

VRF SYSTEMS

HEAT PUMP | HEAT RECOVERY

HEATING HYBRID



 **MITSUBISHI
HEAVY INDUSTRIES**

www.mitsubishi-termal.it





VALUES THAT HAVE LASTED FOR OVER A CENTURY

VRF MULTI SYSTEMS	5
KXZ HEATING	83
CONTROLS	103

With Mitsubishi Heavy Industries' passion for innovation, the most cutting-edge technology is used to develop products with a green soul, ensuring a better tomorrow.



VRF MULTI SYSTEMS

VRF MULTI SYSTEMS

LINE-UP OUTDOOR	6
<hr/>	
MULTI VRF SYSTEMS HEAT PUMP	
KXZ2 VRF-T, THE NEW GENERATION OF THE MHI VRF	10
KXZ SYSTEM HEAT PUMP	12
KXZ MICRO VRF-T SYSTEM	27
KXZ MICRO COMPACT	28
KXZM MICRO LARGE CONNECTION	30
KXZP MICRO SMART	32
KXZ2 VRF-T SYSTEM	33
KXZX HI-COP SYSTEM	39
<hr/>	
HEAT RECOVERY MULTI VRF SYSTEMS	
KXZR2 HEAT RECOVERY SYSTEM	42
KXZR2 HEAT RECOVERY	49
<hr/>	
MULTI WATER COOLED VRF SYSTEMS	
VRF-T WATER COOLED KXZW	54
<hr/>	
LINE-UP INDOOR	61
<hr/>	
HUMAN SENSOR	62
<hr/>	
INDOOR UNITS	63
<hr/>	
ENTHALPY HEAT RECOVERY UNIT	78
<hr/>	
POST-TREATMENT MODULAR UNIT	79
<hr/>	
EEV-KIT	80
<hr/>	

The complete control of technology is one of the pillars of MHI. KXZ models with VRF-T technology are an example: high-performance systems thanks to operating flexibility, high energy efficiency and easy installation. KXZ can meet the needs of an increasing number of applications in the commercial and industrial sectors.



VRF MULTI SYSTEMS

Outdoor heat recovery units

KXZ MICRO COMPACT *VRF-T*



12.10 kW	14.00 kW	15.50 kW
4HP	5HP	6HP
FDC 121 KXZEN1	FDC 140 KXZEN1	FDC 155 KXZEN1
FDC 121 KXZES1	FDC 140 KXZES1	FDC 155 KXZES1

KXZM MICRO LARGE CONNECTION *VRF-T*



22.40 kW	28.00 kW	33.50 kW
8HP	10HP	12HP
FDC 224 KXZME1	FDC 280 KXZME1	FDC 335 KXZME1A

KXZP MICRO SMART *VRF-T*



22.40 kW	28.00 kW
8HP	10HP
FDC 224 KXZPE1	FDC 280 KXZPE1

KXZE2 *NEW VRF-T*



28.00 kW	33.50 kW	40.00 kW	45.00 kW	47.50 kW	50.00 kW	56.00 kW
10HP	12HP	14HP	16HP	17HP	18HP	20HP
FDC 280 KXZE2	FDC 335 KXZE2	FDC 400 KXZE2	FDC 450 KXZE2	FDC 475 KXZE2	FDC 500 KXZE2	FDC 560 KXZE2



61.50 kW	67.00 kW	73.50 kW	80.00 kW	85.00 kW	90.00 kW	95.00 kW	100.00 kW	106.00 kW	112.00 kW
22HP	24HP	26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
FDC 615 KXZE2	FDC 670 KXZE2	FDC 735 KXZE2	FDC 800 KXZE2	FDC 850 KXZE2	FDC 900 KXZE2	FDC 950 KXZE2	FDC 1000 KXZE2	FDC 1060 KXZE2	FDC 1120 KXZE2
10+12	12+12	12+14	14+14	14+16	16+16	17+17	18+18	18+20	20+20
FDC 280 KXZE2	FDC 335 KXZE2	FDC 335 KXZE2	FDC 400 KXZE2	FDC 400 KXZE2	FDC 450 KXZE2	FDC 450 KXZE2	FDC 475 KXZE2	FDC 500 KXZE2	FDC 560 KXZE1
FDC 335 KXZE2	FDC 335 KXZE2	FDC 400 KXZE2	FDC 400 KXZE2	FDC 450 KXZE2	FDC 450 KXZE2	FDC 475 KXZE2	FDC 475 KXZE2	FDC 500 KXZE2	FDC 560 KXZE1



120.00 kW	125.00 kW	130.00 kW	135.00 kW	142.50 kW	145.00 kW	150.00 kW	156.00 kW	162.00 kW	168.00 kW
42HP	44HP	46HP	48HP	50HP	52HP	54HP	56HP	58HP	60HP
FDC 1200 KXZE2	FDC 1250 KXZE2	FDC 1300 KXZE2	FDC 1350 KXZE2	FDC 1425 KXZE2	FDC 1450 KXZE2	FDC 1500 KXZE2	FDC 1560 KXZE2	FDC 1620 KXZE2	FDC 1680 KXZE2
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
FDC 400 KXZE2	FDC 400 KXZE2	FDC 400 KXZE2	FDC 450 KXZE2	FDC 475 KXZE2	FDC 475 KXZE2	FDC 475 KXZE2	FDC 500 KXZE2	FDC 500 KXZE2	FDC 560 KXZE2
FDC 400 KXZE2	FDC 400 KXZE2	FDC 450 KXZE2	FDC 450 KXZE2	FDC 475 KXZE2	FDC 475 KXZE2	FDC 475 KXZE2	FDC 500 KXZE2	FDC 500 KXZE2	FDC 560 KXZE2
FDC 400 KXZE2	FDC 450 KXZE2	FDC 450 KXZE2	FDC 450 KXZE2	FDC 475 KXZE2	FDC 500 KXZE2	FDC 500 KXZE2	FDC 500 KXZE2	FDC 560 KXZE2	FDC 560 KXZE2

KXZX Hi-COP *VRF-T*



22.40 kW	28.00 kW	33.50 kW
8HP	10HP	12HP
FDC 224 KXZXE1	FDC 280 KXZXE1	FDC 335 KXZXE1



45.00 kW	50.00 kW	56.00 kW	61.50 kW	67.00 kW
16HP	18HP	20HP	22HP	24HP
FDC 450 KXZXE1	FDC 500 KXZXE1	FDC 560 KXZXE1	FDC 615 KXZXE1	FDC 670 KXZXE1
8+8	8+10	10+10	10+12	12+12
FDC 224 KXZXE1	FDC 224 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 335 KXZXE1
FDC 224 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 335 KXZXE1	FDC 335 KXZXE1



73.50 kW	80.00 kW	85.00 kW	90.00 kW	95.00 kW	100.00 kW
26HP	28HP	30HP	32HP	34HP	36HP
FDC 735 KXZXE1	FDC 800 KXZXE1	FDC 850 KXZXE1	FDC 900 KXZXE1	FDC 950 KXZXE1	FDC 1000 KXZXE1
8+8+10	8+10+10	10+10+10	10+10+12	10+12+12	12+12+12
FDC 224 KXZXE1	FDC 224 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 335 KXZXE1
FDC 224 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 335 KXZXE1	FDC 335 KXZXE1
FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 280 KXZXE1	FDC 335 KXZXE1	FDC 335 KXZXE1	FDC 335 KXZXE1

VRF MULTI SYSTEMS

Outdoor heat pump units

KXZRE2 **NEW**



22.40 kW	28.00 kW	33.50 kW
8HP	10HP	12HP
FDC 224 KXZRE2	FDC 280 KXZRE2	FDC 335 KXZRE2



40.00 kW	45.00 kW	47.50 kW	50.00 kW	56.00 kW	61.50 kW	67.00 kW
14HP	16HP	17HP	18HP	20HP	22HP	24HP
FDC 400 KXZRE2	FDC 450 KXZRE2	FDC 475 KXZRE2	FDC 500 KXZRE2	FDC 560 KXZRE2	FDC 615 KXZRE2	FDC 670 KXZRE2



73.50 kW	80.00 kW	85.50 kW	90.00 kW	95.00 kW	100.00 kW	106.00 kW	112.00 kW
26HP	28HP	30HP	32HP	34HP	36HP	38HP	40HP
FDC 735 KXZRE2	FDC 800 KXZRE2	FDC 850 KXZRE2	FDC 900 KXZRE2	FDC 950 KXZRE2	FDC 1000 KXZRE2	FDC 1060 KXZRE2	FDC 1120 KXZRE2
12+14	14+14	14+16	16+16	17+17	18+18	18+20	20+20
FDC 335 KXZRE2 FDC 400 KXZRE2	FDC 400 KXZRE2 FDC 400 KXZRE2	FDC 400 KXZRE2 FDC 450 KXZRE2	FDC 450 KXZRE2 FDC 450 KXZRE2	FDC 475 KXZRE2 FDC 475 KXZRE2	FDC 500 KXZRE2 FDC 500 KXZRE2	FDC 500 KXZRE2 FDC 560 KXZRE2	FDC 560 KXZRE2 FDC 560 KXZRE2



120.00 kW	125.00 kW	130.00 kW	135.00 kW	142.50 kW	145.00 kW	150.00 kW	156.00 kW	162.00 kW	168.00 kW
42HP	44HP	46HP	48HP	50HP	52HP	54HP	56HP	58HP	60HP
FDC 1200 KXZRE2	FDC 1250 KXZRE2	FDC 1300 KXZRE2	FDC 1350 KXZRE2	FDC 1425 KXZRE2	FDC 1450 KXZRE2	FDC 1500 KXZRE2	FDC 1560 KXZRE2	FDC 1620 KXZRE2	FDC 1680 KXZRE2
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
FDC 400 KXZRE2 FDC 400 KXZRE2 FDC 400 KXZRE2	FDC 400 KXZRE2 FDC 400 KXZRE2 FDC 450 KXZRE2	FDC 400 KXZRE2 FDC 450 KXZRE2 FDC 450 KXZRE2	FDC 450 KXZRE2 FDC 450 KXZRE2 FDC 450 KXZRE2	FDC 475 KXZRE2 FDC 475 KXZRE2 FDC 475 KXZRE2	FDC 475 KXZRE2 FDC 475 KXZRE2 FDC 500 KXZRE2	FDC 500 KXZRE2 FDC 500 KXZRE2 FDC 500 KXZRE2	FDC 500 KXZRE2 FDC 500 KXZRE2 FDC 560 KXZRE2	FDC 500 KXZRE2 FDC 560 KXZRE2 FDC 560 KXZRE2	FDC 560 KXZRE2 FDC 560 KXZRE2 FDC 560 KXZRE2

Outdoor water cooling units

KXZW WATER **VRF-T**



22.40 kW	28.00 kW	33.50 kW
8HP	10HP	12HP
FDC 224 KXZWE1	FDC 280 KXZWE1	FDC 335 KXZWE1



45.00 kW	50.00 kW	56.00 kW	61.50 kW	67.00 kW
16HP	18HP	20HP	22HP	24HP
FDC 450 KXZWE1	FDC 500 KXZWE1	FDC 560 KXZWE1	FDC 615 KXZWE1	FDC 670 KXZWE1
8+8	8+10	10+10	10+12	12+12
FDC 224 KXZWE1 FDC 224 KXZWE1	FDC 224 KXZWE1 FDC 280 KXZWE1	FDC 280 KXZWE1 FDC 280 KXZWE1	FDC 280 KXZWE1 FDC 335 KXZWE1	FDC 335 KXZWE1 FDC 335 KXZWE1



73.00 kW	77.50 kW	85.00 kW	90.00 kW	95.00 kW	100.00 kW
26HP	28HP	30HP	32HP	34HP	36HP
FDC 730 KXZWE1	FDC 775 KXZWE1	FDC 850 KXZWE1	FDC 900 KXZWE1	FDC 950 KXZWE1	FDC 1000 KXZWE1
8+8+10	8+10+10	10+10+10	10+10+12	10+12+12	12+12+12
FDC 224 KXZWE1 FDC 224 KXZWE1 FDC 280 KXZWE1	FDC 224 KXZWE1 FDC 224 KXZWE1 FDC 280 KXZWE1	FDC 280 KXZWE1 FDC 280 KXZWE1 FDC 280 KXZWE1	FDC 280 KXZWE1 FDC 280 KXZWE1 FDC 335 KXZWE1	FDC 280 KXZWE1 FDC 335 KXZWE1 FDC 335 KXZWE1	FDC 335 KXZWE1 FDC 335 KXZWE1 FDC 335 KXZWE1

LINE UP

VRF MULTI SYSTEMS

Outdoor heat pump units

Power can be connected to indoor units

KXZ MICRO COMPACT

HP	4	5	6
kW	12.1	14.0	15.5
EER	3.82	3.54	2.98
COP	3.91	3.83	3.62
max nr. connectable I.U.	8	10	10
power of connectable I.U.(%)	80%~150%		

KXZM MICRO LARGE CONNECTION

HP	8	10	12
kW	22.4	28.0	33.5
EER	4.01	3.54	3.13
COP	4.51	4.29	3.96
max nr. connectable I.U.	22	24	24
power of connectable I.U.(%)	50%~150%		

KXZP MICRO SMART

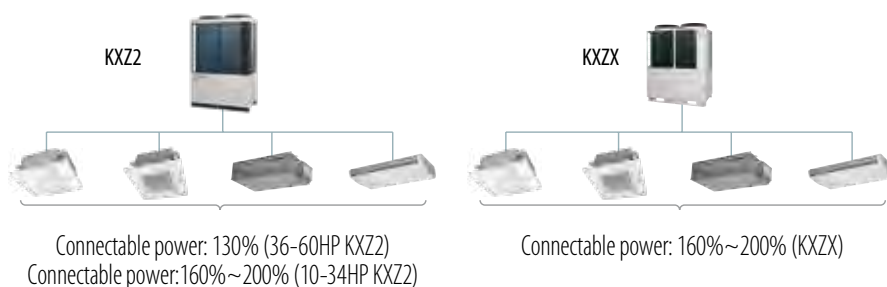
HP	8	10
kW	22.4	28.0
EER	4.00	3.56
COP	4.67	4.33
max nr. connectable I.U.	8	8
power of connectable I.U.(%)	50%~120%	

KXZE2 **NEW**

HP	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
kW	28.0	33.5	40.0	45.0	47.5	50.0	56.0	61.5	67.0	73.5	80.0	85.0	90.0	95.0	100.0	106.0	112.0	120.0	125.0	130.0	135.0	142.5	145.0	150.0	156.0	162.0	168.0
EER	3.86	3.73	3.64	3.22	3.40	3.57	3.20	3.79	3.73	3.68	3.64	3.41	3.22	3.40	3.57	3.36	3.20	3.64	3.48	3.34	3.22	3.40	3.46	3.57	3.43	3.31	3.20
COP	4.25	4.15	4.40	4.00	4.08	4.13	3.90	4.20	4.15	4.28	4.40	4.18	4.00	4.08	4.13	4.01	3.90	4.40	4.25	4.12	4.00	4.08	4.10	4.13	4.04	3.97	3.90
max nr. connectable I.U.	37	44	53	60	50	53	59	65	71	78	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
power of connectable I.U.(%)	50~200%					50~160%										50~130%											

KXZX Hi-COP

HP	8	10	12	16	18	20	22	24	26	28	30	32	34	36	
kW	22.4	28.0	33.5	45.0	50.0	56.0	61.5	67.0	73.5	80.0	85.0	90.0	95.0	100.0	
EER	4.50	4.03	3.86	4.50	4.24	4.03	3.94	3.85	4.30	4.15	4.03	3.96	3.91	3.86	
COP	4.50	4.61	4.47	4.50	4.55	4.60	4.54	4.46	4.53	4.57	4.61	4.57	4.51	4.46	
max nr. connectable I.U.	29	37	44	60	53	59	65	71	78	80	80	80	80	80	
power of connectable I.U.(%)	80~200%					80~160%									



VRF MULTI SYSTEMS

Outdoor heat recovery units

Power can be connected to indoor units

KXZRE2 **NEW**

HP	8	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
kW	22.4	28.0	33.5	40.0	45.0	47.5	50.0	56.0	61.5	67.0	73.5	80.0	85.0	90.0	95.0	100.0	106.0	112.0	120.0	125.0	130.0	135.0	142.5	145.0	150.0	156.0	162.0	168.0
EER	3.89	3.79	3.47	3.46	3.11	3.20	3.29	2.90	2.88	2.62	3.47	3.46	3.27	3.11	3.20	3.29	3.07	2.90	3.46	3.33	3.21	3.11	3.20	3.23	3.29	3.14	3.01	2.90
COP	4.25	4.08	3.97	4.10	3.95	4.07	3.94	3.75	3.81	3.61	4.04	4.10	4.02	3.95	4.07	3.94	3.84	3.75	4.10	4.04	4.00	3.95	4.07	4.02	3.94	3.87	3.81	3.75
max nr. connectable I.U.	29	37	44	53	60	50	53	59	65	71	78	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
power of connectable I.U.(%)	50~200%			50~160%									50~130%															

Outdoor water cooling units

Power can be connected to indoor units

KXZW WATER

HP	8	10	12	16	18	20	22	24	26	28	30	32	34	36
kW	22.4	28.0	33.5	45.0	50.0	56.0	61.5	67.0	73.0	77.5	85.0	90.0	95.0	100.0
EER	5.30	4.87	4.12	5.30	5.09	4.87	4.49	4.11	5.14	5.00	4.86	4.62	4.38	4.12
COP	5.90	6.18	5.95	5.90	6.04	6.18	6.05	5.95	5.98	6.08	6.17	6.10	6.02	5.96
max nr. connectable I.U.	22	28	33	44	50	56	61	67	72	78	80	80	80	80
power of connectable I.U.(%)	50~150%													

HYDROMODULES HMU 140 KXZE1 AND HMU 280 KXZE1

The new hydromodule is available in two different configurations (14 and 28 kW) and can be connected to the outdoor units of the **KXZE2** as well as **KXZE1 Hi-COP series**.

The HMU KXZ hydronic module is a unit designed and distributed by Mitsubishi Heavy Industries to provide heating during the winter months for residential as well as commercial buildings.

TWO DIFFERENT METHODS OF USE

Only when HMU indoor units are connected to the system (water-only application).

Indoor air/air units and HMU units coexisting in the same system (mixed application).

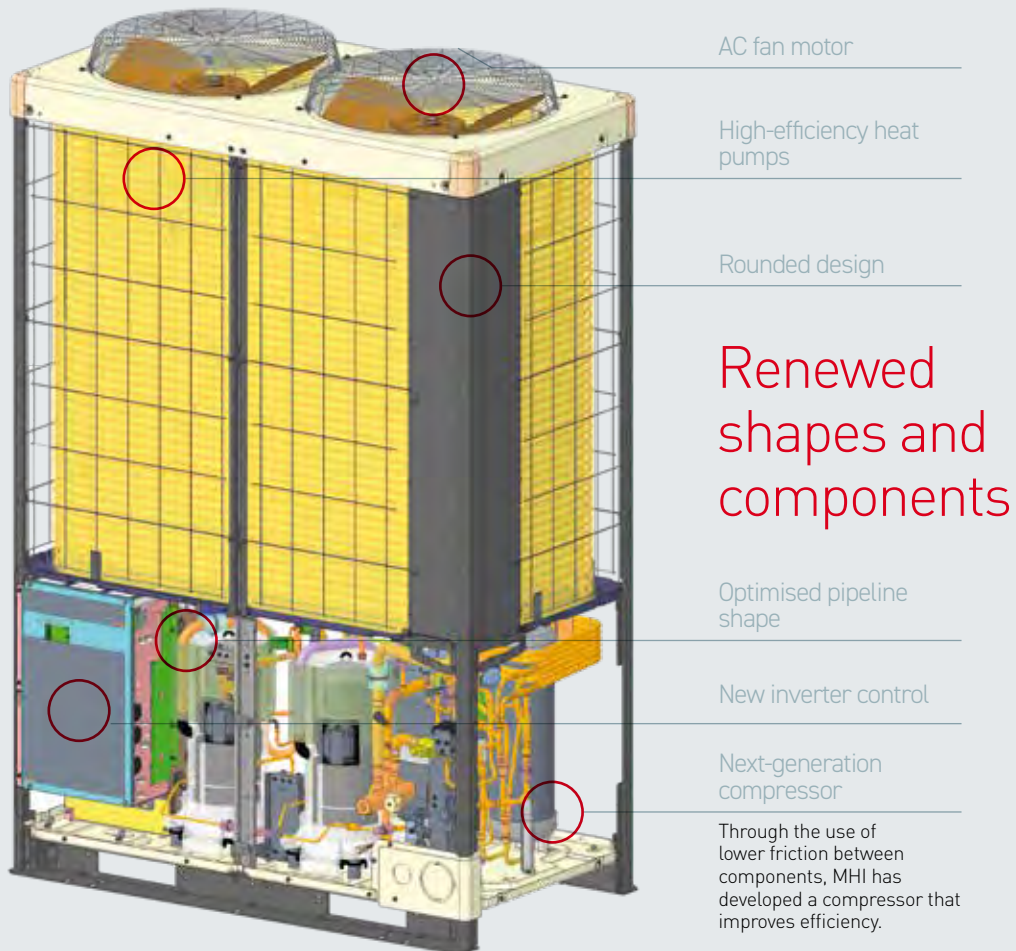
NEW



NEW

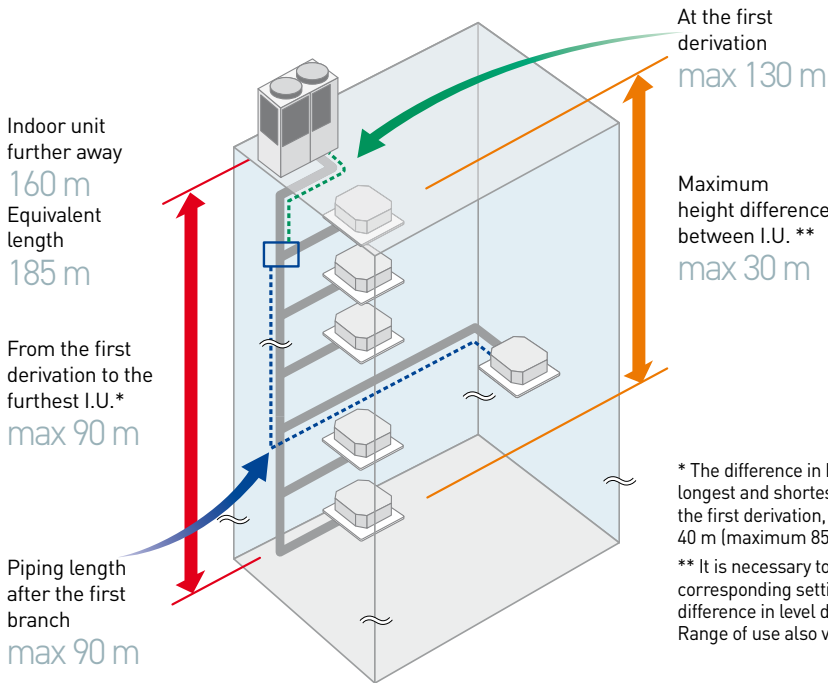
KXZ2 VRF-T, THE NEXT GENERATION OF THE MHI VRF

VRF systems offer a consolidated solution for the market and for a technological point of view, after having contributed to the transformation of environmental conditioning, VRF systems are now able to guarantee efficient and competitive solutions.



High split length

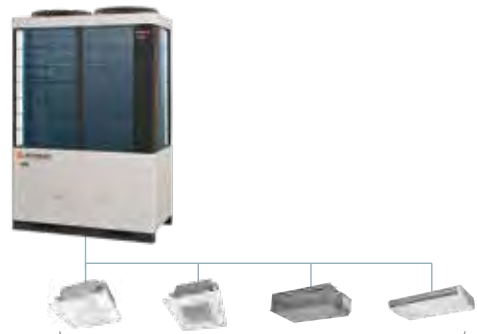
A maximum height difference between indoor units has been increased to 30 metres, and a maximum height difference between outdoor and indoor units has been increased to 90 metres.



Total length: 1000 m

Increase in the number of indoor units that can be connected

HP	10	12	14	16	17	18	20	22	24	26	28	30	32	34
max nr. connectable I.U.	37	44	53	60	50	53	59	65	71	78	80	80	80	80
HP	36	38	40	42	44	46	48	50	52	54	56	58	60	
max nr. connectable I.U.	80	80	80	80	80	80	80	80	80	80	80	80	80	80

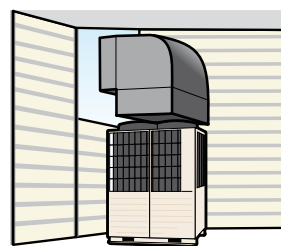


Up to 80 connectable indoor units

Low temperature power control

The new **continuous control of heating capacity** improves the management of power consumption at low outside temperatures.

The continuous control regulates the pressure automatically, thereby increasing the heating period and decreasing the defrosting period.



Flexible setup

max 85 Pa

The static pressure reaches up to 85 Pa.

KXZ SYSTEM IN HEAT PUMP

Innovative technology for evolutionary standards in the air conditioning of industrial and commercial environments. Functional control and innovative components make this system technology more efficient.

HIGH PERFORMANCE

- Refrigerant temperature control.
- High efficiency.
- High COP values.
- 34% energy savings.

EASY MANAGEMENT

- Compact design.
- Design flexibility.
- Fast installation.
- Ease of maintenance.
- Minimum operating costs.



MICRO COMPACT
MICRO LARGE CONNECTION
MICRO SMART



KXZ2



KXZX Hi-COP



KXZ SYSTEM IN HEAT PUMP

Mitsubishi Heavy Industries' KXZ heat pump series with VRF-T technology is distinguished by the possibility of controlling the refrigerant temperature in the various stages of operation, improving the performance levels compared to traditional systems. KXZ is a unique system that provides an excellent performance both cooling and heating. Maximum level of design flexibility, reduction of energy consumption and advanced operating functions, centralised management of system and above all Hi-COP (KXZX), complete the profile of the KXZ series, which ensures reliability and efficiency over time.

WIDE DEPTH OF RANGE

Outdoor units

Up to 80 connectable indoor units. 5 product lines from 4 to 60HP (12.1~168.0 kW): Micro Compact, Micro Large Connection, Micro Smart, KXZ2 and Hi-COP. Mitsubishi air conditioners with VRF-T technology all have double vertical fan and three-phase power supply. They can be installed also in twin combination, with only one refrigerant circuit. The total splitting distance reaches 1000 m.

Indoor units

14 types of units for a total of 81 models.

The variety of types and capacities ensures an offer capable of meeting all the design and installation requirements.

APPLICATION IN NZEB SOLUTION

KXZ system with VRF-T technology is particularly suitable for applications on buildings constructed according to ZEB logic. In fact, the "zero-energy" buildings, realized according to ZEB logic, have the characteristics of reducing the energy consumption, but also of producing the required energy by renewable energy sources, since their goal is the self-sufficiency.

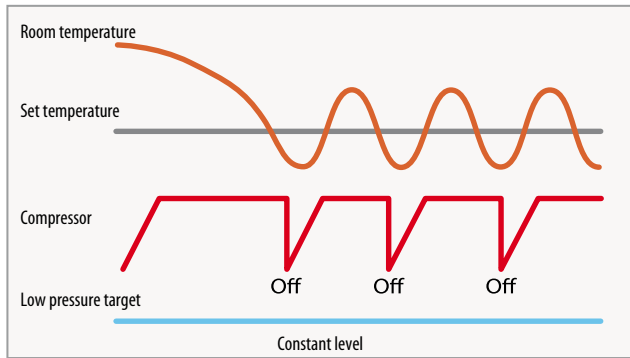
To construct ZEB buildings, it is essential that energy efficiency is put as a priority condition since the construction project, taking into consideration all the components that contribute to the final result: heating, cooling, photovoltaic systems and domestic hot water, until the energy management of the entire structure. To achieve this result, one of the main application solutions is constituted by heat pumps, such as those of KXZ system with VRF-T technology.

WHY CHOOSE THE KXZ – VRF-T SYSTEM

ENERGY SAVINGS UP TO 34%

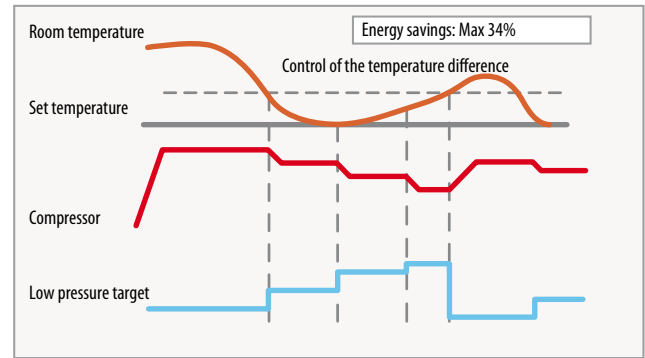
With VRF-T technology, refrigerant temperature control during the condensation and evaporation phases in the refrigerant system ensures energy savings up to 34% in cooling mode during the partial loads, compared to the traditional VRF models.

Traditional system cooling operation



In a traditional system, the refrigerant target pressure to be maintained is constant. As soon as room temperature reaches the temperature set by the user, the compressor is forced to decrease and increase the rpm by on-off cycles that affect the overall efficiency and performance.

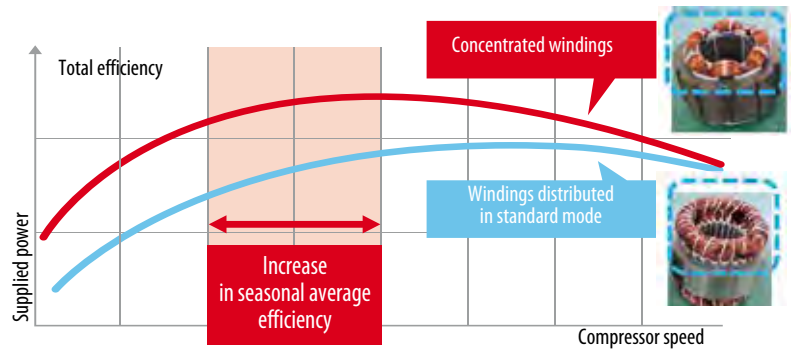
KXZ system cooling operation with activation of VRF-T mod



With the new VRF-T, the refrigerant target pressure to be maintained is not constant, but adjusts proportionally to the difference between the room temperature and the desired temperature. This allows the Inverter compressors to modulate the rpm without ever stopping, thus expressing the maximum efficiency for a global energy saving operation.

ELECTRICAL WINDING OF THE COMPRESSOR FOR HIGH PERFORMANCE AND EFFICIENCY

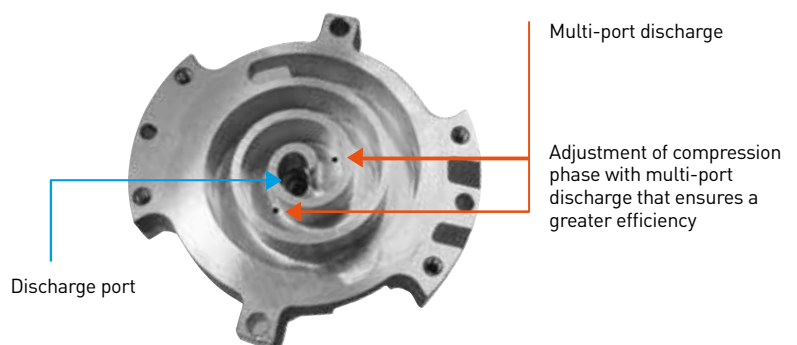
The compacted design of the motor winding significantly improves the electrical performance, which results in increased efficiency, especially in partial loads with a consequent increase in seasonal efficiency.



DC INVERTER COMPRESSOR, FOR HIGH SCOP

The multi-port discharge system of the compressor guarantees better volumetric performance. Optimisation of the pressure control, in particular to the medium compressor operation frequencies, with consequent improvement to seasonal efficiency performance.

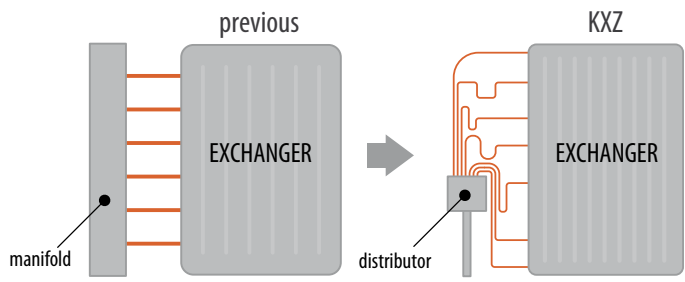
All KXZP/KXZ2/KXZX outdoor units use DC Inverter compressors only.



WHY CHOOSE THE KXZ – VRF-T SYSTEM

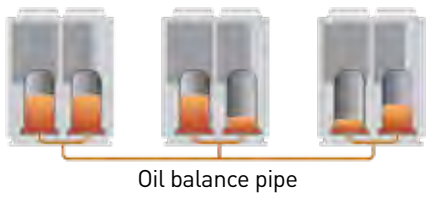
MORE EFFICIENT REFRIGERANT DISTRIBUTOR

The configuration composed of distributor and capillary has optimized the diffusion of refrigerant in the new heat exchanger, with a further increase in the total efficiency of system.



OIL LEVEL CONTROL

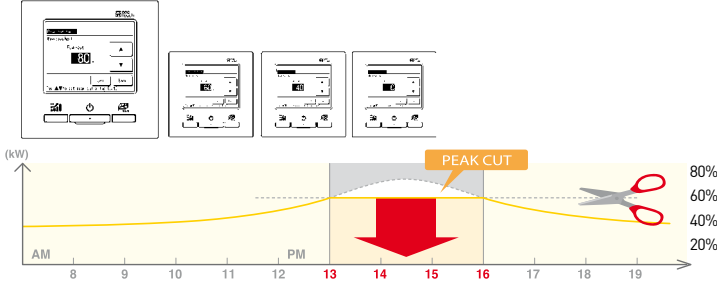
Mitsubishi oil level adjustment technology for the combination of two or three outdoor units allows operation with constant balancing, maintaining the units' performance and guaranteeing a long system life.



POWER OUTPUT CONTROL

The power output can be controlled and selected by the function of power cut through RC-EX3A, remote control, to obtain a greater energy saving.

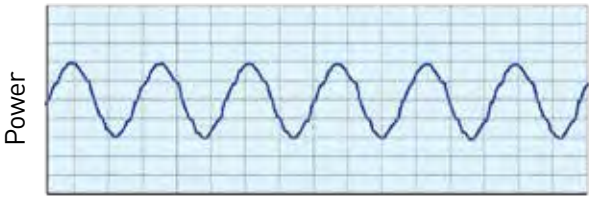
The 4-step power control (80-60-40-0%) is available, that can be programmed in hour intervals, every week.



INVERTER CONTROL (VECTOR)

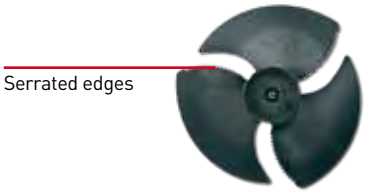
The use of a new vector Inverter control, allows the user to:

- Increase the response speed of compressors at low and high speed.
- Re-create exactly the sinusoidal waveform of the voltage applied.
- Increase the efficiency of compressors at low speed and partial loads.



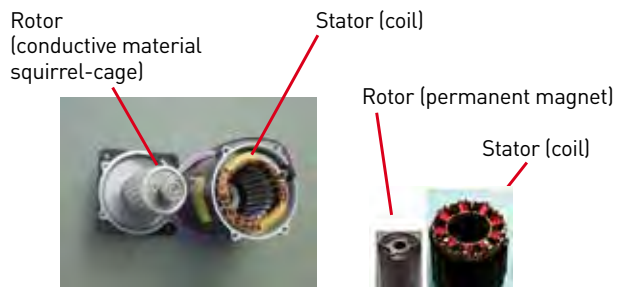
FAN DESIGN WITH SERRATED EDGES

Fan blades with serrated edges that treat a greater air volume, offering low resistance to air and reducing energy consumption.



DC FAN MOTOR

The use of DC fan motors can help achieve excellent efficiency, with an increase higher than 60% compared to the previous models.



ADVANTAGES FOR DESIGNERS

The system design phase requires flexible and advanced solutions, able to respond to each manufacturing solution.

Below is a list of all the points that make KXZ - VRF-T a system equipped with all the advantages that meet new design standards.



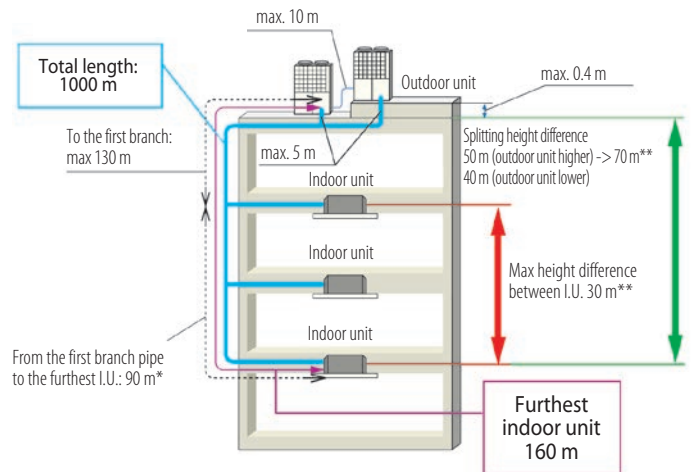
1. HIGH SPLIT LENGTH, FLEXIBLE DESIGN 1000 m (10~60HP, KXZ2 series)

There was an increase in the split difference between indoor units up to a maximum of 30 metres, allowing the indoor units to be placed on more than one level.

A 90-metre split level difference has been added between the outdoor and indoor units.

The further indoor unit (160 m) or total length (1000 m) contribute to the flexibility of the system.

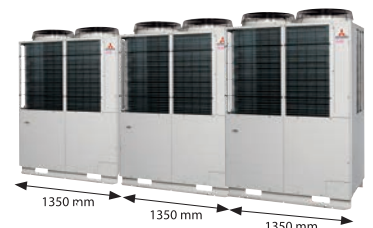
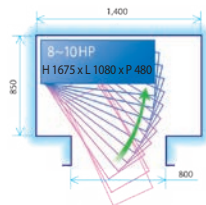
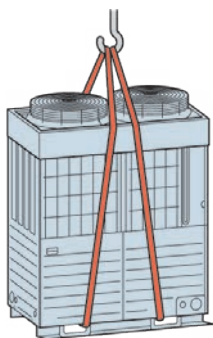
* The difference in height between the longest and shortest pipeline must be less than 40 m (maximum 85 m)
 ** It is necessary to change the setting of each height during installation. Range of use also varies.



2. EASY TRANSPORT & INSTALLATION

Thanks to the significant reduction in the weight and overall plan dimensions, the KXZM outdoor units can be easily transported in a lift capable of containing 6 people (if permitted by the condominium regulations), with a consequent reduction in costs, time and working procedures.

The outdoor units in the KXZ and KXZX series have a functional base, which makes it easier to lift and transport them to the place of installation. They are also characterised by the same overall plan dimensions, which facilitates the installation of the machines in series as well as optimising times and procedures for maintenance and replacement of each unit.



