Driving piece | | 1 | 2 | 69428-R1 |
| 42/10 | Screw | | 4 | 8 | N-6024-531 |
| 42/11 | Plate | | 1 | 2 | 74803-01 |
| 42/15 | Socket | | 1 | 2 | N-8504-002 |

Position indicators 200°C (single + double) with adapter



| Item | Description | Version | Qty. | | Part No. |
|-------|----------------------------|-----------------------|--------|--------|------------|
| | | | single | double | |
| 42 | BS Mini position indicator | double throw switches | 1 | 2 | 327966 |
| 42/1 | Position indicator | | 1 | 2 | 241824 |
| 42/2 | Slider | | 1 | 2 | 241825 |
| 42/3 | Driving piece | | 1 | 2 | 69428-R1 |
| 42/10 | Screw | | 4 | 8 | N-6024-532 |
| 42/11 | Spring ring | | 4 | 8 | N-6160-406 |
| 42/12 | Plate | | 1 | 2 | 74803-01 |

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 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.

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