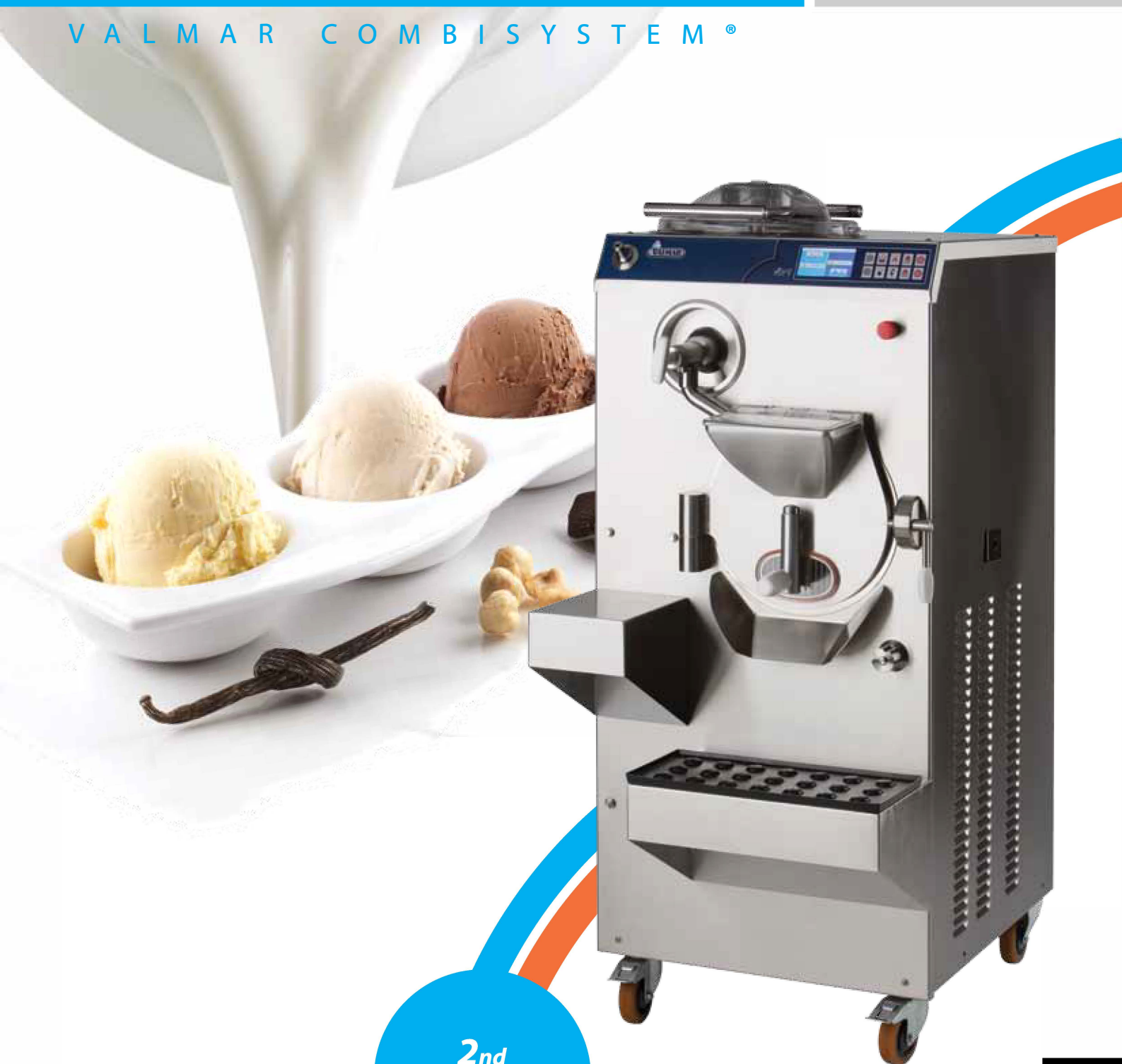


# SMARTY *&Ti*

ICE-CREAM PRODUCTS

VALMAR COMBISYSTEM®



**2<sup>nd</sup>  
EDITION**

# *Smarty TTi*

## *Combined unit for gelato and cremolata production*

Smarty TTi is the new Valmar's Touch & Type combined unit.

