





BlueEvolution® – the major sustainability initiative from ewm





www.multimatrix.info

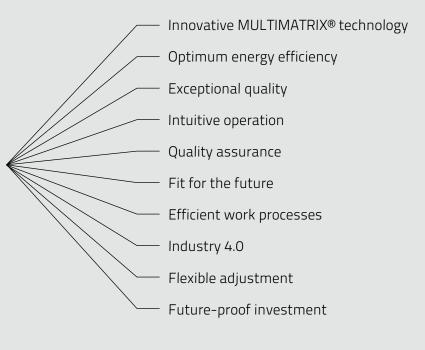
MULTIMATRIX®

/// Perfection is the principle

MULTIMATRIX® is the devised solution for all your current and future welding tasks. ewm further develops welding processes, material characteristics, networking and individual operation on a continuous basis.

The MULTIMATRIX® technology makes it possible to quickly adapt to these new developments or welding tasks using data exchange via a USB flash memory or LAN/Wi-Fi networks.









Save money

You can save yourself constant new investments thanks to the durability, long service life and quality of our products. The overall ewm system, including welding processes, delivers a fast and reliable result. The high energy efficiency of welding machines and ewm welding processes also offers enormous savings potential in the face of rising electricity prices.

Secure jobs

High productivity is assured thanks to the speedy, reliable, convenient processes with little preparation or finishing work, savings on materials, salary and electricity costs, and shorter welding times. With MULTIMATRIX®, you have considerably more freedom for additional orders. You thus ensure an advantage over competitors and sustainable business success.

Protect the environment

You will work with resource-efficient work processes on every level: you require fewer beads thanks to the innovative welding processes, thus using less gas, power and welding consumables. This will enable you to increase energy efficiency overall and reduce emissions. And last but not least, MULTIMATRIX® allows you to improve the working conditions for your most important resource – your employees.

MULTIMATRIX®

/// Perfection is the principle

Welding machines

>>> Page 6

drive 4X Wire feeders

>>> Page 12







drive 4X LP



drive 4X control



drive 4X LP control



Expert 2.0 Welding machine control

>>> Page 8

MULTIMATRIX
Wire feeder controls

>>> Page 13



Innovative technology in an all-inclusive system: ewm offers you everything you need to produce perfect weld seams from a single source – from welding machines and torches through to processoptimised welding consumables.

This means less organising for you, thus assuring more time for your real work

MT function welding torch with X technology

>>> Page 13

/ pulse

>>> Page 18

- / coldArc/coldArc puls
- / forceArc/forceArc puls

Innovative welding processes

- / root Arc/root Arc puls
- / pipeSolution

















Networking options





ewm Xnet Quality management software >>> Page 30

Extremely impressiveInverter welding machines and welding processes

Compact, light and equipped with the latest MULTIMATRIX® technology, ewm welding machines are well-conceived in every way. For simple operation and reliability in use.



Whether you require comprehensive fittings for changing requirements or you work on construction sites or in a production workshop, ewm always has the ideal machine for different needs thanks to its modular system.

Highly dynamic forceArc® power module

High-performance inverter 80 V output voltage

Pulsed arc module for virtually spatter-free seams

coldArc® power module for heat-reduced welding

alpha Q puls

MIG/MAG

forceArc/forceArc puls	✓ / ✓
coldArc/coldArc puls	√ / √
rootArc/rootArc puls	√ / √
Pulsed arc	✓
Standard arc	✓
pipeSolution	✓
superPuls	✓
MMA	\checkmark
TIG (lift arc)	✓
Gouging	✓



3-year warranty* for welding machines

5-year warranty*

for transformer and rectifier

Also for 3-shift, 24-hour/7-day operations

* As per ewm warranty conditions



Your benefits

- / Robust, highly dynamic inverter technology
- / Electricity savings thanks to efficient welding processes, optimum efficiency and automatic standby mode
- / High open circuit voltage for excellent ignition characteristics
- / High voltage reserves for long hose packages up to 70 m
- / High duty cycle
- / Wide mains voltage tolerance (-25% to +20%)
- / For all climatic zones, from the desert to Antarctica
- / Rugged, dust-protected electronics
- / High-performance cooling unit with centrifugal pump
- / Large cooling water tank
- / Certified in accordance with EN 1090

Highly dynamic forceArc® power module

High-performance inverter 80 V output voltage

Pulsed arc module for virtually spatter-free seams

Highly dynamic forceArc® power module

High-performance inverter 80 V output voltage

Phoenix puls

Taurus Synergic S

✓ / ✓	✓ / -
- / -	- / -
✓ / ✓	√ / -
\checkmark	-
\checkmark	\checkmark
-	-
✓	✓
\checkmark	\checkmark
\checkmark	\checkmark
✓	✓

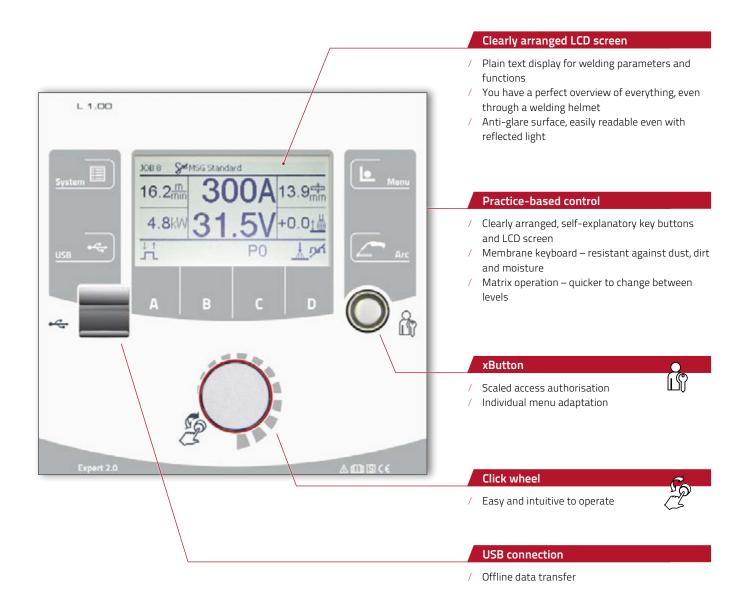


All information at a glance,

quickly accessed

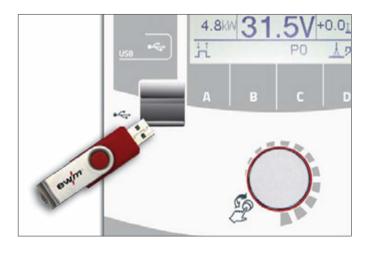
Expert 2.0 – Simple and intuitive

Direct access to expert knowledge. Numerous welding tasks can now be set up and read more easily. This means that all information displays can be individually adapted to the requirements of the user; operating errors are thus drastically reduced. Thanks to the new full-text menu, you also have the entire welding process and all important parameters available at a glance.