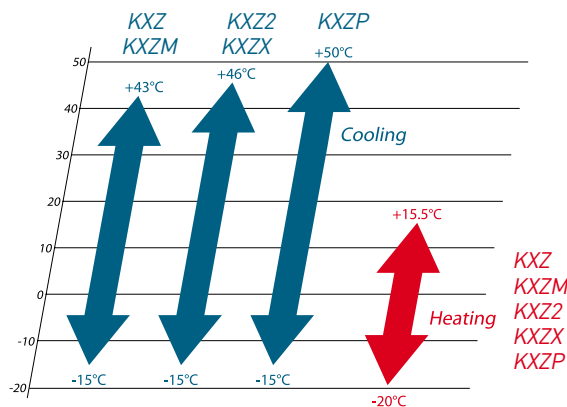
ADVANTAGES FOR DESIGNERS

3. WIDE OPERATING RANGE, FLEXIBLE DESIGN

The KXZP series enables operation in heating mode with an outdoor temperature limit of -20°C and a cooling range up to 50°C .

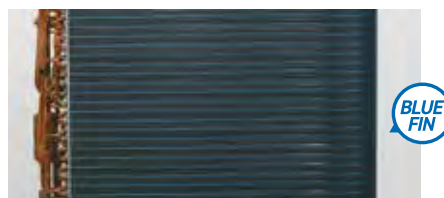
The other series reach 46°C and 43°C .

In heating, all series have operating ranges between -20°C and 15.5°C .

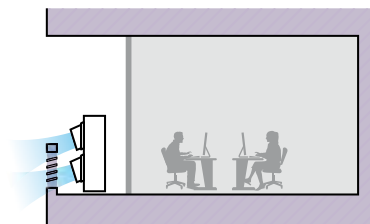


4. BLUE FIN FUNCTION, AGAINST CORROSION OF THE HEAT EXCHANGERS

The particular coating of the heat exchanger louvres guarantees perfect resistance to corrosion and deterioration caused by atmospheric agents.



5. EXTERNAL STATIC PRESSURE UP TO 35 PA FOR THE KXZ MICRO SMART



6. FUNCTION OF OUTDOOR FAN MOTORS

Function with pressure head useful for ducting.

7. AUTOMATIC FUNCTION FOR REDUCED WEAR

The outdoor units with multiple compressors are subject to wear. This automatic function balances the automatic operation of compressors, depending on the hours of use.

8. ADDITIONAL FUNCTIONS:

- POWER DEMAND OPTION: the outdoor unit's rated power can be decreased.
- SEASONAL OPTION: a summer/winter season function change can be set.
- OUTPUT SIGNAL OPTION: indicates the on or error signal.

ADVANTAGES FOR INSTALLERS

Installing KXZ units in a system means having an installation able to satisfy the most varied requirements, thanks to useful functions and important features which make the life of the system easier to manage, during both installation and maintenance.

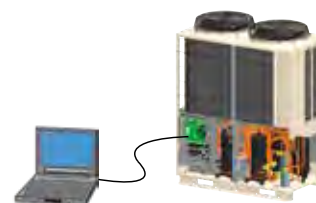


1. MONITORING FUNCTION

Thanks to a simple navigation menu, the displays on the outdoor unit boards are able to show all the vital parameters of the unit and any error messages for prompt intervention.

Connect a PC to the RS 232C port, available on the board, to monitor and save all the historical data of system for assistance and control activities. Our Mente PC software must be installed on the PC.

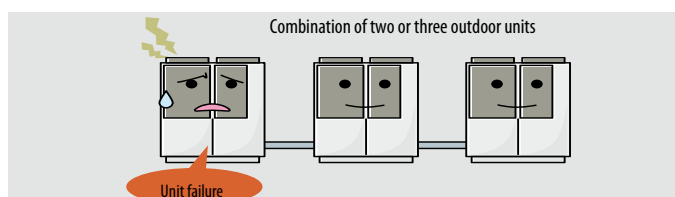
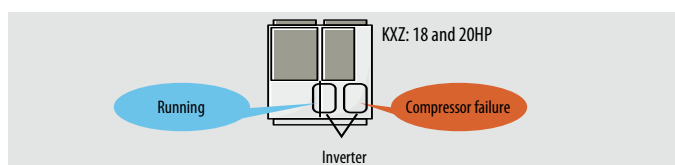
8-60HP



2. BACK UP FUNCTION

In the event that one of them malfunctions, the unit can however operate at reduced capacity.

In multiple combinations of high capacity of two or three outdoor units, unit malfunction does not affect total operation of the system, which will continue to operate in a partial manner.



3. EASY ACCESS TO THE ELECTRICAL BOX FOR MAINTENANCE

Inverter service and maintenance are now easier thanks to the new control box with a structure of 3 levels (KXZ) and 2 levels (KXZP SMART) with a hinged connection.

KXZ



KXZP SMART

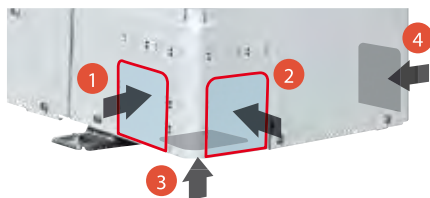


ADVANTAGES FOR INSTALLERS

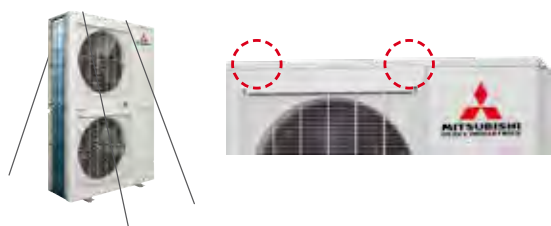
4. IMPROVED PRACTICALITY

Position of pipes:

- 1) From the front
- 2) To the right
- 3) Below
- 4) From the back



New holes for thread insertion, to prevent falls



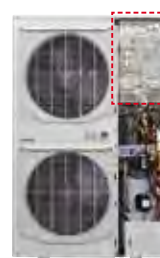
Service panel maintenance

Unit installation and maintenance of unit are easier thanks to the reduced number of fixing screws on the service panel (from 5 to 2).

5 → 2



Clear rain cover



5. GAS TESTING FUNCTION

This function provides for a procedure capable of verifying whether the amount of refrigerant gas contained inside the system is correct.

The positive side to this is evident, as it optimises the use of gases that are harmful to the environment, as required by current legislation.

6. AUTO-ADDRESSING FUNCTION

Simply power the unit and this automatic function will facilitate intelligent connection between multiple units.

7. ADDITIONAL FUNCTIONS

- Simplified test procedure.
- Simplified function for wiring.
- Easy function for refrigerant installation and maintenance.
- The unit's distinguishing feature is that of being Easy Service, as it permits easy maintenance, easy electronic check and feedback by the protection system in case of malfunctions.



ADVANTAGES FOR USERS

A complete system in terms of comfort and smart control, that can be customised to meet the needs of all types of buildings, stores or housing solutions.

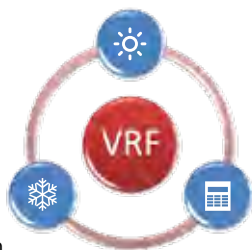
KXZ with VRF-T technology, designed with integration in mind, is an ideal system because it allows end users to achieve maximum energy efficiency as well as manage several systems, with ease of use guaranteed by leading control standards.



1. REDUCED COSTS

Cost reduction is an advantage that relates to several aspects:

- Savings in management costs.
- Savings in maintenance costs.
- Savings on annual consumption thanks to high energy efficiency.



2. COMPLETE SOLUTION

The only system for heating, cooling and management that can fit any solution.

3. MAXIMUM RELIABILITY

- Well-tested systems in every condition.
- After-sales service and service network always available.
- Prompt availability of spare parts.

4. INTEGRATION & BUILDING AUTOMATION

The KXZ- VRF-T system boasts integration with home automation systems or Building Automation for easier and more uniform management

5. BEST ENERGY CLASS

Being in heat pump, the use of KXZ- VRF-T improves building energy classifications with higher scores, thus increasing building value.



ADVANTAGES FOR USERS

VRF-T systems are manufactured to the highest standards of quality and reliability and it is therefore essential for the installation procedures and materials to have the same qualitative features, to ensure trouble-free long-term operation. It is advisable to use high quality copper refrigerant piping, in coils or in straight, semi-rigid lengths. The copper piping should be chosen considering the higher operating pressure of R410A refrigerant gas and the increased pressure circulating in the system produced by reverse cycle operation. All materials used must comply with European standards (EN 12735). The branch pipe kits supplied must be used to connect the indoor units and the manifold kits must be used to connect the outdoor units (if necessary). It is forbidden to use standard accessories (elbow pipes, T-joints etc.). The branch pipes must be installed according to manufacturer guidelines and must allow a continuous flow of refrigerant in accordance with European standard E378: 2017.

All connecting welds must be made under slight nitrogen pressure to prevent the oxidation of the inner surface of the copper pipes. During installation, no accidental entry of condensate, dust or any other contaminant must be permitted.

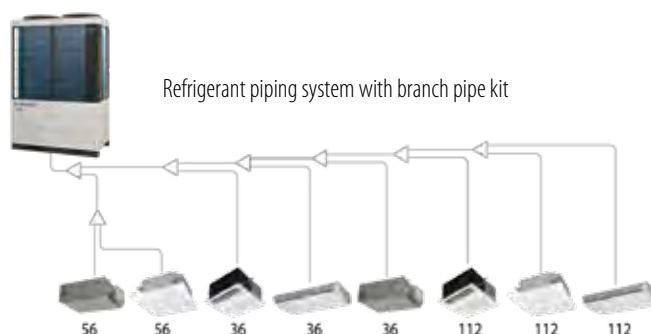
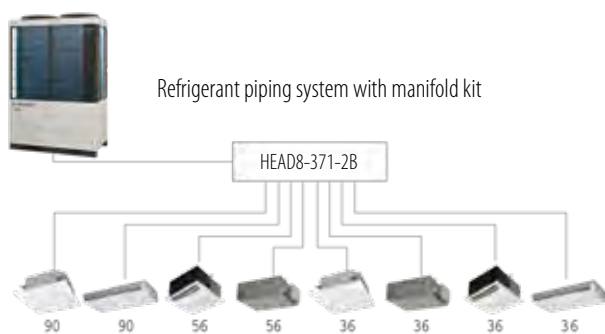
Once installation is complete, a leak test must be carried out to check for refrigerant leaks with pressurised nitrogen.

The ends of the pipe must be bent and welded and an appropriate service valve affixed.

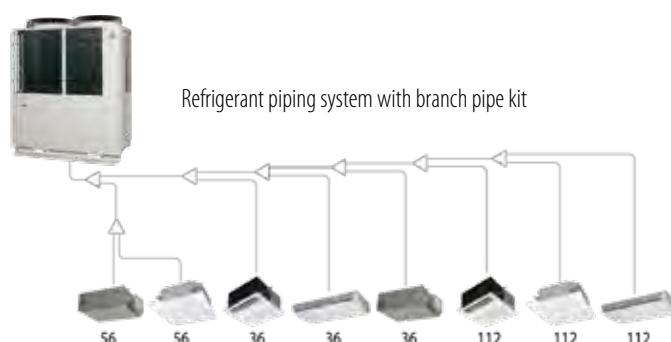
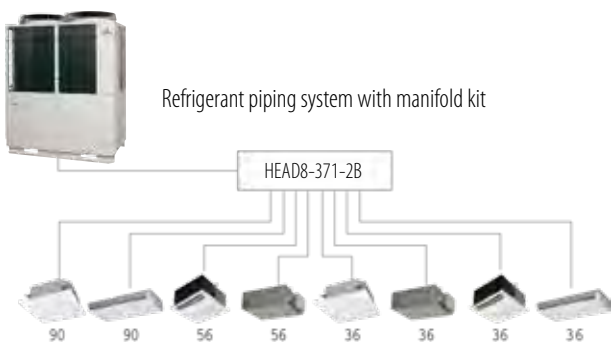
Additional refrigerant charge

Only R410A refrigerant gas must be used, and this must be added by weight using an electronic meter. The amount of additional refrigerant must be carefully calculated according to the manufacturer’s guidelines, defined by the length and diameter of each section of the system piping.

KXZ2 SINGLE OUTDOOR UNIT

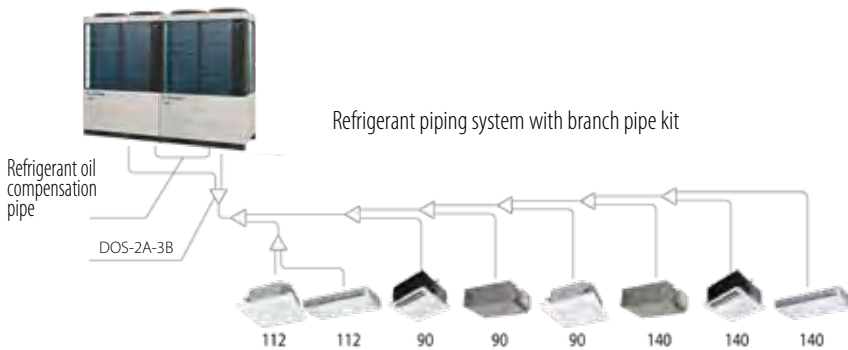


KXZX HI-COP SINGLE OUTDOOR UNIT

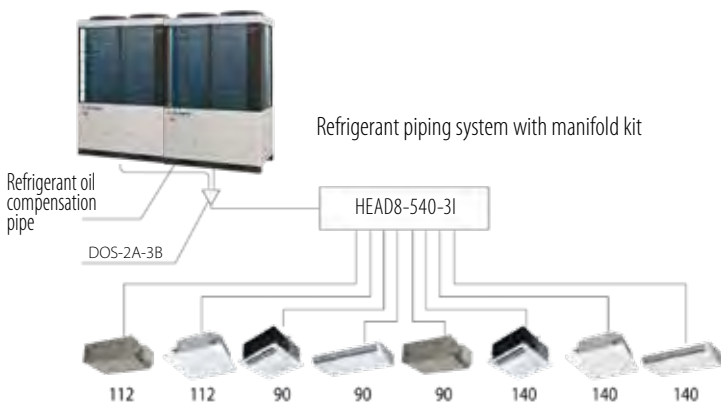


KXZ2 REFRIGERANT CONNECTIONS

KXZ2 COMBINED OUTDOOR UNITS



Set of outdoor unit branch pipes	
Outdoor unit	Set of branch pipes
2 units (for 615~1120)	DOS-2A-3B
3 units (for 1200~1680)	DOS-3A-3I



Total capacity of indoor units	Set of branch pipes	Set of manifolds	
		Model	Branch pipes
~179	DIS-22-1B	HEAD4-22-1B	Max. 4 units
180~370	DIS-180-1B	HEAD6-180-1B	Max. 6 units
371~539	DIS-371-1B	HEAD8-371-2B	Max. 8 units
540~	DIS-540-3B	HEAD8-540-3I	Max. 8 units

HP		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
Liquid side	Furthest I.U.	ø9.52					ø12.7				ø15.88				ø19.05													
	= < 90 m	ø22.22		ø28.58				ø34.92																				
Gas side	Furthest I.U.	ø12.7		ø15.88				ø19.05				ø22.22																
	= > 90 m	ø22.22		ø28.58				ø34.92																				

Branch pipes



DIS-22-1B/DIS-180-1B



DIS-371-1B/DIS-540-3B

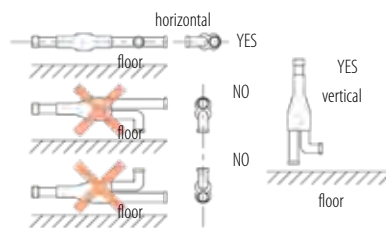
Manifolds



HEAD6-180-1B

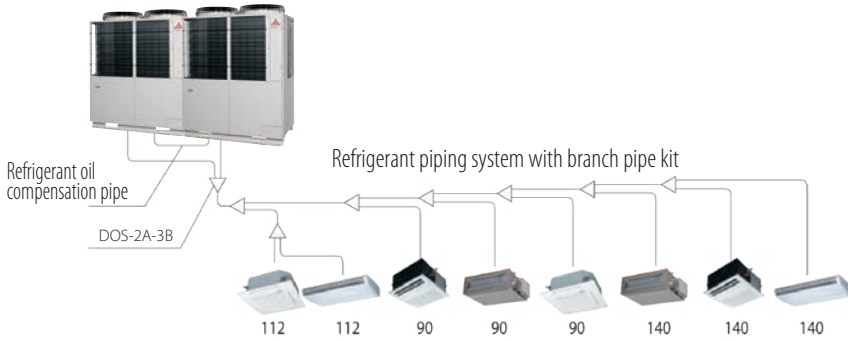


DOS-2A-3B/DOS-3A-3I

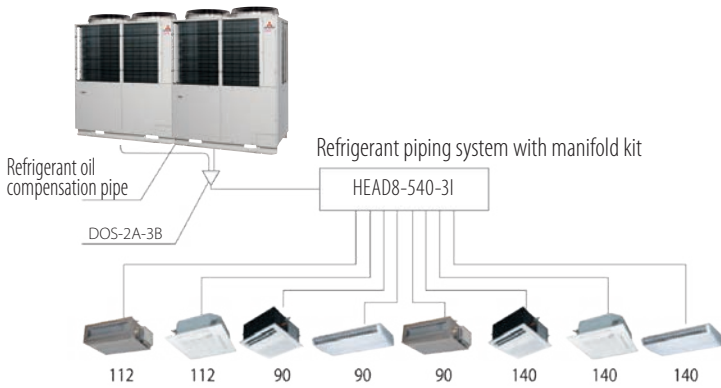


KXZX HI-COP REFRIGERANT CONNECTIONS

KXZX HI-COP COMBINED OUTDOOR UNITS



Set of outdoor unit branch pipes	
Outdoor unit	Set of branch pipes
2 units (per 615~1120)	DOS-2A-3B
3 units (per 1200~1680)	DOS-3A-3I



Total capacity of indoor units	Set of branch pipes	Set of manifolds	
		Model	Branch pipes
~179	DIS-22-1B	HEAD4-22-1B	Max. 4 units
180~370	DIS-180-1B	HEAD6-180-1B	Max. 6 units
371~539	DIS-371-1B	HEAD8-371-2B	Max. 8 units
540~	DIS-540-3B	HEAD8-540-3I	Max. 8 units

HP		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
Liquid side	Furthest I.U. =<90 m	ø 9.52		ø 12.7						ø 15.88						ø 19.05												
	Gas side	ø 22.22		ø 28.58						ø 34.92																		
Liquid side	Furthest I.U. =>90 m	ø 12.7		ø 15.88						ø 19.05						ø 22.22												
	Gas side	ø 22.22		ø 28.58						ø 34.92																		



Liquid side Gas side

Branch pipes



DIS-22-1B/DIS-180-1B



DIS-371-1B/DIS-540-3B

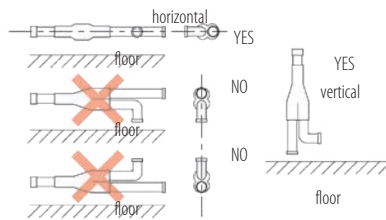
Manifolds



HEAD4-22-1B/HEAD6-180-1B
HEAD8-371-1B/HEAD8-540-3I

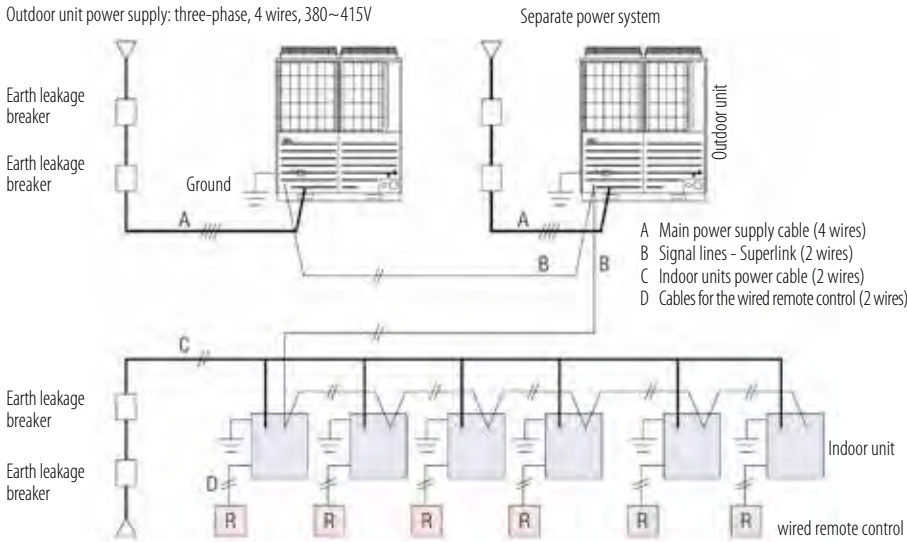


DOS-2A-3B/DOS-3A-3I



ELECTRICAL CONNECTIONS

VRF MHI systems require highly simplified electrical connections to the indoor units, thanks to a control circuit that uses 2 non-polarised conductors. The outdoor unit can be accessed from all sides for electrical connections (front, rear, bottom, right and left). A separate single-phase or three-phase power supply must be brought in for outdoor and indoor units, depending on the product specification.



Indoor unit power supply: single-phase 220~240V

CAUTION: if the RCD is dedicated solely to protecting against leakage to earth, it will be necessary to install a circuit breaker.

SIGNAL LINE

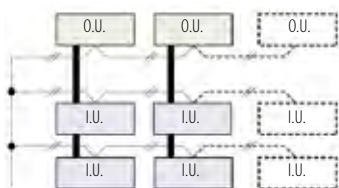
The signal line that connects the outdoor unit to the indoor units is 5 VDC and uses 2 non-polarised conductors marked A1 and B1. For the signal line with 2 conductors, use shielded cables measuring 0.75 or 1.50 mm². Earth the shield on all the indoor and outdoor units.

If using combined outdoor units, connect:

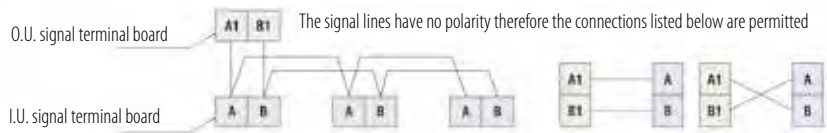
	0.75 mm ²	1.50 mm ²
~1000 mm	YES	YES
1000~1500 mm	YES	NO

- The signal line between indoor and outdoor units, and the signal line between outdoor units that belong to the same refrigerant line, to A1 and B1.
- The signal line between outdoor units belonging to a different refrigerant line to A2 and B2.

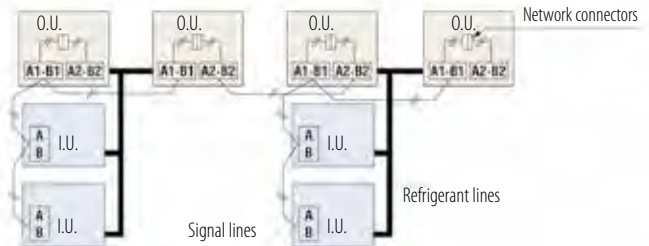
IMPORTANT: star connections on the signal lines are not permitted.



Single outdoor unit



Combined outdoor units



The maximum number of indoor units that can be connected to a signal line is 128, and it is possible to create groups of outdoor and/or indoor units connected to the same outdoor unit or to separate outdoor units, as long as they are connected to the same signal line. The signal line can also be connected by adopting the method described below (multiple connectors).

WIRED REMOTE CONTROL

The specifications for the connection between the wired remote control and the indoor units (XY connection) are 0.5 mm² x 2 wires. The maximum permitted length is 600 m. If the length exceeds 100 m, refer to the table.

Length (m)	Type of cables
100~200	0.5 mm ² x 2 wires
~300	0.75 mm ² x 2 wires
~400	1.50 mm ² x 2 wires
~600	2.0 mm ² x 2 wires

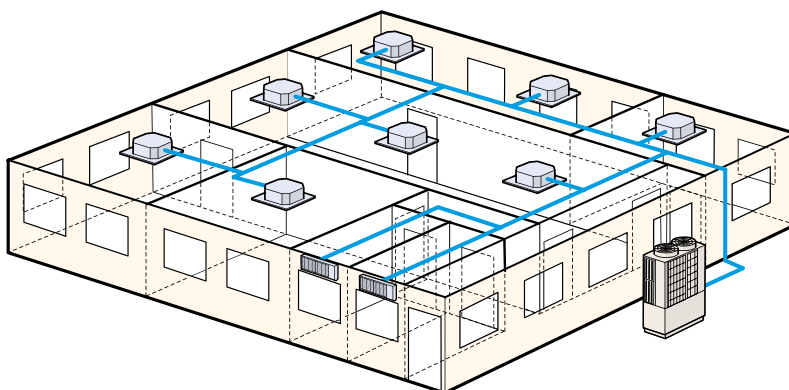


A loop cannot be formed with the signal, therefore the section of the connection indicated with is not permitted

OPERATING MODE

Fixed cooling mode/fixed heating mode (summer/winter switch)

It is possible to fix the operation mode of the system (cooling or heating) using a switch (SW3-7) on the outdoor unit PC board: this enables the user to decide the operation of the system inside the building (e.g. cooling only in summer/heating only in winter). It is also possible to wire the control switch to a remote location (inside the building), in a control room, or even linked to an ambient thermostat.



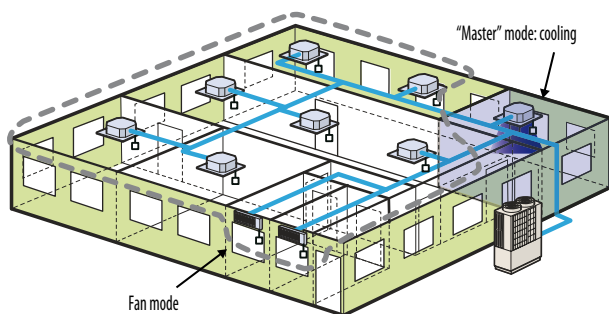
Priority operating mode selection

You can select the following priority operation modes (for the whole system).

1. The first unit's operating mode commands the operating mode (default setting).
2. The last unit's operating mode determines the operating mode for whole system.
3. "Majority" operating mode.
4. "Master" operating mode.

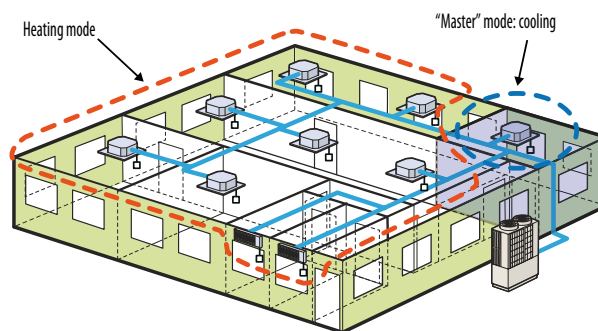
"MAJORITY" OPERATING MODE

The system operates according to the mode selected by the majority of units in operation, taking into consideration the greater capacity between the sum of units in cooling mode and those in heating mode. The minority operating mode is set to fan mode automatically.



"MASTER" OPERATING MODE

In "Master" function, if you select the cooling mode, the units set in heating mode switch to fan mode automatically.





KXZ MICRO VRF-T SYSTEM

Suitable for small or medium-sized offices and shops as well as for residential use

Energy saving, environmental and acoustic comfort as well as installation flexibility make MHI's Micro VRF systems the compact solution for air conditioning of medium and small-sized companies, but also commercial and residential buildings.



BLUE
FIN



KXZ
MICRO
COMPACT

4-6HP
(12.1~15.5 kW)

BLUE
FIN



KXZM
MICRO LARGE
CONNECTION

8~12HP
(22.4~33.5 kW)

BLUE
FIN



KXZ
MICRO
SMART

8~10HP
(22.4~28.0 kW)

MICRO COMPACT

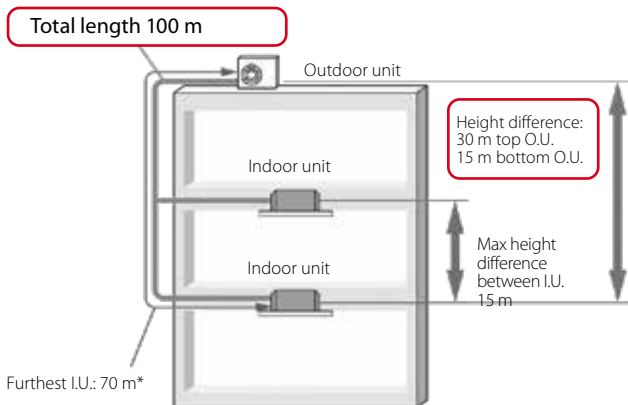
CONNECT UP TO 10 INDOOR UNITS/150% CAPACITY

- FDC 121 KXZEN1/ZES1 12.1 kW single-phase/three-phase
- FDC 140 KXZEN1/ZES1 14.0 kW single-phase/three-phase
- FDC 155 KXZEN1/ZES1 15.5 kW single-phase/three-phase

CHARACTERISTICS

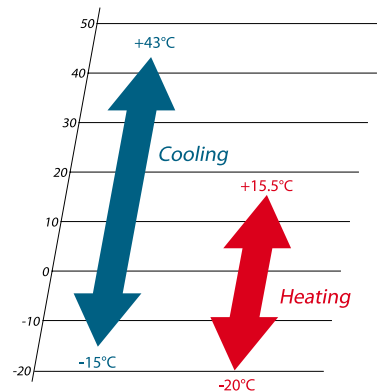
- Maximum energy efficiency COP 3.92 (4HP)
- Scroll DC Inverter compressor on all units
- DC Inverter fan motors
- 4 sound levels in Silent mode
- New PCB cooling system: a refrigerant pipe branch passes to the base of the PCB to prevent overheating
- **Can connect 1.5 kW indoor units**
- New system for managing indoor unit priorities
- Pump down" safety function: to identify any gas leaks inside the room (third-party sensor) and start up the refrigerant recall procedure by the outdoor unit, present inside the system

INSTALLATION DIAGRAM

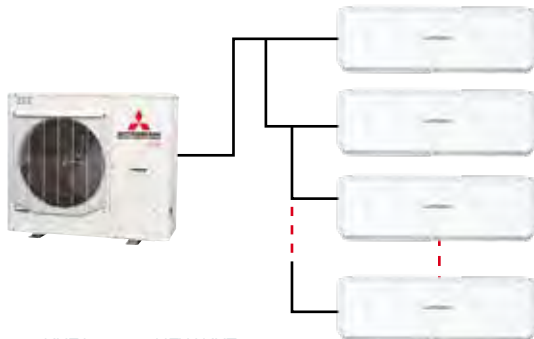


* The total length of piping, liquid side $\phi 9.52$ mm (3/8") should be 50 m or less.

OPERATING RANGE



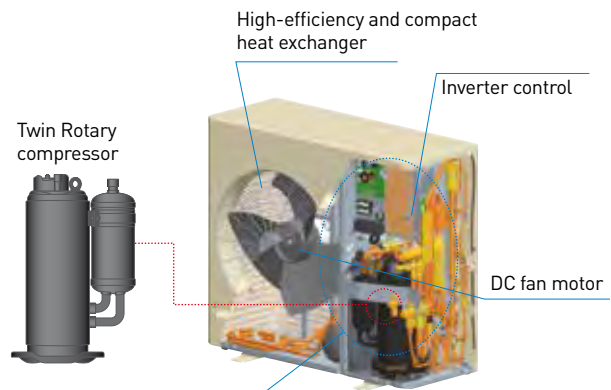
I.U. NUMBER INCREASED CONNECTABLE



	KXE6	NEW KXZ
4HP	6 units	→ 8 units
5HP	8 units	→ 10 unit ¹
6HP	8 units	→ 10 unit ²

1. max capacity $\leq 100\%$ with 9 or 10 connected units
2. max capacity $\leq 100\%$ with 9 or 10 connected units

HIGH EFFICIENCY OF OUTDOOR UNITS 4~6HP



Optimal coolant control system, advanced liquid return control, high-speed control system with Superlink, and optimised coolant distribution.

MICRO COMPACT

4-6HP (12.1~15.5 kW)



REFRIGERANT CONNECTIONS

HP		4	5	6
Liquid side	Furthest I.U. =<70 m	ø 9.52 (3/8")		
Gas side		ø 15.88 (5/8")		

BRANCH PIPES



DIS-22-1B
DIS-180-1B

MANIFOLDS



HEAD4-22-1B
HEAD6-180-1B

Models			FDC121KXZEN1	FDC140KXZEN1	FDC155KXZEN1	FDC121KXZES1	FDC140KXZES1	FDC155KXZES1		
Rated power			HP	4	5	6	4	5	6	
Nominal capacity (T=35°C)			kW	12.10	14.00	15.50	12.10	14.00	15.50	
Power consumption (T=35°C)			kW	3.16	3.96	5.20	3.16	3.96	5.20	
Seasonal energy efficiency index			SEER ¹	8.15	7.73	7.21	8.15	7.73	7.21	
Rated energy efficiency coefficient			EER ²	3.83	3.54	2.98	3.83	3.54	2.98	
Nominal capacity (T=7°C)			kW	12.10	14.00	15.50	12.10	14.00	15.50	
Power consumption (T=7°C)			kW	3.09	3.66	4.28	3.09	3.66	4.28	
Seasonal energy efficiency index			SCOP ¹	4.63	4.59	4.55	4.63	4.59	4.55	
Rated energy efficiency coefficient			COP ²	3.92	3.83	3.62	3.92	3.83	3.62	
Electrical data			Ph-V-Hz	1Ph-220~240V-50Hz			3Ph-380~415V-50Hz			
Rated current			Cooling	A	15.30	19.60	25.70	5.20	6.50	8.60
Rated current			Heating	A	15.20	18.30	21.40	5.10	6.10	7.10
Maximum current			A	28.00	28.00	28.00	13.50	13.50	13.50	
Refrigerant circuit/features				R410A (2088)						
Refrigerant (GWP) ³				R410A (2088)						
Quantity refrigerant pre-load			kg	5	5	5	5	5	5	
Tons of CO2 equivalent				10.440	10.440	10.440	10.440	10.440	10.440	
Diameter refrigerant pipes			Liquid	inch (mm)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
			Gas	inch (mm)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)
Product Specifications										
Dimensions			LxHxD	mm	845x970x370	845x970x370	845x970x370	845x970x370	845x970x370	845x970x370
Net weight				kg	85	85	85	87	87	87
Sound pressure level			Max	dB(A)	56	57	57	56	57	57
Sound power level			Max	dB(A)	72	72	74	72	72	74
Treated air volume			Standard	m ³ /h	4500	4500	4500	4500	4500	4500
Fan static pressure			Max	Pa	-	-	-	-	-	-
Max. connectable I.U.			Min ~ Max	no	1 ~ 8	1 ~ 10*	1 ~ 10*	1 ~ 8	1 ~ 10*	1 ~ 10*
			Capacity	%	80 ~ 150	80 ~ 150	80 ~ 150	80 ~ 150	80 ~ 150	80 ~ 150

* With limitations on maximum connectivity.

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary.

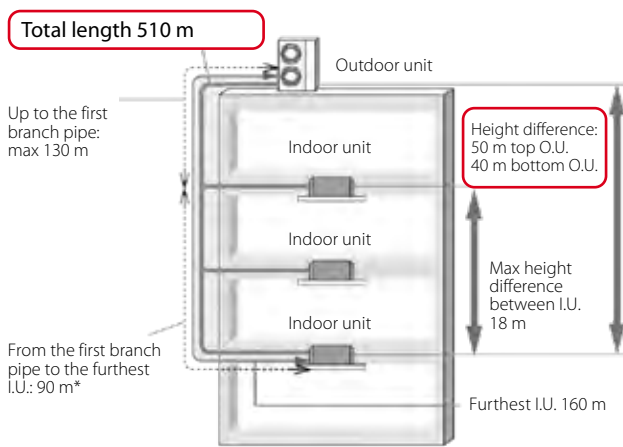
MICRO LARGE CONNECTION

CONNECT UP TO 24 INDOOR UNITS/150% CAPACITY

- FDC 224 KXZME1 22.4 kW three-phase
- FDC 280 KXZME1 28.0 kW three-phase
- FDC 335 KXZME1A 33.5 kW three-phase

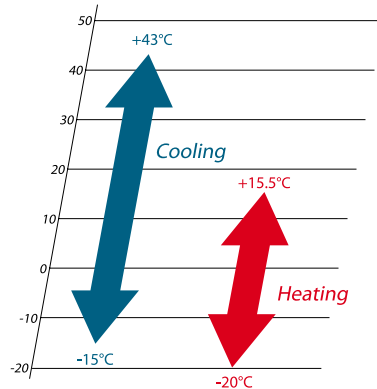
CHARACTERISTICS

- 1 DC Inverter compressors (8~12HP)
- High split: up to 510 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m



* With length difference between the furthest indoor unit and the nearest one from the first branch pipe < 40 m.

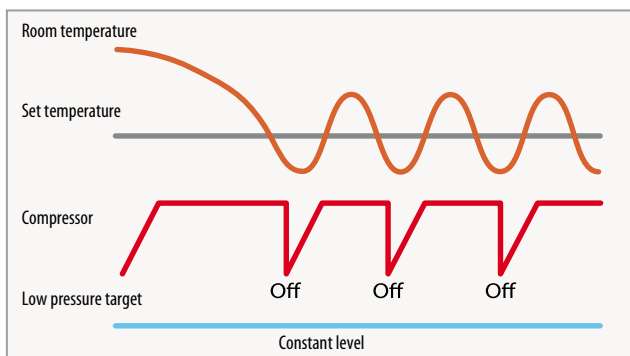
OPERATING RANGE



VRF-T TECHNOLOGY

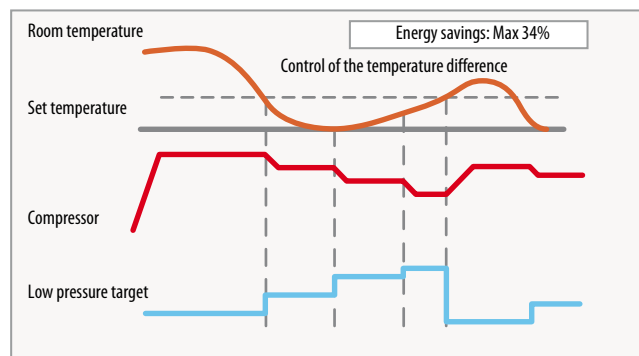
With VRF-T technology, refrigerant temperature control during the condensation and evaporation phases in the refrigerant system ensures energy savings up to 34% in cooling mode during the partial loads, compared to the traditional VRF models.

Traditional system cooling operation



In a traditional system, the refrigerant target pressure to be maintained is constant. As soon as room temperature reaches the temperature set by the user, the compressor is forced to decrease and increase the rpm by on-off cycles that affect the overall efficiency and performance.

KXZ system cooling operation with activation of VRF-T mod



With the new VRF-T, the refrigerant target pressure to be maintained is not constant, but adjusts proportionally to the difference between the room temperature and the desired temperature. This allows the Inverter compressors to modulate the rpm without ever stopping, thus expressing the maximum efficiency for a global energy saving operation.

