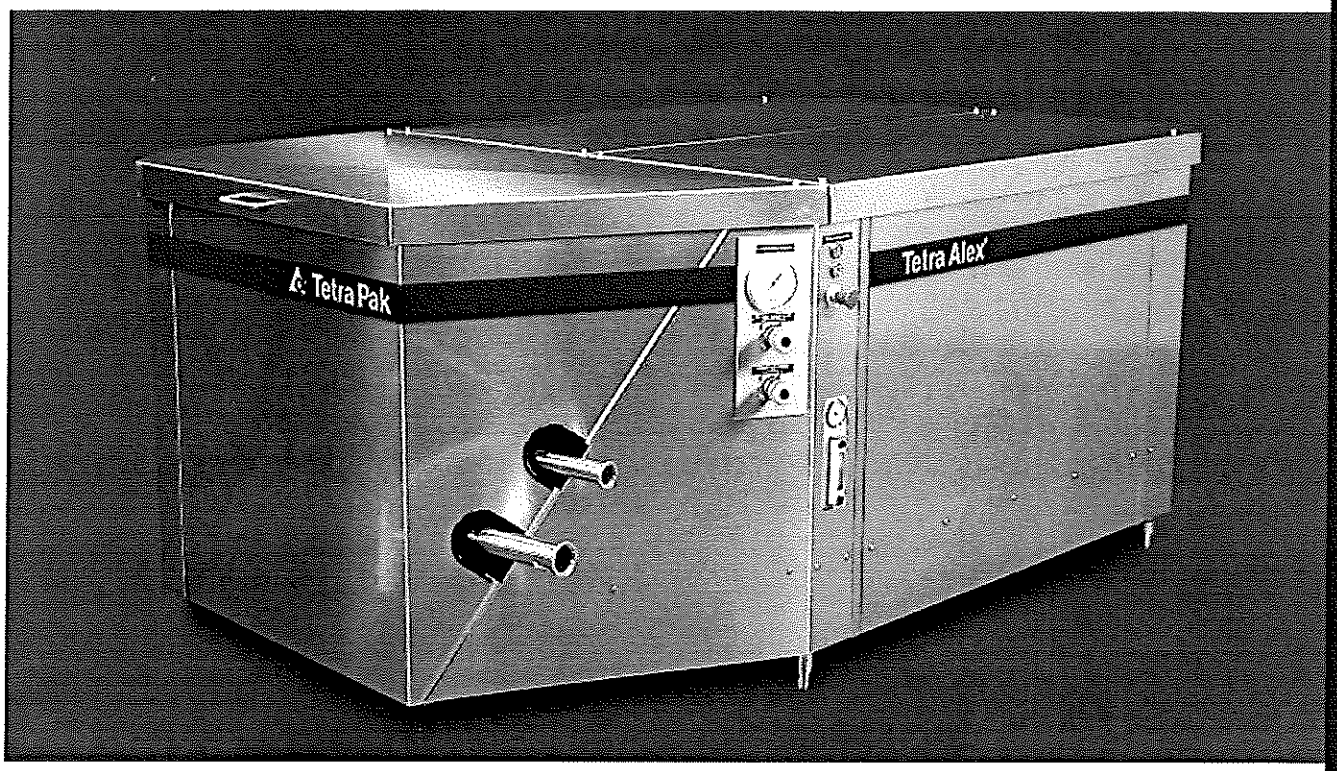
Tetra Alex® 25

Homogenizer or high pressure pump for liquid food applications



Tetra Alex 25 as homogenizer. The machine is equipped with optional equipment.

Application

High pressure homogenization of emulsions and suspensions. Available also as high pressure pump.

Dairy. Pasteurised milk, UHT milk, cream, yoghurt, condensed milk, ice cream mix etc.
Beverage. Fruit juices, concentrates, purées, tomato products etc.
Prepared food. Dressings, ketchups, liquid egg, mayonnaises, sauces, gravies, etc.

Working principle for homogenizer

The product is pumped under high pressure into the homogenizing device. In the device the product is forced through a small annular gap where the pressure transforms into high velocity. Extreme turbulence and cavitation effectively reduce the size of liquid droplets and solid particles.

Design

The Tetra Alex 25 is basically a horizontally mounted 3-piston positive displacement pump with built in homogenizing device.

Drive system. Power transmission from the motor via V-belts and pulleys through external shaft mounted reduction gearbox.

Drive housing. High quality cast iron housing. All bearings and crossheads are splash lubricated. Fully immersed oil cooler.

High pressure pump block. One piece forged stainless steel block with quick change piston seal cartridge system, fully replaceable suction- and discharge valve seats. Pistons of hardened stainless steel and piston seals for working temperature up to 85°C as standard. Versatile mushroom type valves for production of both low- and high viscous products. Symmetrical valve seats for double lifetime. Closed cooling water system. The pump block is designed for aseptic processing.
Pulsation dampers are included as standard. Hygienic heavy duty clamp connections.
A warranty of 5 years on the block against cracking.

Tetra Pak
protects what's good™

Homogenizing device. Homogenization with hydraulic pressure setting. Wear resistant homogenizing device of stellite material (Rex Alloy). Reversible seat with impact ring for double lifetime and grindable forcer.

Control system. Hydraulic pressure actuation unit fitted within frame. Hydraulic valves for pressure setting on front panel. Safety valves included. Electrical emergency switch and on/off push buttons. Terminal box. Analogue pressure indication in front panel. Cooling water valve (solenoid).

Housing. Stainless steel housing. Easy-to-open front hood for easy service access to product wetted parts. Back hood for inspection and service of drive end.

High pressure pump. The machine is delivered without homogenizing device, hydraulic unit and damper on the outlet. Rupture disc on the product outlet. At too high pressure the disc breaks, releasing the pressure.

