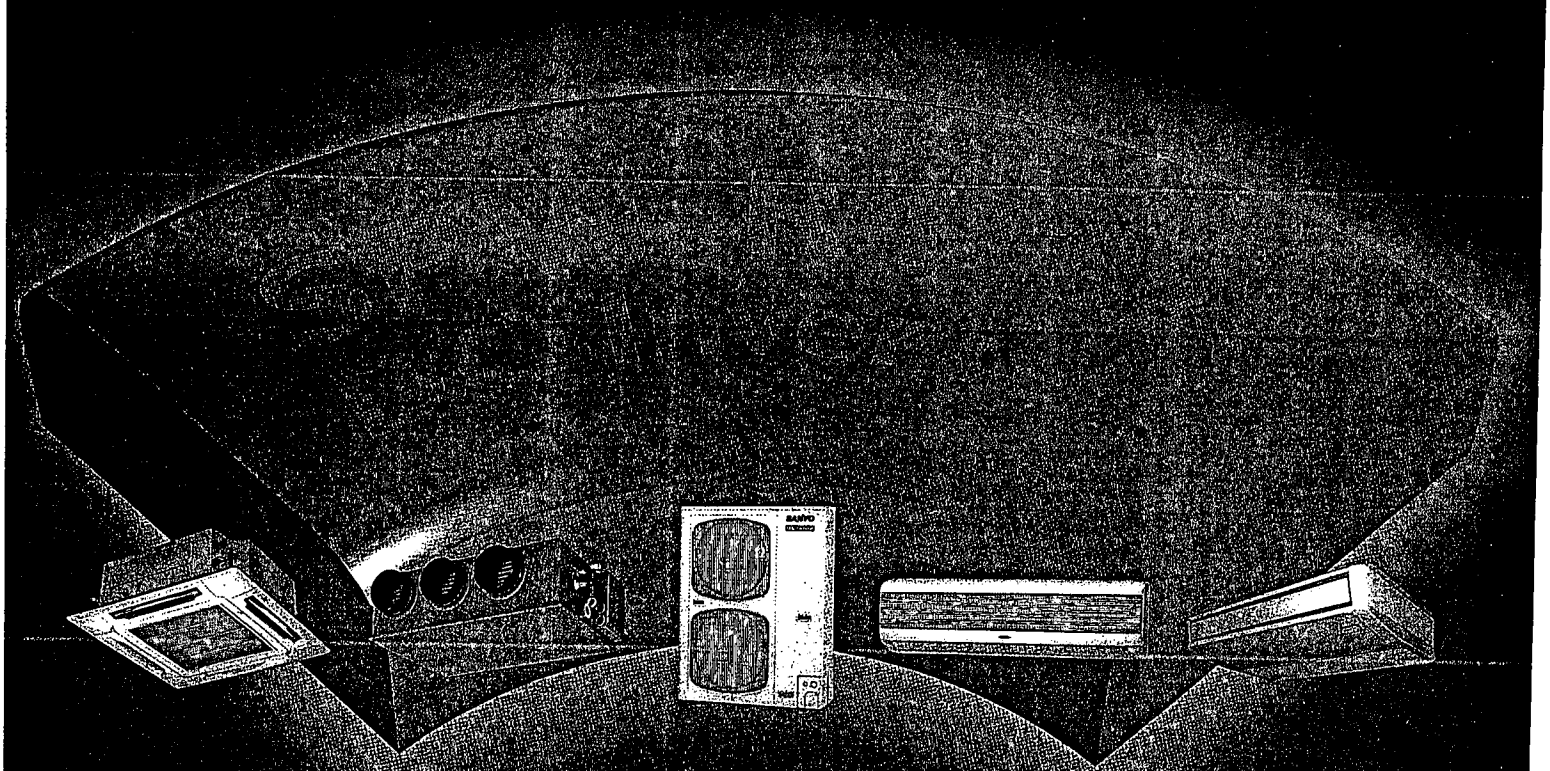
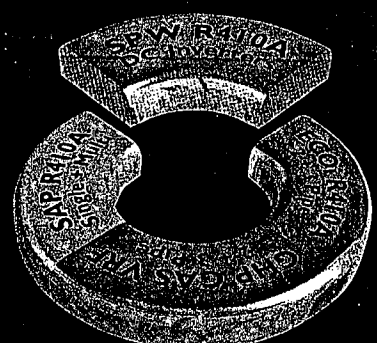
SANYO

