

## V-Cube Slim<sup>™</sup>

### Floor-by-Floor Cooling and Heat Pump System

15 to 70 tons



# V-Cube Slim System

High efficiency, value driven solution

## Application Flexibility

A Mammoth® V-Cube Slim system is a high efficiency solution for floor-by-floor air conditioning in medium- to high-rise commercial and institutional buildings. V-Cube Slim combines advanced features such as FANWALL TECHNOLOGY® and a standard, factory-installed variable frequency drive (VFD), with tremendous application flexibility for use in a wide variety of applications, including:

- Packaged DX cooling—VAV or make-up air systems
  - Cooling only with cleanable shell and tube condensers
  - Variable speed scroll compressors for efficient and reliable part-load operation
- Water source heat pump (reverse cycle) options
  - Standard boiler/tower loop systems
  - Geothermal extended range systems
- Optional free cooling waterside economizer coil and valve package
- Air handler only with chilled water coils
- Available in all configurations as a knock-down replacement unit that can fit through standard doorways



The knockdown design, compact footprint and quick-connect design of the V-Cube Slim make these units ideal for replacement applications.

For more information about a V-Cube Slim system for a new construction or a replacement project, contact your local Nortek Air Solutions Representative.



# Advantages for Replacement

of existing floor-by-floor units

## Designed for Easy, Low Cost Replacement

The V-Cube Slim is designed to be a quick solution for replacement of existing floor-by-floor units.

- The packaged design, complete with a standard VFD and optional factory-integrated communication controls, reduces field labor.
- A compact footprint allows easy replacement of existing units manufactured by others.
- Knock-down feature allows units to be disassembled into sections that fit through a standard 3-foot door, with electrical quick-connects between sections. The refrigeration system remains intact for easy re-assembly.
- Built-in electrical disconnects reduce field labor and installation costs.



Knock-down sections of V-Cube Slim units can be easily navigated through standard 3-foot wide doors and then reassembled on-site.

Maximum Section Dimensions (70 ton, size 840S)			
Section	Length (in.)	Width (in.)	Height (in.)
Blower	112.00	35.00	29.00 <sup>1</sup>
Mechanical	112.00	35.00	69.50 <sup>2</sup>
Controls	35.00	12.00	91.50
Waterside Economizer <sup>2</sup>	112.00	34.50 <sup>3</sup>	69.50

