temperzone
climate innovations

Ducted Split Systems

Technical Data

ISD 171, 211, 251, 351 Econex R32

Cooling Capacity
14.8kW – 32.7kW

Heating Capacity
14.9kW – 31.3kW

Ducted Split System R32 Air Conditioners

ISD 171 – 351 Econex

Ducted Split System R32 Air Conditioners

ISD 171 – 351 Econex

The ISD indoor units, together with their associated OSA outdoor units, provide a variable capacity reverse cycle (heat pump) split system air conditioner designed and developed to comply with and exceed Minimum Energy Performance Standards (MEPS AS/NZS 3823). Each system has been successfully tested at 52°C ambient.

Ducted Split System R32 Air Conditioners

ISD 171 – 351 Econex

Applications

These units have been specifically developed for air conditioning of light commercial and residential premises, e.g. offices, motels shops and homes. Suitable for applications using high proportions of fresh air (nb pre-heating on heating cycle may be required). Also suitable for VAV, close control and supply air temperature control.

Features

Lower GWP

Utilising R32 Refrigerant, Temperzone's Eco nex Ducted Splits enable a 75-80% reduction of Global Warming Potential (GWP) per kW of cooling when compared to R410A units.

User Friendly

The air conditioning system is available with an optional SAT-3 Controller or TZT-100 Controller which is wired to the Indoor or Outdoor unit. These thermostats have been designed to maintain a high level of comfort for room occupants. Emphasis has been placed on providing controls that are easy to install and use — despite the sophisticated microprocessor system that runs it. Use of the Auto and Timer function settings allows you to "set it and forget it".

Economy

Each ISD/OSA system has a variable capacity compressor which uses less energy than alternative types of compressor.

Efficient

Indoor units include a high efficiency electronically commutated (EC) motor. Part load operation at low loads (75% airflow equates to 55% power use) using Temperzone algorithms. Each outdoor unit incorporates a high efficiency **inverter** compressor. Heat exchange coils use inner grooved (rifled) tube for better heat transfer.

Performance

The variable capacity inverter compressor technology can provide close comfort control of the room temperature. Each OSA outdoor unit has an extra boost capacity available for fast response when well away from set point at start-up, and an energy saving low capacity turn-down.

A dynamically balanced forward curved fan with a multi-speed EC motor enables fine tuning of the indoor unit to match the supply air requirements. These EC motor fans have a fully integrated speed control that enables soft starting. Fan speed can be stepped to your own requirements or continuously variable using a 0–10V DC control signal.

The system also includes a temperature sensing head pressure control which enables the system to compensate for outdoor ambient temperatures below 20°C on cooling cycle, and above 15°C on heating cycle.

Air Flow Selection

If the air returning to the indoor coil is regularly expected to be above 50%RH, then the coil face velocity should be limited to be 2.5 m/s or less.

High humidity levels can occur in tropical or subtropical conditions, and/or when heavily moisture laden fresh air is introduced. Consideration must always be given to selecting an air flow and face velocity that avoids water carry-over problems.

Applications using high proportions of fresh air should be referred to your nearest Temperzone sales office to establish the correct selection of units.

Separable

The ISD 171/211/251 indoor units are separable for ease of installation through small man holes – minimum 550 mm sq. clear aperture. It may be desirable in some applications to keep the two separate parts of the unit apart and joined by ducting, eg over a ceiling joist. A pair of the optional Spigot Plate Adaptors are available to facilitate this option.

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Features

Quiet

Each integral high efficiency EC motor can vary from zero to full speed. This allows slow ramp up with no sudden noise change. The motor can be controlled to have the best air flow for the ducting and requirements as well as used for de-humidifying the space.

The outdoor units' coil design permits low fan speeds and hence low noise levels. The compressor is isolated in a built-in, insulated compartment to minimise noise. The indoor unit is also insulated for noise attenuation and to prevent exterior condensation.

Slimline

The compact up-right design of the outdoor units requires only a 150 mm gap on the coil side where installation is against a wall. Their slimline cabinets are particularly practical where there is restricted space, e.g. side access pathways, balconies, narrow ledges, etc. The unit is free standing, but can be fitted on a wall using the optional wall mounting brackets.

Note: OSA 352 is a vertical discharge unit.

