Introduction to MHI

Mitsubishi Heavy Industries Ltd.
and
MHI Air-conditioners distribute in Singapore, for

ALPHA Consulting Engineers Pte Ltd

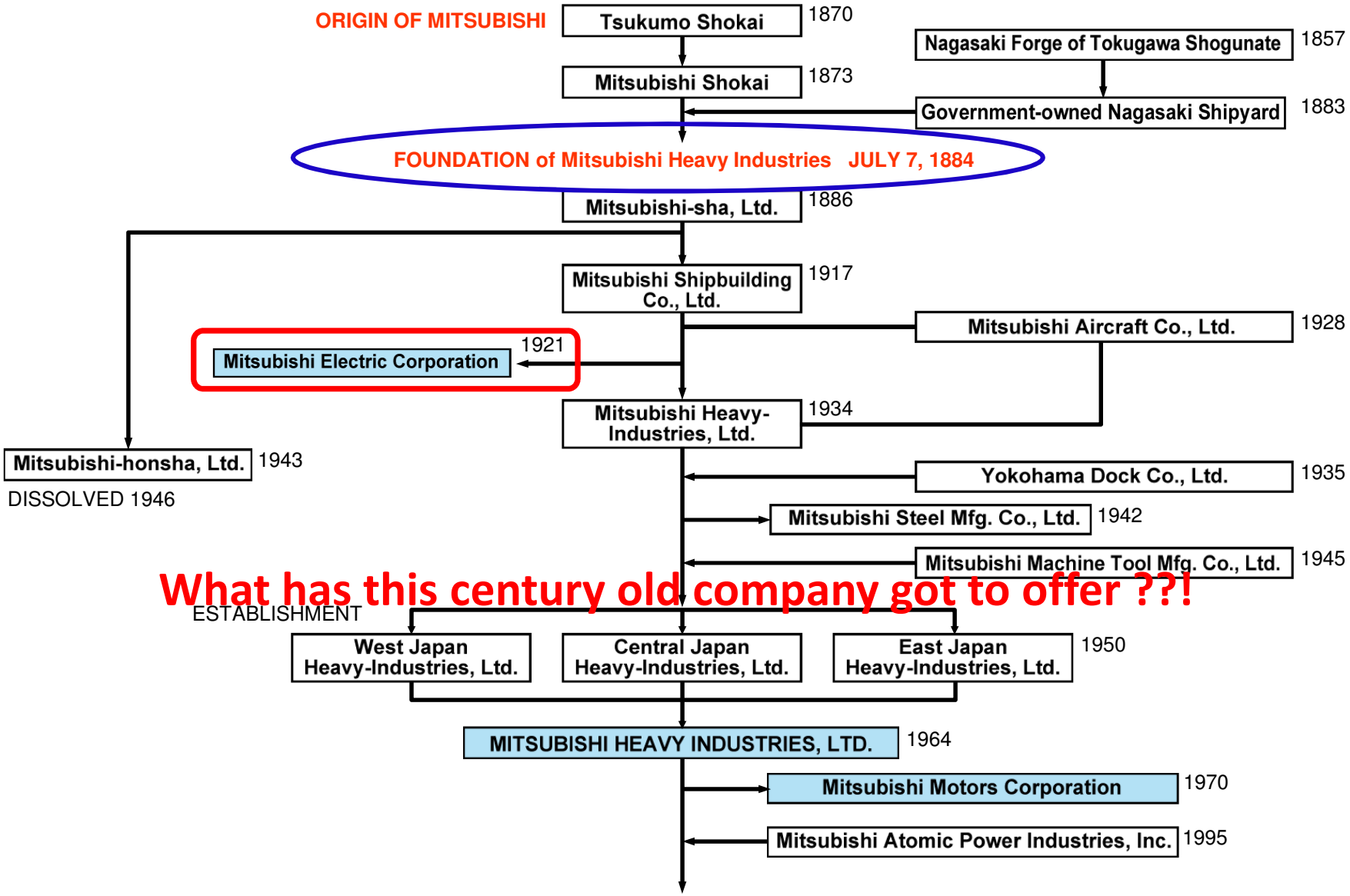
29th Jun 2017

MHI Company Outline

MITSUBISHI HEAVY INDUSTRIES, LTD.

Company Outline

MHI Company Outline



MHI Range of Products



A Diverse Range of more than **700 products types** under MHI's Passion for Engineering Excellence.

Air conditioning is a division under Mass & Medium Lot manufactured Machinery with production bases around the world

MHI Air-conditioners Plants

Air-Con Production Bases (outside Japan)



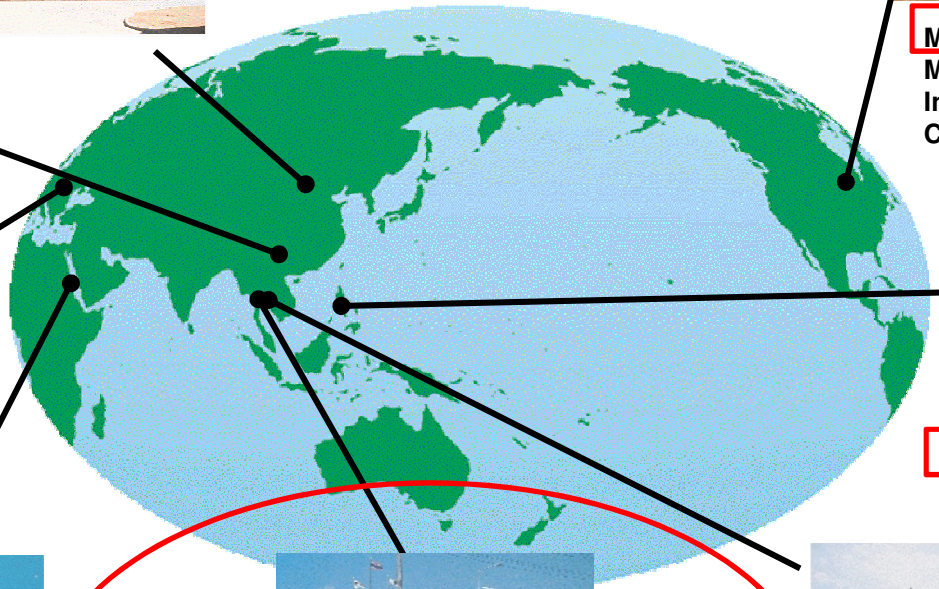
MHAQ (China)
Mitsubishi Heavy Industries-Haier (Qingdao) Air-Conditioners,Ltd.



MCC (U.S.A.)
Mitsubishi Heavy Industries Climate Control,Inc.



MJA (China)
Mitsubishi Heavy Industries-Jinling Air-Conditioners Co.,Ltd.





MHIP (Philippines)
Mitsubishi Heavy Industries Philippines Inc.



MEE (The Netherlands)
MHI Equipment Europe B.V.



SELECT (Saudi Arabia)
Saudi Factory for Electrical Appliances,Ltd.



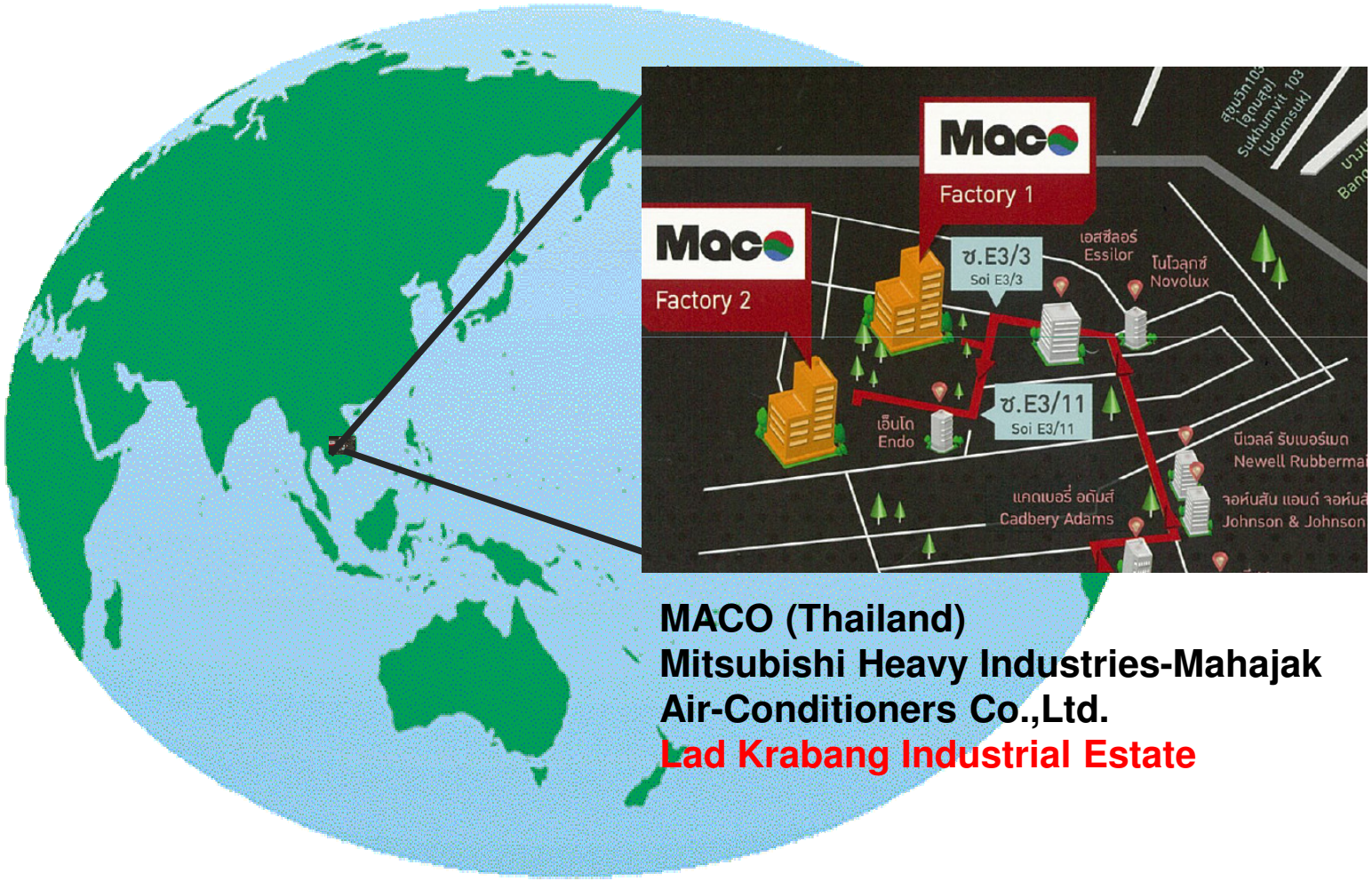
MACO (Thailand)
Mitsubishi Heavy Industries-Mahajak Air-Conditioners Co.,Ltd.



THACOM (Thailand)
Thai Compressor Manufacturing Co.,Ltd.

MHI Air-conditioners Plants

Air-Con Production Base (Bangkok, Thailand)



MACO (Thailand)
Mitsubishi Heavy Industries-Mahajak Air-Conditioners Co.,Ltd.
Lad Krabang Industrial Estate