AIR CONDITIONERS



## Introducing our most advanced, sophisticated and energy efficient range of commercial air conditioners

## The SPW R410A DC Inverter Systems



DC INVERTER

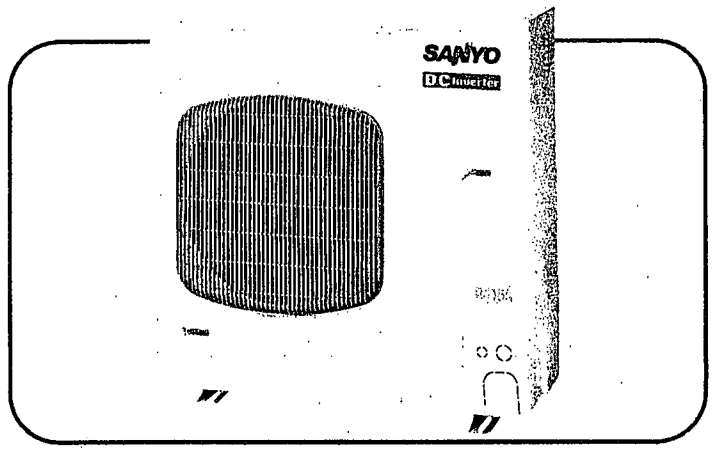
R410A

*All round air conditioning by* SANYO

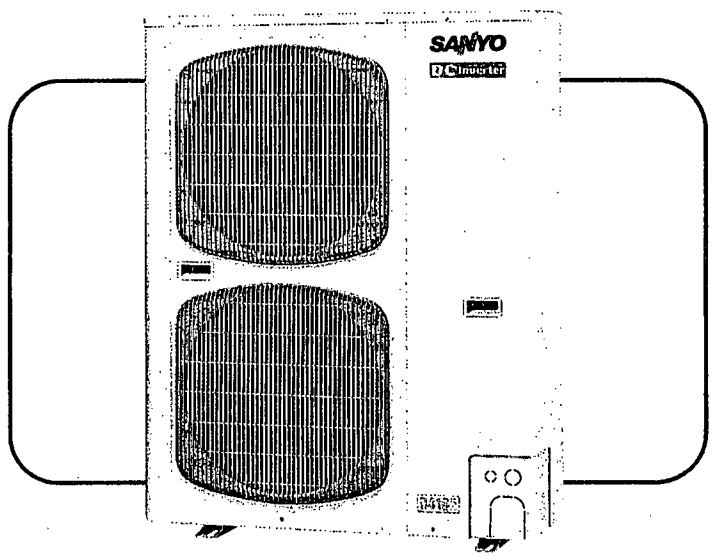
# The SPW R410A DC Inverter split systems...

SANYO are proud to introduce new levels of performance and efficiency to the UK air conditioning market with the launch of the new DC Inverter product range.

Specifically designed for commercial and retail applications, the ingenious design of the systems not only overcome the limitations associated with the installation of traditional split systems, but also offers the end user improved comfort and drastically reduced power consumption.




- Single phase power supply across the range
- 1 amp start up current across the range
- Complete range of indoor units
- Single, twin, triple and quad options
- Systems pre-charged for 30 metres




## R410A

The SPW DC inverter systems utilise the non-ozone depleting R410A refrigerant which gives increased system performance, increased energy efficiency and improved heat transfer which results in smaller pipe sizes and more compact indoor units.

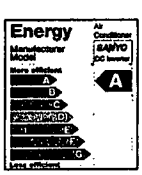
### Wide Capacity Range

DC Inverter controlled compressors have an operating range of 25-90Hz which enables the sine wave to be shortened or lengthened, which either slows the compressor to reduce capacity from the nominal figure (measured at 50Hz) or increases its speed to offer increased output.

Other factors, such as coil size, restrict the maximum output of the system and SANYO would recommend that equipment is always selected at nominal capacity to ensure the optimum lifespan of the equipment.

### Affordable Technology

When comparing the COPs of DC Inverter systems (which are stated at 100% capacity) with an equivalent fixed speed system, the improved energy efficiency and consequent lower running costs of the DC inverter can be easily calculated. However, DC Inverters control the room temperature far more precisely, generally operating in part load conditions where the COPs are considerably higher, thereby delivering further substantial energy savings and ensuring that this new technology has an almost immediate payback.



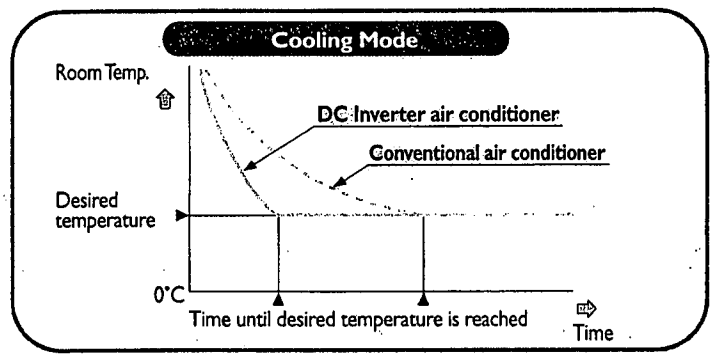

All SPW XDR DC inverter models are rated as EEL Category A, which confirms that they are amongst the most energy efficient systems available. Power consumption during operation is substantially less than that of lower rated units and consequently both the day to day running costs and full life cycle costs are significantly reduced.

