

Dion

ENGINEERING



PRODUCT CATALOG

YOUR PROJECT
WITH OUR EXPERIENCE



ABOUT US

Our company DION Ltd. was founded in 1997 with activity producing of whole egg powder and pasteurized egg melange.

Our daughter company DION ENGINEERING Ltd. was founded as engineering company with activity designs, manufactures, supplies, installs, and launches into operation processing equipment for pasteurizing and drying of eggs, milk, juice etc. in the food industry. The equipment we offering is used for many years with success.

Our big advantage is that the client can come to our production plant and see how the equipment is working and we can share with you some details of the processing.

COMPLETE EGG PROCESSING LINE

Egg Processing Line includes:

- EGG WASHER
- EGG BREAKER
- EGG PASTEURIZER
- COLLECTING RAW PRODUCT HANDLING SYSTEM
- FILTER
- FILLING MACHINE
- CIP MODULE
- SHELL HANDLING SYSTEM
- PRE-CHILLER MODULE
- CHILLER
- AIR COMPRESSOR
- SPRAY DRYER



EGG PASTEURIZERS

Dion Engineering offers three kind of pasteurizers:

Classic Pasteurizer with PHE /plate heat exchanger/



Pasteurizer with RSH

Application:

For the pasteurization of the egg liquid products.

Capacity

from 200 l/h up to 2 000 l/h

Advantages:

The Pasteurizer with RSH use a two-section plate heat exchanger with own heat source - Rotor Spinning Heater

Working cycle of the pasteurizer is 8 hours without cleaning.

Classic Pasteurizer

Application:

For the pasteurization of the egg liquid products.

Capacity

from 200 l/h up to 10 000 l/h

Advantages:

The Classic pasteurizer use a three-section plate heat exchanger with an external heat source: Hot water or Steam.

Working cycle of the pasteurizer is 4 hours without cleaning.



Tubular Pasteurizer



Application:

For the pasteurization of the egg liquid products.

Capacity

from 200 l/h up to 10 000 l/h

Advantages:

The Tubular pasteurizer use a tubular heat exchanger with external heat source - Hot water or Steam boiler

Working cycle of the tubular pasteurizer is 4 hours without cleaning.

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*WE GIVE THREE YEARS WARRANTY FOR ANY EQUIPMENT
MANUFACTURED BY DION ENGINEERING LTD*

PASTEURIZER WITH RSH

Application:

For the pasteurization of the egg liquid products.

Capacity

from 200 l/h up to 2 000 l/h

Temperature regimes:

Whole: from 62°C to 67°C (holding time: 180 seconds)

White: from 50°C to 55°C (holding time: 180 seconds)

Yolk: from 62°C to 70°C (holding time: 180 seconds)

Advantages:

The Pasteurizer with RSH use a two-section plate heat exchanger with own heat source - Rotor Spinning Heater

Working cycle of the pasteurizer is 8 hours without cleaning.

OPTIONAL: Full automatization and Full automatic C.I.P. system.

No need to buy steam or gas boiler. The heating is done by using the physical friction and cavitation between the moving particles. In this process, the temperature grows inside the product itself.

No need to buy homogenizer. Using rotor spinning heater gentle homogenization occurs. The homogenization with rotor spinning heater is even gentler than with standard homogenizer. This helps to protect the functional properties of proteins (breaking, emulsifying, coloring) that remain the same as in fresh eggs. Allows pasteurization at high temperatures for 8 hours without cleaning. When using rotor spinning heater, direct heating is applied to the liquid egg mass without using heat-transfer surface. Precise temperature control. RSH ensure very accurate temperature control with a precision of 0.1 degrees.



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ROTOR SPINNING HEATER

Rotor Spinning Heater is integrated in the Pasteurizer. Applies direct heat to liquids without the use of a heat-transfer surface.

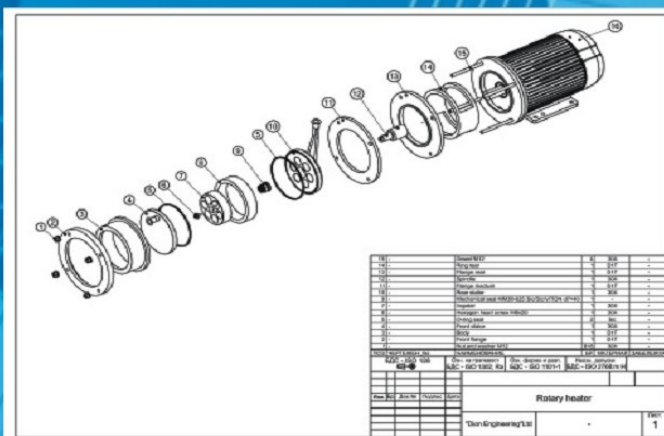
Homogenize the product with the best functional properties.

