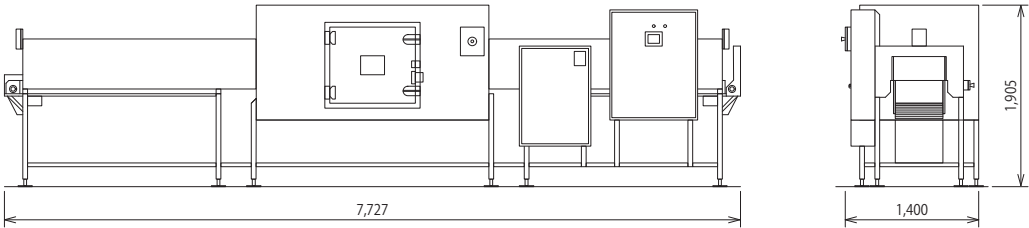


[MIP12]

Tunnel Type

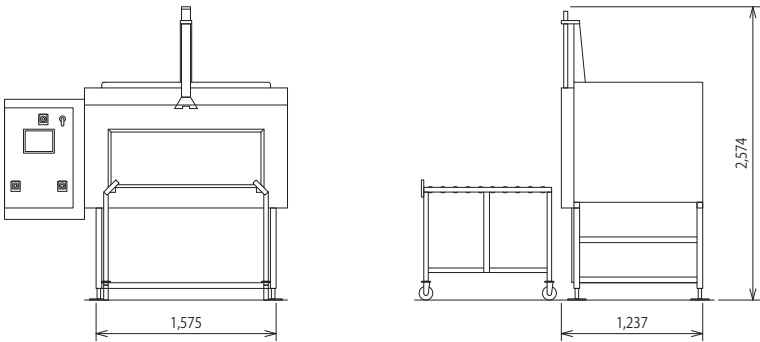


Specifications

	Transmitter	Microwave Output [kW]	Maximum Thawing Capacity [t/h]	Thawing Capacity (Thawing Time to Thaw 100 kg of Frozen Food (-17.8°C))				
				85% Lean Beef	50% Lean Pork	Chicken	Cod	Apple
MIP12	4 pcs (75 kW)	300	15.4	Finishing Temperature: -3.3°C 45 sec	Finishing Temperature: -5.6°C 23 sec	Finishing Temperature: -2.8°C 56 sec	Finishing Temperature: -5.6°C 34 sec	Finishing Temperature: -6.1°C 34 sec
	3 pcs (75 kW)	225	11.5	59 sec	30 sec	1 min 14 sec	45 sec	45 sec
	2 pcs (75 kW)	150	7.7	1 min 29 sec	45 sec	1 min 51 sec	1 min 07 sec	1 min 07 sec
	1 pcs (75 kW)	75	3.8	2 min 57 sec	1 min 29 sec	3 min 41 sec	2 min 11 sec	2 min 11 sec

[MIP10]

Chamber Type

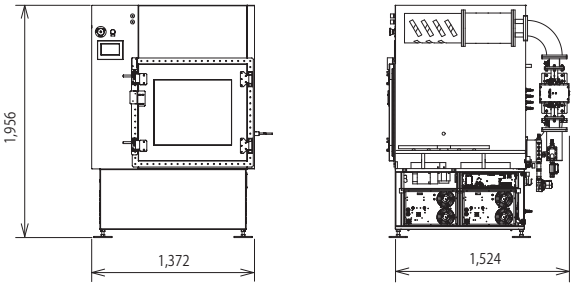


Specifications

	Transmitter	Microwave Output [kW]	Maximum Thawing Capacity [kg/batch]	Thawing Capacity (Thawing Time to Thaw 1 Batch of Frozen Food (-17.8°C))				
				85% Lean Beef	50% Lean Pork	Chicken	Cod	Apple
MIP10	1 pcs (75 kW)	75	136	Finishing Temperature: -3.3°C 4 min 00 sec	Finishing Temperature: -5.6°C 2 min 00 sec	Finishing Temperature: -2.8°C 5 min 00 sec	Finishing Temperature: -5.6°C 3 min 00 sec	Finishing Temperature: -6.1°C 3 min 00 sec

[MIP3]

