

THERMTRONIX®

RATS™

(REDUCED ATMOSPHERE TESTING SYSTEM)



RATS™ Model 401
Size = 9" x 10" x 14"
230mm x 255mm x 355mm
Weight = 45 lbs. (20kg)

ALUMINUM POROSITY TESTER

RATS™ MODEL 401 reduced atmosphere testing system is a compact table top quality control system ideally suited for fast, accurate, repeatable and reliable testing of molten aluminum. Designed for accurate monitoring of hydrogen gas levels in molten aluminum, this rugged foundry proven unit can be placed within a few feet of melting operations for continuous monitoring of quality levels. RATS™ permits a simple, consistent, highly accurate, automatically timed five minute test that can be performed by shop personnel and assures consistent quality levels BEFORE the metal is cast.

RATS™ Model 401 by **THERMTRONIX®** can prove a valuable addition to any SPC or Total Quality Control system where the desired objective is the production of QUALITY cast aluminum products.

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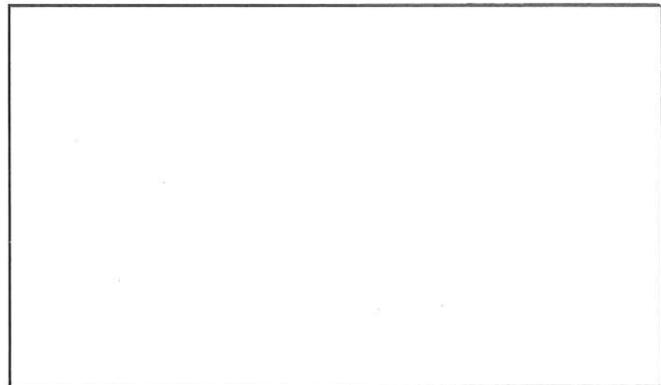
THERMTRONIX®

Hydrogen is a highly soluble gas in molten aluminum and the affinity for aluminum to absorb hydrogen increases with time and temperature. Hydrogen gas is formed when aluminum comes in contact with water vapor, a natural by-product of combustion with gas and fuel fired furnaces as well as naturally occurring in the atmosphere, especially on humid days. As aluminum solidifies the escaping hydrogen gas forms cavities or gas pockets causing hydrogen porosity, a major problem in all types of manufacturing facilities producing cast aluminum products.

RATS™ Model 401 reduced atmosphere testing system by **THERMTRONIX®** uses a true one-third horsepower two-cylinder, two-stage vacuum pump with features such as a permanent split capacitor motor, oil-less non-lube piston and cylinder with permanently lubricated ball bearings, stainless steel valves and lapped aluminum valve plates. The vacuum test chamber consists of a precision machined base, heavy wall aluminum chamber with a high temperature glass site port for viewing sample.

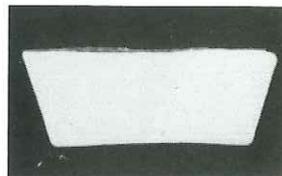
Brass fittings and filters eliminate corrosion and a fully adjustable brass needle valve with locking set screw allows precise calibration at 26" (660mm) or 28" (711mm) of Hg. A spring return brass push button permits quick release of vacuum chamber and a large clear dial vacuum gauge is calibrated for both 0-30" and 0-760mm Hg. A mechanical timer provides consistent, repeatable settings and automatically shuts unit down at the end of cycle. Model 401 includes a heavy gauge steel enclosure with plated steel carrying handles to protect all internal components while heavy rubber vibration dampening feet isolate unit from external vibration of surrounding equipment to further assure consistent test results.

REPRESENTED BY

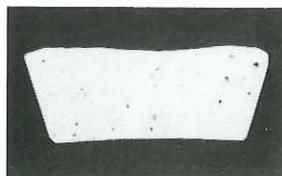


The samples below demonstrate the dramatic effect of the **RATS™** reduced atmosphere testing system. All of the samples were taken from the same furnace at one time and have the same levels of hydrogen gas. The difference is the amount of reduced atmosphere at which each sample was tested.

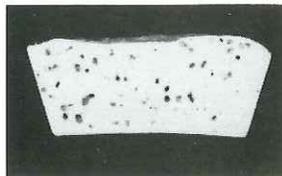
0" (0mm) Hg.



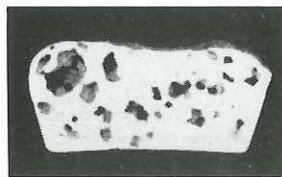
22" (560mm) Hg.



26" (660mm) Hg.



28" (711mm) Hg.



Web Site <http://thermtronix.com>

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