

High-Efficiency Oxygen Plant with the Flexible Oxygen Supply System

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Synopsis :

No.12 oxygen plant started operations at Chiba Works for the purpose of stabilizing the supply of oxygen, reducing power consumption, producing argon efficiently and renewing old oxygen plants. New techniques such as flexible oxygen supply system and remote computer control system were adopted. Especially, the flexible oxygen supply system was introduced into steel works for the first time in Japan. This system enables the oxygen production rate to change widely by repeating liquefaction and vaporization of oxygen, and it leads to minimizing oxygen venting for many variations of the time-changing oxygen demand. This plant started commercial operation in March 1992, and it achieves 0.391 kW h/m<sup>3</sup>-h

# 酸素ガス需要変動吸収装置を有する高効率 酸素プラント\*

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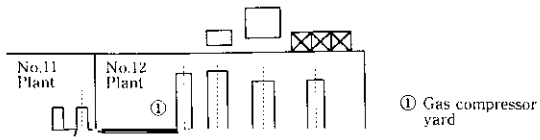
## Oxygen Supply System

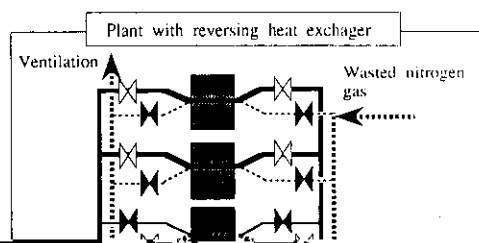
### 要旨

2 プラント導入の経緯と背景

3 酸素製造設備

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に酸素ガスを液化貯蔵し、逆に不足時に貯蔵された液化酸素を気化送給するものである。

空気液化分離器は酸素ガス製造  $26\,000\text{ m}^3\text{-norm/h}$  で一定負荷の運転を継続する。液化酸素緩衝貯槽より、この分離器の主凝縮器へ常に一定量  $5\,000\text{ m}^3\text{-norm/h}$  の液化酸素を注入、気化させ、製品酸素ガスとともに器外へ送給する。すなわち、分離器から発生した後、酸素圧縮機で圧送される酸素量は  $31\,000\text{ m}^3\text{-norm/h}$  で一定と

ができる。

Iron & steel

Energy center

Operetar station

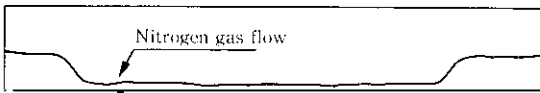


Table 2 Air separation unit test results

	No. 12 plant	No. 11
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