Pasteurizers PH

ALLINONE

Heating up to **100°C**

Cooling down to **4°C**

Let's add value to milk

PLEVNIK

PLEVNIK company

Tradition

- More than **25 years of experience** in milk and cheese equipment
- More than **250 cheese kettles** and batch milk **pasteurizers** produced every year
- More than **1500** cheese **kettles** and batch milk **pasteurizers** currently in daily use all over the world
- Our **satisfied customers** are located in all biggest European cheese making markets (France, Italy, Switzerland, Austria, Germany, Great Britain, Spain, Czech republic, Slovakia, Sweden...) as well as other markets all over the world (Russia, Canada, Mexico, Peru, Japan, South Corea, Malaysia, Australia, New Zeland, Camerun...)
- Our years long experience brings significant benefits to end users in term of **high quality, reliability and life expectancy** of our products

Innovation

- We **continuously research and develop** for quality improvements and better user experience with our machines
- With the use of last generation computer simulation software we **significally improved the design and energy efficiency** of our products
- During many years of engineering and development we built our **own large know-how** database
- We have the **largest product catalogue** on the market of cheese kettles and milk pasteurizers. With this we can meet the requirements of the most demanding customers.

Vision

- We work for and together with our customers to make our products with **the best price / quality ratio on the market**
- Our vision is to become the **leading producer** of farmer cheese making equipment in Europe - not only in sales but also in discovering new needs on the market
- We strive to expand in Europe and to new markets **all around the world**
- We will continue in our research and development to be(come) **the most innovative producer** of cheese making equipment
- **We believe in sustainable development in harmony with environmental care**

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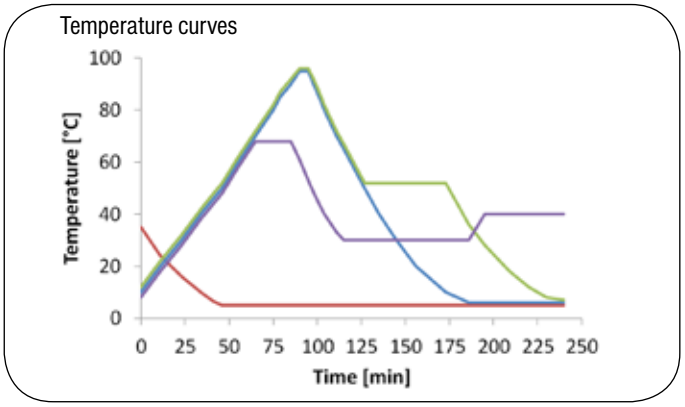
Plevnik products - **in the service of the user**

• Pasteurizer PH is a **universal device** used for the milk pasteurization and its thermal reproduction into dairy products such as yogurt, pasteurized milk, cheese, curd, cream... . It can be used as a **pasteurizer, cheese kettle, milk cooling tank and fermenter** in the same production process or only one of these funcions can be used as stand-alone production process.

• Pasteurizer PH allows the **thermal treatment** of milk in a temperature range between **4°C and 100°C**.

- Heating is done by: electrical heaters or electrical heaters in combination with a heat pump (option: other combinations (hot water boiler...))

- Cooling is done by: cooling agregate or cooling agregate in combination with a heat exchanger



Variety of dairy products

The **touch screen controller MC1** enables to set different temperature curves specific per products (includes heating, cooling, stirring control). All process parameters can be changed, monitored and saved within the controller / process operation. Both operating modes, automatic and manual, are available.

Left graph: temperatures curves for different dairy products

Simple installation

Pasteurizer PH does not need any external energy supply, neither heating (hot water, steam, gas, ...) nor cooling (tap water, iced water, ...)

All it needs is electrical connection 400V 3N 50Hz

Energy - saving contruction

Energy for heating and cooling is exchanged directly through the coat and the bottom of the kettle. Kettle coat and bottom consist of three stainlees steel plates. The chamber close to the interior of the kettle contains glycol used for heating / cooling and circulates in closed (pressurized) system. Glycol volume is very small and represents **only 3-6%** of the kettles useful volume. This allowes **more accurate** temperature control and low energy consumption.

The chamber close to the exterior of the kettel contains highly efficient **insulation**.

Energy consumption is additionally reduced with the use of a water circulation pump which increases energy exchange between glycol and milk.

PLEVNIK devices **ease your work,**
make it **faster** and **more successful!**

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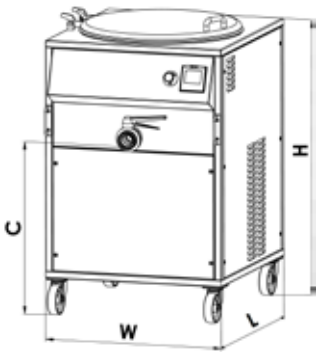
Pasteuriser PH 50l - 100l