Easy data exchange using USB flash memory

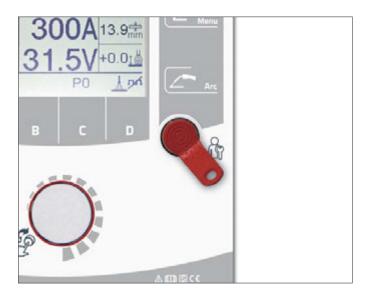


Your benefits

Invest in the future!

- / ewm is further developing welding processes, material characteristics, networking and individual operation on a continuous basis.
- / MULTIMATRIX technology makes it possible to adapt to these new developments or welding tasks quickly using data exchange via a USB flash memory or LAN/Wi-Fi networks.

Access authorisation using xButton



Individual user rights

- / Administration of access rights for different control operating levels
- / Identification of the welder
- / Provision of individual welding parameters for each welder
- / The ewm Xnet quality management software provides precise final costing thanks to data recording on an individual basis for each machine and application
- / Extremely robust and considerably more durable than RFID chip cards, for example
- / Incredibly easy to use even when wearing gloves
- / Practical as it can be carried on a key ring, for example

LAN/Wi-Fi networking of power sources



Networking of any number of power sources

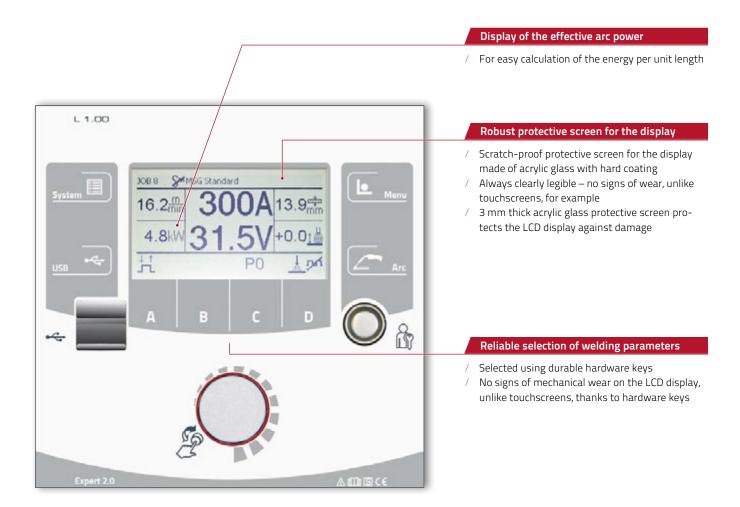
/ LAN/Wi-Fi networking via built-in Expert 2.0 control or an external LAN/Wi-Fi gateway

You will find detailed information on networking ewm welding machines on pages 30 and 31 or in the ewm Xnet quality management software brochure

Easier to operateControl with Expert 2.0 LCD display – functions

Everything at a glance, with quick access

Expert 2.0 features different practical user menus which ensure safe operation of the welding machine

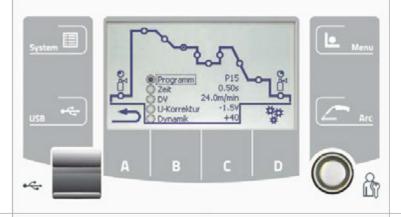




Your benefits

Display and change of welding program sequence

/ You can set all parameters in the program sequence













Start window for the JOB (welding task) selection

- Practice-based control
- / JOB (welding task) easy to select using click wheel
 - welding process
 - material type
 - gas type
 - wire diameter

Screen showing welding parameters

- Displays the effective arc power for a simple calculation of energy per unit length
- Nominal, actual and hold values
- Operating modes
- / Status messages

Language selection menu

/ The user interface is available in 13 languages

Universal use

drive 4X wire feeder

With rapid set-up times and straightforward handling, the drive 4X wire feeder is ready for virtually any situation, from construction sites to production halls, tight spaces to long distances, and tack welding to continuous operation. Regardless of the MIG/MAG welding machine you use it with: You'll achieve flaw-less results thanks to highly precise wire feeding, high work comfort with the ergonomically balanced carrying handle, low weight, and manhole-appropriate dimensions. A long service life is assured, even when used in three-shift operation.

Secure, precise wire feeding

- / Four driven wire feed rollers
- / Automatic wire inching saves time
- / Easy, tool-free roller change
- / Permanently secured roller fastener

Illumination of internal spaces

Changing wires and operating the machine is easy even with poor lighting

Protection against dust and dirt

- / Dust-proof wire spool cap
- Inspection window indicates level of wire spool
- / Simple and convenient spool change
- / Fully insulated wire space

Secure sealing system

 Doors stay closed even under the most demanding conditions



Rapid set-up

- / Tool-free replacement of intermediate hose packages; externally accessible connections eliminate the need for intervention in the electric area
- Strain-relieved hose package with strap and swivel
- / Protected hose package connections

Protected connections

- Recessed Euro torch connector and water connection
- Plastic impact protection

Rugged structure

- Solidly-designed base made from continuously cast aluminium
- Mounting options for sliding rails, rubber feet, wheel kit, etc.
- Standard mandrel holder

