









■ Welding machines and accessories

■ Symbols

	Gas cooled
	Water cooled
	Portable
	Mobile
	Compact
	Decompact

■ Abbreviations

2DV	Two wire feed units
2T	Double push-button
4R	4 rollers
5P	5-pole connection socket
8P	8-pole connection socket
ADAP	Adapter
ASM	Connection capability
AW	Connection capability filler wire
cel	Cellulose electrodes
CW	Cold wire
D	Double wire feed unit
DG	Decompact, gas cooled
DW	Decompact, water cooled
EZA	Euro torch connector
FDW	Mobile, decompact, water cooled
FWD	Mobile, water cooled, decentral
GD	Gas cooled, decentral
GD UD	Gas cooled, decentral, Up/Down
GDV	Rotary gas valve
HFL	Highly flexible hose package
KGE	Compact, gas cooled, euro torch connector
MV	Multivolt
pws	Pole reversing switch
TDG	Portable, decompact, gas cooled
TGD	Portable, gas cooled, decentral
TGE	Portable, gas cooled, euro torch connector
TKM	Portable, compact, modular
TMD	Portable, modular, decentral
WD	Water cooled, decentral
WD UD	Water cooled, decentral, Up/Down
WE	Water cooled, euro torch connector

■ **Internet**

www.ewm-group.com

■ **Email**

info@ewm-group.com

You can call us Monday to Friday
from 7.30 am to 5 pm at:

02680-181-0

Sales, service and training

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■ **Service**

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■ **Training**

training@ewm-group.com

Welding consultancy and product information

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■ **Marketing**

marketing@ewm-group.com

■ **Technical documentation**

documentation@ewm-group.com

■ **Quality management**

qm@ewm-group.com

■ **Automation**

automatisierung@ewm-group.com

In accordance with the following standards and directives



EMC Directive (2004/108/EC), Low Voltage Directive (2006/95/EC)



for increased protection (e.g. for open-air welding)



Welding in environments with increased electrical hazards (e.g. in boilers)



IEC 60974, EN 60974, EN 50199 for arc welding systems



ГОСТ 12.2.007.0-75, ГОСТ 12.2.007.8-75, Нормы 8-95
ГОСТ 18130-79, ГОСТ 13821-77, ГОСТ 12.2.007.0-75, ГОСТ 12.2.007.8-75, Нормы 8-95



ISO 9001:2008

The Reason Behind the “EWM Total System Concept”.

Compromising on the quality of welding equipment doesn't pay long-term. Many of our customers found this out for themselves before choosing to place their trust in EWM. Rectifying welding errors is costly. Outmoded processes may create extra work, while hidden quality defects lead to unhappy customers and regress claims. Downtime due to machine failure is also expensive.

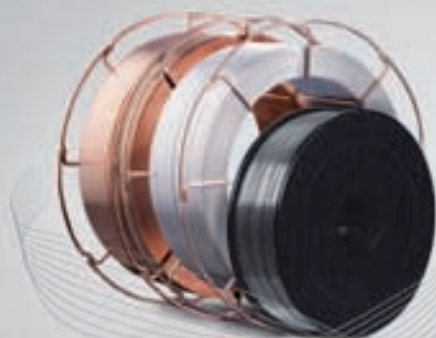
For this reason, we offer our customers a fully coordinated system where all components are systematically geared towards delivering consistently high welding quality, conserving resources and reducing the amount of work involved.

Points to consider when calculating the costs for the perfect weld bead.

EWM quality will save you money. You will benefit from extended service life, reduced down times, reduced process costs and a reduced consumption of gas and welding consumables.



Because Quality Saves You Money.



EWM develops and produces welding machines, wire feed units, torch systems and intermediate hose packages of the highest quality, offering you the maximum benefit when it comes to your welding tasks.

Welding processes designed and patented by EWM such as:

coldArc®
forceArc®
rootArc®
pipeSolution®
Highspeed®

in conjunction with pulse welding
for MIG/MAG applications

or

activArc®
spotArc®
forceTig®

in conjunction with cold/hot
wire for TIG applications

make it possible to handle welding tasks that were previously impossible.

Here highly dynamic voltage, current and wire values need to be transported to the welding arc without electrical loss or distortion, in some cases across large distances. It is easy to understand that only perfectly optimised transfer elements such as:

- Intermediate hose packages
- Wire feed systems
- Welding torch systems

can achieve the best possible results with regard to:

- Minimal spatter
- Gap bridging
- Reduction in lack of fusion
- Reduction in post weld work
- Reduced distortion of the welded material
- Reduced consumption of materials, gas and energy
- Reduced consumption of wearing parts/consumables

and therefore maximum cost savings.

We deliver progress: innovative welding processes from EWM.

AS A LEADER IN TECHNOLOGY, EWM HAS BEEN PERFORMING RESEARCH AND DEVELOPMENT FOR DECADES, MAKING WELDING EVEN EASIER, MORE COST-EFFECTIVE AND ABOVE ALL MORE RELIABLE. AT THE SAME TIME, WE HAVE BEEN EXAMINING AND ANALYSING THE COMPLEX INTERPLAY OF THE INDIVIDUAL COMPONENTS AND PARAMETERS, THUS OPTIMISING THE ENTIRE WELDING PROCESS.

We strive to not only define characteristics and configurations, but to develop totally new and innovative welding processes. We use our core electrical engineering know-how to come up with the latest inverter and microprocessor technology.



EWM harmonises ecology and efficiency. The consistent use of progressive inverter technologies saves on raw materials like copper, aluminium and steel. In conjunction with power-saving joining processes like coldArc® and forceArc®, the considerable efficiency of inverter technology conserves primary energy, thus lowering electricity costs.

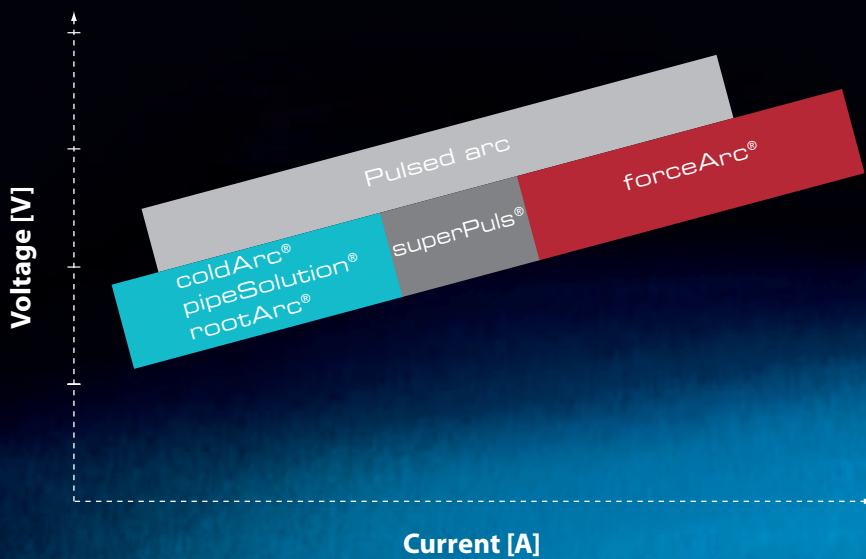
forceArc® lets you achieve new weld seam geometries for optimised pass build-ups. As a result, you need to weld fewer passes. This shortens the welding time and reduces the use of wire and gas, therefore saving a significant amount of money and energy.

In addition, heat-reducing processes like coldArc® and forceArc® minimise spatter, thus cutting down on the amount of finishing work, and reduce the emissions of harmful welding fume particles for better working conditions.



MIG/MAG welding with the innovative and patented EWM welding processes with no additional welding process qualification!

With our welding systems, we provide customers with the tools they need to carry out their individual welding tasks more rapidly, more cost-effectively and with top quality results.



coldArc®

Heat-reduced, low-spatter short arc for low-distortion welding and brazing of thin metal sheets as well as root welding with excellent gap bridging.



pipeSolution®

Powerful short arc for rapid, safe welding, with and without gaps, in all positions.




rootArc®

Short arc with easy weld modelling capabilities for easy gap bridging and positional welding.



forceArc®

Heat-reduced, directionally stable and powerful arc with deep penetration for the upper power range.



Pulse

Controlled, short circuit proof pulsed arc for all positions, especially in the transitional arc area.



superPuls®
Process switching

The combination of EWM welding processes offers a multitude of possibilities.



coldArc®

PATENTED

Perfect welding and brazing.

Heat-reduced, low-spatter short arc for low-distortion welding and brazing of thin metal sheets and root welding with excellent gap-bridging capabilities.



alpha



- Less distortion and reduced discolouration due to minimised heat input
- Spatter considerably reduced due to material transfer with virtually no power
- Impressive process stability even with long hose packages without additional sensor leads
- Commercial torch systems, as the material is transferred without drive in the torch causing no wear and tear
- Easy welding of the root passes in all panel thicknesses and in all positions
- Perfect gap bridging even with inconsistent gap widths
- Excellent wetting of surfaces when brazing thin metal sheets
- Minimal finishing work, also perfect for visible seams thanks to low-spatter process
- Non-alloy, low-alloy and high-alloy steels and also dissimilar joints of even the thinnest metal sheets
- Brazing of CrNi sheets with CuAl8/AlBz8
- Brazing and welding of primed metal sheets, e.g. with CuSi, AlSi and Zn
- Root welding of non-alloyed and low-alloy steels and high-tensile fine-grained steels
- Visible CrNi seams within the thin metal sheet range
- Manual and automated applications



pipeSolution®

PATENTED

Welding at MAG speed with TIG reliability.

Powerful arc for rapid, secure welding, with and without gaps, in all positions.



pipeSolution



- Root welding for metal sheets and pipes in all positions
- Hot pass/intermediate pass with pulsed arc
- Intermediate/final pass with flux cored wire
- Safe overhead welding thanks to optimum viscosity of the weld pool
- Considerably faster than comparable MAG processes
- Preparation work, e.g. weld pool backing, reduced/eliminated
- A more cost-effective alternative to TIG welding
- Virtually power-free material transfer
- Impressive process stability even with long hose packages with no additional sensor leads
- Commercial torch systems, as the material is transferred without drive in the torch causing no wear and tear
- Non-alloyed and low-alloy steels as well as high-tensile fine-grained steels
- Manual and automated applications



rootArc®

The new short arc.

Short arc with easy weld modelling capabilities for effortless gap bridging and positional welding.



Phoenix Taurus Synergic



- Reduced spatter compared to standard short arc
- Excellent root formation and secure sidewall fusion
- Excellent heat-reduced welding in the vertical-up position thanks to superPuls process switching
- Vertical-up welds without weaving
- Non-alloyed and low-alloy steels
- Manual and automated applications



forceArc®

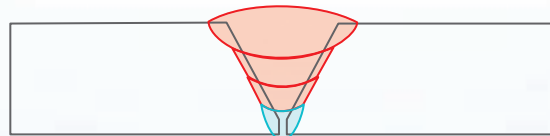
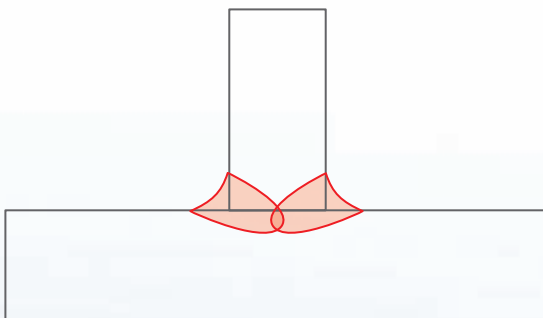
PATENTED

Efficient and cost-effective welding.

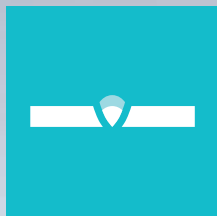
Heat-reduced, directionally-stable and powerful arc with deep fusion penetration for the upper power range.



alpha  Phoenix Taurus Synergic



- Smaller included angle due to deep fusion penetration and directionally stable arc
- Fewer passes
- Less distortion thanks to heat-reduced, concentrated arc
- Excellent root formation and sidewall fusion
- Perfect welding even with very long stick-outs
- Reduced undercuts
- Virtually spatter-free
- Particularly beneficial e.g. for fillet welds, dynamically-loaded components such as load-bearing parts for bridges, and wagon and steel constructions
- Non-alloyed, low-alloy and high-alloy steels and high-tensile fine-grained steels
- Manual and automated applications




PATENTED

coldArc®

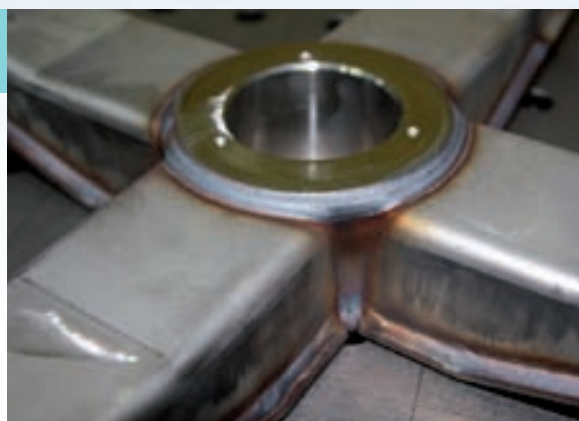
Heat-reduced, low-spatter short arc for low-distortion welding and brazing of thin metal sheets and root welding with excellent gap-bridging capabilities.



alpha 

MINIMISED HEAT INPUT

- Fewer changes in structure
- Less distortion
- Reduced heat-affected zone
- Less discolouration and scaling
- Optimum for high-alloy steels and primed metal sheets



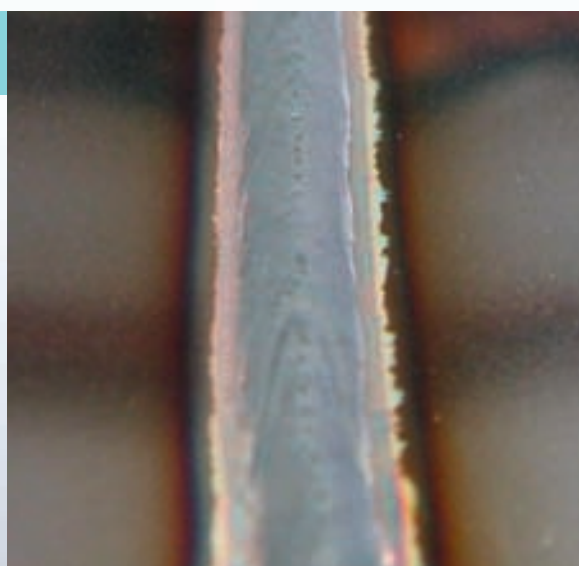
CAN BE USED IN ANY POSITION

- Excellent control for positional welding
- Excellent gap-bridging capabilities allow greater air gap tolerances
- Secure welding even with an uneven air gap
- Safe overhead welding thanks to optimum viscosity of the molten pool



VIRTUALLY SPATTER-FREE PROCESS

- Digitally-controlled, virtually power-free material transfer
- Less additional and finishing work
- Optimum for visible seams – no finishing work necessary



Perfect welding and brazing.

UNRIVALLED GAP BRIDGING WHEN WELDING ROOT PASSES

- No sagging of the molten metal
- Secure sidewall fusion even with misaligned edges
- Total elimination of "wire stab"
- Root passes for all panel thicknesses in all positions



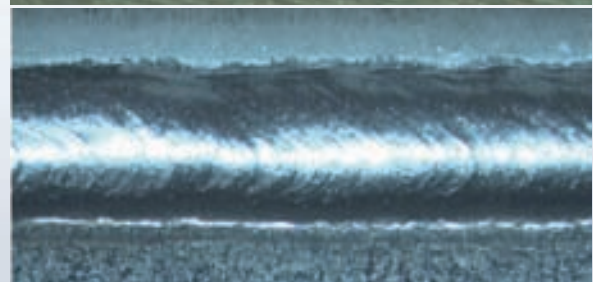
coldArc® + impuls + forceArc®

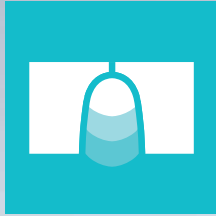
- Root welding with coldArc: full control of the globular transfer, minimised risk of lack of fusion and low-spatter welding
- Pass build-up with pulse, followed by final pass with forceArc
- Cost-effective and secure weld seam



HEAT-REDUCED BRAZING WITH INNOVATIVE, ZINC-BASED SOLDERS WITH LOW MELTING POINT

- No damage to zinc coating whatsoever
- Minimal distortion
- Alternative to Cu-based alloys, with comparable strengths
- Outstanding resistance to corrosion






PATENTED

pipeSolution®

Powerful arc for rapid, secure welding, with and without gaps in all positions.



alpha 

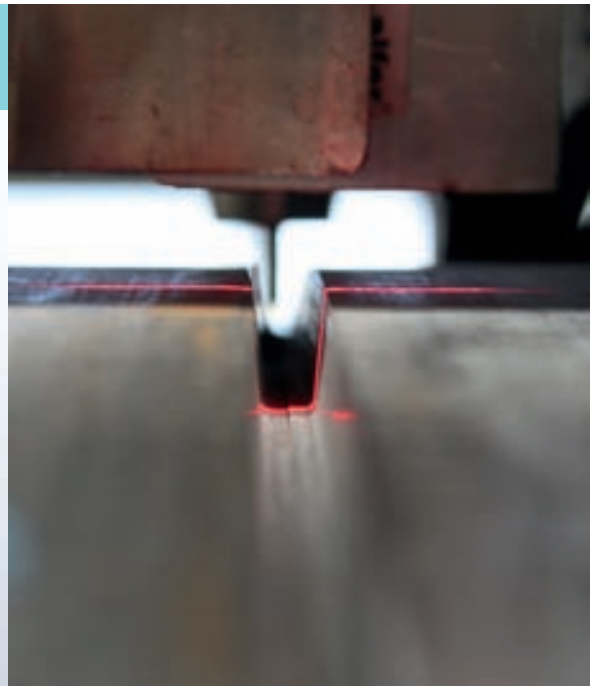
ABSOLUTELY RELIABLE ROOT WELDING

- For any panel thickness
- Suitable for sheet metals and pipes in all positions
- No sagging or fall-back of the molten metal
- Excellent root formation
- Extremely reliable sidewall fusion
- Easy to use for positional welding
- Reliable root passes even without air gap



pipeSolution® + impuls COMBINED IN A SINGLE MACHINE

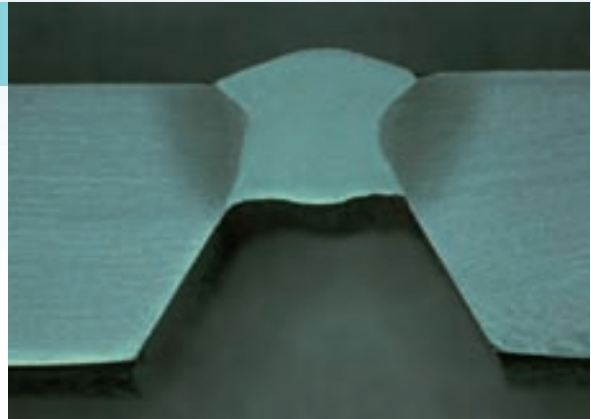
- Root welding with pipeSolution:
solid basis for filler and final passes
- Pass build-up with pulse:
reliable sidewall fusion in any position
- high degree of weld seam reliability and excellent
quality
- Cost-effective alternative to TIG welding



MAG speed with TIG safety.

LOW-SPATTER MAG WELDING – OPTIMUM ENERGY AND RESOURCE EFFICIENCY

- Energy savings thanks to inverter technology
- Wage costs reduced thanks to faster welding speed
- Welding pool backing no longer necessary



UTMOST PROCESS STABILITY

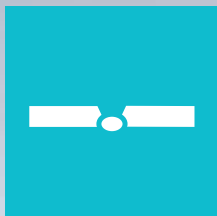
- Impressive process stability even with long hose packages without additional sensor leads



FASTER WELDING THAN COMPARABLE WELDING PROCESSES

- Considerably higher welding speed
- Cost-effective alternative to TIG welding





rootArc[®]

Short arc with easy weld modelling capabilities for trouble-free gap bridging and positional welding.



Phoenix Taurus Synergic



RELIABLE SHORT ARC WELDING

- Reduced spatter compared with the standard short arc
- Good root formation and sidewall fusion with vertical-up/down welds
- In combination with pulsed arc, outstanding welding in the vertical up positions thanks to superPuls process switching
- Vertical-up welds without weaving
- Non-alloyed and low-alloy steels
- Manual and automated applications



Secure short arc welding in all positions.

rootArc® + impuls COMBINED IN A SINGLE MACHINE

- Excellent welding in the vertical up position with automated switching between rootArc and pulse due to superPuls process switching
- Secure root base formation with rootArc and effective filling with pulse
- Vertical-up welds without weaving
- Smooth bead ripples even without using the "Christmas tree technique"
- The "Christmas tree technique", an application normally reserved for true experts, can be avoided, which is advantageous for less experienced staff





PATENTED

forceArc[®]

Heat-reduced, directionally stable and powerful arc with deep fusion penetration for the upper power range.

Non-alloyed, low-alloy and high-alloy steels and high-tensile fine-grained steels.



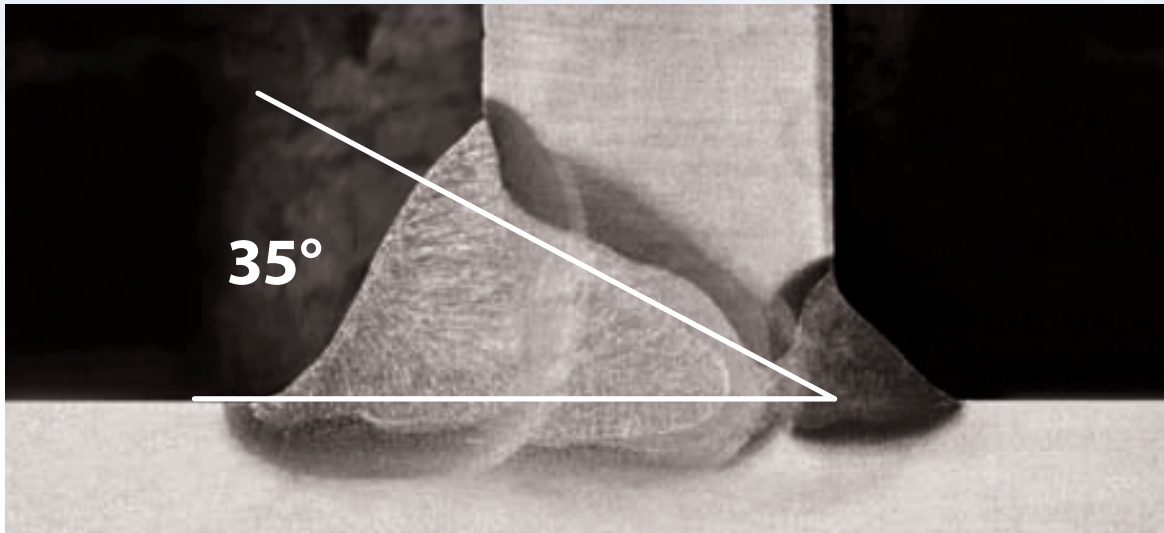
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Phoenix

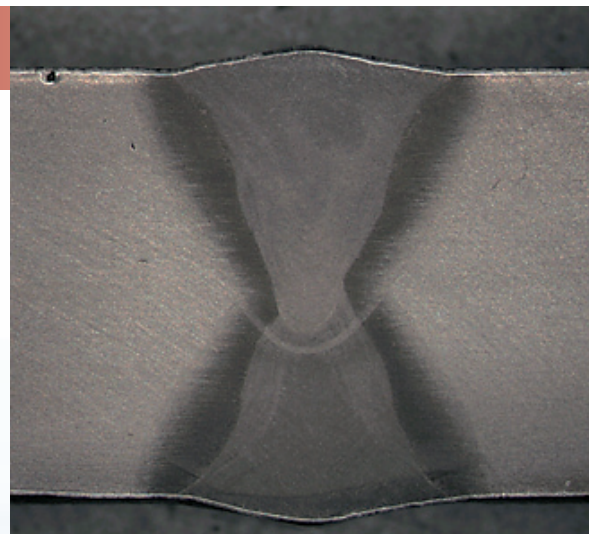


Taurus Synergic



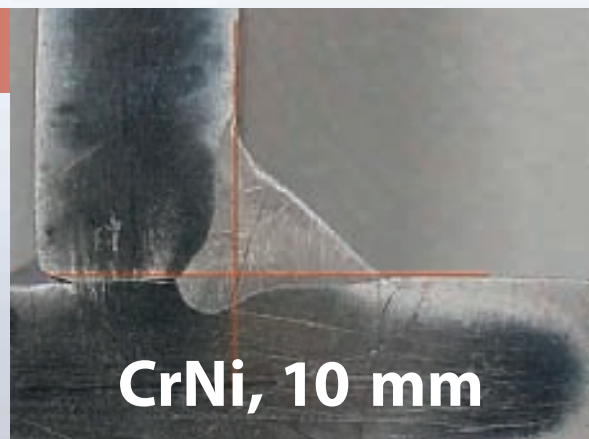
SMALLER INCLUDED ANGLE – FEWER PASSES

- High cost-saving potential
- Minimal seam preparation
- Fewer passes
- Less consumption of welding consumables and shielding gas
- Faster welding time
- Weld pool backing for submerged arc welding
- Particularly beneficial with e.g. very thick metal sheets



SECURE ROOT FORMATION WITH IDEAL WELD SEAM GEOMETRY

- Extremely deep fusion enables a reduction in the throat thickness or the weld cross section
- Higher level of process security, easy and safe to handle
- Various torch angle inclinations



Efficient and cost-effective welding.

EFFICIENT – VIRTUALLY SPATTER-FREE WELDING

- Thanks to machine technology with highly dynamic process control
- With different materials and shielding gases
- Smooth weld surface e.g. for easy coating
- Reduction of additional and finishing work, e.g. less grinding work, offering very high savings potential



REDUCING AND AVOIDING UNDERCUTS

- Outstanding seam quality e.g. for fillet welds
- Concave seam and therefore close to the ideal weld seam geometry
- Particularly advantageous e.g. with dynamically loaded components

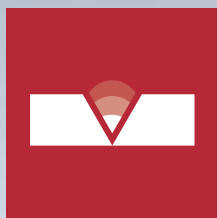
SMALL HEAT-AFFECTED ZONES THANKS TO SHORT, CONCENTRATED AND HEAT-REDUCED ARC

- Less material distortion due to reduced heat input
- Lower intermediate pass temperature and minimised change in structure
- Particularly advantageous e.g. when welding fine-grained steels
- Angular shrinkage reduced in fillet welds

DIRECTIONALLY STABLE, SMOOTH ARC

- Even in tight and narrow joints
- Arc orientation not against the workpiece edges, even with a long stickout up to 40 mm
- Changes to stickout lengths are rapidly stabilised
- Particularly advantageous e.g. for very narrow joints and fillet welds





PATENTED

forceArc®

The TEST HOUSE



TWI

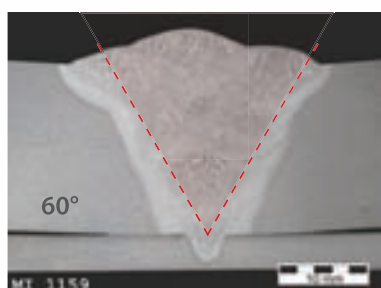
Procedure comparison of forceArc®/standard spray arc through TWI

- Butt welds which are welded with the forceArc® process and have tight opening angles of 30 ° and 40 ° comply with the requirements of EN ISO 15614-1:2004
- Due to the lower seam volume, the welding times are reduced compared to the standard spray arc procedure with an opening angle of 60 ° by up to 50 %
- Fillet welds created with forceArc® provide a mitred profile without undercut which also satisfies the requirements of EN ISO 15614-1:2004
- Fillet welds created with forceArc® have a greater penetration depth

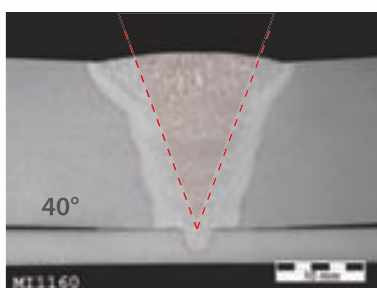
Test as per EN ISO 15614-1:2004

Parent metal	S355
Welding consumable	G4Si1 – 1.2 mm
Material thickness	20 mm
Shielding gas	M26 - ArCO - 18/2
Seam preparation	V with 60 °, 40 ° and 30 °

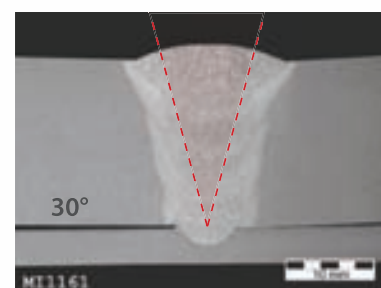
Standard spray arc



forceArc®



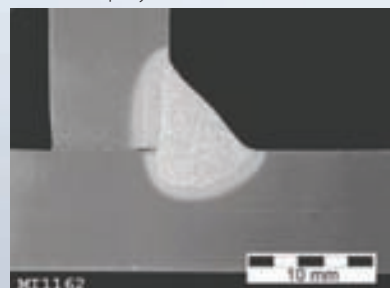
forceArc®



Butt weld

11 passes	5 passes	5 passes
		50 % shorter welding time
Hardness: 150–235 HV	Hardness: 146–274 HV	Hardness: 142–287 HV
Impact energy SG (-20 °): 65 (nominal 27) Joule	Impact energy SG (-20 °): 35 (nominal 27) Joule	Impact energy SG (-20 °): 46 (nominal 27) Joule
Impact energy HAZ (-20 °): 133 (nominal 27) Joule	Impact energy HAZ (-20 °): 151 (nominal 27) Joule	Impact energy HAZ (-20 °): 157 (nominal 27) Joule
Tensile strength: 551 (nominal 470) MPa	Tensile strength: 554 (nominal 470) MPa	Tensile strength: 559 (nominal 470) MPa
Unchanged mechanical/technological properties!		

Standard spray arc



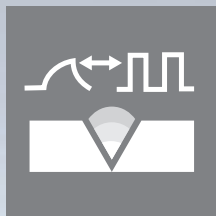
forceArc®



Fillet weld

greater penetration depth

► In accordance with its impartiality guidelines, the TWI does not recommend any products or services of its member companies.



