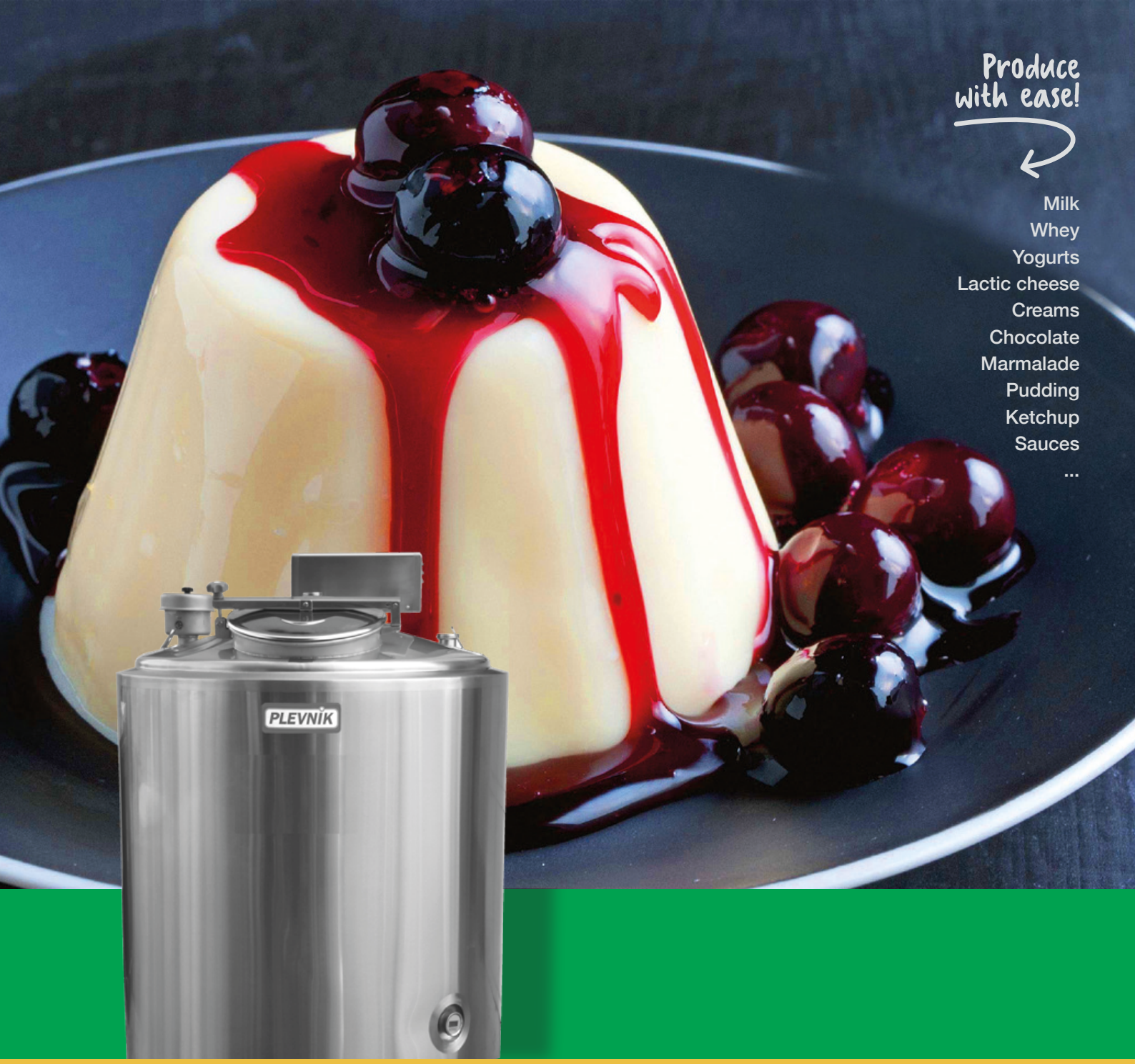


PROCESSING STIRRING TANKS PST

250–3000 l

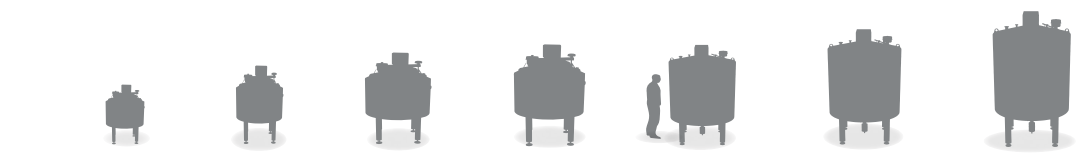
PLEVNIK

Add value to food

PROCESSING STIRRING TANKS PST 250–3000 l

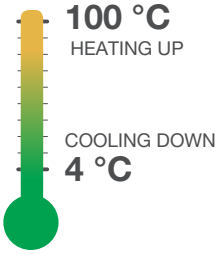
PLEVNIK

The Process Stirring Tank PST is a universal device used for the thermal reproduction and stirring of many different products with a density up to 50.000 cPs. Can be used in dairy, bakery, cosmetics, pharmaceuticals, ...



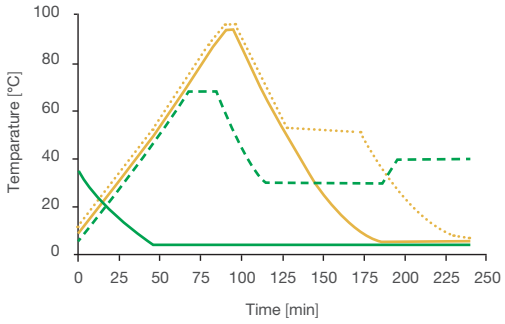
Basic equipment:

- three-part, energy saving, insulated tank with conical bottom, made of stainless steel W.Nr.1.4301 / W.Nr.1.4404 (AISI 304 / AISI316)
- laser welded exchanger allows a maximal heat exchanging area on the wall and bottom
- maximal working pressure in the exchanger: 3 bar
- maximal temperature in the exchanger: 115 °C
- welded cover with manhole and air valve
- electrical (EL), hot water (HW) (boiler, solar, heat pump,...) or combined (EW) heating
- connections for heating or cooling water
- CIP cleaning in place system (closed execution)



ADVANTAGES:

→ **Automatized processes**
→ **Dedicated stirrers**
→ **Two simultaneous stirrers**
→ **Heating up to 2 °C / minute**



→ The process stirring tank (PST) allows thermal treatment in a temperature range between 4 °C and 100 °C.

