

... Breathing Life Into Your Building ...

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RENOVATION OF BUILDINGS WITH EXISTING INDUCTION UNITS



Induction HVAC System Upgrades

In the past induction HVAC systems were very popular in North America and elsewhere in the world. They were the preferred perimeter system choice in larger buildings due to the relatively small size of the ductwork system required.

After the energy crisis in the 1970's, induction systems fell out of favor due to their relatively high fan energy consumption, as well as noise level concerns resulting from the system's high operating static pressure requirements. These disadvantages were associated with the induction nozzle technology available at that time.

Many of these older buildings with existing induction HVAC systems are going to be renovated at some point. Some building owners may choose to simply replace the old induction units without any significant changes to the HVAC system. With the new nozzle technology available today, however, there is an opportunity to **dramatically improve the building HVAC system performance, without the need to increase the size of the existing ductwork system**.



DADANCO Technology and Advantages

DADANCO induction units utilize unique nozzle and unit fluid dynamics technology. This patented technology provides very high air entrainment ratios at low operating static pressures.

Due to the new nozzle design and increased entrainment ratios, DADANCO is able to utilize 2 row coils with 12 fins per inch, where the older units had less heat transfer surface. This dramatically increases cooling and heating output of the DADANCO induction units for the same primary airflows.

DADANCO nozzle can be used to address many of the shortcomings of existing induction HVAC systems, whether they be related to floor space/appearance, noise levels, cooling capacities and energy consumption.

The Product Range

DADANCO offers a range of induction unit models and sizes from 2 through 6 feet.

Units are available to replace and upgrade most of the older induction unit models that are no longer in regular production from their original manufacturers including but not limiting to:

- Carrier models 36SV, 36SL, 36SC, 36ST, 36SH
- York HI-I models MCV, HCV, HCH and HCL
- Trane models HPH, HPV and HPL

... and many others





Benefits

The induction units in older buildings were often mounted on or in front of the perimeter wall. This reduced usable floor space and detracted from the room's appearance and flexibility in furniture arrangement. When renovating these buildings owners often replace the building windows and perimeter walls with an all glass façade. In these cases the floor mounted induction units can seriously detract from the building's appearance. If **freeing up floor space and eliminating the floor mounted units** is an objective, it may be possible to replace the existing wall/floor mounted induction units with ceiling-mounted induction units or Active Chilled Beams.



If **reducing noise levels** is an objective, this can be achieved with the new induction units. Whether utilizing existing operating pressures (typically 2" of w.c. or higher) or sizing units at the lower inlet static pressures (0.5" of w.c. or less), DADANCO Induction Units utilizing the new nozzles are whisper quiet and will provide significant noise reduction over the original units (typically not exceeding NC 30 - 35).



The internal cooling loads in many older buildings have increased over time for a variety of reasons such as more heat generating electronic equipment in the rooms, changes in intended room utilization, etc. If **increasing the unit cooling capacities** is an objective, the new induction units can be sized to maximize the cooling capacities while still operating at no more than the original primary airflows and operating static pressures.

Studies have shown that fan energy and lighting most often consume the most energy in typical commercial buildings. If **reducing operating costs** is an objective, the new induction units can be sized to minimize the primary airflows and system operating pressures resulting in dramatically lower fan energy requirements.

DADANCO Induction Units are compact and generally smaller than the original, older induction units. If **fitting new induction units into the existing cabinets** is an objective, the new DADANCO units will enable seamless connection to existing chilled water and primary air infrastructure and will fit into the existing enclosures.



INDUCTION RENOVATION PROJECTS NORTH AMERICA

US Bank, Madison, WI

In progress

Replacement of existing Carrier induction units 9 Floors – 34 Induction Units per floor Total 415 Induction units Product: FM Consulting Engineer: ESD Owner: US Bank

1100 17th St, NW, Washington DC

In progress

Replacement of existing Carrier induction units 12 Floors — 38 Induction Units per floor Total 456 Induction units Product: FM Building Manager: Glenborough Owner: Glenborough

4200 Cathedral St, Washington DC

Replacement of existing Carrier induction units 7 Floors – 71 Induction Units per floor Total 497 Induction units Product: FM Building Type: Condominium Owner: GJB

