

Alfa Laval Partner Academy

Hygienic equipment & service training 2017



Training to increase competence

A complete training package

Alfa Laval offers a complete package of eLearning and classroom trainings covering our business within hygienic equipment and service.

20 eLearning self-studies and more than 60 recorded webinars are available online for you to boost your competence level in a convenient way that does not require travelling. Sign up for our classroom trainings to get to a more advanced level or even become a specialist.

See the available offerings on the next pages and sign up via Alfa Laval Anytime or Share/Learning Portal.

Boost competence according to your needs

The Hygienic equipment and service training programme consists of three levels. The basic level is delivered via eLearning self-study modules and webinars, available online. The advanced and specialist levels that follow are classroom training.

We expect that our channel partners have received training according to the graphics shown below where a coloured square means that it is considered vital to reach that level. The dotted line illustrates that these levels are split into product training followed by application training. The expected level is different for different employee types. For Authorized Distributors, we further recommend that outside sales and technical sales support participate in training at the advanced level.

Basic training level

The basic level consists of eLearning self-study modules and webinars. We offer self-studies within our products, the industries we sell into, service, sales and tools. We currently have 20 eLearning self-studies available and will release 2 additional modules in 2017.

We also hold live webinars. The webinars are complementary to the eLearning self-study modules and are good opportunities to learn about new product launches, targeted industries or new tools. In 2017 we will offer 12 live webinars. They are short 30 minute introductions to specific topics and are recorded and made available online.

More than 60 webinars have already been recorded and are available for you online.

Advanced training level

After basic training, you can increase your competence level further by attending one of the classroom trainings offered.

Sign up for the advanced level product training to get hands on experience with our products. You will be trained to size and configure the right product and sell it using features, advantages and benefits arguments and knowledge about the competitors. We offer five product trainings at the advanced level.

We also offer application trainings where you will learn about the application and processes that we sell into. To sign up for application training, you should have some years of experience and have completed relevant advanced level product trainings.

Specialist training level

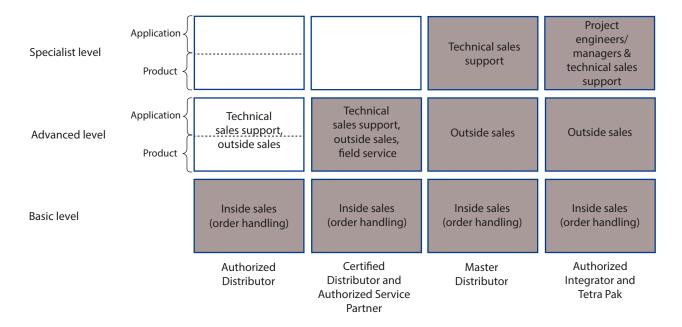
The Specialist level is our most advanced level. We offer six product trainings at the specialist level, which are designed for you to become your company's 'specialist' within the product area covered.

In addition, we offer the training Sustainability: Optimizing energy and water usage. This training enables you to identify energy and water savings for our hygienic equipment portfolio.

Let us help boost your competence

We hope that you find the 2017 programme interesting and we hope that you will take our eLearning self-study modules, join our webinars and we look forward to welcome you at our classroom trainings.

Competence development team



Basic level: eLearning, self-studies and webinars

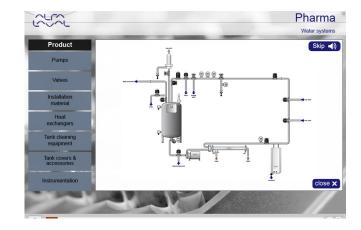
Self-studies:

We have so far launched 20 self-study modules and will continue launching modules in 2017. The self-study modules are covering our product portfolio, each of the 5 industries we cover, as well as service, sales and tools.

- Commercial product introductions
- Hygienic pumps introduction
- Hygienic valves introduction
- Hygienic automation introduction
- Hygienic tank equipment introduction
- Hygienic heat exchangers introduction
- Hygienic membrane filtration introduction
- Hygienic installation material introduction
- Service
- Service foundation for channel partners Hygienic
- How to sell service

- Industries
- Beverage application introduction
- Pharma application introduction
- Home and personal care application introduction
- Dairy application introduction (for release in 2017)
- Food application introduction (for release in 2017)
- Sales & tools
- Anytime introduction Hygienic
- Anytime introduction US Hygienic
- Anytime configurator Hygienic
- Anytime configurator Chinese Hygienic
- eTools Hygienic
- Essential sales eBricks





All eLearning can be accessed via Alfa Laval Anytime and Learning Portal.

