



Saint Ouen l'Aumône, 2009, 2<sup>nd</sup> June

**INTERNATIONAL  
TRADE FAIR  
JOINING CUTTING  
SURFACING**

**14.-19.09.2009  
ESSEN GERMANY**

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### Air Liquide Welding

With sales in 2008 of €635 million and 3,000 employees all around the world, the Air Liquide Welding group is a **leading player in the development of welding and cutting technologies**, offering the most complete range of related equipment, consumables and services on the market, through internationally well known brands (Oerlikon and Saf-Fro for the industrial markets, Cemont for the semi-professional users and Weldline for the welder's environment.) With its Technical Centre for Welding Applications (CTAS), acknowledged as the largest private welding research centre in the world, Air Liquide Welding pursues **continuous innovation**, constantly striving to improve the performance, productivity, safety and comfort of operators.

## **Air Liquide Welding - Oerlikon will be present at the Schweissen & Schneiden exhibition**

*Press info*

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Air Liquide Welding - Oerlikon will be present at the Schweissen & Schneiden exhibition in Essen from 14th to 19th September 2009 on Stand 204 in Hall 3.

The Air Liquide Welding group will present the different brands: Oerlikon, Saf-Fro, Cemont and Weldline using 9 points of interest, to demonstrate new products and processes to satisfy the needs of the most demanding customers.

With this selection from the comprehensive product ranges, Air Liquide Welding will present innovative solutions to customers for cost effective fabrication while ensuring improved working conditions for operators.

Highlights of the exhibits are as follows :

#### Welding Consumables

- Oerlikon presents the most comprehensive range of submerged arc wire/flux combinations for every application **in the pipe mill industry**. Furthermore, DRYBAG is a fully moisture proof packaging system making any requirement for flux conditioning unnecessary, customers can achieve high-quality welds even in the most hostile ambient conditions. DRYBAG is made of an advanced polyethylene-aluminium composite foil, specially developed for vacuum packaging applications. For enhanced security, a partial vacuum is produced in the DRYBAG during the packaging of the welding flux. The low-pressure serves as an indicator for the security of the packaging..
- A new and comprehensive range of OERLIKON **strips and associated fluxes for all cladding applications**. Air Liquide Welding will also present a new strip welding head dedicated to these cladding applications.
- A new range of OERLIKON flux cored wires and a wire feeder specifically designed for shipyard welding applications

#### Automatic Cutting

- ALPHATOME - NERTAJET HP - CPM 400 – HPC.  
This machine is equipped with a **new plasma cutting installation** featuring :
  - high quality cuts on a wide range of thicknesses (mild steel 1 to 30 mm – stainless steels 1 to 35 mm)
  - an improved cutting speed +35% (at equivalent power)
  - an increase of the service life of wear parts
  - an improved cutting capacity for equivalent power
  - torch flexibility (single or two-torch options) and cutting parameters (intensity, gas flow, etc.) are controlled by the HPC DIGITAL PROCESS system, whose integrated database allows operators to benefit further from ALW's plasma process expertise

This machine combines highly accurate cutting with an extremely friendly ease of use through the assistance of an intuitive and interactive MMI (man machine interface)

- FIBERTOME 3015, is a 2D flatbed **fiber laser cutting installation**, with a highly innovative solution using a 2 kW fiber laser.
  - the installation is designed for cutting and marking steel sheets with standard dimensions of 3000 x 1500 mm
  - for maximum thicknesses of 12 mm for mild steels, 5 mm for stainless steels and 4 mm for aluminium.
  - with an acceleration of 1g and a maximum speed of 100m/min, the installation mechanics ensure a location precision of +/- 0.05 mm/m with a repeatability of +/- 0.04mm/m
  - an easy to use and extremely friendly and easy to use IHM (Interface Human Machine) with a touch sensitive screen
  - efficient nesting software to optimise the cutting process
  - a high performance shuttle table system to allow fast loading and unloading of steel sheets even during the cutting process.

Compared to a CO<sub>2</sub> laser, the energy efficiency of this fiber laser cutting installation brings advantages which make the difference:

- Through a noticeable reduction in operating costs due to the decrease in electrical consumption and the absence of lasing and protection gas in the optical path of the laser
- reduced maintenance costs, no need for a turbo-compressor, or mirror adjustments during operation
- significant increase in cutting speed for equivalent power,
- reduced floor space required.

### Automatic Welding

- **TOPTIG** : is an essential evolution in the field of robotic welding. With this new patented process Air Liquide Welding provides high quality welding results, no spatter and excellent penetration as in TIG welding, but with an improved welding speed, which is nearly the same speed as MIG welding. In addition several characteristics bring more welding efficiency (better torch access, multidirectional welding that makes the robot trajectories simpler ...)
- A submerged arc welding machine with the new digital control device **3A WELDING SYSTEM** allowing an optimised control of all the parameters of the welding process. This new installation consolidates the Air Liquide Welding expertise of the submerged arc welding process and has no equivalent on the market
- A **plasma welding + HPW** process controller installation which demonstrates the advantages of the plasma welding process on pipes : nearly no deformation of the welded pieces, elimination of the corrosion problems by matching the chemical composition of the base material, excellent weld bead appearance, no chamfering (for thicknesses up to 8 mm), reduced welding time (4 or 5 times compared to manual welding), complete and regular penetration due the the key-hole effect and finally very high level of quality (100% X rays)

### Equipment and Consumables for Manual Applications

Several new OERLIKON welding machines for MIG/MAG (CITOPULS II), TIG (CITOTIG 240 AC/DC), MMA (CITOARC HPF) and plasma cutting machines (CITOCUT 10 KT). Personal protection equipment and the wide range of OERLIKON welding consumables that are currently distributed by our network of distributors will also be presented.

**Air Liquide is the world leader in gases for industry, health and the environment**, and is present in over **75 countries** with **43,000 employees**. Oxygen, nitrogen, hydrogen and rare gases have been at the core of Air Liquide's activities since its creation in 1902. Using these molecules, Air Liquide continuously reinvents its business, anticipating the needs of current and future markets. The Group innovates to enable progress, to achieve dynamic growth and a consistent performance.

Air Liquide combines many products and technologies to develop valuable applications and services not only for its customers but also for society. **Innovative technologies** that curb polluting emissions, lower industry's energy use, recover and reuse natural resources or develop the energies of tomorrow, such as hydrogen, biofuels or photovoltaic energy... Oxygen for hospitals, homecare, fighting nosocomial infections...

**A partner for the long term**, Air Liquide relies on employee commitment, customer trust and shareholder support to pursue its vision of sustainable, competitive growth. The **diversity** of Air Liquide's teams, businesses, markets and geographic presence provides a solid and sustainable base for its development and strengthens its ability to push back its own limits, conquer new territories and build its future.

**Air Liquide explores the best that air can offer to preserve life, staying true to its sustainable development approach**. In 2008, the Group's revenues amounted to **€13.1 billion**, of which almost 80% were earned outside France. Air Liquide is listed on the Paris Euronext stock exchange (compartment A) and is a member of the CAC 40 and Dow Jones Euro Stoxx 50 indexes.