



Technology for Vacuum Systems

Fully electronic, precise, robust:

VACUUM GAUGES AND CONTROLLERS



VACUUM GAUGES AND CONTROLLERS

VACUUBRAND offers a wide choice of electronic gauges and controllers in the range from 1000 to 10^{-3} mbar. The high-tech and economical instruments suit most applications. All instruments can be calibrated and certified according to German Calibration Service (DKD) accredited by the German Federal Standards Laboratory (PTB).

MEASURING VACUUM CONTROLLING VACUUM PROGRAMMING VACUUM



*Vacuum gauge DVR 2
for the measuring range 1080 - 1 mbar with
integrated capacitance pressure transducer*



*Vacuum controller CVC 2^{II},
vacuum gauge and controller for the
measuring range 10⁶0 - 1 mbar*



*PIRANI vacuum gauge VAP 5
for the measuring range 1000 - 10^{-3} mbar*

SPECIAL ADVANTAGES

- **analogue and digital display**
clear trend indication, easy to read, precise read out
- **free of mercury and cadmium**
- **fully electronic instrument**
no fragile mechanical components
- **capacitive alumina ceramic transducer**
(DVR 2, 3, 4, 4S, 5, VNC 1)
excellent chemical resistance, long-time accuracy and stability
- **low EMC emission level near detection limit**
high electromagnetic immunity against influence from industrial equipment
- **user selectable pressure units (Torr, mbar, hPa)**

... flexible

Mobile and versatile vacuum gauges DVR 2, DVR 3, DVR 4/4S due to battery operation.



... robust

Operation at ambient temperature range + 10°C to + 40°C. Robust plastic housing (PP) with high chemical resistance. Integrated capacitive pressure transducer made of alumina ceramic.

... precise

Analogue and digital vacuum display: clear trend indication, easy to read, precise read out.

... for potentially explosive atmospheres

The fully electronic vacuum gauges DVR 3 und DVR 4 with ATEX certification for use with potentially explosive atmospheres:

- DVR 3: category 2 (for use in zone 1)
- DVR 4/4S: category 1/2 (for use at zone 0)



The DVR 4S is supplied with a current loop interface for activating the instrument and/or data transfer of the measured pressure values.



The **VACUUBRAND DKD calibration laboratory** offers the calibration of vacuum gauges in the range from 1000 to 10^{-3} mbar. VACUUBRAND is accredited by the German Calibration Service (DKD) at the PTB (German Federal Standards Laboratory). The calibration of measurement in-

struments fulfils the major demands of DIN ISO 9000ff (quality management) and DIN ISO 100012 (quality assurance requirements for measuring equipment) and is traceable to the national standards of the PTB.

150 employees work in a flexible team structure to design and manufacture our products. Our focus is to develop innovative products with excellent quality. VACUUBRAND has over 40 years experience in manufacturing vacuum technology. Our company offers the most comprehensive range of customer oriented laboratory and instrumentation vacuum pumps, gauges and controllers for rough and fine vacuum.


The product range comprises high performance rotary vane pumps, oil free diaphragm pumps, well proven pumping units, flexible vacuum systems and solutions for local area networks. The range is completed by a wide choice of KF fittings and accessories as well as various vacuum gauges and controllers for rough and fine vacuum. The design of VACUUBRAND products is driven by our customer's requirements.

In recent years, vacuum local area networks with pumps combining the latest electronic control technology and high performance mechanics have gained more and more importance.

Our technical literature is only intended to inform our customers. The validity of general empirical values and results obtained under test conditions for specific applications depends upon a number of factors beyond our control. It is, therefore, strictly the users' responsibility to verify carefully the validity or suitability to their specific requirements. No claims arising from the information provided in this catalogue will consequently be entertained. Technical data are subject to change without notice.

Pictures may depict accessories which are not supplied as standard under the catalogue number printed.