Advantages:

- Allows pasteurization at high temperatures for extended periods of time without cleaning.
- Precise temperature control.
- No need to buy homogenizer.
- No need to buy boiler for hot water.
- Prolonged work time of the pasteurization before stop for cleaning
- Saves money, energy, water, chemicals and labor.



NEW INNOVATION



dionengineering.eu

CLASSICAL PASTEURIZER

Application:

For the pasteurization of the egg liquid products.

Capacity

from 200 l/h up to 2 000 l/h

Temperature regimes:

Whole: from 62°C to 67°C (holding time: 180 seconds)

White: from 50°C to 55°C (holding time: 180 seconds)

Yolk: from 62°C to 70°C (holding time: 180 seconds)



Advantages:

The Classic pasteurizer use a three-section plate heat exchanger with an external heat source: Hot water or Steam.
Working cycle of the pasteurizer is 4 hours without cleaning.
Optional: Full Automatic and Full automatic C.I.P..

Kelvion



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Tubular Pasteurizer

Application:

For the pasteurization of the egg liquid products.

Capacity

from 200 l/h up to 10 000 l/h

Temperature regimes:

Whole: from 62°C to 67°C (holding time: 180 seconds)

White: from 50°C to 55°C (holding time: 180 seconds)

Yolk: from 62°C to 70°C (holding time: 180 seconds)



Advantages:

The Tubular pasteurizer use a tubular heat exchanger with external heat source - Hot water or Steam boiler

Working cycle of the tubular pasteurizer is 4 hours without cleaning.

OPTIONAL: Full automatization and Full automatic C.I.P. system.

The Tubular pasteurizer is pre-assembled and factory-tested with water to ensure fast installation.

Skid-mounted and small footprint for flexibility in limited space.

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Dion engineering offers Full automatic C.I.P. for the Pasteurizers

What is C.I.P.:

Clean in place (CIP) is a method of cleaning the interior surfaces of pipes, vessels, process equipment, filters and associated fittings, without disassembly.

Application:

This C.I.P. module for pasteurizing system is suitable for automatic cleaning of reception vessel, screw pump, automatic filter, filling machine, holding tube, pipes, valves, PHE, RSH and etc..

Advantages:

The Clean in place (CIP) is faster, less labor-intensive and more repeatable, and poses less of a chemical exposure risk. The whole C.I.P. module is controlled by computer.

Typical C.I.P. Cycles:

1. Pre-rinse with water, which is performed to wet the interior surface of the tank and remove residue.
2. Caustic solution single pass flush through the vessel to drain. Caustic is the main cleaning solution.
3. Caustic solution re-circulation through the vessel.
4. Intermediate rinse with water.
5. Acid solution wash – used to remove mineral precipitates and protein residues.
6. Final rinse with water – rinses to flush out residual cleaning agents.



Factors affecting the effectiveness of the cleaning:

- Temperature of the cleaning solution.
- Concentration of the cleaning agent.
- Contact time of the cleaning solution.
- Pressure exerted by the cleaning solution (or turbulence).

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EGG WASHER MACHINE

All types of egg washers can be connected to the Egg Pasteurizer and to be part of Complete Egg Processing Line. Egg washer machine is suitable to connect with egg bracker machine.

The operator is required to manually put 30 eggs on the feeder tray prior to starting the machine.

The machine automatically collects eggs from the steel feeder tray and moves them over special knives which cut and separate the shells.

Next, the eggs, after going through a quality control tray, go through a separator, where egg whites are separated from yolks after which they are redirected into supplied buckets.

Application:

Wash and disinfection and drying of eggs.

How it works:

Wash eggs in temperature 35 degree and disinfection with 85 degree.

Destination:

Bakeries, confectioneries, egg processing companies, farms.