MICRO LARGE CONNECTION

8~12HP (22.4~33.5 kW)



REFRIGERANT CONNECTIONS

HP		8	10	12
Liquid side	Furthest I.U. =<90 m	ø9.52		ø12.7
Gas side		ø19.05	ø22.22	ø25.4
Liquid side	Furthest I.U. =>90 m	ø12.7		
Gas side		ø22.22	ø25.4	

BRANCH PIPES



DIS-22-1B
DIS-180-1B



DIS-371-1B

MANIFOLDS



HEAD4-22-1B
HEAD6-180-1B
HEAD8-371-2B

Models			FDC224KXZME1	FDC280KXZME1	FDC335KXZME1A
Rated power		HP	8	10	12
Nominal capacity (T=35°C)	Cooling	kW	22.40	28.00	33.50
Power consumption (T=35°C)		kW	5.59	7.90	10.68
Seasonal energy efficiency index		SEER ¹	6.55	6.03	5.84
Rated energy efficiency coefficient		EER ²	4.01	3.54	3.14
Nominal capacity (T=7°C)	Heating	kW	22.40	28.00	33.50
Power consumption (T=7°C)		kW	4.97	6.53	8.44
Seasonal energy efficiency index		SCOP ¹	4.55	4.54	4.04
Rated energy efficiency coefficient		COP ²	4.51	4.29	3.97
Electrical data					
Power		Ph-V-Hz	3Ph-380~415V-50Hz		
Rated current	Cooling	A	9.40	12.80	17.80
Rated current	Heating	A	7.80	10.50	14.40
Maximum current		A	20.00	20.00	23.00
Refrigerant circuit/features					
Refrigerant (GWP) ³			R410A (2088)		
Quantity refrigerant pre-load ⁴		kg	11.5	11.5	11.5
Tons of CO ₂ equivalent			24.012	24.012	24.012
Diameter refrigerant pipes	Liquid	inch (mm)	ø3/8" (9.52)	ø3/8" (9.52)	ø1/2" (12.7)
	Gas		ø3/4" (19.05)	ø7/8" (22.22)	ø1" (25.4)
Product Specifications					
Dimensions	LxHxD	mm	1675x1080x480	1675x1080x480	1675x1080x480
Net weight		kg	221	221	224
Sound pressure level	Max	dB(A)	59	60	62
Sound power level	Max	dB(A)	75	76	77
Treated air volume	Standard	m ³ /h	12000	12000	12000
Fan static pressure	Max	Pa	35	35	35
Max. connectable I.U. ⁵	Min ~ Max	no	1 ~ 22	1 ~ 24	1 ~ 24
	Capacity	%	50 ~ 150	50 ~ 150	50 ~ 150

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 4. For the calculation of the additional refrigerant charge refer to the labels placed inside and outside the unit. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

MICRO SMART

CONNECT UP TO
8 INDOOR UNITS/120%
CAPACITY

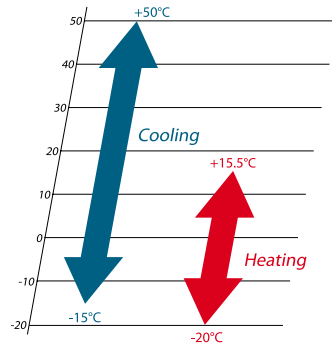
FDC 224 KXZPE1
22.4 kW three-phase

FDC 280 KXZPE1
28.0 kW three-phase

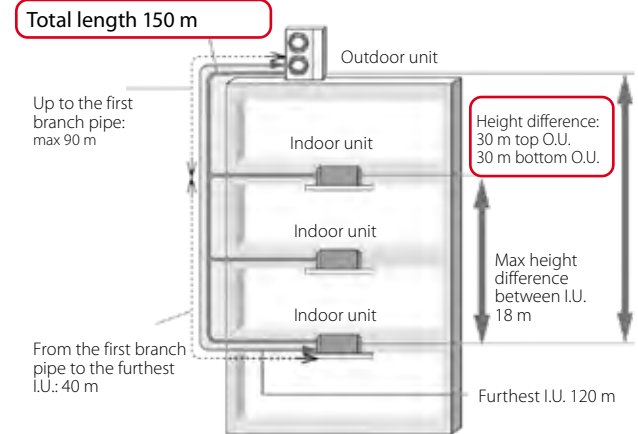
CHARACTERISTICS

- Maximum energy efficiency COP 4.67 (8 HP)
- Only DC Inverter compressors
- High split: up to 150 m in total and with a maximum distance between the O.U. and the furthest I.U. of 120 m
- Compressor speed control

OPERATING RANGE



INSTALLATION DIAGRAM

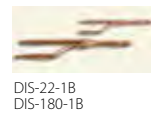


8~10HP (22.4~28.0 kW)

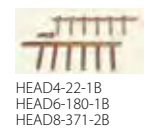
REFRIGERANT CONNECTIONS

HP		8	10
Liquid side	Furthest I.U. =<90 m	ø9.52	
Gas side		ø19.05	ø22.22
Liquid side	Furthest I.U. => 90 m	ø12.7	
Gas side		ø22.22	ø25.4/ø28.58

BRANCH PIPES



MANIFOLDS



Models			FDC224KXZPE1	FDC280KXZPE1
Rated power			8	10
Cooling	Nominal capacity (T=35°C)	HP	kW	22.40
	Power consumption (T=35°C)		kW	5.60
	Seasonal energy efficiency index	SEER ¹		6.65
	Rated energy efficiency coefficient	EER ²		4.00
Heating	Nominal capacity (T=7°C)	HP	kW	22.40
	Power consumption (T=7°C)		kW	4.80
	Seasonal energy efficiency index	SCOP ¹		4.34
	Rated energy efficiency coefficient	COP ²		4.67
Electrical data				
Power		Ph-V-Hz	3Ph-380~415V-50Hz	
Rated current	Cooling	A	9.20	12.90
Rated current	Heating	A	7.90	10.50
Maximum current		A	21.00	22.00
Refrigerant circuit/features				
Refrigerant (GWP) ³			R410A (2088)	
Quantity refrigerant pre-load		kg	8.9	8.9
Tons of CO2 equivalent			18.583	18.583
Diameter refrigerant pipes	Liquid	inch (mm)	ø3/8" (9.52)	ø3/8" (9.52)
	Gas		ø3/4" (19.05)	ø7/8" (22.22)
Product Specifications				
Dimensions	LxHxD	mm	1505x970x370	1505x970x370
Net weight		kg	165	165
Sound pressure level	Max	dB(A)	60	63
Sound power level	Max	dB(A)	73	76
Treated air volume	Standard	m ³ /h	7800	8100
Fan static pressure	Max	Pa	35	35
Max. connectable I.U.	Min ~ Max	no	1 ~ 8	1 ~ 8
	Capacity	%	50 ~ 120	50 ~ 120

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary.

KXZ2 VRF-T SYSTEM

The best solution for the air conditioning of “sophisticated” buildings

High air conditioning performance for all business environments. Comfort and energy efficiency, system flexibility, intuitive and customisable controls, as well as even simpler maintenance and management.



10~12HP
(28.0~33.5 kW)



14~20HP
(40.0~56.0 kW)

Heat pump - modular outdoor units



KXZ2

CONNECT UP TO 44 INDOOR UNITS/200% CAPACITY

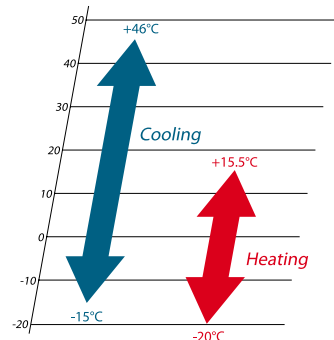
FDC 280 KXZE2 28.0 kW

FDC 335 KXZE2 33.5 kW

CHARACTERISTICS

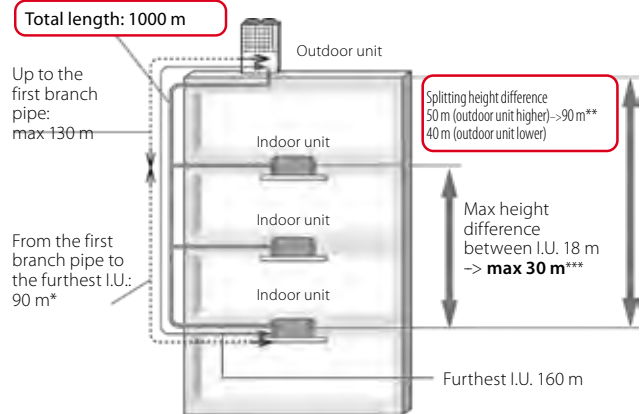
- Maximum energy efficiency COP 4.25 and EER 3.86 [10 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE



10~12HP (28.0~33.5 kW)

INSTALLATION DIAGRAM



* With difference of length between the farthest indoor unit and the nearest one from the first branch pipe < 40 m (MAX 85 m).
 ** Comply with installation conditions. For details, refer to the Technical Manual.
 *** It is necessary to change the corresponding setting of each difference in level during installation. Range of use also varies.

Models			FDC280KXZE2	FDC335KXZE2
Rated power			10	12
Nominal capacity (T=35°C)	Cooling	HP	28.00	33.50
Power consumption (T=35°C)		kW	7.25	8.98
Seasonal energy efficiency index		SEER ¹	7.30	7.54
Rated energy efficiency coefficient		EER ²	3.86	3.73
Nominal capacity (T=7°C)	Heating	kW	31.50	37.50
Power consumption (T=7°C)		kW	7.41	9.03
Seasonal energy efficiency index		SCOP ¹	4.88	4.68
Rated energy efficiency coefficient		COP ²	4.25	4.15
Electrical data				
Power		Ph-V-Hz	3Ph-380~415V-50Hz	
Rated current	Cooling	A	12.00	14.70
Rated current	Heating	A	12.20	14.80
Maximum current		A	20.10	20.10
Refrigerant circuit/features				
Refrigerant (GWP) ³	R410A (2088)			
Quantity refrigerant pre-load ⁴		kg	11	11
Tons of CO2 equivalent			22.968	22.968
Diameter refrigerant pipes	Liquid	inch (mm)	ø3/8" (9.52)	ø1/2" (12.7)
	Gas		ø7/8" (22.22)	ø1" (25.4)
Product Specifications				
Dimensions	LxHxD	mm	1697x1350x720	1697x1350x720
Net weight		kg	288	288
Sound pressure level	Max	dB(A)	57	63
Sound power level	Max	dB(A)	76	82
Treated air volume	Standard	m ³ /h	13500	17640
Fan static pressure	Max	Pa	85	85
Max. connectable I.U. ⁵	Min ~ Max	no	1 ~ 37	1 ~ 44
	Capacity	%	50 ~ 200	50 ~ 200

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 4. For the calculation of the additional refrigerant charge refer to the labels placed inside and outside the unit. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

Heat pump - modular outdoor units



KXZ2

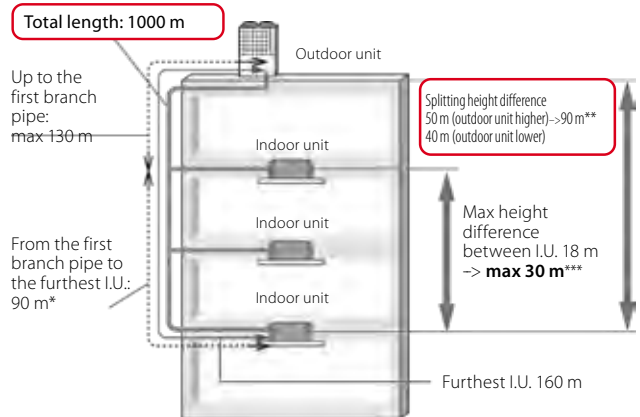
CONNECT UP TO 59 INDOOR UNITS/160% (FDC 400~450 KXZE2 200%) CAPACITY

FDC 400 KXZE2 40.0 kW FDC 500 KXZE2 50.0 kW
 FDC 450 KXZE2 45.0 kW FDC 560 KXZE2 56.0 kW
 FDC 475 KXZE2 47.5 kW

CHARACTERISTICS

- Maximum energy efficiency COP 4.40 and EER 3.64 [14 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

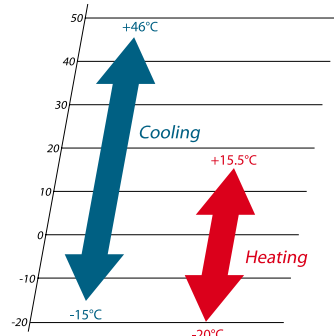
INSTALLATION DIAGRAM



* With difference of length between the furthest indoor unit and the nearest one from the first branch pipe < 40 m (MAX 85 m).
 ** Comply with installation conditions. For details, refer to the Technical Manual.
 *** It is necessary to change the corresponding setting of each difference in level during installation. Range of use also varies.



OPERATING RANGE



14~20HP (40.0~56.0 kW)

Models			FDC400KXZE2	FDC450KXZE2	FDC475KXZE2	FDC500KXZE2	FDC560KXZE2		
Rated power			HP	14	16	17	18	20	
Nominal capacity (T=35°C)			kW	40.00	45.00	47.50	50.00	56.00	
Power consumption (T=35°C)			kW	10.98	13.98	13.97	14.01	17.50	
Seasonal energy efficiency index			SEER ¹	7.12	7.01	6.84	7.29	6.73	
Rated energy efficiency coefficient			EER ²	3.64	3.22	3.40	3.57	3.20	
Nominal capacity (T=7°C)			kW	45.00	50.00	53.00	56.00	63.00	
Power consumption (T=7°C)			kW	10.23	12.50	12.99	13.56	16.15	
Seasonal energy efficiency index			SCOP ¹	4.87	4.36	4.45	4.58	4.30	
Rated energy efficiency coefficient			COP ²	4.40	4.00	4.08	4.13	3.90	
Electrical data									
Power			Ph-V-Hz	3Ph-380~415V-50Hz					
Rated current			Cooling	A	17.60	22.40	22.60	22.60	26.90
Rated current			Heating	A	16.70	20.40	21.00	21.90	26.10
Maximum current			A	32.00	32.00	40.20	40.20	40.20	
Refrigerant circuit/features									
Refrigerant (GWP) ³			R410A (2088)						
Quantity refrigerant pre-load ⁴			kg	11.5	11.5	11.5	11.5	11.5	
Tons of CO2 equivalent				24.012	24.012	24.012	24.012	24.012	
Diameter refrigerant pipes			Liquid	inch (mm)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)
			Gas	inch (mm)	ø1" (25.4)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	
Product Specifications									
Dimensions			LxHxD	mm	2052x1350x720	2052x1350x720	2052x1350x720	2052x1350x720	2052x1350x720
Net weight			kg	332	332	378	378	378	
Sound pressure level			Max	dB(A)	62	62	62	64	
Sound power level			Max	dB(A)	82	82	81	83	
Treated air volume			Standard	m ³ /h	18240	18240	18000	18000	18000
Fan static pressure			Max	Pa	85	85	85	85	
Max. connectable I.U. ⁵			Min ~ Max	no	1 ~ 53	1 ~ 60	1 ~ 50	1 ~ 53	1 ~ 59
			Capacity	%	50 ~ 200	50 ~ 200	50 ~ 160	50 ~ 160	50 ~ 160

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 4. For the calculation of the additional refrigerant charge refer to the labels placed inside and outside the unit. 5. When connecting indoor units of type FDK, FDL, FDFU or FDFW the upper limit is always 130%.

KXZ2

CONNECT UP TO 71 INDOOR UNITS/160% CAPACITY

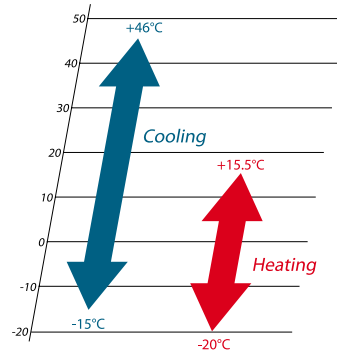
FDC 615 KXZE2 (FDC 280+FDC 335) 61.5 kW

FDC 670 KXZE2 (FDC 335+FDC 335) 67.0 kW

CHARACTERISTICS

- Maximum energy efficiency COP 4.20 and EER 3.79 [22 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE



22~24HP
(61.5~67.0 kW)

COMBINATIONS

Models			FDC615KXZE2	FDC670KXZE2
Combinations			FDC280KXZE2	FDC335KXZE2
			FDC335KXZE2	FDC335KXZE2
			-	-
Rated power			22	24
Nominal capacity (T=35°C)			61.50	67.00
Power consumption (T=35°C)			16.24	17.96
Rated energy efficiency coefficient			3.79	3.73
Nominal capacity (T=7°C)			69.00	75.00
Power consumption (T=7°C)			16.44	18.06
Rated energy efficiency coefficient			4.20	4.15
Electrical data				
Power			3Ph-380~415V-50Hz	
Rated current		Cooling	A	29.40
Rated current		Heating	A	29.60
Maximum current		A	40.20	40.20
Refrigerant circuit/features				
Refrigerant (GWP) ²			R410A (2088)	
Quantity refrigerant pre-load ³			kg	22
Tons of CO2 equivalent			45.936	45.936
Diameter refrigerant pipes ⁴		Liquid	inch	ø1/2" (12.7)
		Gas	inch	ø1-1/8" (28.58)
		Oil balancing	mm	ø3/8" (9.52)
Product Specifications				
Dimensions		LxHxD	mm	1697x2700x720
Net weight			kg	576
Max. connectable I.U. ⁵		Min ~ Max	no	2 ~ 71
		Capacity	%	50 ~ 160

1. Value measured according to the harmonised standard EN 14511.2. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 4. The diameters indicated refer to the section up to the first junction, with an equivalent length of less than 90 m. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

KXZ2

CONNECT UP TO 80 INDOOR UNITS/160% CAPACITY
(FDC 1000~1120 KXZE2 130%)

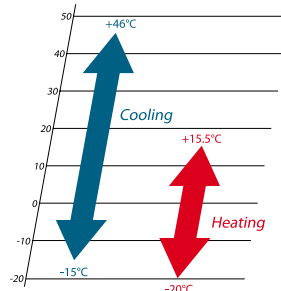
FDC 735 KXZE2 (FDC 335+FDC 400) 73.5 kW
 FDC 800 KXZE2 (FDC 400+FDC 400) 80.0 kW
 FDC 850 KXZE2 (FDC 400+FDC 450) 85.0 kW
 FDC 900 KXZE2 (FDC 450+FDC 450) 90.0 kW

FDC 950 KXZE2 (FDC 475+FDC 475) 95.0 kW
 FDC 1000 KXZE2 (FDC 500+FDC 500) 100.0 kW
 FDC 1060 KXZE2 (FDC 500+FDC 560) 106.0 kW
 FDC 1120 KXZE2 (FDC 560+FDC 560) 112.0 kW

CHARACTERISTICS

- Maximum energy efficiency COP 4.40 (28HP); EER 3.68 [26 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE



26HP (73.5)



28~40HP (80~112.0 kW)

COMBINATIONS

Models			FDC735KXZE2	FDC800KXZE2	FDC850KXZE2	FDC900KXZE2	FDC950KXZE2	FDC1000KXZE2	FDC1060KXZE2	FDC1120KXZE2		
Combinations			FDC335KXZE2	FDC400KXZE2	FDC400KXZE2	FDC450KXZE2	FDC475KXZE2	FDC500KXZE2	FDC500KXZE2	FDC560KXZE2		
Rated power			HP	26	28	30	32	34	36	38	40	
Nominal capacity (T=35°C)			Cooling	kW	73.50	80.00	85.00	90.00	95.00	100.00	106.00	112.00
Power consumption (T=35°C)				kW	19.96	21.96	24.96	27.95	27.94	28.02	31.51	35.00
Rated energy efficiency coefficient				EER ¹	3.68	3.64	3.41	3.22	3.40	3.57	3.36	3.20
Nominal capacity (T=7°C)			Heating	kW	82.50	90.00	95.00	100.00	106.00	112.00	119.00	126.00
Power consumption (T=7°C)				kW	19.26	20.45	22.73	25.00	25.98	27.12	29.71	32.31
Rated energy efficiency coefficient				COP ¹	4.28	4.40	4.18	4.00	4.08	4.13	4.01	3.90
Electrical data			3Ph-380~415V-50Hz									
Power			Ph-V-Hz	3Ph-380~415V-50Hz								
Rated current			Cooling	A	32.30	35.20	40.00	44.80	45.20	45.20	49.50	53.80
Rated current			Heating	A	31.50	33.40	37.10	40.80	42.00	43.80	48.00	52.20
Maximum current			A	52.10	64.00	64.00	64.00	80.40	80.40	80.40	80.40	80.40
Refrigerant circuit/features			R410A (2088)									
Refrigerant (GWP) ²			R410A (2088)									
Quantity refrigerant pre-load ³			kg	22.5	23	23	23	23	23	23	23	23
Tons of CO2 equivalent			kg	46.980	48.024	48.024	48.024	48.024	48.024	48.024	48.024	48.024
Diameter refrigerant pipes ⁴			inch (mm)	Liquid	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø3/4" (19.05)	ø3/4" (19.05)
				Gas	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)
				Oil balancing	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
Product Specifications												
Dimensions			LxHxD	mm	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720
Net weight			kg	620	664	664	664	756	756	756	756	756
Max. connectable I.U. ⁵			Min ~ Max	no	2 ~ 78	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80
			Capacity	%	50 ~ 160	50 ~ 160	50 ~ 160	50 ~ 160	50 ~ 160	50 ~ 130	50 ~ 130	50 ~ 130

1. Value measured according to the harmonised standard EN 14511.2. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 4. The diameters indicated refer to the section up to the first junction, with an equivalent length of less than 90 m. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

KXZ2

CONNECT UP TO 80 INDOOR UNITS/130% CAPACITY

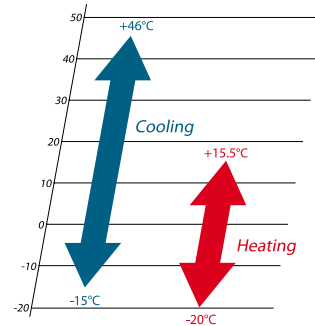
FDC 1200 KXZE2 (FDC 400+FDC 400+FDC 400) 120.0 kW
 FDC 1250 KXZE2 (FDC 400+FDC 400+FDC 450) 125.0 kW
 FDC 1300 KXZE2 (FDC 400+FDC 450+FDC 450) 130.0 kW
 FDC 1350 KXZE2 (FDC 450+FDC 450+FDC 450) 135.0 kW
 FDC 1425 KXZE2 (FDC 475+FDC 475+FDC 475) 142.5 kW

FDC 1450 KXZE2 (FDC 475+FDC 475+FDC 500) 145.0 kW
 FDC 1500 KXZE2 (FDC 500+FDC 500+FDC 500) 150.0 kW
 FDC 1560 KXZE2 (FDC 500+FDC 500+FDC 560) 156.0 kW
 FDC 1620 KXZE2 (FDC 500+FDC 560+FDC 560) 162.0 kW
 FDC 1680 KXZE2 (FDC 560+FDC 560+FDC 560) 168.0 kW

CHARACTERISTICS

- Maximum energy efficiency COP 4.40 and EER 3.64 [42 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE



BLUE FIN



42~60HP
(120,0~168,0 kW)

COMBINATIONS

Models			FDC1200KXZE2	FDC1250KXZE2	FDC1300KXZE2	FDC1350KXZE2	FDC1425KXZE2	FDC1450KXZE2	FDC1500KXZE2	FDC1560KXZE2	FDC1620KXZE2	FDC1680KXZE2	
Combinations			FDC400KXZE2	FDC400KXZE2	FDC400KXZE2	FDC450KXZE2	FDC475KXZE2	FDC475KXZE2	FDC500KXZE2	FDC500KXZE2	FDC500KXZE2	FDC560KXZE2	
Rated power			HP	42	44	46	48	50	52	54	56	60	
Nominal capacity (T=35°C)			Cooling	kW	120.00	125.00	130.00	135.00	142.50	145.00	156.00	162.00	
Power consumption (T=35°C)				kW	32.94	35.94	38.93	41.93	41.91	41.95	42.03	45.52	49.01
Rated energy efficiency coefficient				EER ¹	3.64	3.48	3.34	3.22	3.40	3.46	3.57	3.43	3.31
Nominal capacity (T=7°C)			Heating	kW	135.00	140.00	145.00	150.00	159.00	162.00	168.00	175.00	182.00
Power consumption (T=7°C)				kW	30.68	32.95	35.23	37.50	38.97	39.54	40.68	43.27	45.87
Rated energy efficiency coefficient				COP ¹	4.40	4.25	4.12	4.00	4.08	4.10	4.13	4.04	3.97
Electrical data			Ph-V-Hz	3Ph-380~415V-50Hz									
Rated current			Cooling	A	52.80	57.60	62.40	67.20	67.80	67.80	67.80	72.10	76.40
Rated current			Heating	A	50.10	53.80	57.50	61.20	63.00	63.90	65.70	69.90	74.10
Maximum current			A	96.00	96.00	96.00	96.00	120.60	120.60	120.60	120.60	120.60	
Refrigerant circuit/features			R410A (2088)										
Refrigerant (GWP) ²			R410A (2088)										
Quantity refrigerant pre-load ³			kg	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	
Tons of CO ₂ equivalent				72.036	72.036	72.036	72.036	72.036	72.036	72.036	72.036	72.036	
Diameter refrigerant pipes ⁴			Liquid	ø3/4" (19.05)									
			Gas	ø1-1/2" (38.1)									
			Oil balancing	ø3/8" (9.52)									
Product Specifications													
Dimensions			LxHxD	2052x4050x720									
Net weight			kg	996	996	996	996	1134	1134	1134	1134	1134	
Max. connectable I.U. ⁵			Min ~ Max	no	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	
			Capacity	%	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	

1. Value measured according to the harmonised standard EN 14511.2. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 4. The diameters indicated refer to the section up to the first junction, with an equivalent length of less than 90 m. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

KXZX Hi-COP VRF-T SYSTEM

Unprecedented efficiency in heating and cooling

In any combination of outdoor units, KXZX heat pump systems provide increased energy efficiency.



8HP
(22.4 kW)



10~12HP
(28.0~33.5 kW)

Heat pump



KXZX Hi-COP

8-12HP (22.4-33.5 kW)

CONNECT UP TO 44 INDOOR UNITS/200% CAPACITY

- FDC 224 KXZE1 22.4 kW
- FDC 280 KXZE1 28.0 kW
- FDC 335 KXZE1 33.5 kW

CHARACTERISTICS

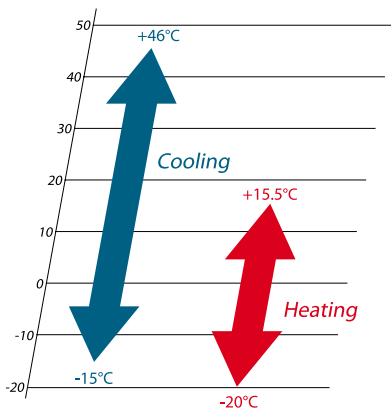
- Maximum energy efficiency COP 4.61 (10HP)
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m

Combinazioni 16-36HP (45.0-100.0 kW)

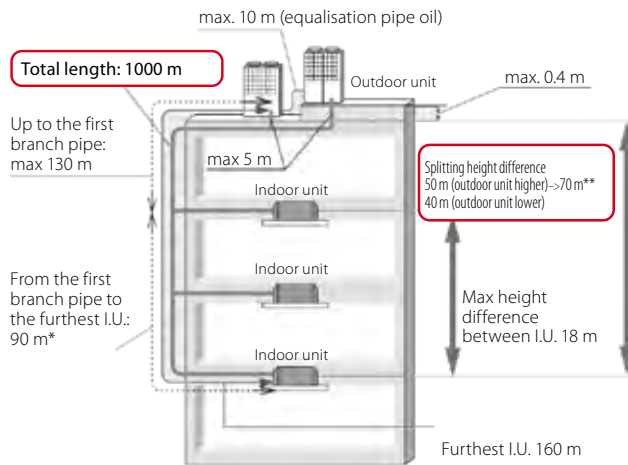
CONNECT UP TO 80 INDOOR UNITS/160% (FDC 450 KXZE1 200%) CAPACITY

- FDC 450 KXZE1 (FDC 224+FDC 224) 45,0 kW
- FDC 500 KXZE1 (FDC 224+FDC 280) 50,0 kW
- FDC 560 KXZE1 (FDC 280+FDC 280) 56,0 kW
- FDC 615 KXZE1 (FDC 280+FDC 335) 61,5 kW
- FDC 670 KXZE1 (FDC 335+FDC 335) 67,0 kW
- FDC 735 KXZE1 (FDC 224+FDC 224+FDC 280) 73,5 kW
- FDC 800 KXZE1 (FDC 224+FDC 280+FDC 280) 80,0 kW
- FDC 850 KXZE1 (FDC 280+FDC 280+FDC 280) 85,0 kW
- FDC 900 KXZE1 (FDC 280+FDC 280+FDC 335) 90,0 kW
- FDC 950 KXZE1 (FDC 280+FDC 335+FDC 335) 95,0 kW
- FDC 1000 KXZE1 (FDC 335+FDC 335+FDC 335) 100,0 kW

OPERATING RANGE



INSTALLATION DIAGRAM



* With difference of length between the furthest indoor unit and the nearest one from the first branch pipe < 40 m (MAX 85 m).
 ** Comply with installation conditions. For details, refer to the Technical Manual.

FDC 224 KXZE1



FDC 280-335 KXZE1



CHARACTERISTICS Hi-COP

- High efficiency
- Low consumption
- High energy savings

Models			FDC224KXZE1	FDC280KXZE1	FDC335KXZE1
Rated power			HP	8	10
Nominal capacity (T=35°C)	Cooling	kW	22.40	28.00	33.50
Power consumption (T=35°C)		kW	4.98	6.95	8.68
Seasonal energy efficiency index		SEER ¹	7.58	7.27	7.41
Rated energy efficiency coefficient		EER ²	4.50	4.03	3.86
Nominal capacity (T=7°C)	Heating	kW	25.00	31.50	37.50
Power consumption (T=7°C)		kW	5.56	6.83	8.39
Seasonal energy efficiency index		SCOP ¹	4.86	4.91	4.86
Rated energy efficiency coefficient		COP ²	4.50	4.61	4.47
Electrical data					
Power		Ph-V-Hz	3Ph-380~415V-50Hz		
Rated current	Cooling	A	8.70	11.70	14.70
Rated current	Heating	A	9.60	11.70	14.30
Refrigerant circuit/features					
Refrigerant (GWP) ³			R410A (2088)		
Quantity refrigerant pre-load ⁴		kg	11	11.5	11.5
Tons of CO2 equivalent			22.968	24.012	24.012
Diameter refrigerant pipes	Liquid	inch	ø3/8" (9.52)	ø3/8" (9.52)	ø1/2" (12.7)
	Gas	(mm)	ø3/4" (19.05)	ø7/8" (22.22)	ø1" (25.4)
	Oil balancing				
Product Specifications					
Dimensions	LxHxD	mm	1690x1350x720	2048x1350x720	2048x1350x720
Net weight		kg	280	325	325
Sound pressure level	Max	dB(A)	57	56	62
Treated air volume	Standard	m ³ /h	13200	13200	16800
Fan static pressure	Max	Pa	50	50	50
Max. connectable I.U.⁵	Min ~ Max	no	1 ~ 29	1 ~ 37	1 ~ 44
	Capacity	%	80 ~ 200	80 ~ 200	80 ~ 200

1. EU Regulation No. 206/2012 - N2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 4. For the calculation of the additional refrigerant charge refer to the labels placed inside and outside the unit. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFV the upper limit is always 130%.

COMBINATIONS

Models			FDC450KXZE1	FDC500KXZE1	FDC560KXZE1	FDC615KXZE1	FDC670KXZE1
Combinations			FDC224KXZE1	FDC224KXZE1	FDC280KXZE1	FDC280KXZE1	FDC335KXZE1
			FDC224KXZE1	FDC280KXZE1	FDC280KXZE1	FDC335KXZE1	FDC335KXZE1
Rated power			HP	16	18	20	22
Nominal capacity (T=35°C)	Cooling	kW	45.00	50.00	56.00	61.50	67.00
Power consumption (T=35°C)		kW	10.00	11.80	13.90	15.60	17.40
Rated energy efficiency coefficient		EER ¹	4.50	4.24	4.03	3.94	3.85
Nominal capacity (T=7°C)		Heating	kW	50.00	56.00	63.00	69.00
Power consumption (T=7°C)	kW		11.10	12.30	13.70	15.20	16.80
Rated energy efficiency coefficient	COP ¹		4.50	4.55	4.60	4.54	4.46
Electrical data							
Power		Ph-V-Hz	3Ph-380~415V-50Hz				
Rated current	Cooling	A	17.50	20.00	23.50	26.40	29.30
Rated current	Heating	A	19.20	21.20	23.30	26.00	28.60
Refrigerant circuit/features							
Refrigerant (GWP) ²			R410A (2088)				
Quantity refrigerant pre-load ³		kg	22	22.5	23	23	23
Tons of CO2 equivalent			45.936	46.980	48.024	48.024	48.024
Diameter refrigerant pipes ⁴	Liquid	inch	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)
	Gas	(mm)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)
	Oil balancing		ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
Product Specifications							
Dimensions	LxHxD	mm	1690x2700x720	2048x2700x720	2048x2700x720	2048x2700x720	2048x2700x720
Net weight		kg	560	605	650	650	650
Max. connectable I.U.⁵	Min ~ Max	no	2 ~ 60	2 ~ 53	2 ~ 59	2 ~ 65	2 ~ 71
	Capacity	%	80 ~ 200	80 ~ 160	80 ~ 160	80 ~ 160	80 ~ 160

Models			FDC735KXZE1	FDC800KXZE1	FDC850KXZE1	FDC900KXZE1	FDC950KXZE1	FDC1000KXZE1
Combinations			FDC224KXZE1	FDC224KXZE1	FDC280KXZE1	FDC280KXZE1	FDC280KXZE1	FDC335KXZE1
			FDC224KXZE1	FDC280KXZE1	FDC280KXZE1	FDC280KXZE1	FDC335KXZE1	FDC335KXZE1
Rated power			HP	26	28	30	32	34
Nominal capacity (T=35°C)	Cooling	kW	73.50	80.00	85.00	90.00	95.00	100.00
Power consumption (T=35°C)		kW	17.10	19.30	21.10	22.70	24.30	25.90
Rated energy efficiency coefficient		EER ¹	4.30	4.15	4.03	3.96	3.91	3.86
Nominal capacity (T=7°C)		Heating	kW	82.50	90.00	95.00	100.00	106.00
Power consumption (T=7°C)	kW		18.20	19.70	20.60	21.90	23.50	25.10
Rated energy efficiency coefficient	COP ¹		4.53	4.57	4.61	4.57	4.51	4.46
Electrical data								
Power		Ph-V-Hz	3Ph-380~415V-50Hz					
Rated current	Cooling	A	29.40	32.90	35.60	38.40	41.00	43.70
Rated current	Heating	A	31.40	33.50	35.20	37.40	40.10	42.80
Refrigerant circuit/features								
Refrigerant (GWP) ²			R410A (2088)					
Quantity refrigerant pre-load ³		kg	33.5	34	34.5	34.5	34.5	34.5
Tons of CO2 equivalent			69.948	70.992	72.036	72.036	72.036	72.036
Diameter refrigerant pipes ⁴	Liquid	inch	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)
	Gas	(mm)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)
	Oil balancing		ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
Product Specifications								
Dimensions	LxHxD	mm	2048x4050x720	2048x4050x720	2048x4050x720	2048x4050x720	2048x4050x720	2048x4050x720
Net weight		kg	885	930	975	975	975	975
Max. connectable I.U.⁵	Min ~ Max	no	3 ~ 78	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80
	Capacity	%	80 ~ 160	80 ~ 160	80 ~ 160	80 ~ 160	80 ~ 160	80 ~ 160

1. Value measured according to the harmonised standard EN 14511. 2. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 4. The diameters indicated refer to the section up to the first junction, with an equivalent length of less than 90 m. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFV the upper limit is always 130%.

KXZR2 HEAT RECOVERY SYSTEM

The new KXZR2 features a tiered design and a completely new shape. Thanks to the 3-pipe system, a single outdoor unit can simultaneously heat or cool several indoor units.

SIMULTANEOUS HEATING AND COOLING

- Heat recovery.
- An extensive range of applications.
- Flexibility of the design.
- Improved cooling capacity at low temperature.
- Ease of maintenance.

NEW DESIGN AND ENHANCED COMPONENTS

- Rounded shape.
- Next-generation compressor that reduces friction between components.
- New Inverter control.
- High-efficiency heat pump.
- Optimised pipeline shape.



KXZR2 heat recovery

SYSTEM CHARACTERISTICS

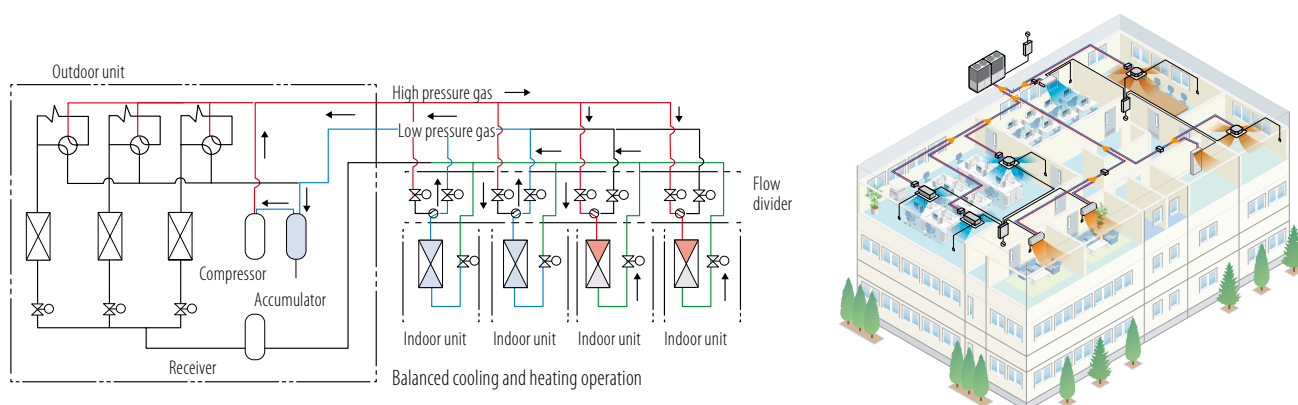
These heat recovery systems work with 3 interconnecting pipes and therefore are commonly referred to as 3-pipe systems. These systems offer both heating and cooling in a single indoor unit, based on the room conditions/ requirements. The systems incorporate a highly sophisticated air conditioning control for multiple indoor areas, regardless of the cooling or heating needs, for applications where the building orientation (N, S, E, W) may result in a heat increase/loss on different sides of the same building.

The range starts from a cooling capacity of 8 HP (22.4 kW), up to 24HP (67.0 kW).

The outdoor units can also be installed in "pairs" or in "triple combination", reaching 60HP/168.0 kW on a single system.

HEAT RECOVERY SYSTEMS

The interconnection piping system has a unique arrangement with two of the interconnecting pipes passing through a PFD distribution controller and the third tube connected directly to each indoor unit from the main pipe path. This reduces installation times and the number of braze-welded connections on the site. The PFD distribution controllers are available for single connection or as a 4-way combined PFD connection, with each connected unit characterised by independent cooling or heating.



During defrost or during automatic compressor protection, activated every hour during heating, the heating operation stops and restarts temporarily after a specific time interval. The series is equipped with the same automatic compressor protection even in cooling mode.

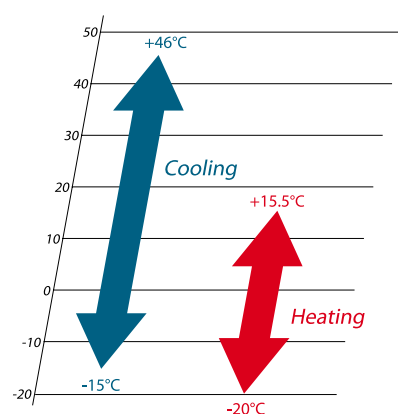
During this protection period, only the air flow is active and

the cooling operation restarts at the end of a specific time interval.

This model is not suitable for the use of annual cooling operations, for example for the server room, especially in areas where the outdoor air temperature falls below 5° C.

WIDE OPERATING RANGE

The KXZR series has an extensible system design, considering a heating range at low temperature conditions down to -20° C, and a cooling range up to 46° C (previous model: 43° C).



CONNECTABLE INDOOR UNITS

It is possible to connect up to 80 indoor units to the outdoor unit of greater power size. 14 different types of indoor units are available, visible or recessed, in different sizes, for a total of 81 overall possibilities.