For universal use, e.g. with:



alpha Q puls Expert 2.0, Progress



drive 4X

wire feeder

Phoenix puls
Taurus Synergic S
Expert 2.0, Progress



Phoenix puls Expert 2.0, Progress **Taurus** Synergic S



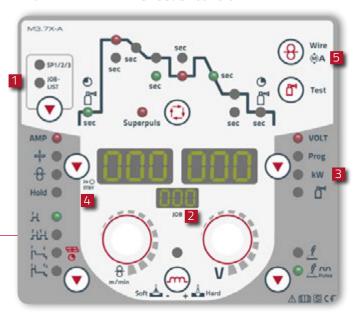


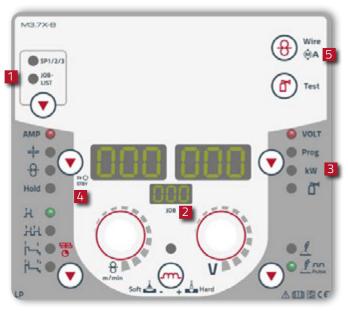
drive 4X



drive 4X LP

MULTIMATRIX® wire feeder control





1 JOB selection

Direct selection from the JOB list saves time; custom JOBs SP1–SP3 (Expert)

2 JOB display

The current welding task (JOB number) is always in view

3 Display of the effective arc power

For calculating energy per unit length

4 Standby function

Save power at press of a button or automatically (time-controlled)

5 Motor current display

Retrieval of wire feeder's motor current increases operational reliability: Changes indicate wire feed irregularities

MT function torch with X technology

These function torches transfer operating and display signals through the standard Euro torch connector; a separate control cable and additional connector plugs are no longer needed:

- Lower weight
- Improved handling and increased freedom of movement
- Very safe and robust
- Easy service

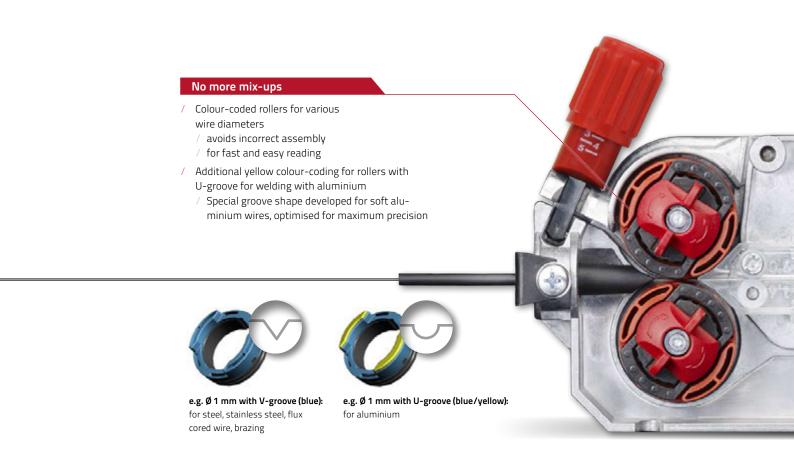




For the most demanding requirements in continuous operation

Wire feed mechanism

Dual ball-bearing drive axles and four individually driven wire feed rollers make the wire feed mechanism highly precise and robust with a long service life. When combined with power sources and welding torches from ewm, the result is a perfectly balanced and complete system, whose sum total is truly more than the individual parts. The bottom line: higher precision, greater speed, and more efficiency.



Exchange rollers in just three steps – very quickly, without tools and without parts that can be lost



I. Unlock the roller fastener



II. Swivel out secured roller fastener



III. Exchange the roller





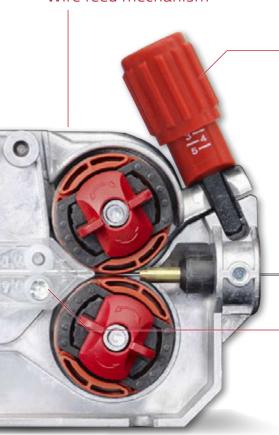
Illumination of internal spaces

/ Changing wires and operating the machine is easy even with poor lighting

Functions

- 1 Key switch for locking the control
- 2 Changeover switch Program or up/down function torch
- **3** Buttons Currentless wire inching

Wire feed mechanism



Adjustable contact pressure

- / Each roller pair can be individually adjusted to the wire being fed
- / For aluminium, steel, stainless steel, brazing, flux cored wire

1	2,5	Steel Stainless steel Brazing	
	1	Aluminium	
V	2	Flux cored wire	

= 2 = 2	Steel Stainless stee Brazing
; = ⁴	Aluminium
	Flux cored wire

2-2,5 2,5-3

Visible wire feeding

Supports automatic inching and straightforward visual control



The drive 4X product video can be found at www.ewm-group.com

The benefits of the wire feed mechanism at a glance:

- Die cast aluminium housing is robust for a long service life
- Double ball bearings (instead of friction bearings) on all four drive axles reduce roller tolerances for a longer service life and less friction
- Error-free automated wire inching without timeconsuming opening saves time
- Tool-free roller replacement with no roller attachment parts that can be lost
- Covered gearing protects against injury
- Large roller diameter (37 mm) for optimal transfer of power
- 4-roller drive

Adapts to individual requirements drive 4X wire feeder options



Torch holder

- For greater security when working
- Extends the life of the torch
- Keeps work area organised



Wheel set

- Makes the drive 4X even more flexible
- Ensures limitless mobility
- Large rollers (Ø 125 mm) for optimal freedom of movement



Rubber feet

■ Replace sliding rails



Electronic shielding gas flow setting

- Fully reproducible thanks to digital configuration and saving to the respective JOB (welding task)
- Constant gas flow rate thanks to electronic adjustment
- Nominal and actual value display of gas flow rate in I/min.







