

TOSHIBA

HIGHER
quality in
LIFE



**TOSHIBA RAV
LIGHT BUSINESS**

Air conditioning solutions for small
and medium-sized applications

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THE IDEAL CLIMATE
FOR YOUR BUSINESS
APPLICATIONS

GOOD REASONS FOR CHOOSING TOSHIBA

TOSHIBA air conditioning systems combine many benefits in a single unit. They can be used for heating, dehumidifying, and filtering the air as well as for cooling. Apart from versatility, the most decisive criterion is that it improves the working climate.

Did you know that you become much less efficient when the indoor air temperature rises above 24°C? And at 33°C efficiency levels drop to below 50%. Too much humidity in the air also affects your ability to concentrate. **TOSHIBA air-conditioning systems ensure an optimal room climate** and prevent a drop in work performance due to heat.



COOLING & HEATING: Maintaining efficiency

On hot days, performance and concentration have been proven to decrease – for both physical and intellectual activities. This can negatively impact work output by up to 70%. All TOSHIBA systems are also able to provide heat, thus maintaining ideal office temperatures of between 19 and 25°C at a humidity level of between 40 and 70%.



DEHUMIDIFICATION: Ensuring quality of work

Humid air in a room is harmful both to health and to the fabric of the building. If the air is hot and sticky it becomes harder to breathe, the body is less able to cope, and employee efficiency drops. High humidity also encourages mold build-up in rooms.

Air conditioning systems dehumidify and regulate the humidity.





PURIFICATION: Protecting health

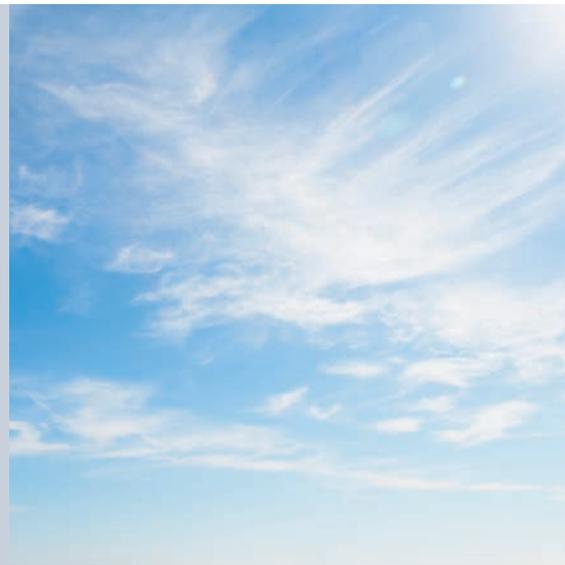
In addition to the fine dust, pollen and spores that are normally present, many construction materials, wall paints, plastic objects, and electrical devices can give off harmful substances into the air we breathe. The many different and highly effective filters in TOSHIBA air conditioning systems can neutralize up to 99% of air pollution, thus helping to protect health.



VENTILATION: Creating a comfortable climate

With most split air conditioning systems, fresh air can be brought into the conditioned room via an additional fresh air supply port.

This increases indoor air quality and ensures comfort, well-being and human performance.



THE **TOSHIBA** PROMISE

> Durability

TOSHIBA air conditioning systems are based on robust and mature technology which offers outstanding durability with above-average service lives, leaving your business with an excellent indoor climate for the long term.

> Flexibility

Space-saving outdoor units, a large selection of indoor units, and adaptable installation options afford maximum system flexibility.

> Energy efficiency

Modern air conditioning systems that are correctly dimensioned and expertly adjusted consume very little power and achieve peak efficiency values in absolute terms.

> 24-hour continuous operation

TOSHIBA commercial systems are suitable for continuous use in rooms with sensitive technology and ensure consistent room temperatures.

> Reliability

TOSHIBA stands for the highest quality and fault-free operation.

> Broad operating range

Innovative technology allows the units to be used in outdoor air temperatures ranging from -25 to +52°C. The system can thus be used in heating and cooling mode all year round.

VERSATILITY IN USE

A top-class air conditioning system is free from drafts, works silently, and offers trouble-free and fault-free operation. The energy consumption remains within limits, and there are no aesthetic or technical restrictions in terms of design.

VERSATILITY...

...for owners

TOSHIBA systems are compatible with all standard building control systems that adapt central controls to your needs, and are designed to provide maximum efficiency. An extensive network of partners is available to you from the design stage right through to maintenance.

...for users

The room temperature and air flow of TOSHIBA units can be regulated individually and flexibly. The sophisticated indoor units are practically inaudible and the simple structure of the remote controls makes them straightforward to use.



THE BENEFITS OF TOSHIBA TECHNOLOGY

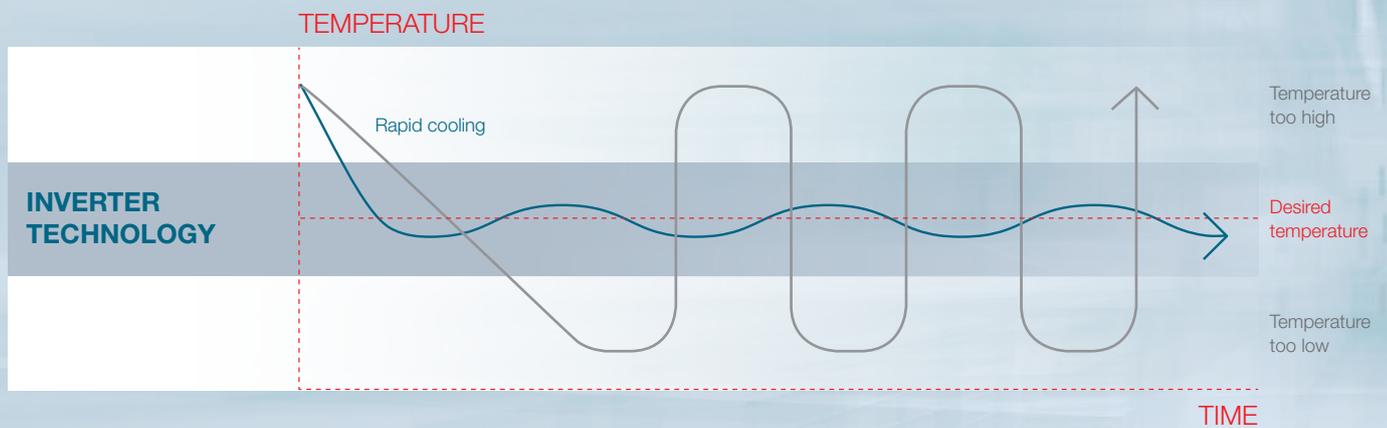
Inverter technology

An inverter air conditioner raises or lowers the temperature in the room by automatically changing the compressor speed. When the room has been sufficiently cooled or heated as required, the inverter automatically reduces the speed of the compressor. This both saves energy and reduces temperature fluctuations in the room.

