



TOSHIBA SOLUTIONS

Toshiba was the first company to incorporate inverter technology into air conditioning systems in 1981 and since then, it has maintained the technological advancements over the course of time.

The development of the exclusive Triple Rotary Compressor system has re-affirmed the ability to innovate and maintain technological leadership in a very crowded market. For Toshiba, innovation also means a strong commitment to international institutions that carefully evaluate the impact of new technologies on our environment.

Toshiba combines technological development with care for future generations - the result is a range of energy-efficient air conditioners that contribute to reducing greenhouse gas emissions.

TOSHIBA HISTORY

Toshiba produced its first air conditioning units in the 1950s, and immediately worked on introducing improvements. Its role as an innovator continued with the introduction of the rotary compressor and electric controls.

By the 1980s with a broad product offering, Toshiba was the first to introduce the inverter driven unit [1981] and the twin rotary compressor [1988].

In 1990, Toshiba again led the industry with the launch of its product range operating with nonozone depleting refrigerants [R-410a].

Toshiba's spirit of innovation continues with its relentless drive for product and system improvements.

EXPERIENCE THE FUTURE

The expectations of a modern air conditioning system have evolved over the past years. Today, advanced comfort goes hand in hand with reduced energy and maintenance costs, combined with maximised simplicity and true operational flexibility. SMMS-u associates all of Toshiba's innovative spirit and outstanding expertise to create highly efficient solutions with maximum end user comfort at its core.

Brilliant flexibility and connectivity

Universal

Industry recognised performance and efficiency



Integrated solutions and upgradability

Unrivalled

Usability



Benefits for Consultants

Customisation

SMMS-u offers unlimited possibilities with its wide range of indoor units, ensuring the client's requirements are fully addressed.

Control

Fully integrated controls available, allowing unlimited access to the system and its operation.

Flexibility

A high degree of system flexibility, aided by a fully flexible piping specification and an extremely compact outdoor design.



Benefits for Users

Comfort

Each indoor unit can be individually controlled, allowing you to condition only those rooms that need heating or cooling

Efficiency

Low operating costs thanks to high levels of efficiency via optimal load adjustments.

Reliability

Hassle-free operation based upon decades of experience and intensive testing for all systems.



Benefits for Installers

Simple One supplier, one point of contact for a total solution.

Versatile Maximised installation flexibility.

Convenient

Easy access for all service and maintenance needs.

Professional

Intensive training and instructions offered by local TOSHIBA experts.

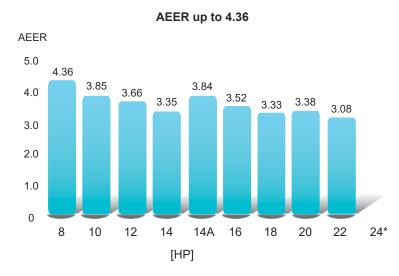
A BRAND NEW CHASSIS

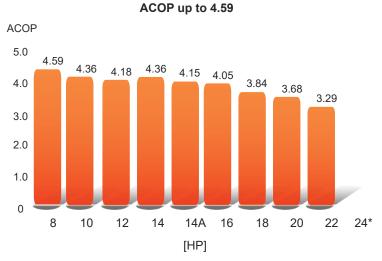
Discover a totally new redesigned chassis which is now the perfect mix between dimension, efficiency, capacity & sound level. Engineered in Japan, SMMS-u integrates all the latest technological innovations from Toshiba to achieve top class efficiency and ensures unrivalled comfort levels.



TOP CLASS EFFICIENCY

Utilising the new highly efficient core technologies results in greater energy efficiency and performances.





*24HP: This product will be compiled with GEMS [MEPS] 2020 edition starting from April 2022



FLEXIBLE CONNECTIVITY

SMMS-u oversteps all the limits of VRF for maximised project coverage. Whatever the piping length, the height difference, the number of indoors connected and operating - SMMS-u is always delivering the best.