MHI factory in Thailand

Factory 1 – Production of Residential Air-Conditioner



MHI factory in Thailand

Factory 2 – Production of Package & VRF (KX) Air-Conditioner



MHI factory in Thailand



RAC
Production process in Factory 1

MHI factory in Thailand

RAC
Production process in Factory 1



MHI factory in Thailand

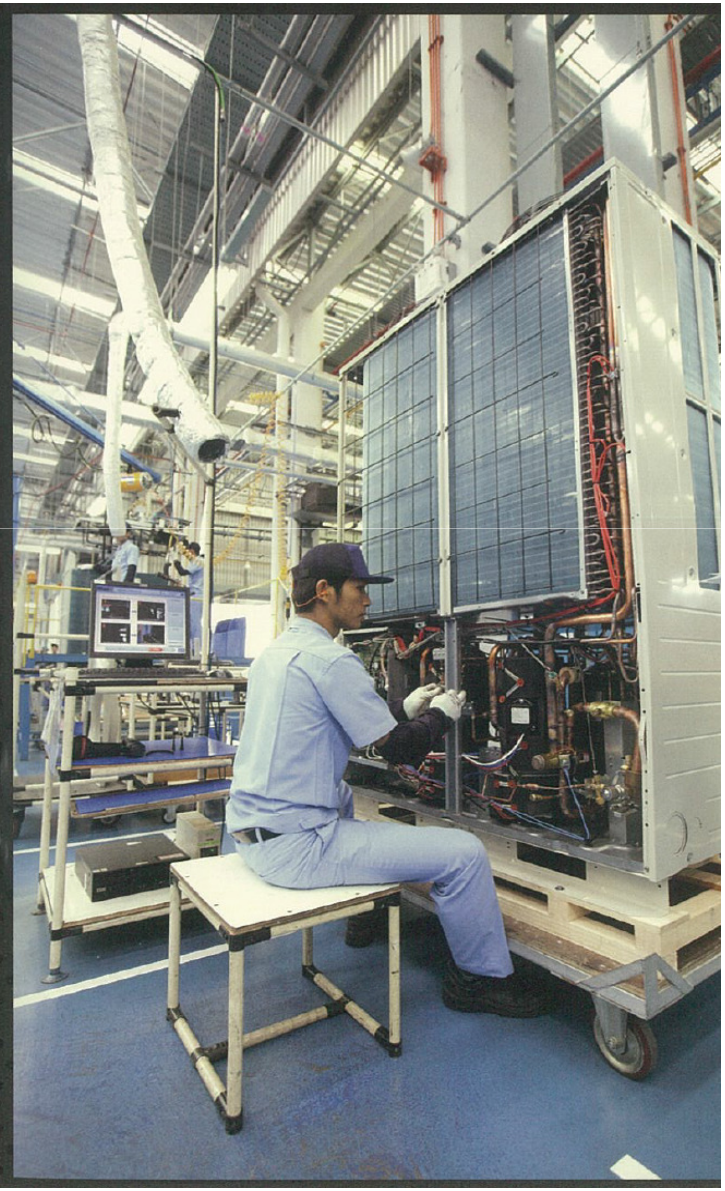


PAC & KX
Production process in Factory 2

MHI factory in Thailand

PAC & KX
Production process in Factory 2





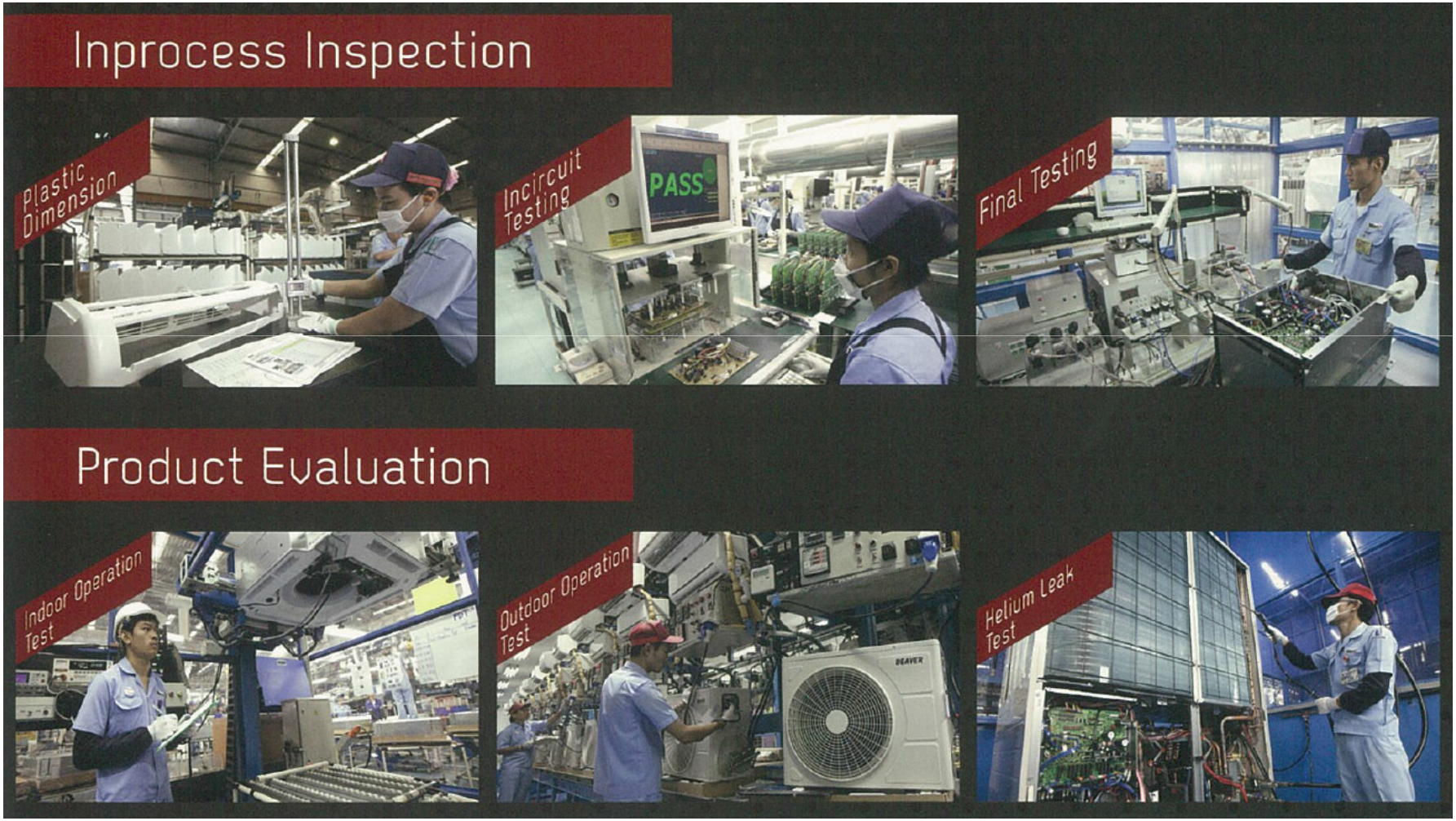
MHI factory in Thailand

Inspection and Quality Control



MHI factory in Thailand

Inspection and Quality Control

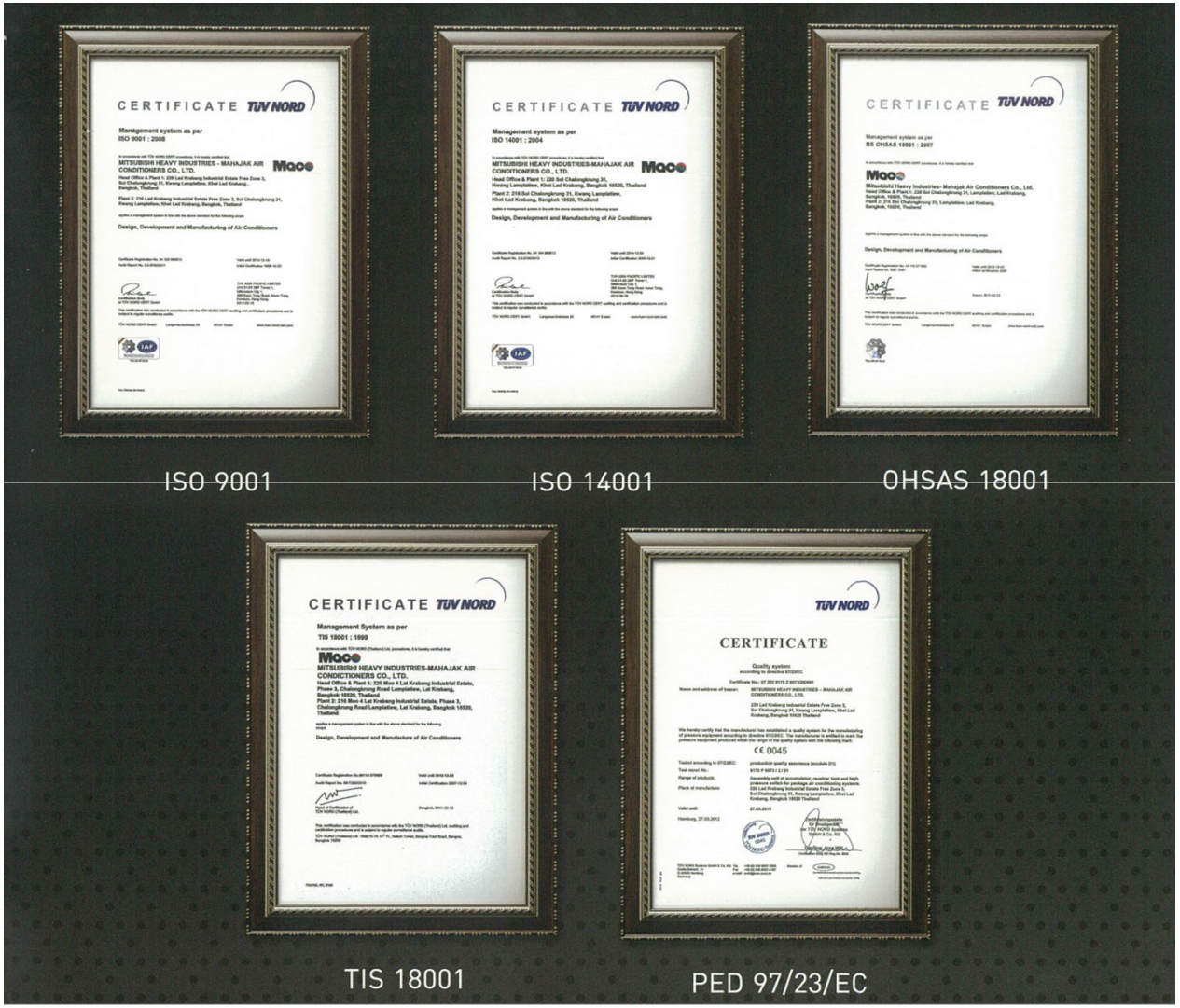


MHI factory in Thailand

Inspection and Quality Control



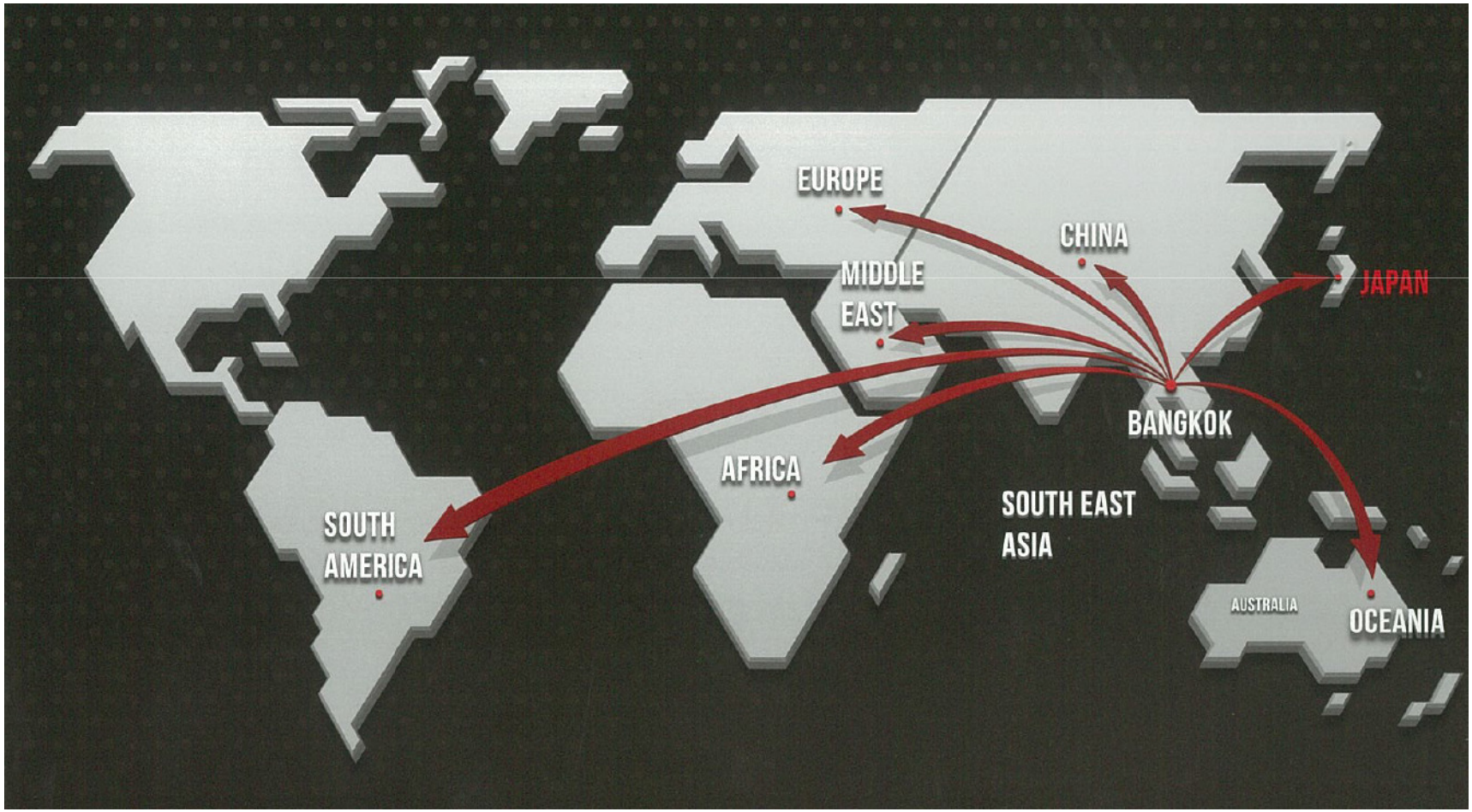
Quality Standard



The company realizes the important of quality as a mechanism for achieving production standards, increasing competitive efficiency, as well as gaining acceptance worldwide.

Quality Standard & Distribution

Air Conditioners of **MHI Thailand factory** met the stringent demand in quality and efficiency of customers is expanding across the world, including Japan, Europe, South America, Africa, Middle East, Asia and Oceania etc.



Mitsubishi Heavy Industries Ltd

Other Activities in Singapore

MHI other Activities in Singapore



ERP System
LTA Project

MHI and NCS Won Singapore's Next-generation Electronic Road Pricing System Project (S$556 mil) will be progressively implement from 2020 onwards

Electronic Road Pricing (ERP) System

Mitsubishi Heavy Industries undertake the project under LTA tender from feasibility study, system design, system testing to construction and successful implementations.

MHI other Activities in Singapore



Singapore Flyer at Marina Bay

The World's Largest – Ferris Wheel in Singapore

MHI completed a giant Ferris wheel in the Marina Bay Area, in the heart of Singapore in February 2008, the wheel become the world's largest at 150m in diameter, surpassing London Eye (135m) built on the River Thames in London. A high-tech self-rotating cabin stability system equipped for comfort of passengers.

MHI other Activities in Singapore

SKY-Train at
Changi Airport



Winner of the Grand Prize in Machine Design Competition

Rubber tires, automated unmanned operations, the Crystal Mover is an innovative transportation system that has been praised for its latest design, prizes such as Grand Prize in Japan's Machine Industries Design Competition, and orders for its installation from Changi in Singapore, Miami / Washington Dulles / Atlanta in the United States, Inchon in Korea and Dubai airports.

Air Conditioning Products distribute in Singapore

MHI Air-Conditioners in Singapore

Introduction to Mitsubishi Heavy Industries Air-Conditioner Systems



RAC



PAC



VRF

100% R410A Inverter Driven System

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KM Marketing Pte Ltd

RAC

Residential Air-Conditioner

Inverter Driven R410a System

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Introduction to Residential Air-Conditioners

EQUIPMENT TYPE AND PRODUCT RANGE



RESIDENTIAL AIR-CONDITIONER

Single Split R410A Inverter

- 1Hp, 1.5Hp 2Hp & 3Hp

Multi Split R410A Inverter

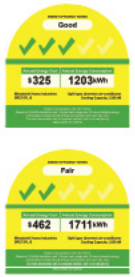
- System 2 to system 5

Introduction to Residential Air-Conditioners

RAC – Residential Air Conditioners

R410a **Single** **Inverter**

Product Range

DC Inverter Single Split	Type	Energy Labeling	Indoor Units To Be Combined
SRC10YL-S SRC13YL-S 			SRK10/13YL-S 
SRC18YL-S 			SRK18YL-S 
SRC71ZM-S 			SRK71ZM-S 

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Introduction to Residential Air-Conditioners

RAC – Residential Air Conditioners R410a Multi Inverter Sys. 2 & 3

Product Range

DC Inverter Multi Split	Type	Energy Labeling	Indoor Units To Be Combined
SCM45ZJ-S / SCM50ZJ-S 2 Indoor Unit 			SRK25/35/50ZMA-S  FDTC35VF FDTC50VF FDTC60VF  SRK60ZMX-S  SRR35ZJ-S SRR50ZJ-S SRR60ZJ-S  SRK71ZM-S 
SCM60ZJ-S1 3 Indoor Unit 			

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Introduction to Residential Air-Conditioners

RAC – Residential Air Conditioners

R410a Multi Inverter Sys 4 & 5

Product Range

DC Inverter Multi Split	Type	Energy Labeling	Indoor Units To Be Combined
SCM80ZJ-S1 4 Indoor Unit 			SRK25/35/50ZMA-S  FDTC35VF FDTC50VF FDTC60VF  SRK60ZMX-S  SRR35ZJ-S SRR50ZJ-S SRR60ZJ-S  SRK71ZM-S 
SCM100ZJ-S1 5 Indoor Unit 			

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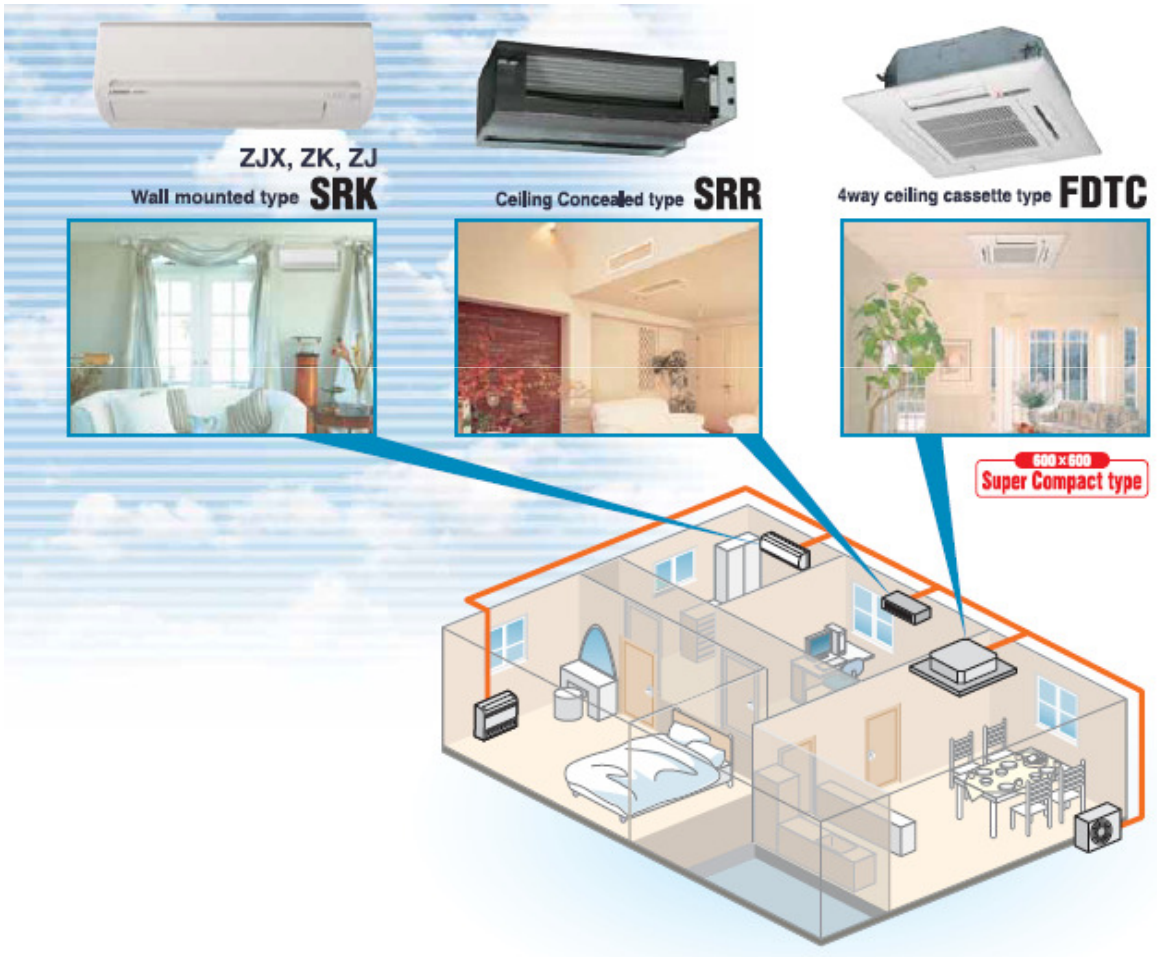
Introduction to Residential Air-Conditioners

RAC – Sample of Installation configuration



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Introduction to Residential Air-Conditioners

RAC – Product Features

CLEAN AIR – Healthy Living



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Introduction to Residential Air-Conditioners

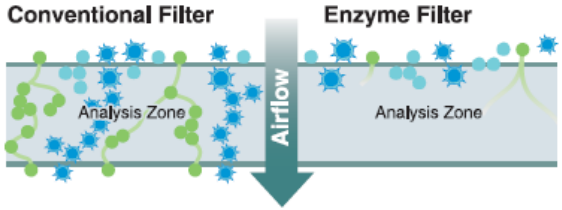
RAC – Product Features

Sure to destroy fungi and bacteria, also effective on viruses and allergenic compounds
(Cat hair, dust mite, pollen etc.)

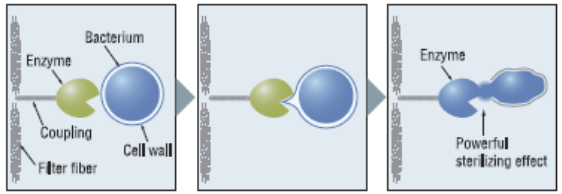
Natural Enzyme Filter

The first release in this range of the enzyme-sterilizing filter





Enzyme's sterilizing mechanism



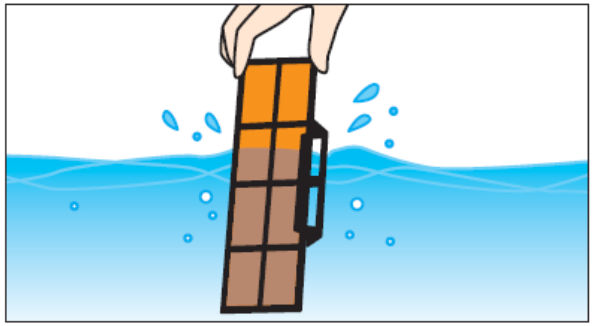
CLEAN AIR

The deodorizing ability of this filter can be easily restored simply by cleaning and exposing to the sunlight

Photocatalytic Washable Deodorizing Filter



It will keep the air fresh by deodorizing the molecules causing odor. Its deodorizing power can be restored by washing with water and drying under the sun, as such it is a Recycling deodorizing filter capable of repeat use.



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Introduction to Residential Air-Conditioners

RAC – Product Features CLEAN AIR



Generates the same amount of negative ions as a forest environment

24-hour ION

The air conditioner main body employs a tourmaline-coated sheet. The sheet generates negative ions around the clock. Even when the air conditioner is not running, it generates as many negative ions (2,500– 3,000/cc) as in a forest, stream or fall does, allowing you to experience them without incurring any electrical charges.

Anti-microbial specifications and design will deliver cleanliness and safety

Anti-microbial fan

The fan has undergone anti-microbial treatment to resist mold and germs, making the system clean and safe. Foul odors and molds, etc. which can occur when an air conditioning system is not in operation are prevented.



Introduction to Residential Air-Conditioners

RAC – Product Features

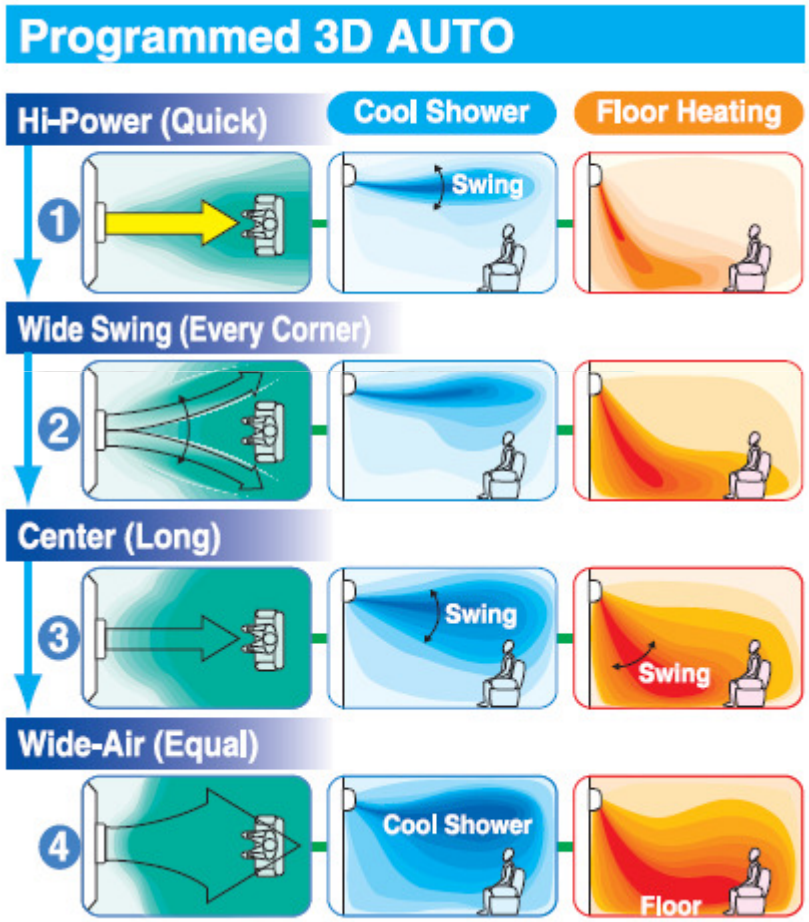
AIR FLOW – Programmed 3D

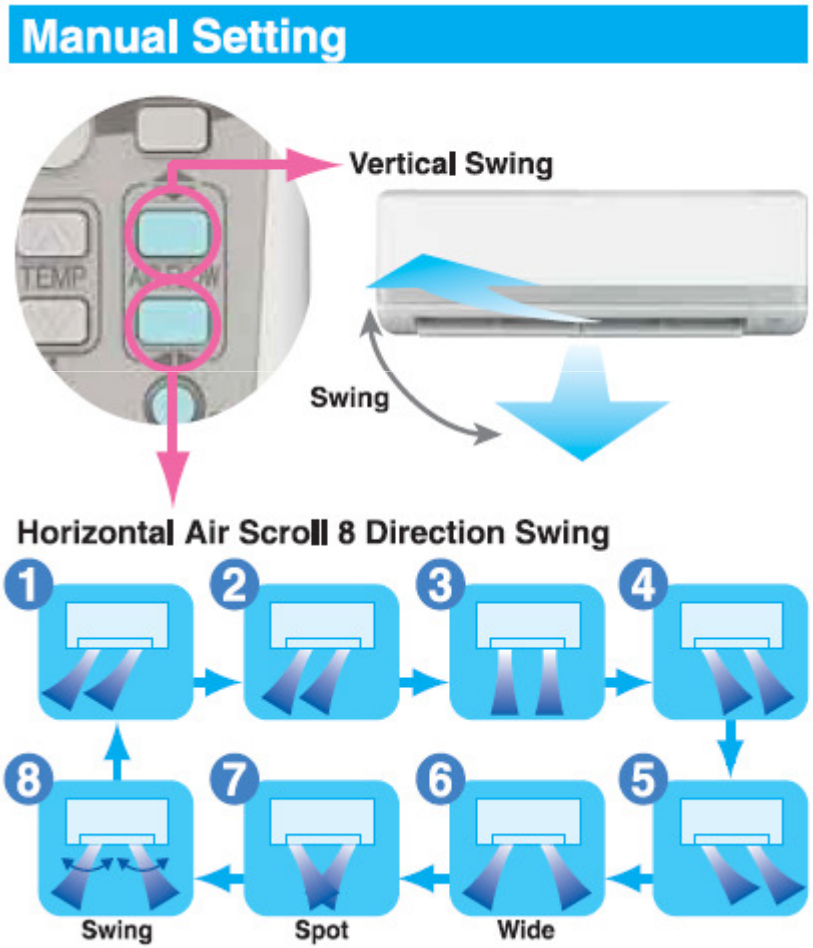


Introduction to Residential Air-Conditioners

RAC – Product Features

AIR FLOW





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Introduction to Residential Air-Conditioners

RAC – Product Features AIR FLOW

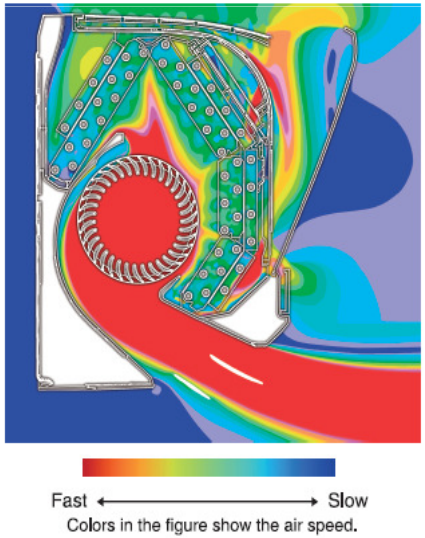
Aircraft technology was used in the design of the air conditioner's airflow system

Jet Air Scroll **Long Reach & Silent Air Flow**

We used the same aerodynamic analysis technology as used in developing jet engines.

