



OptiMIG eco 450 DW

The MIG/MAG industrial unit!



THE SYSTEM COMPLIES WITH
THE EU ECO-DESIGN REGULATION
NO. 2019/1784

OptiMIG eco 450 DW

THE POWERFUL MIG/MAG INDUSTRIAL SERIES!

The OptiMIG eco 450 DW is a conventional, step-switched MIG/MAG welding unit with 400 A welding current. With an energy efficiency of 85%, the machine meets the requirements of the **EU ECO Design Regulation No. 2019/1784**.

The powerful transformer guarantees an impressive duty cycle of 80% at 400 A welding current. With 28 steps, the welding current can be precisely adjusted to suit the welding job. The integrated water cooling unit is based on an efficient pump with a powerful heat exchanger.

Simple operation with Synergic wire feed automatic makes the setting easier. The required welding current is selected via the step switches and immediately shown on the display. The corresponding wire feed speed is set automatically by the control unit. The wire trim can be adjusted via the TEDAC® welding torch or the potentiometer.



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- Safety cut-off in 4-stroke operation.
- High speed wire insertion automatic.
- 4-roller drive wire feeder as a standard.
- Automatic switching of fan and water pump.
- 2-stage choke for reduced spatters. (option)
- Digital read-out of the welding current, welding voltage, wire feed speed and material thickness, with pre-display and HOLD function.
- Integrated water cooling system with efficient water pump.
- Lowered galvanized gas bottle holder (10 l, 20 l or 50 l cylinders) assures a safe positioning of the cylinders.
- Approved for operation in confined areas, S-symbol.
- Easy handling of the unit due to big and robust swivel and carrier wheels.
- Connection for push pull torch or remote control.

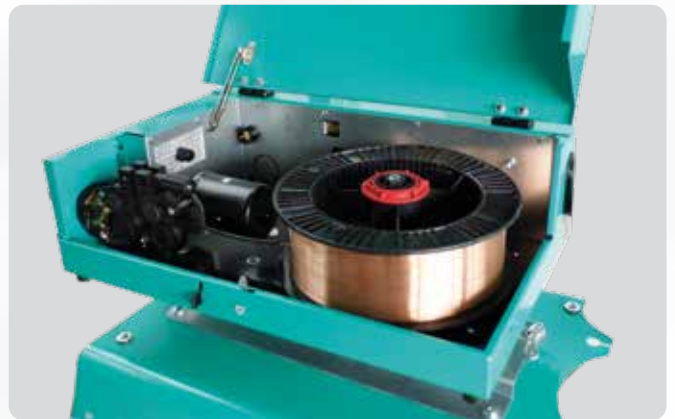
INTERCHANGEABLE ELECTRONICS:

The complete electronic modul for the adjustment of the welding functions is mounted in a drawer configuration at the front panel. An easy and quick exchange of this item is possible at any time due to plug-in connections on the rear of the module.



SEPERATE WIRE FEEDER:

The machine is built with a separate wire feeder. The connection cable is clampable and pluggable at the machine and at the wire feeder. A maximum lenght of up to 30 m is available. The wire feeder can be mounted on a rotary device, in vertical or horizontal position or on wheels (option).



DUST PROTECTION FILTER:

We recommend the use of the optional filter especially at dusty working areas. The filter frame is easy to fit to the machine. It takes only seconds to exchange the filter.



ECOLOGICALLY INTO THE FUTURE:

With an energy efficiency of 85%, the machine meets the requirements of the **EU ECO Design Regulation No. 2019/1784**.



Perfect wire feeding with fast wire exchange:

THE 4-ROLLER WI

1. Precise 4-roller gear with 4 motorized wire feed rollers. Wire feed speed 0.5 – 25 m/min (model DV-26) or high performance drive 0.5- 30 m/min (model DV-31).
2. Big wire feed rings allow a constant wire feed speed at a low pressure. 2 grooves for 2 different wire diameters.
3. Change of the wire feed rings without any tools.
4. Easy wire insertion due to superb accessibility and snap lock mechanism.
5. Dust-tight drive motor guarantees a constant wire feed speed.
6. Euro torch connector as a standard, directly mounted without need for alignment.
7. Pressure adjustment of both rollers.
8. Wire straightening device for perfect and constant wire feeding (DV-31).
9. Cut away side panels facilitate easy insertion of the wire spool.
10. Insulated interior, gas and water hoses and all cables are well protected from environmental damage due to a unique closed case design.
11. 2 x 4 rubber feet ensure operation in both, vertical and horizontal position.



Mobile version with 4 wheels.



Fold-out carrying handle,
2 x 4 rubber feet on the lower and long side.



Material and wire diameter selection
inside the wire feeder.



Asymmetrical swiveling axis at the rear
allows a wide working area.

