



***Better Air Solutions***



**Air Conditioning for  
Light Commercial Fixed Speed**

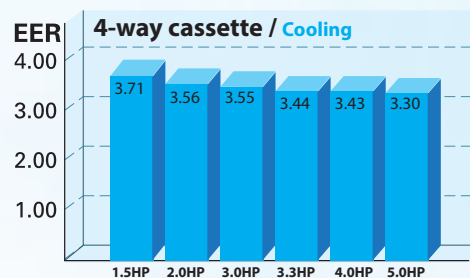


# Better Air Solutions

Through our commitment to world-class **efficiency**, versatile **scalability** and leading **quality**, Toshiba Air Conditioning advances leading-edge technologies to find the most forward-thinking solutions possible for your world.

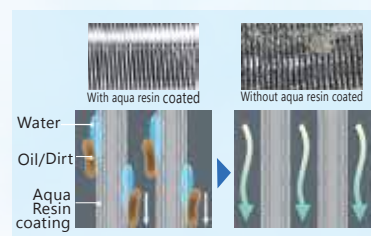
## High efficiency

EER>3.1 for all types; 1-phase model, Greater EER 3.71 for 1.5HP of 4-way cassette



## Aqua Resin coated Indoor unit coil

Air conditioners can get very dirty inside, collecting bacteria and allergens. Aqua Resin coated coil reduces the formation of water or oil on the coil unit as well as minimizes dust accumulation on the coil.



## Environmental friendly

Non-CFC refrigerant helps reduce our environmental impact



So you can be sure of:



# Product Lineup

4-Way Cassette type

Ceiling type

Standard Duct type



1.5HP	1-phase	RAV-130ASP-V	RAV-130USP-V	RAV-130CSP-V	RAV-130BSP-V
2.0HP	1-phase	RAV-180ASP-V	RAV-180USP-V	RAV-180CSP-V	RAV-180BSP-V
3.0HP	1-phase	RAV-240ASP-V	RAV-240USP-V	RAV-240CSP-V	RAV-240BSP-V
3.3HP	1-phase	RAV-300ASP-V	RAV-300USP-V	RAV-300CSP-V	RAV-300BSP-V
4.0HP	1-phase	RAV-360ASP-V	RAV-360USP-V	RAV-360CSP-V	RAV-360BSP-V
	3-phase	RAV-360AS8-V			
5.0HP	1-phase	RAV-420ASP-V	RAV-420USP-V	RAV-420CSP-V	RAV-420BSP-V
	3-phase	RAV-420AS8-V			
6.0HP	3-phase	RAV-480AS8-V	RAV-480USP-V	RAV-480CSP-V	RAV-480BSP-V
7.0HP	3-phase	RAV-600AS8-V	RAV-600USP-V	RAV-600CSP-V	RAV-600BSP-V



1.5 - 2.0HP

3.0 - 3.3HP

4.0 - 6.0HP

7.0HP



## 4-Way Cassette type

### Compact sizing

Compact size especially in height (256mm.), offers wide range of installation opportunities to customer.



256mm.\*  
\*1.5-3.0HP

Receiver

A wireless remote control is available for your convenience.



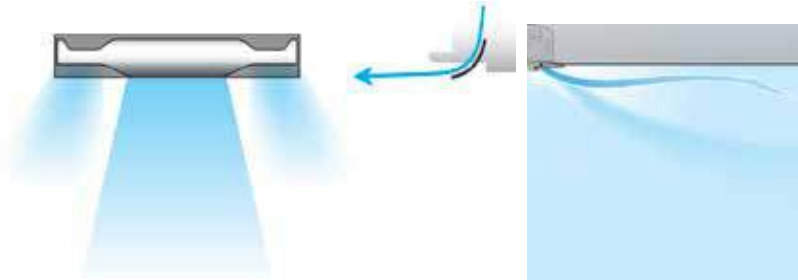
Receiver standard fitted in the panel

**RAV-XXXUSP**



**RBC-U31PGXP(W)-IN1**

### The wide air flow in all direction



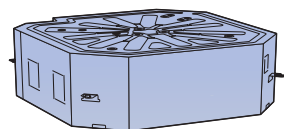
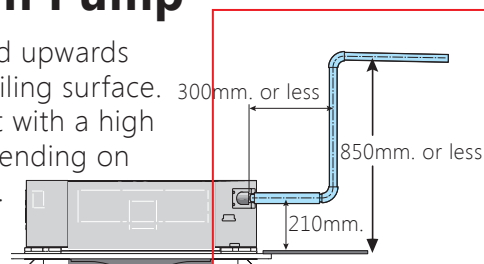
### Wide flow louver panels

Panel size is the same for all models, RBC-U31PGXP(W)-IN1\*. It is easy to maintain a neat appearance when multiple units are installed.