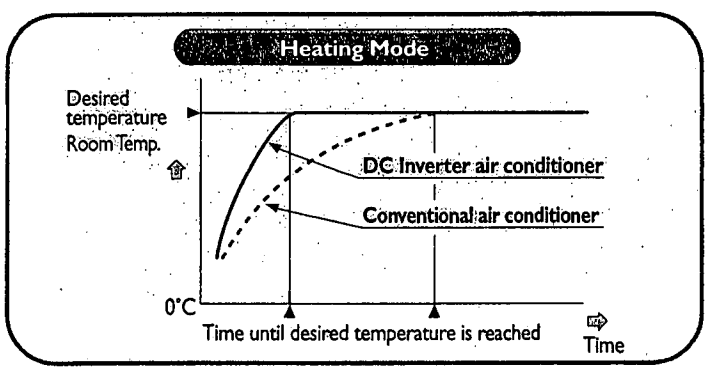



SANYO SPW DC Inverter systems qualify for inclusion on the Energy Technology List and therefore for 100% first year enhanced capital allowances, where the total cost of the system and installation can be offset against taxable profits in the year of purchase. For further information, visit www.eca.gov.uk.

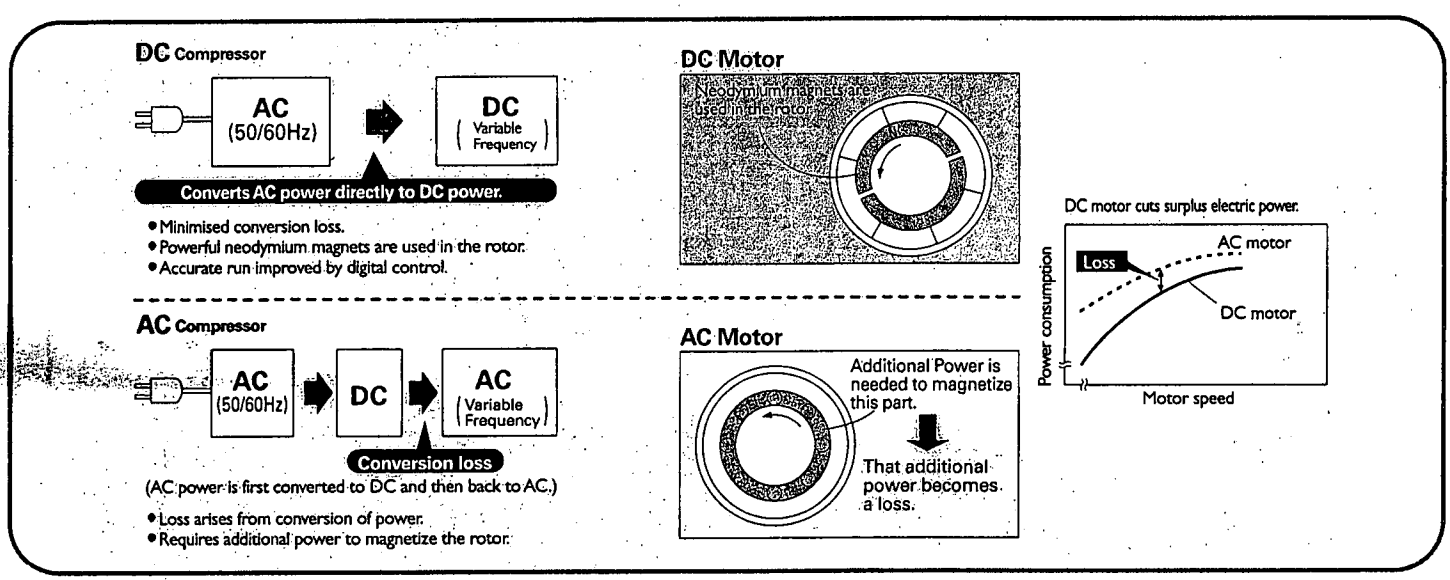
# taking inverter technology to a new level of comfort

The SPW DC inverters use Advanced Digital Hybrid (ADH) technology for better, smarter and more cost-efficient year-round climate control. Immediately following start up, the DC compressor operates at maximum power to provide almost instant heating or cooling. As the desired air temperature is reached, a special Pulse Width Module automatically adjusts the compressor's frequency to exactly meet the cooling or heating requirements of the room. The result is exceptionally precise temperature control, less noise and significant energy savings.