- All-in-one **compact** execution
- **Easy to use** and very reliable
- **Minimal size**
- User friendly **touch screen controller** capable of saving up to 10 different programs
- **Economical** operation
- Does **not** need an outside energy source of heating (hot water, steam, gas...) or cooling (water, iced water...)
- All it needs is an electrical connection 400V 3N 50Hz (other voltages and frequencies available on request)
- Milk is cooled by a cooling aggregate that cools down to 4°C

up to 100°C down to 4°C

- The kettle has a three part insulated **energy - saving** construction (closed circuit heating and cooling system) made entirely of stainless steel W.Nr.1.4301
- Thermal energy for heating and cooling is exchanged directly through the coat and the bottom of the kettle which gives you a very good energy conversion efficiency
- Heating with electrical heaters or with a combination of electrical heaters and a heat pump
- Cooling with an inbuilt cooling aggregate (no need for an outside supply of cold water)
- The thermal treatment of milk is automated with the use of a **controller MC1** on which you can set, change and save all the parameters of the processes of heating and cooling.

			Execution		
			EZ	ETCZ	ETCV
Heating	with electrical heaters (up to 100°C)		✓	✓	✓
	with the heat pump (up to 45°C)	air cooled condenser	-	✓	-
		water cooled condenser	-	-	✓
Cooling	with the cooling aggregate (down to 4°C)	air cooled condenser	✓	✓	-
		water cooled condenser	-	-	✓
Touch screen controller			✓	✓	✓
Stirrer speed regulation			✓	✓	✓



Type	Electrical heaters (kW)	Heat pump - heating power* (kW)	Cooling aggregate - cooling power** (kW)	Dimensions (mm)			
				W	L	H	C
PH 50	6	7,5	6	590	740	1400	700
PH 100	9	11,3	10	780	840	1190	750

* average power when heating milk from 4°C to 45°C

** average power when cooling milk from 95°C to 4°C

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Pasteuriser PH 200l - 650l

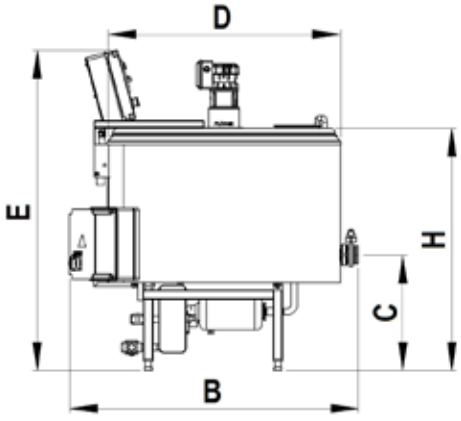
- **Easy to use** and very reliable
- User friendly **touch screen controller** capable of saving up to 10 different programs
- **Economical** operation
- Does **not** need an outside energy source of heating (hot water, steam, gas...) or cooling (water, iced water...)
- All it needs is an electrical connection 400V 3N 50Hz (other voltages and frequencies available on request)
- Milk is cooled by a cooling aggregate that cools down to 4°C

up to 100°C down to 4°C

- The kettle has a three part insulated **energy - saving** construction (closed circuit heating and cooling system) made entirely of stainless steel W.Nr.1.4301
- Thermal energy for heating and cooling is exchanged directly through the coat and the bottom of the kettle which gives you a very good energy conversion efficiency
- Heating with electrical heaters or with a combination of electrical heaters and a heat pump
- Cooling with a two-step cooling unit
- The thermal treatment of milk is automated with the use of a **controller MC1** on which you can set, change and save all the parameters of the processes of heating and cooling.

				Execution			
				EZZ	EVV	ETCZZ	ETCVV
Heating	with electrical heaters (up to 100°C)			✓	✓	✓	✓
	with the heat pump (up to 45°C)		air cooled condenser	-	-	✓	-
	with the heat pump (up to 45°C)		water cooled condenser	-	-	-	✓
Cooling	with a heat exchanger	(100°C - 40°C)	air cooled	✓	-	✓	-
		(100°C - 25°C)	water cooled	-	✓	-	✓
	with the cooling aggregate (down to 4°C)		air cooled condenser	✓	-	✓	-
	with the cooling aggregate (down to 4°C)		water cooled condenser	-	✓	-	✓
Touch screen controller				✓	✓	✓	✓
Energy recuperation				-	option	-	option

Option: heating with hot water from boiler



Type	Heaters (kW)	Kettle dimensions (mm)				
		D	H	C	B	E
PH 200	18	ø820	1010	475	980	1380
PH 300	24	ø1000	1010	475	1150	1450
PH 500	36	ø1120	1030	330	1270	1450
PH 650	45	ø1280	1010	330	1430	1500

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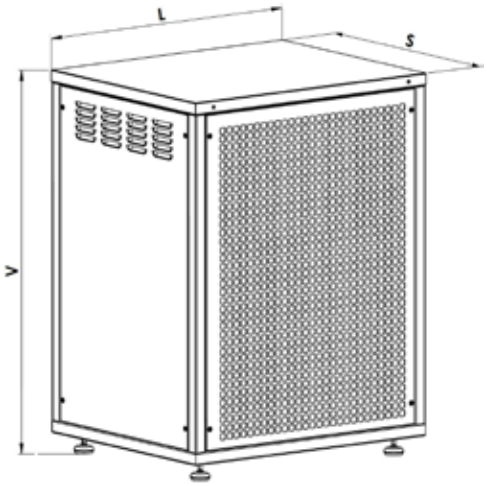

