

## **Edward F. Keuper**

N 985 Lauterbach Rd  
LaCrosse, WI 54601  
608-788-7414

[EKeuper@gea-consulting.com](mailto:EKeuper@gea-consulting.com)



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### **Education**

Bachelor of Science in Mechanical Engineering, Illinois Institute of Technology, Chicago, Illinois.

Master of Science in Mechanical Engineering, University of Wisconsin, Madison, Wisconsin.

### **Employment History**

Engineering Consultant – GEA Consulting (2004 to present)

#### **Trane Company**

Engineer for Trane Company, LaCrosse, Wisconsin, 1967 to 2004 (retired). Duties in these years included:

Designed piping, structural and oil return system for new large gear drive centrifugal R134a chiller line.

Extensive computer modeling of refrigeration cycles with multistage compression; variations in subcooling, suction superheat, economizer and expander; heating and cooling coils, compressors, fans and vibration isolators.

Worked with chemical companies, National Institute of Standards and Technology, and the Electric Power Research Institute in search for replacement refrigerants for CFCs and HCFCs. Tested eight new refrigerant candidates in screw, scroll and centrifugal chillers. Responsible for computer models of refrigerant properties within Trane Co.

Optimization studies for and computer modeling of large brazed aluminum heat exchangers used in gas liquefaction and air separation plants.

### **Patents**

Two Patents in HVAC technologies