

## Unit Control Options

### Microprocessor

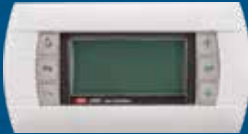
The optional microprocessor controller is factory programmed, wired and tested prior to shipment. The controller can operate stand-alone or integrate with a building management system (BMS) using BACnet® MS/TP or IP, LonWorks® or Modbus® RTU protocols. Control features include:

- LCD display with built-in keypad for easy set point adjustment
- Integral 7-day time clock
- Night setback option
- Auto changeover based on outdoor air conditions
- Heating and cooling temperature lockouts
- Building freeze protection
- Room temperature control
- Override controls for ease of start-up



### Remote Display

The optional remote display allows for remote monitoring and adjustment of parameters of the unit mounted controller. The remote display allows identical access to menus and screens as the unit mounted controller display and is ideal for non-BMS applications.



### Remote Panel

An optional remote panel available in either an industrial permatecor-coated NEMA-1 enclosure or severe-duty stainless steel NEMA-4X enclosure. The panel consists of enable switches, indicator lights, discharge temperature dial or room thermostat, and optional fan control devices.



### Terminal Strip

Stand-alone electro mechanical unit components to be used with a field-supplied unit enable contact closure.



## Optional Accessories

Curbs
Coatings for Corrosive Environments
Dirty Filter Sensors
Double-Wall Construction
Exhaust Fan Starters
Filters (Aluminum mesh, MERV 8, 13 & 14)
Flame Safeguard Display
Freeze Protection
Inlet Air Sensor(s)
Inlet Damper End Switch
Night Setback (unoccupied mode)
Remote Panels
Service Receptacle
Smoke Detector
Spring or Neoprene Isolation

## Common Applications

Kitchens	Industrial
Manufacturing	Warehouses
Locker Rooms	Nursing Homes
Office Buildings	Multifamily Homes
Schools	Animal Shelters
Repair Garages	Parking Garages
Institutions	Paint Booths
Wastewater Treatment Plants	

## Product Certifications



ETL Listed for electrical and overall unit safety. Every unit is tested at the factory before it is shipped to the jobsite.



AHRI Certified coils. To guarantee your coil is going to perform as required, check for AHRI Certification.

## Greenheck

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# Make-up Air



Model DGX



Model IGX



Model MSX



## Direct Gas-Fired Heating

Up to 25:1 turndown ratio

### Model DGX

- 800 - 48,000 cfm and 4 in. wg
- Up to 4,800,000 BTU/hr.
- Optional supply fan(s): belt drive, forward-curved; direct drive, backward-curved plenum; or direct drive, mixed flow plenum
- Cooling options: packaged direct expansion, split direct expansion, chilled water, or evaporative cooling
- Optional VAV operation (VFD)
- Optional recirculation (80/20)



### Model TSU

- 33,000 - 64,000 cfm and 3 in. wg
- Up to 7,000,000 BTU/hr.
- Optional VAV operation (VFD)
- Optional recirculation (80/20)



### Model VSU

- 800 - 64,000 cfm and 3 in. wg
- Up to 7,000,000 BTU/hr.
- Optional VAV operation (VFD)
- Optional recirculation (80/20)



## Industrial Space Heating

### Model GreenHeat 50/50

- Up to 2,800,000 BTU/hr.
- Fixed recirculation system
- High discharge temperature (140°F)



### Model GreenHeat 100% Outdoor Air

- Up to 2,800,000 BTU/hr.
- High discharge temperature (140°F)
- Minimizes infiltration losses



## Hot Water, Steam, Electric or No Heat

Model MSX (configurable)

- 800 - 48,000 cfm and 4 in. wg
- Electric heat: Up to 220 kW, SCR/VSCR controls, single point power standard
- Cooling options: packaged direct expansion, split direct expansion, chilled water, or evaporative cooling
- Optional supply fan(s): belt drive, forward-curved; direct drive, backward-curved plenum; or direct drive, mixed flow plenum
- Optional VAV operation (VFD)
- Optional recirculation
- Optional non-tempered arrangement



## Indirect Gas-Fired Heating

### Model IGX

- 800 - 15,000 cfm and 3 in. wg
- Up to 1,200,000 BTU/hr.
- Optional high turndown furnace (up to 16:1)
- Assisted commissioning sequence
- Cooling options: packaged direct expansion, split direct expansion, chilled water, or evaporative cooling
- Optional VAV operation (VFD)
- Optional recirculation
- Built-in furnace commissioning guide



<p><b>IG Furnace Setup</b></p> <p>Press ENTER to access IG Furnace Commission</p> <p>Unit must be running</p>	<p><b>Mod Furnace Startup 3</b></p> <p>Modulating Furnace Low Fire Verification Is small and large Manifold Pressure = 0.33"WC and Combustion Fan at Low Speed?</p> <p>No</p>
<p><b>Mod Furnace Startup 2</b></p> <p>Please hook-up manometer to combo vlv outlet on mod furnace. Check alarms during commissioning sequence</p> <p>Complete: No</p>	<p><b>Mod Furnace Startup 3</b></p> <p>Furnace at High Fire</p> <p>Set pressure at combination valve outlet to: 5.0" WC</p> <p>Complete: No</p>

## Direct-Drive Plenum Supply Fan

Mixed flow fans are hybrid designs that incorporate the best features of axial and centrifugal fans. The unique mixed flow plenum fan is optimized for typical make-up air applications below 3 in wg:

- Available on models DGX, IGX, and MSX
- 800—25,000 cfm
- Up to 50% reduction in operating horsepower
- 40% Less energy usage than forward curve fan
- VFD as a standard means push button air balancing
- Soft-start providing less wear and tear on equipment
- No belt/bearing maintenance
- Easily change discharge location (except IGX)
- Non-overloading fan design
- Up to 50% reduction in sones (6-8 decibels) compared to a forward-curved fan



## Packaged DX Cooling (Models DGX, IGX, MSX)

- 800 - 7,500 cfm
- 2.5 - 16 tons (sensible cooling)
- Low sound condenser fans
- Optional VAV operation (VFD)
- 15-day quick build option



## MUA Selection Software

Greenheck's free online eCAPS® Engineering Application Suite can now simplify and optimize your selection of make-up air units. Just CLICK on the Make-up Air product category. ENTER your project requirements. REVIEW your selections for size, weight and electrical load specifications. Then create a SCHEDULE. eCAPS also helps you locate and contact your nearest Greenheck rep. It's easy to use and always up-to-date.