PATENTED

superPuls[®]

Process switching

The combination of EWM welding processes offers a multitude of possibilities.



alpha Q



Phoenix



Taurus Synergic

With the EWM superPuls function you can manually or automatically switch between two operating points of a process or between the following process combinations during welding:

- coldArc + pulse
- pipeSolution + pulse
- rootArc + pulse
- forceArc + pulse
- Standard short/spray arc + pulse
- Two different operating points in one process

Excellent welding in the vertical up position with automatic switching between coldArc[®]/pipeSolution[®]/rootArc[®]/pulse

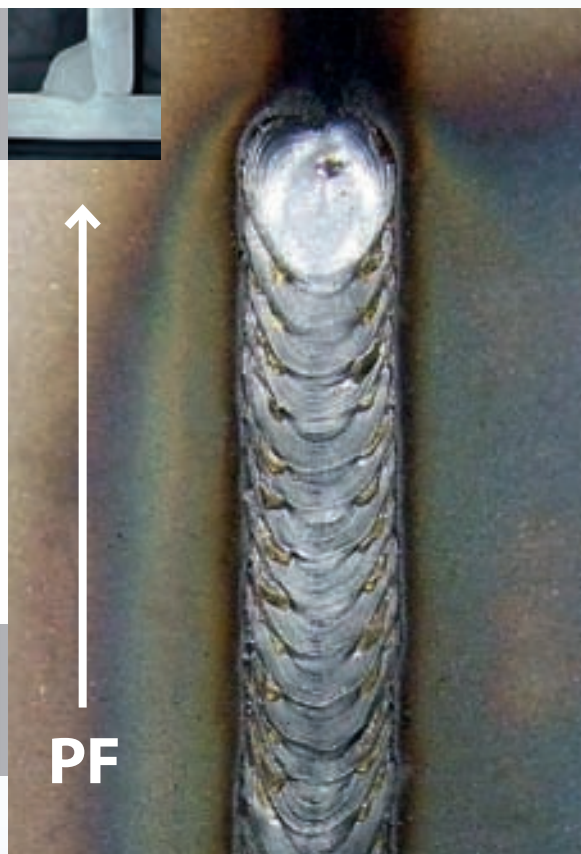
- Reliable fusion of the root base
- Effective filling with pulse
- No more weaving required
- Smooth bead ripples result in optically pleasing weld appearance

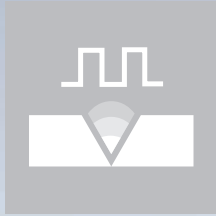
The "Christmas tree technique", an application normally reserved for true experts, can be avoided, which is advantageous for less experienced staff.

Excellent welding results in the transitional arc area with automatic switching between coldArc[®]/pipeSolution[®]/rootArc[®]/pulse

- Controlled reduced heat input
- Reduced spatter formation
- Easy modelling of the molten metal

Manual switching via the torch trigger enables secure overlap welding of tack points with pulse





pulse

Controlled, short circuit-proof pulsed arc for all positions, especially in the transitional arc area.



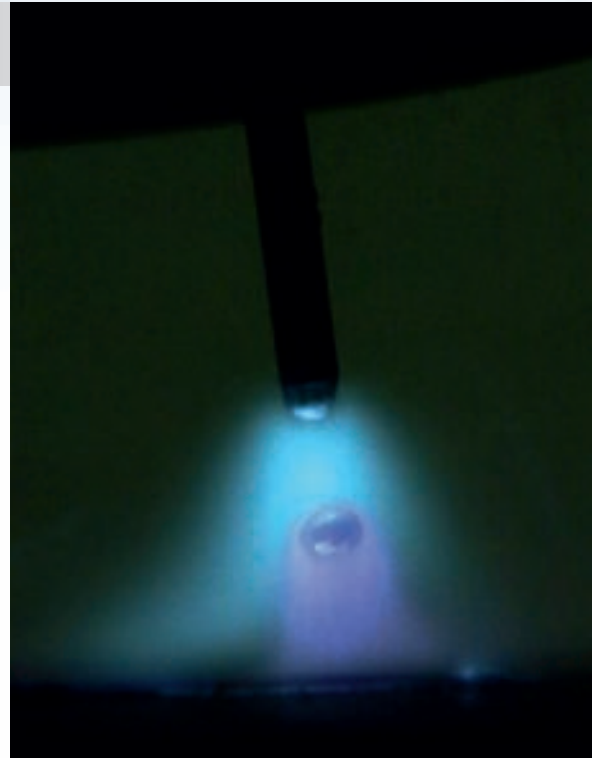
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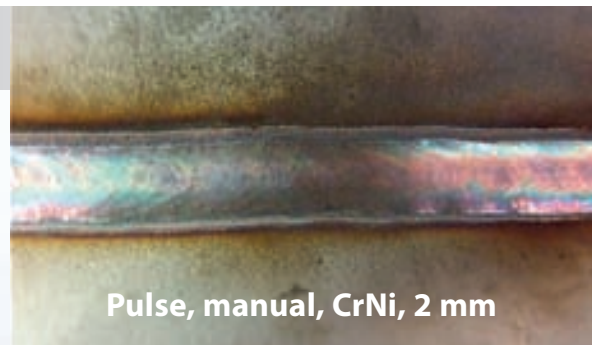
CONTROLLED AND SHORT CIRCUIT-PROOF

- Controlled heat input through the 1-drop-per-pulse-transfer
- Even globular transfer also for materials with high Ni content
- Stable arc in the wide transfer area between short and spray arc



COST EFFECTIVE – LESS FINISHING WORK

- Very low-spatter process (reduction in corrosion attack points)
- Reduced pore susceptibility
- Flat, smooth and notch-free weld seams

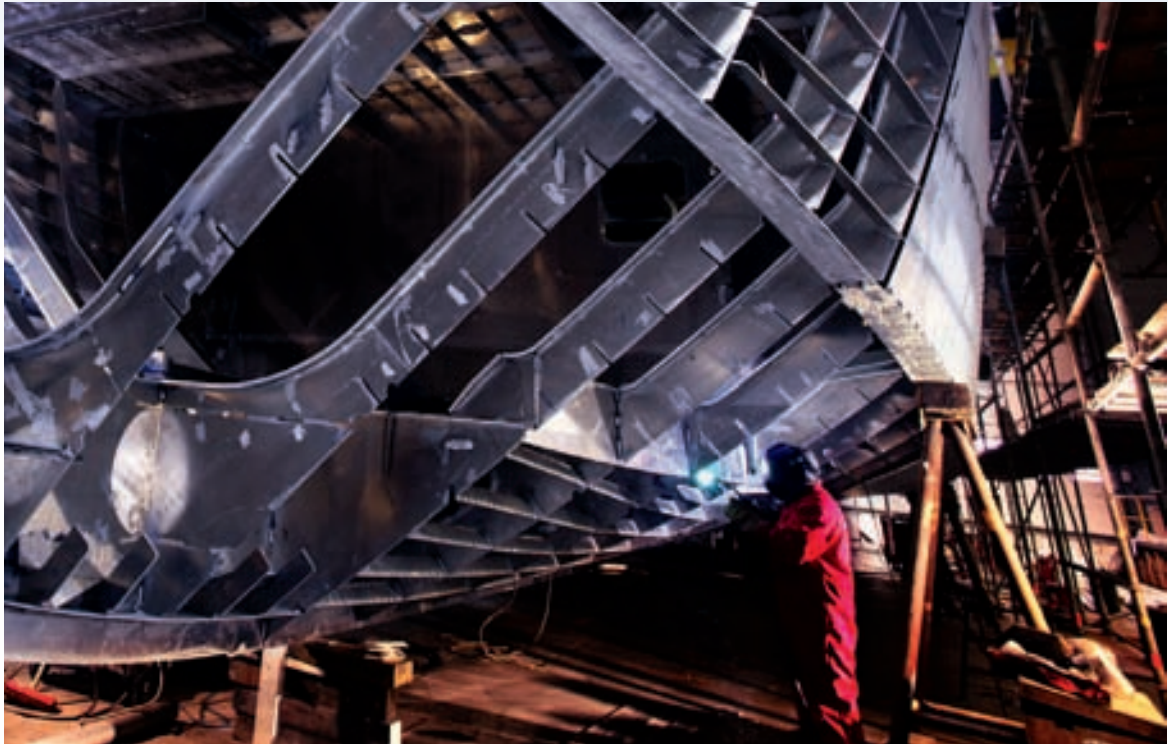


Pulse, manual, CrNi, 2 mm



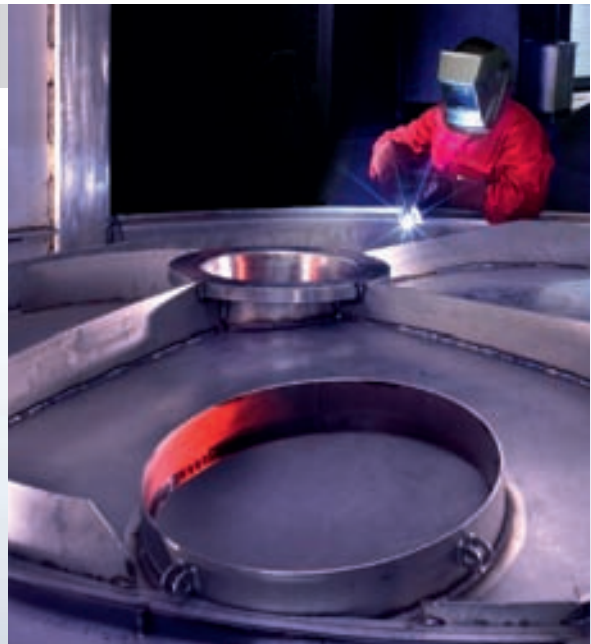
Pulse, manual, AlMg, 2 mm

Specialist welding of CrNi, aluminium and copper.



PREFERRED AREAS OF APPLICATION

- Welding in the wide transitional area between short and spray arc
- Positional welding
- Welding high-alloy steels (hot crack-susceptible full austenites) and Ni alloys
- Welding aluminium and aluminium alloys
- Copper welding



The EWM ecology initiatives for the sustainable use of energy and other resources.



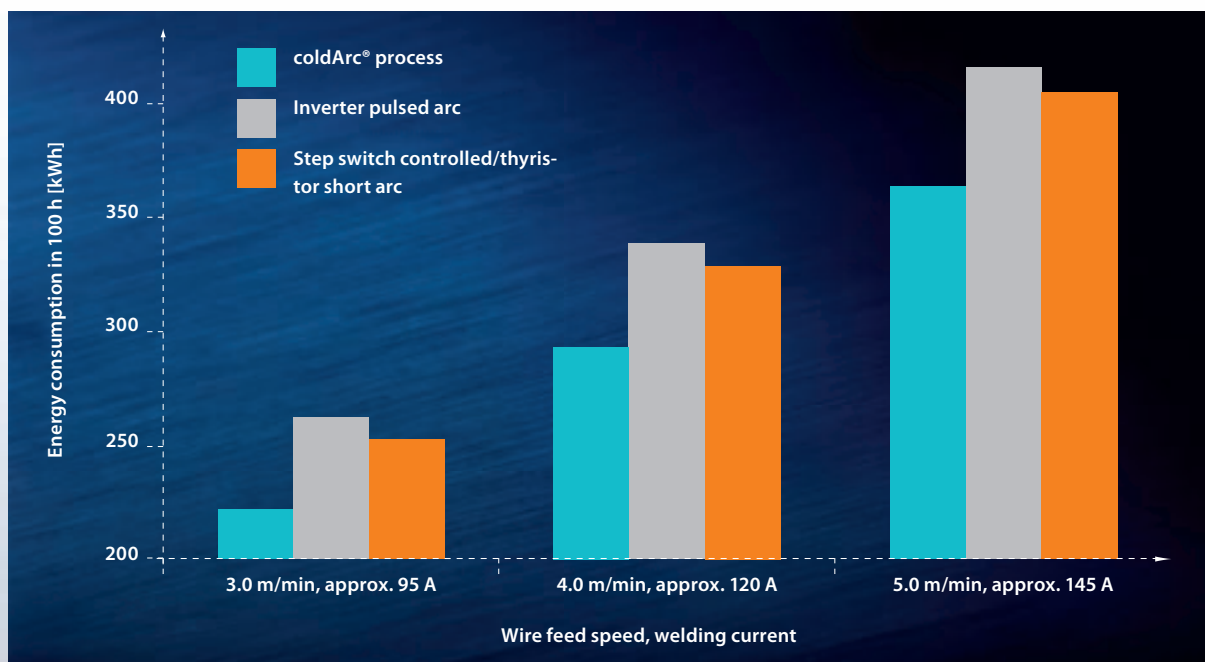
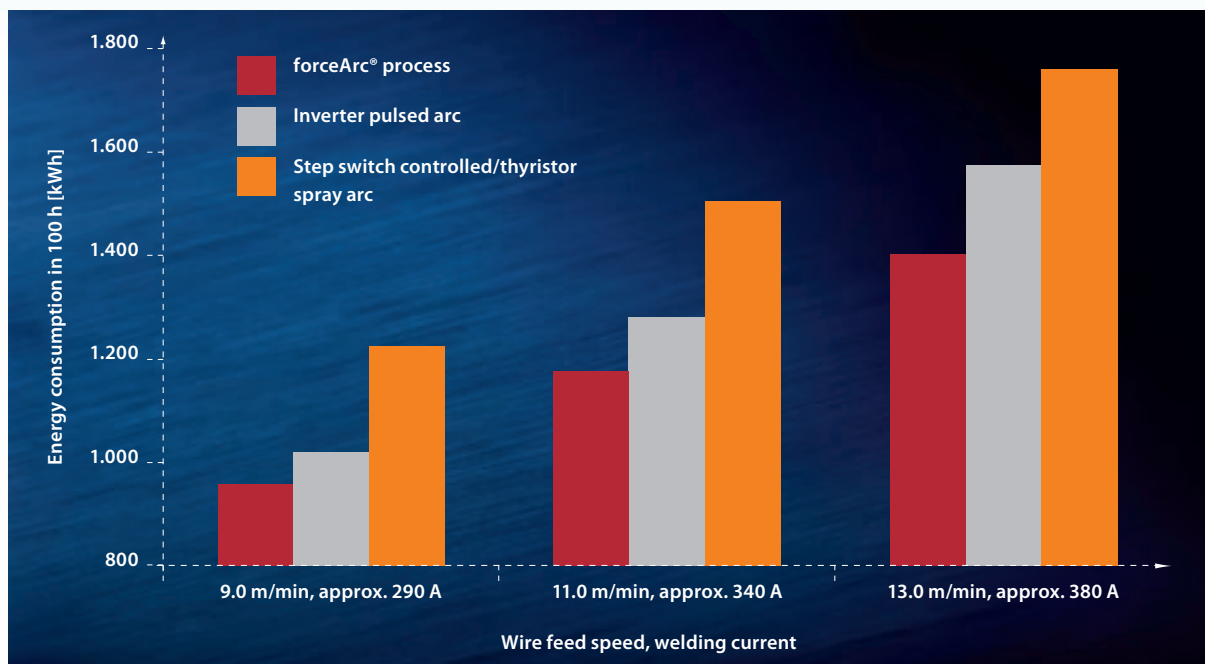
The innovative EWM technologies help to reduce CO₂ significantly:

- The consistent use of progressive inverter technologies saves on raw materials like copper, aluminium and steel. When used in conjunction with power-saving joining processes like coldArc® and forceArc®, the elevated efficiency of inverter technology conserves primary energy, thus lowering electricity costs.
- forceArc® lets you achieve new weld seam geometries for optimised pass build-ups. As a result, you need to weld fewer passes. This shortens the welding time and reduces the use of wire and gas, so you save money and energy.
- Heat-reducing processes like coldArc® and forceArc® minimise spatter, cut down on the amount of finishing work, and reduce emissions of harmful welding fume particles for better working conditions.

Save electricity costs by using efficient EWM technology.

Example: By using the EWM forceArc process, approx. 4 kW of power can be saved compared with conventional welding machines at the same deposition rate of 13.0 m/min (1.2 mm; G3Si1).

DURING A WELDING TIME OF 100 HOURS, 400 KWH CAN BE SAVED PER WELDING STATION!



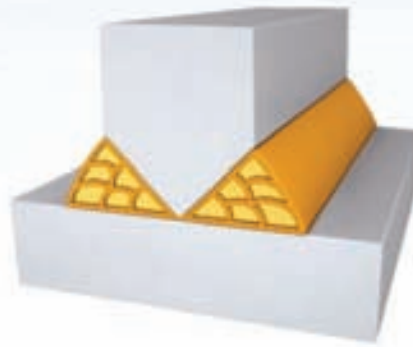
Reduce total costs thanks to the optimised pass build-up.



forceArc®



forceArc®



Spray arc

Comparison welding standard spray arc with forceArc®- process

Seam preparation - spray arc

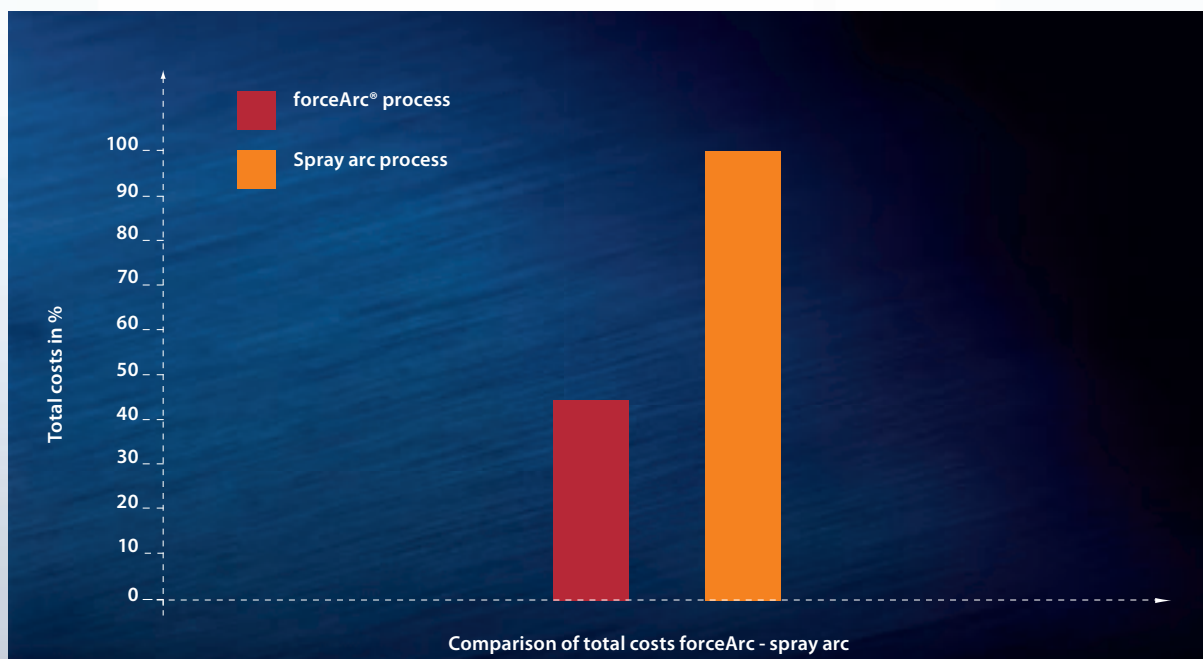
DY 45 °

Seam preparation - forceArc®

DY 30 °

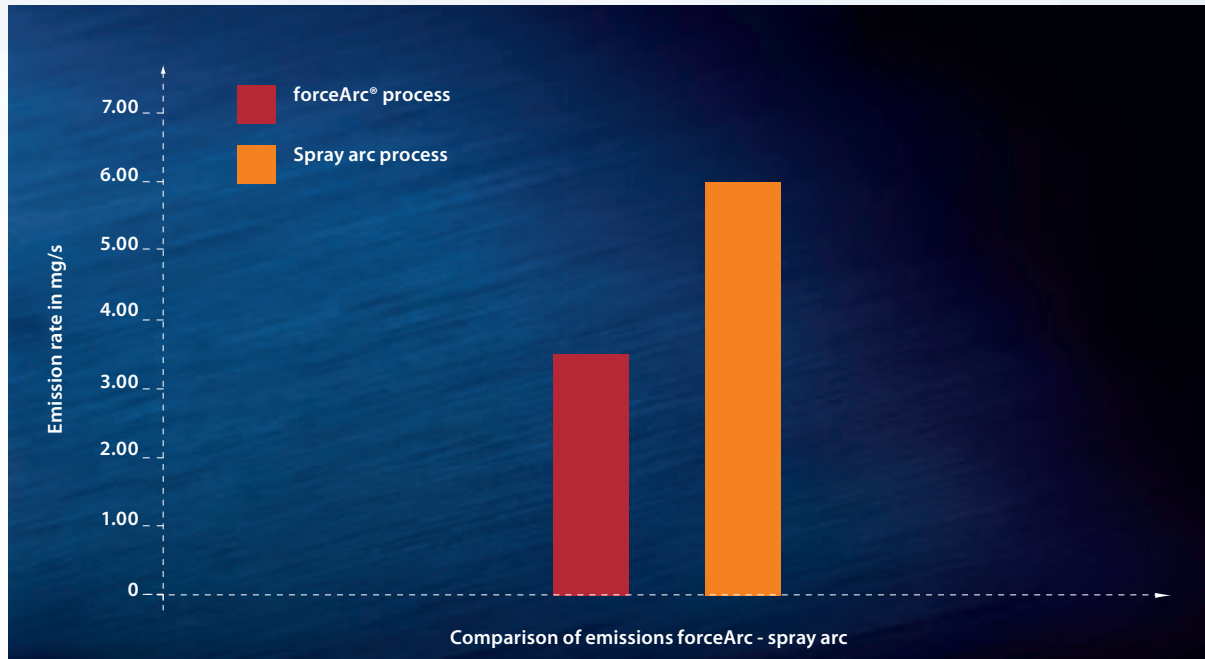
Reduction in the seam volume of up to 50%

REDUCTION IN THE TOTAL COSTS: UP TO 56%.

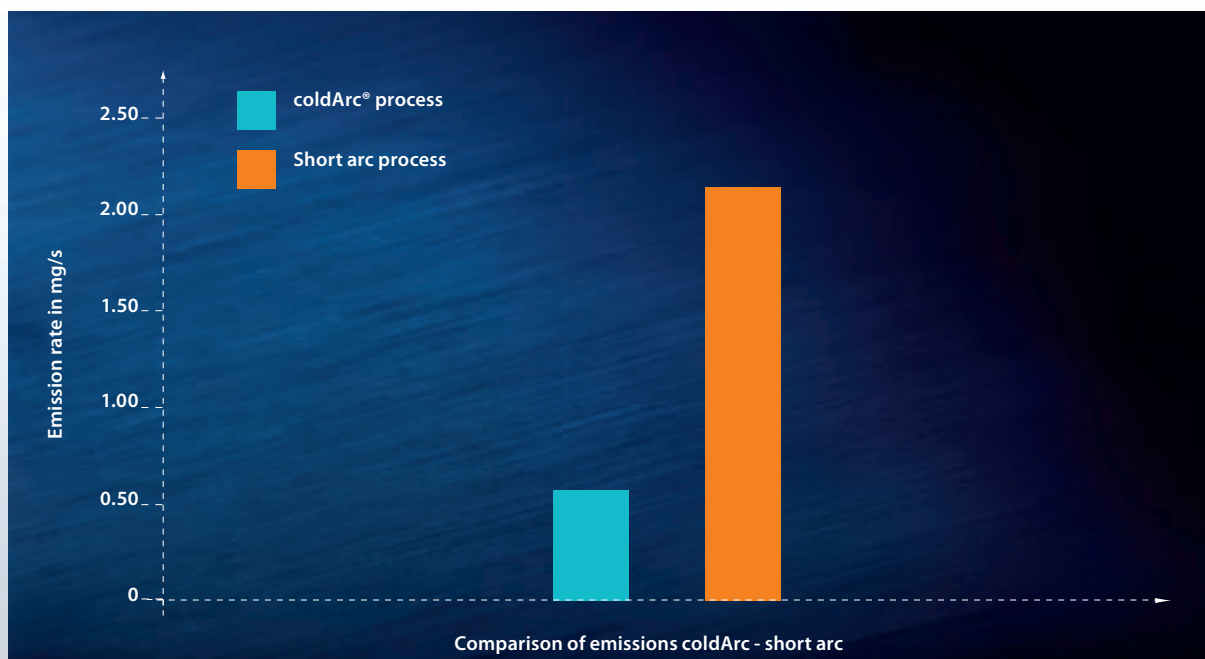


Reduce emissions by using efficient EWM technology.


REDUCTION IN THE EMISSION RATE: forceArc® UP TO 60%.

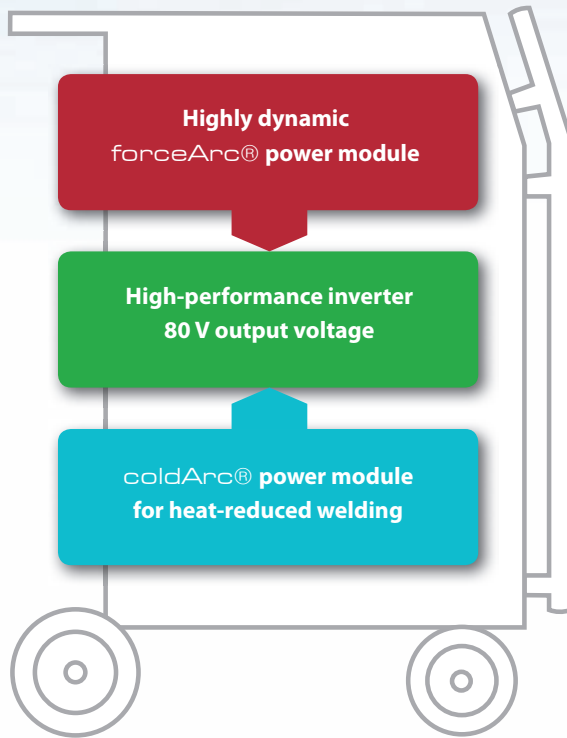


REDUCTION IN THE EMISSION RATE: coldArc® UP TO 75%.

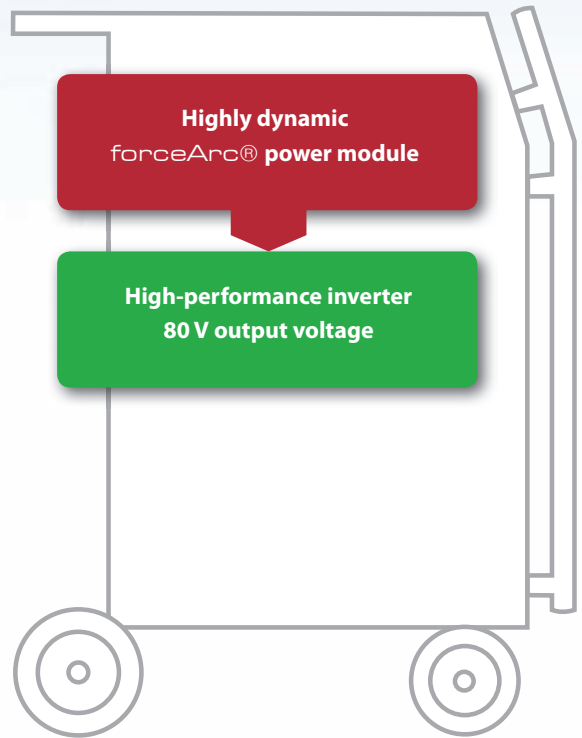



















Machines and processes from EWM – the optimum solution for every need.

alpha 



Phoenix



	MIG/MAG standard		MIG/MAG standard
	Pulse		Pulse
	coldArc®		
	pipeSolution®		
	forceArc®		forceArc®
			rootArc®
	MMA		MMA
	TIG (lift arc)		TIG (lift arc)
	superPuls® process switching		superPuls® process switching
	Gouging		Gouging

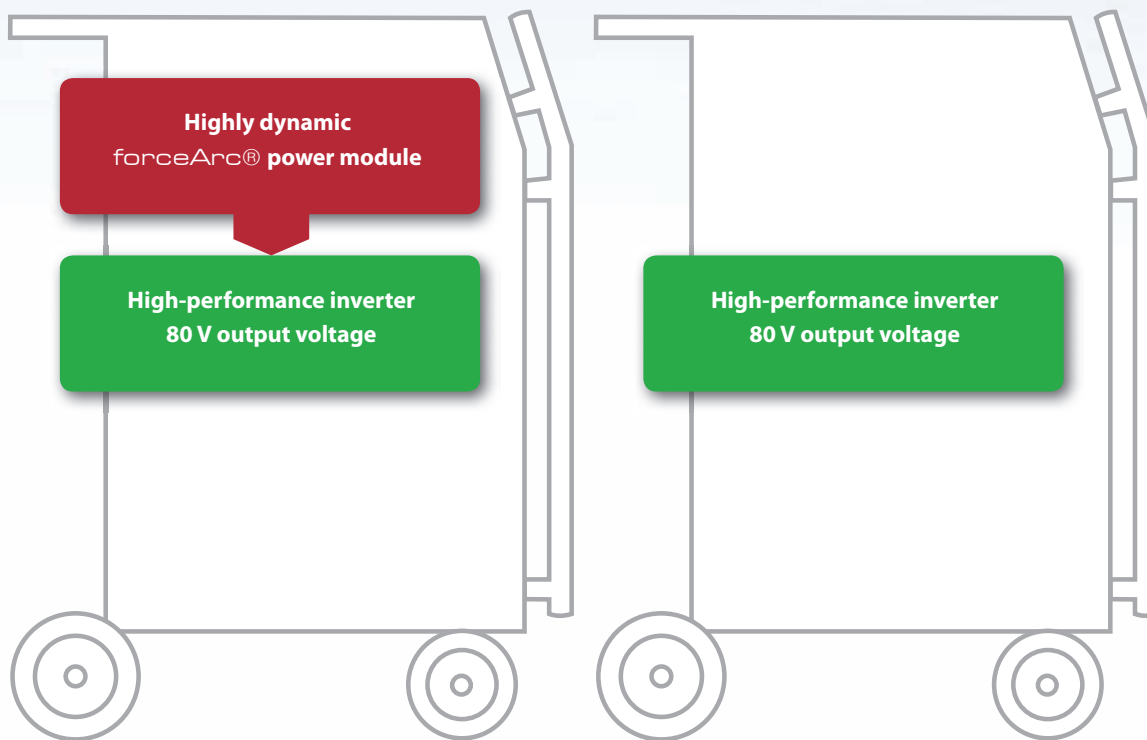
EWM power sources stand out due to a high-performance inverter with high open circuit voltage and excellent arc characteristics.

This creates unique welding properties for perfect results as well as excellent quality with 100% reproducibility.

EWM can provide the perfect solution for every technical welding requirement – from the Taurus Basic through to our complete solution, alpha Q. Upon request, and depending on requirements and investment capabilities, customers can profit from be-spoke, optimised power modules for innovative welding processes.

