

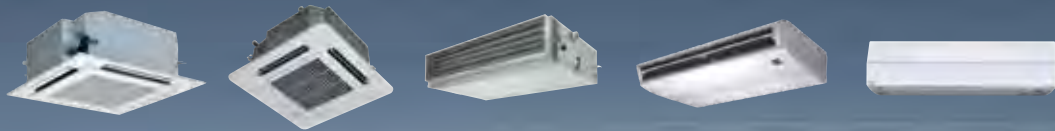
**TOSHIBA**  
*Carrier*

**SMMS**

SUPER MODULAR MULTI SYSTEM



***Air Conditioning For Large Buildings***



***3 compressors & 3 inverters***

***Variable Refrigerant Flow heat pump system***

Toulouse / France



Andromede office building  
564HP

Prague / Czech Republic



Vodafone Czech Republic  
262HP

**Toshiba Carrier's VRF system.**

**Recognized by satisfied customers around the world for delivering greater comfort, energy efficiency, and reliability. Now proudly ready to make its North American debut.**

São Paulo / Brazil



Soccer Museum - Pacaembu Stadium  
290HP

Rome / Italy



Capitolini Museum  
14HP

**3 compressors & 3 inverters**  
**Variable Refrigerant Flow (VRF) heat pump system**

**Welcoming in a breath of fresh air**

Leading the world with next-generation quality

**SMMS**  
SUPER MODULAR MULTI SYSTEM





**Seoul / Korea**



**Jae Neung Education Building**  
3000HP

**Yokohama / Japan**



**Toshiba Power Systems Company**  
Yokohama Office  
1330HP

**Chiba / Japan**



**Mitsui Shopping Park**  
**LaLaport KASHIWANOHA**  
2200HP

**Baku / Azerbaijan**




**Government House**  
1340HP

**Hiroshima / Japan**



**Hiroshima Municipal Baseball Stadium**  
(MAZDA Zoom-Zoom Stadium Hiroshima)  
647HP

**Brisbane / Australia**



**Portal Commercial Development**  
350HP





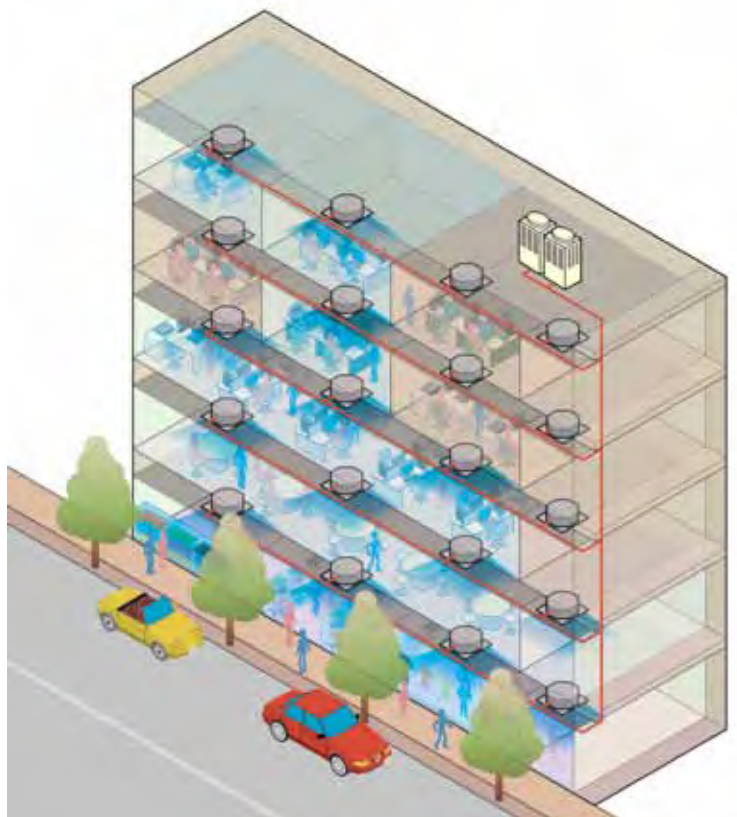
# Introducing the VRF Heat Pump System Advantage

VRF (Variable Refrigerant Flow) technology realizes effective zone heating and cooling as part of an innovative new air conditioning system for larger buildings. By heating or cooling only rooms that require it, VRF systems minimize energy loss to realize remarkable energy savings.

