

HIGH AMBIENT APPLICATION

**TAKING COMFORT TO A
WHOLE NEW DIMENSION**



EXCELLENCE IN AIR CONDITIONING



TOSHIBA
Leading Innovation >>>

TAKING COMFORT TO A WHOLE NEW DIMENSION



FFICIENCY

LOW OPERATION COST

In 2004, Toshiba launched into the market an ALL inverter VRF systems that would revolutionize the industry and set a new benchmark in system efficiencies. Now in 2015, the all new SMMS-e system has taken this philosophy and again pushed the barriers of what is achievable. Thanks to Toshiba's unique compressor technology, re-designed heat exchanger and Toshiba's "intelligent flow" technology for perfect refrigerant management, energy costs are sent plummeting, while comfort remains as outstanding as ever!

ALL INVERTER INFINITE VARIABLE CONTROL
TWIN ROTARY COMPRESSOR
INTELLIGENT FLOW TECHNOLOGY
ADVANCED HEAT EXCHANGER DESIGN
WAVE TOOL

volution



XCELLENCE

COMFORT

The innovative evolution of the many technical components and controls, ensure an optimal balance of temperature, humidity and air freshness, whilst simultaneously realizing maximum energy efficiency, minimum operating costs and reduced CO₂ emissions.

OPTIMISED HEATING & COOLING
EXTENDED OPERATION RANGE
SUPER SILENT PERFORMANCE
SIMPLIFIED & EASY TO USE CONTROLS



XPERIENCE

RELIABILITY

Quality and reliability is at the heart of everything we do. Toshiba engineers are dedicated to finding the best product solutions for you, the end-user, investor and designer. All major components are engineered and manufactured by Toshiba, ensuring maximum performance, reliability and efficiency.

DUAL VANE TECHNOLOGY
COMPRESSOR BACK-UP
DEDICATED OIL MANAGEMENT
CDU MODULATION CONTROL
IN-HOUSE ENGINEERING



The expectations of an air conditioning system have evolved in the last few years. Today advanced comfort has to go hand in hand with reduced energy and maintenance cost, combined with maximized simplicity and operational flexibility.

SMMS-e has the right answer to all of these requirements. It encompasses all of the innovations, experience and knowledge from the past and utilizes new technologies to create a product that ensures its place within the market, as one of the industries leaders in providing, highly efficient solutions to the market, whilst ensuring maximum end user comfort.