DESIGN FLEXIBILITY

Total power of the indoor units

HP	KXZR
8~16	200%
17~34	160%
36~60	130%

- Where total power is higher than 130%, an additional refrigerant charge is required on site.
- With 8-34HP systems, if one or more of the FDK, FDFL, FDFU and/or FDFW series are connected to the system, the total power of the indoor units cannot exceed 130%.

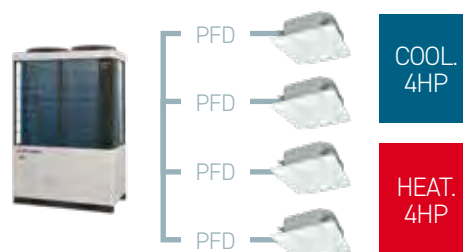
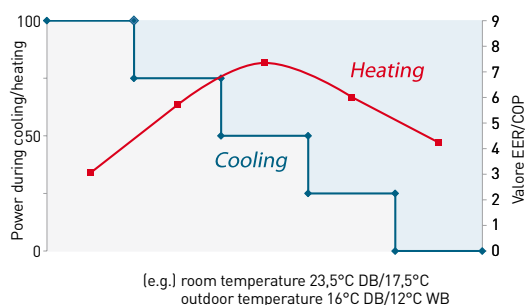
KXZR2 heat recovery

SYSTEM CHARACTERISTICS

ENERGY EFFICIENCY IN HEAT RECOVERY MODE

High efficiency when cooling and heating occur simultaneously. System control maximises efficiency up to a maximum COP of 9.0* in both cooling and heating mode.

* Data obtained at 8HP in an outdoor temperature condition of 16°C DB/12°C WB, in a refrigerated room of 27°C DB/19°C WB, and in a heated room of 20°C DB/14.5°C WB.



MAX COP > 9.0

Conditions:
FDC 224 KXZRE2
50% indoor units in cooling mode [27°C DB/19°C]
50% indoor units in heating mode [20°C DB/14.5°C]
Outdoor temperature 16°C DB/12°C WB

IMPROVED COOLING CAPACITY AT LOW OUTDOOR TEMPERATURE

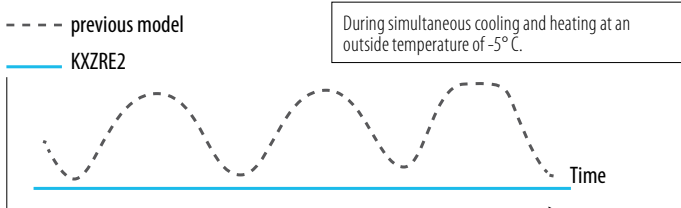
The small partitions of the exchanger and the internal pressure control allow the outdoor unit to operate in cooling mode even in low outdoor temperature conditions, for greater capacity with very low temperatures (-5°C) compared to the previous model.

In the previous model, in the presence of a strong heating demands and simultaneous low cooling demands in low outdoor temperature conditions, the pressure control is adjusted to maintain a greater heating power compared to a sufficient cooling power.

The new heat exchanger and pressure control adopted in the KXZR series has improved operating efficiency in heating and cooling*.

* The cooling system has priority for the required heating mode compared to a very low cooling demand, where most of the indoor units are used in heating mode.

Delivery air temperature in the cooled room



REFRIGERANT CONNECTIONS

VRF-T systems are manufactured to the highest standards of quality and reliability and it is therefore essential for the installation procedures and materials to have the same qualitative features, to ensure trouble-free long-term operation. It is advisable to use high quality copper refrigerant piping, in coils or in straight, semi-rigid lengths.

The copper piping should be chosen considering the higher operating pressure of R410A refrigerant gas and the increased pressure circulating in the system produced by reverse cycle operation. All materials used must comply with European standards (EN 12735). The branch pipe kits supplied must be used to connect the indoor units and the manifold kits must be used to connect the outdoor units (if necessary). It is forbidden to use standard accessories (elbow pipes, T-joints etc.). The branch pipes must be installed according to manufacturer guidelines and must allow a continuous flow of refrigerant in accordance with European standard E378: 2017.

All connecting welds must be made under slight nitrogen pressure to prevent the oxidation of the inner surface of

the copper pipes. During installation, no accidental entry of condensate, dust or any other contaminant must be permitted. Once installation is complete, a leak test must be carried out to check for refrigerant leaks with pressurised nitrogen. The ends of the pipe must be bent and welded and an appropriate service valve affixed.

Additional refrigerant charge

Only R410A refrigerant gas must be used, and this must be added by weight using an electronic meter. The amount of additional refrigerant must be carefully calculated according to the manufacturer's guidelines, defined by the length and diameter of each section of the system piping.

If the longest distance (measured between the outdoor unit and the furthest indoor unit) is 90 m or more (actual length), change the size of the main pipe according to the following table. Even if the longest distance exceeds 90 m (actual length), it is not necessary to change the size of the exhaust gas pipes.

HP		8	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
Liquid side	Furthest I.U.	ø 9.52		ø 12.7										ø 15.88										ø 19.05					
Intake gas	=<90 m	ø 19.05	ø 22.22	ø 28.58										ø 34.92															
Delivery gas	=<90 m	ø 15.88	ø 19.05	ø 22.22										ø 28.58															
Liquid side	Furthest I.U.	ø 12.7		ø 15.88										ø 19.05										ø 22.22					
Intake gas	=>90 m	ø 22.22	ø 28.58										ø 34.92																
Delivery gas	=>90 m	ø 15.88	ø 19.05	ø 22.22										ø 28.58															

BRANCH PIPES



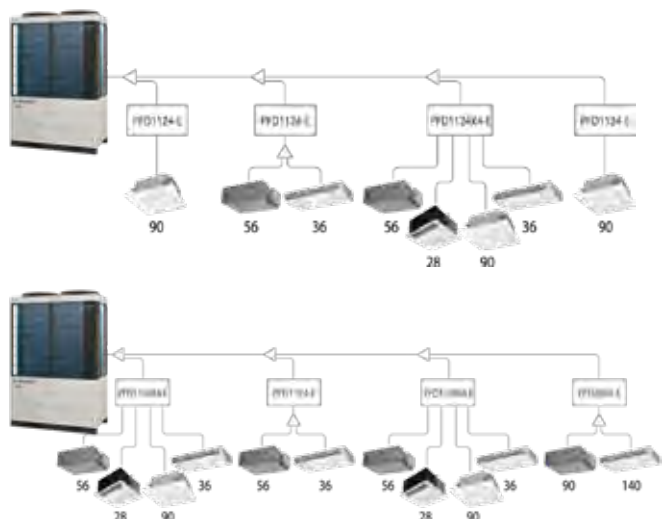
DIS-22-1-RI/DIS-180-1-RI

MANIFOLDS

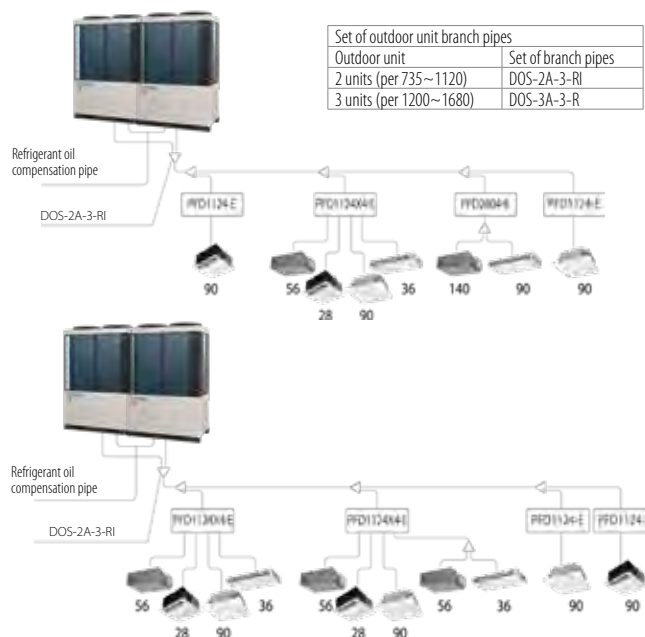


DOS-2A-3-RI

SINGLE OUTDOOR UNIT



COMBINED OUTDOOR UNITS



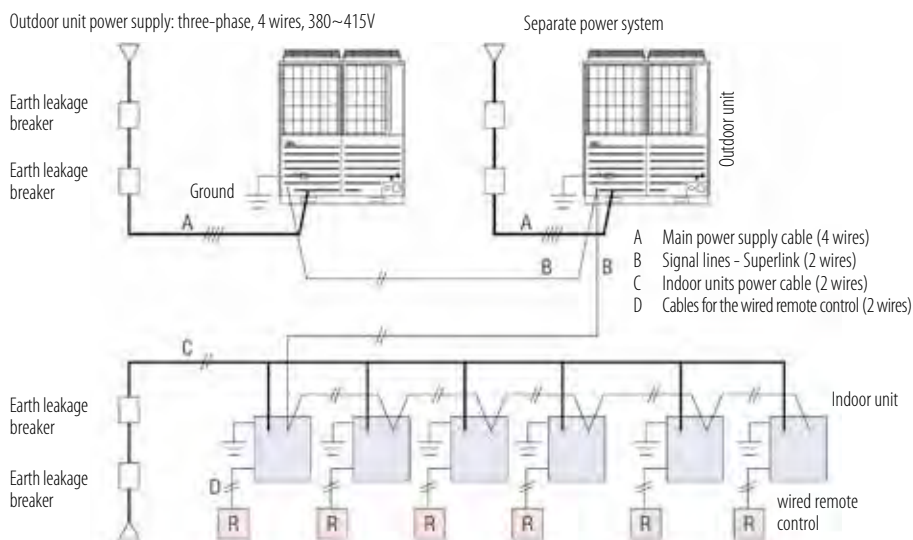
Set of outdoor unit branch pipes	
Outdoor unit	Set of branch pipes
2 units (per 735~1120)	DOS-2A-3-RI
3 units (per 1200~1680)	DOS-3A-3-R

First branch pipe of the indoor unit		Downstream of the PFD	
Total capacity of indoor units	Set of branch pipes	Total capacity of indoor units	Set of branch pipes
~179	DIS-22-1-RI	~179	DIS-22-1B
180~370	DIS-180-1-RI	180~370	DIS-180-1B
371~539	DIS-371-2-RI	371~539	DIS-371-1B
540~	DIS-540-2-RI	540~	DIS-540-3I

KXZR2 heat recovery

ELECTRICAL CONNECTIONS

VRF MHI systems require highly simplified electrical connections to the indoor units, thanks to a control circuit that uses 2 non-polarised conductors. The outdoor unit can be accessed from all sides for electrical connections (front, rear, bottom, right and left). A separate single-phase or three-phase power supply must be brought in for outdoor and indoor units, depending on the product specification.



Indoor unit power supply: single-phase 220~240V

CAUTION: if the RCD is dedicated solely to protecting against leakage to earth, it will be necessary to install a circuit breaker.

KXZR2 heat recovery

CONNECTIONS

SIGNAL LINE

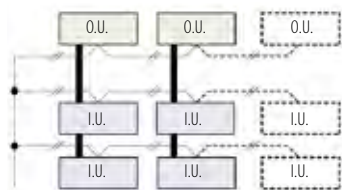
The signal line that connects the outdoor unit to the indoor units is 5 VDC and uses 2 non-polarised conductors marked A1 and B1. For the signal line with 2 conductors, use shielded cables measuring 0.75 or 1.50 mm². Earth the shield on all the indoor and outdoor units.

	0.75 mm ²	1.50 mm ²
~1000 mm	YES	YES
1000~1500 mm	YES	NO

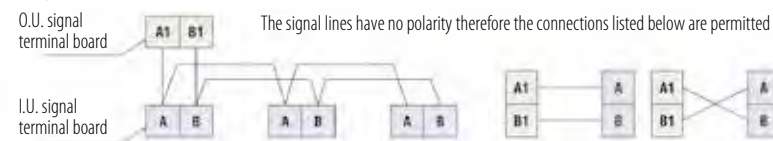
If using combined outdoor units, connect:

- The signal line between indoor and outdoor units, and the signal line between outdoor units that belong to the same refrigerant line, to A1 and B1;
- The signal line between outdoor units belonging to a different refrigerant line to A2 and B2.

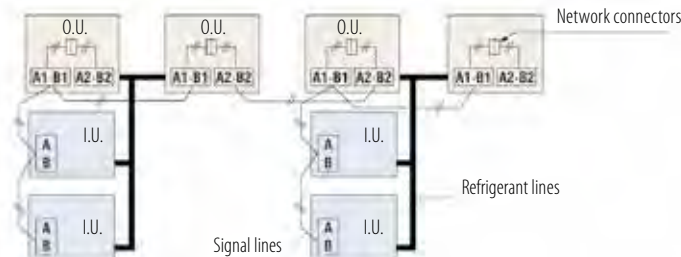
CAUTION: star connections on the signal lines are not permitted.



Single outdoor unit



Combined outdoor units

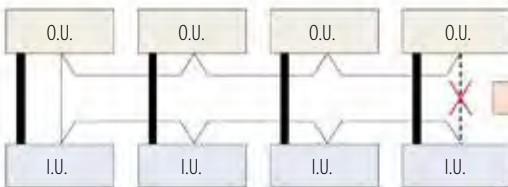


The maximum number of indoor units that can be connected to a signal line is 128, and it is possible to create groups of outdoor and/or indoor units connected to the same outdoor unit or to separate outdoor units, as long as they are connected to the same signal line. The signal line can also be connected by adopting the method described below (multiple connectors).

WIRED REMOTE CONTROL

The specifications for the connection between the wired remote control and the indoor units (XY connection) are 0.5 mm² x 2 wires. The maximum permitted length is 600 m. If the length exceeds 100 m, refer to the table.

Length (m)	Type of cables
100~200	0.5 mm ² x 2 wires
~300	0.75 mm ² x 2 wires
~400	1.50 mm ² x 2 wires
~600	2.0 mm ² x 2 wires



A loop cannot be formed with the signal, therefore the section of the connection indicated with is not permitted

Low noise flow divider

PFD 1124-E, PFD 1804-E, PFD 2804-E, PFD 1124X4-E

Designed and manufactured at Mitsubishi Heavy Industries specialist research laboratories, the PFD flow divider enables all indoor units to be integrated into an air conditioning network, to switch from cooling mode to heating mode, or vice versa, while the whole system remains operational, thus preventing unnecessary power on and power off cycles. By using the optional extension cable for the PFD box, equipped with a connector, it is possible to further separate the PFD box from the indoor unit. This enables a reduction in sound level caused by the PDF box and the flow of refrigerant.



4-outlet PFD



Relay kit

KXZR2 heat recovery

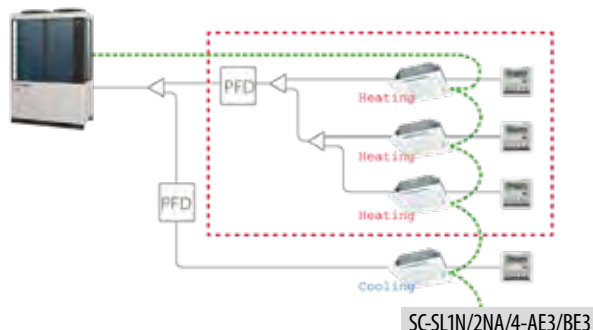
CONNECTIONS

PFD 1124-E, PFD 1804-E, PFD 2804-E,
PFD 1124X4-E

Selection and control from centralised panel

The remote control settings (such as power on/off of single indoor units, temperature setting, as well as controlling the heating/cooling procedures) are possible via an individual control connected to each indoor unit. At the same time, together with the individual controls, the SC-SL1N/2NA/4-AE3/BE3 centralised control panels can also be used.

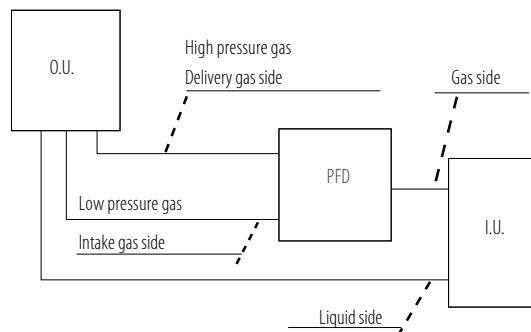
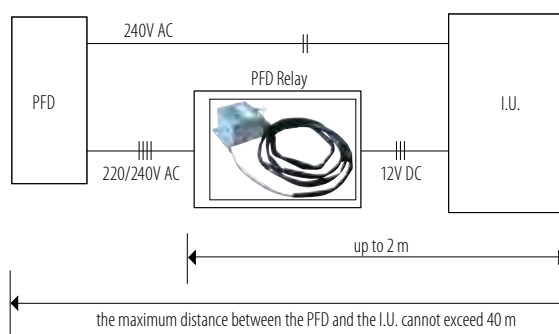
For more details, refer to the Installation Manual.



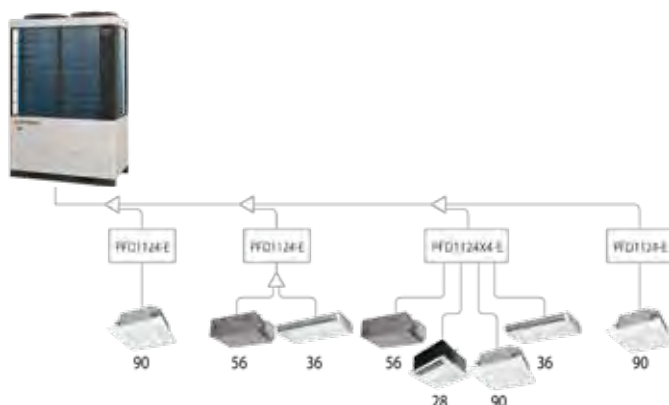
Ease of installation

The PFD flow divider requires only the connection of gas-side piping, including low-pressure piping from the O.U., while the liquid-side piping is connected directly to the I.U. This reduces the number of connections and, consequently, installation times and costs. Groups of indoor units up to a total capacity of 28 kW can be connected to a single PFD by means of branch pipes, all of which operate in the same mode, cooling or heating. Also available is a 4-connection distributor, PFD1124X4-E, which allows up to 4 groups of indoor units to be connected, operating individually in cooling or heating mode.

The PFD flow divider is connected to the indoor unit via a relay kit (supplied) to be installed within a maximum distance of 2 metres from the indoor unit. The maximum distance between the PFD and the I.U. is 40 metres. The power of the PFD comes directly from the indoor unit.



PFD4-15WR-W
15m Extension Cable for
PFD-Box KXZR (optional)



Flow divider	Total I.U. power downstream	Connectable indoor units*
PFD 1124-E	up to 11.2 kW	1-5
PFD 1804-E	up to 18.0 kW	1-8
PFD 2804-E	up to 28.0 kW	1-10
PFD 1124X4-E	up to 37.1 kW total (divided over the 4 connections)	up to 16

* Refer to the technical manuals for specifications.

KXZR2 heat recovery

KXZR2

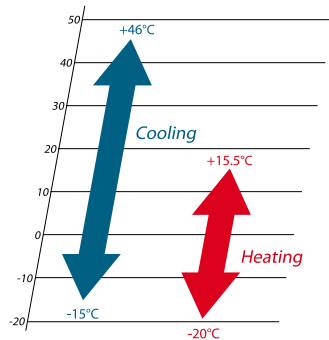
CONNECT UP TO 44 INDOOR UNITS/200% CAPACITY

- FDC 224 KXZRE2 22.4 kW
- FDC 280 KXZRE2 28.0 kW
- FDC 335 KXZRE2 33.5 kW

8~12HP
(22.4~33.5 kW)



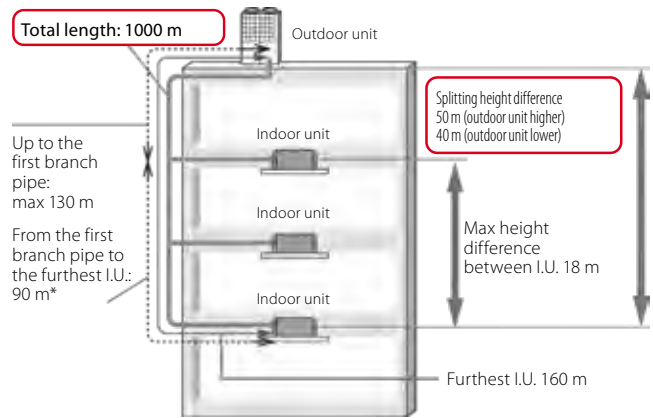
OPERATING RANGE



CHARACTERISTICS

- Maximum energy efficiency COP 4.25 e EER 3.89 [8 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

INSTALLATION DIAGRAM



* With difference of length between the farthest indoor unit and the nearest one from the first branch pipe < 40 m.

Models			FDC224KXZRE2	FDC280KXZRE2	FDC335KXZRE2
Rated power			8	10	12
Nominal capacity (T=35°C)	Cooling	HP	22.40	28.00	33.50
Power consumption (T=35°C)		kW	5.76	7.39	9.65
Seasonal energy efficiency index		SEER ¹	6.21	6.36	7.15
Rated energy efficiency coefficient		EER ²	3.89	3.79	3.47
Nominal capacity (T=7°C)	Heating	HP	22.40	28.00	33.50
Power consumption (T=7°C)		kW	5.27	6.86	8.44
Seasonal energy efficiency index		SCOP ¹	4.06	4.02	4.43
Rated energy efficiency coefficient		COP ²	4.25	4.08	3.97
Electrical data					
Power		Ph-V-Hz	3Ph-380~415V-50Hz		
Rated current	Cooling	A	10.10	12.20	15.80
Rated current	Heating	A	9.10	11.30	13.80
Maximum current		A	16.00	20.00	21.20
Refrigerant circuit/features					
Refrigerant (GWP) ³	R410A (2088)				
Quantity refrigerant pre-load ⁴		kg	11.5	11.5	11.5
Tons of CO ₂ equivalent	24.012				
Diameter refrigerant pipes	Liquid	inch (mm)	ø3/8" (9.52)	ø3/8" (9.52)	ø1/2" (12.7)
	Gas LP		ø3/4" (19.05)	ø7/8" (22.22)	ø1" (25.4)
	Gas HP		ø5/8" (15.88)	ø3/4" (19.05)	ø3/4" (19.05)
Product Specifications					
Dimensions	LxHxD	mm	1697x1350x720	1697x1350x720	1697x1350x720
Net weight		kg	305	305	305
Sound pressure level	Max	dB(A)	58	57	64
Sound power level	Max	dB(A)	77	76	82
Treated air volume	Standard	m ³ /h	13500	13500	17640
Fan static pressure	Max	Pa	50	50	50
Max. connectable I.U. ⁵	Min ~ Max	no	1 ~ 29	1 ~ 37	1 ~ 44
	Capacity	%	50 ~ 200	50 ~ 200	50 ~ 200

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 4. For the calculation of the additional refrigerant charge refer to the labels placed inside and outside the unit.

KXZR2 heat recovery

KXZR2

CONNECT UP TO 71 INDOOR UNITS/160% CAPACITY (200% PER LE FDC 400~450)

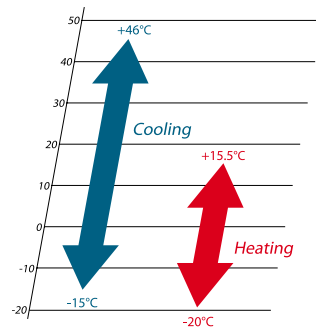
FDC 400 KXZRE2	40.0 kW	FDC 560 KXZRE2	56.0 kW
FDC 450 KXZRE2	45.0 kW	FDC 615 KXZRE2	61.5 kW
FDC 475 KXZRE2	47.5 kW	FDC 670 KXZRE2	67.0 kW
FDC 500 KXZRE2	50.0 kW		

CHARACTERISTICS

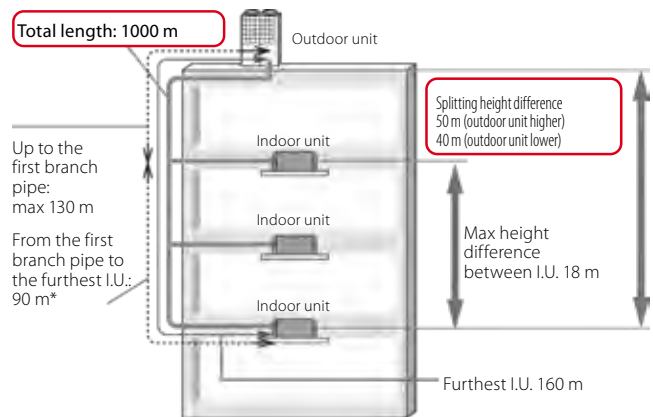
- Maximum energy efficiency COP 4.10 e EER 3.46 [14 HP]
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE

14~24HP (40.0~67.0 kW)



INSTALLATION DIAGRAM



* With difference of length between the farthest indoor unit and the nearest one from the first branch pipe < 40 m.

Models			FDC400KXZRE2	FDC450KXZRE2	FDC475KXZRE2	FDC500KXZRE2	FDC560KXZRE2	FDC615KXZRE2	FDC670KXZRE2	
Rated power		HP	14	16	17	18	20	22	24	
Nominal capacity (T=35°C)		kW	40.00	45.00	47.50	50.00	56.00	61.50	67.00	
Power consumption (T=35°C)		kW	11.56	14.47	14.84	15.20	19.31	21.35	25.57	
Seasonal energy efficiency index		SEER ¹	6.78	6.29	6.6	7.01	6.26	6.05	5.88	
Rated energy efficiency coefficient		EER ²	3.46	3.11	3.20	3.29	2.90	2.88	2.62	
Nominal capacity (T=7°C)		kW	40.00	45.00	47.50	50.00	56.00	61.50	63.00	
Power consumption (T=7°C)		kW	9.76	11.39	11.67	12.69	14.93	16.14	17.45	
Seasonal energy efficiency index		SCOP ¹	4.39	4.33	4.27	4.39	4.29	4.34	4.50	
Rated energy efficiency coefficient		COP ²	4.10	3.95	4.07	3.94	3.75	3.81	3.61	
Electrical data										
Power		Ph-V-Hz	3Ph-380~415V-50Hz							
Rated current		Cooling	A	18.50	23.10	24.00	24.60	31.20	41.30	
Rated current		Heating	A	15.90	18.60	18.90	20.50	24.10	28.20	
Maximum current		A	30.00	32.00	40.40	41.00	41.60	42.00	42.40	
Refrigerant circuit/features										
Refrigerant (GWP) ³			R410A (2088)							
Quantity refrigerant pre-load ⁴		kg	11.5	11.5	11.5	11.5	11.5	11.5	11.50	
Tons of CO2 equivalent			24.012	24.012	24.012	24.012	24.012	24.012	24.012	
Diameter refrigerant pipes		Liquid	inch (mm)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	ø1/2" (12.7)	
				ø1" (25.4)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)
				ø7/8" (22.22)	ø7/8" (22.22)	ø7/8" (22.22)	ø7/8" (22.22)	ø7/8" (22.22)	ø1" (25.4)	ø1" (25.4)
Gas LP										
Gas HP										
Product Specifications										
Dimensions		LxHxD	mm	2052x1350x720	2052x1350x720	2052x1350x720	2052x1350x720	2052x1350x720	2052x1350x720	
Net weight		kg	372	372	420	420	420	420	420	
Sound pressure level		Max	dB(A)	62	62	62	62	64	65	
Sound power level		Max	dB(A)	82	82	82	82	83	83	
Treated air volume		Standard	m ³ /h	18240	18240	18000	18000	18000	18000	
Fan static pressure		Max	Pa	50	50	50	50	50	50	
Max. connectable I.U. ⁵		Min ~ Max	no	1 ~ 53	1 ~ 60	1 ~ 50	1 ~ 53	1 ~ 59	2 ~ 65	
		Capacity	%	50 ~ 200	50 ~ 200	50 ~ 160	50 ~ 160	50 ~ 160	50 ~ 160	

1. EU Regulation No. 206/2012 - N.2281/2016 - Value measured according to the harmonised standard EN 14825. 2. Value measured according to the harmonised standard EN 14511. 3. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 4. For the calculation of the additional refrigerant charge refer to the labels placed inside and outside the unit.

KXZR2 heat recovery

KXZR2 - MODULAR OUTDOOR UNITS

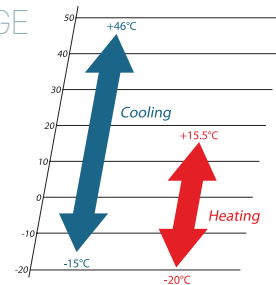
CONNECT UP TO 78 INDOOR UNITS (FDC 735)
AND UP TO 80 INDOOR UNITS (FDC 800~1120) TO
160% CAPACITY (FDC 735~950) AND UP TO 130%
CAPACITY (FDC 1000~1120)

FDC 735 KXZRE2 (FDC 335+FDC 400) 73.5 kW
FDC 800 KXZRE2 (FDC 400+FDC 400) 80.0 kW
FDC 850 KXZRE2 (FDC 400+FDC 450) 85.0 kW
FDC 900 KXZRE2 (FDC 450+FDC 450) 90.0 kW
FDC 950 KXZRE2 (FDC 475+FDC 750) 95.0 kW
FDC 1000 KXZRE2 (FDC 500+FDC 500) 100.0 kW
FDC 1060 KXZRE2 (FDC 500+FDC 560) 106.0 kW
FDC 1120 KXZRE2 (FDC 560+FDC 560) 112.0 kW

CHARACTERISTICS

- Maximum energy efficiency COP 4.10 (28HP); EER 3,47 (26HP)
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE



26HP (73.5 kW)



28~40HP (80.0~112.0 kW)

COMBINATIONS

Models			FDC735KXZRE2	FDC800KXZRE2	FDC850KXZRE2	FDC900KXZRE2	FDC950KXZRE2	FDC1000KXZRE2	FDC1060KXZRE2	FDC1120KXZRE2
Combinations			FDC335KXZRE2	FDC400KXZRE2	FDC400KXZRE2	FDC450KXZRE2	FDC475KXZRE2	FDC500KXZRE2	FDC500KXZRE2	FDC560KXZRE2
Rated power			HP	26	28	30	32	34	36	40
Nominal capacity (T=35°C)			kW	73.50	80.00	85.00	90.00	95.00	100.00	106.00
Power consumption (T=35°C)			kW	21.21	23.12	26.03	28.94	29.68	30.40	34.51
Rated energy efficiency coefficient			EER ¹	3.47	3.46	3.27	3.11	3.20	3.29	3.07
Nominal capacity (T=7°C)			kW	73.50	80.00	85.00	90.00	95.00	100.00	106.00
Power consumption (T=7°C)			kW	18.20	19.52	21.15	22.78	23.34	25.38	27.62
Rated energy efficiency coefficient			COP ¹	4.04	4.10	4.02	3.95	4.07	3.94	3.84
Electrical data			Ph-V-Hz	3Ph-380~415V-50Hz						
Rated current			Cooling	A	34.30	37.00	41.60	46.30	48.00	49.10
Rated current			Heating	A	29.70	31.90	34.60	37.20	37.70	41.00
Maximum current			A	51.20	60.00	62.00	64.00	80.80	82.00	82.60
Refrigerant circuit/features			R410A (2088)							
Refrigerant (GWP) ²			R410A (2088)							
Quantity refrigerant pre-load ³			kg	23	23	23	23	23	23	23
Tons of CO2 equivalent				48.024	48.024	48.024	48.024	48.024	48.024	48.024
Diameter refrigerant pipes ⁴			Liquid	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø3/4" (19.05)
			Gas LP	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/2" (38.1)	ø1-1/2" (38.1)
			Gas HP	ø1" (25.4)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/8" (28.58)	ø1-1/4" (31.75)
			Oil balancing	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
Product Specifications			LxHxD	mm	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720	2052x2700x720
Net weight			kg	677	744	744	744	840	840	840
Max. connectable I.U. ⁵			Min ~ Max	no	2 ~ 78	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80
			Capacity	%	50 ~ 160	50 ~ 160	50 ~ 160	50 ~ 160	50 ~ 130	50 ~ 130

1. Value measured according to the harmonised standard EN 14511.2. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 4. The diameters indicated refer to the section up to the first junction, with an equivalent length of less than 90 m. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

KXZR2 heat recovery

KXZR2 - MODULAR OUTDOOR UNITS

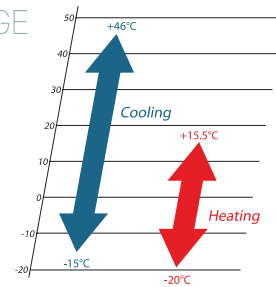
CONNECT UP TO 80 INDOOR UNITS/130% CAPACITY

FDC 1200 KXZRE2 (FDC 400+FDC 400+FDC 400)	120.0 kW
FDC 1250 KXZRE2 (FDC 400+FDC 400+FDC 450)	125.0 kW
FDC 1300 KXZRE2 (FDC 400+FDC 450+FDC 450)	130.0 kW
FDC 1350 KXZRE2 (FDC 450+FDC 450+FDC 450)	135.0 kW
FDC 1425 KXZRE2 (FDC 475+FDC 475+FDC 475)	142.5 kW
FDC 1450 KXZRE2 (FDC 475+FDC 475+FDC 500)	145.0 kW
FDC 1500 KXZRE2 (FDC 500+FDC 500+FDC 500)	150.0 kW
FDC 1560 KXZRE2 (FDC 500+FDC 500+FDC 560)	156.0 kW
FDC 1620 KXZRE2 (FDC 500+FDC 560+FDC 560)	162.0 kW
FDC 1680 KXZRE2 (FDC 560+FDC 560+FDC 560)	168.0 kW

CHARACTERISTICS

- Maximum energy efficiency COP 4.10 e EER 3.46 (42HP)
- Only DC Inverter compressors
- High split: up to 1000 m in total and with a maximum distance between the O.U. and the furthest I.U. of 160 m
- Up to 85 Pa prevalence on fans

OPERATING RANGE



42~60HP
(120.0~168.0 kW)

COMBINATIONS

Models	FDC1200KXZRE2	FDC1250KXZRE2	FDC1300KXZRE2	FDC1350KXZRE2	FDC1425KXZRE2	FDC1450KXZRE2	FDC1500KXZRE2	FDC1560KXZRE2	FDC1620KXZRE2	FDC1680KXZRE2	
Combinations	FDC400KXZRE2	FDC400KXZRE2	FDC450KXZRE2	FDC450KXZRE2	FDC475KXZRE2	FDC475KXZRE2	FDC500KXZRE2	FDC500KXZRE2	FDC560KXZRE2	FDC560KXZRE2	
Rated power	42	44	46	48	50	52	54	56	58	60	
Nominal capacity (T=35°C)	kW 120.00	125.00	130.00	135.00	142.50	145.00	150.00	156.00	162.00	168.00	
Power consumption (T=35°C)	kW 34.68	37.59	40.50	43.41	44.52	44.88	45.60	49.71	53.82	57.93	
Rated energy efficiency coefficient	EER ₁ 3.46	3.33	3.21	3.11	3.20	3.23	3.29	3.14	3.01	2.90	
Nominal capacity (T=7°C)	kW 120.00	125.00	130.00	135.00	142.50	145.00	150.00	156.00	162.00	168.00	
Power consumption (T=7°C)	kW 29.28	30.91	32.54	34.17	35.01	36.03	38.07	40.31	42.55	44.79	
Rated energy efficiency coefficient	COP ₁ 4.10	4.04	4.00	3.95	4.07	4.02	3.94	3.87	3.81	3.75	
Electrical data											
Power	Ph-V-Hz	3Ph-380~415V-50Hz									
Rated current	Cooling	A 55.50	60.10	64.80	69.40	72.00	72.50	73.70	80.30	87.00	93.60
Rated current	Heating	A 47.80	50.50	53.20	55.80	56.60	58.20	61.50	65.20	68.80	72.40
Maximum current	A	90.00	92.00	94.00	96.00	121.20	121.80	123.00	123.60	124.20	124.80
Refrigerant circuit/features											
Refrigerant (GWP) ²	R410A (2088)										
Quantity refrigerant pre-load ³	kg	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	
Tons of CO ₂ equivalent		72.036	72.036	72.036	72.036	72.036	72.036	72.036	72.036	72.036	
Diameter refrigerant pipes ⁴	Liquid	inch	ø3/4" (19.05)	ø3/4" (19.05)	ø3/4" (19.05)	ø3/4" (19.05)	ø3/4" (19.05)	ø3/4" (19.05)	ø3/4" (19.05)	ø3/4" (19.05)	
	Gas LP	inch	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	ø1-1/2" (38.1)	
	Gas HP	(mm)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	
	Oil balancing		ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
Product Specifications											
Dimensions	LxHxD	mm	2052x4050x720	2052x4050x720	2052x4050x720	2052x4050x720	2052x4050x720	2052x4050x720	2052x4050x720	2052x4050x720	
Net weight	kg	1116	1116	1116	1116	1260	1260	1260	1260	1260	
Max. connectable I.U. ⁵	Min ~ Max	no	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	3 ~ 80	
	Capacity	%	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	50 ~ 130	

1. Value measured according to the harmonised standard EN 14511.2. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 4. The diameters indicated refer to the section up to the first junction, with an equivalent length of less than 90 m. 5. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.



KXZW WATER COOLED SYSTEMS VRF-T

These MHI systems use water as a source for air conditioning.
They are ideal for tall buildings.

CHARACTERISTICS

- Energy savings, reduced operating costs.
- High efficiency.
- Flexible and compact design that can be transported in a lift.
- Integrates with the architecture.
- Easy transport and installation.
- BMS (Building Management System); the same system for controlling the air-cooled system (KXZ).
- Support and maintenance; easy front access to the main parts (compressor, control, plate heat exchanger, etc.).
- Wide range of control software and maintenance instruments (Mente PC, SL-Checker, etc.).

APPLICATIONS

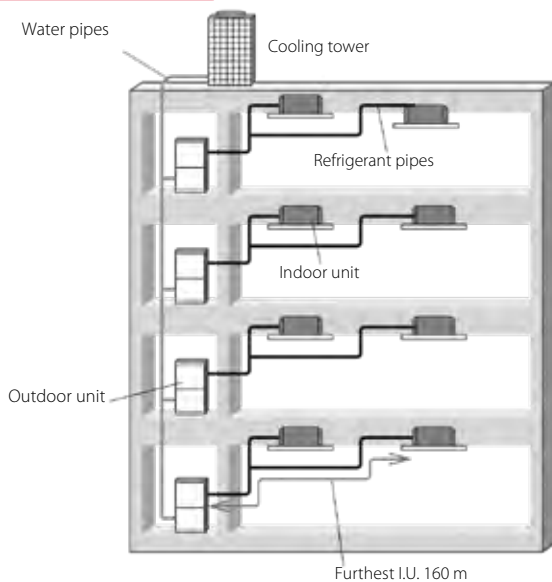
- Ideal for applications on tall buildings.
- Skyscraper 100 metres or more in height.
- Glass façade; exterior of a building thanks to the possibility of hiding the condensing unit.





