



Alfa Laval Extend

Heat Exchanger Accessory

Introduction

Alfa Laval Extend™ is a service that reduce biofilm build-up in heat exchangers. For many pasteurizers' microbiological growth on the plates of the heat exchanger limits the production run time. Extend technology reduce the amount of microorganism that attach to the surface and longer run time can be achieved with retained quality. Extend is safe to install, handle and operated due to very low current during excitation. Extend is equipped with signal exchange to notify if it's not operating as intended.

Applications

- Dairy pasteurizers for pasteurized milk products chilled/ ambient distribution
- Dairy pasteurizers for cheese production
- Dairy pasteurizers for powder production

Benefits

- Easy, fast to install and commission.
- No need to stop production during installation.
- Increased running hours with maintained food quality = Less downtime
- Reduced frequency of CIP = Less energy, water, chemicals

Working Principle

An electrical current is sent through the heat exchanger. Bacteria typically have a negative surface charge on the cell membrane and so they move towards the positive pole. By controlling the surface charge with electro-repulsive forces microorganisms will be repelled from the surface. In combination with the shear rate caused by the high milk flow rate bacteria detach more easily from surface. Bacteria in biofilm will behave in an equivalent manner. The electrical current interacts with charged particles in the biofilm.

Standard Design

The Alfa Laval Extend is a plastic hermetically sealed electrical device suitable for use in a hygienic environment with washdown. Equipped with DIN rail connection for easy mounting.

Product Range

Product model	PHE connection	Equivalent to PHE model
Extend 3	3-Inch or smaller	Front 8, HL8, H8 or smaller
Extend 4	4-Inch	Front 10
Extend 6	6-Inch	Front 15

General

Type of plastic	PA12
Dimensions	DxH 15x6cm
Weight	350g
Installation system	DIN Rail IEC/EN 60715
Length of electrode cables	2x7,5m



Power Requirements

Power supply	24 VDC
Power rating	5 Watt

Type of Connection

Connection type	M12
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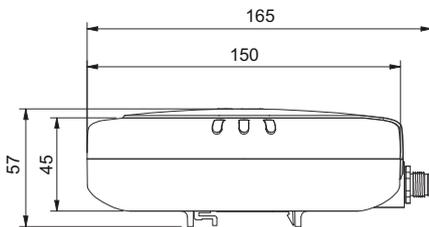
Electrode Connections

Dimensions	Fittings for 3, 4 and 6 Inch pipes
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Electrode Cables

Type of cables	Tinned copper conductor. PVC insulation
Operational temperature	-40 °C to 105 °C
Chemical resistance	Resistant to common cleaning chemicals

Dimensions (mm)



Diameter	150
Diameter plus M12	165
Height	45
Height + Din Rail	57

Main Unit Environment (Pod)

Operational	0 °C to 40 °C
Storage	-20 °C to 40 °C
Protection class	IP 65

Error Indications

The device will indicate an error if one of the following situations are detected (Pin# 3).

1. An open circuit is detected, for example, there is no load connected.
2. The measured current differs from the configured current by more than 20%.

LEDs

LED	What	Function
Green	Power LED	ON if DC supply is on
Blue	Function indicator	ON if excitation is ON
Red	Error indicator	ON if error

Compliance

The Alfa Laval Extend is in compliance to CE, RoHS, Reach. For further compliance contact Alfa Laval.

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