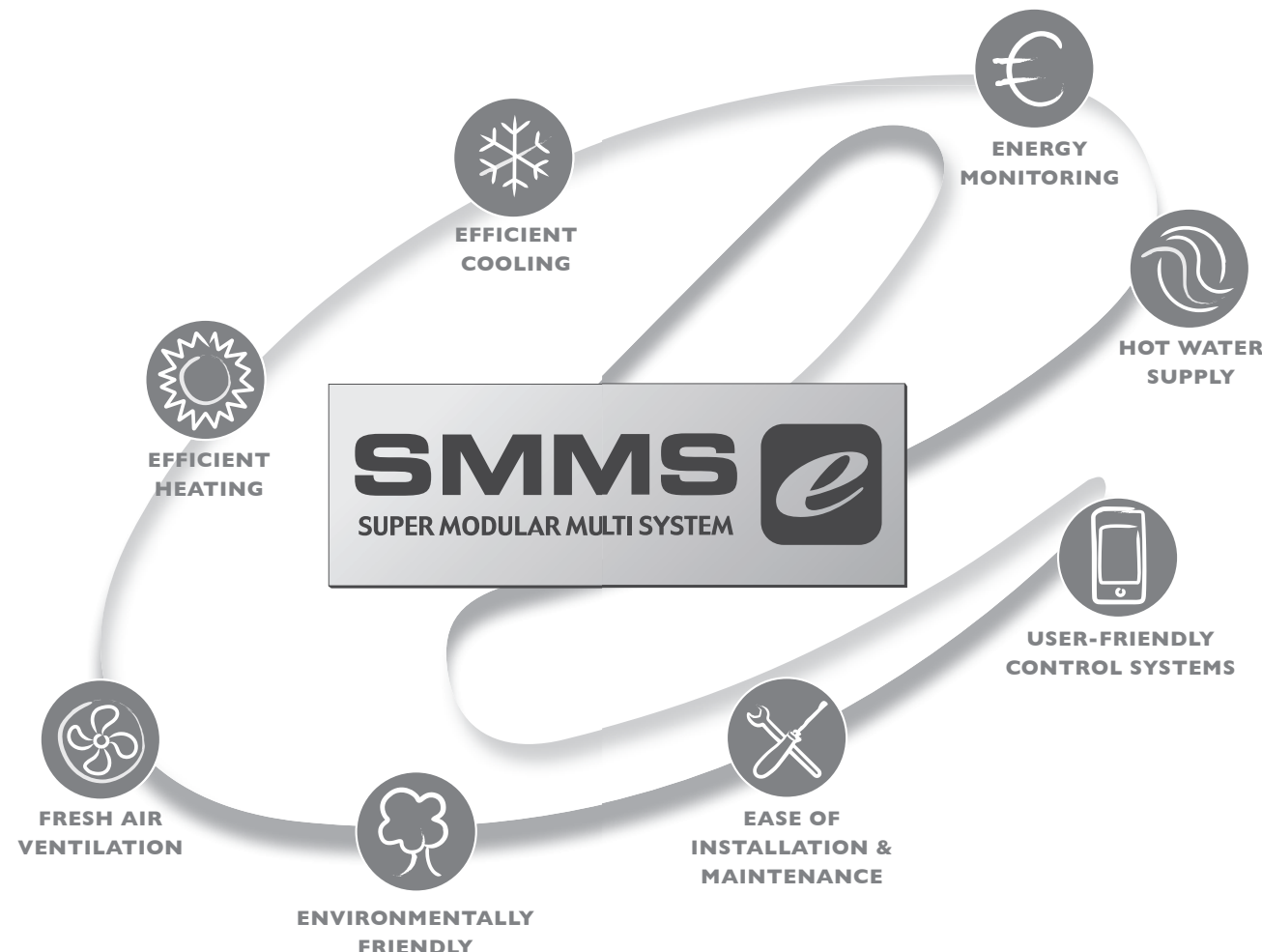
CREATING BENEFITS AROUND COMFORT

BENEFITS FOR THE CONSULTANT

- **Absolute customisation ...** A wide range of products ensure that the customers' requirements are fully addressed
- **Absolute validation ...** SMMS-e has applied for EUROVENT certification and adheres to all current European legislation
- **Absolute control ...** Fully integrated controls network, allowing unlimited access to the system controls and its operation
- **Absolute flexibility ...** A high degree of system flexibility, aided by a fully flexible piping specification and an extremely compact modular design
- **Absolute dependability ...** Years of experience in developing technologies for optimised reliability and safety, including huge support network and back-up

BENEFITS FOR THE USER

- **Infinite comfort ...** Achieved by fully controllable room temperature, a perfect alternative to traditional heating & cooling systems
- **Infinite efficiency ...** Low operating costs thanks to reduced installation costs and very high levels of efficiency via optimal load adjustment
- **Infinite integration ...** Cooling, heating, hot water, fresh air ventilation and door air curtain solutions, all perfectly and conveniently attuned to one another within a single system – and so easy to use!
- **Infinite reliability ...** Hassle-free operation based upon decades of experience and intensive testing program for all systems
- **Infinite transparency ...** Clearly defined billing so you can quickly review energy costs and consumption



BENEFITS FOR THE INSTALLER

- **So simple ...** One supplier – one point of contact for a total solution: cooling, heating, hot water, ventilation & controls
- **So versatile ...** Maximised installation flexibility
- **So convenient ...** Easy access for all service and maintenance needs
- **So professional ...** Intensive training and instruction offered by local TOSHIBA trained experts
- **So assessable ...** Simplified and swift commissioning, assisted by the all new Wave Tool App

” **THE WHOLE IS MORE THAN
THE SUM OF ITS PARTS.** “

Aristoteles



SMMS
SUPER MODULAR MULTI SYSTEM

KEY TECHNOLOGIES

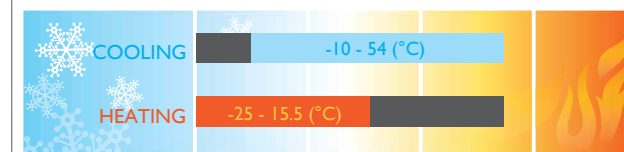
When Toshiba launched the industries 1st ALL inverter VRF system, it became a leader within its market. So when this design evolves into an even better, more efficient solution is due, not because of a single new feature, but because of the dedication shown to perfecting every key technology and component, which when brought together forms a product that again leads the way.

