



Tetra Alex[®] S15

Homogenizer or high-pressure pump
for liquid food applications



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 S15 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 to the crankshaft.

Crank case. High-quality cast iron housing. All bearings and cross-heads 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 conditions. Pulsation dampers are included as standard. Hygienic heavy duty clamp connections.

A warranty of 5 years on the block against cracking.

Tetra Alex S15

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. Cooling water valve (solenoid) actuated with drive motor.

Housing

Stainless steel cover.

High-pressure pump

The machine is delivered with an automatically controlled and cleanable line pressure relief valve on the outlet.

Dimensions

Depth, mm: 1 213

Width, mm: 856

Height, mm: 1 192

Service area, mm: 2 900 x 2 800

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)	33	288
Steam consumption/1 000 l product (kg/h)	N/A	17.5
Noise, dB(A)	69	69

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
- Noise according to ISO 11203, distance 2 metres

Technical Data

Capacity/pressure range

Pressure, bar (psi)	Max, capacity, l/h (gph)
400 (5 800)	1 130 (300)
315 (4 600)	1 500 (395)
250 (3 600)	1 900 (500)
200 (2 900)	2 500 (650)
160 (2 300)	3 200 (840)

Service media

	Non aseptic	Aseptic
Cooling water (>300 kPa (40 psi), max 25°C (77°F), hardness < 10° dH)	80 l/h (22 gph)	410 l/h (110 gph)
Steam (>300 kPa (40 psi), dry and saturated)	-	25 kg/h (7 lbs/h)

Motor size

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

Shipping data

No motor	7.5 kW/10hp	18.5 kW/24.5hp
560 kg	620 kg	675 kg

Export packing add 200 kg. Shipping volume 3.0 m³.

Optional equipment

- 2nd stage homogenizing device
- Cooling water valve, pneumatic
- Aseptic design
- Wear parts in other design and material adapted to the application
- Various remote control functions
- Spare parts kit