

THE NEW MIG/MAG PERFORMANCE CLASS
SYNERGIC.PRO² 500/600



Heavy Duty – Highest reliability in the toughest of applications



Made for the future **SYNERGIC.PRO² 500/600**

The future can be realised by REHM innovations – that is our ambition. The SYNERGIC.PRO² 500/600 was designed and manufactured for the limits of heavy metal engineering and superior construction. So we define what is achievable. Discover the arc characteristics with unmatched performance potential.



SYNERGIC.PRO² 500-4 – 600-4



Amazing POWER

Phenomenal power on tap:
Where all others reach their limits, the SYNERGIC.PRO² is only getting started.

Smart Machine Control

You make your selection, the new SMC[®] does all the regulating. SMC[®] is a complete new type of intelligent and super co-ordinated machine control concept.

Highest performance potential for extreme applications

Forward-looking perspectives in the MIG/MAG- kings-class! With the new SYNERGIC.PRO² 500-4 WS and 600-4 WS REHM unites robustness, high-performance and simple, yet safe operation. The incomparable power machines are made for the extremely tough continuous operation in heavy environments.

- Especially for heavy steel industry
- Best welding results on thick and thin materials
- Highest duty cycle – power beyond the limits of most machines
- Consistent and reliable
- Amazingly easy operation
- Maximum scope for welding steel, stainless steel and aluminium
- Revolutionary machine-control-concept SMC[®]

In short, the welder benefits from this machine control technology, from the powerful high-tech components and from the machine construction geared towards extreme situations.



The new super co-ordinated machine control concept by REHM

SMC[®] (Smart Machine Control)

is a completely new type of intelligent and super co-ordinated machine control concept. SMC[®] brings excellent welding results and not only makes operation easy, it is also amazingly safe.

SDI[®] (Stepless Dynamic Induction)

Stepless electronic welding choke with ultra-fast automatic regulator for excellent ignition properties and an extremely stable arc.

RSC[®] (Realtime Speed Control)

Extremely precise regulation and real time monitoring of the wire feed rate with digital signal feedback for consistent and accurate wire feeding.

CCM (Characteristic Curve Memory)

Integrated welding parameter database containing concentrated expert knowledge.

RMI (REHM Machine Interface)

Rapid and safe setting of the welding parameters, but at the same time, simple to operate.

All in one – for perfect welding results

SMC® is based on an intelligent combination of database, digital feeder regulation, choke and Interface. The completely new and super co-ordinated machine control concept in a step

switched machine guarantees excellent welding results and makes operation simple and easy.

Precise regulation of the arc length
The arc length is not controlled just by measuring the arc voltage and the welding current, but also by the digital capture of the wire feed rate.

SDI®
STEPLESS DYNAMIC INDUCTION

Stepless Dynamic Induction

Stepless, electronic welding choke with ultra-fast automatic regulator for excellent ignition properties and an extremely stable arc.

- Perfectly stabilised arc during ignition and welding phase
- Minimisation of spatter formation in mixed arcs
- Considerably less post welding work
- Optimal adaption to meet the welding conditions in positional welding

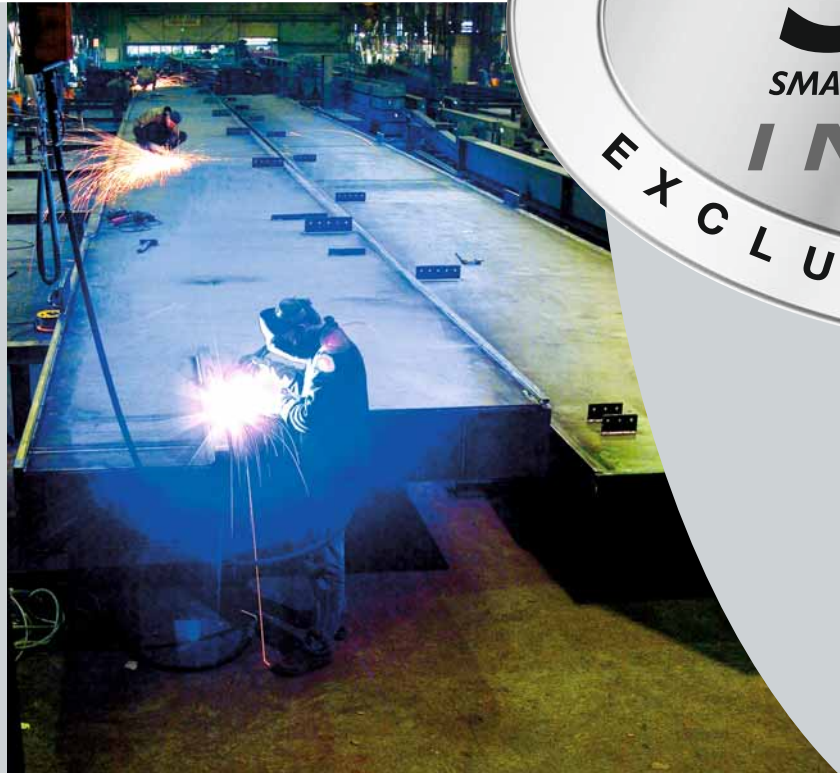


RSC®

Realtime Speed Control

RSC® guarantees constant wire feeding through real time monitoring and extremely precise regulation of the wire feed rate with digital signal feedback.