Durable

Both indoor and outdoor coil fins are epoxy coated for extra protection in corrosive environments, e.g. salt laden sea air. Each outdoor unit's cabinet is constructed from high grade galvanised steel - polyester powder coated (grey) for all weather protection (IP X4). External fasteners are SKT® coated steel. Heat exchange coils comprise aluminium corrugated plate fins on mechanically expanded rifled copper tube. Each indoor unit's cabinet is constructed from high grade galvanised steel and includes a plastic drain tray for complete corrosion resistance and a galvanised steel safety drain tray.

Inverter Compressor

Each high efficiency variable capacity inverter compressor is hermetically sealed, quiet running and supported on rubber mounts to minimise vibration. Inverter compressors provide the economy of part load performance.

Soft Starting

EC motors and inverter compressors are soft starting therefore have none of the problems associated with high in rush current.

Insulation

Closed cell foam insulation has been used in the indoor units' cabinet to ensure no particles are introduced into the air stream. Both indoor and outdoor units are insulated to prevent external condensation forming on the cabinet exterior. The insulation is foil faced and meets fire test standards AS 1530.3 (1989) and BS 476 parts 6 & 7.

Control Option

Commissioning is made easier when the EC motor is to be controlled variably (within a restricted range, p11) by a 0–10 volt DC signal that can be supplied either by a BMS system, a sophisticated controller or Temperzone's optional TZT-100 Controller.

The systems' UC8 controller is BMS compatible with multi-unit control possible – either via digital and analogue signals or via Modbus. Refer to temperzone for other protocols available.

Zone Control

ISD-LYX versions using SAT-3 controller can be fitted with the optional Zone Control kit which allows up to 6 zone dampers to be switched from the SAT-3 wall control. Standard damper motors, 24 volt ac, can be used with drive open/ drive close.

Note: Consideration must be given to the minimum floor area requirements of R32 refrigerant..

Safety Features

1. HP and loss of refrigerant protection.
2. Anti-rapid cycle timer and internal overload for
3. Compressor protection.
4. Circuit breaker control circuits.
5. Time-and-temperature controlled electronic de-ice switch prevents icing up of the outdoor coil during heating cycle.
6. Frost protection on cooling cycle.
7. Sensor fault indication.
8. Compressor minimum run time to ensure oil return.
9. 12V control circuit.

Self Diagnostics

The Outdoor Unit Controller (UC8) has a LED display to indicate faults and running conditions. A non-specific fault indicator is included for interface to external systems via the optional relay board.

Ducted Split System R32 Air Conditioners

ISD 171 – 351 Econex

Features

Refrigeration Piping

Maximum line length is 60m; except for ISD 351: 90m.

Max. height separations between units are:
Outdoor unit above indoor unit: 20m
Outdoor unit below indoor unit: 20m.

Each OSA unit is shipped from the factory with a charge of R32 refrigerant sufficient for a line length of: ISD 171–251: 15m, ISD 351: 10m. Liquid and suction service valves are provided. The matched indoor unit is shipped with a holding charge of nitrogen. Both units have brazed pipe connections.

Wiring

The electrical supply required (including voltage fluctuation limits) is:

OSA 171RLS:
1 phase 220–240 V a.c. 50 Hz with neutral and earth.

OSA 171/211/251/352 RLT:
3 phase 380–415 V a.c. 50 Hz with neutral and earth.

A control panel, located in each outdoor unit, is fully wired ready to accept the main power supply. Each system complies with the requirements of the Regulatory Compliance Mark (RCM) for electrical safety (AS/NZS 60335.2.40) and EMC (AS/NZS CISPR.14).

Accessories

Indoor Unit:

1. temperzone SAT-3 Controller or TZT-100 Controller.
2. Six Zone Control kit for SAT-3.
3. Spring mounting kit.
4. Supply & return air spigots (available in New Zealand only)
5. Spigot Plate Adaptors – Double Inlet, for use when separating ISD 171–251 indoor units (available in New Zealand only).
6. Filter Box c/w EU2/G2 rated filter (ISD 171/211/251) or EU4/G4 rated filter (ISD 351); (available in New Zealand only).