Thanks to modern technological innovations this machine meets the most demanding and complex requirements of artisan gelato production. The flavour-by-flavour process (different recipes) or the white base mix process are both available by operating one or more pasteurisers (Sweety TTi). Any detail has been valued, planned, produced and tested to suit the specific needs of each and single artisan gelato production process.



*A selection from Smarty TTi range of products*

*DAIRY GELATO*

*FRUIT GELATO*

*BISCUIT GELATO*

*GELATO ON STICK*

*GRANITAS*



# *Smarty TTi technology*

*From raw materials... to top quality gelato*







## 01 SOFTWARE

An input generating software designed to manage efficiency and available technological solutions by means of a PLC matching process automation to the quality of different heating processes.

## 02 PLC

Thanks to this new PLC management system a wide range of products is performed through its 33 different programmes. Moreover programme customization is achieved in order to meet recipe and/or work method requirements.

## 03 TOUCH & TYPE

The user can choose to operate the machine in Touch mode or in the traditional Type mode. The 4.3" LCD touchscreen has clear and intuitive icons that enable to manage and monitor each operating phase.

## 04 SCRAPERS®

The scraping effect on the cylinder surface resulting in an extremely high heat rate efficiency as well as a high energy saving is given by the strength of the materials the scrapers are made of, their special inclination on the touch point and the specific high-thrust spring. Scrapers' material is provided with EC marking for use in food handling equipment.

## 05 SINGLE DISPLAY

Smarty TTi is a machine whose two elements really work completely separately and independently one from the other (heating element above and cooling cylinder below). Thanks to innovative TTi technology the machine is operated and controlled by a single 4.3" LCD real-time display which gives all necessary machine information.

# Cooking with Smarty TTi

## What makes Smarty TTi unique

The innovative process of the new Smarty TTi makes it possible to quickly heat even small mix quantities-up to 20% of maximum capacity-without burning or sticking any mix. Fine texture, accuracy in production and no thermal inertia are the results obtained even in case of products made of very delicate ingredients such as eggs. Thanks to the Smarty TTi, system just the mix to be batch frozen is heated at any cycle, as required by the “flavour-by-flavour” process and resulting in quality improvement and a higher customization of the gelato produced.

### 01 TANK DIMENSIONS



It is a real “technological pot” with a very large bottom surface area thanks to the ratio between diameter and depth. Thermal exchange is optimized without burning or sticking any product inside, even if very delicate or in small quantity.

### 02 HEATING OR COOKING WITHOUT BURNING

Fast performances, high temperature precision, thermal inertia reduction are results difficult to be achieved mostly in case of dense products. Smarty TTi equipment and peculiarities make all this much more easier:

- double-and triple-resistance heating devices (for Smarty 12 and 16 TTi) electronically governed by PLC. In this way the resistance heating devices can operate individually, alternatively or simultaneously;
- three probes to check temperature precision and reduce thermal inertia;
- uniform heating from 20% to 100% of the tank maximum capacity;
- cooking temperature up to 98°C.

### 03 STIRRING, MIXING, BLENDING AND AMALGAMATE



The stirrer plays an important role in the heating process. It is provided with a patented counter-stirrer, easily and completely dismountable. It guarantees a fast dispersion and solubilization of solid ingredients into liquid ones.

#### 04 LID



Double lid with opening system actuated by servo-assisted hydraulic pistons for easy ingredient introduction even in case of product in progress. The machine has not to be stopped in full compliance with certified EC safety regulations.

#### 05 TAP®



External tap to let the mix reach directly the batch freezing tank. Complete separation of the heating system from the cooling one.

Gradual opening system.

