

# **SEA** Soldadura y Equipos Automáticos S.A. de C.V.

# PATENTED





# We deliver progress: innovative welding processes from EWM

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.

# BlueEvolution® – The sustainability initiative from the "Welding Code" experts

Reach your full potential in welding, cost saving and climate protection – with blue evolution®.

As a leading technology company we support you with our sustainability initiative blue evolution® by contributing to your co2 reduction. After all, a weld can only be perfect if the welding process conserves energy and raw materials. With our resource-saving inverter technology and energy-reducing joining processes, we unite economic efficiency and eco-friendly techniques. Join us!

More interes ting information can b e found at www.blueevolution.info



## 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







#### Cold wire

- "effective handling of the tig process
- "Also advantageous when manually welding long welds and large crosssections
- "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

## tigSpeed

- "dynamic wire feed the wire feeding is superimposed by a forward/backward wire motion.
- "the logical extension of the tig cold and tig hot wire welding
- "high welding speed and simplest handling - particularly in positional welding
- "perfect results without any lack of fusion - particularly suitable in pipe root welding

"high-quality, fine-flaked seam



activArc®

Dynamic TIG arc with compensated arc performance



## 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.





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

# CONTROLLED HEAT INPUT In the welding current is increased as the arc is shortened. Voltage V Current I Voltage V Current I Voltage V Current I Image V Image

## Simpler and safer TIG welding





### Requirement:

sufficient energy density and high arc force 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 force thanks to increasing welding current "reliable sidewall fusion



## Requirement:

low energy density and low arc force 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 force

"influence on molten pool viscosity

# universal in use, from thin to thick

arC ForCE CoMParISon

TIG/forceTig®





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