



Series
High**PULSE** touch

*GENERATION TOUCH.
ALL INCLUSIVE!*



The all new HighPULSE touch welding units:

PROFESSIONEL WELDING

Welding is the supreme discipline of joining technology. Beside experience an easy-to-use and reliable welding system is required for high quality and X-ray proof welds.

With the new HighPULSE touch series Merkle presents its proven Synergic Pulse technology combined with the intuitive operation of a touch control panel.

The language-independent operation concept and the 'all inclusive' package with all common welding programs and special welding processes enable a quick and simple setup.

Professional welding!

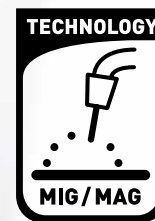




SYNERGIC PULSE welding – All Inclusive:

EVERYTHING COMES AS A STANDARD FOR PERFECT WELDS

Improving excellent welding technology to a higher level is our intention. For more than 55 years and for all applications, we have repeatedly set standards for the future of welding. Just like with the completely new developed series HighPULSE touch.



But what makes the new HighPULSE touch so unique?

It is the combination of:

- Intuitive, language-independent operating concept
- All inclusive package with all common welding programs and special welding processes
- Excellent price-performance ratio

THE NEW TOUCH PANEL

Control your welding processes just as you like. The new HighPULSE touch is offering all options with its multicolored and intuitive operation panel.



Easy operation of the touch panel with a tap. Absolutely reliable with and without gloves...

Due to the easy-to-use and language-independent operation, you practically do not need the operation manual.



OR

... alternatively, all functions can be operated via the rotary switch.



PARAMETER DIVERSITY

The ease of use continues in the various parameter settings. The desired values can be set at the individual positions by the tip of the finger.

For an even more precise setting the parameters can be adjusted with the rotary switch and confirmed by the push button.



A multitude of additional parameters can be selected in the settings menu and adjusted as required.



Choke inductance, pulse shape, wire inching and burn-back, gas pre- and post-flow time as well as start and final current and downslope time are adjustable.

HighPULSE touch:

EVERYTHING UNDER PERFECT CONTROL!

The new HighPULSE touch not only shines with a touch panel, an all-inclusive package and a maximum cost-effectiveness, but also with convincing detailed solutions.

Everything is designed for the user for highest functionality and first-class welding results.



HighPULSE touch

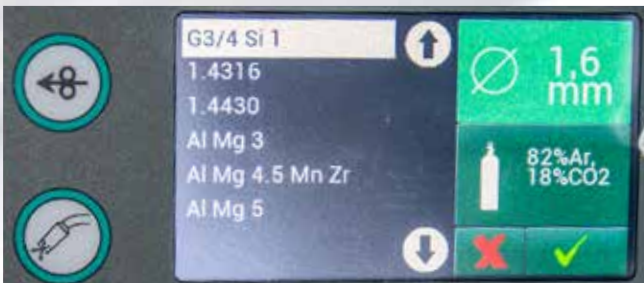
The HighPULSE touch with its integrated synergic pulse function stands for fast and X-ray proof and almost spatter free welding.



HighPULSE touch – the professional welding system that leaves nothing to be desired.

THE „ALL INCLUSIVE PACKAGE“

The new HighPULSE touch is coming with the welding programs for all common materials and the special welding processes DeepARC, ColdMIG and HighUP as a standard.



Switch on, adjust and start - that's how fast welding can be today.

THE PRICE-PERFORMANCE RATIO

In addition to higher performance and individual, intuitive operation, the good price-performance ratio is another important aspect.



Highest profitability with inverter welding units.

MMA/STICK ELECTRODE WELDING



A socket for MMA/stick electrode welding with electrodes up to 6 mm is installed. Hotstart, arcforce and antistick are coming as a standard.

WATER COOLING MODULE



The integrated water cooling module is mounted service-friendly in a drawer and is operated by a powerful water pump. (models 400/450 KW/DW)

HighPULSE touch 400/450 KW/DW:

TWO VERSIONS ONE DISPLAY

VERSION 1:

All control buttons of the welding unit are integrated in the power source and can be operated directly at the front.



VERSION 2:

The complete operation panel is integrated in the separate wire feeder. This allows an easy operation of the Merkle HighPULSE touch with a maximum flexibility, regardless of the position of the welding machine.



