

Tetra Alex[®] 20

Homogenizer or high-pressure pump
for liquid food applications



Tetra Alex 20 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.

Beverages. Fruit juices, concentrates, purées, tomato products, etc.

Prepared food. Dressings, ketchups, liquid egg, mayonnaises, sauces, gravies, etc.

Working Principle

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

Tetra Alex 20 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.

Crank case. 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 temperatures up to 85°C as standard. Mushroom valves. 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.

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Homogenizing device

Homogenization with hydraulic pressure setting. Wear resistant homogenizing device of Cobalt carbide (stellite). 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).

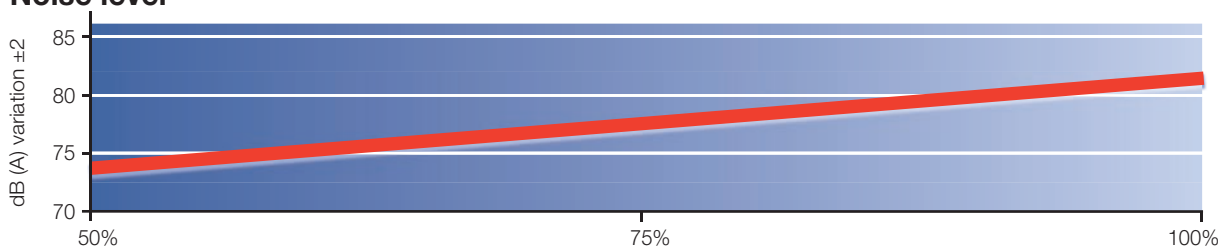
Housing

Stainless steel covers. Easy-to-open hood for easy service access to product wetted parts.

High-pressure pump

The machine is delivered with a rupture disc on the product outlet as safety device. At too high pressure the disc breaks, releasing the pressure.

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: < 63Pa

Dimensions

Overall dimensions, mm: 1 300 x 1 250 x 1 310
 Service area, mm: 3 300 x 2 900
 Service height, mm: 1 800

Environment

Consumption data	Non aseptic	Aseptic
Energy consumption/1 000 l product (kWh)	4.6	8.2
Water consumption/1 000 l product (l/h)	28	160
Steam consumption/1 000 l product (kg/h)	N/A	7.75
Noise, dB(A)	78	78

Data based on:

Non aseptic design: pasteurised white milk, 75% of max capacity at 140 bar

Aseptic design: UHT, white consumption milk, 75% of max capacity at 250 bar

Technical Data

Capacity/pressure range

Pressure, bar (psi)	Max, capacity, l/h (gph)
400 (5 800)	2 600 (700)
315 (4 600)	3 400 (900)
250 (3 600)	4 300 (1 130)
200 (2 900)	5 500 (1 450)
160 (2 300)	6 800 (1 790)

Service media

	Non aseptic	Aseptic
Cooling water (>300 kPa (40 psi), max 25°C (77°F), hardness < 10° dH)	145* (38)**	515* (136)**
Steam (>300 kPa (40 psi), dry and saturated)	-	25 kg/h (55 lbs/h)

* l/h **gph

Motor size

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

Shipping Data

No motor	22 kW/30 hp	37 kW/50 hp
1 090 kg	1 235 kg	1 300 kg

Export packing add 350 kg. Shipping volume 5.0 m³.

Optional Equipment

- 2nd stage homogenizing device
- piston seals for aseptic homogenization or high- pressure
- cooling water valve, pneumatic
- aseptic condenser, solenoid or pneumatic steam valve
- wear parts in other design and material adapted to the application
- various remote control functions
- machine control equipment
- UPS (Uninterrupted Power Supply)
- noise reduction
- spare part kit