Webinars:

Webinars will be around 30 min long and held twice per day at 9:00 CET and at 15:30 CET.

TOPIC

| DATE | |
|------|--|
|------|--|

| Pumps | |
|---|--------------|
| LKH Prime, our new self-priming pump | 08-05-2017 |
| Optimise to economise | .18-09-2017 |
| SRU pump range | . 25-09-2017 |
| LKH pump range | .02-10-2017 |
| Rotary lobe pump sizing and configuration | .16-10-2017 |
| Centrifugal pump sizing and configuration | 30-10-2017 |

Valves/automation

Tank equipment

Instrumentation

| Instrument programmer configuring tool | 29-05-2017 |
|--|------------|
| Weighing systems, our new offerings | 04-09-2017 |

Hygienic equipment & service webinars

| January | February | March | April | May | June |
|-------------|-------------|-------|-------|--|--|
| S 1 | W 1 | W 1 | S 1 | M 1 | T 1 |
| M 2 | т 2 | Т 2 | S 2 | Т 2 | F 2 |
| Т З | F 3 | F 3 | M 3 | W 3 | S 3 |
| W 4 | S 4 | S 4 | T 4 | Τ 4 | S 4 |
| T 5 | S 5 | S 5 | W 5 | F 5 | M 5 |
| F 6 | M 6 | M 6 | Т 6 | S 6 | Т 6 |
| S 7 | <u>T</u> 7 | Т 7 | F 7 | S 7 | W 7 |
| S 8 | W 8 | W 8 | S 8 | M 8 LKH Prime, our new self-priming pump | T 8 |
| M 9 | Т 9 | Т 9 | S 9 | Т 9 | F 9 |
| Т 10 | F 10 | F 10 | M 10 | W 10 | S 10 |
| W 11 | S 11 | S 11 | T 11 | T 11 | S 11 |
| T 12 | S 12 | S 12 | W 12 | F 12 | M 12 Diaphragm valves, our new offering |
| F 13 | M 13 | M 13 | T 13 | S 13 | T 13 |
| S 14 | <u>T</u> 14 | т 14 | F 14 | S 14 | W14 |
| S 15 | W 15 | W 15 | S 15 | M 15 | T 15 |
| M 16 | <u>T 16</u> | T 16 | S 16 | T 16 | F 16 |
| Т 17 | F 17 | F 17 | M 17 | W 17 | S 17 |
| W 18 | S 18 | S 18 | T 18 | T 18 | S 18 |
| Т 19 | S 19 | S 19 | W 19 | F 19 | M 19 |
| F 20 | M 20 | M 20 | Т 20 | S 20 | Т 20 |
| S 21 | T 21 | T 21 | F 21 | S 21 | W21 |
| S 22 | W 22 | W 22 | S 22 | M 22 TJ40G, our new tank cleaning machine | T 22 |
| M 23 | T 23 | т 23 | S 23 | T 23 | F 23 |
| Т 24 | F 24 | F 24 | M 24 | W 24 | S 24 |
| W 25 | S 25 | S 25 | Т 25 | T 25 | S 25 |
| Т 26 | S 26 | S 26 | W 26 | F 26 | M 26 |
| F 27 | M 27 | M 27 | Т 27 | S 27 | T 27 |
| S 28 | T 28 | Т 28 | F 28 | S 28 | W28 |
| S 29 | | W 29 | S 29 | M 29 Instrument programmer configuring tool | T 29 |
| M 30 | | т 30 | S 30 | T 30 | F 30 |
| <u>T 31</u> | | F 31 | | W 31 | |

General information

<u>Training fee</u> No fee

Time Twice per day on the days mentioned at 09:00 CET at 15:30 CET

Language All webinars are held in English.

