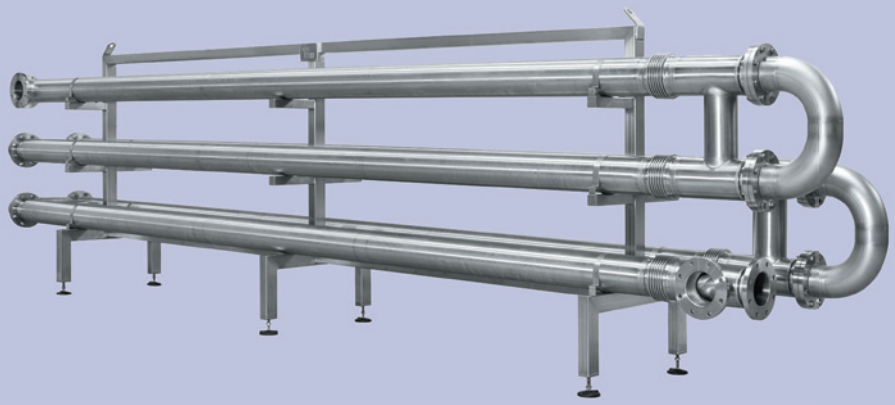
# Alfa Laval Tube in Tube heat exchanger

## The tubular heat exchanger series from Alfa Laval



### Applications

The Alfa Laval Tube in Tube heat exchanger is designed for products containing fibres and particles, such as wastewater sludge. It is used in sludge treatment for heating and cooling sludge.

### Standard design

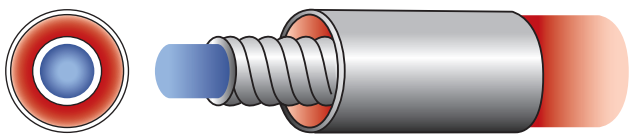
The Alfa Laval Tube in Tube heat exchanger consists of a single tube mounted inside an outer shell tube. The product medium flows inside this tube, and the service medium around it. It is a fully welded construction with a bellow on shell tube to absorb thermal expansion. The Alfa Laval Tube in Tube heat exchanger modules are normally connected in series and mounted on support frame or full frame.

### Working principles

The product medium inside the tube flows in counter current to the service medium. The product tube is corrugated or it can be smooth. The shell tube is always smooth. The installation is maintenance free, thus eliminating any need for spare parts.

### Standard materials

| | |
|---|---|
| Product side (tubes) | Stainless steel AISI 316 or 304 (optional) |
| Service side (shell) | Stainless steel AISI 304 or AISI 316 (optional) |
| Frame | Stainless steel AISI 304 |



Graphic representation of the flow pattern in the Alfa Laval Tube in Tube heat exchanger.

**Technical data**
**Design pressure:** Standard design pressure 15 bar on the product side and 10 bar on the on the service side.

**Design temperature:** 110 C. The unit can, however, accommodate higher pressure ratings and temperatures depending on components thickness and connection type.

**Connections:** Flanges

**Options**
Insulation
Other steel grade
Other pressure and temperature rating on request
Protection sheet
Other tube configurations

Alfa Laval full frame Tube in Tube heat exchanger.

The layout of tube in tube heat exchangers can be customised to fit the available installation foot print or other requests.

**Designation**
ALT 114/168-6-316L/304-C
ALT: Alfa Laval Tube in Tube
114: outer diameter of product tube
168: outer diameter of service shell
6: module length (m)
316L: material product side
304: material service side
C: corrugated inner tube
(S: smooth inner tube)

All types are also available in 3 meter length

The range of Alfa Laval heat exchangers makes it possible to choose the optimum heat exchanger for each duty.

| Type | Heat transfer area | Shell side connection | Product side connection | Typical product flow rate* |
|---|---|---|---|---|
| ALT 26/42-6-316L/304-C (and S) | 0.48 m² (5.1 ft2) | DN20 | DN20 | 2.5 m³/h (11 gpm) |
| ALT 34/48-6-316L/304-C (and S) | 0.60 m² (6.5 ft2) | DN25 | DN25 | 4 m³/h (17.6 gpm) |
| ALT 42/63-6-316L/304-C (and S) | 0.77 m² (8.3 ft2) | DN32 | DN32 | 7 m³/h (31 gpm) |
| ALT 48/76-6-316L/304-C (and S) | 0.88 m² (9.5 ft2) | DN40 | DN40 | 9 m³/h (39.6 gpm) |
| ALT 60/89-6-316L/304-C (and S) | 1.10 m² (11.8 ft2) | DN50 | DN50 | 14 m³/h (62 gpm) |
| ALT 76/114-6-316L/304-C (and S) | 1.40 m² (15 ft2) | DN65 | DN65 | 22 m³/h (97 gpm) |
| ALT 89/114-6-316L/304-C (and S) | 1.64 m² (17.6 ft2) | DN80 | DN65 | 31 m³/h (136 gpm) |
| ALT 89/129-6-316L/304-C (and S) | 1.64 m² (17.6 ft2) | DN80 | DN80 | 31 m³/h (136 gpm) |
| ALT 114/129-6-316L/304-C (and S) | 2,10 m² (22.6 ft2) | DN100 | DN40 | 52 m³/h (229 gpm) |
| ALT 114/168-6-316L/304-C (and S) | 2,10 m² (22.6 ft2) | DN100 | DN100 | 52 m³/h (229 gpm) |
| ALT 139/168-6-316L/304-C (and S) | 2,58 m² (27.7 ft2) | DN125 | DN80 | 78 m³/h (343 gpm) |
| ALT 139/206-6-316L/304-C (and S) | 2,58 m² (27.7 ft2) | DN125 | DN125 | 78 m³/h (242 gpm) |
| ALT 168/206-6-316L/304-C (and S) | 3,12 m² (33.5 ft2) | DN150 | DN100 | 115 m³/h (506 gpm) |
| ALT 168/254-6-316L/304-C (and S) | 3,12 m² (33.5 ft2) | DN150 | DN150 | 115 m³/h (506 gpm) |

* Typical flow rate at a product velocity of 1.5 m/s (17,717 feet/h)

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**How to contact Alfa Laval**
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com