When viewed in isolation, not all that different from our rivals – granted. But, taken as a whole, a decisive, evolutionary step forward into a glorious new era and a new generation of excellence in air conditioning - SMMS-e.

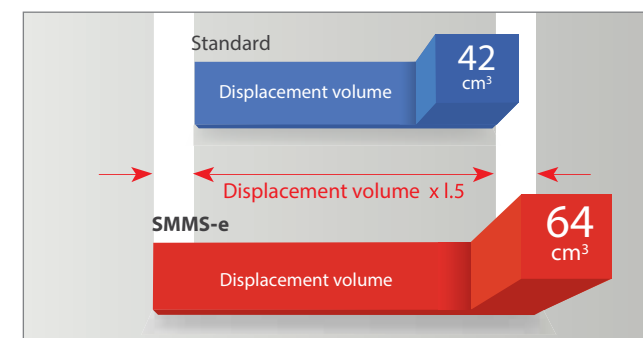
I. INNOVATIVE COMPRESSOR TECHNOLOGY

TOSHIBA's infinitely variable, inverter driven control can continually adjust in real time, the operating speed of the compressors. This ensures that the capacity output precisely matches that of the demand from the end user. The advantages of this control are optimised further by incorporating TOSHIBA's in-house designed all inverter twin rotary compressors. The twin rotary design is one of the key technologies that has been continually developed by Toshiba, to ensure maximum performance and efficiency. This enables the new SMMS-e system to achieve class leading ESEER efficiency values, whilst still maintaining TOSHIBA's reputation of reliability.

Operation ambient temperature expansion
(Cooling: °CDB, Heating: °CWB)



Adopting the highly efficient new DC twin-rotary compressors with various technologies realized over 7.00 ESEER for all of capacity range



NEW INCREASED COMPRESSOR DISPLACEMENT

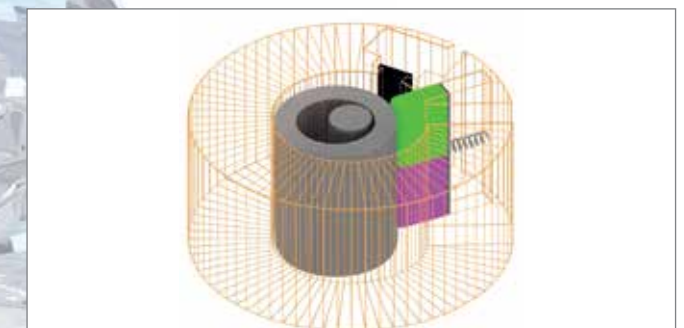
- Increased compressor displacement extends the compressor's capacity output
- One single unit with two compressors can now achieve a capacity output of up to 20 HP
- Increased operation range and a more precise control

**THIS MEANS:
MORE EFFICIENCY, REDUCED RUNNING COSTS
AND LIGHTER UNITS**

NEW DUAL VANE TECHNOLOGY

- Newly developed in-house dual vane technology is unique to Toshiba's twin rotary compressors
- New design minimises pressure losses between high and low pressure chambers increasing system efficiency, whilst further enhancing compressor reliability
- Brand new "Diamond Like Carbon Coating" ensures maximum operation without the fear of increased mechanical wear and tear

**THIS MEANS:
MAXIMISING EFFICIENCY, HIGHER RELIABILITY –
EVEN WHEN UNDER EXTREME CONDITIONS**



New dual vane and DLC technology ensures maximum performance and efficiency whilst ensuring Toshiba's legendary compressor reliability

2. INTELLIGENT FLOW TECHNOLOGY

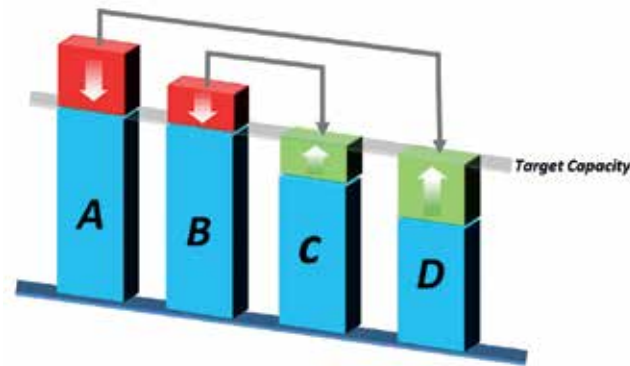
This unique control continually adjusts the operation of both indoor and outdoor units, based on the feedback from multiple sensors located throughout the system.