Capacity / pressure range

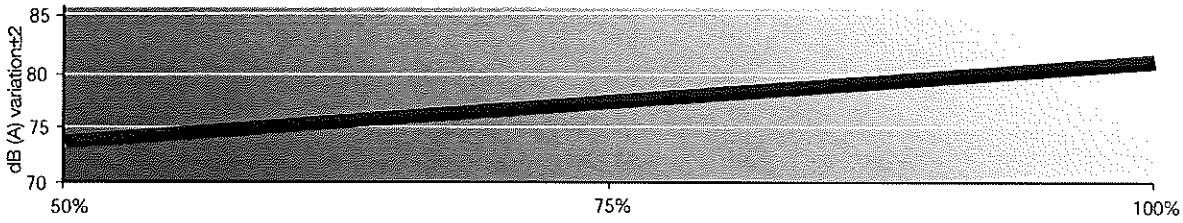
Pressure, bar (psi)	Max. capacity, l/h (gph)
400 (5 800)	5 000 (1 320)
315 (4 600)	6 200 (1 650)
250 (3 600)	8 000 (2 110)
200 (2 900)	10 000 (2 630)
160 (2 300)	12 600 (3 340)

Motor size

One/ two speed: $\frac{\text{Capacity l/h (gph) x Pressure bar (psi)}}{\text{30 600 (87 400)}} = \text{kW (hp)}$

Variable speed: $\frac{\text{Capacity l/h (gph) x Pressure bar (psi)}}{\text{26 010 (74 700)}} = \text{kW (hp)}$

Noise level



Noise pressure level measured according to ISO 3746, distance 1 m (40") free field sound level.
Actual level will vary depending on individual characteristics and installation.
Peak sound pressure at operator station: < 63 Pa (130 dB (C).

General dimension

	Homogenizer		Pump	
	160-250 bar	315-400 bar	160-250 bar	315-400 bar
Inlet pipe diameter, mm	76 (3")	51 (2")	76 (3")	51 (2")
Outlet pipe diameter, mm	51 (2")	38 (1,5")	49 (1,9")	38 (1,5")

General dimension, mm: 2240 x 1400 x 1080
Service area, mm: 3840 x 3000
Service height, mm: 1500

Service media consumption

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

** l/h **gph*

Shipping data

No motor	45kW/60 hp	75 kW/100 hp
1 695 kg	1 925 kg	2 285 kg

Export packing add 500 kg. Shipping volume 9,2 m³.

Options

- pistons in other materials
- v-packings
- 2nd stage homogenizing device
- homogenizing device in other material
- cooling water valve pneumatic
- aseptic condensor, solenoid or pneumatic steam valve
- remote indication of hydraulic pressure
- remote indication of product pressure
- remote on/off setting of hydraulic pressure
- remote continuous setting of hydraulic pressure
- control equipment:
  - oil temperature, LL/HL oil transmitter
  - automatic cooling water regulation
- crankshaft speed sensor
- spare part kits
- UPS (Uninterrupted Power Supply) connection

Tetra Pak

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Belfonte Ice Cream Co
Kansas City, MO

Proposal No. 20059115
December 3, 2004

USED TETRA ALEX 25 HOMOGENIZER

PROCESS DATA

Product:	Ice Cream mix, Yogurt, Cottage Cheese
Capacity:	2500 gph
Working Pressure:	2500 psig
Feed Pressure:	45 psi or higher
Temperature:	<185 deg F
Max Capacity:	2650 gph @ 2900 psi

TECHNICAL DATA

Electrical Data:	460V/60Hz/3-Phase
Piston Diameter:	50 mm
Motor Rating:	100 HP
Brake HP:	83.3
Water Consumption:	58 gph

WET END

* **5 year warranty against cracking of pump block.**
* One piece cylinder block of forged stainless steel.
* Self-aligning piston bushing, separate from pump block to prevent cracking of pump block.
* Spring loaded valves and removable valve seat.
* Double piston seal arrangement.
* Piston seals in quick change cartridge.
* 50 mm Chromium Plated Pistons.
* Mushroom valves made of solid stellite.
* Pulsation dampers for product suction and discharge lines.

Two Stage Homogenization Device

* Hydraulically actuated Two Stage Homogenization Device.
* Hydraulic unit mounted on frame, including remote pressure control valves (4-20mA).
* Homogenization seat and forcer piston of cobalt base stellite.
* Homogenization seat is reversible for double lifetime.
* Forcer piston is grindable for multiple lifetimes
* Analog pressure display of homogenization pressure on front panel.

DRIVE END

* Whole crankshaft drive installed in totally closed housing of cast iron.
* Splash lubrication of all moving parts.
* Cooling coils for crankcase and gearbox.
* Drive system consists of electric motor, V-Belts and reduction gearbox.
* Heavy-duty crankshaft of one-piece cast steel construction.
* External mounted reduction gearbox for smoother operation and less vibration.

FRAME

* Welded mild steel construction with stainless steel self supporting housing.
* Easily removable panels for greater serviceability.
* Unit is completely shrouded with stainless steel panels.

ELECTRICAL EQUIPMENT

* AC motor for hydraulic unit, 0.25kW/ 0.35hp.
* Terminal box inside machine and wiring to same.
* Emergency stop switch.
* Start/stop buttons on the machine.

STANDARD EQUIPMENT

* (1) One set commissioning kit including tools.
* (1) One set of instruction manuals
* (1) One oil filling for hydraulic unit, reduction gearbox and crankcase.

ADDITIONAL EQUIPMENT

* Drive motor AC, Inverter duty rated 100 hp motor.
* US NEMA, TEFC, High Efficiency type