VACUUM GAUGE	DVR 2	DVR 5
TECHNICAL DATA		
Measuring range	1080 - 1 mbar (hPa), 810 - 1 Torr	1100 - 0.1 mbar (hPa), 825 - 0.1 Torr
Uncertainty of measurement	< +/- 1 mbar (0.75 Torr) +/- 1 digit	< +/- 1 mbar (0.75 Torr) +/- 1 digit
Principle of measurement	capacitive, gas type independent	capacitive, gas type independent
Interface	-	RS 232C
ORDERING INFORMATION		
	68 29 02	-
230 V ~ 50-60 Hz	plug CEE	68 29 10
230 V ~ 50-60 Hz	plug CH	68 29 12
230 V ~ 50-60 Hz	plug UK	68 29 11
100-120 V ~ 50-60 Hz	plug US	68 29 13
ACCESSORIES		
Battery DVR 2 (9 V lithium, 1.2 Ah Ultralife U9VL)	61 22 20	-

 VACUUM GAUGE	DVR 3	DVR 4/DVR 4S
TECHNICAL DATA		
Measuring range	1080 - 1 mbar (hPa), 810 - 1 Torr	1080 - 1 mbar (hPa), 810 - 1 Torr
Uncertainty of measurement	< +/- 1 mbar (0.75 Torr) +/- 1 digit	< +/- 1 mbar (0.75 Torr) +/- 1 digit
Principle of measurement	capacitive, gas type independent	capacitive, gas type independent
Certification ATEX	II 2G EEx ia IIC T4 (for use in zone 1)	II 1/2G EEx ia IIC T5 (for use at zone 0)
Interface	-	4 - 20 mA (DVR 4S)*
* no power supply, only for communication!		
ORDERING INFORMATION		
	68 29 03	68 29 04 (DVR 4)/68 29 05 (DVR 4S)
DVR 3, 4, 4S must be operated exclusively with the VACUUBRAND power supply unit BVE 9 V.		
ACCESSORIES		
Power supply unit BVE 9 V	63 79 86	63 79 86

VACUUM GAUGE AND CONTROLLER	VAP 5-SET*	CVC 2 ^{II}
TECHNICAL DATA		
Measuring range	1000 - 10 ⁻³ mbar (hPa), 760 - 10 ⁻³ Torr	1300 - 1 mbar (hPa), 975 - 1 Torr
Uncertainty of measurement	+/- 10% of the indicated value within 100 - 10 ⁻² mbar	< 0.5% of measuring range
Principle of measurement	PIRANI thermal conductivity	piezoresistive, gas type independent
* vacuum gauge VAP 5, gauge head VSP 5 and measuring cable.		
ORDERING INFORMATION		
230 V ~ 50-60 Hz	plug CEE	68 28 58
230 V ~ 50-60 Hz	plug CH	68 28 81
230 V ~ 50-60 Hz	plug UK	68 28 80
100-120 V ~ 50-60 Hz	plug US	68 28 59

VACUUM CONTROLLER	VNC 1	VNC 1 (Built-in version)
TECHNICAL DATA		
Measuring range	1100 - 1 mbar (hPa), 825 - 1 Torr	1100 - 1 mbar (hPa), 825 - 1 Torr
Uncertainty of measurement	< +/- 1 mbar (0.75 Torr) +/- 1 digit	< +/- 1 mbar (0.75 Torr) +/- 1 digit
Principle of measurement	capacitive, gas type independent	capacitive, gas type independent
ORDERING INFORMATION		
100-230 V ~ 50-60 Hz	68 29 70	68 29 75*
*without panel. Panel mountable built-in versions on request.		

DKD CALIBRATION	CALIBRATION WITH FIRST DELIVERY	RECALIBRATION
DVR 2, DVR 3, DVR 4, DVR 4S, CVC 2 ^{II} , VNC 1	90 02 16	90 02 17
DVR 5, VAP 5-Set	90 02 14	90 02 15



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