



SANYO Air Conditioners
The natural choice

Room Air Conditioners 
Commercial Split Systems 
Electric VRF 
Gas Driven VRF 

SANYO Product Range 2011/12

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Introducing SANYO Gas Driven VRF

This specification guide highlights all aspects of SANYO's highly innovative Gas Driven VRF systems.

In recent years expectations about air conditioning systems have significantly risen and changed from all perspectives, be it from the end user, consultant, specifier or installer. High expectations need to be met in providing optimised comfort climate control that is energy efficient, reduces running costs and gives maximum operating flexibility. SANYO prides itself as a leading innovator and continuously strives to deliver excellence to our customers and partners by developing market leading products and giving best support in installation and maintenance as well as services information.

The guide has been designed as a practical working tool for consultants, specifiers and installers encompassing all necessary technical information for straightforward system designing along with several examples of applications and installations carried out throughout Europe.

Our objective is for you to find everything from features and benefits, indoor/outdoor unit specifications and our complete range of control systems; in addition we have also provided detailed line drawings for each model to complete any specification.



The Gas Heat Pump M Series

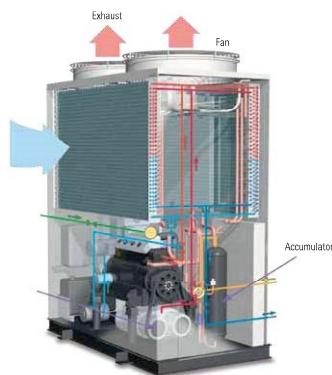
SANYO has been developing GHP VRF systems since 1980, during which time we have been committed to delivering ground-breaking technology. As a result, the commercial range of GHP VRF systems is leading the industry in the development of efficient and flexible systems, making them the natural choice for commercial projects, especially for those projects where power restrictions apply. As you would expect, all of our Gas Driven VRF systems are designed to give the highest reliability rates.

The GHP engine (internal combustion engine) varies its speed to match the building load functions that are comparable with an inverter type electric air conditioner.

The advanced M Series of Gas Driven VRF systems offers increased efficiency and performance across the range. Now more powerful than ever before, it can connect up to 49 indoor units.

Improvements include increased part load performance, reduced gas consumption with a Miller-cycle engine and reduced electrical consumption by using DC fan motors.

- Up to 71kW of cooling from a current consumption of 11.0 AMPS
- Single phase power supply across the range
- The option of natural gas or LPG as its main power source
- A water heat exchanger to connect to domestic hot water systems 13–25 HP (2-pipe units only)
- Option of DX or chilled water for indoor heat exchange
- Reduced CO₂ emissions



Power supply problems?

If you are short of electrical power, gas heat pump could be the perfect solution:

- Runs on natural gas or LPG and just needs single phase supply
- Enables the building's electrical power supply to be used for other critical electrical demands
- Reduces capital cost to upgrade power substations to run heating and cooling systems
- Reduces power loadings within a building especially during peak periods
- Electricity supply freed up for other uses such as IT servers, commercial refrigeration, manufacturing, lighting etc.

Benefits

High-efficiency operation

All models are equipped with a high-performance air exchanger and a newly developed refrigerant heat exchanger for high-efficiency operation, making them one of the most energy-efficient solutions on the market.

Lowest nitrogen oxide emissions

The GHP VRF systems have the lowest nitrogen oxide emissions, 66% below the standard. In a pioneering development, the SANYO GHP features a brand new lean-burn combustion system that utilises air fuel ratio feedback control to reduce NOx emissions to an all time low.

Excellent economy

The SANYO GHP provides quick and powerful cooling/heating and increases delivery of heat into the space by the efficient recovery of heat from the engine cooling water, which is injected into the refrigerant circuit by an highly efficient plate-heat-exchanger.

In addition, the use of engine waste heat ensures that our gas heat pump air conditioner requires no defrost cycle, therefore providing continuous 100% heating performance in severe weather conditions with an outside air temperature as low as -20 °C. During cooling mode the rejected heat from the engine is available for use with in a DHW system and can supply up to 25 kW of hot water at 75 °C. The DHW is also available in heating when the outside air temp is above 7 °C.

High performance

With its advanced heat exchanger design, this new GHP system offers improved efficiency and reduced running costs, which, coupled with improved engine management systems, have greatly improved the system COP rating.

Water chiller option

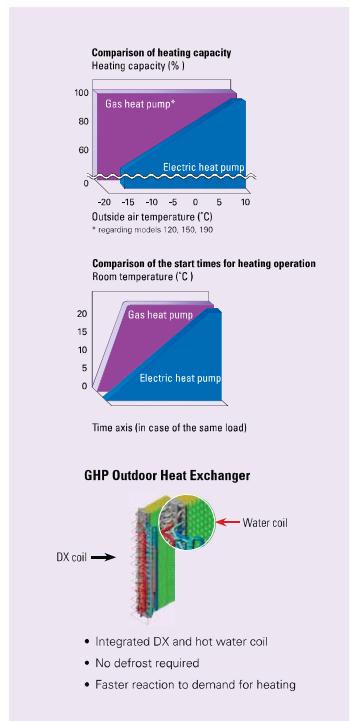
Our GHP system is also available with a water chiller option, which can be combined with individual outdoor units or as part of a DX chilled water mix of indoor units. This system can be operated via a BMS system or a SANYO supplied control panel, with chilled water set points from -15°C to 15°C and heating set points 25°C to 55°C.

New electrical power generator model

The biggest breakthrough in recent GHP technology is the launch of the ECO G Power, which provides 4.0kW of power. That's enough electricity to power 8 PCs or 40 indoor units.

No defrost requirements

Below 7°C ambient in heating mode, the outdoor fans switch off, saving further running costs and CO₂ emissions.



ECO G Power

2 Pipe Heat Pump System with Electrical Power Generator

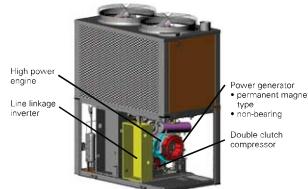
The 2 way Gas Driven VRF with an electrical power generator

SANYO's ECO G Power is a revolution in air conditioning design. Fitted with a permanent magnet, non-bearing type generator, it is the first VRF system that can supply heating, cooling, hot water and now also a supply of electrical power. Each ECO G Power unit has a 4.0kW generator, which provides enough power for 40 indoor units or the equivalent of 8 PCs.

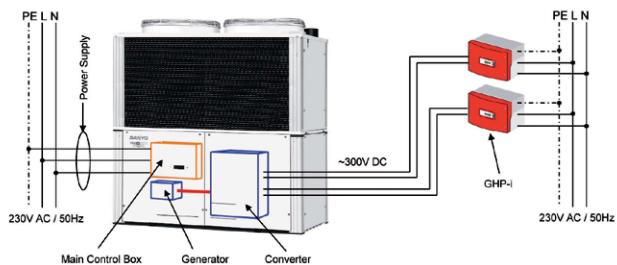
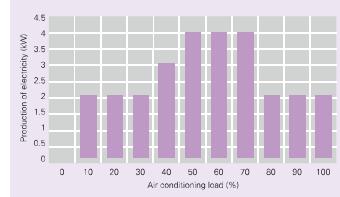


- Innovative technology that reduces CO₂ emissions by up to 30%
 - 2 way air conditioning system providing cooling or heating
 - Can provide both electricity and hot water in heating and cooling mode
 - Up to 4kW electricity generated
 - Very efficient generator
 - Electricity is output to line linkage converter
 - Hot water provided when in cooling through out temperature range and in heating when the ambient is above 7 °C*
 - 22kW hot water generation capacity
 - 20HP model provides 56kW cooling or 63kW heating
 - Can connect to up to 32 indoor units
 - 200m maximum allowable piping length (L1)
 - IU/OU capacity ratio 50–130%
- * referring to outside temperature

Generates electricity during heating or cooling operation
Generates electricity and air conditioning (heating or cooling) at the same time by using remaining engine power. ECO G Power can generate from 2.3 to 3.95kW electricity at a generation efficiency of more than 40%.



Production of electricity
Generates from 2kW to 4kW depending on air conditioning load



HP Model name	20		33		36		40		45	
	SGP-EGW190M2G2W	SGP-EW120M2G2W	SGP-EGW150M2G2W	SGP-EGW190M2G2W	SGP-EGW190M2G2W	SGP-EW120M2G2W	SGP-EGW190M2G2W	SGP-EGW190M2G2W	SGP-EW120M2G2W	SGP-EGW190M2G2W
Capacity	Cooling STD kW	56.00	91.50	101.0	112.00	127.00				
	Heating Low temp* kW	63.00	103.00	113.00	128.00	143.00				
	Hot water (cooling mode) kW	67.00	109.50	120.00	134.00	142.00				
Power generator capacity at rating	kW	22.00	34.00	37.50	44.00	52.00				
	Cooling kW	1.35	2.20	2.70	2.70	2.70				
	Heating kW	1.01	2.02	2.02	2.02	2.02				
Gas consumption	Cooling kW	44.00 (38.30)*	68.50	75.60	88.00	104.80				
	Heating STD kW	48.70 (43.00)*	76.80	84.80	97.40	101.00				
	Heating (Low kW)	62.10 (56.40)*	98.90	109.40	124.20	121.30				
COP	Cooling Air conditioning only	1.33 (1.41)*	1.79	1.29	1.23	1.18				
	Heating Avg	1.34 (1.43)*	1.31	1.30	1.27	1.38				
	Cooling	1.34 (1.42)*	1.30	1.30	1.25	1.28				
Max COP (inc generator, hot water)	Height mm	1,78	1.81	1.80	1.78	1.69				
	Width mm					2248				
	Depth mm	1900				1800 + 100 (ft/m distance) + 1800				
Weight	kg	875	1000	1085	1170	1220				
	Start-up amperes A	33	30	30	30	30				
	Gas Inches mm	11.8 (30.58)	11.8 (31.75)	11.8 (31.75)	11.8 (31.75)	11.8 (31.75)				
Pipes	Liquid Inches mm	5/8 (15.88)	3/4 (19.05)	3/4 (19.05)	3/4 (19.05)	3/4 (19.05)				
	Balance Inches mm	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)				
	Fuel gas Inches mm									
Operation sound	Exhaust drain port mm					63/64 (10.16) mm				
	Indoor/outdoor capacity ratio*	50-130%								
	Number of connections indoor*	32				48				

* In case of generator not working. *1 low temp condition: outdoor temperature 2°C

Specifications subject to change without notice.

R410A

ECO G W-Multi

2 Pipe Heat Pump System

ECO G W-Multi 2 Way for Heat Pump Applications

The M Series 2 Way not only offers improved performance but also increased flexibility. Now available as multi-systems, many combinations are possible, from 13HP to 50HP, allowing for more power and enabling accurate matching of a system building load. Additional new features include part load engine management and compressor run hour equalisation.



Sample installation

- Reduced gas consumption by Miller-cycle engine
- Reduced electrical power consumption by using DC motors
- New lightweight design by use of aluminium engine block reduces weight by 110kg
- Part load efficiencies increased
- Connectability increased - now up to 48 indoor units
- Multi-systems with combinations from 13HP up to 50HP
- 200m maximum allowable piping length (L1)
- Diversity ratio 50-200% (single models only; excluding ECO G Power)
- Extended pipe runs (total 780m)
- Quiet mode offers a further 2dB(A) reduction
- Chiller option
 - 9HP (25kW cooling - 30kW heating)
 - 18HP (50kW cooling - 60kW heating)
- 10,000 run hours between engine service intervals (equivalent to one maintenance every 3.2 years*)
- Full heating capacity down to -20°C
- No defrost cycle

* Assuming 3150 running hrs per year - 12 hrs x 5 days x 52 weeks

^aIn these combinations, EW190M2G2W is able to connect to a W-multi system instead of a EW190M2G2W.
^b1 low temp condition: outdoor temperature 2°C.

HP	13		16		20		25		26		29		32		33*		36*		40*		45*		50	
	SGP-EW190M2G2W																							
Model name																								
Cooling	kW	35.50	45.00		56.00	71.00	80.50	90.00	91.50	101.00	112.00	127.00	142.00											
Heating	STD	40.00	50.00		63.00	80.00	90.00	100.00	103.00	113.00	126.00	143.00	160.00											
Capacity	Low temp**	KW	42.50	53.00	67.00	75.00	85.00	95.50	106.00	109.50	120.00	134.00	142.00	150.00										
Hot water (cooling mode)	KW	12.00	16.00		20.00	25.00	24.00	28.00	32.00	32.00	36.00	40.00	45.00	50.00										
Electricity	Cooling	kW	0.85	1.35	1.35	1.35	1.70	2.20	2.70	2.20	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	
Heating	kW	1.010	1.01		1.01	1.54	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	
Gas consumption	Cooling	kW	24.50	31.50	38.30	60.90	49.00	56.10	63.20	62.90	69.90	76.80	99.20	121.80										
Heating STD	kW	28.10	36.10		43.00	59.00	56.20	64.20	72.20	71.10	75.10	86.00	101.00	116.00										
Heating LTVW	kW	36.80	47.30		56.40	64.90	73.50	84.10	94.60	93.20	103.70	112.80	121.30	129.80										
COP	Cooling		1.49	1.37		1.41	1.14	1.40	1.38	1.37	1.41	1.38	1.41	1.38	1.41	1.38	1.41	1.38	1.41	1.38	1.41	1.38	1.41	
Heating			1.37	1.35		1.43	1.34	1.37	1.36	1.35	1.41	1.38	1.42	1.38	1.41	1.38	1.42	1.38	1.42	1.38	1.42	1.38	1.42	
Max COP (inc hot water)	Cooling		1.67	1.65		1.92	1.54	1.67	1.65	1.65	1.95	1.80	1.92	1.80	1.95	1.80	1.92	1.80	1.92	1.80	1.92	1.80	1.92	
Size	Height	mm																						
	Width	mm	1800				1800																	
	Depth	mm																						
Weight	kg	790			820	850	1580	1580	1580	1580	1610	1610	1640	1670	1700									
Starbar amperes	A																							
Pipe	Gas	inches/mm	1" (25.40)	1 1/8" (29.58)		1 1/8" (29.58)		1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)	1 1/4" (31.75)		
Connections	Liquid	inches/mm	1/2" (12.7)	1/2" (12.7)		5/8" (15.88)		5/8" (15.88)		3/4" (19.05)		3/4" (19.05)		3/4" (19.05)		3/4" (19.05)		3/4" (19.05)		3/4" (19.05)		3/4" (19.05)		3/4" (19.05)
	Balance	inches/mm																						
	Fuel gas																							
	Exhaust drain																							
Operation sound	dBA/L		57			58	62	60	60	60	61	61	61	61	61	61	61	61	61	61	61	61	61	
Indoor/outdoor capacity ratio			50-200 %			50-200 %											50-130 %							
Number of indoor connections			32	36		36	36											48						

Specifications subject to change without notice.

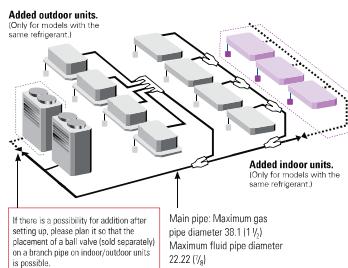
ECO G W-Multi

2 Pipe Heat Pump System

Easy to add additional units in the future

Load can easily be increased in the future by the addition of indoor and outdoor units without having to plumb pipe shafts.

*When specifying refrigerant pipe work, please choose the size according to the horsepower after the increase of units.

Added outdoor units.
(Only for models with the same refrigerant.)

Example of a system

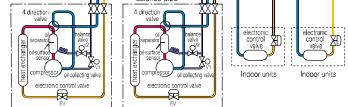
Maximum possible number of outdoor units to be combined: 2 units
Maximum horsepower of combined outdoor units: 50hp
Maximum possible number of indoor units to be connected: 48 units *1
Indoor/outdoor units capacity rate: 50%-130% *2

*1 When 2 outdoor units are connected.
*2 Capacity of indoor units connected.

Maintenance is possible during weekdays because it can continue operating during maintenance.

• Automatic Backup Operating Function enables continuous operation.

If one outdoor unit stops the backup function will automatically start on the remaining unit and continue operating. During service intervals, the system being serviced can be isolated by a closing valve in the outdoor unit, enabling continuous operation with the still operative outdoor unit.

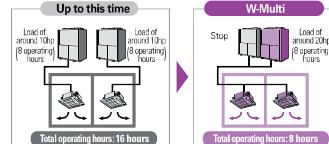
**Introducing the oil/refrigerant balance control system**

The amounts of oil between compressors are kept in balance by a signal from an oil temperature sensor, allowing the exchange of oil and refrigerant through a balance pipe.

Saving Energy

- Energy savings achieved by the Appropriate Capacity Equational Program Function

Energy savings are achieved by the Appropriate Load Divider Function, which enables efficient operation by concentrating the cooling/heating capacity to one outdoor unit and stopping the other. Compared to conventional machines with a similar COP, this function allows an achievement of energy savings and thus reduces the running costs, especially in part-load seasons like spring and autumn.

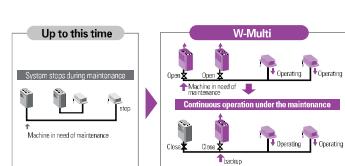
Up to this time**Non-stop operation, even during maintenance**

- System will not stop even during maintenance, due to Manual Backup Operating Function

Maintenance is possible during weekdays because it can continue operating during maintenance.

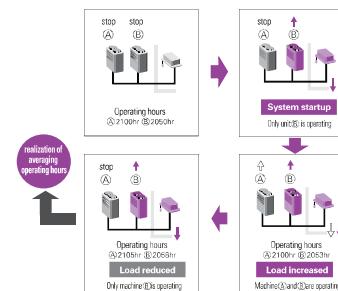
• Automatic Backup Operating Function enables continuous operation.

If one outdoor unit stops the backup function will automatically start on the remaining unit and continue operating. During service intervals, the system being serviced can be isolated by a closing valve in the outdoor unit, enabling continuous operation with the still operative outdoor unit.

Up to this time**Long lifetime**

- Renewal period prolonged due to rotation function

Rotation function, which is run from outdoor units with low operating time, will average the operating hours of each outdoor unit. This will result in prolongation of maintenance or replacement period.



Example of the rotation function

Hot Water Supply Function

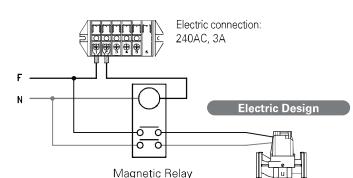
- System Advantage

The engine waste heat, which is normally exhausted into the atmosphere, is recovered via the heat exchanger and effectively used as hot water, so the GHP Chiller acts as a sub-system that alleviates the load on the client's main hot water system, and therefore offers 'free' hot water.

