

H a p p y

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HVAC products & Air Systems

Volume 2, Issue 1

January 2003

N e w

This is Green Air

Presented by LPR

Y e a r !!

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Web Sites

Titus

Titus-hvac.com

Lindab

Lindabusa.com

Trox

Troxtechnik.de

NCA

Ncamfg.com

United Enertech

dampersdirect.com

Seiho

Seiho.com

Brasch

Braschmfg.com

ACME

AcmeFan.com

Gripple

Gripple.com

Chilled Water vs. Cool Air

Why might cooling beams be a technology worth looking at?

Let us compare, between the mediums of water and air, the energy required to remove the heat from the space.

10,000 CFM of air at 55 degrees will, based on a space temperature of 75, remove 216,000 BTUs ($BTU = CFM \times \Delta T \times 1.08$). To remove the same amount of heat with chilled water and with a water temperature rise of 8 degrees we need 55 gpm ($GPM = MBH \times 2.04 / T \Delta$)

The energy to deliver 10,000 CFM is 7 to 10 Bhp
Assuming a 2.0" TSP

The energy to deliver 55 gpm is approximately 1.0 Bhp. Assuming 40 ft of head pressure



Conclusion—The energy required to remove heat with chilled water is approximately 1/10 of the energy required to do the same work with cool air. Different assumptions may change these results but the savings are huge. This is just the savings available in pushing/pumping the medium. This does not include other savings associated with space cooling with elevated water temperatures, or other aspects of the system. Active chilled beams are a viable alternative to Air systems. If you have a client who is interested in life cycle costs, who wants to build a “**Green**” building, let us help you investigate what this technology can do.

Louvers

Over 50% free area (on 48" x 48") - 4" deep louver
Pressure drop (intake) at 1000 fpm is .125" wg
Water penetration STARTS at 1250 fpm

You can design using smaller Louvers without compromising performance

Fire Dampers

NCA has passed the following tests

72" x 36" Fire/Smoke damper with one actuator

36" x 36" single section Dynamic Fire damper FDD-V

36" x 36" Curtain type Dynamic Horizontal Fire Damper FDD-H

Class 1 Air Foil—single sections from 8" x 8" to 36" x 48"

You can reduce your overall system costs by specifying **NCA** fire dampers