PANEL COVER



As an option, all machines can be ordered with a transparent panel cover. Lockable for more security and protection. (models 400/450 KW/DW)

FILTER ATTACHMENT



Another item that comes as a standard is the practical, filter attachment on the front. It ensures a quick and easy exchange of the filter mat. (models 400/450 KW/DW)

HighPULSE touch 280/350 K:

COMPACT & POWERFUL



The small and compact machines are equipped with an integrated wire feeder and are portable.

The trolley TW 112 comes with extra large wheels (200 mm), a gas bottle holder and an optional drawer for the accessories.

As an option the water cooling unit WK 301 can be mounted easily. For welding with gasless flux cored wires the polarity can be exchanged.



Robust transport handles.
Easier handling and better transport safety.



Optional torch holder.
The assembly is possible on both the left or the right handle.



Folded steel housing for increased stability.

Perfect wire feeding with fast wire exchange:

THE 4-ROLLER WIRE

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.



Optional suspension device, electrically isolated.



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



Vertical mounting of the wire feed unit can be achieved within seconds.

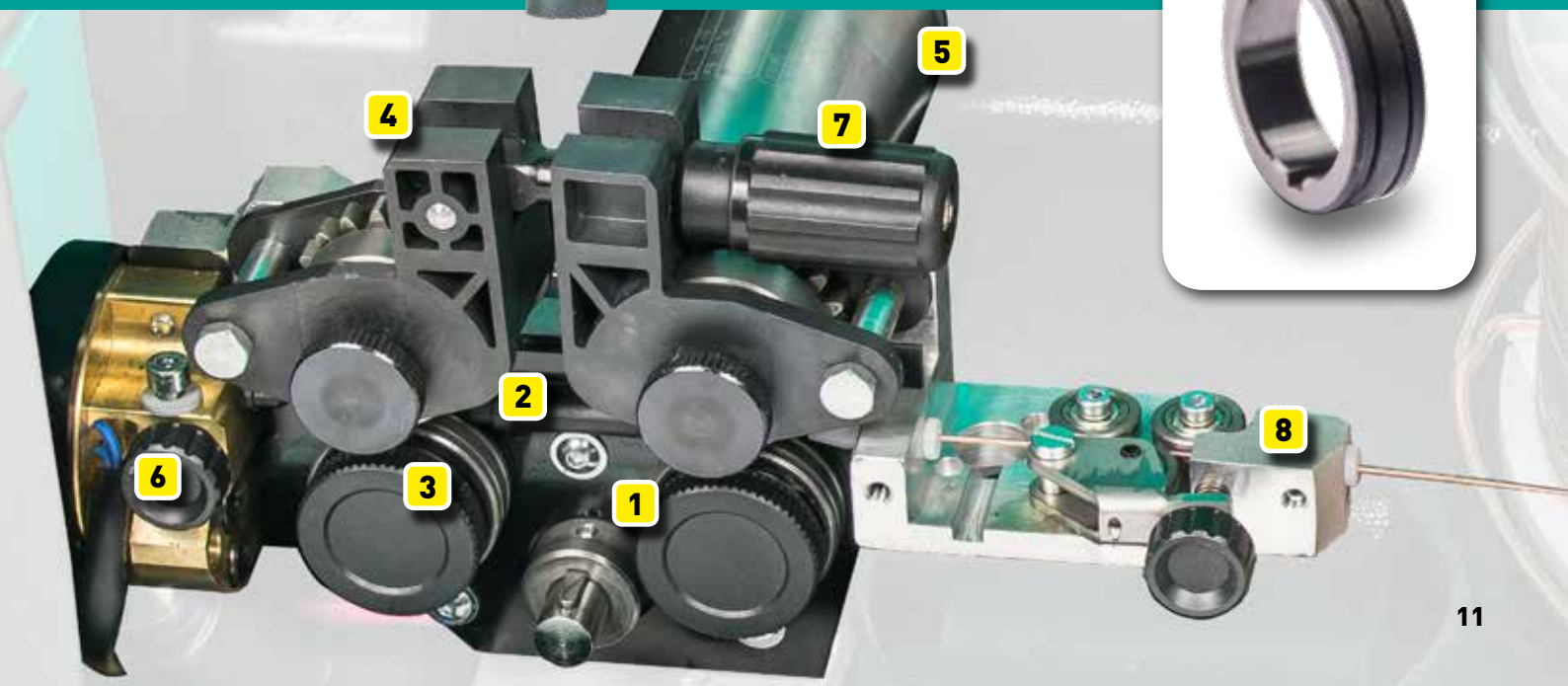


Fold-out carrying handle, 2 x 4 rubber feet on the lower and long side.



11

FEEDER!