The drive 4X product video can be found at www.ewm-group.com



Crane suspension bracket

- For easier and safe transportation
- Maximum mobility even during hanging operations



Heavy duty kit (protective plate plus crane suspension bracket)

- For optimised protection under rough conditions
- For standing, lying, and hanging operation
- Sliding, temperature- and impact-resistant protective plate
- Crane suspension for maximum mobility and straightforward, secure transportation



Plexiglas protective cap

- Reliable protection for the entire controller
- Good visibility of the protected display



Connection for drum feed

- Drum-based feed boosts effectiveness
- Less need to change wire feed rollers saves time



Front-side load socket (factory option)

- Connection capability for gouging torch and electrode holder
- Expanded flexibility on the job



Flow meter

- For common centralised gas supplies
- Precise adjustment and examination directly on site
- Particularly useful with long hose packages, e.g. in shipbuilding and steel construction



forceArc puls

Efficient and cost-effective welding









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Heat-reduced, directionally stable and powerful arc with deep penetration for the upper power range. Non-alloyed, low-alloy and high-alloy steels and high-tensile fine-grained steels

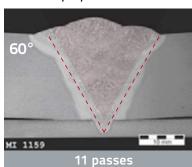
- Smaller included angle due to deep penetration and directionally stable arc
- Fewer passes
- Less distortion thanks to heat-reduced, concentrated arc
- Excellent root and sidewall fusion
- Perfect welding, even with very long stick-outs
- Reduced undercuts

- Virtually spatter-free
- Particularly beneficial for fillet welds, dynamically loaded components such as load-bearing parts for bridges, wagon and steel construction and other applications
- Non-alloyed, low-alloy and high-alloy steels, as well as high-tensile fine-grained steels
- Manual and automated applications

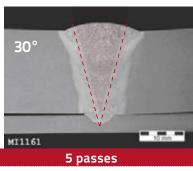
Process comparison of forceArc®/standard spray arc through TWI

- 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 weld volume, the welding times are reduced compared to the standard spray arc process 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

standard spray arc

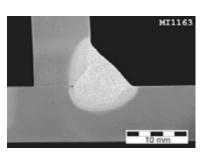


forceArc



50% shorter welding time

Unchanged mechanical/technological properties!



- Deeper penetration and therefore possible reduction of the effective throat thickness or seam cross-section
- Changes to stick-out lengths are rapidly stabilised
- Particularly advantageous for very narrow joints and fillet welds, for example

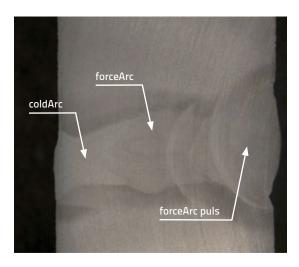




The ewm EN 1090 WPQR Package saves time and money

// forceArc // forceArc puls

- Combination of forceArc puls, forceArc and coldArc
- Root pass with coldArc, intermediate passes with forceArc and final pass with forceArc puls
- Saves a welding pass with a smaller included angle
- Perfect ignition and crater fill time with forceArc puls, welding with forceArc
- Less material distortion due to reduced heat input
- Lower intermediate pass temperature and minimised joint modification
- Particularly advantageous when, for example, welding fine-grained steels
- Angular shrinkage reduced in fillet welds



Sheet metal: S 235; 20 mm Gas: M21-ArC-18

Wire: 1.2 mm G4Si1

Passes: 4 Position: PC

Included angle: 10° Welded on one side, without

weld pool backing

Combination of coldArc, forceArc and forceArc puls

Efficient and cost-effective welding

- Overall cost savings of up to 60%
- Minimal seam preparation
- Fewer passes
- Less welding consumables and shielding gas consumption
- Faster welding time
- Particularly advantageous with dynamically loaded components



Sheet metal: S 355; 30 mm

Gas: M21-ArC-18
Wire: 1.2 mm G4Si1

Passes: 11
Position: PB/PA
Included angle: 25°

Welded on one side, without weld pool backing with

forceArc

Your benefits

forceArc puls

- / Up to 60% overall cost savings when comparing forceArc® vs. standard spray arc welding.
- Up to 35% electricity cost savings with the same deposition rate when compared to conventional spray arc welding
- / Up to 50% less harmful emissions through reduced welding fumes
- / Cost savings thanks to fewer passes
- / Less spatter means less finishing work
- Less distortion thanks to heat-reduced, concentrated arc
- Highly dynamic current control produces a directionally stable arc with great force and great penetration depth with fewer undercuts









coldArc coldArc puls Perfect welding and brazing

coldArc: Heat-reduced, low-spatter short arc for high dimensional stability welding and brazing, plus root welding with excellent gap bridging capabilities.

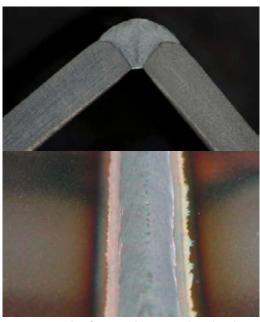
coldArc puls: The optimum enhancement for the higher performance range, with focused heat input – there where the heat is required.

- Less distortion and reduced discolouration thanks to minimised heat input
- Considerably reduced spatter thanks to virtually power-free material transfer
- 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 sheet 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 optimum for visible seams thanks to low-spatter process
- Unalloyed, 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 coated 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

Minimised heat input -99% less spatter

- Outstanding for butt welds, lap welds and edge welds
- Perfect for visible seams no post weld work necessary
- Ideally suited for high-alloy steels and coated metal sheets
- Less discolouration and scaling
- Reduced heat-affected zone
- Excellent control for positional welding



CrNi edge weld of 1 mm sheet metal, with coldArc



The ewm EN 1090 WPQR Package saves time and money

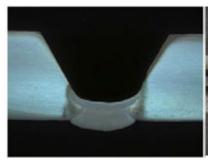
// coldArc puls

- Heat, where it is required with coldArc puls
- Root welding with coldArc: full control of the droplet transfer, minimised risk of bonding faults
- Pass build-up and final passes with coldArc puls
- Performance enhancement for thicker metal sheets with coldArc puls
- Perfect welding in transitional areas with coldArc puls
- Switching between coldArc and coldArc puls by pressing the torch trigger for secure overlaying of tack points.
- Simple modelling of the molten metal through automatic changing between coldArc and coldArc puls by switching on superPuls.
- Excellent and easy welding from a standing position through changing between coldArc and coldArc puls by switching on superPuls, without using the "Christmas tree technique".



