Tech Talk: INVERTER ADVANTAGES: EFFICIENCY & PORTABILITY (pt 2 of 3)

By Bob Page, January 19, 2013

Inverter welding power sources rectify 60 Hz AC into DC and then, unlike the older transformer rectifier (TR) design, use high speed switches to convert the filtered DC to around 30,000 Hz AC before being transformed from high volts/low amps to high amps/low volts.

As stated by Miller Electric, "a basic premise of welding power source design states that a faster operating frequency enables the power source to use fewer copper windings and a smaller core in its transformer and inductor."

In other words, typically heavy internal components like the transformer and choke become a fraction of their size and weight.

For this reason, inverters are much smaller, lighter and more portable than their TR counterparts. Additionally, high frequency AC dramatically raises efficiency which lowers input current draw, reduces circuit breaker requirements and lowers your electric bill.

Inverter Transformer

Transformer Rectifier Transformer

PRODUCTIVITY ENHANCEMENT

If you would like more information on this or other cost reduction ideas, please contact our **Productivity Enhancement Team** at **303-892-7003**.