\*Available as an option.

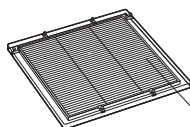
### 850mm. Drain Pump

Drain can be discharged upwards by 850mm. from the ceiling surface. It allows a piping layout with a high degree of freedom depending on the installation location.



Spacer for height adjustment

Ceiling panel  
RBC-U31PGXP(W)-IN1



Air inlet grille



## 1-phase

### Specifications

Equivalent			HP	1.5	2.0	3.0	3.3	4.0	5.0
Model Name	Indoor unit			RAV-130USP-V	RAV-180USP-V	RAV-240USP-V	RAV-300USP-V	RAV-360USP-V	RAV-420USP-V
	Outdoor unit			RAV-130ASP-V	RAV-180ASP-V	RAV-240ASP-V	RAV-300ASP-V	RAV-360ASP-V	RAV-420ASP-V
Power supply (Outdoor unit)				1-phase 50Hz 220-240V					
Cooling capacity		kW	3.8	5.3	7.1	8.8	10.6	12.5	
		Btu	13000	18100	24200	30000	36100	42600	
Power consumption		kW	1.02	1.49	2.00	2.56	3.09	3.79	
EER				3.71	3.56	3.55	3.44	3.43	3.30
Indoor unit	Airflow (H/M/L)		m³/h	1050/870/780		1230/960/810	2010/1440/1170		2100/1440/1230
	Sound pressure level (H/M/L)		dB(A)	33/31/30	34/32/31	38/36/35	45/39/36	46/40/37	47/41/38
	Panel model			RBC-U31PGXP(W)-IN1					
	Dimensions (HxWxD)	Main unit	mm	256x840x840			319x840x840		
		Panel	mm	30x950x950					
	Weight	Main unit	kg	20			24		
		Panel	kg	4					
Outdoor unit	Compressor	Type		Rotary					Scroll
		Motor output	W	770	1100	1402	1600	2700	3600
	Refrigerant charge (R410A)		kg	1.20	1.00	1.08	1.40	1.70	1.70
	Sound pressure level		dB(A)	46	49	52	53	55	55
	Dimensions (HxWxD)		mm	550x780x290			630x800x300		890x900x320
	Weight		kg	34	37	43	44	63	74
Piping connections	Liquid side		mm	ø6.4		ø9.5	ø9.5		ø9.5
	Gas side		mm	ø12.7		ø15.9	ø15.9		ø19.1
Max. pipe total length			m	20		25	30		30
Max. height difference			m	10		10	20		20
Operation range			°C	21~43					

## 3-phase

### Specifications

Equivalent				HP	4.0	5.0	6.0	7.0
Model Name	Indoor unit			RAV-360USP-V	RAV-420USP-V	RAV-480USP-V	RAV-600USP-V	
	Outdoor unit			RAV-360AS8-V	RAV-420AS8-V	RAV-480AS8-V	RAV-600AS8-V	
Power supply (Outdoor unit)				3-phase 50Hz 380-415V				
Cooling capacity			kW	10.6	12.5	15.1	17.5	
			Btu	36100	42600	51500	60000	
Power consumption			kW	3.09	3.93	5.40	6.03	
EER				3.43	3.18	2.80	2.90	
Indoor unit	Airflow (H/M/L)		m³/h	2010/1440/1170	2100/1440/1230		2200/1960/1780	
	Sound pressure level (H/M/L)		dB(A)	46/47/37	47/41/38	48/42/39	48/45/43	
	Panel model			RBC-U31PGXP(W)-IN1				
	Dimensions (HxWxD)	Main unit	mm	319x840x840				
		Panel	mm	30x950x950				
	Weight	Main unit	kg	24				
		Panel	kg	4				
Outdoor unit	Compressor	Type	Rotary				Scroll	
		Motor output	W	2700	3700	4700	5300	
	Refrigerant charge (R410A)		kg	1.90	1.90	1.75	2.10	
	Sound pressure level		dB(A)	55	55	57	63	
	Dimensions (HxWxD)		mm	890x900x320				1340x900x320
Weight		kg	64	73	73	103		
Piping connections	Liquid side		mm	ø9.5	ø9.5			
	Gas side		mm	ø15.9	ø19.1			
Max. pipe total length			m	30	30		50	
Max. height difference			m	20	20		30	
Operation range			°C	21~43				

