Operating Instructions

for

Differential Pressure

Flow Meter / Monitor

Model: RCD-...



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2. Note

2.1. General

Before unpacking and commissioning the device, the operating instructions and the “General Safety Instructions” document must be read and followed carefully. The general safety instructions, the operating instructions, the data sheet as well as approvals and further information can be downloaded via the QR code on the device or under the respective product on www.kobold.com.

Due to technical changes, the device documentation available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form.

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the device should be used only when the entire machine fulfils the EU machinery directive.

2.2. Hazard warnings

The following instructions are intended to ensure your personal safety and to prevent damage to the product described or connected devices. Safety instructions and warnings to prevent danger to the life and health of users or maintenance personnel, or to prevent damage to property, are highlighted in this documentation using the symbols defined here. *The symbols and terms used have the following meaning in the documentation itself:*

Symbol	Explanation	Symbol	Explanation
 Note	Is important information about the product, the handling of the product or the respective part of the documentation to which particular attention should be drawn.	 Caution	Means that minor personal injury or minor property damage may occur if proper precautions are not taken.

Symbol	Explanation	Symbol	Explanation
 Warning	Indicates that serious personal injury or substantial property damage may occur if proper precautions are not taken.	 Danger	Means that death can occur if proper precautions are not taken.
 Warning	Attention: Hot surface!	 Warning	Warning: Dangerous electrical voltage

2.3. As per PED 2014/68/EU

In acc. with Article 4 Paragraph (3), "Sound Engineering Practice", of the PED 2014/68/EU no CE mark.

	Pipe	
	Diagram 7 group 2 no dangerous fluids	Diagram 6 group 1 dangerous fluids
RCD-..00 – RCD-..30	Art. 4, § 3	Art. 4, § 3
RCD-..90 – RCD- 95	Art. 4, § 3	Art. 4, § 3
RCD-..35 - RCD-..39	Cat. I	Cat. II
RCD-..45 - RCD-..65	Cat. I	Cat. II

This table indicates the classification of pipelines when using substances and mixtures in gaseous form. When using substances and mixtures in liquid form, diagrams 8 and 9 must be consulted.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition. Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:
The standard delivery includes:

- Differential Pressure Flow Meter / Monitor model: RCD

4. Regulation Use

Any use of the Differential Pressure Flow Meter / Monitor, model: RCD, which exceeds the manufacturer's specification may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5. Operating Principle

The Kobold Flow Meter is used for measuring and monitoring the flow velocity of liquids and gases. The device works in accordance with the well-known principle of the Venturi nozzle. A small pressure difference proportional to the flow is produced by the flowing medium at a cross-sectional constriction (nozzle) in the device housing. The shape of the nozzle is based on the particular flow value whereby flow characteristic remains constant over the entire measuring range. Pressure sensing ports are located in the flow body to measure the resulting differential pressure and send it to a differential-pressure measuring cell fitted in the display case. If the flow is exceeded, the differential-pressure measuring cell is protected by mechanical stops. In the case of mechanical displays the flow rate measured by the differential pressure measuring cell is indicated on a pointer element which is calibrated in l/min water or Nm3/h air. On electronic displays the mechanical motion is converted to an electrical signal by a Hall sensor. The electronics serves to display and monitor the volumetric flow.

6. Mechanical Connection

6.1. Check Service Conditions

- Flow
- Max. operating pressures
- Max. operating temperature
- Medium
- Mounting position

When the medium is not in our substance database:

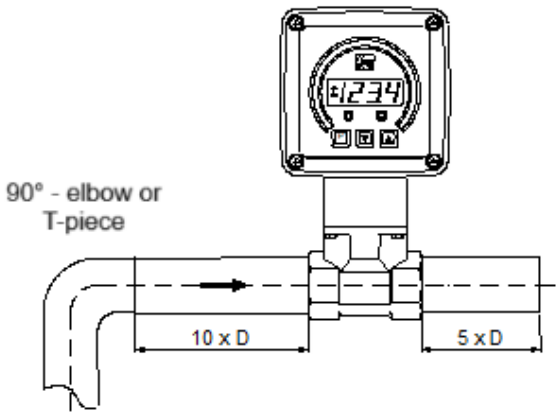
- operating density
- operating viscosity

6.2. Installation

- Flow in direction of arrow (universal)
- Avoid pressure and tensile loads
  mount inlet and outlet piping at distances of 50 mm from the connections
- Check connections for leaks

NOTE Note	Attention! Remove the transport screw and screw in the sealing screw from the enclosed bag.

- Pay attention to the inlet and outlet path (see drawings below)



7. Electrical Connection

7.1. Mechanical Pointer Indication (..Z...)

without electrical connection

7.2. Compact Electronics: (..C30R, ..C30M, ..C34P, ..C34N)

see
Operating instructions supplement
for compact electronics with frequency output

7.3. ADI Electronic

see
Operating instructions supplement
for ADI electronic display

8. Commissioning

8.1. Mechanical Pointer Indication (..Z...)

 Note	Attention! Remove transportation safety screw and screw in the sealing screw from the bag into the thread M3.

8.2. Setting Compact Electronics

see
Operating instructions supplement
for compact electronics with frequency output

8.3. Setting ADI Electronic

see
Operating instructions supplement
for ADI electronic display

9. Maintenance

The measuring instrument requires no maintenance when the measured medium leaves no deposits. To prevent fouling the flow meter pressure sensing ports, we recommend that a filter is installed, for example the magnetic filter, model MFR. Work on the sensor and electronics should only be carried out by the supplier, otherwise the warranty is void.

10. Technical Information

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

11. Order Codes

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

12. Dimensions

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

13. Disposal

See “General Safety Instructions” - via the QR code on the device or via www.kobold.com

14. EU Declaration of Conformance

We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

Differential Pressure Flow Meter / Monitor model: RCD -...

to which this declaration relates is in conformity with the following EU directives stated below:

2014/35/EU	**Low Voltage Directive**
2014/30/EU	**EMC Directive**
2011/65/EU	**RoHS** (category 9)
2015/863/EU	Delegated Directive (RoHS III)

2014/68/EU **PED**

- Module A2

Also, the following standards are fulfilled:

EN IEC 61000-6-4:2019 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

EN IEC 61000-6-2:2019 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments

EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements

EN 60529:2014 Degrees of protection provided by enclosures (IP Code)

EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

AD 2000 Pamphlets

Hofheim, 20 Jan. 2026

H. Volz
General Manager

J. Burke
Compliance Manager

15. UK Declaration of Conformity

We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

Differential Pressure Flow Meter / Monitor model: RCD -...

to which this declaration relates is in conformity with the following UK directives stated below:

S.I. 2016/1091	**Electromagnetic Compatibility Regulations 2016**
S.I. 2016/1101	**Electrical Equipment (Safety) Regulations 2016**
S.I. 2012/3032	**The Restriction of the Use of Certain Hazardous** Substances in Electrical and Electronic Equipment Regulations 2012
S.I. 2016/1105	**The Pressure Equipment (Safety) Regulations 2016** • Module A2

Also, the following standards are fulfilled:

BS EN IEC 61000-6-4:2019 Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments

BS EN IEC 61000-6-2:2019 Electromagnetic compatibility (EMC). Generic standards. Immunity for industrial environments

BS EN 61010-1:2010+A1:2019 Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements

BS EN 60529:1992+A2:2013 Degrees of protection provided by enclosures (IP-Code)

BS EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

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