Cooling capacity at standard point	Outlet temp 75°C
SDP-EW170ME2GW	12.00
SDP-EW190ME2GW	16.00
SDP-EW190ME2GW	20.00
SDP-EW190ME2GW	22.00
SDP-EW240ME2GW	25.00

Outdoor unit

Hot water piping allowable pressure: MPa 0.7
Hot water circulation rate: m³/h 3.9
Hot water tube size: 1b/3/4

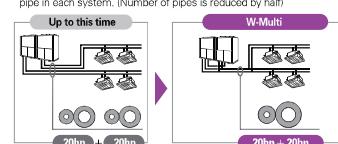
**Ease of construction**

- By using common header pipe work the installation cost and time is significantly reduced

By combining all pipes, which were needed for each indoor unit, into a common pipe in each system, the number of pipes are reduced by half* which leads to ease of construction. Furthermore, space of pipes within pipe shafts can be reduced by 2/3. *

*System with approximately 40hp (20hp x 2 units)

Combining all pipes, which were needed for each outdoor unit, into a common pipe in each system. (Number of pipes is reduced by half).



Example of a system with approximately 40hp

- All the items illustrated in this draw (exception outdoor unit) are not Sanyo's supply.
- During start up, set temperature value of the water in the outdoor unit's parameter.

ECO G 3 Way Multi

3 Pipe Heat Recovery System with Simultaneous Heating & Cooling

The only 3 way GHP system in Europe, the M Series ECO G 3 Way offers even more performance and outstanding features when you need simultaneous heating and cooling. Now with capacities available from 16HP to 25HP, SANYO offers the greatest choice and flexibility to solve any power problem or site requirement.

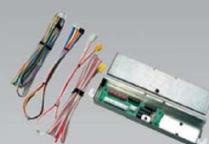


- Simultaneous heating and cooling for total control
- Reduced gas consumption by Miller-cycle engine
- Reduced electrical power consumption by using DC motors
- New use of aluminium engine block reduces weight by 110kg
- Part load efficiencies increased
- Connectability increased to up to 36 indoor units
- Now available in 16, 20 and 25HP
- 200m maximum allowable piping length, L1
- Diversity ratio 50–200%

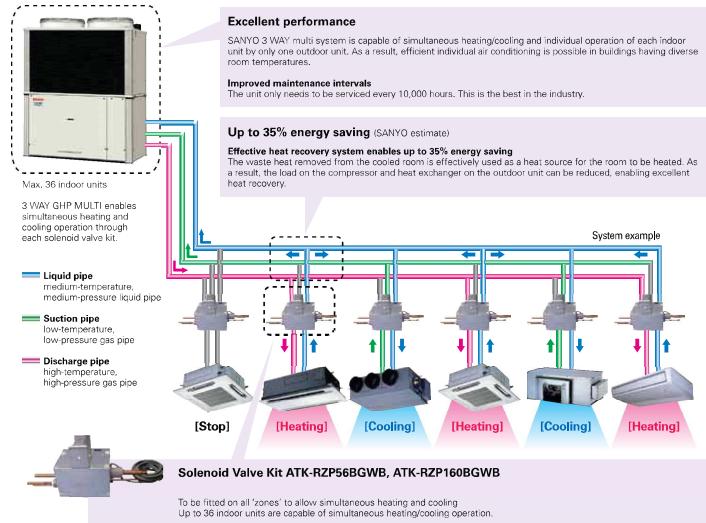
HP Model name	16			20			25		
	SGP-EZ150M2G2		SGP-EZ190M2G2	SGP-EZ240M2G2					
Capacity	Cooling	kW	45.00	56.00	71.00				
	Heating	STD	50.00	63.00	80.00				
		Low temp*							
Electricity	Cooling	kWh	195.00	252.00	315.00				
	Heating	kWh	1.01	1.01	1.01				
	Cooling	kW	31.08	38.30	49.90				
Gas consumption	Heating STD	kW	35.10	43.00	58.00				
	Heating LOW	kW	47.30	56.40	64.90				
COP	Cooling		1.37	1.41	1.14				
	Heating		1.35	1.43	1.34				
	Average		1.36	1.42	1.24				
Size	Height	mm	2240						
	Width	mm	1000	1000	1000				
	Depth	mm	880	980	1000 (80)				
Weight		kg	845	945	1000 (80)				
Starting amperes		A	30	30	30				
Pipe Connections	Gas	inches/mm		1 1/8 (29/35)					
	Discharge	inches/mm	7/8 (22.23)		1" (25.40)				
	Liquid	inches/mm		3/4 (19.05)					
	Fuel/gas			R3/4 (19.05)					
Operation cond.	Exhaust drain	mm		ø 75 rubber hose					
		dBA	57	58	62				
Indoor/outdoor capacity ratio				50:200% *1					
Number of indoor connections			39	38	36				

*Low temp condition: outdoor temperature 2°C *1 Indoor unit can be connected to up to 16xN model (model size 60)

Specifications subject to change without notice.

Additional partsSolenoid valve controller
ACC-3WAY-AGBATK-RZP56BGWB (for indoor unit sizes 7 – 18)
ATK-RZP160BGWB (for indoor unit sizes 25 – 80)

* For conference rooms and other locations where low noise is required, pay attention to the installation location and install in a corridor etc.

**Solenoid Valve Kit ATK-RZP56BGWB, ATK-RZP160BGWB**

To be fitted on all 'zones' to allow simultaneous heating and cooling
Up to 36 indoor units are capable of simultaneous heating/cooling operation.

R410A

ECO G Water Heat Exchanger

For hydronic Applications

Gas Driven VRF

The SANYO ECO G Water Heat Exchanger can provide water at a wide range of temperatures suitable for a wide variety of commercial applications ranging from comfort air conditioning to food processing or the replacement of boilers and other systems.



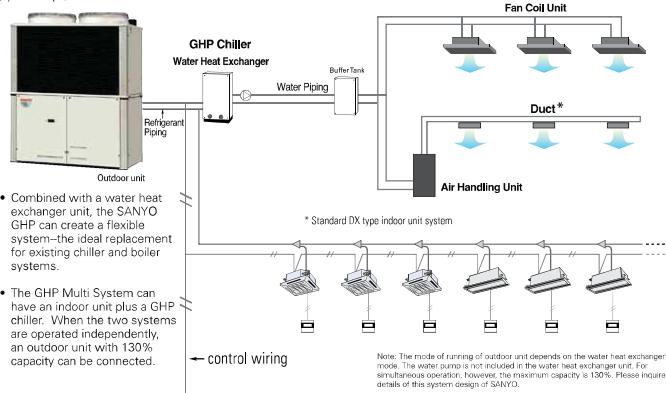
- New line up of 25 kW, 50 kW and 70 kW capacity models
- In cooling (chiller) mode provides water from -5°C to 15°C
- In heating mode can provide hot water up to 55°C, for example for under floor heating applications
- Includes water flow protection to prevent freezing
- S-Link communication
- All controllers and optional PCBs can be used for control
- High flexibility
- Lighter and smaller
- Range of new water terminal/fan coil units
- Split system means reduced installation cost and the use of a less powerful circulation pump
- One touch changeover between cooling and heating operation
- The system can accommodate up to 120m (actual length) of piping between the outdoor unit and the water heat exchanger, allowing flexibility of installation location
- The system can use antifreeze coolant, so it can produce cold water even at -5°C, thereby complying with "brine specifications"



Operating condition	Cooling	Heating
Water temperature of water heat exchanger unit	Outlet 7°C	Outlet 45°C
Outdoor side intake air temperature	35°C DB	7°C DB, 6°C WB

Mixed System Application

(System example)



ECO G Water Heat Exchanger

Model No.	SGP-WE120M2C2W	SGP-WE80M1	SGP-WE80M1N	SGP-WE170M1N
Cooling capacity	kW	25	25	39
Heating capacity	kW	30	30	35.5
Cooling capacity	kW	25	25	37.5
Heating capacity	kW	30	30	45
Cooling capacity	kW	25	25	50
Heating capacity	kW	30	30	60
Cooling capacity	kW	25	25	56
Heating capacity	kW	30	30	67
Electrical rating				
Cooling power input	kW	0.01	0.01	0.01
Heating power input	kW	0.01	0.01	0.01
Power supply				220/230/240V Single Phase 50Hz
Size				
Height	mm	1000	1000	1000
Width	mm	950	950	950
Depth	mm	965	965	965
Weight	kg	125	110	130
Standard cold/hot water flow rate	m³/h	4.3	4.3	8.6
Hydrostatic loss	Pa	8.5	8.5	7.3
Holding water quantity inside the unit	m³	-	0.008	0.012
Minimum holding water quantity outside the unit	m³	0.28	-	0.28
Pipe connections				
Gas pipe	inches/mm	7/8 (22/22)	7/8 (22/22)	1 1/8 (28/59)
Liquid pipe	inches/mm	3/8 (9.52)	3/8 (9.52)	5/8 (15.88)
Water circuit limit pressure	MPa	-	0.66	-
Anti-freezing protection system				Protective thermostat

Specifications subject to change without notice.

higher capacity models data to follow: please refer to our website: <http://eu.sanyo.com/aircon/>

ECO G Water Heat Exchanger

For hydronic applications

Gas Driven VRF

Application Examples

Connection to 'close control' computer equipment.



COMPUTER ROOM APPLICATIONS

When all available electrical power needed to be utilised for the IT equipment for a leading international bank, the cooling load of over 450kW needed to be powered by gas. The outdoor units were connected via Water heat exchangers to cooling coils inside the 'close control' units thereby maintaining a conditioned environment for temperature and humidity. By utilising the hot water function over 100kW of hot water are supplied to the building and therefore the additional benefit of considerable CO₂ savings is ensured.

Connection to chilled water coils in air handling equipment.



AIR HANDLING APPLICATION

When a top London restaurant opened it needed large volumes of fresh air to ensure the optimum dining environment. GHP units connected to the cooling coils within the air handling equipment ensured the air was introduced in the right condition in both summer and winter.

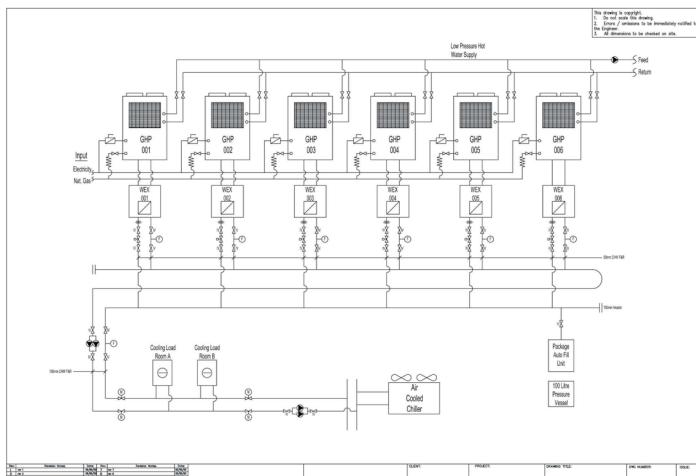
Chiller replacement. Chilled water supply to fan coils.



CHILLER REPLACEMENT

When it came for some old chillers to be replaced at the end of their operation life, GHPs with Water heat exchangers enabled the project to be carried out in stages whilst still utilising the existing water pipe work and fan coils. This enabled the project to be delivered on time, to a restricted budget and avoided all issues regarding refrigerant in confined spaces.

R410A



This Part L design has reduced CO₂ Emissions by 26% or 166 tonnes per annum compared to electric chillers

Specifications subject to change without notice.

G14 Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

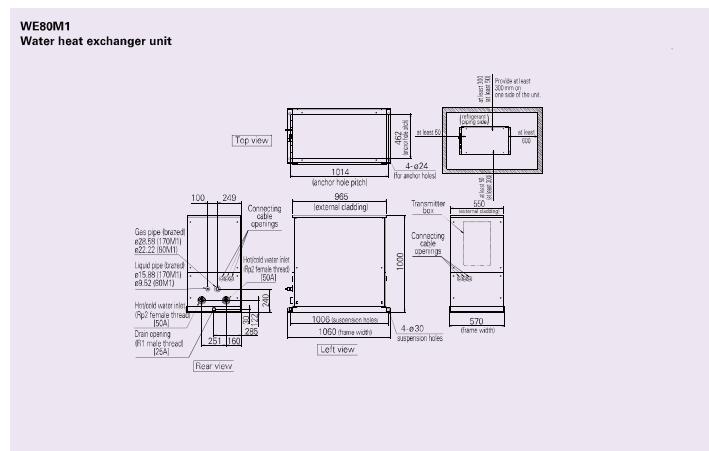
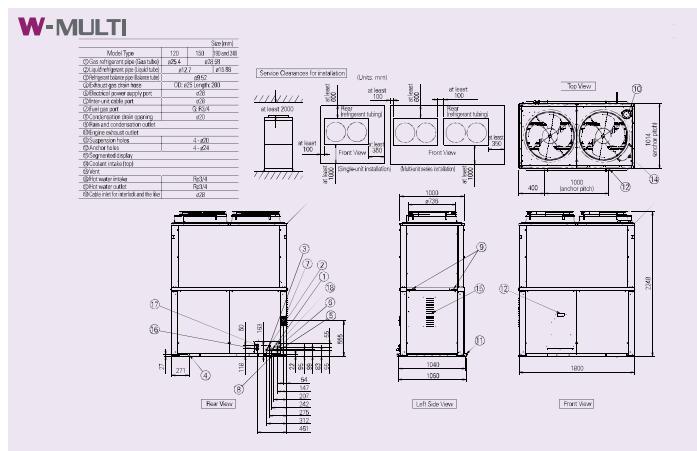
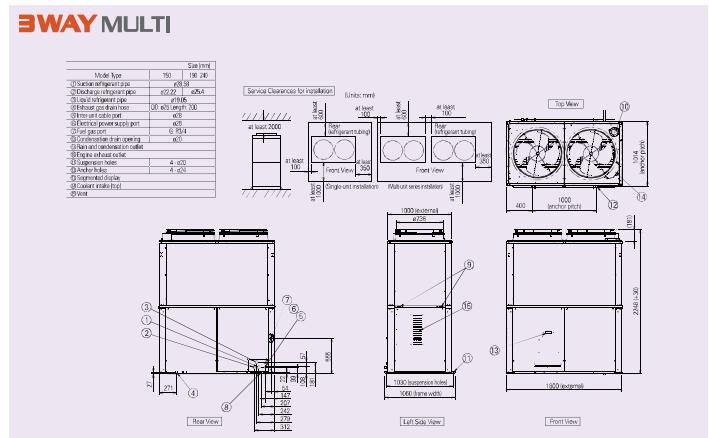
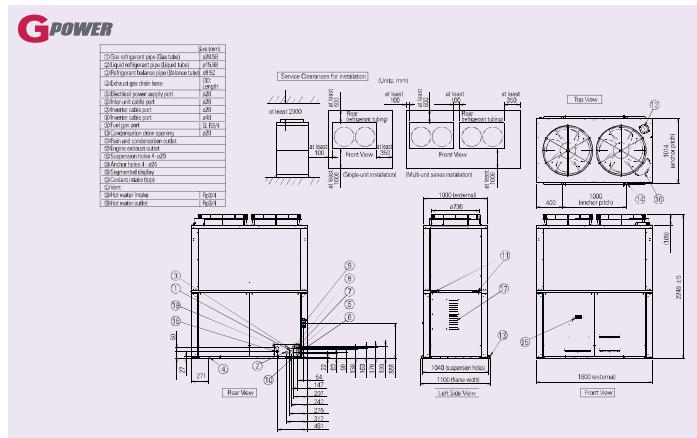
Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

G15

ECO G

outdoor units external dimensions

Gas Driven VRV



Tubing design

Single MULTI

Gas Driven VRF

W MULTI

Refrigerant tubing size

1: In case of standard installation

2: L1 longer than 90m (Equivalent length) or more than 130% connection ratio

Main tubing size [LA] and balance tubing size		Indoor unit connection size [In]			
Outdoor Unit	Capacity	1	2	Gas	Liquid
120	13	35,50	1" (ø25,40)	1/2 (ø12,7)	1 1/8 (ø28,58)
150	18	45,00	1 1/8 (ø28,58)	1/2 (ø12,7)	1 1/4 (ø31,75)
180	20	56,00	1 1/8 (ø28,58)	5/8 (ø15,88)	1 1/4 (ø31,75)
240	25	71,00	1 1/8 (ø28,58)	5/8 (ø15,88)	1 1/4 (ø31,75)
				3/4 (ø19,05)	3/4 (ø19,05)

Main tubing size after branch [LB, LC, - , - , -]		Indoor unit total capacity after branch			
Outdoor Unit	Indoor unit total capacity after branch	1	2	Gas	Liquid
120	Under 16,000W	5/8 (ø15,88)	3/8 (ø9,52)	5/8 (ø15,88)	3/8 (ø9,52)
	16,10 – 22,40	3/4 (ø19,05)	7/8 (ø22,22)	7/8 (ø7,22)	1/2 (ø12,7)
	22,50 – 28,00	3/8 (ø9,52)	ø 25,4	1/2 (ø12,7)	1/2 (ø12,7)
	29,10 – (71,00)	ø 25,4	1/2 (ø12,7)	1 1/8 (ø28,58)	5/8 (ø15,88)
150	Under 16,000W	5/8 (ø15,88)	3/8 (ø9,52)	5/8 (ø15,88)	3/8 (ø9,52)
	16,10 – 22,40	3/4 (ø19,05)	7/8 (ø22,22)	7/8 (ø7,22)	1/2 (ø12,7)
	22,50 – 28,00	3/8 (ø9,52)	ø 25,4	1/2 (ø12,7)	1/2 (ø12,7)
	28,10 – 35,50	ø 25,4	1/2 (ø12,7)	1 1/8 (ø28,58)	5/8 (ø15,88)
	35,60 – (90,00)	1 1/8 (ø31,75)	1/2 (ø12,7)	1 1/4 (ø31,75)	5/8 (ø15,88)
190	Under 16,000W	5/8 (ø15,88)	3/8 (ø9,52)	5/8 (ø15,88)	3/8 (ø9,52)
	16,10 – 22,40	3/4 (ø19,05)	7/8 (ø22,22)	7/8 (ø7,22)	1/2 (ø12,7)
	22,50 – 28,00	3/8 (ø9,52)	ø 25,4	1/2 (ø12,7)	1/2 (ø12,7)
	28,10 – 35,50	ø 25,4	1/2 (ø12,7)	1 1/8 (ø28,58)	5/8 (ø15,88)
	35,60 – 46,00	1 1/8 (ø31,75)	1/2 (ø12,7)	1 1/4 (ø31,75)	5/8 (ø15,88)
	45,10 – (112,00)	1 1/8 (ø31,75)	ø 15,88	1 1/4 (ø31,75)	3/4 (ø19,05)
240	Under 16,000W	5/8 (ø15,88)	3/8 (ø9,52)	5/8 (ø15,88)	3/8 (ø9,52)
	16,10 – 22,40	3/4 (ø19,05)	7/8 (ø22,22)	7/8 (ø7,22)	1/2 (ø12,7)
	22,50 – 28,00	3/8 (ø9,52)	ø 25,4	1/2 (ø12,7)	1/2 (ø12,7)
	28,10 – 35,50	ø 25,4	1/2 (ø12,7)	1 1/8 (ø28,58)	5/8 (ø15,88)
	35,60 – 46,00	1 1/8 (ø31,75)	1/2 (ø12,7)	1 1/4 (ø31,75)	5/8 (ø15,88)
	45,10 – (142,00)	1 1/8 (ø31,75)	5/8 (ø15,88)	1 1/4 (ø31,75)	3/4 (ø19,05)

