915 MHz MICROWAVE BATCH MACHINE
Turn table / MW inlet by topside & downside

TEMPERING OF FROZEN BLOCKS

Ref. AMW 100

Capacity: 125 to 200 kg/h from -20 °C to -4/-2 °C

- ✓ **FAST**: **very short** time of treatment, high production flexibility.
- ✓ **USABLE**: rolling tray for loading / unloading, pneumatic door movement, PLC with colour touch screen...
- ✓ **ECONOMIC**: **product gain** from 5 to 10 %, working on a just in time basis, **minimum floor space**, fast return of investment.
- ✓ **HOMOGENEOUS**: **915 MHz** microwave frequency, use of a **turn table,** and 2 inlets of microwave power (by topside and downside of the product)
- ✓ **RELIABLE**: very good control of **final temperature**;
- ✓ **HEALTHY**: no **bacteriological** growth, complies with all hygiene regulations and standards, keep taste and texture **qualities**;
- ✓ **FLEXIBLE**: tempering of meat, fish, vegetables, **packed** (carton without metallic staple or plastic film) **or not packed.**

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Batch machines AMW 100

The distinctive feature of Sairem's AMW 100 is the use of a sliding table & door making easier loading and unloading of 1 block, and its microwave coupling system by two ways.

I. TEMPERING CAPACITIES

The AMW 100 offers a tempering capacity between 125 and 200 kg per hour from -20°C to -4/-2°C.

This capacity is variable and depends up on the final required temperature and up on the product (meat, fish, vegetables, fruits, butter etc.). The charts in the following pages are showing these variations.

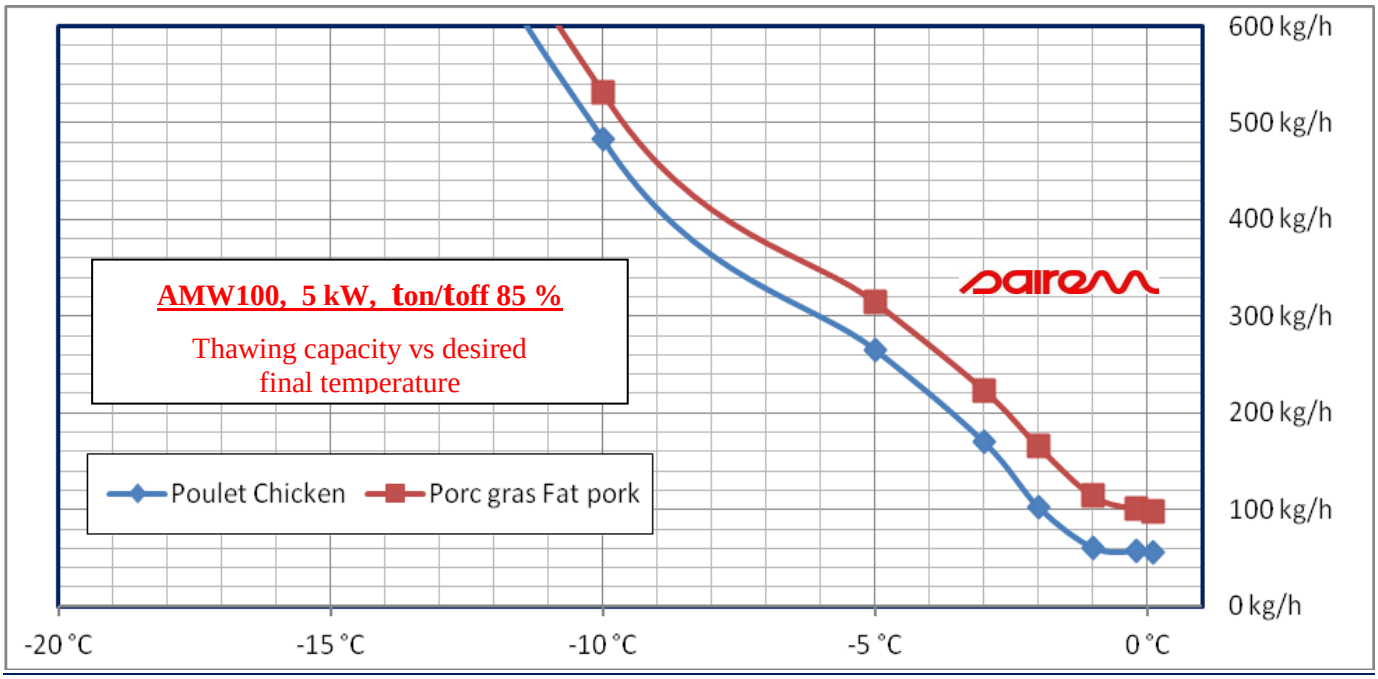
The indicated data represented in the charts below are calculated for Sairem's AMW 100 with a 5 kW power (maximum), with optimum $\mathbf{t_{on}/t_{off}}$, for blocks with regular size and weight (25 kg, 600 mm x 400 mm x 150 mm) and for a starting temperature around -18^0C/-20°C**.**

$\mathbf{t_{on}/t_{off}}$ is the microwave utilization within 1 hour including loading/unloading and door opening/closing. The optimum is 85 %.