Taurus Synergic

Taurus Basic



MIG/MAG standard



MIG/MAG standard



forceArc®



rootArc®



MMA



TIG (lift arc)



superPuls®
process switching



Gouging



MMA



Gouging

Machines and processes from EWM – the optimum solution for every need.

Our welding systems enable our customers to carry out their individual welding tasks faster, for less money and with top quality.



		alpha Q	Phoenix	Taurus Synergic
MIG/MAG	coldArc	•		
	pipeSolution	•		
	rootArc		•	•
	forceArc	•	•	•
	Pulse	•	•	
	superPuls	•	•	•
	Standard short arc	•	•	•
	Standard spray arc	•	•	•
MMA		•	•	•
TIG (lift arc)		•	•	•
Gouging		•	•	•



alpha Q	330	351	551
Max. welding current at 40 °C	330 A/40% DC	350 A/100% DC	550 A/60% DC
Welding processes	coldArc · pipeSolution · forceArc · pulse · superPuls		



Phoenix	335	405	505	301	401	401
Max. welding current at 40 °C	330 A / 35% DC	400 A / 60 % ED	500 A / 40% DC	300 A / 60% DC	400 A / 60% DC	400 A / 60% DC
Welding processes	forceArc · rootArc · pulse · superPuls					



Phoenix	351	451	551
Max. welding current at 40 °C	350 A / 100% DC	450 A / 80% DC	550 A / 60% DC
Welding processes	forceArc · rootArc · pulse · superPuls		



Taurus Synergic	335	405	505	301	401	401
Max. welding current at 40 °C	330 A / 35% DC	400 A / 60 % ED	500 A / 40% DC	300 A / 60% DC	400 A / 60% DC	400 A / 60% DC
Welding processes	forceArc · rootArc · superPuls					




Taurus Synergic	351	451	551
Max. welding current at 40 °C	350 A / 100% DC	450 A / 80% DC	550 A / 60% DC
Welding processes	forceArc · rootArc · superPuls		

Innovations for short arc MIG/MAG welding



coldArc®
PATENTED

Heat-reduced, low-spatter short arc.



pipeSolution®
PATENTED

Powerful short arc for rapid, safe welding, with and without gaps, in all positions.



rootArc®

Short arc with easy weld modelling capabilities for easy gap bridging and positional welding.

	coldArc	pipeSolution	rootArc	Short arc inverter	Short arc step switch controlled
Reduced heat input/less distortion	★★★★★	★★★	★★	★★	★
Minimised spatter formation/less finishing work	★★★★★	★★★★	★★★★	★★	★
Gap bridging/secure and easy welding	★★★★★	★★★★	★★★★	★★	★
Reduced energy costs	★★★★★	★★★★	★★	★★	★
Reduced emissions/less welding fumes	★★★★★	★★★★	★★★★	★★	★
Arc force/good root formation	★★★	★★★★★	★★★★	★★	★★
Root welding in any position	★★★	★★★★★	★★★★	★★	★★
Thin sheet welding	★★★★★	★★★	★★★★	★★	★★
Brazing (CuSi, CuAl)	★★★★★	~	~	★★★	★
Brazing (zinc wire ZnAl)	★★★★	~	~	~	~
Dissimilar joint, aluminium/galvanised steel panels (braze welding with AlSi)	★★★★★	~	~	~	~
Welding consumables					
Unalloyed and low-alloy	Yes	Yes	Yes	Yes	Yes
High-alloy	Yes	~	~	~	Yes
Dissimilar joint, aluminium with galvanised steel sheet (braze welding)	Yes	~	~	~	~

★
Good



★★★★★
Excellent

Innovations for spray arc MIG/MAG welding



	forceArc	Spray arc inverter	Spray arc step switch controlled
Cost savings thanks to reduced weld volume	★★★★★	★★	★
Reduced energy costs	★★★★★	★★★	★★
Penetration depth	★★★★★	★★	★★
Reduced heat input	★★★★★	★★★	★
Arc force	★★★★★	★★★	★★
Directionally stable arc	★★★★★	★★★	★★
Minimised spatter formation	★★★★★	★★★	★★★
Reduced undercuts	★★★★★	★★★	★★★
Highly dynamic current control	★★★★★	★★★	★
Reduced emissions/less welding fumes	★★★★★	★★★	★★
Welding consumables			
Diameter	1,0; 1,2; 1,6		
Unalloyed and low-alloy	Yes		
High-alloy	Yes		
Aluminium	Yes		
Welding positions	PA; PB		
Weld preparation	with and without		
Backing bar	with and without		

■ Contents

Multiprocess MIG/MAG pulse welding machines						
alpha	forceArc®	coldArc®	pipeSolution®	Highspeed® ²⁾		34
	Pulse	Standard	TIG ¹⁾	MMA	Air arc gouging	
Multiprocess MIG/MAG pulse welding machines						
Picomig, Phoenix	forceArc®	rootArc®	Highspeed® ²⁾			42
	Pulse	Standard	TIG ¹⁾	MMA	Air arc gouging	
Multiprocess MIG/MAG welding machines						
Taurus	forceArc® ³⁾	rootArc® ³⁾				58
	-	Standard	TIG ^{1) 3)}	MMA	Air arc gouging	
MIG/MAG standard welding machines, step switch controlled						
Mira, Saturn, Wega						70
	-	Standard				
DC TIG welding machines						
Picotig, Tetrix	activArc®					98
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AC/DC TIG welding machines						
Picotig AC/DC, Tetrix AC/DC	activArc®					112
	WIG DC	TIG AC	MMA DC	MMA AC		
Plasma DC and AC/DC welding machines						
microplasma, Tetrix, Tetrix AC/DC	activArc®					124
	Plasma	TIG DC	TIG AC	MMA DC		
MMA DC welding machines						
Pico, Stick cel pws Taurus						130
	MMA	TIG ¹⁾			Air arc gouging ⁴⁾	

¹⁾ TIG lift arc ignition

²⁾ alpha Q 551, Phoenix 551 Progress in combination with Drive 4 Highspeed

³⁾ Synergic control unit required

⁴⁾ Taurus



■ The ultimate in joining technology

alpha Q

alpha Q – the optimum system that can be flexibly configured for your application: from portable, modular or compact to mobile and decompact.

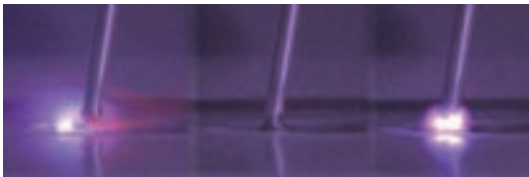
Different welding tasks on demand mean shorter set-up times. For switching between coldArc, forceArc or pipeSolution welding, a double wire feeder or two individual units are available, so you always have the correct filler wire and the correct gas to hand.

Highlights



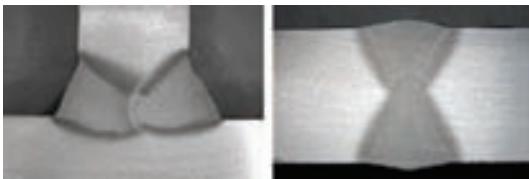
■ alpha Q – one for all

One power source, many processes: coldArc, forceArc and pipeSolution, MIG/MAG pulse and standard, TIG and MMA welding – plus high-speed if required – ideally equipped for all applications.



■ coldArc – reduced-energy short arc for welding and brazing

A superb way of joining thin panels and root passes, steel, chrome – nickel and aluminium. coldArc also ensures a large air gap and misaligned edges in all layers.



■ forceArc – extremely productive with uncompromising quality

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering: powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.



■ alpha Q: coldArc + forceArc – a really smart combination

Two innovative welding processes, one power source, all seam types: coldArc, the specialist for perfect seam roots; forceArc for highly efficient filler and final passes



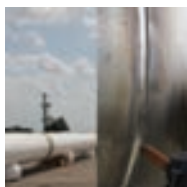
■ Innovative pulse welding for stainless steel and aluminium

Controlled globular transfer and systematically adapted heat input are the key to obtaining the best welding results with stainless steel and aluminium. A first-class process: programmed pulsed arc joining.



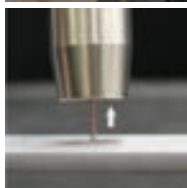
■ pipeSolution - Welding at MAG speed with TIG safety

Powerful arc for rapid, secure welding with and without gaps in all positions



pipeSolution – no pipeline too long

The perfect solution with optimised JOBs for pipeline and pipe construction



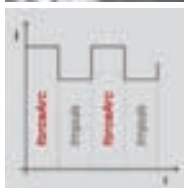
MIG lift arc ignition – high-precision, spatter-free ignition

Reliable and reproducible ignition results for manual applications



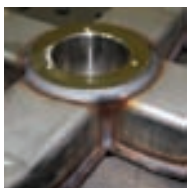
Super pulse – super bead

Super pulse technology with alternating welding current is the most effective MIG/MAG welding solution for many applications: visible seams with TIG appearance, secure root weldings and excellent gap bridging



Super pulse – combine welding processes easily

Manual or automatic switching between different processes during welding



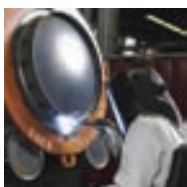
Reduced-energy short arc

Reduced heat input – low distortion and minimal heat-affected zone – perfect for CrNi, super high strength steels and thin panels



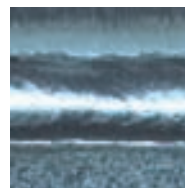
Universal in any position

Perfect joining for every positional welding task – overhead, vertical-down and vertical-up welding, plus unprecedented gap bridging capabilities



High degree of process reliability

Reproducible, X-ray-proof root welding e.g. in container and pipe construction



Only the best for welding and brazing

Steel, CrNi, aluminium and dissimilar joints with copper and zinc solders



Universally applicable

Manual and automated – with normal commercial torch systems without elaborate wire feed components.



Outstanding results mean minimum finishing

Almost spatter-free – similar to TIG process, excellent formation of root passes and final passes, no undercuts



alpha Q



MIG/MAG standard



MMA



Pulse



TIG



coldArc®



superPuls®
process switching



pipeSolution®



Gouging

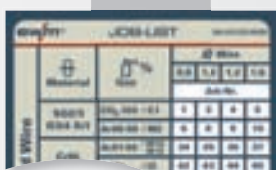


forceArc®



- Selection of the welding task from the JOB list
- Setting of all welding parameters and welding data displays on the wire feed unit or on compact welding machine
- Setting of the welding parameters via welding sequence with LED user menu

- No settings required on decompact welding machine



Highlights

- Easiest possible selection of the preset JOBS (welding tasks) for the different materials, gas types and wire diameters via JOB list
- Synergic – one-knob operation
- forceArc, coldArc, pipeSolution and standard and pulse MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging



alpha Q 330 TKM

alpha Q 330 TKM

alpha Q 351 FDW



Controls

alpha Q

•

•

•

Functions

MIG/MAG

•

•

•

MIG/MAG pulse

•

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TIG

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MMA

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EWM-forceArc

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EWM-coldArc

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EWM-pipeSolution

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Technical data

Setting range for welding current

5 A - 330 A

5 A - 330 A

5 A - 350 A

Duty cycle at ambient temperature

40 °C

40 °C

25 °C

40 °C

40 %

330 A

330 A

–

–

60 %

270 A

270 A

–

–

80 %

–

–

–

–

100 %

210 A

210 A

350 A

350 A

Open circuit voltage

80 V

80 V

95 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 16 A

3 x 16 A

3 x 25 A

Mains voltage (tolerances)

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

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

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

Max. connected load

12.7 kVA

12.7 kVA

13.9 kVA

Recommended generator power

18.7 kVA

18.7 kVA

20.3 kVA

Drive rollers

4

4

4

Wire speed

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

Dimensions, machine, LxWxH in mm

685 x 335 x 750

685 x 335 x 750

1100 x 455 x 1000

Weight, machine

64 kg

112 kg

135 kg

Weight, wire feeder

–

–

15.1 kg

Weight, cooling unit

–

34 kg

–

Protection classification

IP 23

IP 23

IP 23

Insulation class

H

H

H

Cooling output

–

1200 W (1l/min)

1500 W

Tank capacity

–

7 l

12 l

Flow rate

–

5 l/min

5 l/min

Max. output pressure

–

3.5 bar

3.5 bar

Standards

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A

QR Code





alpha Q 551 FDW

alpha Q 551 D FDW

alpha Q 551 2DV FDW



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5 A - 550 A

5 A - 550 A

5 A - 550 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

–

–

–

–

–

–

550 A

550 A

550 A

550 A

550 A

550 A

520 A

–

520 A

–

520 A

–

450 A

420 A

450 A

420 A

450 A

420 A

95 V

95 V

95 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 35 A

3 x 35 A

3 x 35 A

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

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

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

28.8 kVA

28.8 kVA

28.8 kVA

39.4 kVA

39.4 kVA

39.4 kVA

4

4

4

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

1100 x 455 x 1000

1100 x 680 x 1000

1100 x 680 x 1000

138.5 kg

157 kg

158 kg

15.1 kg

48 kg

15.1 kg

–

–

–

IP 23

IP 23

IP 23

H

H

H

1500 W

1500 W (2l/min)

1500 W (2l/min)

12 l

12 l

12 l

5 l/min

20 l/min

20 l/min

3.5 bar

4.5 bar

4.5 bar

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Wire feed units



alpha Q drive 4

Wire feeder, water, Euro torch connector
4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
Spool diameter up to 300 mm



alpha Q drive 4 HS

Wire feeder for high performance welding
4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
Spool diameter up to 300 mm

► **Can only be used on alpha Q 551**



alpha Q drive 4L

Wire feeder, water, Euro torch connector
4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
Spool diameter up to 300 mm



alpha Q drive 4D

Double wire feeder
Two welding tasks with just one power source for alternating welding of root and final passes, solid and flux cored wire, or a variety of materials and wire thicknesses
The torch trigger is used for changeover between the wire feeds; no special torch or changeover on the machine required!
4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
Spool diameter up to 300 mm
No changing of rollers, no torch conversion required, changeover times are greatly reduced
► **Can be operated with the alpha Q D series only!**



alpha Q drive 300C

Wire feeder, water, Euro torch connector
Adjustment of the gas quantity directly on the wire feed unit
4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
Spool diameter up to 300 mm



alpha Q drive 200C

Wire feeder, water, Euro torch connector
Adjustment of the gas quantity directly on the wire feed unit
4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
Spool diameter up to 200 mm

Intermediate hose package, 7-pole



MIG G 7POL 70MM²

Intermediate hose package, gas-cooled, 7-pole



MIG W 7POL 70MM²

Intermediate hose package, water-cooled, 7-pole

Torches



MT series EZA

MIG/MAG welding torch, gas-cooled
Equipped for 1.0 mm welding wire

Function torch 19-pole



MT series U/D

MIG/MAG welding torch, 1x up/down, gas-cooled
Equipped for 1.0 mm welding wire



MT series 2U/D

MIG/MAG welding torch, 2x up/down, gas-cooled
Equipped for 1.0 mm welding wire



MT series PC1

MIG/MAG welding torch, Powercontrol 1, gas-cooled
Equipped for 1.0 mm welding wire

► **Not possible in combination with Phoenix Expert drive 4/4L M3.00!**



MT series PC2

MIG/MAG welding torch, Powercontrol 2, gas-cooled
Equipped for 1.0 mm welding wire

► **Not possible in combination with Phoenix Expert drive 4/4L M3.00!**

Gouging



GT 600 SKK95 3

Gouging torch
Air arc gouging torch for separating metals
► **Suitable carbon electrodes can be found in the Accessories section of the price list!**

Remote controls



R10 19POL

Remote control, wire speed setting, welding voltage correction
Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket
For alpha Q, Phoenix, Taurus Synergic and Taurus Synergic S



RG10 19POL

Remote control to set the wire speed and welding voltage
Plastic casing with retaining clip, 19-pole connection socket
Light, robust and convenient
Voltage correction from -10 V to +10 V
Infinitely variable setting of wire-feed speed (0.5–24 m/min)

With pre-fitted 5-m connection cable

For alpha Q, Phoenix, Taurus Synergic and Taurus Synergic S machine series



R20 19POL

Remote control, program switching
Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket
Changeover and display of up to ten welding programmes

For alpha Q, Phoenix Progress, Phoenix Expert (not in combination with Phoenix Expert Drive M3.00) as well as Taurus Synergic S



Remote controls



R40 7POL

Remote control, 16 programs
Robust metal casing with rubber feet, retaining clip and holding magnet, 7-pole connection socket
Switch between MIG standard welding and pulsed arc welding
For alpha Q, Phoenix Progress, Phoenix Expert and Taurus Synergic S

► **Cannot be used with double or two separate wire feed units!**

Cooling units



cool71 U42

Air cooling unit with centrifugal pump and enhanced cooling
Modular design, tool-free assembly



cool71 U43

Air cooling unit with centrifugal pump
Modular design, tool-free assembly

Transport carts



Trolley 75-2

Transport cart, disassembled
For transporting a power source, a cooling unit and a gas cylinder
For alpha Q 330



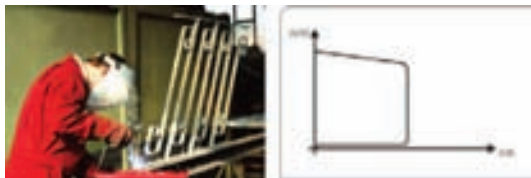
■ **Small and light – perfect for construction sites**

Picomig pulse

■ portable

Construction site, assembly, workshop, production site – the right machine for every location and every task.

Highlights



■ **Wide range of possible applications with convenient operation**

Up to 32 pre-programmed JOBS for the commonest welding tasks as well as Synergic operation with self-explanatory operating panel

■ **Picomig 180 pulse – ideal for self-shielded cored wires**

Cost-effective – open-air welding tasks can be performed with MMA as well as with flux cored wire in the MIG/MAG welding process

■ **Picomig 180 pulse – professionally equipped**

Four full welding processes: MIG/MAG pulse, standard, MMA and TIG (Liftarc) welding in a single machine

■ **Antistick and Arcforce – weld like a professional**

Extremely easy welding: The arc burns steadily without the electrode sticking or annealing.

■ **The professional solution for construction sites and assembly**

Small, light, universal – the plastic casing and innovative inverter technology make this the perfect tool for practical applications.

■ **Innovative pulse welding for stainless steel and aluminium**

The perfect pulse welding job guarantees superb welding results when joining stainless steel and aluminium, thanks to controlled globular transfer and targeted, adapted heat input



Overvoltage protection

No damage to machine caused if inadvertently connected to 400-V mains voltage



Picomig 180 – simplest Synergic operation

With extensive functions, non-latched, latched, spot, interval



Ideal for self-shielded cored wires

Tool-free pole reversal and cored wire characteristics as standard



Powerful

4-roller drive unit with large roller diameter for reliable wire guidance



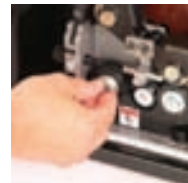
Practical Eurotorch connector

For easy exchange of steel liners and plastic liners



100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with long mains supply leads or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.



Total convenience

No tools required for roller change, roller is suitable for two different wire diameters



Easy servicing and maintenance

Rapid changeover of welding accessories thanks to connection sockets for welding torches and welding lead



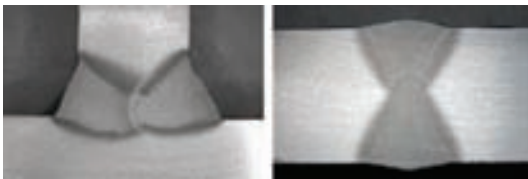
■ **Phoenix covers every need**

Phoenix

■ modular

Construction site, assembly, workshop, production site – the right machine for every location and every task. Can be expanded at any time with cooling unit and transport cart – no need for tools or specialist personnel

Highlights



■ **Intuitive, self-explanatory operating concepts**

Concept – compact: Direct access to all settings

Concept – decompact: Direct access to the most important parameters on the wire feeder

Progress – decompact: Direct access to all settings on the wire feeder

■ **Phoenix – multi-talented**

Pulse arc MIG/MAG, standard, forceArc, rootArc, flux cored wire as well as TIG (lift arc) MMA and air arc gouging – a wide variety of processes, one power source

■ **forceArc – extremely productive with uncompromising quality**

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering: powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.

■ **rootArc – reliable short arc welding in all positions**

Short arc with easy weld modelling capabilities for easy gap-bridging and positional welding

■ **Innovative pulse welding for stainless steel and aluminium**

The perfect pulse welding job guarantees superb welding results when joining stainless steel and aluminium, thanks to controlled globular transfer and targeted, adapted heat input

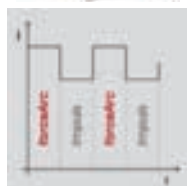
■ **Phoenix – wide range of accessories and options**

Simple to operate: the Powercontrol torch allows all programs, operating modes, processes and the up/down function to be activated at the touch of a button.



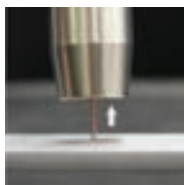
Simply practical

MMA welding and air arc gouging with the Phoenix concept also without a wire feeder or remote control.



Super pulse – combine welding processes easily

Manual or automatic switching between different processes during welding



MIG lift arc ignition – high-precision, spatter-free ignition

Reliable and reproducible ignition results for manual applications



Very high power reserves

enable use of long intermediate hose packages: 70 mm² up to 30 m / 95 mm² up to 40 m



Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic, with rounded corners and edges.

Operating elements with a particularly clear and protected layout



Well thought-out: casing and cooling

Optimised air ducting via blades and fan control minimises soiling in the machine. The high-performance centrifugal pump ensures optimal welding torch cooling



Combine skilfully and as required

Easy combination of cooling unit or transport cart – without specialist staff and without opening the welding machine. Innovative and easy to expand to meet future needs



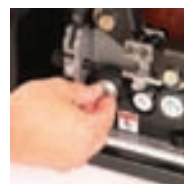
Ideal for self-shielded cored wires

Tool-free pole reversal and cored wire characteristics as standard



Super-fast attachment of cooling unit

The unique fastening system guarantees easy attachment and detachment. The catches are fully integrated in the casing so there is no protrusion and therefore no risk of injury.



Total convenience

No tools required for roller change, roller is suitable for two different wire diameters



■ The ultimate in joining technology

Phoenix

■ mobile

3-in-1 casing concept means power source, transport cart and cooling unit are combined in one unit for easy transport and handling. Optimised air guidance ensures greater cooling performance, providing longer duty cycles as well as less soiling in the machine. Easy handling is guaranteed by self-explanatory controls.

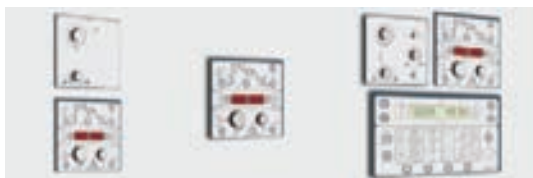
All-round performance for tough practical use

Highlights



■ Multi-talented

MIG/MAG pulse, standard, forceArc plus TIG and MMA – five processes, one power source.

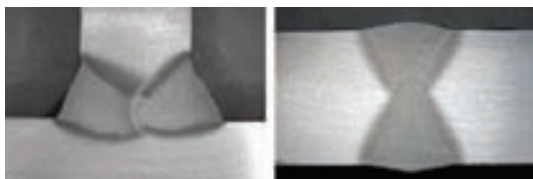


■ Intuitive, self-explanatory operating concepts

Concept – direct access to the most important parameters on the wire feeder

Progress – direct access to all settings on the wire feeder

Expert – either wire feed control unit M3.00 with basic functions only or M3.70 with expanded settings



■ forceArc – extremely productive with uncompromising quality

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering: powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.



■ rootArc – reliable short arc welding in all positions

Short arc with easy weld modelling capabilities for easy gap-bridging and positional welding



■ Innovative pulse welding for stainless steel and aluminium

The perfect pulse welding job guarantees superb welding results when joining stainless steel and aluminium, thanks to controlled globular transfer and targeted, adapted heat input



■ Phoenix – wide range of accessories and options

Simple to operate: the Powercontrol torch allows all programs, operating modes, processes and the up/down function to be activated at the touch of a button.



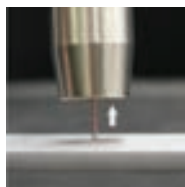
Super pulse – super bead

Super pulse technology with alternating welding current is the most effective MIG/MAG welding solution for many applications: visible seams with TIG appearance, secure root weldings and excellent gap bridging



Multi-voltage capability – the ideal solution

Multi-voltage version for different national grids. 3 x 230 V, 400 V, 480 V (option, ex works)



MIG lift arc ignition – high-precision, spatter-free ignition

Reliable and reproducible ignition results for manual applications



Very high power reserves

enable use of long intermediate hose packages: 70 mm² up to 30 m / 95 mm² up to 40 m



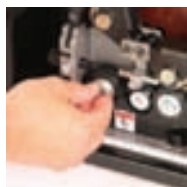
Extra-large 12 litre tank

Trouble-free commissioning even with long hose packages and safe operation at high temperatures and during extended duty cycles



Connected in no time

Screw and plug-in connections for intermediate hose package located externally on wire feed



Total convenience

No tools required for roller change, roller is suitable for two different wire diameters



4 lifting eyes as standard

100% mobile for transportation in production halls and shipyards with restricted access



Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport



Multi-functional, ergonomic handle system

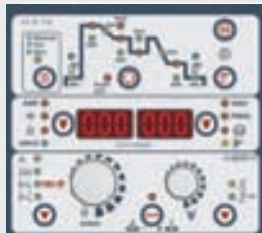
Effortless running, practical holder for hose packages, impact protection



Concept



- No electronics in the wire feed unit
- Setting of operating point, arc length correction, non-latched/latched and standard/pulse on the wire feed unit



- Selection of the welding task from the JOB list
- Setting of all welding parameters and welding data displays on the welding machine
- Setting of the welding parameters via welding sequence with LED user menu

Highlights

- Easiest possible selection of the preset JOBS (welding tasks) for the different materials, gas types and wire diameters via JOB list.
- Synergic – one-knob operation
- forceArc, rootArc and standard and pulse MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging

JOB LIST									
Material	Gas	Wire	Wire dia.	Wire speed	Current	Voltage	Power	Wire feed	Job No.
Stainless	Ar/CO2	0.8mm	1.2	10	100	15	1500	10	1
Aluminum	Ar	1.2mm	1.2	10	100	15	1500	10	2
Carbon	Ar	0.8mm	1.2	10	100	15	1500	10	3

Progress



- Selection of the welding task from the JOB list
- Setting of all welding parameters and welding data displays on the wire feed unit or on compact welding machine
- Setting of the welding parameters via welding sequence with LED user menu

- No settings required on decompact welding machine

Highlights

- Easiest possible selection of the preset JOBS (welding tasks) for the different materials, gas types and wire diameters via JOB list
- Synergic – one-knob operation
- forceArc, rootArc and standard and pulse MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging

JOB LIST									
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Stainless	Ar/CO2	0.8mm	1.2	10	100	15	1500	10	1
Aluminum	Ar	1.2mm	1.2	10	100	15	1500	10	2
Carbon	Ar	0.8mm	1.2	10	100	15	1500	10	3

Expert / M 3.00



- Setting of operating point, arc length correction, non-latched/latched, dynamics and standard/pulse on the wire feed unit



- Selection and display of the welding task via LED user menu
- Selected welding task is constantly visible on the welding machine
- Setting of all welding parameters and welding data displays on the welding machine



Highlights

- Ideal for changing welding tasks by selecting the JOB (welding task) from the menu on the welding machine for the different materials, gas types and wire diameters
- Synergic – one-knob operation
- forceArc, rootArc and standard and pulse MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging

Expert / M 3.70



- Setting of all welding parameters and welding data displays on the wire feed unit
- Setting of the welding parameters via welding sequence with LED user menu



- Selection and display of the welding task via LED user menu
- Selected welding task is constantly visible on the welding machine
- Setting of all welding parameters and welding data displays on the wire feed unit and on welding machine



Highlights










- Ideal for changing welding tasks by selecting the JOB (welding task) from the menu on the welding machine for the different materials, gas types and wire diameters
- Synergic – one-knob operation
- forceArc, rootArc and standard and pulse MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging



Multiprocess MIG/MAG pulse welding machines

Picomig/Phoenix/Phoenix Car Expert



	Picomig 180 puls TKG	Phoenix 335 puls TKG	Phoenix 335 puls TKM	
	  	  	  	
Controls				
Picomig pulse, portable	•	–	–	
Concept	–	–	–	
Progress	–	•	•	
Expert	–	–	–	
Car Expert	–	–	–	
Functions				
MIG/MAG	•	•	•	
MIG/MAG pulse	•	•	•	
TIG	•	•	•	
MMA	•	•	•	
EWM-forceArc	–	•	•	
EWM-rootArc	–	•	•	
Technical data				
Setting range for welding current	5 A - 180 A	5 A - 330 A	5 A - 330 A	
Duty cycle at ambient temperature	40 °C	25 °C 40 °C	25 °C 40 °C	
25 %	180 A	– –	– –	
35 %	–	– 330 A	– 330 A	
40 %	–	330 A –	330 A –	
60 %	120 A	280 A 250 A	280 A 250 A	
100 %	100 A	240 A 210 A	240 A 210 A	
Open circuit voltage	80 V	80 V	80 V	
Mains frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	
Mains fuses (slow-blow)	1 x 16 A	3 x 16 A	3 x 16 A	
Mains voltage (tolerances)	1 x 230 V (-40 % - +15 %)	3 x 400 V (-25 % - +20 %)	3 x 400 V (-25 % - +20 %)	
Max. connected load	6.4 kVA	12.7 kVA	12.7 kVA	
Recommended generator power	7.5 kVA	13.1 kVA	13.1 kVA	
Drive rollers	4	4	4	
Wire speed	0.5 m/min - 15 m/min	0.5 m/min - 24 m/min	0.5 m/min - 24 m/min	
Dimensions, machine, LxWxH in mm	685 x 280 x 360	624 x 298 x 480	624 x 298 x 480	
Weight, machine	15 kg	33 kg	33 kg	
Weight, wire feeder	–	–	–	
Weight, cooling unit	–	–	16.5 kg	
Protection classification	IP 23	IP 23	IP 23	
Insulation class	H	H	H	
Cooling output	–	–	1000 W (1l/min)	
Tank capacity	–	–	4 l	
Flow rate	–	–	5 l/min	
Max. output pressure	–	–	3.5 bar	
Standards	IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A			

QR Code



NEW!



NEW!



NEW!