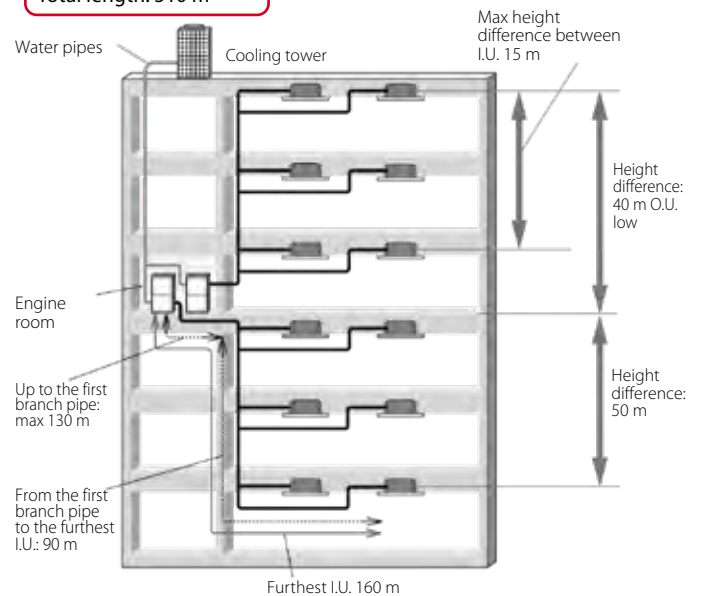
OUTDOOR UNITS ON EVERY FLOOR
(new construction projects)

Total length: 510 m



OUTDOOR ENGINE ROOM UNITS
(renovation projects)

Total length: 510 m



KXZW

CONNECT UP TO 33 INDOOR UNITS/150% CAPACITY

- FDC 224 KXZWE1 22.4 kW
- FDC 280 KXZWE1 28.0 kW
- FDC 335 KXZWE1 33.5 kW



8~12HP
(22.4~33.5 kW)

Models			FDC224KXZWE1	FDC280KXZWE1	FDC335KXZWE1
Combinations			-	-	-
Rated power			8	10	12
Nominal capacity (W30/A27)	Cooling	kW	22.40	28.00	33.50
Power consumption (W30/A27)		kW	4.23	5.75	8.13
Rated energy efficiency coefficient		EER	5.30	4.87	4.12
Nominal capacity (W20/A20)	Heating	kW	25.00	31.50	37.50
Power consumption (W20/A20)		kW	4.24	5.10	6.30
Rated energy efficiency coefficient		COP	5.90	6.18	5.95
Electrical data					
Power		Ph-V-Hz	3Ph-380~415V-50Hz		
Rated current	Cooling	A	7.14	9.64	13.40
Rated current	Heating	A	7.13	8.59	10.50
Refrigerant circuit/features					
Refrigerant (GWP) ¹			R410A (2088)		
Quantity refrigerant pre-load		kg	9.9	9.9	9.9
Tons of CO2 equivalent			20.671	20.671	20.671
Diameter refrigerant pipes	Liquid	inch (mm)	ø3/8" (9.52)	ø3/8" (9.52)	ø1/2" (12.7)
	Gas		ø3/4" (19.05)	ø7/8" (22.22)	ø1" (25.4)
	Oil balancing		-	-	-
Product Specifications					
Dimensions	LxHxD	mm	1110x780x550	1110x780x550	1110x780x550
Net weight		kg	185	185	185
Sound pressure level	Max	dB(A)	48	50	52
Water flow rate (for each unit)	Min ~ Max	L/min	50 ~ 150	50 ~ 150	50 ~ 150
Pressure drop of heat-exchanger (for each unit)	Min ~ Max	kPa	8 ~ 68	8 ~ 68	8 ~ 68
Water pipe	In/Out	inch	R 1-1/4"	R 1-1/4"	R 1-1/4"
Max. connectable I.U. ²	Min ~ Max	no	1 ~ 22	1 ~ 28	1 ~ 33
	Capacity	%	50 ~ 150	50 ~ 150	50 ~ 150

1. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO2, over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 2. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

KXZW

CONNECT UP TO 67 INDOOR UNITS/150% CAPACITY

FDC 450 KXZWE1 (FDC 224x2)	45.0 kW
FDC 500 KXZWE1 (FDC 224+FDC 280)	50.0 kW
FDC 560 KXZWE1 (FDC 280x2)	56.0 kW
FDC 615 KXZWE1 (FDC 280+FDC 335)	61.5 kW
FDC 670 KXZWE1 (FDC 335x2)	67.0 kW



16~24HP
(45.0~67.0 kW)

COMBINATIONS

Models			FDC450KXZWE1	FDC500KXZWE1	FDC560KXZWE1	FDC615KXZWE1	FDC670KXZWE1			
Combinations			FDC224KXZWE1	FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1			
			FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC335KXZWE1			
			-	-	-	-	-			
Rated power			HP	16	18	20	22	24		
Nominal capacity (W30/A27)			kW	45	50	56	61.5	67		
Power consumption (W30/A27)			Cooling	kW	8.49	9.83	11.50	13.7	16.3	
Rated energy efficiency coefficient				EER	5.30	5.09	4.87	4.49	4.11	
Nominal capacity (W20/A20)				kW	50	56	63	69	75	
Power consumption (W20/A20)			Heating	kW	8.47	9.27	10.2	11.4	12.6	
Rated energy efficiency coefficient				COP	5.90	6.04	6.18	6.05	5.95	
Electrical data			Ph-V-Hz	3Ph-380~415V-50Hz	3Ph-380~415V-50Hz	3Ph-380~415V-50Hz	3Ph-380~415V-50Hz	3Ph-380~415V-50Hz		
Rated current			Cooling	A	14.3	16.5	19.3	22.7	26.8	
Rated current			Heating	A	14.3	15.6	17.2	19.1	21	
Refrigerant circuit/features				R410A (2088)	R410A (2088)	R410A (2088)	R410A (2088)	R410A (2088)		
Refrigerant (GWP) ¹			kg	19.80	19.80	19.80	19.80	19.80		
Quantity refrigerant pre-load			kg	41.342	41.342	24.012	41.342	41.342		
Tons of CO2 equivalent				41.342	41.342	24.012	41.342	41.342		
Diameter refrigerant pipes			Liquid	inch (mm)	1/2" (12.7)	1/2" (12.7)	1/2" (12.7)	1/2" (12.7)	1/2" (12.7)	
					Gas	1-1/8" (28.58)	1-1/8" (28.58)	1-1/8" (28.58)	1-1/8" (28.58)	1-1/8" (28.58)
						Oil balancing	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
Product Specifications										
Dimensions			LxHxD	mm	2220x780X550	2220x780X550	2220x780X550	2220x780X550	2220x780X550	
Net weight				kg	370	370	370	370	370	
Sound pressure level			Max	dB(A)	51	52	53	54	55	
Water flow rate (for each unit)			Min ~ Max	L/min	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	
Pressure drop of heat-exchanger (for each unit)			Min ~ Max	kPa	8 ~ 68	8 ~ 68	8 ~ 68	8 ~ 68	8 ~ 68	
Water pipe			In/Out	inch	R 1-1/4"	R 1-1/4"	R 1-1/4"	R 1-1/4"	R 1-1/4"	
Max. connectable I.U. ²			Min ~ Max	no	1 ~ 44	1 ~ 50	1 ~ 56	2 ~ 61	2 ~ 67	
			Capacity	%	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	

1. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 2. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 130%.

KXZW

CONNECT UP TO 80 INDOOR
UNITS/150% CAPACITY

FDC 730 KXZWE1 (FDC 224x2+FDC 280)	73.0 kW
FDC 775 KXZWE1 (FDC 224+FDC 280x2)	77.5 kW
FDC 850 KXZWE1 (FDC 280x3)	85.0 kW
FDC 900 KXZWE1 (FDC 280x2+FDC 335)	90.0 kW
FDC 950 KXZWE1 (FDC 280+FDC 335x2)	95.0 kW
FDC 1000 KXZWE1 (FDC 335x3)	100.0 kW



26~36HP
(73.0~100.0 kW)

COMBINATIONS

Models			FDC730KXZWE1	FDC775KXZWE1	FDC850KXZWE1	FDC900KXZWE1	FDC950KXZWE1	FDC1000KXZWE1			
Combinations			FDC224KXZWE1	FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1			
			FDC224KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC335KXZWE1			
			FDC280KXZWE1	FDC280KXZWE1	FDC280KXZWE1	FDC335KXZWE1	FDC335KXZWE1	FDC335KXZWE1			
Rated power			HP	26	28	30	32	34	36		
Nominal capacity (W30/A27)			kW	73.00	77.50	85.00	90.00	95.00	100.00		
Power consumption (W30/A27)			kW	14.20	15.50	17.50	19.50	21.70	24.30		
Rated energy efficiency coefficient			EER	5.14	5.00	4.86	4.62	4.38	4.12		
Nominal capacity (W20/A20)			kW	82.50	90.00	95.00	100.00	106.00	112.00		
Power consumption (W20/A20)			kW	13.80	14.80	15.40	16.40	17.60	18.8		
Rated energy efficiency coefficient			COP	5.98	6.08	6.17	6.10	6.02	5.96		
Electrical data											
Power			Ph-V-Hz	3Ph-380~415V-50Hz							
Rated current			Cooling	A	23.80	26.00	29.30	32.50	36.00	40.00	
Rated current			Heating	A	23.20	24.90	25.90	27.50	29.40	31.40	
Refrigerant circuit/features											
Refrigerant (GWP) ¹			R410A (2088)								
Quantity refrigerant pre-load			kg	29.7	29.7	29.7	29.7	29.7	29.7		
Tons of CO ₂ equivalent				62.014	62.014	62.014	62.014	62.014	62.014		
Diameter refrigerant pipes			Liquid	inch (mm)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	ø5/8" (15.88)	
					Gas	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/4" (31.75)	ø1-1/2" (38.1)
					Oil balancing	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)	ø3/8" (9.52)
Product Specifications											
Dimensions			LxHxD	mm	3330x780X550	3330x780X550	3330x780X550	3330x780X550	3330x780X550	3330x780X550	
Net weight			kg	555	555	555	555	555	555		
Sound pressure level			Max	dB(A)	54	54	55	56	56	57	
Water flow rate (for each unit)			Min ~ Max	L/min	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	
Pressure drop of heat-exchanger (for each unit)			Min ~ Max	kPa	8 ~ 68	8 ~ 68	8 ~ 68	8 ~ 68	8 ~ 68	8 ~ 68	
Water pipe			In/Out	inch	R 1-1/4"	R 1-1/4"	R 1-1/4"	R 1-1/4"	R 1-1/4"	R 1-1/4"	
Max. connectable I.U. ²			Min ~ Max	no	2 ~ 72	2 ~ 78	2 ~ 80	2 ~ 80	2 ~ 80	2 ~ 80	
			Capacity	%	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150	50 ~ 150















1. Refrigerant leakage contributes to climate change. When released into the atmosphere, refrigerants with a lower global warming potential (GWP) contribute less to global warming than those with a higher GWP. This appliance contains a refrigerant with a GWP of 2088. If 1 kg of this refrigerant fluid were released into the atmosphere, therefore, the impact on global warming would be 2088 times higher than 1 kg of CO₂ over a period of 100 years. Under no circumstances should the user try to intervene on the refrigerant circuit or disassemble the product. Always contact qualified personnel if necessary. 3. For the calculation of the additional refrigerant charge, refer to the labels positioned inside and outside the unit. 2. When connecting indoor units of type FDK, FDFL, FDFU or FDFW the upper limit is always 150%.






INDOOR UNITS


VRF Multi systems

		HP kW	0.5 1.5	0.8 2.2	1 2.8	1.25 3.6	1.6 4.5	2 5.6	2.5 7.1	3.2 9.0	4 11.2	6 14.0	6 16.0	8 22.4	10 28.0
Cassette	84x84  FDT				●	●	●	●	●	●	●	●	●		
	60x60 compact  FDTc	●	●	●	●	●	●								
	2-way  FDTw				●		●	●	●	●	●	●			
	1-way  FDTs						●		●						
	1-way compact ducted  FDTq		●	●	●										
Ducted	high adjustable head  FDU					●	●	●	●	●	●	●	●	●	●
	adjustable medium and low head  FDUM		●	●	●	●	●	●	●	●	●	●			
	all-outside air  FDUF									●		●		●	●
	low head ducted  FDUT	●	●	●	●	●	●	●	●						
	compact  FDUH		●	●	●										
Wall  FDK	●	●	●	●	●	●	●	●	●						
Ceiling  FDE					●	●	●	●		●	●				
Floor	console  FDW			●		●	●								
	recessed  FDU			●		●	●	●							

ENTHALPY HEAT RECOVERY UNIT

	150	250	350	500	800	1000
	●	●	●	●	●	●

POST-TREATMENT MODULAR UNIT

		250	350	500	800	1000
		●	●	●	●	●

MOTION SENSOR HUMAN SENSOR

MODELS ON WHICH THE SENSOR CAN BE INSTALLED



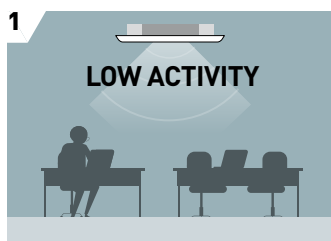
ENERGY SAVINGS THROUGH MOTION DETECTION IN THE ROOM

The HUMAN SENSOR detects the presence/absence and/or movement of persons in the room to improve comfort and performance, thanks to the unit's energy saving functions.

3 ENERGY SAVING CONTROL MODES

1. POWER CONTROL

The new motion sensor detects human activity in the room. Energy saving control is obtained by modifying the set temperature based on the amount and type of detected activity.



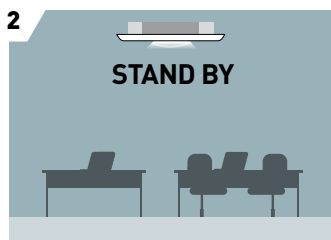
Power control increases energy saving.



Power control increases comfort.

2. AUTO-OFF: STAND BY

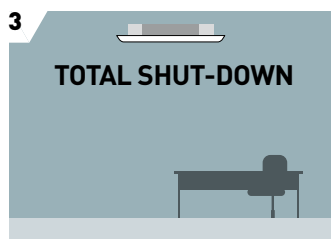
The unit stops running if no activity is detected for 1 hour. It re-starts automatically when activity is detected.



Operation shuts off temporarily.

3. AUTO-OFF: TOTAL SHUT-DOWN

The unit shuts down automatically if no activity is detected for 12 hours.



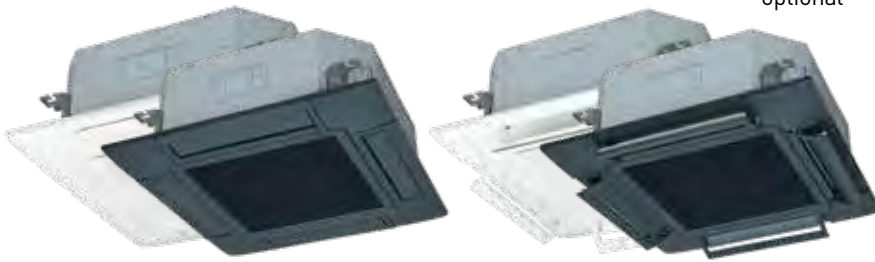
Operation shuts off completely.

Indoor units

CASSETTE 84x84



WiFi optional



■ 9 power sizes

(2.80~16.00 kW)

- Ideal for commercial applications: the cassette becomes invisible because it is completely built into the false ceiling
- Removable caps on the 4 corners for easy installation
- Easy condensate drain pan control
- Anti-draft panel: flexible flap control for FDT (optional)
- Corner with "Human Sensor":
 - LB-T-5BW-E white
 - LB-T-5BB-E black
- Condensate drain pump as standard: raises condensation up to 850 mm from the flush panel

FDT 28~160 KXZE1

- Standard T-PSA-5BW-E panel
- Standard T-PSA-5BB-E panel

FDT 28~160 KXZE1

- Anti-draft T-PSAE-5BW-E panel
- Anti-draft T-PSAE-5BB-E panel

ANTI-DRAFT PANEL

Maximum comfort without direct drafts: new flap control for greater flexibility.

Model		FDT 28KXZE1	FDT 36KXZE1	FDT 45KXZE1	FDT 56KXZE1	FDT 71KXZE1	FDT 90KXZE1	FDT 112KXZE1	FDT 140KXZE1	FDT 160KXZE1	
Standard black/white panel		T-PSA-5BW-E/T-PSA-5BB-E									
Standard anti-draft black/white panel		T-PSAE-5BW-E/T-PSAE-5BB-E									
Nominal Cool. capacity	kw	2.80	3.60	4.50	5.60	7.10	9.00	11.20	14.00	16.00	
Nominal Heat. capacity	kw	3.20	4.00	5.00	6.30	8.00	10.00	12.50	16.00	18.00	
Power		220~240V~50Hz									
Cool. power consumption	kw	0.02 - 0.02	0.03 - 0.03	0.03 - 0.03	0.04 - 0.04	0.08 - 0.08	0.13 - 0.13	0.14 - 0.14	0.14 - 0.14	0.14 - 0.14	
Heat. power consumption	kw	0.02 - 0.02	0.03 - 0.03	0.03 - 0.03	0.04 - 0.04	0.08 - 0.08	0.13 - 0.13	0.14 - 0.14	0.14 - 0.14	0.14 - 0.14	
Rated current in Cool.	A	0.2 - 0.19	0.3 - 0.28	0.3 - 0.28	0.36 - 0.33	0.70 - 0.64	1.04 - 0.95	1.12 - 1.02	1.12 - 1.02	1.12 - 1.02	
Rated current in Heat.	A	0.2 - 0.19	0.3 - 0.28	0.3 - 0.28	0.36 - 0.33	0.70 - 0.64	1.04 - 0.95	1.12 - 1.02	1.12 - 1.02	1.12 - 1.02	
Sound pressure level	dB(A)	Phi 33 Hi 31 Mi 29 Lo 27	Phi 34 Hi 31 Mi 29 Lo 27	Phi 35 Hi 33 Mi 31 Lo 27	Phi 38 Hi 33 Mi 31 Lo 27	Phi 47 Hi 35 Mi 32 Lo 28	Phi 49 Hi 38 Mi 36 Lo 31	Phi 49 Hi 39 Mi 37 Lo 31	Phi 49 Hi 42 Mi 39 Lo 32	Phi 49 Hi 42 Mi 39 Lo 33	
Sound power level	dB(A)	49	49	50	55	62	65	66	66	66	
External dimensions (HxLxD)		Unit 236x840x840				Unit 298x840x840					
Exterior appearance		Panel 35x950x950									
Munsell colour		Chalk white / black (6.8Y8.9 / 0.2) similar									
Net weight	kg	Unit 20 Panel 5			Unit 21.5 Panel 5			Unit 25 Panel 5			
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally									
Refrigerant control		Electronic expansion valve									
Air treatment/fan type and quantity		Turbo fan x 1									
Motor	W	58	58	58	58	58	120	120	120	120	
Starting method		Direct, in line									
Air flow (standard)	m ³ h	Phi 900 Hi 840 Mi 720 Lo 600	Phi 960 Hi 840 Mi 720 Lo 600	Phi 1020 Hi 900 Mi 780 Lo 600	Phi 1200 Hi 960 Mi 780 Lo 660	Phi 1680 Hi 1020 Mi 840 Lo 720	Phi 2220 Hi 1500 Mi 1320 Lo 900	Phi 2280 Hi 1560 Mi 1380 Lo 1020	Phi 2280 Hi 1680 Mi 1500 Lo 1080	Phi 2280 Hi 1740 Mi 1560 Lo 1140	
Static pressure		0									
Renewal air inlet		Possible									
Air filter and quantity		Plastic mesh filter x 1 (washable)									
Shock and vibration absorption		Rubber vibration absorber (for fan motor)									
Thermal and acoustic insulation		Polyurethane foam									
Optional control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RC-EX3A Remote control kit: RCN-T-5BW-E2 white; RCN-T-5BB-E2 black									
Ambient temperature control		Electronically-controlled thermostat									
Safety devices		Overvoltage protection for the fan motor Anti-frost protection thermostat									
Diameter refrigerant pipes		Liquid side: ø6.35 (1/4") Gas side: ø9.52 (3/8")				Liquid side: ø9.52 (3/8") Gas side: ø15.88 (5/8")					
Joining method		by flare fittings									
Refrigerant		R410A									
Drain pump		Built-in									
Condensate drain		Connectable with VP25					Connectable with VP25				
Piping insulation		Necessary (on both sides, liquid and gas)									
Accessories included		Assembly kit, Condensate pipe									
Wi-Fi module		INWFIMH001R000									

Indoor units

CASSETTE 60x60



FDTC 15-56KXZE1
Standard honeycomb panel
TC-PSA-5AW-E



FDTC 15-56KXZE1
Anti-draft honeycomb panel
TC-PSAE-5AW-E

6 power sizes (1.50-5.60 kW)

- Ideal for residential and commercial applications: the cassette becomes invisible because it is completely built into the false ceiling
- Removable caps on the 4 corners for easy installation
- Individual louvre movement control
- Anti-draft panel: flexible flap control FDTC (optional)
- Corner with "Human Sensor": LB-TC-5W-E
- Condensate drain pump as standard: raises condensation up to 850 mm from the flush panel

ANTI-DRAFT PANEL

Maximum comfort without direct drafts: new flap control for greater flexibility.

Model		FDTC 15KXZE1	FDTC 22KXZE1	FDTC 28KXZE1	FDTC 36KXZE1	FDTC 45KXZE1	FDTC 56KXZE1
Standard honeycomb/linear panel		TC-PSA-5AW-E / TC-PSAG-5AW-E					
Anti-draft honeycomb/linear panel		TC-PSAE-5AW-E / TC-PSAGE-5AW-E					
Nominal Cool. capacity	kW	1.50	2.20	2.80	3.60	4.50	5.60
Nominal Heat. capacity	kW	1.70	2.50	3.20	4.00	5.00	6.30
Power		220-240V~50Hz					
Cool. power consumption	kW	0.03 - 0.03	0.03 - 0.03	0.03 - 0.03	0.04 - 0.04	0.05 - 0.05	0.06 - 0.06
Heat. power consumption	kW	0.03 - 0.03	0.03 - 0.03	0.03 - 0.03	0.04 - 0.04	0.05 - 0.05	0.06 - 0.06
Rated current in Cool.	A	0.25 - 0.22	0.25 - 0.22	0.25 - 0.22	0.38 - 0.35	0.43 - 0.40	0.54 - 0.50
Rated current in Heat.	A	0.25 - 0.22	0.25 - 0.22	0.25 - 0.22	0.38 - 0.35	0.43 - 0.40	0.54 - 0.50
Sound pressure level	dB(A)	P-Hi 33 Hi 30 Mi 28 Lo 25	P-Hi 35 Hi 32 Mi 29 Lo 25		P-Hi 39 Hi 36 Mi 31 Lo 26		P-Hi 43 Hi 39 Mi 36 Lo 28
Sound power level	dB(A)	47	49	49	54	58	60
External dimensions (HxLxD)		Unit 248x570x570 Panel 10x620x620					
Exterior appearance		Chalk white					
Munsell colour		(6.8Y8.9 / 0.2) similar					
Net weight	kg	Unit 12.5 Panel 2.5	Unit 13 Panel 2.5		Unit 14 Panel 2.5		
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally					
Refrigerant control		Electronic expansion valve					
Air treatment/fan type and quantity		Turbo fan x 1					
Motor	W	50					
Starting method		Direct, in line					
Air flow (standard)	m ³ /h	P-Hi 480 Hi 420 Mi 360 Lo 300	P-Hi 540 Hi 480 Mi 420 Lo 420		P-Hi 600 Hi 540 Mi 480 Lo 360		P-Hi 720 Hi 600 Mi 540 Lo 420
Static pressure	Pa	0					
Renewal air inlet		Possible with accessories					
Air filter and quantity		Plastic mesh filter x 1 (washable)					
Shock and vibration absorption		Rubber sleeve (for fan motor)					
Thermal and acoustic insulation		Polyurethane foam					
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-TC-5AW-E3, optional RC-EX3A					
Ambient temperature control		Electronically-controlled thermostat					
Safety devices		Overvoltage protection for the fan motor					
		Anti-frost protection thermostat					
Diameter refrigerant pipes		mm (inch)		Liquid side: ø 6.35 (1/4")		Gas side: ø 12.7 (1/2")	
Joining method		by flare fittings					
Refrigerant		R410A					
Drain pump		Built-in					
Condensate drain		Connectable with VP25					
Piping insulation		Necessary (on both sides, liquid and gas)					
Accessories		Assembly kit, TC-OAS-E (Optional), TC-OAD-E (Optional)					
Wi-Fi module		INWFIMH001R000					



FDTC 15-56 KXZE1
Linear standard panel
TC-PSAG-5AW-E



FDTC 15-56 KXZE1
Linear anti-draft panel
TC-PSAGE-5AW-E

2 TYPES OF GRILLES

Possibility of choosing between honeycomb grille and linear grille.

Indoor units

2-WAY CASSETTE

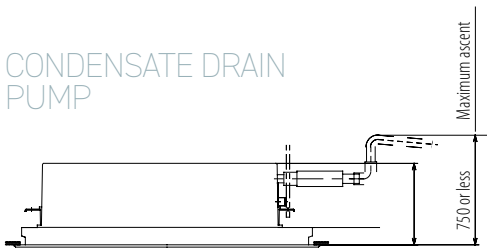


■ 7 power sizes (2.80~14.00 kW)

- Can be fully built in to the false ceiling, enabling uniform air distribution in environments with a rectangular perimeter
- Panels: TW-PSA-26W-E (models FDTW 28/45/56/71 KXE6F); TW-PSA-46W-E (models FDTW 90/112/140 KXE6F)
- "Human sensor": LB-TW-6W

FDTW 28~140 KXE6F

CONDENSATE DRAIN PUMP



INDIVIDUAL CONTROL OF AIR OUTLET LOUVRES

The new design of the louvers ensures uniform, wide-ranging air distribution throughout the area to be conditioned. The enlargement of the delivery vents has significantly reduced the load on the fan motor, resulting in increased energy efficiency.

Model		FDTW 28KXE6F	FDTW 45KXE6F	FDTW 56KXE6F	FDTW 71KXE6F	FDTW 90KXE6F	FDTW 112KXE6F	FDTW 140KXE6F	
Panel (optional)		TW-PSA-26W-E				TW-PSA-46W-E			
Nominal Cool. capacity	kW	2.80	4.50	5.60	7.10	9.00	11.20	14.00	
Nominal Heat. capacity	kW	3.20	5.00	6.30	8.00	10.00	12.50	16.00	
Power		220-240V~50Hz							
Cool. power consumption	kW	0.09 - 0.09	0.10 - 0.10	0.10 - 0.10	0.14 - 0.14	0.19 - 0.19	0.19 - 0.19	0.19 - 0.19	
Heat. power consumption	kW	0.09 - 0.09	0.10 - 0.10	0.10 - 0.10	0.14 - 0.14	0.19 - 0.19	0.19 - 0.19	0.19 - 0.19	
Rated current in Cool.	A	0.45 - 0.45	0.55 - 0.55	0.55 - 0.55	0.75 - 0.75	1.00 - 1.00	1.00 - 1.00	1.00 - 1.00	
Rated current in Heat.	A	0.45 - 0.45	0.55 - 0.55	0.55 - 0.55	0.75 - 0.75	1.00 - 1.00	1.00 - 1.00	1.00 - 1.00	
Sound pressure level	dB(A)	Hi 38 Mi 34 Lo 31					Hi 45 Mi 41 Lo 37		
Sound power level	dB(A)	58					65	-	
External dimensions (HxLxD)	mm	Unit 325x820x620				Unit 325x1535x620			
		Panel 20x1120x680				Panel 20x1835x680			
Exterior appearance		Chalk white							
Munsell colour		(6.8Y8.9 / 0.2) similar							
Net weight	kg	Unit 20 Panel 8.5	Unit 21 Panel 8.5		Unit 23 Panel 8.5	Unit 35 Panel 13			
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally							
Refrigerant control		Electronic expansion valve							
Air treatment/fan type and quantity		Turbo fan x 1							
Motor	W	30	35		40	35 x 2			
Starting method		Direct, in line							
Air flow (standard)	m ³ /h	Hi 720 Mi 600 Lo 540				Hi 1620 Mi 1380 Lo 1200			
Static pressure	Pa	0							
Renewal air inlet		Possible							
Air filter and quantity		Plastic mesh filter x 1 (washable)					Plastic mesh filter x 1 (washable)		
Shock and vibration absorption		Rubber sleeve (for fan motor)							
Thermal and acoustic insulation		Polyurethane foam							
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-TW-E2, optional RC-EX3A							
Ambient temperature control		Electronically-controlled thermostat							
Safety devices		Overvoltage protection for the fan motor							
		Anti-frost protection thermostat							
Diameter refrigerant pipes	mm (inch.)	Liquid side: ø 6.35 (1/4")			Liquid side: ø 9.52 (3/8")				
		Gas side: ø 9.52 (3/8")		Gas side: ø 12.7 (1/2")		Gas side: ø 15.88 (5/8")			
Joining method		by flare fittings							
Refrigerant		R410A							
Drain pump		Built-in							
Condensate drain		Connectable with VP25							
Piping insulation		Necessary (on both sides, liquid and gas)							
Accessories		Assembly kit							
Wi-Fi module		INWFIMH001R000							

Indoor units

1-WAY CASSETTE



WiFi
optional

■ 2 power sizes

(4.50 and 7.10 kW)

- Can be mounted on the ceiling with a suspended unit or built into the false ceiling
- Maximum compactness: only 22 cm high, ideal for installations in environments with low false ceilings
- Wide air flow, ideal for environments with very high ceilings
- Possibility to connect air renewal ducts
- Panel: TS-PSA-3AW-E
- "Human sensor": LB-KIT2

FDTS 45-71KXE6F

ULTRA-COMPACT MODEL



Ultra-compact design: its height of only 22 cm and weight of 27/28 kg guarantee easy and quick installation.

INDIVIDUAL CONTROL OF AIR OUTLET LOUVRES

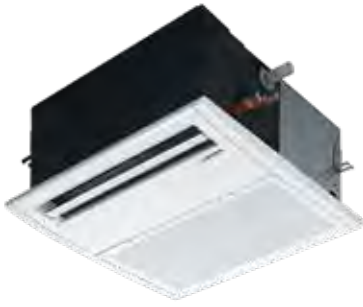


The new design of the louvres ensures uniform, wide-ranging air distribution throughout the area to be conditioned. The enlargement of the delivery vents has significantly reduced the load on the fan motor, resulting in increased energy efficiency.

Model		FDTS 45KXE6F	TS-PSA-3AW-E	FDTS 71KXE6F
Panel (optional)				
Nominal Cool. capacity	kW	4.50		7.10
Nominal Heat. capacity	kW	5.00		8.00
Power			220-240V~50Hz	
Cool. power consumption	kW	0.04 - 0.04		0.09 - 0.09
Heat. power consumption	kW	0.04 - 0.04		0.09 - 0.09
Rated current in Cool.	A	0.27 - 0.25		0.60 - 0.55
Rated current in Heat.	A	0.27 - 0.25		0.60 - 0.55
Sound pressure level	dB(A)	Hi 40 Mi 38 Lo 35		Hi 46 Mi 41 Lo 36
Sound power level	dB(A)	60		61
External dimensions (HxLxD)	mm		Unit 220x1150x565 Panel 35x1250x650	
Exterior appearance			Chalk white	
Munsell colour			(6.8Y8.9 / 0.2) similar	
Net weight	kg	Unit 27 Panel 5		Unit 28 Panel 5
Refrigerant circuit/Heat exchanger			Pipes finned and grooved internally	
Refrigerant control			Electronic expansion valve	
Air treatment/fan type and quantity			Centrifugal fan x 4	
Motor	W	35		70
Starting method			Direct, in line	
Air flow (standard)	m ³ /h	Hi 720 Mi 660 Lo 570		Hi 900 Mi 720 Lo 600
Static pressure	Pa		0	
Renewal air inlet			Possible	
Air filter and quantity		Plastic mesh filter x 2 (washable)		Plastic mesh filter x 2 (washable)
Shock and vibration absorption			Rubber sleeve (for fan motor)	
Thermal and acoustic insulation			Polyurethane foam	
Control devices			Optional wired remote control RC-ES, optional RCH-E3, optional RCN-TS-E2, optional RC-EX3A	
Ambient temperature control			Electronically-controlled thermostat	
Safety devices			Overvoltage protection for the fan motor Anti-frost protection thermostat	
Diameter refrigerant pipes	mm (inch)	Liquid side: ø 6.35 (1/4") Gas side: ø 12.7 (1/2")		Liquid side: ø 9.52 (3/8") Gas side: ø 15.88 (5/8")
Joining method			by flare fittings	
Refrigerant			R410A	
Drain pump			Built-in	
Condensate drain			Connectable with VP25	
Piping insulation			Necessary (on both sides, liquid and gas)	
Accessories			Assembly kit	
Wi-Fi module			INWFIMH001R000	

Indoor units

1-WAY COMPACT DUCTED CASSETTE



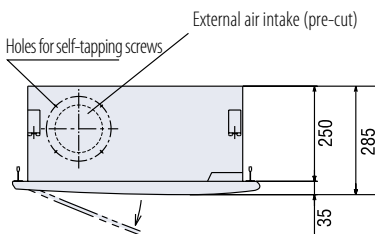
■ 3 power sizes

(2.20~3.60 kW)

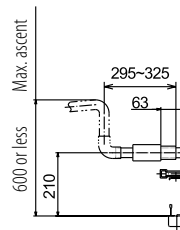
- Ideal for for smaller environments, with a fan speed of only 300 m³/h
- Panel with direct delivery
- Panel equipped with motorised louvre for comfortable air flow distribution
- Condensate drain pump as standard h 60 cm

FDTQ 22~36 KXE6F

ULTRA-COMPACT MODEL



CONDENSATE DRAIN PUMP SUPPLIED AS STANDARD



Model		FDTQ 22KXE6F	FDTQ 28KXE6F	FDTQ 36KXE6F
Panel (optional)			Direct delivery TQ-PSA-15W-E	
Nominal Cool. capacity	kW	2.20	2.80	3.60
Nominal Heat. capacity	kW	2.50	3.20	4.00
Power			220-240V~50Hz	
Cool. power consumption	kW	0.05 - 0.07	0.05 - 0.07	0.05 - 0.07
Heat. power consumption	kW	0.05 - 0.07	0.05 - 0.07	0.05 - 0.07
Nominal Cool. current	A	0.25 - 0.32	0.25 - 0.32	0.25 - 0.32
Nominal Heat. current	A	0.25 - 0.32	0.25 - 0.32	0.25 - 0.32
Sound pressure level	dB(A)		Hi 41 Mi 38 Lo 33	
Sound power level	dB(A)		60	
External dimensions (HxLxD)			Unit 250x570x570 Panel 35x625x650	
Exterior appearance			Chalk white	
Munsell colour			(6.8Y8.9 / 0.2) similar	
Net weight	kg		Unit 23 Panel 2.5	
Refrigerant circuit/Heat exchanger			Pipes finned and grooved internally	
Refrigerant control			Electronic expansion valve	
Air treatment/fan type and quantity			Centrifugal fan x 1	
Motor	W		30	
Starting method			Direct, in line	
Air flow (standard)	m ³ /h		Hi 420 Mi 360 Lo 300	
Static pressure	Pa		0	
Renewal air inlet			Possible	
Air filter and quantity			Plastic mesh filter x 1 (washable)	
Shock and vibration absorption			Rubber sleeve (for fan motor)	
Thermal and acoustic insulation			Polyurethane foam	
Control devices			Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A	
Ambient temperature control			Electronically-controlled thermostat	
Safety devices			Overvoltage protection for the fan motor Anti-frost protection thermostat	
Diameter refrigerant pipes			Liquid side: ø 6.35 (1/4") Gas side: ø 9.52 (3/8")	
Joining method			by flare fittings	
Refrigerant			R410A	
Drain pump			Built-in	
Condensate drain			Connectable with VP25	
Piping insulation			Necessary (on both sides, liquid and gas)	
Accessories			Assembly kit	
Wi-Fi module			INWFIMH001R000	

Indoor units

HIGH ADJUSTABLE HEAD DUCTED



FDU 45~160 KXE6F

FDU 224~280 KXZE1

■ 9 power sizes (4.50~28.00 kW)

- Units with rear recovery
- 100~200 Pa head for models from 4.50 to 16.00 kW and only 200 Pa for models from 22.40 to 28.00 kW
- Maximum compactness: only 28 cm (models from 4.50 to 16.00 kW) and 37.9 cm high (22.40 and 28.00 kW models)
- Integrated condensate drain pump for models from 4.50 to 16.00 kW
- "Human sensor": LB-KIT2

COMPACT SIZE

280 mm



Models from 4.50 to 16.00 kW

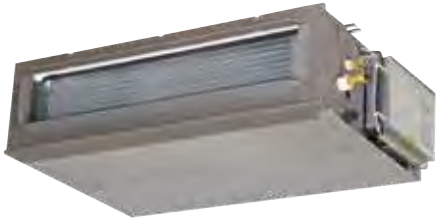


Models from 22.40 to 28.00 kW

Model		FDU 45KXE6F	FDU 56KXE6F	FDU 71KXE6F	FDU 90KXE6F	FDU 112KXE6F	FDU 140KXE6F	FDU 160KXE6F	FDU 224KXZE1	FDU 280KXZE1	
Nominal Cool. capacity	kW	4.50	5.60	7.10	9.00	11.20	14.00	16.00	22.40	28.00	
Nominal Heat. capacity	kW	5.00	6.30	8.00	10.00	12.50	16.00	18.00	25.00	31.50	
Power		220-240V~50Hz									
Cool. power consumption	kW	0.10 - 0.10	0.10 - 0.10	0.24 - 0.25	0.24 - 0.25	0.31 - 0.32	0.35 - 0.36	0.42 - 0.43	1.16 - 1.20	1.16 - 1.20	
Heat. power consumption	kW	0.10 - 0.10	0.10 - 0.10	0.24 - 0.25	0.24 - 0.25	0.31 - 0.32	0.35 - 0.36	0.42 - 0.43	1.16 - 1.20	1.16 - 1.20	
Rated current in Cool.	A	0.63 - 0.58	0.63 - 0.58	1.80 - 1.70	1.80 - 1.70	2.00 - 2.00	2.30 - 2.20	2.70 - 2.50	6.8 - 6.5	6.8 - 6.5	
Rated current in Heat.	A	0.63 - 0.58	0.63 - 0.58	1.80 - 1.70	1.80 - 1.70	2.00 - 2.00	2.30 - 2.20	2.70 - 2.50	6.8 - 6.5	6.8 - 6.5	
Sound pressure level	dB(A)	Hi 32 Mi 29 Lo 26	Hi 32 Mi 29 Lo 26	Hi 33 Mi 29 Lo 25	Hi 33 Mi 29 Lo 25	Hi 38 Mi 36 Lo 30	Hi 40 Mi 34 Lo 29	Hi 40 Mi 35 Lo 30	P-Hi 52 Hi 50 Mi 47 Lo 35		
Sound power level	dB(A)	60	60	65	65				75	75	
External dimensions (HxLxD)	mm	280x750x635	280x750x635	280x950x635	280x950x635	280x1370x740	280x1370x740	280x1370x740	379x1600x893	379x1600x893	
Net weight	kg	29	29	34	34	54	54	54	89	89	
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally									
Refrigerant control		Electronic expansion valve									
Air treatment/fan type and quantity		Centrifugal fan x 1		Centrifugal fan x 2			Centrifugal fan x 3				
Motor	W	100	100	130	130	100 + 130	100 + 200	100 + 200	130 + 350	130 + 350	
Starting method		Direct, in line									
Air flow (standard)	m ³ /h	Hi 600 Mi 540 Lo 480		Hi 1140 Mi 900 Lo 600		Hi 1680 Mi 1500 Lo 1140	Hi 1920 Mi 1560 Lo 1200	Hi 2100 Mi 1680 Lo 1320	P-Hi 4800 Hi 4320 Mi 3840 Lo 3360		
Static pressure	Pa	Standard 100 Max 200									
Renewal air inlet		Possible									
Air filter and quantity		To be found locally									
Shock and vibration absorption		Rubber sleeve (for fan motor)									
Thermal and acoustic insulation		Polyurethane foam									
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A, optional RC-EXZ3A									
Ambient temperature control		Electronically-controlled thermostat									
Safety devices		Overvoltage protection for the fan motor Anti-frost protection thermostat									
Diameter refrigerant pipes	mm (in)	Liquid side: ø6.35 (1/4") Gas side: ø12.7 (1/2")		Liquid side ø9.52 (3/8") Gas side ø15.88 (5/8")				Gas side ø19.05 (3/4") Gas side ø22.2 (7/8")			
Joining method		by flare fittings							by blazing		
Refrigerant		R410A									
Drain pump		Built-in								-	
Condensate drain		Connectable with VP25									
Piping insulation		Necessary (on both sides, liquid and gas)									
Accessories		-									
Wi-Fi module		INWFIMHI001R000									

