



WELDING TECHNOLOGIES GROUP

Robotic Welding

The new generation 3G Modular Welding Gun



Quality without compromise

www.arotechnologies.com

About

Since the middle of the 20th Century, the name ARO has been synonymous with resistance welding. Today the ARO Welding Technologies group is a world leader in welding equipment and systems to the automotive and other industries.

Widely acclaimed as the leader in its field, ARO technologies are chosen by clients who recognise ARO's superior functionality, reliability and quality. Every ARO product is designed to provide the client with the lowest life cycle costs.

Headquartered in Chateau du Loir, near Le Mans in France, and via its international subsidiaries and manufacturing facilities in Europe, the Americas and the Far East, ARO provides global presence to global clients.

Combine this with the highest levels of client support and after sales service available anywhere and it is clear why ARO is widely recognised as the most respected name in resistance welding technology.

ARO is a division of the multi-disciplined UK based engineering group, Langley Holdings plc (www.langleyholdings.com).



ARO headquarters, Chateau du Loir, France

3G modular welding gun

Manufacturing industries are under constant demand to improve efficiency, reduce costs, and with an eye to the environment to reduce their impact on the world's resources.

Our philosophy is to take a forward thinking approach to these challenges, and help our customers meet these demands by developing the world's first truly modular welding gun assembly, the ARO 3G robotic welding gun. A system that delivers a simple, robust, cost effective modular welding gun that takes performance to new levels.

Dramatic gains are made possible through the advantages provided by modular components. The resultant ease of maintenance and significant savings, associated with reduced down time and less spare parts, means the 3G system meets the challenge with unprecedented ease.

Using ARO's unequalled modular and servo gun expertise, the family of 3G guns has up to 60% fewer parts than conventional gun designs and there is a high degree of component commonality between all of the 3G gun types.

The result of over 3 years work by our in house R&D group, and supported by several patents and a major investment in dedicated design and tooling, the 3G system is a break-through in modular robotic welding gun design.



"A break-through in robotic welding"

3G features

The 3G gun bodies:

The revolutionary 3G modular system allows four gun variations to be created from nine shared modules, seven specific modules and 2 plug and play arms. These four variations are called the 3G-C, 3G-X (copper arms), the 3G-Z and the 3G-CZ (aluminium arms) guns which have different welding force versus arm length performance.

Rapid and easy assembly:

Assembly of the four types uses the 3G modular design. A fully functioning gun can be assembled quickly from a small number of standardised components. Once assembled the arms simply plug in and the whole assembly is ready for inspection:

- MTTR is less than 10 minutes.
- Delivery times are dramatically reduced.

Protection from contamination:

The 3G modular system includes a cover providing excellent protection from contamination, ease of access for maintenance and removes the need for expensive gun bags.

- Protects from contamination.
- Easier maintenance.
- Fewer failures.

Patented universal side plate platform:

The ARO design philosophy is built around ease of use and keeping maintenance costs to a minimum. The patented universal side platform is in keeping with this philosophy.

- Ease of access for maintenance and repair.
- Assists arm “plug and play” configuration, and body conversions between C and X types.

Gun equalising optional:

Should gun equalising be required the 3G modular system has both pneumatic and servo adaptive modules that can be incorporated.

- Independent servo adaptive module can be added only when necessary.
- Pneumatic adaptive module also available.
- Reduced investment when equalising is not required.

Complete panel of component technologies:

The modular design allows incorporation of the latest technologies pioneered by ARO:

- MFDC transformers
- Water-cooled servo-motors
- Integrated force sensors

Pneumatic and AC versions are also available for less demanding welding requirements.





3G flexibility



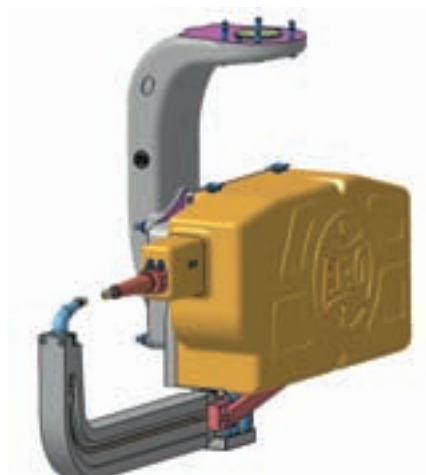
THE 3G-X GUN



THE 3G-C GUN



THE 3G-Z GUN



THE 3G-CZ GUN

"ARO sets new standards through innovation, design and forward thinking"



3G benefits



The 3G modular system has considerable advantages over existing conventional robotic welding guns.

Capital investment incentives:

- Reduced investment in spare guns required – 3G built in simplicity, leads to reduced MTTR.
- Reduced costs for spare parts due to standardisation of parts.