Regulation of the compressor speed ensures that the output is limited to only what is necessary. Since the compressor is not constantly switched on and off, the service life of the air conditioner is also extended.

In 1981, TOSHIBA was the first manufacturer to market air conditioners with inverter technology.

Since then, the technology has been continuously refined and improved.



*The TOSHIBA inverter control uses two different drive modes for the compressor. Either **pulse width modulation** (high efficiency / PWM) is used for very efficient operation in the part load range, or **pulse height modulation** (high power / PAM) is applied to ensure that the set temperature is quickly reached.



Quiet and durable

At the heart of the TOSHIBA twin-rotary compressor are two disks rotating in opposite directions. The resulting maximum mechanical

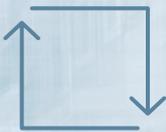
stability with minimal vibration guarantees that TOSHIBA units are both quiet and durable.



Consistent temperature

The TOSHIBA inverter system with its intelligent control constantly regulates the modulation width between 20 and 100 %.

This generates a consistent temperature so you don't have to keep switching the unit on and off.



Automatic mode change

If the desired temperature value needs to be reached quickly, PAM* mode is activated – "High Power" is required here. Once the value is

reached, it is maintained with the lowest possible energy consumption (PWM* mode).



Variable control

The speed of the compressor and thus the power of the unit is practically infinitely variable in increments of 0.1 Hz.

This allows for precise settings to be made and for energy to be used in the most efficient manner.



Individual settings

Special modes such as "Soft Cooling" or "Dual Setpoint" promise unlimited comfort. Whether for

convenience or efficiency, functions on TOSHIBA units are easy to control.

SMALL, BIG, OR BIGGEST.

TOSHIBA commercial applications are available in two systems: **a single-room solution (RAV)** with up to four indoor units in a temperature zone and a **multi-room solution (VRF)** for large buildings with virtually unlimited combinations of indoor units and temperature zones.

Single-room solution – RAV

The single-room solution is suitable for smaller commercial applications, such as offices, shop floors, or plant rooms, where reliability is paramount and continuous operation is needed. Up to four indoor units of the same design can be connected to an outdoor unit. The nominal cooling capacity is between 2.5kW and 23kW.



Advantages of the single-room solution

➤ Versatile

The units can be used from the smallest server room through to large shop floors.

➤ Up to four indoor units

Several indoor units can be combined for optimum air distribution.

➤ Cooling or heating

The system cools or heats the room as desired, so it can be operated all year round.

➤ 24-hour continuous operation

Plant rooms, storerooms, or laboratories demand a precisely defined indoor climate all year round.

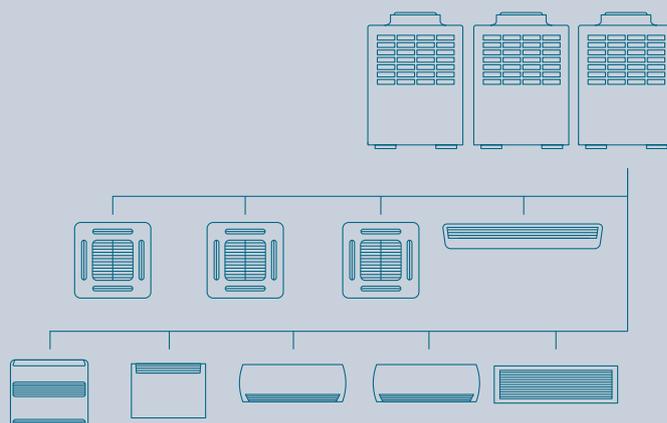
The following pages contain detailed product information.



Offices and computer rooms at Windmühlgasse, Vienna, Klimatech Handels- und Service GmbH

Multi-room solution – VRF

Air conditioning systems for complex installations in large structures, such as office buildings, shopping centers, or hotels. This system offers maximum flexibility. Up to 128 indoor units can be combined in one refrigeration cycle. The nominal cooling capacity is up to 355 kW per refrigeration cycle.



Advantages of the multi-room solution

➤ Maximum system flexibility

An overall pipe length of up to 1,200m and a height difference of up to 110m leave nothing to be desired.

➤ Up to 128 indoor units

Up to 128 indoor units are integrated into one refrigeration cycle. Several refrigeration cycles can be combined.

➤ Heating and cooling at the same time

Independent cooling and heating is possible at the same time in different rooms or areas of buildings using a 3-pipe system.

➤ Heat recovery

The thermal energy absorbed from one area of the building can be made available for heating other rooms with virtually no heat loss.

You will find more detailed information about the TOSHIBA VRF solutions in the TOSHIBA Business brochure and/or please contact one of our specialist partners.

