



EQUIPMENTS FOR HANDLE MIG WELDING OF GAS CYLINDER BOTTLE





1. PREAMBULE

This document is strictly confidential and may not be disclosed or duplicated without prior permission of ALW. This document is based on the information's received and is only relative to this project.

The photographs are only for information and explanation and cannot be contractual.

2. SCOPE OF THIS OFFER

This offer is made on information supplied to us as follows:

Job: Discontinuous circular welding of the handle on the upper half gas bottle

Process: MIG process

Preparation: under customer responsibilities

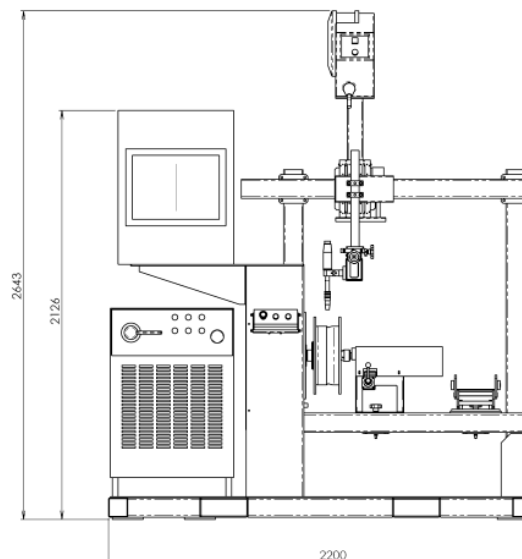
Welding result: No engagement and no responsibilities for the welded final results and final product homologation. It's under customer responsibilities.

Upper half bottle : Diameter = 300 mm
 Length = 370 mm
 Thickness = 3,3 mm

Based on it, our proposal is based on the supply of a complete welding machine comprising of:

- ✓ A standard machine with platform and components,
- ✓ A work piece tooling device,
- ✓ A MIG welding systems.

This offer includes the commissioning in our factory, a technical and electrical technical file (3 copies in English language).



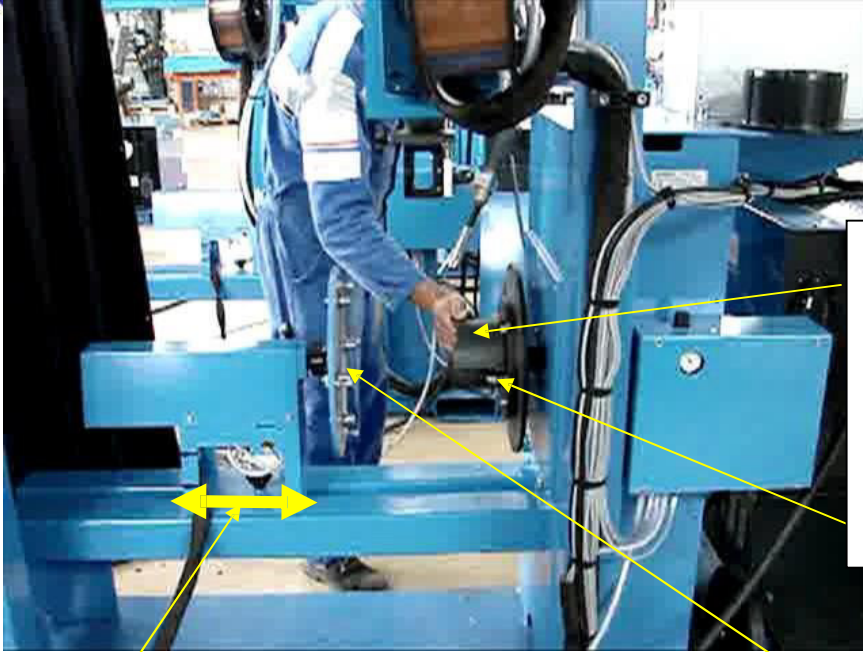


4. WELDING CYCLE

1. Manual loading of the work pieces by operator,
2. Action on pushbutton (located on the tailstock) : In contact positioning of piece through advance of pneumatic tailstock,
3. Action on “cycle start up” pushbutton :
 - Lowering of the torch,
 - Work piece circular movement start up,
 - Arc striking (temporisation after circular movement),
 - Welding of the programmed sequence (3 or 4 welds),
 - work pieces rotation: 360° rotation + overlap (adjustable)
 - automatic stopping of welding,
 - automatic stopping work piece movement when return to origin,
 - Raising of welding torch.
4. Action on unclamping pushbutton : unclamping of work piece by reversing of the pneumatic tailstock,
5. Manual unloading of work piece by operator

