



Microwave information

Wageningen

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- Develop, design and manufactures microwave systems for industrial use, mainly drying and pasteurization.
- Development of microwave systems for use in the work for environmentally friendly applications. Such as recycling and destruction of dangerous materials.

How are microwaves created?

- The microwave energy is produced by a Magnetron, fed by 4000 V DC
- The DC comes from a Power Supply, fed by 230 V AC
- To get 1000 W microwave power, the power supply input is 1400 W which means that we in step 1 has 70 % efficiency. The losses are heat from the magnetron that can be recycled.

Microwaves for our purpose

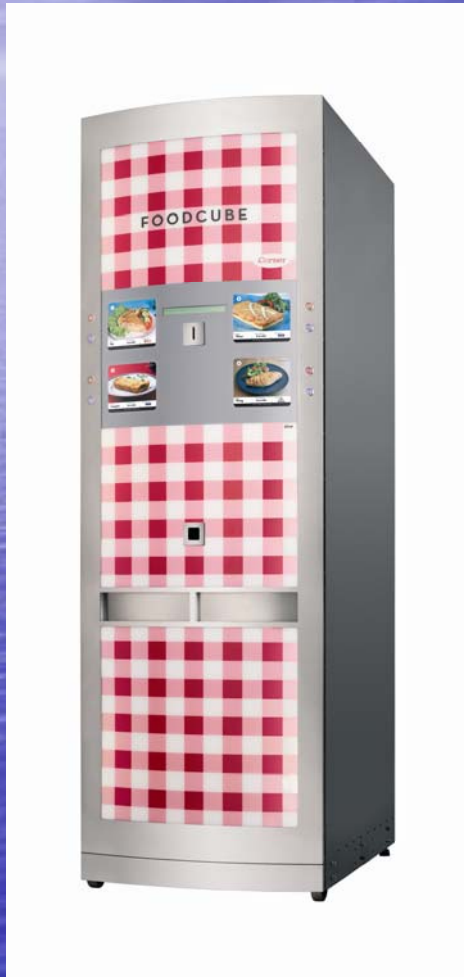
- We use mainly 2450 MHz
- Wavelength for 2450 MHz is approx 12 cm
- Penetration depth in different materials for 2450 MHz
 - Water: 25 mm
 - Meat (thawed): 15 mm
 - Aluminum: 0,002 mm
 - Ice: over 10 meter
 - Meat (frozen): 50 mm

(Penetration depth is until 2/3 of the energy is absorbed)

In line thawing



VENDING MACHINE



108 kW MicVac tunnel oven



Micvac-method today :

- Gooh!, Sweden – 36 kW 2005 + 90 kW 2009
- Witterstrands, Sweden – 36 kW 2005
- Rieber&Søn, Norway – 72+90+108 kW 2006-07
- HK Scan, Finland – 72 kW 2007
- H&H Foods, Holland – 108 kW 2008
- + USA 36 kW 2008
- + USA 36 kW 2009