

# QFP 687L-310 High Pressure Seafood Processing System



## Features and benefits

High pressure (310 MPa, 45,000 psi) shucks up to 5,000 kg per hour eliminating shucking labor and labor-related costs

Horizontal orientation for continuous process flow

Completely automated processing cycle

Rugged design with stainless steel construction in key areas for reliability and easy wash down in the most demanding environments

All Avure HPP systems are backed by our global team of specialists, ensuring secure safe and reliable system installation and operation

## High pressure processing for seafood

High pressure processing (HPP) is increasingly being used by seafood processors to shuck and shell seafood. Use of HPP can greatly reduce labor costs, achieve 100% meat separation, naturally increase yields and inactivate foodborne pathogens such as *Vibrio*. Through its use seafood processors can create new and unique products and expand market reach.

The 687L's horizontal design is built to serve the industry where continuous flow is of essence and where the ground environment limits the pit depth in a building. With its large 687 litre (182 gallon) capacity and 310 MPa (45,000 psi) pressure capability the system can reliably process up to 5,000 kg of raw product per hour.

The 687L's all new 30XQ pumping and decompression system provides fast compression and decompression cycle times resulting in more product throughput per hour and a faster return on investment. The total system is built upon 40 years of high pressure innovation and product leadership for unsurpassed reliability and performance.

More than an equipment supplier, Avure offers complete solutions for the seafood processing industry. Avure's food science group provides HPP product applicability assessments, product development assistance, microbiology, recipe and packaging consulting services. Avure's customer service and support staff is highly trained and deployed globally to ensure that our customers maintain maximum system uptime and efficiency.



## PRODUCT SPECIFICATION

### QUINTUS® Type QFP 687L-310

#### Production rate/Cycle time

The 687L can process up to 500 kg per cycle, depending on product size and packaging. Cycle time to maximum pressure, excluding hold time, loading and unloading is approximately 3.7 minutes.

#### Cycle data documentation

SCADA pc-based control system records operator, time, lot, batch, pressure, temperature, faults, and other key parameters during cycles.

#### Maximum operating pressure

310 MPa (45,000 psi)

#### Maximum vessel temperature

50° C (122° F)

#### Pressure vessel volume

687 litre (180.4 gal)

#### Internal dimensions

Diameter: 540 mm (21.2")

Length: 3,000 mm (118.1")

#### Total vessel and frame weight on foundation

46,000 kg (101,000 lbs)

#### Length of press

6.9 m (22.6')

#### Width of press

3.9 m (12.8')

#### Height to top of press

2.1 m (6.9')

Designed, manufactured and tested in accordance with ASME Boiler and Pressure Vessel Code, Section VIII, Division 3.

#### 30XQ intensifier pump (dual configuration)

Stainless steel frame and protective covers for food plant environment.

Dimensions, LxWxH (each pump)

2.0 x 1.6 x 1.4 m (83.3 x 61.3 x 53")

3,270 kg (7,200 lbs)

#### Water module dimensions, LxWxH

2.0 x 2.0 x 2.0 m (80 x 80 x 80")

3,000 kg (6,600 lbs)

#### Vessel temperature control module (optional) dimensions, LxWxH

1.2 x 0.8 x 1.6 m (48 x 32 x 61")

420 kg (926 lbs)

#### Recommended input water temperature range

4°-16° C (39°-60° F)

#### Cooling water supply for dual pump configuration

84 l/min (22 gal/min)

#### Power requirements, dual pump configuration

390 kVA, 445 amp power supply for 3-phase, 480V, 60 Hz

370 kVA, 534 amp power supply for 3-phase, 400V, 50 Hz

#### Air supply

Minimum 5 bar (72 psi) oil-free air with capacity of

24 m<sup>3</sup>/hr (880 ft<sup>3</sup>/hr)



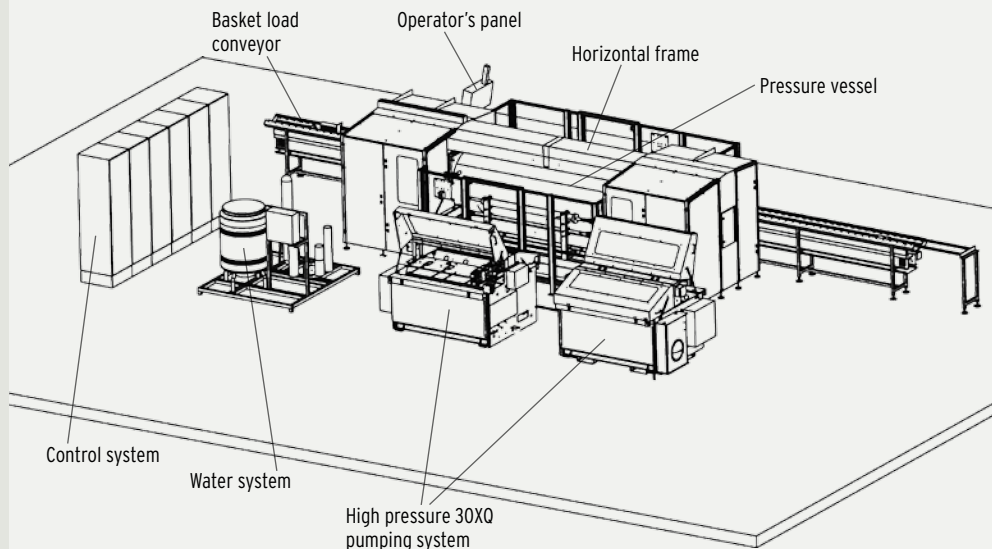
High pressure shucked oyster



100% meat separation from lobster shells

#### Pressure vessel design advantage

The core of Avure's HPP 687L system is the Quintus pressure vessel, which consists of a wire-wound prestressed cylinder with removable end-closures supported by a wirewound pre-stressed frame. The end closures contain all the unit's water connections, plus the pressure and temperature sensors. The pressure vessel is opened and closed by automatic removal of the end closure along with translation of the cylinder itself. The pressure vessel has a number of patented features to provide safety and performance. For example a patented "leak before failure" mode for the vessel and intelligent sensors provide system safety and continuous monitoring of system health status on every cycle. Innovative large diameter closure seals handle the repeated stress and strain of continuous operation.



For more  
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