

COMBO MS 600

Mechanised Attachment for GMAW / FCAW and SAW processes
Optimizing welding machine utilization and cost
Ideal for medium thickness structural / vessel fabrication jobs



Offers following advantages for the user

- Optimum use of existing MIG welding machines
- Economical - Minimum investment since there is no need to buy complete SAW outfit
- Flexibility in machine utilization for GMAW/FCAW and SAW welding processes
- Increased welding productivity wherever possible, by using SAW welding process instead of GMAW or FCAW process
- Increase in welding productivity even in GMAW/FCAW welding process by using mechanized MIG torch travel instead of manual MIG torch travel used in semiautomatic GMAW/FCAW welding



WELDERS TO THE NATION SINCE 1951
ADOR WELDING LIMITED

(Formerly Known as Advani-Oerlikon Ltd.)
www.adorwelding.com



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1.0 Introduction

SMAW and GMAW welding processes are very common processes used for fabrication jobs. Most small and medium size fabrication and production shops use these processes. The GTAW and SAW welding processes are not that common and hence are not used in every welding fabrication shop. Thus welding equipments used for SMAW and GMAW welding processes are observed in most fabrication shops. When these shops are required to use SAW welding processes to either increase the welding productivity on existing jobs or for some new odd jobs which may not be very regular but SAW welding is mandatory for these jobs, then they have to invest in purchasing SAW welding equipments, just to complete such odd jobs and once these jobs are completed then the new SAW welding equipments purchased may remain unused for quite some period. The power source characteristics required for welding equipments for GMAW and SAW welding processes are the same i.e. constant voltage (CV), hence it is possible to convert GMAW welding equipment for SAW welding process. In SAW process flux is required to shield the arc instead of shielding gas used in GMAW welding process. Thus in such situation instead of purchasing a complete SAW equipment, if only tractor type motorized welding head with flux dispensing arrangement is procured, then this SAW welding head can be used for both SAW and GMAW welding processes (with the existing MIG power source of 600 amps) by mounting GMAW torch head on this tractor as illustrated in the pictures given on next pages.

ADOR WELDING LIMITED have developed the Mechanization attachment (Model – Combo MS 600) mounted on travel carriage for GMAW / FCAW / SAW welding (to be used with standard CO2 welding machine) which is very useful and handy to complete above mentioned jobs without really purchasing the new SAW welding outfit, consisting of power source and welding

head. Thus the complete set up including mechanization attachment mentioned above, can be used for the combination of welding processes like GMAW, FCAW and SAW etc

2.0 What is mechanization attachment and the complete system?

In this arrangement, existing MIG outfit with power source, wire feeder and torch is used. From this outfit, standard MIG welding torch is mounted on the travel carriage (customized SAW welding head) and the existing wire feeder is used for wire feeding purpose. Using this mechanized set up GMAW/FCAW welding can be done. The SAW welding can be done using the same mechanized set up by connecting flux hopper, flux hose and flux dispenser provided with the attachment.

User has the option to carry out normal semiautomatic CO2 / MIG welding using MIG torch manually or mechanized GMAW / FCAW / SAW welding using the carriage on which above mentioned MIG torch is mounted. The operator/welder has to start shielding gas flow when he needs to use MIG process and use the flux (after stopping shielding gas flow) through flux hopper & dispenser when SAW process is to be used

This mechanization arrangement thus enables the fabricator to carry out manual and semiautomatic GMAW and FCAW welding as well as mechanized GMAW / FCAW / SAW welding of pipes / plates from 7 mm to 20 mm thickness. In case user does not have the MIG or GMAW outfit, then he can also buy a complete new set up consisting of MIG power source, Wire feeder and Torch, apart from the mechanization attachment, Model-Combo MS 600. Thus the total scope of supply will be as follows





