GH GROUP

TUBE & PIPE INDUCTION HEATING APPLICATIONS

www.ghic.es

Tube Induction Welding

Lower operation cost

• With an efficiency up to 92% **PHW Transithermic® welders** contribute to **minimize energy and water consumption**

Easiness to use

- ***DCP panel*** *shows and controls the process variables*
- ***Fast adjusting inductors*** *simplify the right positioning*
- ***Motorized distance command unit*** *allows the control in remote places*

Tube Quality

- ***Continuous frequency selection*** *by the customer obtains the required welding ductility and hardness*
- ***STA/STB controls*** *are compulsory for* ***quality assurance*** *purposes, stocking production graphs and data. Besides, they include alarms and maintenance assistance*

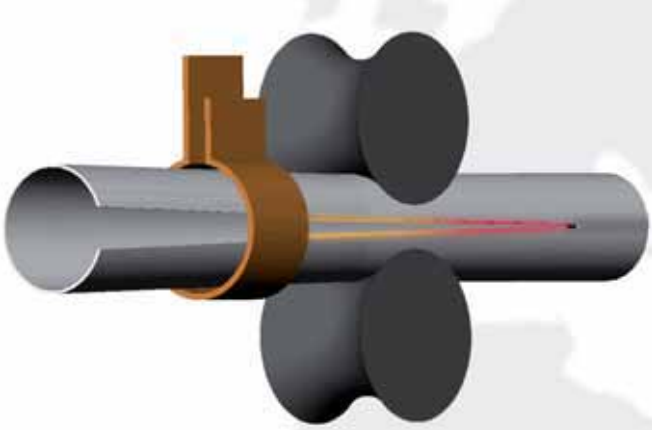
Reliability

- ***MOSFET technology*** *is the most widely used by the best manufacturers for high frequency applications, being extremely reliable even at frequencies reaching 400 kHz*

STB control

STA control

Tube & Pipe Induction Heating Applications



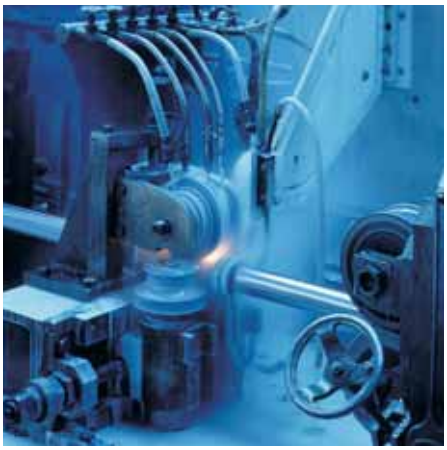
INDUCTION WELDING

- High frequency: up to 400 kHz
- MOSFET Technology
- Continuous variable frequency
- Automatic load matching
- Process control
- Easy inductor adjustment

ANNEALING / SEAM ANNEALING

Depending on dimensions and process characteristics:

- Whole tube annealing or normalizing
- Seam annealing
- Bright annealing



Tube welding line

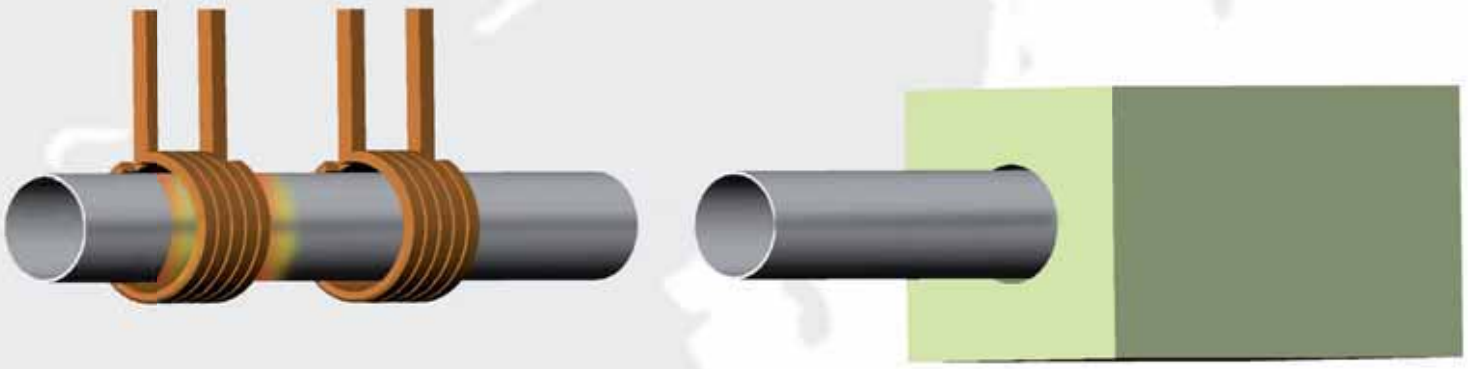
8.000 KW normalizing line

1.000 KW seam annealing line

- Energy saving 40% against valve welders
- Overall efficiency very high. Unnecessary reactive elements avoided
- Protected against short-circuit, open coil, arc-over, grounding with the tube
- Low ripple and uniform weld seam

- Continuous weld-seam annealing by MF equipment
- On-line seam tracking
- On-line temperature monitoring
- Also available, whole body annealing of drawn tubes

Tube & Pipe Induction Heating Applications



HARDENING AND TEMPERING

- Whole continuous hardening
- Localized hardening profiles

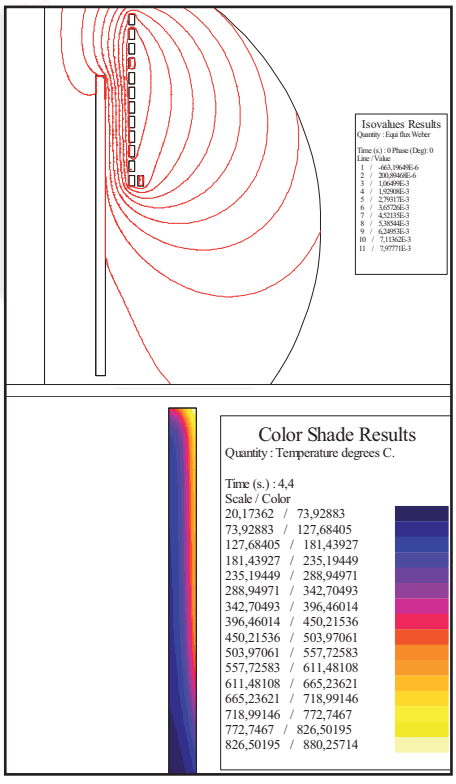
TUBE END STRESS RELIEF AND OTHER APPLICATIONS

- Stress relief of swaged tube ends in only one stage-converter
- Low cycle times with uniform heating
- Perfect integration in production lines with little surface required

- Other applications available: heating before forming, tube coating, tube drying…

Tube Hardening detail

- Precise control of hardening and tempering
- High production and efficiency within a wide range of use
- Easy line integration
- No deflections



Tube stress relief computer simulation