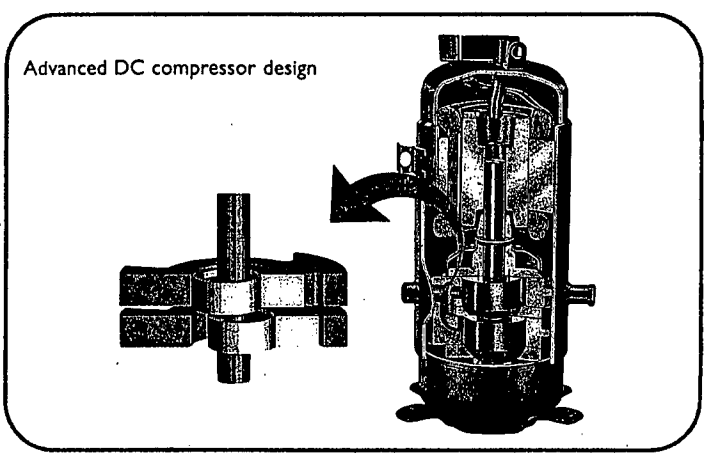



The DC motor uses powerful Neodymium magnets, which are approximately 15-20 times stronger than the ferrite magnets used in conventional AC compressors. This, combined with precise digital control gives the SANYO DC compressor an operation rate of 15-20% higher than that of a conventional AC compressor.

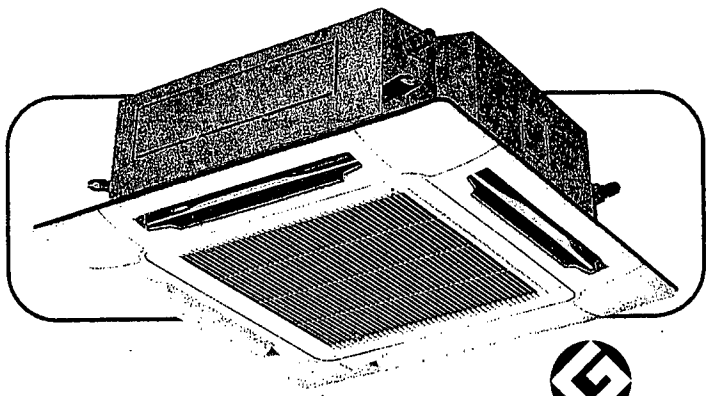



The SPW outdoor units utilise the latest SANYO twin rotary compressor in which perfectly balanced dual rotors revolve smoothly and efficiently to provide powerful, quiet and vibration free performance.



# XDR 4 way blow cassette systems 7.10kW - 12.50kW

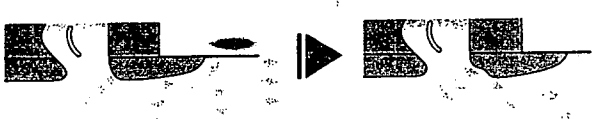
The award winning range of XDR cassettes are smaller, shallower and lighter than previous models and feature a 950mm x 950mm panel throughout. The DC fan motor and new air discharge louvre ensure quiet, optimum air distribution.



Japan Design Award 2003

- New compact design
- Reduced sound levels
- DC fan motor for increased efficiency
- Powerful drain pump gives 850mm lift
- Smaller pipe sizes ($^3/_8$, $^5/_8$) standard throughout range
- Twin, triple and quadruple split options

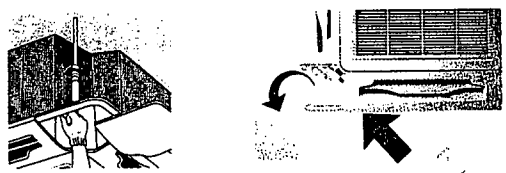
## Improved Airflow



Traditional design — New XDR

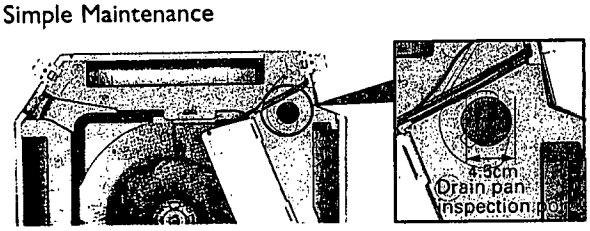
The airflow is directed away from the unit to help prevent the smudging effect so often seen on ceiling tiles.

## Easy Installation



The removable corners of the panel provide easy access to the drop rods for fine height adjustment. The standard cover can also be replaced with a receiver unit for the optional infra-red remote control.

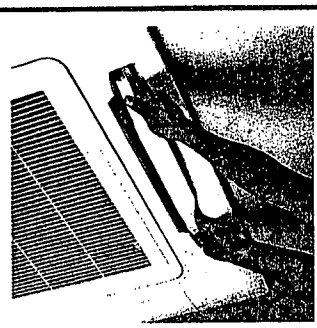
## Simple Maintenance




Routine maintenance is made easier by the 45mm drain pan inspection port that also gives access to the new powerful drain pump.