3.0 SCOPE OF SUPPLY:

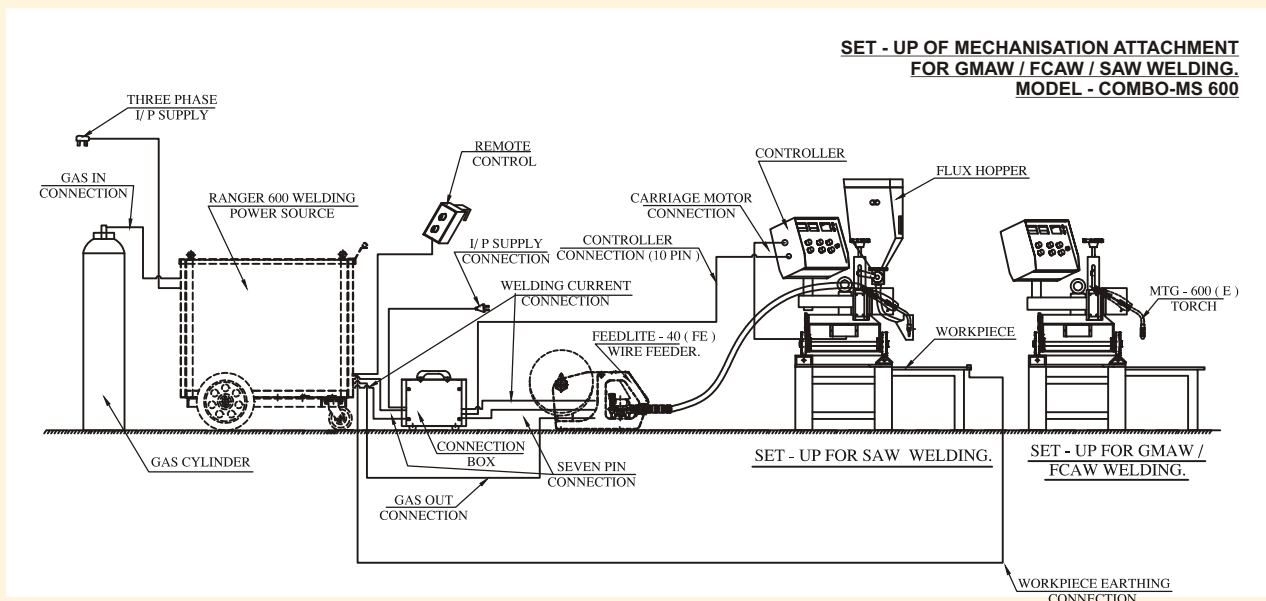
A. When MIG outfit is not available with the user

- 1) **RANGER-600** consisting of Power source, Model: TCVR-600, Wire feeder, Model: **FEEDLITE-40(FE)** and welding torch, **MTG-600(E)** with standard accessories.
- 2) **Mechanized Attachment Model – Combo MS 600** consisting of customized SAW welding carriage trolley with manual horizontal and vertical slides, necessary brackets for mounting the torch, controller having controls for carriage drive, weld controls, wire feed controls, flux hopper with flux hose and flux dispenser, attachments for fillet welding, pointer assembly etc.
- 3) A **Connection Box** for connecting RANGER 600 with the trolley assembly
- 4) Necessary **Inter connection cables** for joining RANGER-600 to connection box and connection box to mechanized trolley.

B. When MIG outfit is available with the user

- 1) **Mechanized Attachment Model – Combo MS 600** consisting of customized SAW welding carriage trolley with manual horizontal and vertical slides, necessary brackets for mounting the torch, controller having controls for carriage drive, weld controls, wire feed controls, flux hopper with flux hose and flux dispenser, attachments for fillet welding, pointer assembly etc.
- 2) A **Connection Box** for connecting RANGER 600 with the trolley assembly
- 3) Necessary **Inter connection cables** for joining RANGER-600 to connection box and connection box to mechanized trolley.

