



## **OXYGEN** Application

### **O<sub>2</sub> APPLICATION**

Oxygen (O<sub>2</sub>) is an active, life-sustaining component of the atmosphere: making up 20.94%. It is colorless, odorless and tasteless. Oxygen is commonly used, with or instead of air, to increase the amount of oxygen available for combustion or biological activity. This increases reaction rates and leads to greater throughput in existing equipment and smaller sizes for new equipment.

Oxygen has numerous uses in steelmaking and other metals refining and fabrication processes, in chemicals, pharmaceuticals, petroleum processing, glass and ceramic manufacture, and pulp and paper manufacture. It is used for environmental protection in municipal and industrial effluent treatment plants and facilities. Oxygen also has numerous uses in healthcare, both in hospitals, outpatient treatment centers and home use. For some uses, such as effluent treatment and pulp and paper bleaching, oxygen is converted to ozone (O<sub>3</sub>), an even more reactive form, to enhance the rate of reaction and to ensure the fullest possible oxidation of undesired compounds.



#### **Ozone Generation**

Oxygen (O<sub>2</sub>) and Ozone (O<sub>3</sub>) are gaining wide acceptance in water treatment. There has been rapid development in both the methods of reliably producing low cost oxygen and ozone and applying them to water treatment problems.

By using oxygen as feed gas instead of air, the ozone generator's efficiency will significantly increase and the risk of HNO<sub>3</sub> formation will be reduced. Application of ozone in water treatment includes the destruction or removal of: complex organic molecules, cyanides and phenols from chemical waste, etc. Ozone is also used extensively in industry in oxidation processes and for disinfection purposes.