Branch Kit		Branch joint kit		
Capacity after branch	APR-P100RG	APR-P080RG	APR-P1350RG	
Under 10,000W	•	–	–	
16,10 – 35,50	–	•	–	
Over 35,00	–	•	•	

For further technical details please refer to the Installation manuals or Technical data Specification subject to change without notice

Refrigerant tubing size

1: In case of standard installation

2: L1 longer than 90m (Equivalent length) or more than 130% connection ratio

Main tubing size [LA] and balance tubing size		Indoor unit connection size [In]				Balance
Outdoor Unit	Capacity	1	2	Gas	Liquid	
120-120	26	71,00	1 1/8 (ø28,58)	5/8 (ø15,88)	1 1/4 (ø31,75)	3/4 (ø19,05)
120-150	29	80,50	1 1/4 (ø31,75)	3/4 (ø19,05)	1 1/2 (ø38,10)	7/8 (ø22,22)
150-150	32	90,00	1 1/4 (ø31,75)	3/4 (ø19,05)	1 1/2 (ø38,10)	7/8 (ø22,22)
150-190	36	101,00	1 1/4 (ø31,75)	3/4 (ø19,05)	1 1/2 (ø38,10)	7/8 (ø22,22)
190-190	40	112,00	1 1/2 (ø38,10)	3/4 (ø19,05)	1 1/2 (ø38,10)	7/8 (ø22,22)
190-240	45	127,00	1 1/2 (ø38,10)	3/4 (ø19,05)	1 1/2 (ø38,10)	7/8 (ø22,22)
240-240	50	142,00	1 1/2 (ø38,10)	3/4 (ø19,05)	1 1/2 (ø38,10)	7/8 (ø22,22)

Main tubing size after branch [LB, LC, - , - , -]		Indoor unit connection size [In]			
Outdoor Unit	Indoor unit total capacity after branch	1	2	Gas	Liquid
Under 16,000W	5/8 (ø15,88)	3/8 (ø9,52)	5/8 (ø15,88)	3/8 (ø9,52)	3/8 (ø9,52)
16,10 – 22,40	3/4 (ø19,05)	7/8 (ø22,22)	7/8 (ø7,22)	1/2 (ø12,7)	1/2 (ø12,7)
22,50 – 28,00	3/8 (ø9,52)	ø 25,4	1/2 (ø12,7)	1 1/8 (ø28,58)	5/8 (ø15,88)
28,10 – 35,50	ø 25,4	1/2 (ø12,7)	1 1/8 (ø28,58)	5/8 (ø15,88)	5/8 (ø15,88)
35,60 – 45,00	1 1/8 (ø31,75)	1/2 (ø12,7)	1 1/4 (ø31,75)	5/8 (ø15,88)	5/8 (ø15,88)
45,10 – 112,00	1 1/8 (ø31,75)	ø 15,88	1 1/4 (ø31,75)	3/4 (ø19,05)	3/4 (ø19,05)

Branch and Header Kit		Branch joint kit				Header joint kit	
Capacity after branch	APR-P100RG	APR-P080RG	APR-P1350RG	SSP-HC1280M	SSP-HC1280L	SSP-HC1690K	
Under 5,000W	•	•	•	•	•	•	
5,60 – 16,00	•	•	•	•	•	•	
16,10 – 22,40	•	•	•	•	•	•	
22,50 – 28,00	–	•	•	•	•	•	
28,10 – 35,50	–	•	•	•	•	•	
35,60 – 45,00	–	•	•	–	–	•	
45,10 – 71,00	–	–	•	–	–	–	
Over 71,10	–	–	•	–	–	•	

For further technical details please refer to the Installation manuals or Technical data Specification subject to change without notice

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

G19

Tubing design 3 Way MULTI

Refrigerant tubing size

- 1: In case of standard installation
2: L1 longer than 90m (Equivalent length) or more than 130% connection ratio

Main tubing size [L] and balance tubing size		Capacity			1		2		Liquid	
Outdoor Unit		HP	kW		Section	Discharge	Section	Discharge		
150	16	45.00	11.8 (ø25.58)	7/8 (ø22.22)	1 1/4 (ø31.75)	7/8 (ø22.22)	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)	
190	20	58.00	11.8 (ø25.58)	ø 25.4	1 1/4 (ø31.75)	ø 25.4	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)	
240	25	71.00	11.8 (ø25.58)	ø 25.4	1 1/4 (ø31.75)	ø 25.4	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)	

Main tubing size after branch [LB, LC, -, -, -]		Capacity			1		2		Liquid	
Outdoor Unit	Indoor unit total capacity after branch		Gas	Liquid	Section	Discharge	Section	Discharge		
150	Under 8.90kW	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	8.00 - 16.00	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	16.10 - 28.00	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	1 1/8 (ø25.40)	1 1/8 (ø25.40)
	28.10 - 35.50	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	5/8 (ø19.05)	5/8 (ø19.05)
	Over 35.50	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	3/4 (ø19.05)	3/4 (ø19.05)
190	Under 9.50kW	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	8.00 - 16.00	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	16.10 - 28.00	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	1 1/8 (ø25.40)	1 1/8 (ø25.40)
	28.10 - 35.50	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	5/8 (ø19.05)	5/8 (ø19.05)
	Over 35.50	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	3/4 (ø19.05)	3/4 (ø19.05)
240	Under 8.90kW	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	1 1/2 (ø12.7)	5/8 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	8.00 - 16.00	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	5/8 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	16.10 - 28.00	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	3/4 (ø19.05)	1 1/8 (ø25.40)	1 1/8 (ø25.40)	1 1/8 (ø25.40)
	28.10 - 35.50	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	5/8 (ø19.05)	5/8 (ø19.05)
	Over 35.50	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	7/8 (ø22.22)	1 1/8 (ø25.40)	3/4 (ø19.05)	3/4 (ø19.05)

Tubing size after branch [In]		Indoor unit – SVK			Branch – SVK			Branch – SVK		
Indoor unit total capacity after branch		Gas	Liquid	Suction	Discharge	Liquid	Gas	Liquid	Suction	Discharge
2.20 - 5.60kW		3/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	3/8 (ø19.05)	5/8 (ø19.05)	3/8 (ø19.05)	5/8 (ø19.05)	3/8 (ø19.05)	5/8 (ø19.05)
7.10 - 8.00		5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)	5/8 (ø19.05)

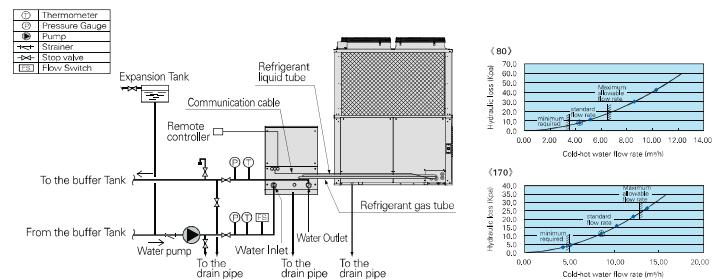
Branch Kit		1			2			3		
Capacity after branch		APR-RZP224BGB	APR-RZP680BGB	APR-RZP1350BGB	APR-RZP224BGB	APR-RZP680BGB	APR-RZP1350BGB	APR-RZP224BGB	APR-RZP680BGB	APR-RZP1350BGB
Under 9.90kW	*	*	*	*	*	*	*	*	*	*
9.00 - 16.00	*	*	*	*	*	*	*	*	*	*
16.10 - 28.00	-	*	*	*	-	*	*	*	*	*
28.10 - 35.50	-	*	*	*	-	*	*	*	*	*
35.60 - 45.00	-	*	*	*	-	*	*	*	*	*
Over 45.00	-	*	*	*	-	*	*	*	*	*

For further technical details please refer to the Installation manuals or Technical data Specification subject to change without notice

Water heat exchanger installation instruction

Gas Driven VRF

Installation instruction of GHP Water Heat Exchanger



Water piping construction

Warning
• Only use water as the medium for the hot and cold water and the chilled water. Otherwise, this could result in fires or explosions.

Caution

- Use water that complies with water standards for hot and cold water and for cooling water. Poor quality water can cause breakdown or water leaks.
- Dispose of brine and cleaning fluid in accordance with the applicable regulations. If these items are illegally disposed, not only will this result in legal matters, but it will also have bad effect on the environment and health.

- (1) Water pipes can be connected to either the front or the rear of the water heat exchanger unit. When shipped from the factory, rubber stoppers are fitted to the openings. Openings that are not being used should be closed with the rubber stopper.
- (2) Connect the hot and cold water circulation pump to the inlet pipe side of the water heat exchanger.
- (3) Make the opening of the water pipe larger than the opening of the connector (S0A), and use few bends as possible, in order to reduce the pipe resistance as much as possible. Also, use unions or flanges near the unit, so that the unit can be easily removed.
- (4) Install a suitable water removal valve and air removal valve in the water pipes. If air becomes mixed with the liquid in the pipes, this can cause noise, corrosion, and reduced performance.
- (5) Make sure that there is always at least the minimum quantity of water (0.3m³) in the system. If the water quantity is small, provide a storage tank or similar. If there is insufficient water in the unit this will cause the system to stop frequently or to breakdown.
- (6) Provide a water thermometer and flow rate adjustment valve, so that during test running it is possible to adjust the cold / hot water flow rate while watching the water temperature. Also, after adjusting, do not touch the adjustment valve.
- (7) Adjust the water pressure so that the pressure in the water heat exchanger is less than, 0.69N/mm².
- (8) Install an expansion tank within the water pipe system.
- (9) The hot and cold water flow rate should be within the range shown in Figure 3. If used outside this range then it could cause breakdown due to corrosion or freezing of the water heat exchanger unit.
- (10) Provide sufficient insulation to the water pipes. If insufficient insulation is provided then this will result in loss of heat. Also, in a severe cold period damage due to freezing of the pipes can occur.
- (11) Within the water heat exchanger unit there is a circuit such that, if the external air temperature and the temperature of the water within the unit fall, the hot and cold water circulation pump automatically starts, to prevent freezing within the water heat exchanger unit. However, if the unit location or if the insulation to the water pipes is insufficient, the temperature of the water in the pump and hot and cold water pipes might fall and freeze before the temperature of the water in the unit falls. In this situation provide a circuit which detects the outdoor air temperature and if the outdoor air temperature is lower than the water temperature, the hot and cold water circulation pump automatically starts. Attach suitable suspension fittings to the pipes, so that no unreasonable load is applied to the water heat exchanger unit.

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

G20

Precautions

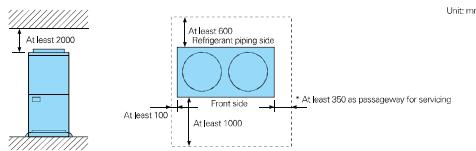
Securing adequate space for servicing

Several units can be installed in series

Install the outdoor unit in a well-ventilated location that will help the heat exchanger work at its optimum level. Be sure to secure enough space for maintenance work, referring to the diagram below for minimum clearances. When installing up to three units in series provide a passageway between units for servicing.

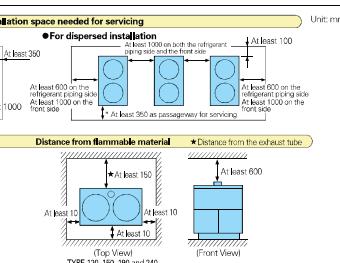
When installing one unit

- * A passageway for servicing can be provided on either the left or right side of the unit.
- * Be sure to secure an installation space with the following clearances:



Installing 8 or more outdoor units in series

When installing eight or more outdoor units in series, or when installing units near a wall or other locations where air circulation may be inadequate, give sufficient consideration to the possibility of the units shorting out.



When installing more than one unit in series

- * A passageway for servicing can be provided on either the left or right side of the unit.
- * Be sure to secure an installation space with the following clearances:

Avoid the following installation locations

Install the unit safely and securely in a place where it will be adequately protected and be able to perform at its designed specifications.

A place that has no space for servicing

- Near a street lamp or tree
 - Insects attracted by street lamps in large numbers and leaves from trees can get sucked into the unit and cause it to malfunction.

Other locations to avoid:

- Places where chemicals are used
- Places where the unit will disturb others
- Near a chimney or exhaust outlet
- Places exposed to strong winds
- An installation that has no vibration proof pad
- Near a wall other than a soundproof wall
- Places where salt damage may occur and no preventive measures are taken
- Places with no protection from snow.

In addition, if the area below the outdoor unit is to be used, make sure the installation pad is constructed so that water drops and oily or greasy dirt will drip down into the area below. Do not use a pad fabricated by metal punching or a similar process.

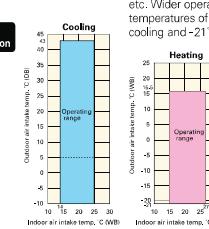
Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB 7°C WB DB 6°C WB

Features

High technology features

WIDE OPERATION

Wider operation



Cooling can be performed throughout the year for computer rooms, banquet halls, etc. Wider operation range covers outdoor temperatures of as low as -10°C DB for cooling and -21°C WB for heating.

Automatic restart function for power failure

Even when power failure occurs, preset programmed operation can be reactivated once power is resumed.

Self-diagnosing function

By using electronic control valves for details of past record of warnings are stored and can be verified on the liquid crystal display. This makes it easier to diagnose malfunctions, greatly reducing service labour.

Simple, convenient features (Indoor Units)

AUTO

Automatic fan operation

DRY

Mild Dry

Convenient microprocessor control automatically adjusts fan speed to High, Medium or Low, corresponding to room sensor and maintains comfortable airflow throughout the room.

AIR SWEEP

The air sweep function moves the flap up and down in the air outlet, directing air in a "sweeping" motion around the room and providing comfort in every corner.

DP

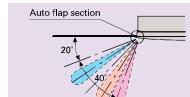
Built-in drain pump

Max. head 50cm (for 75cm: U type) from the bottom of the unit.

AUTO

Comfortable auto-flap control

When the unit is first turned on, flap position is automatically adjusted in accordance with the cooling or heating operation. This initial flap position can be preset within a certain range, for both cooling and heating. Auto button is included for continuous movement of flap to vary airflow direction.



Maintenance and inspection is a must for gas heat pump air-conditioning systems.

Just like an automobile, a heat pump air-conditioning system requires periodic servicing so that it can perform efficiently.

Maintenance and inspection

Main maintenance and inspection items

1. Changing the engine oil
2. Checking the coolant level
3. Inspecting the engine system
4. Checking the safety protection system
5. Checking and adjusting the running conditions, collecting operating data, etc.

Fixing problems

Efficient operation

Preserving durability

Safe and reliable operation

Energy saving

Since a heat pump air-conditioning system uses a gas engine as its power source, it should be periodically inspected to avoid trouble and keep it running efficiently. We recommend a maintenance contract for your Sanyo Gas Heat Pump, a great value because it not only ensures that problems will be fixed, but it helps reduce running costs and improve comfort and economical efficiency as well.

GHP Checker Software

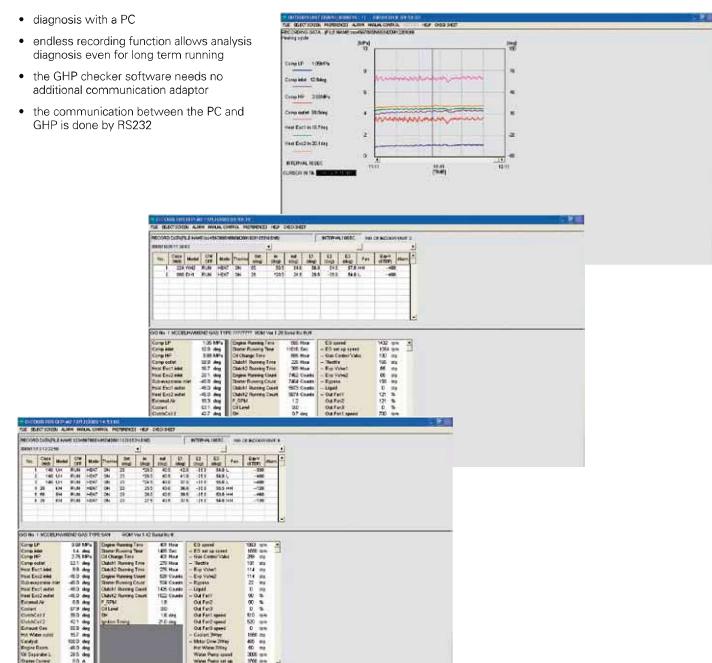
SANYO's diagnosis software

The handy tool for optimising the running of your system:

diagnosis for start ups, maintenance and system supervising

Features:

- diagnosis with a PC
- endless recording function allows analysis diagnosis even for long term running
- the GHP checker software needs no additional communication adaptor
- the communication between the PC and GHP is done by RS232



G24

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

Indoor Units and System Controls

Contents

- A1 Indoor Unit Range
- A3 X type
- A5 XM type
- A7 LDR type
- A9 DR type
- A11 US type
- A13 U type
- A15 FTR type
- A17 T type
- A19 K type
- A23 FR type
- A25 FMR type
- A27 GU type
- A29 CFR type
- A31 VRF Indoor Unit Dimensions
- C1 System Controls
- C3 Individual Control Systems
- C5 Centralised Control Systems
- C9 Interfaces for External Control
- C11 BMS Software
- C13 PAC2 System Design Software
- C15 Control Equipment External Dimensions



