

BIDDLE Instrument News



MEGGER INSULATION
RESISTANCE TESTERS



FRAHM RESONANT REED
FREQUENCY METERS
& TACHOMETERS



"TIR" TRANSFORMER
TURN RATIO TEST SET



BRIDGE-MEG
INSULATION TESTER AND
WHEATSTONE BRIDGE



MEGGER
LOW RESISTANCE
OHMMETER



MIDGET MEGGER
CIRCUIT TESTING
OHMMETER



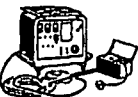
DUCIER
LOW RESISTANCE
OHMMETER



JAGABI TACHOSCOPE



JAGABI TACHOMETERS
& SPEED INDICATORS



BIDDLE IMPULSE
CABLE FAULT LOCATOR



MEG-TYPE
MEGGER
INSULATION
TESTER



MINIATURE FRAHM
RESONANT REED HAND
TACHOMETER

...helpful to Power and Plant Engineers

We are constantly publishing new technical bulletins on Biddle Instruments. Generously illustrated with photographs and charts, they contain much helpful information for the practical man in power and plant engineering, and preventive maintenance. A complete list of our newest bulletins will be mailed. Just fill out and return the coupon below for BULLETIN 1900-P.

JAMES G. BIDDLE CO.

ELECTRICAL TESTING INSTRUMENTS

SPEED MEASURING INSTRUMENTS

LABORATORY & SCIENTIFIC EQUIPMENT

1316 ARCH STREET, PHILADELPHIA 7, PA.

James G. Biddle Co.
1316 Arch St., Phila. 7, Pa.
Gentlemen:

Please send me list of newest Biddle literature: ☐ 1900-P.

NAME _____

JOB POSITION _____

COMPANY _____

ADDRESS _____

More TECHNICAL BRIEFS

cents/mcf, it is estimated that the pressed air cost for the production of pulverized coal analyzing 60% 200 U.S. Sieve is approximately $(.005 \times (2000) \times (13.08) \times (1.2) / 1000)$ or cents/ton. This is comparable to the cost of electricity in the operation of ball mills, normally ranging from 16 to 22 cents/ton coal pulverized, based on an electrical energy cost of 0.1 cent/kilowatt-hour. APC Paper, no number.

Directions for ordering papers on p. 166

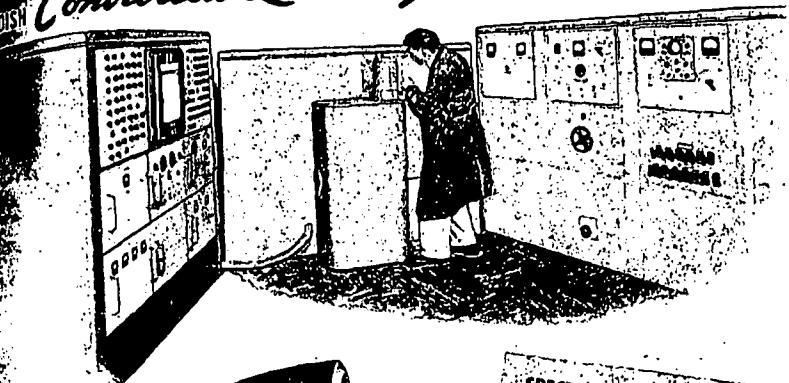
The Paper Mill Power Plant. By H. C. Austin.

The paper industry consists of 10 paper mills and 255 pulp mills scattered throughout the United States and has a combined capacity of about 24,000,000 tons of paper per year. The products range from lightweight tissues to heavy container boards with each type, weight and grade having specific steam and power requirements. A small mill may have a steam consumption of 20,000 lbs per hr and a power demand of 1000 kw, while steam usage in the large mills may average 500,000 lbs per hr with power demands over 25,000 kw.

Demands for low pressure steam are heavy so the average paper and pulp mill has the opportunity to economically generate all or part of its electrical requirements. It is on this basis that almost every power plant in the industry is designed. Paper mills built 25 to 50 years ago were able to obtain this balance with 150 or 200 psi saturated steam. But, as drying pressures were raised and electrical demands increased, higher initial steam pressures and temperatures became necessary. As an alternate to installing new higher pressure boilers and turbines, many mills turned to purchased power. Consequently, the average paper mill generates steam at two or sometimes three pressures, produces part of its power on back pressure or extraction turbines and purchases the balance of its requirements. Furthermore, as steam and power loads are always on the increase, the average power plant seldom has reserve capacity.

The successful operation of a power plant in the paper industry not only involves good operating practices but requires a complete knowledge of the processes in the paper mill itself. We find that it is usually up to the power engineer to check steam and power usage, initiate changes in processes or recommend new equipment in the mill which will maintain a heat balance or alleviate a steam or power shortage. (Continued on page 232)

Controlled Quality ASSURES METALLURGICAL SOUNDNESS



SPECTROGRAPHIC ANALYSIS
One of many comprehensive
Ladish laboratory test pro-
cedures for assuring reliable
performance.



TO MARK PROGRESS

**Ladish measures the
spectrum to verify
chemical composition**

Metallurgical integrity—is safeguarded at Ladish by unsurpassed laboratory controls. Typical is this advanced electronic direct-reading spectrograph. On this unit as many as 300 determinations have been made in one hour to verify compliance of each mill heat with exacting Ladish specifications and, equally important, to assure the absence of detrimental "tramp" elements. Here is but one indication of the thorough, scientific procedures that assure reliability in every Ladish Controlled Quality fitting.