<u>Sign up</u>

Information about sign up can be found: Externals: Alfa Laval Anytime/Training/Basic level Internals: Share/ALPAS - Products and applications training/Food&Water Division

| September | October | November | December |
|--|---|---|----------|
| F 1 | S 1 | W 1 | F 1 |
| S 2 | M 2 LKH pump range | Т 2 | S 2 |
| S 3 | Т 3 | F 3 | S 3 |
| M 4 Weighing systems, our new offerings | W 4 | S 4 | M 4 |
| Т 5 | Т 5 | S 5 | Т 5 |
| W 6 | F 6 | M 6 Tank cleaning principles/ technologies | W 6 |
| T 7 | S 7 | T 7 | T 7 |
| F 8 | S 8 | W 8 | F 8 |
| S 9 | M 9 | Т 9 | S 9 |
| S 10 | Т 10 | F 10 | S 10 |
| M 11 | W11 | S 11 | M11 |
| T 12 | Т 12 | S 12 | т 12 |
| W 13 | F 13 | M 13 | W13 |
| Т 14 | S 14 | Т 14 | T 14 |
| F 15 | S 15 | W15 | F 15 |
| S 16 | M 16 Rotary lobe pump sizing/configuration | т 16 | S 16 |
| S 17 | Т 17 | F 17 | S 17 |
| M 18 Optimise to economise | W18 | S 18 | M18 |
| Т 19 | Т 19 | S 19 | T 19 |
| W 20 | F 20 | M 20 Valve and automation configuration | W20 |
| Т 21 | S 21 | T 21 | T 21 |
| F 22 | S 22 | W22 | F 22 |
| S 23 | M 23 | Т 23 | S 23 |
| S 24 | Т 24 | F 24 | S 24 |
| M 25 SRU pump range | W25 | S 25 | M25 |
| т 26 | T 26 | S 26 | T 26 |
| W 27 | F 27 | M 27 | W27 |
| Т 28 | S 28 | Т 28 | T 28 |
| F 29 | S 29 | W29 | F 29 |
| S 30 | M 30 Centrifugal pump sizing/configuration | Т 30 | S 30 |
| | T 31 | | S 31 |

Hygienic equipment & service classroom trainings

| January | February | March | April | May | June |
|---------|------------------------|-------|--------------------------|----------------------|----------------------------|
| S 1 | W 1 | W 1 | S 1 | M 1 | T 1 |
| M 2 | Т 2 | T 2 | S 2 | T 2 | F 2 |
| Т 3 | F 3 | F 3 | М 3 | W 3 | S 3 |
| W 4 | S 4 | S 4 | Τ 4 | T 4 | S 4 |
| Т 5 | S 5 | S 5 | W 5 | F 5 | M 5 |
| F 6 | M 6 | M 6 | Т 6 | S 6 | Т 6 |
| S 7 | T 7 | Т 7 | F 7 | S 7 | W 7 |
| S 8 | W 8 | W 8 | S 8 | M 8 | T 8 |
| M 9 | Т 9 | Т 9 | S 9 | T 9 Hygienic tank | F 9 |
| T 10 | F 10 | F 10 | M 10 | W 10 equipment | S 10 |
| W11 | S 11 | S 11 | T 11 | T 11 | S 11 |
| T 12 | S 12 | S 12 | W12 | F 12 | M 12 |
| F 13 | M 13 | M 13 | T 13 | S 13 | T 13 Hygienic service & |
| S 14 | T 14 | Т 14 | F 14 | S 14 | W 14 maintenance |
| S 15 | W 15 | W 15 | S 15 | M 15 | Т 15 |
| M16 | T 16 | T 16 | S 16 | T 16 | F 16 |
| Т 17 | F 17 | F 17 | M 17 | W 17 | S 17 |
| W18 | S 18 | S 18 | T 18 | T 18 | S 18 |
| Т 19 | S 19 | S 19 | W19 | F 19 | M 19 |
| F 20 | M 20 | M 20 | Т 20 | S 20 | Т 20 |
| S 21 | T 21 | Т 21 | F 21 | S 21 | W21 |
| S 22 | W 22 | W 22 | S 22 | M 22 | Т 22 |
| M 23 | Т 23 | Т 23 | S 23 | Т 23 | F 23 |
| T 24 | F 24 | F 24 | M 24 | W 24 | S 24 |
| W25 | S 25 | S 25 | T 25 Specialist hygienic | T 25 | S 25 |
| T 26 | S 26 | S 26 | W26 valves | F 26 | M 26 |
| F 27 | M 27 Hygienic valves & | M 27 | T 27 | S 27 | Т 27 |
| S 28 | T 28 pumps | T 28 | F 28 | S 28 | W 28 |
| S 29 | | W 29 | S 29 | M 29 | Т 29 |
| M 30 | | T 30 | S 30 | Т 30 | F 30 |
| T 31 | | F 31 | | W 31 | |

General information

<u>Training fee</u> The training fee will be invoiced after the training.