That's the way to weld today:

ALL INCLUSIVE! WELDING PROGRAMS AND SPECIAL PROCESSES

This makes welding particularly efficient and economical. Because in the 'All Inclusive Package' of the new HighPULSE touch all common welding programs and the Merkle welding processes DeepARC, ColdMIG and HighUP are already on board as a standard.

Programs for all common materials

As a standard the HighPULSE touch is equipped with welding programs for all common materials. Whether low alloyed steel, various stainless steel alloys and also programs for various aluminum alloys, everything are already included without extra charge.



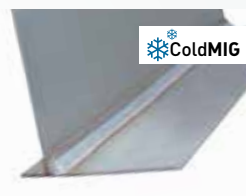
ColdMIG

The Merkle ColdMIG process sets new standards in welding with up to 30 % less heat input. Thin metal sheet welding (0.6 – 3.0 mm) is achieved to perfection in manual and automated operation.

Its high gap bridging capacity, the low heat input and the optimum welding facility of mixed materials and coated sheet metals are other world class features. The ColdMIG process is available for all HighPULSE touch machines as a standard.

Merkle ColdMIG.
Welding with minimum heat input!

- 30% less heat input
- 100% gap bridging
- 100% perfect for brazing



Welding of thin metal sheets



MIG brazing of galvanized sheet metals



High gap bridging capability

DeepARC

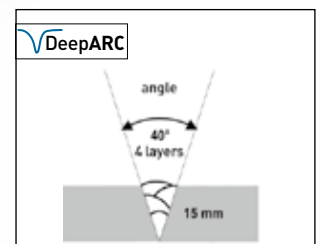
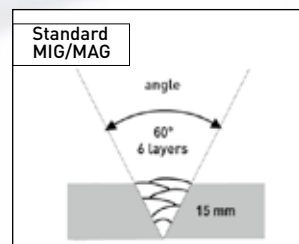
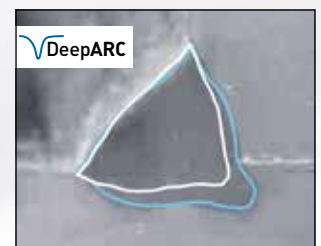
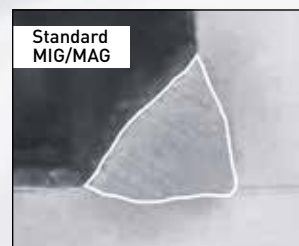
Witness the new high speed formula of MIG/MAG welding yourself! An extremely narrow welding arc (similar to a plasma arc) is achieved through a highly dynamic voltage control system.

This new welding arc defines itself through several characteristics. The DeepARC process is perfect for use with mild and stainless steel as well as for aluminum and aluminum alloys. The DeepARC process is available as a standard.

There is a multitude of application advantages with the DeepARC process: 30 % deeper penetration, excellent root penetration, no problem of undercut and up to 100 % faster welding speed. Due to the concentrated arc the opening angle of thick work pieces can be reduced and the welding can be done with significantly fewer layers. The small, low-energy spatters do not stick to the work-piece.

**Merkle DeepARC.
Faster welding with deep penetration!**

- 30% deeper penetration
- 100% faster welding
- 100% no spatter adherence



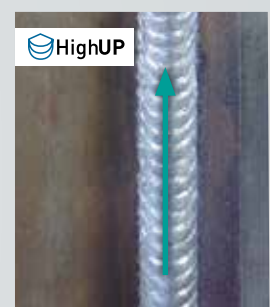
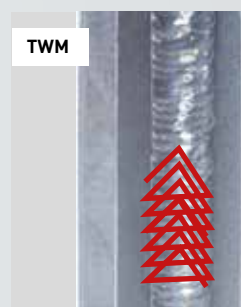
HighUP

HighUP is the new Merkle process enabling a total elimination of the difficult to use, triangular weave method (TWM) of vertical up welding. Because the HighUP process allows vertical up welding up to 100 % faster with a safe penetration and an amazingly easy handling.

The Merkle HighUP process combines a hot high current phase and a lower current phase and enables a very easy to use, and to control, welding process.

**Merkle HighUP.
Vertical-up welding made easy!**

- Up to 100 % faster welding
- 100 % safer penetration
- 100 % easier to control



TEDAC[®]-SYSTEM

DIRECT CONTROL AT THE TORCH!

The Merkle TEDAC system offers continuous energy control where it counts – directly on the torch itself. Using the slide switch mounted on the top of the TEDAC torch handle, the energy can be adjusted during the welding process.

