



WELDING TECHNOLOGIES



Manual Welding

Quality Without Compromise

Manual Welding

About

Contents

Ergoline Guns	3
Ergoline Options	4
Ergolean Guns	5
Ergoflex Guns	6
Turnkey Solutions	7

As a world leader in welding equipment and welding systems for the automotive industry for more than half a century, ARO is a name which has become synonymous with resistance welding. Clients choose ARO for its proven superiority in state-of-the-art technology, reliability and quality without compromise.

Based in Château-du-Loir near Le Mans in France, ARO has a worldwide presence, with branches and production sites in Europe, Asia and North, Central and South America delivering a complete range of services to international customers.



ARO headquarters, Château du Loir, France.

Ergoline Manual Welding

In manual welding applications where safety, ergonomics and reliability are paramount, ARO offers its Ergoline range of modular welding guns and its two ensuing models, Ergolean and Ergoflex.

With thousands of these guns already in operation worldwide Ergoline has more than proved itself with clients in the automotive sector and other industries. Its easy to handle design allied to an excellent power to weight ratio ensures that this market leading range meets all manual welding applications.

Ergoline's ergonomic design simplifies otherwise complicated processes and provides the user with both improved efficiency and productivity. A modular construction allows it to be easily customised and adapted to specific requirements. Ergoline permits a safe welding environment thanks to an enclosed housing unit and reinforced suspension elements. Its concept is the result of the very latest ARO technology and responds to the most complex welding requirements.

All ARO guns are offered with ARO control cabinets and various accessories aimed to optimise each manual welding solution.





Ergoline Guns

With 'plug and play' adaptability, easy to handle design and excellent power-to-weight ratio, the Ergoline range of manual welding guns provides the ultimate in adaptability, longevity and ease of use.

Ergoline gun body

The Ergoline range of manual guns is available in five various sizes to cover all applications.

The various gun bodies are equipped with AC or MFDC transformers. They can be used with brass, copper or aluminium 'plug and play' arms with a reach of over one metre in length. Ergoline guns work on all air networks between 4 and 10 bar and on all electrical networks.

Ergonomic design

The Ergoline design offers a gun which is not only easy to handle, but equally compact. This improvement in ergonomics is the result of extensive technical development and has the following characteristics:

- Smaller size
- Lighter weight
- Better balancing
- Use of multi-positional handles

Patented pneumatic cylinders

The Ergoline concept uses a patented technology of multi-stage pneumatic cylinders. An optimised range of base cylinders enables different forces to be applied due to the addition of supplementary stages. This reduces the number of spare parts required.



Homogeneous and modular conception

Ergoline gun bodies utilize the same philosophy of modular construction. Transformers and pneumatic cylinders are easily adaptable and interchangeable to the whole range.

Complete protection

The entire gun body is protected by a removable cover. Situated at the gun head, the cover safeguards the operator from moving parts and a second cover protects the gun parts against contamination.

Modular
construction:
adaptable,
compact, efficient



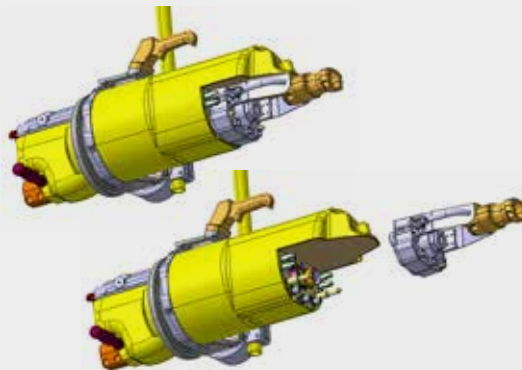
Ergoline Options

Faster coupling
and uncoupling,
easier handling,
greater control

The Ergoline Gun provides a range of options to meet any conceivable welding requirement while keeping operating costs to a minimum.