→ Heating is done by: an outside hot water boiler, electrical heaters or electrical heaters in combination with a hot water boiler.

1. **CIP** Cleaning system that provides for a fast and easy everyday clean tank
2. **Measurement scale *** for the optical measurement of volume
3. **TWO stirrers simultaneously *** give a greater variety of process choices
4. **Stirrers** are one of the critical part of process - we develop an entire specter of them
5. **Pneumatic valves *** - automatic control of outgoing products

* Available as an option

Produce with ease

Milk
Whey
Yogurts

Lactic cheese
Creams

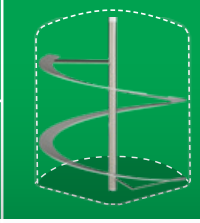
Chocolates
Marmalades
Pudding

Ketchup
Sauces
Panna cotta

Rice Milk
Creamy cheese and much more ...

STIRRING PROCESS:

Stirrers — Your products	Viscosity (Cps)	Helical TYPE 1 R 25–70 rpm 30–160 m/min
Milk	3	
Guar gum 0.5%	130	
Sweet cream	200	
Whey	500	
Lactic cheese	500	
Liquid yogurt	1000	
Ketchup	1000	
Stirred yogurt	2200	
Yogurt	2600	–
Tomato sauce	2600	–
Chocolate	2800	– –
Greek yogurt	3500	– –
Guar gum 1%	4000	– –
Marmalade	8500	– –
Pudding	9000	
Rice pudding	10000	
Spreads	15200	
Guar gum 2%	16000	– – – –

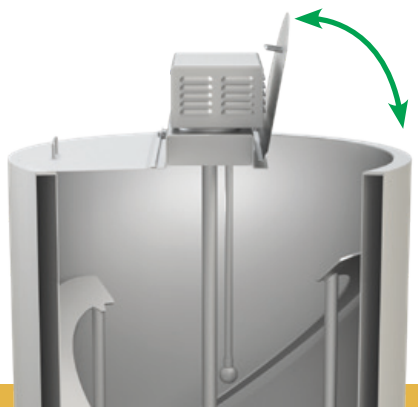


As food producer I can make a lot of different foods with the same setup.