Type	Dimensions of the cooling unit (mm)					
	Type EZZ, ETCZZ			Type EVV, ETCVV		
	V	L	S	V	L	S
PH 200	1870	1500	890	1250	900	750
PH 300	1870	1500	890	1250	900	750
PH 500	2400	1800	980	1400	1000	800
PH 650	2200	2300	1080	1600	1100	900

Included parts and main optional equipment for the pasteurizers

Type:	PH 50-100	PH 200-650
Heating up to:	100°C	100°C
Cooling down to:	4°C	4°C
Material - stainless steel:	AISI 304/316	AISI 304/316
Energy saving construction of the kettle (**laser welded**)	●	●
2R polished interior of the kettle (mirror)	o	o
Outflow DN 50	/	●
Outflow DN 65	●	o
Water circulation pump (reduces energy consumption)	●	●
One part cover, standard propeller stirrer 23 rpm	●	●
Console for the stirrer, two part cover	/	o
Stirrer 75% diameter of the kettle	o	o
Dispersion stirrer	o	o
Scrape stirrer	o	o
Stable suport with inclination mechanism	/	●
Support on wheels	●	o
Working platform	/	o
Elevating device	/	o
Inox protection around the support (3 sides) ≤ 300l	●	o
Inox protection over the motor of the stirrer	/	o
Stainless steel control panel	●	●
Stainless steel power electric box	/	o
Automatic **touch screen** regulation MC1	●	●
Stirrer speed regulation	●	o
Module for working without the controller	o	o
Module for choosing the power of electrical heaters	o	o
Conversion of the waste energy of cooling for heating sanitary water	/	o
Temperature recorder	o	o

● - included o - option / - not avaliable

Additional equipment - Accessories

- A wide range of **accessories** are available as well. They can extend the **usefulness** of the device, extend variety of dairy products and increase **production efficiency**.
- Available are different types of stirrers, supports, temperature recorders, stirrer speed control, elevating device, curd draining strip, ...

Elevating device

Working platform

Movable console of the stirrer, **two part** cover

Stainless steel cover of the installation under the kettle

Special stirrer for yogurt

Scrape stirrer

Three-part cheese harps

Digital temperature recorder

Application varieties

Why coose **water cooled (ETCV, EVV, ETCVV)** executions?

Water cooled cooling units are **smaller** and do not produce **excessive heat** in their vicinity. They do not require to be placed in a especially **aerated room**. For kettles up to 500l they can be installed inside the dairy room. During milk cooling they produce hot water which can be stored and used for cleaning, animal feeding...

Example:

A PH 200 **EVV** while cooling 200l of milk from 65°C to 10°C can heat **300l** of water from 15°C to **50°C**

Heat pump executions (ETCZ, ETCV, ETCZZ, ETCVV) - an additional **money saver**

The cooling aggregate of the PH can be turned into a **heat pump**. This way it can be used also to **heat the milk up to 45°C**. Heating with the heat pump **consumes 70% less electrical energy** than heating with electrical heaters.

Heating the milk higher (up to 100°C) is still done with electrical heaters. The change from heat pump heating to electrical heating is done automatically and doesn't require any intervention by the user.

ADVANTAGES OF THE PH MACHINES:

SIMPLE INSTALLATION
- **Minimal installation requests = Minimal installation costs**

EASY TO USE
- User friendly touch screen controller able to save up to 10 different programs (all process parameters can be changed, monitored and saved within controller/ process operation, fast and simple stirring replacement)

THERMAL TREATMENT
- Thermal treatment of milk in the range of **4°C to 100°C**

QUALITY MANUFACTURING
- **Best performance / size ratio on the market** - minimal size and maximal performance
- **Extended lifetime**
  - of the device, due to laser welded coat made of high quality stainless steel W.Nr.1.4301/1.4404 (AISI 304/316)
  - of the electrical heaters, due to closed heating / cooling system

FINANCIAL BENEFITS
- **ALL IN ONE** - only one device used for production of a variety of dairy products
- The device can be used for other application purposes as well (cooling tank for milk, cooling maturation room, heating tap water, ...)
- By using a wide range of accessories is possible to extend the usefulness of the device, extend variety of dairy products and increase production efficiency

SOCIAL ASPECT
- **New value added** to milk producers, increasing the value of country-side farms and enabling new employments

ECOLOGICAL ASPECT
- **Low energy consumption, no waste water produced,** precise temperature control

PLEVNIK LONGTERM PARTNERSHIP
We are proud to be present on very competitive dairy markets (France, Italy, Germany, Austria, Switzerland,...) for more than 20 years. More than 2 decades of experiences are built into all our products. It is our constant ambition to improve ourselves to offer competitive products to you.

All our products are **user and environmental friendly, low energy design, made for long-term use** (in terms of sustainable development and environment protection) and uses harmless cooling mediums. They are made in accordance with international standards, CE directives and the newest innovations in the dairy industry.

We can offer you turn-key solutions!

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