

# Magnetic Pulse Welding

Bmax's Magnetic Pulse Welding (MPW) technology uses electromagnetically generated forces to create a solid-state cold weld at room temperature. This weld is completed in microseconds and is stronger than a conventional weld.

**Seamless, pressure resistant welding**



## Technology Benefits

MPW is a solid state, cold welding process generated by a high speed collision between two metals.



**GREEN & CLEAN PROCESS**



**NO HEAT AFFECTED ZONE**  
Dissimilar Materials



**STRONG, CORROSION RESISTANT WELD**

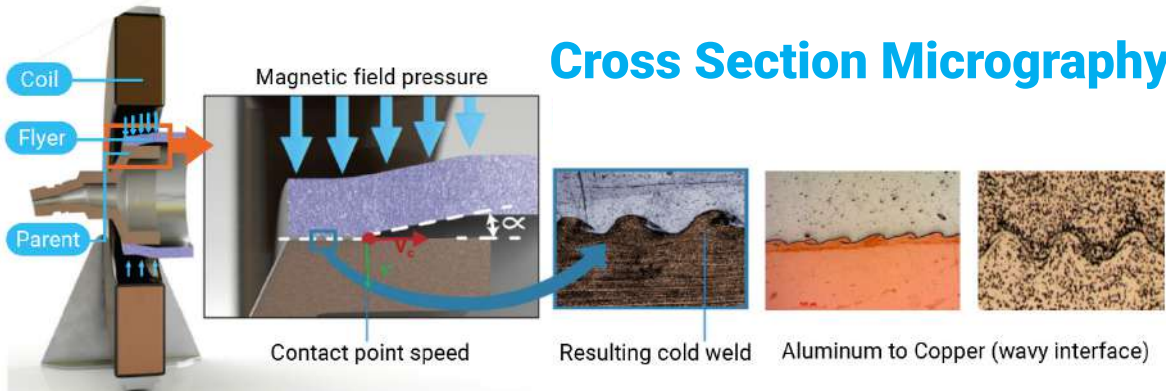


**LOW SCRAP RATE**



**LOWER TCO MATERIAL SAVING**

## PROCESS



**In Testing:** The parent material fails prior to the weld area



**BURST TEST**  
Pressure vessel, Al to Al



**TENSILE TEST**  
Flat weld,  
6,000 series Al to 6,000 series Al

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Bmax is part of  
**PULSE**  
HighPowerSystems

# Solution

# Pressure Vessels



Bmax's breakthrough Magnetic Pulse Welding (MPW) technology makes it possible to bind materials at a molecular level and at room temperature, without fumes or filler material, thus preserving the material's initial properties.

Increasingly efficient and reliable, our industrial, turnkey MPW systems are currently being used by automotive industry leaders for mass production of key components of highly efficient HVAC (Heat Ventilation & Air Conditioning) systems utilized in electric vehicles, like R744 (CO<sup>2</sup>) accumulators and R290 (Propane) receiver driers.

We enable our customers to save material resulting in weight and cost savings, while ensuring high levels of product performance.

CO-ENGINEERING  
& PROTOTYPING

PROCESS, PERFORMANCE  
& QUALITY

ON-SITE  
SERVICES

MAINTENANCE  
SERVICES

CONTINUOUS  
IMPROVEMENT

## Products manufactured by our systems

Accumulator



Hydraulic accumulator



Receiver dryer



Filter canister



Drive shaft



Connecting rod



Dissimilar joint



## Welding System Manufacturing

- Security, health & safety
- Compact, semi-automatic mass production
- High repeatability, & low scrap rate
- Process monitoring
- Easy to operate & maintain
- Environmentally-friendly

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