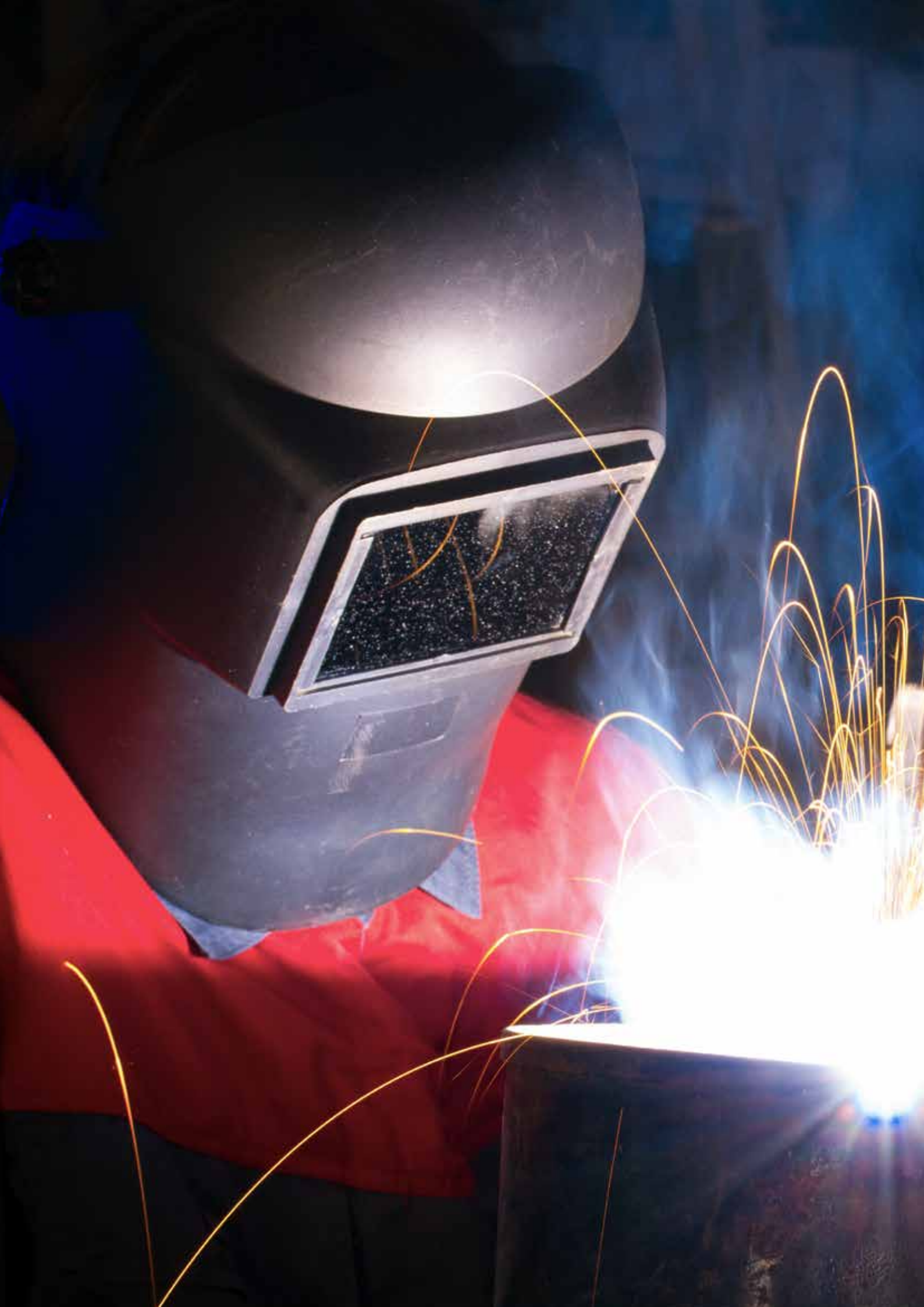
Improving sustainability with solid performance

Alfa Laval Olmi process heat exchangers



Reliability at heart

Dependable uptime is the key to profitability, and breakdowns in your processing plant's core equipment can easily cost you millions in repairs and lost production.

For us at Alfa Laval, the operational reliability of our products always comes first. We know that product quality is the result of knowledge, hard work and the right mindset. When you install one of our Alfa Laval Olmi heat exchangers you can rest assured that every detail meets your requirements and nothing has been left to chance.

With Alfa Laval as your partner you discover that reliability means more than just product quality. It includes a strong personal commitment from all our staff to make sure you get the best possible assistance from the initial idea, through design and manufacturing, to commissioning and continuous service.

Your business is a personal matter for us and you can be confident that our handshake is as solid as our heat exchangers. We deliver on our promises and never rest before our customers are fully satisfied.