Ultra-compact Chamber Type

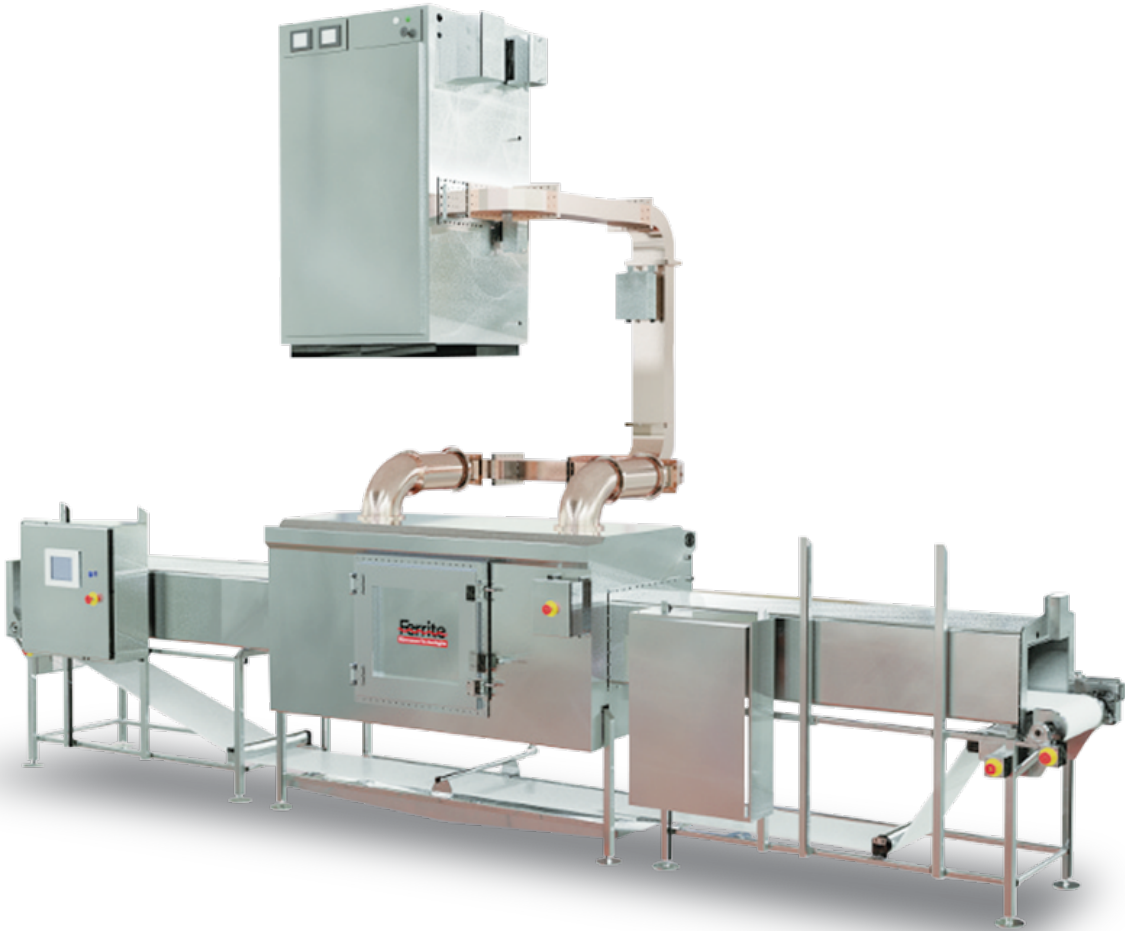


Specifications

	Transmitter	Microwave Output [kW]	Maximum Thawing Capacity [kg/Batch]	Thawing Capacity (Thawing Time to Thaw 1 Batch of Frozen Food (-17.8°C))				
				85% Lean Beef	50% Lean Pork	Chicken	Cod	Apple
MIP3	1 pcs (30 kW)	30	20	Finishing Temperature: -3.3°C 1 min 10 sec	Finishing Temperature: -5.6°C 36 sec	Finishing Temperature: -2.8°C 1 min 27 sec	Finishing Temperature: -5.6°C 53 sec	Finishing Temperature: -6.1°C 53 sec

※For the dimensions and specifications of MIP8 and MIP4, please contact us.

These microwave thawing machines are products of Microwave Techniques LLC.



Type MIP12



# Thawing

## Microwave Tempering Machine MIP Series

The MIP Series can thaw various kinds of frozen foods, such as meat, fish, and fruits, with microwaves at a frequency suitable for each kind of food.

The maximum thawing capacity per hour is 15.4 tons. The MIP Series of microwave thawing machines (tempering machines) is manufactured by Microwave Techniques LLC, USA. Since the microwave thawing machines temper frozen food with microwaves at a frequency of 923 MHz, the microwaves can penetrate the food deeply.



### Transmitter

The transmitter generates microwaves and can be set apart from the main unit by connecting it to the main unit through the waveguide. The main unit and transmitter can be laid out in various ways.

### Maintenance of Quality and Improvement of Yield

When frozen food passes through the temperature range of -1 to -5°C for a short time during freezing, where ice grows to its maximum, microwave thawing causes less damage to the tissue and suppresses the outflow of proteins due to dripping.

### Hygienic

The main unit and transmitter are made of stainless steel plates. The inside of the chamber and conveyor belt can be washed with water after use. Additionally, frozen food can be thawed evenly at a specified temperature, the propagation of bacteria can be retarded, and successive processes can be performed smoothly.

