

SIMPLY MORE

INNOVATION

TECHNOLOGY

SOLUTIONS



PRODUCT CATALOGUE 2006/2007

WELDING MACHINES
NEW PRODUCTS

SIMPLY MORE WHEN IT COMES TO WELDING: WE HAVE THE RIGHT SOLUTION FOR EVERY TASK!

Simply more technology!

We are one of Europe's leading manufacturers of HIGHTEC welding machines and with our wide-ranging, advanced and high quality product range, we have solutions for every application. At the same time, the individual needs of our customers always take highest priority. Our products have a reputation amongst customers around the world for innovative technology and highest quality. Prominent companies in all sectors of industry place their trust in us as much as the workshop next door.

Simply more options!

Our product range is complete, perfect and the machines can be used simply ready for action – anytime, anywhere. From small portable machines for flexible use on construction sites to machines with maximum ease-of-use for production, all the way to systems for mechanisation and complex automated robot applications in industry: Our flexible welding machine ranges always offer ideal solutions for all demands!

Simply more quality!

From individual components to the final product, we take complete responsibility for our machines. Our machines provide results of the highest perfection thanks to their premium quality. We are confident in our work and thus provide a warranty of a full 3 years' duration according to our warranty conditions.



Simply more innovation!

Simple operation – simply start welding: Thanks to the continuous development of the latest technologies, EWM only produces welding machines which provide every user, including even the most demanding professional, with full mastery of any challenge. And every day, we focus all our efforts on implementing new ideas, new production and operating concepts, and on new welding processes for changing, modern materials.

EWM – Simply welding, simply more!

Explanation of symbols

	CE mark	In accordance with EC Directive: EMC Directive (89/336/EEC), Low Voltage Directive (72/23/EEC)
	Protection classification IP 23	For increased protection, e.g. for open-air welding
	S - safety sign	Welding with increased electrical hazard, e.g. in boilers
	Standards	IEC 60974, EN 60974, EN 50199 for arc welding equipment

Table of Contents

Simply ready for action – anytime, anywhere!

Here you will find all our power sources for the arc welding processes MMA DC, TIG DC and AC/DC, MIG/MAG and PLASMA DC and AC/DC. Thanks to the different machine versions, our flexible range of machines always has the right solution for your welding task. Whether portable or mobile, gas or water cooled, compact or decompact – we are sure to have the ideal machine for your application.



MMA welding machines

PICO 162, PICO 162 MV.	4
PICO 230, PICO 230 CEL, PICO 300, PICO 300 CEL, PICO 300 CEL PWS	6
inverter STICK 350 CEL, inverter STICK 350 CEL PWS	8



TIG DC welding machines

PICOTIG 170 HF, PICOTIG 220 DC powerSinus	10
TRITON 170, TRITON 180, TRITON 220 powerSinus	12
TETRIX 300, 301, 351, 421, 521 <i>activArc</i>	14



TIG AC/DC welding machines

PICOTIG 180 AC/DC, 220 AC/DC powerSinus, TRITON 180 AC/DC, 220 AC/DC powerSinus	16
TETRIX 300 AC/DC, 351 AC/DC, 421 AC/DC, 521 AC/DC <i>activArc</i>	18



TIG cold wire feed and spotArc spot welding torch

TETRIX DRIVE 4 L	20
spotArc spot welding torch	21



MIG/MAG standard welding machines

SATURN 161, 201, 251, 301, 351	22
WEGA 351, 401, 451	24



MIG/MAG pulse welding machines

PHOENIX 301, 351, 421, 521 PULS <i>forceArc</i>	26
PHOENIX 330 PULS <i>forceArc</i>	28
PHOENIX 330 <i>coldArc</i> , 330 RC <i>coldArc</i>	30
PHOENIX 400, 500 RC PULS <i>forceArc</i>	32



MIG/MAG brazing and welding machine for bodywork repairs

PHOENIX 301 CAR EXPERT PULS	34
----------------------------------	----



Plasma DC and AC/DC welding machines

MICROPLASMA 20, 50, 120.	36
TETRIX 400 PLASMA, TETRIX 350 AC/DC PLASMA	38



Accessories

TIG, PLASMA, MMA and MIG/MAG remote controls	40
Cooling units	42
Transport vehicles	43
Automatic Welding Protection Helmet POWERSHIELD 5-13, POWERSHIELD 9-13.	44



Automation

System overview of TIG/PLASMA automation	46
System overview of MIG/MAG automation	47



Detailed information on the individual machines and accessory components can also be found on our website www.ewm.de!

Small, robust and lightweight

– the ideal MMA power packs for construction sites!



MMA welding



TIG welding
Liftarc ignition

HIGHLIGHTS

- Latest inverter technology simplest possible transport due to compact design and low weight (4.8kg)
- **PICO 162 MV** - Universal usage due to automatic modification for country-specific mains voltages (115V/ 230V)
- Ensured functionality and safety even after being dropped or knocked due to intelligent casing design and robust plastics
- 100 % suitable for construction site usage due to safe operation on long mains leads (up to 50m) and on generators
- Maximum protection from dust and small particles due to machine design with optimised cooling air movement
- Problem-free operation using electrodes up to 4 mm from basic to rutile/cellulose due to excellent ignition and welding properties

AREA OF APPLICATION

- Repair of construction and agricultural machinery, machines, systems, etc.
- Coated electrodes (rutile, rutile-/basic, basic, rutile/cellulose)
- Unalloyed, low-alloy and high-alloy steels



ACCESSORIES

Robust case with machine and MMA welding site equipment

- PICO 162 power source
- Electrode holder
- Work piece lead
- Hand shield for welding
- Slag hammer
- Steel brush



TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine	PICO 162				PICO 162 MV							
Mains voltage	230V				115V				230V			
	MMA		TIG		MMA		TIG		MMA		TIG	
Setting range Welding current	10 A-150 A		10 A-160 A		10 A-110 A		10 A-120 A		10 A-150 A		10 A-160 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
30 % dc	-	-	-	160A	-	-	-	-	-	-	-	160A
35 % dc	-	150A	-	-	-	110A	-	-	-	150A	-	-
40 % dc	-	-	-	-	110A	-	-	-	-	-	-	-
45 % dc	-	-	160A	-	-	-	-	-	-	-	160A	-
50 % dc	150A	-	-	-	-	-	-	-	150A	-	-	-
60 % dc	-	120A	-	130A	90A	90A	120A	120A	-	120A	-	130A
100 % dc	120A	100A	120A	100A	80A	80A	110A	100A	120A	100A	120A	100A
Open circuit voltage	105V				105V							
Mains voltage (tolerances)	1 x 230V (-40 % - +15 %)				1x 115V (-15% bis +15%)				1x 230V (-20% bis +15%)			
	1 x 240V (-40% - +10%)				1x 110V (-15% bis +20%)				1x 240V (-20% bis +10%)			
Mains frequency	50/60 Hz				50/60 Hz							
Mains fuse (slow-blow safety fuse)	1 x 16 A				1 x 25 A				1 x 16 A			
Max. connected load	6 kVA								6 kVA			
Recommended generator rating	8,1 kVA								8,1 kVA			
Dimensions L x W x H [mm]	365 x 116 x 224								365 x 116 x 224			
Weight approx.	4,8 kg								5,1 kg			

Our 100% construction site compatible MMA professionals: small, tough and highly versatile



PICO 230

PICO 300 CEL PWS



MMA welding



TIG welding
Liftarc ignition

HIGHLIGHTS

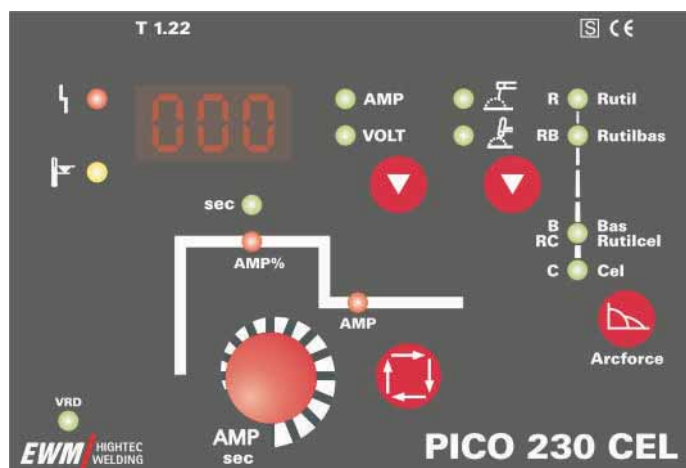
- 100 % suitable for construction sites - optimised for tough assembly work thanks to the optimised casing design for maximum protection from dust and small particles, assured operation on generators and on long mains supply leads
- PICO CEL 100 % safe for vertical-down welding when using cellulose electrodes, particularly also in the lower power range
- PICO 300 CEL PWS - choose the polarity anytime, anywhere via pole reversal on the machine or via the remote control directly on the workstation
- Safe and reliable - integrated temperature monitor for protection against overload, location of the electronics in a low-dust environment and durable metal casing
- Reproducible, safe ignition - automatic management according to the electrode being used, high open circuit voltage and infinitely adjustable hotstart current and time
- Excellent welding properties - innovative inverter technology with digital control for a stable arc, easy-to-master weld pool, improved and problem-free welding of critical electrodes and adjustment option of the welding characteristic (arcforcing) to all electrode types

AREA OF APPLICATION

- Repair and production of machines, plants, construction and agricultural machines, rail cars, ships, chemical plants, boilers, closed containers, equipment construction, pipelines, pipe construction, cast components and more
- Coated electrodes (rutile, rutile/basic, basic, rutile/cellulose, cellulose)
- Unalloyed, low-alloy and high-alloy steels, nickel-based and copper alloys



SIMPLEST POSSIBLE OPERATION WITH MAXIMUM EASE-OF-USE



- Self-explanatory operating interface with one-dial operation
- Reproducible setting of all welding parameters on the digital display
- Hold function for simple reading and problem-free recording of welding current and voltage after welding
- Standard remote control connection for setting the welding current directly on the workstation

FUNCTIONS TO PERFECT MMA WELDING



HOTSTART

Advantage: Safe ignition and reignition of the electrode to avoid bonding errors (cool points), best quality at the start of the seam and at the start of seams (no reinforcement).



ANTISTICK

Advantage: No annealing of the electrode.

If the electrode sticks, e.g. because the welding current is too low, the current is reduced to the minimum.



ARCFORCE

Advantage: Optimum welding properties for all electrode types, avoids short circuits in electrodes with large-drip material transfer.

PWS Pole reversing switch
(PICO 300 CEL PWS only)

Advantage: Flexible change of polarity without having to stop work.

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine	PICO 230; 230 CEL	NEW PICO 300; 300 CEL	NEW PICO 300 CEL PWS
Setting range Welding current	10 A-230 A	10 A-300 A	10 A-300 A
Duty cycle (dc) at 40 °C ambient temperature			
35 % dc	-	300A	300A
40 % dc	230A	-	-
50 % dc	-	-	-
55 % dc	-	-	-
60 % dc	200A	260A	260A
100 % dc	150A	200A	200A
Open circuit voltage	99V	99V	99V
Open circuit voltage VRD (optional)	20V	20V	20V
Mains voltage (tolerances)	3 x 400 V (+20 % - -25 %) / 3 x 415 V (+15 % - -25 %)		
Mains frequency	50/60 Hz	50/60 Hz	50/60 Hz
Mains fuse (slow-blow safety fuse)	3 x 16 A	3 x 16 A	3 x 16 A
Max. connected load	10,1 kVA	10,1 kVA	10,1 kVA
Recommended generator rating	13,7 kVA	13,7 kVA	13,7 kVA
Dimensions L x W x H [mm]	490 x 186 x 350	490 x 186 x 350	490 x 186 x 445
Weight approx.	16,5 kg	16,5 kg	23,5 kg

Mobile – flexible – powerful:

The MMA specialists for pipe construction



inverter STICK 350 CEL

inverter STICK 350 CEL PWS



MMA welding

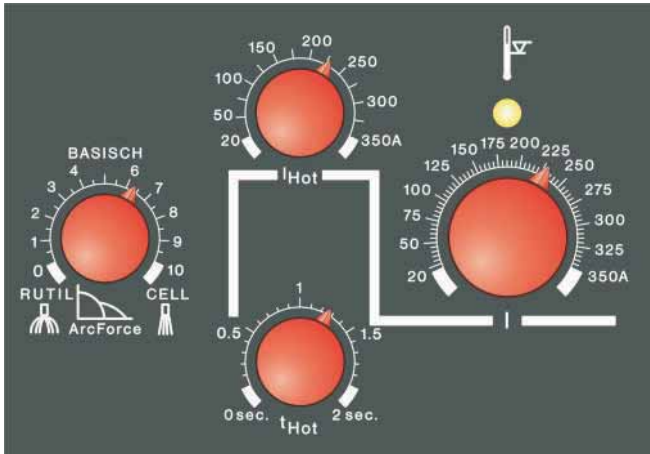
HIGHLIGHTS

- Ideal for construction sites – optimised for tough assembly work due to the optimised casing design, safe operation on generators and on long mains supply leads
- 100 % dropped seam-proof when welding with cellulose electrodes, particularly also in the lower power range
- CEL PWS – choose the polarity anytime, anywhere via pole reversal on the machine or via the remote control directly on the workstation
- Reproducible, safe ignition – automatic management depending on the electrode being used, high open circuit voltage and infinitely adjustable hotstart current and time
- Excellent welding properties – innovative inverter technology with dynamic control for a stable arc, easy-to-master weld pool, improved and problem-free welding of critical electrodes and adjustment option of the welding characteristic (arcforcing) to all electrode types
- Safe and reliable – integrated temperature monitor for protection against overload, location of the electronics in a low-dust environment and durable metal casing

AREA OF APPLICATION

- Repair and production of machines, plants, construction and agricultural machines, rail cars, ships, chemical plants, boilers, closed containers, equipment construction, pipelines, pipe construction, cast components and more
- Coated electrodes (rutile, rutile/basic, basic, rutile/cellulose, cellulose)
- Unalloyed, low-alloy and high-alloy steels, nickel-based and copper alloys



SIMPLEST POSSIBLE OPERATION WITH MAXIMUM EASE-OF-USE


- Self-explanatory operating interface
- Practical operation - direct access to all welding parameters
- Standard remote control connection for setting the welding current directly on the workstation

FUNCTIONS TO PERFECT MMA WELDING

HOTSTART

Advantage: Safe ignition and reignition of the electrode to avoid bonding errors (cool points), best quality at the start of the seam and at the start of seams (no reinforcement).


