

# DRY AIR...

## PRECISELY as you want it

- ▶ to control your product's quality
- ▶ to prevent condensation on your product or material
- ▶ to prevent changes due to moist air in contact with your product
- ▶ to protect your material from dampness
- ▶ to protect your processing of moisture-sensitive material
- ▶ to DRY your material or product
- ▶ to pack or store your product safe from moisture damage
- ▶ to get exact moisture control for the precise atmosphere condition you need
- ▶ to provide precise atmospheric conditions for testing
- ▶ to increase your air conditioning capacity
- ▶ to DRY large quantities of fresh air from outdoors

### **The Niagara's Controlled Humidity Method using HYGROL moisture-absorbent liquid is**

**Best and most effective because...** it removes moisture as a separate function from cooling or heating and so gives a precise result constantly and always.

**Most reliable because...** the absorbent is continuously reconcentrated automatically. No moisture-sensitive instruments are required to control your conditions.

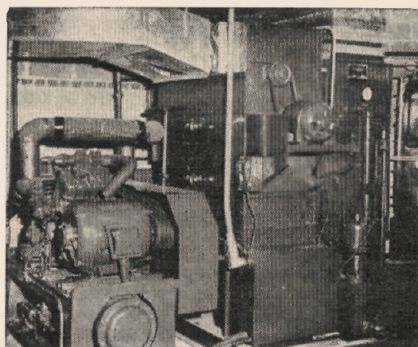
**Most flexible because...** you can obtain any condition at will and hold it as long as you wish in either continuous production, testing or storage.

**Easiest to take care of because...** the apparatus is simple, parts are accessible, controls are trustworthy.

**The cleanest because...** no solids, salts or solutions of solids are used and there are no corrosive or reactive substances.

This method removes moisture from air by contact with a liquid in a small spray chamber. The liquid spray contact temperature and the absorbent concentration, factors that are easily and positively controlled, determine exactly the amount

of moisture remaining in the leaving air. Heating or cooling is done as a separate function.



AT THE  
**CHEMICAL SHOW**  
26th EXPOSITION OF CHEMICAL INDUSTRIES  
Coliseum, New York City, December 2 - 6, 1957  
See NIAGARA...  
AIR CONDITIONERS • Aero HEAT EXCHANGERS  
Aero AFTER COOLERS • Aero REFRIGERANT  
CONDENSERS • Aero STEAM CONDENSERS  
Aero VAPOR CONDENSERS • HUMIDIFIERS  
HEATERS • COOLERS • DRYERS  
BOOTH No. 655

*Write for full information; ask for Bulletins 112 and 121. Address Dept. EC*

## **NIAGARA BLOWER COMPANY**

**405 Lexington Ave., New York 17, N. Y.**

*District Engineers in Principal Cities of U. S. and Canada*

For further information, circle number 26 A on Readers' Service Card, page 101 A

## **IEC REPORTS**

it picks up hydrogen chloride. Dissolved HCl activates the catalyst (an aluminum chloride-hydrocarbon complex).

Naphtha now enters the reactor at 200° to 250° F. and 700 to 850 p.s.i., along with 60 to 100 cubic feet of hydrogen per barrel (to suppress cracking and catalyst contamination). Reactor effluent is cooled and flashed into a settler where entrained catalyst is separated.

The liquid product is then stripped of hydrogen chloride, cooled, washed, and stabilized. Gases from the settler and stripper, along with some make-up hydrogen chloride, are recycled to the absorber where HCl is redissolved. Excess hydrogen which passes through the absorber can be used either for fuel or for hydrogenation.

The once-through product from the Isomate process is a high octane light naphtha ready for use in blending premium motor fuels. The pentane fraction rates about 103 octane (3 cc. of TEL) and the hexane fraction about 94. Combined final product octane runs from 96 to 98.

When a further octane increase is desired, the once-through product is fractionated and the low octane hexane isomers are recycled. Higher octanes can also be obtained by fractionating and recycling *n*-pentane from the overhead product of any primary fractionator. It is possible to make products which range up to 106 octane number.

W.S.F.

## **Brine Purifies Brines**

**In the osmionic cell, differences in salt concentration provide the power source**

**P**ERMSELECTIVE membrane processes for purifying salt waters make up one of the most promising areas screened for development in the Government's saline water conversion program. One of these processes, "osmionic demineralization," requires no electricity. It makes use of osmotic pressure to move ions

*(Continued on page 28 A)*