The modular design of VRF systems allow them to respond quickly to the specific heating or cooling needs of each individual zone. Consider an office building installation. When any particular room is not in use, refrigerant flow to it is stopped but continues to be supplied to zones where temperature control is needed. The result is highly efficient operation that makes optimal use of zone-specific temperature control.

Another advantage of VRF systems is that they eliminate the need to install large distribution fans, water pumps and large bore pipes. As such, VRF systems do not require dedicated maintenance rooms or service shafts. And the small footprint of the outdoor units help save space and ease installation.

Toshiba Carrier SMMS-i systems fully leverage the advantages of VRF as they combine energy efficiency with installation and operating ease, flexibility and reliability to embody the air conditioning solution for large buildings that can fully satisfy your needs.



# The next-generation '*i*-quality' trio

Dedication to innovation and advanced intelligence fosters the imaginative creativity with which we deliver total value in air conditioning systems.

**SMMS**  
SUPER MODULAR MULTI SYSTEM



***innovation***



***intelligence***



***imagination***





## Energy efficient

Toshiba Carrier combines variable speed compressors with vector-controlled inverters to achieve greater operating performance under constant loads.



High-performance outdoor units with **3** compressors and **3** inverters

(8 ton, 10 ton)



## Smart & sensitive VRF control

Toshiba Carrier's newly developed intelligent VRF control ensures that the right amount of refrigerant to satisfy the demands of each room, regardless of the type of indoor unit used and the length of the pipes.



## Installation flexibility

System layouts can use a maximum equivalent distance of up to 720 ft. This makes it much easier to design for floors with many small rooms, or for tenants who often rearrange their floor layouts.

## Leading performance

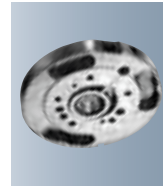
### Leading the world with Toshiba Carrier's own DC inverter-driven compressor

Toshiba Carrier inverter-driven compressors deliver outstanding capacity under partial load. The 8- and 10-ton outdoor units incorporate three of these compressors per unit, while the 6-ton model uses two to achieve full performance. These compressors improve both energy efficiency and comfort.



#### DC Inverter-driven compressor

Optimization of discharge port positioning and blade thickness reduces compression loss and friction resistance. Rotor magnets with a large surface area and slit design realize greater efficiency and reduced noise.



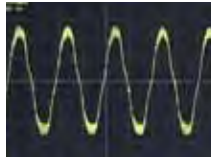
#### Magnetic rotor

Each motor employs a compact and powerful magnetic rotor (rare earth magnet) and features reduced eddy-current loss.

## Fast-calculating vector-controlled inverter

### All-inverter control realizes finer control over operation to match the load on the system

Toshiba Carrier SMMS-i controls all 3 compressors with a dedicated inverter board that taps the compressor's full potential to provide smoother operation.



#### Smooth sine curve

The fast-calculating vector-controlled inverter produces a smooth sine curve that improves operating efficiency.



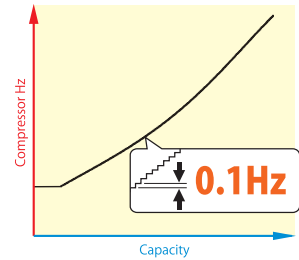
#### Circuit board

The vector-controlled inverter quickly converts current into a smooth sine curve to achieve smoother operation of the compressor's DC motor.