- Refrigerant flow to each indoor unit is precisely controlled by the outdoor unit, ensuring even distribution of capacity throughout the entire system.

- The evaporative and condensing temperature is continually adjusted automatically, to maintain an optimum indoor room temperature, regardless of the units load or its physical distance from the outdoor. This ensures optimum performance, whilst maximising system efficiency.



Excess capacity in units A & B can be re-distributed to units C & D, ensuring perfect operation throughout the entire system



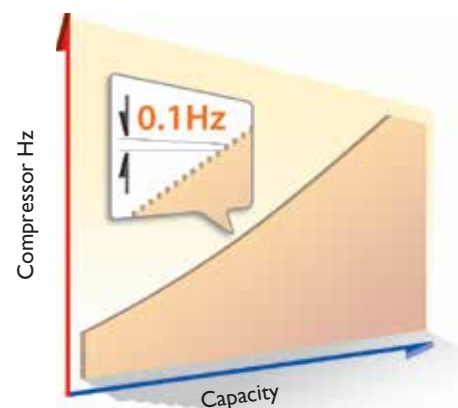
Toshiba's "IFT" technology ensures that any surplus capacity can be re-distributed in order to achieve the optimum performance and efficiency throughout the entire system"

This unique technology ensures that the flow of refrigerant to the FCU's is precisely proportional to the demand of each individual indoor unit and where demand exceeds the output of the CDU, the refrigerant is evenly distributed throughout the indoor network, ensuring stable capacity regardless of the unit location within the building.

THIS MEANS:
ALL YEAR ROUND COMFORT AND MAXIMUM ENERGY SAVINGS

3. INFINITE VARIABLE CONTROL

This feature has been continually evolved and developed, since its inception by Toshiba engineers back in 2004 with the original SMMS system. The control has the ability to adjust the compressor rotational speed in a near seamless 0.1Hz steps. This control when matched with Toshiba's newest and latest Twin Rotary compressors, allows the system to respond precisely to the capacity needs of the end user, whilst minimizing energy losses.



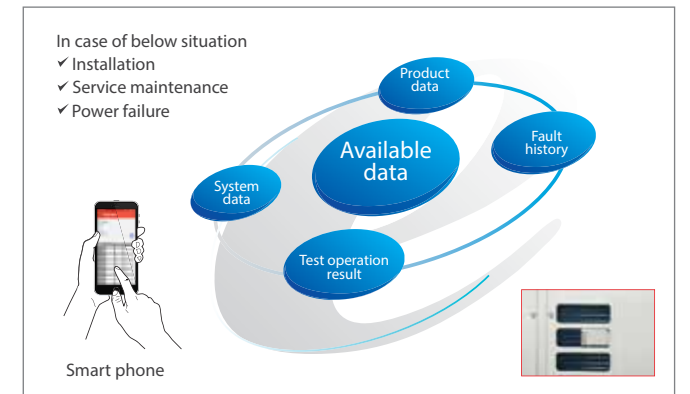
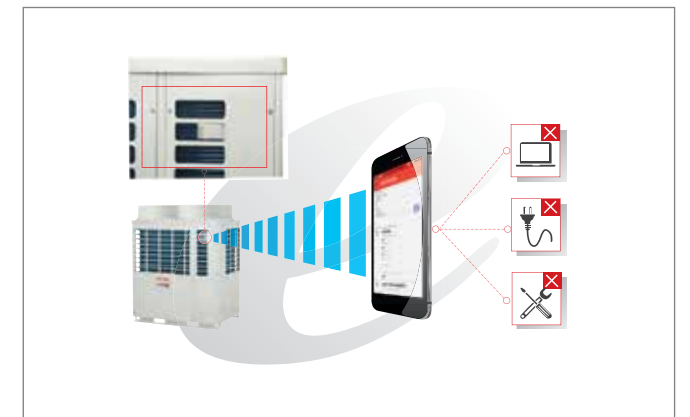
THIS MEANS:
MAXIMISED EFFICIENCY AND ENHANCED COMFORT THROUGH PRECISE CONTROL

4. WAVE TOOL

The SMMS-e Wave Tool allows the user to read and write data directly from the outdoor unit using only their smart phone. Therefore mitigating the need to connect a PC or gaining access to the control board of the outdoor unit.

