

# FLS F6.30

## PADDLEWHEEL FLOW TRANSMITTER



The new FLS F6.30 is a blind transmitter based on paddlewheel. It can be applied for the measurement of every kind of solid-free liquids. The F6.30 can provides different output options using a 4-20 mA and a Solid State Relay. Analog output can be used for long distance transmission and SSR can be set as an alarm or as a volumetric pulse output. F6.30 Paddlewheel Flow Transmitter is provided with an USB interface and a dedicated software (freely downloadable from FLS web site) which allows to easily calibrate instrument and to intuitively set outputs by a PC. The specific design allows an accurate flow measurement over a wide dynamic range in pipe sizes from DN15 (0.5") to DN600 (24").

### APPLICATIONS

- Industrial water and wastewater treatment
- Cooling water systems
- Swimming pools
- Flow control and monitoring
- Water treatment
- Water regeneration plant
- Processing and manufacturing industry
- Water distribution

### MAIN FEATURES

- High chemical resistance
- Pipe size range: from DN15 (0,5") to DN600 (24")
- Low pressure drop
- Friendly calibration procedure
- 4-20 mA, frequency or volumetric pulse output settable by USB
- SSR settable as alarm by PC



## TECHNICAL DATA

### General

- Pipe Size Range: DN15 to DN600 (0.5" to 24")  
Please refer to Installation Fittings section for more details
- Flow Rate Range: 0.15 to 8 m/s (0.5 to 25 ft./s)
- Linearity:  $\pm 0.75\%$  of full scale
- Repeatability:  $\pm 0.5\%$  of full scale
- Minimum Reynolds Number Required: 4500
- Enclosure: IP65
- Wetted Materials:
  - sensor Body: CPVC, PVDF, Brass or 316L SS
  - o-rings: EPDM or FPM
  - rotor: ECTFE (Halar®)
  - shaft: Ceramic ( $Al_2O_3$ ) / 316L SS (only for metal sensors)
  - bearings: Ceramic ( $Al_2O_3$ )

### Electrical

- Power Supply:
  - 12 to 24 VDC  $\pm 10\%$  regulated (reverse polarity and short circuit protected)
  - maximum current: consumption: 150 mA
  - protective earth:  $< 10 \Omega$
- 1 X Current output:
  - 4-20 mA, isolated
  - max. loop impedance:  $800 \Omega @ 24 VDC - 250 \Omega @ 12 VDC$
- 1 X Solid State Relay output:
  - user selectable as MIN alarm, MAX alarm, Volumetric, Pulse Out, Window alarm, Off
  - optically isolated, 50 mA MAX sink, 24 VDC MAX pull-up voltage
  - max pulse/min: 300
  - hysteresis: User selectable

### Environmental

- Storage Temperature:  $-30^\circ C$  to  $+80^\circ C$  ( $-22^\circ F$  to  $176^\circ F$ )
- Ambient Temperature:  $-20^\circ C$  to  $+70^\circ C$  ( $-4^\circ F$  to  $158^\circ F$ )
- Relative Humidity: 0 to 95% (non-condensing)

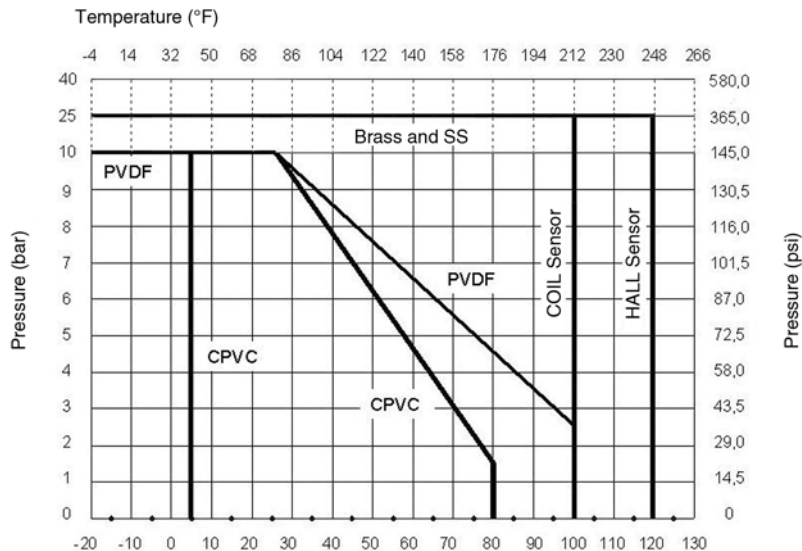
### Standards & Approvals

- Manufactured under ISO 9001
- Manufactured under ISO 14001
- CE
- RoHS Compliant
- GOST R