Language

All courses are held in English.

Course certificate

<u>Enrolment</u>

Externals: Alfa Laval Anytime/Training or contact Elina Mäkinen, elina.makinen@alfalaval.com

Further information

More information about the courses and training in general can be found on Alfa Laval Anytime/Training and Share/Learning Portal or contact

Elina Mäkinen, elina.makinen@alfalaval.com

| September | October | November | December |
|-------------------------------------|-----------------------------|-----------------------------------|----------|
| F 1 | S 1 | W 1 | F 1 |
| S 2 | M 2 | T 2 | S 2 |
| S 3 | T 3 Optimising energy | F 3 | S 3 |
| M 4 | W 4 and water usage | S 4 | M 4 |
| T 5 Hygienic GPHE ser- | Т 5 | S 5 | T 5 |
| W 6 vice & maintenance | F 6 | M 6 | W 6 |
| Τ 7 | S 7 | T 7 | T 7 |
| F 8 | S 8 | W 8 Specialist hygienic pumps | F 8 |
| S 9 | M 9 | Т 9 | S 9 |
| S 10 | T 10 | F 10 | S 10 |
| M11 | W11 Hygienic valves & pumps | S 11 | M11 |
| T 12 | T 12 | S 12 | Т 12 |
| W13 Specialist hygienic | F 13 | M13 | W13 |
| T 14 instrumentation | S 14 | Т 14 | T 14 |
| F 15 | S 15 | W15 | F 15 |
| S 16 | M 16 | T 16 | S 16 |
| S 17 | Τ 17 | F 17 | S 17 |
| M18 | W18 | S 18 | M18 |
| T 19 Specialist hygienic plate heat | T 19 | S 19 | T 19 |
| W20 exchangers | F 20 | M 20 | W20 |
| T 21 | S 21 | T 21 | T 21 |
| F 22 | S 22 | W22 Hygienic tank equipment | F 22 |
| S 23 | M 23 | T 23 | S 23 |
| S 24 | Т 24 | F 24 | S 24 |
| M 25 | W25 Specialist hygienic | S 25 | M 25 |
| T 26 Specialist hygienic | T 26 agitators & mixers | S 26 | Т 26 |
| W27 valves | F 27 | M27 | W27 |
| T 28 | S 28 | T 28 Dairy, beverage & | T 28 |
| F 29 | S 29 | W29 food applications & processes | F 29 |
| S 30 | M 30 Specialist hygienic | | S 30 |
| | T 31 tank cleaning | | S 31 |

Advanced level: classroom trainings

Hygienic valves and pumps

Objective

The objective of this course is to provide a technical understanding of the Alfa Laval valves, valve automation equipment and pumps, their features, advantages and benefits and selected main competitors in some areas to be able to sell using features, advantages and benefits arguments, and to enable the participants to handle detailed, technical inquiries and select the right products using our sizing and selection tools.

Content

- Valves and valve automation (2 days): Butterfly and ball valves, SSV Single Seat Valves, mixproofability, Unique Mixproof Valves and SMP-BC Mixproof Valves, diaphragm valves, regulation valves, and valve automation. Pumps (3 days):
- Pump theory, LKH and SolidC centrifugal pumps incl. LKH Evap, rotary lobe and circumferential piston pumps

Duration 5 days Alfa Laval Kolding, Denmark Location. Dates: 27 Feb-3 March and 9-13 October, 2017

Hygienic tank equipment

Objective

The objective is to provide an overview of the tank equipment portfolio and how to sell using features, advantages and benefits arguments and to enable the participants to handle technical inquiries through the use of CAS, eBusiness, the Close at Hand catalogue etc.

Content

- Tank cleaning: Technology and portfolio, features, advantages and benefits, selected competitors, and design and selection in different applications using CAS including exercises. Agitators and mixers:
- Mixing duties, the Alfa Laval mixing technologies, features, advantages and benefits, positioning of different mixing technologies, and introduction to the quote process.
- Instrumentation: Introduction to Rotacheck, flow transmitters, weighing systems and level switches, features, advantages and benefits and selection.

| Duration: | 3 days |
|-----------|-----------------------------------|
| Location: | Alfa Laval Kolding, Denmark |
| Dates: | 9-11 May and 21-23 November, 2017 |

Hygienic service and maintenance

Objective

The objective of this course is that the participants upon completion of the course should feel confident doing maintenance and trouble shooting of hygienic components in the field.