This tool, will allow the service and commissioning engineer to instruct and obtain key system information. This will not only simplify the commissioning of the system and the amount of time spent on-site, but also allows the servicing engineer the ability to quickly and easily send key system data via e-mail back to the office for analysis.

- Safe and quick configuration of the system via an android compatible device
- No requirement to connect directly to the system
- Using Near Field Technology allows quick and wireless data transfer between two compatible devices
- Obtain product data, fault history, system data and test operation results via the unique monitoring function



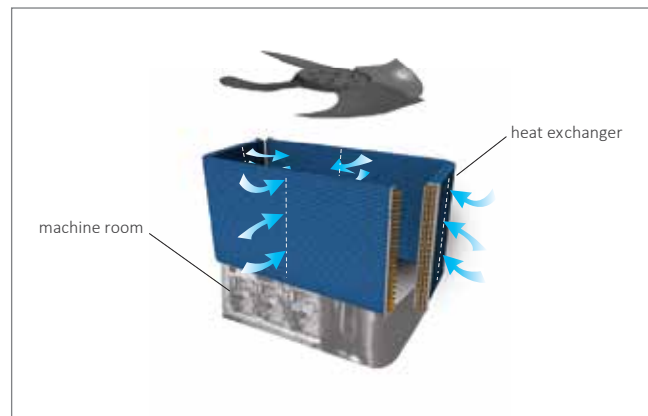
THIS MEANS:
A QUICK AND EFFICIENT WAY TO CONFIGURE, MONITOR AND SERVICE THE NEW SMMS-e SYSTEM



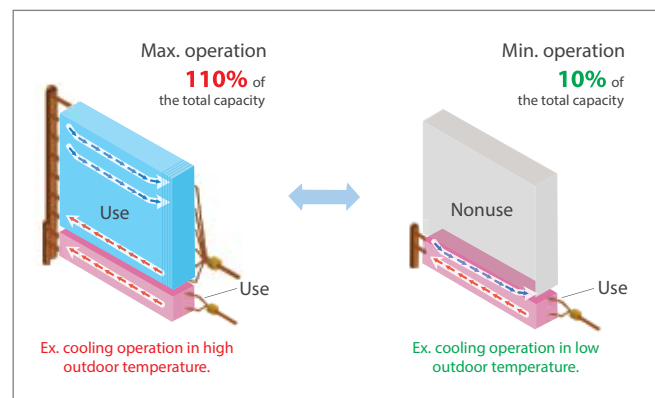
5. NEW INNOVATIVE HEAT EXCHANGER AND FAN BLADE DESIGN

NEW

- New 3-row heat exchanger design with reduced pipe size from 8 mm to 7 mm and an increase in the total number of passes, improves both system performance and efficiency
- 4-sided heat exchanger ensures maximum possible flow rate across the entire coil, maximizing system efficiency
- 3-way variable heat exchanger design, allows the CDU to select the most efficient heat exchanger size, which precisely matches the indoor capacity load
- New Sub cooling heat exchanger increase system operating performance and allows the total piping length to reach a total of 1,000 m



4-way heat exchanger realizing balanced airflow



Variable heat exchanger

THIS MEANS:
MORE EFFICIENCY, INCREASED ENERGY SAVINGS
AND USER COMFORT



Advanced blade shapes for a better air flow management

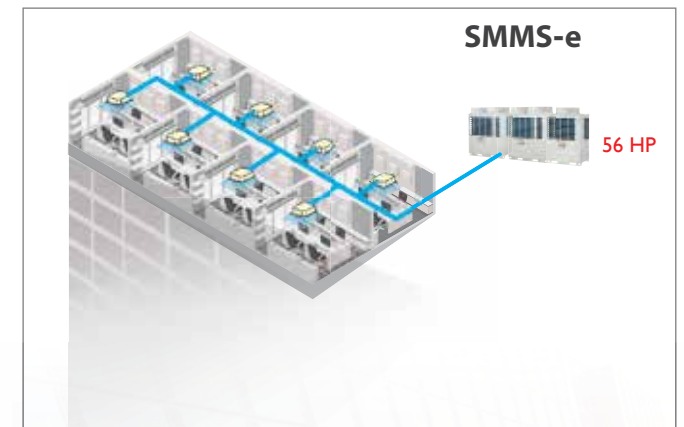
THIS MEANS:
QUIET OPERATION, MORE USER COMFORT
AND EFFICIENCY.