## Washable Louvres

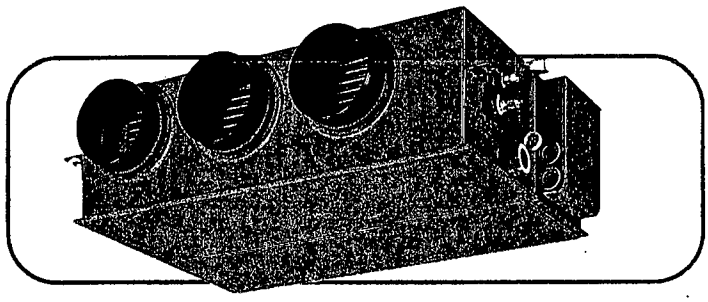
The discharge louvres can be easily removed for thorough cleaning.



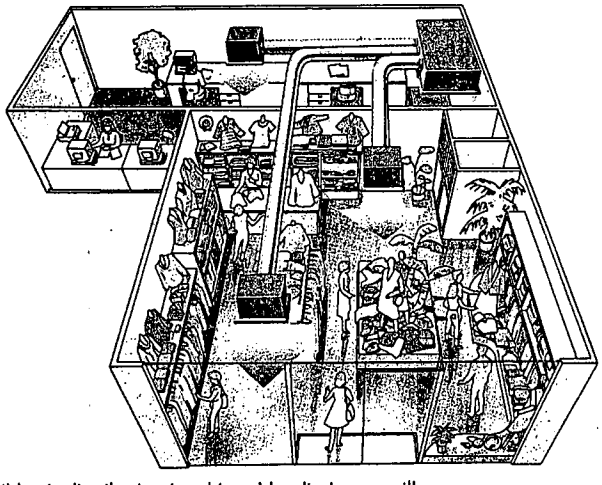
| | Indoor / Panel / Outdoor | | SPW-XDR254GH56 / PNR-XD484GHA / SPW-CR254GVH56 | SPW-XDR364GH56 / PNR-XD484GHA / SPW-CR364GVH56 | SPW-XDR484GH56 / PNR-XD484GHA / SPW-CR484GVH56 |
|---|---|---|---|---|---|
| | Nominal Cooling (range) | kW | 7.10 (2.20 - 8.00) | 10.00 (2.20 - 11.20) | 12.50 (2.70 - 14.00) |
| | Nominal Heating (range) | kW | 8.00 (2.20 - 9.00) | 11.20 (2.20 - 12.50) | 14.00 (2.70 - 16.00) |
| Indoor | Noise Levels - L/M/H | dB(A) | 28/31/34 | 33/36/39 | 34/38/42 |
| Indoor | Airflow - L/M/H | m³/h | 840/960/1200 | 1260/1380/1680 | 1320/1500/1980 |
| Indoor | Dimensions - H/W/D | mm | 252×885×885 | 319×885×885 | 319×885×885 |
| Indoor | Panel - H/W/D | mm | 35×950×950 | 35×950×950 | 35×950×950 |
| Outdoor | Noise Level - C/H | dB(A) | 50/52 | 50/52 | 51/53 |
| Outdoor | Dimensions - H/W/D | mm | 780×940×340 | 780×940×340 | 1230×940×340 |
| Outdoor | Weight | kg | 58 | 65 | 100 |
| Installation Data | Power Supply | | 1 phase | 1 phase | 1 phase |
| Installation Data | Run Current | A | 10.2 | 15.4 | 19.0 |
| Installation Data | Fuse Size | A | 20 | 20 | 30 |
| Installation Data | Pipe Sizes | inch | 3/8 - 5/8 | 3/8 - 5/8 | 3/8 - 5/8 |
| Installation Data | Max Pipe Run | m | 50 | 50 | 50 |
| Installation Data | Pre-charged | m | 30 | 30 | 30 |

# UR ducted systems 7.10kW - 12.50kW

The UR ducted systems are the ideal solution for flexible, concealed air conditioning and the standard 200mm spigots ensure simple, hassle free connection to spiral ductwork.



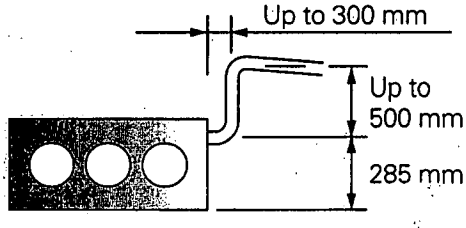
- **Extremely** quiet operation from 27dB(A)
- **Integrated** drain pump gives 785mm lift
- Auto restart after power failure
- Auto changeover
- Air off sensor avoids 'cold air dumping'
- Twin, triple and quadruple split options



Flexible air distribution is achieved by discharge grilles.

| Indoor Unit Size | Pa | 254 | 364 | 484 |
|---|---|---|---|---|
| Standard | Pa | 50 | 79 | 78 |
| With booster cable | Pa | 92 | 122 | 113 |

The static pressure can be increased by using a booster cable which is particularly useful should the ductwork layout be changed after the initial installation.