CFD (Computational fluid dynamic), used in blade shape design of jet engines is applied in air conditioners to develop the ideal air channel system (air circulation) The jet air stream generated by this air channel system can bring large volume air without consuming much power



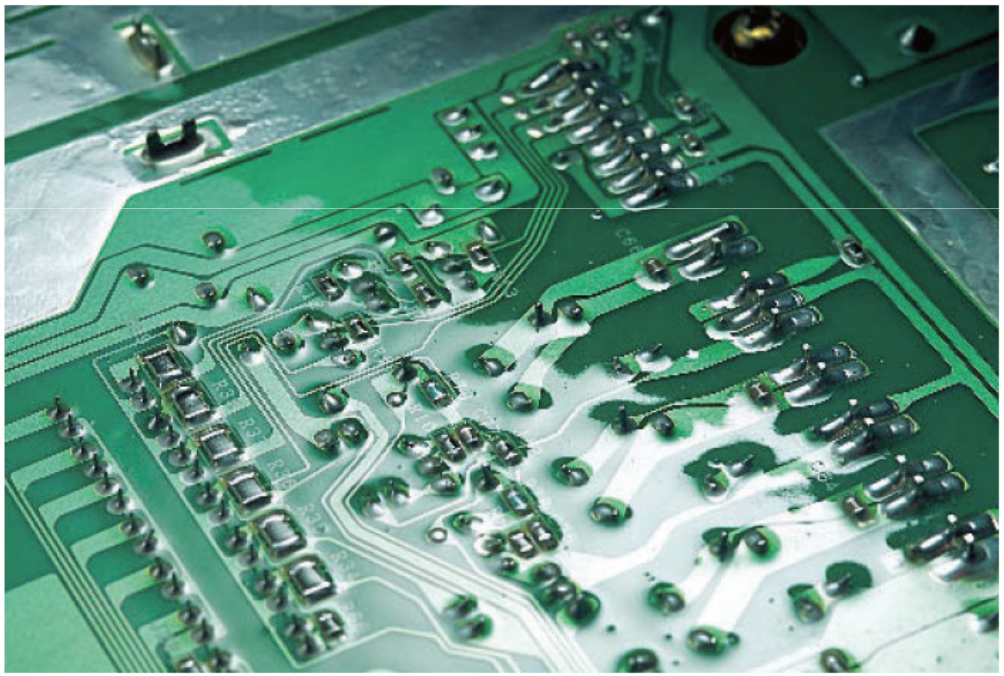


Colors in the figure show the air speed.

Introduction to Residential Air-Conditioners

RAC – Product Features DURABILITY

Silicon-coated PCB



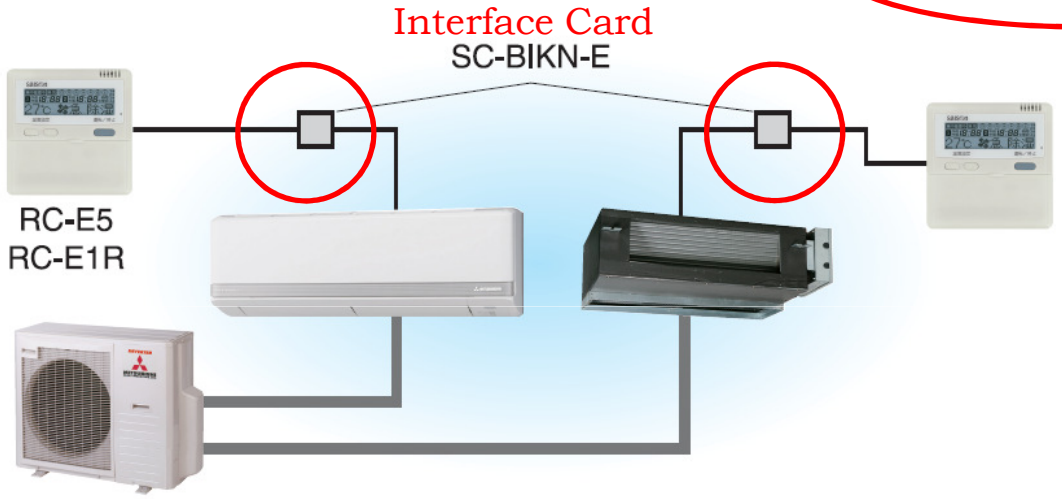
The outdoor unit Printed Circuit Board (PCB) is quoted with silicon
Durability is assured having tolerance for humidity

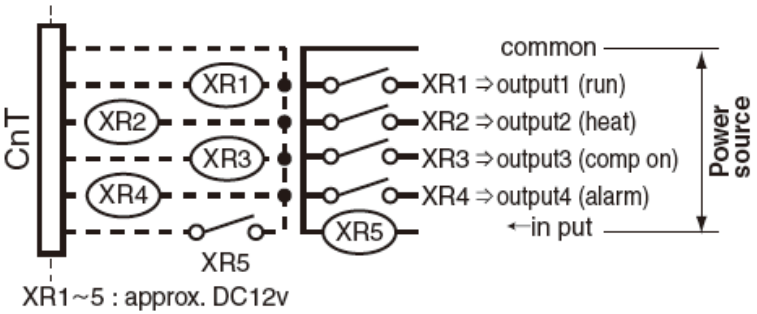
Introduction to Residential Air-Conditioners

RAC – Product Features

CONTROL OPTIONS

Wired Remote Controller and CNT connection







Card key on-off



Remote surveillance system

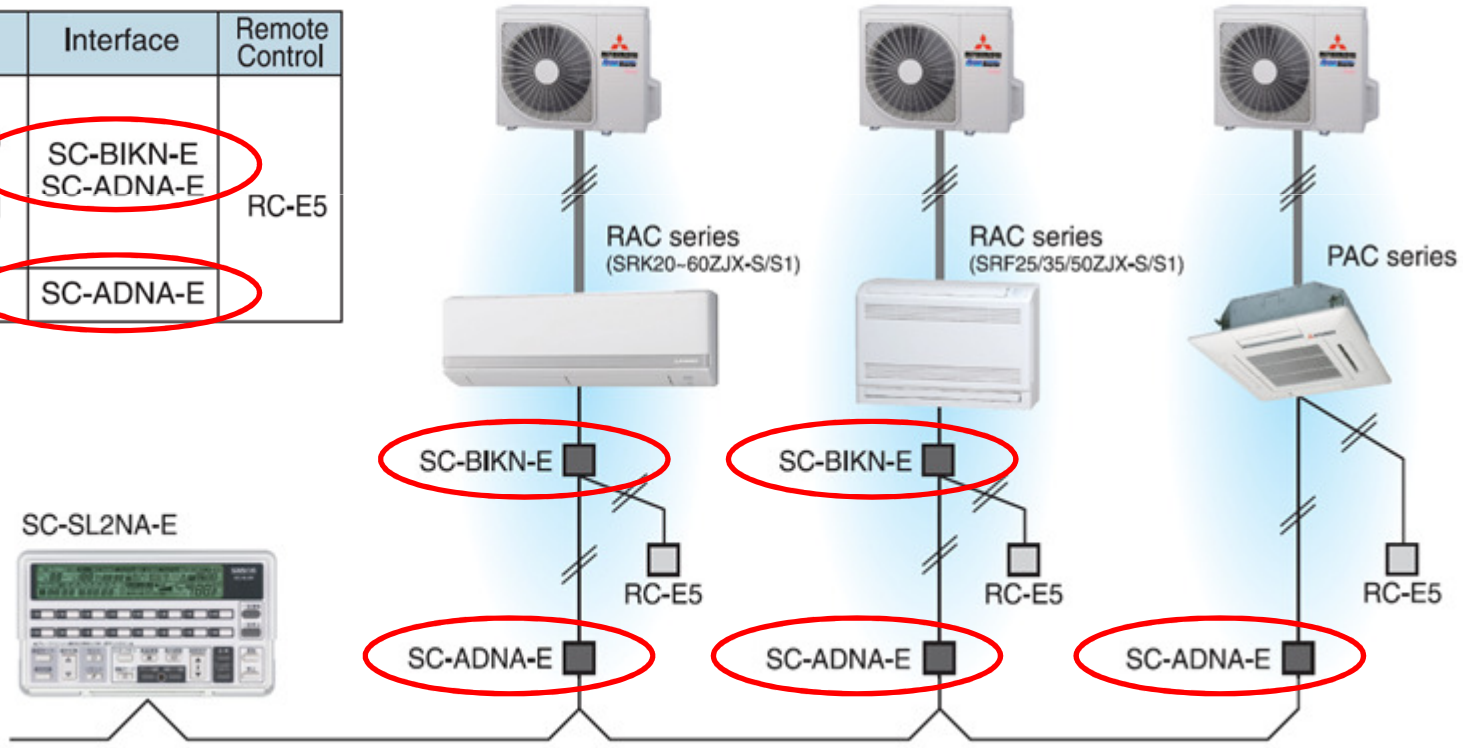
Introduction to Residential Air-Conditioners

RAC – Product Features

CONTROL OPTIONS

Can be connected to SUPERLINK- @

Model	Interface	Remote Control
SRK20~60ZMX-S SRK63/71/80ZM-S SRK25~50ZMA-S SRF35/50ZJX-S/S1 SRR35/50/60ZJ-S	SC-BIKN-E SC-ADNA-E	RC-E5
FDTC25~60V	SC-ADNA-E	



PAC

Package Air-Conditioner

Inverter Driven R410a System

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HEAVY DUTY

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Introduction to Package Air-Conditioners

EQUIPMENT TYPE AND PRODUCT RANGE



PACKAGE AIR-CONDITIONER

1. Micro Inverter
2. Hyper Inverter
3. Types of Indoor
   - 4 way ceiling Cassette *(Standard & Compact)*
   - Ceiling concealed Ducted
   - Ceiling Suspended
   - Floor Standing

Introduction to Package Air-Conditioners

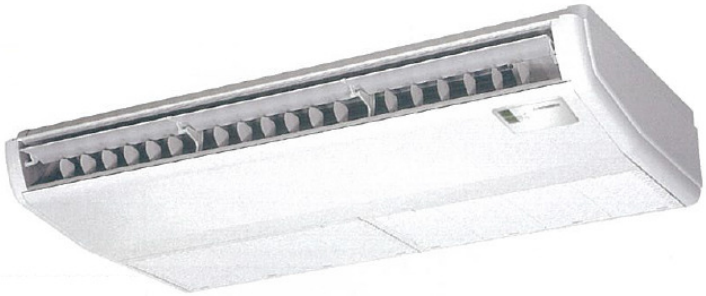
Types of Indoor Units



Ceiling Cassette FDT
1.5HP ~ 6 HP



Concealed Ducted
FDUM & FDU
2 HP ~ 10 HP



Ceiling Suspended FDE
2 HP ~ 6 HP



Floor Standing FDF
3 HP ~ 6 HP

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Introduction to Package Air-Conditioners

Range of Outdoor Units



SRC40, 50, 60ZMX-S



FDC71VNX



FDC100VNX / 140VSX



FDC100VN / 140VS



FDC200, 250VS

Hyper Inverter

Micro Inverter

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Introduction to Package Air-Conditioners

Package Aircon (Range of Outdoor models)

Range (HP)	1.5	2	2.5	3	4	5	6	8	10
Hyper Inverter	ZMX 1.5	ZMX 2	ZMX 2.5	VNX 3	VNX 4	VNX 5	VNX 6		
Pipe Length	30	30	30	50	100	100	100		
Micro Inverter	VN 4	VN 5	VN 6	VS 8	VS 10				
Pipe Length	50	50	50	70	70				



Hyper Inverter

(One way pipe length **100m**)
FDC100**VNX**
FDC140**VSX**



Micro Inverter

(One way pipe length **50m**)
FDC100**VN**
FDC140**VS**

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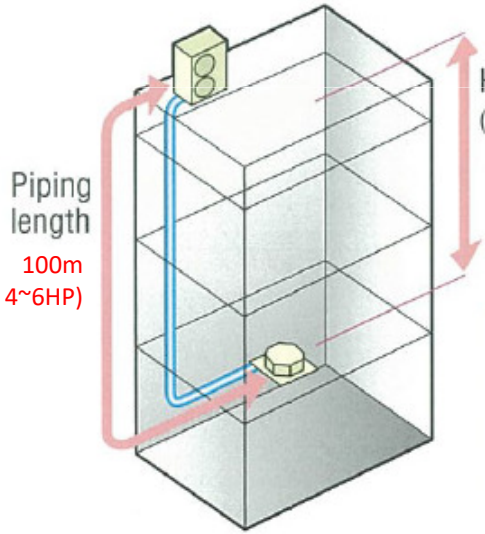
Introduction to Package Air-Conditioners

Hyper Inverter Vs Micro Inverter

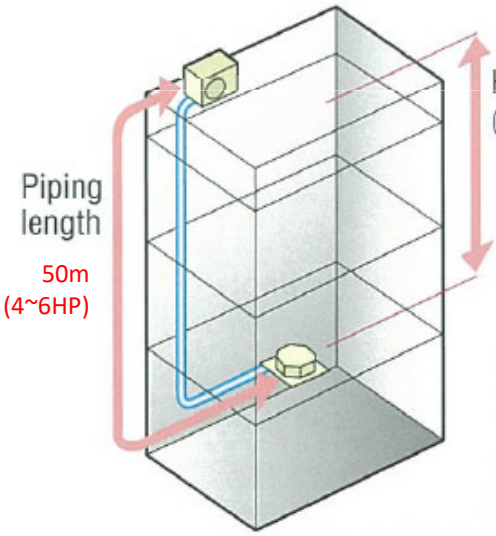
Piping length – 100m (Hyper Inverter 4~6HP)

Hyper Inverter



HP	Piping length	Height difference
1.5~2.5	30m	20m
3	50m	30m
4~6	100m	30m

Micro Inverter



HP	Piping length	Height difference
4~6	50m	30m
8~10	70m	30m

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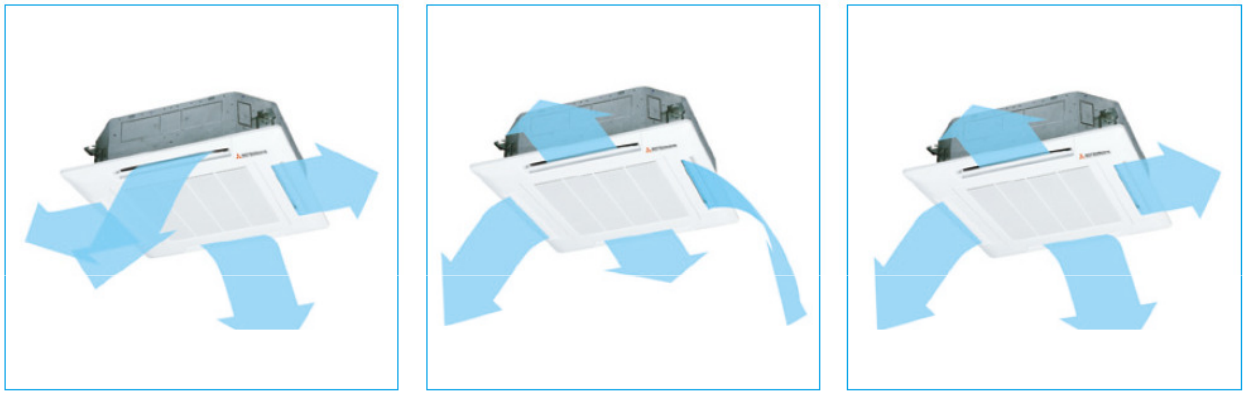
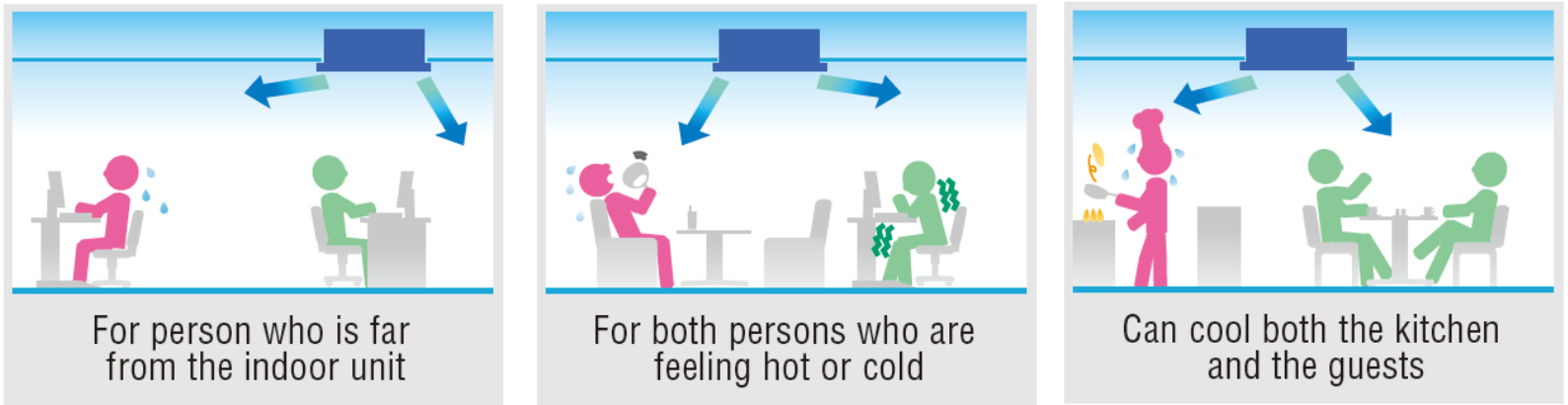
Introduction to Package Air-Conditioners

Some features of our PAC Models – Individual flap control (with RC-E5)

Individual flap control system for our ceiling cassette model, allows four directional of air flow to be control individually to meet user preference.





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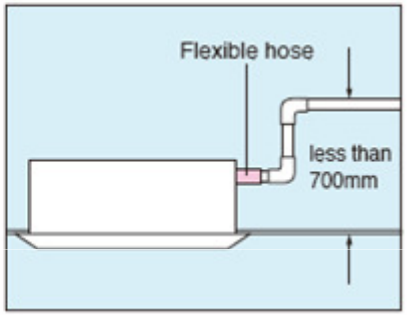
Introduction to Package Air-Conditioners

Some features of our PAC Models – Drain out pump included

700mm Drain Pump

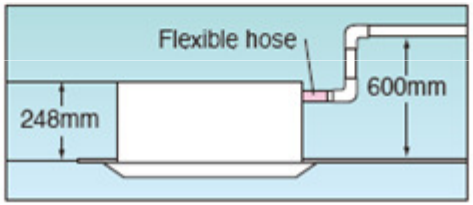
Drain can be discharged upwards by 700mm from the ceiling surface. It allows a piping layout with a high degree of freedom Depending on the installation location and 260mm flexible hose as a standard equipment supports easy workability.



Compact and Convenient

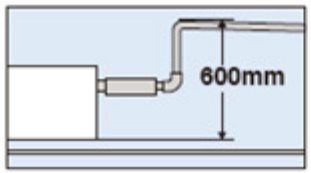
- **600mm Drain Pump**

Drain can be discharged upward by 600 mm from the ceiling surface close to the indoor unit.
It allows a piping layout with a high degree of freedom depending on the installation location.



Enhanced installation workability

600mm Drain Pump is mounted in all models.
The indoor unit is completely hidden in the ceiling, so this is suitable for spaces with classy interior decoration.



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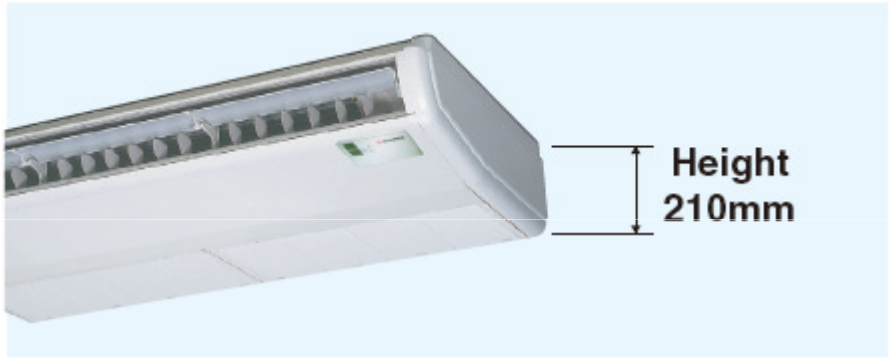
Introduction to Package Air-Conditioners

Some features of our PAC Models – Slimmest Suspended Indoor

Compact and modern design



All models fit compactly on ceiling. (Height-210mm or 250mm).
Plain, modern design featuring rounded edges gives room a comfortable atmosphere.
FDEN40VF, 50VF weights 30kg the lightest level in the industry.
Convenient and quick installation.

210mm for 3 HP, 250mm for 4 ~ 6 HP

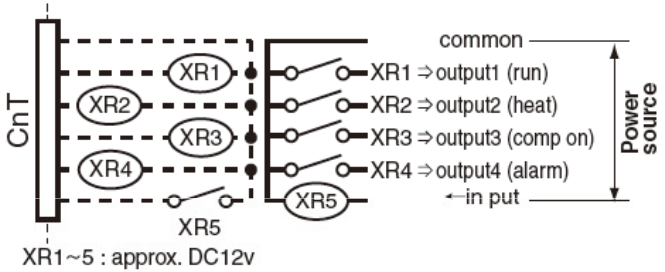
Introduction to Package Air-Conditioners

Some features of our PAC Models – Built in CNT for external control

Convenience

External switch connection CnT

All indoor units are equipped with an additional connection point-CnT-to connect indoor units to an external ON/OFF switch; e.g. time clock, fire alarm, etc.





Remote surveillance system



Card key on-off

Introduction to Package Air-Conditioners

Some features of our PAC Models – Interface for Network control



MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

MITSUBISHI HEAVY INDUSTRIES, LTD.