ARCFORCE

Advantage: Optimum welding properties for all electrode types, avoids short circuits in electrodes with large-drip material transfer.


ANTISTICK

Advantage: No annealing of the electrode.

If the electrode sticks, e.g. because the welding current is too low, the current is reduced to the minimum.


PWS Pole reversing switch
(STICK 350 CEL PWS only)

Advantage: Flexible change of polarity without having to stop work.

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine	inverter STICK 350 CEL	inverter STICK 350 CEL PWS
Setting range Welding current	20A - 350A	20A - 350A
Duty cycle (dc) at 40°C ambient temperature		
30 % dc	350 A	350 A
60 % dc	250 A	250 A
100 % dc	190 A	190 A
Open circuit voltage	92V	92V
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %) 3 x 415 V (-25 % - +15 %)	3 x 400 V (-25 % - +20 %) 3 x 415 V (-25 % - +15 %)
Mains frequency	50/60 Hz	50/60 Hz
Mains fuse (slow-blow safety fuse)	3 x 25A	3 x 25A
Max. connected load	17,8 kVA	17,8 kVA
Recommended generator rating	23,7 kVA	23,7 kVA
Dimensions L x W x H [mm]	690 x 230 x 460	690 x 230 x 460
Weight approx.	35,5 kg	37,5 kg



Lightweight and simplest possible operation

- full-scale TIG welding for assembly work !



PICOTIG 170 HF

PICOTIG 220 DC POWERSINUS



TIG welding



MMA welding

HIGHLIGHTS

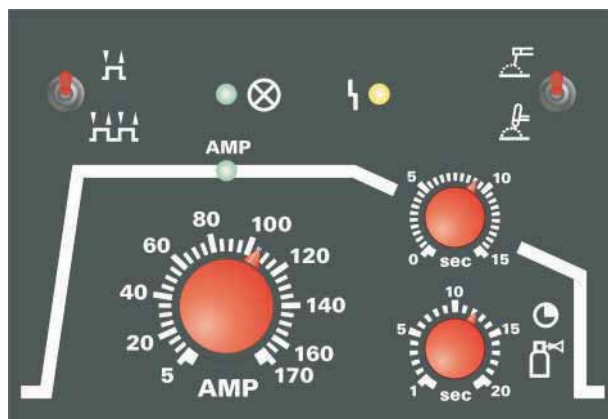
- Extremely easy-to-use – ideal for assembly, e.g. with frequent changes of personnel
- Also ideal for construction site use thanks to the exceptionally large mains voltage range for problem-free use on long mains leads and on a generator
- Exceptional weight/performance ratio thanks to the optimised cooling system.
- PICOTIG 220: Uniquely powerful welding performance – 220A welding current from the single-phase 230V socket, optional connection option for cooling module and Up/Down torch along with a remote control for setting the welding current directly at the workstation

AREA OF APPLICATION

- TIG welding: Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special materials, repair welding on cast aluminium components
- MMA welding with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production and repair work, metal construction, facade, heating and ventilation construction, food and chemical industries, pipeline, closed container and plant construction, vehicle, machine, plant and tool construction, and more

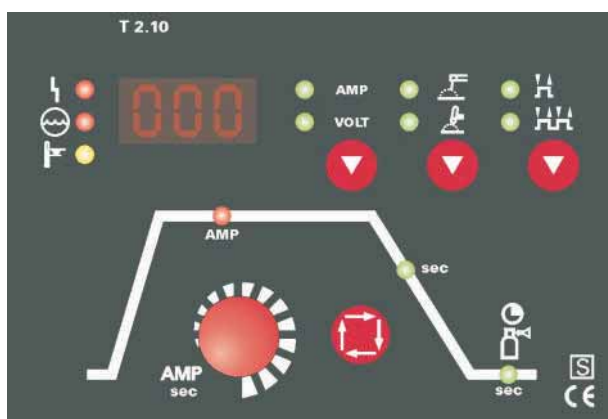


SIMPLEST POSSIBLE OPERATION



PiCOTIG 170 HF

- Self-explanatory operating interface with direct access to only the most important welding parameters.
- Welding current, down slope time 0 - 15 sec. and gas post-flow time 1 - 20 sec. infinitely adjustable
- Non-latched/latched, MMA/TIG, HF ignition/liftarc



PiCOTIG 220 DC

- Self-explanatory operating interface with one-dial operation
- Reproducible setting of all welding parameters on the digital display
- Hold function for simple reading and problem-free recording of welding current and voltage after welding
- Welding current, down slope time 0 - 15 sec. and gas post-flow time 1 - 20 sec. infinitely adjustable
- Non-latched/latched, MMA/TIG, HF ignition/liftarc

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine	PiCOTIG 170 HF				PiCOTIG 220 DC			
	TIG		MMA		TIG		MMA	
Setting range Welding current	5 A-170 A		5 A-140 A		3 A-220 A		5 A-180 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
25 % dc	-	170A	-	-	-	-	-	-
35 % dc	-	-	-	140A	-	220A	-	180A
40 % dc	-	-	-	-	220A	-	-	-
45 % dc	-	-	-	-	-	-	180A	-
50 % dc	170A	-	140A	-	-	-	-	-
60 % dc	135A	120A	130A	115A	180A	160A	160A	140A
100 % dc	115A	100A	115A	100A	150A	130A	140A	110A
Open circuit voltage	97V				90V			
Mains voltage (tolerances)	1 x 230V (-40 % - +15 %)				1 x 230 V (-40% - +15%)			
	1 x 240V (-40% - +10%)				1 x 240 V (-40% - +10%)			
Mains frequency	50/60 Hz				50/60 Hz			
Mains fuse (slow-blow safety fuse)	1 x 16 A				1 x 16 A			
Max. connected load	6 kVA				5,8 kVA			
Recommended generator rating	8,1 kVA				7,8 kVA			
Dimensions L x W x H [mm]	475 x 160 x 270				480 x 185 x 390			
Weight approx.	8,4 kg				15,5 kg			

Professional TIG assembly machines:

easy-to-use operation, digital current display and remote control connection



TRITON 170

TRITON 220 DC



TIG welding



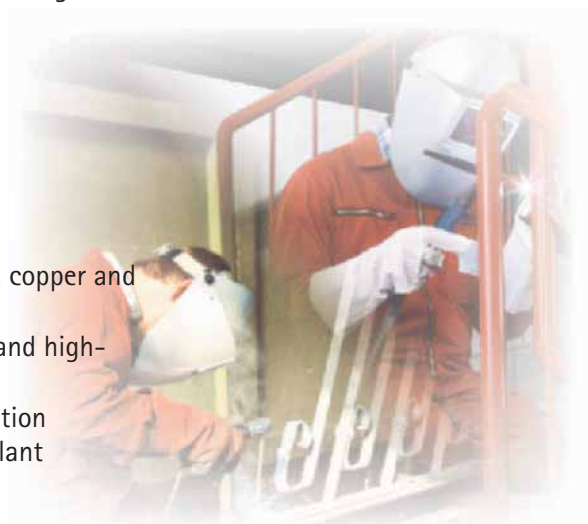
MMA welding

HIGHLIGHTS

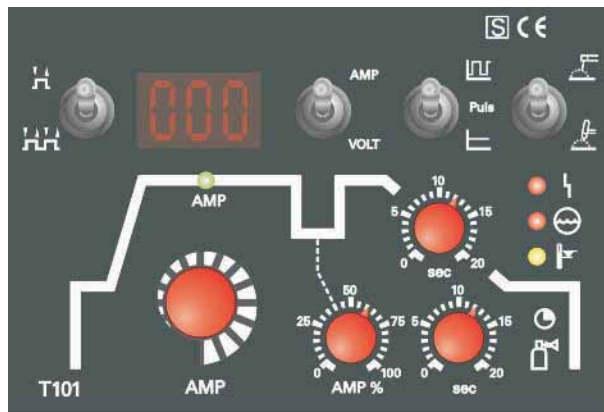
- Professional TIG DC welding with excellent ignition and welding characteristics
- TRITON 180, 220: Maximum functionality with simplest possible operation for professional TIG welding with, for example, one-dial operation, 8 welding tasks (JOBS) programmable by the user for frequently used welding tasks
- TRITON 220: Uniquely high welding performance - 220 A welding current from the single-phase 230 V socket
- Also ideal for use on construction sites due to the exceptionally large mains voltage range for problem-free use on long mains leads and on a generator
- Exceptional weight/performance ratio due to the optimised cooling system.
- Versatile connection capability, up/down torch, remote control, cooling module (from 220)

AREA OF APPLICATION

- TIG welding: Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special materials, repair welding on cast aluminium components
- MMA welding with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production and repair work, metal construction, facade, heating and ventilation construction, food and chemical industries, pipeline, closed container and plant construction, vehicle, machine, plant and tool construction, and more

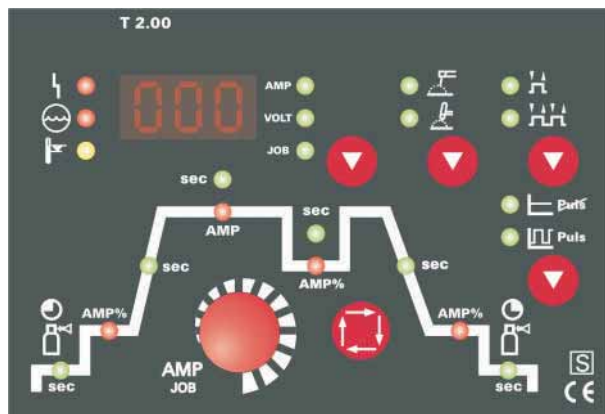


EASY OPERATION FOR THE TIG PROFESSIONAL



TRITON 170

- Self-explanatory operating interface with direct access to all welding parameters for professionals
- Welding current, reduced welding current, down slope time 0 – 15 sec. and gas post-flow time 1 – 20 sec. infinitely adjustable
- Non-latched/latched, MMA/TIG, TIG pulse, HF ignition/liftarc
- Reproducible setting of the welding current on the digital display



TRITON 180, 220

- Self-explanatory operating interface with one-dial operation, 8 welding programs (JOBS)
- Reproducible setting of all welding parameters on the digital display
- Hold function for simple reading and problem-free recording of welding current and voltage after welding

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine	TRITON 170				TRITON 180				TRITON 220 DC <small>POWER SINUS</small>			
	TIG		MMA		TIG		MMA		TIG		MMA	
Setting range Welding current	3 A-170 A		3 A-140 A		3 A-180 A		5 A-140 A		3 A-220 A		5 A-180 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
	25 % dc	-	-	-	-	-	-	-	-	-	-	-
	35 % dc	-	-	-	-	-	-	-	-	220A	-	180A
	40 % dc	-	170A	-	-	180A	-	-	220A	-	-	-
	45 % dc	-	-	-	-	-	-	-	-	-	180A	-
	50 % dc	-	-	140A	140A	-	-	140A	140A	-	-	-
	60 % dc	170A	130A	130A	130A	180A	160A	130A	130A	180A	160A	140A
	100 % dc	130A	110A	115A	100A	150A	130A	115A	110A	150A	130A	110A
Open circuit voltage	97V				88V				90V			
Mains voltage (tolerances)	1 x 230V (-40 % - +15 %)				1 x 230 V (-40% - +15%)				1 x 230 V (-40% - +15%)			
	1 x 240V (-40% - +10%)				1 x 240 V (-40% - +10%)				1 x 240 V (-40% - +10%)			
Mains frequency	50/60 Hz				50/60 Hz				50/60 Hz			
Mains fuse (slow-blow safety fuse)	1 x 16 A				1 x 16 A				1 x 16 A			
Max. connected load	6,2 kVA				5,8 kVA				5,8 kVA			
Recommended generator rating	8,4 kVA				7,8 kVA				7,8 kVA			
Dimensions L x W x H [mm]	495 x 175 x 345				480 x 175 x 345				480 x 185 x 390			
Weight approx.	11,5 kg				12,0 kg				16,0 kg			



Perfect TIG welding anywhere

- with practical, compact casing system



TETRIX 401 activArc



TIG welding



EWM activArc welding



MMA welding

HIGHLIGHTS

- Maximum efficiency for all requirements with reproducible welding results and excellent quality thanks to the fully digital inverter welding technology
- Self-explanatory, intuitive operating concepts for everyone – either the standard setting, job mode or synergic one-dial operation so that you can concentrate fully on your welding task!
- Maximum mobility: Easily movable thanks to large wheels, fits through standard doors, easy loading and unloading thanks to the even wheel gauge, can be lifted by crane and moved on a fork lift
- EWM *activArc* – the powerful TIG arc – faster, better and simpler welding across the entire power range
- Multifunctional and ergonomic grip system: Effort-free moving, practical holder for tube packages, impact protection
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particles
- Practical ease-of-use: Rubber mat as a rest surface on the casing cover, storage box for spare torch parts and tool
- COMFORT, SYNERGIC: Ideal for robot, industrial bus and mechanised applications via optional interfaces
- TETRIX 300: Maximum flexibility thanks to the modular system: Upgrade to fit the need – no additional tools or specialist staff required.