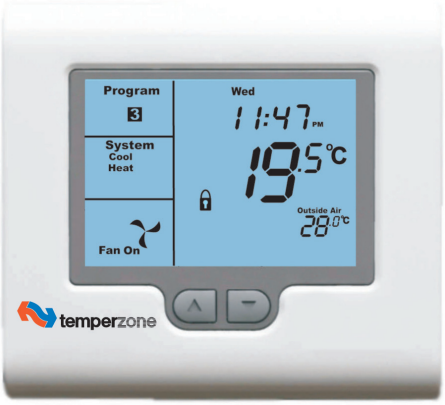
Outdoor Unit:

1. Louvre Guard Kit (excl. OSA 352) for hail protection.
2. Wall mounting brackets (excl. OSA 251 & 352).
3. Anti-vibration mounts (rubber)
4. Drain connection - right angle (060-000-039)
5. Fault relay board (201-000-105)

Ducted Split System R32 Air Conditioners

Controls

TZT-100 Controller (Optional)



Features

- Cool / Cool Dry / Heat / Auto Dry / Auto / Fan Only modes.
- Auto / High / Medium / Low fan speed selection. (customisable).
- Temperature setting range from 1°C – 38°C.
- LED to indicate status of the unit [Power On/Off].
- Room & set temperature display.
- Real time clock.
- 12 or 24 hour time display.
- °C or °F display.
- **7 day timer** – up to two events (four start and/or stops per day)
- On demand countdown run timer, up to 9 hours.
- Auto-Restart or No Restart after power failure.
- Continuous or Intermittent selection of fan run-on in dead zone.
- Backlit screen for ease of reading.
- Soft touch tab keys.
- PIN protected menus (Installer PIN).
- Keypad and/or temperature lock.
- Filter monitor option (by hours).
- Occupancy sensor inputs.
- Integrated Modbus option.
- Battery backup (Lithium).
- **Sleep function** – improves night time comfort and saves energy.
- Audible beep to acknowledge key entry or wireless remote control.
- 24V control cable.
- Optional remote air temperature sensor.

Optional:

Remote return air sensor

For more information visit www.temperzone.biz; model search 'TZT-100'

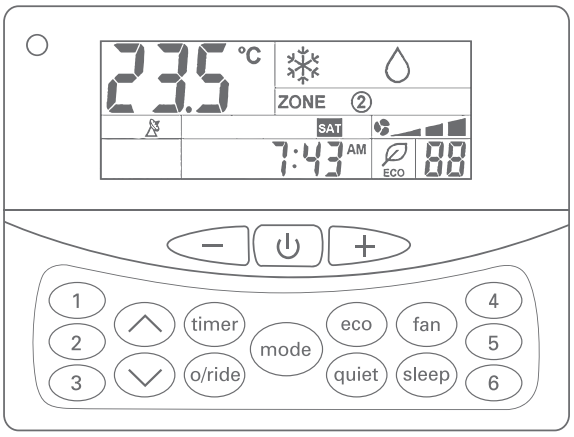
Ducted Split Systems R32 Air Conditioners

Controls

SAT-3 Controller (Optional)

Closed

Open



Features

- Cool / Dry / Fan modes.
- Heat / Auto modes.
- Auto / High / Medium / Low fan speed selection (customisable).
- Temperature setting range from 16°C – 30°C.
- Room temperature display.
- Real time clock.
- **7 day timer** – up to four start and/or stops per day.
- Override countdown run timer, up to 4 hours.
- Continuous or Intermittent selection of fan run-on in dead zone.
- Backlit screen for ease of reading; changes colour for each mode.
- Soft touch tab keys.
- Battery backup (Lithium).
- **Sleep function** – improves night time comfort and saves energy.
- **Eco mode** – for economical operation.
- **Quiet mode** – for outdoor unit.
- Low voltage control cable.
- Connects to either indoor unit or outdoor unit.
- **Colour:** white and light grey.

Optional:

1. Remote return air sensor
2. Six Zone Control kit

For more information visit www.temperzone.biz; model search 'SAT--3'.

Ducted Split System R32 Air Conditioners

Performance Data

Cooling Capacity (kW)

T = Total Capacity (kW)
S = Sensible Capacity (kW)
EAT = Entering Air
⬭ = Nominal Capacity (kW)

Note: Capacities are **gross** and do not include allowance for fan motor heat loss. Capacities are for close coupled systems. Interconnecting pipework will reduce capacity.

ISD 171 / OSA 171 @Nominal Capacity (800 l/s)