Quick changer

This function permits quick coupling and uncoupling of the manual gun with its harness. Extremely compact, a gun equipped with a quick changer makes it the ideal tool for a workshop environment where flexibility is required, for example during prototype production.



Indexing kit

This option allows the user to lock one or more positions of the gun when the welding operation does not necessitate a total rotation of the gyroscope or the suspension hub. Once set, the user no longer needs to index the position of the gun and can weld more rapidly as a result.

Handling wheel

This wheel provides the operator with perfect ease of use, even if access to the welding point is relatively difficult.

Additional control handles

Four points situated every 90° on the hanging ring allow the use of four control handles. The ergonomics can be increased in cases where the operator is required to weld at different angles.

Advantages – Ergoline

A concept that meets all requirements:

- Thanks to its modular design, the Ergoline gun adapts easily to all clients' requirements
- A wide range of options to increase the ergonomics of the work station allows each user to set their own welding solution

Utmost safety:

- No parts projecting from the gun body
- Gun has a protective cover to safeguard against electrical risks and maximise operator safety
- Robust parts throughout

Reduced operating costs:

- The ergonomics of the gun simplifies its operation – saving time and increasing productivity
- Removable cover gives quick and easy access to worn parts
- Homogeneous and modular design means fewer components
- Simplified electrical, pneumatic and cooling circuits minimises downtime





Ergolean Guns

The manufacturing industry is constantly striving for higher profitability and productivity. ARO has responded to these challenges by offering the Ergolean range of guns. Based on a standardised design and derived from ARO's longstanding experience in selecting components with the ideal ratio of cost to performance, Ergolean maintains all the essential functions of the Ergoline gun without compromising on efficiency, safety and reliability.

Ergolean characteristics

- **Proven concept:**
The Ergolean gun relies distinctly on the Ergoline concept by offering the same advantages and common features. All Ergolean gun components are proven and durable
- **Standardisation:**
Ergolean gun bodies are assembled with standard ARO components to provide a turnkey solution for our clients' individual welding requirements

Advantages – Ergolean

Cost savings:

- Reduction in design and clients' development costs owing to standardisation of parts and 'off the shelf' components

Faster delivery:

- Ease of assembly
- Proven 'off the shelf' parts

Reliable solution:

- Proven design based on ARO's vast installed base
- Longevity of the components.
- Minimum down time owing to standardised components

