

**Operating Instructions  
for  
Plastic Flow Meter**

**Model: KSK**



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## **2. Note**

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Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.

The instruction manuals on our website [www.kobold.com](http://www.kobold.com) are always for currently manufactured version of our products. Due to technical changes, the instruction manuals 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](mailto: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 against an applicable postage fee.

Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://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 measuring unit should be used only when the machines fulfil the EC-machine guidelines.

**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.

Diagram 6, Pipe, Group 1 dangerous fluids

## **3. Instrument Inspection**

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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:

- Plastic Flow Meter model: KSK

## 4. Regulation Use

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Any use of the Plastic Flow Meter, model: KSK, 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

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Kobold Plastic Flow Meters and Switches, model KSK, are based on the well-known suspended float principle.

They are used for measuring and monitoring flows in closed pipes.

The media flows, from below, through a conical plastic measuring tube. This raises the float and the flow rate can be read off against scale. The instruments can be fitted with bistable switches.

### **Special advantages**

- Shock resistant and corrosion-resistant
- May be inserted/removed radially
- Special scales available
- Short installation length
- Plastic float and fitting generally made of PVDF

## **6. Mechanical Connection**

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### **Before Installation:**

- Remove all transportation safety locks and ensure that no packing material remains within the unit.
- Be sure that the maximum allowable operating pressure and temperature is not exceeded (see Technical Data).
- Install the flow meter in the piping system, ensure the instrument is under no mechanical stress/tension (install support bracing if necessary).
- Protect the measuring tube from external damage.
- Avoid pressure peaks in the measuring tube, e.g. from sudden surges or stoppage of flow.
- The units with bistable reed switch may not be installed within an inductive field.
- If possible, immediately after making mechanical connections, check whether the connections are properly sealed with no evidence of leakage (see section 8 Operation).



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**Detailed information regarding installation of float flow meters is available in VDI/VDE guidelines 3513.**

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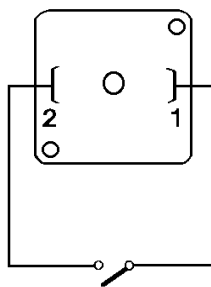
## 7. Electrical Connection

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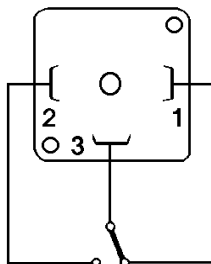
### 7.1. Reed Contact, bistable (option)

- Make sure that the supply wires are de-energized.
- Loosen the plug-cap holding screw and remove the cap from the switch housing.
- Connect the supply lines inside the plug in accordance with the connection diagram opposite.

**N/O contact**



**Changeover contact**



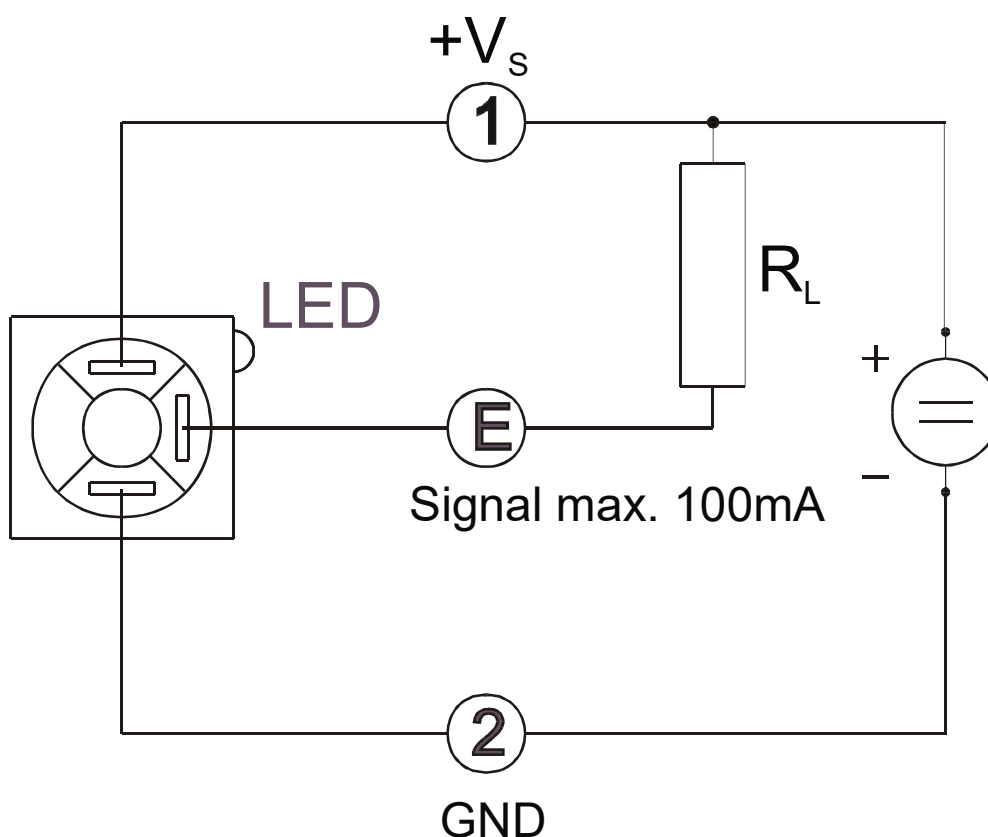
- If the set point has not yet been adjusted, it may be done at this point. (see section 8. Operation).
- Set the plug to the socket and fix it with the safety screws.



