

TECHNICAL SPECIFICATION

MIT36-75 896 MHz MICROWAVE TEMPERING OVEN TUNNEL

Built by Dantech Engineering to operate at the local voltage and frequency.
 Manufactured in 2.5 mm stainless steel grade 1.4301 (AISI 304) with polished finish.
 The hygienic design is made for ease of cleaning and maintenance and following the AMI 10 Principles of hygiene & sanitization.

Consisting of 3 sections:

1. Infeed section with attenuation tunnel
2. Microwave oven applicator 3600 mm long with single interlocked inspection door.
3. Exit section with attenuation tunnel

The infeed and exit section are protected with microwave leak detectors that automatically shut down power if microwave leakage exceeds 5mW/sq. cm.

The suppression tunnels comprise of polypropylene jacketed inner liners with circulating food grade glycol/water by 50% concentration and three (3) flaps to redirect stray microwaves back to the applicator. Should there be a leakage, then the power is dissipated through the jacketed liner. In case the temperature of the glycol mix rises, the system shuts down and a fault alarm records the occurrence.

One upper & one lower polarized microwave feeds assemblies support the power delivery to the oven cavity.
 Conveyor belt width 600 mm. Intralox Series 900 flush Grid Polypropylene natural colour. The height of the attenuation tunnels is 250 mm.

CONTROL SYSTEM

The control and monitoring system comprises of an Allen-Bradley system the main control panel has an Allen-Bradley HMI touch screen showing operating and diagnostic information. A standard waveguide allowance for up to 4.5 m of straight section and up to three bends is included. Additional waveguides will be charged per the final installation requirements.

Utility requirements:

- 400 VAC, 50/60 Hz 3ph + PE
- Compressed air 6-7 bar
- Coolant, food grade glycol.

MICROWAVE POWER SUPPLY (TRANSMITTER)

Model WAVEGEN 80. 75 kW 896 or 915 MHz, 50Hz, 3-Phase, 12-Pul

The WaveGen 80 Features Proven and Reliable Systems and Features:

The latest state of the art microwave power supply with fully adjustable power output up to 0-75 Kilowatts. Self-contained within a stainless-steel cabinet with main high-power isolator to prevent opening during operation of high power.

Within is a Microwave Isolator to prevent reflected power from damaging the magnetron tube, twin hard-wire

Safety Interlocks Stand-alone, closed loop power supply cooling system

24 Volt Control Circuit per IEC Safety Standards high voltage lockout for safe maintenance testing of control circuits.

New magnetron tube fully tested to operate up to 80kw housed within EMI Enclosure that Contains RF Leakage to Meet Code Requirements

Internally Guarded High Voltage Transformer & Rectifier Assembly. Allen Bradley PLC with Ethernet Communication

Included is Range of Options for Power Control:

- Local Manual and Automatic Controls (Requires Optional Touchscreen)
- Remote Analog Signal, 4-20mA (0-10V Optional)
- Remote Network Control (Ethernet or Serial)

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- Safety Relay to Monitor Critical High Voltage Contactor
- Analog Sensors to Measure Forward Power, Reflected Power and Efficiency
- PLC Controlled, Electronically Driven Filament Transformer and Electro-Magnet Design Provides State-of-the-Art Magnetron Power Control

EXTRA FEATURES

- Check Valves Allow Changing Magnetron Tubes with minimal coolant losses.
- Temperature Sensors Mounted in Thermo-wells to facilitate replacement with minimal downtime.

AUTOMATIC FIRE SUPPRESSION SYSTEM

To comply with IEC 60519-6, we provide an automatic high-pressure CO2 fire suppression system with “Rate of Rise” heat detection, automatic and manual discharge with 2 x 45 kg HP cylinders, visual and audible alarm systems. Cylinders are supplied empty for filling locally.

UTILITY REQUIREMENTS

- Electrical Service Requirement: 400 Volts,
- 3 Phase Input Protected by a 150 Ampere Circuit Breaker or Fuses.
- Plant Cooling Water Requirement: 20 KW/transmitter)
- Ambient Environment: 20-100° F

OPTIONAL EQUIPMENT EXTRA EQUIPMENT

- Remote Touch Screen for Interlock Annunciation and Local Control
- Analog Anode, Filament & Electromagnet Meters
- External Lockable Safety Disconnect Switch to Remove 480V Power from the Enclosure
- Dual Safety Contactors used as a Backup to Primary High Voltage Contactor
- Mezzanine floor in stainless steel.
- CIP belt wash nozzles/air knife-blow off system, turbo fan 7.5 kw