Our Technologies, Your Tomorrow

Presenting the latest VRF model



MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

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Introducing ***KXZ***

Scope of sharing

- Type and range of outdoor units
- Types and range of indoor units
- Types and range of controllers
- Efficiency comparison (KX6 and KXZ)
- Efficiency comparison (KXZ and competitors)
- KXZ High COP model and Green Mark
- Other range of KXZ series

Introducing ***KXZ***

Micro KX6

FDC112KXE6 ~
FDC335KXE6



4 ~ 6 HP



8 ~ 12 HP

New KXZ

FDC280KXZE1 ~
FDC1680KXZE1



8 ~ 12 HP



14 ~ 20 HP

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

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KXZE1 outdoor model line-up

KX6 line-up MICRO KX

04	05	06	08	10	12
O	O	O	O	O	O

New KXZ-Lite

08	10
O	O

New KXZE1 Standard model line-up

10	12	14	16	17	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

New KXZXE1 Hi-COP model line-up

08	10	12	14	16	18	20	22	24	26	28	30	32	34	36
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

The popular **MICRO KX6** series

- the following popular **Micro KX6 series** (4-12HP) will continue unchanged for 2015





MicroKX

4HP	5HP	6HP
FDC112KXEN6	FDC140KXEN6	FDC155KXEN6
FDC112KXES6	FDC140KXES6	FDC155KXES6

8HP	10HP	12HP
FDC224KXE6	FDC280KXE6	FDC335KXE6

1-phase 220-240V

3-phase 380-415V

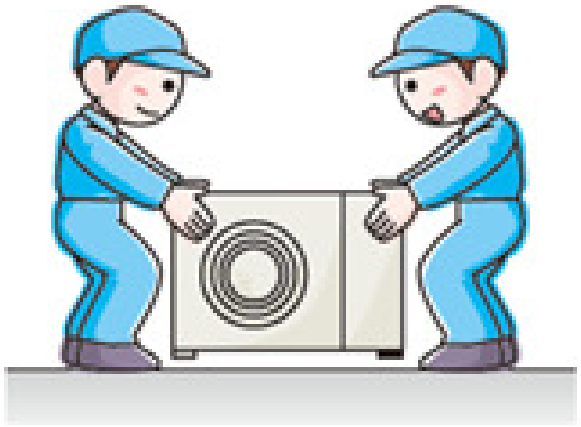
MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

The popular **MICRO KX6** series

MicroKX

Easy installation



Fits into elevators



MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

Standard ***KXZE*** & High COP ***KXZEZ***

NEW

Standard model *KXZE1*



10HP	12HP	14HP	16HP
FDC280KXZE1	FDC335KXZE1	FDC400KXZE1	FDC450KXZE1

17HP	18HP	20HP
FDC475KXZE1	FDC500KXZE1	FDC560KXZE1

22HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
FDC615KXZE1	FDC670KXZE1	FDC735KXZE1	FDC800KXZE1	FDC850KXZE1	FDC900KXZE1	FDC950KXZE1	FDC1000KXZE1	FDC1060KXZE1	FDC1120KXZE1
10+12	12+12	12+14	14+14	14+16	16+16	17+17	18+18	18+20	20+20
FDC280KXZE1 FDC335KXZE1	FDC335KXZE1 FDC335KXZE1	FDC335KXZE1 FDC400KXZE1	FDC400KXZE1 FDC400KXZE1	FDC400KXZE1 FDC450KXZE1	FDC450KXZE1 FDC450KXZE1	FDC475KXZE1 FDC475KXZE1	FDC500KXZE1 FDC500KXZE1	FDC500KXZE1 FDC560KXZE1	FDC560KXZE1 FDC560KXZE1





42HP	44HP	46HP	48HP	50HP	52HP	54HP	56HP	58HP	60HP
FDC1200KXZE1	FDC1250KXZE1	FDC1300KXZE1	FDC1350KXZE1	FDC1425KXZE1	FDC1450KXZE1	FDC1500KXZE1	FDC1560KXZE1	FDC1620KXZE1	FDC1680KXZE1
14+14+14	14+14+16	14+16+16	16+16+16	17+17+17	17+17+18	18+18+18	18+18+20	18+20+20	20+20+20
FDC400KXZE1 FDC400KXZE1 FDC400KXZE1	FDC400KXZE1 FDC400KXZE1 FDC450KXZE1	FDC400KXZE1 FDC450KXZE1 FDC450KXZE1	FDC450KXZE1 FDC450KXZE1 FDC450KXZE1	FDC475KXZE1 FDC475KXZE1 FDC475KXZE1	FDC475KXZE1 FDC500KXZE1 FDC500KXZE1	FDC500KXZE1 FDC500KXZE1 FDC500KXZE1	FDC500KXZE1 FDC500KXZE1 FDC560KXZE1	FDC500KXZE1 FDC560KXZE1 FDC560KXZE1	FDC560KXZE1 FDC560KXZE1 FDC560KXZE1

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS
HEAVY DUTY

KM Marketing Pte Ltd

Standard ***KXZE*** & High COP ***KXZEZ***

NEW

Hi-COP model *KXZXE1*



8HP	10HP	12HP
FDC224KXZXE1	FDC280KXZXE1	FDC335KXZXE1



16HP	18HP	20HP	22HP	24HP
FDC450KXZXE1	FDC500KXZXE1	FDC560KXZXE1	FDC615KXZXE1	FDC670KXZXE1
8+8	8+10	10+10	10+12	12+12
FDC224KXZXE1 FDC224KXZXE1	FDC224KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC335KXZXE1	FDC335KXZXE1 FDC335KXZXE1



26HP	28HP	30HP	32HP	34HP	36HP
FDC735KXZXE1	FDC800KXZXE1	FDC850KXZXE1	FDC900KXZXE1	FDC950KXZXE1	FDC1000KXZXE1
8+8+10	8+10+10	10+10+10	10+10+12	10+12+12	12+12+12
FDC224KXZXE1 FDC224KXZXE1 FDC280KXZXE1	FDC224KXZXE1 FDC280KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC280KXZXE1 FDC280KXZXE1	FDC280KXZXE1 FDC280KXZXE1 FDC335KXZXE1	FDC280KXZXE1 FDC335KXZXE1 FDC335KXZXE1	FDC335KXZXE1 FDC335KXZXE1 FDC335KXZXE1

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

Range of Indoor Units

Indoor units lineup **Widest choice of 17 types and 92 models**

Type			Capacity	0.5HP	0.8HP	1HP	1.25HP	1.6HP	2HP	2.5HP	3.2HP	4HP	5HP	6HP	8HP	10HP
			Model Code : kW	15	22	28	36	45	56	71	90	112	140	160	224	280
Ceiling Cassette	4way	FDT				●	●	●	●	●	●	●	●	●		
	4way Compact (600 x 600)	FDTC		●	●	●	●	●	●							
	2way	FDTW				●		●	●	●	●	●	●			
	1way	FDTS						●		●						
	1way Compact	FDTQ			●	●	●									
Duct Connected	High Static Pressure	FDU						●	●	●	●	●	●	●	NEW ●	NEW ●
	Low/Middle Static Pressure	FDUM			●	●	●	●	●	●	●	●	●	●		
	Low Static Pressure (thin)	FDUT		●	●	●	●	●	●	●						
	Compact & Flexible	FDUH			●	●	●									

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

Range of Indoor Units

Indoor units lineup

Type			Capacity	0.5HP	0.8HP	1HP	1.25HP	1.6HP	2HP	2.5HP	3.2HP	4HP	5HP	6HP	8HP	10HP
			Model Code : kW	15	22	28	36	45	56	71	90	112	140	160	224	280
Wall Mounted		FDK			●	●	●	●	●	●						
Ceiling Suspended		FDE					●	●	●	●		●	●			
Floor Standing	2way	FDFW				●		●	●							
	with casing	FDFL								●						
	without casing	FDFU				●		●	●	●						
OA Processing unit		FDU-F									NEW ●		NEW ●		NEW ●	NEW ●

Type		Air flow M³/h	150	250	350	500	650	800	850	1000	1300	1800
Fresh Air Ventilation and Heat Exchange unit	SAF		●	●	●	●	●	●		●		
Fresh Air DX Assembly	SAF-DX			●	●	●		●		●		

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

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Range of Indoor Units

Types of Ceiling Cassette models - Standard

4 ways Cassette – **FDT**
(1 to 6 Hp)





2 ways Cassette – **FDTW**
(1 to 5 Hp)



1 way Cassette – **FDTS**
(1.5 & 3 Hp)

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

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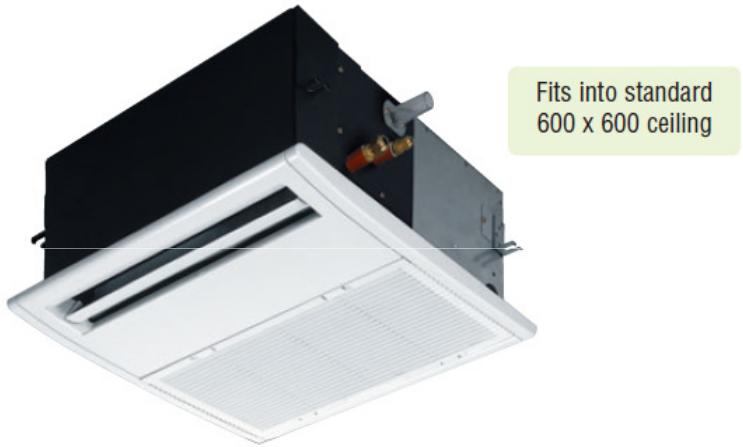
Range of Indoor Units

Types of Ceiling Cassette models – Compact Types



4 ways Cassette – **FDTC**
(0.6 to 2 Hp)



1 way Cassette – **FDTQ**
(0.8 to 1.5 Hp)

Range of Indoor Units

Types of Concealed Ducted models – High Static Types



Concealed Ducted – **FDU**
(2 to 6 Hp)
Maximum **ESP 150pa**



Concealed Ducted – **FDU**
(8 and 10 Hp)
Maximum **ESP 200pa**

Range of Indoor Units

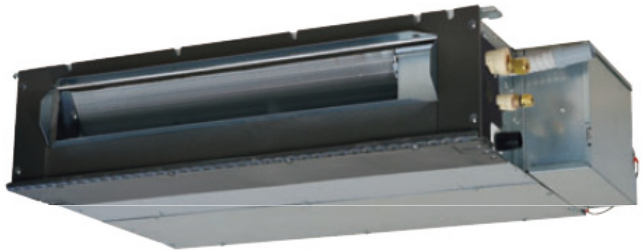
Types of Concealed Ducted models – Mid Static Types



Concealed Ducted – **FDUM**
(0.8 to 6 Hp)
Maximum **ESP 100pa**

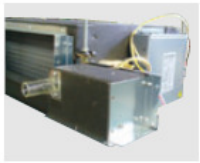
Range of Indoor Units

Types of Concealed Ducted models – Low Static Types



Slim Ducted – **FDUT**
(0.6 to 3 Hp)
Maximum **ESP 50pa**





Drain up kit (option)
(600mm)
UH-DU-E

Compact Ducted – **FDUH**
(0.8 and 1.5 Hp)
Maximum **ESP 30pa**

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HEAVY DUTY

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Range of Indoor Units

Wall Mounted & Ceiling Suspended models



Wall Mounted Unit – **FDK**
(0.8 to 3 Hp)



Ceiling Suspended Unit – **FDK**
(1.5 to 5 Hp)

Range of Indoor Units

Floor Standing (Exposed and Concealed) models

2 Ways Floor Stand – **FDFW**
(1 to 2.5 Hp)





Exposed Floor Stand– **FDFL**
(3 Hp)



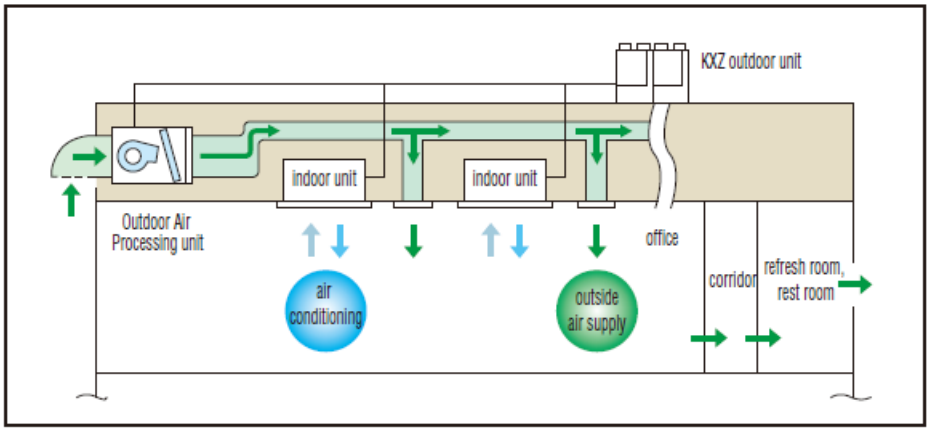
Concealed Floor Stand– **FDFU**
(1 to 3 Hp)

Range of Indoor Units

Outdoor Air processing Unit

Outdoor Air Processing Unit – **FDFL**
(3.5 to 10 Hp)



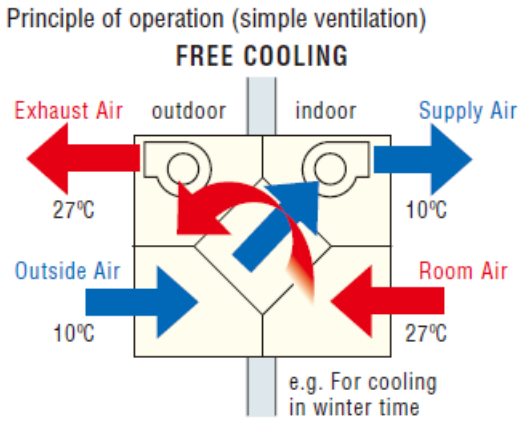


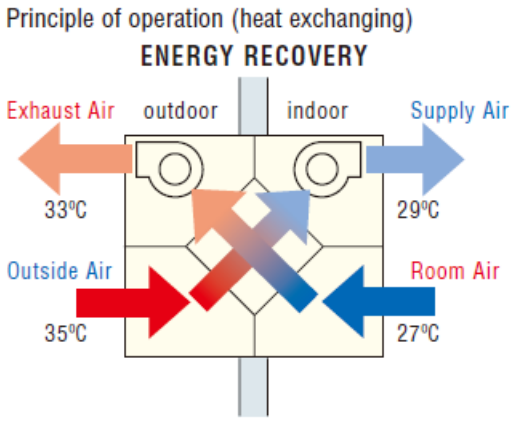
Range of Indoor Units

Fresh Air Ventilation & Heat Exchange Unit

Fresh Air Ventilation &
Heat Exchange Unit – **SAF**
(150 to 1000 CMH)







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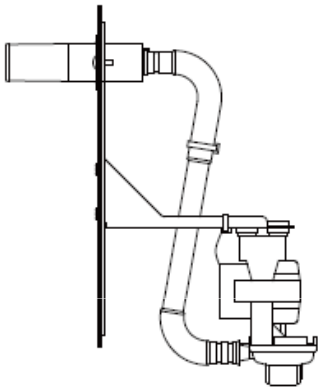
Range of Indoor Units

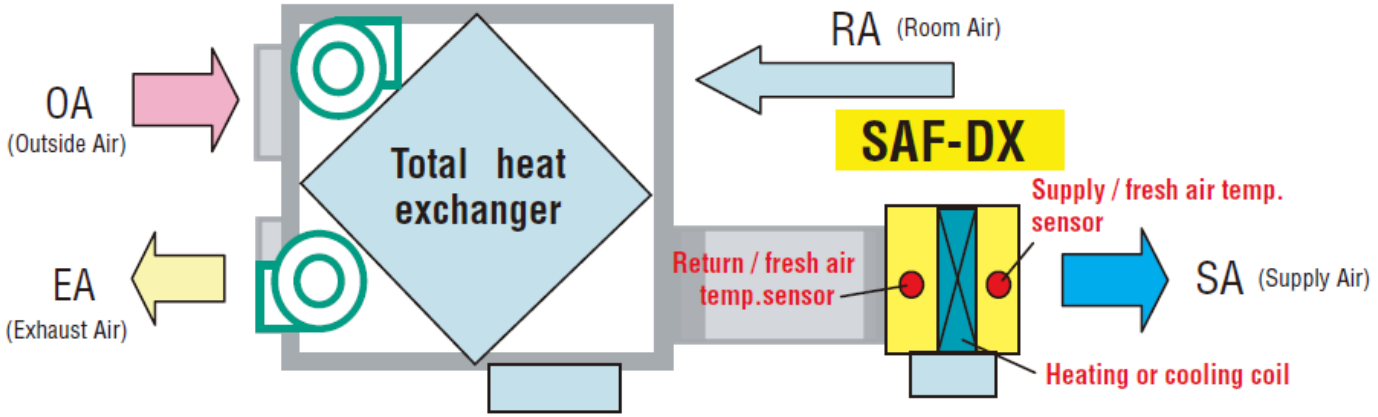
Fresh Air DX Assembly

Fresh Air DX Unit - **SAF-DX**
(0.75 to 3 Hp)
(250 to 1000 CMH)



Drain up kit (option)
DXA-DU-E



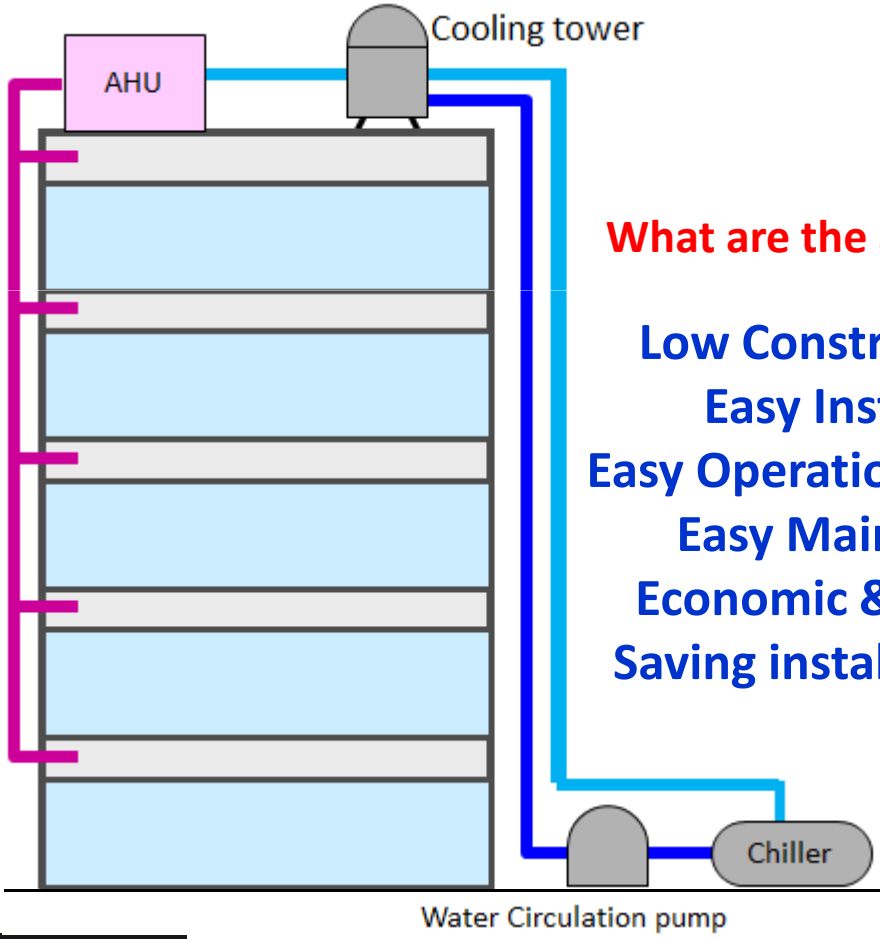


Range of Indoor Units – **DX AHU**

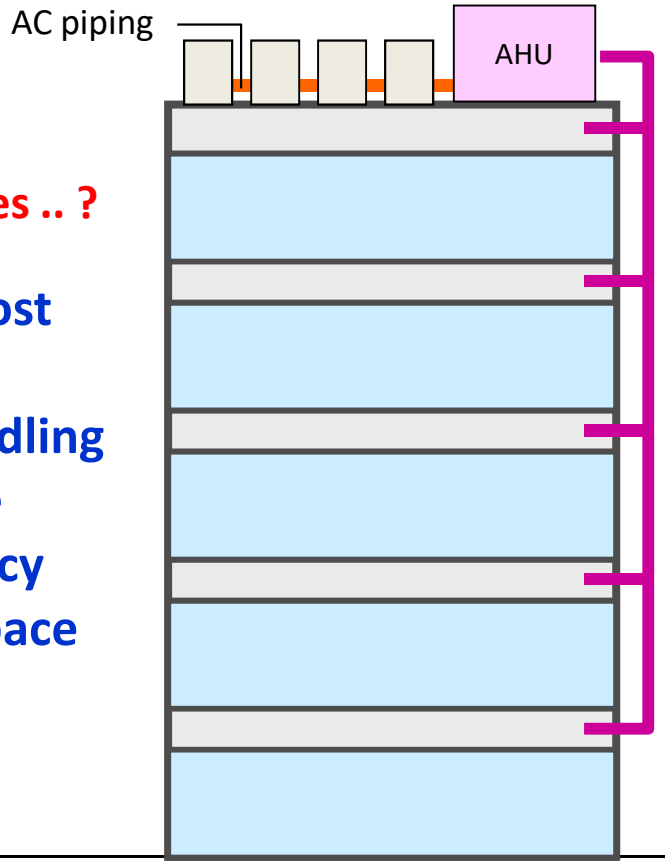
Range of Indoor Units – **DX AHU**

Concept of System

Normal AHU System



Direct Expansion AHU System



What are the advantages .. ?