Note: if fatty products are to be processed, fat ought to be homogeneously distributed in the block.

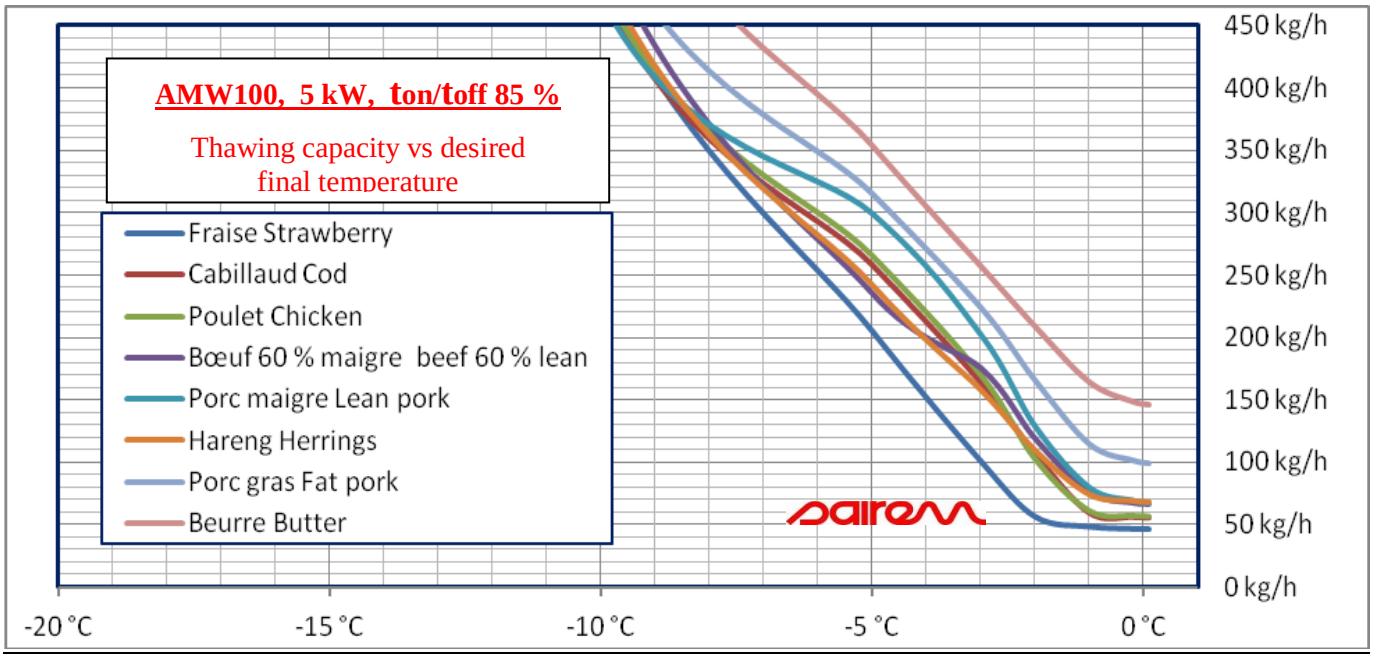
Note: at -4/-2°C the blocks are cold enough to be processed: dicing, grinding, slicing…