SINGLE-ROOM INDOOR UNITS



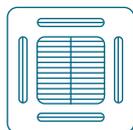
HIGH-WALL UNITS

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CEILING UNIT

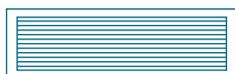
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CASSETTE UNITS

60×60 slim cassette
Smart cassette
4-way standard cassette
1-way flat cassette

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DUCT UNITS

Slim duct unit
Standard duct unit
High-pressure duct unit

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FLOOR STANDING UNIT

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SPECIAL SOLUTIONS

Air curtain
Exhaust air direct expansion kit
Direct expansion kit 0 – 10 V

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Measuring conditions for TOSHIBA air conditioners

Cooling: Outdoor temperature: +35°C dry bulb temperature
Indoor air temperature: +27°C dry bulb temperature / +19°C wet bulb temperature
Humidity: 50 – 55% relative humidity

Heating: Outdoor temperature: +7°C dry bulb temperature / +6°C wet bulb temperature
Indoor temperature: +20°C dry bulb temperature
No difference in height between indoor and outdoor unit

Sound pressure level: Measured at 1 m distance from the indoor unit (1.5 m for cassette and duct units), or 1 m distance from the outdoor unit.
Values are determined in an anechoic chamber as defined in JIS B8616;
These values can be higher in the installed state since they are influenced by external factors.



High-wall units

Efficient and easy to integrate

With their unobtrusive design, these high-wall units fit into offices, shops, hotels, utility rooms, restaurants, and more. A 5-speed fan and generously-sized louver ensure quiet and effective operation with optimum air distribution. The self-cleaning function fully dries the heat exchanger after operation has ended, and ensures hygienic operation in combination with the easy-clean dust filter. An infrared remote control is supplied as standard.

High-wall units 2.5 – 8 kW

➤ **Comfort allrounder**



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-HM301KRTP-E	2,50	3,40	A++	29/34/40	450/540/670	293 x 798 x 230
RAV-HM401KRTP-E	3,60	4,00	A++	30/36/41	450/580/700	293 x 798 x 230
RAV-HM561KRTP-E	5,00	5,30	A++	35/39/42	680/ - /960	320 x 1050 x 250
RAV-RM801KRTP-E* RAV-HM801KRTP-E	6,70	7,70	A+	35/41/45	680/910/1040	320 x 1050 x 250
RAV-GM901KRTP-E* RAV-HM901KRTP-E	8,00	9,00	A++	35/41/47	680/1180	320 x 1050 x 250

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
RM will be available while stocks last.

High-wall unit 10 kW

➤ **Power allrounder**



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-HM1101KRTP-E	10,00	11,20	A++	41/45/49	1180/ - /1610	350 x 1200 x 280

ACCESSORIES	DESCRIPTION	INCLUDED
Remote control	Infrared remote control included	✓
818F0023	Active carbon-catechin filter strips	
818F0036	IAQ filter strips	
818F0072	Ultra-Fresh filter strips	

Ceiling unit

Elegant ambiance

Rounded edges for an elegant design. The large louver provides optimum air distribution and a high airflow rate. Even during heating operation, this optimum air circulation offers excellent comfort. The unit achieves even greater levels of efficiency through the use of a new heat exchanger.



➤ **High airflow rate**

TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-RM401CTP-E* RAV-HM401CTP-E	3,60	4,00	A+	28/35/37	540/900	235 x 950 x 690
RAV-RM561CTP-E* RAV-HM561CTP-E	5,00	5,30	A	28/35/37	540/900	235 x 950 x 690
RAV-HM801CTP-E	6,90	7,70	A++	29/36/41	750/1000/1410	235 x 1270 x 690
RAV-HM901CTP-E	8,00	9,00	A++	30/38/42	900/- /1600	235 x 1586 x 690
RAV-RM1101CTP-E* RAV-HM1101CTP-E	9,50	11,20	A+	32/38/44	1021/1860	235 x 1586 x 690
RAV-RM1401CTP-E* RAV-HM1401CTP-E	12,10	12,80	-	35/41/46	1200/2040	235 x 1586 x 690
RAV-RM1601CTP-E* RAV-HM1601CTP-E	14,00	16,00	-	36/42/46	1260/1650/2040	235 x 1586 x 690

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
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Töpfer Axams Bakery, Edmund Sparer Klima & Kältetechnik GmbH

Cassette units

Perfect air distribution

With its low height, the cassette unit fits unobtrusively into any suspended ceiling. The louvers are individually controllable and ensure optimal air distribution with very quiet operation. A drain pump with 850 mm discharge head is incorporated into every cassette. A fresh air supply of up to 15 % of the nominal airflow is also possible with an external fan – the connection port is pre-cut.

60x60 slim cassette

➤ Suitable for Euro grid

The optional upgrade with a presence sensor can help to save energy. The sensor registers when people are present. If there is no one in the room, the unit switches off automatically.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-RM301MUT-E* RAV-HM301MUT-E	2,50	3,40	A+	30/36/38	440/640	256 x 575 x 575
RAV-RM401MUT-E* RAV-HM401MUT-E	3,60	4,00	A+	32/36/41	468/660	256 x 575 x 575
RAV-HM561MUT-E	5,00	5,30	A++	35/39/44	546/672/798	256 x 575 x 575

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
RM will be available while stocks last.

Smart cassette

➤ The high efficiency 360° classic

High efficiency with flat design panel and comfort functions for combining with Super Digital Inverter outdoor units.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-GM561UT-E* RAV-HM561UT-E	5,00	5,60	A++	26/29/32	750/1050	256 x 840 x 840
RAV-GM801UT-E* RAV-HM801UT-E	7,10	8,00	A+++	27/35/42	810/1920	319 x 840 x 840
RAV-GM1101UT-E* RAV-HM1101UT-E	10,00	11,20	A+++	31/40/48	1050/2250	319 x 840 x 840
RAV-GM1401UT-E* RAV-HM1401UT-E	12,50	14,00	-	33/41/48	1170/2250	319 x 840 x 840

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
RM will be available while stocks last.