1. Top discharge

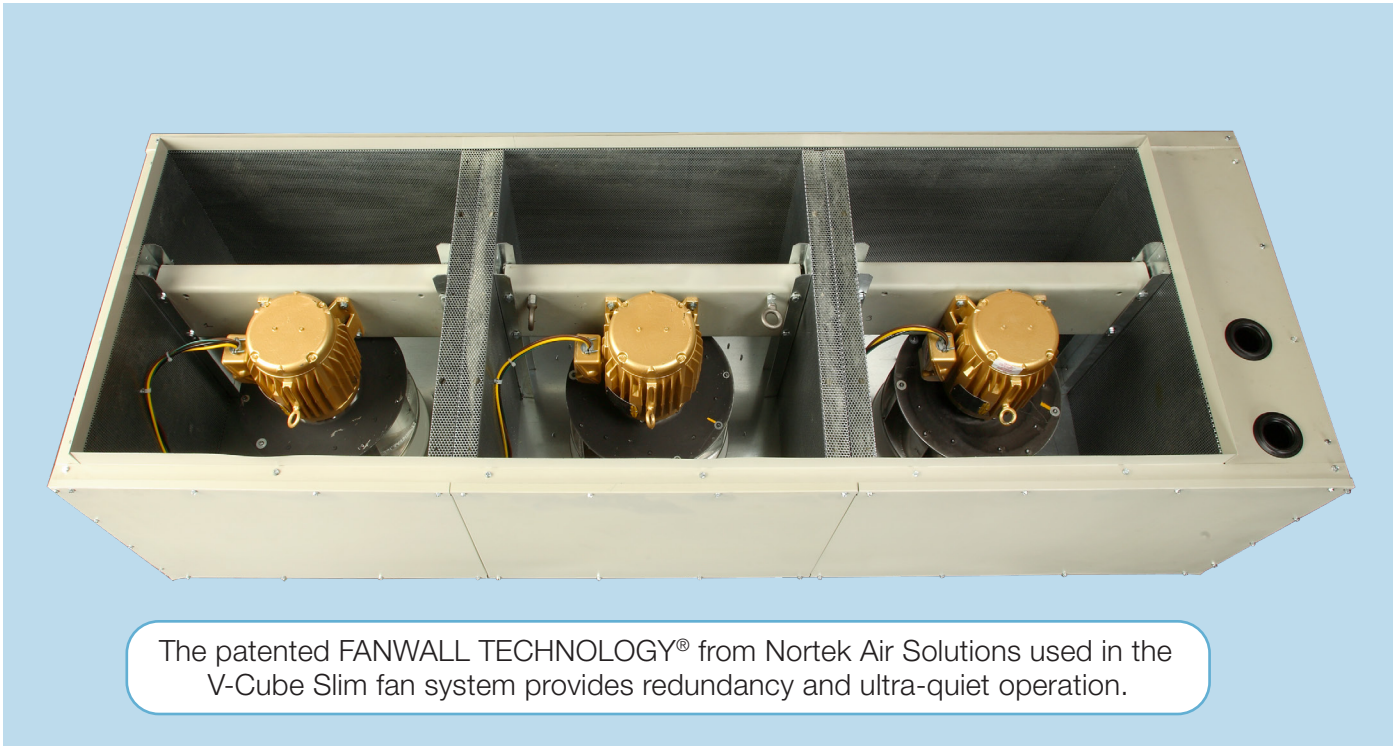
2. Includes 5-inch base rail

3. Includes removable 2-inch, pre-filter plus 4-inch filter rack



# V-Cube Slim Benefits

Efficient, Quiet and Comfort



## High Energy Efficiency

With a cooling efficiency up to 12.5 EER and heating efficiency up to 4.3 COP, V-Cube Slim units can help conserve precious energy and reduce operating costs.

- A factory-mounted VFD is standard with each unit to optimize fan energy consumption
- Premium high efficiency motors reduce amp draw throughout the operation range of the unit
- Extended range operation allows V-Cube Slim to be incorporated as part of a geothermal heat pump system to achieve higher efficiencies
- Modulating scroll on lead compressor (standard for VAV systems) provides superior part load operation
- Water circuits are designed for minimum pressure drop to reduce pumping power requirements
- A factory-integrated controller provides optimum performance while offering flexibility for standalone operation or optional communication with most building automation systems

## Quiet Operation

Extremely quiet operation allows V-Cube Slim units to be placed adjacent to occupied spaces, which can increase the available area for lease.

- Heavily attenuated equipment walls may be eliminated, reducing installed costs
- FANWALL TECHNOLOGY provides ultra quiet fan operation and can help avoid costly attenuation
- Scroll compressors operate smoothly and quietly

## Superior Comfort and Indoor Air Quality

The V-Cube Slim design and a variety of filtration options provide occupants superior comfort and indoor air quality (IAQ).

- Standard double-wall construction and dual sloped stainless steel drain pan help prevent microbial growth and provide a surface easily cleanable during routine maintenance
- Multiple filter options include optional MERV 8 or MERV13, 4-inch final filters with 2-inch pre-filters
- Quiet fan and compressor operation contributes to comfortable space conditions

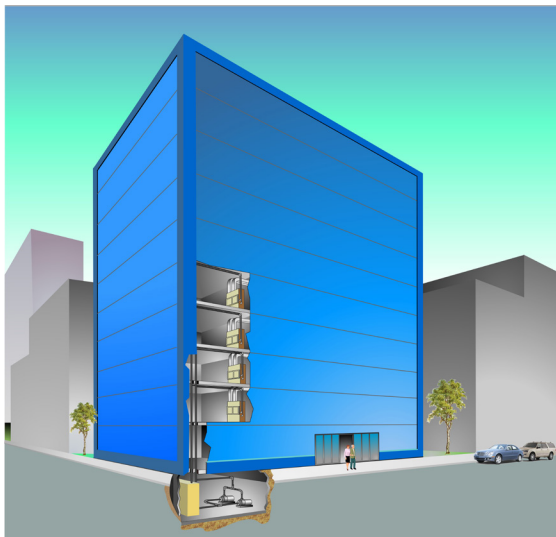
# V-Cube Slim Benefits

## Easy to Select and Service

### Easy Specification and Design

The V-Cube Slim is available in 9 sizes from 15 to 70 tons to match the requirements of a broad range of areas and space loads. Units offer tremendous configuration flexibility to meet the requirements of your project.