AREA OF APPLICATION

- TIG welding: Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special materials, repair welding on cast aluminium components
- MMA welding with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production work, metal construction, food and chemicals industries, pipeline, closed container and equipment construction, vehicle, machine, plant and tool construction, and more

OPTIMISED OPERATING PANELS FOR EVERY USER

**CLASSIC - Standard setting!**

Direct access to all welding parameters at a glance

**COMFORT – Tried and tested comfort !**

Direct access to all important welding parameters, 8 JOBs (welding tasks) programmable by the user for frequently used welding tasks

**SYNERGIC – Maximum ease-of-use!**

One-dial operation with up to 256 pre-programmed JOBs (welding tasks) and access to all important welding parameters

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, water-cooled

	NEW TETRIX 300* activArc		NEW TETRIX 301 activArc		NEW TETRIX 351 activArc		NEW TETRIX 421 activArc		NEW TETRIX 521 activArc	
Setting range Welding current	5 A-300 A		5 A-300 A		5 A-350 A		5 A-420 A		5 A-520 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
60 % dc	-	300 A	-	300 A	-	350 A	-	420 A	-	520 A
65 % dc	300 A	-	300 A	-	-	-	420 A	-	520 A	-
100 % dc	270 A	250 A	270 A	250 A	350 A	300 A	380 A	360 A	450 A	420 A
Open circuit voltage	93 V		93 V		92 V		92 V		79 V	
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
Mains frequency	50/60 Hz		50/60 Hz		50/60 Hz		50/60 Hz		50/60 Hz	
Mains fuse (slow-blow safety fuse)	3 x 16 A		3 x 16 A		3 x 25 A		3 x 35 A		3 x 35 A	
Max. connected load	14,3 kVA		14,3 kVA		17,7 kVA		23,1 kVA		31,6 kVA	
Recommended generator rating	19,3 kVA		19,3 kVA		23,9 kVA		31,2 kVA		42,8 kVA	
Max. flow rate	5 l/min (C00135U31)**				5 l/min					
Max. output pressure	3,5 bar (C00135U31)**				3,5 bar					
Tank capacity	4,5 l (C00135U31)**				12 l					
Dimensions L x W x H [mm]	560 x 245 x 380		1100 x 454 x 951		1100 x 454 x 951		1100 x 454 x 951		1100 x 454 x 951	
Weight approx.	27 kg		105 kg		115 kg		120 kg		135 kg	

* Control CLASSIC and COMFORT possible; ** Optional

The small TIG AC/DC power packs

– the optimum equipment to meet every need!



TIG direct and
alternating current welding
HF ignition and liftarc



MMA direct
current welding

PICOTIG 180 AC/DC

TRITON 180 AC/DC

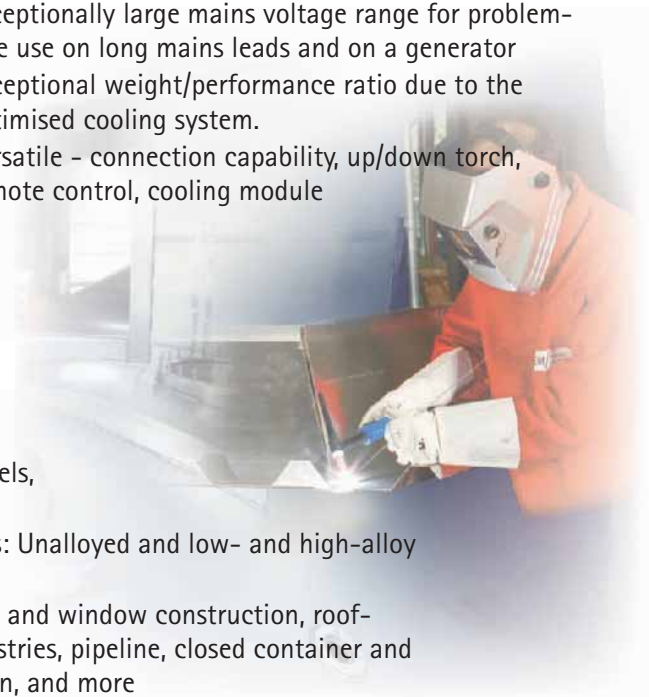
TRITON 220 AC/DC POWER SINUS with accessories
(Cooling module, Transport vehicle)

HIGHLIGHTS

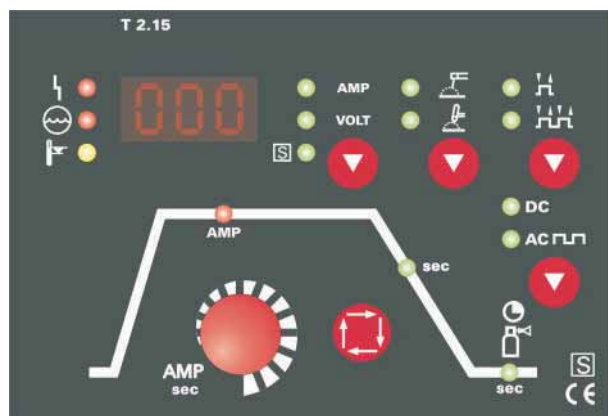
- Professional TIG DC welding with excellent ignition and welding characteristics
- PICOTIG: Extremely easy-to-use – ideal for assembly, e.g. with frequent changes of personnel
- TRITON: Maximum functionality with simplest possible operation for professional TIG welding with, for example, one-dial operation, 8 welding tasks (JOBS) programmable by the user for frequently used welding tasks and direct access to the main AC welding parameters (balance, frequency).
- TRITON: Unique AC functionality – AC special for simple joining of aluminium sheets of very different thickness, e.g. 1 mm to 10 mm
- PICOTIG/TRITON 220: Uniquely high welding performance – 220 A welding current from the single-phase 230 V socket
- Also ideal for construction site use thanks to the exceptionally large mains voltage range for problem-free use on long mains leads and on a generator
- Exceptional weight/performance ratio due to the optimised cooling system.
- Versatile – connection capability, up/down torch, remote control, cooling module

AREA OF APPLICATION

- TIG AC welding: Aluminium and aluminium alloys
- TIG DC welding (minus pole): Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special metals
- MMA welding (direct current) with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production and repair work, metal construction, facade, conservatory and window construction, roof-fitting, heating and ventilation construction, food and chemical industries, pipeline, closed container and equipment construction, vehicle, machine, plant and tool construction, and more

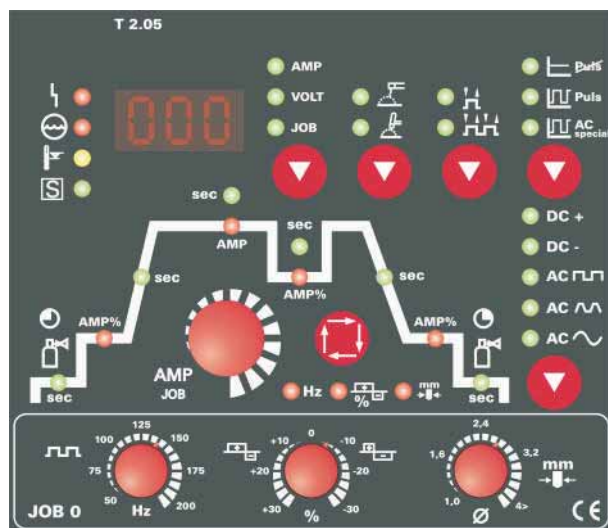


ALTERNATIVELY SIMPLEST OR EASY-TO-USE OPERATION



PICOTIG 180, 220 AC/DC

- Simplest operation
- Self-explanatory operating interface with one-dial operation
- Reproducible setting of all welding parameters on the digital display
- Hold function for simple reading and problem-free recording of welding current and voltage after welding





TRITON 180, 220 AC/DC

- Easy-to-use operation
- Self-explanatory operating interface with one-dial operation, 8 JOBS (welding programs)
- Reproducible setting of all welding parameters on the digital display
- Hold function for simple reading and problem-free recording of welding current and voltage after welding

TECHNICAL DATA

Welding machine	PICOTIG 180 AC/DC				TRITON 180 AC/DC				PICOTIG 220 AC/DC 				TRITON 220 AC/DC 			
	TIG		MMA		TIG		MMA		TIG		MMA		TIG		MMA	
Setting range Welding current	5 A-180 A		5 A-140 A		5 A-180 A		5 A-140 A		5 A-220 A		5 A-180 A		3 A-220 A*		5 A-180 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
	35 % dc	-	-	-	-	-	-	-	-	220A	-	180A	-	220A	-	180A
	40 % dc	-	180A	-	-	180A	-	-	220A	-	-	180A	-	220A	-	-
	45 % dc	-	-	-	-	-	-	-	-	-	180A	-	-	-	180A	-
	50 % dc	-	-	140A	140A	-	-	140A	140A	-	-	-	-	-	-	-
	60 % dc	180A	150A	130A	130A	180A	150A	130A	130A	180A	160A	160A	140A	180A	160A	160A
	100 % dc	150A	120A	110A	110A	150A	120A	110A	110A	150A	130A	140A	110A	150A	130A	140A
Open circuit voltage	43V				43V				45V				45V			
Mains voltage (tolerances)	1 x 230V (-40 % - +15 %)				1 x 230V (-40 % - +15 %)				1 x 230 V (-40% - +15%)				1 x 230 V (-40% - +15%)			
	1 x 240V (-40% - +10%)				1 x 240V (-40% - +10%)				1 x 240 V (-40% - +10%)				1 x 240 V (-40% - +10%)			
Mains frequency	50/60 Hz				50/60 Hz				50/60 Hz				50/60 Hz			
Mains fuse (slow-blow safety fuse)	1 x 16 A				1 x 16 A				1 x 16 A				1 x 16 A			
Max. connected load	6,0 kVA				6,0 kVA				5,9 kVA				5,9 kVA			
Recommended generator rating	8,1 kVA				8,1 kVA				8,0 kVA				8,0 kVA			
Dimensions L x W x H [mm]	480 x 185 x 390				480 x 185 x 390				480 x 185 x 390				480 x 185 x 390			
Weight approx.	16,0 kg				16,5 kg				17,5 kg				18,0 kg			

* 5 A-220 A with AC

The TIG AC/DC specialists

– ideal for use in production



TETRIX 300 AC/DC activArc

TETRIX 351 AC/DC activArc

TETRIX 421; 521 AC/DC activArc



TIG direct and alternating current welding
HF ignition and liftarc



EWM activArc welding



MMA direct and alternating current welding

HIGHLIGHTS

- Maximum efficiency for all requirements with reproducible welding results and excellent quality thanks to the fully digital inverter welding technology
- Unique AC functionality: Synchronous operation of 2 machines for two-sided, simultaneous welding, AC special for the easy joining of very different thickness aluminium panels, e.g. 1 mm to 10 mm
- TETRIX 300 AC/DC: Maximum flexibility thanks to the modular equipment system: Upgrade to fit the need – no additional tools or specialist staff required
- EWM *activArc* – the powerful TIG arc – faster, better and simpler welding across the entire power range
- Self-explanatory, intuitive operating concepts for everyone – either the standard setting, job mode or synergic one-dial operation so that you can concentrate fully on your welding task!
- Maximum mobility: Easily movable thanks to large wheels, fits through standard doors, easy loading and unloading thanks to the even wheel gauge
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particles
- COMFORT, SYNERGIC: Ideal for robot, industrial bus and mechanised applications and documentation via optional interfaces

AREA OF APPLICATION

- TIG AC welding: Aluminium and aluminium alloys
- TIG DC welding (minus pole): Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special metals
- MMA welding (direct current) with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production and repair work, metal construction, food and chemicals industries, pipeline, closed container and equipment construction, vehicle, machine, plant and tool construction, and more

OPTIMISED OPERATING PANELS FOR EVERY USER

**CLASSIC - Standard setting!**

Direct access to all welding parameters at a glance

**COMFORT – Tried and tested comfort !**

Direct access to all important welding parameters, 8 JOBS (welding tasks) programmable by the user for frequently used welding tasks

**SYNERGIC – Maximum ease-of-use!**

One-dial operation with up to 256 pre-programmed JOBS (welding tasks) and access to all important welding parameters

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, water-cooled	NEW TETRIX 300 AC/DC activArc 5 A-300 A	NEW TETRIX 351 AC/DC activArc 5 A-350 A	NEW TETRIX 421 AC/DC activArc 5 A-420 A	NEW TETRIX 521 AC/DC activArc 5 A-520 A
Setting range Welding current	20 °C 40 °C	20 °C 40 °C	20 °C 40 °C	20 °C 40 °C
Duty cycle (dc) at ambient temperature	40 % dc	45 % dc	60 % dc	65 % dc
	300 A	270 A	270 A	230 A
	45 % dc	60 % dc	65 % dc	80 % dc
	300 A	270 A	270 A	230 A
	60 % dc	65 % dc	80 % dc	100 % dc
	300 A	270 A	270 A	230 A
Open circuit voltage	93 V	95 V	92 V	79 V
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)
Mains frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Mains fuse (slow-blow safety fuse)	3 x 16 A	3 x 25 A	3 x 35 A	3 x 35 A
Max. connected load	14,3 kVA	17,7 kVA	23,1 kVA	31,6 kVA
Recommended generator rating	19,3 kVA	23,9 kVA	31,2 kVA	42,8 kVA
Max. flow rate	5 l/min (CO0135U31)**		5 l/min	
Max. output pressure	3,5 bar (CO0135U31)**		3,5 bar	
Tank capacity	4,5 l (CO0135U31)**		12 l	
Dimensions L x W x H [mm]	600 x 580 x 1200*	1100 x 454 x 951	1080 x 690 x 1155	1080 x 690 x 1155
Weight approx.	85 kg *	130 kg	145 kg	160 kg