Reduced operating costs thanks to standardised components and proven design



Ergoflex Guns

One gun body
for a range of
interchangeable
arms

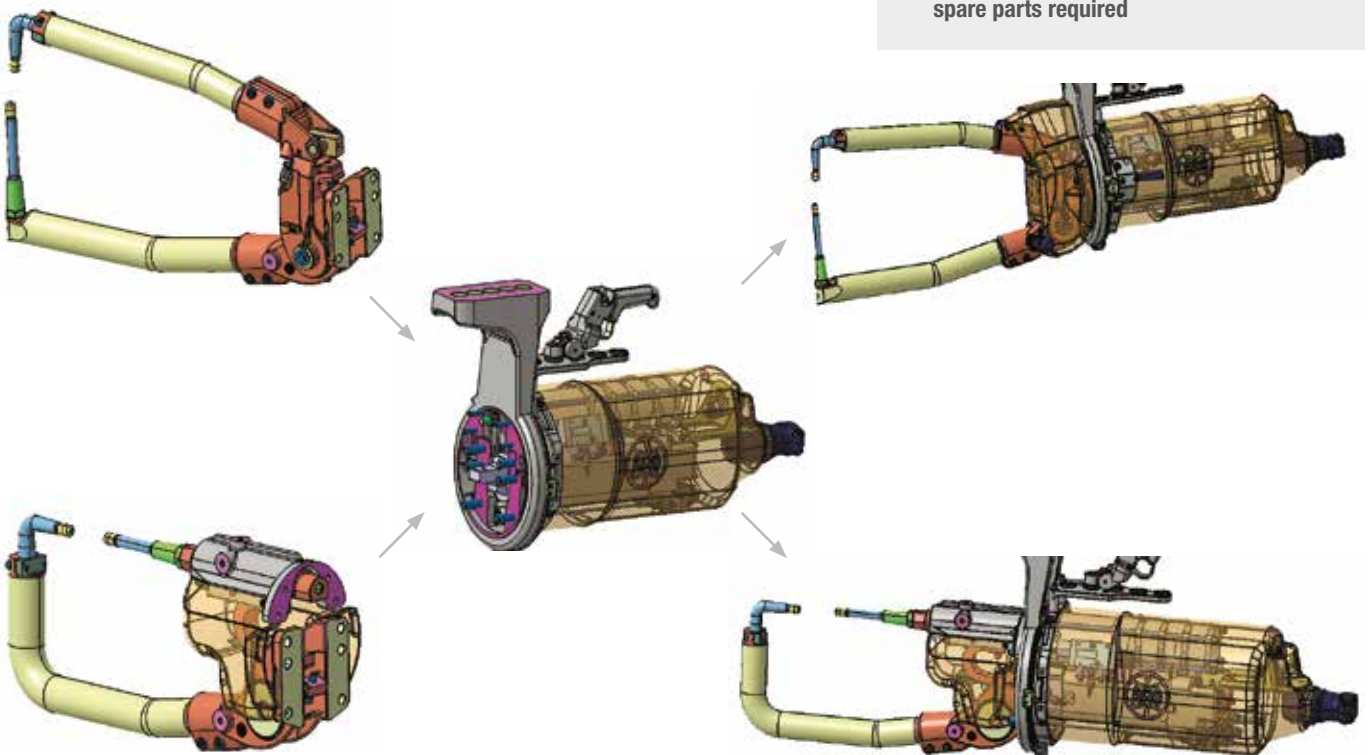
In response to our clients' requests for flexibility in workshop environment, ARO offers the Ergoflex gun. Specifically designed for prototype development or small production runs, where a quick changer option is not required

A single gun body

At the heart of the Ergoflex design is a single body enabling various welding heads to be attached.

Advantages - Ergoflex

- **Maximum flexibility**
The same gun body is used for a quick and easy change of application. For example to change a gun from an X type to a C type can take less than 20 minutes.
- **Investment savings**
The number of gun bodies can be drastically reduced
- **Reduction in operating costs**
Utilising one gun body for several applications reduces the quantity of spare parts required





Turnkey Solutions

ARO delivers turnkey solutions for all types of manual welding applications. With its dedicated electronics and service departments ARO can install and commission manual welding stations that support the latest ergonomic studies and in compliance with the EMF (Electro Magnetic Field) Directive.

ARO Controls

Essential to the efficiency and reliability of any welding process is the control system. ARO offers its own range of monitored welding controls to optimise production management and quality assurance. The latest generation controls are based on 'intelligent' process control (adaptive control system), which allows the user to improve welding quality and to reduce costs linked with quality, such as teardowns or spot checks.

ARO offers a complete range of controls to meet the most basic or most demanding welding requirements. The combination of ARO guns and ARO controls provides users with superior resistance welding results every time.

ARO Service

ARO provides world-class after sales service to the many thousands of welding systems we have supplied over the years. Experienced ARO technicians are available to handle all service requests and ARO also offers full refurbishment on any make of welding equipment.

To facilitate our clients' complete understanding and analysis of welding applications, ARO can tailor specific training programmes, either from ARO's own premises or at a client's facility, to aid in improvements in productivity and weld quality.

Spare parts, technical expertise and development of all products are provided worldwide.

