



ATMO
sphere

Business Case for
Natural Refrigerants

June 12-14, 2018 – Long Beach



Steve Gnas, President



Working with natural refrigerants

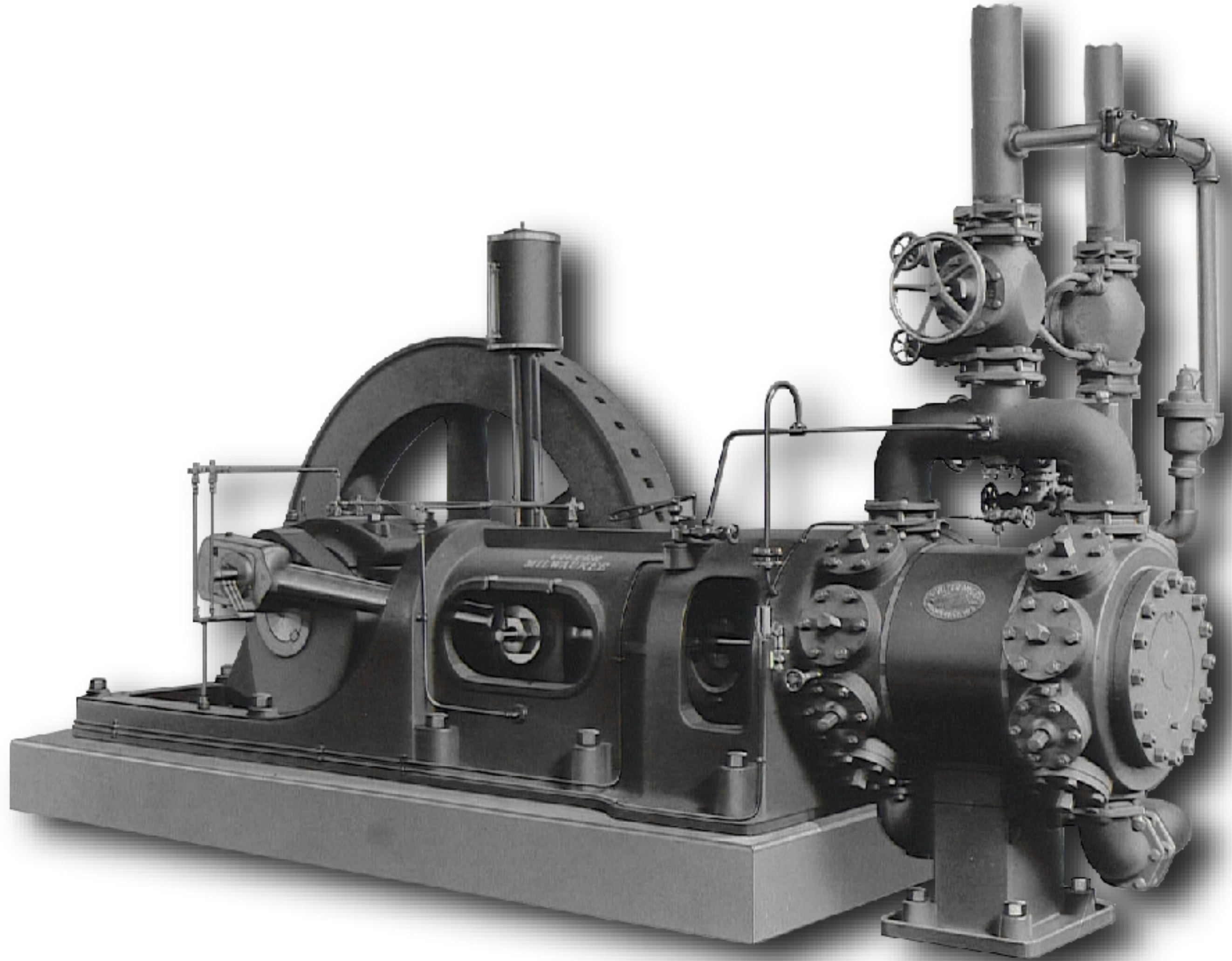
Training, and obtaining personnel

Change

- As the needs of society change, so do the skill sets needed fill those needs
- Annual ice harvest gave way to absorbers in the late 1800's.



Vapor compression systems
displaced absorbers in the early
1900's



Just as those early technologies adapted so did the people who worked in our industry.

Today we still use terms like “ton” that have their meaning tied to the ice harvest. But skills like riveted vessel construction have been all but forgotten.



Modern training challenges

1. Finding technicians

- No one dreams of deicing an evaporator when they grow up.
- Modern education system directs everyone to college. Few universities have programs directed at training for the refrigeration industry. HVAC is not Refrigeration.
- Growing up with tools in your hands is not the norm anymore



So where do we find new people?

1. Relatives already in the industry
2. Other mechanically based trades; often when they hit a ceiling.
 - Auto mechanics
 - Machinists
3. Military
 - Retrained from mechanical jobs
 - They likely tested high for mechanical aptitude in the service
 - Military has veterans retaining funding available.



2. Training technicians once you find them.

- Mentoring with an established tech, transition to oversight
- Inhouse training facilities
- Apprenticeships, provide basics
- Vendor provided training
- You Tube
- Customer systems after hours... less and less



Training time line

5-7 years to develop a technician

Years 1&2 people are generally supervised 100% of the time and trained to do standardized tasks.

Years 3-5, technicians gain enough confidence to work partially supervised and become proficient at troubleshooting.

Years 5-7 techs get “cocky” and then learn what they do not know- because they don’t know what they don’t know!





Finally after year #7 a technician has been humbled by their experience and is proficient at their trade.

60% of those who start the trade stay in it. But those that make it to 7 years, stay in the trade for life.

Those who leave typically don't like the type of work or don't like the hours.

This very unscientific explanation is based on 22 years in the industry and roughly 350 employees.



Important things I have learned:

- Training is continuous if you want to grow
- Training needs change as industry needs change
- Substantial time is put into every employee
- Establish a culture that represents your mission
- Not everyone will “top out”
- Cultivate a teaching style that promotes self discovery vs. memorization of points





Questions?

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Thank you very much!