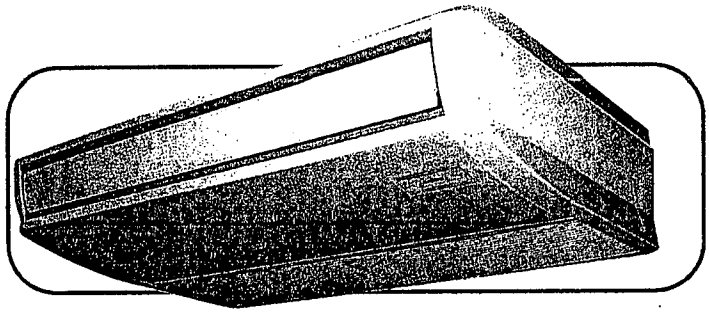



The new powerful built-in drain pump has an improved lift of 785mm.

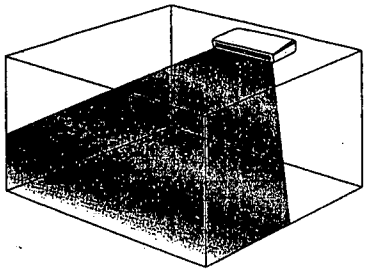
| | Indoor<br>Outdoor | | SPW-UR254GH56<br>SPW-CR254GVH56 | SPW-UR364GH56<br>SPW-CR364GVH56 | SPW-UR484GH56<br>SPW-CR484GVH56 |
|---|---|---|---|---|---|
| | Nominal Cooling (range) | kW | 7.10 (2.20 - 8.00) | 10.00 (2.20 - 11.20) | 12.50 (2.70 - 14.00) |
| | Nominal Heating (range) | kW | 8.00 (2.20 - 9.00) | 11.20 (2.20 - 12.50) | 14.00 (2.70 - 16.00) |
| Indoor | Noise Levels - L/M/H | dB(A) | 27/30/34 | 31/33/38 | 33/37/40 |
| | Airflow - L/M/H | m³/h | 780/960/1140 | 1260/1560/1800 | 1440/1740/2040 |
| | Static Pressure | Pa | 50 (92 boost) | 79 (122 boost) | 78 (113 boost) |
| | Dimensions - H/W/D | mm | 310x1000x630 | 310x1480x680 | 310x1480x630 |
| Outdoor | Noise Level - C/H | dB(A) | 50/52 | 50/52 | 51/53 |
| | Dimensions - H/W/D | mm | 780x940x340 | 780x940x340 | 1230x940x340 |
| | Weight | kg | 62 | 65 | 98 |
| Installation Data | Power Supply | | 1 phase | 1 phase | 1 phase |
| | Run Current | A | 10.9 | 15.4 | 19.2 |
| | Fuse Size | A | 20 | 20 | 30 |
| | Pipe Sizes | inch | 3/8 & 5/8 | 3/8 & 5/8 | 3/8 & 5/8 |
| | Max Pipe Run | m | 50 | 50 | 50 |
| | Pre-charged | m | 30 | 30 | 30 |

# TDR ceiling systems 7.10kW - 12.50kW

The newly designed range of TDR ceiling mounted systems, 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.

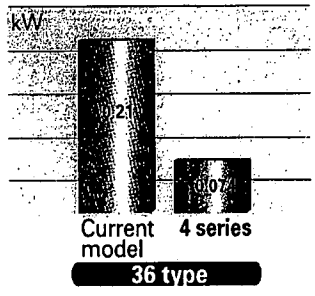


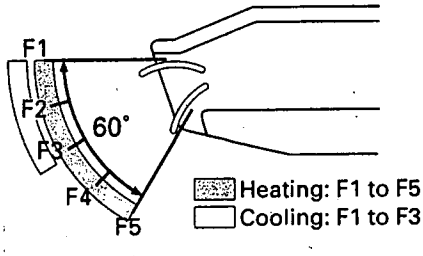
- New design, all units just 210mm high
- Large and wide air distribution
- Industry low sound levels
- Smaller pipe sizes ($^{3}/_{8}$, $^{5}/_{8}$) standard throughout range
- Twin, triple and quadruple split options



The wide air discharge opening ensures that a comfortable temperature is achieved throughout the room.

The DC fan motor and new design of the Scirocco fan provide significant energy savings.