Low Construction cost
Easy Installation
Easy Operation & Handling
Easy Maintenance
Economic & Efficiency
Saving installation space

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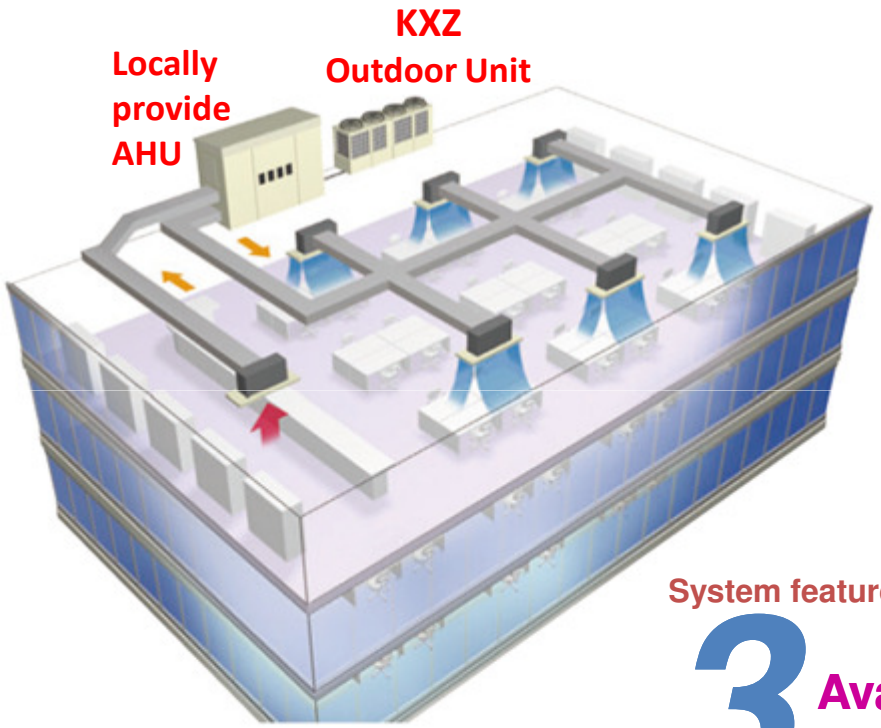
Range of Indoor Units – **DX AHU**

DX AHU : Air handling unit equipped with the direct expansion coil



System feature

1 Applied air cooled type heat pump outdoor unit

System feature

2 Applied direct expansion coils for heat exchanger in the AHU

System feature

3 Available to connect KXE6~Z systems (Max. 8 systems) to one air handling unit

Max. capacity = 896kW (254 Rton) cooling capacity
Master PCB can control 32 slave PCBs)

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System Controllers

[Control system units with SUPERLINK-Ⅱ]

Classification	Type		Model	Connectable Indoor units (Maximum)	Electric power calculation
Individual controller	Wired		RC-E5	1	—
			RC-EX1A	1	—
	Wireless		RCN-T-36W-E etc.	1	—
Center Console	Push buttons		SC-SL1N-E	16	—
			SC-SL2NA-E	64	—
	Touch screen		SC-SL4 -AE	128	—
			SC-SL4 -BE	128	●
	PC windows interface units		SC-WGWNB256-A	256(128x2)	—
			SC-WGWNB256-B	256(128x2)	●
	BMS interface units	BACnet	SC-BGWNA256-A	256(128x2)	—
			SC-BGWNA256-B	256(128x2)	●
			SC-BGWNA-A	128(64x2)	—
			SC-BGWNA-B	128(64x2)	●
		Lonworks	SC-LGWNA-A	96(48x2)	—

System Controllers

Wired Remote Controller

Wired



RC-EX1A



RC-E5



RCH-E3

Wired remote controller is applicable to all models of Indoor Units Types including DX AHUs

System Controllers

Wireless Remote Controller

RCN-T-36W-E,
RCN-TC-24W-ER



RCN-TW-E



RCN-TS-E



System Controllers

Wireless Remote Controller

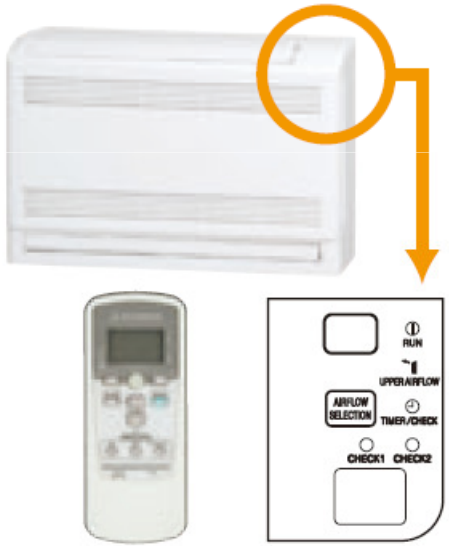
RCN-K-E,
RCN-K71-E



RCN-E-E

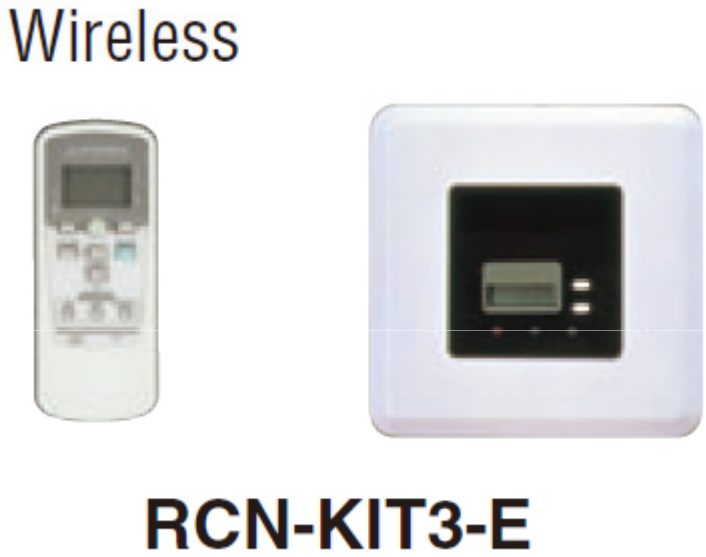


RCN-FW-E



System Controllers

Wireless Remote Controller



Standard Wireless Remote Controller

Applicable models :-

Ceiling Concealed Ducted – **FDU, FDUM, FDUT & FDUH**

Floor Standing (Exposed & Concealed) – **FDFL & FDFU**

Outdoor Air Processing Model – **FDUF**

Fresh Air DX Assembly – **SAF-DX**

(Applicable for others not mentioned if respective controller is not available)

System Controllers

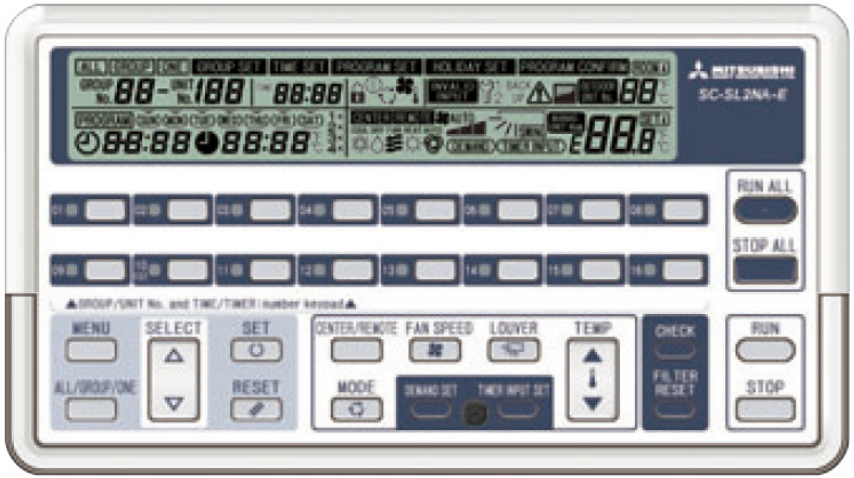
Central Controller – Push Button

SC-SL1N-E



Simple centralised control.
Start/stop control of up to 16 indoor units either individually or collectively.

SC-SL2NA-E



Central control of up to 64 indoor units including weekly timer function as standard.

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System Controllers

Central Controller – Touch Screen

SC-SL4-AE/BE



Full Colour Touch Screen central Controller

This controller has a 9 inch interactive LCD display, offering controlling, monitoring, scheduling and service maintenance functions for up to 128 indoor units.
Control with PC is possible by use of internet explorer

SC-SL4-BE model come with electric power consumption capability (Field installed Watt Hours meter)

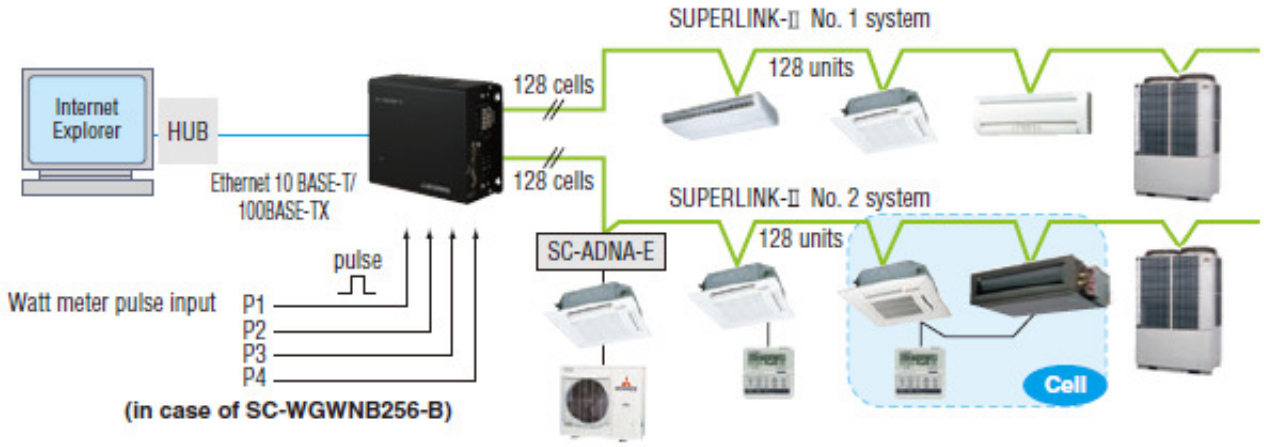
System Controllers

BMS Gateway - Web gateway



SC-WGWN256-A/B

- PC Window base central controller
- SC-WGWNB256-B c/w Electric Power calculation function
- Control and monitor up to 256 cells (or 256 indoor units)
- Operation by Internet Explorer with no special software
- An IP address filter function with 3 level user access.



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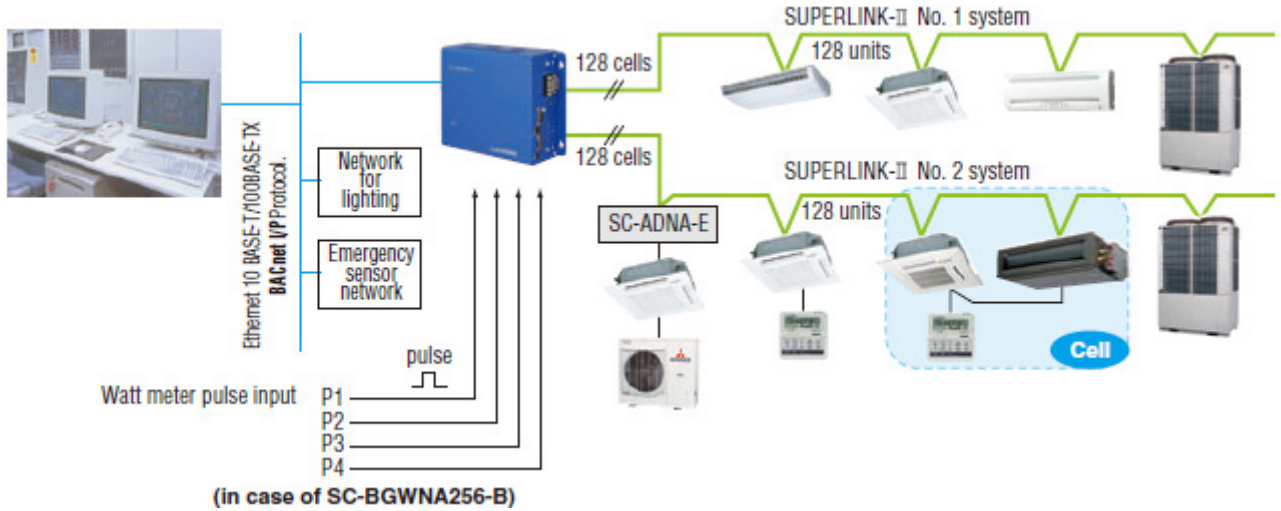
System Controllers

BMS Interface – BACnet gateway



SC-BGWNA256-A/B

- This gateway convert MHI's Superlink-II communication data to BACnet code
- SC-BGWNA256-B c/w Electric Power calculation function
- Control and monitor up to 256 cells (or 256 indoor units) are controlled centrally from a BMS



(in case of SC-BGWNA256-B)

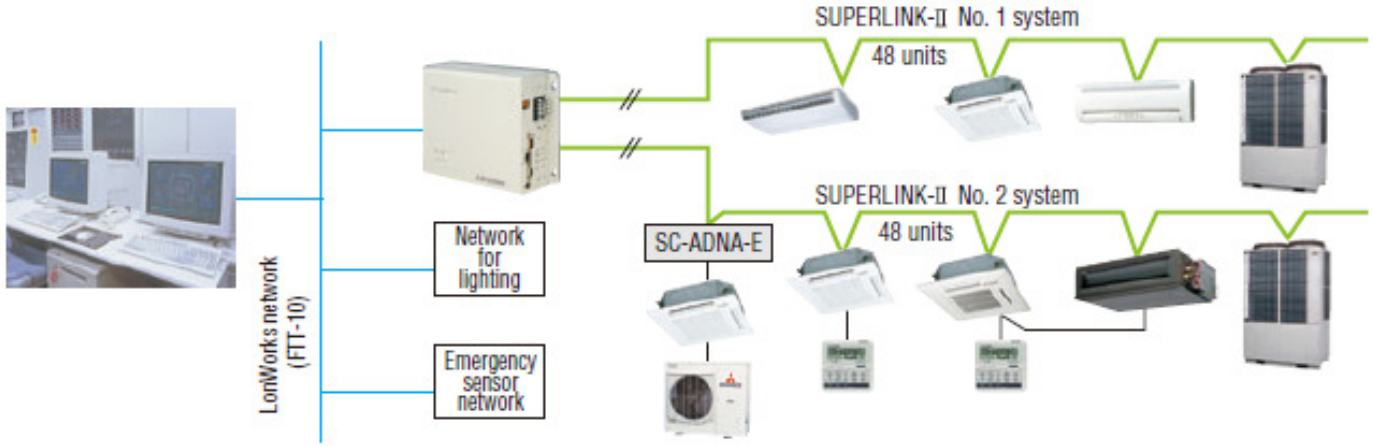
System Controllers

BMS Interface – LonWorks gateway



SC-LGWNA-A

- This gateway (interface device) convert MHI's Superlink-II communication data to LonWorks code
- Control and monitor functions of the a/c system for up to 96 indoor units, can be integrated to a central control point via the BMS network



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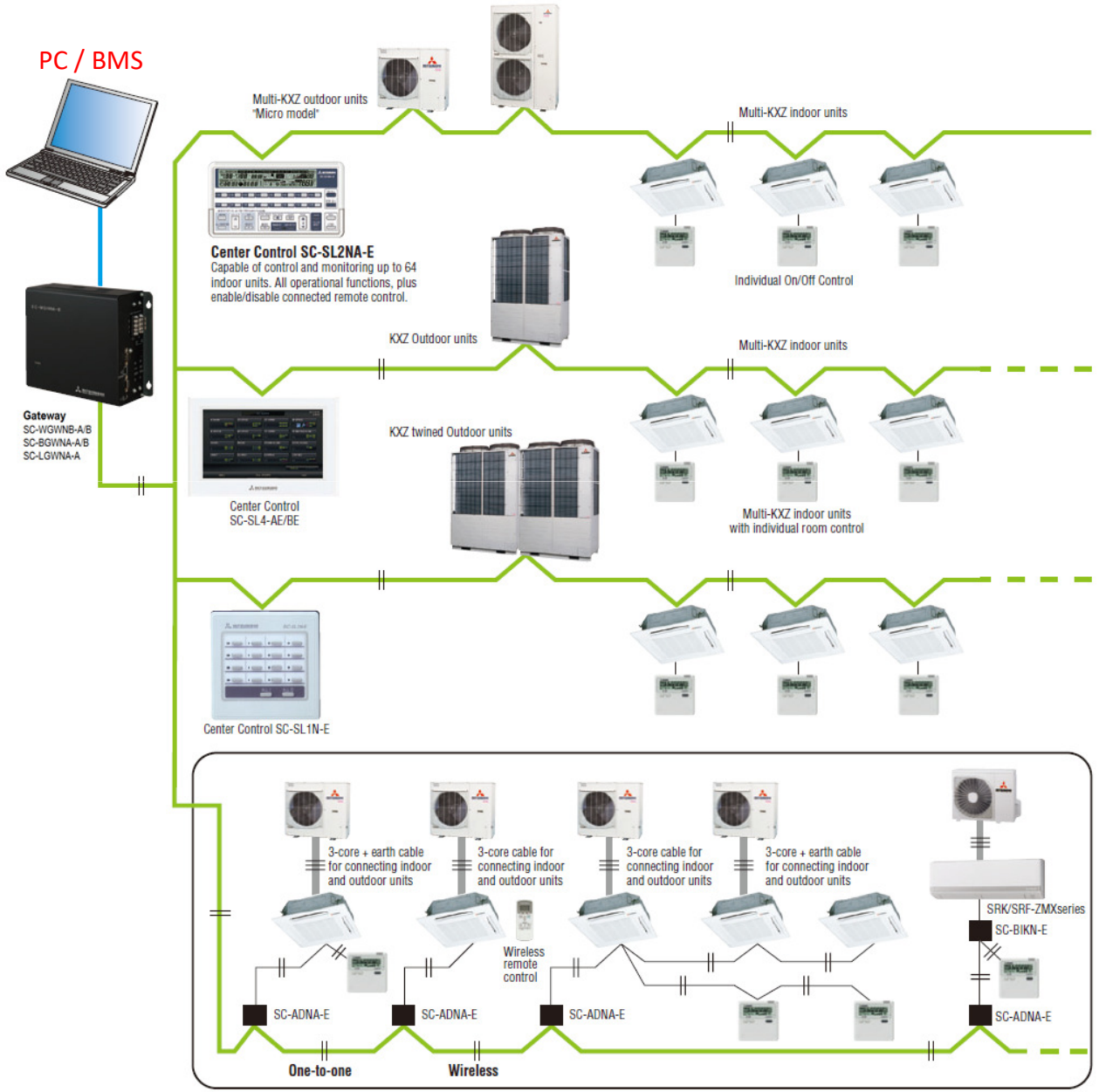
System Controllers

Control System

- System control via remote and central controllers
- High level interfacing with PC via Web gate and BMS via interface device (gateway) for BACnet & LonWorks
- Together with interface cards SC-BIKN-E & SC-ADNA-E, selected RAC and PAC models can be connected to SuperLink-II for monitoring & control.

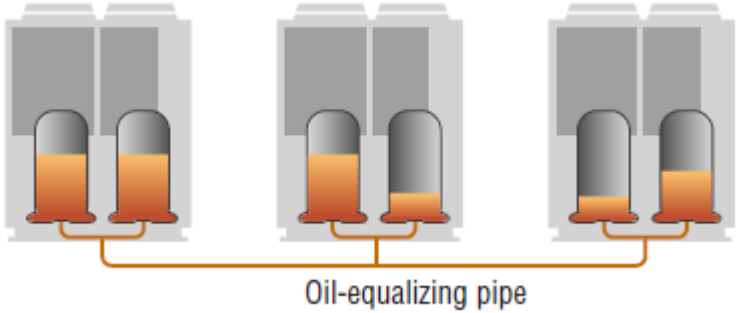


MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

Added features of KXZ

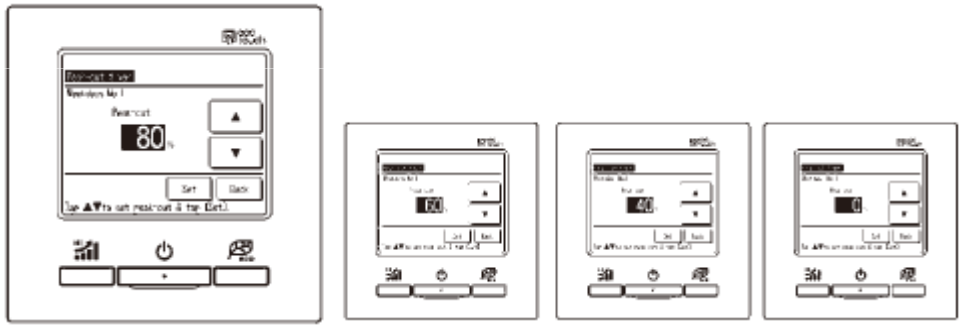
Oil level control capability

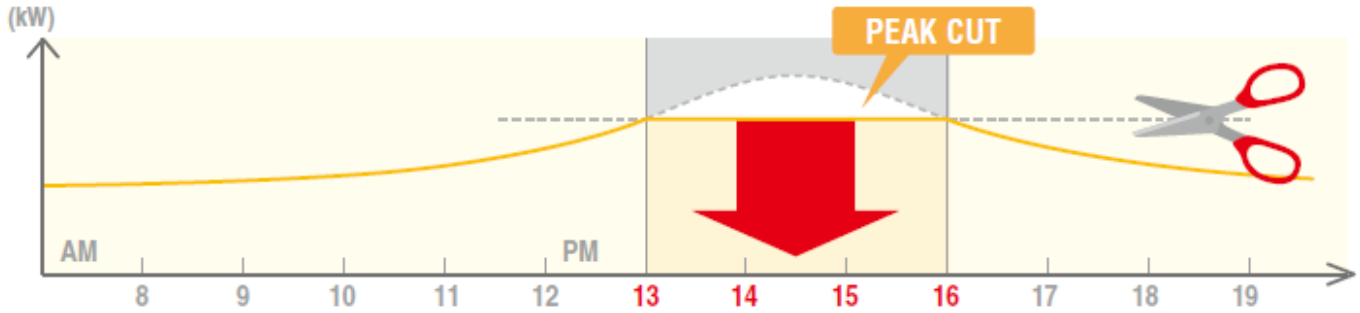
Our proprietary technology of adjusting oil level for combination of two or three outdoor units has realized leveled operation rate, keeping performance of the units and ensuring long life of the system.