### Controller

#### Standard supply



Wireless remote

#### Option



Wired remote

**RBC-AMT32E**

#### Option

**Premium**



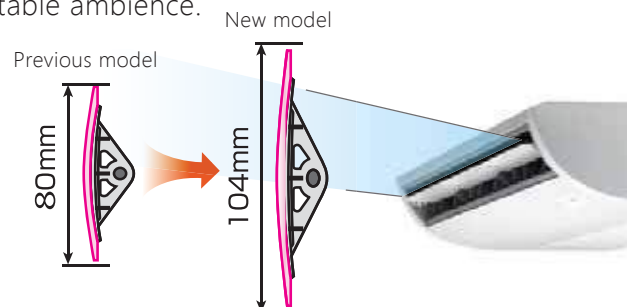
Wired remote

**RBC-AMS54E-EN/ES**

## Ceiling type

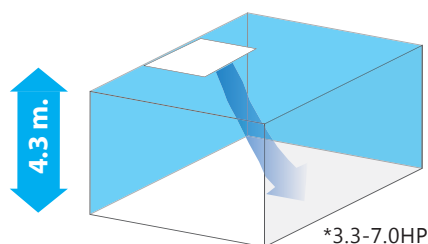
### Designed Wide Flap

The airflow angle is automatically set to the most suitable setting according to your needs, an automatic swing mode enables the airflow to reach all areas of the room to create a comfortable ambience.



### 30% Extension Installable up to 4.3m.\*

The most suitable airflow can be potentially installed at the maximum height of up to 4.3m. with the comfortable temperature.



### Smooth Curve Shape

Rounded design, this new models have been developed in response to customers' need for ceiling units that better match their room interiors.



**RAV-XXXCSP**



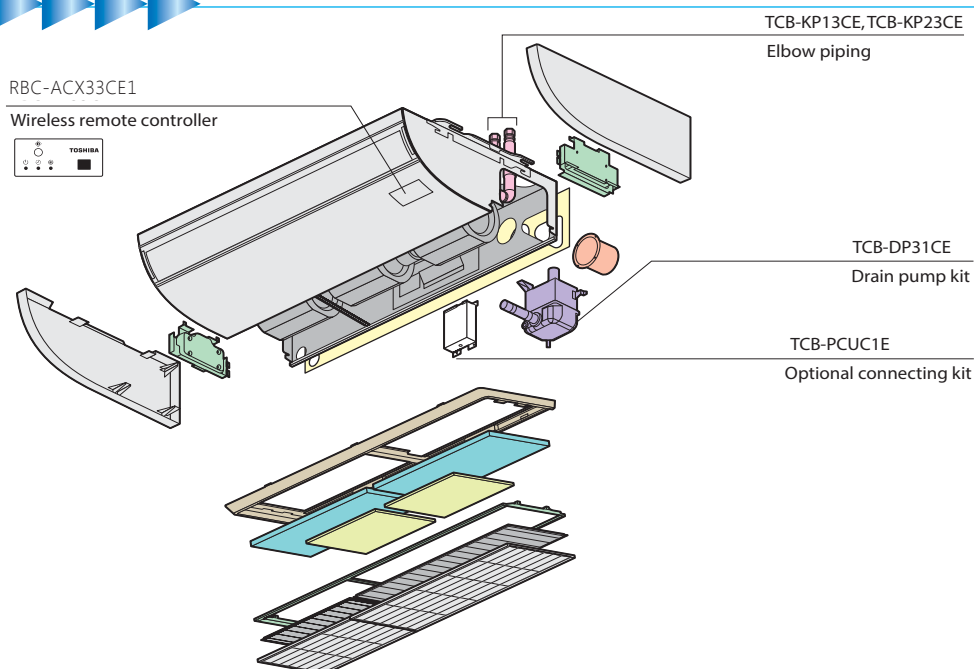
**TCB-DP31CE**

**Drain pump kit**

### Drain pump kit with glass built\*

The Drain pump kit makes draining easier. Glass built into Drain Pump kit helps reduce mould formation.

