Actose®

Active oxygen sensor

ARRDY

Actose® is an oxygen sensor used to measure active oxygen content of molten steel. It is a reliable online measurement of oxygen potential of molten metal thus providing the opportunity for better and faster process control

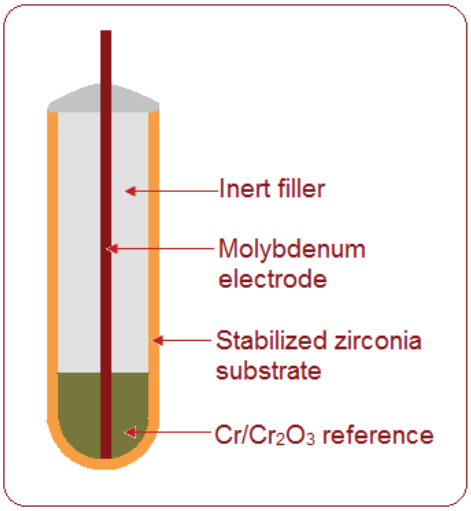
Actose® is based on a galvanic cell with a stabilized zirconia material as a solid electrolyte. The sensor comprises an reference electrode with a known oxygen potential to form one terminal of the galvanic cell. The other terminal is formed by the molten steel. Based on the oxygen potential difference between the molten steel and the reference material, an emf is generated between the two terminals of the galvanic cell as per Nernst Law. By measuring this emf, the oxygen content of the steel melt can be accurately determined.

Nernst equation:

$$EMF = \left(\frac{RT}{nF}\right) * ln \frac{a_{o2,steel}}{a_{o2,ref}}$$

where

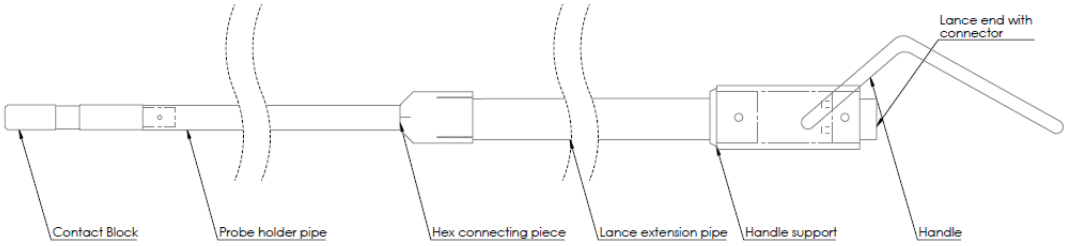
EMF = Electromotive force
R = Universal Gas Constant
T = Temperature
n = Number of Electrons Transported
F = Faraday's constant
$a_{o2,steel}$ = Oxygen activity of steel
$a_{o2,ref}$ = Oxygen activity of reference material



Actose® is manufactured by Ardee from basic raw materials using advanced manufacturing methods. Rigorous inspection procedures ensure consistency and reliability of the measurement.

Actose® is available with typeS, type B and type R thermocouples. In addition, Actose® for both high-level and low level applications can be provided. Different lengths of paper tubes in addition to standard lengths are available. Actose® sensors are compatible with all international makes of accessories and instruments as well as all automatic manipulators.

Full set of Actose® accessories required for accurate measurements are also provided including contact blocks, interior mineral insulated cables and exterior compensating cables. In addition, standard measurement accessories such as probe holder tube, lance tube, hexagonal connectors, lance end connectors and lance handles are also offered.



Ordering information

Actose® sensor ordering (Standard 18mm ID paper tube)

A	C	3	3		0		1		

1=type "S"
2=type "R"
3=type "B"

1=Actose® Lo
2=Actose® Hi

Tube Length in mm/100

Actose® accessories ordering (Standard 18mm ID paper tube)

L	N	3	3						

1=type "S"
2=type "R"
3=type "B"
0=none

00=fully assembled lance
01=lance pipe
02=extension pipe connector
03=extension pipe
04=lance handle
05=lance end connector
06=MI cable
07=exterior compensating cable
08=lance holder
09=end connector
10=contact block

Product length(cm)

ARRDY
Arrdy Engineering Innovations Pvt Ltd
B-30, Kalunga Industrial Estate
Kalunga, Odisha
India
Email: arrdy@arrdy.com | Website: www.arrdy.com