Indoor units

DUCTED WITH ADJUSTABLE MEDIUM AND LOW HEAD



■ 10 power sizes

(2.20~16.00 kW)

- Ultra-compact design: only 28 cm in height
- Optional filter kit UM-FL1EF (FDUM 22~56KXE6F), UM-FL2EF (FDUM 71~90KXE6F), UM-FL3EF (FDUM 112~160KXE6F)
- Esp function: automatic maintenance of the air flow rate as flow resistance varies
- "Human sensor": LB-KIT2

FDUM 22~160 KXE6F

COMPACT SIZE



For all models

Model		FDUM 22KXE6F	FDUM 28KXE6F	FDUM 36KXE6F	FDUM 45KXE6F	FDUM 56KXE6F	FDUM 71KXE6F	FDUM 90KXE6F	FDUM 112KXE6F	FDUM 140KXE6F	FDUM 160KXE6F	
Nominal Cool. capacity	kW	2.20	2.80	3.60	4.50	5.60	7.10	9.00	11.20	14.00	16.00	
Nominal Heat. capacity	kW	2.50	3.20	4.00	5.00	6.30	8.00	10.00	12.50	16.00	18.00	
Power		220-240V~50Hz										
Cool. power consumption	kW	0.10 - 0.10	0.10 - 0.10	0.10 - 0.10	0.10 - 0.10	0.10 - 0.10	0.20 - 0.20	0.20 - 0.20	0.29 - 0.29	0.33 - 0.33	0.45 - 0.45	
Heat. power consumption	kW	0.10 - 0.10	0.10 - 0.10	0.10 - 0.10	0.10 - 0.10	0.10 - 0.10	0.20 - 0.20	0.20 - 0.20	0.29 - 0.29	0.33 - 0.33	0.45 - 0.45	
Rated current in Cool.	A	0.46 - 0.42	0.46 - 0.42	0.46 - 0.42	0.46 - 0.42	0.46 - 0.42	0.91 - 0.83	0.91 - 0.83	1.32 - 1.21	1.50 - 1.38	2.05 - 1.85	
Rated current in Heat.	A	0.46 - 0.42	0.46 - 0.42	0.46 - 0.42	0.46 - 0.42	0.46 - 0.42	0.91 - 0.83	0.91 - 0.83	1.32 - 1.21	1.50 - 1.38	2.05 - 1.85	
Sound pressure level	dB(A)	Hi 32 Mi 29 Lo 26					Hi 33 Mi 29 Lo 25		Hi 38 Mi 36 Lo 30		Hi 40 Mi 34 Lo 29	
Sound power level	dB(A)	60					64		-		-	
External dimensions (HxLxD)	mm	280x750x635					280x950x635		280x950x635		280x1370x740	
Net weight	kg	29					34		-		54	
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally										
Refrigerant control		Electronic expansion valve										
Air treatment/fan type and quantity		Centrifugal fan x 1					Centrifugal fan x 2		Centrifugal fan x 3			
Motor	W	100					130		100 + 130		100 + 200	
Starting method		Direct, in line										
Air flow (standard)	m ³ /h	Hi 600 Mi 540 Lo 480					Hi 1140 Mi 900 Lo 600		Hi 1680 Mi 1500 Lo 1140		Hi 1920 Mi 1560 Lo 1200	
Static pressure	Pa	Max 100										
Renewal air inlet		Possible										
Air filter and quantity		Optional										
Shock and vibration absorption		Rubber sleeve (for fan motor)										
Thermal and acoustic insulation		Polyurethane foam										
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A, optional RC-EXZ3A										
Ambient temperature control		Electronically-controlled thermostat										
Safety devices		Overvoltage protection for the fan motor										
		Anti-frost protection thermostat										
Diameter refrigerant pipes	mm (inch)	Liquid side: ø 6.35 (1/4")					Liquid side: ø 9.52 (3/8")		Liquid side: ø 9.52 (3/8")			
		Gas side: ø 9.52 (3/8")		Gas side: ø 12.7 (1/2")			Gas side: ø 15.88 (5/8")					
Joining method		by flare fittings										
Refrigerant		R410A										
Drain pump		Built-in										
Condensate drain		Connectable with VP20 or VP25										
Piping insulation		Necessary (on both sides, liquid and gas)										
Accessories		UM-FL1EF (Optional)					UM-FL2EF (Optional)		UM-FL3EF (Optional)			
Wi-Fi module		INWFIMH1001R000										

Indoor units

ALL-OUTSIDE AIR DUCTED



■ 4 power sizes

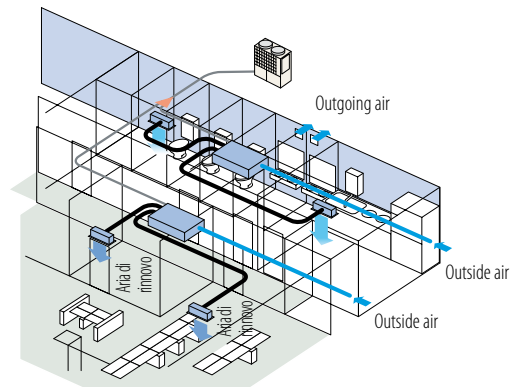
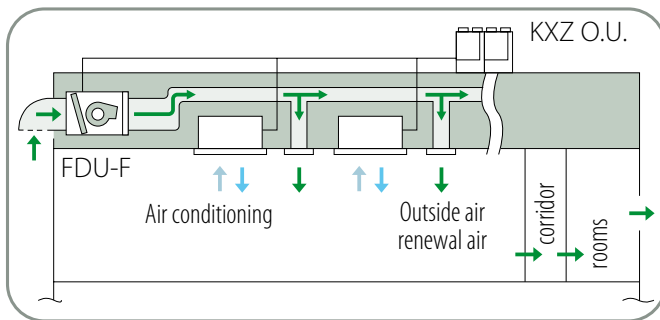
(9.00~28.00 kW)

- Maximum compactness: only 28 cm (9.00~14.00 kW) and only 37.9 cm (22.40~28.00 kW)
- Max pressure head of fans: 200 Pa
- Automatic function "all-outside air" to save energy when the outdoor temperature drops below the set temperature.
- Can be connected to 8~60HP outdoor units except Micro Compact KXZ (4~6HP) and KXZ Smart

FDU 650~2400 FKXZE1

AIR CONDITIONING AND OUTDOOR AIR INTAKE

The diagram below illustrates the integration of the FDU-F unit inside a KXZ system.



Note: Check the possible connections and limits of use on the technical documentation.

The compact design, the fan head of 200 Pa and the lowest noise level on the market make the unit suitable for installation in environments designed to ensure comfort and relaxation.

Model		FDU 650FKXZE1	FDU1100 FKXZE1	FDU 1800FKXZE1	FDU 2400FKXZE1
Nominal Cool. capacity	kW	9.00	14.00	22.40	28.00
Nominal Heat. capacity	kW	6.50	10.50	16.00	21.50
Power		220-240V~50Hz			
Cool. power consumption	kW	0.24 - 0.25	0.35 - 0.36	1.16 - 1.20	1.16 - 1.20
Heat. power consumption	kW	0.24 - 0.25	0.35 - 0.36	1.16 - 1.20	1.16 - 1.20
Rated current in Cool.	A	1.80 - 1.70	2.30 - 2.20	6.80 - 6.50	6.80 - 6.50
Rated current in Heat.	A	1.80 - 1.70	2.30 - 2.20	6.80 - 6.50	6.80 - 6.50
Sound power level	dB(A)	55	62	68	70
Sound pressure level	dB(A)	Hi 31	Hi 37	Hi 42	Hi 45
External dimensions (HxLxD)	mm	280x950x635	280x1370x740	379x1600x893	379x1600x893
Net weight	kg	34	54	89	89
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally			
Refrigerant control		Electronic expansion valve			
Air treatment/fan type and quantity		Centrifugal fan x 2		Centrifugal fan x 3	
Motor	W	130	100 + 200	130 + 350	130 + 350
Starting method		Direct, in line			
Air flow (standard)	m³/h	Hi 660	Hi 1080	Hi 1800	Hi 2400
Static pressure	Pa	Max: 200	Max: 200	Max: 200	Max: 200
Air filter and quantity		To be found locally			
Shock and vibration absorption		Rubber vibration absorber (for fan motor)			
Thermal and acoustic insulation		Polyurethane foam			
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A, optional RC-EXZ3A			
Ambient temperature control		Remote control kit: RCN-KIT4-E2			
Safety devices		Electronic thermostat			
		Thermal protection for the fan motor			
		Anti-frost protection thermostat			
Diameter refrigerant pipes	mm (inch)	Gas side ø15.88 (5/8")		Gas side ø19.05 (3/4")	Gas side ø22.22 (7/8")
Joining method		by flare fittings		by brazing	
Refrigerant		R410A			
Drain pump		Built-in			
Condensate drain		Connectable with VP25			
Piping insulation		Necessary (on both sides, liquid and gas)			
Accessories included		Condensate drain pipe			
Wi-Fi module		INWFIMHI001R000			

Indoor units

LOW HEAD DUCTED



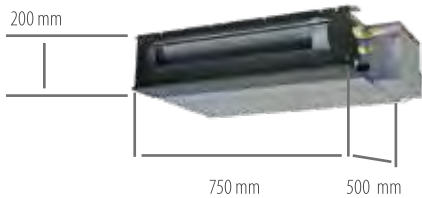
7 power sizes

(1.50~7.10 kW)

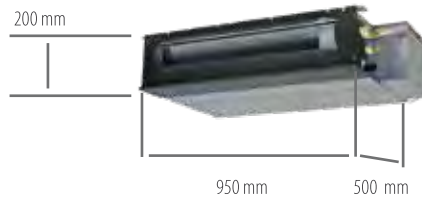
- Ideal for applications in hotels, hospitals and small offices
- Optional filter kit: UT-FL1EF (FDUT 15~36); UT-FL2EF (FDUT 45~56); UT-FL3EF (FDUT 71)
- Ducting flange: UT-SAT1EF (FDUT 15~36); UT-SAT2EF (FDUT 45~56); UT-SAT3EF (FDUT 71)
- "Human sensor": LB-KIT2

FDUT 15~71 KXE6F-E

COMPACT SIZE



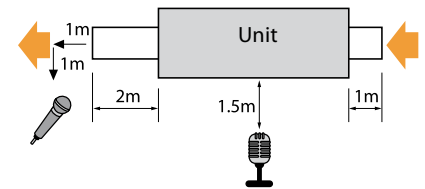
models FDUT 15, 22, 28, 36 KXE6F



models FDUT 45, 56 KXE6F

VERY QUIET OPERATION

Extremely quiet: only 22 dB(A) for models from 1.50~2.80 kW.



Model		FDUT 15KXE6F-E	FDUT 22KXE6F-E	FDUT 28KXE6F-E	FDUT 36KXE6F-E	FDUT 45KXE6F-E	FDUT 56KXE6F-E	FDUT 71KXE6F-E	
		Rear recovery							
Nominal Cool. capacity	kW	1.50	2.20	2.80	3.60	4.50	5.60	7.10	
Nominal Heat. capacity	kW	1.70	2.50	3.20	4.00	5.00	6.00	8.00	
Power		220-240V~50Hz							
Cool. power consumption	kW	0.06 - 0.06	0.07 - 0.07	0.07 - 0.07	0.07 - 0.07	0.08 - 0.08	0.08 - 0.08	0.08 - 0.08	
Heat. power consumption	kW	0.06 - 0.06	0.07 - 0.07	0.07 - 0.07	0.07 - 0.07	0.08 - 0.08	0.08 - 0.08	0.07 - 0.07	
Rated current in Cool.	A	0.27 - 0.27	0.28 - 0.25	0.28 - 0.25	0.32 - 0.29	0.36 - 0.33	0.38 - 0.35	0.42 - 0.42	
Rated current in Heat.	A	0.27 - 0.27	0.29 - 0.25	0.29 - 0.25	0.33 - 0.28	0.34 - 0.32	0.35 - 0.33	0.46 - 0.46	
Sound pressure level	dB(A)	Hi 28 Mi 26 Lo 22			Hi 33 Mi 30 Lo 26	Hi 34 Mi 32 Lo 28	Hi 35 Mi 33 Lo 30	Hi 35 Mi 31 Lo 28	
Sound power level	dB(A)	52			57	58	59	59	
External dimensions (HxLxD)	mm	200x750x500			22	200x950x500		220x1150x565	
Net weight	kg	21			22	25		31	
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally							
Refrigerant control		Electronic expansion valve							
Air treatment/fan type and quantity		Centrifugal fan x 2				Centrifugal fan x 3		Centrifugal fan x 4	
Motor	W	14				38		100	
Starting method		Direct, in line							
Air flow (standard)	m ³ /h	Hi 360 Mi 300 Lo 240	Hi 450 Mi 360 Lo 300		Hi 510 Mi 420 Lo 330	Hi 690 Mi 540 Lo 420	Hi 750 Mi 540 Lo 432	Hi 960 Mi 780 Lo 570	
Static pressure	Pa	St. 10 Max 35				St. 10 Max 50			
Renewal air inlet		Not possible							
Air filter and quantity		UT-FL1EF (Optional)				UT-FL2EF (Optional)		UT-FL3EF (Optional)	
Shock and vibration absorption		Rubber sleeve (for fan motor)							
Thermal and acoustic insulation		Polyurethane foam							
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A, optional RC-EXZ3A							
Ambient temperature control		Electronically-controlled thermostat							
Safety devices		Thermal protection for the fan motor							
		Anti-frost protection thermostat							
Diameter refrigerant pipes	mm (inch)	Gas side: ø 9.52 (3/8")			Liquid side: ø 6.35 (1/4")		Gas side: ø 12.7 (1/2")		Liquid side: ø 9.52 (3/8") Gas side: ø 15.88 (5/8")
Joining method		by flare fittings							
Refrigerant		R410A							
Drain pump		Built-in							
Condensate drain		Connectable with VP25							
Piping insulation		Necessary (on both sides, liquid and gas)							
Accessories		Assembly kit, UT-SAT1EF (Flange)				Assembly kit, UT-SAT2EF (Flange)		Assembly kit, UT-SAT3EF (Flange)	
Wi-Fi module		INWFIMH001R000							

Indoor units

DUCTED COMPACT



WiFi optional

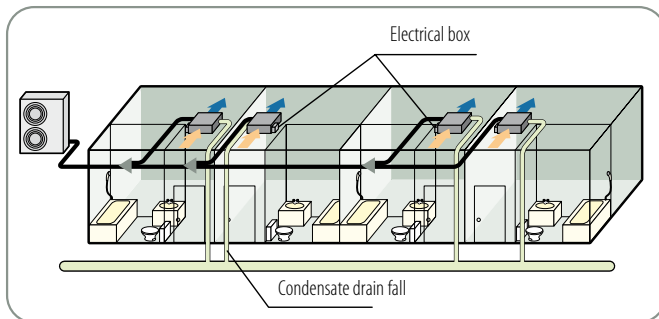
■ 3 power sizes

(2.20~3.60 kW)

- Maximum compactness: only 25.7 cm in height
- Maximum installation flexibility
- Rear air intake from back
- Extremely quiet: only 27 dB(A)
- UH-DU-E condensate drain kit (optional)

FDUH 22~36 KXE6F

ELECTRICAL BOX



The electrical box and the condensate drain pump can be installed on both sides of the unit, while the incoming air penetrates through the bottom or the back.

The lowest noise impact on the market makes the unit suitable for installation in rooms designed to ensure comfort and relaxation. Compact and lightweight, FDUH is ideal for installation in hotels, hospitals and small offices.

Furthermore, the application of the RCH-E3 remote control (optional) enables the user to take advantage of a simplified device to prepare and make the environment to be air conditions as comfortable as possible.

Model		FDUH 22KXE6F	FDUH 28KXE6F	FDUH 36KXE6F
Nominal Cool. capacity	kw	2.20	2.80	3.60
Nominal Heat. capacity	kw	2.50	3.20	4.00
Power		220-240V~50Hz		
Cool. power consumption	kw	0.05 - 0.07	0.05 - 0.07	0.05 - 0.07
Heat. power consumption	kw	0.05 - 0.07	0.05 - 0.07	0.05 - 0.07
Rated current in Cool.	A	0.25 - 0.32	0.25 - 0.32	0.25 - 0.32
Rated current in Heat.	A	0.25 - 0.32	0.25 - 0.32	0.25 - 0.32
Sound pressure level	dB(A)	Hi 33 Mi 30 Lo 27		
Sound power level	dB(A)	60		
External dimensions (Hx LxD)	mm	Unit 257x570x530		
Net weight	kg	22		
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally		
Refrigerant control		Electronic expansion valve		
Air treatment/fan type and quantity		Centrifugal fan x 1		
Motor	W	30		
Starting method		Direct, in line		
Air flow (standard)	m ³ /h	Hi 420 Mi 390 Lo 360		
Static pressure	Pa	30		
Renewal air inlet		Not possible		
Air filter and quantity		Optional		
Shock and vibration absorption		Rubber sleeve (for fan motor)		
Thermal and acoustic insulation		Polyurethane foam		
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A, optional RC-EXZ3A		
Ambient temperature control		Electronically-controlled thermostat		
Safety devices		Overvoltage protection for the fan motor		
		Anti-frost protection thermostat		
Diameter refrigerant pipes	mm (inch)	Liquid side: ø 6.35 (1/4")		
		Gas side: ø 9.52 (3/8")		Gas side: ø 12.7 (1/2")
Joining method		by flare fittings		
Refrigerant		R410A		
Condensate drain		Connectable with VP20		
Piping insulation		Necessary (on both sides, liquid and gas)		
Accessories		UH-FL1E (filter); UH-DU-E (condensate drain pump)		
Wi-Fi module		INWFIMH001R000		

Indoor units

WALL



FDK 15-56 KXZE1



FDK 71-90 KXZE1



WiFi optional

8 power sizes

- (1.50-9.00 kW)
- Simple, modern design for seamless integration into any environment (1.50- 5.60 kW)
- Maximum compactness: only 23 cm deep (1.50-5.60 kW)
- Simplified maintenance and cleaning thanks to the easily removable front panel
- "Human sensor": LB-KIT2

Model		FDK 15KXZE1	FDK 22KXZE1	FDK 28KXZE1	FDK 36KXZE1	FDK 45KXZE1	FDK 56KXZE1	FDK 71KXZE1	FDK 90KXZE1
Nominal Cool. capacity	kW	1.50	2.20	2.80	3.60	4.50	5.60	7.10	9.00
Nominal Heat. capacity	kW	1.70	2.50	3.20	4.00	5.00	6.30	8.00	10.00
Power		220-240V~50Hz							
Cool. power consumption	kW	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.05
Heat. power consumption	kW	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.05
Rated current in Cool.	A	0.18 - 0.16	0.18 - 0.16	0.18 - 0.16	0.27 - 0.25	0.27 - 0.25	0.27 - 0.25	0.34 - 0.31	0.42 - 0.39
Rated current in Heat.	A	0.18 - 0.16	0.18 - 0.16	0.18 - 0.16	0.27 - 0.25	0.27 - 0.25	0.27 - 0.25	0.34 - 0.31	0.42 - 0.39
Sound pressure level in Cool.	dB(A)	Phi 38 Hi 34 Mi 31 Lo 28	Phi 38 Hi 36 Mi 32 Lo 28	Phi 38 Hi 36 Mi 32 Lo 28	Phi 40 Hi 38 Mi 33 Lo 28	Phi 43 Hi 41 Mi 36 Lo 33	Phi 43 Hi 41 Mi 36 Lo 33	Phi 42 Hi 40 Mi 37 Lo 35	Phi 44 Hi 42 Mi 39 Lo 35
Sound pressure level in Heat.	dB(A)	Phi 38 Hi 34 Mi 31 Lo 28	Phi 38 Hi 36 Mi 32 Lo 28	Phi 38 Hi 36 Mi 32 Lo 28	Phi 40 Hi 38 Mi 33 Lo 28	Phi 43 Hi 41 Mi 36 Lo 33	Phi 44 Hi 42 Mi 37 Lo 33	Phi 42 Hi 40 Mi 37 Lo 35	Phi 44 Hi 42 Mi 39 Lo 35
Sound power level in Cool.	dB(A)	54	55	55	58	58	58	59	61
Sound power level in Heat.	dB(A)	54	55	55	58	58	61	59	61
External dimensions (HxLxD)	mm	290x870x230	290x870x230	290x870x230	290x870x230	290x870x230	290x870x230	339x1197x262	339x1197x262
Exterior appearance		Snow white							
Munsell colour		(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar	(8.0Y9.3/0.1) similar
Net weight	kg	11.5	11	11	11.5	11.5	11.5	17	17
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally							
Refrigerant control		Electronic expansion valve							
Air treatment/fan type and quantity		Tangential x 1							
Motor	W	42	42	42	42	42	42	56	56
Starting method		Direct, in line							
Air flow in Cool.	m ³ /h	Phi 342 Hi 300 Mi 270 Lo 216	Phi 510 Hi 480 Mi 360 Lo 300	Phi 510 Hi 480 Mi 360 Lo 300	Phi 660 Hi 600 Mi 480 Lo 420	Phi 720 Hi 660 Mi 540 Lo 480	Phi 720 Hi 660 Mi 540 Lo 480	Phi 1260 Hi 1140 Mi 960 Lo 840	Phi 1380 Hi 1260 Mi 1140 Lo 960
Air flow in Heat.	m ³ /h	Phi 342 Hi 300 Mi 270 Lo 216	Phi 510 Hi 480 Mi 360 Lo 300	Phi 510 Hi 480 Mi 360 Lo 300	Phi 660 Hi 600 Mi 480 Lo 420	Phi 720 Hi 660 Mi 540 Lo 480	Phi 780 Hi 720 Mi 600 Lo 480	Phi 1260 Hi 1140 Mi 960 Lo 840	Phi 1380 Hi 1260 Mi 1140 Lo 960
Static pressure	Pa	0							
Renewal air inlet		Not available							
Air filter and quantity		Propylene mesh filter x 2 (washable)							
Shock and vibration absorption		Rubber vibration absorber (for fan motor)							
Thermal and acoustic insulation		Polyurethane foam							
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A							
		Remote control kit: RCN-K-E2						Remote control kit: RCN-K71-E2	
Ambient temperature control		Electronically-controlled thermostat							
Safety devices		Thermal protection for the fan motor							
		Anti-frost protection thermostat							
Diameter refrigerant pipes	mm (inch)	Liquid side: ø6.35 (1/4")				Gas side ø12.7 (1/2")		Liquid side ø9.52 (3/8")	
		Gas side: ø9.52 (3/8")						Gas side ø15.88 (5/8")	
Joining method		by flare fittings							
Refrigerant		R410A							
Condensate drain		Connectable with VP16							
Piping insulation		Necessary (on both sides, liquid and gas)							
Accessories included		Assembly kit							
Wi-Fi module		INWFIMH1001R000							

Indoor units

CEILING



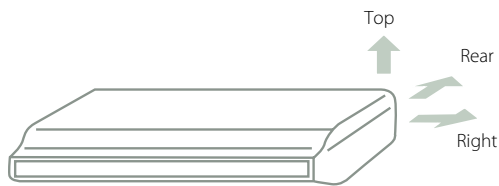
6 power sizes

- (3.60~14.0 kW)
- Ideal for very large environments, thanks to the particularly wide air flow
- Maximum compactness: only 21 cm high (3.60 to 7.10 kW models)
- Quick and easy installation, thanks to a net weight of only 28 kg (3.60 to 5.60 kW models)
- Reception kit for RCN-E-E2 infrared remote control (optional)
- "Human sensor": LB-E

FDE 36-140 KXZE1

FLEXIBLE PIPE ORIENTATION

Maximum flexibility: the refrigerant piping can be attached in 3 different positions (rear, top, right), as can that of the condensate drain (left, right).



Model		FDE 36KXZE1	FDE 45KXZE1	FDE 56KXZE1	FDE 71KXZE1	FDE 112KXZE1	FDE 140KXZE1	
Nominal Cool. capacity	kW	3.60	4.50	5.60	7.10	11.20	14.00	
Nominal Heat. capacity	kW	4.00	5.00	6.30	8.00	12.50	16.00	
Power		220-240V~50Hz						
Cool. power consumption	kW	0.05 - 0.06	0.05 - 0.05	0.05 - 0.05	0.07 - 0.07	0.10 - 0.10	0.13 - 0.13	
Heat. power consumption	kW	0.05 - 0.06	0.05 - 0.05	0.05 - 0.05	0.07 - 0.07	0.10 - 0.10	0.13 - 0.13	
Rated current in Cool.	A	0.45 - 0.45	0.45 - 0.45	0.45 - 0.45	0.65 - 0.65	0.90 - 0.90	1.20 - 1.20	
Rated current in Heat.	A	0.45 - 0.45	0.45 - 0.45	0.45 - 0.45	0.65 - 0.65	0.90 - 0.90	1.20 - 1.20	
Sound pressure level	dB(A)	Hi 38 Mi 31 Lo 26	Hi 38 Mi 36 Lo 31	Hi 38 Mi 36 Lo 31	Hi 39 Mi 37 Lo 32	Hi 42 Mi 38 Lo 34	Hi 43 Mi 40 Lo 35	
Sound power level	dB(A)	60	60	60	62			
External dimensions (HxLxD)	mm	210x1070x690	210x1070x690	210x1070x690	210x1320x690	250x1620x690	250x1620x690	
Exterior appearance		Chalk white						
Munsell colour		(6.8Y8.9 / 0.2) similar						
Net weight	kg	28	28	28	37	49	49	
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally						
Refrigerant control		Electronic expansion valve						
Air treatment/fan type and quantity		Centrifugal fan x 2			Centrifugal fan x 4			
Motor	W	30	30	30	50	65	80	
Starting method		Direct, in line						
Air flow (standard)	m ³ /h	Hi 600 Mi 540 Lo 420	Hi 600 Mi 540 Lo 420	Hi 600 Mi 540 Lo 420	Hi 960 Mi 840 Lo 720	Hi 1560 Mi 1380 Lo 1260	Hi 1740 Mi 1560 Lo 1380	
Static pressure	Pa	0						
Renewal air inlet		Not possible						
Air filter and quantity		Plastic mesh filter x 2 (washable)						
Shock and vibration absorption		Rubber sleeve (for fan motor)						
Thermal and acoustic insulation		Polyurethane foam						
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-E-E2, optional RC-EX3A						
Ambient temperature control		Electronically-controlled thermostat						
Safety devices		Overvoltage protection for the fan motor						
		Anti-frost protection thermostat						
Diameter refrigerant pipes	mm (inch)	Liquid side ø6.35 (1/4") Gas side ø12.7 (1/2")			Liquid side ø9.52 (3/8") Gas side ø15.88 (5/8")			
Joining method		by flare fittings						
Refrigerant		R410A						
Condensate drain		Connectable with VP20						
Piping insulation		Necessary (on both sides, liquid and gas)						
Accessories		Assembly kit						
Wi-Fi module		INWFIMH1001R000						

Indoor units

CONSOLE



■ 3 power sizes

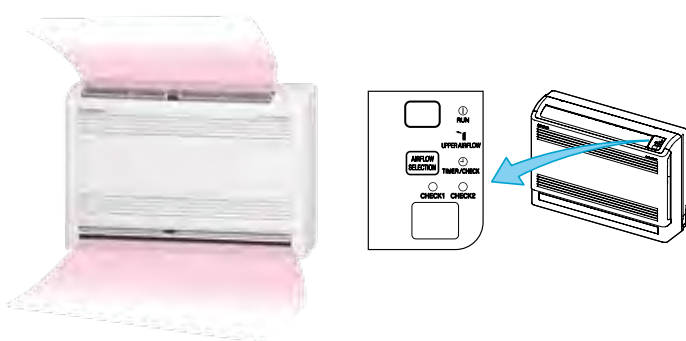
- (2.80~5.60 kW)
- Particularly wide, uniform air flow
- Maximum compactness: only 23.8 cm deep
- Quick and easy installation, thanks to a net weight of only 19 kg (2.80 kW models)
- Reception kit for RCN-FW-E2 infrared remote control (optional)

FDFW 28-56 KXE6F

UNIFORM AIR DISTRIBUTION

Simultaneous louvre selection - top and bottom - can be selected at the same time using the special button. Control all other functions on the unit with the special remote control.

With infrared remote control use



Model		FDFW 28KXE6F	FDFW 45KXE6F	FDFW 56KXE6F
Nominal Cool. capacity	kW	2.80	4.50	5.60
Nominal Heat. capacity	kW	3.20	5.00	6.30
Power		220-240V~50Hz		
Cool. power consumption	kW	0.02 - 0.02	0.02 - 0.02	0.03 - 0.03
Heat. power consumption	kW	0.02 - 0.02	0.02 - 0.02	0.03 - 0.03
Rated current in Cool.	A	0.18 - 0.17	0.18 - 0.17	0.27 - 0.25
Rated current in Heat.	A	0.18 - 0.17	0.18 - 0.17	0.27 - 0.25
Sound pressure level	dB(A)	Hi 36 Mi 34 Lo 30	Hi 38 Mi 36 Lo 33	Hi 44 Mi 37 Lo 33
Sound power level	dB(A)	55	57	60
External dimensions (HxLxD)	mm	600x860x238		
Exterior appearance		Fine snow		
Munsell colour		(8.0Y9.3 / 0.1) similar		
Net weight	kg	19	20	
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally		
Refrigerant control		Electronic expansion valve		
Air treatment/fan type and quantity		Turbo fan x 1		
Motor	W	40		
Starting method		Direct, in line		
Air flow (standard)	m ³ /h	Hi 540 Mi 480 Lo 420	Hi 660 Mi 540 Lo 480	
Static pressure	Pa	0		
Renewal air inlet		Not possible		
Air filter and quantity		Propylene mesh filter x 1 (washable)		
Shock and vibration absorption		Rubber sleeve (for fan motor)		
Thermal and acoustic insulation		Polyurethane foam		
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-FW-E2, optional RC-EX3A		
Ambient temperature control		Electronically-controlled thermostat		
Safety devices		Overvoltage protection for the fan motor		
		Anti-frost protection thermostat		
		Liquid side: ø 6.35 (1/4")		
Diameter refrigerant pipes	mm (inch)	Gas side: ø 9.52 (3/8")	Gas side: ø 12.7 (1/2")	
Joining method		by flare fittings		
Refrigerant		R410A		
Condensate drain		Connectable with VP16 (1/D, 16.0)		
Piping insulation		Necessary (on both sides, liquid and gas)		
Accessories		Assembly kit		
Wi-Fi module		INWFIMH1001R000		

Indoor units

FLOOR RECESSED

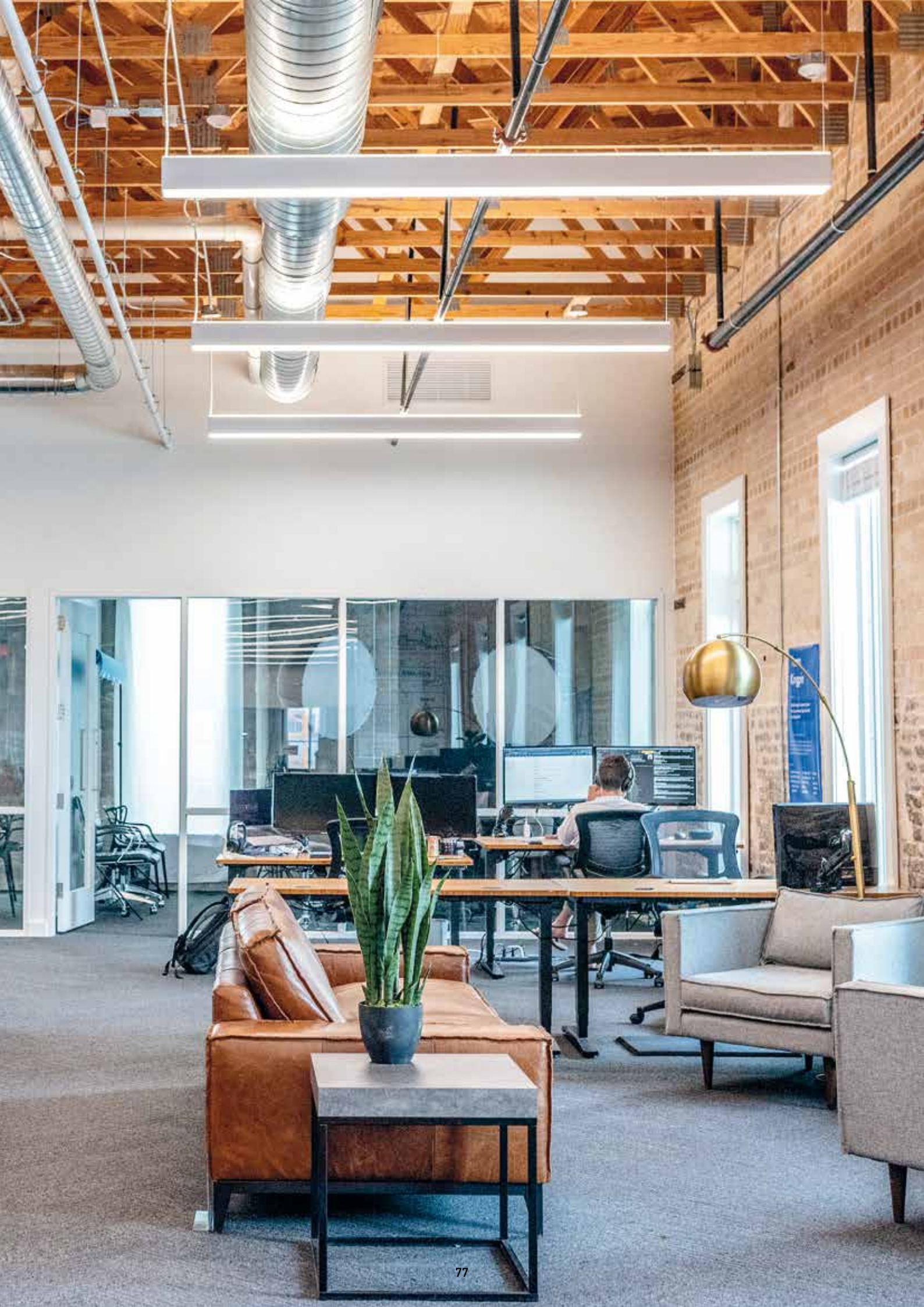


FDFU 28-71 KXE6F

■ 4 power sizes (2.80-7.10 kW)

- Maximum compactness: only 63 cm high and 22.5 cm deep

Model		FDFU 28KXE6F	FDFU 45KXE6F	FDFU 56KXE6F	FDFU 71KXE6F
Nominal Cool. capacity	kW	2.80	4.50	5.60	7.10
Nominal Heat. capacity	kW	3.20	5.00	6.30	8.00
Power		220-240V~50Hz			
Cool. power consumption	kW	0.09 - 0.10	0.09 - 0.10	0.09 - 0.10	0.09 - 0.10
Heat. power consumption	kW	0.09 - 0.10	0.09 - 0.10	0.09 - 0.10	0.09 - 0.10
Rated current in Cool.	A	0.41 - 0.42	0.41 - 0.42	0.41 - 0.42	0.41 - 0.42
Rated current in Heat.	A	0.41 - 0.42	0.41 - 0.42	0.41 - 0.42	0.41 - 0.42
Sound pressure level	dB(A)	Hi 41 Mi 38 Lo 36		Hi 43 Mi 41 Lo 40	
Sound power level	dB(A)	58		60	
External dimensions (HxLxD)	mm		630x1077x225		630x1362x225
Net weight	kg		25		32
Refrigerant circuit/Heat exchanger		Pipes finned and grooved internally			
Refrigerant control		Electronic expansion valve			
Air treatment/fan type and quantity		Centrifugal fan x 2			
Motor	W	30		40	
Starting method		Direct, in line			
Air flow (standard)	m ³ /h	Hi 720 Mi 660 Lo 600		Hi 840 Mi 720 Lo 600	Hi 1080 Mi 900 Lo 720
Static pressure	Pa	0			
Renewal air inlet		Not possible			
Air filter and quantity		Propylene mesh filter x 1 (washable)			
Shock and vibration absorption		Rubber sleeve (for fan motor)			
Thermal and acoustic insulation		Polyurethane foam			
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2, optional RC-EX3A			
Ambient temperature control		Electronically-controlled thermostat			
Safety devices		Overvoltage protection for the fan motor			
		Anti-frost protection thermostat			
Diameter refrigerant pipes	mm (inch)	Gas side: ø 9.52 (3/8")	Liquid side: ø 6.35 (1/4")	Gas side: ø 12.7 (1/2")	Liquid side: ø 9.52 (3/8") Gas side: ø 15.88 (5/8")
Joining method		by flare fittings			
Refrigerant		R410A			
Condensate drain		Connectable with VP20			
Piping insulation		Necessary (on both sides, liquid and gas)			
Accessories		Assembly kit			
Wi-Fi module		INWFIMH1001R000			



SAF 150E7

ENTHALPY HEAT RECOVERY UNIT

- SAF 150E7
- SAF 250E7
- SAF 350E7
- SAF 500E7
- SAF 800E7
- SAF 1000E7



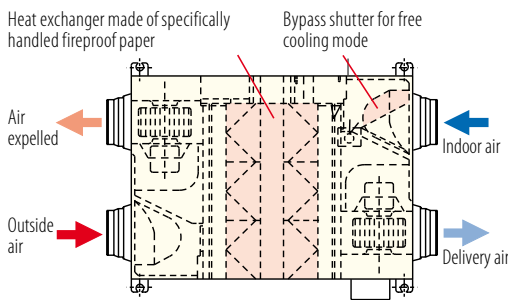
During winter, these recover some of the energy contained in the renewal air expelled from the rooms that would otherwise be dispersed into the atmosphere, using it to preheat the air coming in from outside.

The recovery of dispersed energy reduces the heating requirements of the spaces in a building, ensuring lower emissions and considerable long-term savings on energy consumption and system maintenance.

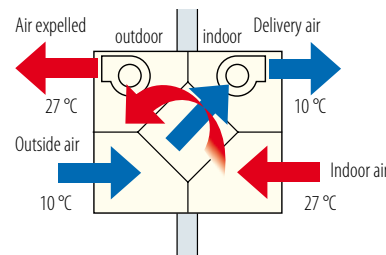
During summer, the exchange is more effective in warmer climates, where the cool air expelled is used to pre-cool the air coming in from outside.

Wired control included.

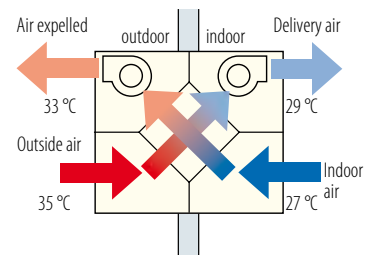
Structure (SAF 800E7)



Operating principle in free cooling mode



Operating principle in heat recovery mode



Warning: the drawings above represent only the operation principles; they do not represent the real position of the air inlets. For the correct position, refer to the drawing on the left.