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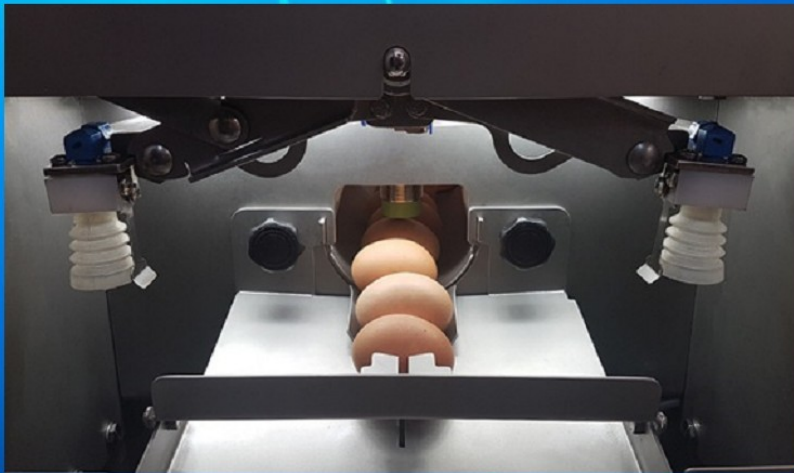
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EGG BREAKER MACHINE

All types of egg breaking machines can be connected to the Egg Pasteurizer and to be part of Complete Egg Processing Line. Egg breaker machine is suitable to connect with egg washer.

Application:

Egg breaker machines are used to break eggs and have function to separate white from the yolk.





Automatic Filter

The filter can be used in the Complete Egg Processing Line.

Application:

For filtering of liquid food products.

Advantages:

- Produced from stainless steel AISI 316.
- Comply with the food industry and safety requirements.
- Safety compressed air drive motor / (no electric motor).
- Capacity: up to 3 000 l/h.
- The automatic filter is self-cleanable.
- Can be integrate into the installation.



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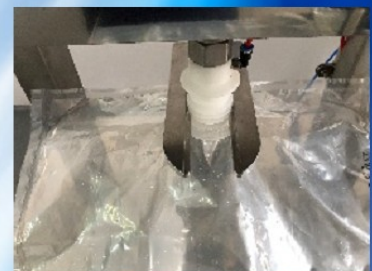
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FILLING MACHINE MODULE



Advantages:

- The filling machine is suitable for filling liquid products into plastic bag-in-box bags with volume 5l, 10l and 20l or in bottles.
- The filling machine can be moved. It is easy to put the filling machine close to the pasteurizer or 10 meters or more away from the pasteurizer, even in another room.
- Compact design.
- Quick and easy to clean.
- Low cost and low maintenance cost.



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Pre-chiller Module

Application:

This system regulate the cooling fluid to be always with defined temperature.

We recommend the use air cooled scroll inverter with pre-chiller module: system of pumps, PID regulation, receiver tank, valves, etc.



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Chiller

Chiller can be used in the Complete Egg Processing Line.

For the needs of the pasteurizers, every chiller must come with OPZL option (for cooling up to -15°)

How it works:

In the cooling section, the product is chill up to 4°C or below using the existing cooling system, and will go to the valve group that will send the product to packaging or recirculation.

We recommended chilling system with cooling capacity – 064 Kw.

We recommend AIR COOLED SCROLL INVERTER DAIKIN - EWAQ064 CWP
with option OPZL (-10° to cooling water).



Advantages:

Inverter chiller.

High part load efficiency for low running cost.

Minimal starting currents.

No buffertank required for standard applications.

Daikin scroll compressor.

Wide operation range.

Integrated hydronic module on request.



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AUTOMATIZATION

Dion Engineering offers proprietary software that enables full automation using the Siemens PLC.

PLC Controlled:

- Full automatic C.I.P.
- IP 65 control panel
- Compact design
- Remote communication via Internet router
- Touch screen panel
- Ability to watch intervene all the temperature, pressure, flow etc.



Our automation allows:

- automatic monitoring of the set sequence of technological process
- automatic monitoring and control of CIP
- management control
- screen preview of current processes
- graphical visualization of the change of parameters (pressures, temperatures etc.)
- recording and archiving of information
- the possibility of allowing workers' access to technological parameters.



