TOSHIBA
Leading Innovation

DIGITAL INVERTER

Inverter Air Conditioning for Light Commercial Use

DI Digital Inverter

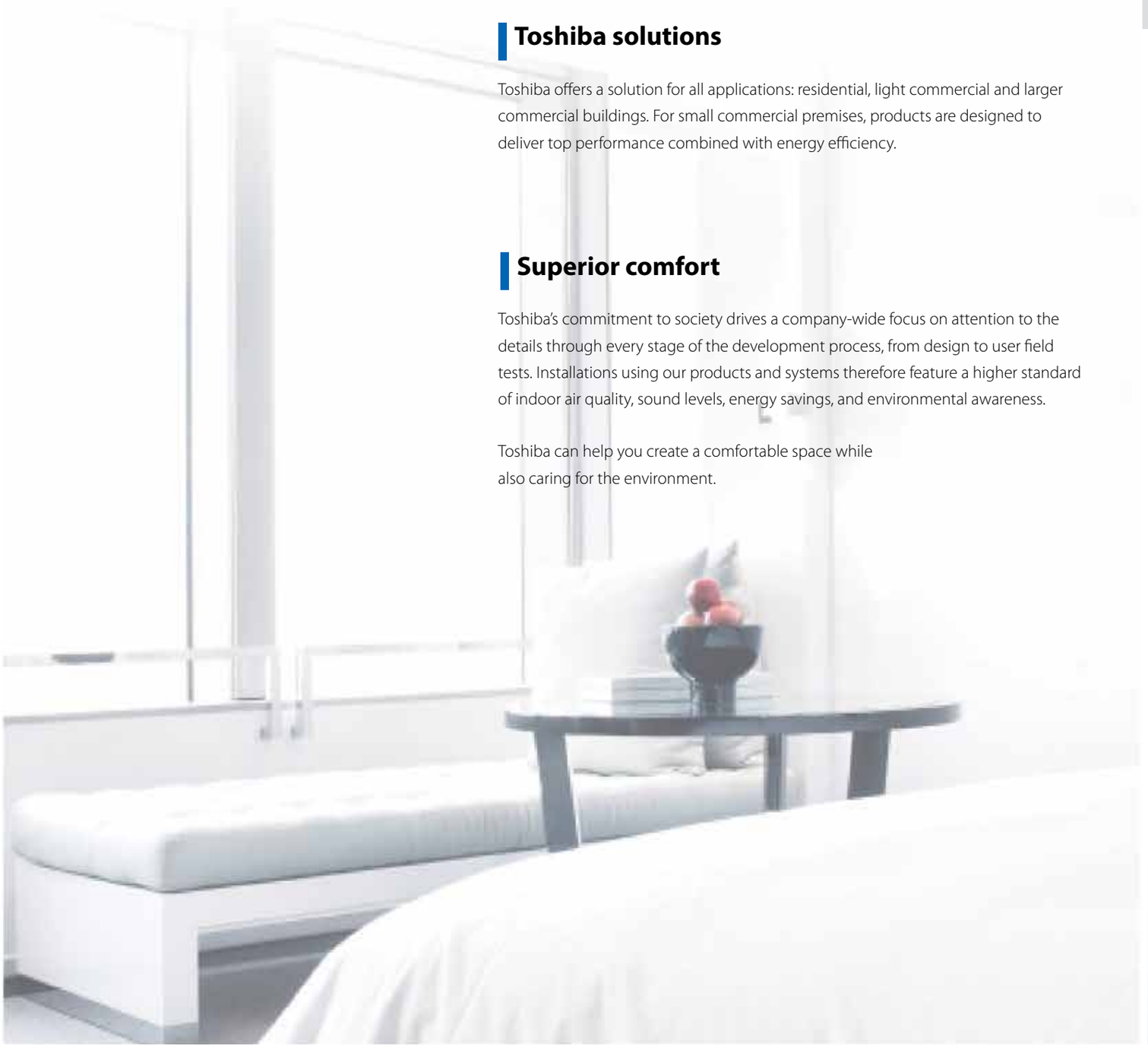
Toshiba solutions

Toshiba offers a solution for all applications: residential, light commercial and larger commercial buildings. For small commercial premises, products are designed to deliver top performance combined with energy efficiency.

Superior comfort

Toshiba's commitment to society drives a company-wide focus on attention to the details through every stage of the development process, from design to user field tests. Installations using our products and systems therefore feature a higher standard of indoor air quality, sound levels, energy savings, and environmental awareness.

Toshiba can help you create a comfortable space while
also caring for the environment.

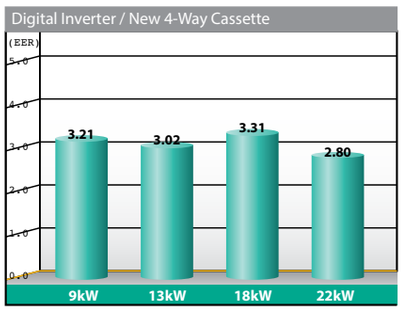


Light Commercial

The Toshiba Digital Inverter series air conditioners combine economy and ecology in a compact body. They feature state-of-the-art technology, flexible control, and easy installation to bring natural comfort and convenience to any business environment. Consists of Cassette and Ducted units which has excellent efficiency, not only under rated EER conditions, but also during partial load which is the larger part of actual operating conditions.

Superior EER

Very efficient energy consumption, Keeps down operating costs.



ECO-driving DC twin rotary compressor

Vector-controlled inverter
Vector IPDU control changes the motor current wave to a smooth sine pattern so that noise emitted from the drive units is greatly reduced.

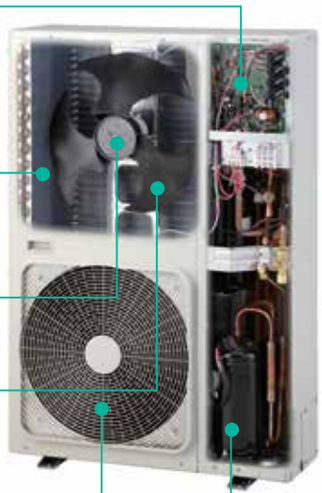
High efficiency heat-transfer (flat fin)
Heat-transfer tube with improved heat-transfer coefficient.

DC fan motor
Highly Efficient DC Motor.

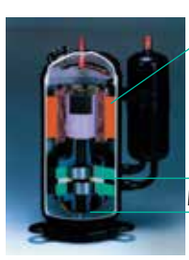
Bat wing fan
New development for high-pressure low-volume fan.

Wide-flow grille
Optimizing ventilation performance, Bringing out the full effect of fan and motor.

DC twin rotary compressor
A low minimum speed of 10 rps has been achieved.



A low minimum speed of 10 rps has been achieved. This has further improved the operating efficiency when the load is low (the minimum in Series 2 was 15 rps).



The structure and shape of each compressor component has been optimised. The area of the rotor magnet has been increased and a slit introduced to the design. These improvements have further enhanced efficiency and reduced noise.

Note: Actual component may vary considerably from specifications depending on product model.

Operation in Power Save Mode enables power peaks to be cut.

R410A refrigerant

An ozone layer depletion coefficient of zero has become absolutely essential for an advanced air conditioning system.

Twin split System

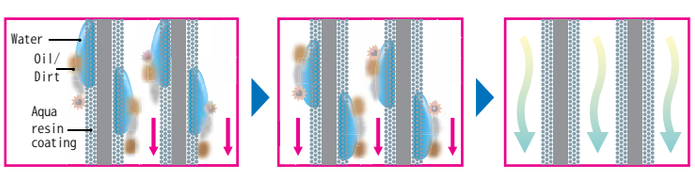
Fits with various size room and form
- Combination : Same type and capacity of indoor units
- Twin kit Line up

Quiet operation

Low-noise design. If the outdoor temperature is 30°C or less, operates at under 45 db. It's possible to automatically operate the quiet operation mode below 35°C air temperature.

Self-Clean operation-Continuing high performance for energy saving

This enables the 4-Way Cassette type to maintain energy efficiency.



Self-Clean Operation - The mechanism of the wash-off

1. The aqua resin coating prevents dirt from sticking to the fins.
2. The condensation water flows and washes away dirt.
3. After washing, a drying operation suppresses the propagation of mold.

DI Digital Inverter

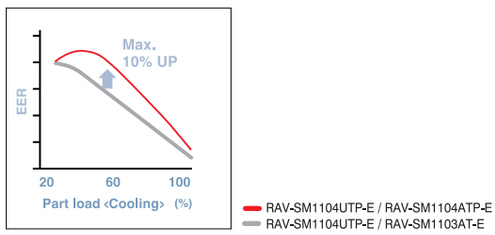
Extremely lightweight and compact outdoor unit

Lighter than the current model by 8 kg (11%)

18kW	1104ATP-E	68kg (previous model:76kg) -8kg
22kW	1404ATP-E	

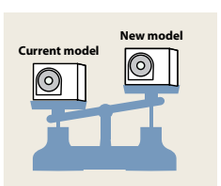
Remarkable energy efficiency

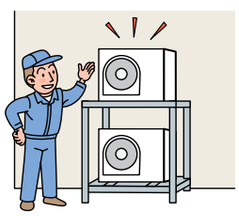
Industry's top-class energy-saving (Max.10%UP)



Small compact size chassis

Reduces installation spaces and enables a more efficient use of the site.
Easy to install the outdoor units on a double-decked and easy to install on a wall.





Wide-Utility function

Heating operation is possible starting from an outdoor temperature of -20°C, while cooling operation is possible at -15°C and up to 46 outdoor temperature. This enables wider applications and use of the system in colder regions.

Outstandingly quiet operation & save operation setting

Night operation make it possible to suppress the operation sound of the outdoor unit within the time which you desire. (12dB(A) reduction)*

*5HP Outdoor unit, Heating.

Save operation setting is available from 50% to 100% by 1%

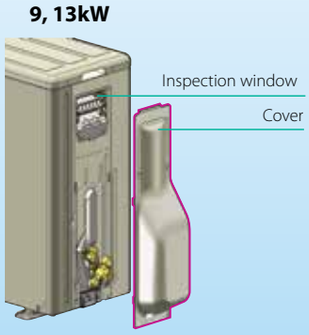
Quiet operation & save operation setting available for 9kW, 13kW, 18kW and 22kW

Note: Night operation - Necessity to set the Lite-vision plus remote controller (RBC-AMS51E)
Save operation - Necessity to set the Lite-vision plus remote controller (RBC-AMS51E), RBC-AMT32E

Easy and safty operation for maintenance of the outdoor unit.

Inspection window makes it easy to find switch that requires operation and reduces the risk of electrical shock.