Capacity control (KXZ)

Capacity control can be set by peak cut function with RC-EX1A for better energy saving.
Five-step capacity control is available.
(100-80-60-40-0%)





Timer setting for capacity control is possible at 4 times per day maximum

Added features of KXZ

Indoor unit capacity connection

	HP	Capacity connection
Micro model	4~12	150%
KXZ Lite	8·10	120%
KXZE1	10~60	130%

Hi-COP series 8~36HP

kW	capacity connection
22.4~45.0	200%
50.0~100.0	160%

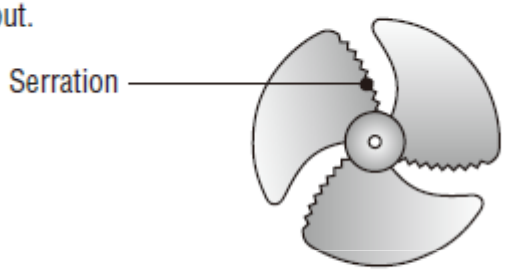
Connectable indoor units

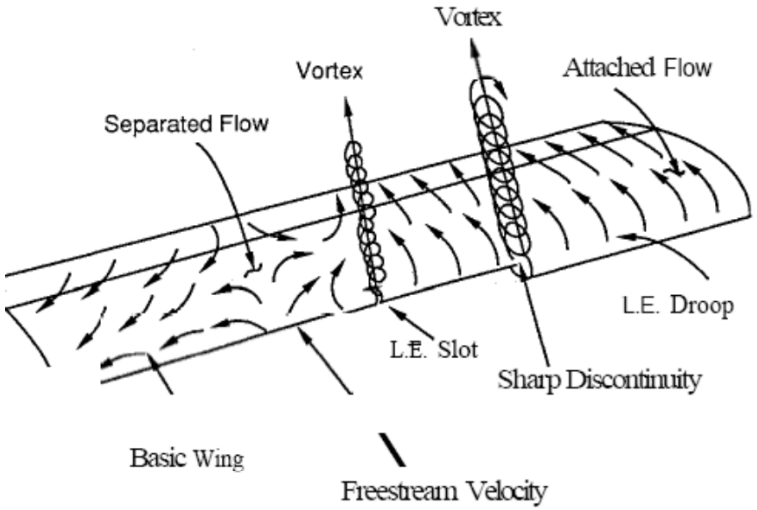
Micro model	HP	4	5	6	8	10	12								
	Numbers	6	8	8	22	24	24								
KXZ Lite	HP	8	10												
	Numbers	8	8												
Standard KXZE1	HP	10	12	14	16	17	18	20	22	24	26	28	30	32	34
	Numbers	24	29	34	39	41	43	48	53	58	63	69	73	78	80
	HP	36	38	40	42	44	46	48	50	52	54	56	58	60	
	Numbers	80	80	80	80	80	80	80	80	80	80	80	80	80	

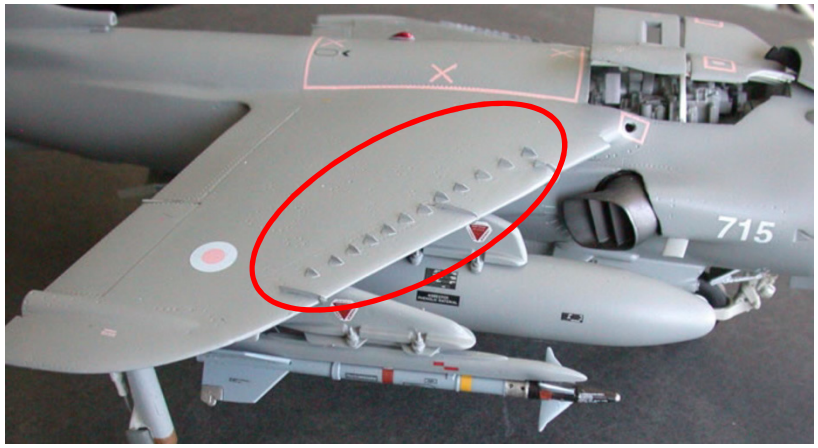
Added features of KXZ

Long-chorded 3 propeller fan with serration

Fan blade design adapted from MHI's aerospace division - with serrated edges that deliver increased air volume with less power input.







On Airplane



On Racing Car

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Added features of KXZ

Touch Screen Wired Remote and Central Controller



RC-EX1A

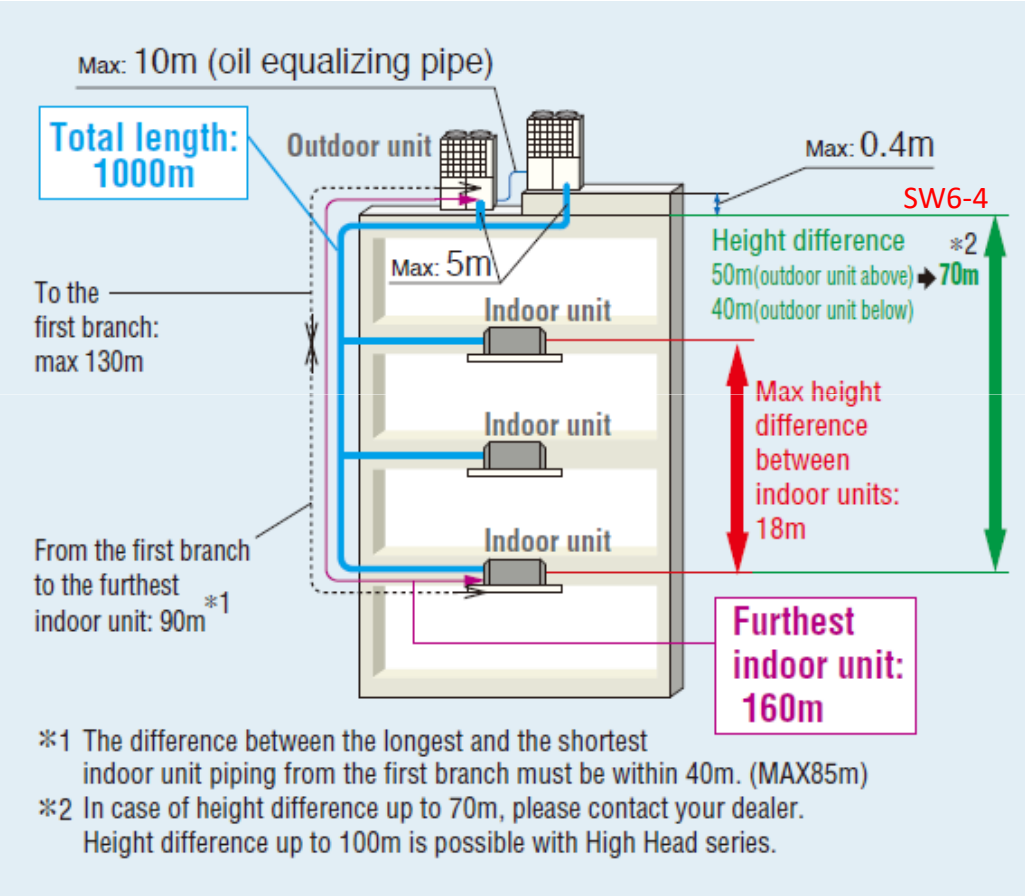


SC-SL4-AE/BE

LCD panel with back light function light tap operation
Simple interface and interactive, user friendly with help functions

Added features of KXZ

Allowable length of refrigerant piping and height difference

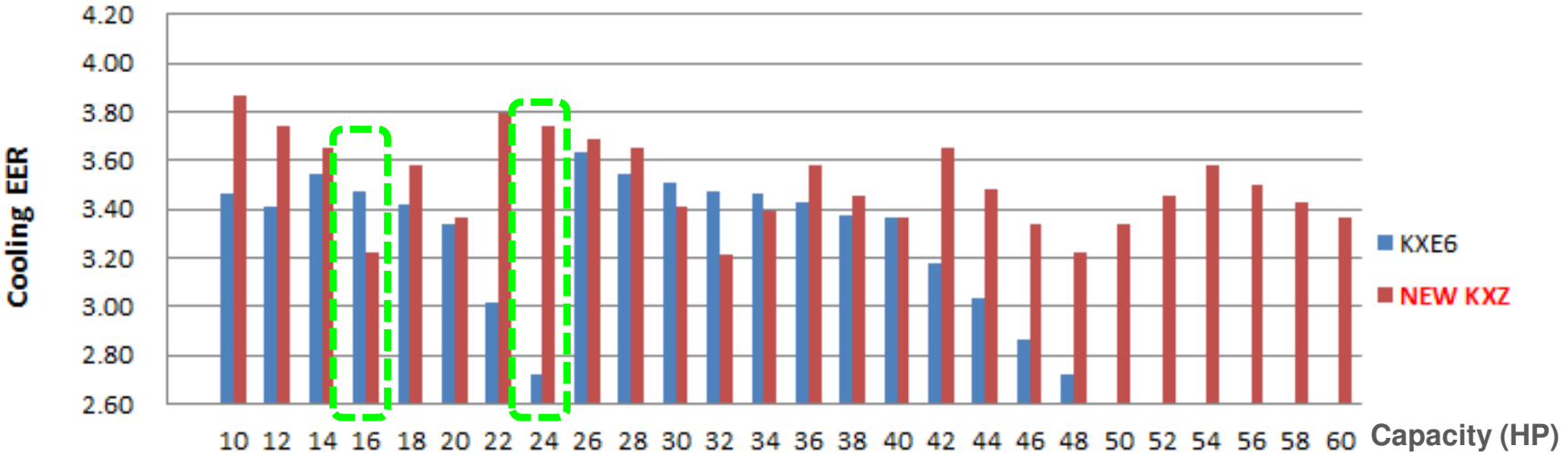


Summary

Max one way piping	160m or less
Total Pipe length	1000m or less
Main Pipe length	130m or less
Max from 1st branch	90m or less
Between longest & Shortest indoor piping	40m or less
Outdoor higher	50m or less
(optional extended to	*70m or less)*
Outdoor lower	40m or less
Height between indoors	18m or less
Height between 2 O/D	0.4m or less
Max between O/D units To O/D branch pipe	5m or less
Oil equalizer pipe	10m or less

Efficiency Comparison

- Comparison between KX6 and **KXZ Standard Model**



- Best improved in efficiency model : 24HP unit, improved more than 30%
- 16HP Cooling EER

	100% Capacity	50% Capacity
KX6	3.47	4.03
KXZ	3.22	5.07

26%

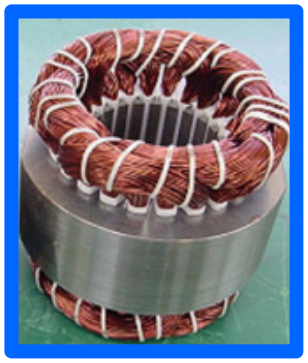
(Part Load efficiency has improved 26%)

What was done to achieve better efficiency in KXZ ??!

Improvement in Compressor Motor

KX6

Distributed winding motor

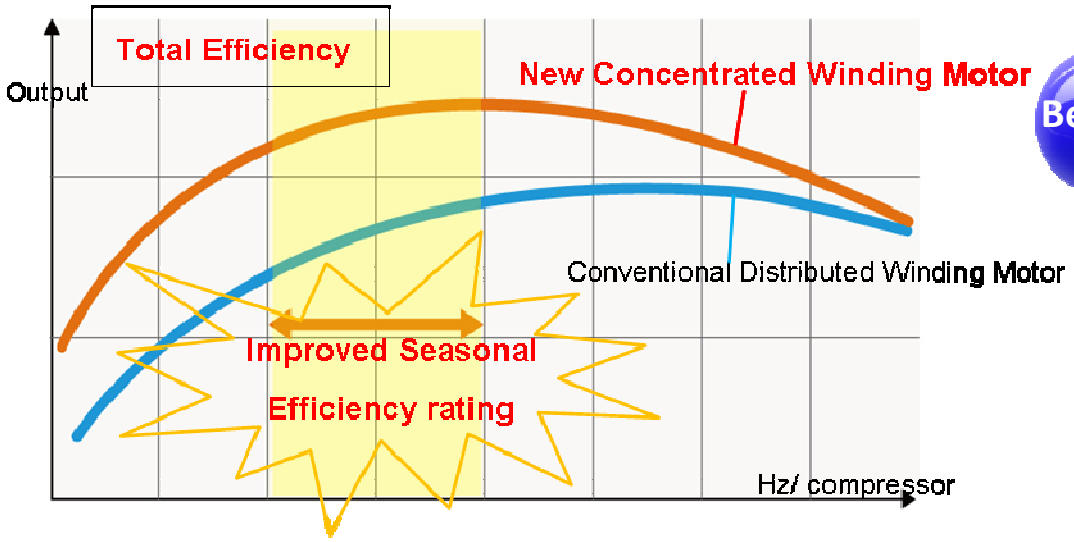




KXZ

Concentrated Winding motor

- By introducing this motor, Copper loss is dramatically reduced with improved in Part Load efficiency



Benefit

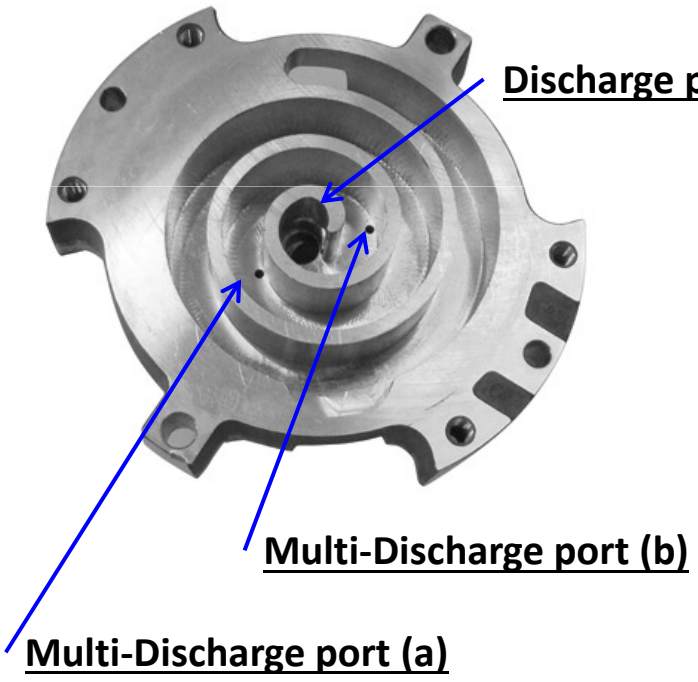
Improvement of Partial Load efficiency

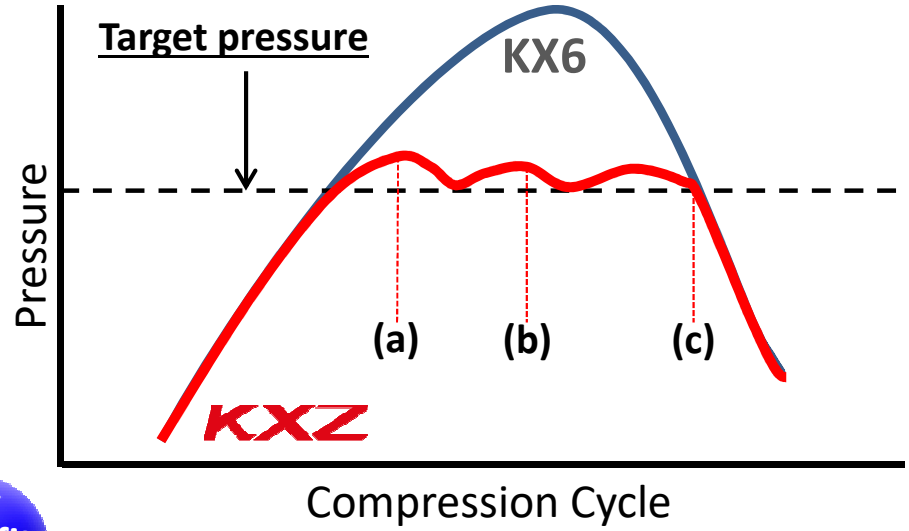
Improvement of Seasonal efficiency

Improvement in Scroll Compressor used

The improvement has optimised pressure control & improved performance at lower speeds resulting in better overall efficiencies

KXZ Multi-discharge port compressor





Benefit

Proven reliability
Improved overall efficiency

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Improvement in Heat Exchanger



- Outdoor heat exchanger improved efficiency
- The external dimensions of the heat exchangers are the same, but the heat exchanger capacity (and volume) is larger
- The heat exchangers are now 3 rows deep

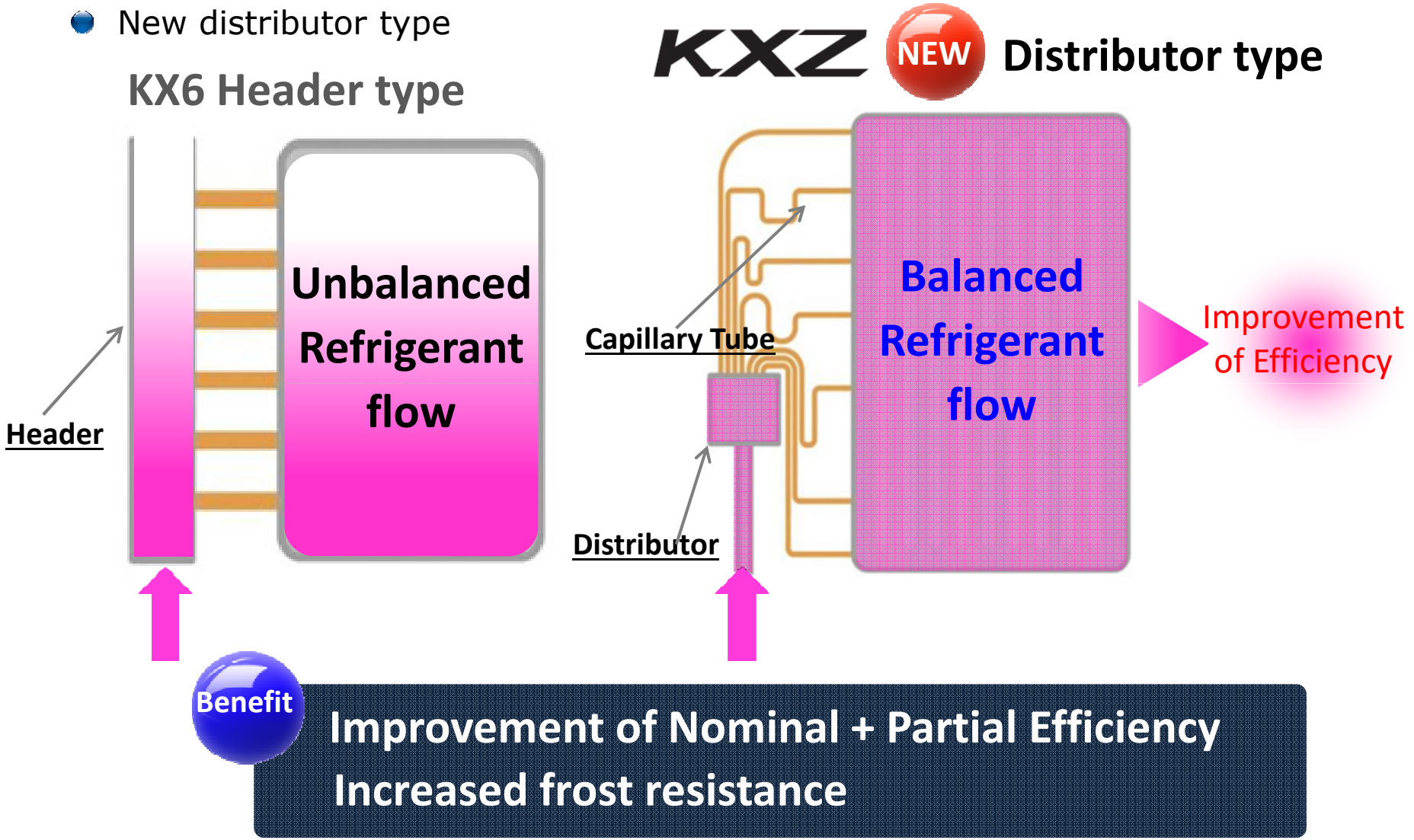
2 rows → **3 rows**

Benefit

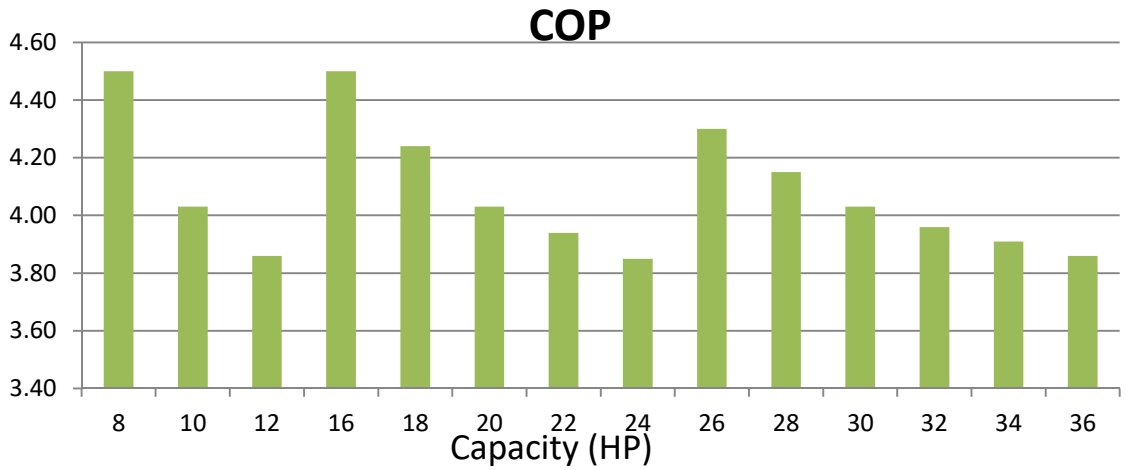
Improved efficiency

Improvement in HE Distributor

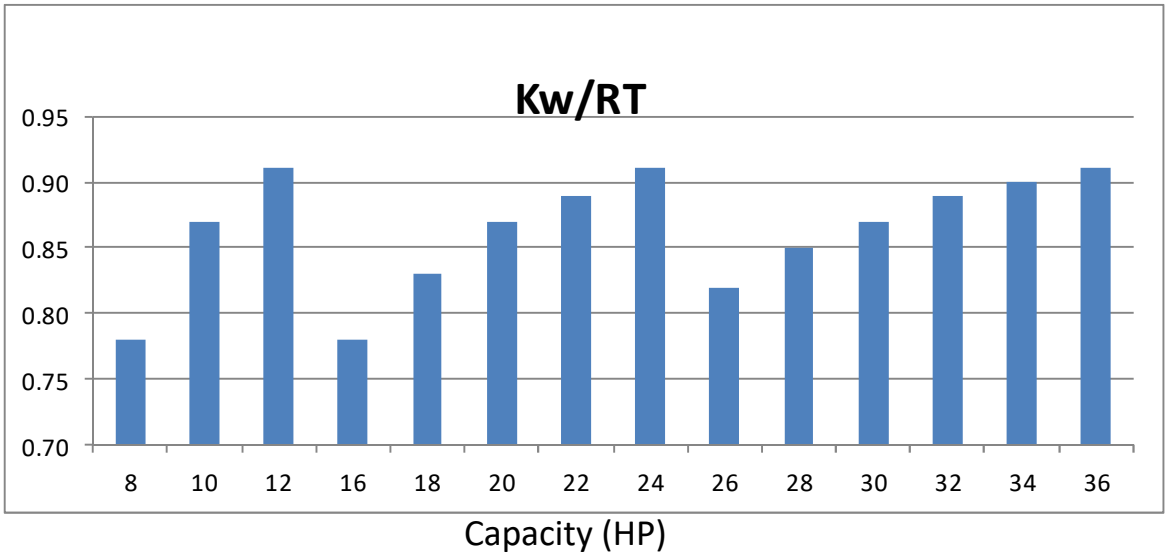
- New distributor type



KXZXE1 (Hi COP Model) Efficiency at 100% load



KXZXE1 COP
at **100%** load



KXZXE1 Kw/RT
at **100%** load

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Taking reference from BCA Green Mark



