

# DOZ01

## Oval Gear Flowmeter for Low Flow Rates

- **viscosity independent**
- **compact design,  
inlet pipe not necessary**
- **materials: PP, ECTFE  
or stainless steel**
- **output signals:  
pulses, 4...20 mA or  
2 limit relays**
- **measuring ranges:  
8...40 l/h,  
14...80 l/h**
- **P<sub>max</sub>: 20 bar, T<sub>max</sub>: 80 °C**



### Description:

The DOZ01 oval gear flowmeter measures the volume flow of liquid media of water up to a maximum viscosity of 200 cSt, regardless of the actual viscosity of the medium.

In a measuring chamber, two toothed oval gears are rotated by the flowing medium. This rotation is detected by a Hall sensor and output as a pulse. The output frequency of these pulses is directly proportional to the flow rate. Alternatively, the pulse output can be converted into an analogue output signal 4...20 mA or into 2 limit contacts by a downstream electronic circuit. The oval gear flowmeters can be supplied in various material combinations such as PP, ECTFE or stainless steel with oval gears made of PEEK.

A wide variety of axes and seals allow the DOZ01 to be adapted to a wide variety of media. Two measuring ranges (8...40 l/h and 14...80 l/h) are available.

### Typical applications:

The DOZ01 oval gear flowmeters are used wherever the flow rate of liquids with different viscosities must be measured reliably and cost-effectively, e.g.:

- in central lubrication systems
- for transformer oils
- for aggressive liquids in the chemical industry

## Models:

- DOZ01.P.:** standard version housing made of PP, oval gear made of PEEK, axle made of zircon oxide (optional ceramic), gasket FKM (optional EPDM or FFKM)
- DOZ01.E.:** version for aggressive media, housing made of ECTFE, oval gears made of PEEK, axle made of zircon oxide (optional ceramic), gasket FKM (optional EPDM or FFKM)
- DOZ01.V.:** stainless steel version for higher operating pressures bis 20 bar, housing made of st. steel 1.4401, oval gears made of PEEK, axle made of zircon oxide (optional ceramic), gasket FKM (optional EPDM or FFKM)

## Measuring Ranges:

Measuring range [l/h]	Con-nection (G or NPT female)	Start-up at [l/h]	Width [mm]	Height without plug [mm]	Depth [mm]	pulses / l approx. *)
8...40	1/4"	2	54	45	45	6000
14...80	1/4"	5	54	45	45	3400

\*) The number of pulses per liter can vary by approx. ca.  $\pm 3\%$  due to production reasons. Each instrument is individually calibrated before delivery and marked with the exact number of pulses per liter.

## Output Signals:

- DOZ01...P:** pulse output  
square-wave pulses
- DOZ01...A:** analogue output  
4...20 mA, 2-wire
- DOZ01...S:** switching output  
2 limit relays (0,1 A at 24 VDC)  
programmable and pulse output

## Electrical connection:

	DOZ01.P.	DOZ01.A.	DOZ01.S.
Power supply	Pin 1	-	white
Signal	Pin 2	-	green
Ground	Pin 3	-	brown
Relay 1	-	-	yellow
Relay 1	-	-	grey
Relay 2	-	-	pink
Relay 2	-	-	blue
4...20 mA signal +	-	Pin 1	-
4...20 mA signal -	-	Pin 2	-

## Options:

- gaskets made of EPDM or FFKM
- axle made of ceramic

## Order Code:

Order number: **DOZ01. P. V. 1. P. 0. 0**

### Oval gear flowmeter for low flows

#### Models:

P = housing PP / oval gears PEEK  
E = housing ECTFE / oval gears PEEK  
V = housing st. steel / oval gears PEEK

#### Gasket:

V = FKM (standard)  
E = EPDM  
K = FFKM

#### Measuring range:

1 = 8...40 l/h  
2 = 14...80 l/h

#### Output signal:

P = pulse output  
A = analogue output 4...20 mA  
S = 2 limit relays and pulse output

#### Process connection:

0 = G 1/4  
N = 1/4" NPT

#### Options:

0 = without  
1 = axle made of ceramic  
9 = please specify in plain text

## Technical Data:

### Max. pressure:

PP: 10 bar  
ECTFE: 10 bar  
st. steel: 20 bar

**Medium temperature:** 0...80 °C

### Accuracy:

5...200 cSt:  $\pm 2,5\%$  of full scale  
< 5 cSt:  $\pm 4\%$

**Process connection:** G 1/4 female, optional NPT

**Mounting position:** any

### Power supply:

pulse output: 4,5...24 VDC  
analogue output: 15...24 VDC  
limit relay: 15...24 VDC

### Electrical connection:

pulse- and analogue output: cube connector acc. to EN 175301-803A  
limit relays: plug connection with mating plug and 1 m cable