9, 13kW



18, 22kW

DI BIG

DI Big proposes competitive cost systems solution for medium size applications like Shops and Small Office buildings. Simultaneous operation of 2, 3 or up to 4 indoor unit can be installed as twin, triple and double twin systems with single outdoor unit.

Compact outdoor unit

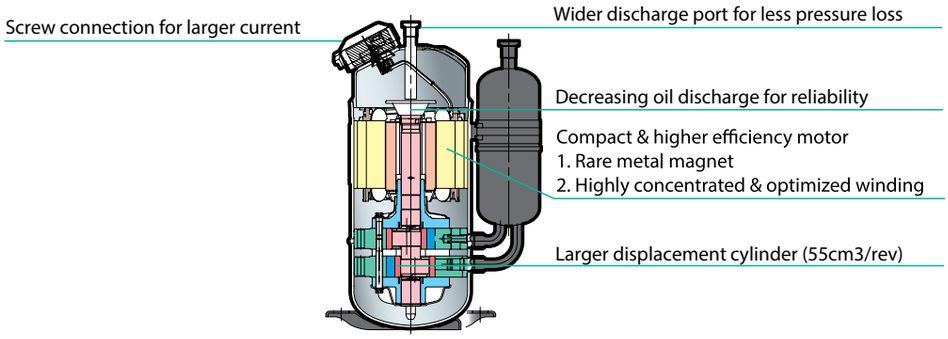
Small footprint in only 0.29 m2, Compact design in size (W 90cm x D 32cm) allows opportunity for more space saving.

High efficiency EER/COP* performance

DI Big is equipped with a new twin-rotary DC inverter compressor with high efficiency R410A refrigerant.

A new technology twin-rotary DC compressor, 100W +100W output Highly-efficient DC fan motor, propeller fan for newly developed 3-row heat exchanger.

EER / COP = 2.81 / 3.61 (With 4-way cassette twin system of 44kW)



Expanded operating temperature range

Air conditioning system designing is easy with DI-BIG because of its expanded operation range.

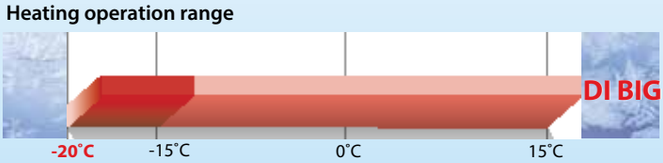
Heater operation is possible starting from an outdoor temperature of -20°C, while cooling operation is possible at -15°C and up to 46 outdoor temperature.

This enables wider applications and use of the system in colder regions.

	DI BIG
Outdoor temp. range when **cooling***	-15˚C to 46˚C
Outdoor temp. range when **heating***	-20˚C to 15˚C

*Cooling : ˚CDB, Heating: ˚CWB

Heating operation range



Compatible with pipes up to 70 meters long with a maximum height difference of 30 meters height

Digital Inverter 1-phase model

Equivalent HP		2HP	3HP	4HP	5HP	6HP
						
Standard model	(RAV-)	SM564ATP-E	SM804ATP-E	SM1104ATP-E	SM1404ATP-E	SM1603AT-E
Heavy Anti-Corrosion protection model	(RAV-)	SM564ATJP-E	SM804ATJP-E	SM1104ATJP-E	SM1404ATJP-E	SM1603ATZG-E
4-Way Cassette type						
	Single (RAV-)	SM564UTP-E	SM804UTP-E	SM1104UTP-E	SM1404UTP-E	N/A
	Twin (RAV-)	N/A	N/A	SM564UTP-E x 2	SM804UTP-E x 2	SM804UTP-E x 2
	Triple (RAV-)	N/A	N/A	N/A	N/A	SM564UTP-E x 3
Standard Duct type						
	Single (RAV-)	SM566BTP-E*	SM806BTP-E*	SM1106BTP-E*	SM1406BTP-E*	N/A
	Twin (RAV-)	N/A	N/A	SM566BTP-E* x 2	SM806BTP-E* x 2	SM806BTP-E* x 2
	Triple (RAV-)	N/A	N/A	N/A	N/A	SM566BTP-E* x 3
Concealed Duct High Static Pressure type						
	Single (RAV-)	N/A	N/A	N/A	N/A	SM1603DT-A
	Twin (RAV-)	N/A	N/A	N/A	N/A	N/A
	Triple (RAV-)	N/A	N/A	N/A	N/A	N/A

*1 Rated conditions 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 Sound pressure levels measured in an anechoic chamber

Digital Inverter Big 3-phase model

Equivalent HP			10HP
			
50Hz	Standard model (RAV-)		SM2804AT8-E
	Heavy Anti-Corrosion protection model (RAV-)		SM2804AT8ZG-E
4-Way Cassette type			
		Single (RAV-)	N/A
		Twin (RAV-)	SM1404UTP-E x 2
		Triple (RAV-)	SM804UTP-E x 3
		Double twin (RAV-)	SM804UTP-E x 4
Standard Duct type			
		Single (RAV-)	N/A
		Twin (RAV-)	SM1406BTP-E* x 2
		Triple (RAV-)	SM806BTP-E* x 3
		Double twin (RAV-)	SM806BTP-E* x 4
Concealed Duct High Static Pressure type			
		Single (RAV-)	SM2802DT-E
		Twin (RAV-)	N/A
		Triple (RAV-)	N/A
		Double twin (RAV-)	N/A

*1 Rated conditions 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 Sound pressure levels measured in an anechoic chamber

4-Way Cassette type

The wide air flow in all direction

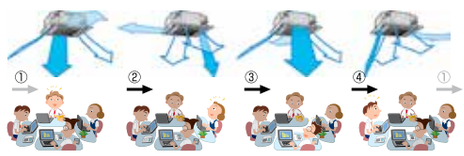
Multi-louver individual control

Individual louver control enables airflow to be chosen according to user preferences. The angles of each louver can be set individually in 3 different choices of swing patterns; Standard swing, Diagonally opposite swing and Turn-around swing

(1) Standard swing

(2) Diagonally opposite swing

(3) Turn-around swing



RAV-SM*4UTP-E**

Panel

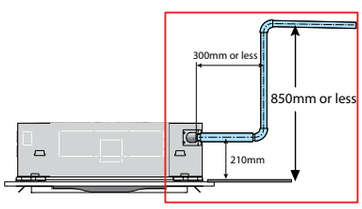
Wide flow louver type

RBC-U31PGP(W)-E

New Long-life pre-filter

A new long-life pre-filter has a surface 1.5 times of current filters to improve Dust-collection performance.

Built-in condensate drain pump



Easy installation

Light weight unit (24kg at 5HP) Easy panel installation, The panel is attached using the bolt that is already installed on the indoor unit.

*European market only

4-Way Cassette type
Digital Inverter

Comfort

Inverter
Allows step-less regulation of the air-conditioner's power,which reduces energy consumption and improves comfort.

Individual Louvre control
Enables airflows to be chosen according to user preferences.

Auto-turn Louvre
Air outlet grilles move automatically to fill every corner of the room with warm or cool air.

Automatic Air Volume control
Depending on the difference between the room temperature and the set temperature, switches automatically between High, Low and Very Low.

Long-life Filter
Built-in long-life filter makes maintenance easier.

Hot Start
When using the heater for preheating or defrosting, stops the indoor fan to prevent cold air from being blown into the room.

Dry
Gradually dehumidifies the room to create even greater comfort.

Operativity

Filter Sign
Automatic displays on the remote controller say when to perform maintenance for the indoor unit filter.

Limit Timer
Uses a 168-hour timer with three modes - "ON timer", "OFF timer" and "Repeat OFF timer".

Installation

Cooler Compatible with an Outdoor Temperature of -15 ° C
Stable cooler operation is possible when the outdoor temperature is as low as -15 ° C.

Built-in Drain Pump
The built-in drain pump makes draining easier. (In the ceiling cassette type, it is built in to the main unit.)

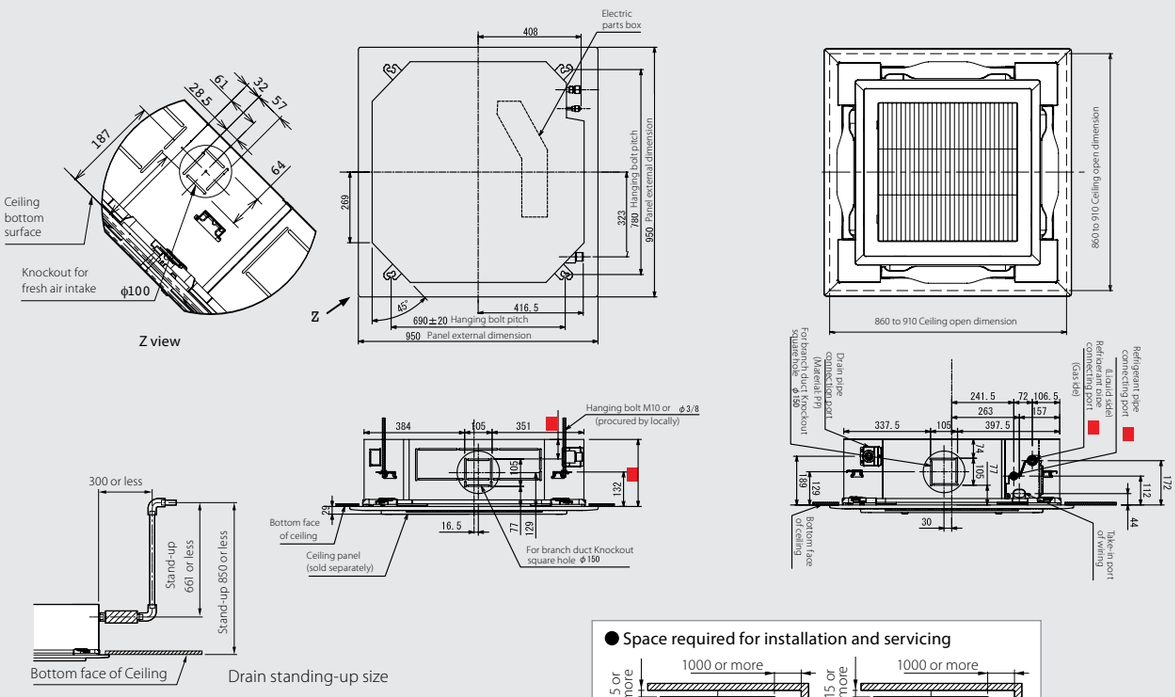
DI-Digital Inverter — Performance data

Out door unit	Standard model (RAV-)		SM564ATP-E	SM804ATP-E	SM1104ATP-E	SM1404ATP-E
	Heavy Anti-Corrosion protection model (RAV-)		SM564ATJP-E	SM804ATJP-E	SM1104ATJP-E	SM1404ATJP-E
Indoor unit (RAV-)			SM564UTP-E	SM804UTP-E	SM1104UTP-E	SM1404UTP-E
Cooling*1	Capacity kW		5.0	6.7	10.0	12.0
	Range, min-max kW		1.5-5.6	1.5-8.0	3.0-11.2	3.0-13.2
	Power consumption kW		1.56	2.22	3.02	4.29
	EER (Energy Efficiency Ratio)	Capacity 100%	3.21	3.02	3.31	2.80
		Capacity 80%	4.00	3.77	4.08	3.53
		Capacity 50%	5.21	5.49	5.10	5.00
Heating*1	Capacity kW		5.3	7.7	11.2	12.8
	Range, min-max kW		1.5-6.3	1.5-9.0	3.0-13.0	3.0-16.0
	Power consumption kW		1.36	2.13	2.93	3.40
	COP (Coefficient of Performance)	Capacity 100%	3.90	3.62	3.82	3.76
		Capacity 80%	4.37	4.22	4.23	4.30
		Capacity 50%	5.41	5.50	5.19	5.12
Power supply			1-phase 50Hz 230V (220–240V)			