FLEXIBLE FREE COMBINATION

Standard (Space-Saving) Capacity Cooling: 123.0kW Heating: 132.0kW Efficiency Cooling: 3.18 Heating: 3.72 Width: 2.600 mm Increased Heating Capacity Cooling: 123.0kW Capacity Heating: 138.0kW Efficiency Cooling: 3.19 Heating: 3.41 Width: 2,600 mm Max. Highest Efficiency Capacity Cooling: 123.1kW Heating: 137.5 Efficiency Cooling: 4.40 Heating: 4.74

Width: 5,030 mm

Never be restricted with size, capacity or configuration, SMMS-u offers free combination with a total of 3,000 combination patterns being available to suit any site requirements.

Capacity	Cooling: 123.0kW Heating: 132.0kW		
Efficiency	Cooling: 3.38 Heating: 4.04		
	Width: 3,310 mm		
Balance (I	Moderate)		
Balance (I Capacity	Moderate) Cooling: 123.0kW Heating: 137.5kW	-	
	Cooling: 123.0kW		
Capacity	Cooling: 123.0kW Heating: 137.5kW Cooling: 3.71		

Balance E	
Capacity	Cooling: 123.0kW
	Heating: 138.0kW
Efficiency	Cooling: 3.93
	Heating: 4.48
	Width: 4,020 mm



UNIQUE ON THE MARKET: TRIPLE ROTARY COMPRESSOR

The exclusive Toshiba Triple Rotary compressor brings outstanding performance to SMMS-u without compromising on system reliability.

DLC Treatment

Toshiba's Diamond Like Carbon coating technology is unique to Toshiba VRF compressors.

It covers the wear surfaces on compression vanes for outstanding hardness and wear resistance, enhancing both the compressor's performance and durability.

Triple Rotary Compressor

The advanced technology used within SMMS-u results in a robust and durable system. The innovations made with Toshiba triple rotary compressor delivers an even stronger and more reliable system.





Large capacity





Low required refrigerant



Low vibration



DLC Treatment [Diamond Like Carbon]

STRONG ADAPTABILITY

SMMS-u integrates new features to adapt operations to local constraints with a constant target: the alliance of comfort and energy savings.



Split heat exchanger

Heat Exchanger automatically varies depending on workload, maximising energy savings and system reliability.



Autobackup function

Automatic backup in case of combinations systems failure.



Balance oil circuit free

No oil balance pipe needed with the new lubrication technology.



Rotation drive

Smart control to automatically equalize compressor operating hours.



Demand control

Smart control to automatically equalize compressor operating hours.



COMFORT ABOVE ALL

Providing end user high level of comfort is the SMMS-u priority. In addition to a wide range of indoor units adapted to any kind of room configuration, defrost logic has also evolved to increase continuous run time, shorten defrost cycles. Toshiba is offering one of the most accurate refrigerant flow management systems.

INTELLIGENT DEFROST

SMMS-u can maximise heating capacity by improved new heating operation and defrost operation.

Individual defrost: continuous heating up to 5 hours.

Kobestu

Newly developed modular defrosting system. This new control can be utilised in modular systems only.

This new control utilises the advantages of the Toshiba rotary compressor, by varying the compression ratio between the two compressors in each of the outdoors to create a two-stage defrosting control.

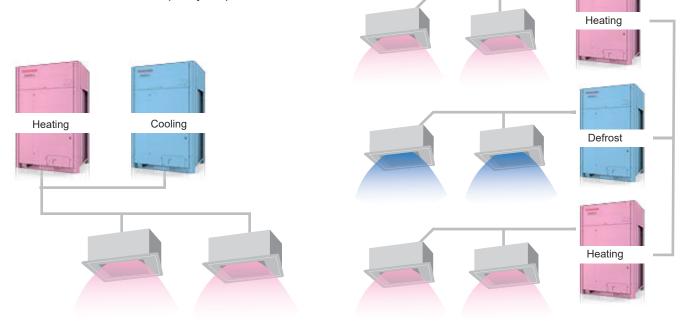
The benefits of this control can be split between decreasing the time the outdoor is in defrost and the ability to continue to supply refrigerant to the indoor units, allowing the fans to continue to run in heating operation, albeit at a reduced capacity output.



Renkey

This new control has been designed to manage the defrosting pattern for outdoors that utilises individual refrigeration systems, but in a group setup via the new Uh protocol or via a BMS system.

