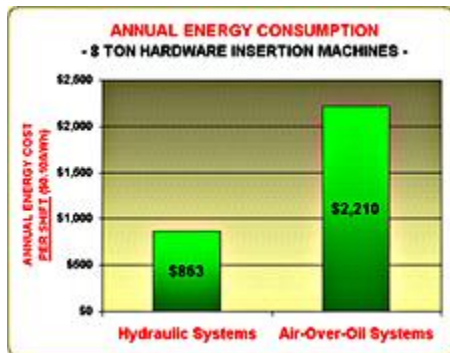


New InsertionLogic Software Deliveres on Energy Saving

Hydraulic Hardware Insertion Machines Consumes 61% Less Energy Than Air-Over-Oil Systems.

OAKDALE, California (September 17th, 2001) - In a study supervised by Dr. Tony Au, Chairman of the Department of Industrial Technology at California State University - Fresno, the compelling energy advantages of fully hydraulic insertion machines are clearly demonstrated.

When used under the same typical service conditions, a fully hydraulic 8-ton hardware insertion machine showed an annual energy savings of \$1347 per shift (using an electricity cost of \$0.10 per kWh) when compared to a similar capacity air-over-oil machine. In a three-shift operation, that represents an energy saving of over \$4,000 a year for each full hydraulic machine!



Including power from all sources to drive hydraulic pumps, air compressors, vacuum generators and electronic controls, tests showed that a fully hydraulic insertion machine consumes 61% less energy than an identically rated air-over-oil machine. According to Dr. Au, similar comparisons between full hydraulic and full pneumatic machines could be expected to show an even wider gap.

Haeger's engineers can solve insertion challenges that no one else can, whether it's engineering, production, technical service, or sales and marketing. Haeger's staff brings experience, expertise, and diversity of talent second to none. Haeger's distributor network provides unrivaled support. Haeger's product capabilities and model range are unsurpassed. And Haeger's custom engineered systems and tooling enable users around the world to overcome fastener insertion challenges every day.

Tests were based on the machines being turned on for the full shift, and operated at 15 strokes per minute for six hours-a total of 5400 insertion cycles per shift. Compressor efficiencies and power consumption calculations and assumptions were based on Ingersoll Rand compressor reference data.

As well as being inherently more energy efficient, hydraulic system components are also much longer-lasting than pneumatic or air-over-hydraulic parts, further favoring the operating and ownership cost of full hydraulic machines.