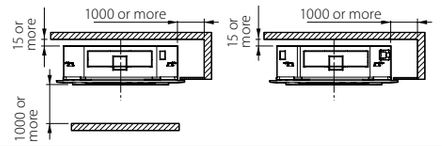
Physical data	Indoor unit (RAV-)	SM564UTP-E	SM804UTP-E	SM1104UTP-E	SM1404UTP-E
Standard air flow (H/M/L)	m^3/s	0.29/0.24/0.22	0.34/0.27/0.23	0.56/0.40/0.33	0.58/0.40/0.34
Sound pressure level (H/M/L)	dB(A)	32/29/28	35/31/28	43/38/33	44/38/34
Main unit dimensions (H/W/D)	cm	26/84/84	26/84/84	32/84/84	32/84/84
Weight	kg	20	20	24	24
Panel dimensions (H/W/D)	cm	3 x 95 x 95	3 x 95 x 95	3 x 95 x 95	3 x 95 x 95
Panel weight	kg	4.2	4.2	4.2	4.2

Physical data	Outdoor Unit Equivalent HP	2HP	3HP	4HP	5HP
Out door unit	Standard model (RAV-)	SM564ATP-E	SM804ATP-E	SM1104ATP-E	SM1404ATP-E
	Heavy Anti-Corrosion protection model (RAV-)	SM564ATJP-E	SM804ATJP-E	SM1104ATJP-E	SM1404ATJP-E
Power supply		1-phase 50Hz 230V (220–240V)			
Compressor type		DC twin rotary			
Connecting pipe dia., Gas/Liquid side	cm	ø1.27 / ø0.64	ø1.59 / ø0.95	ø1.59 / ø0.95	ø1.59 / ø0.95
Standard / Min. pipe length	m	7.5 / 5	7.5 / 5	7.5 / 5	7.5 / 5
Max. pipe total length	m	30	30	50	50
Maximum height difference	m	30	30	30	30
Outer dimensions (H x W x D)	cm	55 x 78 x 29	55 x 78 x 29	89 x 90 x 32	89 x 90 x 32
Weight	kg	40	44	68	68
Sound pressure level, Cooling/Heating *2	dB(A)	46/48	48/52	53/54	54/55
Operating range, Cooling/Heating	°C	-15~46 / -15~15			

RAV-SM***4UTP-E



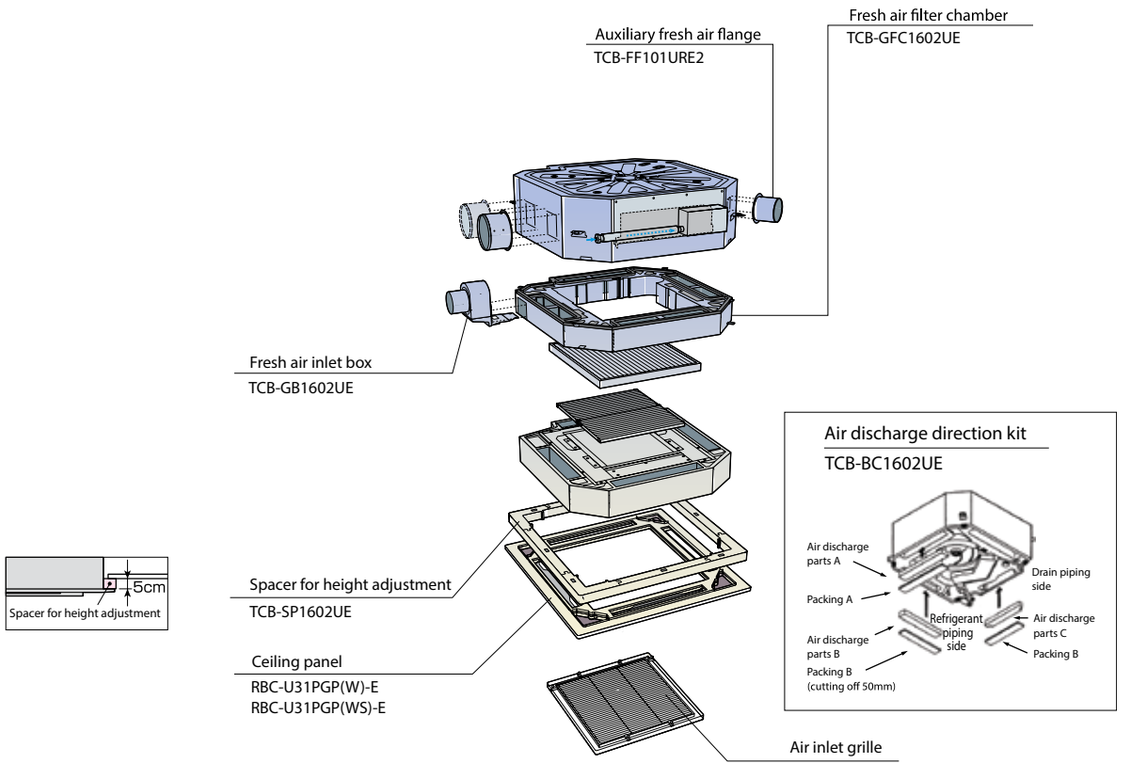
● Space required for installation and servicing



(Unit:mm)

Model RAV-				
SM564UTP-E	256	74	ϕ12.7	ϕ6.4
SM804UTP-E	256	74	ϕ15.9	ϕ9.5
SM1104UTP-E, SM1404UTP-E	319	137	ϕ15.9	ϕ9.5

Options



Standard Duct type

Wide range of application opportunities

RAV-SM*6BTP-E***

Compact sizing

Compact size especially in height (27.5 cm), new slimmer chassis offers wide range of installation opportunities to customer.

High static pressure

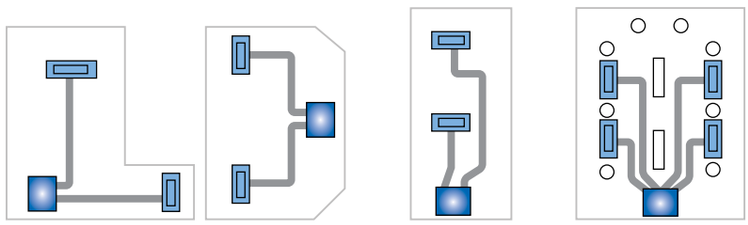
External static pressure can be raised as high as 120 Pa, so that all areas of the room can be reached for even temperature distribution, no matter how complex the layout.

Built-in High-lift drain pump#

The flexible piping layout is made possible by an optionally available drain-pump kit that raises the drain piping up to 29 cm from the drain port.

#Not available with 6HP and 10HPhigh static duct IDU

Flexible duct is accessible, Allows complete design flexibility



Polygonal rooms | Narrow rooms | Rooms with fixtures and obstacles

New spigot shaped flange as new accessories

New spigot shaped flange has higher static pressure with optimized design, the static pressure drops only 20Pa from rectangle flange states. Maximum Static pressure will be 100Pa* with all models.
(*static pressure with filter which included in, and intake from back ward)

Spigot shaped flange

TCB-SF56C6BEP

TCB-SF80C6BEP

TCB-SF160C6BEP

Standard Duct type
Digital Inverter

Comfort | **Operativity** | **Installation**

Inverter
Allows step-less regulation of the air-conditioner's power,which reduces energy consumption and improves comfort.

Hot Start
When using the heater for preheating or defrosting, stops the indoor fan to prevent cold air from being blown into the room.

Filter Sign
Automatic displays on the remote controller say when to perform maintenance for the indoor unit filter.

Cooler Compatible with an Outdoor Temperature of -15 ° C
Stable cooler operation is possible when the outdoor temperature is as low as -15 ° C.

Automatic Air Volume control
Depending on the difference between the room temperature and the set temperature, switches automatically between High, Low and Very Low.

Dry
Gradually dehumidifies the room to create even greater comfort.

Limit Timer
Uses a 168-hour timer with three modes - "ON timer", "OFF timer" and "Repeat OFF timer".

Built-in Drain Pump
The built-in drain pump makes draining easier. (In the ceiling cassette type, it is built in to the main unit.)

Long-life Filter
Built-in long-life filter makes maintenance easier.