For the toughest applications

Alfa Laval Olmi heat exchangers are used in some of the most demanding positions in petrochemical plants, refineries, oil and gas production facilities and power stations around the world. Year after year these process-critical units continue to deliver high performance and stable operation.

Know-how and experience
Having produced heat exchangers for high-temperature and high-pressure applications for more than 80 years, we know how to design, manufacture, commission and service your next heat exchanger for maximum efficiency and reliability.

Each Alfa Laval Olmi heat exchanger is custom made and draws on the full body of application knowledge that we have built over the decades. We make sure your heat exchanger provides low costs, great performance and a long service life by optimizing it according to your specific requirements and operating conditions.

Built to last
There is no margin for error when making equipment that will operate under extreme conditions. Small imperfections in a weld joint or the wrong choice of material can cause a disastrous breakdown in your plant.

With our long application experience and highly developed quality system we know the pitfalls and how to avoid them. We have the expertise to design and manufacture according to a broad range of standards and always deliver the highest level of workmanship within the decided standard.

PETROCHEMICAL PLANTS

- Quench coolers (TLEs, PQEs, SQEs, TQEs) for ethylene plants
- Urea strippers and carbamate condensers
- Process gas boilers for ammonia, methanol and syngas plants, including steam drums, superheaters and feed water pre-heaters
- High-pressure/high-temperature process shell-and-tube heat exchangers
- High-pressure/high-temperature process air cooled heat exchangers
- Melamine tubular reactors

REFINERIES

- Shell-and-tube heat exchangers for high-pressure/high-temperature positions
- Feed-effluent interchangers for hydro processing plants
- Process gas boiler packages for hydrogen production
- Special heat exchangers for hydrogen production
- Air-cooled heat exchangers for reactors and column effluents

OIL AND GAS PRODUCTION

- Shell-and-tube heat exchangers for natural gas compression and oil treatment

Air cooled heat exchangers for:

- Natural gas compression cooling in enhanced oil recovery processes (onshore and offshore)
- Natural gas compression cooling in high-pressure gas transmission (onshore)

POWER STATIONS

- Gas turbine once-through coolers
- Steam generator packages for thermal solar plants
- High-pressure feed water pre-heaters and steam drums

Committed to technology

All Alfa Laval Olmi heat exchangers are unique. Each one is the result of a close cooperation between our design team and our customers' engineers. Choosing Alfa Laval gives you full access to our team of thermal, mechanical and metallurgical experts and all their application and design knowledge.

World-leading engineering expertise
With a full team of thermal and mechanical design experts on board, our engineering department can take on your most complex heat exchanger design challenges. Working together with our welding and manufacturing experts, they push the design boundaries and come up with new, smart solutions that result in higher reliability and lower investment costs.

Our in-house resources for computer simulations of fluid dynamics and mechanical strength (including creep, fatigue and stress analysis) let us maximize the performance and durability of each design while keeping size and weight at a minimum.

Metallurgy
Choosing the right materials for heat exchangers operating at high temperatures and pressures is essential for reliable operation. Choosing the most appropriate alloy greatly improves the life span and service intervals.

Our engineers can advise you on the best materials to use based on your operating conditions and process media. They help you find the materials that offer an optimum balance between CAPEX and OPEX by performing a total-cost-of-ownership analysis.

Good advice close at hand
Our technical expertise and long experience make us your best partner and our engineers are ready to assist you from the earliest stages of your project.

Whether you are planning a refurbishment, or a green-field plant, we can advise you on thermal and mechanical design, maintenance issues, etc., which can save you both time and costs.

Advancing welding and production technology
Much of our engineering efforts go into improving our own manufacturing techniques. We continuously develop and invest in new production and test technology to keep our position at the forefront of the heat exchanger industry.

Some recent examples include our hot wire TIG welding for narrow gaps, our pit for internal bore welding, our special ultrasonic probes, and investments in equipment for time of flight diffraction (TOFD).

TRANSFER LINE EXCHANGERS

The design of our transfer line exchangers (TLEs) is a good example of how we create value for our customers through smart engineering. Alfa Laval Olmi TLEs have a patented design that makes them withstand the harsh conditions in quench cooling in ethylene plants much better than traditional TLEs.

Air-cooled heat exchanger with bundles in duplex and alloy 6Mo

Long-term partnerships

With Alfa Laval as your partner you have our full commitment from the initial idea stage and throughout the entire lifetime of your heat exchanger. We make sure your order is executed smoothly and according to plan, from design to commissioning. After installation we help you with training, continuous service and good advice.

On-time delivery and efficient project execution
Our focus on reliability also applies to the way we manage projects. On-time delivery and easy project execution for our customers are our first priorities, and we have a highly structured way of working to ensure this. Our project management toolbox gives us full control over all aspects, including quality and documentation.

