

Tubes

straight

or bent

BOILER TUBE CO. OF AMERICA

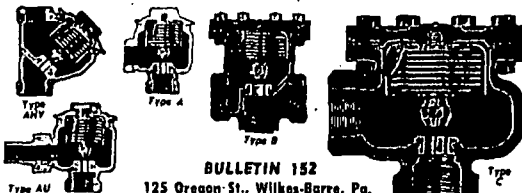
McKEES ROCKS, PA.

(Pittsburgh District)

PITTSBURGH • CHICAGO • FRED S. RENAULT & CO., LOS ANGELES

NICHOLSON TRAPS SAVE CAR OF COAL WEEKLY for This Large Steam User

Following replacement of all steam traps of various makes, with Nicholson units, an Eastern college reports:—"An average coal saving of 1 carload per week besides much better heat distribution". Credit is given the higher and more even temperatures which Nicholson traps effect. See why large industrial and institutional steam users are increasingly standardizing on Nicholsons. 5 types; for heat, power, process; sizes 1/2" to 2"; pressures to 250 lbs.



BULLETIN 152
125 Oregon St., Wilkes-Barre, Pa.

W.H. NICHOLSON & CO.
TRAPS • VALVES • FLOATS

More TECHNICAL BRIEFS

2. They are so flexible that there are few applications that cannot be handled by them.
 3. Their high performance accuracy makes them an ideal drive for continuous industrial processes.
 4. Their high speed of response makes them suitable for high-speed manufacturing methods.
 5. Their wide range of speed and horsepower covers most industrial needs.
 6. Their overall efficiency is as good or better than other drives.
 7. Because of the absence of rotating machinery they require little maintenance.
 8. Due to their flexibility and adaptability they can be used on most applications at moderate cost.
- These features of the electronic packaged drives put them in good position when compared with others. In general it has been found that the use of an electronic drive increases the processing speed and improves the manufactured product. AIEE conference paper. Can be obtained from the author.

Directions for ordering papers on p 154

Packaged-Drive Design Problems. By E. H. Vedder, Westinghouse Electric Corp., Buffalo, N. Y.

The trend toward packaged adjustable-speed drives is increasing because of the many advantages they offer to machine builders and users. A packaged drive is easier to install because the many parts previously shipped separately are now factory assembled in a metal cabinet and tested. Drives that use motor-generator sets for power conversion in ratings up to 300 hp are considered in this paper. Ratings of these drives follow the same steps as do motors. Only seven sizes of cabinets are required to package drives of 1 to 200 hp. However, the control functions which must be provided for are staggering. For example, about 1000 drive designs are needed to cover ratings from 1 to 30 hp. 250, 400 and 575 v. 60 cycles.

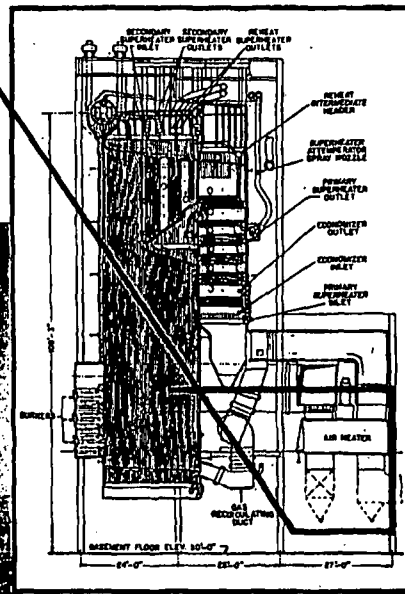
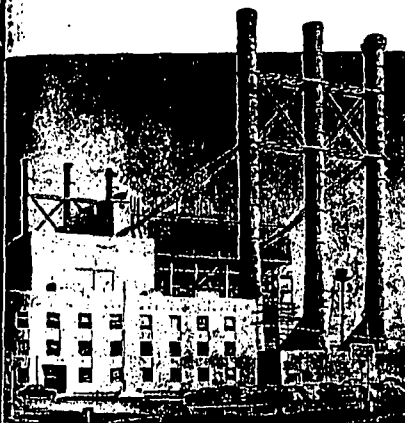
A few simple principles should be followed in applying and designing packaged drives. These are:

1. Packaging is not a necessity. Unless there is an overall advantage to the purchaser the drive should not be packaged.
2. Engineering design cost tends to be higher on complex packaged drives than on non-packaged equipment.
3. Drive designers must not be handicapped by the purchaser insisting on a specific solution to a problem merely

All Boilers at Moss Landing Steam Plant of the Pacific Gas and Electric Company

equipped with

LJUNGSTROM AIR PREHEATERS



to the country's largest single utility expansion program, costing more than one billion dollars, Pacific Gas and Electric Company is boosting its power capacity by more than 1,500,000 kilowatts. One of the five steam power plants in the program is P. G. and E.'s Moss Landing Steam Plant, designed and constructed by Stone & Webster Engineering Corporation, under the supervision of the P. G. and E. Engineering Department.

Three of a projected five 100,000-kw turbines are in operation now at Moss Landing. Steam for each of these three turbines is supplied by two 475,000 pounds of steam per hour Babcock & Wilcox Radiant Boilers with superheater outlet conditions of 1405 psi and 950 F. The two turbines yet to be installed will each be powered by one B&W reheat

boiler (illustrated), designed to generate 850,000 lb of steam per hr at 1450 psi and 1000 F, reheated to 1000 F.

Each of the boilers at Moss Landing has been designed to incorporate a Ljungstrom Air Preheater. Those now in use preheat incoming air to 575 F, and cool exit gases to 350 F. Ljungstroms will be used also for the boilers being built.

Moss Landing is another in a long series of new stations and expansions to existing stations where Ljungstrom Air Preheaters have been specified for high-performance steam generating units. The unanimity with which the Ljungstrom has been accepted by boiler manufacturers, consulting engineers, and power companies is demonstrated by the fact that over 285,000,000 pounds per hour of steam capacity since 1945 has been served by Ljungstrom Air Preheaters.

THE Air Preheater Corporation 60 East 42nd St., New York 17, N. Y.