

CMU-Compact Make-up Air Unit Brochure



neptronic®

CMU-COMPACT MAKE-UP AIR UNIT

FRESH AIR makes all the difference!

Neptronic's Compact Make-up Air Unit (CMU) is the perfect solution to eliminate stale air and indoor contaminants and pollutants, by delivering cleaner, fresher and healthier air inside a home, office or other building environment.

The CMU is designed to replace air that is pulled out by exhaust ventilation and equipment, such as bathroom fans and range hoods, to prevent back drafting, poor temperature control, negative air pressure and air quality problems. The CMU continuously provides comfortable ventilation throughout the building as an alternative to recirculating stale air that could otherwise carry bad odors and harmful bacteria.

Equipped with intelligent control strategies, the CMU's fan can be controlled relative to the speed of the compensated exhaust system. Combining all of these factors, the CMU maximizes efficiency and optimizes indoor air quality, which, along with optional communication modules, makes it the ideal product for integration with the automation system of intelligent buildings, by enhancing user comfort and reliability.

Benefits of the Neptronic Compact Make-up Air Unit (CMU)

- Compact and light weight
- Filter and temper outside air for optimal IAQ
- Improve overall heating efficiency using Neptronic EAS sensors
- Built-in back draft damper to eliminate unwanted air filtration
- Reversible installation
- Provide maximum comfort for a well-ventilated and energy efficient building
- Modulate supply air flow in proportion to exhaust when using ECM fans
- Improve air quality in an indoor space when combined with Neptronic sensors