Your contacts remain the same throughout the project and each project has an appointed team consisting of a project manager, project engineer and a quality engineer. The team supports you from start to finish, facilitating our cooperation and minimizing the time you need to spend on the project.

Managing changes

We have a well-developed system that enables us to handle any changes that may be requested during project progress, ensuring maximum flexibility during the design and manufacturing stages.

The project management organization handles any alterations you may have and make sure quality is maintained.

Highest quality in every step

Our quality management system covers all aspects of our operations: design, incoming material, production, welding, sub-suppliers, etc. It is certified according to ISO 9001 and a range of other internationally recognized standards.

We continuously add new methods and techniques to our quality control systems. One example is our ultrasonic test equipment that has been developed in-house. We use this for non-destructive examination of welds and to make sure there are no impurities, both in newly-built heat exchangers and when repairing older units.

Following international codes and standards

All our designs are in accordance with all leading international standards and codes. We have a close cooperation with ASME and take an active part in several of their committees.

Service

Our global network of local service technicians is ready to assist you on site whenever you need help. We service heat exchangers from all manufacturers, not only our own equipment. Our specialists can help with everything from audits and advice on maximizing your return on investment, to performing a full reconditioning on any type of shell-and-tube or air-cooled heat exchanger.

We know the importance of keeping service stops short and our organization is both flexible and available at short notice. We have the capacity to perform complex, large-scale service work and always do our best to minimize plant downtime.

By working closely with our customers, we can prepare for planned service stops well in advance to make sure work is executed efficiently in the shortest possible time.

Our service offer includes:

- Commissioning
- Troubleshooting
- Audits
- Repairs and reconditioning, including advanced welding and post-welding heat treatments
- Supervision, engineering and project management
- All types of testing (ultrasonic, x-ray and gamma ray, hydro, pressure, dye penetrant, etc.)
- Supply of material and spare parts
- Supply of equipment required for the service
- Training

Using our special NDE (non-destructive examination) technology we examine welds for imperfections on all heat exchangers that leave our factory. The same equipment is used for field service work.

First-class manufacturing

All Alfa Laval Olmi heat exchangers are built and thoroughly tested in our own workshop to ensure their quality. This gives us tight control over the entire process from design to installation, and ensures the highest possible product reliability.

Welding
The durability of a heat exchanger operating at extreme conditions is highly dependent on the quality of the welds. Even minor imperfections can cause breakdowns and costly service stops.

Welding is a core competence for us and we regularly invest in staff training and certifications, as well as in new welding technology. All to maximize weld quality.

Our welding engineers and welding coordinators are all EWE and EWT certified. Our welders are all EN and ASME certified and are experts in welding exotic materials and joining dissimilar materials.

Testing
We perform rigorous pre-delivery testing on every heat exchanger that leaves our workshop. Our inspectors are certified to NDE Level II and III according to SNT TC1A and EN9712. We perform a range of non-destructive tests including ultrasonic NDE, x-ray and gamma ray tests, hydro tests, pressure tests using helium and dye penetrant tests.

FACILITIES AND EQUIPMENT

In our 900 m² cleanroom we perform welding and testing of high-alloy equipment under dust-free conditions.

- 65,000 m² (700,000 sq ft) workshop of which 30,000 m² (323,000 sq ft) covered
- 900 m² (9,700 sq ft) cleanroom for assembly, welding and testing of non-ferrous, high alloy metal equipment. This prevents iron and dust contamination
- Three 50 tonne (110,000 lb) capacity overhead cranes, twenty 15 – 20 tonne (33,000 – 44,000 lb) overhead cranes and twentythree 10 – 14 tonne (22,000 – 31,000 lb) overhead cranes
- 10 m (40 ft) deep welding pit for internal bore welding of vertically positioned components
- 6 x 6 x 18 m (20 x 20 x 60 ft) furnace for heat treatment of complete heat exchangers
- Bunker for x-ray and gamma ray testing
- Cold rolling machine 60 x 4,000 mm (2.3 in x 157.4 in)
- Precision drilling of tubesheets is performed in our CNC three-spindle drilling machines: max thickness 1,200 mm (47 in), max diameter 6,000 mm (236 in)
- Vertical turning machine: max diameter 3,500 mm (137 in)
- Manual and automatic welding machines: SAW, GTAW, SMAW, PAW, GMAW
- Manual and automatic TIG hot wire welding machines
- Welding machines for automatic orbital welding of tubes to tubesheet: internal bore welding, crevice free welding, strength welding
- Electric resistance local heat treatment
- Shot blasting, painting and flame metal coating facilities
- Ultrasonic test equipment
- Helium mass spectrometer equipment, magnetic particle die penetrant equipment
- Finning department to manufacture embedded, extruded and L-footed fin tubes for air coolers
- FMS for tubesheet machining

Alfa Laval in brief

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

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