Easy and fast to dismount. Appropriate sanitation of any surface in contact with the product.

EC certified accident prevention and safety measures.

Completely in 18/10 stainless steel. Long-life and easy sanitation in dishwasher without deterioration.

Rotation up to 180° to operate the heating tank also independently from the cooling cylinder.

#### 06 VERSATILITY



Heating and/or cooking procedures with product outgoing directly from the heating cylinder independently from the batch freezing cylinder.

Anti-squirt system during pouring and batch freezer operation with a liquid mix.

Shelf space for hot product output independent from the cooling cylinder.

#### 07 HOPPER



Wide hopper provided with patented safety guard placed on the batch freezer door. It eases the cylinder loading in case the batch freezer is operated independently from the heating system.

# ...and cooling

## with Valmar COMBISYSTEM®

New Valmar COMBISYSTEM® technological improvements have been integrated in the new Smarty TTi cooling and batch freezing systems. A system which is based on different technological innovations, each of them synergically but complementary contributing to obtain a top quality marketable gelato and, to this purpose, automatically meeting the specific requirements of the cooling and batch freezing processes.

### 01 VALMAR COMBISYSTEM®



The new system deeply changes artisan batch freezing quality standards. The produced gelato is now creamy and more resistant to melting as overrun is up to 40% of the mix weight. Air incorporation in marketable gelato keeps it more creamy and soft.

### 02 BATCH FREEZING AND PRODUCT OUTPUT INVERTER



Stirrer rotation inverter, range from 7 up to 70 Hertz. With the new Smarty TTi a perfect batch freezing depending on the produced quantities and features of the mix and on the ingredients and their mix formulation, is now readily available thanks to PLC and inverter. Totally new is the possibility to select the automatic speed adjustment mode of the outgoing gelato, which does not melt during the whole outgoing process.

### 03 CYLINDER DESIGN



The cylinder is designed and tested to ensure a perfect combination in terms of chilling performance, freezing and micro-crystallization speed as well as optimized air incorporation.



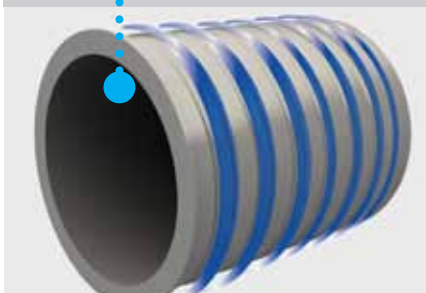


#### 04 *STIRRER*<sup>®</sup>



Special design helicoidal stirrer with blade variable convergence and high-performance scrapers: these are only few of the features marking out the new TTi series stirrer. A perfect batch freezing is the result of a systematic and uniform spreading of gelato on the whole cylinder surface thus avoiding the excessive freezing of gelato on the blades or in the middle of the cylinder.

#### 05 *DIRECT EXPANSION SYSTEM*



Refrigerant gas direct expansion system on the batch freezing hollowed spiral cylinder having a progressively variable diameter to optimize the chilling performance on the whole cylinder surface.

#### 06 *CHECK OF GELATO CONSISTENCY*



The check of gelato consistency is performed through stirrer torque measurement in N m, gas temperature measurement as well as measurement of gelato inside the cylinder. Thanks to this technological innovation the desired gelato texture is obtained regardless of any recipe.

# *Production versatility*

*flavour-by-flavour gelato,*

*white base mix gelato and fruit cremolatas*

The new series of Valmar combined units Smarty TTi are highly flexible and versatile for any production requirements both for gelato and granitas. Any machine has 33 programmes specific for ice-cream products, some of them dedicated to heating processes and some to batch freezing ones:

33 PROGRAMMES

11 GELATO MIX HEATING PROGRAMMES

11 GELATO BATCH FREEZING PROGRAMMES

2 GRANITAS AND FRUIT CREMOLATA PROGRAMMES

6 GELATO CONTROLLED OUTPUT PROGRAMMES

2 MIXING/STIRRING SPECIFIC PROGRAMMES FOR EACH TANK

1 GELATO MIX COOLING AT + 4° PROGRAMME



# Production rates

Valmar has chosen to indicate the production rates of its batch freezers using two units of measurements-mix weight and weight of produced gelato, overrun included-that clearly identifies the actual production rates of every single model without confusing weight and volume.

