



VAT Vakuumventile AG
CH-9469 Haag, Schweiz

PRODUCT DATA SHEET

Series 642, DN 63 - 400 mm (I.D. 2.5" - 16")

Ordering No. 642..-.....-.....

1 Description

This product is a control gate valve with isolation functionality. It is intended to use for downstream pressure control applications.

This Product Data Sheet is valid for the valve ordering number(s):

| DN | | Ordering numbers | | | | | |
|-----|-------|------------------|------------------------|---------------------|-----------------------|--------------|--|
| mm | inch | ISO-F | CF-F metric threads | CF-F UNF threads | ASA-LP (T) ASA (A) | JIS | |
| 63 | 2 1/2 | 64236-PE x y | 64236-CE x y | 64236-UE x y | 64236-TE x y | 64236-JE x y | |
| 80 | 3 | 64238-PE x y | 64238-CE x y | 64238-UE x y | 64238-TE x y | 64238-JE x y | |
| 100 | 4 | 64240-PE x y | 64240-CE x y | 64240-UE x y | 64240-TE x y | 64240-JE x y | |
| 160 | 6 | 64244-PE x y | 64244-CE x y | 64244-UE x y | 64244-TE x y | 64244-JE x y | |
| 200 | 8 | 64246-PE x y | 64246-CE x y | 64246-UE x y | 64246-TE x y | 64246-JE x y | |
| 250 | 10 | 64248-PE x y | 64248-CE x y | 64248-UE x y | 64248-TE x y | 64248-JE x y | |
| 320 | 12 | 64250-PE x y | on request | on request | 64250-TE x y | 64250-JE x y | |
| 350 | 14 | - | - | - | - | 64251-JE x y | |
| 400 | 16 | 64252-PE x y | on request | on request | 64252-AE x y | 64252-JE x y | |

Controller

configurations:

- G = basic version
- A = with SPS
- H = with PFO
- C = with SPS and PFO
- T = basic version with VC master
- V = with SPS and VC master
- U = with PFO and VC master
- W = with SPS, PFO and VC master

SPS = Sensor Power Supply
(±15VDC power supply for sensor)

PFO = Power Failure Option
(valve closes/opens automatically
at power failure)

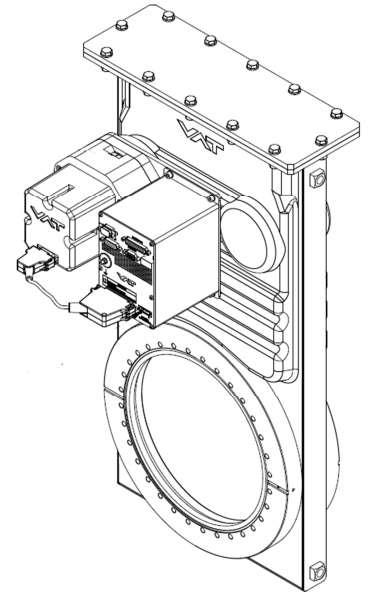
VC = Valve Cluster
(for operating several valves
synchronously)

Example: 64240-PEGG
= Valve with ISO-F DN 100 flanges
RS232 interface, for 1 sensor

Interface

- G = RS232 1
- H = RS232 2
- C = Logic 1
- E = Logic 2
- P = DeviceNet® 1
- Q = DeviceNet® 2
- D = Profibus 1
- F = Profibus 2
- J = RS485 1
- K = RS485 2
- Y = Ethernet 1
- Z = Ethernet 2
- L = CC-Link 1
- N = CC-Link 2
- I = EtherCAT 1
- X = EtherCAT 2
- S = VC slave (without interface)

Number of
sensors



Sample picture only. Specified product may differ in size, flange and options.