I.1. Thawing capacity vs. to the final required temperature



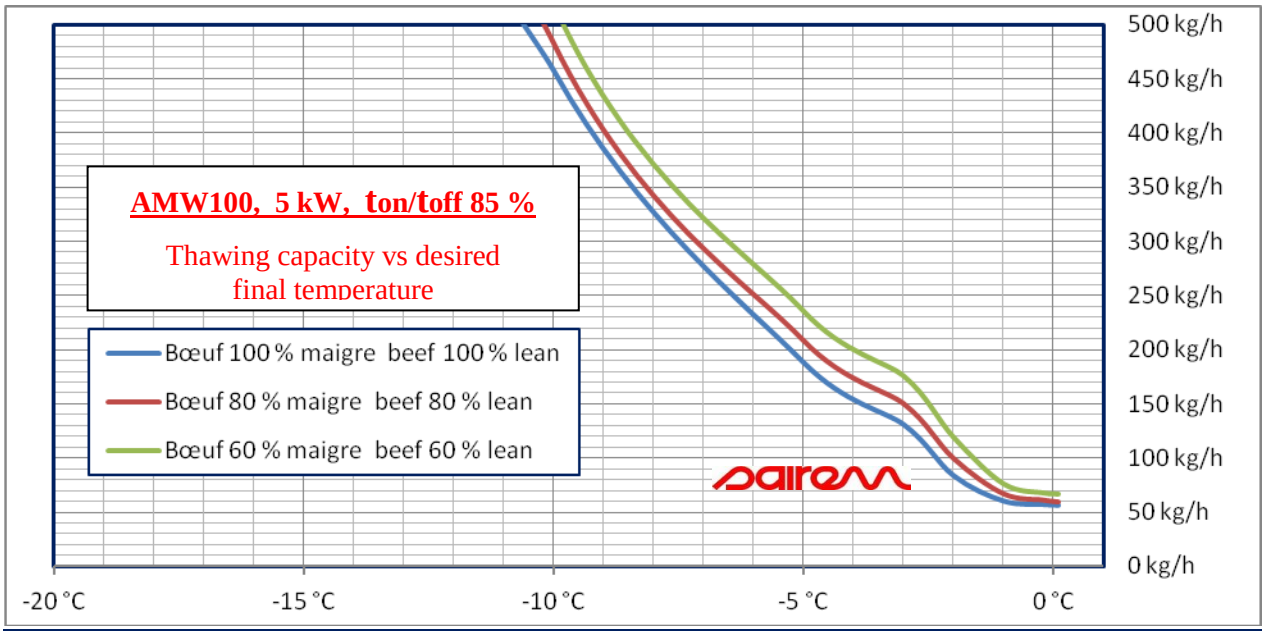
Example: chicken: 270 kg/h from -18 °C to -5 °C or 170 kg/h from -18 °C to -3 °C

I.2. Thawing capacity vs. product type



Examples (at -4 °C): fatty pork: 270 kg/h or beef (60 % lean): 200 kg/h

I.3. Thawing capacity vs. fat content



Examples (at -3 °C): beef (60 % lean): 175 kg/h or beef (100 % lean): 130 kg/h

Some examples of blocks processed with the AMW 100

Beef 25 % fat, 25 kg.
160 - 210 kg/h capacity for a final temperature between -6 °C and -4 °C

Turkey filets, 20 kg
160 - 180 kg/h capacity for a final temperature between -4 °C and -2 °C
or 125 - 145 kg/h capacity for a final temperature between -3 °C and -1.5 °C

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<u>Pork shoulder, 10 to 15 % fat, 25 kg</u>
125 - 145 kg/h capacity for a final temperature between -3 °C and -1 °C

MORE EXAMPLES:

- **<u>poultry filets, 20 kg</u>: 250 - 270 kg/h capacity for a final temperature between -6 °C and -4 °C, 140 - 160 kg/h capacity for a final temperature between -4 °C and -2 °C;**
- **<u>game (doe), 20 kg</u>: 160 - 180 kg/h capacity for a final temperature between -4 °C and -2°C, 125 - 145 kg/h capacity for a final temperature between -3 °C and -1.5 °C .**

