



FUJITSU GENERAL

Air Conditioning Business >>>

FUJITSU GENERAL LIMITED

Sales Companies / Offices

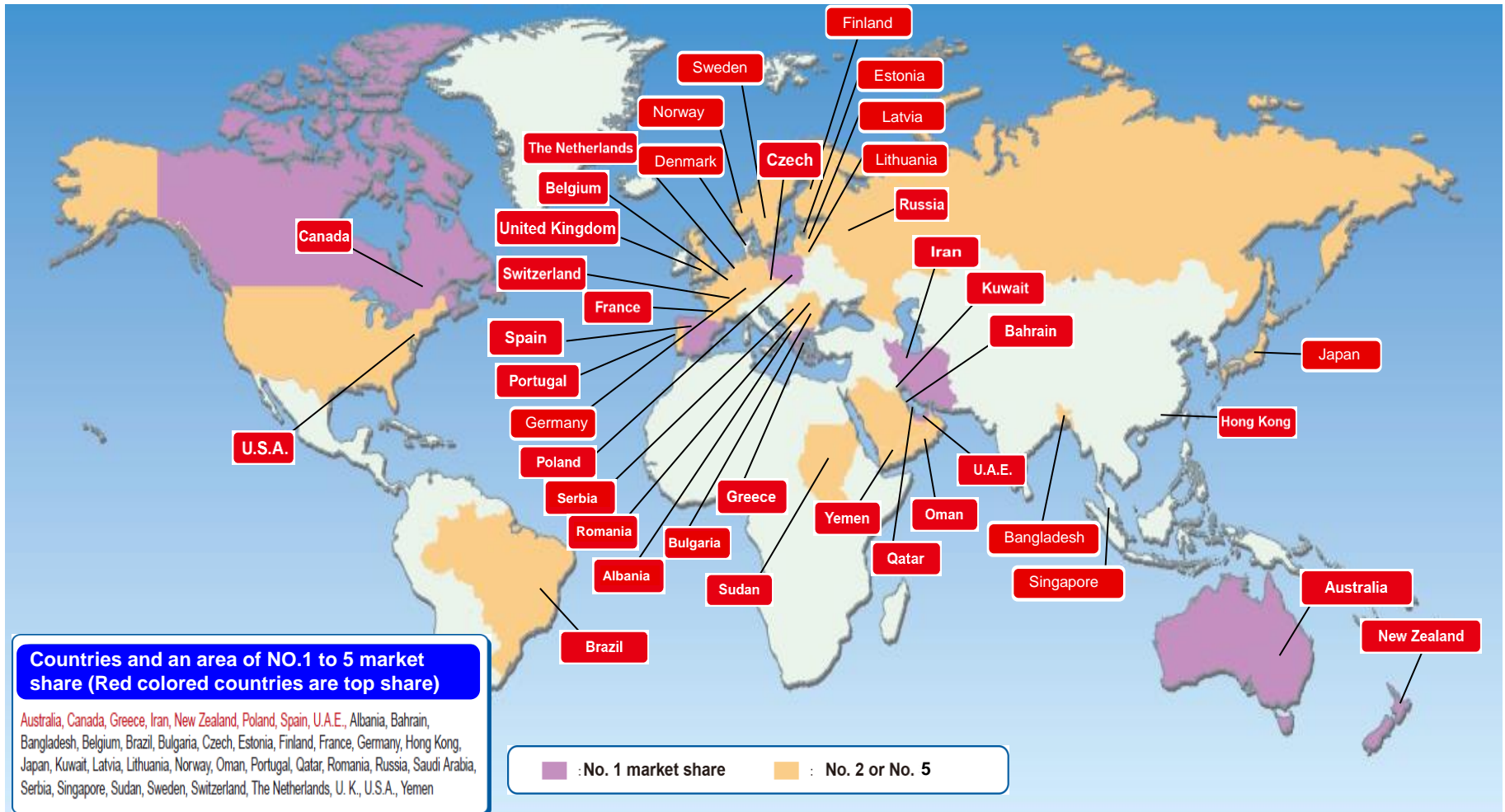


13 sales offices over the world



Top Share Map <residential use>

No. 1 market share in 8 countries, No. 2 to No. 5 in 32 countries



Fujitsu AC's in New Zealand



R&D Centers / Factories < Air Conditioning



Business >

- 1** Fujitsu General Limited <HQ>
- 2** Fujitsu General Institute of Air Conditioning Technology