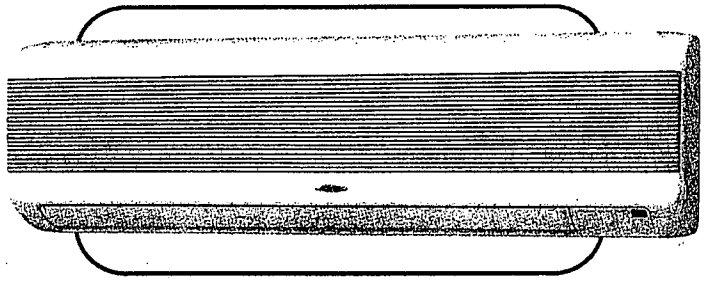




Air distribution is automatically altered depending on the operational mode of the unit

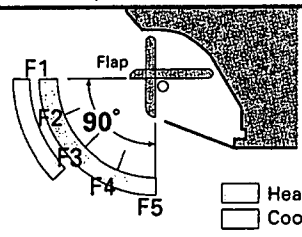
| | Indoor / Outdoor | | SPW-TDR254GH56 / SPW-CR254GVH56 | SPW-TDR364GH56 / SPW-CR364GVH56 | SPW-TDR484GH56 / SPW-CR484GVH56 |
|---|---|---|---|---|---|
| | Nominal Cooling (range) | kW | 7.10 (2.20 - 8.00) | 10.00 (2.20 - 11.20) | 12.50 (2.70 - 14.00) |
| | Nominal Heating (range) | kW | 8.00 (2.20 - 9.00) | 11.20 (2.20 - 12.50) | 14.00 (2.70 - 16.00) |
| Indoor | Noise Level - L/M/H | dB(A) | 33/36/38 | 35/38/41 | 37/40/43 |
| Indoor | Air flow - L/M/H | m³/h | 840/960/1080 | 1200/1560/1800 | 1320/1680/1920 |
| Indoor | Dimensions - H/W/D | mm | 210x1180x680 | 210x1595x680 | 210x1595x680 |
| Outdoor | Noise Level - C/H | dB(A) | 50/52 | 50/52 | 51/53 |
| Outdoor | Dimensions - H/W/D | mm | 780x940x340 | 780x940x340 | 1230x940x340 |
| Outdoor | Weight | kg | 58 | 65 | 100 |
| Installation Data | Power Supply | | 1 phase | 1 phase | 1 phase |
| Installation Data | Run Current | A | 10.9 | 15.4 | 19.2 |
| Installation Data | Fuse Size | A | 20 | 20 | 30 |
| Installation Data | Pipe Sizes | inch | 3/8, 5/8 | 3/8, 5/8 | 3/8, 5/8 |
| Installation Data | Max Pipe Run | m | 50 | 50 | 50 |
| Installation Data | Pre-charged | m | 30 | 30 | 30 |

# KR wall system 7.10kW

The new slim-line design of the KR wall mounted unit is smaller, lighter and substantially quieter than previous models. The discharge louvre closes when the unit is not operating to prevent dust and dirt entering.



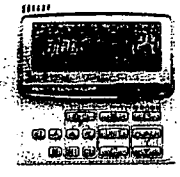
- Simple, versatile design
- Low operating sound levels from 34 dB(A)
- Single phase electrical supply
- Smaller pipe sizes ($^3/_8$, $^5/_8$)
- Twin, triple and quadruple split options




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

| | Indoor<br>Outdoor | | SPW-KR254GH56<br>SPW-CR254GVH56 |
|---|---|---|---|
| Indoor unit | Nominal Cooling (range) | kW | 7.10 (2.20 - 8.00) |
| | Heating Capacity | kW | 8.00 (2.20 - 9.00) |
| | Noise Level - L/M/H | dB(A) | - / 24 / 37 / 40 |
| | Airflow - L/M/H | m³/h | - / 720 / 960 / 1140 |
| | Dimensions - H/W/D | mm | 320×1140×228 |
| Outdoor unit | Noise Level - C/H | dB(A) | 50/52 |
| | Dimensions - H/W/D | mm | 780×940×340 |
| | Weight | kg | 58 |
| Electrical data | Power Supply | | Phase 1 |
| | Run Current | A | 10.9 |
| | Fuse Size | A | 20 |
| | Pipe Sizes | inch | 3/8 / 5/8 |
| | Max. Pipe Run | m | 50 |
| | Pre-charged | m | 30 |

# Control options



### Remote controller - RCS-SH80AG

- Standard individual controller also allows group control of up to 8 units
- 2 controllers can control a single unit
- Full self diagnosis facility with detailed performance history



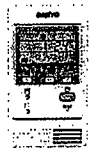
### System controller - SHA-KC64AG

- Controls up to 64 units, divided into 4 zones
- 3 levels of prohibitive control restricts local functionality
- Common alarm and operation outputs