\*Available as an option.



## 1-phase

### Specifications

Equivalent			HP	1.5	2.0	3.0	3.3	4.0	5.0
Model Name	Indoor unit			RAV-130CSP-V	RAV-180CSP-V	RAV-240CSP-V	RAV-300CSP-V	RAV-360CSP-V	RAV-420CSP-V
	Outdoor unit			RAV-130ASP-V	RAV-180ASP-V	RAV-240ASP-V	RAV-300ASP-V	RAV-360ASP-V	RAV-420ASP-V
Power supply (Outdoor unit)				1-phase 50Hz 220-240V					
Cooling capacity		kW	3.8	5.3	7.1	8.8	10.6	12.5	
		Btu	13000	18100	24200	30000	36100	42600	
Power consumption		kW	1.06	1.49	2.00	2.56	3.09	3.79	
EER			3.60	3.56	3.55	3.44	3.43	3.30	
Indoor unit	Airflow (H/M/L)		m³/h	900/720/540		1410/1000/750	1860/1350/1020		2040/1530/1200
	Sound pressure level (H/M/L)		dB(A)	40/36/32	40/36/32	43/37/33	44/36/30	44/38/33	47/41/34
	Dimensions (HxWxD)		mm	235x952x690		235x1269x690	235x1586x690		
	Weight		kg	23		30	37		
Outdoor unit	Compressor	Type	Rotary						Scroll
		Motor output	W	770	1100	1402	1600	2700	3600
	Refrigerant charge (R410A)		kg	1.20	1.00	1.08	1.40	1.70	1.70
	Sound pressure level		dB(A)	46	49	52	53	55	55
	Dimensions (HxWxD)		mm	550x780x290		630x800x300		890x900x320	
Weight		kg	34	37	43	44	63	74	
Piping connections	Liquid side		mm	ø6.4		ø9.5	ø9.5		ø9.5
	Gas side		mm	ø12.7		ø15.9	ø15.9		ø19.1
Max. pipe total length			m	20		25	30		30
Max. height difference			m	10		10	20		20
Operation range			°C	21~43					

## 3-phase

### Specifications

Equivalent			HP	4.0	5.0	6.0	7.0
Model Name	Indoor unit			RAV-360CSP-V	RAV-420CSP-V	RAV-480CSP-V	RAV-600CSP-V
	Outdoor unit			RAV-360AS8-V	RAV-420AS8-V	RAV-480AS8-V	RAV-600AS8-V
Power supply (Outdoor unit)				3-phase 50Hz 380-415V			
Cooling capacity			kW	10.6	12.5	15.1	17.5
			Btu	36100	42600	51500	60000
Power consumption			kW	3.09	3.93	5.40	5.81
EER				3.43	3.18	2.80	3.01
Indoor unit	Airflow (H/M/L)		m³/h	1860/1350/1020	2040/1530/1200		2300/2040/1860
	Sound pressure level (H/M/L)		dB(A)	44/38/33	47/41/34	48/42/35	48/44/41
	Dimensions (HxWxD)		mm	235x1586x690			
	Weight		kg	37			
Outdoor unit	Compressor	Type		Rotary			Scroll
		Motor output	W	2700	3700	4700	5300
	Refrigerant charge (R410A)		kg	1.90	1.90	1.75	2.10
	Sound pressure level		dB(A)	55	55	57	63
	Dimensions (HxWxD)		mm	890x900x320			1340x900x320
	Weight		kg	64	73	73	103
Piping connections	Liquid side		mm	ø9.5	ø9.5		
	Gas side		mm	ø15.9	ø19.1		
Max. pipe total length			m	30	30		50
Max. height difference			m	20	20		30
Operation range			°C	21~43			