Content

Maintain, disassemble and rebuild the hygienic core products:

- Seat valves and Mixproof valves
- Ball valves and butterfly valves
- Regulating valves
- Centrifugal pumps
- Positive displacement pumps Cleaning equipment
- Aditators

| Duration: | 3 days |
|-----------|-----------------------------|
| Location: | Alfa Laval Kolding, Denmark |
| Dates: | 13 - 15 June, 2017 |

Hygienic GPHE service and maintenance

Objective

The objective of this course is that the participants upon completion of the course should feel confident doing maintenance and trouble shooting of Alfa Laval FrontLine and BaseLine in the field.

Content

Maintain, disassemble and rebuild the hygienic GPHE range

FrontLine

BaseLine

There will be focus on genuine spare parts, preventive maintenance and on a structured way of doing trouble shooting as well as tips and tricks when doing service.

Duration: Location: Dates:

2 days Alfa Laval Kolding, Denmark 5-6 September, 2017

Hygienic membranes

Objective

D

The objective of this course is to provide an overview of Alfa Laval's membrane technology - the products and the hygienic applications. After the course the participants will be able to spot suitable membrane projects at customers and to develop them to an order with support from the membrane team.

Content

- Membrane theory
- Membrane technology and portfolio including features, advantages and benefits and competition
- Hygienic membrane applications including sizing and selection

These aspects will be supported by:

- Introduction to sales tools and sales support
- Tour of the membrane factory

Duration: 2 days Location:

Alfa Laval Nakskov, Denmark Dates: NOTE! On-request training

Dairy, beverage and food applications and processes

Objective

The objective of this course is to enable participants to increase sales into the dairy, beverage and food industries through increased understanding of the customer's requirements and how the use of Alfa Laval components makes a difference in process reliability and profitability.

Content

For each industry we will cover:Market trends

- Use and function of ingredients
- CIP processes

Examples of specific applications and processes covered: Milk heat treatment principles Milk pasteurization, separation and homogenization

- Egg product production
- Production of viscous products
- Water processing
- Juice processing
- Duration. 2 days Location: Alfa Laval Kolding, Denmark Dates: 28 - 29 November, 2017

Biopharm applications and processes

Objective

The objective of this course is to support our biopharm sales by providing an understanding of the main applications and processes within the industry. The course will also give a good under-standing of how to select and sell our equipment into the different processes.

Duration Dates:

3 days NOTE! On-request training

Home and personal care applications and processes

Objective

The objective of this course is to support our home and personal care sales by providing an understanding of the main applications and processes within the industries. The course will also give a good understanding of how to select and sell our equipment into the different processes.

Duration: 3 days Dates: NOTE! On-request training **Detailed course descriptions** and enrolment:

Externals: Alfa Laval Anytime/Training

Internals: Share/Learning Portal

Futher information: elina.makinen@alfalaval.com

Specialist hygienic pumps

Objective

The objective of this course is to gain comprehensive technical and commercial knowledge to assist in developing the sales of both rotary lobe and centrifugal pumps and to be capable of imparting this information to the local inside and outside sales teams.

Content

Objective

tion

Content

- Extensive Alfa Laval pump range overview including features, advantages and benefits
- Typical pump applications and how to do competitive CAS sizing including pump energy optimization
- Hands-on evaluation of Alfa Laval pump range and of the top competitors to be able to make key feature comparisons
- Hands-on strip down of various pump types to be able to demonstrate maintenance and troubleshooting
- How to find support materials (pricelists, manuals, certificates, etc.)

Specialist hygienic agitators and mixers

The objective is to provide a comprehensive understand-

ing of mixing duties and mixing theory and of the Alfa Laval mixing technologies and where to use what technology.