Unique gap bridging for root passes

- Perfect gap bridging, even with alternating gap widths, thanks to coldArc
- No sagging of the molten metal
- Secure sidewall fusion, even with misaligned edges
- Complete elimination of "wire stab"
- Root passes for all panel thicknesses in all positions
- Pass build-up and final passes with coldArc puls





Your benefits

coldArc puls

- / Root welding with TIG quality and MAG speed up to 400% quicker than manual TIG and MMA welding
- Thin metal welding of plain steel and stainless steel, with much less distortion
- / Reduced-energy short arc with unique gap bridging
- Digitally controlled, nearly power-free material transfer
- / Perfect for sheet metal from 0.5 mm onward
- / Up to 99% less spatter
- / Outstanding for butt welds, lap welds and edge welds
- / Ideal for CO2 and mixed gas
- Heat-reduced brazing with innovative, zinc-based solders with low melting point
- / Up to 75% less welding fume emissions when compared with coldArc/coldArc puls vs. standard short arc





root Arc puls

The arc with optimum control of the weld pool







Taurus Synergic S

Phoenix puls

alpha 😡 puls

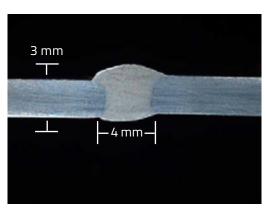
rootArc: Short arc with perfect weld modelling capabilities for effortless gap bridging and positional welding

rootArc puls: The perfect enhancement for focused heat input for the higher performance range

- Optimum reduction of spatter compared to standard short arc
- Perfect for sheet metal from 1 mm onward
- Optimal for positional and overhead welding
- Reduced-energy short arc
- rootArc puls for welding in transitional areas and for initial and final passes
- Excellent, heat-reduced welding in vertical-up positions (PF) through rootArc superPuls
- Superb root formation and secure sidewall fusion
- Vertical-up welds without weaving
- Un-alloyed and low-alloy steels
- Manual and automated applications

Effortless gap bridging in the vertical-down weld

- Stable, firm vertical-down weld
- Very good gap bridging
- Heat-reduced, low-spatter arc
- Superb root formation and secure sidewall fusion







Sheet metal: 3 mm

Gap: 4 mm

Gas: M21-ArC-18 Wire: 1.0 mm SG3 Front

Back



The ewm EN 1090 WPQR Package saves time and money

//rootArc // rootArc puls

- Heat input, if necessary, with rootArc puls
- Root welding with rootArc: Effortless controlling of the weld pool
- Pass build-up and final passes with rootArc puls
- Performance enhancement for thick metal sheets with rootArc puls
- Switching between rootArc and rootArc puls by pressing the torch trigger for secure overlaying of tack points
- Effortless mastery of the weld pool by changing between rootArc and rootArc puls through switching on superPuls
- Quick and easy welding of vertical-up welds by changing between rootArc and rootArc puls through switching on superPuls

Vertical-up welds in the PF position

- Excellent welding in vertical-up weld positions (PF) with rootArcsuperPuls
- Secure formation of the root base
- No more weaving required
- Smooth "herring bone" effect results in aesthetically pleasing weld seams

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



Your benefits

root Arc root Arc puls

- / Reliable short arc welding in all positions
- / Ideally suited for vertical-up welds (PF) without using the laborious "Christmas tree technique"
- Quick and reliable root welding in TIG quality
- / Effortless welding of vertical-up/down welds and overhead welds
- / Ideal for CO2 and mixed gas
- Reduced-energy short arc for effortless mastery of gaps
- / Low-spatter, digitally-controlled material transfer
- / Perfect for sheet metal from 1 mm onward
- Excellent for butt welds and lap welds

MULTIMATRIX®
/// Perfection is the principle



Pulsed arc Standard arc

The arc with optimum control of the weld pool







Taurus Synergic S

Phoenix puls

alpha 🔼 puls

Pulsed arc: Controlled, short circuit-proof pulsed arc for all positions

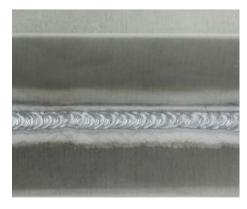
Standard arc: Controlled short arc far into the transitional area

- Welding of aluminium and aluminium alloys
- Welding of high-alloy steels and Ni alloys
- Even droplet transfer also for materials with high Ni content
- Stable arc in the wide transitional area between short and spray arc
- Copper welding
- Positional welding
- Controlled heat input via 1-droplet-per-pulse-transfer
- Standard short arc range extended far into the transitional area
- Fine-droplet material transfer in the extended short arc range when welding low-alloy steels



Aluminium welding with pulsed arc

- Perfect pulse welding of aluminium and aluminium alloys, for sheet metal thicknesses from 1 mm onward
- Stable arc in all positions, even when welding the thinnest aluminium sheets
- Almost spatter-free welding
- Spatter-free ignition by reversing the wire feeding
- Simple modelling of the molten metal through superPuls



Fillet weld, 1 mm sheet metal, AlMg, argon 1.2 mm wire electrode



Fillet weld, 8 mm sheet metal, AlMg, argon 1.2 mm wire electrode Perfect ripples, thanks to superPuls



The ewm EN 1090 WPQR Package saves time and money

// Pulsed arc // Standard arc

- Extended standard short arc range of up to 11 m/min wire, with 1 mm wire diameter G4Si1 under mixed gas
- Less spatter and better arc stability through controlled short arc to far beyond the transitional area
- High short-circuit frequency, steady weld pool, fine-droplet material transfer
- Higher welding speeds
- Simple modelling of the molten metal through automatic changing between pulse and standard arc by switching on superPuls
- Excellent welding in the vertical up position through automatic changing between pulse and standard arc by switching on superPuls



CrNi welding with pulsed arc

- Perfect pulse welding of high-alloy steels and Ni alloys, also for thin sheet metal from 1 mm onward
- Reliable arc welding in all positions
- Very low-spatter process (fewer corrosion attack points)
- Reduced pore susceptibility
- Flat, smooth and notch-free weld seams