4-way standard cassette

➤ The 360° classic

Optimum 360° air distribution. Individual comfort, even for large spaces with high capacity requirements.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-RM561UTP-E* RAV-HM561UTP-E	5,00	5,30	A++	28/29/32	780/1050	256 x 840 x 840
RAV-RM801UTP-E* RAV-HM801UTP-E	6,70	7,70	A+++	28/31/35	810/1230	256 x 840 x 840
RAV-GM901UTP-E* RAV-HM901UTP-E	8,00	9,00	A++	33/36/40	900/1600	319 x 840 x 840
RAV-RM1101UTP-E* RAV-HM1101UTP-E	9,50	11,20	A+++	33/38/43	1170/2010	319 x 840 x 840
RAV-RM1401UTP-E* RAV-HM1401UTP-E	12,00	12,80	A	34/38/44	1230/2100	319 x 840 x 840
RAV-RM1601UTP-E* RAV-HM1601UTP-E	14,00	16,00	-	36/40/45	1260/1500/2130	319 x 840 x 840

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
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1-way flat cassette

➤ Air flow on one side from the design panel

Ultra-flat design with low installation height and plasma filter option. The optional presence sensor saves energy when there are no people in the room.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	mm
RAV-HM301U1TP-E	2,50	3,40	A++	30/35/39	310/ - /520	150 x 990 x 450
RAV-HM401U1TP-E	3,60	4,00	A+	30/36/40	290/ - /540	150 x 990 x 450

Duct units

Invisible air conditioning

Whatever the shape of your room, duct units ensure uniform temperatures everywhere. Invisibly installed above the suspended ceiling, the air is directed into the room at minimal speed via one or more air outlets.

Slim duct unit

➤ Where space is limited

Ultra-slim design with top energy efficiency values. Air may be supplied via the underside or rear.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	External static pressure	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	Pa	mm
RAV-RM301SDT-E* RAV-HM301SDTY-E	2,50	3,40	A++	33/36/39	480/660	5 - 45	210 x 845 x 645 210 x 700 x 450
RAV-RM401SDT-E* RAV-HM401SDTY-E	3,60	4,00	A	33/36/39	522/690	5 - 45	210 x 845 x 645 210 x 700 x 450
RAV-RM561SDT-E* RAV-HM561SDTY-E	5,00	5,30	A+	36/40/45	582/780	4 - 44	210 x 845 x 645 210 x 900 x 450
RAV-HM801SDTY-E	6,70	7,70	A++	32/34/37	910/ - /1140	10/50	210 x 1100 x 450

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
RM will be available while stocks last.

Standard duct unit

➤ The invisible classic

Air may be supplied via the underside or rear. An optional spigot flange is available. Also suitable for connecting textile air hoses.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	External static pressure	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	dB(A) ❄️	m³/h	Pa	mm
RAV-RM561BTP-E* RAV-HM561BTP-E	5,00	5,30	A	25/29/33	480/800	30 - 120	275 x 700 x 750
RAV-RM801BTP-E* RAV-HM801BTP-E	6,70	7,70	A	26/30/34	720/1200	30 - 120	275 x 1000 x 750
RAV-GM901BTP-E* RAV-HM901BTP-E	8,00	9,00	A++	30/33/37	1000/1700	30 - 120	275 x 1400 x 750
RAV-RM1101BTP-E* RAV-HM1101BTP-E	9,50	11,20	A	33/36/40	1260/2100	50 - 120	275 x 1400 x 750
RAV-RM1401BTP-E* RAV-HM1401BTP-E	12,10	12,80	-	33/36/40	1260/2100	50 - 120	275 x 1400 x 750
RAV-HM1601BTP-E	14,00	16,00	-	33/36/40	1260/1650/2100	50/120	275 x 1400 x 750

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
RM will be available while stocks last.

High-pressure duct unit

➤ With full power

The high static compression makes this unit most suitable for large buildings. The drain pump and long-life air filter kit are available as options.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	External static pressure	Dimensions (HxWxD)
	kW ❄️	kW ❄️	❄️	dB(A) ❄️	m³/h	Pa	mm
RAV-RM2241DTP-E2	19,00	22,40	-	-/44/-	3800	50/97/250	448 x 1400 x 900
RAV-RM2801DTP-E2	22,50	27,00	-	-/46/-	4800	50/97/250	448 x 1400 x 900

Floor standing unit

Space-saving – for any room

The slim design allows the unit to be positioned flexibly. The automatic swing mode distributes the air optimally – even when positioned in a corner of the room. An integrated leak detection system ensures EN378-compliant usage, even in small rooms.



TYPE	Cooling capacity	Heating capacity	Energy efficiency class	Sound pressure level (low/med/high)	Airflow	Dimensions (HxWxD)
	kW ❄️	kW ❄️	❄️	dB(A) ❄️	m³/h	mm
RAV-RM561FT-ES* RAV-HM561FT-E	5,00	5,60	A+	38/42/46	600/-/820	1750 x 600 x 210
RAV-RM801FT-ES* RAV-HM801FT-E	7,10	8,00	A++	41/45/50	640/-/930	1750 x 600 x 210
RAV-HM901FT-E	8,00	9,00	A++	37/40/45	820/-/1330	1750 x 600 x 390
RAV-RM1101FT-ES* RAV-HM1101FT-E	10,00	11,20	A++	41/46/51	1190/-/1660	1750 x 600 x 390
RAV-RM1401FT-ES* RAV-HM1401FT-E	12,50	14,00	-	45/48/53	1350/-/1760	1750 x 600 x 390
RAV-RM1601FT-ES* RAV-HM1601FT-E	14,00	16,00	-	45/48/53	1350/-/1760	1750 x 600 x 390

* PLEASE NOTE: Product has changed from RAV-RM*****-E to RAV-HM*****-E
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Air curtain

Energy-saving air barrier



With its ventilation function in summer and heating function in winter, the air curtain creates an airlock in entrance areas. It prevents the exchange of air between indoors and outdoors. The conditioned air thus remains in the customer area, while the entrance remains invitingly open.

> Variety of models

- > Three versions: free-hanging, installation, or cassette
- > For door widths of 1 – 2.5 m, maximum door height of 3.2 m



Heating capacity (kW)

8.0 – 16.0



Sound pressure level (dB(A))

54 – 58



Airflow (m³/h)

1,600 – 5,160



EMBODYING ENVIRONMENTAL PROTECTION

The energy efficiency of air conditioning systems has a direct effect on operating costs and the environment. All TOSHIBA units meet the requirements of efficiency class A as a minimum – in both cooling and heating operation. The quality of our units has been officially confirmed with Eurovent certification. This certifies that the products' performance data is certified for air conditioning and cooling technology on the basis of European and international standards.