6. EXPANDED INSTALLATION FLEXIBILITY

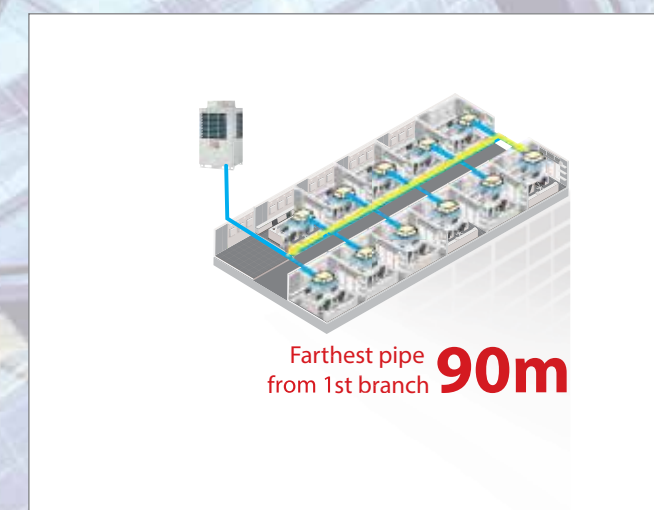
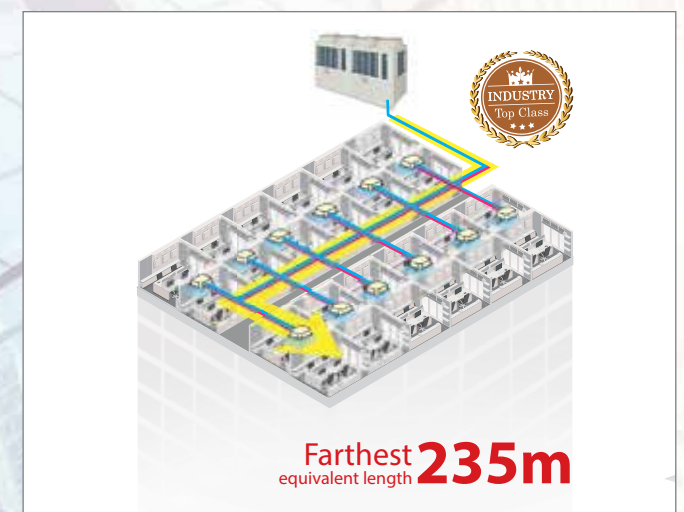
NEW

The new compact design of the Outdoor units gives increased performance that defies their compact module size. This delivers greater freedom in layout design and minimizes weight-related restrictions and allows for quicker installation.

- Very compact design with reduced footprint
- Capacity up to 20 HP can be covered with a single module, reducing pipe work and overall installation time
- Expanding the maximum combination up to 56 HP in one system, with up to 64 connectable indoor units
- Maximum piping length of 1,000 m, farthest equivalent length 235 m
- Maximum vertical distance between indoor units, which reaches up to 40 meters, equal to an entire 11-storied building



56 HP in one system, up to 64 connectable indoor units



7. “AIRS”....TOSHIBA’S NEW VRF DESIGN SOFTWARE

This new software “AIRS” has been completely redesigned to have a user friendly interface that allows the novice and expert users alike to create simple, yet detailed VRF system schematics



As well as standard PC packages, the “AIRS” software is also fully compatible with Surface Pro 2 & 3 Tablets and is Windows 7 and 8.1 compatible.

Depending on your client’s needs, the high level of versatility of the new software, allows the user to choose the level of detail required. From a simple refrigerant piping schematic, which can be used to give your customer a quick quotation, to the more complex designs, which require the clients own building floor plans to be imported into the software. The software also allows the user to specify the pricing strategy for each project and can create additional reports, including electrical wiring diagrams and all Central and BMS controls schematics. Once complete the user can then if required produce a professional report, summarising the project in detail, which can then be outputted to the client in a PDF format, for simple email transactions or to more complex files, such as AutoCAD DXF, allowing for quick and simple integration into your clients existing software packages.