Indoor Unit Range

Wide choice of models depending on the indoor requirements

Electric + Gas VRF Indoor Units

Model size	7	9	12	16	18	22	25	36	48	60	76	96	Wireless remote control	
Capacity kW	Cooling 2,20	Cooling 2,80	Cooling 3,80	Cooling 4,50	Cooling 5,60	Cooling 6,40	Cooling 7,30	Cooling 10,80	Cooling 14,00	Cooling 16,00	Cooling 22,40	Cooling 28,00	Type with built-in sensor part	
	Heating 2,50	Heating 3,20	Heating 4,20	Heating 5,00	Heating 6,30	Heating 7,00	Heating 8,00	Heating 11,40	Heating 16,00	Heating 18,00	Heating 25,00	Heating 31,50	Type with separately installed sensor part	
Capacity BTU/h	Cooling 7500	Cooling 9800	Cooling 12000	Cooling 15000	Cooling 19000	Cooling 22000	Cooling 25000	Cooling 36000	Cooling 47800	Cooling 54600	Cooling 76400	Cooling 95500		Functions
	Heating 8500	Heating 11000	Heating 14000	Heating 17000	Heating 24000	Heating 27000	Heating 30000	Heating 54600	Heating 61500	Heating 65300	Heating 107500			
X type Semi Concealed Cassette		SPW-X07KH Panel PNR-X06B	SPW-X09KH Panel PNR-X06B	SPW-X12KH Panel PNR-X06B	SPW-X16KH Panel PNR-X06B	SPW-X18KH Panel PNR-X06B	SPW-X22KH Panel PNR-X06B	SPW-X36KH Panel PNR-X06B	SPW-X48KH Panel PNR-X06B	SPW-X60KH Panel PNR-X06B			✓	
XM type Semi Concealed		SPW-XMD7KH Panel PNR-XM185	SPW-XMD9KH Panel PNR-XM185	SPW-XMD12KH Panel PNR-XM185	SPW-XMD15KH Panel PNR-XM185	SPW-XMD18KH Panel PNR-XM185							✓	✓
LDB type Slim Concealed Slim Cassette		SPW-LDB40GKH56B Panel PNR-LD254GHB	SPW-LDB40GKH56B Panel PNR-LD254GHB	SPW-LDB40GKH56B Panel PNR-LD254GHB	SPW-LDB40GKH56B Panel PNR-LD254GHB	SPW-LDB40GKH56B Panel PNR-LD254GHB							✓	✓
DR type Concealed Duct								SPW-DR254GXH56B	SPW-DR364GXH56B	SPW-DR484GXH56B	SPW-DR764GXH56B	SPW-DR964GXH56B		✓
US type Concealed Duct		SPW-US175KH	SPW-US05XH	SPW-US125KH	SPW-US165KH	SPW-US185KH								✓
U type Concealed Duct		SPW-U075KH	SPW-U095KH	SPW-U125KH	SPW-U165KH	SPW-U185KH	SPW-L255KH	SPW-U365KH	SPW-U485KH	SPW-U605KH			✓	
FTR type Floor/Ceiling Mounted Units		SPW-FTR74EXH56B	SPW-FTR84EXH56B	SPW-FTR124EXH56B	SPW-FTR164EXH56B	SPW-FTR184EXH56B	SPW-FTR224EXH56B						✓	✓
T type Ceiling Mounted Unit				SPW-T125KH	SPW-T165KH	SPW-T195KH	SPW-T255KH	SPW-T365KH	SPW-T485KH				✓	✓
K type Wall Mounted Unit		SPW-K075KH	SPW-K095KH	SPW-K125KH									✓	✓
K type Wall Mounted Unit					SPW-K165KH	SPW-K185KH	SPW-K255KH	SPW-K365KH					✓	✓
FR type Floor Standing Unit		SPW-FR74DXH56B	SPW-FR84DXH56B	SPW-FR1124DXH56B	SPW-FR154DXH56B	SPW-FR184DXH56B	SPW-FR254DXH56B						✓	
FMR type Concealed Floor Standing Unit		SPW-FMR74GXH56B	SPW-FMR84GXH56B	SPW-FMR124GXH56B	SPW-FMR164GXH56B	SPW-FMR184GXH56B	SPW-FMR254GXH56B						✓	
GU type Total Heat Exchanger			SPW-GU055KH		SPW-GU075KH	SPW-GU105KH							✓	

CFR type
Heat Recovery Units (page A29-A30)

Water operation Comfortable auto Map control Self-diagnosing function Automatic restart function for power failure Automatic fan operation Air Sweep Dry mode Bal-in drain pump

X type

semi concealed cassette

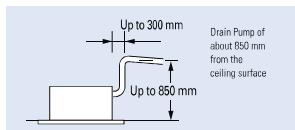
Electric + Gas VRF Indoor Units

SPW-X076XH SPW-X096XH
SPW-X126XH SPW-X166XH
SPW-X186XH SPW-X256XH
SPW-X366XH SPW-X486XH
SPW-X606XH

The New Semi concealed 4 way blow 6-Series X type Cassette incorporates many new benefits due to advancements in design and technology.

Airflow has been improved including circulation, height and volume control and the product offers improved efficiencies and better COPs due to the new coil design.

- New Circle Flow Flap for more even temperature distribution
- Higher efficiency split fin
- New DC fan motor
- Highly efficient and silent turbo fan
- Individual flap control for flexible air flow direction
- Easy to clean suction grill & flap
- Special adjustment for high ceiling application



Panel



PNR-X606

Controller Options

Timer remote controller Wireless remote controller Simplified remote controller



RCS-TM80BG



RCS-BH80BG.VL



RCS-KR1EG



Indoor unit specifications		SPW-X076XH	SPW-X096XH	SPW-X126XH	SPW-X166XH	SPW-X186XH	SPW-X256XH	SPW-X366XH	SPW-X486XH	SPW-X606XH
Power source					220/230/240V, 1 phase, 50/60 Hz					
Cooling capacity	kW	2.2	2.6	3.2	4.5	5.6	7.3	10.6	14.0	16.0
	BTU/h	7500	9600	12000	15000	19000	25000	36000	47300	51600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.30	8.0	11.4	16.0	18.0
	BTU/h	8500	11000	14000	17000	21000	27000	39000	54300	61400
Power input	Cooling kW	0.031	0.031	0.031	0.035	0.041	0.054	0.102	0.110	0.119
	Heating kW	0.019	0.019	0.019	0.023	0.031	0.044	0.064	0.072	0.107
Running amperes	Cooling A	0.29/0.26/0.23	0.25/0.26/0.26	0.25/0.26/0.26	0.29/0.28/0.28	0.34/0.34/0.34	0.46/0.46/0.45	0.94/0.82/0.82	0.99/0.88/0.88	0.97/0.94/0.94
	Heating A	0.19/0.18/0.17	0.16/0.18/0.17	0.16/0.18/0.17	0.17/0.17/0.17	0.23/0.28/0.27	0.41/0.40/0.39	0.93/0.77/0.75	0.86/0.83/0.83	0.89/0.86/0.86
Type	Turbo Fan X									
Fan motor	Airflow rate (l/M/1 m ² /min)	13/12/11	13/12/11	13/12/11	15/14/13	21/17/14	33/27/21	35/29/22	36/29/23	
	kW	0.04	0.04	0.04	0.04	0.09	0.09	0.09	0.09	
Sound pressure level (dB/L1)	dBA(A)	29/21/25	28/21/25	29/21/25	30/28/27	32/29/27	35/31/28	45/38/32	44/39/33	45/40/34
Dimensions	Height mm	940~990~								
	Width mm	840~950~								
Pipe connections	Liquid inches/mm	6.25 (1/4)								
	Gas inches/mm	12.7 (1/2)								
Net weight	kg	20 ~ 23								
Panel colour	White (Munsell colour system: 2.5GY 9.0/0.5)									

The values in <> for external dimensions and Net weight are the values for the optional ceiling panel.

Specifications subject to change without notice.



R410A

XM type

mini semi concealed cassette

Electric + Gas VRF Indoor Units

SPW-XM075XH
SPW-XM095XH
SPW-XM125XH
SPW-XM165XH
SPW-XM185XH

Designed to fit exactly into a 600x600mm ceiling grid without the need to alter the bar configuration, the XM is ideal for small commercial and retrofit applications. In addition, the improvements to efficiency make this one of the most advanced units in the industry.



Panel



PWR-XM185

Controller Options

Timer remote controller

Wireless remote controller

Simplified remote controller



RCS-XM18BG.VWL



RCS-BH80BG.WL



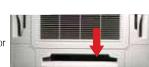
RCS-KR1EG

- Mini cassette fits into a 600x600mm ceiling grid
- Fresh air knock out
- Multidirectional air flow
- Anti-mould and anti-bacteria washable filters
- Powerful drain pump gives 850mm lift
- Turbo fans and heat exchanger fins with improved design
- DC fan motors with variable speed, new heat exchangers, etc. ensure an efficient power consumption

Special designed flap

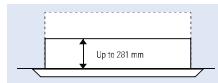


The flap can be removed easily for washing.



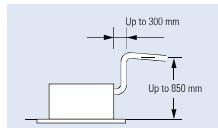
Lighter and slimmer, easier installation

A lightweight unit at 26 kg (for type 36-60), the unit is also very slim with a height of only 281 mm, making installation possible even in narrow ceilings.



A drain height of approx. 850 mm from the ceiling surface

The drain height can be increased by approximately 350 mm over the conventional value by using a high-lift drain pump, and long horizontal piping is possible.



Indoor unit specifications

Model Name	SPW-XM075XH	SPW-XM095XH	SPW-XM125XH	SPW-XM165XH	SPW-XM185XH
Power source			230/230/240V, 1 phase, 50/60Hz		
Cooling capacity	kW	2.20	2.80	3.60	4.70
	BTU/h	7500	9600	12000	15000
Heating capacity	kW	2.50	3.20	4.20	5.00
	BTU/h	8500	11000	14000	17000
Power input	Cooling kW	0.024/0.031/0.036	0.037/0.049/0.051	0.044/0.060/0.067	0.055/0.079/0.080
	Heating kW	0.024/0.027/0.026	0.027/0.024/0.021	0.034/0.036/0.027	0.045/0.059/0.050
Running amperes	Cooling A	0.75/0.75/0.71	0.79/0.76/0.73	0.87/0.83/0.79	0.97/0.92/0.83
	Heating A	0.24/0.21/0.19	0.27/0.24/0.21	0.35/0.31/0.27	0.45/0.40/0.31
Type		Turbo fan			
Fan motor	Airflow rate (H/M/L) m³/min	9/8/7	10/9/8	12/11/10	14/13/11
	Output kW	(0.03)	(0.03)		
Power sound level (H/M/L) dB(A)	41/38/38		43/42/37	47/43/39	52/48/44
Pressure sound level (H/M/L) dB(A)	30/27/25		32/29/26	36/32/28	41/37/33
Dimensions	Height mm	281	281	281	281
	Width mm	515~626*	515~625*	515~625*	515~625*
	Depth mm	515~625*	515~625*	515~625*	515~625*
Liquid	inches mm	1/4 (6.35)	1/4 (6.35)	1/2 (12.7)	1/2 (12.7)
Pipe connections	Gas inches mm	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)
	Drain piping mm	15~20	15~20	15~20	15~20
Net weight	kg	26	26	26	26

Heating: Indoor air temperature 20°C DB, outdoor air temperature 7°C DB/6°C WB

Specifications subject to change without notice.



R410A

LDR type

semi concealed slim cassette

Electric + Gas VRF Indoor Units

SPW-LDR94GXH56B
SPW-LDR124GXH56B
SPW-LDR164GXH56B
SPW-LDR184GXH56B
SPW-LDR254GXH56B

Designed for installation within the ceiling void, the LDR range of slimline 1 way blow cassettes feature powerful yet quiet fans for ceilings up to 4.2 metres.



Panel



PNR-LD254GHAB

Controller Options

Timer remote controller

Wireless remote controller (transmitter, common part)

Simplified remote controller



RCS-TRP80BG WL

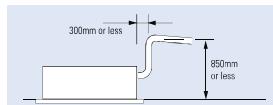
RCS-BH80BG WL

RCS-KR1EG

- Ultra-Slim
- Suitable for standard and high ceilings
- Built-in drain pump provides 747mm lift
- Easy to install and maintain
- Hanging height can be easily adjusted
- Uses a DC fan motor to improve energy-efficiency



Drain height



With 3 types of air-blow systems, the units can be used in various ways.

- (1) One-direction down-blow system**
 Powerful one-direction "down-blow" system reaches the floor even from high ceilings (up to 4.2m).
- (2) Two-direction ceiling-mounted system**
 "Down-blow" and "front-blow" systems are combined in a ceiling-mounted unit to blow air over a wide area.
- (3) One-direction ceiling-mounted system**
 This powerful ceiling-mounted "front-blow" system efficiently air-conditions the space in front of the unit.

(Additional accessories required)

Indoor unit specifications

Model Name	SPW-LDR94GXH56B	SPW-LDR124GXH56B	SPW-LDR164GXH56B	SPW-LDR184GXH56B	SPW-LDR254GXH56B
Power source	220/230/240V, 1 phase, 50/60 Hz				
Cooling capacity kW	2.80	3.63	4.50	5.60	7.31
Cooling capacity BTU/h	9600	12000	15000	19000	25000
Heating capacity kW	3.20	4.20	5.00	6.30	8.00
Heating capacity BTU/h	11000	14000	17000	21000	27000
Power input Cooling kW	0.165/0.110/0.115	0.165/0.110/0.115	0.165/0.110/0.115	0.165/0.115/0.120	0.115/0.120/0.125
Power input Heating kW	0.075/0.080/0.085	0.075/0.080/0.085	0.075/0.080/0.085	0.080/0.085/0.090	0.085/0.090/0.095
Running amperes Cooling A	0.50/0.55/0.51	0.50/0.50/0.51	0.50/0.50/0.51	0.52/0.53/0.54	0.55/0.55/0.56
Running amperes Heating A	0.35/0.37/0.38	0.36/0.37/0.38	0.36/0.37/0.38	0.38/0.39/0.41	0.40/0.41/0.42
Fan motor Airflowrate (H/M/L) m³/min	12/11/9	12/11/10	13/11.5/10	18/15/13	
Fan motor Power kW	0.04	0.04	0.04	0.04	0.04
Power sound level (H/M/L) dB(A)	47/45/44	47/42/45	49/47/45	56/51/47	
Pressure sound level (H/M/L) dB(A)	35/34/33	36/35/34	38/36/34	45/40/36	
Dimensions Height mm		200 + 2C			
Dimensions Width mm		100 + 1730+			
Dimensions Depth mm		710 - 880-			
Pipe connections Liquid inches/mm		1/4 (6.35)			3/8 (9.52)
Pipe connections Gas inches/mm		1/2 (12.7)			5/8 (15.88)
Drain piping		V/P 25			
Net weight kg	21 + 5.5*				22 + 5.5*

The values in <> for external dimensions and Net weight are the values for the optional ceiling panel.

Specifications subject to change without notice.



R410A

DR type

concealed duct high-static pressure

Electric + Gas VRF Indoor Units

SPW-DR254GXH56B
SPW-DR364GXH56B
SPW-DR484GXH56B
SPW-DR764GXH56B
SPW-DR964GXH56B

The DR range of ducted units offers improved design flexibility for extended duct layouts as a result of their increased external static pressures.



Controller Options

Timer remote controller

Wireless remote controller

Simplified remote controller



RCS-TM80BG



RCS-BH60BG,WL



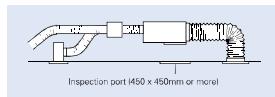
RCS-KR1EG

- Complete flexibility for ductwork design
- Can be located into a weatherproof housing for external siting
- Configurable air temperature control



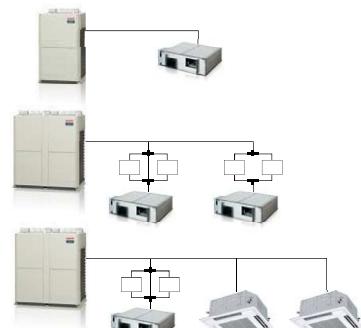
System example

An inspection port (450 x 450mm or more) is required at the lower side of the indoor unit body (field supply).



Rap valve kit

The types 76 and 96 require two rap valve kits for each unit. (not required on a 1:1 installation)



Indoor unit specifications

Model Name	SPW-DR254GXH56B	SPW-DR364GXH56B	SPW-DR484GXH56B	SPW-DR764GXH56B	SPW-DR964GXH56B
Power source		220/230/240V, 1 phase - 50/60 Hz			220/230/240V, 1 ph - 50Hz
Cooling capacity	kW	7.30	10.69	14.00	22.40
	BTU/h	25000	36000	47800	76400
Heating capacity	kW	6.00	11.49	16.00	25.00
	BTU/h	27000	39000	54600	85300
Power	Cooling kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930
input	Heating kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930
Running amperes	Cooling A	2.29/2.30/2.31	2.46/2.46/2.47	2.89/2.90/3.00	4.05/4.06/4.07
	Heating A	2.29/2.30/2.31	2.46/2.46/2.47	2.89/2.90/3.00	4.05/4.06/4.07
Type				Sirocco fan	
Fan motor	Airflow rate (N/MU) m³/min	23/22/21	30/26/25	36/35/33	56/63/149.6
	Output kW	0.2	0.2	0.2	0.4*
	External static pressure Pa	166	176	167	216
Power sound level (H/MU)	dB(A)	55/54/53	50/55/53	58/57/55	59/58/57
Pressure sound level (H/MU)	dB(A)	44/43/42	45/44/42	47/48/44	48/47/46
Dimensions	Height mm	111	420	456	467
	Width mm		1095		1428
	Depth mm		823		1230
Pipe connections	Liquid inches/mm			3/8 (ø8.52)	
	Gas inches/mm		5/8 (ø15.88)		3/4 (ø19.05)
	Drain piping mm			VF-25	7/8 (ø22.22)
Net weight	kg	47	50	54	110
					120

Specifications subject to change without notice.



R410A

US type
concealed duct

Electric + Gas VRF Indoor Units

**SPW-US075XH
SPW-US095XH
SPW-US125XH
SPW-US165XH
SPW-US185XH**

The ultra slim US type is one of the leading products of its type in the industry. With a depth of only 200mm it provides greater flexibility and can be used in far more applications.

In addition, its high-efficiency and extremely quiet sound levels make it very popular with many users, including hotels and small offices.

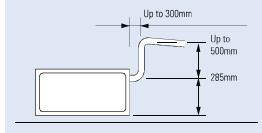
- Ultra-slim profile: 200 mm for all models
- DC fan motor greatly reduces power consumption
- Ideal for hotel application with very narrow false ceilings
- Anti-mould washable filters included
- Easy maintenance and service by external electrical box
- 40 pa static pressure enables ductwork to be fitted.
- Includes drain pump

Ultra-slim profile for all models



Drain pump with increased power!

By adoption of a high-lift drain pump, the drain piping rise height can be increased to 785mm from the lower surface of the body.



