

# BARION<sup>®</sup>

UHV Hot Cathode Ionization Gauge

## MVC-3 B

Multi-Channel Vacuum Gauge Controller

Absolute Pressure Measurement from  $10^{-11}$  to 1500 mbar\*



### BARION<sup>®</sup>

Passive Bayard-Alpert Gauge

- For use with or without the stainless steel cover, dependent on the application
- 2 replaceable filaments (1 as a spare)
- Electron bombardment degas

#### Features

- Wide measurement range
- Low heat input into the vacuum system
- DC power supply prevents mechanical vibration of the filament
- Operable to 250 °C, bakeable to 400 °C
- Long filament life cycle due to intelligent emission current control and filament coating
- No unexpected failure due to automatic switch-over to the spare filament
- Each gauge is factory calibrated (both filaments)

\* Fore-vacuum measurement via 1 or 2 optional fore-vacuum gauges

### MVC-3 B

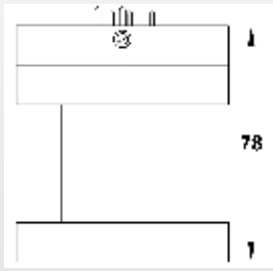
Display and control unit

- Operates
  - 1 BARION<sup>®</sup> ionization gauge
  - Optionally two active vacuum gauges (capacitive, heat loss, cold cathode and combination gauges)
- Automatic gauge identification
- Large display line for each measurement channel
- Analog outputs, RS232 and RS485 interfaces, setpoint relays and digital control inputs
- Clearly structured front key menu for access to all functions and parameters
- Programmable correction factors for both filaments and the gas type
- Overpressure protection of the gauge via programmable auto turn off

#### Features

- High accuracy and reproducibility
- Short response time
- Energy saving, forward-looking technology
- Space saving due to compact overall size
- Easy and clear operation
- LabVIEW driver (Virtual Instrument) available

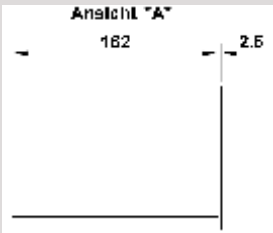
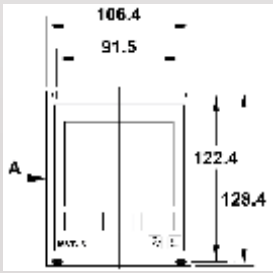
## Technical data BARION®



- Measurement range
- Measuring principles
- Sensitivity for N<sub>2</sub>
- X-ray limit
- Accuracy
- Reproducibility
- Max. bakeout temperature
- Mounting position
- Filaments (cathodes)
- Materials in vacuum
- Electrical connections

2E-9 ... 4 Pa | 2E-11 ... 4E-2mbar | 1.5E-11 ... 3E-2 Torr  
 hot cathode ionization (Bayard-Alpert)  
 approx. 20 /mbar  
 < 2E-9 Pa | < 2E-11 mbar | < 1.5E-11 Torr  
 ±10 % of reading (1E-8 ... 1E-2 mbar)  
 ±5 % of reading  
 400 °C (plug and cable removed),  
 250 °C (with plug and cable)  
 any  
 yttria coated iridium (dual, replaceable)  
 stainless steel, W, Y<sub>2</sub>O<sub>3</sub> on Ir, glass ceramic, Ag plated Cu  
 special connector for MVC-3 B

## Technical data MVC-3 B Controller



- Measurement channels
- Display range
- Measurement range
- Accuracy of electrometer
- Measurement rate
- Units
- Display
- Display update rate
- Analog outputs
- Setpoint relays
- Digital control inputs
- Operating elements
- Interfaces
- Temperature range (operation)
- Ionization gauge auto on/off
- Filament operation modes
- Ionization gauge degas
- Housing
- Protection category
- Power supply
- Electrical connectors
- Connectable passive gauges
- Connectable active gauges

for passive hot cathode gauge BARION® : 1  
 for active gauges: 2 (optional)  
 1E-10 ... 1.5E+5 Pa | 1E-12 ... 1500 mbar | 7.5E-13 ... 1125 Torr  
 electrometer (passive gauge channel):  
 1E-10 ... 10 Pa | 1E-12 ... 0.1 mbar | 1E-12 ... 0.075 Torr  
 active gauge channels (optional): dependent on gauge  
 ±1 % of reading  
 50 / s  
 mbar, Pa, Torr (switchable)  
 LED (green), 1 line per channel (mantissa 4 digits,  
 exponent 2 digits), unit, setpoint status, Fil1/Fil2  
 4 /s  
 passive gauge channel: log-linear, 0 ... 10 V, 0.625 V/decade  
 active gauge channels (optional): 1 per channel, 0 ... 10 V  
 2 relays per channel (SPDT), 30 V DC / 1 A  
 BARION® on/off, Degas on/off, PTR on/off  
 4 front keys  
 RS232 and RS485  
 5 ... 50 °C  
 BARION®, PTR 225/237: optionally via a (convection)Pirani gauge  
 automatic emissions current control (DC supply), Fil1/Fil2/auto  
 degas start via front keys, digital input or PC  
 aluminium, 1/4 x 19", 3 U  
 IP 40  
 100 ... 240 V AC, 50/60 Hz (max. 60 W)  
 IEC plug (AC), D-Sub mixed pin (BARION®), optional  
 2 x RJ45 (active gauges), D-Sub 25 pin. (relays), D-Sub 9 pin  
 (RS232 and RS485), D-Sub 15 pin (analog and digital I/O)  
 BARION®  
 capacitive: CERA-VAC CTR 90 / 100 / 91 optional;  
 Pirani: THERMO-VAC TTR 90 / 91 / 211 / 100 (optional);  
 convection-Pirani: CVM-211 (log-linear version only) (optional);  
 cold cathode: PENNING-VAC PTR 225 / 237 / 90 (optional)

## Order data

### BARION®

Order code	Description
BAT40C	BARION® DN40CF

### Accessories

BSL15	Gauge cable, bakeable to 250 °C, 15 m
ATF-001-1	Dual spare filament (yttria coated Ir) + CU40 gasket

### VACOM®

#### Vakuum Komponenten & Messtechnik GmbH

Gabelsbergerstraße 9 ■ 07749 Jena ■ Germany  
 Tel. +49(0)3641 4275-0 ■ Fax +49(0)3641 4275-82  
 info@vacom-vacuum.com ■ www.vacom-vacuum.com

### MVC-3 B

Order code	Description
MVC3-B0	MVC3-B with 1 channel for BARION®
MVC3-BM	MVC3-B with 1 channel for BARION® and 2 channels for CTR/TTR/CVM-211/PTR

For further information on other cable lengths, technical specifications  
 of the optional active vacuum gauges and other accessories please  
 refer to: [www.vacom-vacuum.com](http://www.vacom-vacuum.com)

