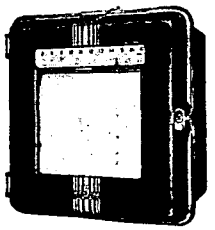
Leeds & Northrup Company

General Office and Works: 4941 Stenton Avenue, **Philadelphia, Pa.**

Branch Offices:

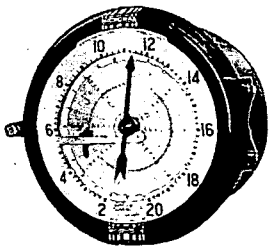
BOSTON, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, HARTFORD, HOUSTON, LOS ANGELES, NEW YORK, PITTSBURGH, ST. LOUIS, SAN FRANCISCO, TULSA

RUGGED, NULL-TYPE INSTRUMENTS THAT ARE RELIABLE



Model S Micromax Recorder

Records from 1 to 16 points on a single strip-chart. Extremely open record. Can operate signals. (About 1/15th size)



Model R Micromax Recorder

Records 1 or 2 points on a round-chart. Has extremely readable dial. Can operate signals. (About 1/15th size)



Switchboard Indicator

Hand-operated. Can be connected through selector switches to any number of points. (About 1/10th size)

Electrical Thermometers for Air Conditioning

No method for measuring temperatures fits the specific needs of air conditioning as does the three-lead null-type resistance thermometer method. It is independent of distance and disregards all temperatures except those right at detector locations. The detectors (resistance thermometer bulbs called Thermohms), can be placed anywhere—in rooms, air ducts or water lines. They are connected by simple electrical wiring to instruments at a central location. Instruments may be: Micromax Recorders, Model S for up to sixteen Thermohms; Micromax Model R, for related pairs such as wet and dry bulb; indicators with switches for any number of Thermohms; or indicating and recording combinations.

This equipment is fundamentally reliable. Instruments and Thermohms are highly responsive, yet rugged in construction. A complete system is easy and economical to install, regardless of distances. It is easy to operate and demands minimum maintenance. Thermohms and instruments are interchangeable, and can be replaced without disturbing wiring or returning anything to the factory.

L&N Resistance Thermometers make it possible to operate efficiently; to maintain comfort or correct process atmosphere constantly . . . so that maximum return is realized on the conditioning investment.

Electrical Instruments for the Heating Plant

The facts needed to operate a modern heating plant so as to save fuel, to protect equipment, and to operate efficiently at varying loads are provided reliably by rugged L&N instruments. Readings can be indicated or recorded or both. Recorders can be equipped to operate signals or alarms that warn the operator of extreme conditions. In some cases the instruments control automatically.

Micromax Model S provides a permanent record of conditions at from 1 to 16 points on one wide-scale chart. Micromax Model R concentrates on conditions at one point, provides a permanent record, and has a giant indicating dial that can be read at a glance. The switchboard indicator provides intermittent checks on conditions at one or several points.

In the heating plant, L&N measuring, signalling or controlling equipment is used for:

Metermax Combustion Control.
Furnace Pressure Control.
Smoke Density Analysis.
Flue Gas Analysis (Percent CO_2).
Flue Gas Temperatures.
Steam and Water Temperatures.
Boiler-Furnace Temperatures.
Electrolytic Conductivity of Water.

The Liquidometer Corporation

38-16 Skillman Ave.

Long Island City, N. Y.

Tank Gauges, Liquid Level Controls
Remote Reading Thermometers

ADVANTAGES OF LIQUIDOMETER AND LEVELOMETER TANK GAUGES

(1) Accurate check on liquid deliveries and consumption provided. Correct inventory constantly available.

(2) Inaccurate and dangerous "gauge sticking" or "taping" methods eliminated.

(3) Tanks can be gauged without loss of pressure or vacuum.

(4) Overflowing of tanks—and consequent losses eliminated.

(5) Extra handling of liquids in many instances saved.

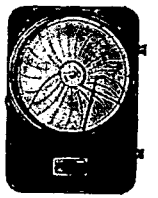
(6) Costly shut-downs due to lack of fuel prevented.

(7) Approved by Underwriters Laboratories for gauging hazardous liquids—fire and labor hazards cut down.

LIQUIDOMETER—THE 100% AUTOMATIC READING TANK GAUGE



Senior Liquidometer



Liquidometer Recorder

Liquidometers are self-contained. Large clock-faced dials provide completely automatic readings without the use of pumps, valves, electrical energy, or other outside source of power, and they are not affected by specific gravity differences.

They will gauge practically any liquid that will flow, light or heavy. Used on fuel oil tanks in residences, apartments, public buildings, industrial plants, U. S. Army and Navy air and water craft, on freight and passenger vessels, and for other liquid gauging requirements.

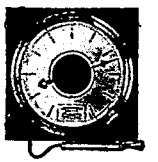
Direct Reading Models are used where remote reading is not required. On this type, the dial indicator is located on the tank itself, and a metallic bellows is used to seal the indicator from the tank, thus preventing escape of liquid, gas or pressure.

Models are available to automatically control pumps, motors, signals or other devices for maintaining desired minimum or maximum liquid levels.

LEVELOMETER TANK GAUGES (HYDROSTATIC)



Large Model Levelometer



Master Model Levelometer

Levelometers utilize the principle of hydrostatic balance between the head of liquid to be measured and a dial indicator—there is no liquid in the indicator to expand or contract and create error.

Dial indicators have large graduations and figures and, if desired, one dial indicator can be arranged to gauge a group of tanks.

In this instrument the tank liquid traps and compresses air in an "air chamber"—the pressure depends upon the height of liquid in the tank, and this pressure is transmitted through tubing to a metal bellows in the indicator unit; the slightest movement of the bellows operates the dial indicator. As air is required to insure correct readings, a manually operated pump is generally supplied, but, where compressed air is available, a valve may be substituted for the pump, thus providing a continuous reading gauge.

Levelometers are made in a number of different models to suit various tank capacities and desired dial calibrations. Models for tanks under pressure also are available.

We will welcome the opportunity to make recommendations for perplexing liquid level gauge problems.