Model	SAF 150E7		SAF 250E7		SAF 350E7		SAF 500E7		SAF 800E7		SAF 1000E7	
Type	Enthalpy heat recovery unit											
Control (included)	Wired remote control											
Enthalpy exchange efficiency ¹	Cooling	%	63	63	66	62	65	65				
	Heating	%	70	70	69	67	71	71				
Heat exchange efficiency	%	75	75	75	75	75	75					
Electrical data		Ph-V-Hz	1-220~240-50									
Power absorption	W	92~107	108~123	178~185	204~225	360~378	416~432					
Rated absorbed current	A	0.42~0.45	0.49~0.51	0.77~0.81	0.93~0.94	1.58~1.64	1.80~1.89					
Product specifications												
External dimensions	LxDxH	mm	970x467x270	882x599x270	1050x804x317	1090x904x317	1322x884x388	1322x1134x388				
Net weight	Kg	25	29	49	57	71	83					
Sound pressure level	Max	dB(A)	29	31.5	33	37.5	37.5	38.5				
Handled air volume		m ³ /h	150	250	350	500	800	1000				
Fan pressure head	Max	Pa	80	105	140	120	140	105				
Ducting flange		mm	ø98	ø144	ø144	ø194	ø242	ø242				
Field of application	Max RH 85%	°C	-10~40									
Specific energy consumption ²	SEC	kWh/m ² a	-28.6	-	-	-	-	-				
Class SEC ²			B	-	-	-	-	-				

¹ Values related to the maximum speed of the 3 levels settable by wired remote control. ² Mandatory data for residential ventilation units (RVU) only.

Reference standards:

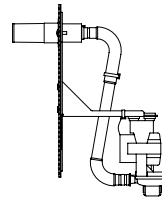
EU Ecodesign Directive 1253/2014 for non-residential ventilation units (NRVU) and residential ventilation (RVU).

EU Energy Labelling 1254/2014 Residential Ventilation Unit (RVU).

SAF DX250~1000E6

POST-TREATMENT MODULAR UNIT

- SAF DX250E6
- SAF DX350E6
- SAF DX500E6
- SAF DX800E6
- SAF DX1000E6



DXA-DU-E: condensate drain kit up to 60 cm (optional)

The simple and flexible solution for increasing comfort in buildings, with high energy performance

The SAF DX units, available in 5 power ratings, is a device designed to increase the comfort capacity of KXZ systems located in buildings, with their high quality profile in terms of energy.

Extremely flexible in that it operates independently from the regenerator, it is able to optimise temperature of the primary air taken in by the SAF regenerators or by similar systems installed in the building. Its compact size and installation separate from the fan unit, solve numerous installation problems; the lack of moving parts makes it possible to install the unit in a wider range of locations and reduces noise to a minimum.

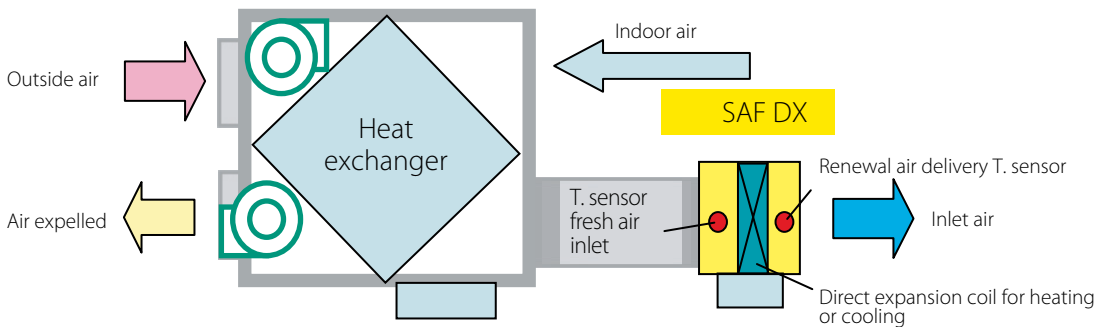
The SAF DX post-treatment is not intended to replace an indoor unit.

- Can be combined with all indoor and outdoor units in the KXZ range*.
- Can be connected to the Superlink network and all the available centralised controls.
- It is possible to use all the KXZ series local controls (to integrate into the system seamlessly and easily).
- The condensate drain pump is available as an optional.
- It allows you to control the inlet temperature or outlet temperature alternatively**.

Note

If using the SAF DX, the load index available for the outdoor unit is reduced to 100% of the rated capacity.

The available options vary depending on configurations.



Unit model		SAF DX250E6	SAF DX350E6	SAF DX500E6	SAF DX800E6	SAF DX1000E6
Nominal Cool. capacity*	kW	2.00	2.80	3.60	5.60	6.30
Nominal Heat. capacity*	kW	1.80	2.20	2.80	4.50	5.60
Power		220-240V ~ 50Hz				
Cool. power consumption	W	7.20				
Heat. power consumption	W	7.20				
Rated current in Cool.	A	0.05				
Rated current in Heat.	A	0.05				
External dimensions (HxLxD)	mm	315 x 452 x 422		315 x 537 x 422	315 x 682 x 422	315 x 822 x 422
Net weight	kg	12.3		13.6	16.1	18.4
Air flow (standard)	m ³ /h	250	350	500	800	1000
Static pressure	Pa	38				
Control devices		Optional wired remote control RC-E5, optional RCH-E3, optional RCN-KIT4-E2				
Diameter refrigerant pipes	mm (in)	Liquid side: ø 6.35 (1/4") Gas side: ø 9.52 (3/8")		Liquid side: ø 6.35 (1/4") Gas side: ø 12.7 (1/2")		Liquid side: ø 9.52 (3/8") Gas side: ø 15.88 (5/8")

Mode	Inlet air temperature/ventilation		Outdoor temperature		Standard
	DB	WB	DB	WB	
Cooling*	27° C	19° C	35° C	24° C	ISO-T1
Heating**	20° C		7° C	6° C	

* Measured under the conditions specified in the table.

** ISO-T1-compliant test.

EEV-KIT

CONTROL SYSTEM FOR AHU EEV-KIT

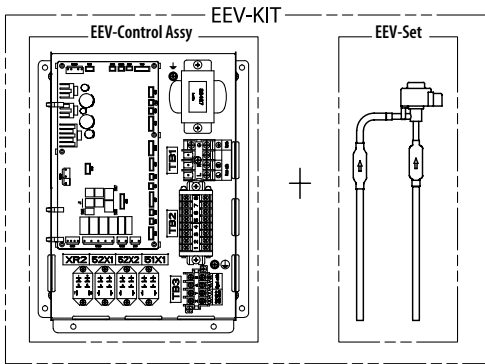
EEV-KIT is a control kit for any type of AHU and/or fan coil with direct expansion coil that can be found on the market, which permits connection with KXZ O.U.

EEV-KIT consists of an electronic control system and an electronic expansion valve for refrigerant flow control.

AHU
(Air handling unit*) O.U.



* Can be found by different manufacturers on the market



APPLICATIONS

Type of system	EEV-KIT		
	EEVKIT6-E-M	EEVKIT6-E-C	
Single	-	1 or more boxes in parallel*	
Multiple	1 box (Master)	Multiple boxes (Slave)	
Model	EEV6-71-E	EEV6-160-E	EEV6-280-E
Size (kW)	2.20~7.10	9.00~16.00	22.40~28.00

* Can connect to a single cooling system. In the case of more than one cooling system, make sure to use EEV-KIT control ASSY for multiple systems.

SYSTEM CONFIGURATION

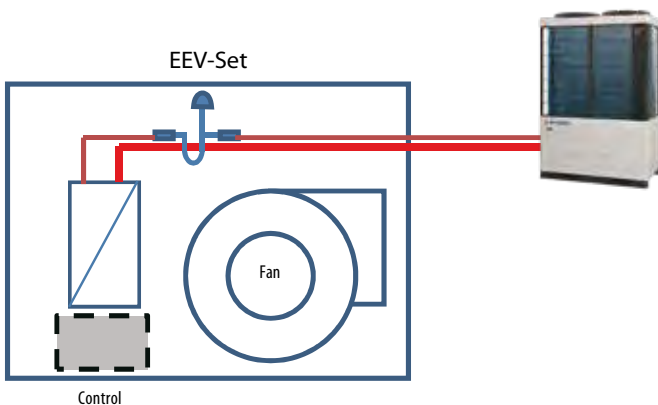
- In the case of a single cooling system, you must use one EEVKIT6-E-C control for each expansion valve up to a maximum of 32.
- In the case of a multiple cooling system, you must use one EEVKIT6-E-M 1 master control + no. EEVKIT6-E-C controls, up to a maximum of 32.
- EEVKIT6-E-C control is common use for single and multiple systems.

SINGLE COOLING SYSTEM

A system composed of several outdoor units with a single cooling circuit (see the two examples below). In the figure to the left, system A uses one single EEV-KIT. In the figure to the right, system B uses more than one EEV-KIT.

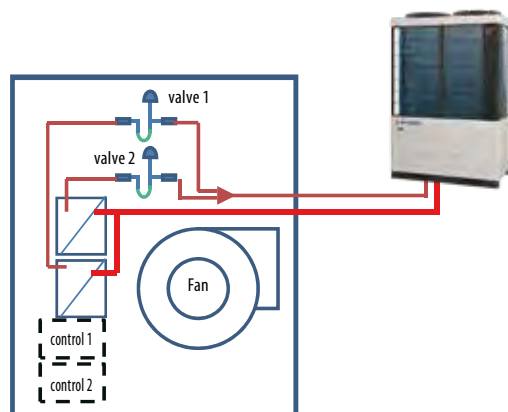
SYSTEM A

This system only has an EEV-KIT installed on an internal coil consisting of a single exchanger. This type of system can be applied to internal coils with maximum power 10HP (28 kW).



SYSTEM B

It is a system that has more than one EEV-KIT installed in an internal coil consisting of multiple exchangers in a single cooling circuit. This system can reach a maximum power of 60HP (KXZ).



Multiple cooling system

CONTROL SYSTEM FOR AHU EEV-KIT

This system is composed of an air handling unit with the following characteristics:

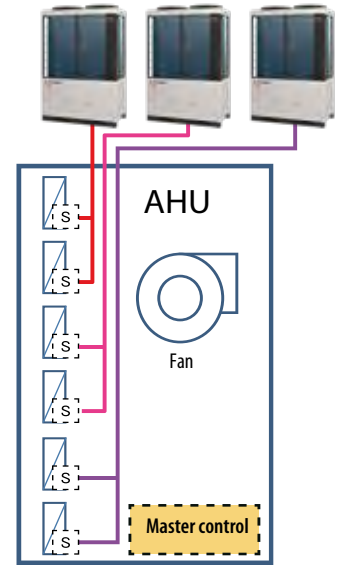
1. Multiple cooling circuits;
2. Presence of a Master control system that controls the whole system.

ADVANTAGES

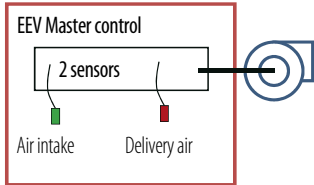
- Possibility of extending the system, compared to the single system, up to a power of 896 kW (indoor unit: composed of 32 circuits for 28 kW).
- Possibility of remote control through a special connector.
- Possibility of controlling steps.

Parts to be added to the single cooling system

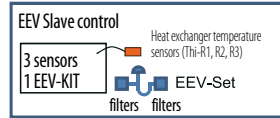
- A Master control system.
- Slave control system and the expansion valve are the same that are used.



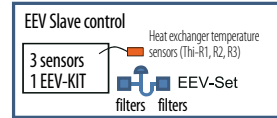
Master EEV-KIT



Slave EEV-KIT #1

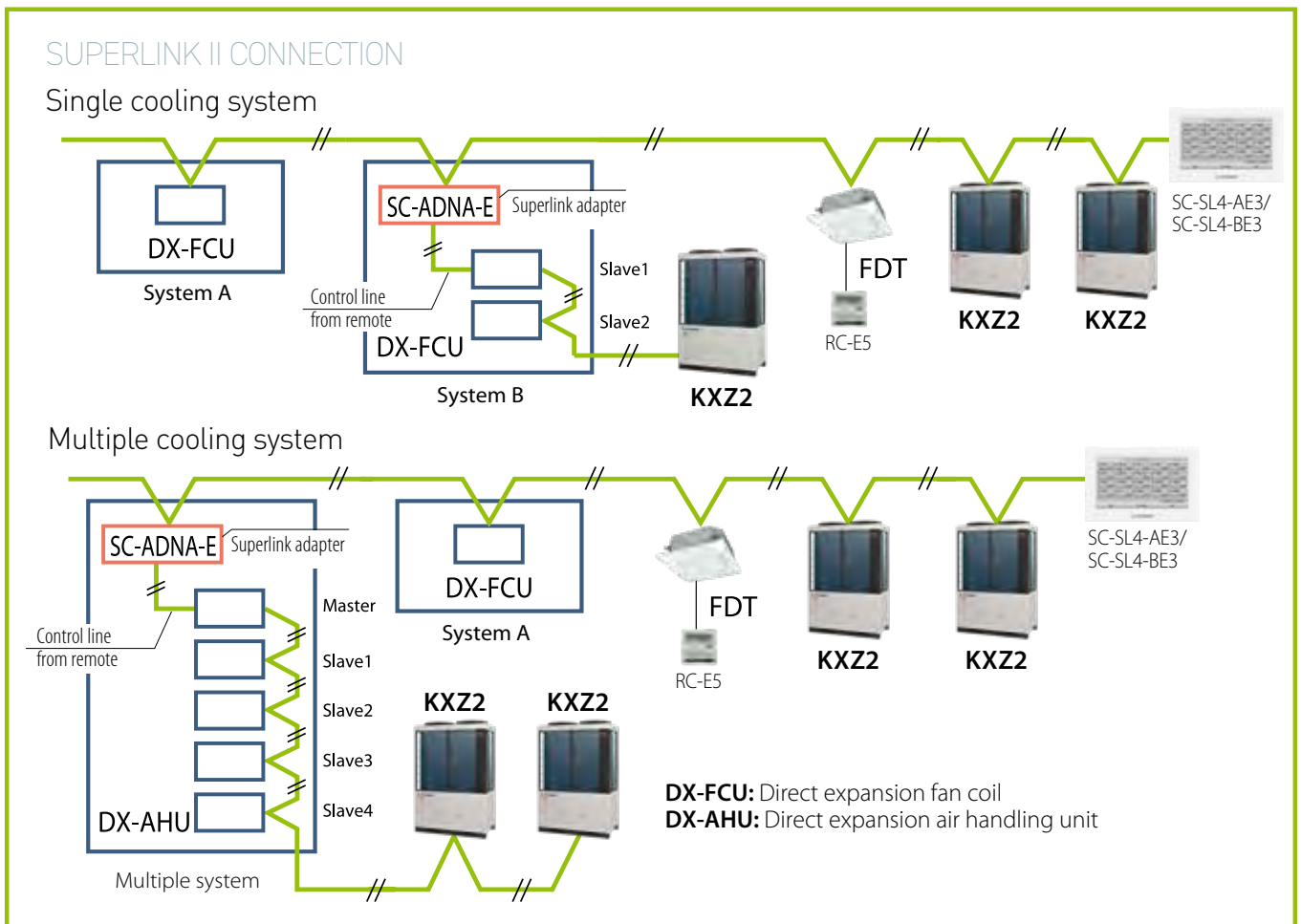


Slave EEV-KIT #2

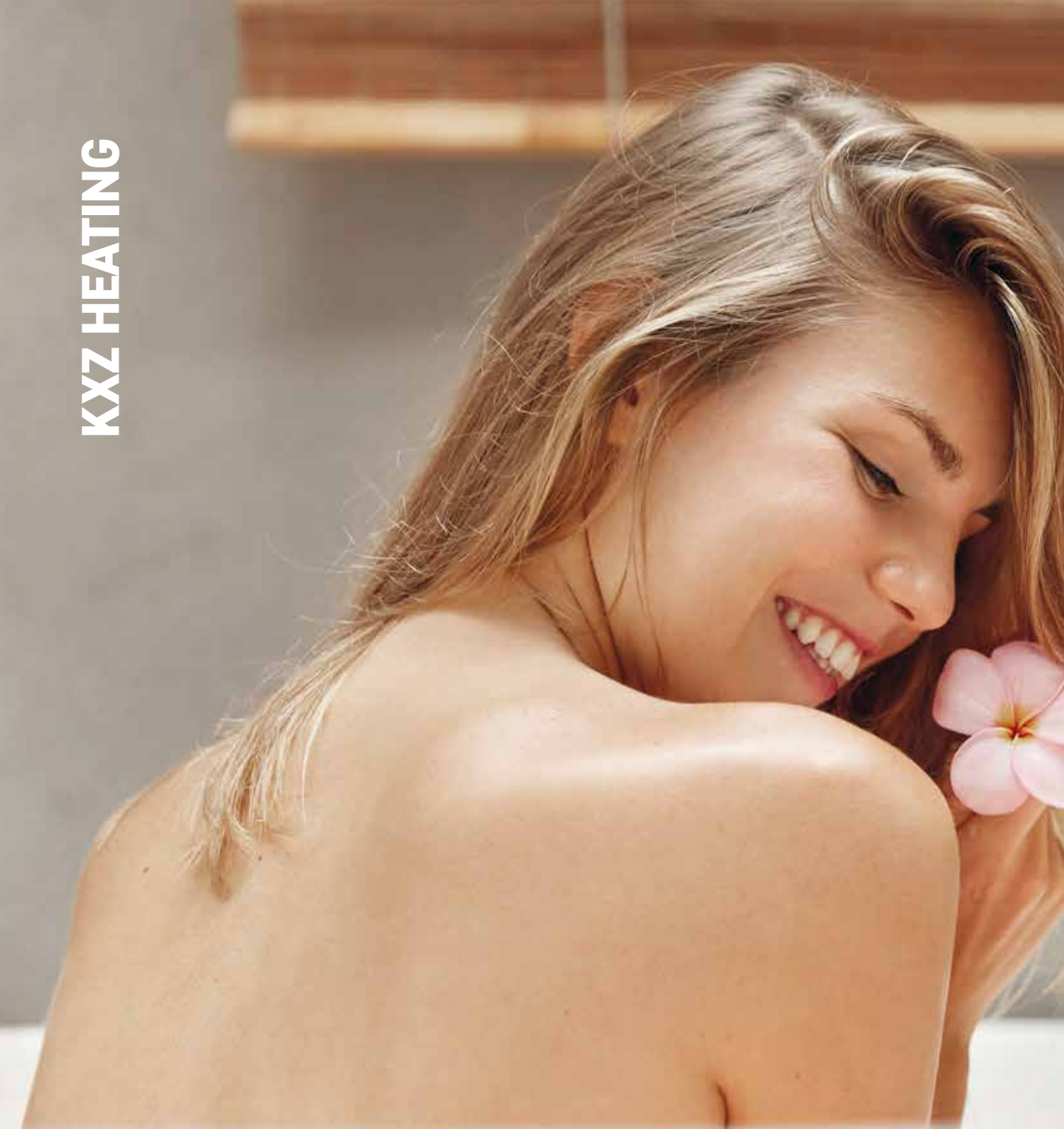


#3 ...

...



KXZ HEATING



KXZ HEATING

HEATING RESIDENTIAL AND COMMERCIAL BUILDINGS	84
EXAMPLES OF APPLICATION	87
KXZ HMU UNIT	100

MHI heating solutions use renewable and traditional energy sources. They employ the most energy efficient technologies.



HEATING RESIDENTIAL AND COMMERCIAL BUILDINGS



Hydronic Module for the production of hot water connected to KXZ systems

The HMU KXZ hydronic module is a unit designed and distributed by Mitsubishi Heavy Industries to provide heating during the winter months for residential as well as commercial buildings.

Using the HMU KXZ indoor unit, hot water can be produced to a temperature of 55°C by connecting it to the outdoor units of the KXZ system.

By using this hydronic module, the KXZ system can be completely replaced by traditional heating systems, thereby avoiding the construction of a thermal power plant and its flue, as well as the costs associated with methane supply. Therefore, the KXZ system becomes a complete and even more flexible system, adapting to different installation needs.



Mitsubishi Heavy Industries offers this type of solution in order to reduce CO2 emissions on-site and guarantee the production of hot water with a high level of energy efficiency

This system can be used in two different ways:

- a) **Only when HMU indoor units are connected to the system (water-only application);**
- b) **With indoor air/air and HMU units coexisting in the same system (mixed application).**

Radiant panels, fan coils and air heating units can be used to distribute heating within rooms.

MAXIMUM COMFORT AND ENERGY SAVING

The MHI hydromodule combines practicality of application and excellent performance. By combining floor heating with KXZ systems, customers can benefit from maximum efficiency and comfort.

HMU 140 KXZE1 AND HMU 280 KXZE1 HYDROMODULES

The new hydromodule is available in two different configurations (14 and 28 kW) and can be connected to the outdoor units of the KXZE2 and KXZE1 series.

HIGH PERFORMANCE

- Production of hot water at 55°C (water-only mode).
- High-energy efficiency.
- Compact size and easy installation.
- A digital input and output system that facilitates their management and control (for example, ON/OFF, pump activation and/or electrical resistance, anomaly signalling, local command inhibition, etc.).

THE CONTROL SYSTEM

The **RC-EX3H wired control connected to the HMUs** can be used to switch the system on and off and to set operating times.

Based on outdoor thermal conditions, climatic curves are used to calculate the delivery temperature to the system.

CONSTANT CONTROL OF THE OUTLET WATER TEMPERATURE

This is achieved by controlling the following:

- compressor frequency;
- electronic expansion valve;
- power of the HMUs based on the load.

FROST PROTECTION

The plate heat exchanger's frost protection is also active during defrosting operations.



14 kW
28 kW

Two different hydromodule capacities

55°C

Hot water temperature in water only mode

-20°C

Maximum efficiency up to -20°C

EXAMPLES OF APPLICATION



Centralised systems

Water-only application

RESIDENTIAL BUILDING **90**

Mixed applications (water + air)

RESIDENTIAL BUILDING WITH ADJOINING RETAIL STORES **92**

WAREHOUSE WITH OFFICE BUILDING **96**

Stand-alone systems

RESIDENTIAL BUILDING - GLOBAL CLIMATE SYSTEM **98**

SHOPPING CENTRE RETAIL STORES **100**

RESIDENTIAL BUILDING

Central heating of a residential building via HMUs connected to a KXZ system

The system provides hydronic heating only through a centralised type of distribution system in a residential building.

DHW is produced centrally and assigned to specific products such as Hot Water or Q-ton according to volume requirements.



underfloor heating



DHW via Hot Water or Q-ton



SYSTEM CHARACTERISTICS

28-168 kW

Outdoor unit power range



100%_(max)

Total connectable I.U. power (HMU only)

40 m

Maximum level difference between O.U. and HMU. With a design temperature lower than -10°C, the O.U. must always be placed above HMU

510 m_(max)

Split total length

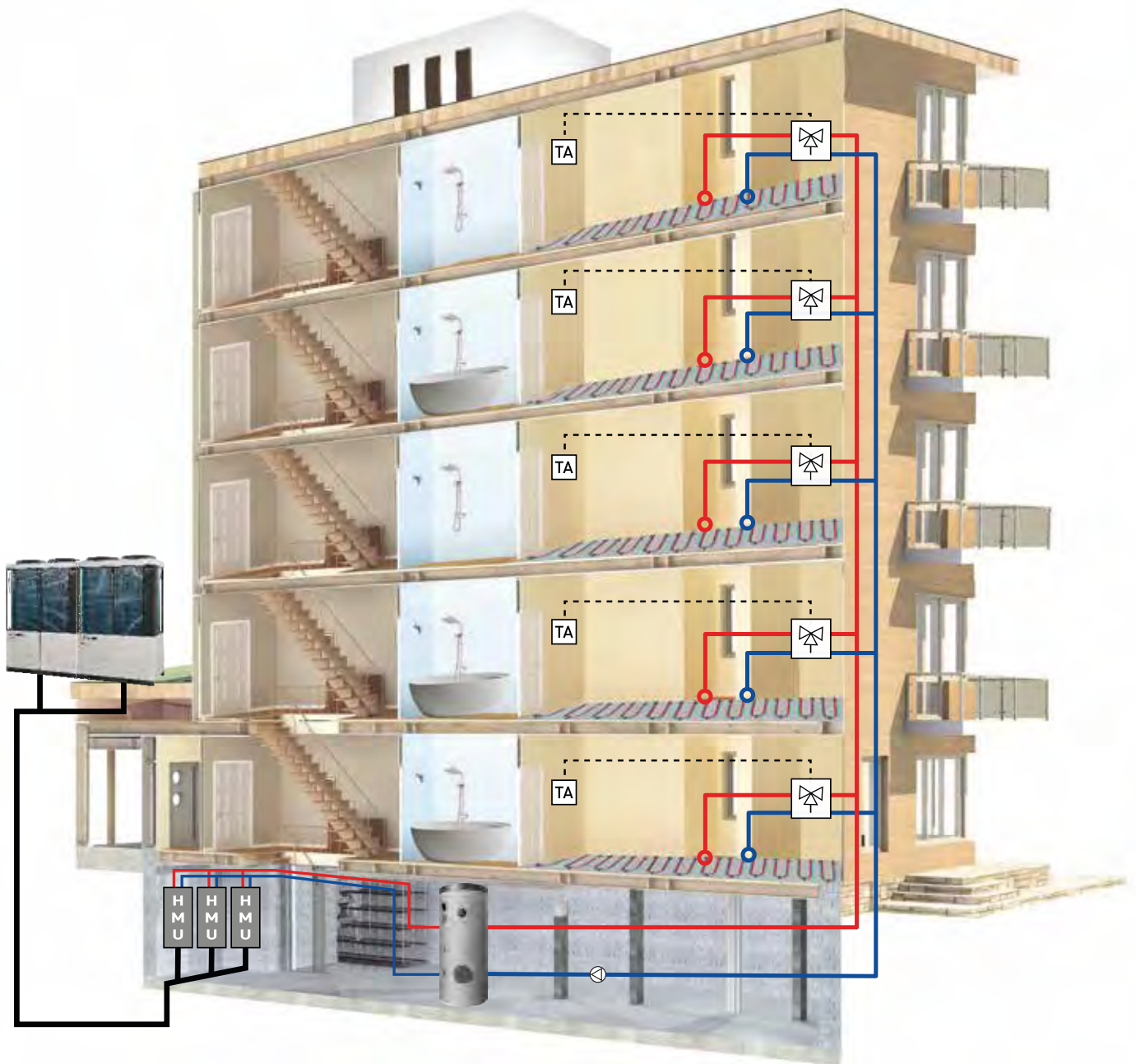
CONTROL SYSTEM

By means of the RC-EX3H wired control connected to the HMUs, it is possible to switch the system on and off and set operating times.

Based on the outdoor temperature, the climate curve calculates the delivery temperature to the system.

According to the table at the side, the maximum supply temperature used to determine the design conditions varies with the outdoor temperature.

Outdoor design temperature	Maximum design temperature for delivery	Minimum return temperature
10°C	55°C	20°C
5°C	55°C	20°C
0°C	55°C	25°C
-5°C	49°C	25°C
-10°C	43°C	25°C
-15°C	37°C	32°C
-20°C	32°C	27°C



DESCRIPTION OF THE SYSTEM

After the outdoor units are connected in combination, the main cooling pipe branches off until it reaches the room designated for the hydromodules (thermal power plant), where it distributes cooling fluid to the various HMUs through Y-shaped derivations. These draw energy from the fluid and transfer it to the water in the heating system.

In the hydromodules, the circulators push water into a storage tank that acts as a hydraulic separator between the primary circuit (which consists of the HMUs), and the secondary circuit, which is used for the distribution to private users.

As each flat is equipped with a consumption allocation box controlled by a room thermostat (TA), users are able to use the heating in accordance with your needs, thus paying only for the actual energy consumed.

The distribution inside the flat takes place with underfloor heating panels.

Example of mixed application

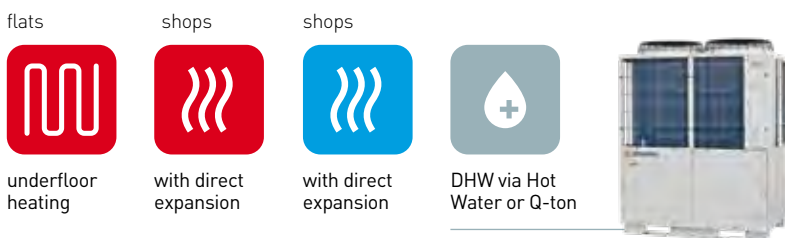
RESIDENTIAL BUILDING WITH ADJOINING SHOPS (distribution by floors)

Heating of flats through HMU units located on the individual floors and air-conditioning of the shops through air-air I.U., connected to a KXZ system

The plant provides **hydronic heating through a distribution system divided by floors**, with an HMU to serve the individual residential units on the same floor.

It is a residential building with shops below, which is usually found in winter tourist areas, where there is no need for summer air conditioning.

The shops are air-conditioned with direct expansion indoor air/air units. DHW is produced centrally and assigned to specific products such as Hot Water or Q-ton according to volume requirements.



SYSTEM CHARACTERISTICS

28-168 kW

Outdoor unit power range



200% (max)

(for O.U. up to 45 kW)

160% (max)

(for O.U. up to 45 kW)

Total connectable I.U. power (HMU+DX). It is mandatory to connect at least 50% of the total power of DX type I.U.s

40 m

Maximum level difference between O.U. and I.U. (HMU or DX)

18 m

Maximum level difference between I.U. (HMU or DX)

510 m (max)

Split total length

-10°C

Minimum design outdoor temperature

CONTROL SYSTEM

Through the centralised control SL4, it is possible to manage every single I.U. connected to the system both locally and via the internet.

The local control is also available for each I.U. DX with its own individual control (wired or wireless), with the possibility of weekly programming, while with the RC-EX3H wired control it is possible to turn each individual HMU on and off and set operating times.

Based on the outdoor thermal values, the climate curve calculates the delivery temperature for the system.

According to the table at the side, the maximum supply temperature used to determine the design conditions varies according to the outdoor values.

Outdoor design temperature	Maximum design temperature for delivery	Minimum return temperature
10°C	40°C	20°C
5°C	40°C	20°C
0°C	40°C	25°C
-5°C	40°C	25°C
-10°C	40°C	25°C



DESCRIPTION OF THE SYSTEM

The hydromodules are located on the floors, (one or more depending on need) contributing to the reduction of installation costs (no water uprights) and use the circulators inside them to push water directly into the individual flats.

As each flat is equipped with a consumption allocation box controlled by a room thermostat (TA), users are able to use the heating in accordance with your needs, thus paying only for the actual energy consumed. The distribution inside the flat takes place with underfloor heating panels.

The RC-EX3H control connected to the HMUs in flats can be set to disable the air conditioning.

Direct-expansion indoor units are positioned in the retail stores (one or more as needed).

Using a centralised control that permits remote management through the web when a LAN connection is available, management costs are divided by I.U., both air and water.

Example of mixed application

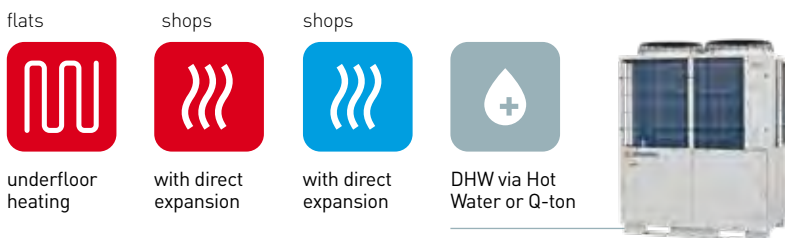
RESIDENTIAL BUILDING WITH ADJOINING RETAIL STORES (Vertical pipeline distribution)

Heating of flats through HMU units located in a technical room and air-conditioning of the shops through air-air I.U., connected to a KXZ system

The system provides hydronic heating through a distribution system with vertical pipelines, **with an HMU to serve the individual residential units on the same floor. The HMUs are installed in a room set up at the same level as the retail stores.**

It is a residential building with shops below, which is usually found in winter tourist areas, where there is no need for summer air conditioning. The retail stores are air-conditioned with direct expansion indoor air/air units.

DHW is produced centrally and assigned to specific products such as Hot Water or Q-ton according to volume requirements.



SYSTEM CHARACTERISTICS

28-168 kW

Outdoor unit power range



200% (max)
(for O.U. up to 45 kW)

160% (max)
(for O.U. over 45 kW)

Total connectable I.U. power (HMU+DX). It is mandatory to connect at least 50% of the total power of DX type I.U.s

40 m

Maximum level difference between O.U. and I.U. (HMU or DX).
When the design temperature is below -10°C, the O.U. should always be placed above the I.U.

0 m

Maximum level difference between I.U. (HMU or DX)

510 m (max)

Split total length

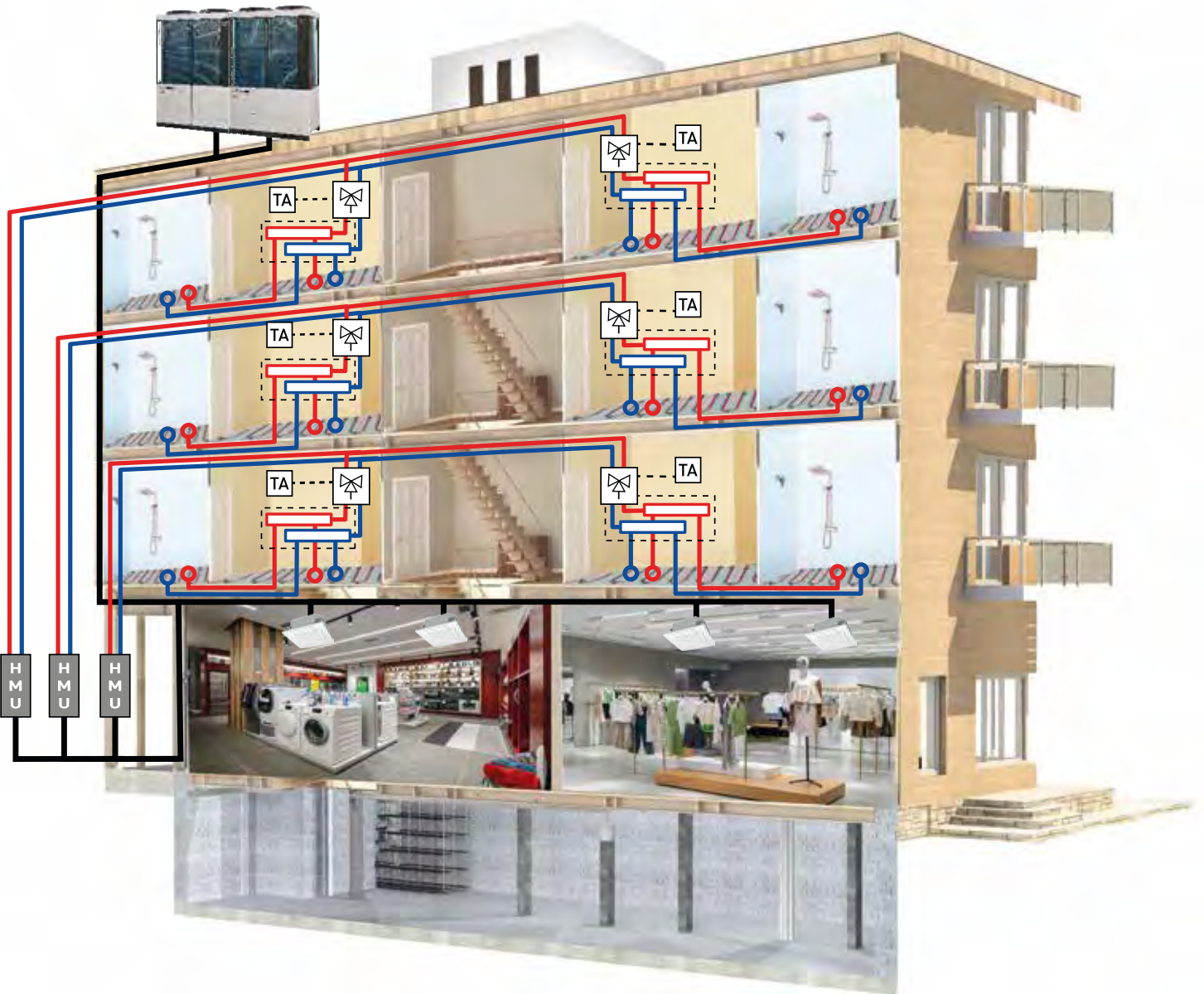
CONTROL SYSTEM

Through the centralised control SL4, it is possible to manage every single I.U. connected to the system both locally and via the internet.

The local control is also available for each I.U. DX with its own individual control (wired or wireless), with the possibility of weekly programming, while with the RC-EX3H wired control it is possible to turn each individual HMU on and off and set operating times.

Based on the outdoor thermal values, the climate curve calculates the delivery temperature for the system. According to the table at the side, the maximum supply temperature used to determine the design conditions varies according to the outdoor values.

Outdoor design temperature	Maximum design temperature for delivery	Minimum return temperature
10°C	40°C	20°C
5°C	40°C	20°C
0°C	40°C	25°C
-5°C	40°C	25°C
-10°C	40°C	25°C
-15°C	36°C	31°C
-20°C	32°C	27°C



DESCRIPTION OF THE SYSTEM

Hydromodules are located on the same level as the retail stores. Each HMU distributes heat to the flats on the floor through an upright column that brings hot water from the central heating plant to that floor

As each flat is equipped with a consumption allocation box controlled by a room thermostat (TA), users are able to use the heating in accordance with your needs, thus paying only for the actual energy consumed.

The distribution inside the flat takes place with underfloor heating panels.

The RC-EX3H control connected to the HMUs in flats can be set to disable the air conditioning.

Direct-expansion indoor units are positioned in the retail stores (one or more as needed).

Using a centralised control that permits remote management through the web when a LAN connection is available, management costs are divided by I.U., both air and water.

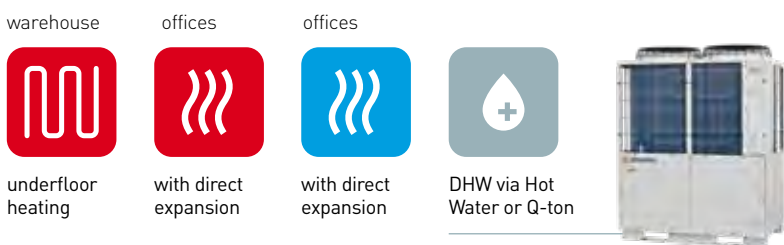
WAREHOUSE WITH OFFICE BUILDING

Heating of warehouses through HMU units located in a technical room and air-conditioning of the shops through air-air I.U., connected to a KXZ system

Hydronic heating is provided through a radiant floor distribution system for a warehouse adjacent to the company's offices that does not require summer air conditioning.

Offices are cooled by indoor air/air units with direct expansion.

DHW is produced centrally and assigned to specific products such as Hot Water or Q-ton according to volume requirements.



SYSTEM CHARACTERISTICS

28-168 kW

Outdoor unit power range



200% (max)

(for O.U. up to 45 kW)

160% (max)

(for O.U. over 45 kW)

Total connectable I.U. power (HMU+DX). It is mandatory to connect at least 50% of the total power of DX type I.U.s

40 m

Maximum level difference between O.U. and I.U. (HMU or DX). When the design temperature is below -10°C, the O.U. should always be placed above the I.U.