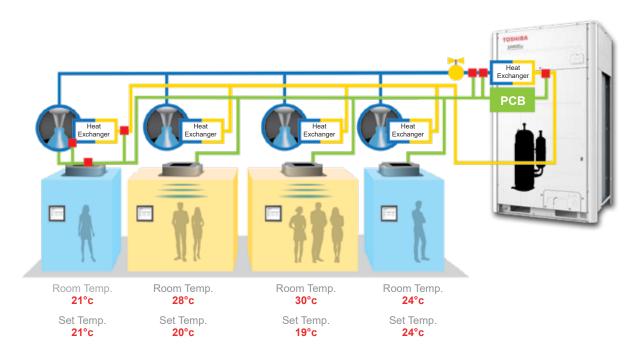
Utilising the new Uh protocol, the header unit is able to control all the other units to ensure the units will defrost separately, via time shift. This control ensures the building will receive a continuous heating supply, even when one system is in defrost.



INTELLIGENT VRF CONTROL

Mixing 0.1Hz compressor speed control with high precision pulse motor valve, SMMS-u delivers the right quantity of refrigerant to all indoor units in demand.

The advanced intelligent VRF control continually adjusts the operation of both indoor and outdoor units, based on the feedback from multiple sensors.



DESIGN ENHANCEMENTS

SMMS-u introduces an all-new refrigeration circuit design. This new design has been developed to take advantages of the multiple enhancements that have been made to the SMMS-u design.

New Heat Exchanger

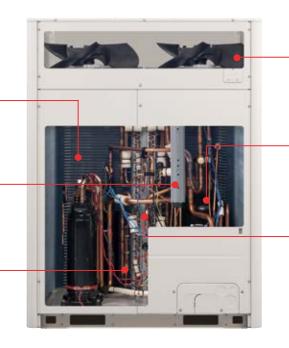
- Double design for 8HP to 14HP
 & 16HP
- Triple design for 16HP to 24HP

New Inverter IPDU Cooling

- · Direct feed from the condenser
- New Liquid Tank Removal

 New Refrigeration distribution

control



- New Fan Propeller Design
- Maximise Air Flow
- · Increased static pressure [80Pa]

New Accumulator

- Reduction in pressure drop
- New Oil / Refrigerant pipe design

New Oil Management Control

- New Oil circuit design
- New Oil level detection control
- New Oil dilution detection control
- New Smart oil flow control
- Oil balance line between outdoors
 removed



WIDEST INDOOR UNIT RANGE

DX-Coil Controller & DX-Valve Kit TCB-IFD_1E & RBM-A_1VAE To compliment SMMS-u, Toshiba offers an array of indoor unit types, ensuring comfortable airflow in every space.

- 19 different indoor unit types
- 20 capacities from 0.3HP to 20HP



CONTROLS AT YOUR **FINGERTIPS**





WIRELESS REMOTE CONTROLLER KIT **RBC-AXU31-E**

Wireless remote controller with a standalone discreet receiver, making it easily accessible with added flexibility of placement.

FUNCTIONS:

- Easy to use controller
- Start / Stop
- . Operational mode change
- Temperature setting
- Air flow changing
- . Timer function
- Check code display



BACKLIT WIRED CONTROLLER

RBC-AMSU51-ES

The ultimate in local controller with built in 7-day timer, large screen and menu.

FUNCTIONS:

- On / Off
- Operation mode
- . Dual set point
- . Fan speed
- . Louvres
- Return back
- Energy savings
- Frost protection
- Soft cooling
- Leak detection Fault codes

Toshiba offers a large choice of control solutions, all compatible with the NEW TU2C Link protocol. SMMS-u is also compatible with BACnet®, LonWorks® and Modbus® BMS languages.



COMPACT WIRED CONTROLLER **RBC-ASCU11-E**

Back to basics with this remote controller offering all the standard functionalities with compact dimensions and a large screen.

FUNCTIONS:

- On / Off
- Operation mode
- Temperature setting
- Fan speed
- Louvres
- Fault codes
- Unit setup



STANDARD WIRED CONTROLLER **RBC-AMTU31-E**

The standard remote controller to control an individual indoor unit or a group of 8 indoor units.

FUNCTIONS:

- On / Off
- Operation mode
- Temperature setting
- Fan speed
- Louvres
- Fault codes
- Unit setup
- Button restrictions



64 CENTRAL CONTROLLER

TCB-SC640U-E

This standard central controller allows easy control and simple monitoring for up to 64 indoor units through its easy touch panel operation.