 Sheet metal:
 3 mm

 Materials:
 CrNi 1.4301

 Gas:
 97.5% Ar/2.5% CO2

 Wire:
 1.2 mm 1.4316

Position: PB

Your benefits

Pulsed arc Standard arc

- Perfect welding of aluminium and aluminium alloys, high-alloy steels and Ni alloys, from 1 mm metal sheet thickness onward
- Even droplet transfer also for materials with high Ni content
- / Copper welding
- / Extreme low-spatter pulsed arc, also in positional welding
- / Quick and reliable changes to stick-out lengths
- / Spatter-free ignition through reversible wire feeding
- / Extended standard short arc range, to far into the transitional area
- Fine droplet material transfer in the extended short arc range when welding low-alloy steels



MULTIMATRIX® Innovative welding processes

Your benefits

pipeSolution pipeTruck – MAG orbital system

- / pipeSolution/pipeTruck up to 400% quicker than manual TIG and MMA welding
- / Low and high-alloy solid wires (e.g. for the parent metal alloy 625)
- / Rutile and basic flux-cored wires (e.g. for the parent metal high heat-resistant steel P91)
- Performance is significantly enhanced for root welding: Automated pipeSolution® achieves 150 to 500 mm per minute
- / root welding in one operation without backing run
- MAG welding with pipeSolution® process on pipes with 3,400 mm diameter – wall thicknesses up to 30 mm
- Flawless welding result high quality: certified by TÜV Hesse in welding procedure test according to AD 2000 regulations
- Root welding in one operation: Especially efficient, without a backing run, without weld pool backing
- / The entire pipeTruck MAG orbital system from a single source:

Welding tractor with control unit alpha Q puls power source Welding consumables Welding torch Wear parts Welding accessories Training and consultancy



pipeSolution pipeTruck – MAG orbital system Welding at MAG speed with TIG reliability.

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

- 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
- Reduction or elimination of preparation work, e.g. weld pool backing
- Virtually power-free material transfer
- Impressive process stability, even with long hose packages without additional sensor leads
- Unalloyed, low-alloy and high-alloy steels and high-tensile fine-grained steels







pipeTruck MAG orbital system

- Considerable reduction in set-up time the 19-kg tractor is placed effortlessly on the track system and can be clamped in quickly
- High precision of the orbiting speed, linear pendular motion with adjustable frequency and holding times
- Seam can be accessed at any time thanks to the arrangement of the welding system on the tractor side
- Pipe welding in any position
- Pipe diameters of DN300 and up
- Pipes can be welded automatically and in high quality in all wall thicknesses



superPuls

The superPuls combination of ewm welding processes offers a multitude of possibilities.

- Reliable fusion of the root base
- Effective filling with pulse
- No more weaving required
- Smooth bead ripples result in aesthetically pleasing weld seams
- Controlled reduced heat input
- Reduced spatter formation
- Easy modelling of the molten metal
- Quick and reliable welding of vertical-up welds 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 welders.



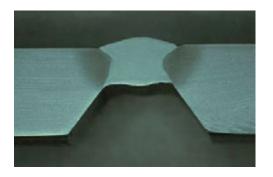
Aluminium superPuls

PF position



CrNi superPuls

PF position





Steel superPuls
PF position

Your benefits

superPuls

- / Quick and easy welding of vertical-up welds without using the "Christmas tree technique"
- / Effortless mastery of the weld pool
- Performance increase by pressing on the torch trigger for secure overlaying of tack points
- / Extreme low-spatter pulsed arc, also in positional welding





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

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



Pulsed arc: Controlled, short circuit-proof pulsed arc for all positions

Standard arc: Controlled short arc far into the transitional area

	forceArc	forceArc puls	Standard arc	Pulsed arc
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	****	***	**	***
Applications				
Unalloyed and low-alloy steels	Yes	Yes	Yes	Yes
High-alloy steels	Yes	Yes	No	Yes
High-tensile fine-grained steels	Yes	Yes	No	Yes
Aluminium	Yes	Yes	No	Yes
Copper	No	Yes	No	Yes

Excellent Good





Dissimilar joint, aluminium with

galvanised steel panel (braze welding)

Yes

coldArc puls

coldArc: Heat-reduced, low-spatter short arc for high dimensional stability welding and brazing, plus root welding with excellent gap bridging capabilities.

coldArc puls: The optimum enhancement for the higher performance range, with focused heat input – there where the heat is required.



rootArc puls

rootArc: Short arc with perfect weld modelling capabilities for effortless gap bridging and positional welding

rootArc puls: The perfect enhancement for focused heat input for the higher performance range



pipeSolution

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

	coldArc	coldArc puls	rootArc	rootArc puls	pipeSolution
Reduced heat input/ less distortion	****	***	***	***	***
Reduced energy costs	****	***	***	***	***
Minimised spatter formation/ less finishing work	****	****	***	****	***
Gap bridging	****	***	****	***	****
Reduced harmful emissions/ less welding fumes	****	****	***	****	***
Arc force	***	***	****	***	****
Good root formation	****	**	****	**	****
Root welding in any position	****	*	****	*	****
Thin panel welding	****	***	***	***	***
Applications					
Unalloyed and low-alloy steels	Yes	Yes	Yes	Yes	Yes
High-alloy steels	Yes	Yes	Yes	Yes	Yes
High-tensile fine-grained steels	Yes	Yes	Yes	Yes	Yes
Brazing (CuSi, CuAl)	Yes	Yes	No	Yes	No
Brazing (zinc wire ZnAI)	Yes	No	No	No	No

Yes

No



Yes

No

Recording, analysing, optimising, benefiting ewm Xnet quality management software



Can be used with:

alpha Q puls

Phoenix puls

Taurus Synergic S

Tetrix

Document every weld seam, identify savings potentials and manufacture efficiently – these three requirements could not be any more different. The modular quality management software ewm Xnet

helps to combine these three tasks in a single solution which both small welding firms and major, globally active companies can use.