Direct expansion kits

Integration of 3rd party heat exchangers

The direct expansion (DX) kit allows heat exchangers from other manufacturers to be incorporated into a TOSHIBA system. It is ideal for use with air handling units or air curtains. Ready to connect plug & play solution.

Exhaust air direct expansion kit

➤ Temperature-controlled exhaust air

Controls the heating or cooling mode of a connected DX heat exchanger via the temperature of the room air or exhaust air.

			
Cooling capacity (kW)	Heating capacity (kW)	Airflow (m ³ /h)	Dimensions (mm) H×W×D
0.9 – 27.0	0.8 – 31.5	570 – 4,200	400 × 300 × 150 mm



Direct expansion kit 0 – 10 V

➤ External power control

Controls the heating or cooling mode of a connected DX heat exchanger via a 0 – 10 V signal from the ventilation control according to the power required.

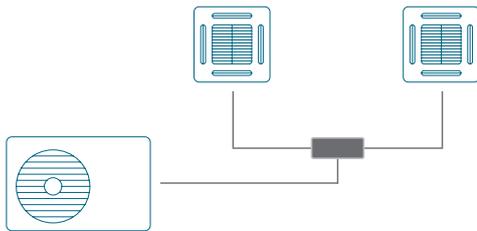
			
Cooling capacity (kW)	Heating capacity (kW)	Airflow (m ³ /h)	Dimensions (mm) H×W×D
0.9 – 27.0	0.8 – 31.5	570 – 4,200	400 × 300 × 150 mm