- Rapid and efficient correction of arc length variations
- Constant wire feed rate



SYNERGIC.PRO² 500-4 – 600-4

Digital control of droplet transfer

During the entire ignition and arc process, the droplet transfer is constantly monitored and regulated digitally, normally only found on very expensive pulsed MIG power sources.

Welding parameter-setting – simple and safe

The setting of the correct welding parameters is simple and safe thanks to the integrated welding parameter database and the simple handling.

Constant arc length

The integrated microprocessor balances extremely fast and very efficiently any changes and keeps the arc length constant.

CCM

Characteristic Curve Memory

The comprehensive, integrated welding parameter database (CCM) is filled with the knowledge of experts with many years of practical experience.

- Automatic setting of optimal welding parameters corresponding to material thickness, wire diameter and voltage step
- Continuous balancing of welding values throughout the welding process

RMI

REHM Machine Interface

The consistent and logical structure of the operating panel shows all options at a glance.

- Child's play
- Quick and safe setting of the correct welding parameters
- No operating mistakes - guaranteed



The handling: Simple to use and amazingly safe



The new REHM RMI (REHM Machine Interface)

Rapid and yet safe setting of the correct welding parameters.

- 1 Digital display for welding voltage with Hold function.
- 2 Digital display for welding current with Hold function and material thickness display.
- 3 Operating modes:
Material thickness display, 2-step, 4-step, spot, interval.
 In order to simplify correct voltage settings, this can be specified using the material thickness. The remaining welding parameters are then automatically selected by the SYNERGIC.PRO² unit.
- 4 Setting of spot and interval time
- 5 Rotary knob for wire speed rate and arc length correction.
- 6 Synergy program selection:
“Material/wire diameter combination”, “manual operation” and “gouging mode”
 The program selection switch is used to select the synergy characteristic curve for the present material/wire diameter combination.
- 7 Stepless arc strength regulation (SDI[®] technology).
 The additional, stepless choke comparison by the SDI[®] regulator can be used to optimise the effect of the welding choke or the arc characteristic and can be adjusted automatically or by hand as well. This makes it possible to optimise the welding characteristics even more closely, to suit the welding conditions.
- 8 Coarse step switch
- 9 Fine step switch

SYNERGIC.PRO² 500-4 – 600-4



More comfort & safety

■ Perfect reliability

All parts of the SYNERGIC.PRO² range, right down to the smallest screws, have been tested for tough conditions in a comprehensive, mature testing process. We can therefore offer a works warranty of 3 years with no hesitation.

■ Exceptional wire feed accuracy and consistency

Robust, big wire feed rolls guarantee a reliable and safe wire traction. A powerful 4-roller-wire drive enables a high-precise feeding up to 30m/min.

■ Easy to manoeuvre

The robust trolley with large, easy-running wheels means that the units can easily be manoeuvred and transported both in the workshop and on the building site. They are also suitable for crane or forklift transportation.

■ Simple to use wire feed case

The wire feed case is seated securely on the power source. However, it can still be rotated easily through 360°. Obviously the wire feed case can be removed with a single hand movement and without the need of tools and can also be fitted on a trolley (optional).

- Wire feed case for crane hanging and for trolley
- Arc length correction optional on the power source or on the wire feed case
- Reinforced strain-relief for intermediate hose assembly – specifically for extreme environmental conditions
- Intermediate hose assembly up to 20 m length
- Push-Pull-Torch up to 12 m length



From experts for practical application



More quality

■ Stable arc

The permanent monitoring of input voltage and the voltage fluctuation compensation ensures an even, stable arc and thus optimal welding results.

■ No burning

The digitally regulated wire feed speed controller guarantees a constant wire stick out and thus automatically ensures the correct wire free burning time. This eliminates sticking and burning to the piece you are working on or to the contact tip. The wire free burning time can be adjusted manually if required.

■ Safe ignition

The REHM automatic creep in function controls the wire feed rate until the arc ignition. At the same time, the arc striking process is considerably improved by the optimised setting of the electronically regulated choke. The creep speed rate can also be adjusted manually as and when required.



SYNERGIC.PRO² 500-4 – 600-4**More efficiency****■ More efficient by integrated Gouging-Function**

Welding and gouging in one unit – directly at the workplace without further investment and additional space.