Phoenix 405 puls TDM

Phoenix 405 puls TDM

Phoenix 505 puls TDM



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5 A - 400 A

5 A - 400 A

5 A - 500 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

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400 A

400 A

400 A

400 A

500 A

500 A

390 A

360 A

390 A

360 A

450 A

420 A

390 A

360 A

80 V

80 V

80 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 35 A

3 x 35 A

3 x 35 A

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

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

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

17.5 kVA

17.5 kVA

24.6 kVA

25 kVA

25 kVA

35 kVA

4

4

4

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

624 x 298 x 535

624 x 298 x 535

624 x 298 x 535

41 kg

41 kg

45 kg

14.1 kg

15.1 kg

14.1 kg

–

16.5 kg

–

IP 23

IP 23

IP 23

H

H

H

–

1000 W (1l/min)

–

–

4 l

–

–

5 l/min

–

–

3.5 bar

–

IEC 60 974-1;-5; -10 / CE / S-Safety sign / EMC class A





Phoenix 505 puls TDM

Phoenix 301 puls FKG

Phoenix 401 puls FKW



Controls

Picomig pulse, portable

Concept

Progress

Expert

Car Expert

Functions

MIG/MAG

MIG/MAG pulse

TIG

MMA

EWM-forceArc

EWM-rootArc

Technical data

Setting range for welding current

Duty cycle at ambient temperature

40 %

60 %

80 %

100 %

Open circuit voltage

Mains frequency

Mains fuses (slow-blow)

Mains voltage (tolerances)

Max. connected load

Recommended generator power

Drive rollers

Wire speed

Dimensions, machine, LxWxH in mm

Weight, machine

Weight, wire feeder

Weight, cooling unit

Protection classification

Insulation class

Cooling output

Tank capacity

Flow rate

Max. output pressure

Standards

5 A - 500 A

25 °C

40 °C

500 A

500 A

450 A

420 A

–

–

390 A

360 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

24.6 kVA

35 kVA

4

0.5 m/min - 24 m/min

624 x 298 x 535

45 kg

15.1 kg

16.5 kg

IP 23

H

1000 W (1l/min)

4 l

5 l/min

3.5 bar

5 A - 300 A

25 °C

40 °C

–

–

–

300 A

300 A

–

270 A

250 A

100 V

50 Hz / 60 Hz

3 x 16 A

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

11 kVA

16.4 kVA

4

0.5 m/min - 24 m/min

930 x 460 x 730

69.5 kg

–

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IP 23

H

–

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–

5 A - 400 A

25 °C

40 °C

–

–

400 A

400 A

–

–

390 A

360 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

17.5 kVA

25 kVA

4

0.5 m/min - 24 m/min

1100 x 455 x 1000

119.5 kg

–

–

IP 23

H

1500 W (1l/min)

12 l

5 l/min

–

–

IEC 60 974-1; -5 -10 / CE / S-Safety sign / EMC class A

QR Code



NEW!



Phoenix 401 puls FDW

Phoenix 351 puls FDW

Phoenix 451 puls FDW



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•	•	•

5 A - 400 A		5 A - 350 A		5 A - 450 A	
25 °C	40 °C	25 °C	40 °C	25 °C	40 °C
–	–	–	–	–	–
400 A	400 A	–	–	–	–
–	–	–	–	–	450 A
390 A	360 A	350 A	350 A	450 A	420 A
80 V		80 V		80 V	
50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz	
3 x 35 A		3 x 25 A		3 x 35 A	
3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
17.5 kVA		13.9 kVA		20.7 kVA	
25 kVA		20.3 kVA		29.1 kVA	
4		4		4	
0.5 m/min - 24 m/min		0.5 m/min - 24 m/min		0.5 m/min - 24 m/min	
1100 x 455 x 1000		1100 x 455 x 1000		1100 x 455 x 1000	
118 kg		129 kg		129 kg	
15.1 kg		15.1 kg		15.1 kg	
–		–		–	
IP 23		IP 23		IP 23	
H		H		H	
1500 W (1l/min)		1500 W (1l/min)		1500 W (1l/min)	
12 l		12 l		12 l	
5 l/min		5 l/min		5 l/min	
3.5 bar		3.5 bar		3.5 bar	

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A





Phoenix 551 puls FDW

Phoenix 551 puls D FDW



Controls

Picomig pulse, portable

Concept

Progress

Expert

Car Expert

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Functions

MIG/MAG

MIG/MAG pulse

TIG

MMA

EWM-forceArc

EWM-rootArc

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Technical data

Setting range for welding current

5 A - 550 A

5 A - 550 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

60 %

550 A

550 A

550 A

550 A

80 %

520 A

–

520 A

–

100 %

450 A

420 A

450 A

420 A

Open circuit voltage

80 V

80 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 35 A

3 x 35 A

Mains voltage (tolerances)

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

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

Max. connected load

28 kVA

28 kVA

Recommended generator power

39.4 kVA

39.4 kVA

Drive rollers

4

4

Wire speed

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

Dimensions, machine, LxWxH in mm

1100 x 455 x 1000

1100 x 680 x 1000

Weight, machine

129 kg

158 kg

Weight, wire feeder

15.1 kg

48 kg

Protection classification

IP 23

IP 23

Insulation class

H

H

Cooling output

1500 W (1l/min)

1500 W (2l/min)

Tank capacity

12 l

12 l

Flow rate

5 l/min

20 l/min

Max. output pressure

3.5 bar

4.5 bar

Standards

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A

QR Code





Phoenix 551 puls 2DV FDW

Phoenix 301 Car Expert puls FKG



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5 A - 550 A

5 A - 300 A

25 °C

40 °C

25 °C

40 °C

550 A

550 A

–

300 A

520 A

–

300 A

–

450 A

420 A

270 A

250 A

80 V

100 V

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 35 A

3 x 16 A

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

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

28 kVA

11 kVA

39.4 kVA

16.4 kVA

4

4

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

1100 x 680 x 1000

930 x 460 x 730

158 kg

69.5 kg

15.1 kg

–

IP 23

IP 23

H

H

1500 W (2l/min)

–

12 l

–

20 l/min

–

4.5 bar

–

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Wire feed units



Phoenix Progress drive 4

Wire feeder, water, Euro torch connector
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Phoenix Progress drive 4 HS

Wire feeder for high performance welding
 Can only be used on Phoenix 551 Progress
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Phoenix Progress drive 4L

Wire feeder, water, Euro torch connector
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Phoenix Progress drive 300C

Wire feeder, water, Euro torch connector
 Adjustment of the gas quantity directly on the wire feed unit
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Phoenix Progress drive 200C

Wire feeder, water, Euro torch connector
 Adjustment of the gas quantity directly on the wire feed unit
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 200 mm



Phoenix Progress drive 4D

Double wire feeder
 Two welding tasks with just one power source for alternating welding of root and final passes, solid and flux cored wire, or a variety of materials and wire thicknesses
 The torch trigger is used for changeover between the wire feeds; no special torch or changeover on the machine required!
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm
 No changing of rollers, no torch conversion required, changeover times are greatly reduced
► Can be operated with the Phoenix Progress puls D series only!

Intermediate drive unit



M drive 4Z W

Wire feed intermediate drive, water, steel
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
► Special intermediate hose package available on request!
► Especially for alpha Q, Phoenix Progress, Phoenix Expert and Taurus Synergic S. Not suitable for high-speed welding!

Intermediate hose package, 7-pole



MIG G 7POL 70MM²

Intermediate hose package, gas-cooled, 7-pole

Intermediate hose package, 7-pole



MIG W 7POL 70MM²

Intermediate hose package, water-cooled, 7-pole

Intermediate hose packages, 19-pole



MIG W 19POL 70MM²

Intermediate hose package, water-cooled, 19-pole

Torches



MT series EZA

MIG/MAG welding torch, gas-cooled
 Equipped for 1.2 mm welding wire



MT451W F EZA M9

MIG/MAG welding torch, water-cooled, fume extraction
 Equipped for 1.2 mm welding wire



TIG 150 GD 1T EZA 4M

TIG welding torch, Euro torch connector

Function torch 19-pole



MT series U/D

MIG/MAG welding torch, 1 x up/down, water-cooled
 Equipped for 1.2 mm welding wire



MT series 2U/D

MIG/MAG welding torch, 2x up/down, water-cooled
 Equipped for 1.2 mm welding wire



MT series PC1

MIG/MAG welding torch, Powercontrol 1, water-cooled
 Equipped for 1.2 mm welding wire

► Not possible in combination with Phoenix Expert drive 4/4L M3.00!



MT series PC2

MIG/MAG welding torch, Powercontrol 2, water-cooled
 Equipped for 1.2 mm welding wire

► Not possible in combination with Phoenix Expert drive 4/4L M3.00!

Gouging



GT 600 SKK95 3

Gouging torch
 Air arc gouging torch for separating metals
► Suitable carbon electrodes can be found in the Accessories section of the price list!



Remote controls



R10 19POL

Remote control, wire speed setting, welding voltage correction
Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket
For alpha Q, Phoenix, Taurus Synergic and Taurus Synergic S



RG10 19POL

Remote control to set the wire speed and welding voltage
Plastic casing with retaining clip, 19-pole connection socket
Light, robust and convenient
Voltage correction from -10 V to +10 V
Infinitely variable setting of wire-feed speed (0.5–24 m/min)
With pre-fitted 5-m connection cable
For alpha Q, Phoenix, Taurus Synergic and Taurus Synergic S machine series



R20 19POL

Remote control, program switching
Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket
Changeover and display of up to ten welding programmes
For alpha Q, Phoenix Progress, Phoenix Expert (not in combination with Phoenix Expert Drive M3.00) as well as Taurus Synergic S



R40 7POL

Remote control, 16 programs
Robust metal casing with rubber feet, retaining clip and holding magnet, 7-pole connection socket
Switch between MIG standard welding and pulsed arc welding
For alpha Q, Phoenix Progress, Phoenix Expert and Taurus Synergic S

► **Cannot be used with double or two separate wire feed units!**

Cooling units



cool50 U40

Air cooling unit with centrifugal pump
Modular design, tool-free assembly

Transport carts



Trolley 35-1

Transport carts
For Picomig 180, Picotig 180/180 MV, Tetrix 180 and Pico 180
For transporting a power source and a gas cylinder



Trolley 55-2

Transport carts
For transporting a power source, a cooling unit and a gas cylinder
For Tetrix 230, 270 DC, Tetrix 230 AC/DC, as well as Phoenix and Taurus 335



■ TAURUS – staying power for MIG/MAG standard welding

Taurus

■ modular

Construction site, assembly, workshop, production site – the right machine for every location and every task. Can be expanded at any time with cooling unit and transport cart – no need for tools or specialist personnel

Highlights



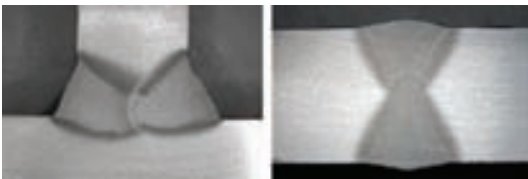
■ Taurus Basic S – excellent price/performance ratio

The robust, infinitely adjustable inverter power source for MIG/MAG standard and MMA welding as well as air arc gouging with classical twin-knob operation and adjustment of welding voltage and wire speed



■ Taurus Synergic S – with the innovative welding processes

In addition to the „standard“ – MIG/MAG, MMA, air arc gouging – the Synergic distinguishes itself with the innovations from EWM: forceArc and rootArc as well as TIG (lift arc). The one-knob operation (Synergic) with pre-programmed JOBS (welding tasks) and selection via JOB list makes adjustment perfect



■ forceArc – extremely productive with uncompromising quality

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering: powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.



■ rootArc – reliable short arc welding in all positions

Short arc with easy weld modelling capabilities for easy gap-bridging and positional welding



■ Taurus – choice of 4 controls

From the exceptionally simple „Basic“ to the especially convenient „Synergic“. Display and settings optionally on the machine or, as an S version, on the wire feeder



■ Consistent welding results

The innovative EWM inverter technology is characterised by particularly low energy consumption, great power reserves and a long life, regardless of cable lengths and mains voltage fluctuations



Simply practical

MMA welding and air arc gouging with the Phoenix concept also without a wire feeder or remote control.



Very high power reserves

enable use of long intermediate hose packages: 70 mm² up to 30 m / 95 mm² up to 40 m



Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic, with rounded corners and edges.

Operating elements with a particularly clear and protected layout



Well thought-out: casing and cooling

Optimised air ducting via blades and fan control minimises soiling in the machine. The high-performance centrifugal pump ensures optimal welding torch cooling



Combine skilfully and as required

Easy combination of cooling unit or transport cart – without specialist staff and without opening the welding machine. Innovative and easy to expand to meet future needs



Ideal for self-shielded cored wires

Tool-free pole reversal and cored wire characteristics as standard



Super-fast attachment of cooling unit

The unique fastening system guarantees easy attachment and detachment. The catches are fully integrated in the casing so there is no protrusion and therefore no risk of injury.



Total convenience

No tools required for roller change, roller is suitable for two different wire diameters



■ TAURUS – staying power for MIG/MAG standard welding

Taurus

■ mobile

3-in-1 casing concept means power source, transport cart and cooling unit are combined in one unit for easy transport and handling. Optimised air guidance ensures greater cooling efficiency, permits longer duty cycles and reduces soiling in the machine. Easy handling is guaranteed by the self-explanatory controls.

Full performance for tough, practical operation

Highlights



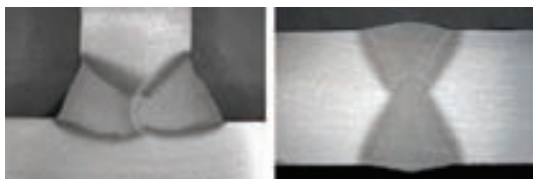
■ Taurus Basic S – excellent price/performance ratio

The robust, infinitely adjustable inverter power source for MIG/MAG standard and MMA welding as well as air arc gouging with classical twin-knob operation and adjustment of welding voltage and wire speed



■ Taurus Synergic S – with the innovative welding processes

In addition to the „standard“ – MIG/MAG, MMA, air arc gouging – the Synergic distinguishes itself with the innovations from EWM: forceArc and rootArc as well as TIG (lift arc). The one-knob operation (Synergic) with pre-programmed JOBS (welding tasks) and selection via JOB list makes adjustment perfect



■ forceArc – extremely productive with uncompromising quality

Up to 50% lower production costs: a masterpiece of innovative MIG/MAG process engineering: powerful forced arc, deep fusion penetration and virtually spatter-free weld seams of the highest quality.



■ rootArc – reliable short arc welding in all positions

Short arc with easy weld modelling capabilities for easy gap-bridging and positional welding



■ Precise, reproducible wire feed

Thanks to digital control of the wire feed – even with difficult wire feed conditions e.g. long torch hose packages



■ Taurus – choice of 4 controls

From the exceptionally simple „Basic“ to the especially convenient „Synergic“. Display and settings optionally on the machine or, as an S version, on the wire feeder



Synergic operation

Very easy to set the operating point – all welding parameters and the optimum characteristics are set as per the pre-selected welding task using just one rotary dial



Multi-voltage capability – the ideal solution

Multi-voltage version for different national grids. 3 x 230 V, 400 V, 480 V (option, ex works)



Gas or water cooling

Taurus 351, 401, 451 and 551 either with gas or water cooling

Will pass through manholes

Wire feed unit can be transported easily thanks to central handle, light weight, compact design



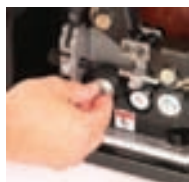
Extra-large 12 litre tank

Trouble-free commissioning even with long hose packages and safe operation at high temperatures and during extended duty cycles



Connected in no time

Screw and plug-in connections for intermediate hose package located externally on wire feed



Total convenience

No tools required for roller change, roller is suitable for two different wire diameters



4 lifting eyes as standard

100% mobile for transportation in production halls and shipyards with restricted access



Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport



Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection



Basic



- No electronics in the wire feed unit
- Setting of operating point, wire speed and non-latched/latched on the wire feed unit
- Twin-knob operation



- Setting of all welding parameters and welding data displays on the welding machine

Highlights

- MIG/MAG welding with solid and flux cored wire, MMA welding, air arc gouging

Basic S



- Setting of all welding parameters and welding data displays on the wire feed unit or on compact welding machine
- Twin-knob operation

- No settings required on decompact welding machine

Highlights

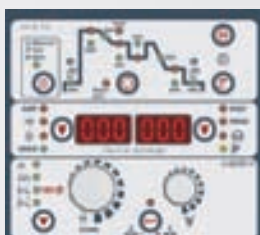
- MIG/MAG welding with solid and flux cored wire, MMA welding, air arc gouging



Synergic



- No electronics in the wire feed unit
- Setting of operating point, arc length correction, non-latched/latched and standard/pulse on the wire feed unit



- Selection of the welding task from the JOB list
- Setting of all welding parameters and welding data displays on the welding machine
- Setting of the welding parameters via welding sequence with LED user menu

Job List		Job No.				
Job No.	Job Name	Job Type	Job Status			
			0.0	0.1	0.2	0.3
0001	0001-001	0001	0.0	0.1	0.2	0.3
0002	0002-002	0002	0.0	0.1	0.2	0.3
0003	0003-003	0003	0.0	0.1	0.2	0.3
0004	0004-004	0004	0.0	0.1	0.2	0.3
0005	0005-005	0005	0.0	0.1	0.2	0.3

Highlights

- Easiest possible selection of the preset JOBS (welding tasks) for the different materials, gas types and wire diameters via JOB list
- Synergic – one-knob operation
- forceArc, rootArc and standard MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging

Synergic S



- Selection of the welding task from the JOB list
- Setting of all welding parameters and welding data displays on the wire feed unit or on compact welding machine
- Setting of the welding parameters via welding sequence with LED user menu
- Synergic – one-knob operation

- No settings required on decompact welding machine

Job List		Job Title		Job Description	
Job ID	Job Title	Job Description	Job Title	Job Description	Job Title
1001	Job Title	Job Description	Job Title	Job Description	Job Title
1002	Job Title	Job Description	Job Title	Job Description	Job Title
1003	Job Title	Job Description	Job Title	Job Description	Job Title
1004	Job Title	Job Description	Job Title	Job Description	Job Title
1005	Job Title	Job Description	Job Title	Job Description	Job Title
1006	Job Title	Job Description	Job Title	Job Description	Job Title
1007	Job Title	Job Description	Job Title	Job Description	Job Title
1008	Job Title	Job Description	Job Title	Job Description	Job Title
1009	Job Title	Job Description	Job Title	Job Description	Job Title
1010	Job Title	Job Description	Job Title	Job Description	Job Title

Highlights

- Easiest possible selection of the preset JOBS (welding tasks) for the different materials, gas types and wire diameters via JOB list
- Synergic – one-knob operation
- forceArc, rootArc and standard MIG/MAG welding with solid and flux cored wire, MMA and TIG lift arc welding, air arc gouging
- Extensive remote control options



NEW!



Taurus 335 TKM

Taurus 335 TKM

Taurus 405 TDM



Controls

Taurus Basic

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Taurus Basic S

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Taurus Synergic

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Taurus Synergic S

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Functions

MIG/MAG

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MMA

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TIG

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EWM-forceArc

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EWM-rootArc

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Technical data

Setting range for welding current

5 A - 330 A

5 A - 330 A

5 A - 400 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

35 %

–

330 A

–

330 A

–

–

40 %

330 A

–

330 A

–

–

–

60 %

280 A

250 A

280 A

250 A

400 A

400 A

100 %

240 A

210 A

240 A

210 A

390 A

360 A

Open circuit voltage

80 V

80 V

80 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 16 A

3 x 16 A

3 x 35 A

Mains voltage (tolerances)

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

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

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

Max. connected load

12.7 kVA

12.7 kVA

17.5 kVA

Recommended generator power

13.1 kVA

13.1 kVA

25 kVA

Drive rollers

4

4

4

Wire speed

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

Dimensions, machine, LxWxH in mm

624 x 298 x 480

624 x 298 x 480

624 x 298 x 535

Weight, machine

33 kg

33 kg

41 kg

Weight, wire feeder

–

–

15.1 kg

Weight, cooling unit

–

16.5 kg

–

Protection classification

IP 23

IP 23

IP 23

Insulation class

H

H

H

Cooling output

–

1000 W (1l/min)

–

Tank capacity

–

4 l

–

Flow rate

–

5 l/min

–

Max. output pressure

–

3.5 bar

–

Standards

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A

QR Code





Taurus 405 TDM



Taurus 505 TDM



Taurus 505 TDM



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5 A - 400 A

25 °C

40 °C

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400 A

400 A

390 A

360 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

17.5 kVA

25 kVA

4

0.5 m/min - 24 m/min

624 x 298 x 535

41 kg

15.1 kg

16.5 kg

IP 23

H

1000 W (11/min)

4 l

5 l/min

3.5 bar

5 A - 500 A

25 °C

40 °C

–

–

500 A

500 A

450 A

420 A

390 A

360 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

24.6 kVA

35 kVA

4

0.5 m/min - 24 m/min

624 x 298 x 535

45 kg

15.1 kg

–

IP 23

H

–

–

–

–

5 A - 500 A

25 °C

40 °C

–

–

500 A

500 A

450 A

420 A

390 A

360 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

24.6 kVA

35 kVA

4

0.5 m/min - 24 m/min

624 x 298 x 535

45 kg

15.1 kg

16.5 kg

IP 23

H

1000 W (11/min)

4 l

5 l/min

3.5 bar

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A














NEW!



NEW!



	Taurus 301 FKG		Taurus 401 FKW		Taurus 401 FDW		
	  		  		  		
Controls							
Taurus Basic	•		•		•		
Taurus Basic S	–		–		•		
Taurus Synergic	•		•		•		
Taurus Synergic S	–		–		•		
Functions							
MIG/MAG	•		•		•		
MMA	•		•		•		
TIG	•		•		•		
EWM-forceArc	•		•		•		
EWM-rootArc	•		•		•		
Technical data							
Setting range for welding current	5 A - 300 A		5 A - 400 A		5 A - 400 A		
Duty cycle at ambient temperature	25 °C	40 °C	25 °C	40 °C	25 °C	40 °C	
60 %	–	300 A	400 A	400 A	400 A	400 A	
80 %	300 A	–	–	–	–	–	
100 %	270 A	250 A	390 A	360 A	390 A	360 A	
Open circuit voltage	100 V		80 V		80 V		
Mains frequency	50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz		
Mains fuses (slow-blow)	3 x 16 A		3 x 35 A		3 x 35 A		
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		
Max. connected load	11 kVA		17.5 kVA		17.5 kVA		
Recommended generator power	16.4 kVA		25 kVA		25 kVA		
Drive rollers	4		4		4		
Wire speed	0.5 m/min - 24 m/min		0.5 m/min - 24 m/min		0.5 m/min - 24 m/min		
Dimensions, machine, LxWxH in mm	930 x 460 x 730		1100 x 455 x 1000		1100 x 455 x 1000		
Weight, machine	69.5 kg		119.5 kg		118 kg		
Weight, wire feeder	–		–		15.1 kg		
Protection classification	IP 23		IP 23		IP 23		
Insulation class	H		H		H		
Cooling output	–		1500 W (1l/min)		1500 W (1l/min)		
Tank capacity	–		12 l		12 l		
Flow rate	–		5 l/min		5 l/min		
Max. output pressure	–		3.5 bar		3.5 bar		
Standards	IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A						

QR Code





Taurus 351 FDW

Taurus 451 FDW

Taurus 551 FDW



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5 A - 350 A

5 A - 450 A

5 A - 550 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

–

–

–

–

550 A

550 A

–

–

–

450 A

520 A

–

350 A

350 A

450 A

420 A

450 A

420 A

80 V

80 V

80 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 25 A

3 x 35 A

3 x 35 A

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

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

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

13.9 kVA

20.7 kVA

28 kVA

20.3 kVA

29.1 kVA

39.4 kVA

4

4

4

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

1100 x 455 x 1000

1100 x 455 x 1000

1100 x 455 x 1000

129 kg

129 kg

129 kg

15.1 kg

15.1 kg

15.1 kg

IP 23

IP 23

IP 23

H

H

H

1500 W (1l/min)

1500 W (1l/min)

1500 W (1l/min)

12 l

12 l

12 l

5 l/min

5 l/min

5 l/min

3.5 bar

3.5 bar

3.5 bar

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Wire feed units



Taurus Synergic S drive 4

Wire feeder, water, Euro torch connector
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Taurus Synergic S drive 4L

Wire feeder, water, Euro torch connector
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Taurus Synergic S drive 300C

Wire feeder, water, Euro torch connector
 Adjustment of the gas quantity directly on the wire feed unit
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 300 mm



Taurus Synergic S drive 200C

Wire feeder, water, Euro torch connector
 Adjustment of the gas quantity directly on the wire feed unit
 4-roller wire feed equipped for 1.0 mm + 1.2 mm steel wires
 Spool diameter up to 200 mm

Intermediate hose package, 7-pole



MIG G 7POL 70MM²

Intermediate hose package, gas-cooled, 7-pole



MIG W 7POL 70MM²

Intermediate hose package, water-cooled, 7-pole

Intermediate hose packages, 19-pole



MIG G 19POL 70MM²

Intermediate hose package, gas-cooled, 19-pole



MIG W 19POL 70MM²

Intermediate hose package, water-cooled, 19-pole

Torches



MT series EZA

MIG/MAG welding torch, gas-cooled
 Equipped for 1.2 mm welding wire



MT451W F EZA M9

MIG/MAG welding torch, water-cooled, fume extraction
 Equipped for 1.2 mm welding wire

Function torch 19-pole



MT series 2U/D

MIG/MAG welding torch, 2x up/down, gas-cooled
 Equipped for 1.2 mm welding wire



MT series U/D

MIG/MAG welding torch, 1 x up/down, water-cooled
 Equipped for 1.2 mm welding wire



MT series PC1

MIG/MAG welding torch, Powercontrol 1, water-cooled
 Equipped for 1.2 mm welding wire

► **Not possible in combination with Phoenix Expert drive 4/4L M3.00!**



MT series PC2

MIG/MAG welding torch, Powercontrol 2, water-cooled
 Equipped for 1.2 mm welding wire

► **Not possible in combination with Phoenix Expert drive 4/4L M3.00!**

Gouging



GT 600 SKK95 3

Gouging torch

Air arc gouging torch for separating metals

► **Suitable carbon electrodes can be found in the Accessories section of the price list!**

Remote controls



R10 19POL

Remote control, wire speed setting, welding voltage correction

Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket
 For alpha Q, Phoenix, Taurus Synergic and Taurus Synergic S



R11 19POL

Remote control to set the wire speed and welding voltage

Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket
 For Taurus Basic / Basic S



RG10 19POL

Remote control to set the wire speed and welding voltage

Plastic casing with retaining clip, 19-pole connection socket

Light, robust and convenient

Voltage correction from -10 V to +10 V

Infinitely variable setting of wire-feed speed (0.5–24 m/min)

With pre-fitted 5-m connection cable

For alpha Q, Phoenix, Taurus Synergic and Taurus Synergic S machine series



Remote controls



RG11 19POL 5M

Remote control to set the wire speed and welding voltage

Plastic casing with retaining clip, 19-pole connection socket

Light, robust and convenient

Infinite setting of the welding voltage (10–50 V)

Infinitely variable setting of wire-feed speed (0.5–24 m/min)

With pre-fitted 5-m connection cable

For Taurus Basic and Taurus Basic S machine series



R20 19POL

Remote control, program switching

Robust metal casing with rubber feet, retaining clip and holding magnet, 19-pole connection socket

Changeover and display of up to ten welding programmes

For alpha Q, Phoenix Progress, Phoenix Expert (not in combination with Phoenix Expert Drive M3.00) as well as Taurus Synergic S



R40 7POL

Remote control, 16 programs

Robust metal casing with rubber feet, retaining clip and holding magnet, 7-pole connection socket

Switch between MIG standard welding and pulsed arc welding

For alpha Q, Phoenix Progress, Phoenix Expert and Taurus Synergic S

► **Cannot be used with double or two separate wire feed units!**

Cooling units



cool50 U40

Air cooling unit with centrifugal pump

Modular design, tool-free assembly

Transport carts



Trolley 55-2

Transport carts

For transporting a power source, a cooling unit and a gas cylinder

For Tetrix 230, 270 DC, Tetrix 230 AC/DC, as well as Phoenix and Taurus 335



Trolley 55.2-2

Transport carts

For transporting a power source, a cooling unit and a gas cylinder

Phoenix 505 and Taurus 505

► **In order to hold a wire feeder it is essential to have option 092-002700-00000!**

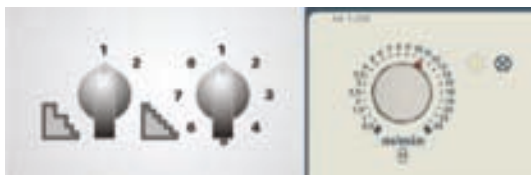
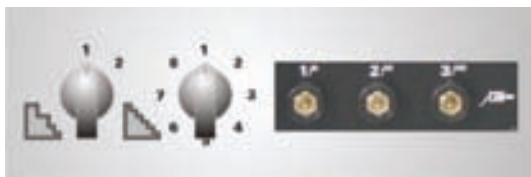


■ The robust machines with optimal performance

Mira
Saturn
Wega

High quality bundled into two versions: the gas-cooled, compact Mira and Saturn machines with integrated wire feed or the water-cooled Wega with separate wire feed unit and optional Synergic operation.

Highlights



■ The perfect start

Optimised ignition characteristics plus creep start and free-burn functions ensure reproducible ignition of the arc.

■ Self-explanatory and clear operating concepts

M1.02 – classical operation, all settings directly accessible

M2.20 – simplest possible operating concept with digital display for all welding data

M2.40 – Synergic one-knob operation with easy selection of material, wire and gas type via JOB list and digital display

■ Excellent welding properties

Fine welding voltage adjustment and optimised welding choke guarantee perfect adaptation to different materials. Saturn and Wega with additional taps.

■ Tried-and-tested operation

The operating point is selected using the step switch and wire feed controller

■ Practical: robust metal casing

Phosphatised, powder-coated sheet steel – corrosion-resistant, ideal for tough applications

■ Minimised finishing work for high cost-effectiveness

Low-spatter joining with short arc and spray arc – using argon, CO₂ or mixed gases. This saves time and costs.