### Controller

**Option**



Wireless remote kit  
**RBC-ACX33CE1**

**Option**



Wired remote  
**RBC-AMT32E**

**Option**

**Premium**



Wired remote  
**RBC-AMS54E-EN/ES**

## Standard Duct type

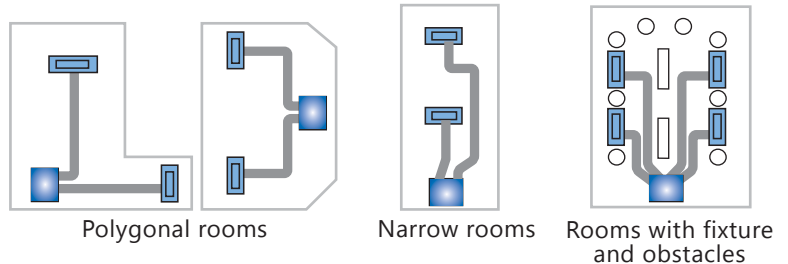
### Compact sizing

Compact size especially in height (275mm.), offers a wide range of installation opportunities to customer.



**RAV-XXXBSP**

### Flexible duct is accessible, Allows complete design flexibility



**Spigot shaped flange\***

\*Available as an option.

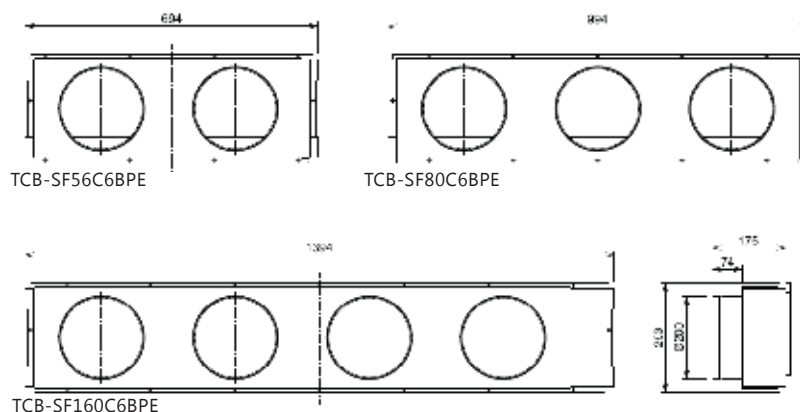
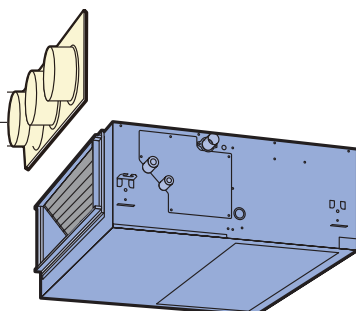
### High static pressure

External static pressure can be raised as high as 120Pa, 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 850mm. from the drain port.

Spigot shaped flange  
TCB-SF56C6BPE  
TCB-SF80C6BPE  
TCB-SF160C6BPE





## 1-phase

### Specifications

Equivalent			HP	1.5	2.0	3.0	3.3	4.0	5.0	
Model Name	Indoor unit			RAV-130BSP-V	RAV-180BSP-V	RAV-240BSP-V	RAV-300BSP-V	RAV-360BSP-V	RAV-420BSP-V	
	Outdoor unit			RAV-130ASP-V	RAV-180ASP-V	RAV-240ASP-V	RAV-300ASP-V	RAV-360ASP-V	RAV-420ASP-V	
Power supply (Outdoor unit)				1-phase 50Hz 220-240V						
Cooling capacity		kW	3.8	5.3	7.1	8.8	10.6	12.5		
		Btu	13000	18100	24200	30000	36100	42600		
Power consumption		kW	1.14	1.70	2.27	2.83	3.41	4.02		
EER				3.32	3.12	3.13	3.11	3.11	3.11	
Indoor unit	Airflow (H/M/L)		m³/h	900/720/540		1440/1220/960		2100/1650/1260		
	External static pressure	(Factory setting)	Pa	30	30	30	30	30	50	
		(Upper-Lower)	Pa	120-30	120-30	120-30	120-30	120-30	120-30	
	Sound pressure level (H/M/L)		dB(A)	37/32/29	38/34/31	41/38/36	42/38/34	44/42/39	44/42/39	
	Dimensions (HxWxD)		mm	275x700x750		275x1000x750		275x1400x750		
	Weight		kg	23		30		40		
Outdoor unit	Compressor	Type		Rotary						Scroll
		Motor output	W	770	1100	1402	1600	2700	3600	
	Refrigerant charge (R410A)		kg	1.20	1.00	1.08	1.40	1.70	1.70	
	Sound pressure level		dB(A)	46	49	52	53	55	55	
	Dimensions (HxWxD)		mm	550x780x290		630x800x300		890x900x320		
	Weight		kg	34	37	43	44	63	74	
Piping connections	Liquid side		mm	ø6.4		ø9.5		ø9.5		
	Gas side		mm	ø12.7		ø15.9		ø15.9		
Max. pipe total length			m	20		25		30		
Max. height difference			m	10		10		20		
Operation range			°C	21~43						