THE ALL NEW SMMS-e OUTDOOR....
THE PERFECT BALANCE OF POWER AND CONTROL

								
Capacity		8HP	10HP	12HP	14HP	16HP	18HP	20HP
Model Name (MMY-)	50 Hz	MAP0806HT8P-ME	MAP1006HT8P-ME	MAP1206HT8P-ME	MAP1406HT8P-ME	MAP1606HT8P-ME	MAP1806HT8P-ME	MAP2006HT8P-ME
	60 Hz	MAP0806HT7P-ME	MAP1006HT7P-ME	MAP1206HT7P-ME	MAP1406HT7P-ME	MAP1606HT7P-ME	MAP1806HT7P-ME	MAP2006HT7P-ME
Cooling capacity*1 (kW)		22.4	28.0	33.5	40.0	45.0	50.4	56.0
Cooling capacity*2 (kW)		20.3	25.2	26.8	34.0	36.0	42.8	44.8
Heating capacity (kW)		25.0	31.5	37.5	45.0	50.0	56.0	63.0
No's of connectable Indoor units		13	16	20	23	27	30	33

								
Capacity		22HP	24HP	26HP	28HP	30HP	32HP	34HP
Model Name (MMY-)	50 Hz	AP2216HT8P-ME	AP2416HT8P-ME	AP2616HT8P-ME	AP2816HT8P-ME	AP3016HT8P-ME	AP3216HT8P-ME	AP3416HT8P-ME
	60 Hz	AP2216HT7P-ME	AP2416HT7P-ME	AP2616HT7P-ME	AP2816HT7P-ME	AP3016HT7P-ME	AP3216HT7P-ME	AP3416HT7P-ME
Units in combination (MMY-MAP)		1206HT8P-ME	1206HT7P-ME	1206HT8P-ME	1206HT7P-ME	1406HT8P-ME	1406HT7P-ME	1406HT8P-ME
		1006HT8P-ME	1006HT7P-ME	1206HT8P-ME	1206HT7P-ME	1206HT8P-ME	1206HT7P-ME	1406HT8P-ME
Cooling capacity*1 (kW)		61.5	67.0	73.5	80.0	85.0	90.0	95.4
Cooling capacity*2 (kW)		52.0	53.6	60.8	68.0	70.0	72.0	78.8
Heating capacity (kW)		69.0	75.0	82.5	90.0	95.0	100.0	106.0
No's of connectable Indoor units		37	40	43	47	50	54	57

								
Capacity		36HP	38HP	40HP	42HP	44HP	46HP	48HP
Model Name (MMY-)	50 Hz	AP3616HT8P-ME	AP3816HT8P-ME	AP4016HT8P-ME	AP4216HT8P-ME	AP4416HT8P-ME	AP4616HT8P-ME	AP4816HT8P-ME
	60 Hz	AP3616HT7P-ME	AP3816HT7P-ME	AP4016HT7P-ME	AP4216HT7P-ME	AP4416HT7P-ME	AP4616HT7P-ME	AP4816HT7P-ME
Units in combination (MMY-MAP)		1806HT8P-ME	1806HT7P-ME	2006HT8P-ME	2006HT7P-ME	2006HT8P-ME	2006HT7P-ME	2006HT8P-ME
		1806HT8P-ME	1806HT7P-ME	1806HT8P-ME	1806HT7P-ME	2006HT8P-ME	2006HT7P-ME	2006HT8P-ME
Cooling capacity*1 (kW)		100.8	106.4	112.0	120.0	125.0	130.0	135.0
Cooling capacity*2 (kW)		85.7	87.6	89.6	102.0	104.0	106.0	108.0
Heating capacity (kW)		112.0	119.0	126.0	135.0	140.0	145.0	150.0
No's of connectable Indoor units		60	64	64	64	64	64	64