FUNCTIONS:

- Full control of up to of 64 units
- Individual indoor unit, group [up to 10 groups]
- Simple and intuitive interface with user friendly menus
- 24.6 (8) 24.6 (8) 24.6 (8) 24.6 (9) ACOM ACOM 21.6 (8) 24.6 (8) 24.6 (9 On / Off, operation mode, temperature, fan speed
- Large backlit display
- Touch-sensitive keys
- Embedded digital outputs



ADVANCED CONTROLS

A range of intuitive central controllers are available where air conditioners are required to be monitored or controlled from a central or remote location.



128 SMART MANAGER

BMS-SM1281ETLE

This Smart Manager has the ability to control from a local area network with dedicated interface accessible from every web browser.

FUNCTIONS:

- On / Off
- Temperature setting
- Error display
- Schedule timer
- Web connection
- Energy monitoring
- Error information transfer function by E-mail



512 TOUCH SCREEN CONTROLLER

BMS-CT5121E

Ideal controller to suit commercial applications such as offices, hospitals, retirement villages, hotels etc. where energy monitoring functions are required.

FUNCTIONS:

- Full control of max 512 indoor units
- 12.1' Large coloured touch screen
- Quick and accurate view of indoor unit's status
- Floor, building, tenant and system overview
- Built-in web browser
- Weekly timer [up to 20 programs per day]
- Energy monitoring with graph view operating hours, set point, inside/outside temperature and power consumption
- E-mail alert



256 TOUCH SCREEN CONTROLLER

BMS-CT2560U-E

This controller is ideally suited to any small or large installation where energy monitoring functions are required.

FUNCTIONS:

- Full control of maximum 256 units
- 7' Colour touch screen
- Intuitive navigation
- Advanced scheduling of indoor and outdoor units
- Energy monitoring with or without power meter
- Embedded input and output
- Dedicated fault code menu with email transfer capability



SMART DEVICE CONTROL [WIFI]

BMS-IWF0320E

A versatile interface for Toshiba light commercial and VRF air conditioning units that enables WiFi connection.

FUNCTIONS:

- Remote access via app on a smart device
- On / Off
- Temperature setting
- Fan speed
- Timer function
- Schedule function
- Energy save function
- Permit / Prohibit function
- Error display
- Room temperature monitoring

COMMISSIONING AND MAINTENANCE

Save time during commissioning and maintenance. Choose between the "Wave Tool Advance" using Smartphone NFC connection or the link adaptor connected to the outdoor or indoor unit.



Wave Tool Advance (WTA)

With the introduction of SMMS-u, there has been fundamental changes made to the diagnostic controls, allowing engineers to record, diagnose and interrogate the system.

In keeping with the previous generation, the SMMS-u comes with a new version of wave tool - Wave Tool Advanced. The enhancement sees the increase in functionality of the NFC Android App, allowing additional information to be collected and analysed on-site or in the office.

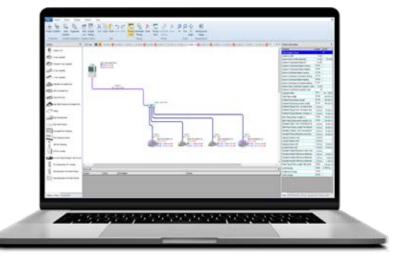
New Link Adaptor

The new link adaptor comes with an 8GB microSD card fitted, allowing service personnel to make long term refrigeration cycle recordings of the system (up to 1 month), making it ideal for installations where intermittent issues have been reported.



TOSHIBA SELECTION TOOL

Designed for novice and expert users, Toshiba selection software creates simple, yet detailed VRF system schematics. It is highly versatile, allowing the level of detail to be tailored to suit customer requirements.