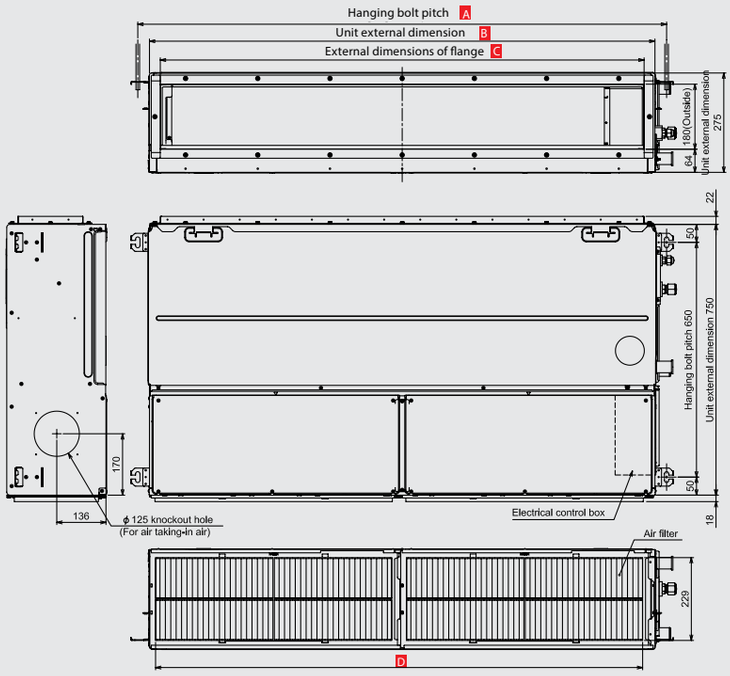
DI-Digital Inverter — Performance data

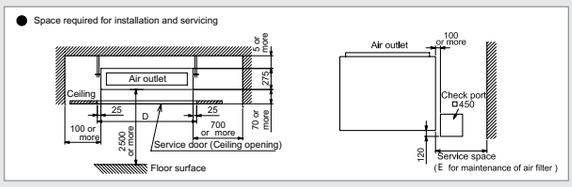
Out door unit	Standard model (RAV-)		SM564ATP-E	SM804ATP-E	SM1104ATP-E	SM1404ATP-E	SM1603AT-E
	Heavy Anti-Corrosion protection model (RAV-)		SM564ATJP-E	SM804ATJP-E	SM1104ATJP-E	SM1404ATJP-E	SM1603ATZG-E
Indoor unit (RAV-)			SM566BT-E, SM566BTP-E*	SM806BT-E, SM806BTP-E*	SM1106BT-E, SM1106BTP-E*	SM1406BT-E, SM1406BTP-E*	SM1603DT-A
Cooling*1	Capacity	kW	5.0	6.7	10.0	12.1	14.3
	Range, min-max	kW	1.5-5.6	1.5-7.4	3.0-11.2	3.0-13.2	3.6-16.0
	Power consumption	kW	1.83	2.38	3.14	4.42	5.01
	EER (Energy Efficiency Ratio)	Capacity 100%	2.73	2.82	3.18	2.74	2.85
		Capacity 80%	3.42	3.53	3.92	3.46	3.35
		Capacity 50%	4.39	5.08	4.90	4.92	4.09
Heating*1	Capacity	kW	5.3	7.7	11.2	12.8	16.0
	Range, min-max	kW	1.5-6.3	1.5-9.0	3.0-12.5	3.0-16.0	4.6-18.0
	Power consumption	kW	1.62	2.32	2.99	3.55	4.57
	COP (Coefficient of Performance)	Capacity 100%	3.27	3.32	3.75	3.61	3.50
		Capacity 80%	3.69	3.87	4.15	4.11	3.68
		Capacity 50%	4.57	5.07	5.09	4.89	3.91
Power supply			1-phase 50Hz 230V (220–240V)				1-phase 50Hz 230V (220–240V)

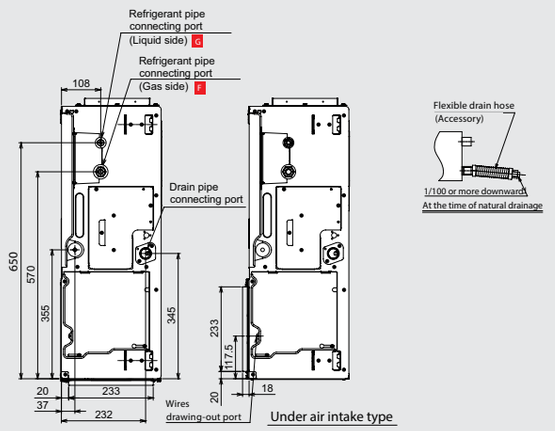
Physical data	Indoor unit (RAV-)		SM406BT-E, SM406BTP-E*	SM456BT-E, SM456BTP-E*	SM566BT-E, SM566BTP-E*	SM806BT-E, SM806BTP-E*	SM1106BT-E, SM1106BTP-E*	SM1406BT-E, SM1406BTP-E*	SM1603DT-A
Standard air flow (H/M/L)		m^3/s	0.22/0.17/0.13	0.22/0.17/0.13	0.22/0.17/0.13	0.33/0.26/0.20	0.58/0.46/0.35	0.58/0.46/0.35	0.97
External static pressure (factory setting)		Pa	30	30	30	30	50	50	100
External static pressure-Standard (Upper-Lower)		Pa	30(120-30)		30(120-30)		50(120-30)		100(50-250)
Sound pressure level (H/M/L)		dB(A)	33/29/25	33/29/25	33/29/25	34/30/26	40/36/33	40/36/33	50
Dimensions (H/W/D)		cm	28 x 70 x 75	28 x 70 x 75	28 x 70 x 75	28 x 100 x 75	28 x 140 x 75	28 x 140 x 75	38 x 105 x 60
		m	0.3 x 0.7 x 0.75	0.3 x 0.7 x 0.75	0.3 x 0.7 x 0.75	0.3 x 1.0 x 0.75	0.3 x 1.4 x 0.75	0.3 x 1.4 x 0.75	0.4 x 1.1 x 0.6
Weight		kg	23	23	23	30	40	40	57

Physical data	Equivalent HP		2HP	3HP	4HP	5HP	6HP
Out door unit	Standard model (RAV-)		SM564ATP-E	SM804ATP-E	SM1104ATP-E	SM1404ATP-E	SM1603AT-E
	Heavy Anti-Corrosion protection model (RAV-)		SM564ATJP-E	SM804ATJP-E	SM1104ATJP-E	SM1404ATJP-E	SM1603ATZG-E
Power supply			1-phase 50Hz 230V (220–240V)				1-phase 50Hz 230V (220–240V)
Compressor type			DC twin rotary				
Connecting pipe dia., Gas/Liquid side		cm	ø1.27 / ø0.64	ø1.59 / ø0.95			
Standard / Min. pipe length		m	7.5 / 5				
Max. pipe total length		m	30		50		
Maximum height difference		m	30		30		30
Outer dimensions (H/W/D)		cm(m)	55 x 78 x 29 (0.55 x 0.78 x 0.29)		89 x 90 x 32 (0.89 x 0.90 x 0.32)		134 x 90 x 32 (1.39 x 0.90 x 0.32)
Weight		kg	40	44	68		99
Sound pressure level, Cooling/Heating*2		dB(A)	46/48	48/52	53/54	54/55	51/53
Operating range, Cooling/Heating		°C	-15~46 / -15~15				-15~43 / -15~15

RAV-SM***6BT(P)*-E





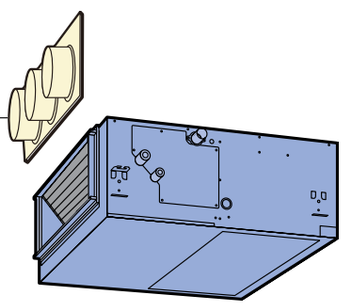


Model RAV-							
SM566BT(P)*-E	765	700	640	750	700	φ12.7	φ6.4
SM806BT(P)*-E	1065	1000	940	1050	500	φ12.7	φ6.4
SM1106BT(P)*-E, SM1406BT(P)*-E	1465	1400	1340	1450	700	φ15.9	φ9.5

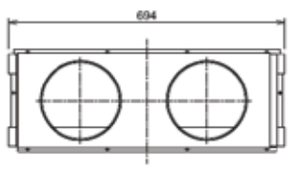
(Unit:mm)

Options

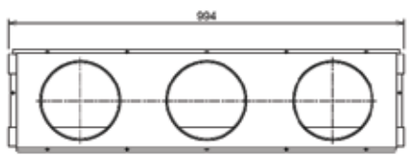
Spigot shaped flange
TCB-SF56C6BE
TCB-SF80C6BE
TCB-SF160C6BE



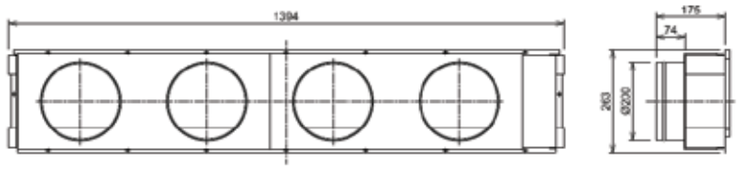
Model	
TCB-SF56C6BE	SM566BT(P)*-E
TCB-SF80C6BE	SM806BT(P)*-E
TCB-SF160C6BE	SM1106BT(P)*-E, SM1406BT(P)*-E