Controller Options

Timer remote controller Wireless remote controller Simplified remote controller



RCS-TM80BG



RCS-BH80BG.WL



RCS-KR1EG

Indoor unit specifications

Model Name	SPW-US075XH	SPW-US095XH	SPW-US125XH	SPW-US165XH	SPW-US185XH
Power source			220/230/240V, 1 phase, 50/60Hz		
Cooling capacity	2.20 kW 7500 BTU/h	2.60 kW 8500 BTU/h	3.60 kW 12000 BTU/h	4.50 kW 15000 BTU/h	5.60 kW 19000 BTU/h
Heating capacity	2.50 kW 8500 BTU/h	3.20 kW 11000 BTU/h	4.20 kW 14000 BTU/h	5.00 kW 17000 BTU/h	6.30 kW 21000 BTU/h
Power input	Cooling kW 0.039/0.059/0.036 Heating kW 0.026/0.026/0.026	Cooling kW 0.049/0.069/0.040 Heating kW 0.039/0.039/0.039	Cooling kW 0.042/0.042/0.042 Heating kW 0.032/0.032/0.032	Cooling kW 0.049/0.049/0.049 Heating kW 0.039/0.039/0.039	Cooling kW 0.064/0.064/0.064 Heating kW 0.054/0.054/0.054
Running amperes	Cooling A 0.26/0.26/0.26 Heating A 0.23/0.23/0.23	Cooling A 0.30/0.30/0.30 Heating A 0.27/0.27/0.27	Cooling A 0.31/0.31/0.31 Heating A 0.27/0.27/0.27	Cooling A 0.37/0.37/0.37 Heating A 0.30/0.30/0.30	Cooling A 0.48/0.48/0.48 Heating A 0.45/0.45/0.45
Fan motor	Type Axial fan Dimensions mm 67/6	Type Axial fan Dimensions mm 8.5/7.5/6.5	Type Axial fan Dimensions mm 9.6/7	Type Axial fan Dimensions mm 10.5/9.5/8	Type Axial fan Dimensions mm 12.5/11.5/10
External static pressure	Pa 10-30 dB(A) 43/42/40	Pa 15-30 dB(A) 45/44/42	Pa 15-40 dB(A) 47/45/43	Pa 15-40 dB(A) 49/47/45	Pa 15-40 dB(A) 52/50/48
Power sound level (H/M/L)	dBA 26/27/25	Power sound level (H/M/L)	dBA 30/29/27	Power sound level (H/M/L)	dBA 32/31/28
Dimensions	Height mm 206 Width mm 756 Depth mm 640				
Pipe connections	Liquid Gas inches/mm 1/4(6.35) Drain piping inches/mm 1/2(12.7)				
Net weight	kg 19				

Specifications subject to change without notice.



R410A

A11 Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB 6°C WB

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB 6°C WB

A12

U type

concealed duct

Electric + Gas VRF Indoor Units

SPW-U075XH	SPW-U095XH
SPW-U125XH	SPW-U165XH
SPW-U185XH	SPW-U255XH
SPW-U365XH	SPW-U485XH
SPW-U605XH	

The U type ducted systems are the ideal solution for flexible, concealed air conditioning and the standard 200mm spigots ensure simple, hassle-free connection to spiral ductwork. The external static pressure can be increased via an optional booster cable to provide increased design flexibility.

- Industry leading low sound levels from 22 dB(A)
- Built-in drain pump provides 785mm lift
- Easy to install and maintain
- Configurable air temperature control

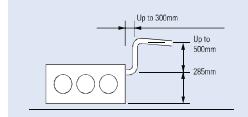
Lowest noise levels in the industry.

The static pressure outside the unit can be increased by using the booster cable.

Type	7-9-12	16-18	25	35	48-60
Standard	48	40	50	78	78
with booster cable use	68	62	92	122	113

More powerful drain pump

By adoption of a high-lift drain pump, the drain piping rise height can be increased to 785mm from the lower surface of the body.



Unified body height of approximately 310 mm for all models

Even models with different capacities can be installed smoothly in the ceiling.

External electrical equipment box makes maintenance easy



Flexible air distribution is achieved by discharge grilles



Controller Options

Timer remote controller Wireless remote controller Simplified remote controller



RCS-TM80BG



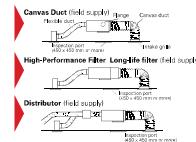
RCS-BH80BG WL



RCS-KR1EG

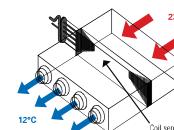
System examples

An inspection port (450 x 450mm or more) is required at the lower side of the indoor unit body.



7-22°C Air off temperature control as standard

- Able to control air off temperature
- Reduces cold drafts
- Accurate room temperature controls



Indoor unit specifications

Model Name	SPW-U075XH	SPW-U095XH	SPW-U125XH	SPW-U165XH	SPW-U185XH	SPW-U255XH	SPW-U365XH	SPW-U485XH	SPW-U605XH	
Power source										
Cooling capacity	kW	2.20	2.80	3.60	4.50	5.60	7.20	10.80	14.00	16.00
	BTU/h	7500	8800	12000	15000	18000	22000	30000	41800	54800
Heating capacity	kW	2.50	3.20	4.20	5.00	6.30	8.00	11.40	16.00	18.00
	BTU/h	8500	11000	14000	17000	21000	27000	39000	54600	61900
Power input	Cooling kW	0.024/0.120/0.25								
	Heating kW	0.026/0.038/0.04								
Running amperes	Cooling A	0.50/0.49/0.47								
	Heating A	0.40/0.41/0.42								
Type							Sirocco fan			
Fan motor	Airflow rate (H/M/A) m ³ /min	10/8.5/7					18/15/13	30/26/21	33/26/22	
	Output kW	0.05					0.07		0.14	
	External static pressure Pa	4989					40/62	50/82	79/122	
Power sound level (H/M/L) dB(A)		40/37/33					41/39/35	45/41/38	57/48/44	
Pressure sound level (H/M/L) dB(A)		[32]/[29]/[26]/[22]					[33]/[30]/[28]/[25]	[38]/[34]/[30]/[27]	[42]/[38]/[33]/[31]	
Dimensions	Height mm					310				
	Width mm		700				1000		1480	
	Depth mm						630			
Pipe connections	Liquid inches mm		1/4 (16:35)					3/8 (9:52)		
	Gas inches mm		1/2 (12:7)					5/8 (15:88)		
	Drain piping					VP-25				
Net weight	kg	24		25		32		47		

The values in () for the external static pressure and operating sound are for use of booster cable.

Specifications subject to change without notice.

FTR type
floor/ceiling mounted

Electric + Gas VRF Indoor Units

SPW-FTR74EXH56B
SPW-FTR94EXH56B
SPW-FTR124EXH56B
SPW-FTR164EXH56B
SPW-FTR184EXH56B
SPW-FTR224EXH56B

The FTR type units offer the flexibility of floor or ceiling application without the need for further modification at installation stage.

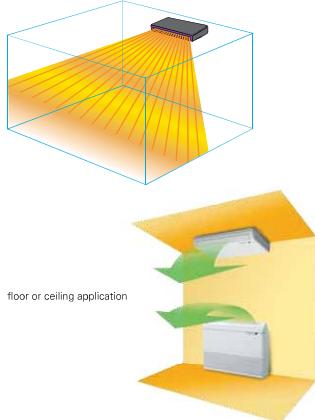


Controller Options

Timer remote controller	Wireless remote controller	Simplified remote controller
RCS-TM80BG	RCS-SS80BG_WL	RCS-KR1EG
RCS-BH80AG_WLB		

- 3 speed centrifugal fan
- Anti-mould and anti-bacterial washable filters
- Horizontal flap swinging or set on a fixed position
- Shallow design
- Easy to install

Further comfort improvement with airflow distribution.



floor or ceiling application

Indoor unit specifications		SPW-FTR74EXH56B	SPW-FTR94EXH56B	SPW-FTR124EXH56B	SPW-FTR164EXH56B	SPW-FTR184EXH56B	SPW-FTR224EXH56B
Power source				220/230/240V, 1 phase 50 Hz			
Cooling capacity	kW	2.20	2.60	3.60	4.50	5.60	6.40
	BTU/h	7500	9600	12000	15000	19000	27000
Heating capacity	kW	2.50	3.20	4.20	5.00	6.30	7.00
	BTU/h	8500	11000	14000	17000	21000	24000
Power input	Cooling kW	0.65/0.65/0.65				0.88/0.88/0.88	
	Heating kW		0.65/0.65/0.65			0.88/0.88/0.88	
Running amperes	Cooling A	0.29/0.26/0.29				0.41/0.41/0.41	
	Heating A		0.79/0.75/0.79			0.41/0.41/0.41	
Type	Sirocco fan						
Fan motor	Airflow rate (H/M/L) m³/min	10.5/9/7.5			12/10.8/9.7		15/13.5/12
	Output kW	0.09			0.09		
Power sound level (H/M/L) dB(A)		66/54/49			62/58/54		63/60/57
Pressure sound level (H/M/L) dB(A)		49/43/38			51/47/43		52/49/46
Height	mm			880			
Dimensions	Width mm			500			
	Depth mm			190			
Liquid	inches mm			1/4 (6.35)			
Pipe connections	Gas inches mm			1/2 (12.7)			
	Drain piping			V-P-26			
Net weight	kg			23.5			

Specifications subject to change without notice.



R410A

T type

ceiling mounted

Electric + Gas VRF Indoor Units

SPW-T125XH
SPW-T165XH
SPW-T185XH
SPW-T255XH
SPW-T365XH
SPW-T485XH

The T type ceiling mounted unit feature a DC fan motor for increased efficiency and reduced operating sound levels. All the units are the same height and depth for a uniform appearance in mixed installations and feature a fresh air knockout for improved air quality.

- Low sound levels
- New design, all units just 210mm high
- Large and wide air distribution
- Easy to install and maintain
- Fresh air knockout



Controller Options

Timer remote controller

Wireless remote controller

Simplified remote controller



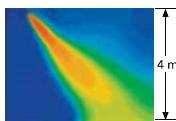
RCS-TM80BG

RCS-BH90BG.WL

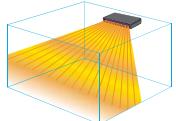
RCS-KR1EG

Further comfort improvement

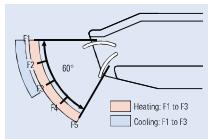
The wide air discharge opening widens the air flow to the left and the right, so that a comfortable temperature is obtained in the entire room. The unpleasant feeling caused when the air flow directly hits the human body is prevented by the "Draft prevention position", which changes the swing width, so that the degree of comfort is increased.



Correspondence to ceiling heights up to 4 m



Air distribution is automatically altered depending on the operational mode of the unit.



Indoor unit specifications

Model Name	SPW-T125XH	SPW-T165XH	SPW-T185XH	SPW-T255XH	SPW-T365XH	SPW-T485XH
Power source			220/230/240V, 1 phase, 50/60 Hz			
Cooling capacity	kW	3.60	4.50	5.60	7.30	10.60
	BTU/h	12000	15000	19000	25000	36000
Heating capacity	kW	4.20	5.00	6.30	8.00	11.40
	BTU/h	14000	17000	21000	27000	39000
Power input	Cooling kW	0.228/0.229/0.229	0.339/0.329/0.328	0.431/0.422/0.422	0.543/0.443/0.444	0.673/0.674/0.675
	Heating kW	0.278/0.279/0.279	0.379/0.370/0.378	0.471/0.472/0.472	0.597/0.597/0.593	0.727/0.727/0.727
Running amperes	Cooling A	0.26/0.24/0.23	0.26/0.24/0.23	0.28/0.26/0.24	0.38/0.35/0.33	0.52/0.57/0.53
	Heating A	0.26/0.24/0.23	0.26/0.24/0.23	0.28/0.26/0.25	0.38/0.35/0.34	0.52/0.57/0.55
Fan motor	Type				Sinisco fan	
	Airflow rate (H/M/L)	m³/min	12/10/9.0	13/11/9.0	18.5/15/14	27.5/23/20
Dimensions	Outer	kW	0.03	0.03	0.04	0.06
	Width mm	910			1180	1595
	Depth mm				600	
Pipe connections	Liquid	inches mm	1/4 (6.35)			3/8 (9.52)
	Gas	inches mm	1/2 (12.7)			5/8 (15.88)
	Drain piping				V-P-20	
Net weight	kg		21		25	33

Specifications subject to change without notice.



R410A

K type

wall mounted

Electric + Gas VRF Indoor Units

SPW-K075XH SPW-K095XH SPW-K125XH

The K Type wall mounted unit has a stylish smooth panel which not only looks good but is also easy to clean.

The unit is also smaller, lighter and substantially quieter than previous models making it ideal for small offices and other commercial applications.



Controller Options

Timer remote controller

Wireless remote controller

Simplified remote controller



RCS-TM80BG



RCS-SH1BG



RCS-BH80BG WL



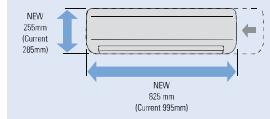
RCS-KR7EG

Closed discharge port

When the unit is turned off, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

Lighter and smaller units make the installation easy

The width has been decreased by 17% and the units are lighter.



Quiet operation

These units are among the quietest in the industry, making them ideal for hotels and hospitals.

Smooth and durable design

The smooth cover means these units match most modern interiors. Their compact size enables them to blend in, even in small spaces.

Piping outlet in three directions

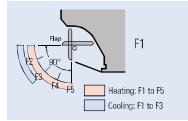
Piping outlet is possible in the three directions of rear, right, and left, making the installation work easier.

Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.



Air distribution is automatically altered depending on the operational mode of the unit



Anti-mould filters are standard

Indoor unit specifications

Indoor Unit	SPW-K075XH	SPW-K095XH	SPW-K125XH
Power Source	220/230/240V, 1 phase - 50, 60Hz		
Cooling capacity	2.20 kW	2.80 kW	3.60 kW
Heating capacity	7500 BTU/h	9800 BTU/h	12000 BTU/h
	2.50 kW	3.20 kW	4.20 kW
	8500 BTU/h	11000 BTU/h	14000 BTU/h
Power input	Cooling kW Heating kW	0.019/0.019/0.019	0.020/0.021/0.022
	Cooling A Heating A	0.16/0.16/0.16	0.19/0.19/0.20
Running amperes	Cooling A Heating A	0.17/0.17/0.18	0.20/0.20/0.20
Power sound level (H/M/L)	dBA	46/43/38	46/44/40
Pressure sound level (H/M/L)	dBA	35/32/28	37/33/29
Fan motor	Type	Sirocco fan	
	Airflow rate (H/M/L) m³/min	9/7.5/6	10/8.5/6.5
	Output kW	0.647	
Air circulation (H/M/L)	m³/hr	540/450/360	600/510/390
Dimensions (HxWxD)	mm	285x625x217	285x625x217
	Liquid inches/mm	1/2 (ø13)	1/2 (ø12.7)
Pipe connections	Gas inches/mm	1/2 (ø13)	1/2 (ø12.7)
	Drain piping	VP-13	
Net weight	kg	10	

Specifications subject to change without notice



R410A

K type

wall mounted

Electric + Gas VRF Indoor Units

SPW-K166XH SPW-K186XH SPW-K256XH SPW-K366XH

New for 2011 this wall mounted unit comes complete with flat panel design and an extended range to offer a slick new look whilst extending the capacity choice.

The extension of the range to include a 10kW unit allows for many more applications to be satisfied. Typical installation examples could be studios, gyms, high ceiling areas and even server rooms can be conditioned.

- New 10kW capacity unit
- New flat face design for modern appearance
- New compact design offers over 15% reduction in overall size
- Washable front panel
- Three directional piping outlet

Closed discharge port

When the unit is turned off, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

Quiet operation

These units are among the quietest in the industry, making them ideal for hotels and hospitals.



Controller Options

Timer remote controller

Wireless remote controller

Simplified remote controller



RCS-TM80BG



RCS-SH1BG



RCS-BH80BG WL



RCS-KR1EG

Piping outlet in three directions

Piping outlet is possible in the three directions of rear, right, and left, making the installation work easier.

Anti-mould filters are standard

Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.



Indoor unit specifications

Model Name	SPW-K166XH	SPW-K186XH	SPW-K256XH	SPW-K366XH												
Power source		220/230/240V, 1 phase - 50, 60 Hz														
Cooling capacity	<table border="1"> <tr> <td>kW</td><td>4.5</td> <td>5.6</td> <td>7.3</td> <td>10.6</td> </tr> <tr> <td>BTU/h</td><td>15,000</td><td>19,300</td><td>25,000</td><td>36,000</td> </tr> </table>	kW	4.5	5.6	7.3	10.6	BTU/h	15,000	19,300	25,000	36,000					
kW	4.5	5.6	7.3	10.6												
BTU/h	15,000	19,300	25,000	36,000												
Heating capacity	<table border="1"> <tr> <td>kW</td><td>5.0</td> <td>6.3</td> <td>8.0</td> <td>11.4</td> </tr> <tr> <td>BTU/h</td><td>17,000</td><td>21,300</td><td>27,000</td><td>39,000</td> </tr> </table>	kW	5.0	6.3	8.0	11.4	BTU/h	17,000	21,300	27,000	39,000					
kW	5.0	6.3	8.0	11.4												
BTU/h	17,000	21,300	27,000	39,000												
Power input	<table border="1"> <tr> <td>Cooling</td> <td>kW</td> <td>0.030</td> <td>0.030</td> <td>0.057</td> </tr> <tr> <td>Heating</td> <td>kW</td> <td>0.030</td> <td>0.030</td> <td>0.068</td> </tr> </table>	Cooling	kW	0.030	0.030	0.057	Heating	kW	0.030	0.030	0.068					
Cooling	kW	0.030	0.030	0.057												
Heating	kW	0.030	0.030	0.068												
Running amperes	<table border="1"> <tr> <td>Cooling</td> <td>A</td> <td>0.36/0.35/0.32</td> <td>0.36/0.35/0.32</td> <td>0.59/0.58/0.52</td> </tr> <tr> <td>Heating</td> <td>A</td> <td>0.36/0.35/0.32</td> <td>0.36/0.35/0.32</td> <td>0.59/0.58/0.52</td> </tr> </table>	Cooling	A	0.36/0.35/0.32	0.36/0.35/0.32	0.59/0.58/0.52	Heating	A	0.36/0.35/0.32	0.36/0.35/0.32	0.59/0.58/0.52					
Cooling	A	0.36/0.35/0.32	0.36/0.35/0.32	0.59/0.58/0.52												
Heating	A	0.36/0.35/0.32	0.36/0.35/0.32	0.59/0.58/0.52												
Fan motor	Type		Simeon fan													
	Airflow rate (H/M/L) m³/min	12/10.5/8.5	14/12/10.5	18/14.5/11.5												
	Output kW		0.047	19/18.5/13												
Pressure sound level (H/M/L)	dB(A)	40/36/32	40/35/32	47/44/40												
Dimensions	<table border="1"> <tr> <td>Height</td> <td>mm</td> <td>300</td> <td></td> </tr> <tr> <td>Width</td> <td>mm</td> <td>1095</td> <td></td> </tr> <tr> <td>Depth</td> <td>mm</td> <td>230</td> <td></td> </tr> </table>	Height	mm	300		Width	mm	1095		Depth	mm	230				49/45/42
Height	mm	300														
Width	mm	1095														
Depth	mm	230														
Pipe connections	<table border="1"> <tr> <td>Liquid (Flare)</td> <td>inches mm</td> <td>6.35 (1/4)</td> <td>6.35 (1/4)</td> <td>9.52 (3/8)</td> </tr> <tr> <td>Gas (flare)</td> <td>inches mm</td> <td>6.35 (1/4)</td> <td>12.7 (1/2)</td> <td>15.88 (5/8)</td> </tr> </table>	Liquid (Flare)	inches mm	6.35 (1/4)	6.35 (1/4)	9.52 (3/8)	Gas (flare)	inches mm	6.35 (1/4)	12.7 (1/2)	15.88 (5/8)					
Liquid (Flare)	inches mm	6.35 (1/4)	6.35 (1/4)	9.52 (3/8)												
Gas (flare)	inches mm	6.35 (1/4)	12.7 (1/2)	15.88 (5/8)												
Drain piping			VP-13													
Net weight	kg	13	13	14.5												
Panel colour			White (Munsell colour system N3.1)													

Specifications subject to change without notice

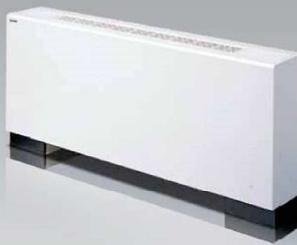


FR type
floor standing

Electric + Gas VRF Indoor Units

SPW-FR74GXH56B
SPW-FR94GXH56B
SPW-FR124GXH56B
SPW-FR164GXH56B
SPW-FR184GXH56B
SPW-FR254GXH56B

The compact floor standing FR units are the ideal solution for providing perimeter air conditioning. The standard wired controller can be incorporated into the body of the unit.