3 m

Maximum level difference between I.U. (HMU or DX)

510 m (max)

Split total length

CONTROL SYSTEM

Through the centralised control SL4, it is possible to manage every single I.U. connected to the system both locally and via the internet.

The local control is also available for each I.U. DX with its own individual control (wired or wireless), with the possibility of weekly programming, while with the RC-EX3H wired control it is possible to turn each individual HMU on and off and set operating times.

Based on the outdoor thermal values, the climate curve calculates the delivery temperature for the system. According to the table at the side, the maximum supply temperature used to determine the design conditions varies according to the outdoor values.

Outdoor design temperature	Maximum design temperature for delivery	Minimum return temperature
10°C	40°C	20°C
5°C	40°C	20°C
0°C	40°C	25°C
-5°C	40°C	25°C
-10°C	40°C	25°C
-15°C	36°C	31°C
-20°C	32°C	27°C



DESCRIPTION OF THE SYSTEM

Within a prepared room (central heating plant), the required hydromodules are positioned, and the circulators within them are used to push the water into a storage tank. This serves as a hydraulic separator between the primary circuit, containing the HMUs, and the secondary circuit, which consists of radiant panels beneath the floor of the warehouse.

Indoor direct expansion units are positioned in an office building in a quantity and type that is appropriate to the building's requirements.

Remote control via the web is possible with a LAN connection.

RESIDENTIAL BUILDING - GLOBAL CLIMATE SYSTEM

Independent heating by means of HMU units located in each flat and air-conditioning by air-air I.U., connected to a KXZ system

In a residential building, the system provides independent heating and cooling for each flat.

Each unit of real estate is heated hydronically through a radiant floor distribution system. Air conditioning is provided by indoor air/air units with direct expansion, which are also located in the same environment.

The preparation of domestic hot water is produced centrally and assigned to specific products such as Hot Water or Q-ton according to volume requirements.



underfloor heating



with direct expansion



DHW via Hot Water or Q-ton



28 kW

Minimum installable I.U. power per flat, divided into 14 kW (1 HMU) + 14 kW divided among the various I.U.s DX

SYSTEM CHARACTERISTICS

28-168 kW

Outdoor unit power range



200% (max)

(for O.U. up to 45 kW)

160% (max)

(for O.U. over 45kW)

Total connectable I.U. power (HMU+DX). It is mandatory to connect at least 50% of the total power of DX type I.U.s

40 m

Maximum level difference between O.U. and I.U. (HMU or DX)

18 m

Maximum level difference between I.U. (HMU or DX)

510 m (max)

Split total length

-10°C

Minimum design outdoor temperature

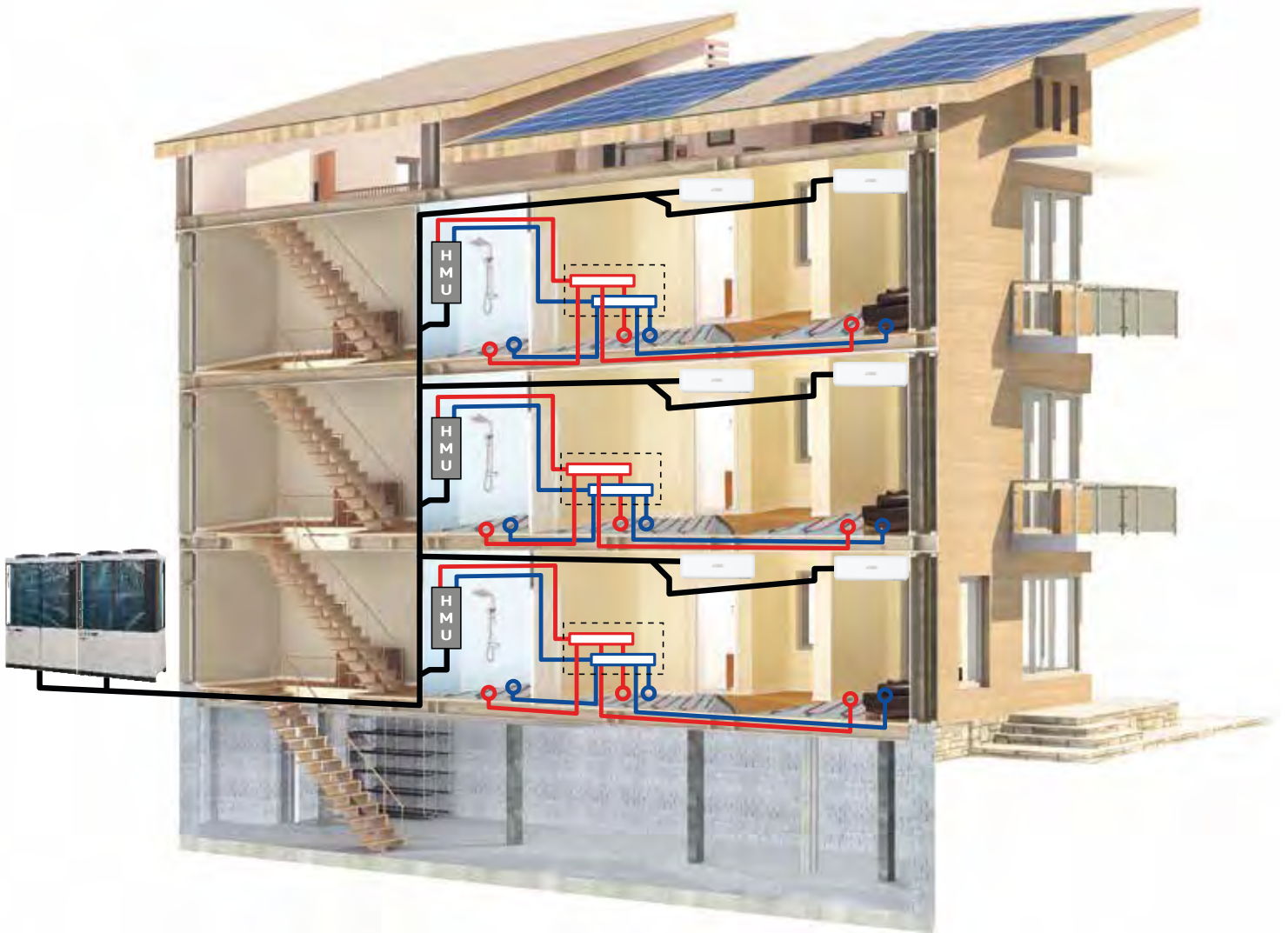
CONTROL SYSTEM

Through the centralised control SL4, it is possible to distribute the operating costs among the various real estate units.

The local control is available for each I.U. DX with its own individual control (wired or wireless), with the possibility of weekly programming, while with the RC-EX3H wired control it is possible to turn the HMU on and off and set operating times.

Based on the outdoor thermal values, the climate curve calculates the delivery temperature for the system. According to the table at the side, the maximum supply temperature used to determine the design conditions varies according to the outdoor values.

Outdoor design temperature	Maximum design temperature for delivery	Minimum return temperature
10°C	40°C	20°C
5°C	40°C	20°C
0°C	40°C	25°C
-5°C	40°C	25°C
-10°C	40°C	25°C



DESCRIPTION OF THE SYSTEM

The hydromodules are located one per flat, and each is equipped with a circulator that pushes water into the floor system.

The direct expansion I.U.s ensure efficient air conditioning and an exceptionally low sound level for a VRF system. This is because the expansion valves - that normally cause noise - are remotely controlled, soundproofed and isolated inside or outside the flat.

Powered continuously by a backup card, the user can disconnect the power to their flat without affecting the operation of the entire system.

Each flat is autonomous in terms of determining operating costs, since the distribution is made for I.U. (both air and water) by means of a centralised control installed in the production room of the DHW.

SHOPPING CENTRE RETAIL STORES

Independent heating via HMU units located inside the store and air-conditioning by air-air I.U., connected to a KXZ system

Located on the same floor of a shopping centre, the system provides independent heating and cooling for retail stores.

Hydronic heating is provided through a floor heating distribution system for each individual store. Air conditioning is provided by indoor air/air units with direct expansion located in each individual environment.

The preparation of domestic hot water is produced centrally and assigned to specific products such as Hot Water or Q-ton according to volume requirements.



underfloor heating



with direct expansion



DHW via Hot Water or Q-ton



28 kW

Minimum installable I.U. power per flat, divided into 14 kW (1 HMU) + 14 kW divided among the various I.U.s DX

SYSTEM CHARACTERISTICS

28-168 kW

Outdoor unit power range



200% (max)

(for O.U. up to 45 kW)

160% (max)

(for O.U. over 45 kW)

Total connectable I.U. power (HMU+DX). It is mandatory to connect at least 50% of the total power of DX type I.U.s

40 m

Maximum level difference between O.U. and I.U. (HMU or DX). When the design temperature is below -10°C, the O.U. should always be placed above the I.U.

0 m

Maximum level difference between I.U. (HMU or DX)

510 m (max)

Split total length

CONTROL SYSTEM

Through the centralised control SL4, it is possible to distribute operating costs among the various users.

The local control is available for the I.U.s DX with its own individual control (wired or wireless), with the possibility of weekly programming, while with the RC-EX3H wired control it is possible to turn the HMU on and off and set operating times.

Based on the outdoor thermal values, the climate curve calculates the delivery temperature for the system. According to the table at the side, the maximum supply temperature used to determine the design conditions varies according to the outdoor values.

Outdoor design temperature	Maximum design temperature for delivery	Minimum return temperature
10°C	40°C	20°C
5°C	40°C	20°C
0°C	40°C	25°C
-5°C	40°C	25°C
-10°C	40°C	25°C
-15°C	36°C	31°C
-20°C	32°C	27°C



DESCRIPTION OF THE SYSTEM

Several hydromodules are located within the store (one or more as required), each of which uses a circulator inside to push water directly into the floor system.

The I.U. With direct expansion ensure excellent air conditioning thanks to an effective dehumidification of the environments, typical of the system. A backup card continuously feeds the expansion valves, enabling the conductor to cut off the power to the shop without affecting the system as a whole.




Each shop is autonomous in terms of determining operating costs, since the distribution is made for I.U. (both air and water) by means of a centralised control installed in the production room of the DHW.

KXZ Heating

HMU UNIT

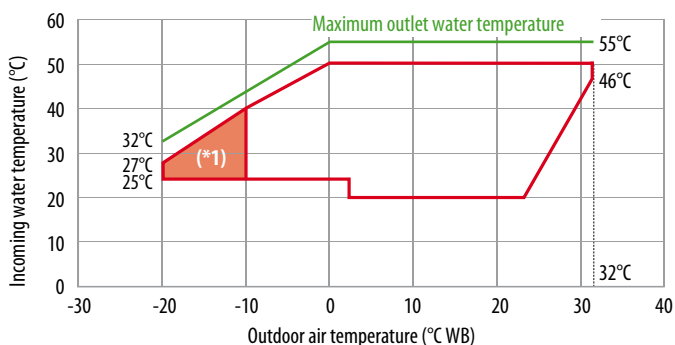
HYDROMODULE COMPONENTS

The hydromodule consists of the following parts:

		
Electrical control box	Plate heat exchanger	Circulating pump
HMU-kit	14 kW : V26Hx26 28 kW : V26Hx50	14 kW : 80kPa 28 kW : 90kPa

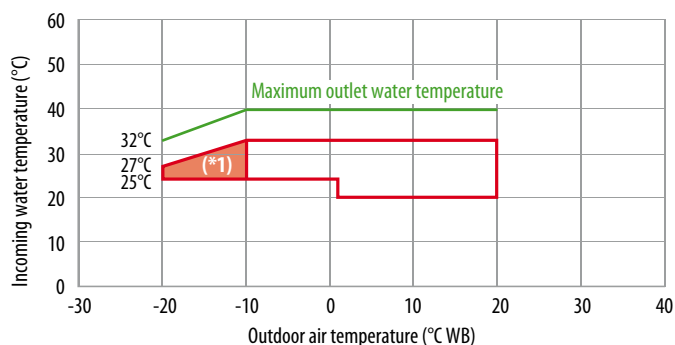


RANGE OF USE OF HMU IN WATER-ONLY MODE



(*1) In the dashed field, operation is possible with some limitations.

RANGE OF USE OF HMU IN MIXED MODE



(*1) In the dashed field, operation is possible with some limitations.

IMPORTANT

During the first winter start-up of the cold system, it is advisable to prepare the hydraulic connections for an additional electric heater to be used to bring the water to the minimum temperature expected, based on the outdoor heater. As a result, the heater can be installed and disassembled after it has been started, if necessary.

KXZ Heating

HMU UNIT

PERFORMANCE

Indoor unit model				HMU280KXZE1		
Outdoor unit model				FDC280KXZE2		
Heating	Rated power	A7/W35	kW	25.20		
	Electrical absorption			6.00		
	Performance coefficient			4.20		
	Rated power	A7/W45	kW	23.15		
	Electrical absorption			6.90		
	Performance coefficient			3.36		
	Rated power	A7/W55	kW	23.00		
	Electrical absorption			8.40		
	Performance coefficient			2.74		
	Water flow rate			L/min	80	
	Seasonal energy efficiency (η _s)	35		%	151	
	Energy efficiency class	35		-	A++	

TECHNICAL FEATURES

Model				HMU 140 KXZE1	HMU 280 KXZE1	
Heating	Max power		kW	14.00	28.00	
Operating limits	Outside air temperature	Water only	°C	-20~32		
		Mixed use		-20~20		
	Delivery water temperature ¹	Water only	°C	25~55		
		Mixed use		25~40		
Refrigerant circuit data	Water flow	Min ~ Max	L/min	20 ~ 40	24 ~ 80	
	Heat exchanger	Type		Electronic expansion valve		
	Circulation pump			Included		
	External static pressure			kPa	89	95
	Expansion tank			Not included		
	Water pipe			Inches	R1-1/2"	
	Safety valve			bar	6	
Electrical data	Power supply		Ph-V-Hz	1ph-220~240V-50Hz		
	Maximum current		A	1.54	1.54	
	Power absorption		kW	0.316	0.316	
Product specifications	Dimensions	LxDxH	mm	860(+110)x550x400		
	Weight	Net	kg	46	48	
	Sound pressure level	Max	dB(A)	27	30	
	Sound power level	Max	dB(A)	46	49	
	Refrigerant pipe	Liquid - Gas	Inches (mm)	ø3/8" (9.52) - ø5/8" (15.88) ø3/8" (9.52) - ø3/4" (19.05)		
Controls (not included)	Wired remote control		RC-EX3H			

1. For the project specifications, see the ambit of application.

CONTROLS



CONTROLS

REMOTE CONTROL FUNCTIONS	104
KITS FOR REMOTE CONTROL	104
INDIVIDUAL CONTROLS	106
CENTRALISED CONTROLS	108
SUPERLINK II CONTROL DEVICES	109
SUPERLINK II SYSTEM	110
HOME&BUILDING AUTOMATION	112
WI-FI CONTROL	114

Mitsubishi Heavy Industries presents a complete range of controls for the KXZ2 and KXZ systems. MHI devices allow for extreme ease and flexibility of installation for complete local and remote control of systems of any size.



REMOTE CONTROL FUNCTIONS



- ON/OFF.
- Operating modes: auto, cooling, heating, dehumidifying and ventilation.
- Fan speed.
- HIGH POWER function.
- ECO function.
- SILENT function.
- Air distribution with vertical swing.
- Air distribution with horizontal swing.
- 3D AUTO function.
- NIGHT SETBACK function.
- Daily ON/OFF timer.
- Weekly timer.
- SLEEP.
- ALLERGEN CLEAR function.
- Key lock.
- Settings reset (ACL).
- Time setup.

DETAIL OF THE CONTROL FUNCTIONS

- **HIGH POWER:** the unit runs at very high speed to quickly reach the temperature in the set cooling or heating mode.
- **ECO:** the set temperature will be automatically adjusted to avoid excessive cooling or heating.
- **SILENT:** reduction in the speed of the external fan and compressor.
- **3D AUTO:** automatic swing of the louvres (vertical and/or horizontal) according to the room temperature and the set temperature.
- **NIGHT SETBACK:** prevents the room temperature from falling below 10° C.
- **SLEEP:** night-time dampening function.
- **ALLERGEN CLEAR:** activation of anti-allergenic filter.

Optional controls

KITS FOR REMOTE CONTROL

RCN-KIT4-E2

FDUM, FDU, FDTQ, FDQS, FDUT, FDUH, FDFL, FDFU, FDF, FDU-F, SAF-DX



RCN-TW-E2

FDTW



RCN-T-5BW-E2 RCN-TC-5AW-E3

FDT, FDTC



RCN-T-5BB-E2

FDT



RCN-TS-E2

FDTs



RCN-K-E2

FDK



RCN-K71-E2

FDK71KXZE1



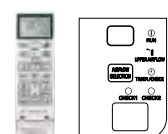
RCN-E-E3

FDE



RCN-FW-E2

FDFW



Optional controls

KITS FOR REMOTE CONTROL

CONTROL DEVICES WITH SUPERLINK II

	Type	Model	Nr. connectable I.U.	
Individual controls	Wired remote control	RC-EX3A; RC-EXZ3A; RC-E5; RCH-E3	16	
	Infrared	RCN-KIT4-E2; RCN-T-5BB-E2; RCN-T-5BW-E2; RCN-TC-5AW-E3; RCN-TW-E2; RCN-TS-E2; RCN-K-E2; RCN-K71-E2; RCN-E-E3; RCN-FW-E2	16	
Centralised control panel	Keypad	SC-SL1N-E	16	
		SC-SL2NA-E	64	
	Windows PC interface	Touch screen	SC-SL4-AE3	128
			SC-SL4-BE3	128
	Windows PC interface BMS interface	WEBnet BACnet	SC-WBGW256	256 (128x2)
BMS interface	Lonworks	SC-LGWNB	96 (48x2)	

SC-ADNA-E INTERFACE CARD

This interface card makes it possible to connect the indoor units to the Superlink II network, thus ensuring they can be managed using the SC-SL2N-E device and other centralisers.

Functions:

- Transmission of Superlink II data bus information directed towards the indoor units connected.
- Ability to block the settings of the single indoor units from a centraliser (remote).
- Transmission of the signal showing any faults with the indoor units connected to the Superlink II device, displaying an error code.



OPTIONAL KIT SC-BIKN2-E

This interface card makes it possible to create a 2-wire X, Y network on the SRK units, enabling management using the RC-E5 wired remote control. Furthermore, using the SC-ADNA-E card connected directly to the SC-BIKN2-E card, it is possible to connect the unit to the Superlink II network and centralise management of SRK units using remote controls for all functions. The interface card is contained in a box fastened to the wall measuring 120x135x29 mm. The card is also equipped with a CnT connector, which enables the SRK units to exchange the digital inputs/outputs with an external control.

Optional controls

INDIVIDUAL CONTROLS

RC-EX3A MULTI-LANGUAGE TOUCH SCREEN CONTROL

- Touch screen wired remote control with LCD display.
- Large size: 3.8" with backlighting.
Simple 3-button interface.
All settings can be made via the touch screen panel.
- Possibility of selecting up to 9 languages.



ENERGY SAVING FUNCTIONS

- Off timer.
- Peak-cut timer.
- Automatic temp setback.
- Weekly timer.
- Set On/Off timer by hour.
- Set On/Off timer by clock.

FUNCTIONS THAT GUARANTEE COMFORT

- Individual control of air outlet louvres.
- High power operation.
- External On/Off ventilation.
- Heating function.
- Automatic fan speed function.
- 0.5° C temperature increase setting.

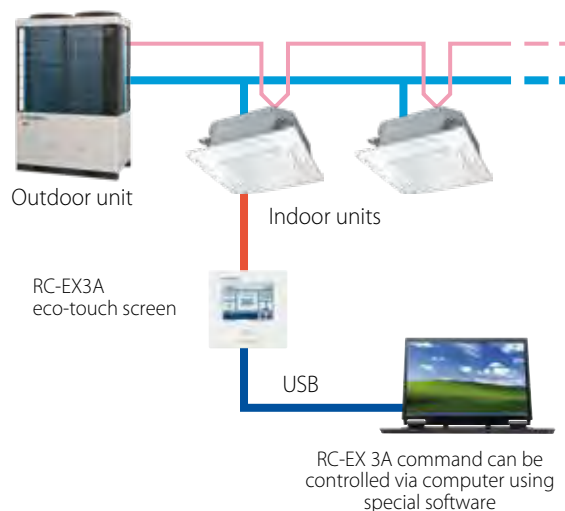
SERVICES

- Error code display.
- Operating data display.
- Next display data.
- Contact company display.
- USB connection (mini-B).

ADVANTAGES

- LCD display contrast setting.
- Backlighting.
- Filter icon.
- Sound control.
- Outdoor unit silent mode.
- Summer timer setting.
- "Home leave" mode.
- Indoor and outdoor temperature display.
- Heating stand-by display.
- Defrost operation display.
- Modes: auto, cooling, heating.
- Display °C / °F.
- Administrator settings.
- Room name setting.
- Anti-draft panel control (for FDT and FDTC models only).

RC-EX3A control via software



Optional controls

INDIVIDUAL CONTROLS

WIRED REMOTE CONTROL WITH LCD DISPLAY RC-E5

Wired remote control with LCD display: this display is large and high-contrast for excellent display of information. The wired remote control is capable of controlling up to 16 indoor units.

Main functions:

- Weekly timer as standard.
- Built-in temperature sensor.
- Settable temperature fields.
- Data saving function.
- 4 fan speeds.
- Control for adjusting the static pressure.



SIMPLIFIED WIRED REMOTE CONTROL RCH-E3

Particularly suitable for use in hotels and small offices, it enables the selection of 3 different ventilation modes.

The simplified wired remote control is capable of controlling up to 16 indoor units.

Simple to use, it has the following essential buttons:

- On/Off.
- Mode.
- Temp. setting.
- Fan speed.



RC-EX3H HYDROMODULE TOUCH SCREEN COMMAND

- Touch screen wired control with LCD display.
- Large size: 3.8" with backlight (adjustable).
Simple interface, equipped with only 3 buttons.
All settings can be set from the touch screen panel.
- Sleep Timer.
- Maximum power attenuation.
- LCD display contrast setting.
- Weekly timer.
- On/Off timer setting per hour.
- On/Off timer setting from clock.
- Next maintenance date.
- USB connection (Mini-B).
- Name of the contact company.
- Outdoor unit silent mode.



Optional controls

CENTRALISED CONTROLS

SC-SL4-AE3/BE3 CENTRALISED CONTROL PANEL

MHI introduces its SC-SL4-AE3/BE3, centralised control with 9" interactive (Full Color Touch) LCD display.

Users can perform monitoring, programming and maintenance from the panel.

It can control up to 128 indoor units.

Users can connect with a PC or tablet through an Internet Explorer (IPad, Windows) WEB interface.



TUTTE LE FUNZIONI DELLA NUOVA VERSIONE

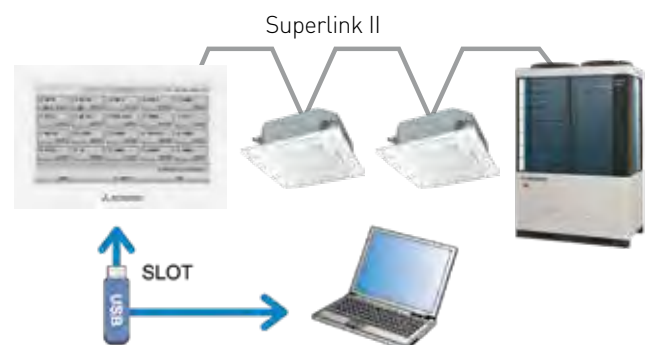
Le unità interne possono essere programmate, monitorate e interrogate individualmente, a gruppi, e a blocchi di gruppi con le seguenti funzioni:

Control	Monitoring	Programming	Administration/Service
On/Off	Operating status	Yearly programming	Block definitions
Cool/heat/fan/dry/Auto modes	Mode	Daily programming	Group definitions
T° setting	Temperature setting.	Special daily programming	Unit definition
Operations allowed/prohibited	Room temperature	Seasonal programming	Date and Time setting
Fan speed	Operations allowed/prohibited		Alarm history
Air direction	Fan speed		Consumption calculation period
Filter signal reset	Air direction		Cumulative operating time
Request control (3 steps)	Filter signal		Energy consumption
Emergency stop	Maintenance		
	Request control		

ELECTRICAL CONSUMPTION CALCULATION FUNCTION (SC-SL4-BE3 ONLY)

SC-SL4-BE3 is able to monitor electrical consumption in kW/h for each indoor unit in a single group on the Superlink system, using a USB memory.

	SC-SL4-BE3
Data export method	USB
Calculation software	Included
Number of inputs for pulse detector (wattmeter)	8
Connectable units (MAX)	128 (Superlink II)



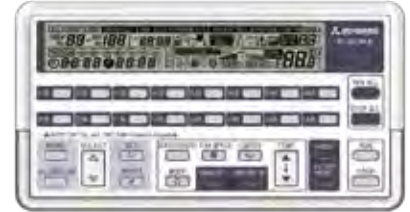
Model	SC-SL4-AE3/SC-SL4-BE3	
Room temperature	°C	0° C ~ 40° C
Power		1 Phase 100-240V 50/60Hz
Consumption	W	18
Dimensions (H x L x D)	mm	172x250x23(+70)
Net weight	kg	2.00
Number of connectable I.U.	no.	128 (Superlink II) / 144 (Supelink I)
LCD touch panel		LCD colour. 9"
SL (Superlink) signal input		1 (Superlink II) / 3 (Superlink I)

Optional controls

CENTRALISED CONTROLS

SC-SL2NA-E CENTRALISED CONTROL PANEL

The SC-SL2NA-E panel is connected to the Superlink II system via a non-polarised 2-wire cable. It enables the user to start up/stop and monitor up to 16 groups simultaneously, for a total of 64 units. It also monitors and controls the following functions for each unit, group of units or for the whole network: temperature setting, position of the louvers, operating errors. The number of units in operation can be seen on the LCD, as can those that require assistance. The timer facilitates the power on and power off cycles. The panel can be connected at any point in the Superlink II network, to both indoor and outdoor units, reducing the length of the wiring used for the connections.



SC-SL1N-E CENTRALISED CONTROL PANEL

The SC-SL1N-E panel is connected to the Superlink II system via a non-polarised 2-wire cable. It enables the user to start up/stop and monitor up to 16 indoor units simultaneously. The number of units in operation can be seen on the special LEDs, as can those that require assistance. In the context of a Superlink II system, up to 12 SC-SL1N-E panels can coexist, for a total of 128 indoor units controlled.



DEVICES FOR CONTROLLING THE SUPERLINK II NETWORK

LONWORKS GATEWAY SC-LGWNB

This platform enables users to connect and centrally control the indoor units, converting the LonWorks communication data into Superlink II communication data. Up to 96 units can be controlled, the highest number possible for the LON systems on the market.



WEB GATEWAY + BACNET GATEWAY SC-WBGW256

This platform makes a simple monitoring system possible for small and medium-sized installations: it includes metering functions and enables users to control up to 256 indoor units (96 groups - 128 indoor units on 2 Superlink II networks).

Safe and easy: all you need is Internet Explorer, without using any additional software. Using a filter on the IP address, the system lets users select and limit access to the platform through 3 different levels of account authentication.

Integrated metering function.



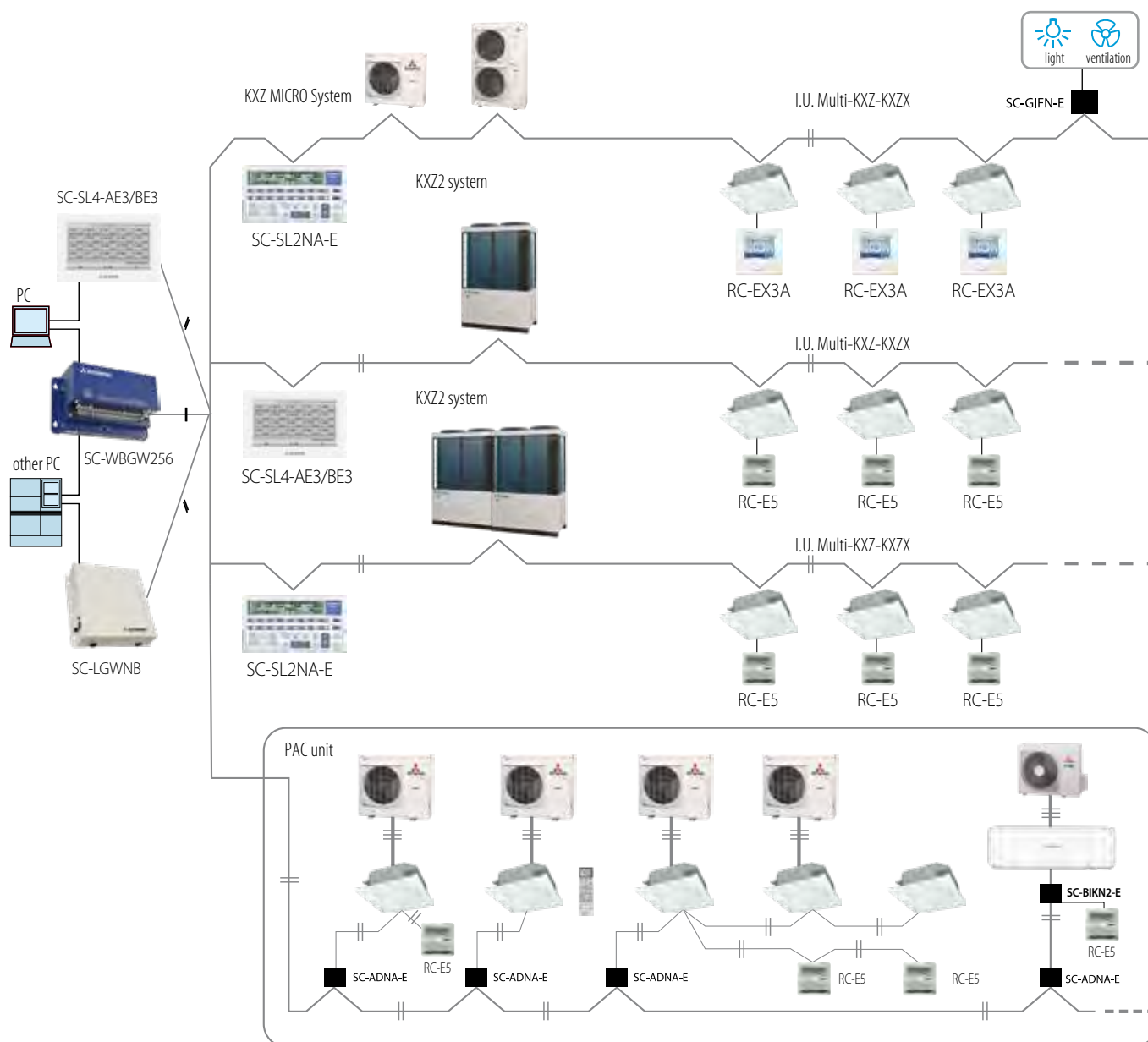
Controls

SUPERLINK II

AN ADVANCED FAST DATA TRANSMISSION SYSTEM

Superlink II is able to connect up to 128 indoor units and 32 outdoor units on a network.

It is a centralised control system that meets the different needs of large, medium and small buildings. The implementation of the Superlink II system greatly reduces installation costs by reducing the size of the wiring area using a non-polarised 2-wire cable. In order to harmonise air conditioning and its management, Mitsubishi Heavy Industries also offers a wide range of commands and instruments for a reliable control system. Easy access can thus be made for computerised management of the building to be air-conditioned, guaranteeing the highest standard on the market in a fully affordable system.



Controls

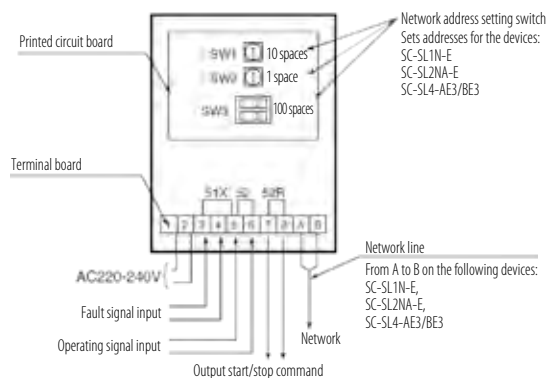
SUPERLINK II

OPTIONAL KIT SC-BIKN2-E

This interface card makes it possible to create a 2-wire X, Y network on units (SRK, SRR, SRF), enabling management using the RC-E5 wired remote control. Furthermore, using the SC-ADNA-E card connected directly to the SC-BIKN2-E card, it is possible to connect the unit to the Superlink II network and centralise management the units (SRK, SRR, SRF) using remote controls for all functions. The interface card is contained in a box fastened to the wall measuring 120x135x29 mm. The card is also equipped with a CnT connector, which enables the units (SRK, SRR, SRF) to exchange the digital inputs/outputs with an external control.

SC-GIFN-E OPTIONAL KIT

The SC-GIFN-E interface card connected to the centralised Mitsubishi SC-SL1N-E, SC-SL2NA-E and SC-SL4-AE3/BE3 control systems, lets you control the switching on and off of other equipment, including non-Mitsubishi devices (telephone dialler, home automation systems, etc.).



DIGITAL INTERFACES USER DIAGRAM

Superlink II connection

Model	Interface	Controls
SRK ZSX-S(T) SRK ZS-S(T) SRK ZR-S SRF ZMX-S SRR ZM-S SRR Z5~60 ZM-S	SC-BIKN2-E SC-ADNA-E	RC-E5 RC-EX3A Centralised
FD unit (no KX)	SC-ADNA-E	Centralised

Wired remote control connection

Model	Interface	Controls
SRK ZSX-S(T) SRK ZS-S(T) SRK ZR-S SRF ZMX-S SRR ZM-S	SC-BIKN2-E	RC-EX3A RC-E5

Home and building automation

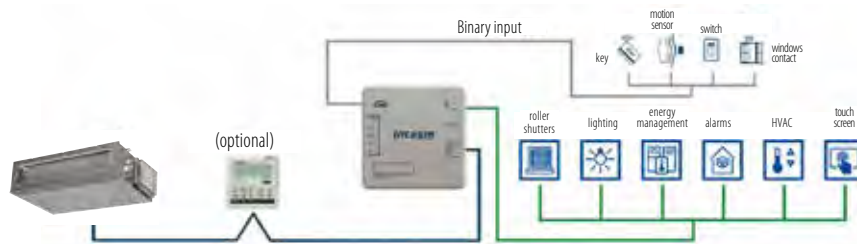
INTESIS - BMS INTERFACES

KNX

By means of the INKNXMHI001R000, INKNXUNI001I000 and IN776MHIO0S0000, IN776MHIO0M0000, IN776MHIO0L0000 interfaces, it is possible to integrate Mitsubishi Heavy Industries units with supervision that uses the KNX standard.



Example of integration of a light commercial unit with individual control



INKNXMHI001R000



NEW



IN776MHIO0S0000
IN776MHIO0M0000
IN776MHIO0L0000

MODBUS

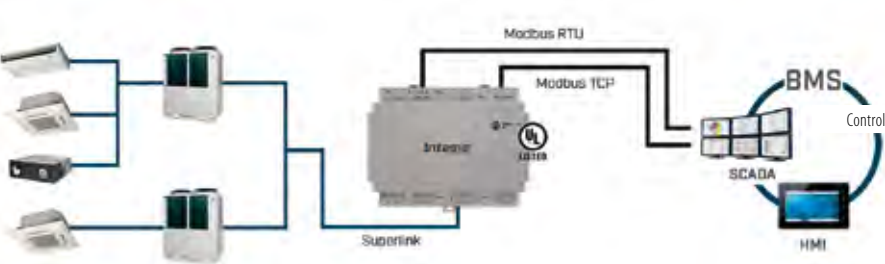
By means of the INMBSMHI001R000, IN485UNI001I000 and IN776MHIO0S0000, IN776MHIO0M0000, IN776MHIO0L0000 interfaces, it is possible to integrate Mitsubishi Heavy Industries units with supervision that uses the Modbus standard.



Example of integration of a light commercial unit with individual control



INKNXMHI001R000



NEW



IN776MHIO0S0000
IN776MHIO0M0000
IN776MHIO0L0000

Home and building automation

INTESIS - BMS INTERFACES

BACNET

The BACnet Gateways INBACMH1001R000, IN485UNI001I000 and IN776MH100S0000, IN776MH100M0000, IN776MH100L0000 allow two-way communication between Mitsubishi Heavy Industries Commercial and VRF units and BACnet IP and BACnet MS/TP or BACnet MS/TP only networks, respectively.



BACNET MS/TP NETWORK

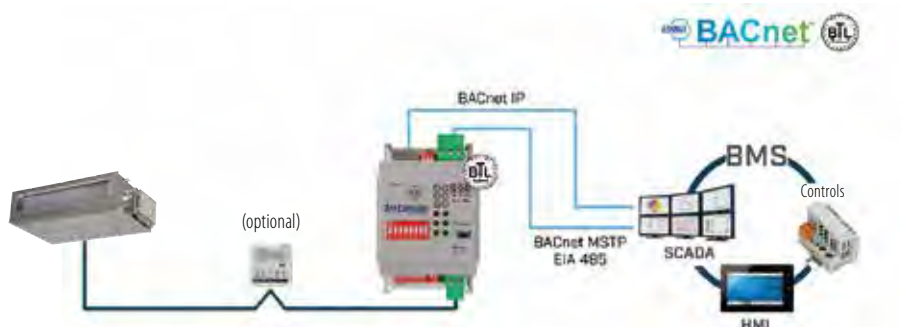
Example of integration of a commercial unit with individual control



INBACMH1001R100

BACNET MS/TP & BACNET IP NETWORK

Example of integration of a commercial unit with individual control



INBACMH1001R000

BACNET MS/TP NETWORK

Example of integration of a commercial unit with individual control



NEW



IN776MH100S0000
IN776MH100M0000
IN776MH100L0000



WI-FI CONTROL

HOME AIR CONDITIONING CONTROL, EVEN FROM OUTSIDE YOUR HOME

Termal presents the new Wi-Fi Intesis Home module which allows access to remote air conditioner control through a downloadable smartphone app.

Thanks to the Intesis Home App, it is possible to manage the main operating parameters from your home with a simple Wi-Fi home connection, or away from home, with a simple Internet connection.

The Intesis Home App lets you individually and entirely control different indoor units, adjusting air conditioning in multiple rooms.

EXAMPLE OF CONNECTION SCREEN AND DIAGRAM



Available for iOS smartphones and tablets



Available for Android smartphones and tablets



MAIN APP FUNCTIONS

- On and off control.
- Adjustment of the set temperature.
- Operating mode selection.
- Fan speed.
- Louvre control.
- Room temperature control.
- Timer.
- 26 different languages.
- Anti-frost mode setting for overheat.
- Error detection and description.
- Auto App updates.
- Filter cleaning.
- Calendar.
- 3 mobile devices can control a single unit.
- Room presence detector.
- Energy Saving function.

COMPATIBLE WITH THIRD-PARTY VOICE CONTROLLED SYSTEMS







As a result of the ongoing technological evolution of products, we reserve the right to change the technical specifications in this catalogue at any time and without notice. The products shown are only illustrative of the types of applications. The data is measured under the following conditions (ISO-T1). Cooling: indoor temperature 27° C D.B., 19° C W.B. and outdoor temperature 35° C D.B.; Heating: indoor temperature 20° C D.B., outdoor temperature 7° C D.B., 6° C W.B. Energy efficiency values refer to measurements carried out following harmonised standard EN 14511:3.



TERMAL srl



Via della Salute 14 | 40132 Bologna | Italia
tel. +39 051 41 33 111 | fax +39 051 41 33 112
info@termal.it | www.termal.it

www.mitsubishi-termal.it