

# DK04

## Flap Flowmeter and Switch for Low Viscosity Media

- **robust design**
- **measuring ranges 0,4...6 l/min  
up to 1...100 l/min**
- **output 4-20 mA, 0-10 V,  
frequency output or switching output**
- **highly resistant to overload**
- **low pressure loss**
- **all metal version of brass or stainless steel  
optional (max. pressure 100 bar)**
- **high temperature version up to 150 °C  
optional**



### Description:

The DK04 flap type flowmeter consists of a thin flexible flap which covers the complete cross section of the flow. This flap is moved by the liquid changing the position of a magnet. The magnet's position is detected by a Hall-sensor and the attached electronic unit generates a linearised electrical signal proportional to the flow. Due to the flexible flap and a special designed thrust bearing even heavy hydraulic shocks will not damage the device. Because of the small number of wetted parts the DK04 flowmeter assures high reliable operation and it is very insensitive to particles in the flow.

### Typical application:

The flowmeters type DK04 are applied to monitor and supervise water or liquids similar to water up to a viscosity of 20 cSt. All applications where a high reproducibility is required the DK04 flowmeters can be applied with success.

## Models:

<b>DK04.x.x.1:</b>	voltage output 0–10 V
<b>DK04.x.x.2:</b>	current output 0(4)–20 mA
<b>DK04.x.x.3:</b>	frequency output 10...2000 Hz
<b>DK04.x.x.4:</b>	programmable switch PNP and NPN
<b>DK04.x.x.5:</b>	counting pulse

## Electrical Data:

<b>Supply:</b>	10...30 V DC
<b>Connection:</b>	round plug M12 x 1, 4-wire
<b>Prot. class:</b>	IP67

### Current -/ and voltage output:

<b>Standby-current:</b>	100 mA
-------------------------	--------

### Frequency output / programmable switch

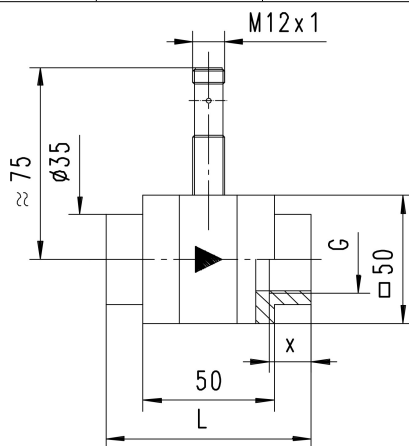
<b>Standby-current:</b>	< 20 mA (without load)
-------------------------	------------------------

## Order Code Connection Size / Measuring Range:

Measuring range	Connection size				
	DN 8	DN 10	DN 15	DN 20	DN 25
<b>A:</b> 0,4...6,0 l/min	<b>08A</b>	<b>10A</b>	<b>15A</b>	<b>20A</b>	<b>25A</b>
<b>B:</b> 1,0...15 l/min	<b>08B</b>	<b>10B</b>	<b>15B</b>	<b>20B</b>	<b>25B</b>
<b>C:</b> 1,0...25 l/min	/	<b>10C</b>	<b>15C</b>	<b>20C</b>	<b>25C</b>
<b>D:</b> 1,0...50 l/min	/	/	<b>15D</b>	<b>20D</b>	<b>25D</b>
<b>E:</b> 1,0...80 l/min	/	/	/	<b>20E</b>	<b>25E</b>
<b>F:</b> 1,0...100 l/min	/	/	/	/	<b>25F</b>

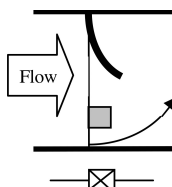
## Dimensions and Q<sub>max</sub> Values:

Connection	Size L [mm]	Size X [mm]	Q <sub>max</sub> l [min]
G 1/4	74	12	20
G 3/8	74	12	40
G 1/2	78	14	80
G 3/4	82	16	100
G 1	82	18	100



For high temperature version (housing 5+6) electronics and housing are separated by a 30 cm cable

## Operating Principle:



## Order Code:

**Order number:** **DK04. 10. A. 1. 0. 0. 0.**

**Flap flowmeter and switch for low viscosity media**

### Process connection\*:

08 = DN 8, G 1/4	
10 = DN 10, G 3/8	
15 = DN 15, G 1/2	
20 = DN 20, G 3/4	
25 = DN 25, G 1	*see table on the left

### Measuring ranges\*:

A = 0,4–6,0 l/min (with PPS-housing only)
B = 1–15 l/min
C = 1–25 l/min (not for process connection 08)
D = 1–50 l/min (not for process connection 08, 10)
E = 1–80 l/min (only for process connection. 20, 25)
F = 1–100 l/min (only for process connection. 25)

Measuring ranges can be changed downwards at the factory

### Output:

1 = analogue output 0...10 V
2 = analogue output 4...20 mA
3 = frequency output ( <b>please indicate f<sub>max</sub></b> )
4 = programmable switching output (Push Pull, PNP and NPN) ( <b>please indicate switch point</b> )
5 = counting pulse

### Electrical connection:

0 = plug (M12x1) 4-wire. without mating connector
---

### Housing version:

0 = housing PPS, connection brass, standard
1 = housing PPS, connection POM
2 = housing PPS, connection stainless steel
3 = housing + connection brass (P <sub>max.</sub> = 100 bar)
4 = housing + connection st. steel (P <sub>max.</sub> = 100 bar)
5 = housing + connection brass (P <sub>max.</sub> = 100 bar, high temperature version up to 150 °C)
6 = housing + connection st. steel (P <sub>max.</sub> = 100 bar, high temperature version up to 150 °C)

### Options:

0 = without
1 = please specify in plain text

## Technical Data:

<b>Max. pressure:</b>	16 bar (100 bar for all metal-version, housing 3–6)
<b>Max. media temp.:</b>	70 °C (150 °C for housing 5+6)
<b>Accuracy:</b>	3 % from meas. value, mind. 0,25 l/min
<b>Pressure loss:</b>	max. 0,5 bar at end of measuring range

## Materials:

<b>Housing:</b>	PPS (optional brass nickel plated or stainless steel 1.4404)
<b>Connection:</b>	brass nickel plated (optional POM or st. steel 1.4404)
<b>Flap (orifice):</b>	stainless steel 1.4031 k
<b>Magnetic mount:</b>	PPS
<b>Gasket:</b>	FKM
<b>Glue:</b>	epoxy resin

## Accessory:

M12 plug connector with PVC-cable  
**SM12.4 (4-wire)**