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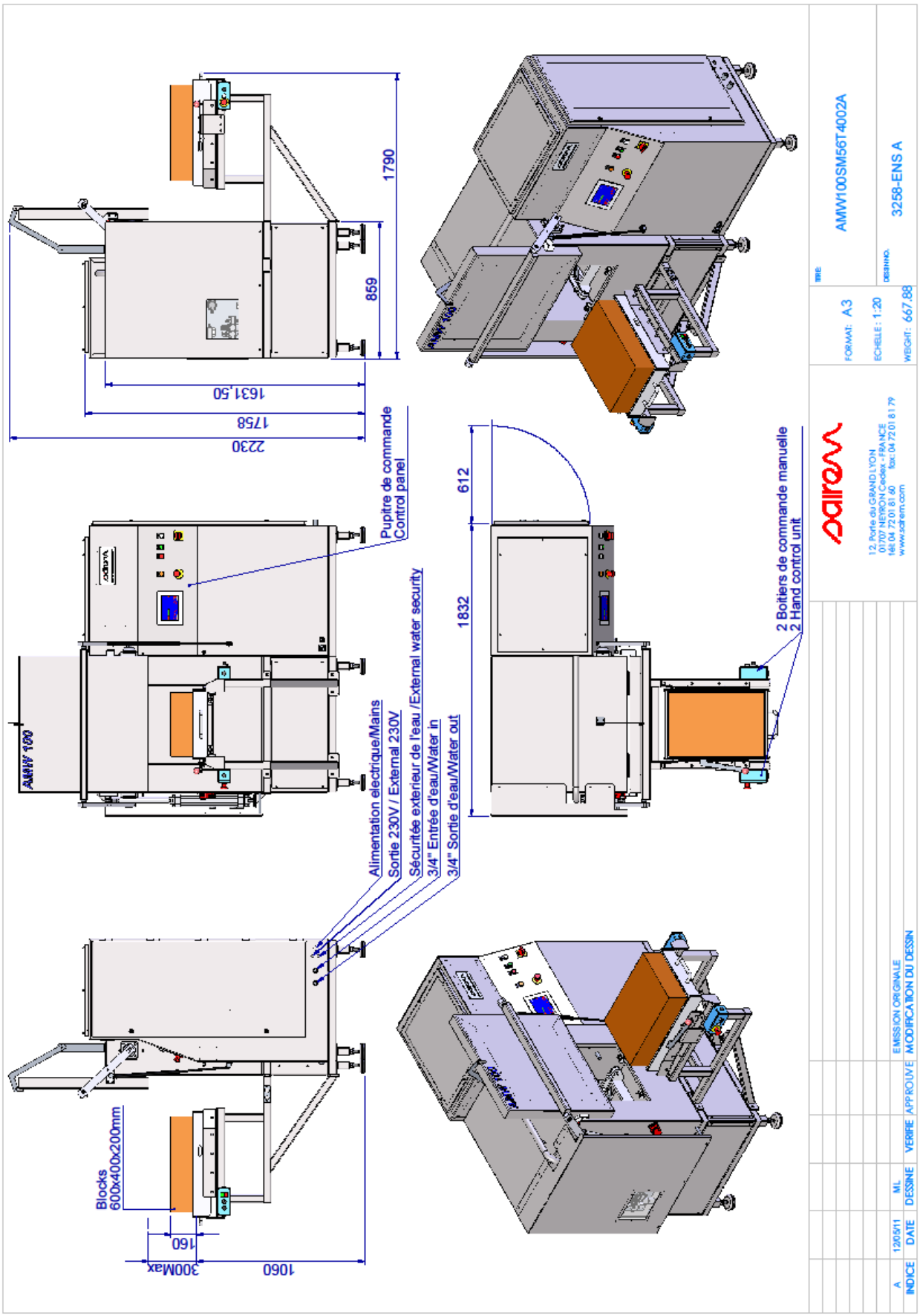
II. TECHNICAL CHARACTERISTICS

Reference	**AMW 100**
Construction	Batch, 304 L stainless steel, microwave door with ¼ λ choke, sliding door pneumatically driven, turn table with automatic stop, touch screen, MW inlet up & down side, water-proof IP64 on side electrical cabinet, interchangeable microwave power supply with quick connectors for easy maintenance
Thawing capacity	According to final temperature, product, fat content
Sliding table(s)	1 off, polyethylene, with usable surface 610 x 410 mm, sliding mechanism consists of rollers with position locking
Maximum size of block	600 x 400 x 250 (height) mm, 30 kg maximum
Microwave frequency	915 MHz. On request 922 MHz (Australia, New Zealand) or 896 MHz (United Kingdom).
Microwave power	5 kW maximum, adjustable from 1 kW to 5 kW; 1 x 5 kW generator
HMI (Human Machine interface)	6.5" digital touch screen, control of microwave power and time, 20 programmable recipes, oven status, faults history etc. Microwave start, door opening/closing push buttons installed on each side of the sliding table, emergency stop etc.
Mains	3 x 400 V + earth, no neutral, 50/60 Hz, 10 kVA at max. power
Cooling water	Consumption min. 12 L/min, max. input pressure 4 bar (min. differential pressure 3 bar), temperature 18 – 22 °C, power to dissipate 4 kW ; ½" GF. Optional: air/water chiller unit.
Compressed air	Min. 6 bar, consumption 20 L/min during 10 s (pneumatic mechanism for door opening/closing). Average 0.7 L/min
Cleaning	Pressurized water inside the oven, evacuation under the oven
EC standards	89/392, 91/368, 73/23, 89/336, 92/31, 519-6 CEE/EWG EN55011 (specific)
Size, weight	See drawings below, weight 680 kg

Examples of HMI screens


1790
859
1631,50
1758
2230
Pupitre de commande
Control panel
612
1832
2 Boitiers de commande manuelle
2 Hand control unit
Alimentation electrique/Mains
Sortie 230V / External 230V
Sécuritée exterieur de l'eau /External water security
3/4" Entrée d'eau/Water in
3/4" Sortie d'eau/Water out
Blocks
600x400x200mm
160
300Max
1060
AMW 100
AMW100SM56T4002A
3258-ENS A
A3
1:20
667,88
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