



MERKLE OptiMIG.

The MIG/MAG Industrial series!





Merkle OptiMIG

MIG/MAG series OptiMIG

The series OptiMIG 350/450/550 consists of step controlled MIG/MAG welding units from 350 to 560 A welding current. The features are:

- Simple, self explanatory control panel with extra large function knobs.
- Precise setting of the welding current due to max. 42 steps.
- Synergic wire feed automatic as a standard: only turn the step selector to the required position and the wire feed speed will be adapted automatically.
- Setting and display of the wire trim by means of the TEDAC® torch.
- Storage of changed values: in each step the individual value trimmed by the TEDAC® torch is stored.
- Ignition and continuous setting of the wire burn back.
- Selector: 2-stroke/4-stroke/stitch/spot welding.
- Safety cut-off in 4-stroke operation.
- High speed wire insertion automatic.
- 4-roller drive wire feeder as a standard.
- Automatic switching of the fan.
- 2-stage choke mounted for reduced spatters.
- 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 in version DW (option).

The OptiMIG product line.

Synergic wire feed as standard!



Technical data:	OptiMIG 350 KW OptiMIG 350 DW	OptiMIG 450 KW OptiMIG 450 DW	OptiMIG 550 DW
Primary:			
Supply voltage	3 x 400 V	3 x 400 V	3 x 400 V
Frequency	50 Hz (60 Hz)	50 Hz (60 Hz)	50 Hz (60 Hz)
Continuous power	13.1 kVA	14.5 kVA	22.8 kVA
Continuous current	19 A	21 A	33 A
Max. current	22 A	36 A	52 A
Secondary:			
Open circuit voltage	16 - 40 V	17 - 52 V	18 - 62 V
Welding voltage	15 - 32 V	15 - 36.5 V	15 - 42 V
Welding current	25 - 350 A	25 - 450 A	25 - 560 A
Duty cycle 40 % (10 min.)		450 A (40 °C)	560 A (40 °C)
Duty cycle 60 % (10 min.)	350 A (40 °C)	420 A (40 °C)	500 A (40 °C)
Duty cycle 100 %	300 A (40 °C)	340 A (40 °C)	450 A (40 °C)
Protection class	IP 23	IP 23	IP 23
Isolation class	H	H	H
Cooling	AF	AF	AF
Voltage setting	28 steps	42 steps	42 steps
Wire feed	automatic control synergic wire feed	automatic control synergic wire feed	automatic control synergic wire feed
Operation mode	2-stroke/4-stroke/stitch/spot welding	2-stroke/4-stroke/stitch/spot welding	2-stroke/4-stroke/stitch/spot welding
Welding/intermission time	stepless control	stepless control	stepless control
Wire burn back	stepless control	stepless control	stepless control
Wire soft start	dynamic soft start automatic	dynamic soft start automatic	dynamic soft start automatic
Choke	2 stage 60 % and 100 %	2 stage 60 % and 100 %	2 stage 60 % and 100 %
Torch cooling	water cooled	water cooled	water cooled
Cooling system	integrated water cooler with efficient water pump	integrated water cooler with efficient water pump	integrated water cooler with efficient water pump
Torch connector	Euro connector	Euro connector	Euro connector
Wire feed system	4-roller drive DV-26 (0.5-25 m/min.) option DW: high performance wire feeder DV-31 (0.5-30 m/min.) with wire straightener	4-roller drive DV-26 (0.5-25 m/min.) option DW: high performance wire feeder DV-31 (0.5-30 m/min.) with wire straightener	4-roller high performance wire feeder DV-31 (0.5-30 m/min.) with wire straightener
Fan control	automatic	automatic	automatic
Display	digital for current/voltage/wire feed speed with pre-display and hold function	digital for current/voltage/wire feed speed with pre-display and hold function	digital for current/voltage/wire feed speed with pre-display and hold function
Push Pull torch (option)	DW version: socket	DW version: socket	socket
Remote control (option)	DW version: wire feed speed	DW version: wire feed speed	wire feed speed
Norm	EN 60974-1 "S" / CE	EN 60974-1 "S" / CE	EN 60974-1 "S" / CE
Gas bottle holder	for 10 l, 20 l or 50 l cylinders	for 10 l, 20 l or 50 l cylinders	for 10 l, 20 l or 50 l cylinders
Weight	KW: 190 kg, DW: 210 kg	KW: 200 kg, DW: 220 kg	250 kg
Dimensions l x w x h	KW: 990 x 510 x 845 DW: 990 x 510 x 1135	KW: 990 x 510 x 845 DW: 990 x 510 x 1135	990 x 510 x 1135