					
Capacity		50HP	52HP	54HP	56HP
Model Name (MMY-)	50 Hz	AP5016HT8P-ME	AP5216HT8P-ME	AP5416HT8P-ME	AP5616HT8P-ME
	60 Hz	AP5016HT7P-ME	AP5216HT7P-ME	AP5416HT7P-ME	AP5616HT7P-ME
Units in combination (MMY-MAP)		1806HT8P-ME	1806HT7P-ME	2006HT8P-ME	2006HT7P-ME
		1606HT8P-ME	1606HT7P-ME	2006HT8P-ME	2006HT7P-ME
Cooling capacity*1 (kW)		140.4	145.8	152.0	157.0
Cooling capacity*2 (kW)		114.8	121.7	123.6	125.6
Heating capacity (kW)		156.0	162.0	171.0	176.0
No's of connectable Indoor units		64	64	64	64

* Power: 3-phase 50 Hz 400V (380 - 415V) / 3-phase 60 Hz 380V * The source voltage must not fluctuate more than ±10%.
* Rated conditions
*1 Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 35°C DB
Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB *2 Cooling: Indoor air temperature 27°C DB/19°C WB, outdoor air temperature 46°C DB
Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

MULTIPLE DESIGNS.....COMPLETE SOLUTION

Room temperature goes state-of-the-art, when delivered by SMMS-e. Be it a pleasing coolness in the height of summer or the cosy warmth in the chill of winter. SMMS-e creates a perfect environment that's conducive to people's inherent wellbeing. Regardless if the installation is in a busy shop, office or a tranquil country spa hotel, no other manufacturer offers such an extensive range of indoor units that can adjust and meet the most diverse of requirements. Consistently and creatively putting you where you need to be – in your comfort zone!

Indoor lineup

Type	kW HP	Cooling capacity														
		2.2 0.8	2.8 1.0	3.6 1.25	4.5 1.7	5.6 2.0	7.1 2.5	8.0 3.0	9.0 3.2	11.2 4.0	14.0 5.0	16.0 6.0	22.4 8.0	28.0 10.0		
4-way air discharge cassette type																
Compact 4-way cassette type (600 x 600)																
2-way air discharge cassette type																
2-way air discharge cassette type																
Slim duct type																
Concealed duct high static pressure type																
Concealed duct type																
Ceiling type																
High wall type Series 3																
High wall type Series 4																
Floor standing concealed type																
Floor standing cabinet type																
Console type																
Floor standing type																

Optional Accessories

DX Kit
Allows the connection of a 3rd party AHU to be connected to all Toshiba VRF product, including the new SMMS-e, using a locally supplied DX coil.



0 – 10V DX Interface Kit
Currently under development for SMMS-e, this new product when launched will provide the user with the ability to use a Building management system (BMS) to control the capacity, mode and operation of the system.



UPPING THE COMFORT LEVELS BY GETTING THE CONTROLS RIGHT

Comfort, economic efficiency and safety can be further maximised with modern control mechanisms. Whether wired or remotely controlled units, Web-based control devices or elegant touch screen systems, the important thing is to achieve the right temperature at the right time and at the right place! It's all about balance – and we've got it just right.

WIRED REMOTE CONTROLS

Lite-Vision Plus
RBC-AMS51E-ES, RBC-AMS51E-EN



Standard Remote Controller
RBC-AMT32E



Remote Controller with weekly timer
RBC-AMS41E



Simple wired remote controller
RBC-AS41E



CENTRAL CONTROLLERS

Central remote controller
BMS-CM1280TLE



Schedule Timer
TCB-EXS21TLE



ON-OFF controller
TCB-CCI63TLE2



BMS CONTROLLERS

Touch Screen controller
BMS-CT5120E



Smart BMS Manager
BMS-SM1280ETLE



WIRELESS REMOTE CONTROLS

INFRARED REMOTE CONTROL



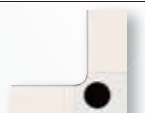
Receiver kit for the installation on the wall or ceiling.
TCB-AX32E2



Receiver kit to be installed directly in the frame of the indoor unit.
RBC-AX33CE



Receiver kit to be installed directly in the frame of the indoor unit.
RBC-AX32U(W)-E



Receiver kit to be installed directly in the frame of the indoor unit.
RBC-AX32UW(W)-E



CONNECTABLE OPEN NETWORK

BACnet®
BMS-IFBN640TLE
BMS-STBN10E: Software, BMS-LSV9E: Server



LonWORKS®
TCB-IFCN641TLE



Modbus®
TCB-IFMB641TLE



KNX®