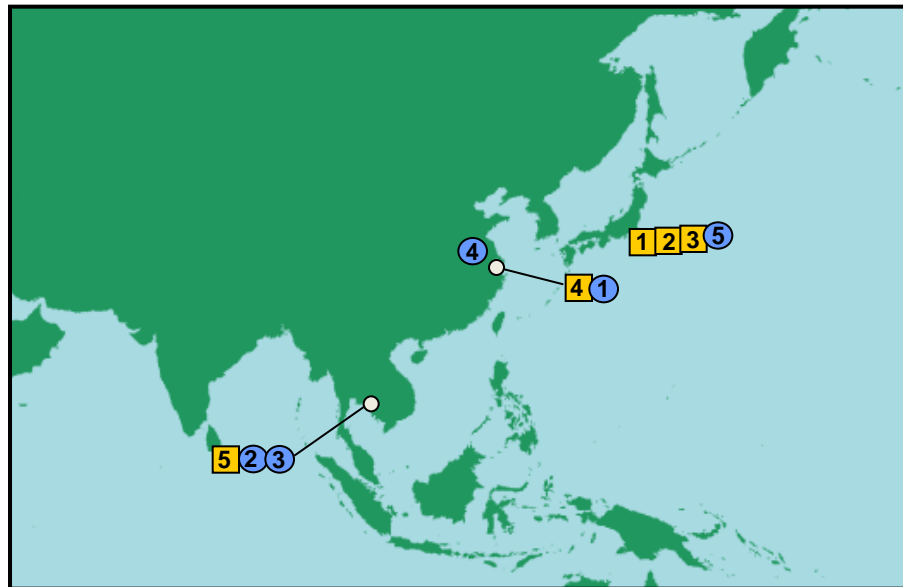
- 3** Fujitsu General Institute EMC Lab.



- 4** Fujitsu General Engineering (Shanghai) Co., Ltd.



- 5** Fujitsu General Engineering (Thailand) Co., Ltd.



R&D Centers

1 ~ 5

Factories

1 ~ 5

- 5** Fujitsu General Electronics Ltd.



- 1** Fujitsu General (Shanghai) Co., Ltd.



- 2** Fujitsu General (Thailand) Co., Ltd.



- 3** FGA (Thailand) Co., Ltd.



- 4** Fujitsu General Central Air-conditioner (Wuxi) Co., Ltd.



Overview



Rooftop



Location: Kawasaki, Japan

Construction start : January 2007

Completion : October 2007

Investment : 5.5 Billion YEN (34 Million €)

Scale of building : 5 floors above ground

Height : 27.5m

Building area : 4,648m²

Total area : 19,766m²

Main equipment :

Calorie meter for VRF system;
noise level test equipment;
constant temperature & humidity control;
continuous operation test equipment;
water injection / Typhoon test equipment
and others

System:

Outdoor unit x 67 (28 systems)
Indoor unit x 219

Control:

PC controller x 2
Central remote controller x 3
Group remote controller x 8
Individual controller x 57

Remote monitoring:

WEB monitoring tool x 1

■ R&D Center in FGE Thailand (est. 2016)



- **Main Aim : Reinforcement of commercial product development**
 - Latest product testing facility
 - Cooperative design review with engineers and vendors



- Total Investment Amount : 2 Billion yen
- Total Floor Space : 10,235 m²
- Capacity : More than 200 people


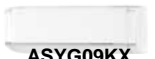
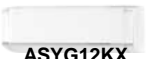


























