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Engineered Vacuum Systems

CONSULTING SERVICES

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EJECTORS

VACUUM PUMPS

HYBRIDS

NITECH INC. PRESENTATION

FOR

Air Cooled Condenser Users Group

Gettysburg, PA

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By John Aglitz, P.E.

Venting Systems in Air Cooled Condenser Applications

I. Purpose of venting equipment

- ***Hogging***

Quick evacuation of steam space prior to the introduction of steam.

II. Purpose of venting equipment

- ***Continuous removal of non-condensable gasses (Holding)***

A properly designed and maintained venting system will track the performance of the main condenser.

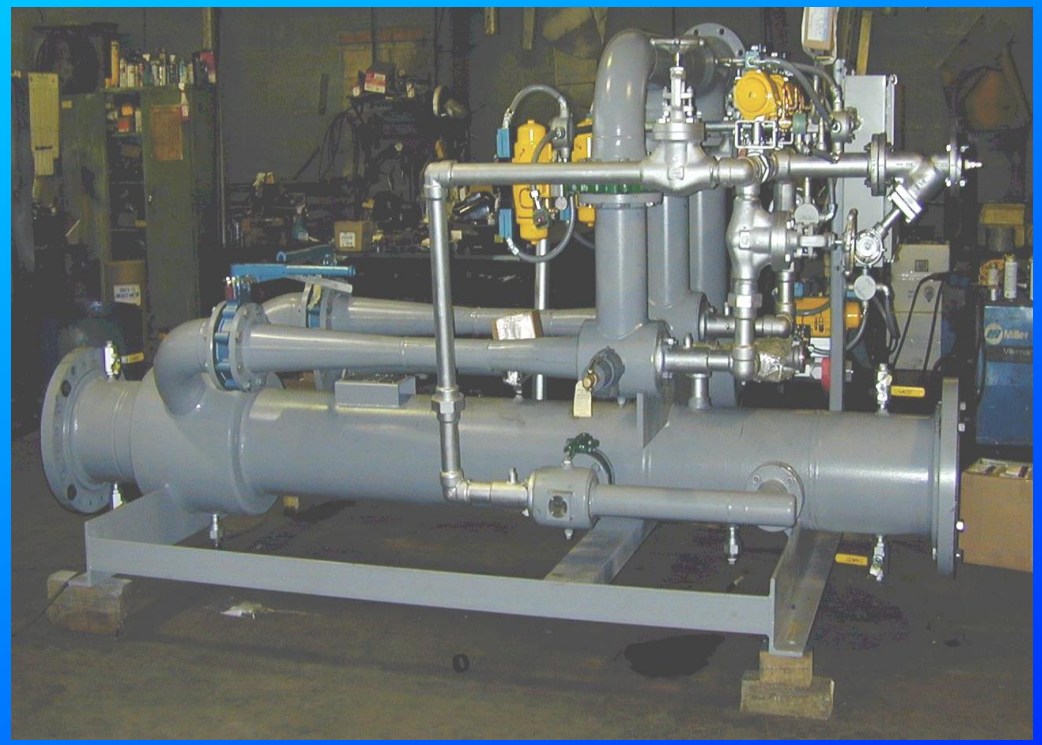
Types of Venting Equipment

- ***Steam ejectors***

The most traditional venting system type.

Technology proven over 100 years.

No moving parts.



Types of Venting Equipment

- ***Liquid ring vacuum pumps***

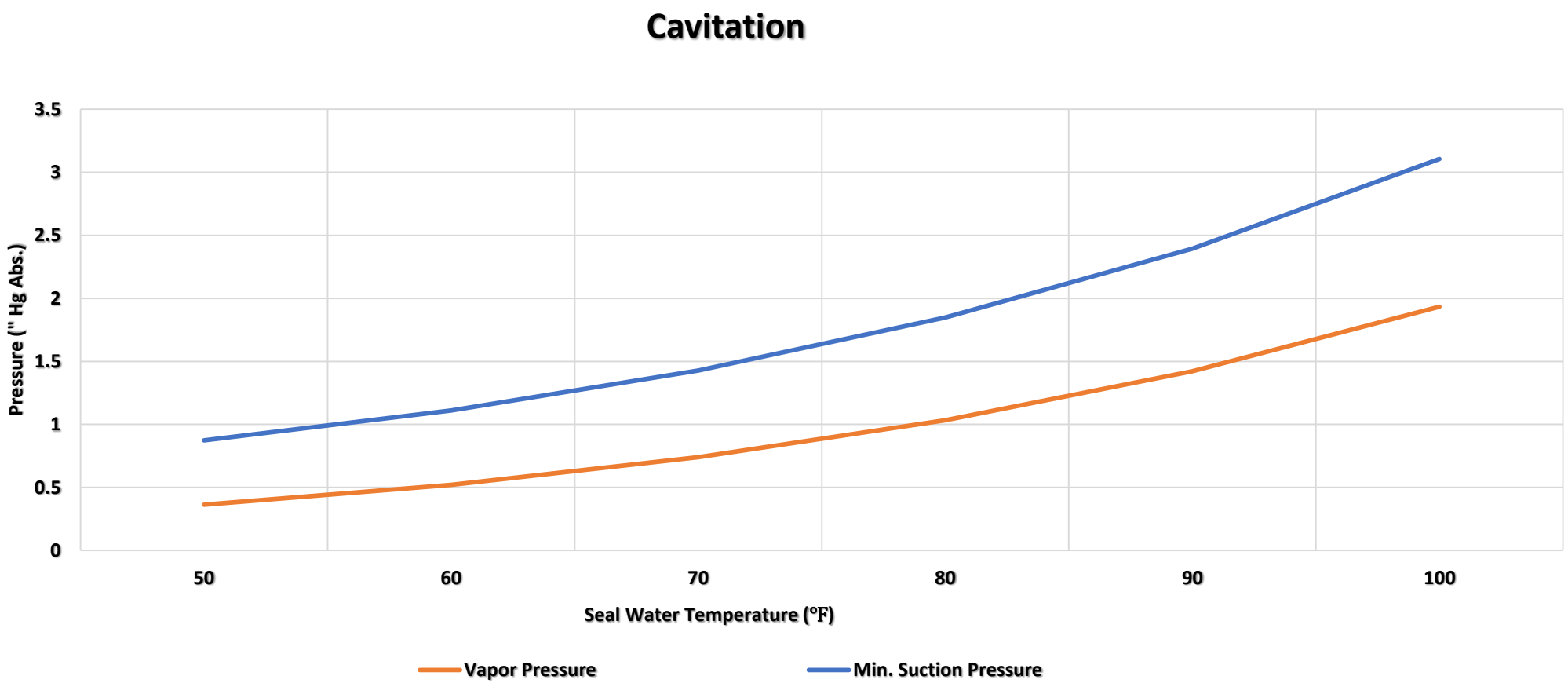
No motive steam required.

Technology proven over 40 years.

Types of Venting Equipment

- *Hybrid systems (steam or air motivated ejectors)*
- *Allows for higher cooling water temperatures*

Vacuum Pump Protection



Results of cavitation

Ejector Protection

- ***Poor steam quality (wet steam)***

Damage to internal surfaces (wire drawing)

Poor performance

Design Standards

- ***Pre vs post HEI ACC Standard***

Prior to 2011 most ACC venting systems were designed in accordance with HEI Surface Condenser Standards.

Interaction of Venting Equipment with ACC

- ***Is your vacuum system working as efficiently as it could?***
- ***Can you improve your main condenser back pressure?***
- ***Has it been more than two years since your vacuum system has been evaluated?***

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