COMBINATION OPTIONS

TWIN

Digital / Super Digital Inverter / NEXT Digital Inverter

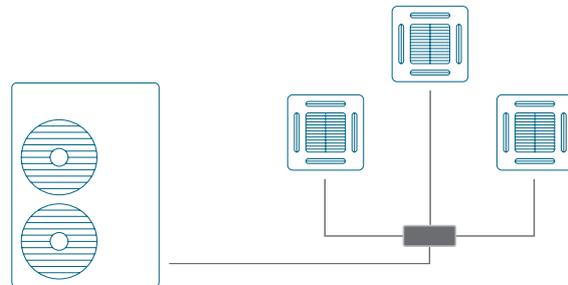


Combination options (model)*

OUTDOOR UNIT	INDOOR UNIT	BRANCH KIT
11.2	5.6 + 5.6	RBC-TWP30E2
14.0	8.0 + 8.0	RBC-TWP50E2

TRIPLE

Digital / Super Digital Inverter / NEXT Digital Inverter

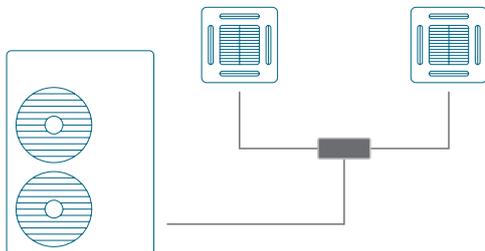


Combination options (model)*

OUTDOOR UNIT	INDOOR UNIT	BRANCH KIT
16	5.6 + 5.6 + 5.6	RBC-TRP100E

TWIN

BIG Digital Inverter

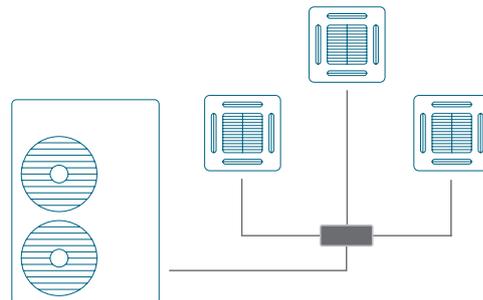


Combination options (model)*

OUTDOOR UNIT	INDOOR UNIT	BRANCH KIT
22.4	11.2 + 11.2	RBC-TWP101E
28.0	14.0 + 14.0	RBC-TWP101E

TRIPLE

BIG Digital Inverter

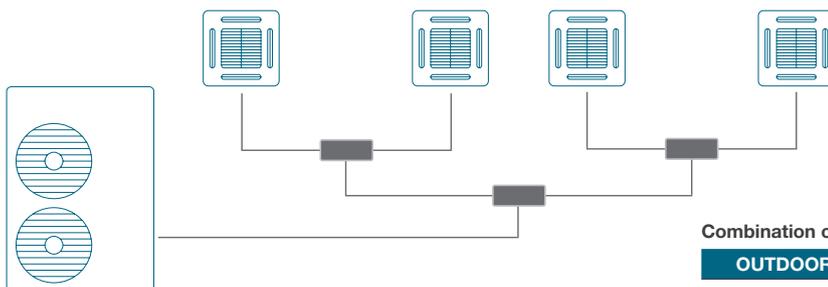


Combination options (model)*

OUTDOOR UNIT	INDOOR UNIT	BRANCH KIT
22.4	8.0 + 8.0 + 8.0	RBC-TRP100E
28.0	8.0 + 8.0 + 8.0	RBC-TRP100E

DOUBLE TWIN

BIG Digital Inverter



Combination options (model)*

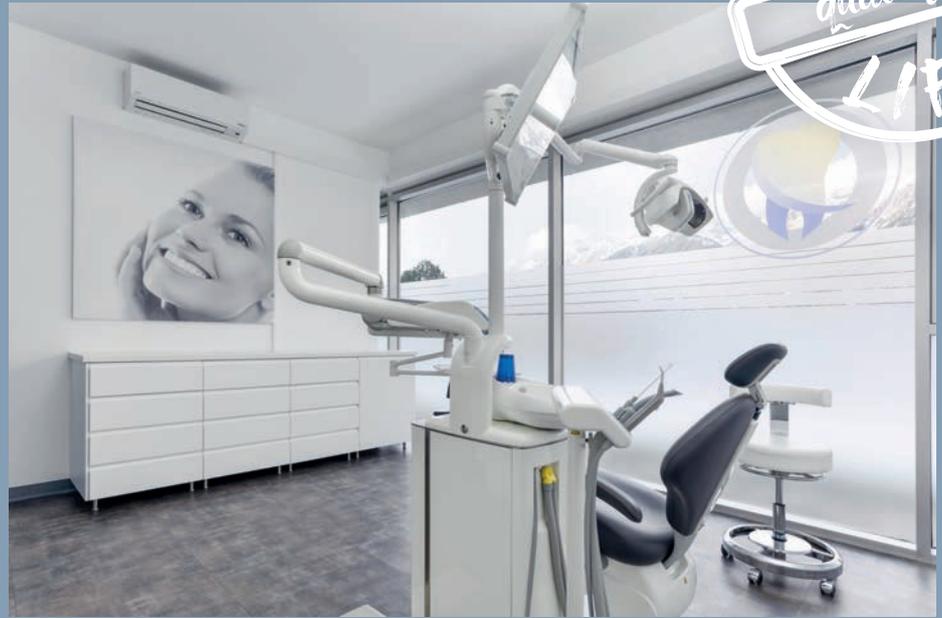
OUTDOOR UNIT	INDOOR UNIT	BRANCH KIT
22.4	5.6 + 5.6 + 5.6 + 5.6	RBC-DTWP101E
28.0	8.0 + 8.0 + 8.0 + 8.0	RBC-DTWP101E

These are extracts – refer to the appropriate data sheets for the full combinations, data, and values.



BERNHARD R. MOSER Photography Hallein, Hasenbichler GmbH

HIGHER
quality in
LIFE



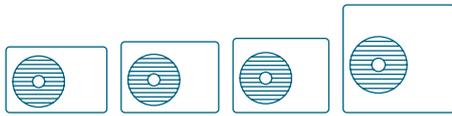
Dental Surgery Dr. med. dent. David Gouvianakis Telfs,
EDMUND SPARER Klima & Kältetechnik GmbH



MRCT Diagnostic Center Dr. Andreas Oberhauser GmbH Innsbruck,
EDMUND SPARER Klima & Kältetechnik GmbH



SINGLE-ROOM OUTDOOR UNITS



DIGITAL INVERTER CLASSIC

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DIGITAL INVERTER

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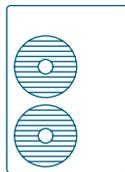
DIGITAL INVERTER NEXT

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SUPER DIGITAL INVERTER

Page 28



BIG DIGITAL INVERTER

Page 28

WHICH REFRIGERANT
DOES TOSHIBA USE?

Digital Inverter Classic

➤ Economy Classic

- 5.0 to 14 kW cooling
- 5.0 to 16 kW heating
- For combining with high-wall units, 4-way standard cassettes, standard duct units



1-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GV561ATP-E	5,00	5,30	6,20	4,20	46	48	550 x 780 x 290
RAV-GV801ATP-E	6,70	7,70	5,10	4,00	48	51	550 x 780 x 290
RAV-GV1101ATP-E	9,50	10,00	5,10	3,80	53	55	630 x 800 x 300
RAV-GV1401ATP-E	11,50	11,90	5,10	3,80	53	60	710 x 900 x 320
RAV-GV1601ATP-E	13,00	13,50	4,90	4,15	57	59	890 x 900 x 320

3-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GV1101AT8P-E	9,50	10,00	5,30	3,80	53	55	710 x 900 x 320
RAV-GV1401AT8P-E	12,10	12,30	5,10	3,80	53	60	710 x 900 x 320
RAV-GV1601AT8P-E	13,00	16,00	4,90	4,15	57	59	890 x 900 x 320

TOSHIBA has established the goal of providing eco-conscious products for the whole world, and helping to reduce environmental pollution. Although refrigerants play only a very small part in global warming (unit of measurement GWP = Global

Warming Potential), it is an important goal to minimize their use and maximize the efficiency of their use. For this reason, TOSHIBA primarily uses the refrigerant R32. With a GWP of 675, this is much lower than the standard R410A refrigerant

which has a GWP of 2,088. R32 is more energy efficient and has a significantly better heat transfer capacity than R410A. An air-conditioning system can thus achieve an approximately 60% higher output with the same filling quantity.

Digital Inverter

➤ Compact & light

- 2.5 to 14 kW cooling
- 3.4 to 16 kW heating
- Single or up to three indoor units



1-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GM301ATP-E	2,50	3,40	6,29	4,60	46	47	550 x 780 x 290
RAV-GM401ATP-E	3,60	4,00	5,86	4,01	49	50	550 x 780 x 290
RAV-GM561ATP-E	5,00	5,30	5,15	4,00	46	48	550 x 780 x 290
RAV-GM801ATP-E	6,70	7,70	4,89	3,81	48	52	550 x 780 x 290
RAV-GM901ATP-E	8,00	9,00	6,10	4,60	51	55	630 x 800 x 300
RAV-GM1101ATP-E	10,00	11,20	5,16	3,92	54	57	890 x 900 x 320
RAV-GM1401ATP-E	12,00	14,00	4,86	3,90	55	57	890 x 900 x 320
RAV-GM1601ATP-E	14,00	16,00	5,90	4,35	53	55	1340 x 900 x 320

3-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GM1101AT8P-E	10,00	11,20	5,16	3,92	54	57	890 x 900 x 320
RAV-GM1401AT8P-E	12,00	14,00	4,86	3,90	55	57	890 x 900 x 320
RAV-GM1601AT8P-E	14,00	16,00	5,90	4,35	53	55	1340 x 900 x 320



PADO Shopping Galerien Parndorf,
CAVERION Österreich GmbH



Boom Software AG Leibnitz,
Cool Company Kälte-Klima-Gastro GmbH

Digital Inverter NEXT

➤ The Next level

- Compact – durable – efficient
- Easy install features
- Easy commissioning functions
- 3-level silent setting



