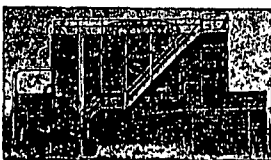


They Bought This UNITED COOLING TOWER



To Overcome Their Icing Troubles



Excessive winter icing conditions from an existing tower of another make led to the design and installation of this United Cooling Tower.

Built for an Iowa public utility, it features a heated air intake, utilizing hot water distributed through spray nozzles into the incoming air.

Result:—more moisture absorption, minimum drift, water loss and freezing.

This is an example of how United designs towers . . . without rigid standardization . . . to solve your individual water cooling problems. Write us for details.

United Towers for Air Conditioning



A good cooling tower is the best protection for a good air conditioning system. The United tower on the left, a 1600 G.P.M. low head tower with sprinkler distribution, serves the air conditioning system of a southwestern railroad station. United also builds redwood filled, mechanical draft steel towers, 3 to 15 tons, and package type redwood spray towers, 3 to 30 tons.

UNITED COOLING TOWER COMPANY

4022 Broadway, Kansas City 2, Mo. Plant: Pilot Point, Texas

Authorized Representatives in Principal Cities

UNITED

COOLING TOWERS

More TECHNICAL BRIEFS

method of calibration involved a considerable number of individual temperature deflections in an electro-optical system for a given crank angle. The average temperature deflection then was plotted against the temperature as found by the so-called sodium "D" line universal method. The following conclusions were advanced:

- (1) Individual temperature crank angle cycles may be photographed. This makes it possible to study temperature variation from cycle to cycle, and to determine maximum and minimum peak cycle temperatures.
- (2) As evidenced by performance on different fuels, the results were free of the effects of chemi-luminescence.
- (3) Because the method reports individual cycles, average cylinder temperatures must be determined from a great number of randomly selected cycles.
- (4) As this is not a primary method, the calibration must be undertaken with great care. Allowance must be made for variation of emissivity, for the geometry of the optical system, and for the concentration of the alkaline salt. ASME Paper No. 53-S-46.

Directions for ordering papers on p. 152

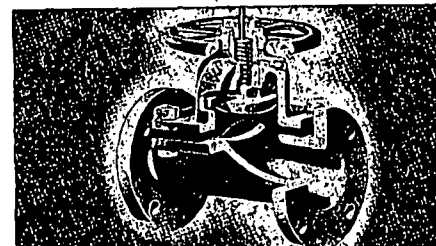
Economic and Design Considerations for Large Power Plant Stacks. By H. L. von Hohenstein and R. H. Kent, Consolidated Gas Electric Light and Power Co.

With the range of fuels, the amount of excess air, allowance for air leakage, estimates of gas temperature and the maximum cfm of flue gas per boiler determined, we start out by making an estimate of the approximate stack dimensions.

Until recently, the stack diameter was chosen to give a minimum practical friction loss. In many cases this resulted in a stack velocity of the order of 50 fpm. With the necessity for higher and higher stacks in order to achieve proper dispersion of the combustion products, the designer will find that friction loss is no longer the proper criterion for selection of the optimum diameter. To get reasonable relations between stack diameter and height for structural considerations, he will have to choose a much larger diameter which, in turn, will reduce materially the flue gas velocity through the stack barrel. To provide the necessary emission velocity, nozzles may be introduced at top of stack.

ABOUT "TEFLON"

How valve components of Du Pont "Teflon" are giving improved performance at less cost



VALVE DIAPHRAGMS demonstrate the chemical inertness and thermal stability of Du Pont "Teflon." This diaphragm of pure "Teflon," above, was designed for continuous operating pressures of 100 psi and temperatures of 400°F. The valve is made by Hills-McCanna Co., Chicago.

Du Pont "Teflon" tetrafluoroethylene resin has found increasing use as a material for valve components—packing, packings, seats and discs, plug valve parts and diaphragms. It provides a unique combination of properties of particular interest to manufacturers and users of valves.

CHEMICAL INERTNESS. "Teflon" is completely unaffected by acids, alkalis, aliphatics, aromatics, chlorinated hydrocarbons . . . all chemicals except molten alkali metals and fluorine at elevated temperatures.

HEAT RESISTANCE. Gives continuous service up to 500°F.

LOW-TEMPERATURE TOUGHNESS. Has been used as low as -460°F.

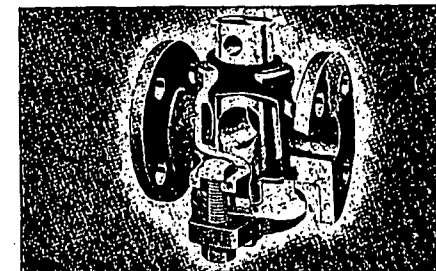
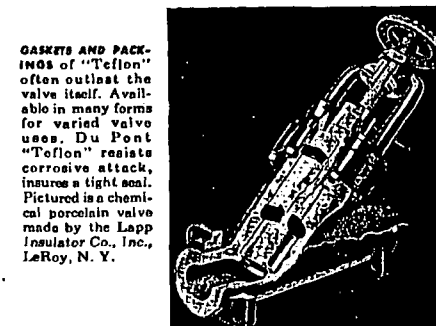
LOW COEFFICIENT OF FRICTION. Lets the valve operate easily. Requires no lubrication.

EROSION RESISTANCE. Resists erosion by impinging fluids.

Valves with components of Du Pont "Teflon" are especially useful to manufacturers of: chemicals, fertilizers, petroleum, soap, chlorine, foods, plastics, dyes, insecticides, rubber, textiles, explosives, pharmaceuticals, photographic film.

The Polychemicals Department of the Du Pont Company supplies "Teflon" in the forms of molding powders and aqueous dispersions. These forms are converted into various valve components and molded articles by a number of manufacturers for use in chemical and allied equipment. For further information write: E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 2611, Du Pont Building, Wilmington 98, Delaware.

*Reg. U.S. Pat. Off.



PLUG VALVE COMPONENTS (seals and cock washers) utilize the low coefficient of friction and non-adhesive characteristics of "Teflon." They prevent sticking or freezing in the valve body, often simplify design, give excellent results. The valve above is made by The Duriron Co., Inc., Dayton, O.