- Cooling only with a standard shell and tube heat exchanger
- Cooling only with a standard DX coil and optional waterside economizer
- Water source heat pump for standard or extended range geothermal applications
- Air handler unit with a wide variety of coil options (models 180 to 840)
- Make-up air unit



V-Cube Slim floor-by-floor units offer significant configuration flexibility to meet the requirements of your project.

### Easy Maintenance and Service

- Unit tooled access panels allow easy removal and replacement for routine maintenance and service
- Factory-installed filter racks enable easy filter replacement and help reduce installed costs
- FANWALL® system eliminates belt, sheaves, bearing and motor maintenance
- Double wall construction with dual sloped, stainless steel drain pan and optional cleanable-in-place shell and tube condenser encourage routine maintenance for peak performance



### Durable and Reliable Operation

V-Cube Slim is designed for long-lasting operation with minimum downtime.

- Multiple refrigerant circuits provide redundancy
- Fan redundancy provided by the FANWALL system allows the unit to operate at nearly full capacity with one fan down
- Pre-painted cabinet maintains a like-new appearance
- Factory-packaged and tested solution

# V-Cube Slim Unit Features

- A** Flexible Heating and Cooling Selections
  - Standard 6-row DX coil
  - Optional hot water or waterside economizer

## Independent Refrigerant Circuits

- Provides redundancy

- B** Variable Speed Scroll Lead Compressor
  - Provides superior part-load operation
  - Standard for VAV units

- C** Scroll Compressors
  - R-410A
  - Provide quiet operation

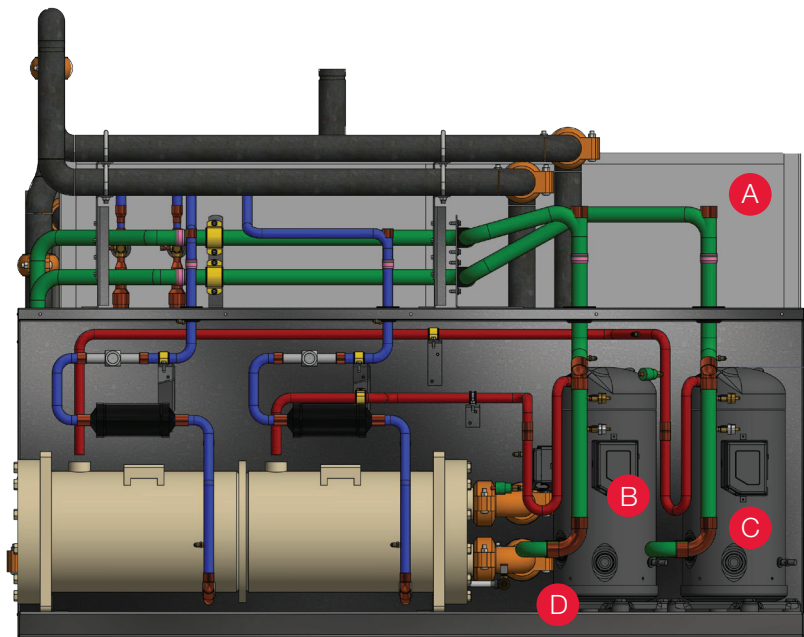
- D** Dual Sloped, Stainless Steel Drain Pan
  - Provides positive drainage for superior IAQ and is ease of cleaning

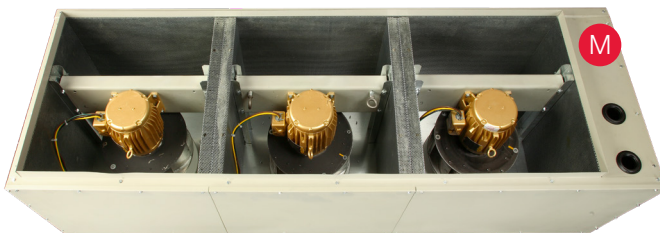
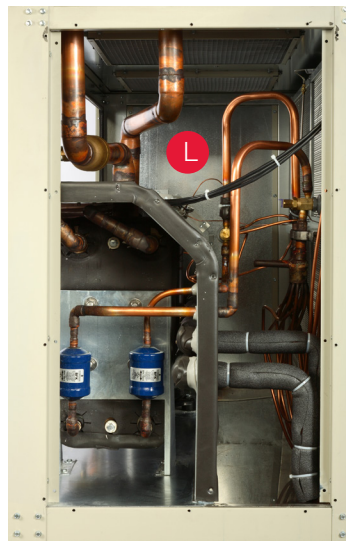
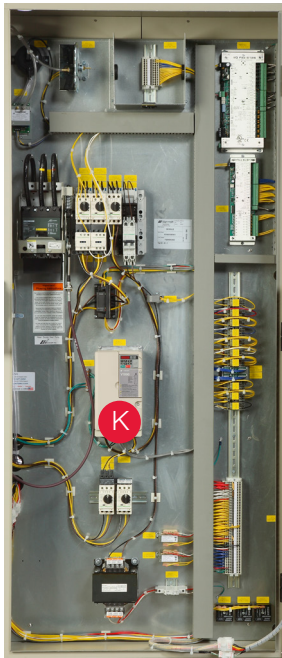
## Unit Cabinet

