

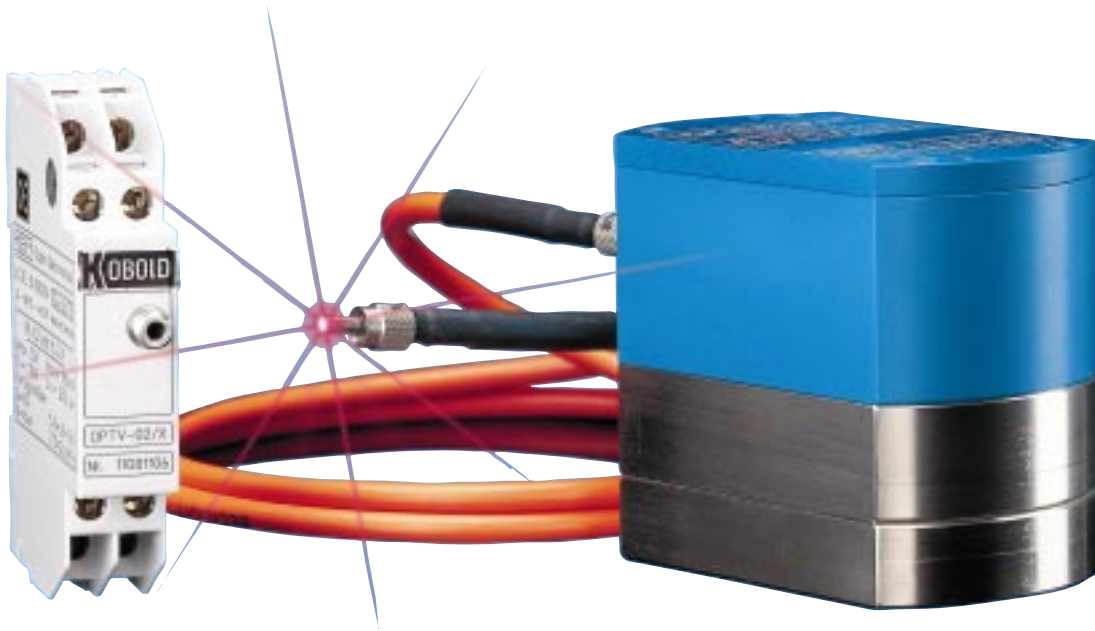
## Gearwheel Flow Meter

for the Spraying, Chemical, and  
Pharmaceutical Industries



Flow  
Pressure  
Level  
Temperature  
Measurement  
Monitoring  
Control

- Measuring ranges: 0,05-2 to 1-7 l/min. water
- Linearity:  $\pm 1,5\%$  (0,3%) of measured value
- $p_{\max.}$  250 bar;  $t_{\max.}$  60°C
- Viscosity range: highly viscous
- Connection: G 1/8 female
- Material: St.St. 1.4305, 1.4571
- Output: pulses
- Easy to clean
- Minimum pressure loss



Model: KHM-E003

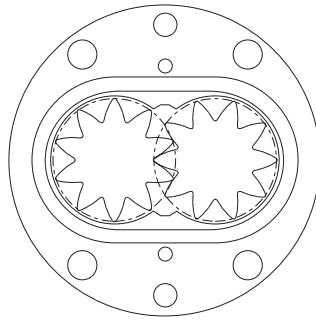
Model: KHM

Model:  
KHM...



**Description**

The Kobold KHM gearwheel flow meter has been specially developed for measuring paints. The main aim of the design effort was to produce a meter that is easy to clean and of light weight construction. The medium is forced to flow and causes the gearwheels to rotate. A fiber optics transducer in the gearwheel sensor senses the speed of the gearwheels through the casing wall in a non-contacting manner. The signal is transmitted to the receiver through a fibre-optic cable. High voltage strength of up to 120 kV is thus achieved in electrical spraying equipment. Downstream electronics receives the light signal and transforms it to a current or voltage rectangular-pulse signal that can be evaluated. Typical applications are in the spraying, chemical and pharmaceutical industries.



**Advantages**

- Flat gasket instead of O-rings; thus no dead zones and easier to clean when changing colours
- Free-standing axles to avoid dead zones
- Gearwheels and bearings are coated with titanium nitride. Therefore certain paints cannot stick.
- Material 1.4571 and 1.4460 for water varnishes
- Reduction in weight
- Minimum pressure loss

**Design of Devices**

The entire measuring device comprises

- Gearwheel sensor
- Fiber optics transducer
- Receiver electronics

**Technical Specifications**

**Gearwheel sensor**

Housing: St.St. 1.4305 (1.4571 optional)  
 Gearwheels: St.St. 1.4122 (1.4460 optional)  
 Gaskets: Viton (PTFE, NBR, EPDM optional)  
 Linearity: ± 1,5% f. s. at 1 mm<sup>2</sup>/s  
 ± 0,3% f. s. > 100 mm<sup>2</sup>/s  
 Medium temperature: 60 °C (options upon request)

**Fiber optics transducer**

High voltage strength: up to 120 kV  
 Auxiliary power: lithium battery  
 up to 15 months service life  
 Ambient temperature: -20 to +50 °C  
 Protection type: IP 65  
 Optical waveguides: max. 10 m (0% silicone)  
 Ambient temperature: -30 to +80 °C

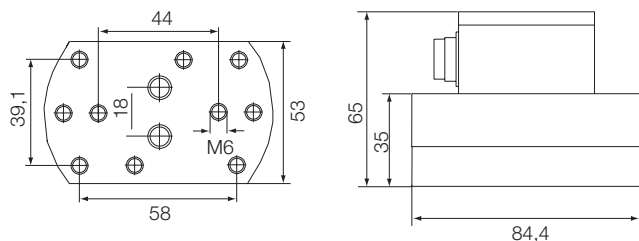
**Receiver electronics**

Ambient temperature: -20 to 60 °C  
 Auxiliary power: 7 to 30 VDC  
 Output optional

- Voltage output active 3-wire
- Voltage output passive 3-wire
- Current output 2 conductors  
Supply <9 V (NAMUR power supply unit)
- Current output 2 conductors  
Supply: 7 to 30 VDC

Installation: DIN-rails

**Dimensions**



**Order Details (Example: KHM-1202)**

Order numbers	Measuring range l/min.	Material case/gearwheel	Connection	K factor Imp./l	Max. pressure bar	Fiber optics transducer
KHM-1202	0,05-2	1.4305/1.4122	G 1/8 female	16.400	PN 250	incl.
KHM-1207	1-7	1.4305/1.4122	G 1/8 female	8.400	PN 250	incl.
KHM-1402	0,05-2	1.4571/1.4460	G 1/8 female	16.400	PN 250	incl.
KHM-1407	1-7	1.4571/1.4460	G 1/8 female	8.400	PN 250	incl.
KHM-E003	Receiver electronics, supply 7-30 VDC					

Digital indicators and transducers see end of brochure.