With the method of gouging by air-carbon arc the workpiece gets skimmed partly because fused by the arc. Afterwards the melted material will be blown away via compressed air. The gouging is good for weld seam preparation, to remove cracks as well as pores or weldseams.



All inclusive



More Options

- **Fine step Volt settings**
- **Tube frames with integrated crane eyes as standard**
Enables the unlimited handling with cranes. At the same time the construction offers highest protection of the inner parts and the control panel.
- **Energy efficiency**
Thanks to the integrated standby-function the fan and the water-pump are switched on just when required.
- **Suitable for forklift transport**
- **Reinforced strain relief for intermediate hose assembly**
Specially designed for tough environment conditions.
- **Low noise emission**
The optimum housing construction and the standby switches for the fans and water-pump ensure that even in constant use the unit remains quiet and pleasant, and conserves power when possible.
- **Flux-cored wire programs for steel, stainless steel and aluminium**
- **Housing construction for easy maintenance**
- **Powerful water circulation cooling**
- **Gas test – and wire feed function**

SYNERGIC.PRO² 500-4 – 600-4



Water cooled units with separate wire feed cases

■ SYNERGIC.PRO² 500-4 WS

water-cooled industrial units with separate wire feeder and 4-roller-drive

■ SYNERGIC.PRO² 600-4 WS

water-cooled industrial units with separate wire feeder and 4-roller-drive

TECHNICAL DATA SYNERGIC.PRO² 500-4 WS / 600-4 WS

| Type | | SYNERGIC.PRO ² 500-4 WS | SYNERGIC.PRO ² 600-4 WS |
|--|------|---------------------------------------|---------------------------------------|
| Setting range | [A] | 40-500 | 40-600 |
| Duty cycle I _{max} . (40°C) | [%] | 60 | 60 |
| Welding current 100% duty cycle (40°C) | [A] | 375 | 450 |
| Switching levels | | 36 | 36 |
| Open Circuit Voltage | [V] | 17-52 | 17-60 |
| Power supply | [V] | 3 x 400 | 3 x 400 |
| Fuse (time-lag) | [A] | 32 | 63 |
| Torch cooling type | | water | water |
| Protection grade | | IP 23 | IP 23 |
| Wire feed | | 4-rolls | 4-rolls |
| Weight | [kg] | 234 | 255 |
| Dimensions L x W x H | [mm] | 1090 x 710 x 1085 | 1090 x 710 x 1085 |
| Dimensions L x W x H with case | | 1090 x 710 x 1550 | 1090 x 710 x 1550 |
| Part number | | 1125011 | 1126011 |

Our accessory options

Our range of accessories meets all your requirements.

- Air pre filter
- Trolley for wire feeder
- Push-Pull torch
- Intermediate hose assembly up to 20 m
- and many more

Our Premium Sets

The complete accessory packages can be purchased as optional premium sets. These particularly high-quality accessory sets are all made up of brands, such as

- Abicor-Binzel torches with 4 m hose packages,
- 200 bar Argon/CO₂-pressure reducing regulators (32 l/min.),
- 4 m earth cables with high quality clamps.

The very low priced Sets can only be offered along with the purchase of the appropriate welding units.

- **Premium Set MM 452/95** · Art.no. 1184220
Torch ABIMIG 452/4 m, earth cable 95 mm²/4 m,
Pressure reducer 200 bar, 32 l/min
- **Premium Set MM 452/120** · Art.no. 1184222
Torch ABIMIG 452/4 m, earth cable 120 mm²/4 m,
Pressure reducer 200 bar, 32 l/min

REHM – Setting the pace in welding and cutting

The REHM range

- **REHM MIG/MAG inert gas welding units**
SYNERGIC.PRO² gas- and water-cooled up to 450 A
SYNERGIC.PRO² water-cooled 500 A up to 600 A
MEGA.ARC stepless regulation up to 450 A
PANTHER 200 PULS pulse welding unit with 200 A
MEGAPULS pulse welding units up to 500 A
- **REHM TIG inert gas welding units**
TIGER, portable 100 KHz inverter
INVERTIG.PRO TIG welding unit
- **REHM MMA inverter technology**
TIGER and BOOSTER.PRO 100 KHz electrode inverter
- **REHM automation systems**
- **REHM plasma cutting units**
- **Welding accessories and additional materials**
- **Welding smoke extraction fans**
- **Welding rotary tables and positioners**
- **Technical welding consultation**
- **Torch repair**
- **Machine Service**

REHM WELDING TECHNOLOGY – German Engineering and Production at its best

Development, construction and production – all under one roof – in our factory in Uhingen. Thanks to this central organisation and our forward-thinking policies, new discoveries can be rapidly incorporated into our production. The wishes and requirements of our customers form the basis for our innovative product development. A multitude of patents and awards represent the precision and quality of our products. Customer proximity and competence are the principles which take highest priority in our consultation, training and service.

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