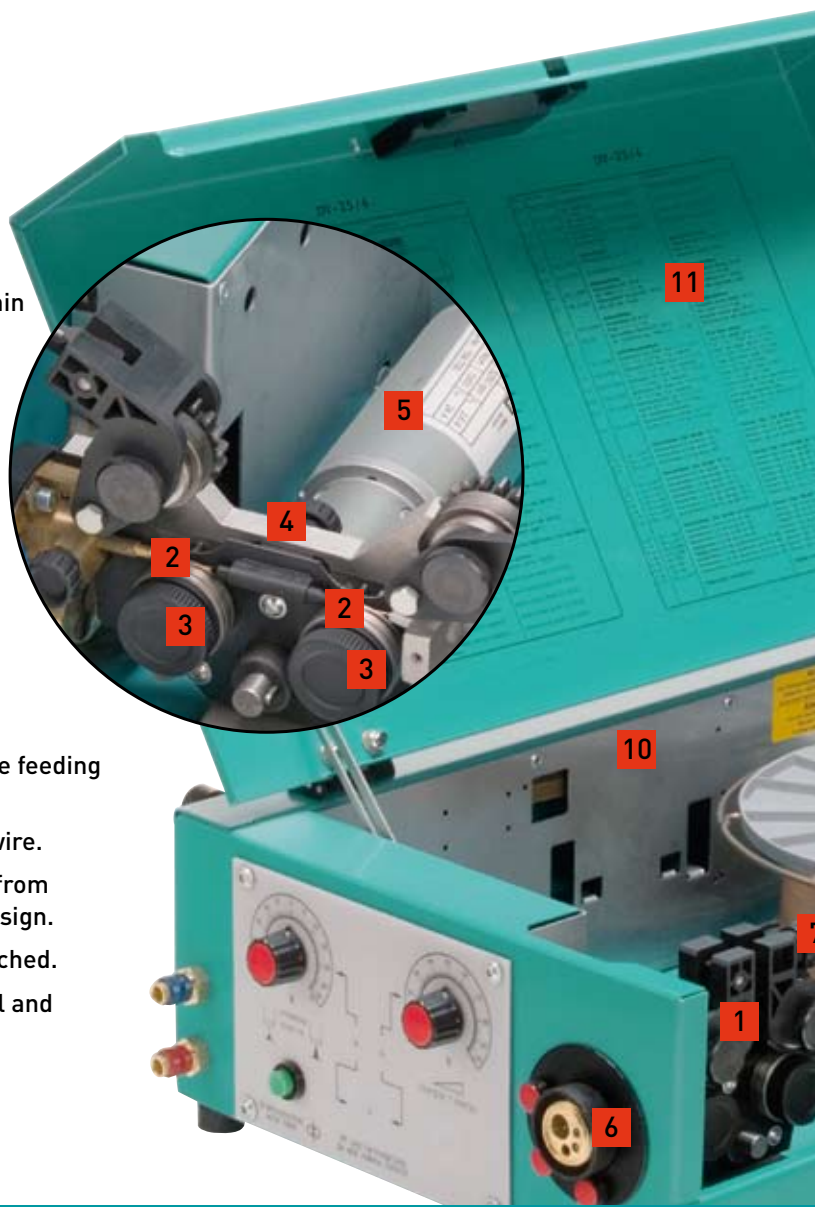
Technical details are subject to change.

Wire Feed Unit.

Perfect wire feeding!

Detailed features

1. Precise 4-roller drive gear with 4 motorized wire feeder 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 feeder rings allow a constant wire feed speed at a low pressure. 2 grooves respectively for 2 different wire diameters.
3. Change of the wire feeder 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.
7. Reproducible pressure adjustment of the rollers.
8. Wire straightening device for perfect and constant wire feeding (model DV-31).
9. Cut away side panels facilitate easy insertion of the wire.
10. Gas hoses, water hoses and all cables are protected from environmental damage due to a unique close case design.
11. Consumables and spare part identification chart attached.
12. 2 x 4 rubber feet ensure operation in both the vertical and the horizontal position.



- a: Version with 4 wheels.
- b: Integrated handle, 2 x 4 rubber feet mounted on two sides.
- c: Selectors for material and wire diameters.
- d: Easy mounting of the connection cable.

Simply to mount, versatile in action.

Wire feeder with rotary device



Standard horizontal mounting on the rotary device.



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



The picture shows the 4-roller drive system model DV-31.

Universal Applications

- A:** Placed on the work piece.
- B:** Mounted to a special track with suspension device (option).
- C:** With 4 wheels mounted.
- D:** Mounted on our balancer (option) with a wide working area.
- E:** Easy to carry due to the integrated handle.



Exciting Technology.

Perfection in detail!

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.



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. The system is available for all units.



Compact Units:

The compact units (version KW) are well arranged and space saving. The 4-roller drive system and the wire spool are mounted behind the side panel. Thus an easy accessibility of the wire feeding system for a quick change of the wire spool is achieved.



Units with separate wire feeder:

All units version DW are built with a separate wire feeder. The connection cable is clampable and pluggable at the machine and at the wire feeder. A maximum length of up to 20 m is available. The wire feeder can be mounted on a rotary device, in vertical or horizontal position or on wheels.





MERKLE TEDAC® system.

Control directly on the torch!

The Merkle TEDAC® system offers continuous wire feed control where it counts – directly on the torch itself.

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 colours 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 hard 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 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.



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



Standard Euro-connector, no further control cables are necessary.



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



Create your future successfully.

With Merkle. Your specialist for welding units, welding machines, torches and intelligent quality control systems. With own subsidiaries and Merkle dealers in Germany, Europe and many other countries throughout the world.

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- TIG Welding Units
- MMA / Stick Electrode Welding Units
- Plasma Welding and Cutting Units
- Turntables and Roller Drive Units
- Welding and Cutting Torches
- Automation Components and Solutions
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