TCB-SF56C6BE



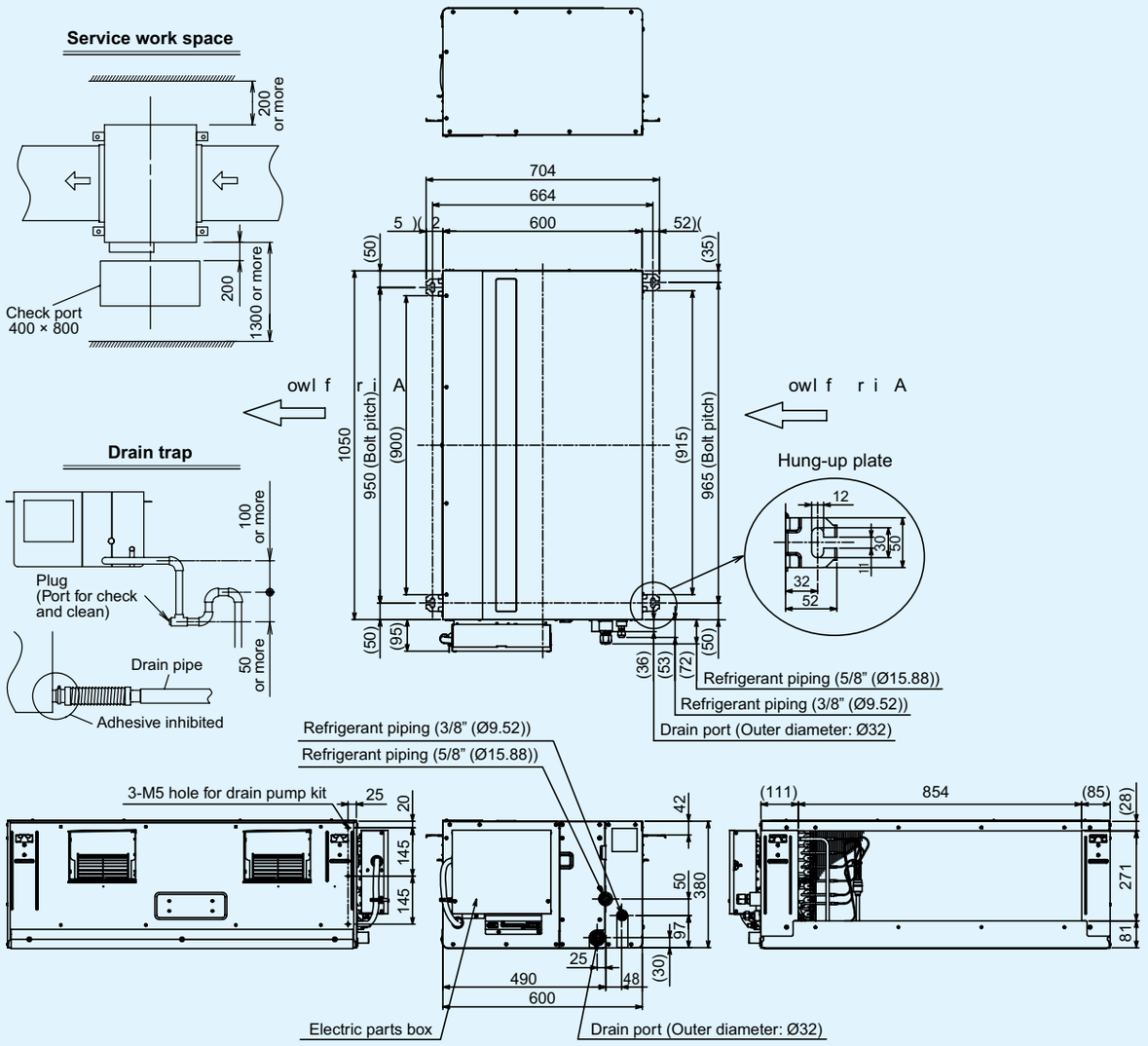
TCB-SF80C6BE

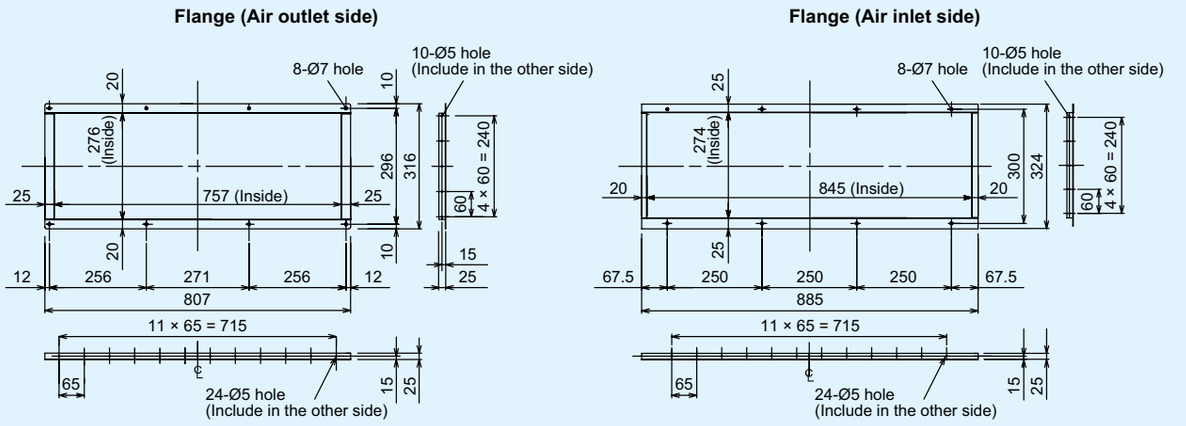


TCB-SF160C6BE

(Unit:mm)

RAV-SM 1603DT-A





(Unit: mm)

RAV-SM***2DT-E

Concealed Duct High Static Pressure type

Satisfies all your design needs

Design flexibility

Compatible with external static pressures up to 196 Pa.

3-steps-switchable static pressure

	Low	Middle	High
External static pressure (Pa)	68.6	137.0	196.0

*Factory setting : 137Pa

Large air volume, Duct high static pressure type is most suitable for the large rooms. Long-life filters fitted as standard. Can be equipped with the following options:

- high-efficiency filter (65, 90)
- drain pump kit (optional)

Construction characteristics

The flexible duct is accessible.

Constant temperature setting is possible in large rooms or factories.

Easy service and installation.

Enable to maintain the blower section from unit side for maintenance and repair.

Enable to select auto restart operation (set from wired remote controller)

Concealed Duct High Static Pressure type
DI BIG

Comfort

Inverter
Allows step-less regulation of the air-conditioner's power,which reduces energy consumption and improves comfort.

Hot Start
When using the heater for preheating or defrosting, stops the indoor fan to prevent cold air from being blown into the room.

Automatic Air Volume control
Depending on the difference between the room temperature and the set temperature, switches automatically between High, Low and Very Low.

Dry
Gradually dehumidifies the room to create even greater comfort.

Operativity

Filter Sign
Automatic displays on the remote controller say when to perform maintenance for the indoor unit filter.

Limit Timer
Uses a 168-hour timer with three modes - "ON timer", "OFF timer" and "Repeat OFF timer".

Installation

Cooler Compatible with an Outdoor Temperature of -15 ° C
Stable cooler operation is possible when the outdoor temperature is as low as -15 ° C.

DI BIG

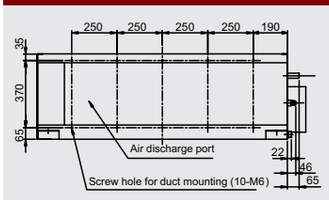
Performance data

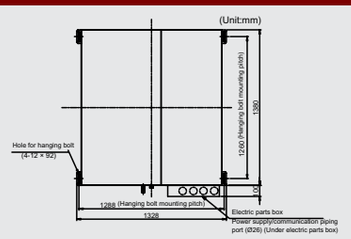
Outdoor unit	(RAV-)		SM2804AT8-E
Indoor unit	**(RAV-)**		**SM2802DT-E**
Cooling*1	Capacity	kW	23.0
	Range, min-max	kW	9.8-27.0
	Power consumption	kW	8.75
	EER (Energy Efficiency Ratio)	Capacity 100%	2.63
		Capacity 80%	3.24
		Capacity 50%	4.49
Heating*1	Capacity	kW	27.0
	Range, min-max	kW	9.8-31.5
	Power consumption	kW	8.15
	COP (Coefficient of Performance)	Capacity 100%	3.31
		Capacity 80%	3.80
		Capacity 50%	4.77
Power supply			3-phase 50Hz 380– 415V

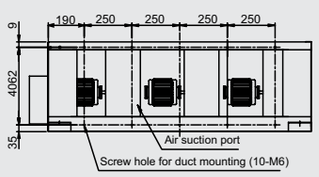
Physical data	Indoor unit	(RAV-)	SM2802DT-E
Standard air flow at 137Pa/ (at Mid tap)		m^3/s	1.17
External static pressure (H/M/L)		Pa	196/137/68.6
Sound pressure level (H/M/L)		dB(A)	55
Dimensions (H/W/D)		cm	47/138/125
		m	0.5/1.38/1.25
Weight		kg	160

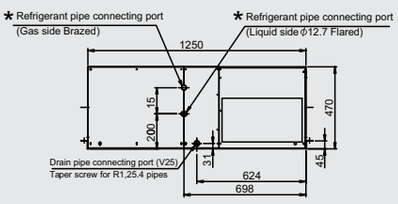
Physical data	Equivalent HP	10HP
Outdoor unit	(RAV-)	SM2804AT8-E
Power supply		3-phase 50Hz 380– 415V
Compressor type		DC twin rotary
Connecting pipe dia., Gas/Liquid side	cm	ø2.86 / ø1.27
Min. pipe length	m	7.5
Max. pipe total length	m	70
Maximum height difference	m	30
Outer dimensions (H/W/D)	cm(m)	154 x 90 x 32 (1.54 x 0.90 x 0.32)
Weight	kg	134
Sound pressure level, Cooling/Heating*2	dB(A)	57/58
Operating range, Cooling/Heating	°C	-15~46 / -20~15

RAV-SM***2DT-E

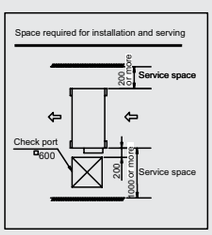






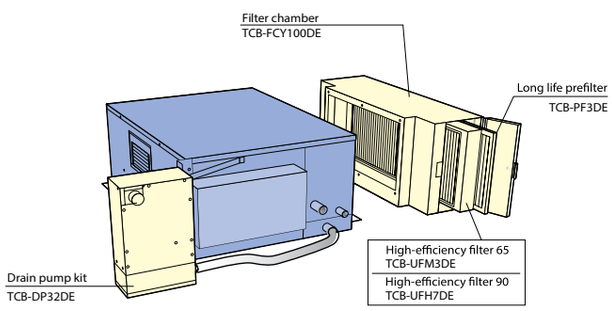


Diameter of pipe connecting port		Diameter of pipe connecting pipe	
Liquid side	Gas side	Liquid side	Gas side
ϕ12.7	ϕ22.2	ϕ12.7	ϕ28.6



(Unit:mm)

Options



Twin, Triple and Double twin system

Twin system : DI-Digital Inverter 1-phase — Cooling

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			EER		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM1104AT(J)P-E	SM564UTP-E	4	10.0	3.0-11.2	3.02	3.31	4.08	5.10
	SM1404AT(J)P-E	SM804UTP-E	5	12.0	3.0-13.2	4.29	2.80	3.53	5.00
	SM1603AT(Z)(ZG)-E	SM804UTP-E	6	14.0	3.0-16.0	4.49	3.12	3.98	4.86
Standard Duct	SM1104AT(J)P-E	SM566BTP-E*	4	10.0	3.0-11.2	3.14	3.18	3.92	4.90
	SM1404AT(J)P-E	SM806BTP-E*	5	12.1	3.0-13.2	4.42	2.74	3.46	4.92
	SM1603AT(Z)(ZG)-E	SM806BTP-E*	6	14.0	3.0-16.0	5.13	2.73	3.48	4.24

Twin system : DI-Digital Inverter 1-phase — Heating

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			COP		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM1104AT(J)P-E	SM564UTP-E	4	11.2	3.0-13.0	2.93	3.82	4.23	5.19
	SM1404AT(J)P-E	SM804UTP-E	5	12.8	3.0-16.0	3.40	3.76	4.30	5.12
	SM1603AT(Z)(ZG)-E	SM804UTP-E	6	16.0	3.0-18.0	4.43	3.61	4.59	4.91
Standard Duct	SM1104AT(J)P-E	SM566BTP-E*	4	11.2	3.0-12.5	2.99	3.75	4.15	5.09
	SM1404AT(J)P-E	SM806BTP-E*	5	12.8	3.0-16.0	3.55	3.61	4.11	4.89
	SM1603AT(Z)(ZG)-E	SM806BTP-E*	6	16.0	3.0-18.0	4.69	3.41	4.04	4.32