Controller Options

Timer remote controller Wireless remote controller Simplified remote controller



RCS-TM80BG



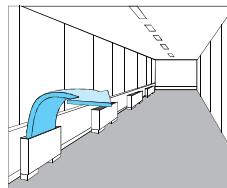
RCS-BH80BG.WL



RCS-KR1EG

- Pipes can be connected to either side of the unit from the bottom or rear
- Easy to install
- Front panel opens fully for easy maintenance
- Removable air discharge grille gives flexible air flow
- Room for condensate pump

Effective perimeter handling



A standard wired remote control can be installed in the body.



Indoor unit specifications

Model Name	SPW-FR74GXH56B	SPW-FR94GXH56B	SPW-FR124GXH56B	SPW-FR164GXH56B	SPW-FR184GXH56B	SPW-FR254GXH56B
Power source	220/230/240 1 phase - 50, 60 Hz					
Cooling capacity	kW	2.20	2.60	3.60	4.50	5.60
	BTU/h	7500	9800	12000	15000	19000
Heating capacity	kW	2.50	3.20	4.20	5.00	6.30
	BTU/h	8500	11000	14000	17000	21000
Power input	Cooling kW	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136	0.150/0.160/0.170
	Heating kW	0.036/0.040/0.045	0.061/0.070/0.075	0.079/0.091/0.101	0.079/0.091/0.101	0.110/0.120/0.130
Running amperes	Cooling A	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58	0.70/0.72/0.73
	Heating A	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43	0.50/0.54/0.56
Fan motor	Type			Sirocco fan		
	Airflow rate (m³/min)	78.5	97.6	123.9	157.3	171/14/12
	kW	0.01	0.02	0.02	0.03	0.06
Power sound level (L1/M1)	dB(A)	44/41/39	50/46/40	49/45/42	56/41/42	52/49/46
Pressure sound level (L1/M1/U)	dB(A)	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35
Dimensions (WxHxD)	mm	615x1065x230			615x1380x230	
Liquid pipe	inches/mm		1/4 (6.35)			3/8 (9.53)
Gas pipe	inches/mm		1/2 (12.7)			5/8 (15.88)
Drain piping				VP-20		
Net weight	kg	29			39	

Specifications subject to change without notice.



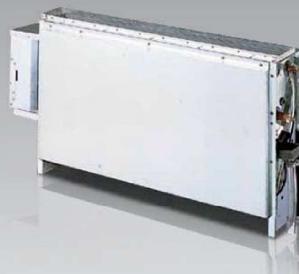
Electric + Gas VRF Indoor Units

FMR type

concealed floor standing

SPW-FMR74GXH56B
SPW-FMR94GXH56B
SPW-FMR124GXH56B
SPW-FMR164GXH56B
SPW-FMR184GXH56B
SPW-FMR254GXH56B

At just 229mm deep, the FMR unit can be easily concealed in perimeter areas to provide powerful and effective air conditioning.



Controller Options

Timer remote controller Wireless remote controller Simplified remote controller



RCS-TM80BG



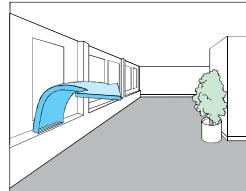
RCS-BH80BG_WL



RCS-KR1EG

- Chassis unit for discrete installation
- Complete with removable filters
- Pipes can be connected to either side of the unit from the bottom or rear
- Easy to install

Perimeter air conditioning with high interior quality



Indoor unit specifications

Model Name	SPW-FMR74GXH56B	SPW-FMR94GXH56B	SPW-FMR124GXH56B	SPW-FMR164GXH56B	SPW-FMR184GXH56B	SPW-FMR254GXH56B
Power source						
Cooling capacity	2.20	2.80	3.80	4.50	5.80	7.10
STU/h	7500	9800	12000	15000	19000	24000
Heating capacity	2.50	3.20	4.20	5.00	6.30	8.00
STU/h	8800	11000	14000	17000	21000	27000
Power input	Cooling kW Heating kW	0.051/0.055/0.061 0.035/0.040/0.045	0.079/0.085/0.091 0.064/0.070/0.076	0.116/0.126/0.138 0.079/0.091/0.101	0.116/0.126/0.138 0.079/0.091/0.101	0.150/0.160/0.170 0.110/0.120/0.130
Running amperes	Cooling A Heating A	0.24/0.25/0.26 0.17/0.18/0.19	0.37/0.38/0.39 0.30/0.31/0.32	0.54/0.56/0.58 0.37/0.41/0.43	0.54/0.56/0.58 0.37/0.41/0.43	0.70/0.72/0.73 0.50/0.54/0.55
Fan motor	Type	Sienco fan				
Orifice	m³/min	7.05	9.06	12.08	15.92/11	17.04/12
Power sound level (L1/M1)	dBAI	44/41/39	50/46/40	45/46/42	49/46/42	52/49/45
Pressure sound level (L1/M1)	dBAI	33/30/28	39/35/29	38/35/31	39/36/31	41/38/35
Dimensions (HxWxD)	mm	619x904x229			616x1219x229	
Liquid	inches mm		1/4 (16.35)			3/8 (9.52)
Pipe connections	Gas inches mm		1/2 (12.7)		VR-20	5/8 (15.88)
Drain piping						
Net weight	kg	21			28	

Specifications subject to change without notice.



GU type

Total Heat Exchanger

Electric + Gas VRF Indoor Units

SPW-GU055XH SPW-GU075XH SPW-GU105XH

SANYO's heat recovery ventilation system allows total control via a system network whilst modulating the temperature and humidity of the incoming air supply.



Controller Options

Timer remote controller Wireless remote controller Simplified remote controller



RCS-TM80BG



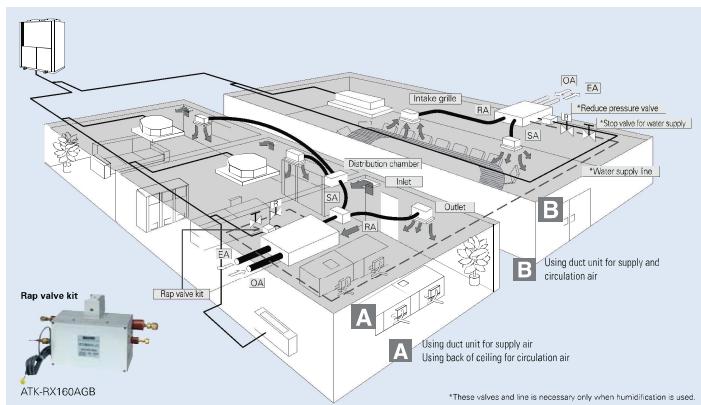
RCS-BH80BG.WL



RCS-KR1EG

- Integration of heat recovery ventilation and DX coil technology for optimum air temperature control
- The DX coil can be connected to all GHP outdoor units
- Humidifying function available as an option
- Easy to clean filter
- Compact design

- Humidifier and filter option
- Heat recovery: Solenoid valve kit is required for each unit
- Heat pump: RAP kit is required for each unit



Indoor unit specifications

Model Name	SPW-GU055XH	SPW-GU075XH	SPW-GU105XH
Air circulation (lit) m ³ /h	500	750	1000
Power source	220/230/240V, 1 phase - 50 Hz		
Fresh air load treatment capacity	Cooling kW 5.30 (1.7)* Heating kW 6.50 (2.3)*	Cooling kW 8.20 (2.6)* Heating kW 8.80 (3.5)*	Cooling kW 10.70 (3.4)* Heating kW 12.60 (4.6)*
Entirely Exchange Efficiency	Cooling % 59 Heating % 67		
Temp exchange efficiency	% 75		
Equivalent cooling capacity	kW 3.60 BTU/h 12000	kW 5.60 BTU/h 19000	kW 7.30 BTU/h 25000
Power input	Cooling kW 0.532 (0.532)/0.532 Heating kW 0.532 (0.532)/0.532	Cooling kW 0.730 (0.737)/0.737 Heating kW 0.730 (0.737)/0.737	Cooling kW 0.758 (0.758)/0.758 Heating kW 0.758 (0.758)/0.758
Running amperes	Cooling A 2.5/2.4/2.3 Heating A 2.5/2.4/2.3	Cooling A 3.4/3.2/3.1 Heating A 3.4/3.2/3.1	Cooling A 3.7/3.5/3.4 Heating A 3.7/3.5/3.4
Fan		\$/year for	
Fan motor	External static pressure-return air Pa 183 (170) External static pressure-supply air Pa 205 (182)	221 (198) 264 (218)	136 (88) 176 (137)
Fan output	kW 0.28 (0.28)		0.26 (0.26)
Power sound level (CAH)	dBA(A) 57 (Cooling), 58 (Heating)	58 (Cooling), 59 (Heating)	59 (Cooling), 60 (Heating)
Pressure sound level (C AH)	dBA(A) 46 (Cooling), 47 (Heating)	47 (Cooling), 48 (Heating)	49 (Cooling), 49 (Heating)
Dimensions	Height mm 425 Width mm 1785 Depth mm 1000	450	1503 1120 1220
Pipe connections	Liquid inches/mm 1/4 (6.35) Gas inches/mm 1/2 (12.7)		VP-25
Connection duct diameter	mm 250	300	
Net weight	kg 134	153	188

The values in () for the external static pressure and operating sound are for use of booster cable.

*1: Heat recovery capacity by heat exchanger.

Specifications subject to change without notice.



CFR type

Air Handling Unit

CFR/CFR-PHE

The CFR-PHE uses a unique purifying Bioxygen system to produce negative ions; this can reduce pollutants by up to 85% whilst significantly improving air quality within most environments.



High efficiency heat exchanger and easy to clean filters

The CFR-PHE unit structure is constructed from Aluzink frame work and galvanised steel with 20mm thick fire resistant acoustic insulation, reducing both weight and sound levels to a minimum. The system is supplied with ducted spigots which can be positioned either at the front or side of the unit to ease installation.

Indoor unit specifications								
Model CFR/CFR-PHE	33	55	110	175	220	255	320	410
Nominal air flow *	m³/h	300	620	920	1850	2250	2850	3820
External static pressure	Pa	45	55	65	70	77	80	100
Sound pressure **	dBA(A)	43	51	50	53	52	51	54
Fans								
Power input	W	184	180	294	200	203	700	1100
Absorbed power	A	0.75	1.8	2.2	4.4	4.8	5.7	8.3
Fan speeds	no	1				3		2
Insulation class								
Electrical supply	V/ph/Hz			230/1/50			400/3/50	
Bioxygen Elements (PHE only)								
Number of elements		1 x C		2 x C		2 x F		
Electrical supply	V/ph/Hz			230/1/50				
Power in	W	4.5		9		12		
Filter								
Pacer Heat Exchanger	CFR-PHE							
Temperature Efficiency heating ***	Temp.	75%	74%	72%	66%	73%	75%	70%
Enthalpy Efficiency heating ***	Entha.	62%	60%	56%	55%	65%	67%	62%
Temperature Efficiency cooling ****	Temp.	62%	60%	58%	54%	58%	62%	56%
Enthalpy Efficiency cooling ****	Entha.	60%	58%	55%	53%	50%	62%	55%

* Nominal air flow
** Sound pressure 1.5m from the unit in free field
*** Measured for indoor temp. 20°C - 80% RH, outdoor condition 21°C - 50% RH
**** Data referred to Outdoor temp. 32°C - 50% RH, room condition 26°C - 60% RH
Specifications subject to change without notice.

A29 Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

CFR type

Air Handling Units with Heat Recovery

Air Handling Equipment

CFRS-AHU CFRR-AHU

SANYO's high quality engineering and components have allowed the development of highly energy efficient air handling systems.



The high efficiency low pressure loss total heat exchanger is made from specially treated paper to enable the unit to be as efficient as 76% during normal operation. This allows system to recover both latent and sensible heat.

The CFRS-AHU series feature a cross-flow aluminium plate exchanger (medium efficiency of 55%). The CFRR-AHU series is equipped with absorption or rotary exchanger which allows the recovery of both sensible and latent heat, providing maximum efficiencies of 70%.

The cooling or heating is managed by a direct expansion coil using R410A refrigerant which enables higher efficiencies to be reached.

Model	500	1000	1500	2000	
Nominal air flow	m³/h	5000	10000	15000	20000
Air flow range	m³/h	3500 - 5500	7000 - 10000	11000 - 15000	16000 - 20000
External static pressure	Pa	250	250	250	250
Electrical supply	V, ph, Hz			400, 3, 50	
Total max absorbed current	A	11	18.5	25.7	39
Filters					
Plated filters efficiency (supply air) and (exhaust air)	G1	G4	G4	G4	
Bag filters efficiency (supply air)	F7	F7	F7	F7	

Specifications subject to change without notice.

ISO 14001:2001 does not apply

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

A30

VRF

Indoor Unit Dimensions

Electric + Gas VRF Indoor Units

X Type

① Air intake port
② Air discharge outlet
③ Refrigerant piping (gas pipe) φ16 type φ16 (fixed)
④ Refrigerant piping (gas pipe) φ20 type φ20 (fixed)
⑤ Drain outlet (V220) φ16 type φ16 (fixed)
⑥ Power supply port
⑦ Discharge duct (φ16)
⑧ Fresh air intake duct connection port (φ100)*1

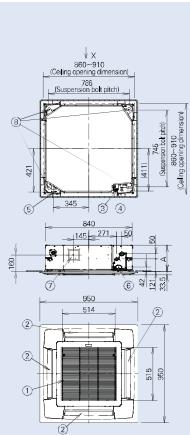
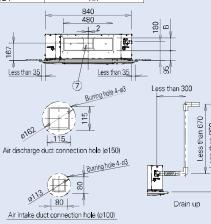
*1: Air inlet kit is necessary.

Filter size φ100 × 520 × 16

A 256
B 124

30~60 type

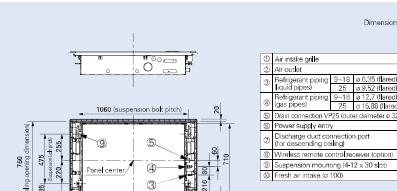
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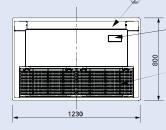
Dimensions: mm

* Adjust the suspension bolt length so that the gap from the base or floor surface is 30 mm or more (18 mm or more from the lower surface of the panel center). When the suspension bolt length is long, it may damage the panel and installation is not possible.

LDR Type



Dimensions: mm



XM Type

① Air intake port
② Air discharge outlet
③ Refrigerant piping (gas pipe) φ16 type φ16 (fixed)
④ Refrigerant piping (gas pipe) φ20 type φ20 (fixed)
⑤ Drain tube connection port (φ20) outer dia. φ22
⑥ Power supply port
⑦ Suspension bolt hole (φ12×30 hole)
⑧ Fresh air intake duct connection port (φ100)

Filter size φ100 × 520 × 16

600~660 type

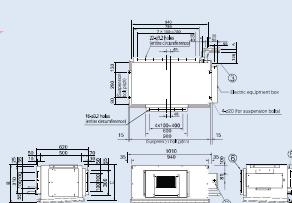
Dimensions: mm



The length of the suspension bolt should be selected so that there is a gap of 30 mm or more below the lower surface of the panel center. If the gap is less than 30 mm, the suspension bolt will be damaged, it will become difficult to remove the panel, and the unit cannot be installed.