Accessories

- **Spring balancers**
To guarantee the best possible equalising of welding guns, ARO offers a range of robust and safe spring balancers. Easy to operate, they can equalise loads from 3 Kg to 200 Kg
- **Cooling device**
ARO can provide the very latest generation of cooling devices known as REFRI. Compact, eco-friendly and efficient cooling is guaranteed thanks to water temperature regulation that allows maximum results and increases equipment life
- **Cranes**
ARO manual welding guns are mounted on cranes to facilitate equipment handling by the operator. Directly fastened to a wall or column mounted, various models are available, each offering a small footprint and excellent lifting capacities
- **Tip dressers**
Tip dressers permit the user to maintain perfect welding quality while keeping the welding tip in good condition, and by avoiding frequent changes costs are further reduced. Depending on a client's specific application, ARO can provide various options such as electrode tip dressers, ratchet tip dressers, manual pneumatic, automated stand mounted electric dressers or dressing benches

ARO – your
only partner for
resistance welding



WELDING TECHNOLOGIES

ARO Welding Technologies SAS

1, Avenue de Tours - BP 40161
72500 Château du Loir, **France**
T: +33 (0)2 43 44 74 00
F: +33 (0)2 43 44 74 01
E: france@arotechnologies.com



ROBOTIC WELDING
MANUAL WELDING
STATIONARY WELDING
MOBILE WELDING
ARO CONTROLS
ARO SYSTEMS
ARO REBUILD
PARTS & COMPONENTS

ARO Welding Technologies Inc

48500 Structural Drive
Chesterfield Township, MI 48051, **USA**
T: +1 (1)586 949 9353
F: +1 (1)586 949 4493
E: usa@arotechnologies.com

ARO Welding Technologies S.A. de C.V.

43B Sur 4720, Estrella del Sur, C.P. 72190
Puebla, Pue, **Mexico**
T: +52 222 230 00 37
F: +52 222 248 20 65
E: mexico@arotechnologies.com

ARO Tecnologias De Soldagem Ltda

Rua das Figueiras, 474 – 3º andar Bairro
Jardim, 09080-300 – Santo André SP,
São Paulo, **Brasil**
T: +55 11 4903 9241
F: +55 11 4903 9240
E: brasil@arotechnologies.com

ARO Welding Technologies (Wuhan) Co. Ltd.

M Building - West District, MinYing Industry,
Park, 81 CheChengNan Road, WEDZ
430056 WUHAN, **China**
T: +86 (0)27 8447 1353
F: +86 (0)27 8447 1351
E: china@arotechnologies.com

ARO Welding Technologies GmbH

Senefelderstraße 4, 86368 Gersthofen
Germany
T: +49 (0)821 780 980-0
F: +49 (0)821 780 980-19
E: germany@arotechnologies.com

ARO Welding Technologies SA-NV

Koningin Astridlaan 61, 1780 Wemmel,
Belgium
T: +32 (0)2 555 0750
F: +32 (0)2 523 2024
E: belgium@arotechnologies.com

ARO Welding Technologies Ltd

Unit 15, Planetary Industrial Estate
Planetary Road Willenhall
Wolverhampton, WV13 3XA,
United Kingdom
T: +44 (0)1902 738 214
F: +44 (0)1902 738 218
E: uk@arotechnologies.com

ARO Welding Technologies S.A.U

C/ Cuzco, 26-28, nave 2
08030 Barcelona, **Spain**
T: +34 93 421 2111
F: +34 93 432 0190
E: spain@arotechnologies.com

ARO Welding Technologies s.r.o.

Karlovská 63, 84104 Bratislava,
Slovakia
T: +421 (0) 265 440 585/586
F: +421 (0) 265 440 587
E: slovakia@arotechnologies.com

ARO Welding Technologies AB

Timotejvägen 7, 439 71 Fjärås,
Sweden
T: +46 (0)300 543 988
E: sweden@arotechnologies.com

Quality Without Compromise

www.arotechnologies.com

Doc. C740GB - 0915 / Issue 1. Due to a policy of continued improvement, we reserve
the right to change any specification without prior notice. ERRORS & OMISSIONS EXCEPTED.
Printed on a Manroland R700 press.



A Langley Holdings Company