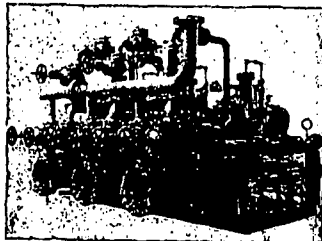


LOCKETT FUEL OIL PUMPING AND HEATING SETS



The compact, high-pressure Unit shown consists of one Turbine-driven and two Motor-driven Pumps, and three Shell-and-tube-type Oil Heaters mounted on a single frame. This Unit is designed to handle a capacity of 30,000 pounds per hour of bunker fuel oil against 400 P.S.I.

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For almost a half century, Lockett has been supplying, to fit individual needs, efficient standard and custom-built, Fuel Oil Pumping and Heating Sets, for mechanical and steam atomizing oil burners. Combinations of various types of pumps are available: Either two Turbine-driven Pumps; one Electric-driven and one Turbine-driven Rotary Pump; two Electric-driven Rotary Pumps; two Worthington Duplex Steam Pumps; or one Duplex Steam Pump and one Electric-driven Pump. Each pump-and-heater is suitable for the full rated capacity of the unit; the second pump and heater are spares. Lockett supplies everything, complete. Inquiries are invited. Descriptive bulletins sent on request.

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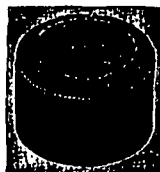
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More TECHNICAL BRIEFS

Three types of stack construction are considered by the authors. First, self-supporting steel stacks with gunite lining; second, reinforced concrete stacks with independent brick lining; third, brick stacks with independent brick lining. Costs for the first type usually will have to be worked out by the designer while costs for concrete and brick stacks will have to be obtained from stack construction companies. In order to get a sufficient number of points for plotting, it will be advisable to design stacks for the preliminary height as well as for stacks 50 or more ft higher and, possibly, 50 ft lower. To get an economic analysis, foundations for all of these cases will have to be worked out and then the results plotted in the form of curves. Beside the initial cost, possible maintenance costs must be considered.

The choice of outlet velocity has to be influenced to a large degree by economic considerations. On the basis of accepting 60 fpm as an absolute minimum, incremental costs for various outlet velocities and two or three different stack heights should be computed. Taking capitalized Energy Cost, Capacity Charge, Cost of Fan, and Cost of Motor into consideration, we see that the higher outlet velocities form a sizable investment. APCA Paper, no number.

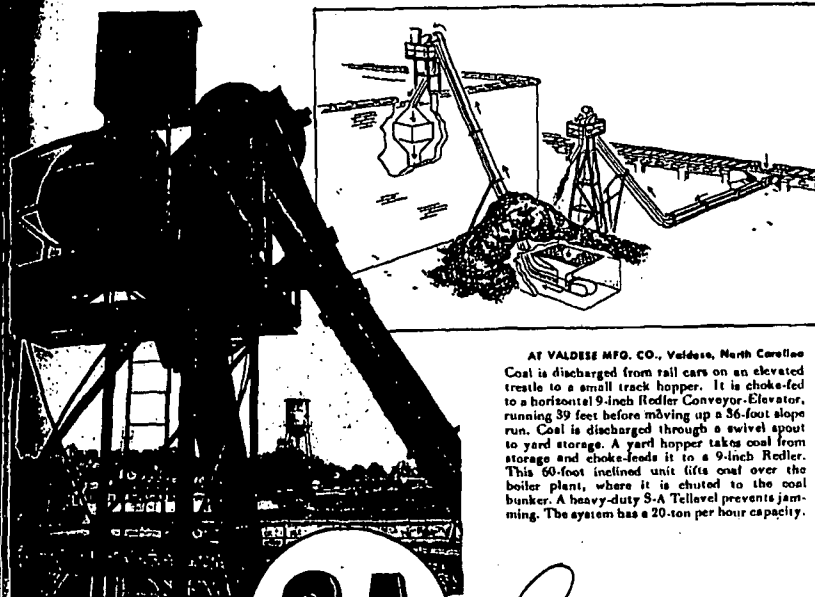
Directions for ordering papers on p 152

Some Problems Encountered in Sampling Open Hearth Stacks. By J R Smith, C L Rounds and H J Marx, Kaiser Steel Corp.

A number of problems encountered in open hearth sampling are caused by conditions inherent in basic open hearth furnace operations. A summary of some of these conditions is presented and a description of a typical sampling procedure, pointing out the specific problems introduced by these conditions, is given.

Stack conditions are as follows:

- (1) The moisture content of the open hearth stack gases is about 7-8% by volume with a dew point in the neighborhood of 100 F. This necessitates heating portions of the sampling train to prevent undesired condensation in the equipment.
- (2) Temperatures in the stack at the sampling point, are approximately 1100 F without a waste heat boiler, and approximately 500 F with a waste heat boiler. This necessitates selection of equipment to withstand thermal failure.
- (3) The presence of an oxidizing



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