Using a visible, multicolour LED indicator any energy modifications will be shown directly on the TEDAC torch.

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.



Precise, stepless power control by a slide switch mounted in the handle of the torch indicates the currently set energy through the stepless color change of a multicolor LED.

The colors change continuously from green (minimum setting) to yellow (low setting), orange (medium setting) to red (maximum setting).



The multi-coloured LED shows the selected energy or program (job).



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 | HighPULSE touch | | HighPULSE touch | | HighPULSE touch | |
|---------------------------------|---|--------------------------------|---|---|---|------------|
| | 280 K | 350 K | 400 KW/DW | 450 KW/DW | 400 KW/DW | 450 KW/DW |
| Primary: | | | | | | |
| Power supply | 3 x 400 V | | | | | |
| Frequency | 50/60 Hz | | | | | |
| Continuous power | 11.1 kVA | 12.5 kVA | 13.8 kVA | | 13.8 kVA | |
| Continuous current | 16 A | 18 A | 20 A | | 20 A | |
| Max. current | 19 A | 25 A | 25 A | | 28 A | |
| cos phi | 0,98 | | | 0,96 | | |
| Secondary: | | | | | | |
| Open circuit voltage | 57 V | | | 67 V | | |
| Welding voltage | 15-28 V | 15-31.5 V | 15-34 V | | 15-36.5 V | |
| Welding current | 25-280 A | 25-350 A | 20-400 A | | 20-450 A | |
| Duty cycle 35% (10 min.) | 280 A (40 °C) | - | - | | - | |
| Duty cycle 40% (10 min.) | - | 350 A (40 °C) | - | | - | |
| Duty cycle 60% (10 min.) | 280 A (20 °C) 240 A (40 °C) | 330 A (20 °C) 280 A (40 °C) | - | | 450 A (40 °C) | |
| Duty cycle 80% (10 min.) | - | - | 400 A (40 °C) | | - | |
| Duty cycle 100% | 230 A (20 °C) 200 A (40 °C) | 280 A (20 °C) 250 A (40 °C) | 360 A (40 °C) | | 360 A (40 °C) | |
| Protection class | IP 23 | | | | | |
| Cooling | AF | | | | | |
| Arc length | automatic control | | | | | |
| Programs | Synergic Pulse, MIG/MAG, MMA/stick electrode, MIG brazing, ColdMIG, DeepARC, HighUP | | | | | |
| Program selection | material, wire diameter and gas at the display | | | | | |
| Wire feed | synergic wire feed control | | | | | |
| Operation modes | 2-stroke, 4-stroke, interval, stitch | | | | | |
| Energy control | control at the machine, TEDAC® torch, job mode | | | control at the machine, wire feed unit, TEDAC® torch, job mode | | |
| Adjustable parameters | choke inductance, pulse shape | | | | | |
| Power source | inverter | | | | | |
| Digital display | current, voltage, wire feed speed and material thickness, throat thickness | | | | | |
| Jobs | 2000 jobs | | | | | |
| Wire feeder unit | 4-roller-drive DV-26, integrated | | | 4-roller-drive DV-26, optional: DV-31, separate | | |
| Torch cooling | option: seperate water cooler WK 301 | | | integrated water cooler | | |
| Norm | EN 60974-1 "S"/CE | | | | | |
| Gas bottle holder | 10 l, 20 l cylinders with trolley TW 112 (optional) | | | 10 - 20 - 50 l cylinders | | |
| Weight | 33 kg | 36.5 kg | KW: 90 kg | DW: 120 kg | KW: 90 kg | DW: 120 kg |
| Dimensions L x W x H: | 600 x 300 x 565 | | KW: 1210 x 430 x 880 DW: 1210 x 430 x 1200 | | KW: 1210 x 430 x 880 DW: 1210 x 430 x 1200 | |

Technical changes reserved.



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CREATE YOUR FUTURE SUCCESSFULLY.

With Merkle. Your specialist for welding units, welding machines, torches and intelligent automation systems.

With own subsidiaries and Merkle dealers in Germany, Europe and many other countries throughout the world.

Welcome to Merkle.

PRODUCT RANGE

- MIG/MAG Welding Units
- Synergic Pulse Welding Units
- 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
- Merkle Weld Factory – The **Industry 4.0** Solution
- Merkle Robotics



Merkle Schweissanlagen-Technik GmbH

Industriestr. 3 • D-89359 Koetz • Germany
Phone: +49 8221 915-0 • Fax: +49 8221 915-40
Email: info@merkle.de

www.merkle.de