Furthermore, the objective is that the participant should

confidently be able to sell using features, advantages and

benefits arguments for the different products comparing

also to competitor solutions. Finally, the participant will be

trained in handling mixing inquiries and agitator configura-

Detailed overview of the Alfa Laval mixing technologies:

Positioning of the different mixing technologies: where to

Agitators, Rotary Jet Mixers, Magnetic Mixers, The

Features, advantages and benefits and competition

Mechanical configuration of agitators in general using

Alfa Laval Ishøj/Kolding, Denmark

25-27 October, 2017

Mixing duties and mixing theory

Selection of standard agitators

3 days

Hybrid Powder Mixer

offer what

CAS

Duration:

Location:

Dates:

Inquiry handling

Duration: 5 days Alfa Laval Kolding, Denmark Location: 6-10 November, 2017 Dates:

Specialist hygienic valves

Objective

The primary objective of the course is to provide a deep knowledge of valve selection and configuration, valve matrix design guidelines and of the principles used in hygienic design. The course will focus on features and benefits of the Alfa Laval valve technologies used in matrix design and compare them to competitor solutions.

Content

- Principles of hygienic design Mixproof valve technology: the Alfa Laval mixproof technologies, selection and sizing of mixproof valves, • features, advantages and benefits, positioning of the different mixproof technologies. Comparison with competitor offerings
- Valve matrix design: basic guidelines for valve matrix design, tips and tricks, discussion of pros and cons of different designs
- Valve matrix optimization: designs to reduce water/CIP consumption, pressure drop calculations to estimate energy consumption, payback calculations for alternative designs
- Regulating valves and sample valves: technology and portfolio, design and selection for different standard duties, features, advantages and benefits

| Duration: | 4 days |
|-----------|---------------------------------------|
| Location: | Alfa Laval Kolding, Denmark |
| Dates: | 24-27 April and 25-28 September, 2017 |

Specialist hygienic instrumentation

Objective

The objective is to provide a comprehensive understanding of instrumentation, in and around hygienic tanks used in food, dairy, brewery, beverage and pharma productions. Furthermore, the objective is that the participant should confidently be able to sell using features, advantages and benefits arguments for the different products comparing also to competitor solutions.

Content

- Weighing systems
- Flow transmitters Tank cleaning validation
- Level measurement
- Temperature measurement
- Pressure measurement

Duration:

Specialist hygienic tank cleaning equipment

Objective

The objective is to provide a comprehensive understanding of tank cleaning and of the Alfa Laval tank cleaning technologies and portfolio and where to offer what. Furthermore, the objective is that the participant should confidently be able to sell using features, advantages and benefits arguments for the different products comparing also to competitor solutions. Finally, the participant will be trained in handling selection.

Content

- Tank cleaning technologies
- Tank cleaning portfolio Features, advantages and benefits, unique selling points
- and competitors
- Typical sales process

3 days

- Selection in different applications using CAS including exercises
- Water and chemical savings using rotary jet heads • Service aspects

Duration: Location.

Dates:

Alfa Laval Ishøj/Kolding, Denmark 30 October-1 November, 2017

Specialist hygienic plate heat exchangers

Objective

The primary objective of this course is to acquire good technical knowledge about the plate heat exchanger as a concept, and how to select and size them by doing CAS exercises within the following areas: beverage, brewery, dairy, food and for utilities used in these industries.

Content

- Hygienic plate heat exchanger product range
- How to configure the plate heat exchanger
- CAS 5 single section designs (1-phase duties only)
- CAS 5 multi section designs (1-phase duties only)
- Available tools
- Physical properties of fluids

The course is heavily focused on the participants doing exercises in CAS 5.

| Duration: | 4 days |
|-----------|-----------------------------|
| Location: | Alfa Laval Kolding, Denmark |
| Dates: | 18-21 September, 2017 |

Sustainability: Optimising energy and water usage

Objective

The objective is to provide an understanding of how to optimise energy and water usage across a plant, enabling the participant to do plant audits and present a detailed payback analysis to the customer.

Content

The course will be centered around the following 4 technologies:

- · Pump energy optimisation
- Agitator energy optimisation
- Mixproof valve water/CIP optimisation
- Tank cleaning water/CIP optimisation

The course will be heavily centered around calculation exercises and activities in our test areas, and active participation is required.

Duration: 4 days Alfa Laval Kolding, Denmark Location. Dates: 2-5 October, 2017

2 days Alfa Laval Kolding, Denmark Location: Dates: 13-14 September, 2017

Detailed course descriptions and enrolment:

Externals: Alfa Laval Anytime/Training

Internals: Share/Learning Portal

Futher information: elina.makinen@alfalaval.com

Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

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 Alfa Laval is a trademark registered and owned by Alfa Laval Corporate AB, Sweden. Alfa Laval © 2017