FUJITSU GENERAL LIMITED

Products' line up in 2017



RAC products

Type	Series	BTU				BTU		
		7	9	12	14	18	24	30
New	nocria X 		 ASYG09KX CA	 ASYG12KX CA				
New	Designer Range Series High Spec & Design  KG series	 ASYG07KG CA	 ASYG09KG CA	 ASYG12KG CA	 ASYG12KG CA			
	Designer Range Series High Spec & Design		 ASYG09LT CA	 ASYG012LT CA				
	Designer Range Series High COP	 ASYG07LU CA	 ASYG09LU CA	 ASYG12LU CA	 ASYG14LU CA			
New	Standard Range Series High Efficiency & Comfort LM series	 ASYG07LM CE	 ASYG09LM CE	 ASYG12LM CE	 ASYG14LM CE			
	Standard Range Series Comfort for Large Room					 ASYG18LF CA	 ASYG24LF CC	 ASYG30LF CA
New	ECO Range Series Compact & Comfort LL series	 ASYG07LL CE	 ASYG09LL CE	 ASYG12LL CE				
	Floor Compact & Comfort		 ASYG09LV CA	 ASYG12LV CA	 ASYG14LV CA			

Wall mounted models



■ New Wall Mounted model

R32

KX(NOCRIA)

09/12



KG(High Spec Design Model)

07/09/12/14



LM(Standard Model)

09/12



LL(Entry Model)

07/09/12



R410A



Heating

The air conditioner
Warms up the room gently.



Cooling

The air conditioner delivers
improved air circulation.



Energy Saving Function

High Seasonal Efficiency

Rank **A+++**
SEER **8.5**^{**} SCOP **5.1**^{**}
*: All classes



Human Sensor

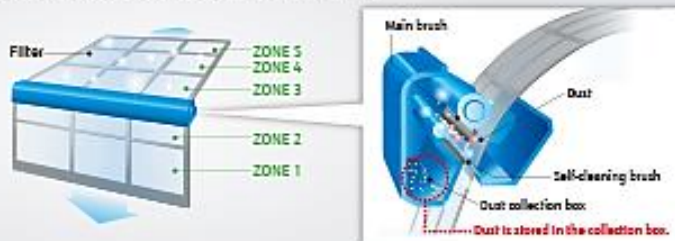


Clean Function

Filter Auto Clean



The structure of the auto-filter cleaning



Plasma Air Clean



Clean coating heat exchanger

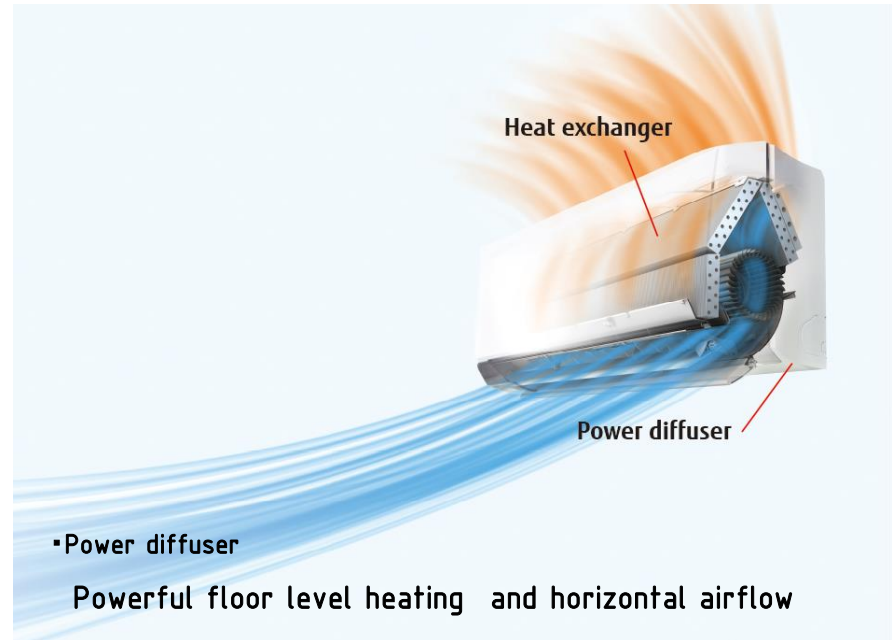


Wall mounted models

LM model



Capacity range 9,000 & 12,000 BTU (2.5 to 3.5 kW)



