

# STAINLESS STEEL DISSOLVED OXYGEN ELECTRODES



The steam sterilizable family of dissolved oxygen electrodes from the pHoenix Electrode Company is specifically designed for fermentation where it is necessary to subject electrodes to repeated steam sterilization.

Dissolved oxygen electrodes are available in both polarographic and galvanic styles to fulfill all requirements. pHoenix O<sub>2</sub> electrodes are compatible with most common O<sub>2</sub> amplifiers found in fermentation. Polarographic electrodes are designed to be used with pHoenix Electrode Company, Ingold IL, Cole-Parmer, and Applikon O<sub>2</sub> amplifiers, or with other amplifiers that are designed to be used with Ingold dissolved oxygen electrodes.

Galvanic electrodes are designed to be used with pHoenix Electrode Company, New Brunswick Scientific, LSL Biolafitte and Applikon O<sub>2</sub> amplifiers.

The DO probes are available for laboratory fermentation where sterilization takes place in a separate autoclave or industrial applications where sterilization takes place in-situ.

The easily replaced electrode membrane cartridge is a unique feature of the pHoenix polarographic and NBS galvanic dissolved oxygen electrodes. The membrane is of special construction~a silicone and teflon composite, reinforced with stainless steel mesh. This unique membrane is very rugged and allows for repeated sterilization without damage, allowing it to withstand severe conditions. The electrode operates without maintenance for 5 to 10 sterilizations, fermentation cycles or, in terms of time, for 6 to 8 weeks. The pHoenix Biolafitte type galvanic dissolved oxygen electrode features easily replaceable FEP teflon membranes.

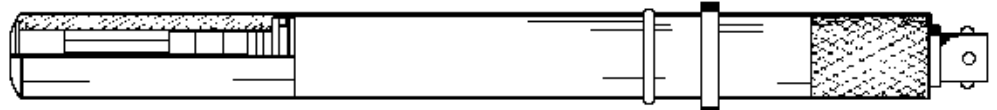
The polarographic dissolved oxygen electrodes are available with or without automatic temperature compensation. They are designed to match the Ingold IL oxygen amplifier. Temperature compensation is not normally required when calibration is made at the same temperature as the controlled fermentation temperature with no variation.



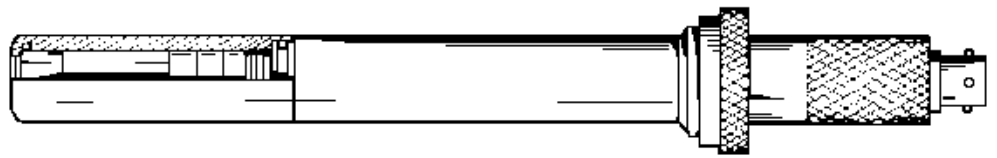
pHoenix Electrode Sales CC ! P.O. Box 5487 ! Cresta ! 2118  
Tel. (011) 792 1210 ! Fax. (011) 793 6863 ! e-mail. sales@ph.co.za

**Type 07**

19mm socket flange  
19mm dia.

**Type 05**

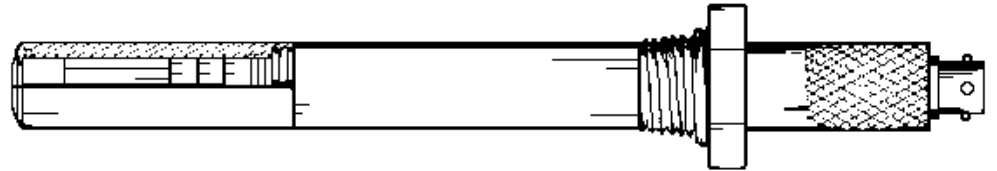
M18 x 1.5  
16mm dia.

**Type 03**

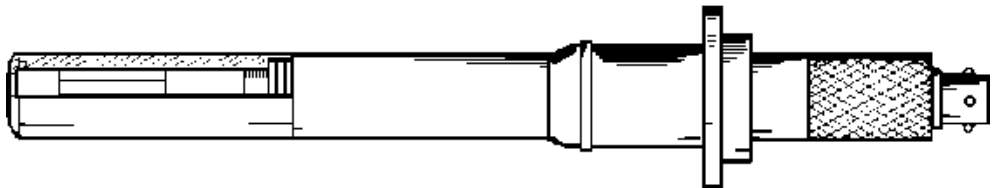
3/4" NPT - 19mm dia.

**Type 01**

3/8" NPT - 14mm dia.

**Type 08**

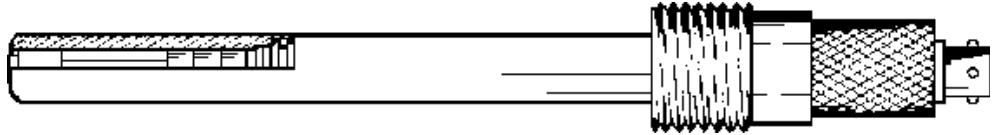
25mm socket flange  
19mm dia.

**Type 10**

No thread - 12mm dia.

**Type 11**

PG 13.5 - 12mm dia.

**SPECIFICATIONS**

TYPE	025IP25 Polarographic	025IP26 Polarographic	025IP27 Polarographic	025BG25 Galvanic	025NG25 Galvanic
CATHODE	Pt	Pt	Pt	Ag	Pt
ANODE	Ag/AgCl	Ag/AgCl	Ag/AgCl	Pb	Pb
RESPONSE	98% 60 Secs.	98% 60 Secs.	98% 60 Secs.	98% 60 Secs.	98% 60 Secs.
STABILITY <sub>1</sub>	< 2%	< 2%	< 2%	< 2%	< 2%
TEMPERATURE COMPENSATION	NO	YES	YES	NO	NO
TEMPERATURE RANGE	0~80°C	0~80°C	0~80°C	0~80°C	0~80°C
STERILIZATION TEMPERATURE	130°C	130°C	130°C	130°C	130°C
RESIDUAL SIGNAL	< 1nA	< 1nA	< 1nA	0.5~1mV	<0.4µA
OUTPUT <sub>2</sub>	50nA	50nA	50nA	35mV±10mV	10-15µA

1 = Constant temperature

2 = Medium Saturated with air.



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