

DR05

Paddle Wheel Flow Sensor and Switch

- **solid plastic version without metallic parts**
- **for pipe sizes from 1" to 2"**
- **materials: PP, ECTFE, ceramic, FKM**
- **output signals: pulses, 4...20 mA or 2 limit switches**
- **range ratio up to 50:1**
- **measuring ranges: 5...250 l/min up to 20...1000 l/min**
- **P_{max}: 10 bar, T_{max}: 85 °C**



Description:

The DR05 paddle-wheel flow sensor measures the flow of water and substances similar to water. The flow sensor consists of a section of polypropylene pipe fitted with a paddle wheel. The paddle wheel, which extends into the area of flow, is set into rotation by the flowing liquid. The rotary motion is detected by a Hall sensor and output as a series of pulses. The output frequency of these pulses is directly proportional to the flow rate. Alternatively, the pulsed output can be converted into an analogue signal (4 to 20 mA) or into two limit contacts by optional integrated electronics. DR05 paddle-wheel flow sensors are made completely of plastic; they have no metal parts. These devices are available for pipe sizes of 1" to 2" with range ratio of up to 50:1.

Typical applications:

Model DR05 paddle-wheel flow sensors are used wherever the flow of liquids having low viscosities must be reliably and economically measured, including but by no means limited to, the following cases:

- in cooling systems
 - for demineralized water
 - for aggressive / caustic liquids in the chemical industry
- and much more

Measuring ranges:

Measuring range [l/min]	Connection (G or NPT female)	Pulse / l (approx.)
5...250	1"	54
10...400	1 1/4"	32
15...600	1 1/2"	20
20...1000	2"	10

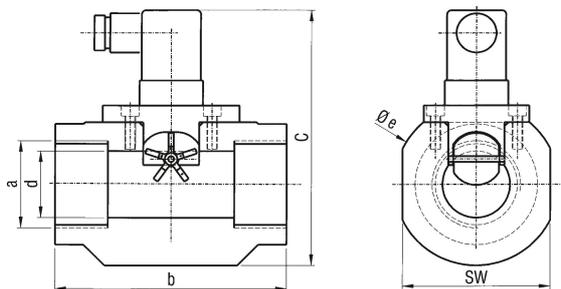
Materials:

Housing: PP
Rotor: ECTFE
Pivot, bearing: Ceramic
Gaskets: FKM (optional EPDM)

Output signal:

DR05...P: output signal, push-pull rectangular pulses
DR05...A: analogue output 4...20 mA, 2-wire
DR05...S: switching output 2 limit switches (0,1 A at 24 VDC), programmable

Dimensions:



Nominal size a	b [mm]	c [mm]	d [mm]	e [mm]	SW [mm]
DN 25 / 1"	110	119	25	74	70
DN 32 / 1 1/4"	110	123	32	78	70
DN 40 / 1 1/2"	120	125	40	80	75
DN 50 / 2"	125	135	50	89	75

Electrical connection:

	DR05...P	DR05...A	DR05...S
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	-

Order Code:

Order number:	DR05.	P.	V.	25G.	P.	0
Paddle wheel flow sensor and switch						
Model: P = housing PP, rotor from ECTFE						
Gasket: V = FKM (standard) E = EPDM						
Measuring range and process connection: 25G = 5...250 l/min, G 1 female thread 25N = 5...250 l/min, 1" NPT female thread 32G = 10...400 l/min, G 1 1/4 female thread 32N = 10...400 l/min, 1 1/4" NPT female thread 40G = 15...600 l/min, G 1 1/2 female thread 40N = 15...600 l/min, 1 1/2" NPT female thread 50G = 20...1000 l/min, G 2 female thread 50N = 20...1000 l/min, 2" NPT female thread						
Output signal: P = pulse output, push-pull A = analogue output 4...20 mA S = 2 limit switches and pulse output						
Options: 0 = without N = NPN O/C pulse output 9 = please specify in plain text						

Technical Data:

Max. pressure: 10 bar
Medium temperature: 0...85 °C
Measuring error: ± 3 % of full scale
Repeatability: < ± 0,5 % of full scale
Process connection: G 1 female up to G 2 female, optional NPT
Installation position: any
Voltage supply:
 pulse output: 4,5...24 VDC, push-pull
 analogue output: 15...24 VDC
 limit switch: 15...24 VDC, 1 x MIN-, 1 x MAX-contact, potential free
Electrical connection:
Pulse- and analogue output: cubic plug acc. to EN 175301-803A
Limit relay: plug connection with mating plug and 1 m cable
Protection class: IP65