| | | |
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2 Technical data

2.1 Valve unit

| | | | | | | | | | | | | |
|---|--|---|-----------|--|------------|------------|------------|------------|------------|------------|------------|--------|
| Pressure range at 20°C (unheated on delivery) | | <ul style="list-style-type: none"> DN63...200 DN250...400 | | | | | | | | | | |
| Leak rate to outside / seat at 20°C (unheated on delivery) | | 1 × 10E-8 mbar to 2.0 bar (abs) 1 × 10E-8 mbar to 1.2 bar (abs) | | | | | | | | | | |
| Differential pressure on the gate | | <ul style="list-style-type: none"> Valve closed <ul style="list-style-type: none"> - DN63...200 - DN250...400 During closing / opening | | | | | | | | | | |
| Cycles until first service (unheated and under clean conditions) | | <ul style="list-style-type: none"> Pressure control Closing / opening | | | | | | | | | | |
| Admissible operating temperature | | <ul style="list-style-type: none"> Valve body Ambient | | | | | | | | | | |
| Mounting position (valve seat to face chamber is recommended) | | <ul style="list-style-type: none"> DN63...350 DN400 | | | | | | | | | | |
| Process side materials | | body / plate | | Stainless steel: 304 (1.4301) | | | | | | | | |
| | | other parts | | Stainless steel: 301 (1.4310), 304 (1.4301), 420 (1.4034), 420D (1.4037), 430 (1.4016) | | | | | | | | |
| Seals | | plate | | FKM (e.g. Viton®) | | | | | | | | |
| | | rotary feed through | | FKM (e.g. Viton®) | | | | | | | | |
| | | bonnet | | FKM (e.g. Viton®) (DN63...200 vulcanized) | | | | | | | | |
| DN (nominal I. D.) | | mm | 63 | 80 | 100 | 160 | 200 | 250 | 320 | 350 | 400 | |
| | | inch | 2½ | 3" | 4" | 6" | 8" | 10" | 12" | 14" | 16" | |
| Operating time | | open / close | | 4 | 4 | 6 | 6 | 6 | 10 | 10 | 10 | |
| | | Pressure control | | 3 | 3 | 3 | 5 | 5 | 9 | 9 | 9 | 9 |
| Min. controllable conductance (ls ⁻¹) [N ₂ molecular flow] | | | | 0.65 | 0.8 | 1 | 1.6 | 2 | 2.5 | 3.2 | 3.5 | 4 |
| Max. Conductance (ls ⁻¹) [N ₂ molecular flow] | | | | 440 | 800 | 1'700 | 5'000 | 1'2000 | 22'000 | 30'000 | 40'000 | 50'000 |
| Weight (approx.) | | kg | | 14 | 14 | 17 | 28 | 34 | 62 | 112 | 120 | 155 |
| | | lbs | | 31 | 31 | 37 | 62 | 75 | 136 | 246 | 264 | 340 |
| Valve position indication | | Visual (mechanical and on controller) | | | | | | | | | | |

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2.2 Control unit

| | | |
|---------------------------|-----------------------|--|
| Power supply input | | +24 VDC ($\pm 10\%$) @ 0.5 V pk-pk max. |
| Power consumption | | 55 W (standard) with optional SPS + 36 W with optional PFO + 10 W 3 W max. (from DeviceNet [®] to DeviceNet [®] Interface board of valve) |
| Ambient | temperature | 0 °C to +50 °C max. (<35 °C recommended) |
| | humidity | 0 to 95% RH, non-condensing |
| Interface | remote | Refer to chapter 1 |
| | service port | RS232 |
| Sensor | number of inputs | Refer to chapter 1 |
| | signal voltage | 0...10 V DC with linear pressure |
| | input resistance | Ri = 100 k Ω |
| | ADC resolution | 0.23 mV |
| | sampling time | 10 ms |
| | power supply (output) | +24 VDC / 1500 mA max. or ± 15 VDC / $\pm 1'000$ mA max. (with SPS option) |
| Pressure control accuracy | | 5 mV or 0.1% of setpoint, the higher value applies |
| Protective system | | IP 20 |

2.3 General data

| | |
|---------------------|---|
| Weight | refer to chapter: 2.1 |
| Dimensional drawing | Refer to dimensional drawing of specific valve ordering number (available on request) |

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