* Welding machine, cooling module and transport vehicle; ** Optional

TETRIX DRIVE 4 L

**Always the right setting for the current and wire feed – with a single control:
The TIG cold wire feeder with synergic operation!**



TIG welding



TIG brazing

HIGHLIGHTS

- Simplest possible operation thanks to synergic one-dial operation with optimum preset values for welding current and automatically assigned wire speed (when synergic control)
- Easy operation at the working place thanks to the RETOX TIG torch: Specification of the operating point, welding current and wire feed on/off, welding data display
- High quality TIG welding with excellent ease-of-use and high welding speed
- Alternative to MIG/MAG welding – better seam quality and absolutely spatter-free at a comparable welding speed
- Can be used universally on any mobile TETRIX DC- and AC/DC TIG machine (optional)
- User-friendly TIG torch because the position of the wire feed can be rotated by 270°, meaning that welding easy to carry out in all positions

AREA OF APPLICATIONS

- Unalloyed, low-alloy and high-alloy steel and aluminium alloys, galvanized steel
- Container, boiler and vehicle construction, metal-working, facade construction, car industry, Heating and ventilation installation, pipeline construction
- TIG brazing, deposit welding

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

TETRIX DRIVE 4 L	
Wire feed speed	0 to 10 m/min
Wire delivery unit	4 rollers
Dimensions L x W x H [mm]	800 x 350 x 560
Weight approx.	17,5 kg



spotArc spot welding torch

- AND METAL SHEETS ARE PERFECTLY JOINED



spotArc spot welding torch
water cooled



TIG welding

HIGHLIGHTS

- Universal applications thanks to the option of joining two metal sheets of the same thickness and of different thicknesses
- Ideal for tacking workpieces for manual and automated applications
- Simple to use – welding only carried out on one side
- Clean seam finish for visible joints
- Excellent seam quality with low distortion thanks to the minimal amount of heat feeding
- Economic solution consisting of standard components: EWM TIG DC welding machine, spot remote control and TIG spot welding torch
- The welding machine can be used not only for spot welding, but also for TIG and MMA welding!
- Alternative to resistance welding with greatly simplified handling
- Ergonomic torch design for the best possible handling and optimum force utilisation

AREA OF APPLICATION

- Spot welding of low-alloy and high-alloy steel panels up to 2.5 mm
- Multiple panel connections, spot joints on visible panels, tack welding
- Container construction, switching cabinet construction, machine and vehicle manufacturing, car and food industries, pipe construction

EXAMPLE APPLICATIONS



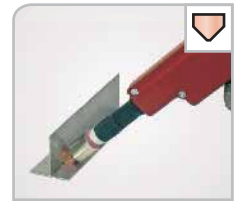
Flat weld
Joining panels of different thicknesses



Corner joint
Tacking on a cabinet case



Flat weld
Joining two panels



Fillet weld
Tacking panels



Robust step switch controlled machines with optimum performance

- MIG/ MAG compact welding machines for universal usage.



MIG/MAG
standard welding



SATURN 161; 201 compact

SATURN 251 compact

SATURN 351 decompact

HIGHLIGHTS

- Innovative machine design with ergonomic grip system and maximum mobility: Mobile, can be lifted by crane and moved by fork lift
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particle intrusions
- Maximum efficiency with minimal finishing work thanks to low-spatter welding in the short arc and spray arc areas using argon, mixed gases and CO₂
- Excellent ignition and welding properties: Fine-step voltage setting, optimized welding choke with 2 taps for the various materials, large drive rollers for safe wire feeding
- Various control variants – from traditional operation through to the preset one-dial operation
- SATURN 201: Connection voltage can be switched to either 1 x 230 V or 2 x 400 V

AREA OF APPLICATIONS

- MIG / MAG standard welding with short, compound or spray arc using argon, gas mixtures and CO₂ can be used
- Materials: Low-alloy and high-alloy steels as well as aluminium-based alloys, solid and flux-cored wire electrodes
- Metal-working trades, industry, e.g. works maintenance, repair workshops for cars and agricultural vehicles, switch cabinet and ventilation construction, steel and machine construction, assembly work, tacking work in production



VARIOUS CONTROL VARIANTS WITH SELF-EXPLANATORY OPERATING INTERFACES

Welding machine / Wire feed unit

**M1.01**

- Traditional operating concept (twin-dial operation) with all welding parameters immediately accessible
- Non-latched, latched, spot, interval

**M2.20**

- Simplest possible operating concept with digital display for all welding data
- Non-latched, latched, spot, interval, currentless gas test and wire creep

**M2.40**

- Fast one-dial operation concept with 24 preset JOBs (welding tasks) and with digital display for all welding data
- Non-latched, latched, spot, interval, currentless gas test and wire inching
- Choice of operating mode: Job (one-dial operation) and Manual (twin-dial operation)

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, gas cooled

	NEW SATURN 161* compact	NEW SATURN 201* compact	SATURN 251 compact	SATURN 301 compact	SATURN 351 compact decompact
Setting range Welding current	40 A-160 A	110 A-220 A	30 A-250 A	30 A-300 A	30 A-350 A
Switching steps	6	6	8	12	16
Wire feed speed	0,5-24 m/min	0,5-24 m/min	0,5-24 m/min	0,5-24 m/min	0,5-24 m/min
Duty cycle (dc) at ambient temperature	25 °C	25 °C	40 °C	40 °C	40 °C
20 % dc	-	220 A (2x400V)	-	-	-
35 % dc	160 A	160 A	-	-	-
45 % dc	-	-	250 A	300 A	350 A
60 % dc	120 A	120 A	160 A	190 A	250 A
100 % dc	90 A	-	130 A	160 A	220 A
Mains voltage (tolerances)	230 V	1 x 230V / 2 x 400 V	3 x 400 V (-15 % - +15 %)	3 x 400 V (-15 % - +15 %)	3 x 400 V (-15 % - +15 %)
Mains frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Mains fuse (safety fuse, slow-blow)	16 A	20 A	3 x 16 A	3 x 25 A	3 x 25 A
Max. connected power	6 kVA	9 kVA	9,7 kVA	12,8 kVA	16 kVA
Recommend generator rating	8,1 kVA	12,2 kVA	13 kVA	18 kVA	21,5 kVA
Dimensions welding machine L x W x H [mm]	930 x 455 x 730	930 x 455 x 730	930 x 455 x 730	930 x 455 x 730	930 x 455 x 730
Dimensions Wire feed unit L x W x H [mm]	-	-	-	-	- 690x300x410
Weight welding machine approx.	55 kg	57 kg	90 kg	100 kg	112 kg 106 kg
Weight wire feed unit approx.	-	-	-	-	- 20,5 kg

* M 1.01 control possible



Maximum performance even in tough conditions

- our robust, step switch controlled MIG/MAG professionals



MIG/MAG
standard welding

WEGA decompact

WEGA compact

HIGHLIGHTS

- Innovative casing design with ergonomic grip system and maximum mobility: Mobile, can be lifted by crane and moved by fork lift
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particle intrusions
- Maximum efficiency with minimal finishing work thanks to low-spatter welding in the short arc and spray arc areas using argon, mixed gases and CO₂
- Thanks to different machine versions, delicately balanced performance and variety of options with the ideal equipment for every application: Compact or with separate wire feed, gas or water cooled, different wire feed units and control interfaces from classic operation through to preset one-dial operation
- Perfect ignition and welding: Welding choke with 3 taps for the various materials; fine-step voltage setting, 4-roller feed with large drive rollers for safe wire feeding

AREA OF APPLICATIONS

- MIG / MAG standard welding with short, compound or spray arc using argon, gas mixtures and CO₂ can be used
- Materials: Unalloyed, low-alloy and high-alloy steel, aluminium-based alloys.
- Solid and core wire electrodes
- Production and repair work in metalworking trade and industry, steel work and engineering, pipeline, closed containers and equipment construction, vehicle and shipbuilding, assembly work, etc.



VARIOUS CONTROL VARIANTS WITH SELF-EXPLANATORY OPERATING INTERFACES

Welding machine / Wire feed unit



M1.01

- Traditional operating concept (twin-dial operation) with all welding parameters immediately accessible
- Non-latched, latched, spot, interval



M2.20

- Simplest possible operating concept with digital display for all welding data
- Non-latched, latched, spot, interval, currentless gas test and wire creep



M2.40

- Fast one-dial operation concept with 24 preset JOBs (welding tasks) and with digital display for all welding data
- Non-latched, latched, spot, interval, currentless gas test and wire inching
- Choice of operating mode: Job (one-dial operation) and Manual (twin-dial operation)

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, gas / water cooled	WEGA 351		WEGA 401		WEGA 451	
	compact	decompact	compact	decompact	compact	decompact
Setting range Welding current	30 A-350 A		30 A-400 A		30 A-450 A	
Switching steps	16		24		24	
Wire feed speed	1-20 m/min		1-20 m/min		1-20 m/min	
Duty cycle (dc) at 40°C ambient temperature						
45 % dc	350 A		400 A		450 A	
60 % dc	300 A		330 A		400 A	
100 % dc	230 A		270 A		310 A	
Mains voltage (tolerances)*	3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)	
Mains frequency	50/60 Hz		50/60 Hz		50/60 Hz	
Mains fuse (safety fuse, slow-blow)	3 x 25 A		3 x 25 A		3 x 25 A	
Max. connected power	16 kVA		20 kVA		22 kVA	
Recommend generator rating	22 kVA		27 kVA		30 kVA	
Max. flow rate	5 l/min		5 l/min		5 l/min	
Max. output pressure	3,5 bar		3,5 bar		3,5 bar	
Dimensions welding machine L x B x H [mm]	1100 x 550 x 940		1100 x 550 x 940		1100 x 550 x 940	
Dimensions Wire feed unit L x B x H [mm]	690 x 300 x 410		690 x 300 x 410		690 x 300 x 410	
Weight welding machine appr. gas / watercooled	130 kg/150 kg	125 kg/145 kg	145 kg/165 kg	139 kg/159 kg	150 kg/170 kg	144 kg/164 kg
Weight Wire feed unit approx.	20,5 kg		20,5 kg		20,5 kg	



Ergonomic, robust and perfect – MIG/MAG pulse welding of the highest quality



PHOENIX 351 BASIC PULS forceArc

PHOENIX 401 EXPERT PULS forceArc



MIG/MAG
pulse welding



EWM forceArc welding



MIG/MAG
standard welding



MMA welding



TIG welding
Liftarc

HIGHLIGHTS

- Maximum efficiency for all requirements with reproducible welding results and low-spatter welding thanks to the fully digital inverter welding technology
- EWM-forceArc – the high-pressure arc – up to 30% faster welding with thick panels
- Self-explanatory, intuitive operating concepts for everyone – your choice of various control concepts – optimised for the target group and the application
- Optimum preset JOBS (welding tasks) and synergic operation – so that you can concentrate fully on your welding task
- Maximum mobility: Easily movable thanks to large wheels, fits through standard doors, easy loading and unloading thanks to the even wheel gauge, can be lifted by crane and moved on a fork lift
- Multifunctional and ergonomic grip system: Effort-less mobility, practical holder for tube packages, impact protection
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particle intrusions
- Practical ease-of-use: Rubber mat as a rest surface on the casing cover, storage box for spare torch parts and tools
- PROGRESS, EXPERT: Ideal for robot, industrial bus and mechanised applications and documentation via optional interfaces

AREA OF APPLICATIONS

- Unalloyed, low-alloy and high-alloy steels, aluminium alloys, copper and its alloys, special alloys
- Solid and fluxed-core wire electrodes (0.8-2.4 mm), coated electrodes: Rutile, basic
- Production and repair work: Chemical and food industries, machine and plant construction, vehicle, automobile, railway vehicle and ship construction, container, closed container and equipment construction, steel and metal construction work, offshore, etc.



NEW

PHOENIX 301 • 351 • 421 • 521 PULS *forceArc*

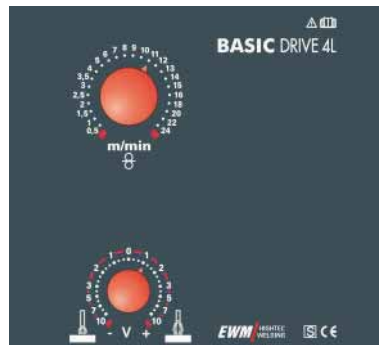
MIG/MAG

SELF-EXPLANATORY, INTUITIVE OPERATING CONCEPTS FOR EVERY USER

Welding machine

Wire feed unit

BASIC



115 optimum pre-programmed JOBS (welding tasks) for selection on the welding machine – only the most important welding parameters immediately accessible on the wire feed.

