

# VCR - Smartline Vacuum Transducer Piezo / Pirani for Corrosive Media

Absolute Pressure 1200 to  $5 \times 10^{-4}$  mbar

**PROFI<sup>®</sup>**  
**NET**

EtherCAT<sup>®</sup>

RS485

0-10 V



## VCR at a glance

- Wide measuring range due to combination sensor Piezo / Pirani
- Suitable for demanding applications with aggressive media due to platinum rhodium filament
- High accuracy and optimal resolution over the whole measuring range
- Excellent reproducibility and long term stability
- Short response time of up to 40 ms
- Integrated metal screen for protection against contamination such as oil and solvent vapors
- Stable measurements due to optimized temperature compensation
- Measurements independent of gas type above 20 mbar and adjustable gas type correction factor for Pirani sensor
- Easily replaceable sensor heads with stored calibration data
- Two independent, potentialfree relay switch points
- Options for drop-in replacements (scalable output signals and adapters)

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## Technical Data

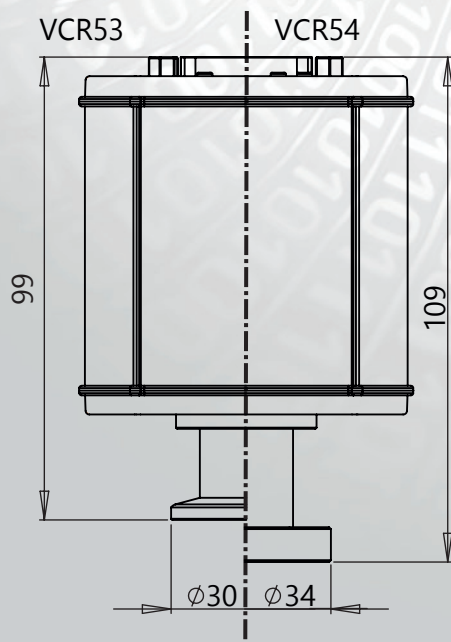
|                             |   |
|-----------------------------|---|
| Measurement Principle       | Piezo resistive / heat conduction Pirani (Pirani, depending on gas type)                                    |
| Measurement Range           | 1200 - $5 \times 10^{-4}$ mbar (900 - $5 \times 10^{-4}$ Torr)  |
| Max. Overload               | 4 bar abs.  |
| Accuracy                    | 1200 - 40 mbar: 0.3% f. scale end, 40 - $1.0 \times 10^{-2}$ mbar: 10% f. r.                                |
| Repeatability               | 1200 - 10 mbar: 0.1% f. scale end, 10 - $1.0 \times 10^{-2}$ mbar: 5% f. reading                            |
| Materials with Vac. Contact | stainl. steel 1.4307, platinum/rhodium, nickel, glass, gold, silicon oxide                                  |
| Reaction Time               | 40 ms   |
| Operating Temperature       | +5...+60°C (Profinet -5... + 50°C)  |
| Storage Temperature         | -40...+65°C   |
| Bake Out Temperature        | Max. 150 °C at the flange (voltage supply switched-off)   |
| Voltage Supply              | 20 - 30 VDC   |
| Power Consumption           | Max. 2.5 W, add. 0.8 W for EtherCAT / relays /LCD, add. 1.6 W for Profinet                                  |
| Output Signal               | 0-10 VDC, min. 10 k $\Omega$ , measuring range 2.2 - 8.58 VDC, log. (Default) except for EtherCAT, Profinet |
| Digital Interface           | RS485: 9.6 kBd to 115 kBd, 8 databit, 1 stopbit, no parity, EtherCAT, Profinet                              |
| Switch Points               | 2x relay, potential free, 50 VAC / 2 A or 30 VDC / 2 A, max. 60 VA except for EtherCAT, Profinet            |
| Electrical Connection       | RS485/0-10V: SubD, 15-pole, male<br>RS485/EtherCAT/Profinet: 1x M12 A / 2x M12 D, female                    |
| Vacuum Connection           | DN 16 ISO-KF (VCR53), DN 16 CF-F (VCR54)  |
| Protection Class            | Up to IP54 (SubD with XB15SL05 adaptor)   |
| Weight                      | 195 g (VCR53D)  |

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## Dimensions in mm



## Model designations

- VCR53D DN16 ISO-KF, 0-10V and RS485
- VCR54D DN16 CF-F, 0-10V and RS485
- VCR53DL DN16 ISO-KF, 0-10V and Rs485, with LCD display
- VCR54DL DN16 CF-F, 0-10V and RS485, with LCD display
- VCR53E DN16 ISO-KF, EtherCAT and RS485
- VSCR54E DN16 CF-F, EtherCAT and RS485
- VCR53PN DN16 ISO-KF, Profinet and RS485
- VCR54PN DN16 CF-F, Profinet and RS485

## Set

- VD1253P Set including a 2 channel controller VD12, VCR53D, measuring cable 2 m ????

## Accessories

- Replacement sensor heads: B\_VCR53, B\_VCR54
- SLZUB Accessory set: SLCASE Smartline protective plastic case, SLN4 plug-in power supply, SLKUSB interface converter RS485-USB, VGR VacuGraph software lite version.

Further accessories as well as detailed information about our product family can be found in our Smartline brochure.