Applications

Condominiums / Apartment Buildings



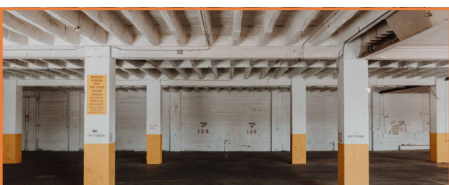
Commercial Kitchens / Restaurants



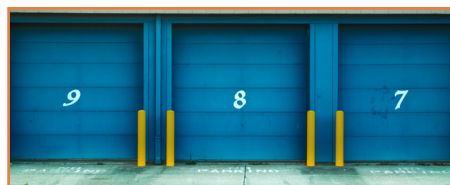
Gyms



Garages



Storage Space



Battery Charging Rooms



Specifications

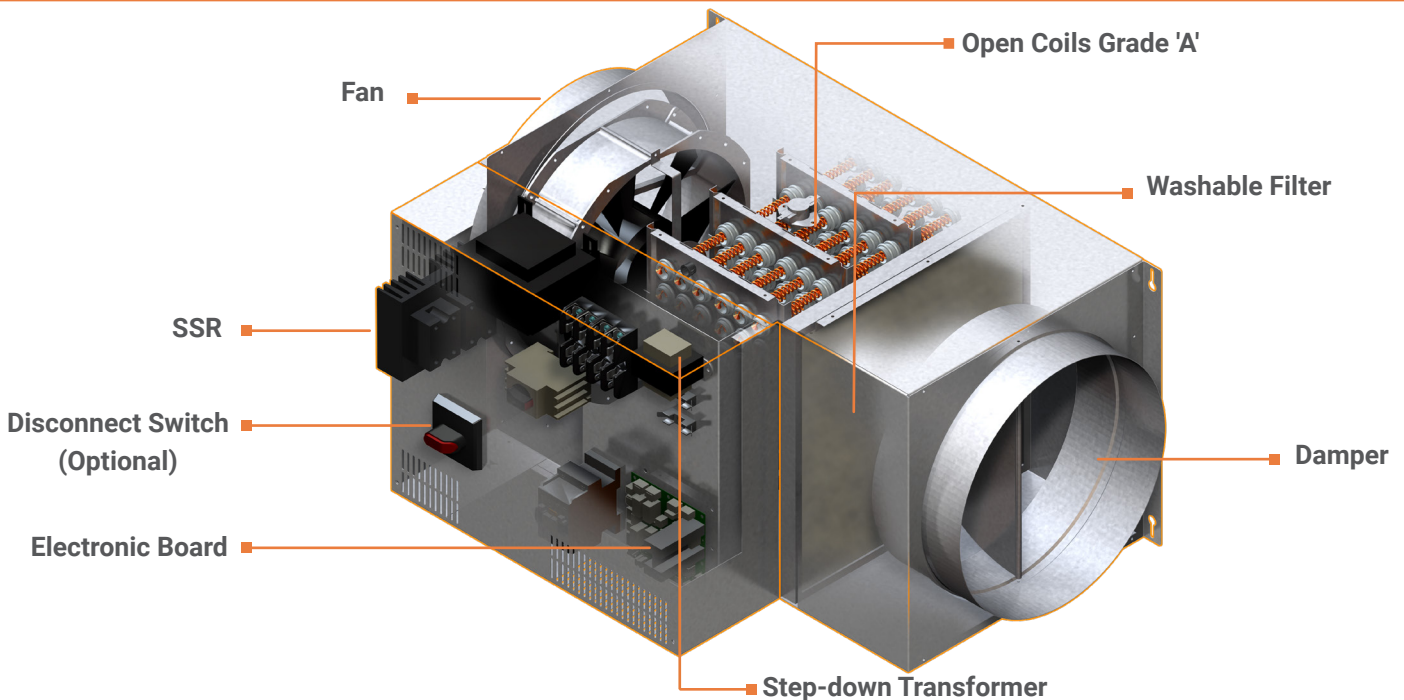
Collar Size (in)	Power Rating (kW)	Voltage (V)	Air Flow (CFM) [m³/h]			
			Axial Fan		Centrifugal Fan	
			@ 0.05"WC (12.5Pa)	@ 0.3"WC (75Pa)	@ 0.25"WC (62.5Pa)	@ 1.00"WC (250Pa)
06	1 1.5 2 3	120-1PH 208-1PH 208-3PH 240-1PH 347-1PH 480-1PH 480-3PH 600-1PH 600-3PH	118 [200]	80 [136]	218 [370]	120 [204]
08	2 3 4 4.5 5 6 8	208-1PH 208-3PH 240-1PH 347-1PH 480-1PH 480-3PH 600-1PH 600-3PH	304 [516]	225 [382]	325 [552]	250 [425]
10	3 6 7 8 9 10 12	208-1PH 208-3PH 240-1PH 347-1PH 480-1PH 480-3PH 600-1PH 600-3PH	617 [1048]	450 [765]	471 [800]	383 [651]
12	6 8 10 12 14 16 18 20*	208-1PH 208-3PH 240-1PH 347-1PH 480-1PH 480-3PH 600-1PH 600-3PH	717 [1218]	550 [935]	633 [1075]	433 [736]

* Select Models Only



Complies to standards UL 60335-1 & UL 60335-2-40, CSA C22.2 No. 60335-1 & CSA C22.2 No. 60335-2-40

Technical Drawing



Type of Fan

Fan Performance

Axial Fan



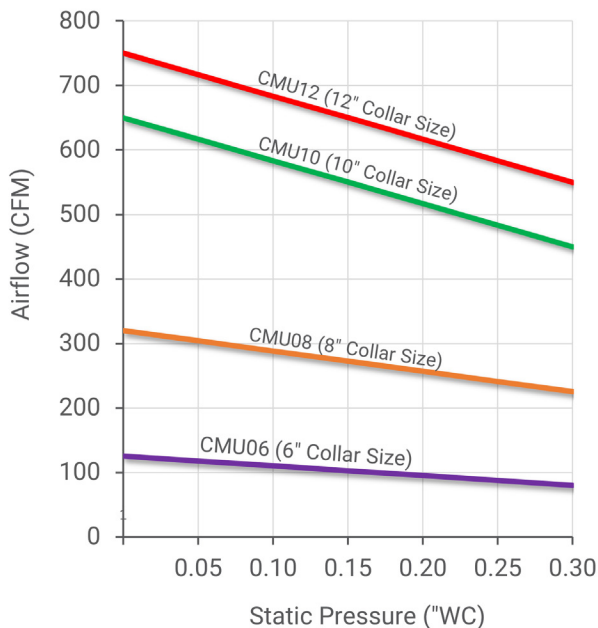
- Used in standard applications with aluminum filters, in which there is a lower pressure drop.
- Includes the option of an AC or ECM motor:
 - AC motor provides a cost effective solution, with simple installation and operation.
 - ECM motor provides advanced control strategies, with high modulation capabilities and better efficiency.