Taking reference from BCA Green Mark

Prerequisite Requirements for Non-Residential Building Criteria – *Cont'd*

Air-Conditioned Buildings

Related Criteria

(7) Prescribed system efficiency of air–conditioning system to be as follows:

(ii) For Buildings using Air Cooled Chilled-Water Plant or Unitary Air-Conditioners:

NRB 1-2(b) – Air–Conditioning System

Green Mark Rating	Peak Building Cooling Load (RT)	
	< 500	≥ 500
	Efficiency[1] (kW/RT)	
Certified	0.90	0.80
Gold	0.90	Not applicable[2]
Gold^{plus}	0.85	
Platinum	0.78	

Note [1] The performance of the overall air-conditioning system for the building can either be based on the efficiency at full installed capacity (exclude standby) of the system or expected operating efficiency of the system at part-load condition during the normal building operation hours as defined below:

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Taking reference from BCA Green Mark

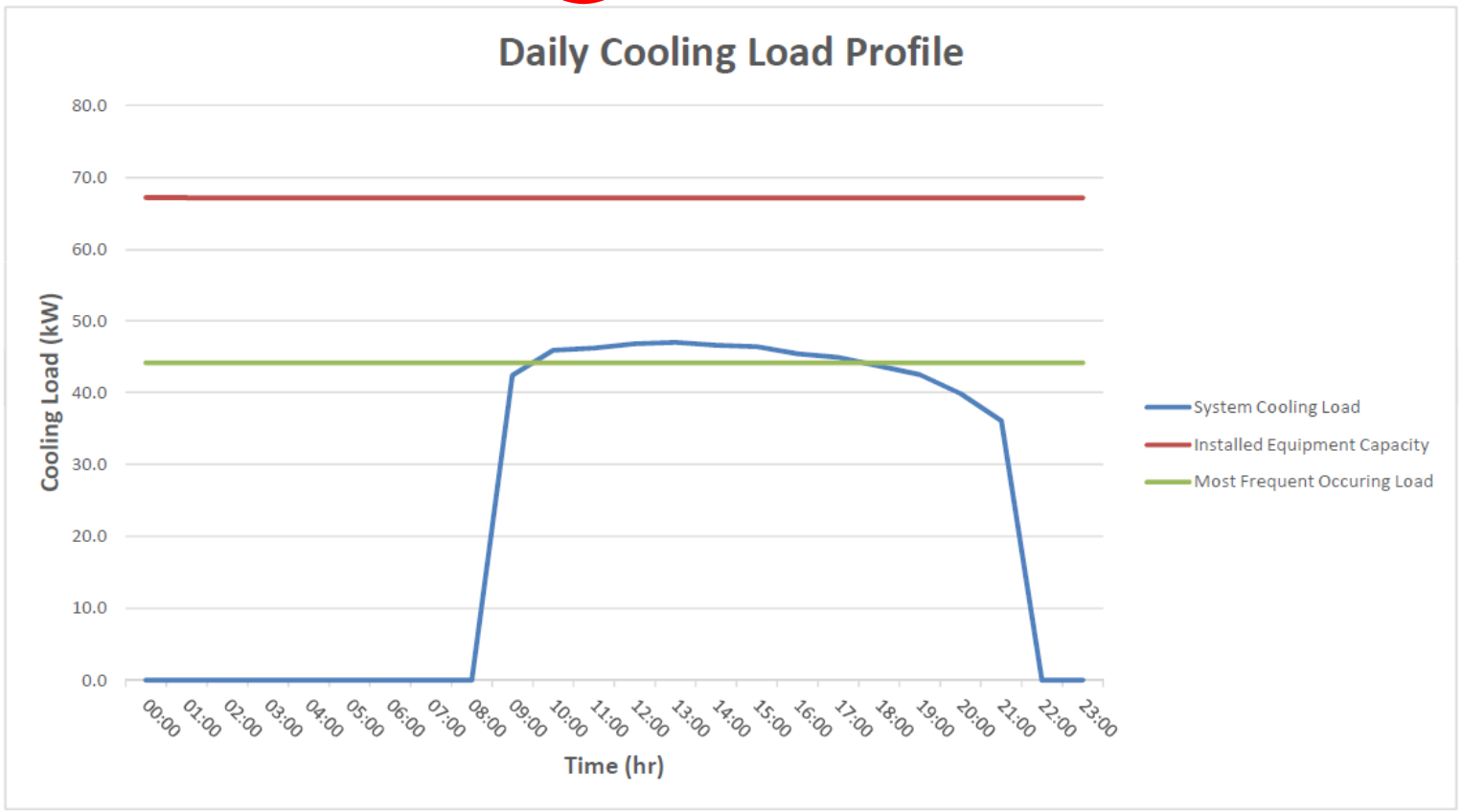
Expected Daily Cooling Load Profile

CU R-10

Installed Cooling Capacity (kW)	=	67.2
Operation Hour (hr)	=	9:00 - 22:00
Most Frequent OccuringPart Load Cooling Capacity (kW)	=	44.1
Part Load Percentage	=	66%

Average around 70%

DESIGN MONTH:	
TIME	TERMINAL COOLING (kW)
00:00	0.0
01:00	0.0
02:00	0.0
03:00	0.0
04:00	0.0
05:00	0.0
06:00	0.0
07:00	0.0
08:00	0.0
09:00	42.4
10:00	45.9
11:00	46.2
12:00	46.7
13:00	46.9
14:00	46.6
15:00	46.4
16:00	45.4
17:00	44.9
18:00	43.7
19:00	42.5
20:00	39.9
21:00	36.1
22:00	0.0
23:00	0.0



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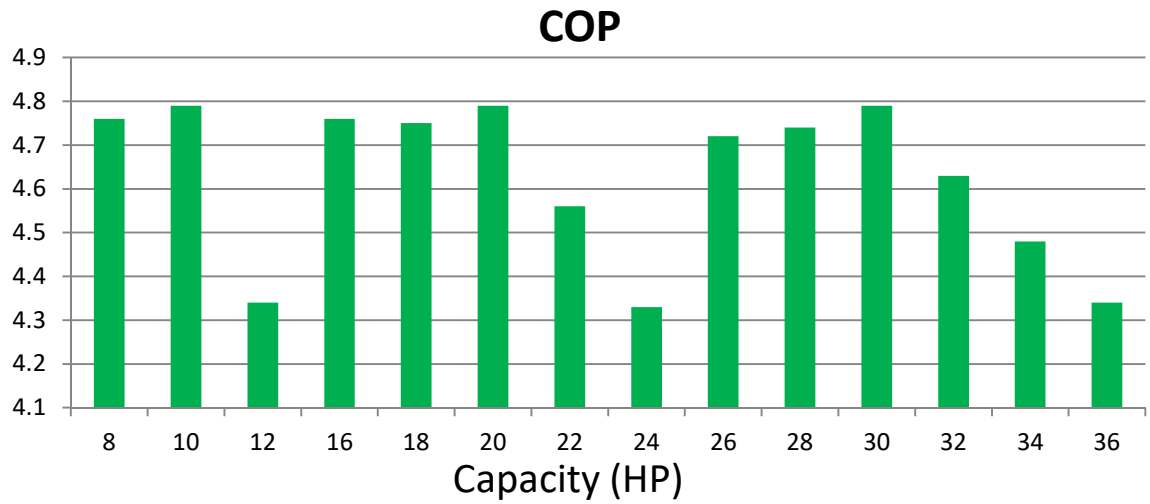
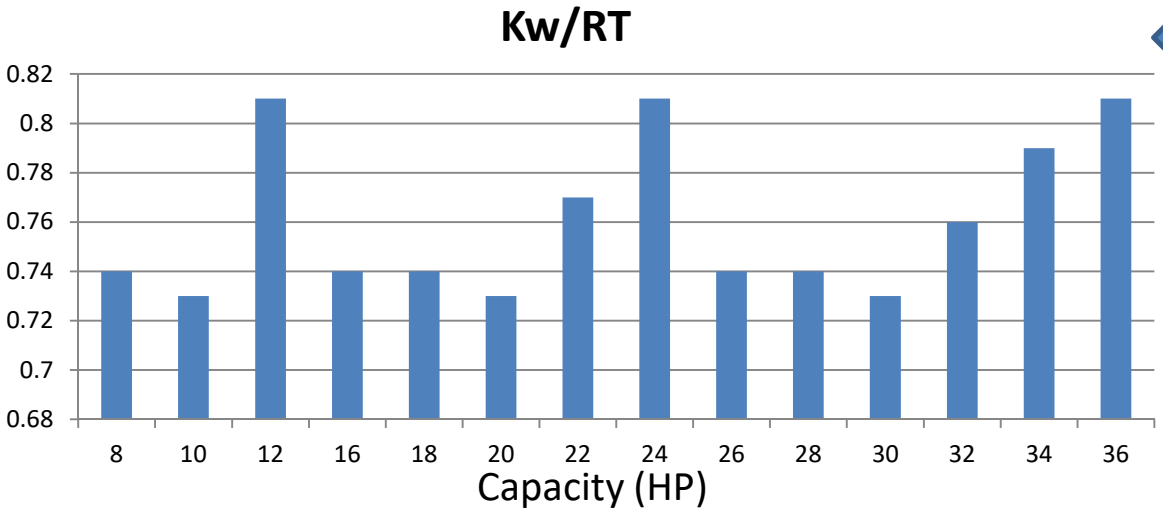
KXZXE1 (Hi COP Model) Efficiency at 70% Part load



KXZXE1 COP at **70%** Part load



100% of KXZ Hi-COP models met BCA Green mark Certification

KXZXE1 Kw/RT at **70%** Part load

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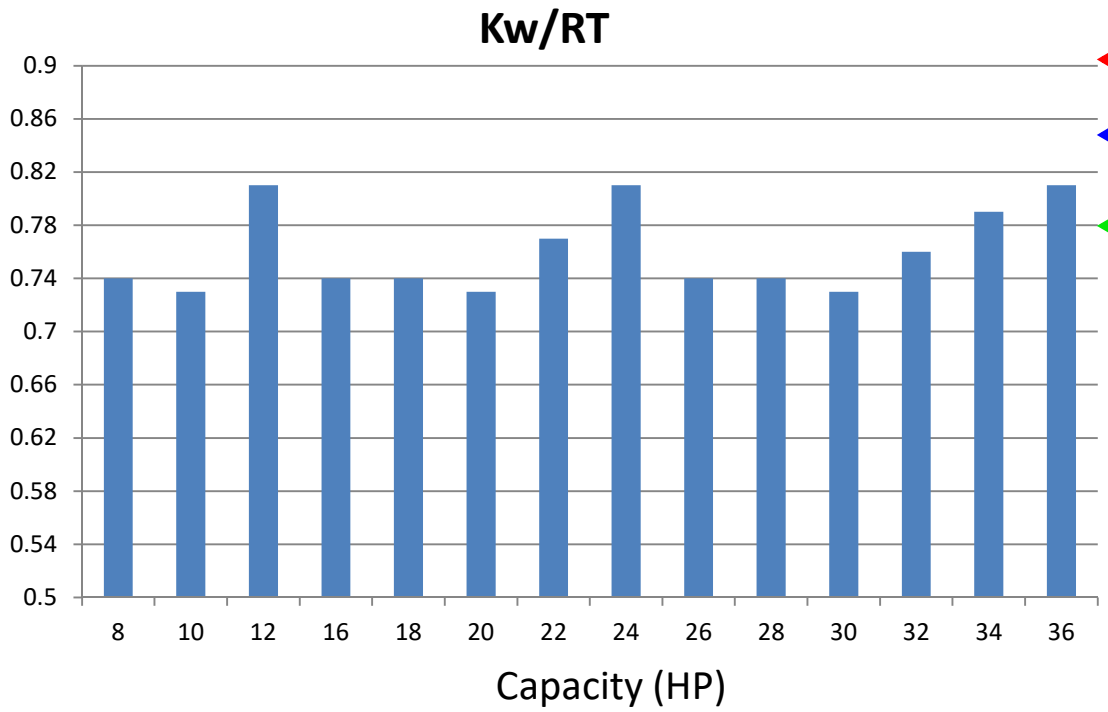
KXZXE1 (Hi COP Model) Efficiency at 70% Part load



BCA Green Mark Certification & Rating

0.9	Certified & Gold rating
0.85	Gold Plus rating
0.78	Platinum rating

KXZXE1 Kw/RT at **70%** Part load

With proper system and model selections, achieving **Green Mark Platinum rating** with MHI VRF system is possible !!

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Other Ranges of KXs

Other ranges of KXs - **FDCH**

High Head series (100m) cooling only
14~48hp (40.0~136.0kW)

Model No.	Nominal Cooling Capacity
FDCH335CKXE6G-K※	33.5 kW
FDCH400CKXE6G	40.0 kW
FDCH450CKXE6G	45.0 kW
FDCH504CKXE6G	50.4 kW
FDCH560CKXE6G	56.0 kW
FDCH560CKXE6G-K※	56.0 kW
FDCH615CKXE6G	61.5 kW
FDCH680CKXE6G	68.0 kW

※FDCH335CKXE6G-K & FDCH560CKXE6G-K are only used for combining with other models.

Model No.	Nominal Cooling Capacity
FDCH735CKXE6G (FDCH335-K+FDCH400)	73.5 kW
FDCH800CKXE6G (FDCH400x2)	80.0 kW
FDCH850CKXE6G (FDCH400+FDCH450)	85.0 kW
FDCH900CKXE6G (FDCH450x2)	90.0 kW
FDCH960CKXE6G (FDCH450+FDCH504)	96.0 kW
FDCH1010CKXE6G (FDCH504x2)	101.0 kW
FDCH1065CKXE6G (FDCH504+FDCH560)	106.5 kW
FDCH1130CKXE6G (FDCH560x2)	113.0 kW
FDCH1180CKXE6G (FDCH560-K+FDCH615)	118.0 kW
FDCH1235CKXE6G (FDCH615x2)	123.5 kW
FDCH1300CKXE6G (FDCH615+FDCH680)	130.0 kW
FDCH1360CKXE6G (FDCH680x2)	136.0 kW

Blue Fin



FDCH335CKXE6G-K
FDCH400CKXE6G
FDCH450CKXE6G

Blue Fin

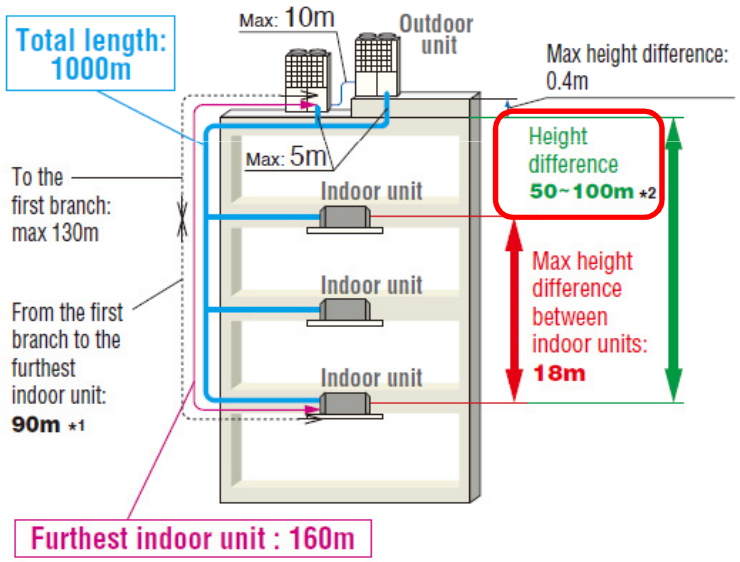


FDCH504~680CKXE6G

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

Other ranges of KXs - **FDCH**

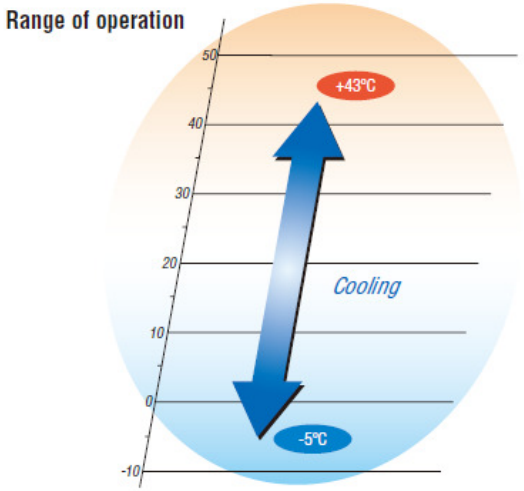
High Head series (100m) **cooling only**
14~48hp (40.0~136.0kW)



*1 The difference between the longest and shortest indoor unit piping from the first branch must be within 40m.

*2 In case of less than 50m, the High Head models can not be applied.
In case Indoor unit is higher than outdoor unit, the High Head models can not be applied.

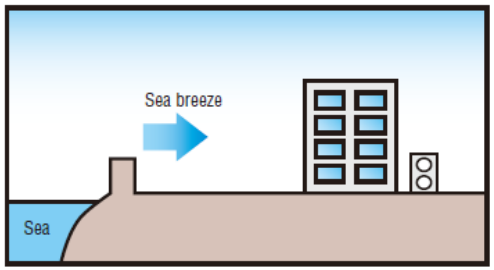
- Maximum allowable height difference between the outdoor and the indoor unit located at the lowest height position has been increased from 50m to 100m.
  (When the outdoor unit is located at higher position than the indoor unit)
- Non-CE Marking models.



Other ranges of KXs - **FDCS**

Corrosion Protection Treatment series 4~60HP (11.2kW~168.0kW)

Corrosion Protection Treatment series are available with special coating applied for not only sheet metals but also small parts in order to prevent salt corrosion caused by sea breeze in area along coast line (Within approximately 500m from coast line).



Model No.	Nominal Cooling Capacity
FDCS112KXEN6	11.2kW
FDCS112KXES6	11.2kW
FDCS140KXEN6	14.0kW
FDCS140KXES6	14.0kW
FDCS155KXEN6	15.5kW
FDCS155KXES6	15.5kW
FDCS224KXE6G	22.4kW
FDCS280KXE6G	28.0kW
FDCS335KXE6G	33.5kW

Model No.	Nominal Cooling Capacity
FDCS280KXZE1	28.0kW
FDCS335KXZE1	33.5kW
FDCS400KXZE1	40.0kW
FDCS450KXZE1	45.0kW
FDCS475KXZE1	47.5kW
FDCS504KXZE1	50.4kW
FDCS560KXZE1	56.0kW

- Combination systems:22~60hp (61.5kW~168.0kW) are the same as that of the standard KXZ series shown on previous pages.
- Specifications and Dimensions are the same as that of the standard KXZ series shown on previous pages.
- Non-CE Marking models.