## 3-phase

### Specifications

Equivalent			HP	4.0	5.0	6.0	7.0
Model Name	Indoor unit			RAV-360BSP-V	RAV-420BSP-V	RAV-480BSP-V	RAV-600BSP-V
	Outdoor unit			RAV-360AS8-V	RAV-420AS8-V	RAV-480AS8-V	RAV-600AS8-V
Power supply (Outdoor unit)				3-phase 50Hz 380-415V			
Cooling capacity		kW		10.6	12.5	15.1	17.5
		Btu		36100	42600	51500	60000
Power consumption		kW		3.41	4.02	5.60	5.87
EER				3.11	3.11	2.70	2.98
Indoor unit	Airflow (H/M/L)		m³/h	2100/1650/1260			2200/2000/1760
	External static pressure	(Factory setting)	Pa	30	50	50	50
		(Upper-Lower)	Pa	120-30	120-30	120-30	120-30
	Sound pressure level (H/M/L)		dB(A)	44/42/39	44/42/39	45/43/40	45/43/40
	Dimensions (HxWxD)		mm	275x1400x750			
	Weight		kg	40			
Outdoor unit	Compressor	Type		Rotary			Scroll
		Motor output	W	2700	3700	4700	5300
	Refrigerant charge (R410A)		kg	1.90	1.90	1.75	2.10
	Sound pressure level		dB(A)	55	55	57	63
	Dimensions (HxWxD)		mm	890x900x320			1340x900x320
	Weight		kg	64	73	73	103
Piping connections	Liquid side		mm	ø9.5	ø9.5		
	Gas side		mm	ø15.9	ø19.1		
Max. pipe total length			m	30	30		50
Max. height difference			m	20	20		30
Operation range			°C	21~43			

### Controller

Option



Wireless remote kit  
**TCB-ACX32E2**

Option



Wired remote  
**RBC-AMT32E**

Option

Premium



Wired remote  
**RBC-AMS54E-EN/ES**

## 8-2. Troubleshooting

### 8-2-1. Outline of judgment

The following method can be done to check whether the problem occurred in indoor or outdoor unit.

The error is indicated by indication lamp on the display of the indoor unit. (sensors of the receiving part)

The indoor unit monitors the operating status of the air conditioner, and the blocked contents of self-diagnosis are displayed restricted to the following cases if a protective circuit works.

● : OFF, ○ : ON, ◐ : Flash (0.5 sec.)

Lamp indication	Check code	Cause of trouble
Operation   Timer   Ready ●   ●   ● No indication at all	—	Power supply OFF or miswiring between receiving unit and indoor unit
Operation   Timer   Ready ◐   ●   ● Flash	E01	Receiving error
	E02	Sending error
	E03	Communication stop
	E08	Duplicated indoor unit No.
	E09	Duplicated header units of remote controller
	E10	Communication error between CPUs on indoor unit P.C. board
	E11	Communication error between Application control kit and indoor unit P.C. board
	E18	Wire connection error between indoor units, Indoor power OFF (Communication stop between indoor master and follower or between main and sub indoor twin)
Operation   Timer   Ready ●   ◐   ◐ Alternate flash	P10	Overflow was detected.
	P12	Indoor DC fan error
Operation   Timer   Ready ◐   ◐   ● Alternate flash	F02	Heat exchanger sensor (TC) error
	F10	Heat exchanger sensor (TA) error
Operation   Timer   Ready ◐   ◐   ● Simultaneous flash	F29	Indoor EEPROM error
Operation   Timer   Ready ◐   ●   ◐ Simultaneous flash	L03	Duplicated header indoor units
	L07	There is indoor unit of group connection in individual indoor unit.
	L08	Unsetting of group address
	L09	Missed setting (Unset indoor capacity)

→ AUTO address  
 \* If group construction and address are not normal power supply turned on, automatically goes to address setup mode.