PROGRESS

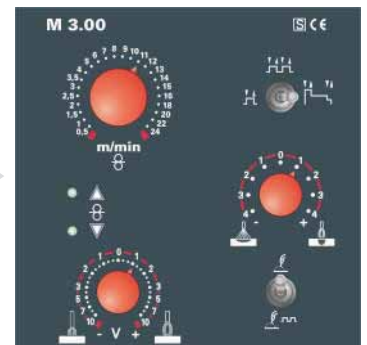


115 optimum pre-programmed JOBS (welding tasks) for selection on the wire feed/ welding machine – everything immediately accessible on the wire feed, 16 welding programs

EXPERT*



ALTERNATIVELY



Maximum ease-of-use – 256 optimum pre-programmed JOBS (welding tasks), including 128 for customised programming with immediate access – all welding parameters immediately accessible both from the welding machine and from the wire feed, 16 welding programs

* Version decompact only

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, gas / water cooled	PHOENIX 301 PULS <i>forceArc</i>		PHOENIX 301 PULS <i>forceArc</i>		PHOENIX 351 PULS <i>forceArc</i>		PHOENIX 421 PULS <i>forceArc</i>		PHOENIX 521 PULS <i>forceArc</i>	
Setting range Welding current	5 A-300 A		5 A-300 A		5 A-350 A		5 A-420 A		5 A-520 A	
Duty cycle (dc) at 40° C ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
60 % dc	-	300 A	-	300 A	-	350 A	-	420 A	-	520 A
80 % dc	300 A	-	300 A	-	-	-	420 A	-	520 A	-
100 % dc	270 A	250 A	270 A	250 A	350 A	300 A	380 A	360 A	450 A	420 A
Mains Voltage (tolerances)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
Mains Frequency	50/60 Hz		50/60 Hz		50/60 Hz		50/60 Hz		50/60 Hz	
Mains fuse (safety fuse, slow-blow)	3 x 16 A		3 x 16 A		3 x 25 A		3 x 35 A		3 x 35 A	
Max. connected power	14,3 kVA		14,3 kVA		17,8 kVA		23,1 kVA		31,6 kVA	
Recommended generator rating	19,3 kVA		19,3 kVA		24,0 kVA		31,2 kVA		42,8 kVA	
Max. flow rate / Max. output pressure	- / -		- / -		5 l/min / 3,5 bar		5 l/min / 3,5 bar		5 l/min / 3,5 bar	
Tank capacity	-		-		12 l		12 l		12 l	
Dimensions welding machine L x W x H [mm]	kompakt 930 x 455 x 730		kompakt 1100 x 454 x 951		kompakt 1100 x 454 x 951		kompakt 1100 x 454 x 951		dekompakt 1100 x 454 x 951	
Dimensions wire feed unit L x W x H [mm]	-		- 690 x 300 x 410		- 690 x 300 x 410		- 690 x 300 x 410		690 x 300 x 410	
Weight welding machine approx. gas /water cooled	90kg / -		- / 115kg 95kg / 110kg		110kg / 125kg 105kg / 120kg		115kg / 130kg 110kg / 125kg		- / 140kg 20,5kg	
Weight wire feed unit approx.	-		20,5kg		20,5kg		20,5kg		20,5kg	



Maximum mobility with MIG/MAG pulse welding



PHOENIX 330 PULS forceArc

PHOENIX 400, 500 PULS forceArc



MIG/MAG
pulse welding



EWM forceArc welding *



MIG/MAG
standard welding



MMA welding



TIG welding
Liftarc

HIGHLIGHTS

- Maximum efficiency thanks to low-spatter welding with all materials and applications
- Perfect ignition and welding properties with 100 % reproducible results and the highest quality thanks to the fully digital inverter machines
- Maximum mobility for assembly work: the portable PHOENIX 330 version
- Maximum flexibility thanks to the modular and future-oriented machine system: Upgrade to fit the need – no additional tools or specialist staff required
- EWM-*forceArc** – the high-pressure arc – up to 30% faster welding with thick panels
- Optimised control interfaces for every application: PROGRESS with simplest possible operation or EXPERT – the high-tech system for complex requirements
- Optimum preset welding tasks (JOBS) and synergic operation – so that you can concentrate fully on your welding task

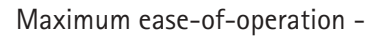
AREA OF APPLICATIONS

- Unalloyed, low-alloy and high-alloy steels, aluminium alloys, copper and its alloys, special alloys
- Solid and fluxed-core wire electrodes (0.8-2.4 mm), coated electrodes: Rutile, basic
- Production and repair work: Chemical and food industries, machine and plant construction, vehicle, automobile, railway vehicle and ship construction, container, closed container and equipment construction, steel and metal construction work, offshore, etc.



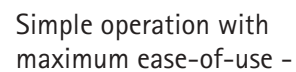
Welding machine

PROGRESS



- 256 optimum pre-programmed JOBs (welding tasks) – selection on the power source
- 16 welding programs
- All important welding parameters immediately accessible on the welding machine

EXPERT



- 256 optimum pre-programmed JOBs (welding tasks), including 128 for customised programming – selection on the power source
- 16 welding programs
- All important welding parameters immediately accessible on the welding machine

CE IP23 S IEC/EN 60974 EN 50199

* EXPERT Version only



EWM coldArc - the cold arc for thinnest sheet metals



PHOENIX 330 RC coldArc

PHOENIX 330 coldArc



MIG/MAG
coldArc welding



MIG/MAG
pulse welding



MIG/MAG
standard welding



MMA welding



TIG welding
Liftarc

HIGHLIGHTS

EWM-coldArc

- Low-heat joining of thinnest sheets from 0,3 mm
- Joins mixed joints of light metal with steel (St-Al, St-Mg)
- Heat-reduced brazing with low melting zinc-based filler (400° C)

Advantages of EWM-coldArc

- Marginal distortion by reduced heat input
- No damage of the zinc coating when brazing of zinc coated sheets
- Almost spatter-free process by means of digital controlled nearly powerless material transfer
- Wear-free process cycle without mechanical assistance
- Application of commercial torch systems without complex wire feeding components

PHOENIX

- Perfect ignition and welding properties with
- 100 % reproducible results with maximum quality thanks to the digital bus system

- Maximum efficiency thanks to low-spatter welding with all materials and applications
- Maximum flexibility thanks to the modular and future-oriented machine system: Plug & weld, service- and maintenance-friendly as well as upgrades to fit the need – no additional tools or specialist staff required.
- Extended duty cycle for continuous use in multi-shift operation

PHOENIX RC

- Extensive integration options thanks to various digital interfaces for program and control voltage operation, industrial bus systems (Profibus, Interbus, CAN-BUS, Devicenet) and connection of WF units (cold wire, flat wire etc.)
- RC1 control panel: Efficient solution – operating panel required for programming, not for operation, easy-to-operate interface for displaying all process-related parameters and system status conditions and simple handling thanks to the compact and lightweight plastic casing.

AREA OF APPLICATION

- Joining of thinnest sheets from 0,3 mm thickness
- Brazing and welding of zinc coated sheets
- Heat-reduced brazing on basis of novel zinc wires as an alternative to Cu based alloys, such as CuSi3
- Joining of mixed joints, such as steel-aluminium, steel-magnesium (St-Al, St-Mg)
- Welding of magnesium alloys

SELF-EXPLANATORY, INTUITIVE OPERATING CONCEPTS FOR EVERY USER

Welding machine



Wire feed unit



System

EXPERT

Simple operation with maximum ease-of-use -

- 256 optimum pre-programmed welding tasks (JOBS), of which 128 can be custom programmed
- 16 welding programs
- All important welding parameters immediately accessible on the wire feed

Control panel RC1



PHOENIX RC1 coldArc

- 256 welding tasks (JOBS): 128 optimum pre-defined and 128 can be custom programmed
- 16 welding programs and all welding parameters included in direct access
- Easy to set and change parameters using the rotary dial with large control button
- Fast and simple programming thanks to LED user support

TECHNICAL DATA

Welding machine, water cooled *

NEW

PHOENIX 330 coldArc

NEW

PHOENIX 330 RC coldArc

Setting range	Welding current	5 A-330 A
Duty cycle (dc) at 40 °C ambient temperature		
25 % dc	330 A	
60 % dc	250 A	
100 % dc	210 A	
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)	
Mains frequency	50/60 Hz	
Mains fuse (safety fuse, slow-blow)	3 x 16 A	
Max. connected power	13,0 kVA	
Recommended generator rating	17,5 kVA	
Dimensions welding machine L x W x H [mm]	1050 x 500 x 1100 *	625 x 335 x 875 **
Dimensions wire feed unit L x W x H [mm]	690 x 300 x 410	-
Weight welding machine approx.	123,5 kg *	77,5 kg **
Weight wire feed unit approx.	20,5 kg	-
Dimensions RC1coldArc L x W x H [mm]	185 x 315 x 115	-
Weight RC1coldArc approx.	2,5 kg	-

* Welding machine, cooling module and transport vehicle

** Welding machine and cooling module



Ideal for automated MIG/MAG welding applications



PHOENIX RC



MIG/MAG
pulse welding



EWM forceArc welding



MIG/MAG
standard welding

HIGHLIGHTS

- Extensive integration options thanks to various digital interfaces for program and control voltage operation, industrial bus systems (Profibus, Interbus, CAN-BUS, Devicenet) and connection of WF units (cold wire, flat wire etc.)
- RC1 control panel: Efficient solution – operating panel required for programming, not for operation, easy-to-operate interface for displaying all process-related parameters and system status conditions and simple handling thanks to the compact and lightweight plastic casing
- EWM-forceArc – the high-pressure arc – up to 30 % faster welding with thick panels
- Perfect ignition and welding properties with 100 % reproducible results and the highest quality thanks to the digital bus system
- Maximum efficiency thanks to low-spatter welding with all materials and applications
- Maximum flexibility thanks to the modular and future-oriented machine system: Plug & weld, service- and maintenance-friendly as well as upgrades to fit the need – no additional tools or specialist staff required
- Extended duty cycle for continuous use in multi-shift operation

AREA OF APPLICATIONS

- Unalloyed, low-alloy and high-alloy steels, aluminium alloys, copper and its alloys, special alloys
- Solid and flux-cored wire electrodes, 0.8 – 2.4 mm
- Chemical and food industry, machine and plant construction, vehicle, automobile, railway vehicle and ship construction, container, closed container and equipment construction, steel and metal construction work, offshore, etc.



OPTIMIZED OPERATION FOR AUTOMATED APPLICATIONS



PHOENIX RC1

- 256 JOBs (welding tasks): 128 optimum pre-defined and 128 can be custom programmed
- 16 welding programs and all welding parameters included in direct access
- Easy to set and change parameters using the rotary dial with large control button
- Fast and simple programming thanks to LED user support

PERFECT FOR ROBOT APPLICATIONS



- MIG/MAG robot wire feed unit
- Lightweight, compact unit for simply assembly onto the robot
- High level of process security thanks to the control, regulation and monitoring of all process data via a central, digital, bus system
- Reproducible wire feed speed thanks to the fully digital control of the wire drive unit and 4 roller drive
- 4-roller drive unit with large rollers (37 mm), roller changes without tools
- Separate button on the front for wire return, blow-out, gas test and wire inching

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, gas-/ water cooled	PHOENIX 400 RC PULS <i>forceArc</i>	PHOENIX 500 RC PULS <i>forceArc</i>
Setting range Welding current	5 A-400 A	5 A-500 A
Duty cycle (dc) at 40 °C ambient temperature		
25 % dc	-	-
40 % dc	400 A	500 A
60 % dc	360 A	450 A
100 % dc	300 A	340 A
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)
	-	3 x 460 V (-25 % - +10 %)
Mains frequency	50/60 Hz	50/60 Hz
Mains fuse (safety fuse, slow-blow)	3 x 35 A	3 x 35 A
Max. connected power	21,5 kVA	29,0 kVA
Recommended generator power	29,0 kVA	39,2 kVA
Dimensions welding machine L x W x H [mm]	625 x 335 x 870 *	625 x 335 x 870 *
Weight welding machine approx.	77,5 kg *	80,5 kg *
Dimensions RC1 L x W x H [mm]	185 x 315 x 115	
Weight RC1 approx.	2,5 kg	

* Welding machine and cooling module



Optimum welding and brazing – in vehicle bodywork repair



PHOENIX 301 CAR EXPERT PULS



MIG/MAG
pulse arc welding



MIG brazing



MIG/MAG-
standard welding

HIGHLIGHTS

Simply error-free welding with the shortest possible repair times

- Extremely easy to operate
 - Welding process/material type
 - Wire electrode diameter, - Panel thickness
 - Select weld type/program and start welding straight away
- Pre-defined, programmed welding parameters for specific manufacturers, make time-consuming searches in tables and setting work a thing of the past, can be retrieved directly at the place of work on the torch
- Operation ideally matched to the demands of vehicle bodywork repair

AREA OF APPLICATION

- MAG welding
 - for all steel panels on a vehicle, panels of 0.8 to 5.0 mm
- MIG brazing
 - for coated and uncoated steel panels of 0.8 to 3.0 mm
- MIG welding
 - on aluminium of 1.0 to 5.0 mm
- Welding and brazing from classic car restoration to vehicle construction right through to accident repairs on cars and HGVs

All the welding processes you need in one machine

- MAG welding, MIG brazing and MIG welding
- MIG brazing can replace most MAG welding tasks and offers the following advantages:
 - high resistance to corrosion, - low distortion
 - high joint strength, - reduced finishing work

Future-proofed

- Software update option for new characteristics from specific manufacturers, for example, and programs for
 - new welding tasks, - new materials
 - new vehicle types
- Quality assurance with EWM Q-DOC 9000 software



SIMPLE SET-UP FOR THE WELDING TASK



Simplest set-up -

- Direct selection of vehicle-specific parameters for bodywork repairs - using the terminology of vehicle bodywork engineers
- Universal thanks to customised, simple-to-use options for saving manufacturer-specific characteristics and programs

MIG welding torch CAR CONTROL

- Welding torch with integrated remote control and display
- Weld types/programs can be selected directly at the work place

ACCESSORIES



Compact welding machine
PHOENIX 301 CAR EXPERT PULS



MIG welding torch
CAR CONTROL



Dent removal set
EWM-QuickFix

Dent removal fixture, large

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, gas cooled

Setting range Welding current

Duty cycle (dc) at 40° C ambient temperature

60 % dc

100 % dc

Mains Voltage (tolerances)

Mains Frequency

Mains fuse (safety fuse, slow-blow)

Max. connected power

Recommended generator rating

Dimensions welding machine L x W x H [mm]

Weight welding machine approx.