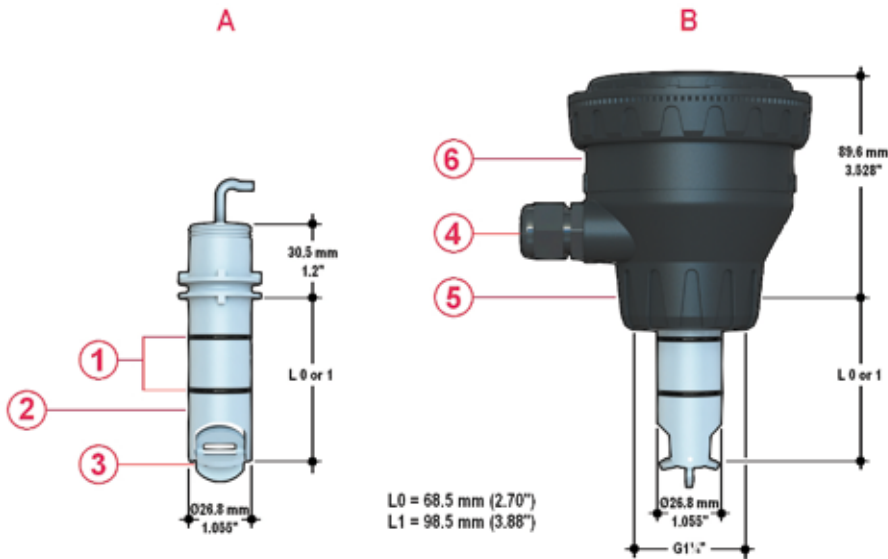
### Maximum Operating Pressure / Temperature (25 years lifetime)

#### F6.30 Transmitter

- CPVC body:
  - 10 bar (145 psi) @  $25^\circ C$  ( $77^\circ F$ )
  - 1,5 bar (22 psi) @  $80^\circ C$  ( $176^\circ F$ )
- PVDF body:
  - 10 bar (145 psi) @  $25^\circ C$  ( $77^\circ F$ )
  - 2,5 bar (36 psi) @  $100^\circ C$  ( $212^\circ F$ )
- Brass or SS body:
  - 25 bar (363 psi) @  $100^\circ C$  ( $212^\circ F$ )



## DIMENSIONS



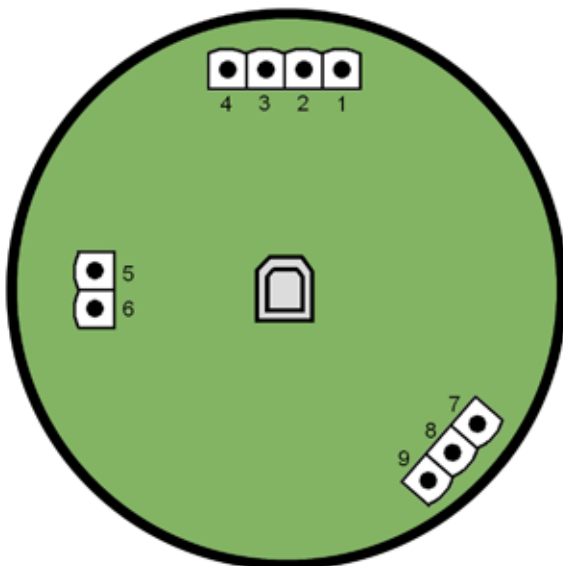
A Sensor body  
B F6.30 Paddlewheel Flow transmitter

1 O-Ring (EPDM or FPM)  
2 Sensor body PVCC, PVDF, Brass, 316L SS  
3 Halar Rotor, Ceramic shaft & bearings  
4 Cable Gland

5 ABS cap for installation into fittings  
6 Electronic box

## WIRING CONNECTIONS

Rear Terminal View



1	+VDC	Power Supply
2	+LOOP	
3	-LOOP	
4	-VDC	
5	NO	SSR
6	COM	
7	GND	Flow Sensor
8	FREQ IN	
9	+V	

## ORDERING DATA

FLS F6.30.XX Paddlewheel Flow Transmitters							
Part No.	Version	Power supply	Length	Main wetted materials	Enclosure	Flow Rate Range	Weight (gr.)
F6.30.01	Hall	12 - 24 VDC	L0	CPVC/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F6.30.02	Hall	12 - 24 VDC	L0	CPVC/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F6.30.03	Hall	12 - 24 VDC	L1	CPVC/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F6.30.04	Hall	12 - 24 VDC	L1	CPVC/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F6.30.05	Hall	12 - 24 VDC	L0	PVDF/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F6.30.06	Hall	12 - 24 VDC	L0	PVDF/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	750
F6.30.07	Hall	12 - 24 VDC	L1	PVDF/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F6.30.08	Hall	12 - 24 VDC	L1	PVDF/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	800
F6.30.09	Hall	12 - 24 VDC	L0	316SS/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	950
F6.30.10	Hall	12 - 24 VDC	L0	316SS/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	950
F6.30.11	Hall	12 - 24 VDC	L1	316SS/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	1000
F6.30.12	Hall	12 - 24 VDC	L1	316SS/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	1000
F6.30.13	Hall	12 - 24 VDC	L0	BRASS/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	950
F6.30.14	Hall	12 - 24 VDC	L0	BRASS/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	950
F6.30.15	Hall	12 - 24 VDC	L1	BRASS/EPDM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	1000
F6.30.16	Hall	12 - 24 VDC	L1	BRASS/FPM	IP65	0.15 to 8 m/s (0.5 to 25 ft./s.)	1000

INSERTION FLOW SENSORS