JOINTS AND ACCESSORIES

	Name	Model Name	Capacity	Remarks
		RBM-BY55E	under 6.4hp	
		RBM-BY105E	from 6.4 to 14.2hp	
	Y-shape branching joint	RBM-BY205E	from 14.2 to 25.2hp	
		RBM-BY305E	from 25.2 to 61.2hp	
		RBM-BY405E	61.2hp or more	
Branching joints and headers	4-branching header	RBM-HY1043E	under 14.2hp	
		RBM-HY2043E	from 14.2 to 25.2hp	
	8-branching header	RBM-HY1083E	under 14.2hp	
	o-branching neader	RBM-HY2083E	from 14.2 to 25.2hp	
	Branching joint for connection of outdoor units	RBM-BT14E	under 26hp	
		RBM-BT24E	from 26hp to 46hp	
		RBM-BT34E	46hp or more	
Optional PCB for Outdoor unit	Power peak-cut control board	TCB-PCDM4E		 Limit capacity of the VRF outdoor unit at 85%, 75%, 70% or 60% Load or stop Dry contact
	External master ON/OFF control board	TCB-PCMO4E		Dry Contact
	Output control board	TCB-PCIN4E		 Operation ouput: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error occurs on one of the indoor or outdoor units in the system. Dry contact

OUTDOOR UNIT

SMMSu Performances

Name	MMY-		MUP0801HT8P-A	MUP1001HT8P-A	MUP1201HT8P-A	MUP1401HT8P-A	MUP14A1HT8P-A
			8HP	10HP	12HP	14HP	14HP
Cooling capacity	kW		22.4	28.0	33.5	40.0	40.0
Power input	kW	С	4.81	6.90	8.73	11.46	9.94
EER	kW		4.66	4.06	3.84	3.49	4.02
Running current	A	С	7.80	11.1	13.5	17.8	15.4
Heating capacity	kW		25.0	31.5	37.5	40.0	45.0
Power input	kW	Н	5.12	6.86	8.55	8.69	10.35
COP	kW		4.88	4.59	4.39	4.60	4.35
Running current	A	Н	8.30	11.0	13.3	13.5	16.1
Maximum overcurrent protection	A		20	32	32	40	40

SMMSu Physical Data

Name	MMY-	MUP0801HT8P-A	MUP1001HT8P-A	MUP1201HT8P-A	MUP1401HT8P-A	MUP14A1HT8P-A
Air flow	l/s	2750	2916	3250	3300	3833
Sound power level	dB(A) C	75.0	77.0	79.0	79.0	81.0
Sound pressure level	dB(A) C	53.0	55.0	58.0	58.0	58.0
Sound power level	dB(A) H	76.0	77.0	81.0	82.0	83.0
Sound pressure level	dB(A) H	56.0	58.0	62.0	62.0	62.0
External Static Pressure	Pa	80	80	80	80	80
Dimensions (H x W x D)	mm	1690 x 990 x 780	1690 x 1290 x 780			
Weight	kW	228	228	228	228	312
Compressor type		Hermetic Twin Rotary	Hermetic Twin Rotary	Hermetic Twin Rotary	Hermetic Twin Rotary	Hermetic Triple Rotary
Refrigerant charge R410a	kg H	6.0	6.0	6.0	6.0	9.0
Gas line type & diameter		Brazed - 3/4"	Brazed - 7/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"
Liquid line type & diameter	A F	Brazed - 1/2"	Brazed - 1/2"	Brazed - 1/2"	Brazed - 5/8"	Brazed - 5/8"
Farthest piping equivalent length	m	210	210	210	210	210
Farthest piping real length	m	190	190	190	190	190
Maximum total extension of piping length	m	500	500	500	500	500
Maximum lift (indoor unit above / below) ^{*1}	m	40 / 110	40 / 110	40 / 110	40 / 110	40 / 110
Operating range - DB	°C (-5 ~ 52	-5 ~ 52	-5 ~ 52	-5 ~ 52	-5 ~ 52
Operating range - WB	°C H	-25 ~ 15.5	-25 ~ 15.5	-25 ~ 15.5	-25 ~ 15.5	-25 ~ 15.5
Power supply	V-Ph-Hz	400(380/415)-3-50	400(380/415)-3-50	400(380/415)-3-50	400(380/415)-3-50	400(380/415)-3-50

C: Cooling mode | H: Heating mode

*1: Refer to the Engineering Databook for details for details on these conditions and requirements.

 Rate conditions:
 Cooling: Indoor 27 °C Dry Bulb / 19 °C Wet Bulb, Outdoor 35 °C Dry Bulb.

