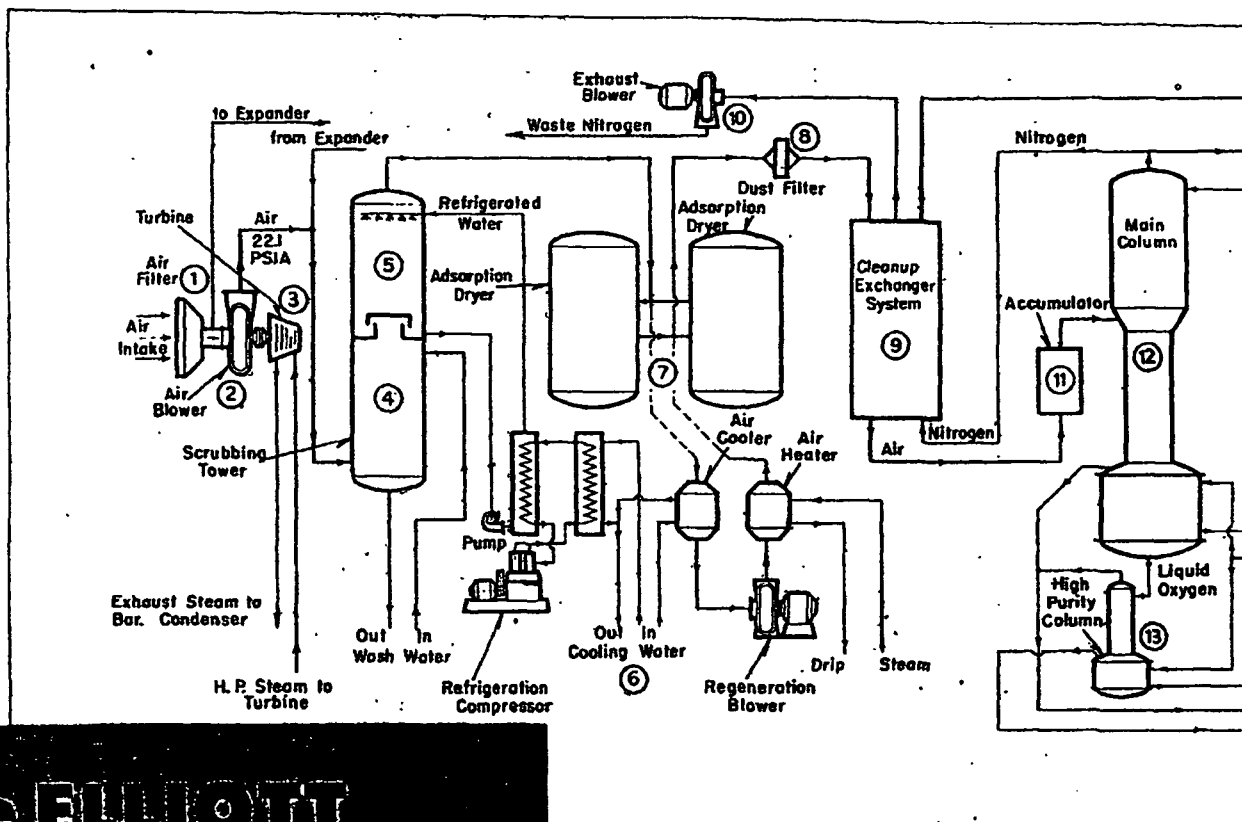




the ELLIOTT OXYGEN SYSTEM

How it works

Description of cycle

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● In an article in the Summer 1948 *Powerfax* the new Elliott oxygen process was unveiled. The general principle of the cycle was described, its features and advantages enumerated, and the successful operation of a pilot plant was cited as proof of the practicality of the design.

The Elliott cycle is an atmospheric pressure air distillation system, combined with a nitrogen liquefaction and refrigeration system in such a manner as to provide a unique combination of features and an unusual degree of safety and flexibility in the operation of the plant.

The following features are enumerated and further described herein:

1. The plant is not subjected to the necessity for periodic shutdowns for deriming.

2. The system is completely immune to possible dangers of acetylene explosions.

3. The system operates at reduced loads without sacrifice of efficiency.

4. The system is mechanically simplified.

5. All controls are automatic. They can be set to maintain constant purity over the entire range of operating conditions, or the purity can be varied at will by a simple adjustment.

6. The recovery of oxygen from the air charged to the system is over 97 per cent. The nitrogen leaving the process is over 99.5 per cent pure.

7. Oxygen of any purity can be made.

8. A plant designed for 95 per cent purity can also simultaneously produce 99.5 per cent welding grade oxygen in quantities as required for this purpose.

The simplified flow diagram, shown, is for a plant designed to produce approximately 114 tons per day of 95 per cent purity gaseous oxygen, plus