The helical type 1 stirrer is the best stirrer for **mixing liquid products** with solids, or **simply granulated solids**. The design of the stirrer provides gentle but effective mixing without damaging the solids.

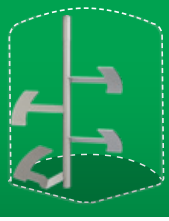
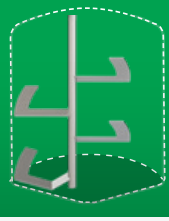
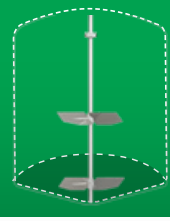
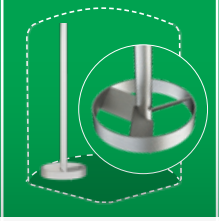
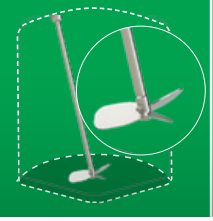
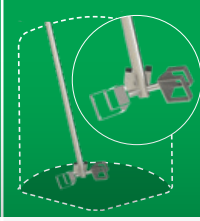
PST OPTIONS

Open execution, two-part cover
For easy and greater access into the tank. Open access for manual cleaning.



Working platform
Access to the tank with a staircase and a safety rail.

Dosing funnel
Dosing with a funnel is a practical way to mix bulk ingredients and liquids

Helical TYPE 2 **R** 17–50 rpm 21–120 m/min	+ scraper	Helical TYPE 3 **R** 25–70 rpm 25–160 m/min	Helical TYPE 4 **R** 25–70 rpm 30–160 m/min	Propeller TYPE 1 **R** 19–37 rpm 20–150 m/min	Propeller TYPE 2 **R** 20–200 rpm	Propeller TYPE 3 **R** 450–1800 rpm	Propeller TYPE 4 **R** 60–300 rpm
							

The helical type 2 stirrer is a universal stirrer. Its design provides a **gentle mixing** of the product and an **effective pumping effect**. The stirrer is capable of strong **displacement** of the product from the **top to bottom** of the tank.

The stirrer **acts as a helical type 2 stirrer** when rotating clockwise. When rotating counterclockwise **the stirrer acts as a scraper.**

The helical type 3 stirrer provides a good pumping effect. Its design (like the letter T) provide a flow in a shape of a spiral which enables a quite **gentle mixing** of the product and a good pumping effect for semi-viscous products.

The helical type 4 stirrer provides a good pumping effect. Its design (like the letter L) provide a flow which enables a quite **gentle mixing** of the product and a good pumping effect for **low viscous** products.The stirrer is positioned from the center.

The propeller type 1 stirrer provides a good pumping effect. Its centered position and the design of the shovels in one/two or more rows ensure the mixing of product **from the top to the bottom** of the tank.

The propeller type 2 stirrer provides an efficient pumping effect. The position and stirrer design ensure an efficient **pumping effect** in the **vertical direction** of the tank, which **prevents solid particles from depositing on the bottom**.

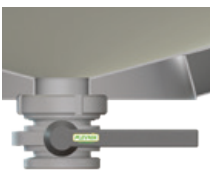
The propeller type 3 stirrer provides an efficient pumping effect. The position, design and **high speed of the stirrer** ensure the mixing of the product from the top to the bottom of the tank, which prevents solid particles from depositing on the bottom.

The propeller type 4 stirrer provides a good pumping effect. The position and stirrer design ensure mixing of the product. **The stirrer is especially aggressive on hard solids in the product.**

Pneumatic/ manual valve

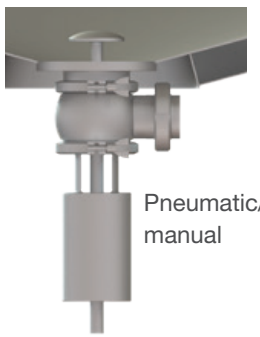
Controlled tank opening and closing is possible with a manual or pneumatic technical solution.

Butterfly valve



Pneumatic/ manual

Seat valve



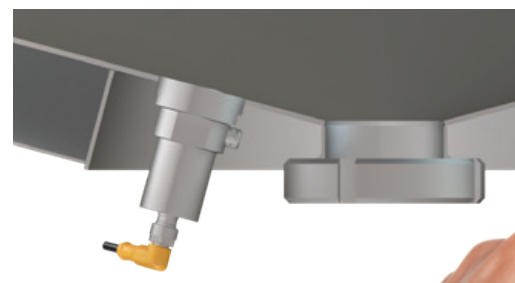
Pneumatic/ manual

Cooling module

Plate heat exchanger is an option, which is required for cooling.