John Hancock Tower, Boston, MA

Replacement of existing Carrier floor-mounted induction units with ceiling-mounted units 1 Floor – 38 Induction Units per floor Total 38 Induction units Product: ACB30 Tenant: TMP Consulting Building Manager: Broadway Real Estate Services













BOOTS HQ, Nottingham, UK

Replacement of existing Trane Induction units 3 Floors – 113 Induction Units per floor Total 339 Induction units Product: FM Consulting Engineer: J Roger Preston & Partners, London, UK Owner: BOOTS

British Embassy, Stockholm, Sweden

Replacement of existing induction units 5 Floors – 50 Induction Units per floor Total 250 Induction units Product: FM Consulting Engineer: Mott MacDonald, London Owner: HRH Queen of England

Southall Police HQ, London, UK

Replacement of existing Carrier induction units 3 Floors – 50 Induction Units per floor Total 145 Induction units Product: FM Consulting Engineer: Scot Wilson, London, UK Owner: Metropolitan Police Service









INDUCTION RENOVATION PROJECTS AUSTRALIA

385 Bourke Street, Melbourne

Replacement of existing Carrier induction units 42 Floors – 112 Induction Units per floor Total 4,702 Induction units Product: FM Consulting Engineer: Umow Lai Associates Owner: Colonial First State

360 Collins St, Melbourne

Replacement of existing York induction units 38 Floors – 64 Induction Units per floor Total 2,432 Induction units Product: FM Consulting Engineer: Lincolne Scott Owner: WESTPAC Bank

Nauru House, 80 Collins St, Melbourne

Replacement of existing ENVIRON induction units 50 Floors – 40 Induction Units per floor Total 2,000 Induction units Product: FM Consulting Engineer: Lincolne Scott Owner: QIC/Pacific Island of NAURU

AMP Cove, 33 Alfred St, Sydney

Replacment of existing Carrier induction units 25 Floors – 44 Induction Units per floor Total 1,100 Induction units Product: FM Consulting Engineer: Norman, Disney and Young Owner: Commonwealth Superannuation Fund









INDUCTION RENOVATION PROJECTS AUSTRALIA

MLC Centre, 239 George St, Brisbane

Upgrade of existing ENVIRON induction units with DADANCO Nozzles 30 Floors — 34 Induction Units per floor Total 1,023 Induction units Building Manager: CBRE Owner: MLC Insurance Corporation

Australia Square, 264 George St, Sydney

Upgrade of existing ENVIRON induction units with DADANCO Nozzles 46 Floors – 42 Induction Units per floor Total 1,932 Induction units Building Manager: Bovis Lend Lease Owner: Bovis Lend Lease

QIC Center, 307 Queen St, Brisbane

Upgrade of existing Carrier induction units with DADANCO Nozzles 29 Floors — 34 Induction Units per floor Total 960 Induction units Building Manager: Clarence Property Owner: Westlawn

WESTPAC Plaza, 60 Margaret St, Sydney, 36 Floors

Replacement of existing Trane Induction Units 44 Induction Units per floor Total 1,584 Induction units Product: FM Building Manager: CBRE Owner: Westpac Bank











DADANCO products are in the following building types

HOSPITALS and HEALTH CARE

GOVERNMENT BUILDINGS

INSTITUTIONAL BUILDINGS

DEFENSE BUILDINGS

SCHOOLS

UNIVERSITIES

LABORATORIES

COMMERCIAL BUILDINGS

HOTELS



... made in USA...

DADANCO units are produced in our factories in Wyalusing, PA and Westfield, MA

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DADANCO products are in the following locations

AUSTRALIA

Adelaide Sydney Melbourne Brisbane Perth Canberra

EUROPE

London, UK Sheffield, UK Leeds, UK Liverpool, UK Stockholm, Sweden Milano, Italy

ASIA

Pune, India Bombay, India Singapore Colombo, Sri Lanka

NORTH AMERICA

Boston, MA Chicago, IL New Haven, CT New York, NY Madison, WI Washington, DC Toronto, ON

DADANCO-MESTEK Joint Venture, LLC.

Mestek is a diversified manufacturer of HVAC products with sales of over \$400m. Mestek's HVAC companies include Smith Cast Iron Boilers, Hydrotherm, RBI Boilers & Water Heaters, Sterling, Vulcan, Airtherm, Applied Air, Anemostat, Air Balance, Arrow United, L. J. Wing, Lockformer and many others.



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