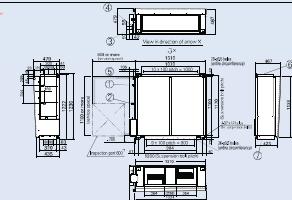
DR Type

25~48 type



Dimensions: mm

76~96 type



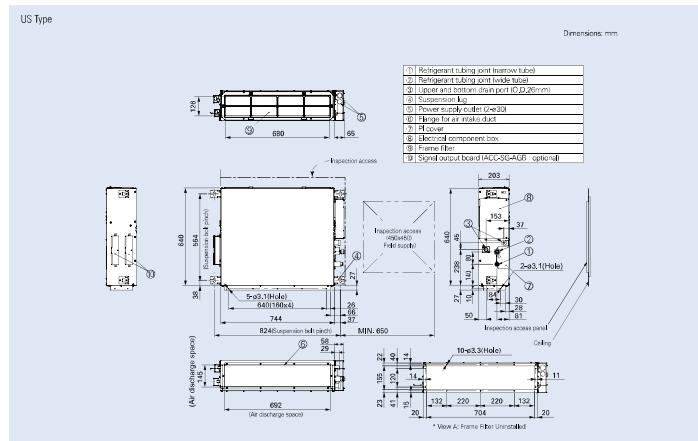
Dimensions: mm

VRF

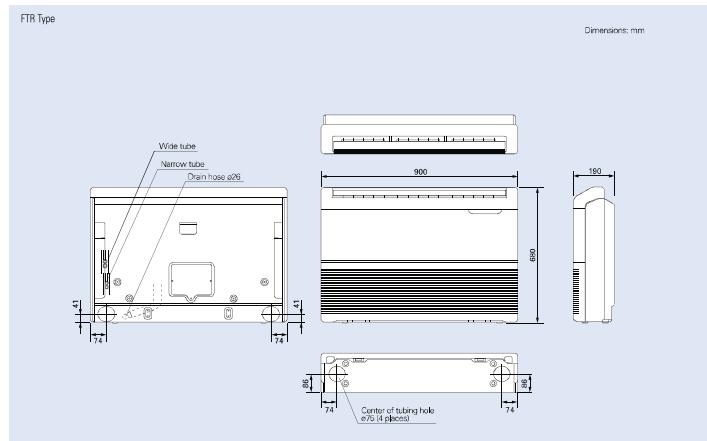
Indoor Unit Dimensions

Electric + Gas VRF Indoor Units

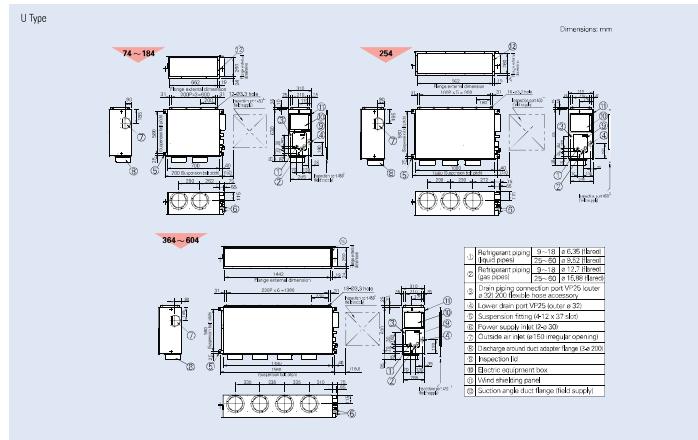
US Type



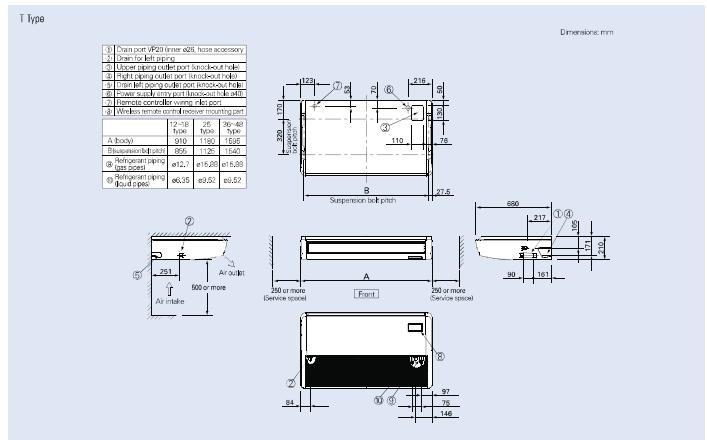
FTR Typ



U Type



T Type

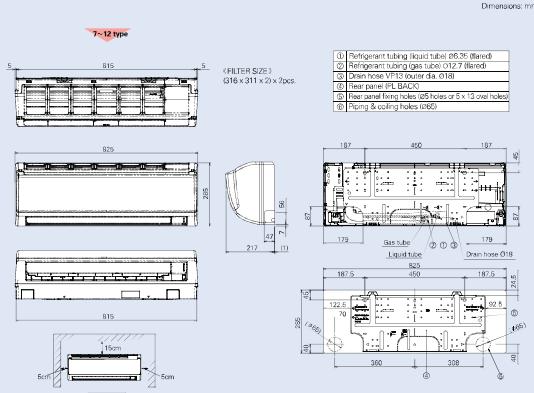


VRF

Indoor Unit Dimensions

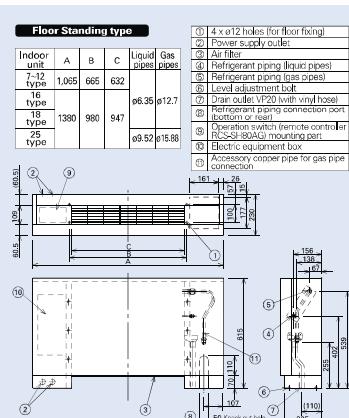
Electric + Gas VRF Indoor Units

K Type

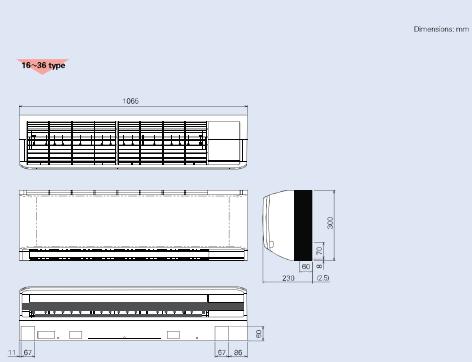


FR Type

Floor Standing type

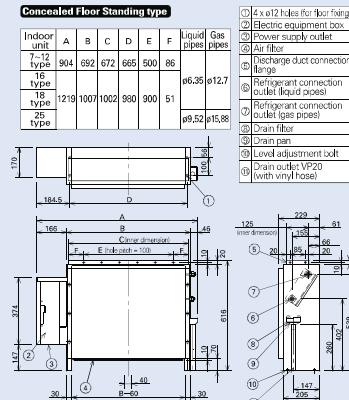


K Type



FMR Type

Concealed Floor Standing type

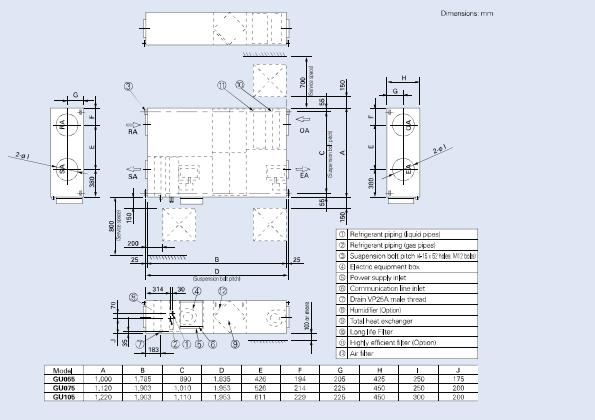


VRF

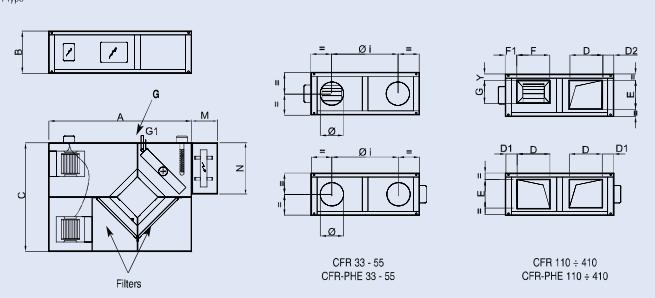
Indoor Unit Dimensions

Electric + Gas VRF Indoor Units

GU Type



CFR Type



Notes:

- The purifying system BIOXIGEN® is only available for CFR-PHE models.
- The electric heater is only available for "E" version; for CFR-E models the electric heater is internal, for CFR-PHE models an external section is provided.
- The post-heating internal water coil is only available for "W" version (not available for sizes 33-55).

Model	A	B	C	D	D1	D2	E	F	F1	G	G1(1)	M(2)	N(2)	Y	Ø	Øi	Voltage			
																	Base	12V	~W	
CFR 33	990	290	750	/	/	/	/	/	/	/	/	/	250	380	/	180	460	41	42.5	/
CFR-PHE 33	990	290	750	/	/	/	/	/	/	/	/	/	250	383	/	200	355	45	46.5	/
CFR 55	990	290	750	/	/	/	/	/	/	/	/	/	250	480	50	/	/	50	52.5	/
CFR-PHE 55	990	290	750	/	/	/	/	/	/	/	/	/	250	483	50	/	/	50	52.5	/
CFR 110	1140	410	860	260	95	115	210	220	115	200	3/4	250	490	50	/	/	80	82.5	87.5	
CFR-PHE 110	1140	410	860	260	95	115	210	220	115	200	3/4	250	490	50	/	/	80	82.5	87.5	
CFR 175	1330	500	860	293	77	77	310	225	109	295	3/4	250	490	75	/	/	125	121.5	127.5	
CFR-PHE 175	1330	500	860	293	77	77	310	225	109	295	3/4	250	490	75	/	/	125	121.5	127.5	
CFR 220	1380	500	960	310	87	87	330	225	129	295	3/4	250	490	75	/	/	138	140.5	140.5	
CFR-PHE 220	1380	500	960	310	87	87	330	225	129	295	3/4	250	490	75	/	/	138	140.5	140.5	
CFR 255	1650	600	1230	410	91	91	410	288	152	255	3/4	250	570	162	/	/	160	165	173	
CFR-PHE 255	1650	600	1230	410	91	91	410	321	135	280	3/4	250	570	162	/	/	160	165	173	
CFR 320	1650	600	1230	410	116	116	410	321	160	280	3/4	250	570	125	/	/	174	179	187	
CFR-PHE 320	1650	600	1230	410	116	116	410	321	160	280	3/4	250	570	125	/	/	174	179	187	
CFR 410	1750	600	1330	410	116	116	410	321	160	280	3/4	250	570	125	/	/	190	195	203	
CFR-PHE 410	1750	600	1330	410	116	116	410	321	160	280	3/4	250	570	125	/	/	190	195	203	

(1) Only for "W" version
(2) Only for "CFR-PHE-E" models (with electric heater in external section)

System Controls

SPW Controls

A wide variety of control options to meet the requirements of different applications.

Operation system	Individual control systems			Timer operation Daily and weekly program
	Normal operation	Operation from each seat	Simple operation	
External appearance				
Type, model name	Timer wired remote controller RCS-TMB1BG	Wireless remote controller RCS-SH00EGQ WL RCS-SS00B3 WL RCS-SP00B3 WL RCS-HP00B3 WL RCS-SH1B6 RCS-XM1B9G WL	Simplified remote controller RCS-KTEG	Schedule timer SH-A-TMB4AGB
Number of indoor units which can be controlled	1 group, 8 units	1 group, 8 units	1 group, 8 units	64 groups, max. 94 units
Use limitations	Up to 2 units can be connected per group.	Up to 2 units can be connected per group.	Up to 2 units can be connected per group.	Power supply from the system controller. When there is no system controller, connection is possible to the T10 terminal of an indoor unit.
Connectable indoor unit	4/5/6 series indoor unit	4/5/6 series indoor unit	4/5/6 series indoor unit	4/5/6 series indoor unit
Function				
ON/OFF	✓	✓	✓	—
Mode setting	✓	✓	✓	—
Fan speed setting	✓	✓	✓	—
Temperature setting	✓	✓	✓	—
Air flow direction	✓ * ₁	✓ * ₁	✓ * ₁	—
Permit/Prohibit switching	—	—	—	—
Weekly program	✓	—	—	✓

*₁ Setting is not possible when a remote control unit is present. (Use the remote control for setting.)

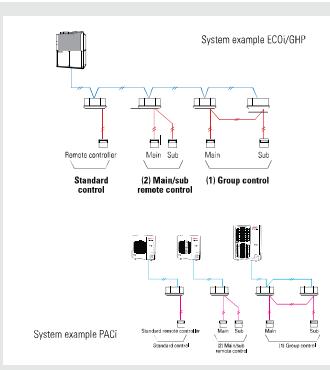
Operation system	Centralised control systems			
	Operation with various function from central station	Only ON/OFF operation from central station	Simplified charge ratio for each tenant	
Requirements	Touch screen panel	Personal computer (field supply)		
External appearance				
Type, model name	System controller SH-A-KC64AGB	ON/OFF controller SH-A-KC16KAG5	Intelligent controller SH-A-KT25EFC3	Communication adapter SH-A-KA128AGB
Number of indoor units which can be controlled	64 groups, max. 64 units	16 groups, max. 64 units	64 units x 4 networks, max. 256 units	2 systems, max. 128 units
Use limitations	Up to 10 units can be connected to one system. Main unit+sub unit (1 main unit + 1 sub unit) connection is possible. Use without remote controller is impossible.	Up to 8 units (4 main units + 4 sub units) can be connected to one system. Use without remote controller is impossible.	A communication adapter (SH-A-KA128AGB) must be installed for three or more networks.	
Connectable indoor unit	4/5/6 series indoor unit	4/5/6 series indoor unit	4/5/6 series indoor unit	4/5/6 series indoor unit
Function				
ON/OFF	✓	✓	✓	✓
Mode setting	✓	—	✓	✓
Fan speed setting	✓	—	✓	✓
Temperature setting	✓	—	✓	✓
Air flow direction	✓	—	✓	✓
Permit/Prohibit switching	✓ * ₁	✓	✓ * ₁	✓ * ₁
Weekly program	—	—	✓	✓

All specifications subject to change without notice.

Individual Control Systems

SPW Controls

Control contents	Part name, model No.	Quantity
Standard control	Timer remote controller RCS-TM80BG	1 unit each
• Control of the various operations of the indoor unit by wired or wireless remote controller. • Cooling or heating mode of the outdoor unit is decided by the first priority of the remote controller. • Up to 8 units can be connected. • Switching between remote controller sensor and body sensor is possible.	RCS-XM18BG.WL RCS-SH08BG.WL RCS-SH09BG.WL RCS-BH08BG.WL RCS-TRP08BG.WL RCS-SH18BG RCS-KR1EG	
(1) Group control	Timer remote controller RCS-TM80BG RCS-KR1EG	1 unit
• Batch remote control on all indoor units. • Operation of all indoor units in the same mode. • Up to 8 units can be connected. • The sensor is the body sensor, and thermostat ON/OFF setting in regard to the temperature set by the remote controller is possible for each indoor unit.		
(2) Main/sub remote control	Master or sub: Timer remote controller RCS-TM80BG	As required
• Max. 2 remote controllers per indoor unit (Main remote controller can be connected). • The button pressed last has priority. • Timer setting is possible even with the sub remote controller.	RCS-XM18BG.WL RCS-SH08BG.WL RCS-SH09BG.WL RCS-BH08BG.WL RCS-TRP08BG.WL RCS-SH18BG RCS-KR1EG	



Timer remote controller (RCS-TM80BG)



Dimensions
H 120 x W 120 x D 16 mm

Basic remote controller ON/OFF

- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan)
- Temperature setting (Cooling/Dry: 18-30 deg Heating: 16-30 deg)
- Fan speed setting H/ M/ L and Auto.
- Air flow direction adjustment

Time Function

- Day of the week indicator

Weekly Programme Function

- A maximum of 6 actions can be programmed for each day

Outing Function

- This function can prevent the room temperature from dropping or rising when the occupants are out for a long time

Sleeping Function

- This function controls the room temperature for comfortable sleeping.

Max. 8 indoor units can be controlled from one remote controller.

Remote control by main remote controller and sub controller is possible

Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit

Wireless remote controller



Easy installation for the 4-way cassette type simply by replacing the corner part

24 hour timer function

Remote control by main remote controller and sub controller is possible

- Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit

When RCS-BH08BG.WL is used, wireless control becomes possible for all indoor units

- When a separate receiver is set up in a different room, control from that room also becomes possible

Automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted

In addition, there are other functions such as temperature setting, operation switching, wind direction/fan speed setting, etc.

Simplified remote controller (RCS-KR1EG)



Dimensions H 120 x W 70 x D 16 mm

A remote controller with simple functions and basic operation.

- Suitable for open rooms or hotels where detailed functions are not required.
- ON/OFF, operation mode switching, temperature setting, air velocity switching, air direction setting, alarm display, and remote controller self-diagnosis can be performed.
- Batch group control for up to 8 indoor units.
- Remote control by main remote controller and sub controller is possible with a simplified remote controller or a wired remote controller (up to two units).

Remote sensor (ART-K45AGB)



Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

- This is a remote sensor which can be used with all indoor units. Please use it to detect the room temperature when no remote controller sensor or body sensor is used. (connection to a system without a remote controller is possible).

- For joint use with a remote control switch, use the remote control switch as main remote controller

Schedule timer (RCS-TM64AGB)



Dimensions
H 120 x W 120 x D 16 mm

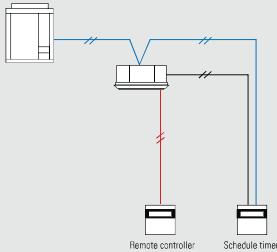
The power supply for the schedule timer is taken from one of the following

1. Control circuit board (T10) of a nearby indoor unit (power supply wiring length: within 200m from the indoor unit)
2. System controller (power supply wiring length: within 100m from the indoor unit)

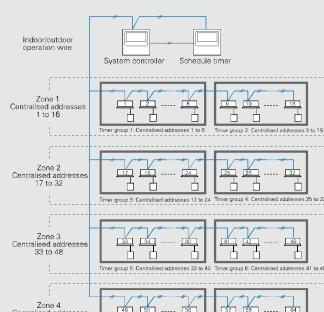
When the power supply for the schedule timer is taken from the control circuit board of the indoor unit, that indoor unit cannot be used with other control devices using the T10 terminal.

As operation mode and temperature settings are not possible with the schedule timer, it must be used together with a remote controller, a system controller, an intelligent controller, etc. Also, as it does not have an address setting function, the control function of a system controller etc. must be used for address setting

Connection example 1
(power supply from the indoor unit)



Connection example 2
(power supply from the central controller)



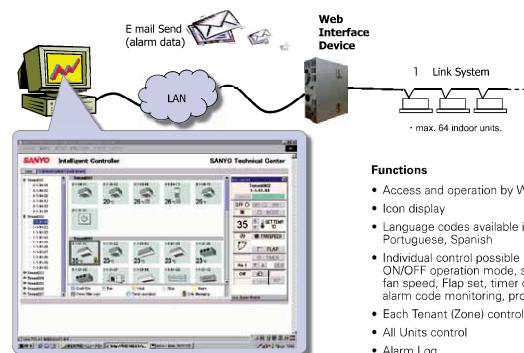
ON/OFF controller (SHA-KC16KAGB)



Dimensions H 121 x W 122 x D 14 + 52 (embedding dimension mm)
Power supply AC 220 to 240 V
I/O part Remote input (effective voltage: within DC 240V; All ON/OFF)
Remote output (allowable voltage: within DC 30V; All ON, All alarm)

- 16 groups of indoor units can be controlled
 - Collective control and individual group (unit) control can also be performed
 - Up to 8 ON/OFF controller (4 main, 4 sub) can be installed in one link system
 - The operation status can be determined immediately
- Note: As operation mode and temperature settings are not possible with the ON/OFF controller, it must be used together with a remote controller, a system controller etc.

Web Interface Device (SHA-KW64EG)



Functions

- Access and operation by Web browser
- Icon display
- Language codes available in English, French, German, Italian, Portuguese, Spanish
- Individual control possible (max. 64 indoor units), ON/OFF operation mode, set temperature, fan speed, Flap set, timer on/off, alarm code monitoring, prohibit Remote Control
- Each Tenant (Zone) control
- All Units control
- Alarm Log
- Mail Sent Log
- Program Timer set
50 daily timers with 50 actions each day, 50 weekly timers, 1 holiday timer, 5 special day timers, for each tenant
- Prohibit Remote Control set
- IP ADDRESS could be changed via Internet

Note: It is recommended to install a remote controller or a system controller on site to enable local control if IT network experience a problem.

System controller (SHA-KC64AGB)



Dimensions 160 x W 160 x D 21 + 69 (embedding dimension) mm
Power supply AC 220 to 240 V
I/O part Remote input (effective voltage: DC 24 V); All ON/All OFF
Remote output (voltage-free contact): All ON/All OFF
(External Power supply within DC 30 V, max 1 A)
Total wiring length 1km

Individual control is possible for max. 64 groups, 64 indoor units.

Control of 64 indoor units divided into 4 zones. (One zone can have up to 16 groups, and one group can have up to 8 units.)