Volume sensor

Measures the volume in the vessel with a pressure sensor.



MIXING PROCESS:

MIXING STIRRERS Substance	Viscosity (Cps)	Dispersion LIGHT 500–1500 rpm	Dispersion PRO 600–3000 rpm	Dissolver 500–1500 rpm	Homogeni-zation 500–1500 rpm	Blender 100–400 rpm	Screw 30–120 rpm
Guar gum 0.5%	130	▬ ▬ ▬ ▬					
Sugar 20%	500	▬ ▬ ▬ ▬	▬ ▬		▬ ▬		
Sugar 40%	1000	▬ ▬ ▬ ▬	▬		▬ ▬		
Powders - type 1	1000	▬ ▬ ▬ ▬			▬ ▬		
Sugar 60%	1500	▬ ▬ ▬	▬		▬ ▬		
Sugar 80%	2000	▬ ▬			▬ ▬		
Powders - type 2	3000		▬ ▬ ▬ ▬				
Guar gum 1%	4000		▬ ▬ ▬ ▬	▬ ▬			
Powders - type 3	4000		▬ ▬ ▬ ▬	▬ ▬		▬ ▬ ▬	
Guar gum 2%	16000		▬ ▬	▬ ▬ ▬		▬ ▬ ▬	
Solid particles	0.01–0.5 mm	▬ ▬ ▬	▬ ▬ ▬ ▬	▬		▬	
	0.5–2.0 mm	▬ ▬	▬ ▬ ▬ ▬	▬		▬	
	2.0–6,0 mm	▬	▬ ▬ ▬	▬ ▬		▬ ▬ ▬	▬
	6.0–… mm	▬	▬ ▬	▬ ▬ ▬		▬ ▬ ▬	▬ ▬ ▬ ▬

▬ ▬ ▬ ▬ Highly recommended

▬ ▬ ▬ Recommended

▬ ▬ Good

▬ Good with limitations

✚ Accessory

The LIGHT dispersion stirrer performs an **optimal mixing without air intake**. The stirrer can be used for **suspension**, **dispersion** and **homogenization processes of low viscosity products**. The dispersion head has custom made holes adapted to the process.

The PRO dispersion stirrer performs a **high-performance mixing** of content **in the micro and macro range without air intake**. It creates a controlled, wetting-out process by separating and breaking down the agglomerates. The stirrer can be used for suspension, dispersion and homogenization processes of semi-viscous products. The dispersion head has custom made slots adapted to the process.

The dissolver stirrer is used in **emulsification and dispersion processes**. It is designed for mixing liquid products with dispersed solids or **for very viscous products**.

The homogenization stirrer is used in **homogenization processes**. It is designed for **low viscous products.**

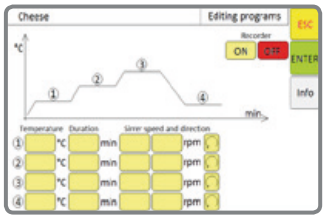
The blender stirrer is used for **blending, mixing**, and **emulsification** processes of semi-viscous products. The blender stirrer works in a **combination with the helical type 2 stirrer** which **continuously supplies unmixed product**.

The screw stirrer is used for mixing processes. It is designed to provide an efficient **vertical flow of semi-hard pieces without damaging them** and when **mixing high viscous products**. The screw stirrer works **in combination with** the **helical type 2** and **3** stirrers which continuously supplies unmixed product.

Note: Rotation speeds depend on the vessel dimensions.

State-of-the-art controller

The **MC 500** and **MC 700** digital controllers with large touchscreens enable easy and flexible operation of up to 10 thermal treatment programs.



Total process control. Various parameters may be changed even while the process is in operation.

Process Recording

The optional recording of processes enables a simple, reliable and safe production.