Twin system : DI Big 3-phase — Cooling

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			EER		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM2804AT8(Z)(ZG)-E	SM1404UTP-E	10	23.0	9.8-27.0	8.19	2.81	3.46	4.79
Standard Duct	SM2804AT8(Z)(ZG)-E	SM1406BTP-E*	10	23.0	9.8-27.0	9.55	2.41	3.08	4.62

Twin system : DI Big 3-phase — Heating

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			COP		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM2804AT8(Z)(ZG)-E	SM1404UTP-E	10	27.0	9.8-31.5	7.48	3.61	4.15	5.21
Standard Duct	SM2804AT8(Z)(ZG)-E	SM1406BTP-E*	10	27.0	9.8-31.5	7.92	3.41	3.91	4.91

Twin, Triple and Double twin system

Triple system : DI-Digital Inverter 1-phase — Cooling

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			EER		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM1603AT(Z)(ZG)-E	SM564UTP-E	6	14.0	3.0-16.0	4.49	3.12	3.98	4.86
Standard Duct	SM1603AT(Z)(ZG)-E	SM566BTP-E*	6	14.0	3.0-16.0	5.13	2.73	3.48	4.24

Triple system : DI-Digital Inverter 1-phase — Heating

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			COP		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM1603AT(Z)(ZG)-E	SM564UTP-E	6	16.0	3.0-18.0	4.43	3.61	4.59	4.91
Standard Duct	SM1603AT(Z)(ZG)-E	SM566BTP-E*	6	16.0	3.0-18.0	4.69	3.41	4.04	4.32

Triple system : DI Big 3-phase — Cooling

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			EER		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM2804AT8(ZG)-E	SM804UTP-E	10	23.0	9.8-27.0	8.19	2.81	3.46	4.79
Standard Duct	SM2804AT8(ZG)-E	SM806BTP-E	10	23.0	9.8-27.0	9.55	2.41	3.08	4.62

Triple system : DI Big 3-phase — Heating

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			COP		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM2804AT8(ZG)-E	SM804UTP-E	10	27.0	9.8-31.5	7.48	3.61	4.15	5.21
Standard Duct	SM2804AT8(ZG)-E	SM806BTP-E	10	27.0	9.8-31.5	7.92	3.41	3.91	4.91

Double twin system : DI Big 3-phase — Cooling

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			EER		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM2804AT8(ZG)-E	SM804UTP-E	10	23.0	9.8-27.0	8.19	2.81	3.46	4.79
Standard Duct	SM2804AT8(ZG)-E	SM566BTP-E*	10	23.0	9.8-27.0	9.55	2.41	3.08	4.62

Double twin system : DI Big 3-phase — Heating

Indoor unit type	Outdoor unit name (RAV-)	Indoor unit name (RAV-)	HP	Capacity			COP		
				Rated (kW)	min-max (kW)	Power consumption (kW)	100%	80%	50%
4-Way Cassette	SM2804AT8(ZG)-E	SM804UTP-E	10	27.0	9.8-31.5	7.48	3.61	4.15	5.21
Standard Duct	SM2804AT8(ZG)-E	SM566BTP-E*	10	27.0	9.8-31.5	7.92	3.41	3.91	4.91

Digital Inverter - Controllers & Accessories

Indoor unit controllers

Parts Name	Model Name	Applied Model	Features
Wired remote controller	RBC-AMT32E	All indoor units	Standard type
	RBC-AMS41E	All indoor units	Remote controller with weekly timer
	RBC-AMS51E-ES/-EN	All indoor units	Remote controller with LCD display with backlight
Simple wired remote controller	RBC-AS41E	All indoor units	With Simplified control
Wireless remote controller kits	RBC-AX32U(W)/(WS)-E	4-Way Cassette type	Integral receiver type
	TCB-AX32E2	All indoor units	Standalone receiver type
Remote controller kits	TCB-EXS21TLE	Use with wired remote controller	Remote controller with schedule timer
	TCB-CC163TLE2	Used with wired remote controller / Central remote controller	On-Off controller combined with the weekly timer
	TCB-SC642TLE2	All indoor units	Central remote controller
	BMS-CM1280TLE	All indoor units	Compliant manager
TCC-Link*	TCB-PCNT30TLE2	All indoor units except High-wall type	Use with Remote controller kit

* : TCC-Link Adaptor for Digital Inverter units.

Indoor unit accessories

Indoor unit	Parts Name	Model Name	Applied Model	Remarks
4-Way Cassette type	Ceiling panel	RBC-U31PGP(W)-E, RBC-U31PGP(WS)-E	RAV-SM***4UTP-E	
	Fresh air inlet box	TCB-GB1602UE		Use with TCB-GFC1602UE
	Fresh air filter chamber	TCB-GFC1602UE		
	Auxiliary fresh air flange	TCB-FF101URE2		
	Spacer for height adjustment	TCB-SP1602UE		
	Air discharge direction kit	TCB-BC1602UE		
Standard Duct type	Spigot shaped flange	TCB-SF80C6BE	RAV-SM806BTP-E*	
		TCB-SF160C6BE	RAV-SM1106BTP-E* RAV-SM1406BTP-E*	
Concealed Duct High Static Pressure type	High-efficiency filter 65	TCB-UFM3DE	RAV-SM***2DT-E	Use with TCB-FCY100DE
	High-efficiency filter 90	TCB-UFH7DE		
	Long life prefilter	TCB-PF3DE		
	Filter chamber	TCB-FCY100DE		
	Drain pump kit	TCB-DP32DE		

Parts Name	Model Name	Type
Branch kit	RBC-TWP30E	Digital Inverter 1-phase model
	RBC-TWP50E	
	RBC-TWP101E "1:2"	Twin system of DI Big model
	RBC-TRP100E "1:3"	Digital Inverter 1-phase model and DI Big model
	RBC-DTWP101E "1:4"	Double twin system of DI Big model

Remote controllers

Standard Remote controller

RBC-AMT32E

Standard wired remote controller can be connected to a single indoor unit or a group of up to 8 indoor units. Power save operation limits the greatest current value.The remote controller allows error to be displayed while the protective device works or a error occurs.

Remote controller with weekly timer (7-day timer function)

RBC-AMS41E

Wired remote controller with clock display and a built in 7-day timer function, possible to program 8 functions for each day of the week.
*The following items can be set in program: operation time, operation start/stop, operation mode, temperature setting, restriction on button operation

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Lite-Vision plus Remote Controller

RBC-AMS51E-ES

RBC-AMS51E-EN

Wired remote controller with a built in 7-day timer-featuring a new multi-language, LCD display with backlight, energy saving options and a return back function.

- Possibility to set and display the room name to easily set-up and monitor the working parameter.
- New modern and desirable controller design with menu driven display.
- Save mode by schedule timer to optimise energy consumption.
- Room temperature display always available.
- Two "Hot Keys" (F1, F2) for easy operation of air conditioner functions.
- Easy to read layout including display of indoor unit model name and serial number.
- Built-in backup power. Settings are kept in memory up to 72 hours in case of power failure.
- Remote TA sensor available in controller.
- Can be connected to a single indoor unit or a group of up to 8 indoor units.

Simple wired remote controller

RBC-AS41E

Simple wired remote controller can be connected to a single indoor unit or a group of up to 8 indoor units.

- Start/Stop
- Temperature setting
- Air flow changing
- Check code display

Schedule timer

TCB-EXS21TLE

- Schedule timer mode
  – 6 programmings per day
  – Enabling 8 groups to be programmed
  – A maximum of 64 indoor units can be controlled
  – A maximum of 100 hours back-up power supply
- Weekly timer mode
  – 7 types of weekly schedule and 3 programmings per day

ON-OFF controller

TCB-CC163TLE2

- Individual control of up to 16 indoor units.
- Setting of simultaneous ON/OFF 3 times per day combined with the weekly timer.

Central remote controller

TCB-SC642TLE2

- Individual control for max. 64 indoor units divided into 1 to 4 zone (Up to 16 indoor units for each zone)
- Up to 16 outdoor header units are connectable
- 4 types of central control settings to inhibit individual operation by remote controller can be selected
- Usable with other central control devices (Max. 10 devices in one control circuit)
- Two control mode selectivity
  (Central controller mode) Remote controller mode
- Setting of simultaneous ON/OFF 3 times per day combined with the weekly timer.

Wireless remote controller kit

- Start/Stop •Changing mode •Temperature setting
- Air flow changing
- Timer function Either "ON" time or "OFF" time or "CYCLIC" can be set how many 30 min. later ON or OFF is operated.
- Control by 2 remote controllers is available.
  Two wireless remote controllers can operate one indoor unit. The indoor unit can then be operated separately from the two different locations.
- Check code display

RBC-AX32U(W)/(WS)-E

Integral receiver
(For 4-way cassette)