Control is possible for ON/OFF, operation mode, fan speed, air flow direction (only when used without a remote controller), operation monitoring, alarm monitoring, return temperature, remote controller local operation prohibition, etc

Individual All operations are possible also from the remote controller. However, the contents will be changed to the contents of the controller operated last.

Central 1 The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)

Central 3 The remote controller cannot be used for mode change or temperature setting change. (All other operations are possible from the remote controller.)

Central 4 The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

Joint use with a remote controller, an intelligent controller, a schedule timer, etc. is possible

(The maximum number of connectable system controllers is 10, including other central controllers on the same circuit.)

(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with "Individual" and "Central 1".)

Control of systems without a remote controller and of main/sub systems (a total of up to 2 units) is possible

A control mode corresponding to the use condition can be selected from 10 patterns

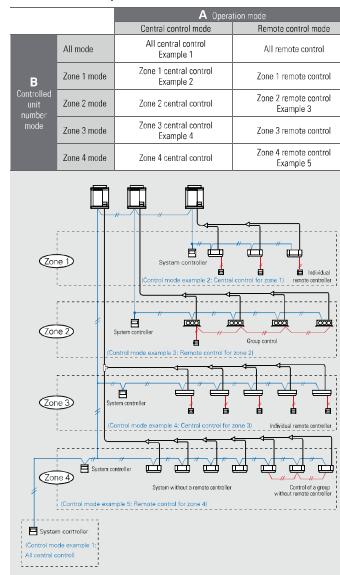
A Operation mode: Central control mode or remote control mode can be selected

Central control mode: The system controller is used as centralised control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)
Remote control mode: The system controller is used as a remote controller. (Setting from the system controller can be prohibited by prohibiting local operation from another central control unit.)

B Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected

All mode: All, zone, or group unit can be selected.
Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

Connection example



Intelligent controller (SHA-KT256EG)



Dimensions H 240 x W 280 x D 138 mm
Power supply AC 100 to 240 V (50 Hz), 20 W (separate power supply)
I/O part Remote input (voltage-free contact): All ON/OFF
Remote output (voltage-free contact): All UN, All alarm
(external power supply within DC 30V, 0.5A)
Total wiring length 1 km for each system
Only for embedding in the panel

Limitation contents for prohibited operation

Prohibition means limitation of the operation contents from the remote controller. It is also possible to change the prohibition items.

Limitation contents (Limitations can be user defined)

Individual There is no limitation for the operation of the remote controller. However, the contents will be changed to the contents of the controller operated last. (Last-pressed priority.)

Prohibition 1 The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)

Prohibition 2 The remote controller cannot be used for ON/OFF, operation mode change and temperature setting. (All other operations are possible from the remote controller.)

Prohibition 3 The remote controller cannot be used for operation mode change and temperature setting. (All other operations are possible from the remote controller.)

Prohibition 4 The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

Note: Avoid joint use of the AMY system and the intelligent controller on the same indoor/outdoor connection line.

Max. 256 indoor units (4 systems x 64 units) can be controlled. In case of three or more systems, a communication adapter SHA-KA128AG must be installed on the outside. Operation is possible as batch, in zone units, in tenant units and in group units

ON/OFF, operation mode setting, temperature setting, for fan speed setting, air flow direction setting (when used without a remote controller), and remote controller local operation prohibition (prohibition 1, 2, 3, 4) can be done

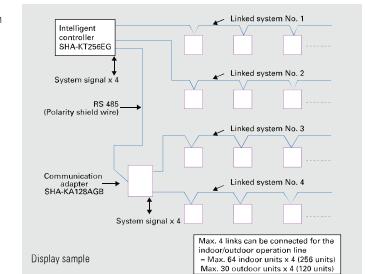
A system without a remote controller is possible. Joint use with a remote controller or a system controller is also possible

Use of a schedule timer and holiday setting also can be done

Proportional distribution of the air conditioning energy is possible. Including csv-file export via CF-card (supplementary accessory).

NEW function: Pulse signal input from electric/gas consumption meter

In case of joint use with a wireless remote control system, there are limitations for the control mode. Please use only with "Permission" and "Prohibition 1".



Communication adaptor (SHA-KA128AG)



For more information on how to connect please see installation manual.

Dimensions H 260 x W 200 x D 68 mm
Power supply AC 100 to 240 V (50 Hz), 3 W (separate power supply)

Required to connect three or more linked wiring systems (indoor/outdoor operation lines) to the intelligent controller

Also required for connection of the AMY software and STAIMS

Two linked wiring systems can be connected to one SHA-KA128AG, but max. 4 systems can be connected for the entire intelligent controllers

*As this is not a splash-proof design, it must be installed indoors or in the control panel etc

Interfaces for External Control

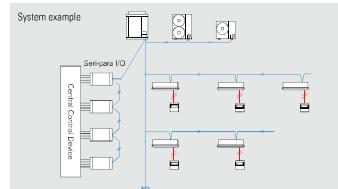
SPW Controls

Seri-Para I/O unit (ACC-SP16TAGB)



Input	ON/OFF (Pulse DC24V) Local prohibit (Continuous DC24V) Temp setting (Analog DC1-5V) All ON/OFF (Pulse DC24V) All local prohibit and emergency stop (Continuous DC24V) On/Alarm/Answer back/Filter sign Room temp (Analog DC4-20mA) All ON/OFF
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- This is the interface for connecting signals from the central control device with the SANYO air conditioner unit control network
- This unit can control and monitor the status up to 16 groups of indoor units (max 64 indoor units)
- Up to 4 seri-para units can be connected in one system
- From the central control device, it is possible to set the temperature and to monitor the room temperature or intake air temperature

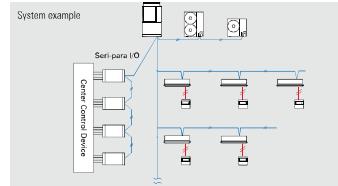


Seri-Para I/O unit for outdoor unit (ACC-XSP4U1GB)



Dimensions	H 80 x W 290 x D 260 mm
Power supply	Single phase 100/200V (50/60 Hz), 18W
Input	Batch operation/Batch stop (non-voltage contact/DC 24V, pulse signal) Cooling/Heating (non-voltage contact/static signal) Demand 1/2 (non-voltage contact/ static signal) (local stop by switching) Operation output (non-voltage contact) Alarm output (non-voltage contact) Indoor/Outdoor operation lines: Total length 1km Digital signal: 100m or shorter
Output	
Wiring length	

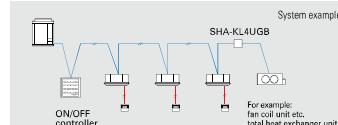
- This unit can control up to 4 outdoor units.
- From the centre control device, mode changing and batch operation/batch stop are possible
- Required for demand control.



Local adaptor for ON/OFF control (SHA-KL4UGB)



- Control and status monitoring is possible for individual indoor units or any external electric device up to 250V AC, 10A by contact signal.

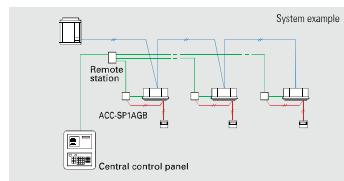


Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

MINI Seri-Para I/O Unit (ACC-SP1AGB)



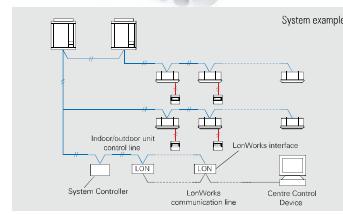
- Power is supplied from the T10 terminal of the indoor units
- Separate power supply also is possible (in case of suction temperature measuring)



LonWorks interface (SHA-LN16UGB)



- This interface is a communications converter for connecting LonWorks to the SANYO air conditioner unit (PAC, ECO, GHF) control network
- From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units



Functions	System example
A/C unit settings from the LonWorks communicator	Settings for each group of indoor units
Emergency stop	Start/stop
Temp setting	Temp. setting
Operation mode	Operation mode
Option 1 settings*	Option 1 settings*
Option 2 settings*	Option 2 settings*
Indoor/outdoor unit control line	Indoor/outdoor unit control line
Indoor/outdoor unit control line (Lon)	Indoor/outdoor unit control line (Lon)
LonWorks interface	LonWorks interface
System Controller	System Controller
Centre Control Device	Centre Control Device
A/C unit status notifications made to the LonWorks communicator	A/C unit status
Indoor unit with active alarms	Indoor unit with active alarms
Room temperature	Room temperature
A/C unit status	A/C unit status
Configuration properties	Transmission interval settings: Minimum time secured for transmission
* Select two of the following: remote controller prohibit, fan speed setting, air direction setting, filter sign reset;	

Signal output board (ACC-SG-AGB)

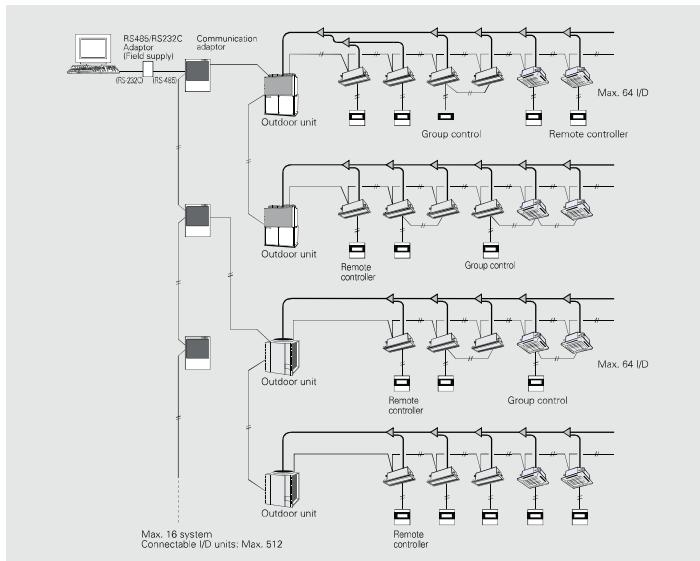


- Defrost, heating, cooling and thermostat ON signal can be put out to the outside.
- Signal type (2 types): Voltage specification (max. 240V AC, 5A or 30V DC, 5A), non-voltage specification

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

AMY Software

An air conditioner central control system for buildings



Functions	
A/C unit settings	Unit ON/OFF Mode-change Room temperature setting Fan speed setting Humidity setting Control control setting Filter-clean clear Alarm reset Unit ON/OFF status Operation mode Setting temperature Fan speed status Humidity status Control control setting Filter-clean situation Correct/incorrect status Alarm code Charge calculation rate
A/C unit status	
Software environment OS: Windows 2000, Windows NT 4.0 Service Pack 6 or above Browser: Internet Explorer 4.0 or above	

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

STAIMS Basic software TECS-5000KG

SANYO Total Air conditioning Intelligent Management System
Up to 1024 indoor units can be controlled by one PC



Functions for basic software

- Standard remote control for all indoor units.
- Many timer schedule programs can be set on the calendar.
- Detail information display for alarm happening.
- CSV file output with alarm history, operating status.
- Automatic data backup to HDD.

By using up to 4 optional software modules a more comfortable control is possible.

TECS-5000AG for Load distribution

Load distribution calculation for each tenant

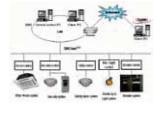
- Air-con load distribution ratio is calculated for each unit (tenant) with used energy consumption data (m3, kWh).
- Calculated data is stored with CSV type file.
- Data of last 365 days will be stored.



TECS-5000BG for BACnet interface

Connectable to BMS system

- Communicate with other equipments by BACnet protocol.
- SANYO airconditioners system can be controlled by both BMS and STAIMS.
- Up to 256 indoor units can be connected to one PC (that has STAIMS basic and BACnet software).



TECS-5000WG for Object layout display

Whole system can be controlled visually

- Operating status monitor is available on the layout display.
- Object's layout and indoor unit's location can be checked at once.
- Each unit can be controlled by virtual remote-controller on the display.
- Up to 4 layout screens are shown at once.



TECS-5000WG for Web application

Web access and control from remote station

- Accessing STAIMS software from remote PC.
- You can monitor/operate SANYO system by using web browser (Internet Explorer).

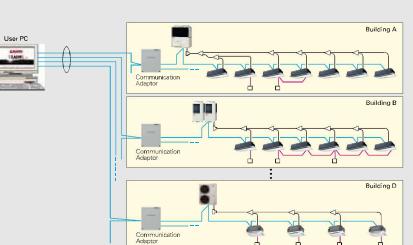


STAIMS is suitable for large shopping centres or Universities that have large areas/many buildings.

1 STAIMS PC can have 4 independent systems at once. Each system can have up to 8 C/A units, and control up to 512 units.

In total, 1024 indoor units can be controlled by 1 STAIMS PC.

- Wiring length (PC~C/A) up to 1 km
- Up to 8 C/A for 1 system
- Wiring length for each link from C/A up to 1 km



Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

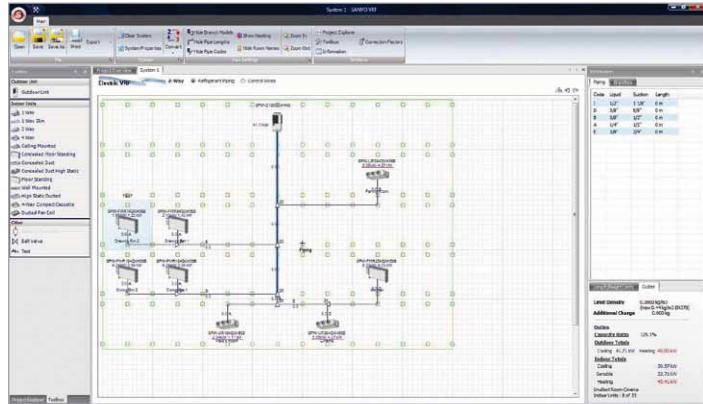
PAC2 System Design Software

PAC2 System Design Software

System designing for VRF (ECOi and GHP) and PACi Commercial Split Systems has never been easier

SANYO has identified the importance of ever-increasing demands for fast and accurate responses to customer requests in our industry. More and more emphasis is being placed upon energy-efficiency in our marketplace. The ability to calculate cooling/heating loads and produce information of actual design conditions is a major advantage to any architect, consultant, contractor or end user.

SANYO understands the ever-changing and demanding industry we are in and we are pleased to announce the launch of the next generation of our system design software program. The advanced PAC2 system design software has been customised to make any selection and design process as quick and easy as possible. The software features a version of AC Calc Lite (produced by Click Software). This allows small building loadings to be accurately calculated and directly imported into the PAC2 software.



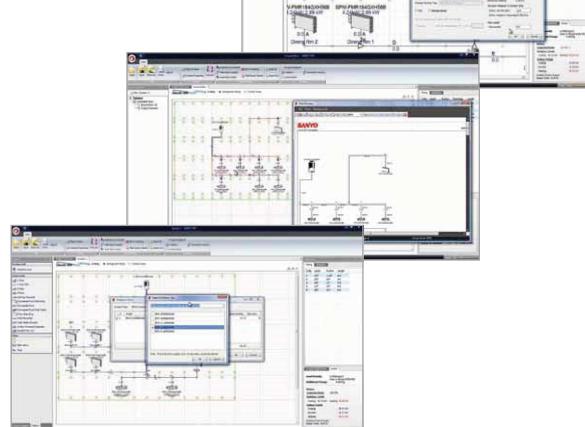
The PAC2 system software can be used for all SANYO ECOi, GHP and PACi systems.

The design package utilises system wizards and import tools to enable both simple and complex systems to be created. In addition, the system will allow outdoor and indoor units to be dragged and dropped on an interactive desktop. This allows users to create everything from realistic floor plans with detailed piping and wiring schematics to send out with quotations, through to installation guidance drawings.

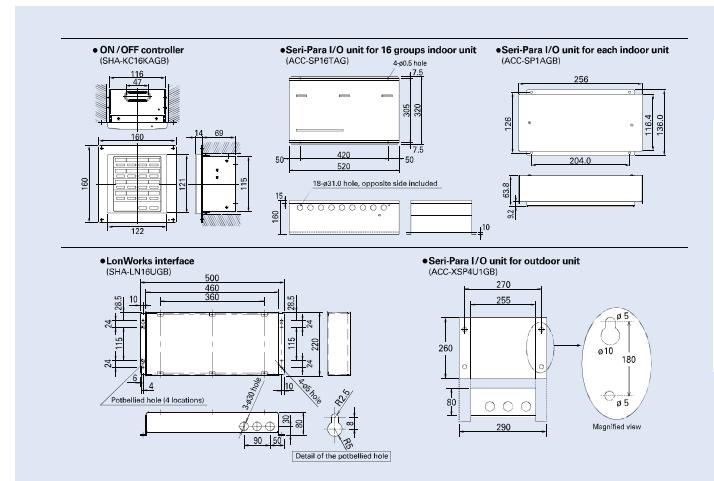
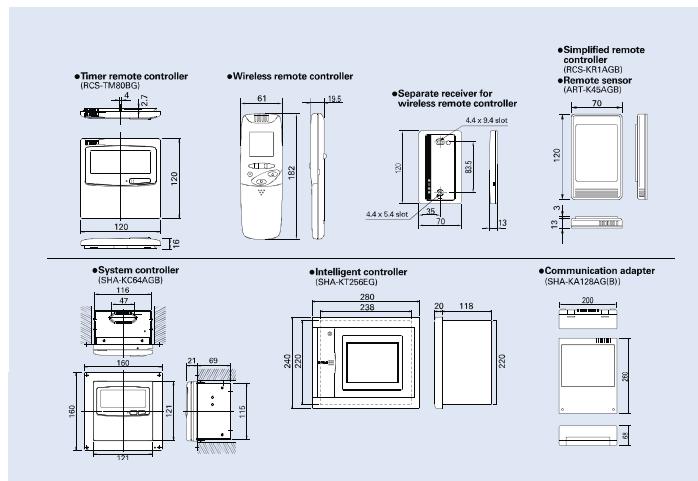
The PAC2 system software can be used for all SANYO ECOi, GHP and PACi systems.

Features include

- AC Calc Lite (included in the package)
- Easy to use system wizards
- Auto piping and wiring features
- Converted duties for conditions and pipework
- Auto CAD (DXF), Excel and PDF export
- Detailed wiring and pipework diagram



Control Equipment External Dimensions





Indicates conformation
with EC Directives



ISO 9001: 2001
Certificate Number: JQ116B ISO 14001: 2001
Certificate Number: ECOOJ0303-33



SANYO reserves the right to make any variation in specification to the equipment described or to withdraw or replace products without prior notification or public announcement. All descriptions, illustrations, drawings and specifications in this publication are given in good faith, but are intended to present only general particulars and shall not form any part of the contract. For full installation details, please contact your SANYO distributor.

Rating Conditions

The cooling and heating capacities are based on the following conditions:

Cooling: Indoor temperature 27°C DB / 19°C WB, Outdoor temperature 35°C DB / 24°C WB.

Heating: Indoor temperature 20°C DB, Outdoor Temperature 7°C DB.