

22 | Conductivity Sensors ACF60 / ACS60



- Patented six-electrode design reduces sensitivity to fouling and polarization
- Wide measuring range: 0 - 10 $\mu\text{S/cm}$ up to 0 - 850 mS/cm
- Integrated Pt1000 temperature sensor
- No O-rings or epoxy - suitable for CIP/SIP

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Six-Electrodes

The ACF60/ACS60 conductivity sensor features a superior six-electrode, four-pole design. The patented arrangement of the four current electrodes around the two potential electrodes results in a reliable and precise measurement. This unique design also provides greatly reduced sensitivity to sensor fouling and polarization. The combination of optek C8000 universal converter and ACF60/ACS60 conductivity sensors allow a wide dynamic range from 0 - 10 $\mu\text{S/cm}$ up to 0 - 850 mS/cm with the same sensor.

Temperature Measurement

The integrated Pt1000 platinum RTD in the tip of the ACF60/ACS60 sensor provides fast-response temperature measurement for compensation, which can be displayed and transmitted from the C8000 converter.

Sanitary Design

Designed for ultra-sterility, the six electrodes are sealed in the FDA (USP class VI) compliant PEEK sensor tip without the use of O-rings or epoxy. The ACF60/ACS60 sensor is suitable for CIP/SIP applications.

ACF60

Mounted in an optek inline sensor body, the design ensures smooth and unrestricted flow of all process fluids with minimized hold-up and hydrostatic shear.



ACF60
Conductivity Sensor



ACS60
Conductivity Sensor

Technical Data	ACF60	ACS60-35-60
Material (wetted)	PEEK (FDA, USP class VI) stainless steel 1.4435 (SS 316L), dF < 1%, BN2	
Port-gaskets	O-ring: EPDM (FDA, USP Class VI), ... others on request	
Line size	1/4 in. to 6 in. (DN 6 to DN 150), ... others on request	
Port connection		OSP25-GS60 (similar Ingold-port) nominal length: 60 mm diameter: 25 mm thread: G1-1/4 in. ISO 228/1
Installation accessories		weld-in ports, Varivent adapter 50.00), clamp adapter, optek T-pieces DIN 11850, optek T-pieces OD (BS4821-1)
Process pressure	20 bar (290 psi) - 50 °C (122 °F) 10 bar (145 psi) - 100 °C (212 °F) 4 bar (58 psi) - 135 °C (275 °F)	
Process temperature	permanent: -10 - 90 °C (14 - 194 °F) peak 30 min/day: -10 - 135 °C (14 - 275 °F)	
Ambient temperature	operation: -10 °C - 40 °C (14 °F - 104 °F) transport: -20 °C - 70 °C (-4 °F - 158 °F)	
Temperature sensor	integrated Pt1000 RTD (IEC Class A) accuracy: ± 0.25 °C at 25 °C (77 °F)	
Protection	IP65	
Measuring range	any measuring range between 0 - 10 $\mu\text{S/cm}$ to 850 mS/cm	

	Accuracy	Repeatability
0 - 10 $\mu\text{S/cm}$	calibrated: $\pm 1\%$ of measuring value ± 0.2 $\mu\text{S/cm}$ uncalibrated: $\pm 3\%$ of measuring value ± 0.2 $\mu\text{S/cm}$	$\pm 0.5\%$
0 - 250 mS/cm	calibrated: $\pm 1\%$ of measuring value ± 0.2 $\mu\text{S/cm}$ uncalibrated: $\pm 3\%$ of measuring value ± 0.2 $\mu\text{S/cm}$	$\pm 0.5\%$
250 - 500 mS/cm	calibrated: $\pm 2\%$ of measuring value ± 0.2 $\mu\text{S/cm}$ uncalibrated: $\pm 6\%$ of measuring value ± 0.2 $\mu\text{S/cm}$	$\pm 1\%$
500 - 850 mS/cm	calibrated: $\pm 5\%$ of measuring value ± 0.2 $\mu\text{S/cm}$ uncalibrated: $\pm 12\%$ of measuring value ± 0.2 $\mu\text{S/cm}$	$\pm 3\%$

Pressure and temperature ratings specified herein may be subject to limitations - see instruction manual. The appropriate choice of material for all wetted parts is the sole responsibility of the user. Data given are subject to changes without prior notice.

DASTEC S.R.L.

Representantes / Distribuidores Exclusivos

Argentina

Tel: (+54 11) 5352 2500

Email: info@dastecsr.com.ar

Web: www.dastecsr.com.ar

Uruguay www.dastecsr.com.uy

Paraguay www.dastecsr.com.py