1-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	
RAV-GM302ATP-E	2,50	3,40	6,20	4,10	46	47	550 x 780 x 290
RAV-GM402ATP-E	3,60	4,00	6,00	4,00	49	50	550 x 780 x 290
RAV-GM562ATP-E	5,00	5,30	5,86	4,01	46	48	550 x 780 x 290
RAV-GM802ATW-E	6,70	7,70	5,53	4,00	50	52	630 x 799 x 299
RAV-GM902ATW-E	8,00	9,00	6,24	4,00	52	55	630 x 799 x 299
RAV-GM1102ATW-E	10,00	11,20	6,22	3,92	53	56	1050 x 1010 x 370
RAV-GM1402ATW-E	12,00	14,00	5,53	3,90	56	56	1050 x 1010 x 370
RAV-GM1602ATW-E	14,00	16,00	5,20	3,90	57	56	1050 x 1010 x 370

3-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	
RAV-GM1102AT8W-E	10,00	11,20	5,88	3,92	53	56	1050 x 1010 x 370
RAV-GM1402AT8W-E	12,00	14,00	5,35	3,90	56	56	1050 x 1010 x 370
RAV-GM1602AT8W-E	14,00	16,00	5,15	3,82	57	56	1050 x 1010 x 370



Super Digital Inverter

➤ Long pipe lengths & large height differences

- 5 to 14 kW cooling
- 5.6 to 16 kW heating
- Single or up to three indoor units



1-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GP561ATW-E	5,30	5,60	5,87	4,21	46	48	630 x 799 x 299
RAV-GP801ATW-E	7,10	8,00	6,43	4,43	46	48	1050 x 1010 x 370
RAV-GP1101AT-E	10,00	11,20	6,99	4,40	49	50	1550 x 1010 x 370
RAV-GP1401AT-E1	12,50	14,00	8,15	4,72	50	51	1550 x 1010 x 370

3-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GP1101AT8-E	10,00	11,20	7,10	4,36	49	50	1340 x 900 x 320
RAV-GP1401AT8-E	12,50	14,00	7,01	4,36	51	52	1340 x 900 x 320
RAV-GP1601AT8-E	14,00	16,00	6,72	4,36	51	53	1340 x 900 x 320

BIG Digital Inverter

➤ Versatile & powerful

- 19 to 23.5 kW cooling
- 22.4 to 27 kW heating
- Single or up to four indoor units



3-phase

TYPE	Cooling capacity	Heating capacity	Energy efficiency SEER	Energy efficiency SCOP	Sound pressure level (low/med/high)	Sound pressure level (low/med/high)	Dimensions (HxWxD)
	kW ❄️	kW 🔥	❄️	🔥	dB(A) ❄️	dB(A) 🔥	mm
RAV-GM2241AT8-E1	19,00	22,40	5,82	3,78	58	60	1550 x 1010 x 370
RAV-GM2801AT8-E1	22,50	27,00	5,49	3,69	61	63	1550 x 1010 x 370

KEY EFFICIENCY FIGURES



The efficiency of air conditioning systems and heat pumps is expressed by the coefficient of performance.

The **coefficient of performance** is the ratio of cooling or heating capacity generated for the electrical power used. A high coefficient of performance indicates high energy efficiency.

A COP value of 4.0, for example, means that 4 kW of heating capacity is generated from 1 kW of electricity – four times as much.



EER

Energy Efficiency Ratio

Coefficient of performance for cooling mode



COP

Coefficient of Performance

The coefficient of performance for heating mode

With air conditioning systems, the EER indicates the coefficient of performance in cooling mode, while the COP is the coefficient of performance in heating mode. These figures are only related to a single operating point, so further coefficients of performance were defined especially for air conditioning. These take account of the part load and any climatic influences.



SEER

Seasonal Energy Efficiency Ratio

Means of determining the coefficient of performance over one year for cooling mode

- › Includes additional seasonal factors
- › Measuring points are +20, +25, +30, and +35°C



SCOP

Seasonal Coefficient of Performance

Means of determining the coefficient of performance over one year for heating mode

- › Includes additional seasonal factors
- › Measuring points are +12, +7, +2, and -7°C

For air conditioning systems and heat pumps, the coefficient of performance over one year is called SEER in cooling mode and SCOP in heating mode; it takes account of temperature fluctuations over the course of the year.



ESEER

European SEER

Today, VRF systems are usually evaluated according to their ESEER (European SEER) value, which takes account of part load factors. A formula is used which calculates the sum of four individual values with various weightings.

CONTROLS

Your individual needs taken care of

High quality air conditioners are naturally important but the controls also play a significant part in the ease-of-use and efficiency of the system. Optimized settings create the perfect ambiance for every room to suit individual requirements. As well as local control options, TOSHIBA also offers a broad selection of central controls, or the option to integrate these into the building management system.



Just one control system for all units



Control via app or browser



Integration into existing systems



Connection of external modules

Controls at a glance

Local controls

Wired remote controls (max. cable length 500 m) or wireless infrared remote controls are used to control single units or groups of up to 8 indoor units. Additional modules allow location independent control via apps or the Internet.

- › Wired remote controls
- › Infrared remote controls
- › WiFi solutions
- › Control options

Central controls

Complex air conditioners can be controlled from any central location, such as the reception area or plant room. Cable lengths of up to 2,000 m are possible, and up to 2,048 indoor units can be controlled.

- › Compliant Manager
- › Smart Manager
- › Touchscreen controller
- › Smart Manager Touch
- › Small Central app
- › Time switch

External control options

A range of options can be used to connect external units, issue messages or alarms, facilitate noise reduction or redundancy switching – virtually any control requirement can be met.

- › Leak detection system
- › Accessory modules
- › CN connector
- › Redundancy box

Building management systems

TOSHIBA air conditioners can be networked with all standard building management systems, making the air conditioning an integral part of the central control of a building.

- › LonWorks®
- › Modbus®
- › BACnet®
- › Coolmaster
- › KNX®

Local controls



Simplified wired remote control:

Perfect for hotel rooms.



Standard wired remote control:

Controls all indoor unit functions, 168 hours ON/OFF timer.



Compact wired remote control:

Slim version of the standard wired remote control.



Wired remote control:

As for the standard wired remote control, but with 8 time events/day and 6 parameters/event.



Wired comfort remote control:

As for the standard, plus weekly timer, soft keys, night operation, louver lock, key lock, illuminated display.



Local touch lite remote control:

Compact local touchscreen remote control in smartphone format with customizable screens and logos.