NEW

PHOENIX 300 CAR EXPERT PULS

5 A-300 A

300 A

250 A

3 x 400 V (-25 % - +20 %)

50/60 Hz

3 x 16 A

13,0 kVA

17,5 kVA

930 x 455 x 730

85 kg



MEETING THE HIGHEST DEMANDS...

...in welding technology for delicate components



inverter Microplasma 50



PLASMA welding
PLASMA brazing

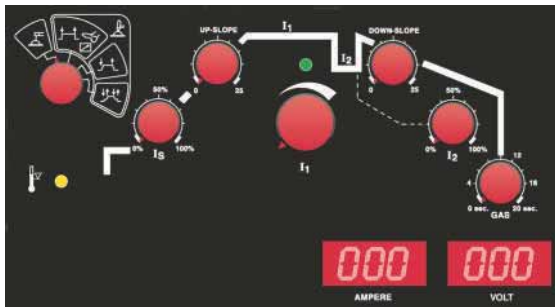
HIGHLIGHTS

- Innovative microplasma welding machines for maximum weld seam quality and efficient results of the highest quality
- Excellent welding properties thanks to the highly stable plasma arc from as low as 0.1A
- Precise plasma arc for targeted and concentrated heat feeding, high welding speeds, narrow heat affected zones, low material distortion and deeper fusion penetration
- Powerful machines – ideal for multi-shift usage in production – thanks to the long duty cycle of the inverter power pack
- Consistent results thanks to the separate inverter for the pilot arc current (internally adjustable 1-10A)
- Easy-to-use: Plasma and shielding gas setting on the machine with flow meters and button for currentless gas test
- Adjustable pilot arc current for optimum adjustment to the welding torch being used
- Optimum protection of the plasma welding torch from the integrated coolant flow monitor
- Standard interface for mechanised welding: Start/stop, "Current flow" signal, control voltage, etc.

AREA OF APPLICATIONS

- Microplasma DC welding on negative pole for build-up welding and joint welding of metal sheets, wires, foils, screens made from unalloyed, low-alloy and high-alloy steels, nickel, copper, gold, titanium, zircon and their alloys, coated metal sheets and plasma brazing of galvanised metal sheets.
- Electromechanical industry, aerospace and space industry, food and chemical industries, medical technology, machine and plant construction, automobile and mould construction, pipeline construction, dental industry and trade, etc.

PERFECT MICROPLASMA CONTROL



- Precise setting of the welding current using a 10-turn helical potentiometer.
- Welding data display for welding current and welding voltage (optional).
- Operating modes: Non-latched (with and without slope), latched.
- Ignition current, welding current and reduced welding current, up and down slopes, gas post-flows infinitely adjustable.

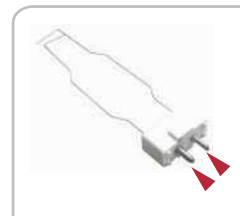
EXAMPLE APPLICATIONS



Edge-formed seam on membranes.



Longitudinal seam on protective grids for chemical ovens $s=0.15\text{mm}$.



Plug contacts in a light bulb for the electrical industry.



Burr-free, round fixing to the end of a catheter wire for endoscopies $\varnothing 0.2\text{mm}/\varnothing 0.4\text{mm}$.



Pipe/pipe connection for temperature sensors $\varnothing 3\text{mm}/\varnothing 2\text{mm}$.



Internal and external round seams on fittings for heating unit construction.

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, watercooled *	inverter Microplasma 20	inverter Microplasma 50	inverter Microplasma 120
Setting range			
Welding current	0,1 A - 20 A	0,1 A - 50 A	0,5 A - 120 A
Plasma current (Pilot)		1 A - 10 A	
Duty cycle (dc) at 40° C ambient temperatur			
35 % dc	-	-	120 A
100 % dc	20 A	50 A	70 A
Open circuit voltage		95 V	
Mains voltage (tolerances)	1 x 230 V (-40% - +15%) / 1 x 240 V (-25% - +15%)		
Mains frequency		50/60 Hz	
Mains fuse (safety fuse, slow-blow)		1 x 16 A	
Max. connected power	0,85 kVA	1,6 kVA	4,1 kVA
Dimensions L x W x H [mm]		500 x 450 x 450	
Weight approx.		50 kg	

* Optional cooling module necessarily



The PLASMA all-rounder for welding and brazing!



TETRIX PLASMA



PLASMA welding
PLASMA brazing



TIG welding



EWM activArc welding



MMA welding

HIGHLIGHTS

- Powerful plasma welding machines for maximum weld seam quality and efficient results of the highest quality.
- Precise, high stability plasma arc for targeted and concentrated heat feeding, high welding speeds, small heat affected zones, low material distortion and deeper fusion penetration.
- Maximum flexibility thanks to the modular and future-oriented machine system: Plug & weld, service- and maintenance-friendly as well as upgrades to fit the need – no additional tools or specialist staff required.
- TETRIX 350 AC/DC PLASMA – handles any task in the field of plasma welding and brazing, whether DC plus pole, DC minus pole or AC.
- Ideal for robot, industrial bus and mechanised applications and documentation via optional interfaces.
- Consistent results thanks to the separate inverter for the pilot arc current (internally adjustable 1-10A).
- Optimum protection of the plasma welding torch from the integrated coolant flow monitor.
- Wide range of accessories: re-cooling equipment, remote controls, manual and machine torches, gas dosage units.

AREA OF APPLICATIONS

- Plasma direct current welding on the minus pole: Unalloyed, low-alloy and high-alloy steels, nickel, copper, titanium, zircon and their alloys, special materials.
- Plasma direct current welding on the plus pole (350AC/DC): Aluminium and zinc alloys.
- Plasma alternating current welding (350AC/DC): Aluminium alloys.
- Repair and production work in the aerospace and space industries, cryogenics, food and chemical industries, machine and plant construction, vehicle, automobile, railway vehicle and ship construction, mould construction, container, tank, equipment and pipeline construction, etc.

OPTIMISED OPERATING PANELS FOR EVERY USER



COMFORT – Tried and tested comfort !

Direct access to all important welding parameters, 8 JOBs (welding tasks) programmable by the user for frequently used welding tasks



COMFORT – Tried and tested comfort !

Direct access to all important welding parameters, 8 JOBs (welding tasks) programmable by the user for frequently used welding tasks

TECHNICAL DATA







CE IP23 S IEC/EN 60974 EN 50199



Welding machine, water cooled *		TETRIX 400 PLASMA	TETRIX 350 AC/DC PLASMA
Setting range	Welding current	5 A - 400 A	5 A - 350 A
	Plasma current (Pilot)	5 A - 25 A	5 A - 25 A
Duty cycle (dc) at 40° C ambient temperature			
	40 % dc	400 A	350 A
	60 % dc	360 A	325 A
	100 % dc	300 A	260 A
Open circuit voltage		92 V	95 V
Mains voltage (tolerances)		3 x 400 V (-25% - +20%)	3 x 400 V (-25% - +20%)
		3 x 415 V (-25% - +15%)	3 x 415 V (-25% - +15%)
Mains frequency		50/60 Hz	50/60 Hz
Mains fuse (safety fuse, slow-blow)		3 x 25 A	3 x 25 A
Max. connected power		21,5 kVA	11,9 kVA
Recommend Generator rating		29 kVA	16 kVA
Dimensions L x W x H [mm]		980x 505 x 990 **	980x 505 x 990 **
Weight approx.		90 kg **	87 kg **

* Optional cooling module necessarily

** Welding machine and Transport vehicle



Description / Type	Diagram	Area of application			Functions			Welding parameters, infinitely adjustable				Accessories		Technical data			
Advantages: <ul style="list-style-type: none">- Robust metal casing- Operating elements in protected position- Mount- Holding magnet- 19-pole connection socket or connector plug		PICO 230, 300	TRITON, PICOTIG 180, 220	TETRIX, TETRIX PLASMA	TIG / MMA switching	Pulses / Spots	Welding current On/Off	Welding current / pulse current	Reduced welding / break current	Pulse, pause and spot time	Frequency / pulse ratio, spot time	AC Balance	AC Frequency	Extension cable 5 m, 10 m, 20 m	Extension cable 5 m, 10 m	Weight [kg]	Dimensions LxWxH [mm]
RT1 Manual remote control current		●	●	●				●						●		1,2	180 x 100 x 70
RTP1 Manual remote control Pulses, spots, current Adjustable pulse and pause times Frequency range 0.25–10 Hz			●	●	●	●		●	●	●				●		1,5	260 x 147 x 75
RTP2, RTP3 Manual remote control Pulses, spots, current Adjustable frequency and pulse ratio Frequency range 0.25 Hz-2.5 kHz RTP3 additional spotArc spots and spot time			●	●	●	●		●	●		●			●		1,5	260 x 147 x 75
RTAC1 Manual remote control AC (alternating current) Current, AC Frequency, AC Balance adjustable				●				●				●	●	●		1,5	260 x 147 x 75
RTF1 Foot-operated remote control current with 5 m connection cable		●	●	●			●	●							●	2,8	245 x 115 x 160
RT PWS 1 Manual remote control, current Pole reversing switch		●						●						●		1,2	180 x 100 x 70

Description / Type	Diagram	Area of application	Functions	Welding parameters, infinitely adjustable	Accessories	Technical data									
Advantages: <ul style="list-style-type: none">- Robust metal casing- Operating elements in protected position- Mount - Holding magnet- 7-pole connection socket		PHOENIX BASIC PHOENIX PROGRESS, EXPERT MIG standard / pulse switching 15 welding programs Superpulse function On/Off LED hold function Welding parameter display Wire speed (operating point) Arc length correction Dynamics / choke effect Start, main and end welding program Reduced main program Program, up and down slope times Connection cable 10 m, 20 m Connection cable 5 m, 10 m, 20 m Weight [kg] Dimensions LxWxH [mm]													
PHOENIX R10 Manual remote control Wire speed (Operating point), arc length correction 7-pole connection socket		●	●			●	●					●			1,2 180 x 100 x 70
PHOENIX R40 Manual remote control 15 programs; create store and retrieve Wire speed (Operating point), arc length correction 7-pole connection socket			●	●	●	●	●	●	●	●	●	●	●	●	1,4 260 x 147 x 75

Tablet PC for operating and programming the PHOENIX and TETRIX welding machines

NEW

RC 300



- Portable mobile tablet PC for operating and programming the PHOENIX and TETRIX welding machines
- Simple operation of the software via the Windows operating system and colour touchscreen
- Connection to the standard PC interface on the welding machine

Dimensions (WxHxD): 229 x 139 x 27mm
Weight: 0,88 kg

COOL20 U20



Features

- Optimised cooling output for machines up to 220 A

COOL25 U31



Features

- High cooling output for machines up to 220 A

COOL35 U31



Features

- Optimised cooling output for machines up to 300 A

COOL71 U42



Features

- High cooling output
- Exceptionally high flow rate, ideal for high feed heights with long tube packages

COOL71 U43



Features

- High cooling output, ideal for high continuous loads also with automated applications

ASSIGNMENT

Cooling unit	COOL20 U20	COOL25 U31	COOL35 U31	COOL71 U42	COOL71 U43
PICOTIG 220 DC*	●	●			
TRITON 220 DC	●	●			
TETRIX 300			●		
TETRIX 400, 500				●	●
TRITON 180 AC/DC, 220 AC/DC	●	●			
PICOTIG 180 AC/DC, 220 AC/DC*	●	●			
TETRIX 300 AC/DC			●		
TETRIX 350 AC/DC, 500 AC/DC				●	●
PHOENIX 330, 400, 500				●	●

TECHNICAL DATA

CE IP23 IEC/EN 60974 EN 50199

Cooling unit	COOL20 U20	COOL25 U31	COOL35 U31	COOL71 U42	COOL71 U43
Cooling capacity at 1 l/min	600 W (1l/min)	800 W (1l/min)	800 W (1l/min)	1500 W (2l/min)	1200 W (1l/min)
Max. flow rate	2 l/min	5 l/min	5 l/min	20 l/min	5 l/min
Max. output pressure	5 bar	3,5 bar	3,5 bar	4,5 bar	3,5 bar
Tank capacity	4,5 l	4,75 l	4,75 l	7 l	7 l
Dimensions LxWxH [mm]	560x220x240	570x190x350	650x270x225	685x370x255	685x370x255
Weight [kg]	8,5	17	15	25	25

* Optional connection option required!