The above cycle operations are provided for information only and may vary according to:

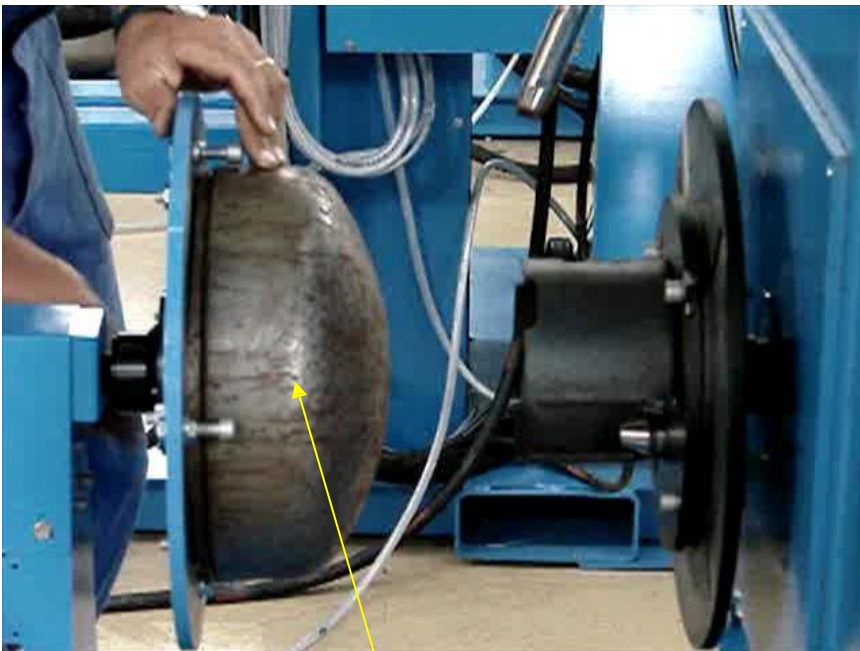
- cleanliness of work piece,
- quality of preparation,
- position of torch,
- consumables : wire and flux used,
- ...



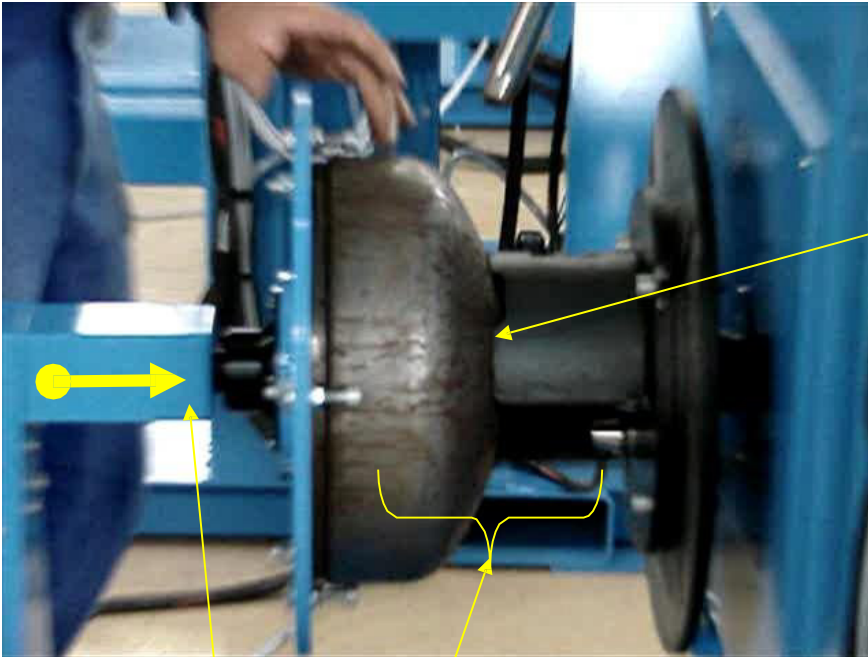
- Manual loading of the handle on a motorised turntable,
- The turntable is equipped with locating pins (the handle is always loaded in the same position).