TCB-AX32E2

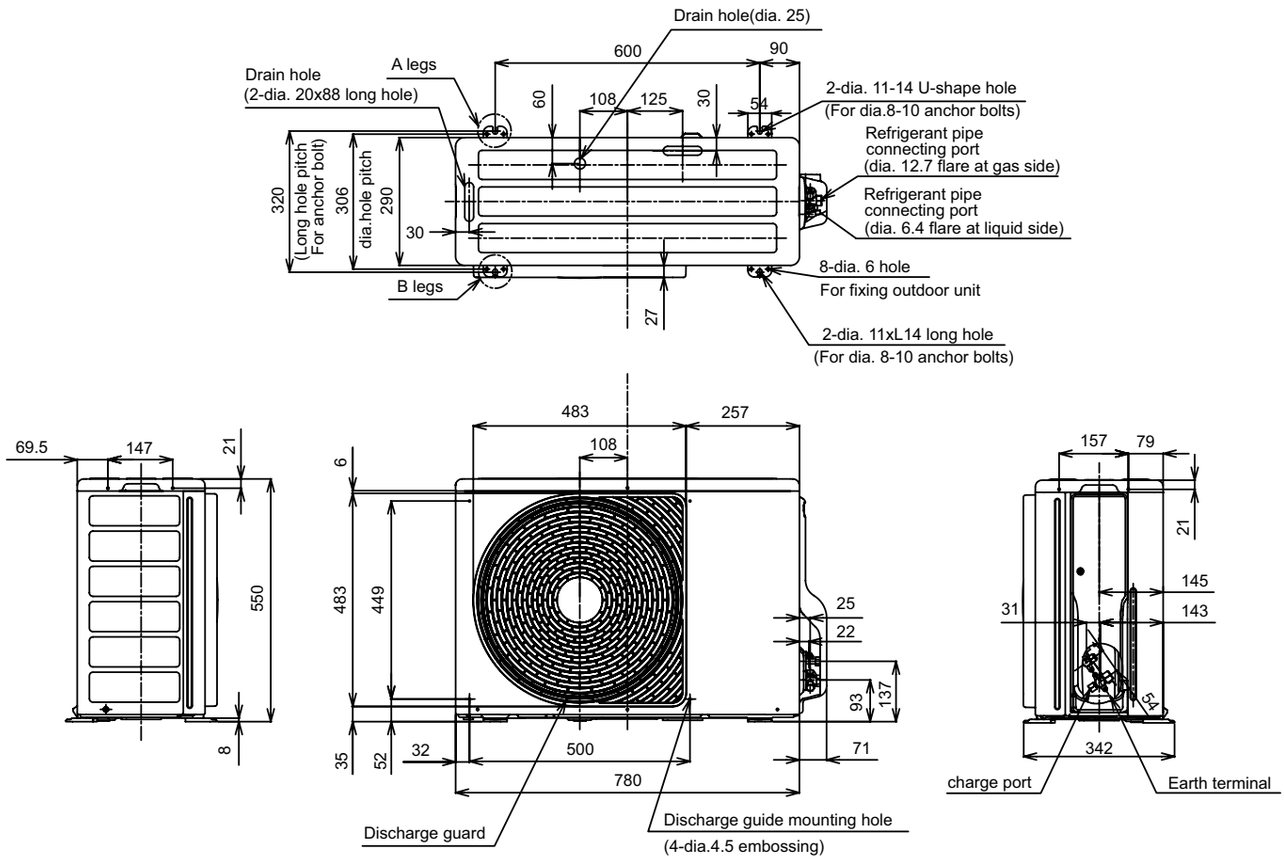
Sensor unit; Stand alone receiver
(For 4-way cassette), (Duct type)

Central remote controller

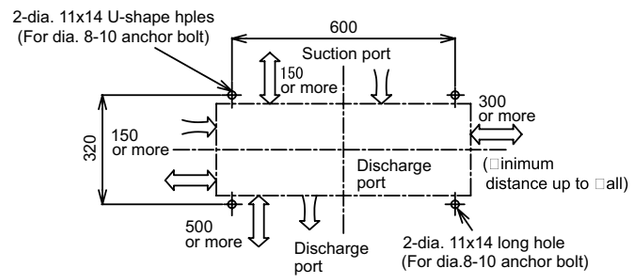
BMS-CM1280TLE

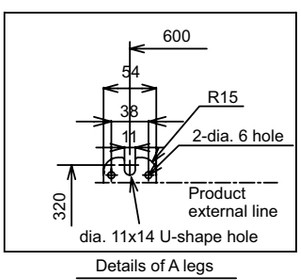
- Operation
  Individual operation of 128 indoor units available
  Return Back Operation
  Weekly Schedule Operation*
  (ON/OFF)
  * Schedule timer necessary
- Monitoring
  Zone setting (64 zones x 2)
  Individual unit operation mode operation restriction
  Alarm display
  Control input
  Status output

DI Digital Inverter 2-3HP : Outdoor unit drawings

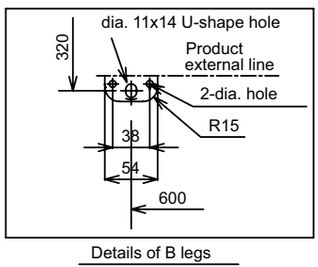


● Space required for installation and servicing





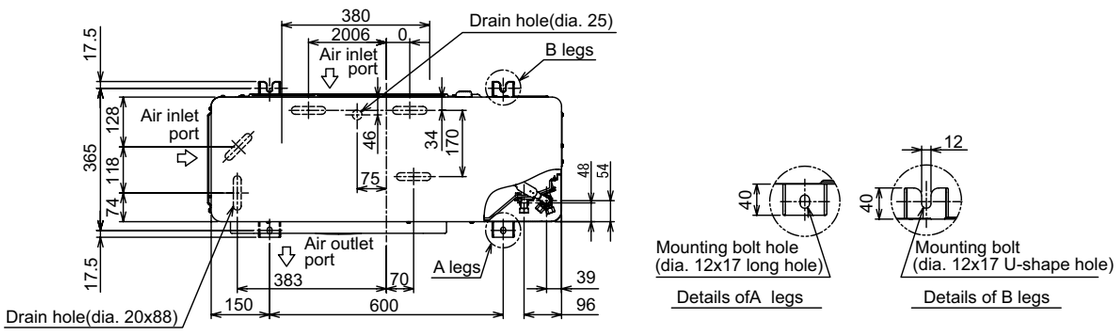
Details of A legs

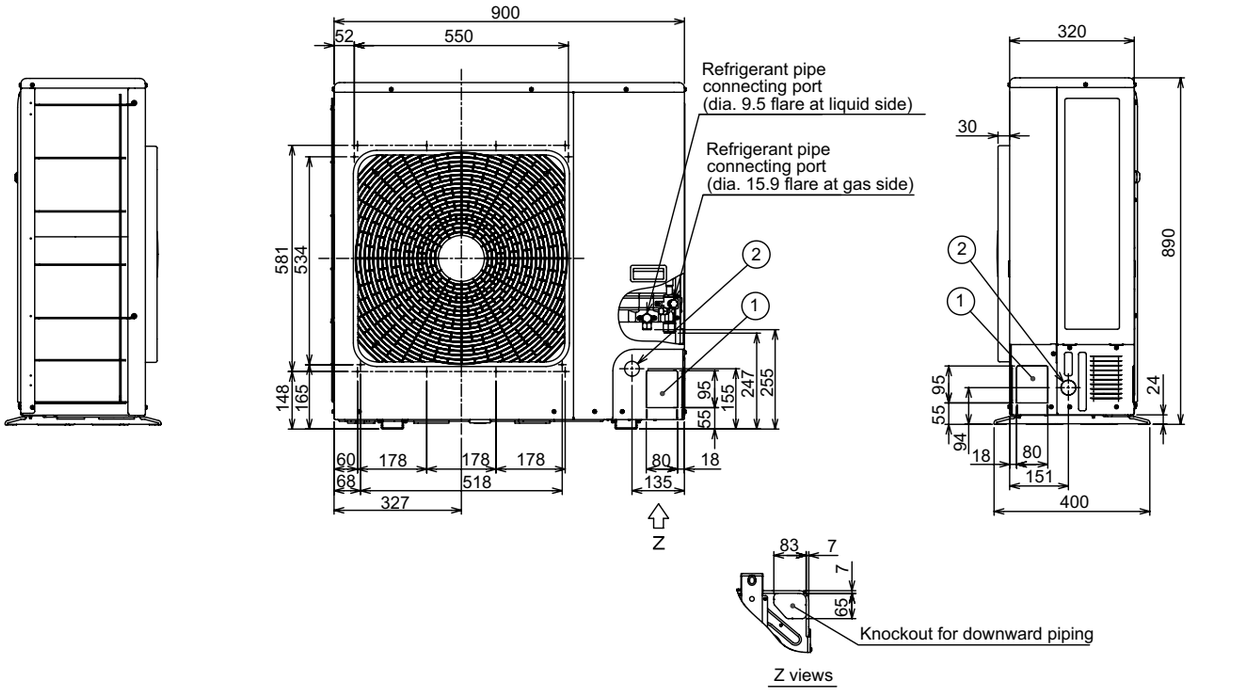


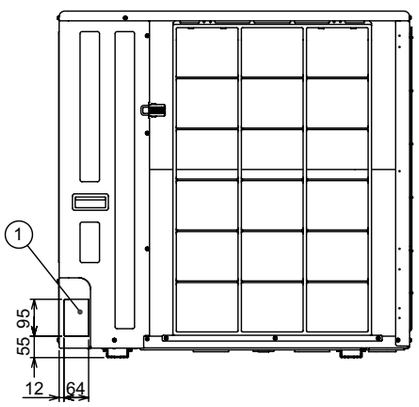
Details of B legs

(Unit: mm)