Remote temperature sensor:

When an exact temperature measurement is not possible via the sensor in the indoor unit or in the wired remote control.



IR remote control + receiver kits:

Scope of functions as for standard wired remote control, but wireless. For panel installation or external.



Combi control:

Control via mobile phone using SMS or APP.



Design comfort

Wired remote control:

With or without Bluetooth support



AP-IR-WIFI:

Control of an indoor unit using a smartphone and APP.



TO-RC-WIFI:

WiFi module for controlling an indoor unit using a mobile phone and app or Internet browser.



TO-RC-KNX®:

Module for controlling an indoor unit via the KNX® bus.



Remote On/Off +

Window contact module:

Potential-free contact for external On/Off and window contact input.



Control board:

3 analog and 3 digital inputs, 3 digital outputs for external control, alarms, and messages (for ceiling units).



Operating, error signal, remote On/Off module:

Operating and error signal output, On/Off control, plus error message from up to 8 indoor units via potential-free contacts.



Analog interface:

Controls unit functions via 0 – 10 V signals or fixed resistors.



Modbus® interface:

Control of unit functions via a Modbus register. Up to 64 interfaces are possible.



BACnet® 1:1 interface:

Control of up to 8 indoor units. For integration with a locally provided BACnet® system.

Central controls



Small Central app:

Control of up to 32 indoor units by app via smartphone or tablet.



Weekly timer:

Connection via local wired remote control, central remote control, or TCC link network. Weekly timer/time switch mode.



Smart Manager with energy billing:

Up to 128 indoor units. Web interface for PC control via a browser; energy monitoring and billing.



Touchscreen controller 64:

Control of up to 64 indoor units. 7" color touch screen. TCS Net relay interface not required.



Touchscreen controller with energy billing:

Control of up to 512 indoor units. 12.1" multi-touchscreen, operation via PC also possible. Energy monitoring and billing. TCS Net Relay interface required (up to 8 units).



Smart Manager TOUCH with energy billing:

Control of up to 256 indoor units with intuitive operation via 7" color touch screen interface.



Central remote control:

Compact central control unit for controlling up to 64 indoor units. Weekly timer can be connected.

Building management systems



Modbus® interface:

Control of up to 64 indoor units. For integration with a locally provided Modbus® system.



KNX®-16/64:

Modules for controlling up to 16/64 indoor units via the KNX® bus.



Coolmaster:

Control of up to 64 indoor units – optionally up to 128. KNX® option. Small touchscreen user interface. Control via smartphone, tablet, or PC possible.



LonWorks® interface:

Control of up to 64 indoor units. For integration with a locally provided LonWorks® building management system (requires a LonWorks® network card).



Small BACnet® interface:

Control of up to 64 indoor units. For integration with a locally provided BACnet® system.



Analog interface:

Control of up to 64 indoor units. Control via 0 – 10 V signals or fixed resistors. 8 analog and 2 digital inputs. 5 analog and 5 digital outputs.



External control options



Noise reduction module (RAV):

For DI & SDI size 5. Input for noise reduction (night operation). Max. capacity 0/50/75%. Compressor operating signal.



Noise reduction cable set (RAV):

For DI Big & SDI from size 8. Input for noise reduction (night operation), max. capacity 0/50/75%. Compressor operating signal.



Redundancy box:

Switches between two indoor units (or groups) in the event of a fault. Switch-over dependent on operating hours; temperature-dependent switching on of the second system. Plug & Play, LAN port, monitoring via web browser possible.



Multi-function module:

Two potential-free contact inputs; one function per module: external master ON/OFF; night operation (noise reduction), operating mode priority heating / cooling.



Current limiting / power peak cut module:

Two dry contact inputs. External ON/OFF; capacity reduction.



Output module:

Three potential-free contact outputs. Operating signal, error signal, operating time compressor 1 and 2, output capacity in 8 stages



CN connector with cable:

For indoor units; various input/output functions via locally provided equipment.



Leak detection & isolation system:

Leak detection with visual and audible alarms, conforms to EN378; additional separation of the affected indoor unit possible.

TOSHIBA

Expertise in every sector –
air conditioning systems and heat pumps for cooling and heating

➤ HOME comprises all the air conditioning solutions for your own home.

➤ Every ESTIA heat pump incorporates TOSHIBA's knowledge and experience.

➤ LIGHT BUSINESS / BUSINESS delivers air conditioning solutions for business and industry.

➤ USX chillers – the new and superlative special systems.



TOSHIBA's innovative air conditioning systems were specially developed to ensure your wellbeing in your home, and its progressive technology offers comfort 365 days a year. Quiet operation, air filtering, and purification are just some of the benefits for greater comfort in your home. An air conditioning system is also the perfect heating solution, especially at season changes.

High quality and efficiency in a space-saving format. The ESTIA air-to-water heat pump is extremely effective and is ideal for heating, hot water preparation, and cooling in your home. Heating with heat from the air – environmentally friendly, cost-effective, and efficient.



Single-room solutions are suitable for smaller commercial applications, such as offices, shop floors, or plant rooms, where reliability is paramount and continuous operation is required. Multi-room solutions comprise air conditioning systems for complex installations in large structures such as office buildings, shopping malls, or hotels.

TOSHIBA's USX chillers represent a new dimension in refrigeration and heat generation. If the capacity required exceeds the technical and financial limits of direct evaporation systems, then water-based systems are used.



We advise you personally YOUR CERTIFIED TOSHIBA PARTNER

TOSHIBA specialist partner:



TOSHIBA is proud of its network of qualified specialist companies in the refrigeration and air conditioning sector. With a TOSHIBA air conditioning system, you will not only receive top product quality, but will benefit from professional advice, planning, installation, and service. Rely on a perfect climate from a specialist!

From small to large

TOSHIBA covers the entire spectrum with products for both domestic situations and for industrial and commercial applications. Contact your TOSHIBA specialist partner or visit our website for detailed information.



**For more information:
Visit our website!**

You will find further information about TOSHIBA products and sales partners on our website: www.toshiba-aircondition.com