Heating options

HW

Heating up to 100 °C
→ connections to an external heating system
→ manual valves
→ control panel with basic heating regulation

Type	Heating power (kW)*	Code
PST 250 HW	35	1.700.00
PST 500 HW	65	1.700.01
PST 750 HW	65	1.700.02
PST 1000 HW	95	1.700.03
PST 1500 HW	95	1.700.04
PST 2000 HW	150	1.700.05
PST 3000 HW	200	1.700.06

EL

Heating up to 100 °C
→ electrical heaters **20–90 kW**
→ expansion vessel, safety valve, manometer, pump
→ control panel with basic heating regulation

Type	Heating power (kW)**	Code
PST 250 EL	20	1.701.80
PST 500 EL	36	1.701.83
PST 750 EL	40	1.701.84
PST 1000 EL	60	1.701.86
PST 1500 EL	90	1.701.87
PST 2000 EL	120	1.701.88

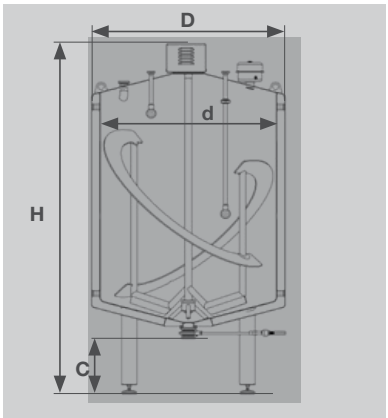
EW

Heating up to 100 °C
→ electrical heaters **20–60 kW**
→ expansion vessel, safety valve, manometer, pump
→ connections to an external heating system
→ control panel with basic heating regulation

Type	Heating power (kW)**	Code
PST 250 EW	20	1.701.90
PST 500 EW	36	1.701.92
PST 750 EW	40	1.701.94
PST 1000 EW	60	1.701.96
PST 1500 EW	90	1.701.97
PST 2000 EW	120	1.701.98

* Recommended power for the preparation of hot water with an oil or gas-powered heating boiler. Preparation of hot water is not included.
** Electrical heaters

Measurements



Type	Dimensions (mm)						
	Inside diameter d	Outside diameter D	Height H	Outflow height C	Water connections	Product inlet	Product outlet
PST 250	Ø 750	Ø 865	1420	300	5/4“	DN 40	DN 65
PST 500	Ø 900	Ø 1015	1720	300	5/4“	DN 50	DN 65
PST 750	Ø 900	Ø 1015	2110	400	5/4“	DN 50	DN 65
PST 1000	Ø 1185	Ø 1300	1980	400	5/4“	DN 50	DN 65
PST 1500	Ø 1185	Ø 1300	2450	400	6/4“	DN 50	DN 65
PST 2000	Ø 1430	Ø 1540	2250	400	6/4‘‘	DN 50	DN 65
PST 3000	Ø 1600	Ø 1735	2800	400	2‘‘	DN 50	DN 80

PST 08 06 2018 EN

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With Plevnik equipement.

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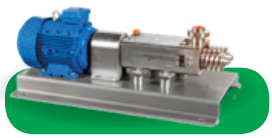
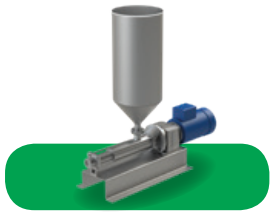
Storage tank

Flow pasterisation

Pumping acessories

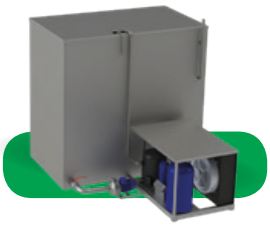


Mixing pump

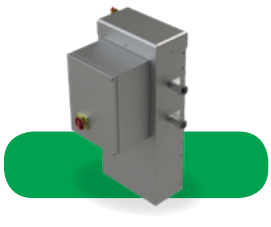


Filling machine

Ice bank



Pantherm



Hot water preparation

Fermentation units

Cleaning In Place (CIP)

Reference

PST 250

Country	Slovenia
Year	2016
Capacity	250 l
Heating	Heating electricity
Industry	Chemistry

PST 500

Country	Germany
Year	2017
Capacity	500 l
Heating	Heating water
Industry	Dairy

PST 1000

Country	Germany
Year	2016
Capacity	1.000 l
Heating	Heating water
Industry	Dairy

PST 1000

Country	Germany
Year	2016
Capacity	1.000 l
Heating	Heating water
Industry	Dairy

PST 3000

Country	Etiopia
Year	2016
Capacity	3.000 l
Heating	Heating water
Industry	Dairy