The entire set up and connection arrangements between the power source, connection box and the welding tractor head is shown in the photograph and connections between various components are illustrated below for easy understanding



Note: Power source, wire feeder & welding torch not in the standard scope of supply



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4.0 TECHNICAL SPECIFICATIONS

| | | | |
|--|---|--------|-------------------------|
| 1) Max. Welding current | at 60 % duty cycle | A | 600 |
| | at 100% duty cycle | A | 465 |
| 2) Wire diameter | - | mm | 1.2, 1.6, 2.0, |
| 3) Speed range | - Wirefeed | m/min. | 1.2 to 18 |
| | - Carriage | m/min. | 0.1 to 1.5 |
| 4) Input to controller | | | 42V from connection box |
| 5) Range of adjustment | - Vertical (manual) | mm | 140 |
| | Transverse to head travel - Horizontal (manual) | mm | 140 |
| 6) Max. swivel : | | | |
| | -Transverse to head travel | Degree | 45 |
| | -Parallel to head travel | Degree | 30 |
| | -Horizontal open swing | Degree | 270 |
| 7) Weight of the spool (Max.) | | Kg. | 15 |
| 8) Flux hopper capacity | | Kg/Ltr | 10/7 |
| 9) Dimensions: | Length | mm | 1100 |
| | Height | mm | 810 |
| | Width | mm | 760 |
| 10) Total weight without flux and wire | | kg. | 95 |

ORDERING INFORMATION:

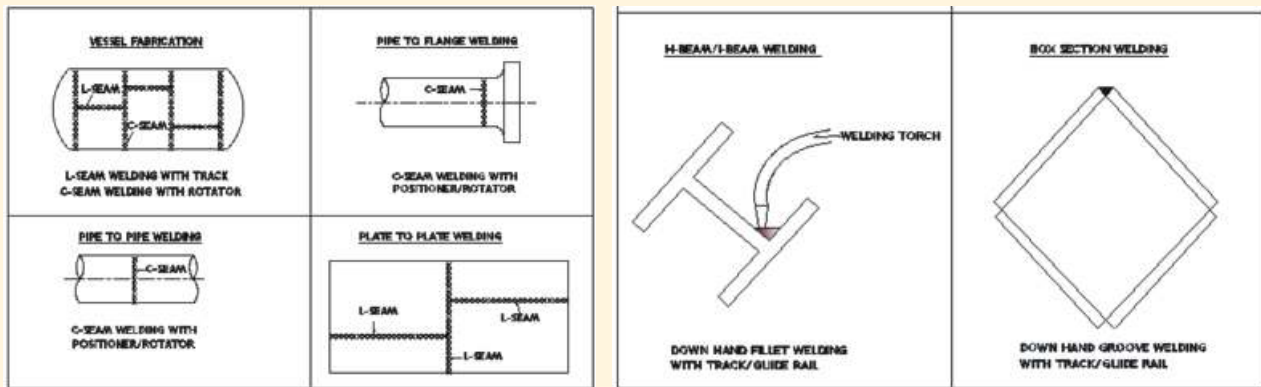
| PRODUCT | MODEL | PRODUCT CODE |
|-------------------|--------------|-----------------|
| MECHANISED OUTFIT | COMBO MS-600 | F10.36.004.0108 |

OPTIONAL ACCESSORIES:

CO2/MIG WELDING TORCHES

| | | | |
|----------------|-----------------|----------------|-----------------|
| ADOR TW-400(E) | S15.01.002.0050 | MTG-600 (BM)-1 | S15.01.002.0951 |
| ADOR TW-400(S) | S15.01.002.0296 | MTG-600 (BM)-2 | S15.01.002.0952 |
| MTG-600 | S15.01.002.0082 | MTG-600 (BM)-3 | S15.01.002.0953 |
| MTG-600 E | S15.01.002.0083 | | |

6.0 SPECIFIC APPLICATION WHERE THIS MECHANIZATION CAN BE IDEALLY USED



- **Warranty:** One year from the date of purchase. ADOR WELDING LIMITED warrants that all new equipment sold from Plant/Area Offices / Authorised Distributors are free from defects in materials and workmanship and will perform in full accordance with applicable specifications.
- In view of continuous development, ADOR WELDING LIMITED reserves the right to modify/change the design and /or the specifications without any prior notice.
- Backed by dedicated customer care package.



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