Centrifugal Fan

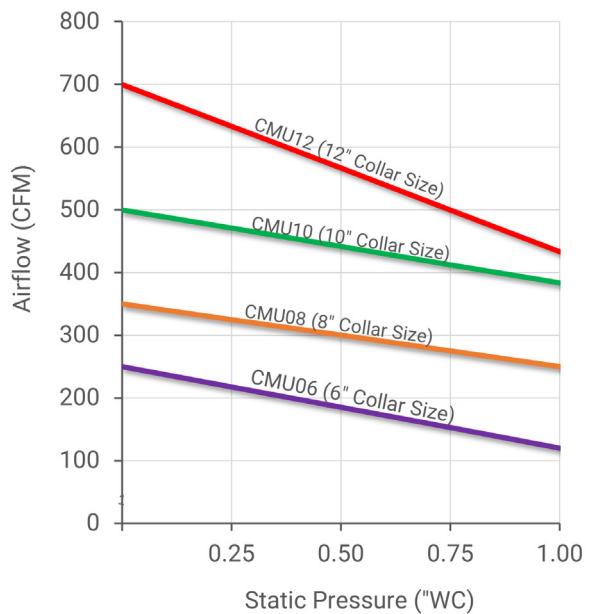


- Used in applications with higher restriction on the filter, duct or zoning requirements, which result in a higher pressure drop.
- Includes ECM motor:
 - ECM motor provides advanced control strategies, with high modulation capabilities and better efficiency.

CMU Axial Fan Performance



CMU Centrifugal Fan Performance



Features

Network Communication

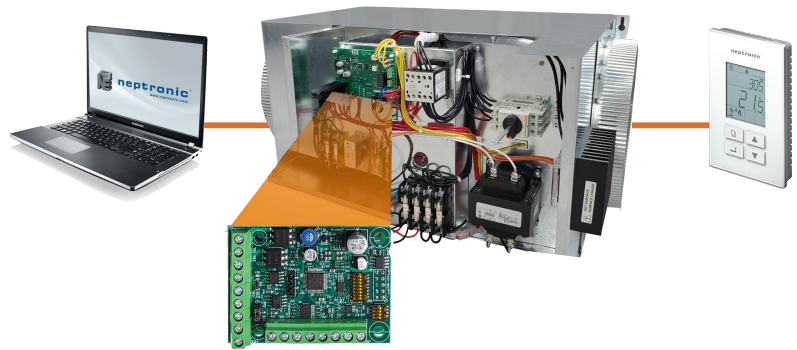
- BACnet MS/TP or Modbus RTU (selectable via DIP switch)
- Select MAC address via DIP switch or via network

BACnet MS/TP

- MS/TP @9600, 19200, 38400 or 76800 bps
- BACnet scheduler (up to 6 events)
- Firmware upgradeable via network
- COV (change of value)
- Copy and broadcast configuration to other devices via menu or network
- Automatic baud rate detection
- Automatic device instance configuration

Modbus RTU

- Modbus RTU @9600, 19200, 38400 or 57600 bps
- RTU Slave, 8 bits (configurable parity and stop bits)
- Connects to any Modbus RTU master



Add-On Module

Ease of operation with Neptronic TDF digital room sensors

- Display supply temperature
- Configure CFM and temperature setpoints
- Monitor alarms

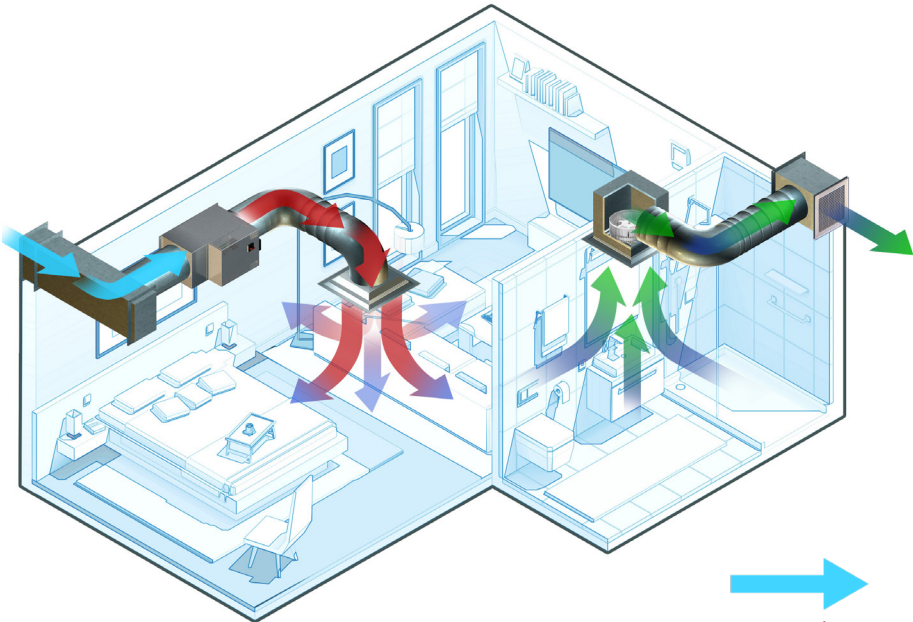
Intelligent control strategies with ECM and AC fan options