• High Seasonal Efficiency

Rank **A++** SEER **7.0** Rank **A+** SCOP **4.1**

• Controller



• Option



FGLair™
smartphone control
(option)

ASYG30-36LMTA



Line up

ASYG30LMTA



AOYG30LMTA



**8 kW
Model**

ASYG36LMTA



AOYG36LMTA
















































**10 kW
Model**

Products' line up in 2017



PAC products

Type	Series	BTU						BTU				
		12	14	18	24	30	36	45	54	60	72	90
Cassette Page 000	Compact 4-way Flow Series Compact & Comfort	 ACYG12VLB	 ACYG14VLB	 ACYG18VLB	 ACYG24VLB							
	Circular Flow Series Comfort for Large Room			 AUXG18LRLB	 AUXG24LRLB	 AUXG30LRLB	 AUXG36LRLB	 AUXG45LRLB	 AUXG54LRLB			
	4-way Flow Series Comfort for Large Room					 AUYG30LRLB	 AUYG36LRLA	 AUYG45LRLA	 AUYG54LRLA			
New	Mini Duct	 ARYG12LSLAP	 ARYG14LSLAP	 ARYG18LSLAP								
	Slim Duct	 ARYG12LLTB	 ARYG14LLTB	 ARYG18LLTB								
Duct Page 000	Medium Static Pressure Duct Compact & Comfort	 ARYG12LHTBP	 ARYG14LHTBP	 ARYG18LHTBP	 ARYG24LHTBP	 ARYG30LHTBP	 ARYG36LHTBP	 ARYG45LHTBP	 ARYG54LHTBP			
	Medium Static Pressure Duct High Efficiency & Comfort				 ARYG24LMLA	 ARYG30LMLE	 ARYG36LMLE	 ARYG45LMLA				
	High Static Pressure Duct							 ARYG45LHTA	 ARYG54LHTA	 ARYG60LHTA	 ARYG72LHTA	 ARYG90LHTA
Floor/Ceiling Comfort & Dual Design				 ABYG18LVTB	 ABYG24LVTA							
Ceiling Comfort for Large Room						 ABYG30LRTE	 ABYG36LRTE	 ABYG45LRTA	 ABYG54LRTA			
Wall Mounted	Standard Range Series New Design & Large Capacity					 ASYG30LMTA	 ASYG36LMTA					

Product feature



ARYG12/14/18LSLAP



AOYG12/14/18LALL

➤ More comfort

Top

• Quiet operation

23dB(A)

At quiet operation
(12/14/18)

32/34/34dB(A)
At high speed
(12/14/18)

• User friendly operation



Standard accessory

Option



UTY-RNRYZ1
(UTY-RNRYZ2)



UTY-RSRY
UTY-RHRY
(without MODE)



UTY-RVNYM

• Auto louver grille (option)



UTD-GXTA-W (2 fan)
UTD-GXTB-W (3 fan)

Products' line up in 2017



Multi products

Type		2 Rooms		3 Rooms		4 Rooms	5 Rooms	6 Rooms	8 Rooms
Model name		AOYG14LAC2	AOYG18LAC2	AOYG18LAT3	AOYG24LAT3	AOYG30LAT4	AOYG36LB LA5	AOYG45LB LA6	AOYG45LBT8
Capacity (kW)	Cooling	4.0	5.0	5.4	6.8	8.0	10.0	12.5	14.0
	Heating	4.4	5.6	6.8	8.0	9.6	12.0	13.5	16.0

Simultaneous multi products

	BTU					
	36	45	54	72	90	108
Single phase Page 000	 AOYG36LBTB	 AOYG45LBTB	 AOYG54LBTB			
3 phase Page 000~	 AOYG36LATT	 AOYG45LATT	 AOYG54LATT	 AOYG72LRLA	 AOYG90LRLA	 AOYG108LRLA