DI Digital Inverter 4HP and 5HP: Outdoor unit drawings



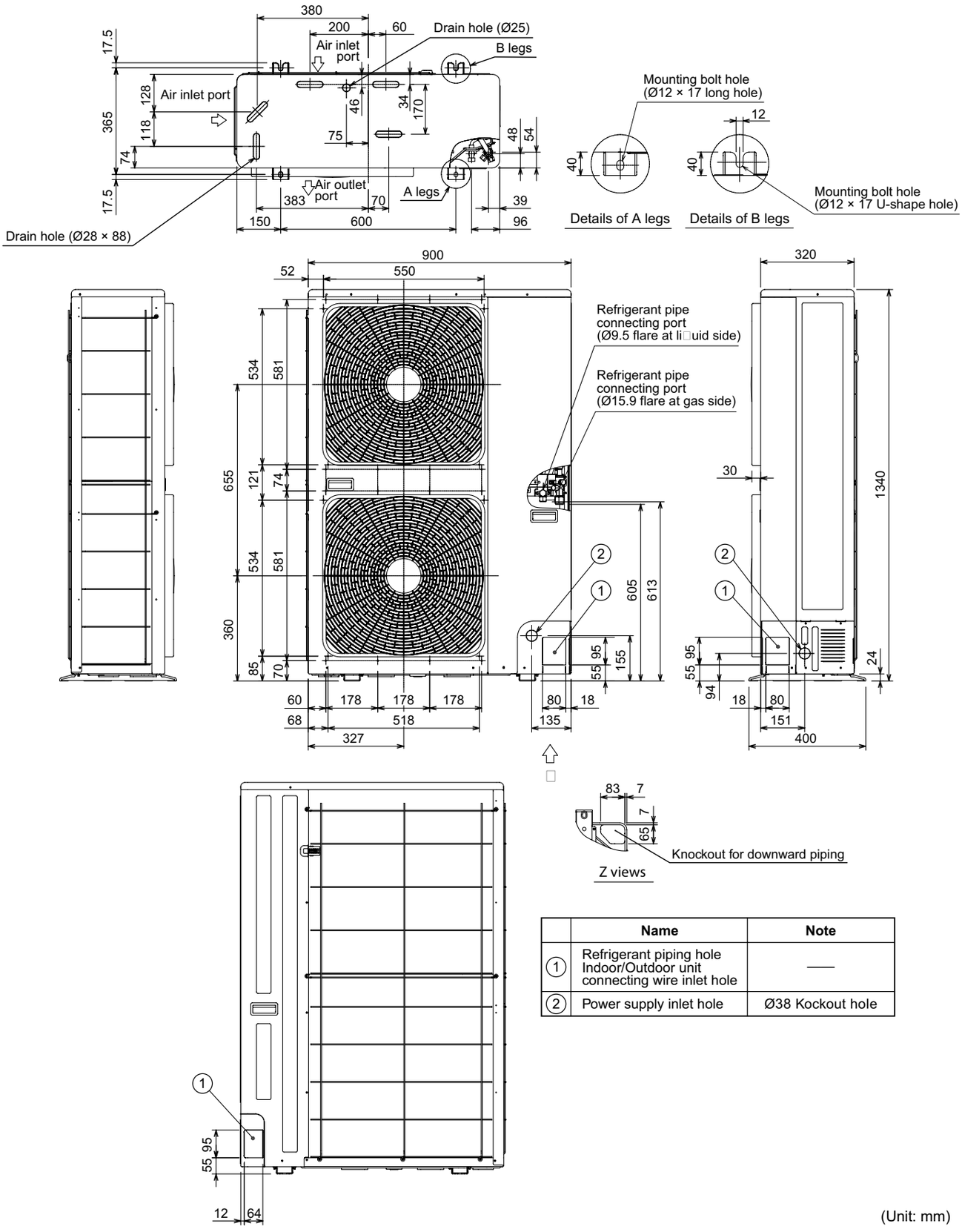




	Name	Note
①	Refrigerant piping hole Indoor/Outdoor unit connecting wire inlet hole	——
②	Power supply inlet holed	ia. 38 Knockout hole

(Unit: mm)

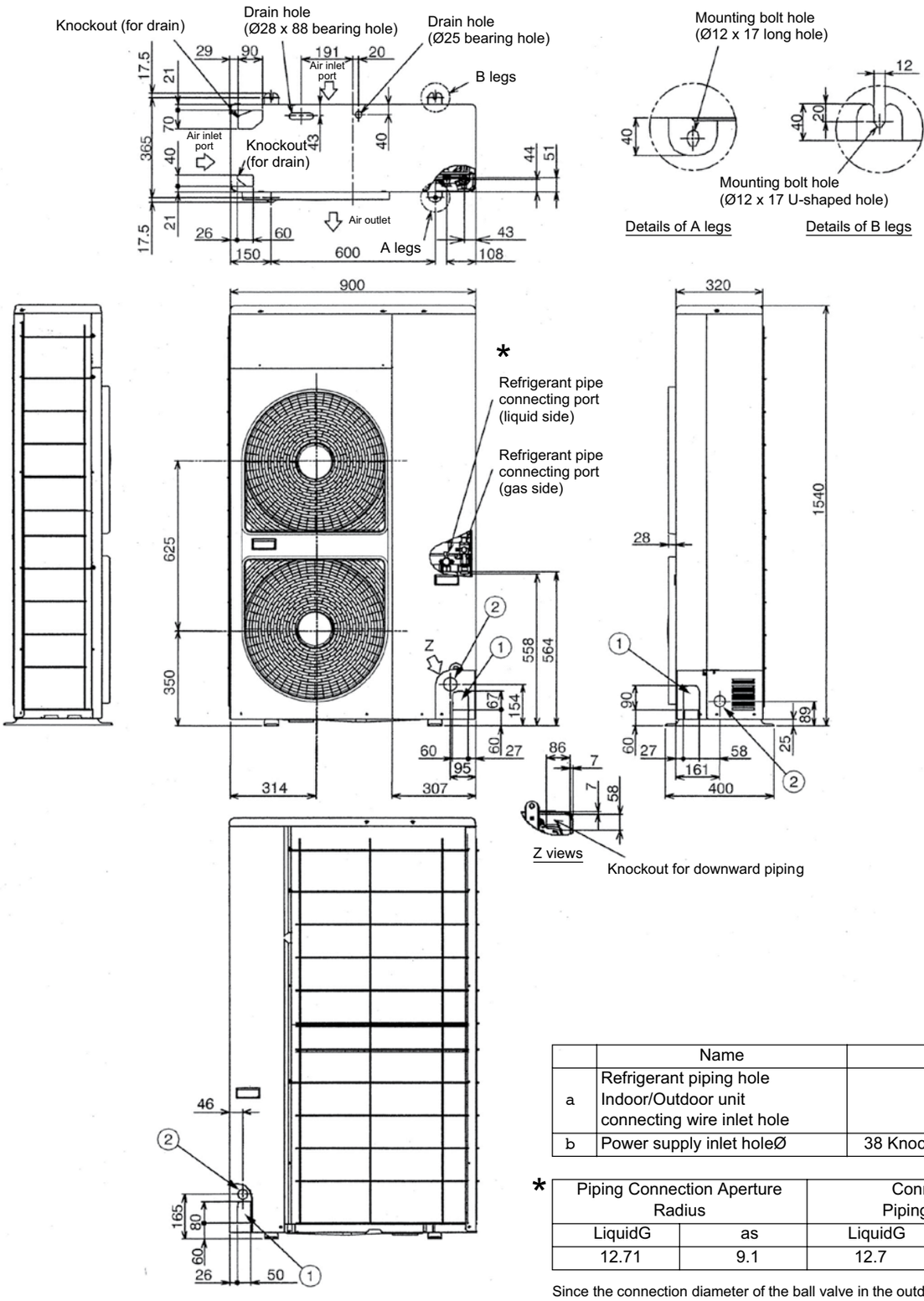
DI Digital Inverter 6HP : Outdoor unit drawings



	Name	Note
①	Refrigerant piping hole Indoor/Outdoor unit connecting wire inlet hole	——
②	Power supply inlet hole	Ø38 Kockout hole

(Unit: mm)

DI Big 10HP: Outdoor unit drawings



	Name	Note
a	Refrigerant piping hole Indoor/Outdoor unit connecting wire inlet hole	—
b	Power supply inlet holeØ	38 Knockout hole

*

Piping Connection Aperture Radius		Connection Piping Radius	
LiquidG	as	LiquidG	as
12.71	9.1	12.7	28.6

Since the connection diameter of the ball valve in the outdoor unit main body is Ø19.1, use the attached coupling pipe when performing maintenance.

(Unit: mm)

Installation and the use of refrigerants not specified by Toshiba Carrier Corporation

Toshiba refrigeration and air-conditioning units are designed and manufactured on the assumption that the product is used with a specific refrigerant suitable for each unit.

We have recently seen some cases where the type of refrigerant used is different from the one originally installed in the product. Such actions may cause mechanical defects, malfunctions, failures and in some cases result in a serious safety issue. Therefore do not install any refrigerant other than the one specified by Toshiba Carrier Corporation for its respective products.

The type of the refrigerant used for each of our products is shown in the accompanying owners manual, or on the product label attached on the product itself.

Toshiba Carrier Corporation shall not assume any liability for failures, malfunctions or safety in its products if the refrigerant used is different from the one specified.

SAFETY PRECAUTIONS

For operation:

• Before use, read through the operating instructions to ensure proper use.

Concerning the purpose for which the air conditioners are to be used

• The air conditioners presented in this catalogue are air conditioning/heating units to be used solely by general consumers.
  – Do not use these air conditioners for special applications such as for the storage of food items, animals, plants, precision machines or works of art. Doing so may degrade the quality of the items.
  – Do not use these air conditioners for air-conditioning applications in vehicles or ships. Doing so may cause water and/or power leakages.

Precautions for using air conditioners

Concerning the automatic defrosting unit

When the outdoor air temperature drops, frost may form on the heat exchanger of the outdoor unit. In such cases, the automatic defrosting unit will be activated, and it will take 5 to 8 minutes for the heating operation to be restored.

Concerning the air conditioner's operating conditions and their selection

(1) Avoid using the air conditioner in the following locations.
  • Locations with acidic or alkaline atmospheres (locations at which highly acidic or alkaline air is directly drawn in, such as in hot springs areas from which sulfur gases are given off, or where chemicals, vinegar, exhaust air from burners, etc., are given off) The heat exchangers and other parts may become corroded.
  • Locations with atmospheres filled with coolant or other machine oil or steam exhaust (such as at food preparation factories or machine plants). The heat exchangers may corrode; frost may form as a result of heat exchanger malfunction; air conditioner operating performance may be compromised or condensation may form as a result of clogged filters; plastic parts may incur damage; heat-insulation materials may become separated, etc.

(2) Before using an air conditioner in any of the following locations, consult with your dealer or a qualified contractor.
  • Locations where vapors from edible oils are given off (such as in bakeries or kitchens and restaurants that use edible oils) ...The air conditioner's operating performance may be compromised or condensation may form as a result of clogged filters, and the plastic parts may incur damage. In line with the prevailing conditions, take countermeasures such as tailoring the installation conditions in accordance with the conditions, using air conditioners designed for kitchens or oil guard filters, etc.
  • Locations with disinfectant-induced chlorine atmospheres (water tanks, etc.) The metal parts in the heat exchangers, motors, etc., may become corroded.
  • Locations with high salinity (coastal areas, etc.) Corrosion may occur so use outdoor units specifically designed to withstand exposure to salt.
  • Locations where power is supplied from independent power generators. The power line frequency and/or voltage may fluctuate, possibly causing the air conditioner to malfunction.
  • Locations where high frequencies or electrical noise is generated (from high-frequency welders used for vinyl welding and processing, high-frequency therapeutic devices used for thermotherapy, etc.) The electronic components may be adversely affected, possibly causing the air conditioner to malfunction.
  • Locations where electronic equipment is installed. Electrical noise may adversely affect the operation of the electronic equipment.

(3) Concerning use in locations with high ceilings
  • In locations with high ceilings, use of circulators for improving the temperature distribution during heating is recommended.

(4) Concerning use in high-humidity environments
  • When the ceiling-recessed type of indoor unit is installed in a location, such as those described below, and it is very hot and humid inside the ceiling, condensation may form on the external surfaces of the indoor unit and drip down. In such cases, add external heat-insulating materials.
    – Locations such as food preparation sites in which the areas above the ceilings are hot and humid
    – Locations in which outside air is drawn in and routed above the ceiling
    – Above ceilings with a slate roof or tiled roof overhead

(5) Even when an air conditioner is shut down, it will still consume a small amount of power to protect the unit. If the air conditioner will not be used for a prolonged period, turn OFF the main switch (ground fault circuit breaker). However, before the unit is to be used again, turn ON the main switch (ground fault circuit breaker) for at least 12 hours in order to prevent trouble.

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