TROLLY 35-2	TROLLY 70-1	TROLLY 75 B1	
			
TROLLY 70-2	TROLLY 70-2 DF	TROLLY 70-3	TROLLY 70-3 DF
			

ASSIGNMENT

Transport vehicle	TROLLY 35-2	TROLLY 70-1	TROLLY 75 B1	TROLLY 70-2	TROLLY 70-2 DF	TROLLY 70-3	TROLLY 70-3 DF
Power source	●	●	●	●	●	●	●
Module	1	1	1	1	1	2	2
Wire feed	-	●	-	●	●	●	●
Gas cylinder	1	1	1	1	2	1	2
Welding machines							
PICOTIG 180 AC/DC, 220 DC, 220 AC/DC	●						
TRITON 180 AC/DC, 220 DC, 220 AC/DC	●						
TETRIX 300	●		●				
TETRIX 400, 500			●	●	●	●	●
TETRIX 300 AC/DC	●		●				
TETRIX 350 AC/DC			●		●	●	●
PHOENIX 330 Series		●*	●	●*	●*	●*	●*
PHOENIX 400 Series, 500 Series				●	●	●	●

TECHNICAL DATA

CE IEC/EN 60974

Dimensions LxWxH [mm]	600x580x1200	1050x500x865	980x505x990	1050x500x1100	1050x500x1100	1050x500x1325	1050x500x1325
Weight [kg]	26,5	44	34	46	49	47	50

* Additional holding plate required



Optimum protection and simplest operating paired with the utmost comfort, excellent ergonomics and most modern design



Automatic Welding Protection Helmet
POWERSHIELD

HIGHLIGHTS

- Excellent protection by meeting the most stringent demands worldwide in the area of welding applications:
 - Automatic adaptation to the safety level (POWERSHIELD 9-13)
 - Several LCDs to avoid dazzle
 - Special filters and the permanent DIN4 safety level that protect continuously against UV and infra-red radiation
 - The robust front screen with an elastic seal that prevents the ingress of gas, smoke and particles
- Highest flexibility due to individually adjustable safety level:
 - POWERSHIELD 5-13; two-level 4/5-9 and 4/9-13
 - POWERSHIELD 9-13, one-level 4/9-13
- Secure power supply from long-life solar cells so that battery replacement is not required
- Comfortable due to continuous adjustment of the sensitivity, adaptability of the opening delay, sensor slider (POWERSHIELD 5-13) for increasing the acceptance angle of the sensors – important in overhead welding
- Highest degree of wear comfort and optimum adaptability due to the comfortable headband
- Mature operating concept for the simplest possible handling – all adjustments of the dazzle protection cassette can be set from the external satellites, depending on the welding process and personal preference – without having to take off the helmet

AREA OF APPLICATION

	POWERSHIELD 5-13	POWERSHIELD 9-13
MMA welding	•	•
TIG welding	•	•
MIG/MAG welding	•	•
PLASMA welding	•	•
MICROPLASMA welding	•	-
PLASMA cutting	•	-
Grinding	•	-

COMFORTABLE ADJUSTMENT OF ALL SETTINGS FROM OUTSIDE – WITHOUT REMOVING THE HELMET



POWERSHIELD 5-13

- 2 safety-level ranges: 5-9 and 9-13
- Continuous adjustment of the safety level
- Grinding pushbutton
- Two-stage opening delay
- Continuous adjustment of the response sensitivity



POWERSHIELD 9-13

- Manual and automatic operating modes
- Function of the safety level controller:
 - Manual: continuous setting of the desired safety level 9-13
 - Automatic: correction +/-1 of the automatically preset safety level corresponding to the intensity of the arc
- Two-stage opening delay
- Continuous adjustment of the response sensitivity

TECHNICAL DATA

	NEW POWERSHIELD 5-13	NEW POWERSHIELD 9-13
Cassette type	2 safety level ranges from DIN 4/5 – 9 and DIN 4/9-13 manual continuously adjustable in the ranges DIN 5-9 and 9-13	safety level DIN 4/9-13 manual continuously adjustable or fully automatic
Transparency	not activated: safety level DIN 4 activated: safety level DIN 5-9 and 9-13	not activated: safety level DIN 4 activated: safety level DIN 9-13
Switching time light/dark	0.2 ms at room temperature	0.2 ms at room temperature
Opening delay light/dark	Position "slow" 0.30-0.60 s Position "fast" 0.10-0.35 s	Position "slow" 0,30 – 0,60s Position "fast" 0,10 – 0,35s
UV/IR protection	max. UV/IR protection in every state of the cassette	max. UV/IR protection in every state of the cassette
Power supply	solar cells, no battery replacement	solar cells, no battery replacement
Cassette size	90 x 110 x 7 mm	90 x 110 x 7 mm
Viewing field	98 x 38 mm	98 x 38 mm
Operating temperature	-10° C to +70°C	-10°C to +70°C
Weight, complete	570 g	570 g
Standards		

Not suitable for laser welding





SYSTEM OVERVIEW OF TIG/PLASMA AUTOMATION



TIG/PLASMA welding power sources

TETRIX 400, 500 activArc
TETRIX 350 AC/DC activArc
TETRIX 500 AC/DC activArc
TETRIX 400 DC PLASMA
TETRIX 350 AC/DC PLASMA

TIG connection unit

TETRIX TIG MODUL 70

PLASMA connection unit with Hilibo

TETRIX PLASMA MODUL 70

Cooling unit

COOL 71 U42
COOL 71 U43

Reverse cooling unit

RK 1
RK 2
RK 3

Pre-selection transformer

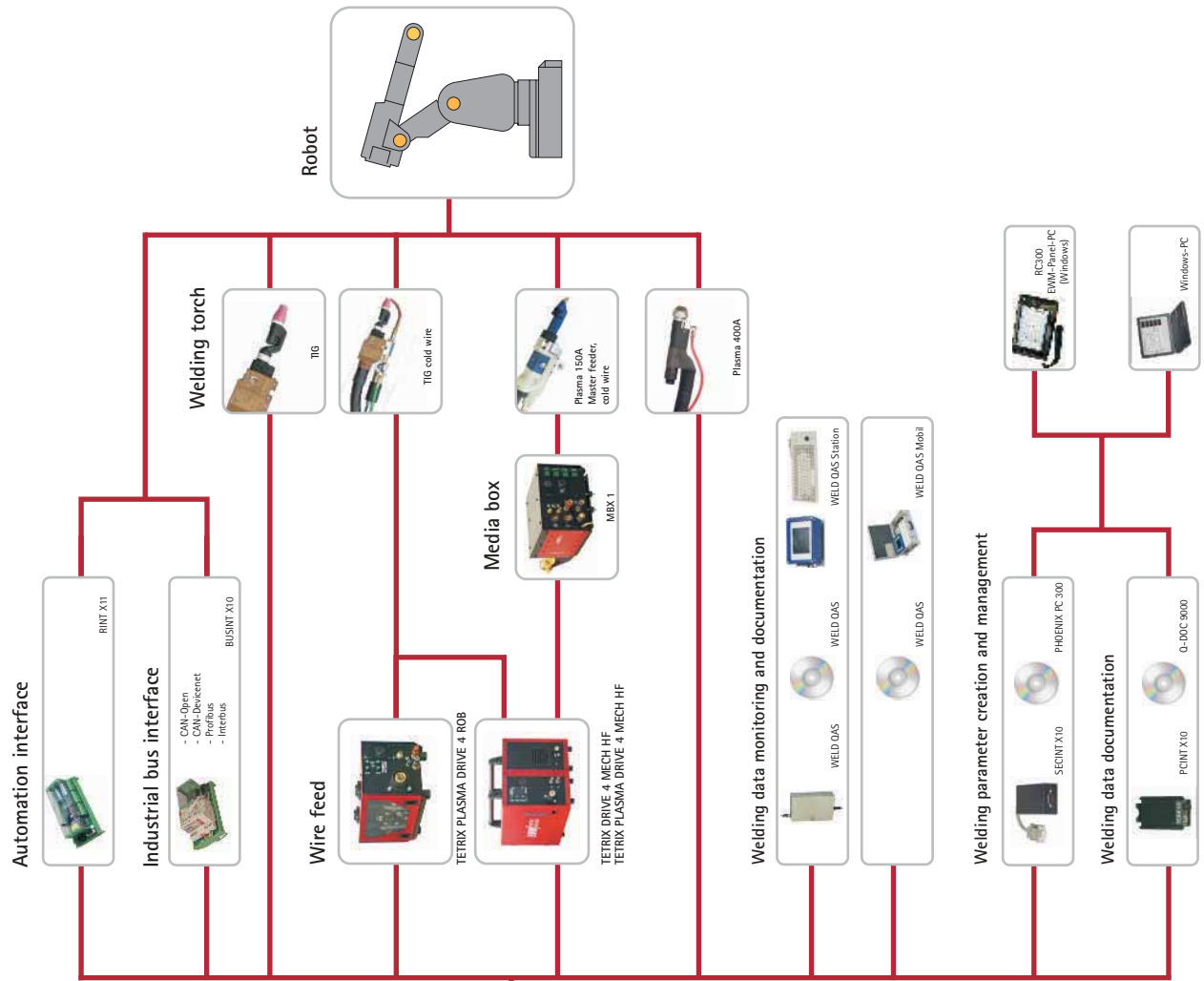
MULTIVOLT 70-500

Transport vehicle

TROLLY 70-2 ROB

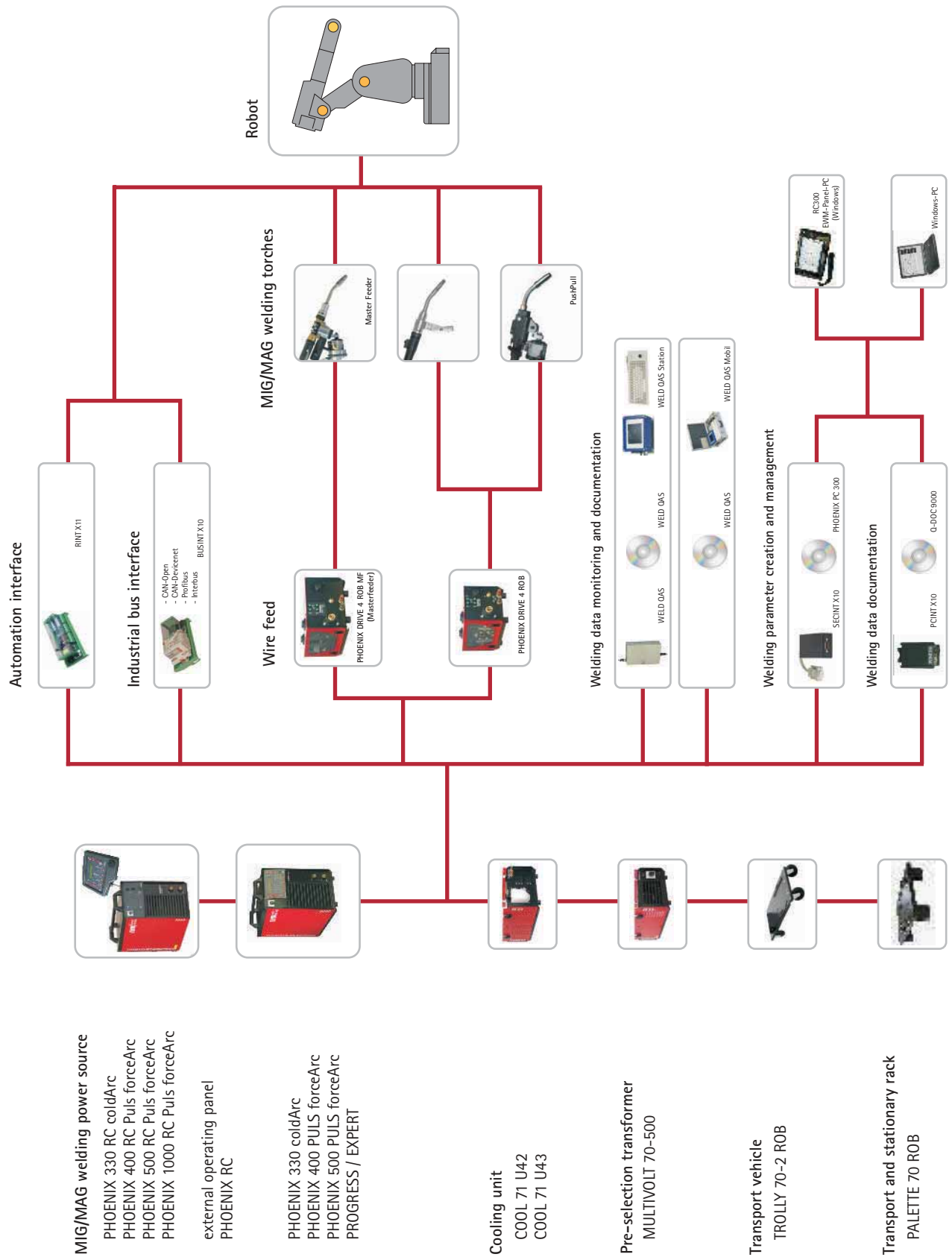
Transport and stationary rack

PALETTE 70 ROB





SYSTEM OVERVIEW OF MIG/MAG AUTOMATION



ARE YOU INTERESTED IN OTHER WELDING TECHNOLOGY TOPICS? WE OFFER YOU THE FOLLOWING INFORMATION:

The documentation series "Knowledge-all about welding" includes primers for the MMA, TIG, PLASMA and MIG/MAG welding processes.



Poster (DINA1)
"Process of arc welding technology"



Image-, topic- and product-brochures



Specialist articles on the topics of high performance
MAG welding, plasma aluminium and TIG pulse welding.



All the relevant information can be found
in the Internet under

www.ewm.de



As for: 01.10.2006

Sales, Consulting, Service

EWM / **HIGHTEC[®]**
WELDING

SIMPLY MORE

EWM HIGHTEC WELDING GmbH

Dr.-Günter-Henle-Strasse 8 · D-56271 Mündersbach

Phone +49(0)2680-18 10 · Fax +49(0)2680-181244

www.ewm.de · info@ewm.de

SIMPLY MORE

INNOVATION

TECHNOLOGY

SOLUTIONS



PRODUCT CATALOGUE 2006/2007

Table of Contents



TIG DC welding machines

TETRIX 400, 400 CEL PWS, 500 *activArc* . . . 2



TIG AC/DC welding machines

TETRIX 350 AC/DC, 500 AC/DC *activArc*, . . . 4



MIG/MAG pulse welding machines

PHOENIX 400, 500 PULS *forceArc* 6



MIG/MAG standard welding machines

WEGA 500, 600 8

Addition!