**Attention! The stated electrical parameters of the contact may not be exceeded, even for a short period of time. For inductive or capacitive loads, we recommend the use of contact protection measures respectively the application of a contact protection relay.**

## 7.2. Electronic Contact (option)

- Make sure that the supply wires are de-energized.
- Loosen the plug-cap holding screw and remove the cap from the switch housing.
- Connect the supply lines inside the plug-in accordance with the connection diagram opposite.



- If the set point has not yet been adjusted, it may be done at this point. (see section 8. Operation).
- Set the plug to the socket and fix it with the safety screws.



**Attention! The stated electrical parameters of the contact may not be exceeded. For inductive or capacitive loads, we recommend the use of contact protection measures respectively the application of a contact protection relay.**

After connecting the external devices, and adjusting the switch housing to the desired switch points, all the connection work is completed. The unit is ready for operation.

## 8. Operation

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**In order to initialise the bistable switching function, it is essential that the float activates the contact once in each direction.**

### **Adjustment of limit-values**

The switch-point can be adjusted to the desired levels by using both red sliders as reference points.

*Reference edge for falling flow:* bottom-edge, switch housing

*Reference edge for rising flow:* approx. 5 mm above the bottom-edge of switch housing.

Slide the switch housing up or down until the reference edge coincides with the desired switch-point scale reading.

### **Hysteresis**

Hysteresis is the difference between the level at which “switch-on” occurs during rising flow and the level at which “switch-off” occurs during decreasing flow. The hysteresis is approximately 5 mm on the float range.

### **Overranging**

With non-pulsating flow, the maximum flow rate can be exceeded. Only an increase in pressure loss will result (max. permissible operating pressure must not be exceeded!)



## **9. Maintenance**

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If the medium to be measured is clean, the series KSK is virtually maintenance-free. If deposits form on the inner housing or parts, periodic cleaning of the unit is recommended. Remove the units from the piping with a suitable tool; clean the flow meter with a suitable cleaning agent or make use of an ultrasonic bath.

## **10. Technical Information**

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Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

## **11. Order Codes**

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Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

## **12. Dimensions**

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Operating instructions, data sheet, approvals and further information via the QR code on the device or via [www.kobold.com](http://www.kobold.com)

## 13. Disposal

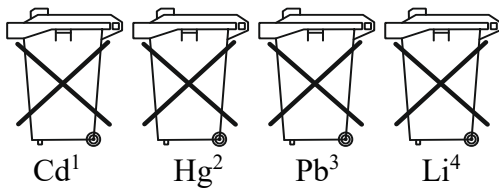
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### Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

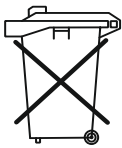
### Batteries

Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

### Electrical and electronic equipment



## 14.EU Declaration of Conformance

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

**Plastic Flow Meter                      Model: KSK-...**

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

<b>2014/35/EU</b>	<b>Low Voltage Directive</b>
<b>2011/65/EU</b>	<b>RoHS (category 9)</b>
<b>2015/863/EU</b>	<b>Delegated Directive (RoHS III)</b>

Also, the following standards are fulfilled:

**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**

Protection through housing (IP-Code)

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

Hofheim, 22 Feb. 2024



H. Volz  
General Manager

J. Burke  
Compliance Manager

## 15.UK Declaration of Conformity

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

**Plastic Flow Meter                      Model: KSK-...**

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

<b>S.I. 2016/1101</b>	Electrical Equipment (Safety) Regulations 2016
<b>S.I. 2012/3032</b>	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Also, the following standards are fulfilled:

**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.

Hofheim, 22 Feb. 2024



H. Volz  
General Manager

J. Burke  
Compliance Manager