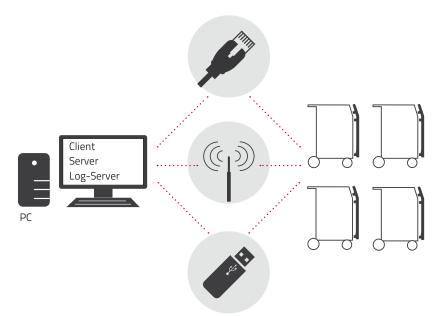


LAN/Wi-Fi networking of power sources - alpha Q puls, Phoenix puls, Taurus Synergic S

- 1 LAN/Wi-Fi networking using built-in Expert 2.0 control
- 2 Networking via LAN/Wi-Fi gateway (Progress, Synergic S) fitted ex works
- 3 Networking via external LAN/Wi-Fi gateway (compact machines, Progress, Expert 2.0, automated power sources)







Network solutions

The compact solution

- Occasional recording, reviewing and analysing of welding data as well as monitoring of networked machines
- / The computer used does not need to be switched on permanently
- Ideal for smaller single-shift operations and smaller to medium-sized companies with up to about 15 networked machines

The standard solution

- Continuous recording, reviewing and analysing of welding data as well as monitoring of networked machines
- / The computer used should be permanently switched on to reduce network loads
- The standard solution for medium-sized and large companies with up to about 60 networked machines

The high-performance solution

- Continuous recording, reviewing and analysing of welding data of a large number of machines as well as monitoring of networked machines
- / The server PCs must be permanently switched on
- / A high-performance solution for larger companies with more than 60 networked machines

Xnet Your benefits:

- Recording of welding data
 Save, review and analyse at a central point
- Online monitoring control and monitor the welding process for any number of welding machines from any number of PC workstations
- JOB (welding tasks) management creation, administration and archiving of welding JOBs, both online and offline
- Option of transferring to all welding machines in the network
- Online analysis, evaluation, reporting and documentation of logged welding parameters for each networked welding machine using different documentation and analysis tools
- Convenient, easy-to-create graphic display layout showing equipment in the network, based on work facility floor plan; can be enlarged by zooming, navigation window and much more







drive 4X

drive 4X LP





Technical data

Duty cycle		
Current at 100% duty cycle	430 A	
Current at 60% duty cycle	550 A	
Wire feed speed	0.5 m/min. to 24 m/min.	
Factory-installed roller equipment	1.2 mm (for steel wire)	
Drive	4 rolls (37 mm)	
Suitable for use in manholes	Complete, 420 mm and above (oval)	
Wire spool diameter	Standardised wire spools of 200 to 300 mm	
Welding torch connection	Euro torch connector	
Protection classification	IP23	
Ambient temperature	-25 °C to +40 °C	
Dimensions LxWxH [mm]	660 x 280 x 380	
Weight	13 kg	









alpha Q 351/551 puls FDW

Welding process			
MIG/MAG	•		•
MIG/MAG pulse	•		•
TIG	•	l	•
MMA	•	l	•
coldArc/coldArc puls	■ / ■	■ ,	/ ■
forceArc/forceArc puls	■ / ■	• ,	/ ■
rootArc/rootArc puls	■ / ■	П.	/ ■
pipeSolution	•		•
superPuls	•		•
Expert 2.0	-		•
network compatibility			
			<u> </u>
Expert 2.0 LAN/Wi-Fi	<u> </u>		<u> </u>
Progress LAN/Wi-Fi retrofit ex works			•
	•		<u> </u>
LAN/Wi-Fi gateway external	<u> </u>		
Technical data	alpha Q 330 puls	alpha Q 351 puls	alpha Q 551 puls
Welding range	5 A-330 A	5 A-350 A	5 A-550 A
Duty cycle			
Current at 100% duty cycle	210 A	350 A	420 A
Current at 60% duty cycle	270 A	-	550 A
Duty cycle at max. current	40%/330 A	100%	60%
Mains voltage (tolerances)	3 x 400 V	3 x 400 V	3 x 400 V

recinical data	aipha Q 550 pais	aipila Q 551 pais	aipila Q 551 pais
Welding range	5 A-330 A	5 A-350 A	5 A-550 A
Duty cycle			
Current at 100% duty cycle	210 A	350 A	420 A
Current at 60% duty cycle	270 A	-	550 A
Duty cycle at max. current	40%/330 A	100%	60%
Mains voltage (tolerances) 50 Hz/60 Hz	3 x 400 V (-25% - +20%)	3 x 400 V (-25% - +20%)	3 x 400 V (-25% - +20%)
Mains fuse (slow-blow)	3 x 16 A	3 x 25 A	3 x 35 A
Cos φ	0.99	0.99	0.99
Efficiency η	88%	88%	88%
Open circuit voltage	80 V	80 V	80 V
Machine dimensions LxWxH [mm]	685 x 335 x 750	1100 x 455 x 1000	1100 x 455 x 1000
Machine weight	64 kg	135 kg	138.5 kg
Wire feeder dimensions LxWxH [mm]	_	660 x 280 x 390	660 x 280 x 390
Wire feeder weight	_	13 kg	13 kg
Cooling unit dimensions LxWxH [mm]	685 x 335 x 255	-	_
Cooling unit weight	34 kg	_	_







Phoenix 355/405/505 puls TDM













Welding proces

MIG/MAG	•	•
MIG/MAG pulse	•	•
TIG	•	•
MMA	•	•
coldArc/coldArc puls	- / -	- / -
forceArc/forceArc puls	■ / ■	■ / ■
rootArc/rootArc puls	■ / ■	■ / ■
pipeSolution	_	_
superPuls	•	•

Controls/ network compatibility

·		
Expert 2.0	-	•
Expert 2.0 LAN/Wi-Fi	-	•
Progress	•	•
LAN/Wi-Fi retrofit ex works	-	•
LAN/Wi-Fi gateway external	•	•

Technical data	Phoenix 355 puls	Phoenix 355 puls	Phoenix 405 puls	Phoenix 505 puls	
Welding range	5 A-350 A	5 A-350 A	5 A-400 A	5 A-500 A	
Duty cycle					
Current at 100% duty cycle	270 A	300 A	400 A	430 A	
Current at 60% duty cycle	300 A	350 A	-	500 A	
Duty cycle at max. current	40%/350 A	60%	100%	60%	
Mains voltage (tolerances) 50 Hz/60 Hz	3 x 400 V (-25% - +20%)				
Mains fuse (slow-blow)	3 x 16 A	3 x 25 A	3 x 32 A	3 x 32 A	
Cos φ	0.99	0.99	0.99	0.99	
Efficiency η	88%	88%	90%	90%	
Open circuit voltage	80 V	80 V	80 V	80 V	
Machine dimensions LxWxH [mm]	625 x 300 x 480	624 x 300 x 535	624 x 300 x 535	624 x 300 x 535	
Machine weight	33 kg	41 kg	41 kg	45 kg	
Wire feeder dimensions LxWxH [mm]	-	660 x 280 x 390	660 x 280 x 390	660 x 280 x 390	
Wire feeder weight	-	13 kg	13 kg	13 kg	
Cooling unit dimensions LxWxH [mm]	610 x 300 x 330				
Cooling unit weight	16.5 kg	16.5 kg	16.5 kg	16.5 kg	