Perfect TIG welding anywhere

- excellent welding with maximum flexibility



TETRIX 400 activArc



TIG welding



EWM activArc welding



MMA welding

HIGHLIGHTS

- Maximum flexibility thanks to the modular and future-oriented machine system: Upgrade to fit the need - no additional tools or specialist staff required
- Maximum efficiency for all requirements with reproducible welding results and excellent quality thanks to the fully digital inverter welding technology
- Self-explanatory, intuitive operating concepts for everyone - either the standard setting, job mode or synergic one-dial operation so that you can concentrate fully on your welding task!
- EWM *activeArc* - the powerful TIG arc - faster, better and simpler welding across the entire power range
- Maximum mobility: Easily movable thanks to large wheels, fits through standard doors, easy loading and unloading thanks to the even wheel gauge, can be lifted by crane
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particles
- COMFORT, SYNERGIC: Ideal for robot, industrial bus and mechanised applications and documentation via optional interfaces
- TETRIX 400 CEL PWS: optimised for pipe construction - 100 % safe for vertical-down welding when using cellulose electrodes and professional TIG welding

AREA OF APPLICATION

- TIG welding: Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special materials, repair welding on cast aluminium components
- MMA welding with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production work, metal construction, food and chemicals industries, pipeline, closed container and plant construction, vehicle, machine, plant and tool construction, and more



OPTIMISED OPERATING PANELS FOR EVERY USER



CLASSIC - Standard setting!

Direct access to all welding parameters at a glance



COMFORT – Tried and tested comfort !

Direct access to all important welding parameters, 8 JOBs (welding tasks) programmable by the user for frequently used welding tasks



SYNERGIC – Maximum ease-of-use!

One-dial operation with up to 256 pre-programmed JOBs (welding tasks) and access to all important welding parameters

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, water-cooled	TETRIX 400 <i>activArc</i>		TETRIX 400 CEL PWS <i>activArc</i>		TETRIX 500 <i>activArc</i>	
Setting range Welding current	5 A-400 A		5 A-400 A		5 A-500 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C	20 °C	40 °C
40 % dc	-	400 A	-	-	-	500 A
45 % dc	400 A	-	-	-	500 A	-
60 % dc	-	380 A	-	-	-	475 A
65 % dc	380 A	-	-	-	475 A	-
100 % dc	330 A	320 A	400 A	400 A	390 A	380 A
Open circuit voltage	92 V		106 V (400 V)		79 V (400 V) / 91 V (460 V)	
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
					3 x 460 V (-25 % - +10 %)	
Mains frequency	50/60 Hz		50/60 Hz		50/60 Hz	
Mains fuse (slow-blow safety fuse)	3 x 35 A		3 x 35 A		3 x 35 A	
Max. connected load	17,2 kVA		22,0 kVA		29,0 kVA	
Recommended generator rating	23,2 kVA		30,0 kVA		39,2 kVA	
Max. flow rate	COOL71U42 / COOL71U43		20 l/min / 5 l/min			
Max. output pressure	COOL71U42 / COOL71U43		4,5 bar / 3,5 bar			
Dimensions L x W x H [mm]*	980 x 505 x 997		980 x 505 x 997		980 x 505 x 997	
Weight approx.*	115 kg		118 kg		118 kg	

* Welding machine, cooling module and transport vehicle

The TIG AC/DC specialists

– ideal for use in production



TETRIX 350 AC/DC activArc

TETRIX 500 AC/DC activArc



TIG direct and
alternating current welding
HF ignition and liftarc



EWM activArc welding



MMA direct and
alternating current welding

HIGHLIGHTS

- Maximum efficiency for all requirements with reproducible welding results and excellent quality thanks to the fully digital inverter welding technology
- Unique AC functionality: Synchronous operation of 2 machines for two-sided, simultaneous welding, AC special for the easy joining of very different thickness aluminium panels, e.g. 1 mm to 10 mm
- Maximum flexibility thanks to the modular and future-oriented machine system: Upgrade to fit the need – no additional tools or specialist staff required.
- EWM *activ* – the powerful TIG arc – faster, better and simpler welding across the entire power range
- Self-explanatory, intuitive operating concepts for everyone – either the standard setting, job mode or synergic one-dial operation so that you can concentrate fully on your welding task!
- Maximum mobility: Easily movable thanks to large wheels, fits through standard doors, easy loading and unloading thanks to the even wheel gauge
- Intelligent casing design with optimised air cooling for greater cooling output and maximum protection from dust and small particles
- COMFORT, SYNERGIC:
Ideal for robot, industrial bus and mechanised applications and documentation via optional interfaces

AREA OF APPLICATION

- TIG AC welding: Aluminium and aluminium alloys
- TIG DC welding (minus pole): Unalloyed, low-alloy and high-alloy steels, nickel-based alloys, copper and special metals
- MMA welding (direct current) with rutile and basic coated electrodes: Unalloyed and low- and high-alloy steels, nickel-based and copper alloys
- Production and repair work, metal construction, food and chemicals industries, pipeline, closed container and equipment construction, vehicle, machine, plant and tool construction, and more

OPTIMISED OPERATING PANELS FOR EVERY USER



CLASSIC - Standard setting!

Direct access to all welding parameters at a glance



COMFORT – Tried and tested comfort !

Direct access to all important welding parameters, 8 JOBs (welding tasks) programmable by the user for frequently used welding tasks



SYNERGIC – Maximum ease-of-use!

One-dial operation with up to 256 pre-programmed JOBs (welding tasks) and access to all important welding parameters

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, water-cooled	TETRIX 350 AC/DC <i>activArc</i>		TETRIX 500 AC/DC <i>activArc</i>	
Setting range Welding current	5 A-350 A		5 A-500 A	
Duty cycle (dc) at ambient temperature	20 °C	40 °C	20 °C	40 °C
40 % dc	-	350 A	-	500 A
45 % dc	-	-	500 A	-
60 % dc	350 A	325 A	475 A	475 A
65 % dc	-	-	-	-
100 % dc	260 A	260 A	390 A	390 A
Open circuit voltage	95 V		79 V (400 V) / 91 V (460 V)	
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
			3 x 460 V (-25 % - +10 %)	
Mains frequency	50/60 Hz		50/60 Hz	
Mains fuse (slow-blow safety fuse)	3 x 25 A		3 x 35 A	
Max. connected load	17,7 kVA		29,0 kVA	
Recommended generator rating	23,9 kVA		39,2 kVA	
Max. flow rate	COOL71U42 / COOL71U43		20 l/min / 5 l/min	
Max. output pressure	COOL71U42 / COOL71U43		4,5 bar / 3,5 bar	
Dimensions L x W x H [mm]*	980 x 505 x 990		1050 x 500 x 1325	
Weight approx.*	118 kg		160 kg	

* Welding machine, cooling module and transport vehicle



Whether manual or automated – always the right option for your application



PHOENIX 400, 500 PULS forceArc



MIG/MAG
pulse welding



EWM forceArc welding **



MIG/MAG
standard welding



MMA welding



TIG welding
Liftarc

HIGHLIGHTS

- Maximum efficiency thanks to low-spatter welding with all materials and applications
- Perfect ignition and welding properties with 100 % reproducible results and the highest quality thanks to the fully digital inverter machines
- Maximum flexibility thanks to the modular and future-oriented machine system: Upgrade to fit the need – no additional tools or specialist staff required
- EWM-forceArc** – the high-pressure arc – up to 30% faster welding with thick panels
- Optimised control interfaces for every application: PROGRESS with simplest possible operation or EXPERT – the high-tech system for complex requirements
- Optimum preset welding tasks (JOBS) and synergic operation – so that you can concentrate fully on your welding task
- Ideal for robot, industrial bus and mechanised applications and documentation via optional interfaces

AREA OF APPLICATIONS

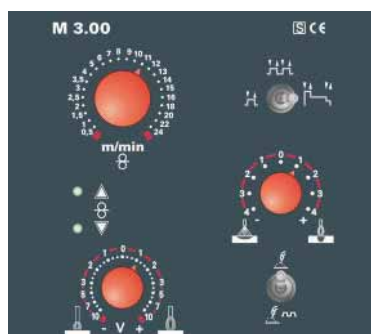
- Unalloyed, low-alloy and high-alloy steels, aluminium alloys, copper and its alloys, special alloys
- Solid and fluxed-core wire electrodes (0.8-2.4 mm), coated electrodes: Rutile, basic, PHOENIX 500 also suitable for cellulose
- Production and repair work: Chemical and food industries, machine and plant construction, vehicle, automobile, railway vehicle and ship construction, container, closed container and equipment construction, steel and metal construction work, offshore, etc.

SELF-EXPLANATORY, INTUITIV OPERATING CONCEPTS FOR EVERY USER

Welding machine

Wire feed unit

PROGRESS



Maximum ease-of-operation -

- 256 optimum pre-programmed JOBs (welding tasks) – selection on the power source
- 16 welding programs
- All important welding parameters immediately accessible on the wire feed

ALTERNATIVELY

EXPERT



Simple operation with maximum ease-of-use -

- 256 optimum pre-programmed JOBs (welding tasks), including 128 for customised programming – selection on the power source
- 16 welding programs
- All important welding parameters immediately accessible on the wire feed

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, gas / watercooled	PHOENIX 400 PULS <i>forceArc</i>	PHOENIX 500 PULS <i>forceArc</i>
Setting range Welding current	5 A-400 A	5 A-500 A
Duty cycle (dc) at 40 °C ambient temperature		
40 % dc	400 A	500 A
60 % dc	360 A	450 A
100 % dc	300 A	340 A
Mains voltage (tolerances)*	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)
	-	3 x 460 V (-25 % - +10 %)
Mains frequency	50/60 Hz	50/60 Hz
Mains fuse (safety fuse, slow-blow)	3 x 35 A	3 x 35 A
Max. connected power	21,5 kVA	29,0 kVA
Recommended generator rating	29,0 kVA	39,2 kVA
Max. flow rate COOL71U42 / COOL71U43		20 l/min / 5 l/min
Max. output pressure COOL71U42 / COOL71U43		4,5 bar / 3,5 bar
Dimensions welding machine L x W x H [mm]	1050 x 500 x 1100 *	1050 x 500 x 1100 *
Weight welding machine approx.	123,5 kg *	126,5 kg *
Dimensions wire feed unit L x W x H [mm]	690 x 300 x 410	690 x 300 x 410
Weight wire feed unit approx.	20,5 kg	20,5 kg

* Welding machine, cooling module and transport vehicle

** EXPERT Version only



Maximum performance even in tough conditions

- our robust, step switch controlled MIG/MAG professionals



MIG/MAG
standard welding

AREA OF APPLICATIONS

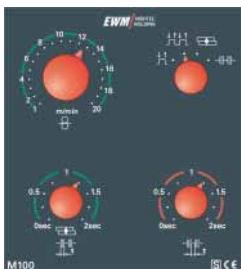
- MIG / MAG standard welding with short, compound or spray arc using argon, gas mixtures and CO₂ can be used
- Materials: Unalloyed, low-alloy and high-alloy steel, aluminium-based alloys.
- Solid and core wire electrodes
- Production and repair work in metalworking trade and industry, steel work and engineering, pipeline, closed containers and equipment construction, vehicle and shipbuilding, assembly work, etc.

HIGHLIGHTS

- Easy-to-use thanks to the ergonomic construction of the machines and the clearly laid out operating elements.
- Mobile thanks to large guide and fixed castors, 4 lifting lugs for unrestricted crane handling, protection classification IP23 for work in the open air, support for gas cylinders, e.g. 50 litres/200 bar and a low centre of gravity with high tilt resistance.
- Maximum efficiency with minimal finishing work thanks to low-spatter welding in the short arc and spray arc areas using argon, mixed gases and CO₂
- Thanks to different machine versions, delicately balanced performance and variety of options with the ideal equipment for every application: Compact or with separate wire feed, gas or water cooled, different wire feed units and control interfaces from classic operation through to preset one-dial operation
- Perfect ignition and welding: Welding choke with 3 taps for the various materials; fine-step voltage setting, 4-roller feed with large drive rollers for safe wire feeding

VARIOUS CONTROL VARIANTS WITH SELF-EXPLANATORY OPERATING INTERFACES

Welding machine / Wire feed unit



M100

- Traditional operating concept with all welding parameters immediately accessible
- Non-latched, latched, spot, interval



M200 PROGRAM

- 24 welding programs for different welding tasks
- One-dial operation for rapid location of the operating point
- Non-latched, latched, spots operating modes
- Infinite adjustment of wire feed correction or wire-feed speed
- Spot time, currentless wire inching (internal)

TECHNICAL DATA

CE IP23 S IEC/EN 60974 EN 50199

Welding machine, water cooled	WEGA 500 decompact	WEGA 600 decompact
Setting range Welding current	50 A-500 A	50 A-600 A
Switching steps	36	36
Wire feed speed	1-20 m/min	1-20 m/min
Duty cycle (dc) at 40°C ambient temperature		
45 % dc	500 A	600 A
60 % dc	435 A	520 A
100 % dc	335 A	400 A
Mains voltage (tolerances)	3 x 400 V / 415 V	3 x 400 V / 415 V
Mains frequency	50/60 Hz	50/60 Hz
Mains fuse (safety fuse, slow-blow)	3 x 35 A	3 x 35 A
Max. connected power	22,9 kVA	32,1 kVA
Max. flow rate	5 l/min	5 l/min
Max. output pressure	3,5 bar	3,5 bar
Dimensions welding machine L x B x H [mm]	960 x 560 x 1010	960 x 560 x 1010
Dimensions Wire feed unit L x B x H [mm]	680 x 460 x 265	680 x 460 x 265
Weight welding machine approx.	200 kg	228 kg
Weight Wire feed unit approx.	24 kg	24 kg

Sales, Advice, Service

EWM HIGHTEC WELDING GmbH

Dr.-Günter-Henle-Strasse 8 · D-56271 Mündersbach

Phone +49(0)2680.181-0 · Fax +49(0)2680.181-244

www.ewm.de · info@ewm.de

EWM HIGHTEC®
WELDING
SIMPLY MORE