Mira 221 MV

Flexible for every mains grid. 230 V or 400 V



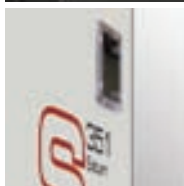
Synergic operation

Very easy to set the operating point – all welding parameters and the optimum characteristics are set as per the pre-selected welding task using just one rotary dial



Easy servicing and maintenance

Rapid changeover of welding accessories with connection sockets for welding torches and welding lead



Clarity

Inspection window to quickly check the wire spool level



7-litre tank

Easy commissioning even with long intermediate hose packages and safe operation at high temperatures and for extended duty cycles



Connected in no time

Screw and plug-in connections for intermediate hose package located externally on wire feed



Total convenience

No tools required for roller change, roller is suitable for two different wire diameters



4 lifting eyes as standard

100% mobile for transportation in production halls and shipyards with restricted access



Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport



Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection



M 1.02



- Setting of the wire feed speed on the wire feed unit or on compact welding machine
- Twin-knob operation



- Setting of the welding voltage via step switch on welding machine

Highlights

- MIG/MAG welding with solid and flux cored wire
- Wide range of functions: non-latched; latched; interval; spot welding
- Adjustable spot time, interval time and pause time

M 2.20



- Setting of wire feed speed and welding data displays on the wire feed unit or on compact welding machine
- Twin-knob operation

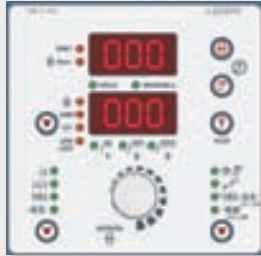


- Setting of the welding voltage via step switch on welding machine

Highlights

- MIG/MAG welding with solid and flux cored wire
- Wide range of functions: non-latched; latched; interval; spot welding; wire inching; gas test
- Adjustable spot welding, interval, pause, gas post-flows and wire burn-back times

M 2.40



- Selection of the welding task from the JOB list
- Setting of all welding parameters and welding data displays on the wire feed unit or on compact welding machine
- Setting of the welding parameters via LED user menu
- Synergic – one-knob operation












- Setting of the operating point via step switch on welding machine

[illegible]

Highlights

- Easiest possible selection of the preset JOBS (welding tasks) for the different materials, gas types and wire diameters via JOB list
- Wide range of functions: non-latched; latched; interval; spot welding; wire inching; gas test
- Adjustable spot welding, interval, pause, gas post-flows and wire burn-back times



	Mira 151 FKG		Mira 221 MV FKG		Mira 251 FKG		
	  		  		  		
Controls							
M1.02	•		•		•		
M2.20	–		–		–		
M2.40	–		–		–		
Functions							
MIG/MAG	•		•		•		
Technical data							
Setting range for welding current	30 A - 150 A		30 A - 220 A		30 A - 250 A		
Duty cycle at ambient temperature	25 °C	40 °C	25 °C	40 °C	25 °C	40 °C	
15 %	–	150 A	–	220 A	–	–	
20 %	–	–	–	–	–	250 A	
25 %	150 A	–	220 A	–	–	–	
35 %	–	–	–	–	250 A	–	
40 %	–	–	–	–	–	–	
45 %	–	–	–	–	–	–	
60 %	–	–	–	–	–	–	
100 %	70 A	55 A	105 A	85 A	150 A	125 A	
Open circuit voltage	35 V		40 V		35 V		
Mains frequency	50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz		
Mains fuses (slow-blow)	1 x 16 A		2 x 16 A		3 x 16 A		
Mains voltage (tolerances)	1 x 230 V (-15 % - +15 %)		2 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		
Max. connected load	4.7 kVA		8 kVA		9.6 kVA		
Recommended generator power	6.4 kVA		10.9 kVA		13 kVA		
Drive rollers	2		2		4		
Wire speed	1.5 m/min - 15 m/min		1.5 m/min - 20 m/min		1.5 m/min - 20 m/min		
Dimensions, machine, LxWxH in mm	880 x 385 x 610		880 x 385 x 610		880 x 385 x 610		
Weight, machine	47 kg		56 kg		60 kg		
Switching steps	6		6		8		
Protection classification	IP 23		IP 23		IP 23		
Insulation class	H		H		H		
Standards	IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A						

QR Code





Mira 301 FKG



Saturn 301 FKG



Saturn 351 FKG



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30 A - 300 A

30 A - 300 A

30 A - 350 A

25 °C

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25 °C

40 °C

25 °C

40 °C

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300 A

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300 A

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300 A

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350 A

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–

300 A

–

350 A

–

–

–

250 A

190 A

300 A

250 A

170 A

150 A

190 A

160 A

250 A

220 A

40 V

40 V

40 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 16 A

3 x 16 A

3 x 25 A

3 x 400 V (-15 % - +15 %)

3 x 400 V (-15 % - +15 %)

3 x 400 V (-15 % - +15 %)

12.8 kVA

12.8 kVA

16 kVA

18 kVA

18 kVA

21.5 kVA

4

4

4

1.5 m/min - 20 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

880 x 385 x 610

930 x 460 x 730

930 x 460 x 730

72 kg

100 kg

112 kg

12

12

16

IP 23

IP 23

IP 23

H

H

H

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A





MIG/MAG standard welding machines, step switch controlled Mira/Saturn/Wega



NEW!



NEW!



Saturn 351 FDG



Wega 401 FKG



Wega 401 FKW



Controls

M1.02	•	•	•
M2.20	•	•	•
M2.40	•	•	•

Functions

MIG/MAG	•	•	•
---------	---	---	---

Technical data

Setting range for welding current

30 A - 350 A

30 A - 400 A

30 A - 400 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

40 %

–

350 A

–

–

–

–

45 %

350 A

–

–

–

–

–

60 %

300 A

250 A

–

400 A

–

400 A

70 %

–

–

400 A

–

400 A

–

100 %

250 A

220 A

300 A

300 A

300 A

300 A

Open circuit voltage

40 V

45 V

45 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 25 A

3 x 25 A

3 x 25 A

Mains voltage (tolerances)

3 x 400 V (-15 % - +15 %)

3 x 400 V (-15 % - +15 %)

3 x 400 V (-15 % - +15 %)

Max. connected load

16 kVA

19.2 kVA

19.2 kVA

Recommended generator power

21.5 kVA

26 kVA

26 kVA

Drive rollers

4

4

4

Wire speed

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

0.5 m/min - 24 m/min

Dimensions, machine, LxWxH in mm

930 x 460 x 730

1100 x 550 x 1000

1100 x 550 x 1000

Weight, machine

100 kg

145 kg

165 kg

Weight, wire feeder

15.5 kg

–

–

Switching steps

16

12 (2)

12 (2)

Protection classification

IP 23

IP 23

IP 23

Insulation class

H

H

H

Cooling output

–

–

1200 W (1l/min)

Tank capacity

–

–

9 l

Flow rate

–

–

5 l/min

Standards

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A

QR Code





Wega 401 FDW



Wega 501 FDW



Wega 601 FDW



•
•
•
•

•
•
•
•

•
•
•
•

30 A - 400 A

50 A - 500 A

50 A - 600 A

	25 °C	40 °C	25 °C	40 °C	25 °C	40 °C	
	-	-	-	-	-	-	
	-	-	-	-	-	600 A	
	-	400 A	-	500 A	600 A	-	
	400 A	-	500 A	-	-	-	
	300 A	300 A	400 A	400 A	450 A	450 A	
	45 V		50 V		60 V		
	50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz		
	3 x 25 A		3 x 32 A		3 x 32 A		
	3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		3 x 400 V (-15 % - +15 %)		
	19.2 kVA		27.5 kVA		36.7 kVA		
	26 kVA		32 kVA		50 kVA		
	4		4		4		
	0.5 m/min - 24 m/min		0.5 m/min - 24 m/min		0.5 m/min - 24 m/min		
	1100 x 560 x 1000		960 x 560 x 1010		960 x 560 x 1010		
	159 kg		200 kg		228 kg		
	18.2 kg		18.2 kg		18.2 kg		
	12 (2)		12 (3)		12 (3)		
	IP 23		IP 23		IP 23		
	H		H		H		
	1200 W (1l/min)		1200 W (1l/min)		1200 W (1l/min)		
	9 l		7 l		7 l		
	5 l/min		5 l/min		5 l/min		

IEC 60 974-1; -5; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Wire feed units



Wega M2.40 drive 41

Wire feeder, water, Euro torch connector
4-roller wire feed equipped for 1.0 mm + 1.2 mm
steel wires
Spool diameter up to 300 mm



Wega M2.40 drive 41L

Wire feeder, water, Euro torch connector
4-roller wire feed equipped for 1.0 mm + 1.2 mm
steel wires
Spool diameter up to 300 mm

Intermediate hose package, 7-pole



MIG G 7POL 50MM²

Intermediate hose package, gas-cooled, 7-pole



MIG W 7POL 70MM²

Intermediate hose package, water-cooled, 7-pole

Torches



MT series EZA

MIG/MAG welding torch, gas-cooled
Equipped for 1.2 mm welding wire



MT451W F EZA M9

MIG/MAG welding torch, water-cooled, fume
extraction
Equipped for 1.2 mm welding wire

Torches



MIG 15 3M

MIG/MAG welding torch, gas-cooled



MIG 25 3M

MIG/MAG welding torch, gas-cooled



MIG 36 3M

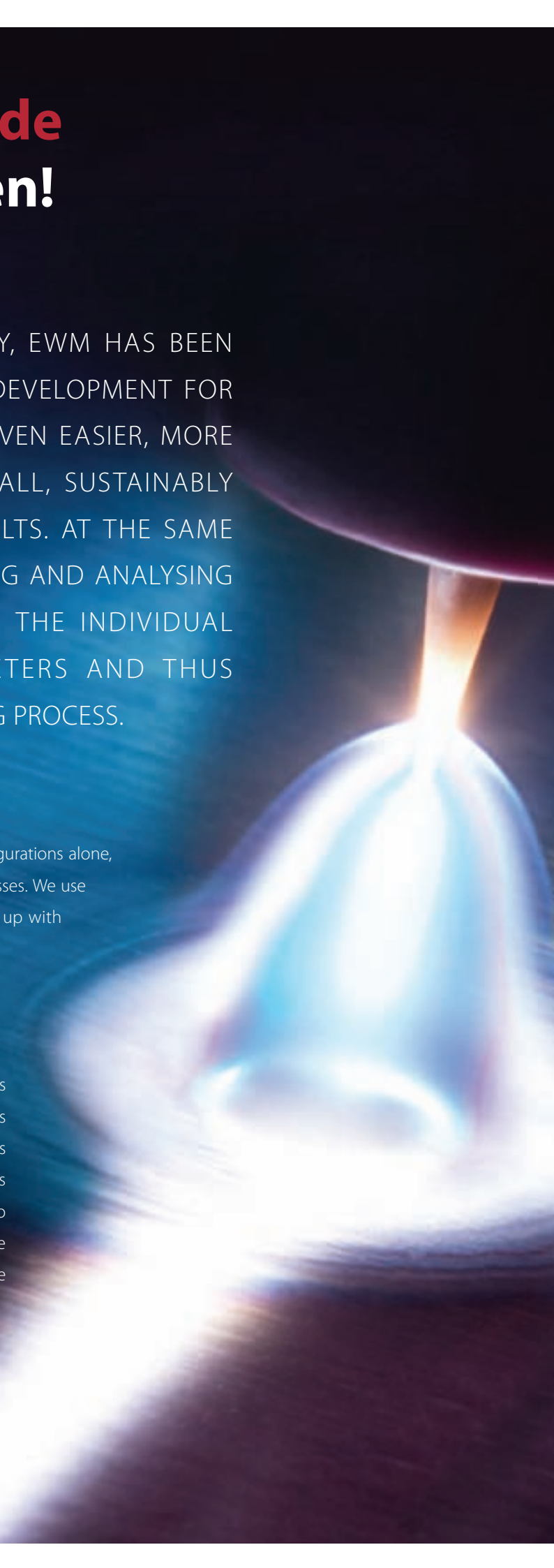
MIG/MAG welding torch, gas-cooled

The **welding code** has been broken!

AS A LEADER IN TECHNOLOGY, EWM HAS BEEN INVOLVED IN RESEARCH AND DEVELOPMENT FOR DECADES, MAKING WELDING EVEN EASIER, MORE COST-EFFECTIVE AND ABOVE ALL, SUSTAINABLY SECURING THE WELDING RESULTS. AT THE SAME TIME, WE HAVE BEEN EXAMINING AND ANALYSING THE COMPLEX INTERPLAY OF THE INDIVIDUAL COMPONENTS AND PARAMETERS AND THUS OPTIMISING THE ENTIRE WELDING PROCESS.

We claim to define not only characteristics and configurations alone, but to develop totally new, innovative welding processes. We use our core electrical engineering know-how to come up with the latest inverter and microprocessor technology.






Welding is one of humanity's key technologies. It has supported, in fact it has made our industrial progress possible for hundreds of years. Today, we come across welding in the most versatile of forms. We join metals to gigantic structures and join the finest materials to delicate constructions. In our daily routine, we place our confidence – often without being aware we are doing so – in the quality and durability of these joints.



Improving quality and cost-effectiveness!

Focusing on TIG/plasma welding (subcategories 141 and 15 according to DIN ISO 4063) EWM has developed functions and processes with which their customers are able to carry out welding tasks faster, more cost-effective and with the highest level of quality.

The innovative TIG/plasma welding processes

 activArc® Dynamic TIG arc with compensated arc performance.	 forceTig® TIG welding process with especially concentrated arc for greater fusion penetration and faster welding speeds.	 Cold wire Hot wire Effective and productive TIG processes thanks to the mechanised addition of the welding consumable.
 Plasma Focused arc with high energy density.	 spotArc® Use TIG spotArc spot welding and metal sheets are joined perfectly.	

A host of functions which save time and money

 Pulsing	 kHz pulsing	 Automated pulsing
 AC special	 AC pulsing	 AC wave forms
 AC frequency	 AC balance	
 Spotmatic		

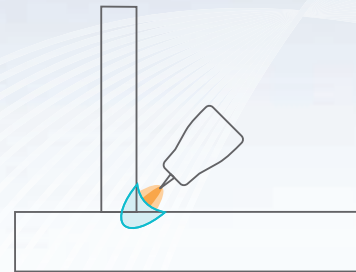
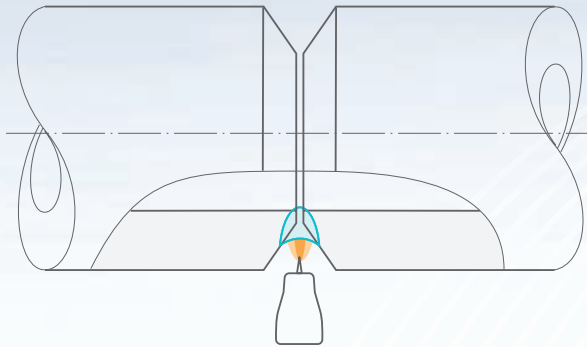


activArc®

Dynamic TIG arc
with compensated arc performance.



Tetrix



activArc®

- Dynamic TIG arc for targeted and concentrated heat input
- Safe TIG welding in all positions and panel thicknesses
- Full control over the arc energy
- Influence over the viscosity of the molten pool
- Noticeable concentration of the energy and increasing arc pressure as the arc becomes shorter
- Prevents mistakes while tack welding – Tungsten electrode does not stick in case of light touching of the molten pool



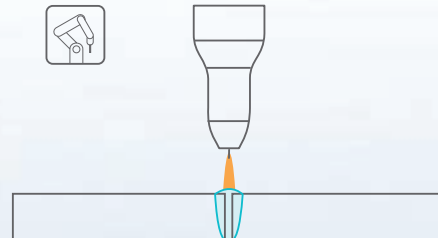
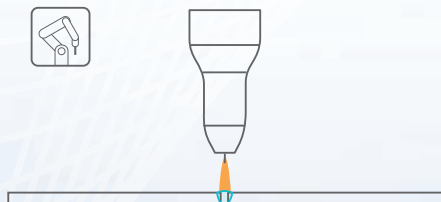
forceTig®

PATENTED

TIG welding process with especially concentrated arc
for greater fusion penetration and higher welding speeds.



forceTig



forceTig®

- Stable arc at very high joining speeds of more than 3 m/min, e.g. when brazing vehicle body panels
- Strongly focused TIG arc with high energy density
- Narrow seams comparable to plasma or laser welding
- Single-pass welding of thin and thick metal sheets is possible
- For fully mechanised and automated manufacturing processes
- Brazing and welding of thin metal sheets at high speed



Plasma

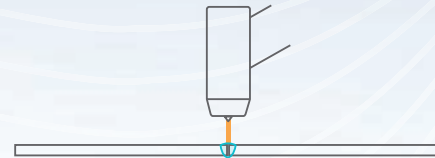
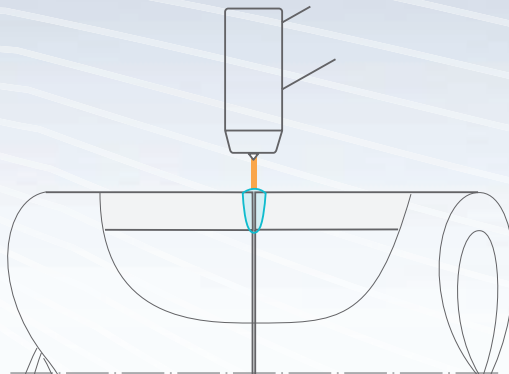
Focused arc
with high energy density.



Tetrax
Plasma



microplasma



Plasma

- Focused, directionally stable arc
- Ignition reliability for repeated ignitions
- Stable microplasma process, even with very low welding currents (as from 0.1 A)
- Plasma keyhole welding with excellent root formation
- Different materials can be joined together (e.g. non-ferrous metals, plastic)
- High welding speeds in fully mechanised and automated applications
- Minimal heat input, resulting in less distortion



Cold wire Hot wire

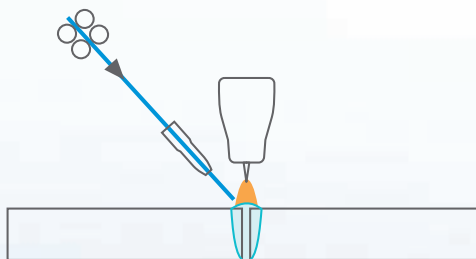
Effective and productive TIG processes
thanks to the mechanised addition of the
welding consumable.



Tetrax AW
Cold wire

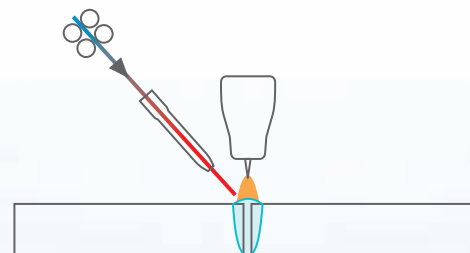


Tetrax AW
Hot wire



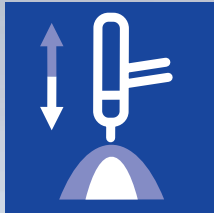
Cold wire

- Effective handling of the TIG process
- Also advantageous when manually welding long seams and large cross-sections
- Greater welding speed and deposition rate in comparison to conventional TIG welding
- Also suitable for non-ferrous metals, e.g. aluminium and aluminium alloys



Hot wire

- High deposition rates comparable to MIG/MAG welding
- High welding speed
- Minimal risk of a lack of fusion
- Highly suitable for narrow-gap welding and GMA-surfacing
- High-quality, fine-flaked seam
- Especially effective in mechanised and automated applications



activArc®

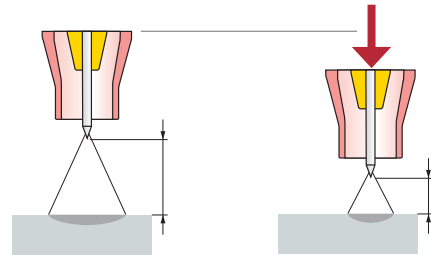
Dynamic TIG arc with compensated arc performance



Tetrix

WITHOUT activArc®

- Changing the arc length changes the voltage, which results in output fluctuations in the arc.

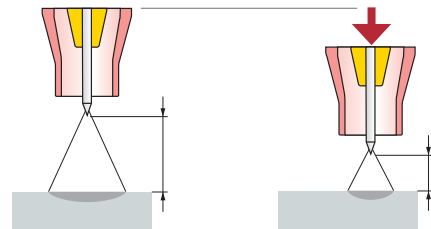


Large distance, approx. 12 V
Welding current: 60 A

Smaller distance, approx. 10.5 V
Welding current: 60 A

WITH activArc®

- Output fluctuations are compensated for when the arc length is changed.



Large distance, approx. 12 V
Welding current: 60 A

Smaller distance, approx. 10.5 V
Welding current: 68.5 A

CONTROLLED HEAT INPUT

- The welding current is increased as the arc is shortened.
- The welding current is decreased as the arc is lengthened.

Voltage V



Current I



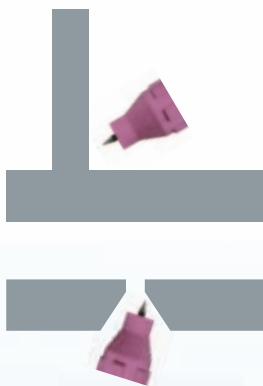
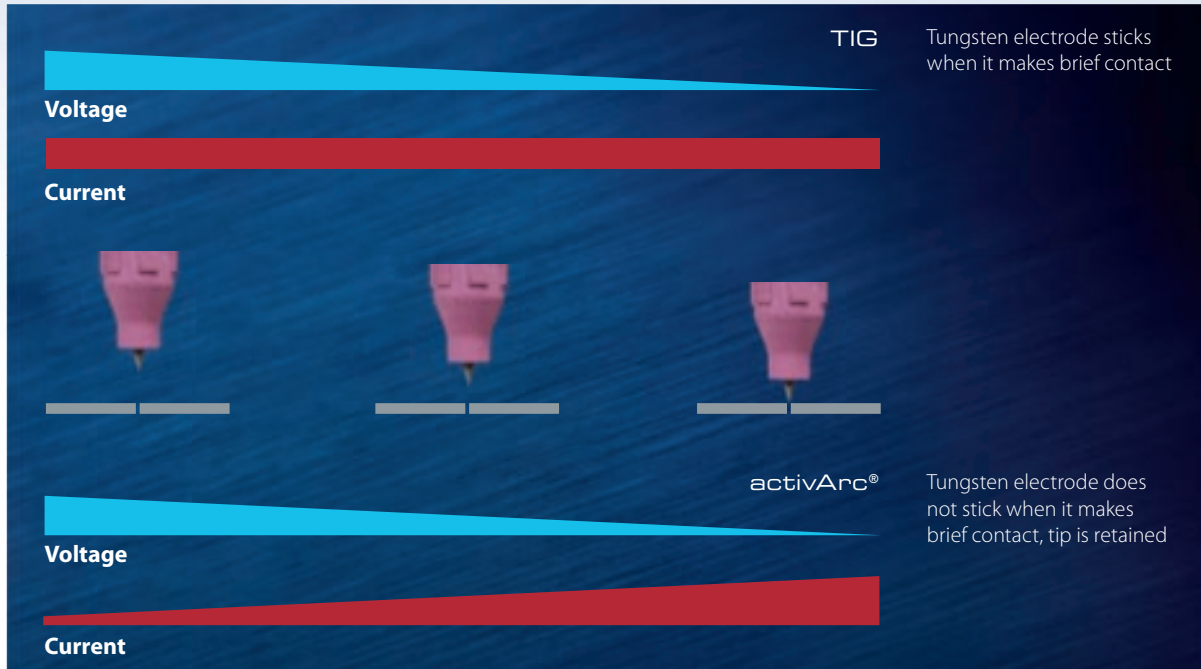
Voltage V



Current I



Simpler and safer TIG welding



Requirement:

Sufficient energy density and high arc pressure for reliable sidewall fusion

Problem:

Constant welding current and dropping output due to dropping welding voltage

Solution using activArc:

Dropping voltage with a shortening arc is compensated for by increasing the welding current.

- Sufficient energy density
- Increased arc pressure thanks to increasing welding current
- Reliable sidewall fusion



Requirement:

Low energy density and low arc pressure for better control of the molten pool

Problem:

Constant welding current and increasing output due to increasing voltage

Solution using activArc:

Dropping welding current as the arc becomes longer

- Low energy density
- Low arc pressure
- Influence on molten pool viscosity



PATENTED

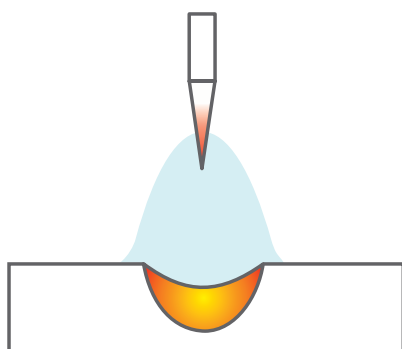
forceTig®

TIG welding process with especially concentrated arc for greater fusion penetration and faster welding speeds



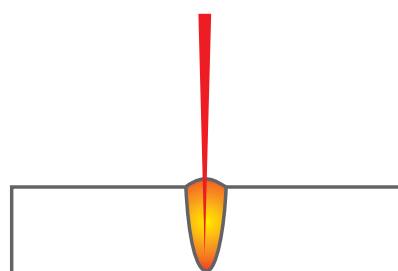
forceTig

ADVANTAGES OF TIG



- Low procurement costs
- Low operating costs
- Easy handling

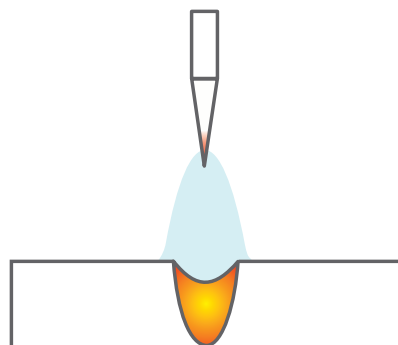
ADVANTAGES OF LASER



- High process stability
- High joining speed
- High energy density
- Deep fusion penetration

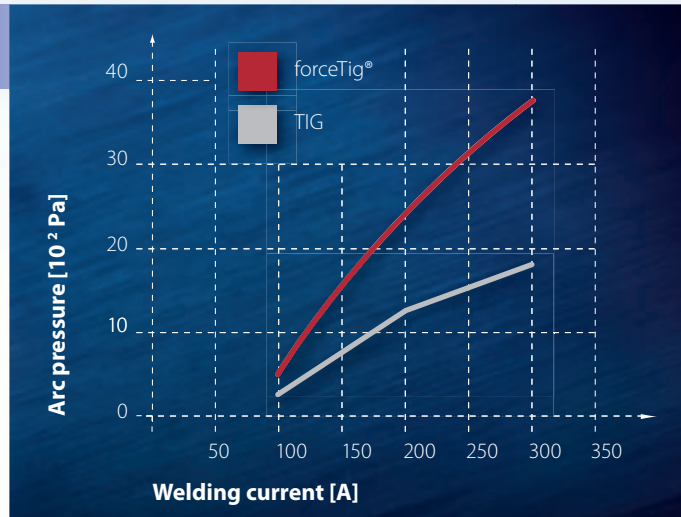
forceTig® - A COMBINATION OF ADVANTAGES

- Optimum for mechanised and automated applications, with or without welding consumables
- High torch power: 800 A at 100% DC
- Very high current loadability, high current density
- Stable torch design for increased crash safety
- Closed, highly effective cooling circuit
- Electrode easy to change without gauges thanks to defined, calibrated geometry
- 100% reproducible TCP
- Low procurement costs and energy requirement



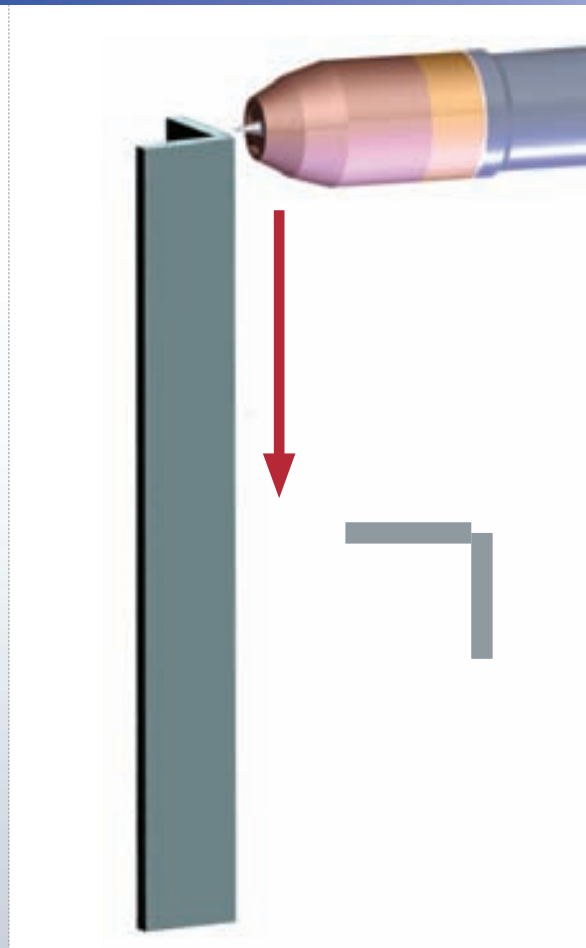
Universal in use, from thin to thick

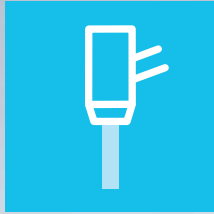
ARC PRESSURE COMPARISON TIG/forceTig®



EDGE WELD IN VERTICAL-DOWN POSITION forceTig® CORNER JOINT

- Material: 1.4301
- Panel thickness: 2 mm
- Welding current: 250 A
- Welding speed > 2 m/min



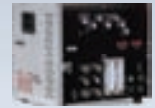


Plasma

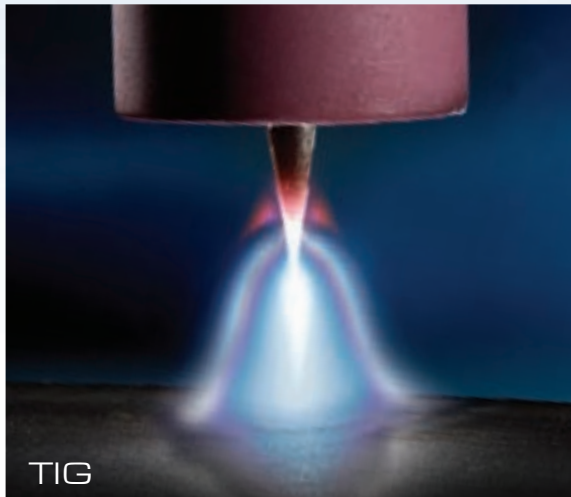
Focused arc with high energy density.



