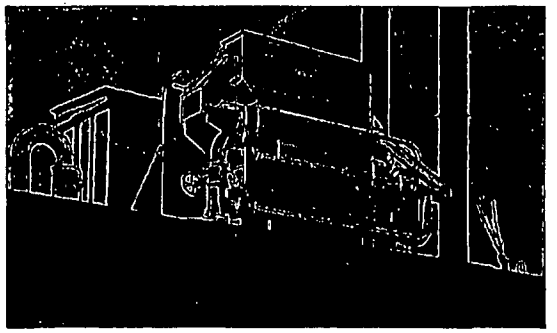
Direct saving of cooling water expense returns to you the cost of a Niagara Aero After Cooler in less than two years.



How to Get Drier Compressed Air:

It prevents many troubles and saves much expense

● NIAGARA AERO AFTER COOLER cools compressed air or gas below the temperature of the surrounding atmosphere. Therefore you get no further condensation in your lines. You save much in repairs to pneumatic tools and equipment; you save much interruption to production; you save water damage in paint spraying, in air cleaning, in any process where compressed air comes in contact with your materials or parts in manufacturing (sand blasting, for example).

Niagara Aero After Cooler uses evaporative cooling, saving 95% of your cooling water consumption. This saving quickly returns the cost of the equipment to the owner or makes extra cooling water available for other processes.

The Niagara Aero After Cooler produces compressed air with 30% to 50% less moisture than by ordinary cooling methods. Other Niagara equipment provides bone-dry air for processes requiring it.

If you have an air problem or a cooling problem, a Niagara engineer probably has an answer that will improve your process or save you operating or maintenance expense.

Write for Bulletin 98

NIAGARA BLOWER COMPANY

Over 35 Years Service in Industrial Air Engineering

Dept. P, 405 Lexington Ave. New York 17, N. Y.

Experienced District Engineers in All Principal Cities of U. S. and Canada

WATER TREATMENT

Continued from page 228

daily testing for alkalinity and chloride concentrations can best govern amount of blowdown.

In any case, carry out the control of your boiler-water conditioning under the constant surveillance of a competent chemical engineer in this field. At regular intervals, samples of the raw water, feedwater, boiler water, condensed steam and returns need complete analysis. A study of these analyses along with current plant operational data should then be the basis for supervisory recommendations.

Boiler Openings. No treatment, however tried and proved, should be employed any length of time following its adoption without periodic checkups. Take down the boiler for at least two inspections during first six months of trial. Then, with satisfactory internal conditions established, the openings can possibly be extended to a mid-year washing out and an annual thorough cleaning. If the unit is undergoing descaling, it has to be cleaned at short intervals. The frequency depends on the initial state of scale and the progressive improved stages observed thereafter.

EDITOR'S NOTE: *In another article to follow, the subject of water treatment for packaged watertube boilers will be discussed.*

GAS TURBINE

Continued from page 64

the generator. Air compresses to a 5.5 pressure ratio, and turbine-inlet temperature is designed for 1450 F maximum. An evaporative cooler or air washer humidifies the air ahead of the compressor inlet. At air conditions of 100-F dry bulb and 78-F wet bulb the inlet air cools 20 F, and raises unit capacity by 450 kw. This incremental capacity is obtained at a cost of about $20 per kw.

The shell-and-tube type regenerator has a design effectiveness of 80%. Total pressure drop of both air and gas sides equals 5% of the absolute pressure. Set in a vertical position, the regenerator supports the exhaust stack on its upper end.

A cooling tower dissipates the heat rejected by the lube-oil system and the turbine cooling-water system. It has a cooling range of 105 to 95 F at 78-F wet bulb for 500-gpm capacity. A 5-hp motor drives the cooling-tower fan through a V-belt.

Some difficulties have been experienced since the gas turbine was in-



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