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First edition
2008-07-01

Hydrogen generators using water electrolysis process —

Part 1: Industrial and commercial applications

Générateurs d'hydrogène utilisant le procédé de l'électrolyse de l'eau —
Partie 1: Applications industrielles et commerciales



Reference number
ISO 22734-1:2008(E)

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Published in Switzerland

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Foreword

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ISO 22734-1 was prepared by Technical Committee ISO/TC 197, *Hydrogen technologies*.

ISO 22734 consists of the following parts, under the general title *Hydrogen generators using water electrolysis process*:

- *Part 1: Industrial and commercial applications*
- *Part 2: Residential applications*

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0 Introduction

0.1 Electrolysis Technology

In an electrolyser cell, electricity causes dissociation of water into hydrogen and oxygen molecules. An electric current is passed between two electrodes separated by a conductive electrolyte or "ion transport medium", producing hydrogen at the negative electrode (cathode) and oxygen at the positive electrode (anode). As water is H_2O , twice the volume of hydrogen is produced over oxygen. Hydrogen gas produced using electrolysis technology can be utilized immediately or stored for later use.

The cell(s), and electrical, gas processing, ventilation, cooling and monitoring equipment and controls are contained within the hydrogen generator enclosure. Gas compression and feed water conditioning and auxiliary equipment may also be included.