



TETRA PAK® HOMOGENIZER 25G

Homogenizer or high-pressure pump for liquid food applications



HIGHLIGHTS

- Maximum capacity 9 000 l/h
- High homogenization efficiency – for high product quality and low cost
- High homogenizer uptime
- Turnable parts – low maintenance and spare parts costs
- Handles a wide range of products

APPLICATION

The Tetra Pak® Homogenizer 25G handles high-pressure homogenization of low to high viscous, aseptic and non-aseptic emulsions and suspensions, including pasteurized milk, UHT milk, cream, yoghurt, condensed milk, ice cream mix, fruit juices, plant based beverages, concentrates, purees, tomato preparations, dressings, mayonnaise, sauces and gravies.

WORKING PRINCIPLE

The product enters the machine through the inlet pipe. The pistons pressurize the product at the homogenizing pressure. The high pressure pushes the product through the small annular gap of the homogenizing device. The

pressure is transformed into high velocity, generating extreme turbulence and cavitation, which reduces the size of the liquid droplets and solid particles in the product. The product then exits through the outlet pipe.

DESIGN

The Tetra Pak Homogenizer 25G is a horizontally mounted 3-piston positive displacement pump with a built-in HD 100 homogenizing device. The seat and forcer disc are reversible for double the lifetime. The wear-resistant parts are made of cobalt carbide.

The unit features a high-pressure pump block of one piece forged stainless steel, designed for both aseptic and non-aseptic processing, with a quick-change piston-seal cartridge system, and fully replaceable suction and discharge valve seats. An efficient serial cooling water system offers low water consumption. The block is backed by a 10-year warranty against cracking.

As a high-pressure pump the machine is delivered with an automatic line pressure relief valve (LPRV), a hydraulically operated valve that protects the line after the homogenizer from overly high pressures.

TECHNICAL FEATURES

- HD 100 homogenizing device with hydraulic pressure setting for stable pressure (HD 100 not included when the unit is supplied as high-pressure pump only)
- Turnable parts – doubles the lifetime of homogenizing device, valves and seats
- Splash-lubricated crankcase made in high-quality cast iron
- One-piece forged pump block – hygienic and durable with ten year warranty against cracks
- Pulsation dampers and hygienic, heavy-duty clamp connections
- Floating piston connection – self-aligning
- Serial piston-cooling circuit – low water consumption
- Premium efficiency IE3 electrical motor

OPTIONS

- **Second stage homogenizing device** – mounted after the first, to improve homogenization effect
- **Aseptic version** – piston seals and dampers adapted for aseptic use, aseptic condensers for steam production, automated valve for changing from steam to water during CIP standard for aseptic machines
- **Pneumatic cooling water valve** – less temperature sensitive than standard electrical valves
- **Various remote control functions** – for controlling homogenizing pressure from remote locations
- **Machine control equipment** – optimizes cooling water to crankcase, and monitors inlet pressure and oil level in the crankcase
- **Noise reduction** – further reduction by up to 4 dB
- **Spare parts kit** – one set with the most common spares, such as seals and pistons
- **Wear parts** – key wear parts available in a wide selection of designs and materials adapted to your applications

TECHNICAL DATA

Capacity/pressure range

Pressure, bar (psi)	Max capacity L/h (gph)
160 (2 300)	9 000 (2 380)
200 (2 900)	7 150 (1 890)
250 (3 600)	5 700 (1 500)
315 (4 600)	4 430 (1 170)
400 (5 800)	3 570 (940)

Service media

	Non-aseptic	Aseptic
Cooling water (>300 kPa [40 psi], max 25°C [77°F], hardness < 10° dH)	220 L/h (58 gph)	585 L/h (155 gph)
Steam (>300 kPa [40 psi], dry and saturated)	-	25 kg/h (55 lbs/h)

* Cooling water can cut to 60 l/h (16 gph) for non-aseptic applications, if recycle unit is available.

Motor size

$$\frac{\text{Capacity L/h (gph)} \times \text{Pressure bar (psi)}}{30\,600 (87\,400)} = \text{kW (hp)}$$

Environment

Consumption data	Non-aseptic	Aseptic
Energy consumption/1 000 L product (kWh)	4.2	7.5
Water consumption/1 000 L product (L)	24	103
Possible cooling water to recirculate (% of total)	73	100
Steam consumption/1 000 L product (kg/h)	N/A	4.4
Noise, dB (A)	77	77
Carbon footprint/1 000 L product (kg CO ₂)	1.8	3.2

Data based on

Non-aseptic design: pasteurized white milk, max capacity at 140 bar.

Aseptic design: UHT, white consumption milk, max capacity at 250 bar.

Noise level as per ISO11203, distance 2 metres.

Shipping data

Motor type	Net weight, kg
No motor	1 695
45 kW/60 hp	1 925
75 kW/100 hp	2 285

Dimensions	mm
Depth (mm)	1 410
Width (mm)	2 240
Height (mm)	1 080
Service area (mm)	3 900 x 3 000
Service height (mm)	1 500

Export packaging: add 500 kg

Shipping volume: 9.2 m³