Improved running costs:

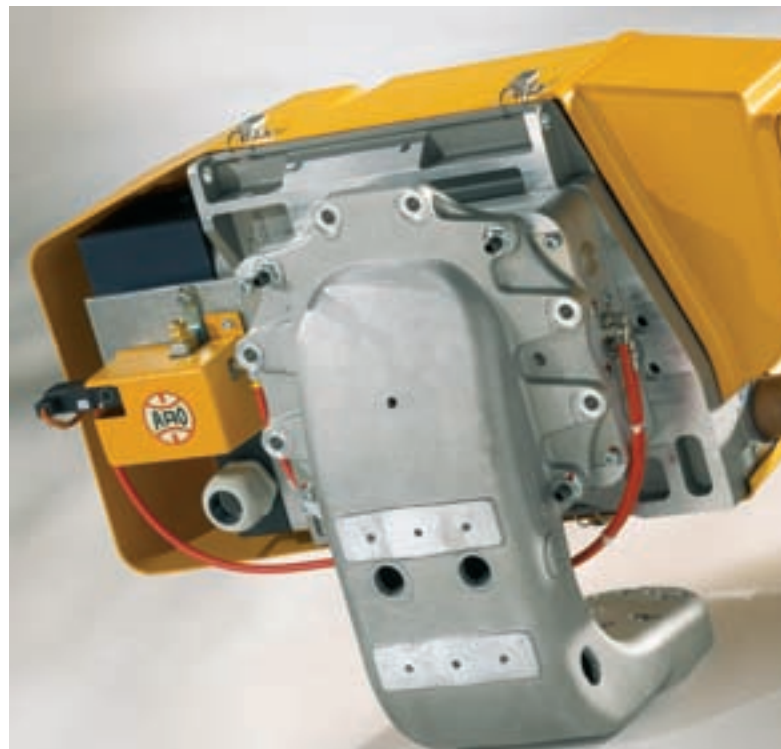
- Dramatic reduction in component diversity and storage requirements. Up to 60% fewer parts than a conventional gun design.
- Less in house repair engineers required. Concept relies on replacing modules by non-specialised workforce.
- Easy trouble-shooting due to single side mounting and modular components.
- Same basic body – save costs and easier late stage design changes.
- Gun cover removes need for expensive gun bags.

Global compatibility:

- The full cover defines the 3G model precisely for offline programming – No surprises when installing the gun on the line.
- No BSP or NPT fittings – Easy worldwide implementation and tool transferability.

Improved flexibility:

- Gun body easily converted from C to X or from copper to aluminium arms by swapping modules.
- Arms are “plug and play”, and can be adapted without touching the gun body.



Turnkey solutions

ARO Controls

Essential to the efficiency and reliability of any welding process is the control system. ARO offers its own range of controls, transformers, power cabinets and dedicated welding sequence and cabinet monitoring software designed to perfectly complement ARO's legendarily reliable welding heads. Allied to ARO's extensive range of welding guns, this combination of power and process control, ensures that ARO resistance welding products deliver in each and every demanding situation.

Customer care

ARO provides world-class after sales service to the many thousands of welding systems supplied over the years, many of them providing decades of reliable service. ARO ensures genuine spare parts and expert service are available to all of its markets and supports new equipment commissioning worldwide.



"3G - the cost effective solution in robotic welding"



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
LASER WELDING
ARO CONTROLS
ARO SYSTEMS
ARO® REBUILD
PARTS & COMPONENTS

www.arotechnologies.com

The information contained within this brochure is deemed to be correct at the time of going to press. Due to the policy of continued improvement, we reserve the right to change any specification without prior notice. ERRORS & OMISSIONS EXCEPTED.

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 GmbH

Blücherstraße 135b
86165 Augsburg
GERMANY
T +49 (0)821 797 1980
F +49 (0)821 797 1976
E germany@arotechnologies.com

ARO Welding Technologies SA-NV

Riverside Business Park
55/15 Bd Internationalelaan
1070 Bruxelles/Brussel
BELGIUM
T +32 (0) 2 555 0750
F +32 (0) 2 523 2024
E belgium@arotechnologies.com

ARO Welding Technologies Ltd

Unit 4, Fairfield Court
Seven Stars Industrial Estate
Coventry
CV3 4LJ
ENGLAND
T +44 (0)2476 214 320
F +44 (0)2476 511 502
E uk@arotechnologies.com

AROWeldingTechnologies S.A. de C.V.

43B Sur 4720
Estrella del Sur
C.P. 72190
Puebla, Pue
MEXICO
T +52 222 230 0037
F +52 222 248 2065
E mexico@arotechnologies.com

ARO Welding Technologies S.A.U.

Calle Gavá 71-75
08014 Barcelona
SPAIN
T +34 93 421 2111
F +34 93 432 0190
E spain@arotechnologies.com

ARO Welding Technologies AB

Timotejvägen 7
430 33 Fjärås
SWEDEN
T +46 (0)300 543 988
E sweden@arotechnologies.com

ARO Welding Technologies s.r.o.

Karloveská 63
84104 Bratislava
SLOVAKIA
T +421 (0) 265 440 585/586
F +421 (0) 265 440 587
E slovakia@arotechnologies.com

ARO Welding Technologies (Wuhan) Ltd

District A, Building No19
High Tech Industry Park
430056 Wuhan
CHINA
T +86 27 8447 1353
F +86 27 8447 1351
E china@arotechnologies.com

ARO Welding Technologies Pvt. Ltd

Rivercreast 13 & 14
4th floor, Boat Club Road
Near City Point
PUNE 411001
INDIA
T +91 99 7018 0698
E india@arotechnologies.com



WELDING TECHNOLOGIES

A Langley Holdings Company