The tailstock is adjustable manually on the beam for the two type of half bottle piece.

A second free rotation turntable is installed on a pneumatic tailstock for the half bottle piece.

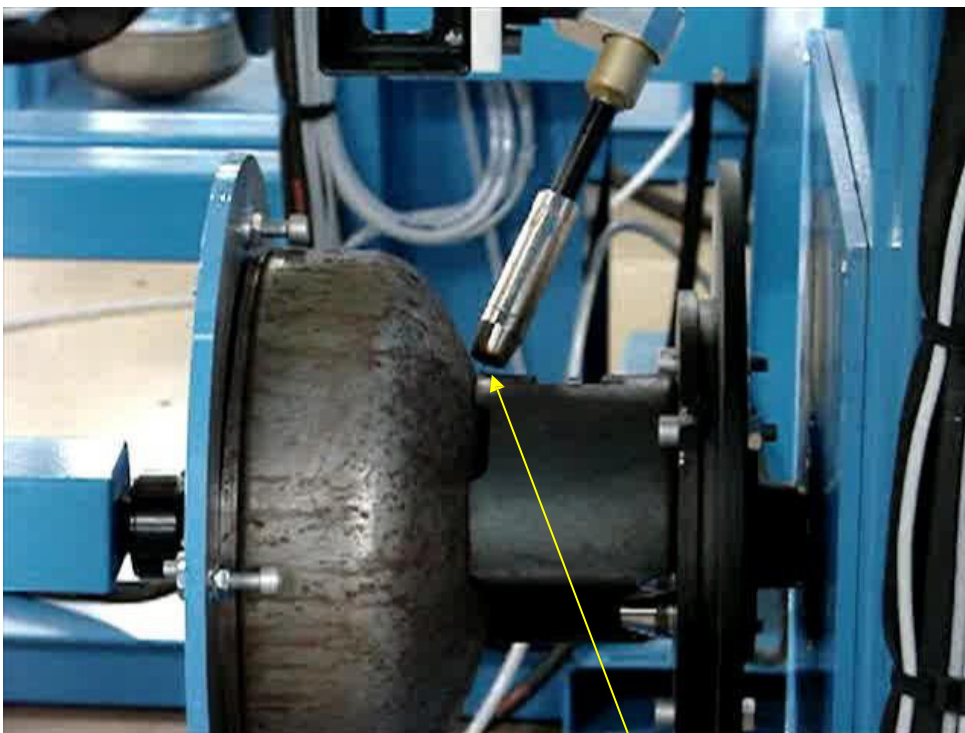


- Manual loading of the half bottle piece (simple positioning by screws).



The quality of the joint to weld is done by the quality of fabrication of the pieces.

In contact positioning of the half bottle and handle by tailstock translation.



- Pieces in rotation,
- Torch in lowered position, ready to weld.