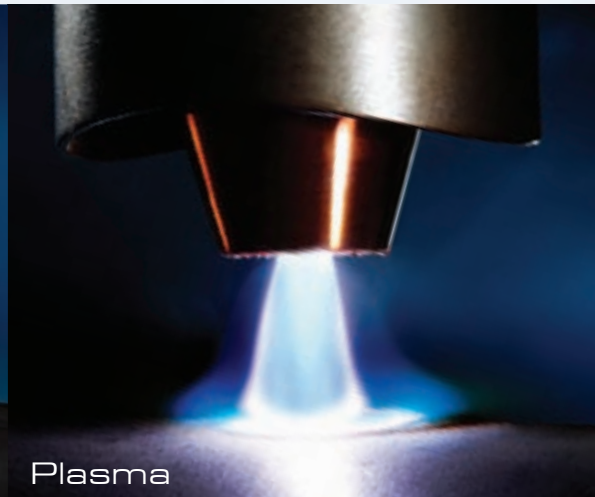
Tetrax
Plasma



microplasma



TIG



Plasma

PLASMA ARC: FEATURES

- Constricted, nearly cylindrical arc
- High energy density
- Low divergence (temp. = 10,000 to 20,000°K)
- Stable, even with extremely low currents as from 0.1 A (microplasma welding)
- Very directionally stable
- Insensitive to changes in distance between the torch and workpiece
- High ignition reliability thanks to pilot arc

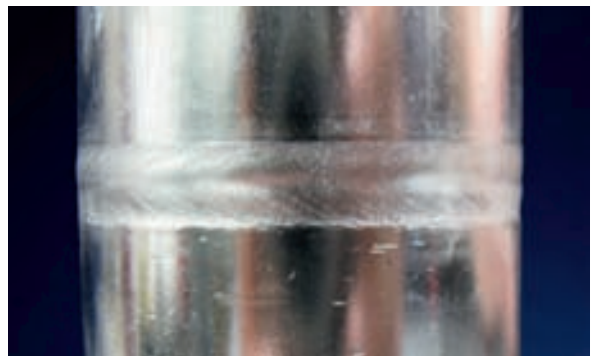
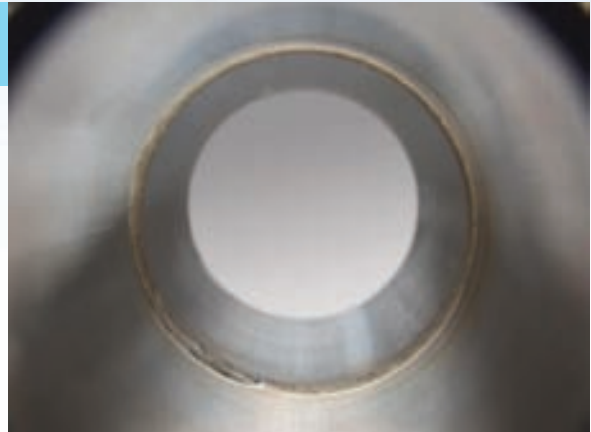
PLASMA ARC: ADVANTAGES FOR PROFESSIONALS

- Faster welding speed compared to TIG welding, especially with metal sheets thicker than 2.5 mm (plasma keyhole welding)
- Reliable single pass penetration up to 8 mm (high-alloy steels) and 10 mm (unalloyed steels)
- Narrow heat-affected zones, less discolouration
- Minimal distortion
- Favourable ratio of seam width to seam depth
- Controllable fusion penetration
- Minimal excess weld material and root-side drop-through, so normally no mechanical post weld work of the weld seam is necessary
- Advantageous in comparison to TIG welding in preproduction
- Insensitive to misaligned edges of the workpieces
- Insensitive to component tolerances which change the arc length
- No risk of tungsten inclusions in the weld metal
- Small molten pool

Fast, safe and for the most stringent of quality requirements

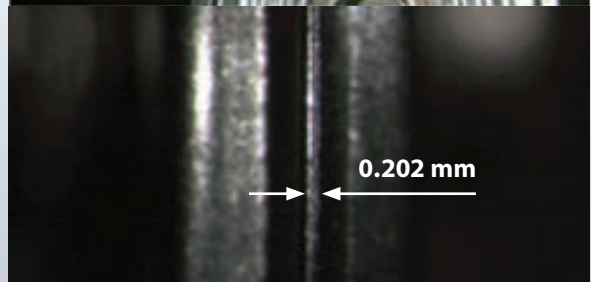
PLASMA/PLASMA KEYHOLE WELDING

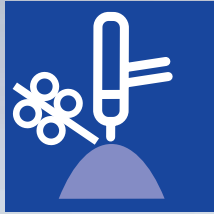
- Container, equipment and pipeline construction
- Vehicle, automobile, track and ship construction
- Food and chemicals industry
- Machine and plant construction
- Production and repair work in the aviation and aerospace industry
- Mould making
- Production of dished boiler heads
- Cryogenics



MICROPLASMA WELDING

- Production and repair work in the aviation and aerospace industry
- Food and chemicals industry
- Vehicle, automobile and ship construction
- Mould making
- Cryogenics
- Measurement and control technology
- Medical technology
- Printing technology
- Electronics





Cold wire Hot wire

Effective and productive TIG processes thanks to the mechanised addition of the welding consumable.



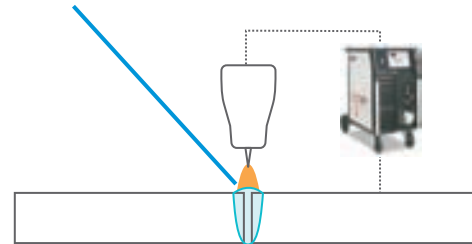
Tetrix AW
Cold wire



Tetrix AW
Hot wire

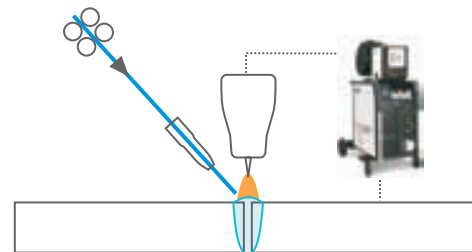
TIG WELDING

- With regard to the materials to be used, wall thicknesses and welding positions, TIG welding is a universal welding process. It enables top-quality welded joints to be created.



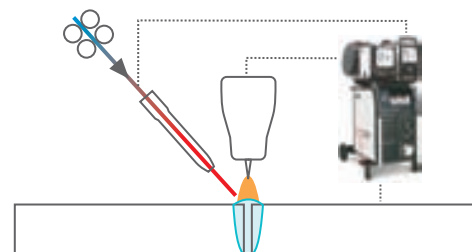
TIG COLD WIRE WELDING

- TIG cold wire welding was developed primarily with the aim of making TIG welding easier and more convenient to use and secondarily to increase the welding speed. In this process, the welding consumable is conveyed to the weld pool by a wire feed unit. Deposition rates, however, remain limited.



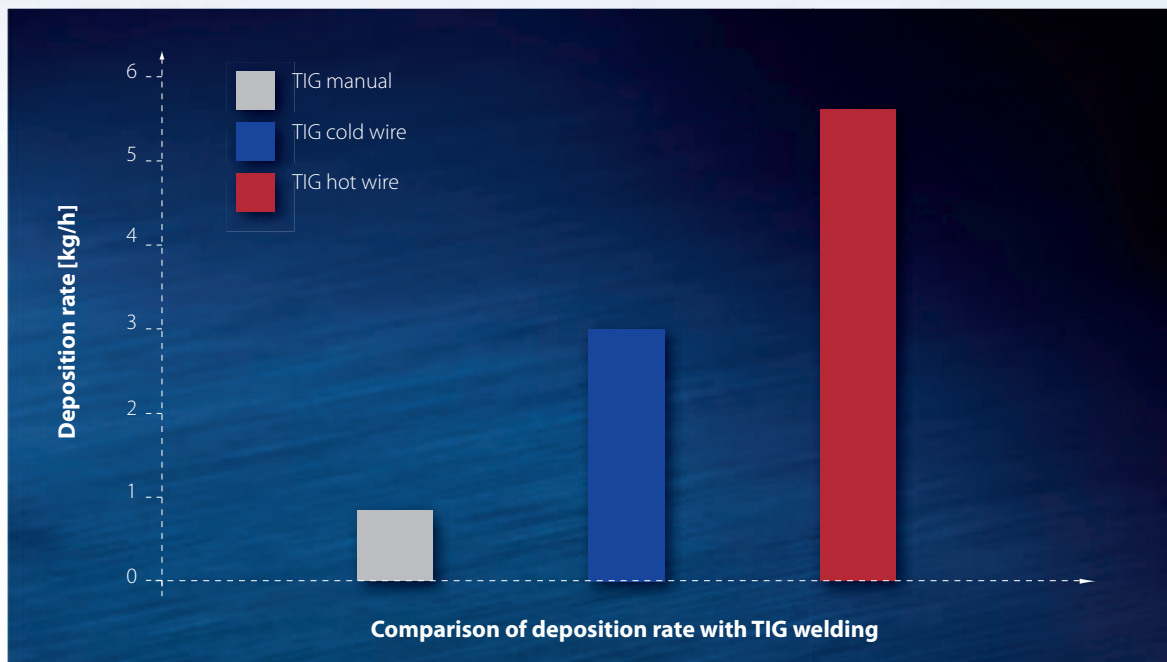
TIG HOT WIRE WELDING

- TIG hot wire welding is a further development of TIG cold wire welding. The welding consumable is heated by a separate power source using resistance heating of the wire stick-out between the contact tip of the hot wire torch and the molten pool. There are many advantages over cold wire welding thanks to the improved heat balance provided by this process.



TIG hot wire

100% faster welding speed



ADVANTAGES OF TIG HOT WIRE WELDING

- Up to 100% faster welding speed
- Up to 60% increase in deposition rate
- Dilution reduced by up to 60%
- Greater deposition rate (30–50%) with the same welding performance
- Simplified positional welding





spotArc®

Use TIG spotArc® spot welding
and Metal sheets are joined perfectly

USE TIG spotArc® SPOT WELDING AND METAL SHEETS ARE JOINED PERFECTLY

- Universal in use thanks to the option of joining two metal sheets of the same thickness and of different thicknesses
- Optimal for tacking workpieces for manual and automated applications
- Simple to use – welding is only carried out on one side
- Excellent seam quality with low distortion thanks to the minimal amount of heat input
- Ergonomic torch design for the best possible handling and optimum power utilisation
- Economic solution consisting of standard components: EWM TIG DC welding machine, TIG spot welding torch and optional spot remote control
- Alternative to resistance welding with greatly simplified handling



PERFECT SURFACE FORMATION

- Flatter spot formation in comparison to MAG spot welding
- Exceptional spot connection characteristics thanks to minimal heat input
- Very low thermal tension and little distortion thanks to short welding times
- Optimal for visible joints thanks to the clean seam appearance



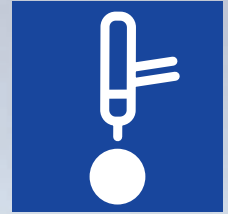
THE RIGHT NOZZLE SHAPE FOR EVERY APPLICATION

Butt joint/lap joint	T-joint	Corner joint	Pipe butt joint	DN (dia. in mm)
				25
				50
				65
				80
				100
Butt weld	Fillet weld	Edge weld	Circumferential seam	

PATENTED

Spotmatic

Spot for spot for a perfect TIG seam
with minimised spot and tacking times



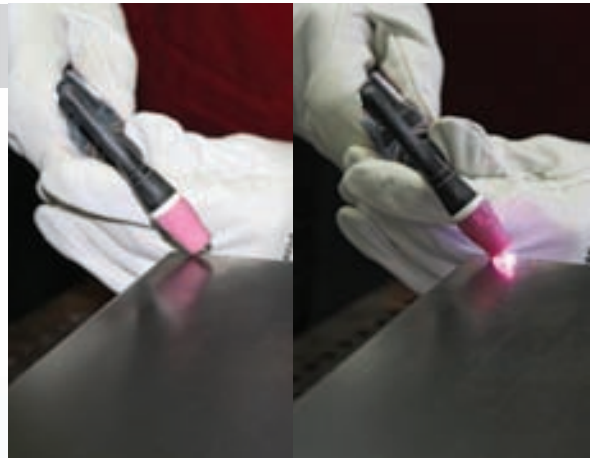
Spotmatic – UP TO 50% LOWER MANUFACTURING COSTS

- Up to 50% less tacking time thanks to the elimination of the usual trigger pulling
- Practical and innovative solution
- Easily reproducible welding results
- No special torches are required! Any "standard" TIG welding torch is perfectly adequate!
- Several hundred tack points can be made without having to grind the tungsten electrode



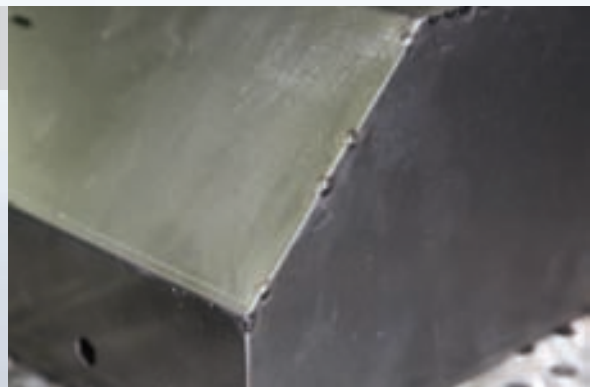
RELIABLE – FAST AND EASY TO USE

- Easier handling – also easy to teach to non-professionals
- The arc is ignited by touching the tip of the electrode to the workpiece instead of using the torch trigger
- The electrode does not stick to the metal



QUALITY AND REPRODUCIBILITY

- Even tack point appearance
- Spot results comparable to mechanised or automated applications
- No rocking motion when starting or stopping the spot process
- Prevents imprecise welding results

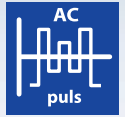


A host of functions which save time and money



Pulsing

AC pulsing



Safer TIG welding saves money.

With "TIG pulsing", switching occurs back and forth between two different welding current levels, the pulse current and the pause (fundamental) current. The times, and therefore the frequency and duty cycle, can be adjusted individually at the machine or using the remote control. TIG pulsing is possible with direct current (DC) and alternating current (AC) welding.

Difficult welding applications can be implemented easily

- Improved molten pool control in positional welding, especially in the vertical-up position
- Easy bridging of larger gaps and gaps of different sizes

Excellent weld seam quality

- Lower heat input
- Targeted control of the heat input
- Minimised material distortion
- Reduction of the energy per unit length, optimum for CrNi welding and heat-sensitive materials
- Weld seam appearance with extraordinarily even bead ripples – optimal for visible seams



kHz pulsing

From 0.05 to 15 kHz

- Constriction of the arc with increasing frequency
- Concentration of the arc energy to a smaller surface
- Arc stability, even at very high welding speeds
- Smaller heat-affected zone
- Improved seam surface



Automated pulsing

To increase the arc stability and the fusion penetration properties, especially with low currents, the current is pulsed automatically.

The ideal area of use is the tacking and spot welding of workpieces

- Pulse frequency depends on welding current
- Ideal for tacking and passing thanks to the vibrations in the weld pool



AC functions – optimal for aluminium welding



AC special

The "AC special" operating mode is a TIG pulse variant in which switching occurs between alternating current in the pulse phase and direct current in the fundamental current phase. The welding current and the respective times can also be set individually for each phase here.

- Highly suitable for welding in the vertical-up position, even without weaving
- Controlled root formation when welding thin metal sheets in the butt joint
- Faster welding speed with fully mechanised and automated applications with and without welding consumables
- Excellent seam appearance, deep fusion penetration thanks to the higher current loadability of the tungsten electrode



AC wave forms

- Sinusoidal – quiet arc noise, low-vibration molten pool, ideal for welding with welding consumables, low electrode load
- Trapezoidal – the all-rounder
- Rectangular – good cleaning effect, high electrode load, safe zero crossing



AC frequency

50–200 Hz

- High frequency – narrow, constricted arc with deeper fusion penetration
- Low frequency – wide arc



AC balance



-30% to +30%

- Positive current proportion, good cleaning, high electrode load
- Negative current proportion – deep fusion penetration, low electrode load

Machines and processes from EWM – the optimum solution for every need.

Our welding systems enable our customers to carry out their individual welding tasks faster, for less money and with top quality.

Overview of innovative TIG/plasma processes

Control	Smart	Classic	Comfort	Synergic
Tetrax 	•	•	•	•
Tetrax plasma 		•	•	•
Tetrax cold/hot wire 				•
activArc	•	•	•	•
spotArc		•	•	•
Cold/hot wire				•
forceTig 			•	

Overview of innovative TIG/plasma functions

Control	Smart	Classic	Comfort	Synergic
Spotmatic	•	•	•	•
Spot welding	•	•	•	•
Pulsing		•	•	•
Automated pulsing	•		•	•
kHz pulsing			•	•
Additional functions of AC/DC welding machines				
AC pulsing		•	•	•
AC special			•	•
AC balance	•	•	•	•
AC frequency	•	•	•	•
AC wave forms		•	•	•

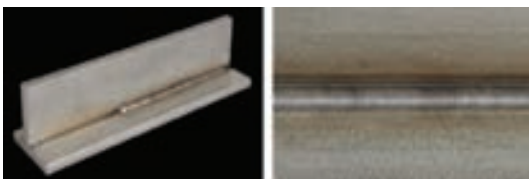
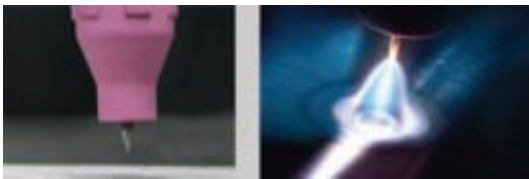


■ Professional assembly machines

Picotig / Tetrix ■ portable

The portable units are extremely small, compact and light – transportation is effortless on ladders and scaffolding as well as in confined spaces. Output is always constant: even large voltage fluctuations on generators or construction site mains supply present no problem!

Highlights



■ Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.

■ Endless power with a 1-phase mains supply

230 amperes welding current from a 230 volt mains supply with shock-proof plug (16 ampere mains fuse)

■ Reliable ignition

Reproducible, electronic HF ignition and coordinated welding start parameters ensure the best ignition conditions for every application.

■ Spotmatic – saves 50% of time required for tacking

The arc is ignited fully automatically without actuating the torch trigger by simply touching the tip of the electrode with the workpiece. Hundreds of reproducible tacks can be made without tungsten inclusions.

■ activArc – easy, cost-effective, perfect

Precise, focused arc with high plasma pressure for fast, reliable welding with compensated output: targeted heat input and deep fusion penetration for perfect root penetration.

Unbeatable: huge cost savings and outstanding quality.

■ 100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with mains supply leads up to 50 metres or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.



Hot wire for maximum efficiency

100% greater speeds
60% more deposition rate
60% less dilution



Internationally reliable operation

Mains current limit can be programmed to 10 amperes which prevents blown fuses – and therefore unnecessary work interruptions.



Overvoltage protection

No damage to machine caused if inadvertently connected to 400-V mains voltage



Perfect welding tacks with the spotArc torch

Universally applicable thanks to the possibility of connecting two panels with the same or different thicknesses – clean seam finish for visible welds



Combine effectively and as required

Easy combination of e.g. cooling unit or transport cart – no specialist staff or tools required and no need to open the welding machine. Innovative and easy to expand to meet future needs.



Cooling unit with centrifugal pump

Optimal welding torch cooling



Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic with rounded corners and edges, so the welder and the machine have the best protection in any situation.



Super-fast attachment of cooling unit

The unique fastening system guarantees easy attachment and detachment. The catches are fully integrated in the casing so there is no protrusion and therefore no risk of injury.



Well thought-out: Casing and cooling air conduction

Fan control plus blades minimise dirt in the machine



Operating elements

Particularly robust, clear and protected layout – allows especially easy handling



■ Ideal for professional TIG welders

Tetrix ■ mobile

Round-the-clock use! These fully digital, mobile machines have a uniquely high output and duty cycle for continuous use in production, e.g. in multi-shift operation.

The innovative inverter power unit also allows massive savings on energy costs thanks to its highly efficient performance.

Highlights



■ Highly compatible mobile hot wire system comprising:

- Tetrix mobile power source
- Tetrix Drive wire feeder
- Hot wire power source for preheating the wire
- Hot wire torch with wire feed and hot wire contacting



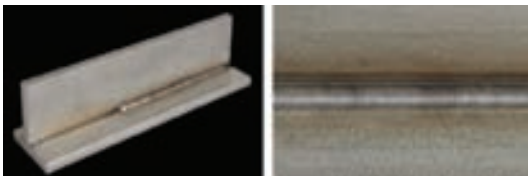
■ Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.



■ TIG Synergic control – perfect for large-scale applications

Simplest possible operation with maximum ease-of-use: welding task (JOB) can be selected via material type, seam type, tungsten electrode diameter and welding current/panel thickness. The digital system automatically finds the best welding parameters.



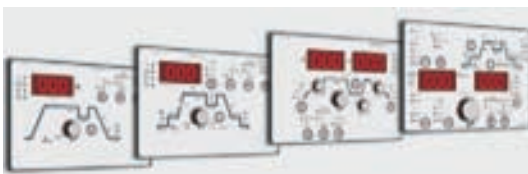
■ activArc – easy, cost-effective, perfect

Precise, focused arc with high plasma pressure for fast, reliable welding with compensated output: targeted heat transfer and deep fusion penetration for perfect root penetration. Unbeatable: huge cost savings and outstanding quality.



■ Targeted and concentrated: kHz pulses

Metallurgical pulsing gives the TIG arc the desired plasma arc qualities. activArc in combination with kHz pulses significantly amplifies all positive effects.



■ Self-explanatory operating concepts for every user

- Classic – all parameters at a glance and directly accessible
- Comfort – 8 predefinable welding tasks for frequently repeated welding operations
- Synergic – one-knob operation with 256 predefinable welding tasks



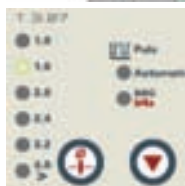
Hot wire for maximum efficiency

100% greater speeds
60% more deposition rate
60% less dilution



Perfect welding tacks with the spotArc torch

Universally applicable thanks to the possibility of connecting two panels with the same or different thicknesses – clean seam finish for visible welds



Spotmatic – saves 50% of tacking time

The arc is ignited fully automatically without actuating the torch trigger by simply touching the tip of the electrode with the workpiece. Hundreds of reproducible tacks can be made without tungsten inclusions.

Automatic pulses

When tacking and spot welding workpieces, automated pulses ensure current-dependent pulse frequency and balance which enhance gap bridging.



Easy access to the coolant tank

Exterior opening for tank filling plus level display



Extra-large 12 litre tank

Trouble-free commissioning even with long hose packages and safe operation at high temperatures and during extended duty cycles



Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport



Controlled protection

Thermal cut-out for water pump



4 lifting eyes as standard

100% mobile for transportation in production halls and shipyards with restricted access



Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection



Smart



Very simple to operate – just switch on and start welding

- Direct access to only the most important TIG parameters, other parameters have optimum default settings, which can be changed if required
- One-knob operation and clear, self-explanatory operating panel
- Reproducible setting of all welding parameters by means of digital display



Highlights

- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Spotmatic – saves 50% of tacking time
- Connection capability: remote control, up/down torch

Classic



Classic operation

- Direct access to welding parameters via rotary knobs
- Self-explanatory operating panel
- Reproducible setting of all welding parameters by means of digital display



Highlights

- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Pulsed TIG welding in Hz and kHz ranges – with or without remote control – for thin metal sheets, difficult materials and special welding tasks
- Spotmatic – saves 50% of tacking time
- Connection capability: remote control, up/down torch



Comfort



Proven convenience – all welding parameters can be adjusted

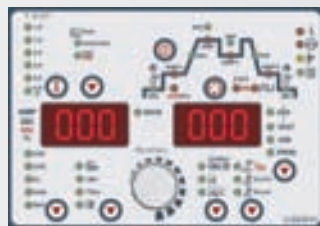
- One-knob operation and clear, self-explanatory operating panel
- LED user menu for setting all welding parameters
- 10 JOBs (welding tasks) which can also be accessed from the torch
- Reproducible setting of all welding parameters by means of digital display



Highlights

- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Pulsed TIG welding in Hz and kHz ranges – with or without remote control – for thin metal sheets, difficult materials and special welding tasks
- Spotmatic – saves 50% of tacking time
- Connection capability: remote control, up/down and Retox torches
- Also ideal for mechanised and automated applications

Synergic



Very easy and extremely convenient to use thanks to EWM TIG Synergic operation







- Synergic one-knob operation and clear, self-explanatory operating panel
- Selection and display of the welding task (JOB) via LED user menu
- 256 JOBs (welding tasks) which can also be accessed from the torch
- Reproducible setting of all welding parameters by means of digital displays

Highlights

- Ideal for changing welding tasks with user-friendly JOB selection menu for selecting material type, seam type, tungsten electrode diameter and welding current/panel thickness
- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Pulsed TIG welding in Hz and kHz ranges – with or without remote control – for thin metal sheets, difficult materials and special welding tasks
- Spotmatic – saves 50% of tacking time
- Connection capability: Remote control, up/down and Retox torches, PC with welding data and documentation software
- Also ideal for mechanised and automated applications





	Picotig 180 TG		Picotig 180 MV TG		Tetrix 180 TG		
	 		 		 		
Controls							
Picotig	•		•		–		
Smart	–		–		•		
Classic	–		–		–		
Classic cel	–		–		–		
Comfort	–		–		•		
Synergic	–		–		–		
Functions							
TIG	•		•		•		
MMA	•		•		•		
EWM-activArc	–		–		•		
EWM-spotArc	–		–		•		
Technical data							
Setting range for welding current	5 A - 180 A		5 A - 180 A		5 A - 180 A		
Duty cycle at ambient temperature	25 °C	40 °C	25 °C	40 °C	25 °C	40 °C	
35 %	180 A	180 A	180 A	180 A	180 A	180 A	
40 %	–	–	–	–	–	–	
45 %	–	–	–	–	–	–	
60 %	150 A	150 A	150 A	150 A	150 A	150 A	
65 %	–	–	–	–	–	–	
100 %	120 A	120 A	120 A	120 A	120 A	120 A	
Open circuit voltage	90 V		90 V		90 V		
Mains frequency	50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz		
Mains fuses (slow-blow)	1 x 16 A		1 x 16 A, 1 x 25 A		1 x 16 A		
Mains voltage (tolerances)	1 x 230 V (-40 % - +15 %)		1 x 230 V (-20 % - +15 %), 1 x 115 V (-15 % - +15 %)		1 x 230 V (-40 % - +15 %)		
Max. connected load	4.4 kVA		4.4 kVA		4.4 kVA		
Recommended generator power	7.5 kVA		7.5 kVA		7.5 kVA		
Dimensions, machine, LxWxH in mm	475 x 135 x 250		475 x 180 x 295		475 x 180 x 295		
Weight, machine	6.9 kg		8.9 kg		10 kg		
Weight, cooling unit	–		–		–		
Protection classification	IP 23		IP 23		IP 23		
Insulation class	H		H		H		
Cooling output	–		–		–		
Tank capacity	–		–		–		
Flow rate	–		–		–		
Max. output pressure	–		–		–		
Standards	IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A						

QR Code





Tetrix 230 TM

Tetrix 230 TM

Tetrix 270 TM



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3 A - 230 A

3 A - 230 A

5 A - 270 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

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230 A

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230 A

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230 A

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230 A

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270 A

180 A

160 A

180 A

160 A

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270 A

–

150 A

130 A

150 A

130 A

220 A

180 A

90 V

90 V

100 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

1 x 16 A

1 x 16 A

3 x 16 A

1 x 230 V (-40 % - +15 %)

1 x 230 V (-40 % - +15 %)

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

5.2 kVA

5.2 kVA

7.1 kVA

7.8 kVA

7.8 kVA

14.5 kVA

600 x 205 x 415

600 x 205 x 415

600 x 205 x 415

16.5 kg

16.5 kg

20 kg

–

14 kg

–

IP 23

IP 23

IP 23

F

F

H

–

800 W (1l/min)

–

–

4 l

–

–

5 l/min

–

–







3.5 bar

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IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A











	Tetrix 270 TM		Tetrix 300 TM		Tetrix 300 TM		
	 		 		 		
Controls							
Picotig	–		–		–		
Smart	•		•		•		
Classic	–		•		•		
Classic cel	–		–		–		
Comfort	•		•		•		
Synergic	–		–		–		
Functions							
TIG	•		•		•		
MMA	•		•		•		
EWM-activArc	•		•		•		
EWM-spotArc	•		•		•		
Technical data							
Setting range for welding current	5 A - 270 A		5 A - 300 A		5 A - 300 A		
Duty cycle at ambient temperature	25 °C	40 °C	25 °C	40 °C	25 °C	40 °C	
35 %	–	–	–	–	–	–	
40 %	–	–	–	–	–	–	
45 %	–	270 A	–	–	–	–	
60 %	–	–	–	300 A	–	300 A	
65 %	270 A	–	–	–	–	–	
80 %	–	–	300 A	–	300 A	–	
100 %	220 A	180 A	270 A	250 A	270 A	250 A	
Open circuit voltage	100 V		100 V		100 V		
Mains frequency	50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz		
Mains fuses (slow-blow)	3 x 16 A		3 x 16 A		3 x 16 A		
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %) x 230 V		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		
Max. connected load	7.1 kVA		8.3 kVA		8.3 kVA		
Recommended generator power	14.5 kVA		16.4 kVA		16.4 kVA		
Dimensions, machine, LxWxH in mm	600 x 205 x 415		590 x 230 x 380		590 x 230 x 380		
Weight, machine	20 kg		29 kg		29 kg		
Weight, cooling unit	18.4 kg		–		15 kg		
Protection classification	IP 23		IP 23		IP 23		
Insulation class	H		H		H		
Cooling output	800 W (1l/min)		–		800 W (1l/min)		
Tank capacity	4 l		–		4.5 l		
Flow rate	5 l/min		–		5 l/min		
Max. output pressure	3.5 bar		–		3.5 bar		
Standards	IEC 60 974-1; -3; -10; / CE / S-Safety sign / EMC class A						

QR Code














Tetrix 300 Classic cel TM		Tetrix 300 Classic cel TM		Tetrix 400-2 TM	
 		 		 	
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-		-		-	
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•		•		•	
-		-		•	
•		•		•	
5 A - 300 A		5 A - 300 A		5 A - 400 A	
25 °C	40 °C	25 °C	40 °C	25 °C	40 °C
-	-	-	-	-	400 A
-	300 A	-	300 A	-	-
-	-	-	-	-	-
-	250 A	-	250 A	-	-
-	-	-	-	-	-
300 A	-	300 A	-	-	-
270 A	200 A	270 A	200 A	-	300 A
105 V		105 V		-	
50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz	
3 x 16 A		3 x 16 A		3 x 16 A	
3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)	
8.3 kVA		8.3 kVA		13.2 kVA	
16.3 kVA		16.3 kVA		24.5 kVA	
570 x 240 x 550		570 x 240 x 550		590 x 230 x 380	
40 kg		40 kg		29 kg	
-		15 kg		-	
IP 23		IP 23		IP 23	
H		H		H	
-		800 W (1l/min)		-	
-		4.5 l		-	
-		5 l/min		-	
-		3.5 bar		-	