Release in 2017

Product features



AIRSTAGE™ J-III L

VRF system for medium sized buildings

AJY072LELAH: 8HP
AJY090LELAH: 10HP
AJY108LELAH: 12HP

COMPACT
8-12

Release in
2017



Products' Line-up in 2017



◆ Line up for VRF series in 2017 season

Outdoor units

Capacity (kW)	12.1	14.0	15.5	22.4	28.0	33.5	40.0	45.0	50.4	55.9	61.5	67.0	73.5	78.5	85.0	90.0	95.0	100.5	107.0	112.0	118.5	123.5	130.0	135.0	139.0	143.0	147.0
HP	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54

Light commercial series

Heat Pump System AIRSTAGE J-IIS		■																										
Heat Pump System High Efficiency (Single phase) AIRSTAGE J-III		■																										
Heat Pump System High Efficiency (3 phase) AIRSTAGE J-III		■																										
NEW Heat Pump System AIRSTAGE J-III L				■																								
NEW Heat Pump System AIRSTAGE Large Capacity																												



Commercial series

Heat Pump System Space saving combination AIRSTAGE V-III		■																											
Energy efficiency combination																													
Heat Recovery System Space saving combination AIRSTAGE VR-II		■																											
Energy efficiency combination																													

Indoor units line-up



Indoor unit lineup for J-III L

(● new model)

Capacity range (kW)	4-way Compact Cassette	4-way Cassette	4-way Circular Flow Cassette	Mini Duct	Slim Duct	Medium Static Pressure Duct	High Static Pressure Duct	Compact Floor	Compact Floor (EEV external)	Floor/Ceiling	Ceiling	Wall Mounted	Wall Mounted (EEV external)
												① ② ③ ④	① ②
1.1	●			●				●	●			[●]	[●]
2.2	●			●	●			●	●			① [●]	① [●]
2.8	●			●	●			●	●			[●]	[●]
3.6	●			●	●			●	●	●		② [●]	② [●]
4.5	●			●	●			● (4.0kw)	● (4.0kw)	●		② [● (4.0kw)]	② [● (4.0kw)]
5.6	●	● (Slim)	● / ● (Slim)	●	●					●		③ [●]	
7.1	●	● (Slim)	● / ● (Slim)	●	●	●				●		[●]	
9.0		●	● / ● (Slim)			●					●	④ [●]	
10.0		●	●									[●]	
11.2		●	●			●	●				●		
12.5		●	●			●	●				●		
14.0		●	●								●		
18.0							●						
22.4							●						
25.0							●						
28.0							●						

Suitable applications for J-III L

Urban areas in Europe;

✓ Restrictions on outdoor unit installation

- Outdoor units **invisible** from the streets
- **Smaller installation space** of outdoor units
- Strict restriction on night time **noise**

For small room property;

✓ Many indoor units are necessary for **small**

- **rooms** Small heat load = **small capacity** indoor units
- Allow more indoor unit connect ability
- Conscious to Refrigerant **gas concentration limit**
- Small sized indoor unit
- **Stylish Simple controller & Interlink to key card for hotel**



Initial investment ;

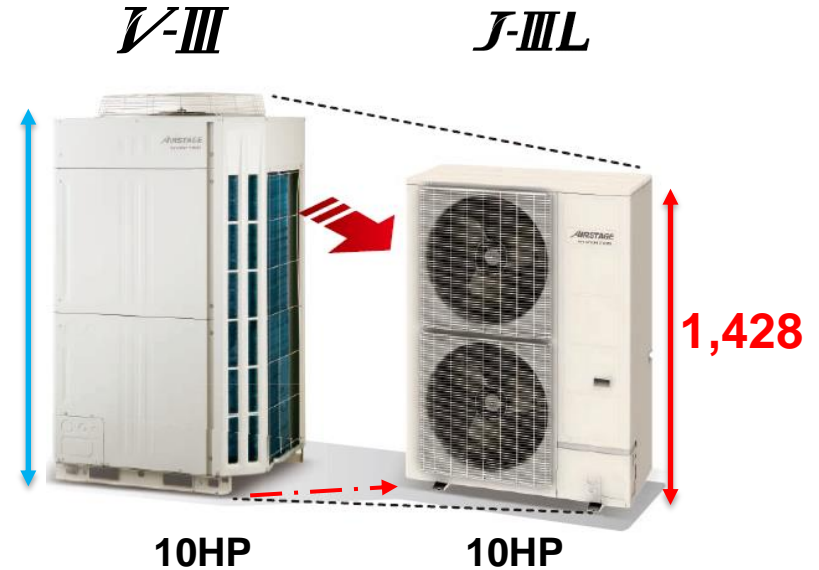
✓ It is preferable to keep initial investment **low.**