- Welded joints

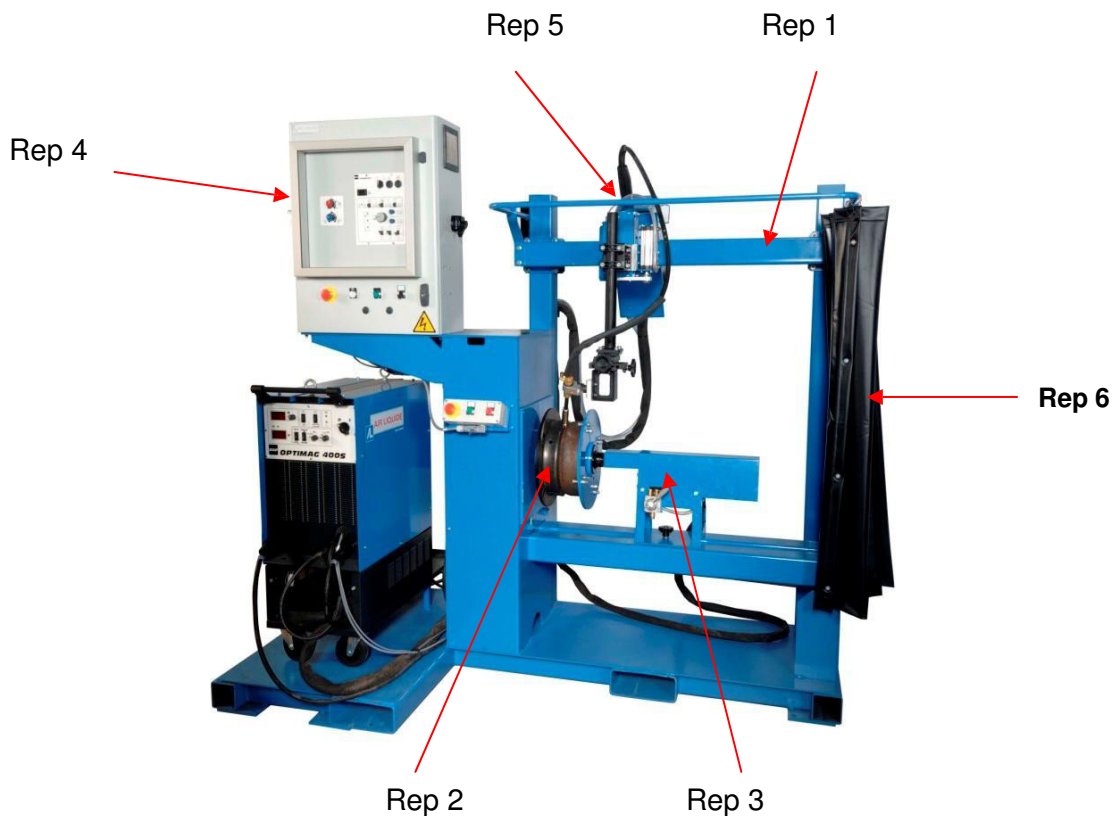
5. EQUIPMENTS

DESCRIPTION

(HORIZONTAL WELDING POSITION RECOMMENDED BY ALW)

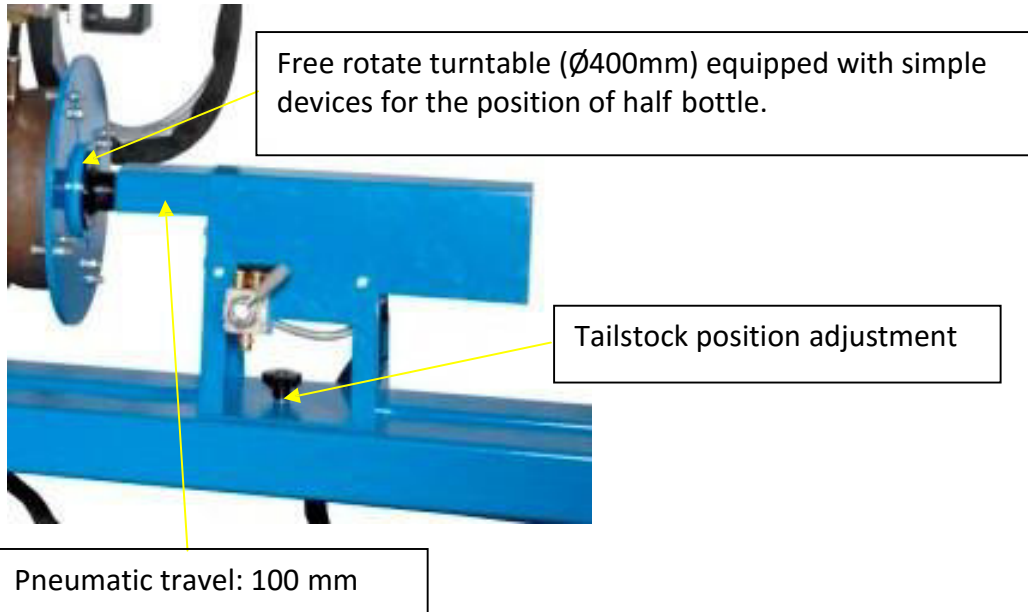
We propose a configuration of standard equipments specifically assembled for your application and consisting of the principal elements describe in the following pages.