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A





	Tetrix 400-2 TM		Tetrix 351 FW		Tetrix 451 FW		
	 		 		 		
Controls							
Picotig	–		–		–		
Smart	•		•		•		
Classic	•		•		•		
Classic cel	–		–		–		
Comfort	•		•		•		
Synergic	–		•		•		
Functions							
TIG	•		•		•		
MMA	•		•		•		
EWM-activArc	•		•		•		
EWM-spotArc	•		•		•		
Technical data							
Setting range for welding current	5 A - 400 A		5 A - 350 A		5 A - 450 A		
Duty cycle at ambient temperature	25 °C	40 °C	25 °C	40 °C	25 °C	40 °C	
35 %	–	400 A	–	–	–	–	
60 %	–	–	–	–	–	–	
80 %	–	–	–	–	–	450 A	
100 %	–	300 A	350 A	350 A	450 A	420 A	
Open circuit voltage	–		98 V 80 V		80 V		
Mains frequency	50 Hz / 60 Hz		50 Hz / 60 Hz		50 Hz / 60 Hz		
Mains fuses (slow-blow)	3 x 16 A		3 x 25 A		3 x 35 A		
Mains voltage (tolerances)	3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		3 x 400 V (-25 % - +20 %)		
Max. connected load	13.2 kVA		10.6 kVA		15.9 kVA		
Recommended generator power	24.5 kVA		20.3 kVA		29.1 kVA		
Drive rollers	–		–		–		
Wire speed	–		–		–		
Dimensions, machine, LxWxH in mm	590 x 230 x 380		1100 x 455 x 1000		1100 x 455 x 1000		
Weight, machine	29 kg		131 kg		131 kg		
Weight, wire feeder	–		–		–		
Weight, cooling unit	15 kg		–		–		
Protection classification	IP 23		IP 23		IP 23		
Insulation class	H		H		H		
Cooling output	800 W (1l/min)		1500 W (1l/min)		1500 W (1l/min)		
Tank capacity	4.5 l		12 l		12 l		
Flow rate	5 l/min		5 l/min		5 l/min		
Max. output pressure	3.5 bar		3.5 bar		3.5 bar		
Standards	IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A						
QR Code							



Tetrix 551 FW

Tetrix 551 AW FW

Tetrix 551 AW FW



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550 A

550 A

550 A

550 A

520 A

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520 A

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520 A

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450 A

420 A

450 A

420 A

450 A

420 A

80 V

80 V

80 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 35 A

3 x 35 A

3 x 35 A

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

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

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

22.2 kVA

22.2 kVA

22.2 kVA

39.4 kVA

39.4 kVA

39.4 kVA

–

4

4

–

0.2 m/min - 10 m/min

0.2 m/min - 10 m/min

1100 x 455 x 1000

1100 x 680 x 1000

1100 x 680 x 1000

131 kg

134 kg

134 kg

–

13.7 kg

13.7 kg

–

–

–

IP 23

IP 23

IP 23

H

H

H

1500 W (1l/min)

1500 W (1l/min)

1500 W (1l/min)

12 l

12 l

12 l

5 l/min

5 l/min

5 l/min

3.5 bar

3.5 bar

3.5 bar

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Wire preheating machine



Tetrix 270 Hotwire

TIG constant-current source to pre-heat the wire, 5-270 A, portable, incl. connection cable

Wire feed units



Tetrix drive 4L

Wire feeder, water, Euro torch connector
A demodular Tetrix power source with connections for wire feed units is required for operation!
Spool diameter up to 300 mm

Standard torches, 5-pole



TIG 150 GD 5P 2T 4M

TIG welding torch, gas-cooled
Double push-button



TIG 200 GD 5P 2T 4M

TIG welding torch, gas-cooled
Double push-button



TIG 260 WD 5P 2T 4M

TIG welding torch, water-cooled
Double push-button



TIG 450 WD 5P 2T 4M

TIG welding torch, water-cooled
Double push-button



TIG 450SC WD 5P 2T HFL 4M

TIG welding torch, water-cooled
Double push-button

Function torches, 12-pole



TIG 150 GD 12P RETOX HFL 4M

TIG function torch, Retox, gas-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required



TIG 200 GD 12P RETOX HFL 4M

TIG function torch, Retox, gas-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required



TIG 260 WD 12P RETOX HFL 4M

TIG function torch, Retox, water-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required



TIG 450 WD 12P RETOX HFL 4M

TIG function torch, Retox, water-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required

Function torches, 12-pole



TIG 450SC WD 12P RETOX HFL 4M

TIG function torch, Retox, water-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required

Remote controls, 19-pole



RT1 19POL

Remote control, current
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series



RTG1 19POL

Remote control, current
With pre-fitted 5-m connection cable
Operating point setting directly at the site of welding
For Tetrix, Picotig 190 AC/DC and Stick machine series



RTP1 19POL

Remote control, spot/pulsed welding
Pulse, spot and pause times are infinitely adjustable.
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix and Picotig 190 AC/DC machine series



RTP2 19POL

Remote control, spot/pulsed welding
Pulse/pause ratio (balance) adjustable from 10% to 90%.
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix and Picotig 190 AC/DC machine series



RTP3 spotArc 19POL

Remote control, spotArc, spot/pulsed welding
Pulse/pause ratio (balance) adjustable from 10% to 90%.
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix and Picotig 190 AC/DC machine series



RTF1 19POL

Foot-operated remote control, current, with connection cable
Start/stop welding operation
Operating point setting directly at the site of welding
For Tetrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series

Cooling units



cool35 U31

Air cooling unit with centrifugal pump
Modular design, tool-free assembly



Cooling units



cool40 U31

Air cooling unit with centrifugal pump
Modular design, tool-free assembly



cool41 U31

Air cooling unit with centrifugal pump
Modular design, tool-free assembly

Transport carts



Trolley 35-2

Transport carts
For transporting a power source, a cooling unit and
a gas cylinder
For Tetrix 230, 270, 300, 400-2 DC as well as Tetrix
230, 300 AC/DC

Transport carts



Trolley 38-2 E

Transport carts
For transporting a power source, a cooling unit and
a gas cylinder
For Tetrix 230, 270, 300, 400-2 DC as well as Tetrix
230, 300 AC/DC



Trolley 55-2

Transport carts
For transporting a power source, a cooling unit and
a gas cylinder
For Tetrix 230, 270 DC, Tetrix 230 AC/DC, as well as
Phoenix and Taurus 335



■ The smaller TIG AC/DC power packs

Picotig / Tetrix ■ portable

Construction site, assembly, workshop or production site – the right machine for every location. Can be expanded at any time with cooling unit and transport cart – no need for additional tools or specialist personnel.

Highlights



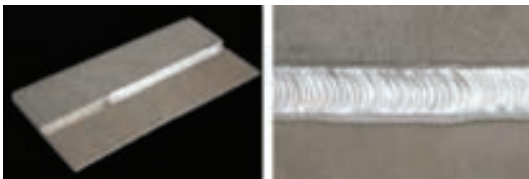
■ Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.



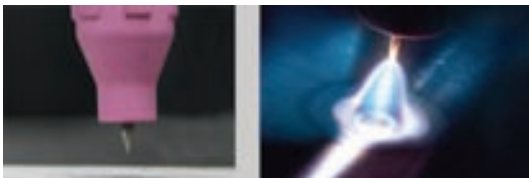
■ Alternating current types for every need

Different types of alternating current allow welding properties to be individually selected: sinusoid – for agreeably low-noise jointing; trapezoid – the all-round setting for almost every application; rectangular – for particularly difficult applications



■ AC special for thin to thick

Simple and reliable: 1 mm to 10 mm! Reliable jointing of aluminium panels with very different thicknesses: good fusion penetration in the thicker panel, no melting through the thin panel.



■ Reliable ignition

AC: Reliable ignition, stable arc because the shape of the balled end can be very easily adjusted in line with the tungsten electrode diameter. This reduces electrode wear
DC: coordinated welding start parameters for ideal ignition conditions with every application.



■ Endless power with a 1-phase mains supply

230 amperes welding current from a 230 volt mains supply with shock-proof plug (16 ampere mains fuse)



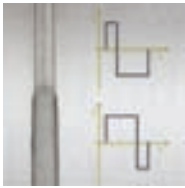
■ 100% suitable for construction sites

Perfect for large construction sites and very tough assembly work with mains supply leads up to 50 metres or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.



Accessories for professionals

Remote control with AC parameter setting option: frequency, balance and welding current



AC balance

Adjustable balance of the alternating current proportion

Positive proportion: good cleaning of high-melting and semifluid oxides when welding aluminium.

Negative proportion: deep fusion penetration and long service life of the electrode



AC frequency

The fusion penetration and seam width are also controlled by AC frequencies between 50 and 200 Hertz

High frequency: narrow seam with deep fusion penetration

Low frequency: broad weld bead



Additional dirt filter

For particularly tough sites of operation (option)



Combine effectively and as required

Easy combination of e.g. cooling unit or transport cart – no specialist staff or tools required and no need to open the welding machine. Innovative and easy to expand to meet future needs.



Cooling unit with centrifugal pump

Optimal welding torch cooling



Modern, ergonomic casing

The front and rear sections of the machine are made of shock-resistant plastic with rounded corners and edges, so the welder and the machine have the best protection in any situation.



Super-fast attachment of cooling unit

The unique fastening system guarantees easy attachment and detachment. The catches are fully integrated in the casing so there is no protrusion and therefore no risk of injury.



Well thought-out: Casing and cooling air conduction

Fan control plus blades minimise dirt in the machine



Operating elements

Particularly robust, clear and protected layout – allows especially easy handling



The AC/DC specialists – ideal for production

Tetrix ■ mobile

Uniquely high welding current – up to 550 A – for your AC production applications. The innovative inverter power unit of the fully digital machines guarantees continuous welding with a long duty cycle, particularly in multi-shift operation.

It also allows massive savings on energy costs thanks to its highly efficient performance.

Highlights



■ Highly compatible mobile hot wire system comprising:

- Tetrix mobile power source
- Tetrix Drive wire feeder
- Hot wire power source for preheating the wire
- Hot wire torch with wire feed and hot wire contacting



■ Easy to use on site

The Retox torch allows all programs, operating modes and the up/down function to be called up at the touch of a button.



■ Two-sided, simultaneous AC welding

Two welders can weld both sides at the same time e.g. on aluminium workpieces with thick panels. Synchronisation is via the mains voltage or the master slave principle!



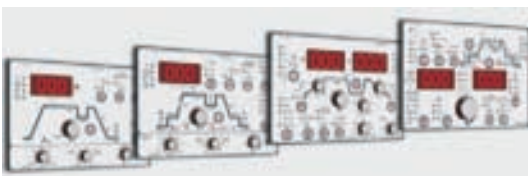
■ Alternating current types for every need

Different types of alternating current allow welding properties to be individually selected: sinusoid – for agreeably low-noise jointing; trapezoid – the all-round setting for almost every application; rectangular – for particularly difficult applications



■ Reliable ignition

AC: Reliable ignition, stable arc because the shape of the balled end can be very easily adjusted in line with the tungsten electrode diameter. This reduces DC electrode wear: coordinated welding start parameters for ideal ignition conditions with every application.



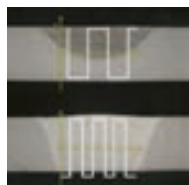
■ Self-explanatory operating concepts for every user

- Classic – all parameters at a glance and directly accessible
- Comfort – 8 predefinable welding tasks for frequently repeated welding operations
- Synergic – one-knob operation with 256 predefinable welding tasks



AC special for thin to thick

Simple and reliable: 1 mm to 10 mm! Reliable jointing of aluminium panels with very different thicknesses: good fusion penetration in the thicker panel, no melting through the thin panel



AC frequency

The fusion penetration and seam width are also controlled by AC frequencies between 50 and 200 Hertz

High frequency: narrow seam with deep fusion penetration

Low frequency: broad weld bead



Accessories for professionals

Remote control with AC parameter setting option: frequency, balance and welding current



AC balance

Adjustable balance of the alternating current proportion

Positive proportion: good cleaning of high-melting and semifluid oxides when welding aluminium.

Negative proportion: deep fusion penetration and long service life of the electrode



Easy access to the coolant tank

Exterior opening for tank filling plus level display



Extra-large 12 litre tank

Trouble-free commissioning even with long hose packages and safe operation at high temperatures and during extended duty cycles



Mobility for any location

Large wheels for easy running – even on very uneven surfaces. Same gauge on front and rear wheels facilitates transport



Controlled protection

Thermal cut-out for water pump



4 lifting eyes as standard

100% mobile for transportation in production halls and shipyards with restricted access



Multi-functional, ergonomic handle system

Effortless running, practical holder for hose packages, impact protection



Smart



Very simple to operate – just switch on and start welding

- Direct access to only the most important TIG parameters, other parameters have optimum default settings, which can be changed if required
- One-knob operation and clear, self-explanatory operating panel
- Reproducible setting of all welding parameters by means of digital display
- AC parameters for frequency, balance and tungsten electrode diameter are adjustable using rotary knobs



Highlights

- Simultaneous AC welding on both sides – synchronisation via mains voltage!
- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Spotmatic – saves 50% of tacking time
- Connection capability: remote control, up/down torch

Classic



Classic operation

- Direct access to welding parameters via rotary knobs, also to AC parameters for frequency and balance
- Self-explanatory operating panel
- Reproducible setting of all welding parameters by means of digital display



Highlights

- Alternating current forms for every need: sinusoidal – trapezoidal – rectangular
- Simultaneous AC welding on both sides – synchronisation via mains voltage!
- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Pulsed TIG welding in Hz and kHz ranges – with or without remote control – for thin metal sheets, difficult materials and special welding tasks
- Spotmatic – saves 50% of tacking time
- Connection capability: remote control, up/down torch



Comfort



Proven convenience – all welding parameters can be adjusted

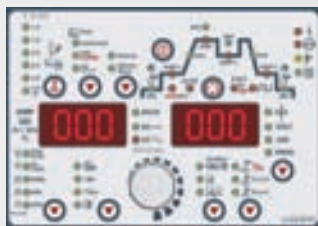
- One-knob operation and clear, self-explanatory operating panel
- LED user menu for setting all welding parameters
- 10 JOBS (welding tasks) which can also be accessed from the torch
- Reproducible setting of all welding parameters by means of digital display
- AC parameters for frequency, balance and tungsten electrode diameter are adjustable using rotary knobs



Highlights

- Alternating current forms for every need: sinusoidal – trapezoidal – rectangular
- AC special – simple joining of aluminium sheets of very different thicknesses, e.g. 1 mm to 10 mm
- Simultaneous AC welding on both sides – synchronisation via mains voltage!
- activArc – precise, focussed arc with reduced heat transfer and deep fusion penetration for optimum root fusion
- Pulsed TIG welding in Hz and kHz ranges – with or without remote control – for thin metal sheets, difficult materials and special welding tasks
- Spotmatic – saves 50% of tacking time
- Connection capability: remote control, up/down and Retox torches
- Also ideal for mechanised and automated applications

Synergic



Very easy and extremely convenient to use thanks to EWM TIG Synergic operation

- Synergic One-knob operation and clear, self-explanatory operating panel
- Selection and display of the welding task (JOB) via LED user menu
- 256 JOBS (welding tasks) which can also be accessed from the torch
- Reproducible setting of all welding parameters by means of digital displays



Highlights

- Ideal for changing welding tasks with user-friendly JOB selection menu for selecting material type, seam type, tungsten electrode diameter and welding current/panel thickness
- Alternating current forms for every need: sinusoidal – trapezoidal – rectangular
- AC special – simple joining of aluminium sheets of very different thicknesses, e.g. 1 mm to 10 mm
- Simultaneous AC welding on both sides – synchronisation via mains voltage or master/slave principle!
- Pulsed TIG welding in Hz and kHz ranges – with or without remote control – for thin metal sheets, difficult materials and special welding tasks
- Connection capability: remote control, up/down and Retox torches, PC with welding data and documentation software
- Also ideal for mechanised and automated applications





Picotig 190 AC/DC TG

Tetrix 230 AC/DC TM



Controls

Picotig AC

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Smart AC

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Classic AC

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Comfort AC

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Synergic AC

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Functions

TIG

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MMA

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TIG AC

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EWM-activArc

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EWM-spotArc

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Technical data

Setting range for welding current

5 A - 190 A

3 A - 230 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

35 %

–

–

–

230 A

40 %

–

190 A

230 A

–

45 %

–

–

–

–

60 %

190 A

150 A

180 A

160 A

65 %

–

–

–

–

100 %

150 A

120 A

150 A

130 A

Open circuit voltage

43 V

45 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

1 x 16 A

1 x 16 A

Mains voltage (tolerances)

1 x 230 V (-40 % - +15 %)

1 x 230 V (-40 % - +15 %)

Max. connected load

5.6 kVA

5.2 kVA

Recommended generator power

8.1 kVA

7.8 kVA

Dimensions, machine, LxWxH in mm

600 x 205 x 415

600 x 205 x 415

Weight, machine

16.5 kg

17 kg

Weight, cooling unit

–

–

Protection classification

IP 23

IP 23

Insulation class

F

F

Cooling output

–

–

Tank capacity

–

–

Flow rate

–

–

Max. output pressure

–

–

Standards

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A

QR Code





Tetrix 230 AC/DC TM

Tetrix 300 AC/DC TM

Tetrix 300 AC/DC TM



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3 A - 230 A

5 A - 300 A

5 A - 300 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

-

230 A

-

-

-

-

230 A

-

-

300 A

-

300 A

-

-

300 A

-

300 A

-

180 A

160 A

-

270 A

-

270 A

-

-

270 A

-

270 A

-

150 A

130 A

220 A

210 A

220 A

210 A

45 V

100 V

100 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

1 x 16 A

3 x 16 A

3 x 16 A

1 x 230 V (-40 % - +15 %)

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

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

5.2 kVA

8.3 kVA

8.3 kVA

7.8 kVA

16.4 kVA

16.4 kVA

600 x 205 x 415

570 x 240 x 550

570 x 240 x 550

17 kg

36.5 kg

36.5 kg

14 kg

-

15 kg

IP 23

IP 23

IP 23

F

F

F

800 W (1l/min)

-

800 W (1l/min)

4 l

-

4.5 l

5 l/min

-

5 l/min

3.5 bar

-

3.5 bar

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A





Tetrix 351 AC/DC FW

Tetrix 451 AC/DC FW



Controls

Picotig AC

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Smart AC

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Classic AC

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Comfort AC

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Synergic AC

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Functions

TIG

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MMA

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TIG AC

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EWM-activArc

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EWM-spotArc

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Technical data

Setting range for welding current

5 A - 350 A

5 A - 450 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

60 %

–

350 A

–

–

80 %

350 A

–

–

450 A

100 %

320 A

300 A

450 A

420 A

Open circuit voltage

100 V

80 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 25 A

3 x 35 A

Mains voltage (tolerances)

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

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

Max. connected load

10.6 kVA

15.9 kVA

Recommended generator power

20.5 kVA

29.1 kVA

Drive rollers

–

–

Wire speed

–

–

Dimensions, machine, LxWxH in mm

1100 x 455 x 1000

1080 x 690 x 1195

Weight, machine

132 kg

181.5 kg

Weight, wire feeder

–

–

Protection classification

IP 23

IP 23

Insulation class

H

H

Cooling output

1500 W (1l/min)

1500 W (1l/min)

Tank capacity

12 l

12 l

Flow rate

5 l/min

5 l/min

Max. output pressure

3.5 bar

3.5 bar

Standards

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A

QR Code





Tetrix 551 AC/DC FW

Tetrix 551 AC/DC AW FW

Tetrix 551 AC/DC AW FW



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5 A - 550 A

5 A - 550 A

5 A - 550 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

550 A

550 A

550 A

550 A

550 A

550 A

520 A

–

520 A

–

520 A

–

450 A

420 A

450 A

420 A

450 A

420 A

80 V

80 V

80 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 35 A

3 x 35 A

3 x 35 A

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

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

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

22.2 kVA

22.2 kVA

22.2 kVA

39.4 kVA

39.4 kVA

39.4 kVA

–

4

4

–

0.2 m/min - 10 m/min

0.2 m/min - 10 m/min

1080 x 690 x 1195

1080 x 690 x 1195

1080 x 690 x 1195

181.5 kg

184.5 kg

184.5 kg

–

13.7 kg

13.7 kg

IP 23

IP 23

IP 23

H

H

H

1500 W (1l/min)

1500 W (1l/min)

1500 W (1l/min)

12 l

12 l

12 l

5 l/min

5 l/min

5 l/min

3.5 bar

3.5 bar

3.5 bar

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Wire preheating machine



Tetrix 270 Hotwire

TIG constant-current source to pre-heat the wire, 5-270 A, portable, incl. connection cable

Wire feed units



Tetrix drive 4L

Wire feeder, water, Euro torch connector
A demodular Tetrix power source with connections for wire feed units is required for operation!
Spool diameter up to 300 mm

spotArc torches



SPOTARC TIG 18 W 5P 4M

TIG welding torch, water-cooled
Spot welding torch, with welding nozzles for fillet welds, edge welds and flat seams incl. setting gauge

Standard torches, 5-pole



TIG 150 GD 5P 2T 4M

TIG welding torch, gas-cooled
Double push-button



TIG 200 GD 5P 2T 4M

TIG welding torch, gas-cooled
Double push-button



TIG 260 WD 5P 2T 4M

TIG welding torch, water-cooled
Double push-button



TIG 450 WD 5P 2T 4M

TIG welding torch, water-cooled
Double push-button



TIG 450SC WD 5P 2T HFL 4M

TIG welding torch, water-cooled
Double push-button

Function torches, 12-pole



TIG 150 GD 12P RETOX HFL 4M

TIG function torch, Retox, gas-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required



TIG 200 GD 12P RETOX HFL 4M

TIG function torch, Retox, gas-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required

Function torches, 12-pole



TIG 260 WD 12P RETOX HFL 4M

TIG function torch, Retox, water-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required



TIG 450 WD 12P RETOX HFL 4M

TIG function torch, Retox, water-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required



TIG 450SC WD 12P RETOX HFL 4M

TIG function torch, Retox, water-cooled
Setting and display of welding current and programs
„ON 12-pole connection socket“ option required

Remote controls, 19-pole



RT1 19POL

Remote control, current
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series



RTG1 19POL

Remote control, current
With pre-fitted 5-m connection cable
Operating point setting directly at the site of welding
For Tetrix, Picotig 190 AC/DC and Stick machine series



RTAC1 19POL

Remote control, current/balance/frequency
AC balance (positive/negative half-wave ratio) can be set from +15% to -15%.
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For all Tetrix AC/DC machines (except Tetrix 230 AC/DC)



RT PWS1 19POL

Remote control, vertical-down weld, current pole reversal
Operating point setting directly at the site of welding
For all Tetrix AC/DC machines (except Tetrix 230 AC/DC) and Pico 300 cel PWS



RTP1 19POL

Remote control, spot/pulsed welding
Pulse, spot and pause times are infinitely adjustable.
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix and Picotig 190 AC/DC machine series



Remote controls, 19-pole



RTP2 19POL

Remote control, spot/pulsed welding
Pulse/pause ratio (balance) adjustable from 10% to 90%.

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Tetrix and Picotig 190 AC/DC machine series



RTP3 spotArc 19POL

Remote control, spotArc, spot/pulsed welding
Pulse/pause ratio (balance) adjustable from 10% to 90%.

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Tetrix and Picotig 190 AC/DC machine series



RTF1 19POL

Foot-operated remote control, current, with connection cable

Start/stop welding operation

Operating point setting directly at the site of welding

For Tetrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series

Cooling units



cool35 U31

Air cooling unit with centrifugal pump
Modular design, tool-free assembly

Cooling units



cool40 U31

Air cooling unit with centrifugal pump
Modular design, tool-free assembly

Transport carts



Trolley 35-2

Transport carts

For transporting a power source, a cooling unit and a gas cylinder

For Tetrix 230, 270, 300, 400-2 DC as well as Tetrix 230, 300 AC/DC



Trolley 38-2 E

Transport carts

For transporting a power source, a cooling unit and a gas cylinder

For Tetrix 230, 270, 300, 400-2 DC as well as Tetrix 230, 300 AC/DC



Trolley 55-2

Transport carts

For transporting a power source, a cooling unit and a gas cylinder

For Tetrix 230, 270 DC, Tetrix 230 AC/DC, as well as Phoenix and Taurus 335



microplasma 20

microplasma 50



Controls

microplasma

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Classic DC

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Comfort DC

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Synergic DC

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Functions

Plasma

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EWM-activArc

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EWM-spotArc

–

–

MMA

–

–

TIG

–

–

Technical data

Setting range for welding current

0.1 A - 20 A

0.1 A - 50 A

Pilot arc current

1 A - 10 A

1 A - 10 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

35 %

–

–

–

–

100 %

–

20 A

–

50 A

Open circuit voltage

95 V

95 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

1 x 16 A

1 x 16 A

Mains voltage (tolerances)

1 x 230 V (-40 % - +15 %)

1 x 230 V (-40 % - +15 %)

Max. connected load

0.85 kVA

1.6 kVA

Recommended generator power

–

–

Dimensions, machine, LxWxH in mm

520 x 550 x 480

520 x 550 x 480

Weight, machine

50 kg

50 kg

Weight, cooling unit

–

–

Protection classification

IP 23

IP 23

Insulation class

H

H

Cooling output

–

–

Tank capacity

–

–

Flow rate

–

–

Max. output pressure

–

–

Standards

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A

QR Code





microplasma 120

Tetrix 150 Plasma



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0.5 A - 120 A

5 A - 150 A

1 A - 10 A

5 A - 25 A

25 °C

40 °C

25 °C

40 °C

–

120 A

–

–

–

70 A

–

150 A

95 V

100 V

50 Hz / 60 Hz

50 Hz / 60 Hz

1 x 16 A

3 x 16 A

1 x 230 V (-40 % - +15 %)

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

4.1 kVA

5.9 kVA

–

7.9 kVA

520 x 550 x 480

1050 x 500 x 1325

50 kg

158 kg

–

34 kg

IP 23

IP 23

H

H

–

1200 W (1l/min)

–

7 l

–

5 l/min

–

3.5 bar

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A





Tetrix 300 Plasma



Controls

microplasma

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Classic

•

Comfort

•

Synergic

•

Functions

Plasma

•

EWM-activArc

•

EWM-spotArc

•

MMA

•

TIG

•

Technical data

Setting range for welding current

5 A - 300 A

Pilot arc current

5 A - 25 A

Duty cycle at ambient temperature

25 °C

40 °C

40 %

–

–

45 %

–

–

60 %

–

–

65 %

–

–

100 %

–

300 A

Open circuit voltage

90 V

Mains frequency

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 35 A

Mains voltage (tolerances)

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

Max. connected load

14 kVA

Recommended generator power

18.9 kVA

Dimensions, machine, LxWxH in mm

1050 x 500 x 1325

Weight, machine

158 kg

Weight, cooling unit

34 kg

Protection classification

IP 23

Insulation class

H

Cooling output

1200 W (1l/min)

Tank capacity

7 l

Flow rate

5 l/min

Max. output pressure

3.5 bar

Standards

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A

QR Code





Tetrix 400 Plasma

Tetrix 350 AC/DC Plasma



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5 A - 400 A

5 A - 350 A

5 A - 25 A

5 A - 25 A

25 °C

40 °C

25 °C

40 °C

–

400 A

–

350 A

400 A

–

–

–

–

380 A

350 A

325 A

380 A

–

–

–

330 A

320 A

260 A

260 A

92 V

95 V

50 Hz / 60 Hz

50 Hz / 60 Hz

3 x 35 A

3 x 25 A

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

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

20.7 kVA

15 kVA

28 kVA

20.5 kVA

1050 x 500 x 1325

1050 x 500 x 1325

158 kg

163 kg

34 kg

34 kg

IP 23

IP 23

H

F

1200 W (1l/min)

1200 W (1l/min)

7 l

7 l

5 l/min

5 l/min

3.5 bar

3.5 bar

IEC 60 974-1; -3; -10 / CE / S-Safety sign / EMC class A





Options/accessories

Torches



PHB 50 26A 3M

Plasma manual welding torch, 26 A
Compact torch design and small torch head diameter for optimal handling with the best possible performance



PHB 50 50A 3M

Plasma manual welding torch, 50 A
Compact torch design and small torch head diameter for optimal handling with the best possible performance



PWH 100 3M

Plasma manual welding torches
Greater load capacity of the plasma nozzles thanks to optimised cooling system
Compact torch design and small torch head diameter for optimal handling with the best possible performance



PWH 150 4M

Plasma manual welding torches
Greater load capacity of the plasma nozzles thanks to optimised cooling system
Compact torch design and small torch head diameter for optimal handling with the best possible performance

Remote controls, 14-pole



FR21 14POL

Foot-operated remote control, current
Operating point setting directly at the site of welding
For microplasma machine series



FRP10 14POL

Remote control, pulse/spot
Robust metal casing with rubber feet, retaining clip and holding magnet
For microplasma machine series



FRP15 14POL

Remote control, pulses
Robust metal casing with rubber feet, retaining clip and holding magnet
For microplasma machine series

Remote controls, 19-pole



RT1 19POL

Remote control, current
Operating point setting directly at the site of welding
Robust metal casing with rubber feet, retaining clip and holding magnet
For Tetrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series

Remote controls, 19-pole



RTP1 19POL

Remote control, spot/pulsed welding
Pulse, spot and pause times are infinitely adjustable.

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Tetrix and Picotig 190 AC/DC machine series



RTP2 19POL

Remote control, spot/pulsed welding
Pulse/pause ratio (balance) adjustable from 10% to 90%.

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Tetrix and Picotig 190 AC/DC machine series



RTP3 spotArc 19POL

Remote control, spotArc, spot/pulsed welding
Pulse/pause ratio (balance) adjustable from 10% to 90%.