- E** Durable, double wall cabinet promotes superior IAQ
  - 16 gauge pre-painted galvanized formed steel frame construction
- F** 18 and 24 gauge painted exterior and 18 gauge interior galvanized panels
  - 2-inch, 1½ pound density insulation
  - Painted exterior
  - Flexible supply air discharge orientation to fit duct, building and mechanical room layout
  - Right and left hand connection options to match room orientation and service access

- G** Control Panel
  - Factory-installed controller and electrical disconnect with easy-access user interface
  - Optional communicating controls with BACnet® MS/TP or BACnet® IP protocols

- H** Access Panels
  - Tooled access panels can be easily removed and replaced for routine maintenance and service





- I** Optional Waterside Economizer
  - Saves energy by taking advantage of “free cooling” opportunities using condenser fluid to precool the return airstream and reduce mechanical (compressor) work required to meet load requirements

- J** Filter Rack
  - Factory-installed to save installation time and cost and provide easy replacement of filters
  - 2-inch pleated media filter standard
  - Optional MERV 13, 4-inch pleated filter and 2-inch pre-filter

- K** Variable Frequency Drive
  - Factory-installed as standard

#### Refrigeration Specialties

- L**
  - Easily accessed
  - Shell and tube heat exchanger standard
  - Thermal expansion valve
  - Reversing valve for water source heat pump units
  - Each circuit equipped with a high pressure refrigerant manual reset safety control
  - Schrader valves on both the high and low pressure sides
  - Liquid line filter drier on each circuit
  - Liquid line sight glass

#### FANWALL TECHNOLOGY®

- M**
  - In addition to ultra-quiet fans, the integral, patented Coplanar Silencer® with 2", 1½ pound density insulation, provides exceptionally quiet operation
  - Provides redundancy to help avoid downtime
  - Eliminates belt, sheave, bearing and motor maintenance
  - Provides high static system capability

# Nortek Air Solutions

Experts in Building Environments™

Nortek Air Solutions offers the innovation and expertise of the largest group of custom heating, ventilation, and air conditioning (HVAC) brands in North America for your commercial, industrial, or institutional indoor environment. Our products are custom engineered to bring you the optimal solutions for maximizing energy efficiency, reducing annual operating costs, improving indoor air quality, and achieving low sound levels. We offer high quality systems in multiple shapes, sizes, and configurations for new construction and renovation or retrofit applications.



Commercial Air Handlers



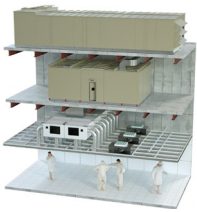
Industrial Air Handlers



Packaged Rooftop Units



Energy Recovery Units



Laboratory Systems



Large FANWALL® System



Vertical Self-Contained Units



FANWALL Retrofit Cells

Our patented FANWALL TECHNOLOGY® is available from all air handling product brands to create a fully-integrated and engineered system of state-of-the-art fans, motors, cabinetry, controls, and accessories that can be combined to match new construction and retrofit application requirements.

Mammoth is a brand of Nortek Air Solutions, LLC, which is a subsidiary of Nortek, Inc. Since Nortek Air Solutions has a policy of continuous product improvement, we reserve the right to change specifications without notice. EPIC, FANWALL, FANWALL TECHNOLOGY, V-Cube Slim and Mammoth are registered trademarks of Nortek Air Solutions, LLC. Terms and conditions of sales are available on our website, [www.nortekair.com](http://www.nortekair.com).