### Weekly timer - SHA-TM64AG

- 7 day timer with 3 operations per day
- Can be used in conjunction with RCS-SH80AG for individual control
- Can be used in conjunction with SHA-KC64AG for group control
- Temporary cancellation possible



### Simplified remote controller - RCS-KR1A

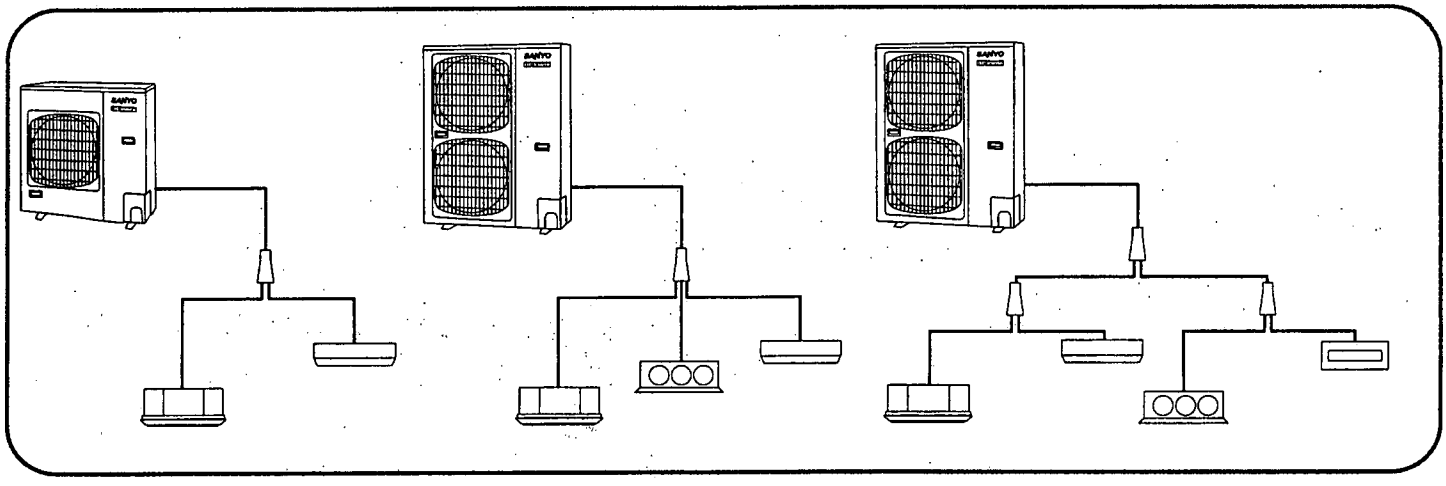
- Reduced function controller ideal for hotel rooms and open areas
- Includes built-in air temperature sensor



### Remote sensor - ART-K45AG

- Ideal for improved zone control
- Especially effective for ducted units with fresh air intake

# Multi systems 7.10kW – 12.50kW



The SPW DC Inverter system is the ideal versatile solution for air conditioning irregularly shaped or open plan areas as two, three or four indoor units can operate in multi-split configuration from a single outdoor unit. Any combination of indoor unit style with a common capacity, can operate in a single mode to provide an economical solution where effective air distribution is required.

| Outdoor Unit | Nominal Cooling (range) kW | Nominal Heating (range) kW | System Type | Indoor Units |
|---|---|---|---|---|
| SPW-CR254GVH56 | 7.10 (2.20 - 8.00) | 8.00 (2.20 - 9.00) | Twin Split | SPW-XR TDR UR KR124GH56 x2 |
| SPW-CR364GVH56 | 10.00 (2.20 - 11.20) | 11.20 (2.20 - 12.50) | Twin Split<br>Triple Split | SPW-XR TDR UR KR164GH56 x2<br>SPW-XR TDR UR KR124GH56 x3 |
| SPW-CR484GVH56 | 12.50 (2.70 - 14.00) | 14.00 (2.70 - 16.00) | Twin Split<br>Triple Split<br>Quad Split | SPW-XR TDR UR KR254GH56 x2<br>SPW-XR TDR UR KR164GH56 x3<br>SPW-XR TDR UR KR124GH56 x4 |

Rating Conditions
The cooling and heating capacities are based on the following conditions:
Cooling: Indoor temperature 27°C DB / 10°C WB, Outdoor temperature 35°C DB / 24°C WB.
Heating: Indoor temperature 20°C DB, Outdoor temperature 7°C DB.

DC INVERTER

Indicates conformation with EC Directives

ISO 9001: 2001
Certificate Number: JQ116B

ISO 14001: 2001
Certificate Number: ECOOJ0303-33

SANYO
AIR CONDITIONERS

www.sanyoaircon.com