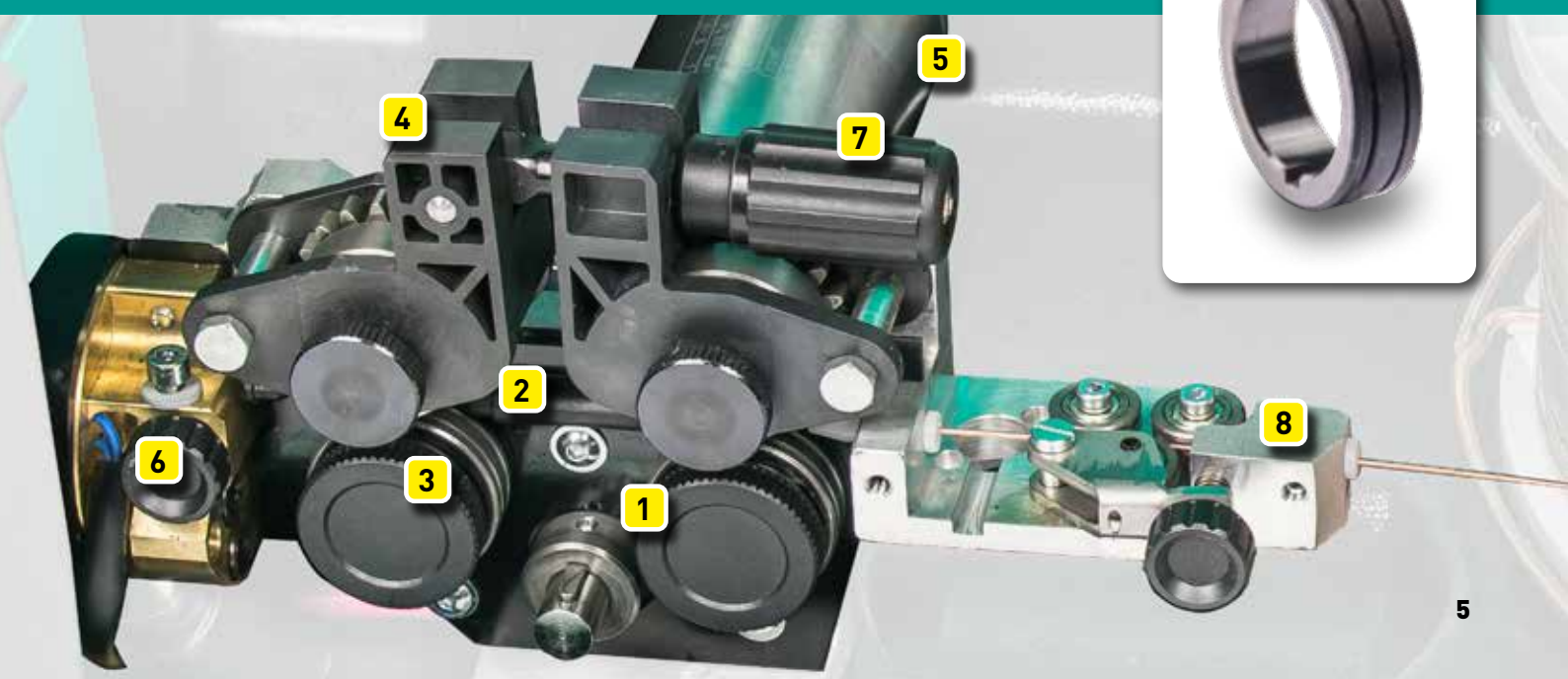


Standard horizontal mounting of the
wire feeder.



Vertical mounting of the wire feeder can
be achieved within seconds.

RE FEEDER!



TEDAC® SYSTEM

DIRECT CONTROL AT THE TORCH!

Using the slide switch mounted on the top of the TEDAC® torch handle, the arc trim can be manually adjusted during the welding process.

Using a visually good, multicolour LED indicator any arc trim modifications will be shown directly on the TEDAC® torch. The colors will change in a stepless sequence from green (the lowest setting) through yellow (low setting) through orange (medium setting) up to red (maximum setting).

The TEDAC® torches are perfect for any work in difficult to reach positions due to the fact that the operator can control the welding process from the TEDAC® system and does not need to return to the power source to change settings. Thanks to the standard Euro connector no additional control wires are required.

CONTINUOUS ARC TRIM AND INDICATOR



Precise arc trim setting is realized through the slide switch mounted on the top of the torch handle before, during and after the welding process. The present conditions are shown through the stepless multi-coloured LED display mounted on the top of the torch handle.



The multi-coloured LED shows the current arc trim condition selected.



Standard Euro connector, no further control cables are necessary.



Ergonomically formed handle, torch trigger with a micro switch for guaranteed more than 10 mio. operations.

TECHNICAL DATA



OptiMIG eco 450 DW

Primary:

Supply voltage	3 x 400 V
Frequency	50 Hz
Continuous power	14.2 kVA
Continuous current	20.5 A
Max. current	24.1 A

Secondary:

Open circuit voltage	16 - 42.5 V
Welding voltage	15.5 - 34 V
Welding current	30 - 400 A
Duty cycle 80 % (10 min.)	400 A (40 °C)
Duty cycle 100 %	370 A (40 °C)
Protection class	IP 23
Isolation class	H
Cooling	AF
Voltage settings	28 steps
Wire feed	automatic control/synergic wire feed
Operation mode	2-stroke/4-stroke/stich/spot welding
Welding/intermission time	stepless control
Wire burn back	stepless control
Wire soft start	dynamic soft start automatic
Choke	2 stage 100% and 60% (optional)
Torch cooling	water cooled
Cooling system	integrated water cooler with efficient water pump
Torch connector	Euro connector
Wire feed system	4-roller-drive DV-26 (0.5-25 m/min.) option: high performance wire feeder DV-31 (0.5-30 m/min.) with wire straightener
Fan control	automatic
Display	two for current/voltage/wire feed speed/material thickness with pre-display and hold-function
Push Pull torch (option)	socket
Remote control (option)	wire feed speed
Norm	EN 60974-1 "S" / CE
Gas bottle holder	for 10 l, 20 l or 50 l cylinders
Weight	240 kg
Dimensions l x w x h	990 x 510 x 1135 mm

Technical changes reserved.



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04/2025

PRODUCT RANGE

- MIG/MAG Welding Units
- Synergic Pulse Welding Units
- TIG Welding Units
- MMA / Stick Electrode Welding Units
- Welding Torches
- Turntables and Roller Drive Units
- Automation Components and Solutions
- Complete Solutions and Robotics
- Specialized Machinery Construction
- **MERKLE WeldFACTORY** - Industry 4.0



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