

Through flow sensor fitting c/w mechanical cleaning system

Through-flow cell designed to measure pH, ORP and temperature. These cells can be wall mounted through the supplied bracket or directly mounted on the pipeline where the sample is drawn for the measure using rigid piping. The advantage of through flow cells is that they are simple to install and can always be located in easy-to-access position. D0E0xx through flow cells include an automatic mechanical cleaning system.

This cell can house separate pH and ORP electrodes, the reference electrode and a temperature sensor. Mod.D0E0xx through flow cell is suitable for heavy duty applications in waters containing high amount of fouling substances, while it is not recommended when the liquid in measure contains fat substances (in this case use the D0D0x0 cell c/w chemical cleaning system) or abrasive substances (in this case use the Sb0A0A1xA0x cell with antimony electrodes).

Typical applications for D0E0xx cell are wastewater treatment plants, reduction-oxidation processes, neutralization treatments, sedimentation basins.



Advantages

- **Sturdy and compact execution**
- **Easy to install**
- **Suitable for the measure of pH, ORP and temperature**
- **Extremely low maintenance requirements**
- **The head of the probe can house electrolyte reservoir for pH and ORP electrode**
- **Mechanical electrodes cleaning through a brush**
- **Pneumatic or electric actuator (24,110 or 220 VAC)**
- **Cable outlet from watertight cable glands**
- **Head: IP 65 protection degree**

Operating principle and realization

Mod.D0E0xx cell can house pH and ORP measuring electrodes with separate reference electrode and a temperature sensor, besides the solution ground contact (available upon request). The probe is available in PP, PVDF or SS and it is supplied c/w brackets and accessories for wall mounting. Hydraulic connections are two, 1/2" F for sample inlet and drain. The cell can also be directly mounted on the pipeline where the sample is drawn for the measure using rigid piping for sample inlet and sample outlet. The lower vessel, that is fixed to the probe through a threaded connection, can be used as calibration vessel. The head of the probe can house electrolyte reservoir for reference electrode, so assuring long operation periods without refilling requirements.

The D0E0xx probe includes a brush that continuously wipes the electrodes, so keeping them clean and active. The brush can be pneumatically driven or actuated by a ratio motor, electrically powered (24, 110 or 220 Vac).

The complete pH measuring system includes the pH measuring electrode, the reference electrode (that is the same used for ORP also) installed into the cell, the connecting cable and the pertinent electronic unit.

The complete ORP measuring system includes the ORP measuring electrode, the reference electrode (that is the same used for pH also) installed into the cell, the connecting cable and the pertinent electronic unit.

The probe can house either electrodes with integral cable or electrodes with connector; in both cases the electrodes may have or not the PG13,5 process connection.

D0E0xx

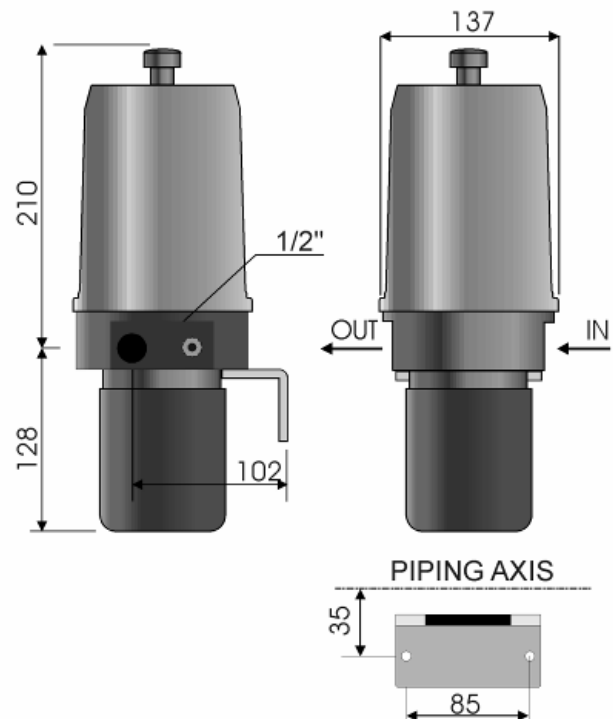
Electrodes that can be installed into the D0E0xx through flow cell

pH	Simple pH measuring electrode.....S101AP
	+ Reference electrode..... 301/S-013
ORP	Simple ORP measuring electrodeS201AP
	+ Reference electrode..... 301/S-013
pH and ORP	Simple pH measuring electrode.....S101AP
	+ Simple ORP measuring electrodeS201AP
	+ Reference electrode..... 301/S-013
Temperature	Temperature sensor Pt100T0x2xxxx

Warning ! when the cell is to be used under pressure the electrodes must be selected accordingly. Contact Your supplier for correct choice of electrodes.

Calibration & Maintenance

This cell has very low maintenance requirements: it is recommended to check the sensitivity of the measuring chains at periodical intervals defined by the operators on the basis of his own experience of the specific process. Recalibrate if required.
The calibration can be operated either by comparison to properly calibrated portable instruments or filling the vessel with solutions with known value of the parameter to be calibrated.



Technical Specifications

Allowed sensors:.....	refer to the given list
Body material:.....	PP, PVDF SS
.....	(PP) 5 to 70 °C; (PVDF) 5 to 90 °C; (SS) 5 to 120 °C
Storage temperature limits:.....	0 to +60 °C
Operating pressure limits (**):	2 bar at ambient temperature
Sample flow rate:	<0,5 l/min
Vessel volume:	apprx.0,4 l
Process connections :	q.ty 2, 1/2" F
Electrodes cable:	q.ty 4 PG 7 for electrode cables
Head protection degree:	IP65
Max.allowed distance from sensor to instrument:	50 m
Brush speed:.....	1 RPM for D0E0x(1,2 or3); to be set through the pressure value in Mod.D0E0x4
Brush motor actuator:	D0E0x1: 24 Vac; D0E0x2: 110 Vac; D0E0x3: 220 Vac
Brush motor actuator:	D0E0x4: filtered air, P > 2 bar
Mounting:	supplied c/w wall mounting bracket; direct mounting on pipeline with rigid tubing's
Dimensions:	see figure
Weight:	apprx.3 Kg (PP)

(*) Operating temperature must always respect limits given for each sensor.

(**) Operating pressure must always respect limits given for each sensor.

DOE0xx

Order code breakdown

	D0	x	x	x	x
Through flow cells	D0				
Type of probe 2 parameters, mechanical cleaning system D100-AP		E			
Fixed code			0		
Probe material of construction					
Reserved					A
Polypropylene, PP					B
PVDF					C
AISI 316					D
Special execution					Z
Mechanical cleaning system actuation					
Reserved					0
Electric, 24 Vac					1
Electric, 110 Vac					2
Electric, 220 Vac					3
Pneumatic					4
Special execution					9

Accessories included in the supply

Mounting bracket and accessories

4 PG 13,5 plugs (for the electrodes not including PG 13,5 threaded process connection).

Optional Accessories

Electrolyte reservoir	123/28
Silicon rubber hose for electrolyte reservoir connection.....	123/6x9
pH 7,00 buffer solution.....	T/101-7x
pH 4,00 buffer solution.....	T/101-4x
pH 9 buffer solution.....	T/101-9x
where x= A : 250 ml bottle; x = B : 500 ml bottle; x = C: 1000 ml bottle.	
Known ORP value standard solution, 468 mV, 250 ml bottle.....	T/201-468A
Known ORP value standard solution, 220 mV, 250 ml bottle.....	T/201-220A