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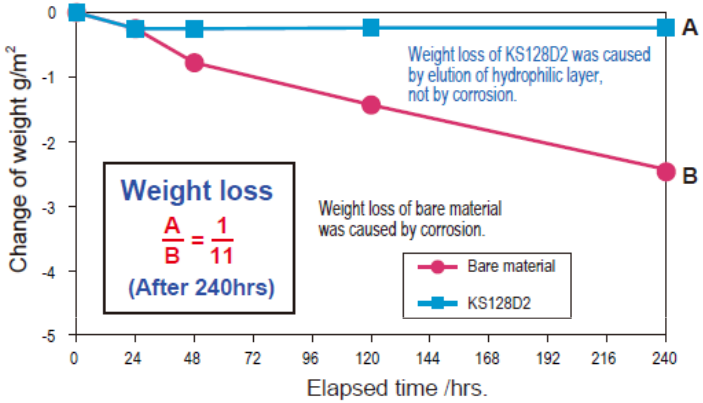
Other ranges of KXs - **FDCS**

Corrosion resistance performance of high anticorrosion fin

Comparison of weight loss by corrosion

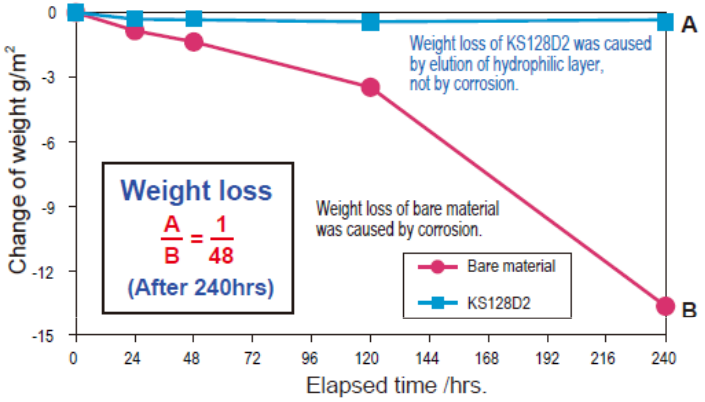
Neutral salt water spray test



<Test conditions>

JIS Z2371
NaC1 concentration : 50g/L
pH : 6.5~7.2
temperature : 35°C

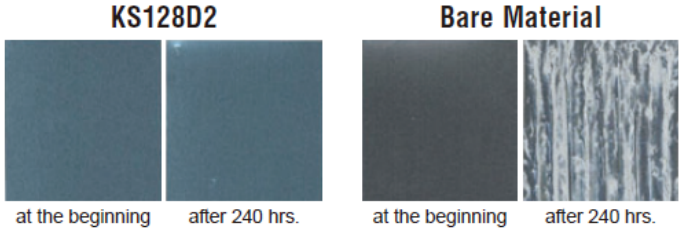
Acetic acid salt water spray test



<Test conditions>

JIS Z2371
NaC1 concentration : 50g/L
pH : 3.1~3.3(adjusted with acetic acid)
temperature : 35°C

Appearance comparison before and after acetic acid salt water spray test



Other ranges of KXs – **FDC-KXZWE1**

Water cooled series
8~36HP (22.4~100.0kW)

Model No.	Nominal Cooling Capacity
FDC224KXZWE1	22.4kW
FDC280KXZWE1	28.0kW
FDC335KXZWE1	33.5kW
FDC450KXZWE1(FDC224×2)	45.0kW
FDC500KXZWE1(FDC224+FDC280)	50.0kW
FDC560KXZWE1(FDC280×2)	56.0kW
FDC615KXZWE1(FDC280+FDC335)	61.5kW
FDC670KXZWE1(FDC335×2)	67.0kW

Model No.	Nominal Cooling Capacity
FDC730KXZWE1(FDC224×2+FDC280)	73.0kW
FDC775KXZWE1(FDC224+FDC280×2)	77.5kW
FDC850KXZWE1(FDC280×3)	85.0kW
FDC900KXZWE1(FDC280×2+FDC335)	90.0kW
FDC950KXZWE1(FDC280+FDC335×2)	95.0kW
FDC1000KXZWE1(FDC335×3)	100kW

Features

1. High efficiency (EER/COP)
- Energy saving ➡ Reduction of operation cost!

2. Compact design
- Easy transportation and installation
- Elevator carrying

3. BMS (Building Management System)
- Can use the same BMS as air-cooled KX
- Available to large-scale and fine control

4. Serviceability & Maintenance
- Service and maintenance of main parts can be done from the front side only
- Useful service tools (Mente-PC, SL-Checker etc.)

Applicable to

1. High-rise Building
- 50m <FDC> , -100m <FDCH>
- 100m or higher in height <FDCW>

2. Glass-exterior facade Building
- Possible to hide KXZW units and to keep fine sight

NEW


8, 10, 12HP


16, 18, 20, 22, 24HP

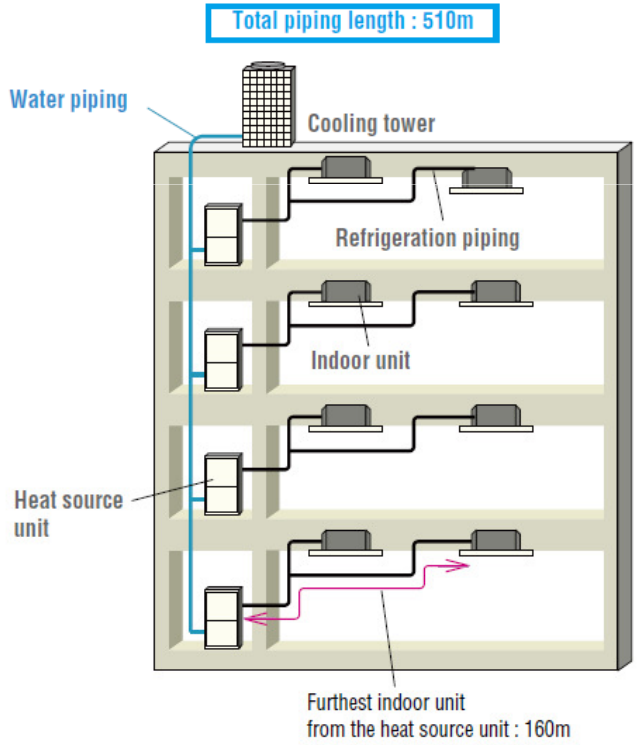

26, 28, 30, 32, 34, 36HP

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

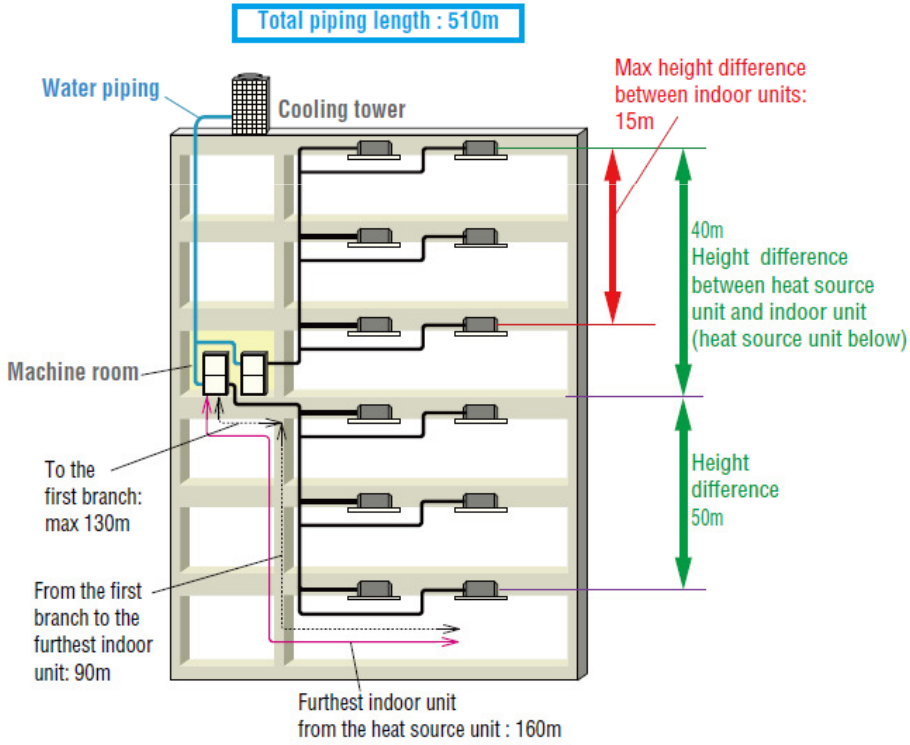
Other ranges of KXs – **FDC-KXZWE1**

Water cooled series
8~36HP (22.4~100.0kW)

Heat source units on every floor
- New building projects -



Heat source units in the machine room
- Renovation projects -



After Sales Service & Supports

Our Commitments

We stand by our commitments in after sales, technical and spare parts support for every highly reliable and efficient Mitsubishi Heavy Industries Ltd. Air-Conditioner system installed in Singapore

After Sales and Service Supports

We have a team of highly experienced factory trained service force, with individual working experienced ranging from 10 to 25 years to provide after sales service support, for all Mitsubishi Heavy Industries Ltd. Air-Conditioner installed in Singapore and if required for the region

Service Tools enchancing service recovery

Our factory trained Supervisors and Technicians are fully equipped with latest and advanced service tools and test equipment to help them in their service recovery.

- Communication tools for RAC & PAC
- SL Checker for PAC & VRF
- Mente-PC for PAC & VRF
- Inverter Checker for inverter
- CCCT and DMCT checker for motor, etc

After Sales Service & Supports

In-House training and sharing session for our service teams





MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

KM Marketing Pte Ltd

After Sales Service & Supports



In-House training and sharing session for our service teams



After Sales Service & Supports

Our passion in sharing





Training for our dealers and contractors on system knowledge, installation and trouble shooting analysis

After Sales Service & Supports



Training for our dealers and contractors on system knowledge, installation and trouble shooting analysis



After Sales Service & Supports







Training for our dealers and contractors on system knowledge, installation and trouble shooting analysis

After Sales Spare Parts Support

We are maintaining a healthy stock of spare parts holding on essential and critical parts for all models sold within 7 (seven) years to support warranty replacement, after sales service and recovery

Job Reference

(A) PRIVATE RESIDENTIAL

1 Oxley Rise Condominium
104 Cactus Rd
112 Owen Rd
12 Mount Sinai Lane
12 Namly Hill Project
134 / 135 Sixth Ave
14 Moon Beam Drive
14A Nallne Rd
16 Coronation Road
16 Lornie Road
19 Nallur Rd
2 Storey Bungalow at Gallop Road
2 units of 2 Storey Bungalow at Camden Park
2 Watten Close
20 Pasir Ris Ave
24 Sunrise Ave
25 Holland Rd
25 Storey Condominium & Service Apartment- *Orchard Parksuites*
2-Storey Terrace House Parcel 559 at Chuan Drive
3 Storey Bungalow at Swettenham Road
33 Blair Rd
33 Lorong Pisang
33 Swiss Club Rd
33 Tanglin Rd
4 Storey Boarding House at Perak Road
41 Jalan Kerung
44 Bournemouth Road
45 Sian Tuan Ave





Job Reference

(A) PRIVATE RESIDENTIAL

49A Binjai Park
5 Frankel Street
50 La Salle Street
558 East Coast Road
61 Grange Road
62 Emerald Hill
7 units of 2 Storey Bungalow at Garlick Ave
71 Huddington Ave
779 Mountbatten Road
92 Branksome Rd
Boarding House At Geylang Lorong 10
Bungalow at 63 Jalan Limau Manis
D'Zire Condominium at 12 Robey Crescent
Golden Dragon Hotel at Geylang Lor 18
Jalan Besar Hotel
Lorong 18 Geylang (Boarding House)
Lorong 22 Sunwell Hotel
Lorong 8 Geylang Boarding House
Santa Fe Mansion – Mountbatten Road
Scenic @ Braddell Condominium at 52 Braddell Road
Spring Grove Condominium Club House
97A Siglap Road



Job Reference

(B) COMMERCIAL BUILDING

152 Upper East Coast Rd
1 Serangoon North Ave 5 Singtel Building
No 1 Claymore Drive
2-Sty Restaurant at Hasting Rd
3 Storey Office at Tras St
30 Kaki Bukit Crescent
4 Storey Building at Harvey Road
4 Storey Factory @ Sungei Kadut Way (Hua Kok Realty)
9 Changi South Street 3 (Ascendas Reit)
23 Tuas Road
41 Tuas Ave 13
48 Kaki Bukit Crescent Factory
70A Amoy Street
82 Amoy Street
82 Goodman Road
160 Changi Road (Hexacube)
500 Old Choa Chu Kang Road (Sungei Tengah Lodge)
7-Eleven at Serangoon Plaza
Ace Building (Paya Lebar)
Amtek Building
Ang Mo Kio HDB Centre
AT&T Worldwide Comm at Science Park
AZTECH building at Ubi Road 1
Bank of India (1st to 3rd Floor Robinson Centre)
Beauty Express At East Coast Road
C&P Warehouse
Cafeteria Rasa Sentosa Hotel
Califonia Fitness Centre at Orchard Building
Celtrad Metal Pte Ltd (International Road)
Centre Point - 7-Eleven
Childcare @ Blk 293B Compassvale Crescent
Conservation project - CHIJMES
Conservation Shop Houses at Tan Quee Lan Street
P.S.A. – Warehouse SB8 & SB9 Sembawang
ST Aerospace
Pengkalan Investment Ltd
Pico Art Building
Polyone (S) Pte Ltd @ Tuas Ave 8
PSA at WTC
Pulau Seraya Oil Tanking (Phase 1 & 2)
Renonvelle Pte Ltd
Republic Plaza - Tokyo Mitsubishi Bank
PSA Tanjong Pagar Complex
Saigon Centre
Sallim Matter Mosque
Senoko Power Station
Shop House at 372 Race Coast Rd
SIA Engine Test Cell
Singapore Cable Vision A&A
Singapore Cruise Centre
Singapore Discovery Centre A&A
Singapore Island Country Club A&A
Singapore Repertory Theatre
Sommeil Terre @ Tampines
SMOE – Sembawang Marine Offshore Engineering
Sri Ram Chandran Mission
Tan Chong Showroom at Queen Street
Temple at Sungei Kadut
Tetrapak Jurong Pte Ltd
Texas Instrument (S) Pte Ltd (Kallang Pudding Rd)
The Bencoolen Shopping Centre & Office
Tong Building
Yakult Factory
Wei Sin Construction Office
World Courier Singapore
YMCA

Job Reference

Cooper Cameron at Jurong
Daiho Factory at Woodlands Loop
DBS Bank at Bedok
DKI Technocentre
Dupont at Jurong Island
East Point Shopping Centre
Esso at Commerce point
Factory at Kallang Bahru (Ingram Micro Asia)
Factory at Loyang Way (Wee Hoe Cheng)
Factory at Tuas Ave 20
Fo Guang Shan Temple @ Pungol
G.E at Loyang Way
Haw Par Villa
Hi-Tech Park
Hitachi Transport System@ 8 Changi South Street 3
Hwee Jin Pte Ltd
Intel Office - Singapore
Joo Long Transport
JTC space @ Tuas
Jurong Bird Park A&A
K L Hiap Aik Logistic
KDI Factory
Keppel FEL Training Centre
Keppel Shipyard - Superintendent Surveyor Building
Komoco Services Centre
Kwong Wai Siew Peck San Theng
Liberty Insurance Building at 51 Club Street
Life Church at Prinsep Street
Life Science Research Building at Science Park
Makino Asia (Extension) (Phase 2-4)
MHI S.E.A. Office @ Tuas
MHI SEA Office at Tuas Ave 12
MHI-MCF Building at Tuas
NEWN Lab Building
No 88 Arab Street
NTUC at Bukit Ho Swee
NTUC Child Care & Rehab Centre at Bedok
Office at 41st Storey DBS Tower
Office at 47 Sungei Kdaut Street 6
Office at 9th Floor Robinson Centre



Job Reference

(C) EDUCATIONALS

Ang Mo Kio & Tampines CDC
Anglican High School
Anglo Chinese School (Junior)
Bartley Secondary School
Bedok South Secondary School
Bishan Park Secondary School
Blk 7 Ngee Ann Polytechnic
Bowen Secondary School
CHIJ Our Lady of the Nativity @ Upper Serangoon Road
Changkat Primary School
Cherie Hearts Child Development
CIDB – CITI at Braddell Road
Commonwealth Secondary School
Conservation Project at 70 Emerald Road
Concord Primary School
Damai Primary School
Deyi Secondary School
Dunman Secondary School
Gan Eng Seng School
German School Association of Singapore
Greenridge Primary School
Greenview Secondary School
Hai Seng Secondary School
Henry Park Primary School
Jiemin Primary School
Jurong Instituition

Ministry of Education
SINGAPORE

NGEE ANN POLYTECHNIC

REPUBLIC POLYTECHNIC

SINGAPORE POLYTECHNIC

HEAVY DUTY

KM Marketing Pte Ltd

Job Reference

(C) EDUCATIONALS

Kranji Secondary School
Loyang Secondary School
Manjusri Secondary School
Maris Stella High School (Phase 1 & 2)
Nan Hua High School
Nan Chiau Primary School
Naval Base School
North View Primary School
NTU Innovation Centre
NTU School of Mechanical & Aerospace Engineering
NTU Student Affair office
NUS - Blk S13 & S16
NUS – NOC House at Prince George Park
NUS Law School Library at Bukit Timah Campus
Pasir Ris Secondary School
Pioneer Secondary School
Pioneer Junior Collage
Red Swastika School
Regent Secondary School
Republic Polytechnic
River Valley Primary School
River Valley High School
Sembawang Primary School
Shuqun Secondary School
Siglap Secondary School

NANYANG TECHNOLOGICAL UNIVERSITY

NUS National University of Singapore

Job Reference

(C) EDUCATIONALS

Singapore Poly T131/132 , TB19
Singapore Polytechnic – Admin Block
Singapore Polytechnic (Poly Marina)
Singapore Polytechnic (Solarium Project)
Singapore Polytechnic TB 20/21
St Anthony's Primary School
Swiss Cottage School
Tampines Junior College
Tanglin Secondary School
Tanjong Katong Girls' School
Toa Nan School
Victoria Junior College
Woodlands Primary School
Woodlands Ring Secondary School
Woodlands Grove Secondary School
Xishan Primary School
Yew Tee Primary School
Yio Chu Kang Seconary School
Yumin Primary School
Zhonghua Secondary School

Job Reference

(D) GOVERNMENT

5 Storey Electrical Sub-station at Sengkang
AVA
Bedok Police Station
Boon Teck Community Centre
British Embassy
Changi Prison Visitor Complex
Changi Airport - A&A Works to Existing 20R Airfield Lighting Ctrl
Changi water reclamation plant
Clementi Police Station
Crawford Community Centre
Geylang West Community Centre
Home Team Academy
Hort Park
Jalan Besar Community Centre
Japanese Association of Singapore
Japanese Association of Singapore – Replacement
Kangkar Community Centre
MHA Prison (East zone)
MINDEF – Field Mobile
MSF @ Blk 104 Jalan Raja
MSF@Blk 634B Senja Gateway
National Dental Clinic
National Kidney Foundation at Tampines
New Civil Service Institute Building at Bona Vista
NHB Heritage Centre at Chinatown
Npark Office @ Pulau Ubin
NPC – Changi
NPC – Marine Parade
NPC – Pasir Ris
NPC – Tampines







Job Reference

(D) GOVERNMENT

Nursing Home @ Buangkok Green
Nursing Home at Pasir Ris
Pasir Ris HDB Branch Office
PCF @ Blk78A Telok Blanga Street 32
PCF @ Blk 818/815A/815C Choa Chu Kang
PCF @ Blk 419 Faja Road
PCF @ Blk 205 Bukit Batok Street 21
PCF @ Blk 403 Jurong West Street 42
PCF @ Blk 12 Toh Yi Drive 5
PCF @ Blk 787 Choa Chu Kang North 6
PUB Water Reclamation Plant – Kranji
Restaurant at SAFRA Resort & Country Club
Seletar Air Base (West Camp)
Sembawang Substation
Sungei Buloh Wetland Reserve
Tampinese Neighbourhood Library
Tanglin Community Centre
Toa Payoh RC 16 VIP (HDB)
Tuas Desalination plant 3
Whampoa Community Centre
Woodlands Checkpoint
Yio Chu Kang Community Club
Cairnhill Community Club
Kreta Ayer Community Club
Kampong Ubi Community Club

HOUSING & DEVELOPMENT BOARD

Singapore General Hospital
SingHealth

Singapore Police Force
A member of the Home Team





HEAVY DUTY

KM Marketing Pte Ltd

Job Reference

PUB
Water for All : Conserve, Value, Enjoy



Total Capacity: **1,800kW**
Total CU: **105**
Total FCU: **360**
Contract: **$1.2M**

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

Job Reference

160 Changi Road

Hexacube



Total Capacity:	**1,323kW**
Total CU:	**170**
Total FCU:	**240**

Job Reference

ST Aerospace
A company of ST Engineering



Total Capacity: **683kW**
Total CU: **30**
Total FCU: **187**

MITSUBISHI HEAVY INDUSTRIES AIR CONDITIONERS HEAVY DUTY

Job Reference

9 Changi South



Total Capacity: **683kW**
Total CU: **10**
Total FCU: **187**

MHI Products Presentation

End of Presentations

Questions and Answers



MHI Products Presentation

Thank you !!