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Tetrix and Picotig 190 AC/DC machine series



RTF1 19POL

Foot-operated remote control, current, with connection cable

Start/stop welding operation

Operating point setting directly at the site of welding

For Tetrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series

Cooling units



RK 1

Reverse cooling unit



cool71 U43

Air cooling unit with centrifugal pump
Modular design, tool-free assembly



UK 500

Air cooling unit

Transport carts



Trolley 70-3 DF

Transport carts

To transport one power source, two modules and two gas cylinders

For the Tetrix Plasma series of machines



Gas metering units for Tetrix plasma machines without digital gas control



GDE2

Gas metering unit with 2 gas quantity meters



GDE2.1

Gas metering unit with 2 gas quantity meters

Gas metering units for Tetrix plasma machines without digital gas control



GDE3

Gas metering unit with 3 gas quantity meters

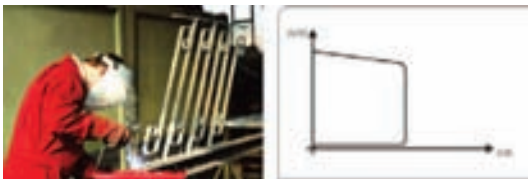


■ **Light, robust and small**

Pico 162 Pico 180

The PICO 162 and 180, EWM's miniature powerhouses, are barely the size of a shoe box, yet they really pack a punch. In doing so, with up to 160 and 180 amperes output, outstanding welding properties, large mains voltage ranges and the easiest of handling, these MMA specialists set new standards in assembly. The universal all-rounder: The Pico 162 MV (multi-volt variant) automatically detects the mains voltages of different countries between 115 and 230 volts.

Highlights



■ **Antistick and Arcforce – weld like a professional**

Extremely easy welding: The arc burns steadily without the electrode sticking or annealing.



■ **Perfect weld seams even with thick electrodes**

Even 4-millimetre electrodes are no problem for the Pico. State-of-the-art inverter technology with superb control dynamics provides a stable arc. This makes even joining with rutile or rutile-cellulose electrodes that are hard to weld effortless.



■ **Light, transportable and mobile**

Easily transportable to any work location. Very small and lightweight in a robust plastic casing, this machine can easily be carried up ladders or over cramped scaffolding.



■ **100% suitable for construction sites**

Perfect for large construction sites and very tough assembly work with mains supply leads up to 50 metres or connected directly to a generator. High tolerance to mains fluctuations ensures a perfect welding result.



■ **Reliable, safe, cost-effective**

All electronic components are particularly well protected against dust. The temperature-controlled fan prevents unnecessary intake of dirt. An all-round low-maintenance, reliable and therefore cost-effective solution!



■ **Arcforce: tuning for all electrodes**

Arcforce offers exceptional welding properties with all types of electrodes. No short circuits, even with rutile-cellulose electrodes.



Pico 162: Insulating protective cover
for optimum protection of the machine in tough conditions. Light, robust and easy to retrofit by hand. Combined with an optional dirt filter, you can protect your machine as best as possible from dirt.



Overvoltage protection.
Accidental connection to 400 V mains voltage does not result in damage to the machine



Made-to-measure open circuit voltage – for worldwide use
The VRD (voltage reduction device) function reduces the open circuit voltage to safe levels. This option meets regional requirements and standards all over the world.



Hotstart for exceptional quality
The variable Hotstart function (adjustable current and time) reliably ignites the electrode and melts perfectly to ensure the best quality even at the start of the seam. This solution makes lack of fusion and cold welds a thing of the past and significantly reduces excess weld metal.



Very comfortable to carry
Stable and comfortable carrying strap, slender and convenient design



Extremely resilient
Side panels made from powder-coated sheet aluminium



Operating elements
Particularly robust, clear and protected layout



Modern, ergonomic casing
The front and rear sections of the machine are made of shock-resistant plastic, with rounded corners and edges



Intelligent casing design
Optimised air conduction for long duty cycle



Safe and reliable
Integrated temperature monitors protect against overload



■ **Compact, indestructible and versatile**

Pico 300 Stick 350

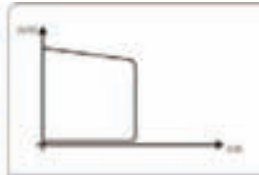
For tough, safe everyday operation on construction sites and in assembly work, the resilient MMA professional machines with metal casing offer the perfect solution. Even on long mains leads or connected to a generator, the welding electrode ignites reliably. EWM inverter technology with digital control ensures a stable arc, providing problem-free welding even for special electrodes. The CEL model versions are 100% safe for vertical-down welds with cellulose electrodes.

Highlights



■ **Ideal for every construction site**

Slimline design and effortless transport with stable carrying bar – the perfect partner for almost any construction site. Mains fluctuations are no problem for EWM power sources. Reliable welding even with weak mains supplies or extra-long cables. Well-thought-out ventilation ensures long duty cycles and protects against dirt.



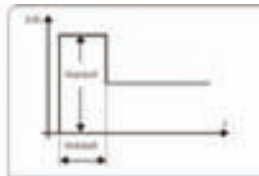
■ **Antistick and Arcforce – weld like a professional**

Extremely easy welding: The arc burns steadily without the electrode sticking or annealing.



■ **Reliable ignition and excellent welding properties**

The digital inverter technology ensures superb arc characteristics for all electrode types, a reliable, stable arc and an easily controlled molten pool. The high open circuit voltage and hotstart function guarantee reliable ignition for the long term.



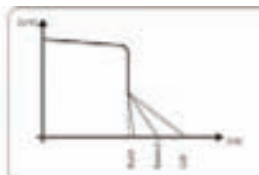
■ **Hotstart for exceptional quality**

The variable Hotstart function (adjustable current and time) reliably ignites the electrode and melts perfectly to ensure the best quality even at the start of the seam. This solution makes lack of fusion and cold welds a thing of the past and significantly reduces excess weld metal.



■ **Reliable, safe, cost-effective**

All electronic components are particularly well protected against dust. The temperature-controlled fan prevents unnecessary intake of dirt. An all-round low-maintenance, reliable and therefore cost-effective solution!



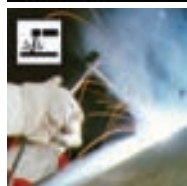
■ **Arcforce: tuning for all electrodes**

Arcforce offers exceptional welding properties with all types of electrodes. No short circuits, even with rutile-cellulose electrodes.



Made-to-measure open circuit voltage – for worldwide use

The VRD (voltage reduction device) function reduces the open circuit voltage to safe levels. This option meets regional requirements and standards all over the world.



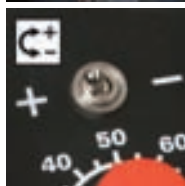
Antistick and Arcforce – a strong team

During the welding process, Arcforce prevents the electrode from sticking in the weld pool. However, if the electrode does stick, the Antistick automatically switches to minimum current, therefore preventing annealing and keeping the electrode in serviceable condition.



No pipeline without Pico/Stick CEL

100% reliability for vertical-down welds with cellulose electrodes.



Polarity can be freely selected

Basic or cellulose electrodes „run“ better with the minus pole on the workpiece. The welder can solve the question of the right polarity directly on site with the remote control of the Pico/Stick pws.



Convenient transport

Handy carrying handles, stable carrying bar and carrying strap, slender and convenient design



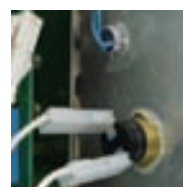
Metal casing: robust and durable

Ideal for construction sites: powder-coated sheet steel, phosphatised to prevent corrosion, impact- and scratch-resistant yet extremely light



Well-thought-out casing design

Dust remains outside: closed casing trough, increased cooling air inlets with blade/grill combination



Safe and reliable

Integrated temperature monitors protect against overload and extend the duty cycle



Easy welding machine control

Everything at a glance: self-explanatory with one-knob operation, display, large range of functions



Best protection

Operating and connection elements recessed to protect against damage



Pico 162

Pico 162 MV



Controls

Pico 162 (MV)

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Stick 350 cel (pws)

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Pico 300 cel (pws)

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Pico 180

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Taurus Basic

–

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Functions

MMA

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TIG

•

•

Gouging

–

–

Technical data

Setting range for welding current

10 A - 150 A

10 A - 150 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

25 %

–

–

–

–

30 %

–

–

–

–

35 %

–

150 A

–

150 A

50 %

150 A

–

150 A

–

60 %

–

120 A

–

120 A

100 %

120 A

100 A

120 A

100 A

Open circuit voltage

105 V

105 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

1 x 16 A

1 x 16 A, 1 x 25 A

Mains voltage (tolerances)

1 x 230 V (-40 % - +15 %)

1 x 230 V (-40 % - +15 %), 1 x 115 V (-15 % - +15 %)

Max. connected load

5.5 kVA

5.5 kVA

Recommended generator power

7.5 kVA

7.5 kVA

Dimensions, machine, LxWxH in mm

430 x 115 x 225

430 x 115 x 225

Weight, machine

4.8 kg

5.1 kg

Protection classification

IP 23

IP 23

Insulation class

H

H

Standards

IEC 60 974-1; -10 / CE / S-Safety sign / EMC class A

QR Code





Pico 180



Pico 300 cel



Pico 300 cel pws



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5 A - 180 A

10 A - 300 A

10 A - 300 A

25 °C

40 °C

25 °C

40 °C

25 °C

40 °C

-

180 A

-

300 A

-

300 A

180 A

-

300 A

-

300 A

-

-

-

-

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-

-

140 A

130 A

250 A

220 A

250 A

220 A

130 A

120 A

190 A

170 A

190 A

170 A

100 V

100 V

100 V

50 Hz / 60 Hz

50 Hz / 60 Hz

50 Hz / 60 Hz

1 x 20 A

3 x 16 A

3 x 16 A

1 x 230 V (-40 % - +15 %)

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

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

7.2 kVA

12.1 kVA

12.1 kVA

9.7 kVA

16.4 kVA

16.4 kVA

470 x 135 x 250

515 x 185 x 350

515 x 185 x 445

8.9 kg

16.5 kg

23.5 kg

IP 23

IP 23

IP 23

H

H

H

IEC 60 974-1; -10 / CE / S-Safety sign / EMC class A





Stick 350 cel

Stick 350 cel pws



Controls

Pico 162 (MV)

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Stick 350 cel (pws)

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Pico 300 cel (pws)

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Pico 180

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–

Taurus Basic

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–

Functions

MMA

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TIG

–

–

Gouging

–

–

Technical data

Setting range for welding current

20 A - 350 A

20 A - 350 A

Duty cycle at ambient temperature

25 °C

40 °C

25 °C

40 °C

30 %

–

350 A

–

350 A

40 %

–

–

–

–

60 %

–

250 A

–

250 A

100 %

–

190 A

–

190 A

Open circuit voltage

95 V

95 V

Mains frequency

50 Hz / 60 Hz

50 Hz / 60 Hz

Mains fuses (slow-blow)

3 x 25 A

3 x 25 A

Mains voltage (tolerances)

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

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

Max. connected load

17.8 kVA

17.8 kVA

Recommended generator power

23.7 kVA

23.7 kVA

Dimensions, machine, LxWxH in mm

700 x 230 x 455

700 x 230 x 455

Weight, machine

35.5 kg

37.5 kg

Protection classification

IP 23

IP 23

Insulation class

H

H

Standards

IEC 60 974-1; -10 / CE / S-Safety sign / EMC class A

QR Code




Taurus 405 TDM


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5 A - 400 A

25 °C

-

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400 A

390 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

17.5 kVA

25 kVA

624 x 298 x 535

41 kg

IP 23

H


Taurus 505 TDM


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5 A - 500 A

25 °C

-

500 A

450 A

390 A

80 V

50 Hz / 60 Hz

3 x 35 A

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

24.6 kVA

35 kVA

624 x 298 x 535

45 kg

IP 23

H



IEC 60 974-1; -10 / CE / S-Safety sign / EMC class A



Options/accessories

TIG torch, rotary gas valve



TIG 17 GDV 4M

TIG welding torch, rotary gas valve, gas-cooled, decentral



TIG 26 GDV 4M

TIG welding torch, rotary gas valve, gas-cooled, decentral

Gouging



GT 600 SKK95 3

Gouging torch

Air arc gouging torch for separating metals

► Suitable carbon electrodes can be found in the Accessories section of the price list!

Remote controls, 14-pole



FR30 14POL

Remote control, current

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Stick 350 cel and Stick 350 cel PWS



FR30PWS 14POL

Remote control, current pole reversal

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Stick 350 cel PWS



FRF30 14POL

Remote control, vertical-down weld, current

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Stick 350 cel and Stick 350 cel PWS



FRF30 PWS 14POL

Remote control, vertical-down weld, current pole reversal

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Stick 350 cel PWS

Remote controls, 14-pole



FR35 14POL

Remote control, hot start

Potentiometer for hot start current infinitely adjustable in % of maximum main current.

Potentiometer for hot start time infinitely adjustable from 0 to 2 sec.

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Stick 350 cel and Stick 350 cel PWS

Remote controls, 19-pole



RT1 19POL

Remote control, current

Operating point setting directly at the site of welding

Robust metal casing with rubber feet, retaining clip and holding magnet

For Tetrrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series



RT PWS1 19POL

Remote control, vertical-down weld, current pole reversal

Operating point setting directly at the site of welding

For all Tetrrix AC/DC machines (except Tetrrix 230 AC/DC) and Pico 300 cel PWS



RTF1 19POL

Foot-operated remote control, current, with connection cable

Start/stop welding operation

Operating point setting directly at the site of welding

For Tetrrix, Picotig 190 AC/DC, Pico 180 and Pico 300 cel / cel pws machine series

Transport carts



Trolley 39-1

Transport carts

For transporting a power source

For Phoenix 404, 405 / 505 and Taurus 404, 405 / 505

EWM Virtual Welding Trainer

Realistic welding training
– straightforward, fast and safe

New

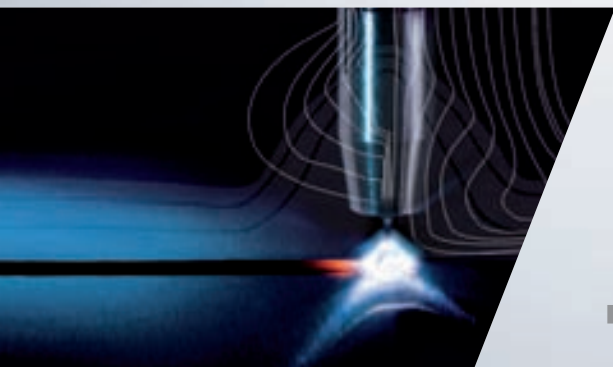


Highlights

- Realistic, hands-on welding training – straightforward, fast, and safe
- MIG/MAG, TIG and MMA
- Screen-based learning is the most effective – no additional accessories like a workpiece or helmet are required
- Intuitive operation/menus for the torch – neither mouse nor keyboard are needed
- Independent control boosts learning effectiveness
- Replaces time-consuming, costly welding experiments and reduces material expenses for training by up to 35 %
- Conserves resources and protects the environment

Fields of Application

- Basic and advanced training
- Refresher courses for welders
- Training for new welding tasks
- Test and train production methods
- Optimising production processes



System variants



LT Virtual Welding Trainer

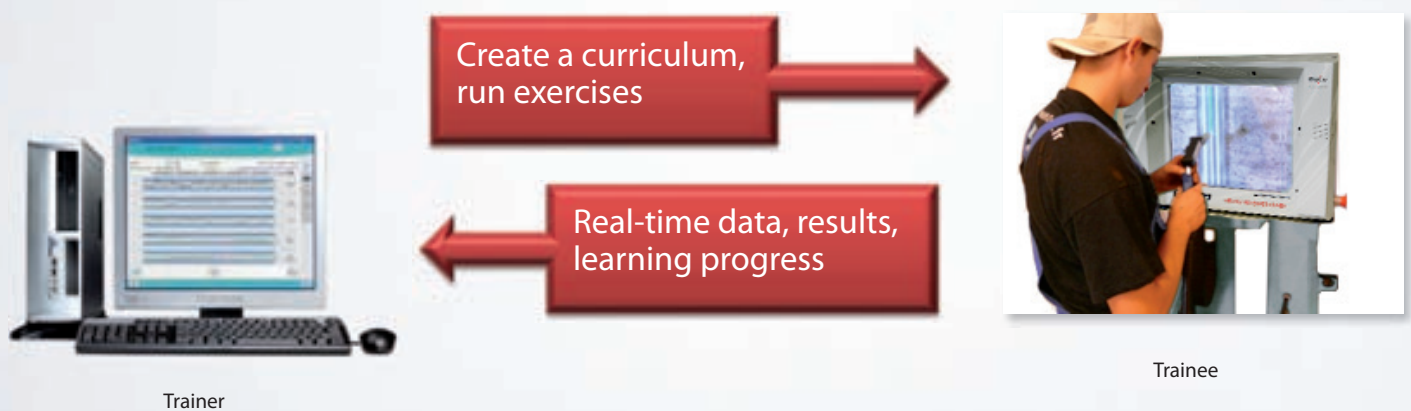
- Portable version for instruction and on-site training



WB Virtual Welding Trainer

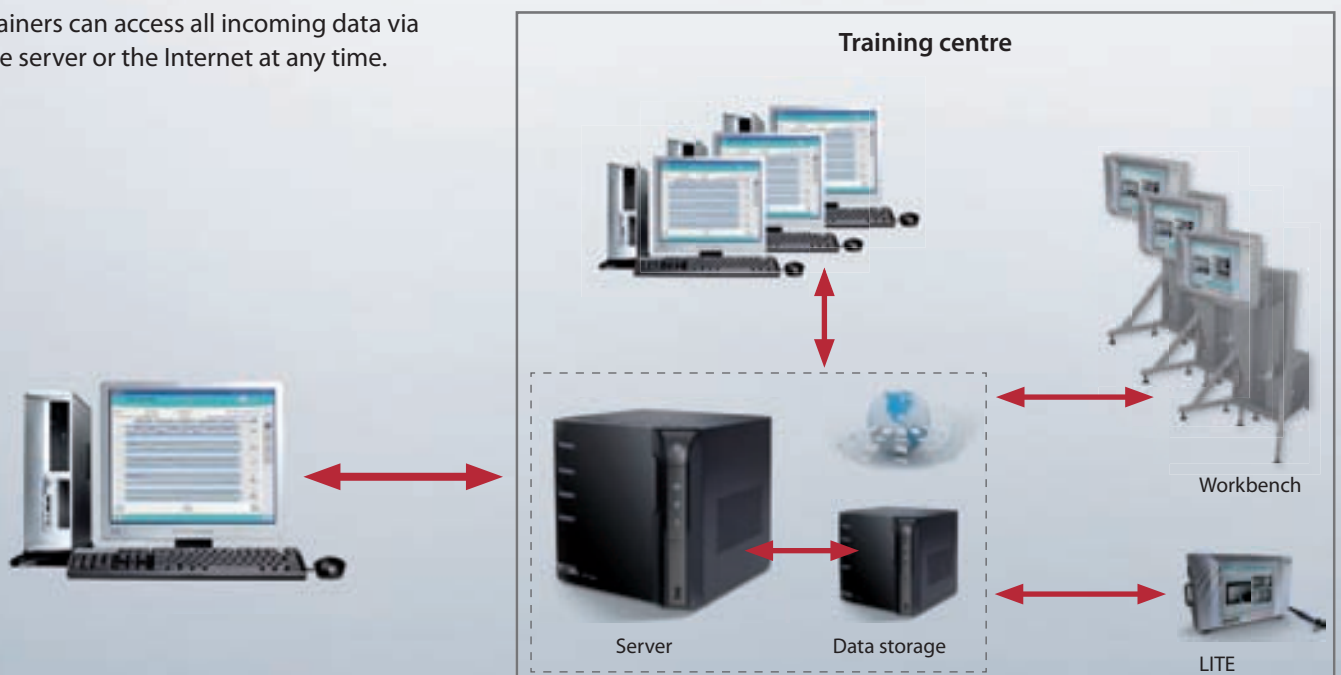
- Stationary version for instruction and training centres

Principle structure of a virtual training system

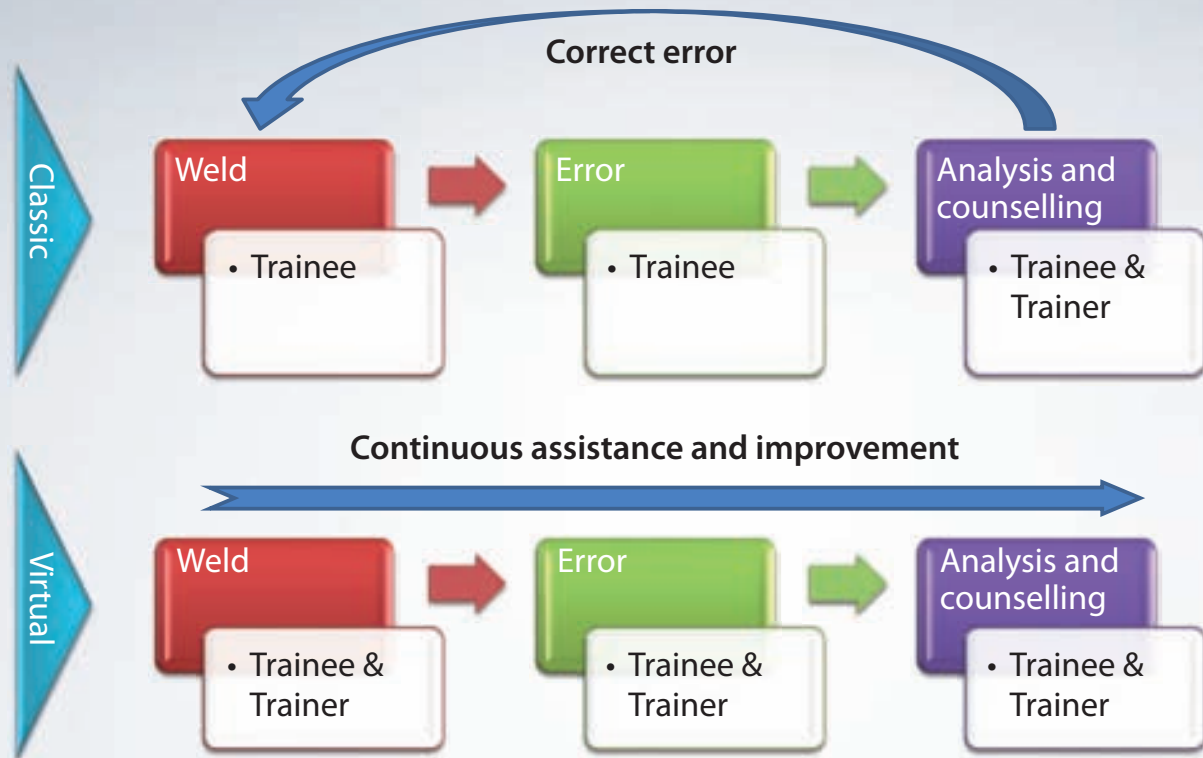


A solution for multiple training stations

- Trainers can access all incoming data via the server or the Internet at any time.



Improved supervision



Advantages of the EWM Virtual Welding Trainer

- **All-rounder**
 - Train for all common processes: MIG/MAG, TIG, MMA
 - Requirements-based, very practical and realistic
 - Simulates consumable electrodes and other welding consumables
 - Training using real tools
- **Custom configuration**
 - Process selection, seam type, position, layer and welding direction
 - Customisable tolerance range for creating a welding task that is perfectly matched to the user
- **Train in an efficient, environmentally friendly and effective way**
 - No material costs for workpiece, welding consumables or shielding gas
 - Emission-free and conserves resources
 - 100% learning time. No time-consuming assembly or set-up
- **Targeted instruction**
 - Create custom curricula
 - Well-organised preparation of results enables quick and easy analysis
- **Learning from the ground up – Learn mode**
 - Four sections for rapid progress: Speed, angle and distance to workpiece and welding direction
 - Immediate correction thanks to three-dimensional mapping of movements, visual aids and realistic arc sounds
- **User-specific reinforcement – Test mode**
 - Repetition of exercises without visual aids using the training objectives defined in the curriculum
- **Versatile and flexible**
 - Welding in positions PA, PB, PC, PF, PG
 - The trainee learns a variety of techniques, seam types and movements
- **Instructive and network-capable**
 - Continuous following and monitoring of running exercises
 - Overview of overall progress
 - Easy error analysis
 - Centralised data storage
 - Real-time updates of welding results
- **Extensive, intuitive display**
 - User-friendly operating panel
 - Detailed statistics and diagrams
 - Optimum overview of learning progress
- **Systematic exercise methods**
 - Educator-designed concept
 - Customisable levels of difficulty
 - Creation of sub-tasks
 - Orientation toward the capabilities of students and training objectives of the trainer



Select welding process

- **All-rounder**
Train for all common processes: MIG/MAG, TIG, MMA
- **Versatile and flexible**
The user learns a variety of techniques, weld shapes and movements
- **Instructive and network-capable**
Straightforward analysis of mistakes and progress
- **Extensive, intuitive displays**
Excellent overview of the student's progress from one task to another
- **Systematic practice methods**
The sophisticated pedagogical concept lets you customise the level of difficulty and individual tasks to match the student's capabilities as well as the trainer's objectives

Description and functionality

- Virtual welding trainer
- Flexible expansion options
- Equipment (torch and electrode holder) has highly realistic shape, weight, and ergonomics
- Generate your own welding tasks
- Improves fine motor skills and movement patterns during welding
- Independent visual control of results and welding parameters boosts learning effectiveness



Selection of parameters such as welding position

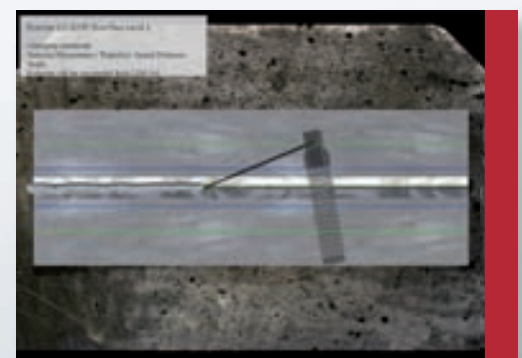


Setting of tolerance ranges

Different modes

- **Targeted training – Course mode**
You can configure training content and level of difficulty specifically according to the target group's capabilities – from the process to seam type and positions, from the tolerance range to direction and speed

- **Learning from the ground up – Free mode**
Four sections for rapid learning progress: welding speed, distance to workpiece, setting angle and welding direction, realistic arc noises and visual aids/warning signals result in immediate correction of the welding process



During the welding training



Evaluation of the welding training

- **User-specific improvement – Test mode**
Exercises without visual aids reinforce learned material consistent with the training objectives defined in the curriculum

Notes

Notes

Headquarters

EWM HIGHTEC WELDING GmbH

Dr. Günter-Henle-Straße 8
56271 Mündersbach · Germany
Tel: +49 2680 181-0 · Fax: -244
www.ewm-group.com · info@ewm-group.com

Technology centre

EWM HIGHTEC WELDING GmbH

Forststr. 7-13
56271 Mündersbach · Germany
Tel: +49 2680 181-0 · Fax: -144
www.ewm-group.com · info@ewm-group.com



Production, Sales and Service

EWM HIGHTEC WELDING GmbH

Dr. Günter-Henle-Straße 8
56271 Mündersbach · Germany
Tel: +49 2680 181-0 · Fax: -244
www.ewm-group.com · info@ewm-group.com

EWM HIGHTEC WELDING (Kunshan) Ltd.

10 Yuanshan Road, Kunshan · New & High-tech Industry Development Zone
Kunshan · Jiangsu · 215300 · People's Republic of China
Tel: +86 512 57867-188 · Fax: -182
www.ewm-kunshan.cn · info@ewm-kunshan.cn

EWM HIGHTEC WELDING AUTOMATION GmbH

Boxbachweg 4
08606 Oelsnitz/V. · Germany
Tel: +49 37421 20-300 · Fax: -318
www.ewm-automation.de · info@ewm-automation.de

EWM HIGHTEC WELDING s.r.o.

Tr. 9. května 718 / 31
407 53 Jiřikov · Czech Republic
Tel: +420 412 358-551 · Fax: -504
www.ewm-jirikov.cz · info@ewm-jirikov.cz

Sales and Service Germany

EWM HIGHTEC WELDING GmbH

Vertriebs- und Technologiezentrum
Grünauer Fenn 4
14712 Rathenow · Tel: +49 3385 49402-0 · Fax: -20
www.ewm-rathenow.de · info@ewm-rathenow.de

EWM HIGHTEC WELDING GmbH

Lindenstraße 1a
38723 Seesen-Rhüden · Tel: +49 5384 90798-0 · Fax: -20
www.ewm-seesen.de · info@ewm-seesen.de

EWM HIGHTEC WELDING GmbH

Sachsstraße 28
50259 Pulheim · Tel: +49 2234 697-047 · Fax: -048
www.ewm-pulheim.de · info@ewm-pulheim.de

EWM HIGHTEC WELDING GmbH

In der Florinskaul 14-16
56218 Mülheim-Kärlich · Tel: +49 261 988898-0 · Fax: -20
www.ewm-muelheim-kaerlich.de · info@ewm-muelheim-kaerlich.de

EWM HIGHTEC WELDING GmbH

Eiserfelder Straße 300
57080 Siegen · Tel: +49 271 3878103-0 · Fax: -9
www.ewm-siegen.de · info@ewm-siegen.de

EWM HIGHTEC WELDING GmbH

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Draisstraße 2a
69469 Weinheim · Tel: +49 6201 84557-0 · Fax: -20
www.ewm-weinheim.de · info@ewm-weinheim.de

EWM Schweißtechnik Handels GmbH

Rittergasse 1
89143 Blaubeuren · Tel: +49 7344 9191-75 · Fax: -77
www.ewm-blaubeuren.de · info@ewm-blaubeuren.de

EWM Schweißtechnik Handels GmbH

Heinkelstraße 8
89231 Neu-Ulm · Tel: +49 731 7047939-0 · Fax: -15
www.ewm-neu-ulm.de · info@ewm-neu-ulm.de

EWM HIGHTEC WELDING AUTOMATION GmbH

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Sales and Service International

EWM HIGHTEC WELDING GmbH

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www.ewm-gmunden.at · info@ewm-gmunden.at

EWM HIGHTEC WELDING UK Ltd.

Unit 2B Coopies Way · Coopies Lane Industrial Estate
Morpeth · Northumberland · NE61 6JN · Great Britain
Tel: +44 1670 505875 · Fax: -514305
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EWM HIGHTEC WELDING (Kunshan) Ltd.

10 Yuanshan Road, Kunshan · New & High-tech Industry Development Zone
Kunshan · Jiangsu · 215300 · People's Republic of China
Tel: +86 512 57867-188 · Fax: -182
www.ewm-kunshan.cn · info@ewm-kunshan.cn

EWM HIGHTEC WELDING Sales s.r.o. / Prodejní a poradenské centrum

Tyršova 2106
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www.ewm-benesov.cz · info@ewm-benesov.cz

EWM HIGHTEC WELDING FZCO / Regional Office Middle East

LOB 21 G 16 · P.O. Box 262851
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56271 Mündersbach · Germany

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www.ewm-group.com · info@ewm-group.com

Technology centre

EWM HIGHTEC WELDING GmbH

Forststr. 7-13

56271 Mündersbach · Germany

Tel: +49 2680 181-0 · Fax: -144

www.ewm-group.com · info@ewm-group.com



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