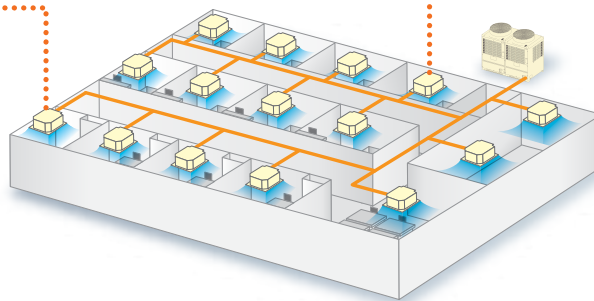
## Variable control

### Ultra-precise 0.1 Hz control over compressor rotation speed

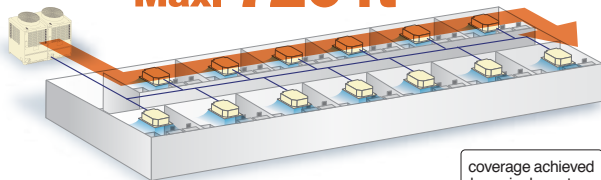
Variable control adjusts compressor rotation speed in near-seamless 0.1 Hz steps. Responding precisely to the capacity needs of the moment, this fine control minimizes energy loss when changing frequencies, and also creates a comfortable environment subject to minimal temperature variations.



Can be adjusted to maintain consistent temperature



Max. 720 ft

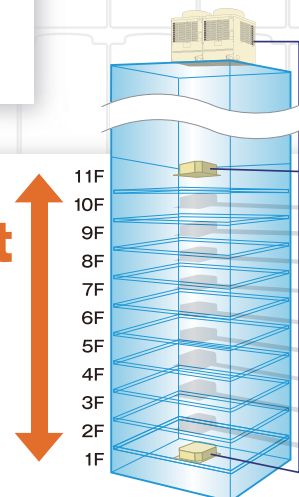


coverage achieved by a single system

Max. 130 ft

Toshiba Carrier SMMS-i supports height differences of up to 130 ft between indoor units on a single system. That is enough height to cover an 11-story building.

\*Calculated at 11.5 ft per floor





## Outdoor units

Appearance							
Nominal Tons	6	8	10	12	14	16	20
208/230V Model Name (MMY-)	MAP0724HT9UL	MAP0964HT9UL	MAP1144HT9UL	AP1444HT9UL	AP1684HT9UL	AP1924HT9UL	AP2284HT9UL
460V Model Name (MMY-)	MAP0724HT6UL	MAP0964HT6UL	MAP1144HT6UL	AP1444HT6UL	AP1684HT6UL	AP1924HT6UL	AP2284HT6UL
Cooling Capacity (kBtu/h)*	72/72	96/96	112/110	136/134	168/168	192/192	226/198
Heating Capacity (kBtu/h)*	81/81	108/104	130/126	156/162	189/185	212/200	246/214

\*With Non-ducted indoor units/ducted

## Indoor units

	4-Way Cassette	Compact 4-Way Cassette	Ceiling	High Wall	Concealed Duct	Concealed Duct High Static Pressure	Slim Duct
Cooling Capacity							
Ton (kBtu/h)	MMU-	MMU-	MMC-	MMK-	MMD-	MMD-	MMD-
0.6 (7)		AP0071MH2UL		AP0073H2UL	AP0074BH2UL		AP0074SPH2UL
0.8 (9)		AP0091MH2UL		AP0093H2UL	AP0094BH2UL		AP0094SPH2UL
1 (12)		AP0121MH2UL		AP0123H2UL	AP0124BH2UL		AP0124SPH2UL
1.25 (15)		AP0151MH2UL		AP0153H2UL	AP0154BH2UL		AP0154SPH2UL
1.5 (18)	AP0182H2UL	AP0181MH2UL	AP0181H2UL	AP0183H2UL	AP0184BH2UL		AP0184SPH2UL
1.75 (21)	AP0212H2UL				AP0214BH2UL		
2 (24)	AP0242H2UL		AP0241H2UL	AP0243H2UL	AP0244BH2UL		
2.5 (30)	AP0302H2UL				AP0304BH2UL	AP0304H2UL	
3 (36)	AP0362H2UL		AP0361H2UL		AP0364BH2UL	AP0364H2UL	
3.5 (42)	AP0422H2UL		AP0421H2UL		AP0424BH2UL		
4 (48)					AP0484BH2UL	AP0484H2UL	



Notice: Toshiba Carrier is committed to continuously improving its products to ensure the highest quality and reliability standards, and to meet local regulations and market requirements. All features and specifications are subject to change without prior notice.