

AIR SEPARATION UNIT

[Document Name] ABSTRACT

[Summary]

[Problem] To provide an air separation unit which generates cold by expanding oxygen gas separated from air, wherein a heat balance can be maintained without a drop in rare gas and nitrogen recovery rates, by using a nitrogen turbine to supply cold needed for the production of product oxygen or a liquid product such as liquid nitrogen or liquid argon.

[Solution] An air separation unit comprises: a main heat exchanger 1, a medium-pressure rectification column 2, a low-pressure rectification column 4, a crude argon column 5, a nitrogen condenser 3, a crude argon condenser 6, an oxygen turbine 9, a nitrogen compressor 10, and a nitrogen turbine 8. The nitrogen turbine 8 expands nitrogen gas supplied from the nitrogen compressor 10. The air separation unit is characterized in that an inlet temperature of the oxygen turbine 9 is lower than an inlet temperature of the nitrogen turbine 8.

[Fig. 1]