HISTORY

Midwest Thermal-Vac Inc. was founded in 1999 by Frederick Otto. With two Bachelor's Degrees and his Masters, Fred is highly educated in the field. Fred has his Bachelor of Science Degrees in Metallurgical Engineering and Metallurgical Science. His Master's degree is in Thermal Science. Throughout the past 16 years, MTV has become the leader in vacuum carburizing for the Aerospace, Motor sports, and Commercial Industries with multiple quenching capabilities to handle just about any commercial material.

VACUUM CARBURIZING/ CARBONITRIDING

Using a patented Infracarb process from ECM Technologies, low pressure carburizing, carbonitriding and other case hardening applications can be done under vacuum.

ICBP H

- 1000 x 610 x 600 mm
- 39.4" x 24" x 23.6"
- 1100 lbs. capacity

ICBP 3030

- 1200 x 610 x 750 mm
- 47.25" x 24" x 29.5"
- 2200 lbs. capacity

Processes include:

- 23 Bar HPGQ (in specialized cold cell) or oil quenching
- No intercrystalline oxidization (IGO, IGA)
- Perfectly controlled and consistent carburizing depths and narrow tolerances
- Computer generated heat treatment cycles that guarantee exact surface carbon and carbon profile.
- Processing temperatures up to 1,250°C (2,280°F)
- Reduces distortion
- Part cleanliness
- Improved fatigue resistance
- Reduce heat treat time

"Our company emphasis is to precisely meet our customer's quality specifications and to exceed their expectations."

Frederick Otto, President

PULSE PLASMA ION-NITRIDING

MTV's experience in Plasma Nitriding covers the last 42 years. With the most advanced computer controlled equipment available today, MTV will virtually eliminate part distortion or size change while providing these Metallurgical advantages:

- Extremely high surface hardness and thus excellent wear-resistance.
- Reduced friction. The lowest coefficient of friction between two steels.
- Tensile strength and resistance to fatigue are increased as much as 20% to 45%.
- Excellent surface finish.
- Improved corrosion resistance for most metals.
- No distortion through processing.
- Accurate control of specified case depth.
- Heat treat resistance up to 590° F without impact on hardness properties.
- Low friction characteristics may save lubricants and eliminating manganese phosphating where components are used under constant abrasion.