A platform concept integrates all the necessary elements. This design facilitates fast and easy installation on site and the easy relocation at a later date if required.



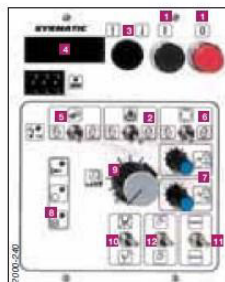
PICTURE SHOWES MACHINE IN HORIZONTAL WELDING POSITION

- **A robust mechanical structure (rep 1)** supports all the equipments, as the welding head ...
- **A motorised rotation unit (rep 2)** with plate ($\varnothing 400\text{mm}$) and tooling allowing the centring of the handle work piece. The motorised unit is integrated into the mechanical structure, protected from impacts, dust and spatter (ie: rotating speed: 0.3 to 8.5 rpm).
- **A pneumatic tailstock (rep 3)** with dead centre equipped with a flow limiter enabling adjustment of the forward or reverse speed translation and a stop cylinder safety device blocking the dead centre in the position which it occupies in case of accidental cut off the compressed air supply.



- **A control panel (Rep4)** including our Gyrmatic modular system :

- 1 Automatic cycle start/stop.
- 2 Manual control to start up part rotation with direction selector.
- 3 Raise/lower torch (option).
- 4 Display of rotation speed (option).
- 5 Selection of part rotation direction in foot pedal control mode.
- 6 Selection of workpiece rotation direction in automatic mode.



- 7 Time-delays controlling overlap area and stop time before reset.
- 8 LED display of current cycle status.
- 9 Adjustment of workpiece rotation speed by potentiometer to guarantee constant, regular movement.
- 10 Selection of automatic cycle mode: with or without welding.
- 11 Selection of welding mode: continuous or intermittent
- 12 Selection of one or two lathes.

- **A torch pneumatic slide (travel 100mm) (Rep 5)** for the execution of the welding cycle and include also manual slides for the vertical and horizontal adjustment of the torch in the joint (travel 50mm).
- **A protective screen (Rep 6)** : to protect the operator from light radiations
- **A welding control box** with emergency stop and “start and stop pushbuttons “for the welding cycle.



6. WELDING EQUIPMENTS : MIG MAG PROCESS

TO BE DEFINE BETWEEN CITOMIG, CITOPULS AND CITOWAVE

The installation also includes :

The TR 600 Liquid cooled automatic welding torch with coaxial cable 1 M : **400A at 100%**

2003-065



8. ENVIRONNEMENT CONDITIONS

Standards and Regulations

Our machines are studied and manufactured in accordance with the European standards and regulations. As these equipments will integrate with other equipments, ALWF provide only a declaration of incorporation EC. The customer is responsible for the CE certification.

Operation conditions for the electric cabinet (control panel)

- Ambient temperature range: **15 ~ 50°C max.**
- Ambient humidity range: 20 ~ 80 % HR max.
- No condensation
- No dust

Electrical supply

The electrical connections of any nature outside the machine and the main power to the machine are not our supplying.

The characteristics of the main power to supply are:

- Voltage: 3 phases 380 V + ground connection
- **Frequency: 50 Hz**
- Estimate power supply: *≈ to be confirm latter*

Fluid supply

The fluid connections of any nature outside the machine and the supplying with pressure reducing stations to the machine are not our supplying.

10 OTHER COMMERCIAL CONDITIONS

Delivery time

4/6 Months ex works France from receipt of down payment and valid purchasing order
Exact delivery will be confirmed on receipt of order