Phoenix 401/501 puls FKW



Phoenix 351/401/451/551 puls FDW











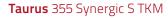


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Phoenix 401 puls	Phoenix 501 puls	Phoenix 351 puls	Phoenix 401 puls	Phoenix 451 puls	Phoenix 551 puls	
5 A-400 A	5 A-500 A	5 A-350 A	5 A-400 A	5 A-450 A	5 A-550 A	
400 A	430 A	350 A	400 A	420 A	420 A	
-	500 A	-	-	-	550 A	
100%	60%	100%	100%	80%/450 A	60%	
3 x 400 V (-25% - +20%)						
3 x 32 A	3 x 32 A	3 x 25 A	3 x 32 A	3 x 32 A	3 x 32 A	
0.99	0.99	0.99	0.99	0.99	0.99	
90%	90%	88%	90%	90%	90%	
80 V						
1100 x 455 x 1000						
119.5 kg	119.5 kg	129 kg	118 kg	129 kg	129 kg	
_	_	660 x 280 x 390				
_	_	13 kg	13 kg	13 kg	13 kg	
_	_	-	-	_	_	
_	_	_	-	_	_	







Taurus 355/405/505 Synergic S TDM













Welding p	orocess
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MIG/MAG	•	•	
MIG/MAG pulse	-	_	
TIG	•	•	
MMA	•	•	
coldArc/coldArc puls	- / -	- / -	
forceArc/forceArc puls	■ / –	■ / –	
rootArc/rootArc puls	■ / –	■ / –	
pipeSolution	-	-	
superPuls		1	

Controls/ network compatibility

Synergic S	•	•
LAN/Wi-Fi retrofit ex works	-	•
LAN/Wi-Fi gateway external	•	•

Technical data	Taurus 355	Taurus 355	Taurus 405	Taurus 505	
Welding range	5 A-350 A	5 A-350 A	5 A-400 A	5 A-500 A	
Duty cycle					
Current at 100% duty cycle	270 A	300 A	400 A	430 A	
Current at 60% duty cycle	300 A	350 A	-	500 A	
Duty cycle at max. current	40%/350 A	60%	100%	60%	
Mains voltage (tolerances) 50 Hz/60 Hz	3 x 400 V (-25% - +20%)				
Mains fuse (slow-blow)	3 x 16 A	3 x 25 A	3 x 32 A	3 x 32 A	
Cos φ	0.99	0.99	0.99	0.99	
Efficiency η	88%	88%	90%	90%	
Open circuit voltage	80 V	80 V	80 V	80 V	
Machine dimensions LxWxH [mm]	625 x 300 x 480	624 x 300 x 535	624 x 300 x 535	624 x 300 x 535	
Machine weight	33 kg	41 kg	41 kg	45 kg	
Wire feeder dimensions LxWxH [mm]	-	660 x 280 x 390	660 x 280 x 390	660 x 280 x 390	
Wire feeder weight	-	13 kg	13 kg	13 kg	
Cooling unit dimensions LxWxH [mm]	610 x 300 x 330				
Cooling unit weight	16.5 kg	16.5 kg	16.5 kg	16.5 kg	









Taurus 351/401/451/551 Synergic S FDW













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Taurus 401	Taurus 501	Taurus 351	Taurus 401	Taurus 451	Taurus 551	
5 A-400 A	5 A-500 A	5 A-350 A	5 A-400 A	5 A-450 A	5 A-550 A	
400 A	430 A	350 A	400 A	420 A	420 A	
-	500 A	-	-	-	550 A	
100%	60%	100%	100%	80%/450 A	60%	
3 x 400 V (-25% - +20%)						
3 x 32 A	3 x 32 A	3 x 25 A	3 x 32 A	3 x 32 A	3 x 32 A	
0.99	0.99	0.99	0.99	0.99	0.99	
90%	90%	88%	90%	90%	90%	
80 V						
1100 x 455 x 1000						
119.5 kg	119.5 kg	129 kg	118 kg	129 kg	129 kg	
_	_	660 x 280 x 390				
_	_	13 kg	13 kg	13 kg	13 kg	
_	_	_	_	_	_	
_	_	-	_	_	-	

Notes

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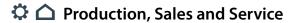
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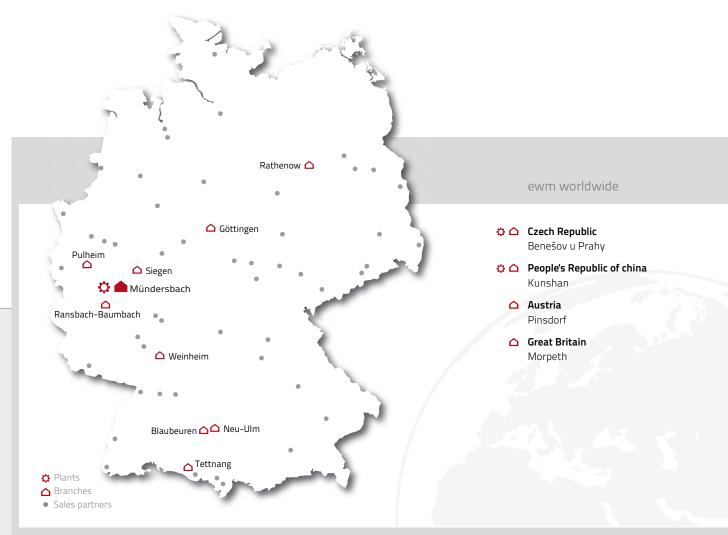
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