- Indoor air quality applications with integrated temperature, humidity and CO₂ sensor
- Interlock with extraction fans
- Outside air sensors prime heater coils for fast response and comfort
- Static pressure PID algorithms, control of fresh air and return air

CMU Applications

Hotel / Condo Application

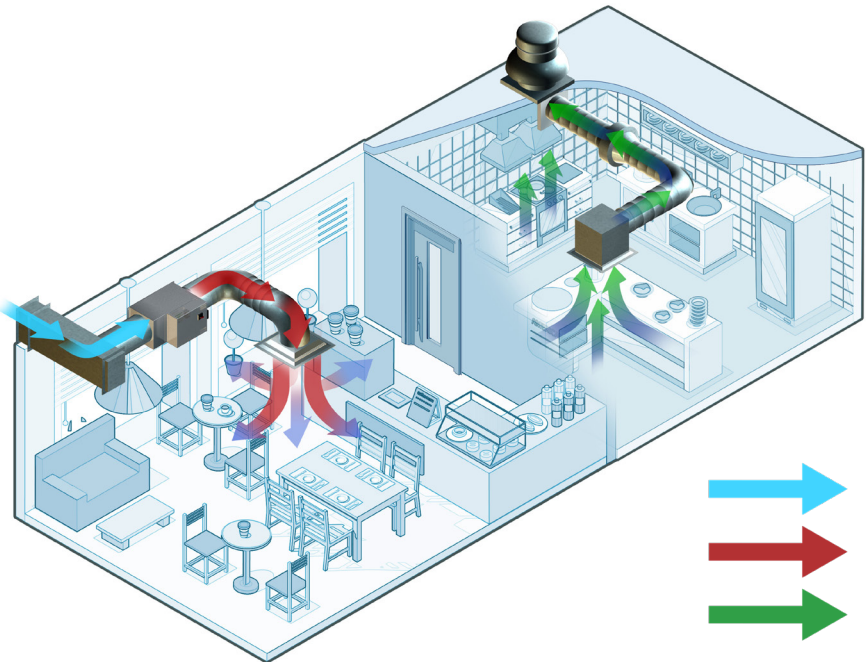
Providing a pleasant living environment for inhabitants is very crucial, as it is important to continuously supply fresh air throughout the building. The CMU can get rid of stale air resulting in the elimination of harmful bacteria.



-  **OUTDOOR / FRESH AIR INTAKE**
-  **FRESH TEMPERED AIR**
-  **EXHAUST AIR**

Restaurant Application

A poor ventilation system will negatively impact customers and cause them to feel uncomfortable due to the unpleasant odors and poor quality of the air. The CMU will prevent this discomfort and provide a healthy environment.



-  **OUTDOOR / FRESH AIR INTAKE**
-  **FRESH TEMPERED AIR**
-  **EXHAUST AIR**

Accessories & Sensors for CMU

Room Control Switch



IMC10

- Select between off, continuous and intermittent operation modes
- LED status indication for operation mode and power
- Three wire connection between switch and CMU

Universal Digital Room Sensor



TDF

- Built-in temperature sensor and optional humidity, CO₂ and occupancy sensors (select models)
- Elegant design
- Universal wall-mount design
- Selectable Fahrenheit or Celsius scale

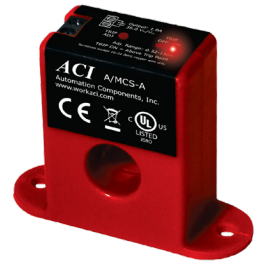
Current Sensor



SIA-50

- Allows the CMU to modulate its output based on the extract fan
- Analog output (0-10Vdc)
- Selectable amperage ranges from 0 to 10/20/50A

Current Switch



SIH-150

- Adjustable current switch used as a high limit device
- Amperage and trip point range of 0.32 to 150A
- Status LED

Duct Temperature Sensor



STC8-11

- Duct sensor for remote temperature reading
- Sensor 10 K Ω
- High accuracy, fast thermal response
- High stability

Duct Humidity Sensor



SHC80

- Duct mounted humidity sensor
- Built-in temperature sensor
- 2 analog outputs (0 - 10Vdc)
- Status LED