### Improvement of Work Efficiency

Since it is unnecessary to transfer frozen food from rack to rack, the food can be handled with minimum labor. Frozen food can be thawed while still in the cardboard box.

### Long Life and Cost Effectiveness

Since the magnetron is electrically insulated with a circulator, these machines have a long service life.

### Usable at Any Time

Since these machines thaw frozen food in a short time whenever needed, products can be manufactured as planned.

### Reliable Design

Machines are operated 24 hours, seven days a week. Thawing machines are designed to withstand severe conditions in a food processing environment. If problems occur, the MIP Series can be repaired properly with a programmable logic controller (PLC) using a modem line.

### Compliance with Safety Standards

Both sides of the tunnel section of the MIP-12, transmitters, and doors of the main unit satisfy the safety standards prescribed by the Occupational Safety and Health Administration (OSHA).

### Reliable Product Warranty

The main units of these thawing machines are covered by a one-year warranty. During the warranty period, maintenance and support (replacement and repairs of defective parts) will be provided by a technician free of charge. For the magnetron, if a defect in the magnetron occurs within 500 hours of operation after installing the machine, it will be replaced free of charge. If a defect in the magnetron occurs within one year after installation and the operating time is less than 2500 hours, the warranty will change depending on the operating time.

## MIP3

### Ultra-compact Chamber Type

**Thawing Capacity: 0.5-2 tons**

The MIP3 is the smallest chamber-type thawing machine that is suitable for thawing a small amount of frozen food. The thawing capacity at a time is approximately 20 kg. This new model thaws frozen food in a very short time (reference time: a little more than 1 minute). The built-in transmitter (30kW) makes it possible to install in a small space.



## MIP8

### Tunnel-type Continuous Thawing Machine with Chamber

**Thawing Capacity: 10-35 tons**

This model is a tunnel-type continuous thawing machine with a thawing chamber whose gates are closed when microwaves are irradiated. The gates of the chamber are closed when microwaves are irradiated while the high speed of the tunnel type is maintained. Up to four transmitters (75 kW) that generate microwaves can be connected to this model in accordance with the required thawing capacity in the same way as the MIP-12.



### About Ferrite Microwave Technologies



### Manufacturers Specializing in Microwave Machines

1948: Raytheon, the predecessor of Ferrite Microwave Technologies, developed the world's first microwave. Initially, the microwave was developed for military purposes. Afterward, Raytheon developed the world's first tunnel-type microwave thawing machine (25 kW) in 1972.

1977: A chamber-type microwave thawing machine (25 kW) was developed. In the early 1980s, various kinds of microwave-applied equipment (such as a cooker and cooking device) were developed. Technically, the world entered the 50 kW era.

1992: Raytheon officially sold the microwave thawing machine business division to Amana. In the next year, some members of the engineering department of Raytheon founded Ferrite Microwave Technologies.

2003: Ferrite acquired the microwave business of Amana.

2020: Ferrite merged with MEGA Industries (MEGA), the world's leading brand of high-power waveguides, and established Microwave Techniques LLC.

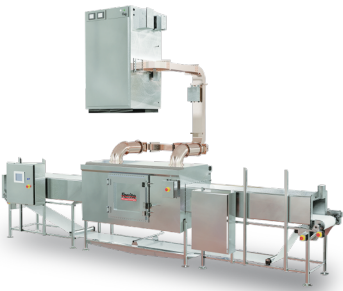


In 2020, Ferrite merged with MEGA, and established Microwave Techniques LLC, which is one of the world's leading high-power microwave technology and production facilities, including brands such as FMT (Ferrite), MEGA, IMS, MCI, and FXR. Among its products, Ferrite has sold more than 800 microwave-applied devices worldwide and provides solutions to a wide range of industries.

## MIP12

### Tunnel Type

**Thawing Capacity: 15.4 tons Continuous Thawing Machine with Conveyor Belt**



MIP12 is a thawing machine designed for a user who wants to thaw a large amount of frozen food continuously every day. Up to four transmitters (output: 75 kW) that generate microwaves can be connected to this model in accordance with a required thawing capacity.

## MIP10

### Chamber Type

**Thawing Capacity: 3-10 tons**



This model can thaw 136 kg of frozen food within a few minutes at a time. This is a chamber-type thawing machine with a thawing capacity of approximately 1 ton per hour (reference value).

## MIP4

### Mini-Chamber Type

**Thawing Capacity: 1-3 tons**



This model is suitable for thawing a small amount of frozen food. The thawing capacity at a time is 25 kg (corresponding to frozen food packed in a standard carton) at maximum. Since the output of the oscillator is 75 kW, the thawing time for this model is as short as 1 minute or less. (A rough estimate of a daily output: 3 tons)