Top class compact design



The unit is easy to hide in built-up areas

[mm]



Height
difference
▲ 26%

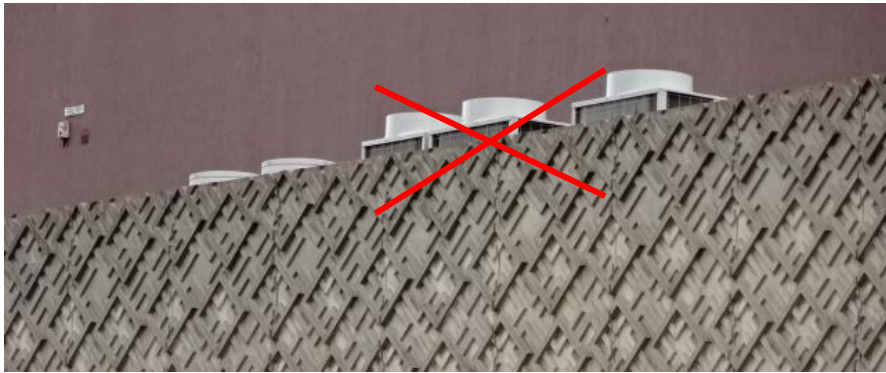
Space area
▲ 27%

Top class compact design



The unit is easy to hide in built-up areas

- ✓ Inconspicuous installation from street level is available.



Photos taken by Nakahen

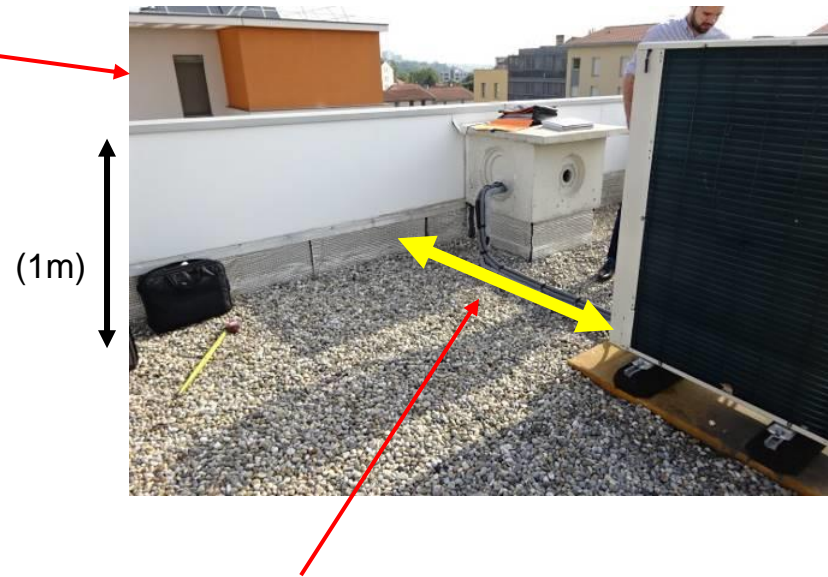
Top class compact design



The unit is easy to hide in built-up areas

- ✓ Inconspicuous installation from street level is available.

Roof installation



Low height of product allows installation closer to the walls.