Room temperature Sensor



STR1-11

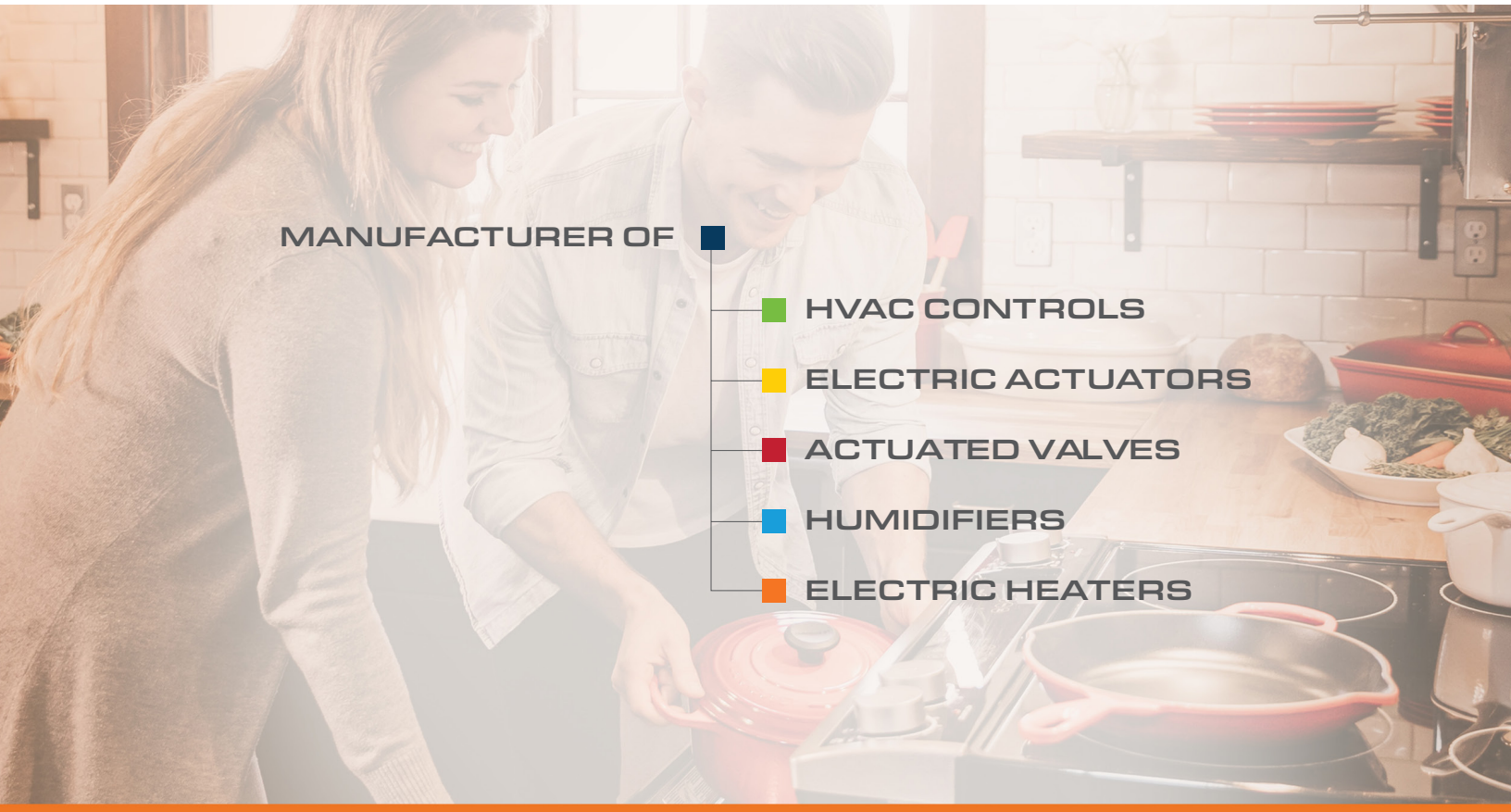
- Wall sensor for remote temperature reading
- Sensor 10 K Ω available

Outdoor Temperature Sensor



STO2-11

- Temperature sensor
- IP65 weather proof enclosure



MANUFACTURER OF



-  **HVAC CONTROLS**
-  **ELECTRIC ACTUATORS**
-  **ACTUATED VALVES**
-  **HUMIDIFIERS**
-  **ELECTRIC HEATERS**



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