Radio Frequency Emissions
Evaluating New and Used Equipment against this Dangerous Byproduct

10501 Bunsen Way
Louisville, KY 40299
(502) 493-1299
www.thermex-thermatron.com
Radio Frequency Emissions
Evaluating New and Used Equipment against this Dangerous Byproduct

In today’s increasingly safety conscious work environment, it is important to maintain Radio Frequency (RF) emissions at their lowest values consistent with practical considerations for manufacturing.

EXPOSURE STANDARDS

At a minimum, users of RF and Microwave Industrial Heating Equipment should adopt internal RF emission standards that are at least as stringent as current federal OSHA guidelines (check your state OSHA regulations for compliance standards).

For owners and operators of industrial RF welders, heat sealers and preheaters as well as Industrial Microwave ovens and Industrial Microwave dryers, the relevant federal OSHA regulation is currently:

(Standards - 29 CFR) Non-Ionizing Radiation. - 1910.97

USED RF AND MICROWAVE INDUSTRIAL HEATING EQUIPMENT

Industrial radio frequency and industrial microwave heating equipment of recent and reputable manufacture will be designed and built to comply with current standards. However, older equipment or previously owned equipment will not likely have shielding that would comply with today’s standards.

Used equipment or equipment that has had its shielding removed or modified may function, yet expose operators to RF energy levels many times the current standards. RF levels on control panels and surrounding metal structures can be high enough to burn personnel if touched while the industrial heating equipment is in operation.

Inadequately shielded industrial radio frequency equipment or industrial microwave equipment frequently interferes with, and may even damage, nearby electronics, especially if those electronic devices are poorly designed.
When purchasing used equipment, the buyer rarely has the expertise or the devices necessary to test and evaluate the equipment prior to purchase.

To the untrained eye, a machine may appear to be well shielded. However, that shielding may be completely ineffective if improperly designed or applied.

Frequently, equipment 40 years or older will be retro-fitted with “shielding” to increase its salability.

It should be noted that purchasing older equipment and retro-fitting it with effective shielding frequently costs as much as new equipment.

**NEW RF OR MICROWAVE INDUSTRIAL HEATING EQUIPMENT**

New equipment emits a fraction of the RF energy that similar equipment did just a decade ago. Even so, the best designed and built equipment still requires maintenance. Industrial RF and industrial microwave equipment is no exception. They are both electronic and mechanical devices, and proper care is required. Proper maintenance of shielding, ground returns and neutralization is essential to prevent any degradation in performance, which could result in noncompliance. Maintenance programs should be coordinated with the manufacturer.

A regular program of RF emissions testing will determine the effectiveness of maintenance and adjustments to shielding.

Users may purchase RF Survey / Industrial Compliance meters to check their equipment for leakage or may hire outside services to conduct regular surveys.

In order to maintain peak performance and minimum emissions, repair services should only be performed by a qualified industrial RF or industrial microwave equipment service technician.

**About Thermex Thermatron**

*Thermex Thermatron, LP, is a trusted developer and manufacturer of industrial microwave and radio frequency equipment, including batch ovens, generators, presses, heat sealers, welders, and other custom engineered systems. The company also provides extensive services to help manufacturers throughout the world get the most from RF and MW technology.*