## Produced quantities shown by weight and volume

MODEL	GELATO								CREMOLATA AND GRANITAS	Stirrer motor speed	
	Production per cycle				Production per hour						
	Mix added (kg)		Gelato produced (litres)		Mix added (kg)		Gelato produced (litres)		Production per cycle (kg)		
	Min	Max	Min	Max	Min	Max	Min	Max	Min		Max
SMARTY 7 TTi	1.5	7.5	2	10.5	9	45	12	60	2	7	9
SMARTY 12 TTi	2	12.5	3	17	12	75	18	100	3	10	9
SMARTY 16 TTi	3	16.5	4	23	18	100	24	140	4	15	9



## DIMENSIONS AND WEIGHTS

MODEL	Dimensions (mm)			Weight, water condenser included (kg)		Cylinder dimensions (mm)	
	W Width	D Depth	H Height	Net	Gross	Ø Diameter	D Depth
SMARTY 7 TTI	613	709+241	1410+100	320	344	267	250
SMARTY 12 TTI	613	709+241	1410+100	339	363	267	420
SMARTY 16 TTI	613	839+241	1410+100	420	447	267	540



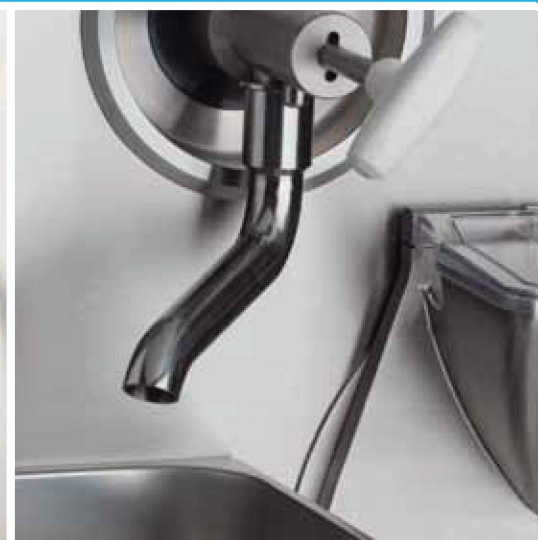
### RETRACTABLE WASHING NOZZLE



### GELATO OUTPUT



### INDEPENDENT PRODUCT OUTGOING



## TECHNICAL FEATURES

MODEL	Power supply*			Rated power	Water average consumption per cycle****	Condensing unit		
	Volt	Hz	Ph					
SMARTY 7 TTI	400	50	3	11	17	Water	Air **	Mixed air + water ***
SMARTY 12 TTI	400	50	3	15.4	21	Water	Air **	Mixed air + water ***
SMARTY 16 TTI	400	50	3	20.3	24	Water	/	Mixed air + water ***

\* Other voltages and frequency available with additional charge.

\*\* Built-in air condensing unit available with additional charge.

N.B. weights and dimensions of machines equipped with optional equipment are different from those in the table.

\*\*\* Built-in mixed air + water condensing unit available with additional charge.

N.B. weights and dimensions of machines equipped with optional equipment are different from those in the table.

\*\*\*\* Water consumption can vary according to water and gelato temperature at the end of the batch freezing process.

Any model is available with remote compressor + air condenser with additional charge.

N.B. weights and dimensions of machines equipped with optional equipment are different from those in the table.

#### NOTE

Capacities can change according to the ingredients used, temperature or product consistency at the end of the batch freezing process.

All specifications mentioned must be considered approximate. Valmar reserves the right to modify, without notice, all parts deemed necessary.

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