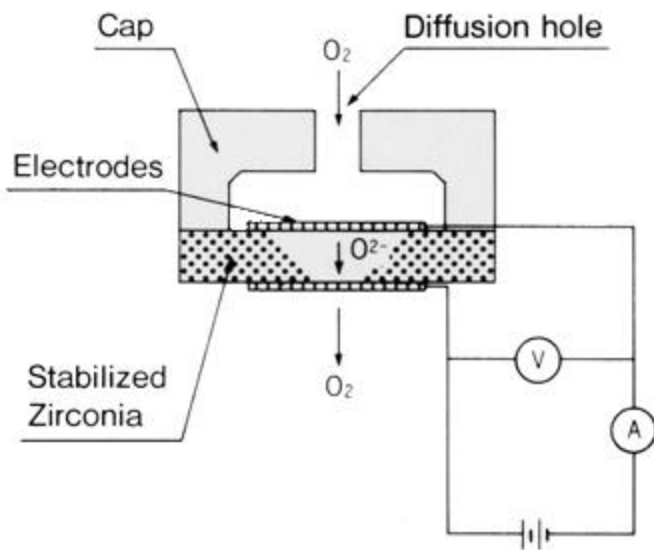


## Principle of PureAire Oxygen Sensor

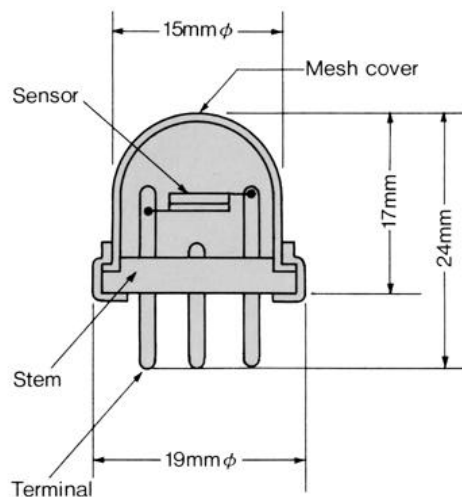


Schematic diagram of the sensor is shown in Fig. 1.

Zirconia electrolyte disc having electrodes on both sides has the ability to pass oxygen ions at high temperature. By attaching a cap with an aperture on one side (cathode) of the disc, the gas diffusion is limited and the saturated current is observed (fig. 2).

It is termed "limiting current". The limiting current is proportional to the ambient oxygen concentration as shown in Fig. 3.

**Fig. 1 Schematic diagram of the sensor** Fig. 4 shows the structure of the sensor.



**Fig. 4 Structure of the sensor**

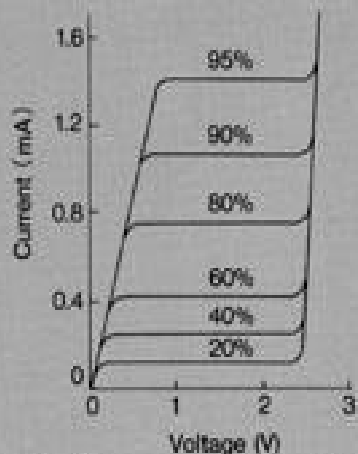


Fig. 2 Limiting current characteristics

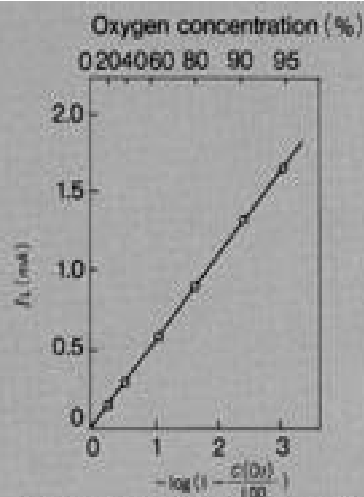


Fig. 3 Output characteristics

## Operation years vs. Output current