Top class compact design



High static pressure

Adaptable up to 30Pa*1

Decrease in performance can be minimized in hidden installation areas behind ducts and louvers, common in the European market.

*1: 8/10HP:20Pa
12HP:30Pa

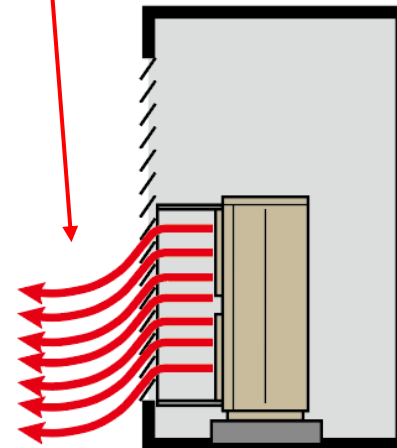


Air volume reduces by resistance from the louver → Decrease in power

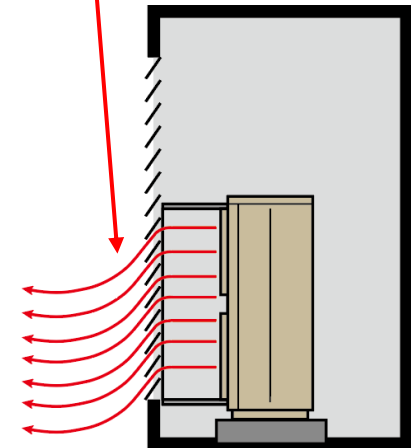
Maintain air volume

J-III L

Discharge air



Current model

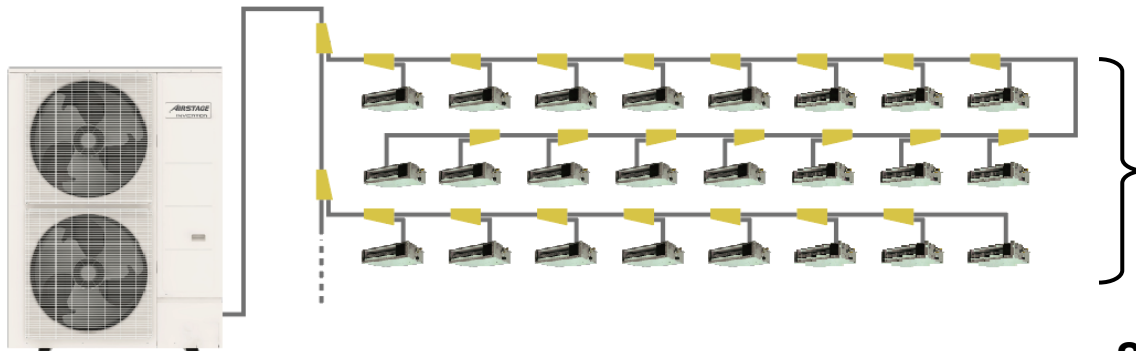


Small Rooms Application



Maximum 30 units of indoor units can be connected.

System can be configured more rooms by 1 outdoor units.



**Top
Class!**

Connectable indoor units

Max. **30** units
(@12HP)

8HP(22.4kW): 1-20 units
10HP(28.0kW): 1-25 units
12HP(33.5kW): 1-30 units

1.RAC/ PAC

New Line up Wall mounted

▶ LMCE, LLCE

New R32 Models

▶
▪ Nocria X
▪ Design Standard Model

Server Room units

▶ ▪ LMTA → 8 & 10kW

New PAC units

▶
▪ 5/6 Rooms Multi
▪ mini Ducts

2.New R&D Center

Reinforcement of R&D

▶ ▪ Established FGE R&D Center in 2016

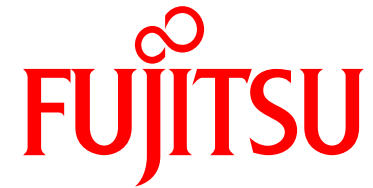
3.VRF

New J-III L

▶ ▪ Light Commercial VRF series

New VRF Indoor unit line up

▶ ▪ current RAC line up, now also for VRF



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