### 8-2-2. Others (Other than Check Code)

Lamp indication	Check code	Cause of trouble occurrence
Operation   Timer   Ready ◐   ◐   ◐ Simultaneous flash	—	During test run
Operation   Timer   Ready ○   ◐   ◐ Alternate flash	—	Disagreement of cool/heat (Automatic cool/heat setting to automatic cool/heat prohibited model, or setting of heating to cooling-only model)

**Error mode detected by indoor unit**

Operation of diagnostic function				Judgment and measures
Check code	Cause of errors	Status of air conditioner	Condition	
E03	No communication from remote controller (including wireless) and communication adapter	Stop (Automatically reset)	Displayed when error is detected	1. Check cables of remote controller and communication adapters. ≠ Remote controller LCD display OFF (Disconnection) ≠ Central remote controller [97] check code
E08	Duplicated indoor unit address	Stop	Displayed when error is detected	1. Check whether remote controller connection (Group/Individual) was changed or not after power supply turned on (Finish of group construction/Address check). * If group construction and address are not normal when the power has been turned on, the mode automatically shifts to address setup mode. (Resetting of address)
L03	Duplicated indoor master unit			
L07	There is group wire in individual indoor unit.			
L08	Unset indoor group address			
L09	Unset indoor capacity	Stop	Displayed when error is detected	1. Set indoor capacity (CODE No. (DN) = 11)
P10	Float switch operation Float circuit, Disconnection, Coming-off, Float switch contact error	Stop	Displayed when error is detected	1. Trouble of drain pump 2. Clogging of drain pump 3. Check float switch. 4. Check indoor P.C. board. 5. Check Application control kit of indoor unit
P12	Indoor DC fan error	Stop	Displayed when error is detected	1. Position detection error 2. Over-current protective circuit of indoor fan driving unit operated. 3. Indoor fan locked. 4. Check indoor P.C. board.
F02	Coming-off, disconnection or short of indoor heat exchanger temp. sensor (TC)	Stop (Automatically reset)	Displayed when error is detected	1. Check indoor heat exchanger temp. sensor (TC). 2. Check indoor P.C. board.
F10	Coming-off, disconnection or short of indoor heat exchanger temp. sensor (TA)	Stop (Automatically reset)	Displayed when error is detected	1. Check indoor heat exchanger temp. sensor (TA). 2. Check indoor P.C. board.
F29	Indoor EEPROM error EEPROM access error	Stop (Automatically reset)	Displayed when error is detected	1. Check indoor EEPROM. (including socket insertion) 2. Check indoor P.C. board.
E10	Communication error between indoor MCU Communication error between fan driving MCU and main MCU	Stop (Automatically reset)	Displayed when error is detected	1. Check indoor P.C. board.
E11	Communication error between Application and indoor unit	Stop (Automatically reset)	Displayed when error is detected	1. Check power supply / communication harness 2. Check indoor P.C. board
E18	Regular communication error between indoor master and follower units and between main and sub units	Stop (Automatically reset)	Displayed when error is detected	1. Check remote controller wiring. 2. Check indoor power supply wiring. 3. Check indoor P.C. board.



# TOSHIBA

## Leading Innovation >>>

### CARRIER VIETNAM AIR CONDITIONING CO., LTD

**Head Office:** 6<sup>th</sup> Floor, INTAN Building, 97 Nguyen Van Troi, W.12, Phu Nhuan Dist, HCMC  
 Tell: +84.28.3999.1670 Fax: +84.28.3999.1675

**Hanoi:** 16<sup>th</sup> Floor, Viet Tower, 1 Thai Ha Street, Trung Liet Ward, Dong Da Dist., Hanoi  
 Tell: +84.24.3824.7684 Fax: +84.24.22203120

**Danang:** 14<sup>th</sup> Floor, Thanh Loi Building, 249 Nguyen Van Linh St., Thanh Khe Dist., Danang  
 Tell: +84236 3747977 Fax: +84236 3747978



Notice: - Products listed in this leaflet use HFC refrigerant R410A with a GWP of 2,088\*.

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

\*The GWP value is calculated based on information provided in the EU F-gas Regulation and IPCC Fourth Assessment Report.