SIEMENS
JUMO

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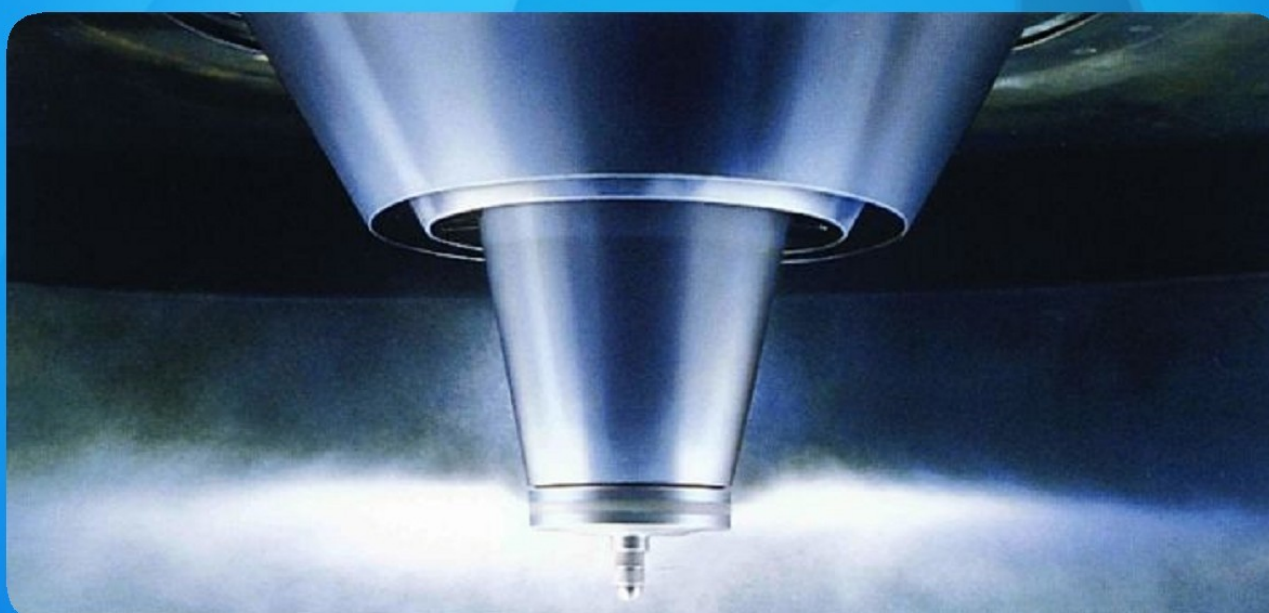
SPRAY DRYER

Dion Engineering LTD can offer spray dryers able to evaporate water from 10 l/h up to 1200 l/h.

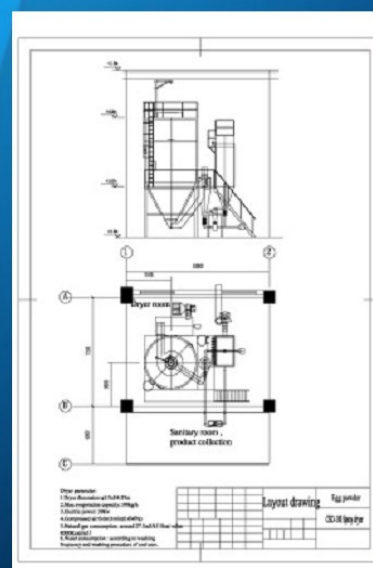
Spray dryer can be used in the Complete Egg Processing Line.

Application:

Drying egg liquid into powder.



Model	Water Evaporating Capacity	Input Capacity (feed material, kg/h)			Output Product (kg/h)		
		Whole egg	Egg Powder	Egg Yolk	Yolk Powder	Egg Albumin	Egg White Powder
CSD-10	10 kg/h	10 kg/h	3 kg/h	18 kg/h	8 kg/h	11 kg/h	1 kg/h
CSD-30	30 kg/h	39 kg/h	9 kg/h	53 kg/h	24 kg/h	34 kg/h	4 kg/h
CSD-40	40 kg/h	52 kg/h	12 kg/h	70 kg/h	32 kg/h	45 kg/h	6 kg/h
CSD-60	60 kg/h	78 kg/h	19 kg/h	105 kg/h	48 kg/h	68 kg/h	8 kg/h
CSD-80	80 kg/h	104 kg/h	25 kg/h	140 kg/h	64 kg/h	90 kg/h	11 kg/h
CSD-100	100 kg/h	130 kg/h	31 kg/h	175 kg/h	80 kg/h	113 kg/h	14 kg/h
CSD-200	200 kg/h	260 kg/h	62 kg/h	351 kg/h	159 kg/h	226 kg/h	28 kg/h
CSD-400	400 kg/h	519 kg/h	124 kg/h	702 kg/h	319 kg/h	452 kg/h	55 kg/h
CSD-1200	1200 kg/h	1558 kg/h	371 kg/h	2105 kg/h	957 kg/h	1356 kg/h	166 kg/h



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Machine for Cake Gel Emulsifier

Application:

The Machine is used for industrial production of Cake Gel Emulsifier.