 Heating: Indoor 20 °C Dry Bulb, Outdoor 7 °C Dry Bulb / 6 °C Wet Bulb.

 Base on equivalent piping length of 7.5m and piping height difference of 0m.

SMMSu Performances

Name	MMY-		MUP1601HT8P-A	MUP1801HT8P-A	MUP2001HT8P-A	MUP2201HT8P-A	MUP2401HT8P-A
			16HP	18HP	20HP	22HP	24HP
Cooling capacity	kW		45.0	50.4	56.0	61.5	67.0
Power input	kW	С	12.26	14.59	16.00	19.25	22.64
EER	kW		3.67	3.45	3.50	3.19	2.96
Running current	A	С	18.8	22.4	24.6	29.6	34.8
Heating capacity	kW		50.0	56.0	63.0	69.0	69.0
Power input	kW	Н	11.83	14.04	16.57	20.25	18.93
COP	kW		4.23	3.99	3.80	3.41	3.65
Running current	A	Н	18.2	21.6	25.4	31.1	29.1
Maximum overcurrent protection	A		40	50	50	63	80

SMMSu Physical Data

Name	MMY-	MUP1601HT8P-A	MUP1801HT8P-A	MUP2001HT8P-A	MUP2201HT8P-A	MUP2401HT8P-A
Air flow	l/s	4250	4666	4416	4583	4583
Sound power level	dB(A)	83.0	84.0	86.0	86.0	86.0
Sound pressure level	dB(A)	60.0	61.0	63.0	63.0	63.0
Sound power level	dB(A) I	86.0	89.0	90.0	90.0	90.0
Sound pressure level	dB(A) I	63.0	67.0	67.0	67.0	67.0
External Static Pressure	Ра	80	80	80	80	80
Dimensions (H x W x D)	mm	1690 x 1290 x 780	1690 x 1290 x 780	1690 x 1290 x 780	1690 x 1290 x 780	1690 x 1290 x 780
Weight	kW	312	312	334	356	356
Compressor type		Hermetic Triple Rotary	Hermetic Triple Rotary	Hermetic Triple Rotary	Hermetic Twin Rotary	Hermetic Twin Rotary
Refrigerant charge R410a	kg	H 9.0	9.0	9.0	9.0	9.0
Gas line type & diameter		Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-1/8"	Brazed - 1-3/8"
Liquid line type & diameter	A	Brazed - 5/8"	Brazed - 5/8"	Brazed - 5/8"	Brazed - 3/4"	Brazed - 3/4"
Farthest piping equivalent length	m	210	210	210	210	210
Farthest piping real length	m	190	190	190	190	190
Maximum total extension of piping length	m	500	500	500	500	500
Maximum lift (indoor unit above / below) ^{*1}	m	40 / 110	40 / 110	40 / 110	40 / 110	40 / 110
Operating range - DB	°C	-5 ~ 52	-5 ~ 52	-5 ~ 52	-5 ~ 52	-5 ~ 52
Operating range - WB	°C	l -25 ~ 15.5	-25 ~ 15.5	-25 ~ 15.5	-25 ~ 15.5	-25 ~ 15.5
Power supply	V-Ph-H	400(380/415)-3-50	400(380/415)-3-50	400(380/415)-3-50	400(380/415)-3-50	400(380/415)-3-50

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 Cooling: Indoor 27 °C Dry Bulb / 19 °C Wet Bulb, Outdoor 35 °C Dry Bulb.

 Heating: Indoor 20 °C Dry Bulb, Outdoor 7 °C Dry Bulb / 6 °C Wet Bulb.
 Base on equivalent piping length of 7.5m and piping height difference of 0m.



Toshiba is committed to continuously improving its product to ensure the highest quality and reliability standards are met, and to meet local regulations and market requirements.

The specifications on this document may change without notice to allow Toshiba to incorporate the latest products and innovations for its customers. The information contained in this brochure are merely informative, they are not intended to be used in place of the Engineering or Installation Manuals.

Cooling and heating capacities mentioned for the products are nominal capacities at standard operating conditions.

All images provided in this document are used for illustration purposes only.

Equipment rates in accordance with MEPS GEMS 2019 Determination.

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ISO 9001 QMS18026/1686 ISO 14001 EMS18012/471 ISO 45001 OHSMS19061/078



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