Brazing a steel piston valve assembly

Objective Brazing a steel piston valve assembly

Material Steel piston valve 4.5” dia (11.43cm), tungsten carbide plate and braze

Temperature 1350 ºF

Frequency 91 kHz

Equipment
- Ambrell 30 kW induction heating system, equipped with a remote workhead containing six 1.0µF capacitors for a total of 1.5µF
- An induction heating coil designed and developed specifically for this application.

Process A five turn pancake coil is used to braze the piston valve and tungsten carbide plate. The assembly was heated for 10 minutes to flow the braze and join the two pieces.

Results/Benefits Induction heating provides:
- Rapid localized heat, which can minimize oxidation and reduce cleaning after joining
- Hands-free heating that involves no operator skill for manufacturing
- Clean and controllable joints
- Produces high quality repeatable parts

Assembly in coil for brazing

Brazed assembly