The Cake Gel Emulsifier is a mix of liquid and dry emulsifiers, which are melted, cooled and transformed in homogeneous product. The Cake Gel Emulsifier is an improver which enters in all the recipes for Sponge cake and Swiss rolls. The Cake Gel Emulsifier improves the texture, volume, shelf life, ensures dough airiness and helps diminishing the active moisture (a.w.)

Advantages:

- The Machine is designed with simple and reliable construction - easy to use and operate.
- With this machine we offer recipe, technology and training for production of Cake Gel Emulsifier.

Time for one batch is approx. 3 hours incl. loading / unloading.

Ingredients that enter into a sponge cake gel emulsifier:

Water, Glycerol - [E 422], MPG - [E 1520],

Polisorbate 60 - [E 435],

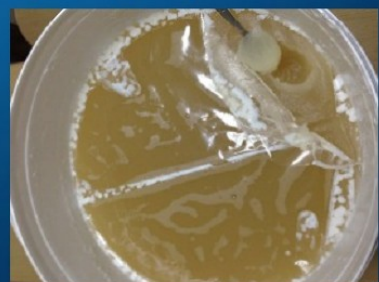
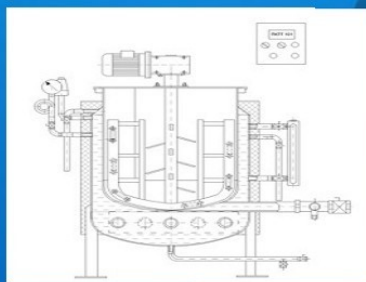
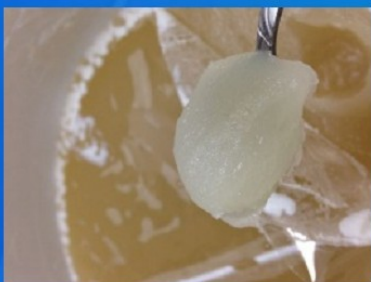
Polyglycerol esters of fatty acids - [E 475],

MDG / Mono and glycerides

of fatty acids - [E 471], Sorbitan fatty acid esters - [E 491]

Stearic acid - [E 579],

Potassium Hydroxide - [E 525].



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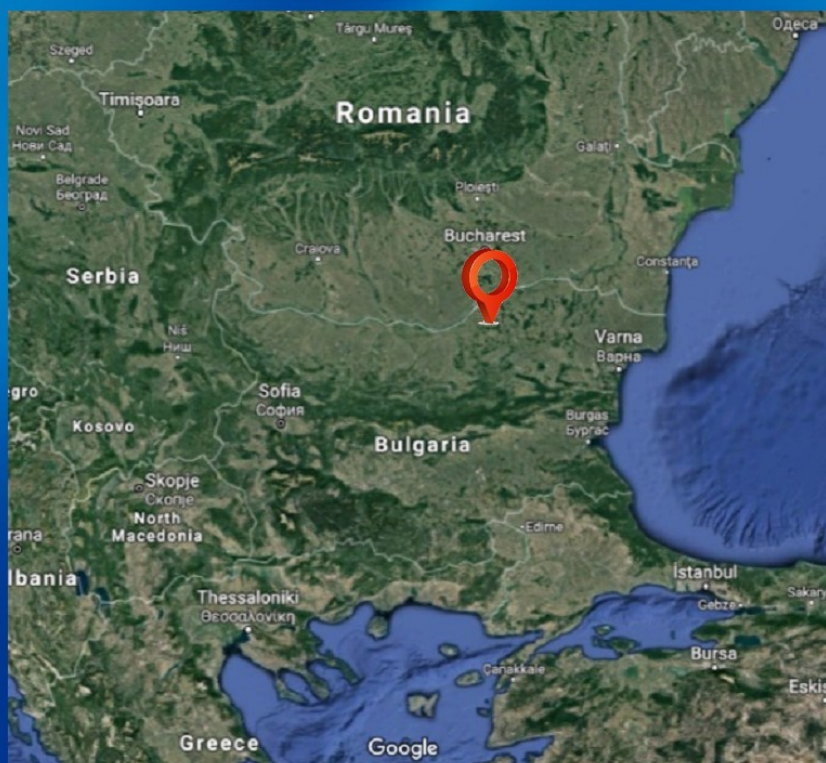
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