Indoor coil E.A.T.		Outdoor coil Entering Air Temperature °C DB																				
D.B. °C	W.B. °C	20			25			30			35			40			45			50		
		TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI
20	14	13.9	10.2	3.2	13.6	10.2	3.5	13.2	10.2	3.9	12.8	10.1	4.3	12.4	10.0	4.8	11.9	9.9	5.2	11.4	9.7	5.7
	15	14.4	9.3	3.2	14.1	9.3	3.6	13.7	9.2	3.9	13.3	9.1	4.4	12.8	9.0	4.8	12.4	8.8	5.3	11.9	8.6	5.8
	16	15.0	8.3	3.2	14.6	8.2	3.6	14.2	8.1	4.0	13.8	8.0	4.4	13.3	7.9	4.8	12.9	7.7	5.3	12.3	7.5	5.8
	17	15.6	7.1	3.2	15.2	7.0	3.6	14.8	6.9	4.0	14.3	6.7	4.4	13.9	6.6	4.9	13.4	6.4	5.4	12.8	6.2	5.9
22	16	14.8	10.3	3.2	14.4	10.3	3.6	14.0	10.3	4.0	13.6	10.2	4.4	13.2	10.1	4.8	12.7	9.9	5.3	12.2	9.7	5.8
	17	15.3	9.4	3.2	14.9	9.3	3.6	14.5	9.3	4.0	14.1	9.2	4.4	13.6	9.0	4.9	13.1	8.9	5.3	12.6	8.7	5.9
	18	15.9	8.3	3.2	15.5	8.2	3.6	15.0	8.1	4.0	14.6	8.0	4.4	14.1	7.9	4.9	13.6	7.7	5.4	13.0	7.5	5.9
	19	16.4	7.1	3.3	16.0	7.0	3.6	15.6	6.9	4.0	15.1	6.7	4.5	14.6	6.5	4.9	14.1	6.4	5.4	13.5	6.1	6.0
24	16	14.7	12.0	3.2	14.4	12.1	3.6	14.0	12.1	4.0	13.6	12.0	4.4	13.1	11.9	4.8	12.6	11.8	5.3	12.1	11.6	5.8
	18	15.7	10.4	3.2	15.3	10.4	3.6	14.9	10.3	4.0	14.4	10.2	4.4	14.0	10.1	4.9	13.4	10.0	5.4	12.9	9.8	5.9
	20	16.7	8.3	3.3	16.3	8.2	3.6	15.9	8.1	4.0	15.4	8.0	4.5	14.9	7.8	4.9	14.4	7.7	5.4	13.8	7.5	6.0
	21	17.3	7.1	3.3	16.9	7.0	3.7	16.4	6.8	4.1	15.9	6.7	4.5	15.4	6.5	5.0	14.8	6.3	5.5	14.2	6.1	6.0
26	17	15.2	12.9	3.2	14.9	13.0	3.6	14.4	13.0	4.0	14.0	12.9	4.4	13.6	12.9	4.8	13.1	12.7	5.3	12.5	12.2	5.9
	19	16.1	11.4	3.3	15.7	11.4	3.6	15.3	11.4	4.0	14.8	11.3	4.4	14.3	11.2	4.9	13.8	11.0	5.4	13.3	10.8	5.9
	20	16.6	10.5	3.3	16.2	10.5	3.6	15.7	10.4	4.0	15.3	10.3	4.5	14.8	10.2	4.9	14.2	10.0	5.4	13.7	9.8	6.0
	22	17.7	8.3	3.3	17.2	8.2	3.7	16.7	8.1	4.1	16.2	8.0	4.5	15.7	7.8	5.0	15.1	7.6	5.5	14.5	7.4	6.1
27	18	15.7	13.0	3.2	15.3	13.1	3.6	14.9	13.1	4.0	14.4	13.0	4.4	14.0	12.9	4.9	13.5	12.8	5.4	12.9	12.5	5.9
	19	16.1	12.3	3.3	15.7	12.3	3.6	15.3	12.3	4.0	14.8	12.2	4.4	14.3	12.1	4.9	13.8	12.0	5.4	13.3	11.8	5.9
	20	16.6	11.4	3.3	16.2	11.4	3.6	15.7	11.4	4.0	15.2	11.3	4.5	14.7	11.2	4.9	14.2	11.1	5.4	13.6	10.9	6.0
	22	17.6	9.5	3.3	17.1	9.4	3.7	16.7	9.3	4.1	16.2	9.2	4.5	15.6	9.1	5.0	15.1	8.9	5.5	14.5	8.7	6.1
28	18	15.8	13.8	3.2	15.4	13.8	3.6	14.9	13.9	4.0	14.5	13.8	4.4	14.0	13.7	4.9	13.5	13.1	5.4	13.0	12.6	5.9
	20	16.6	12.3	3.3	16.2	12.3	3.6	15.7	12.3	4.0	15.3	12.3	4.5	14.8	12.2	4.9	14.2	12.0	5.4	12.8	11.4	5.4
	22	17.5	10.6	3.3	17.1	10.5	3.7	16.6	10.5	4.1	16.1	10.4	4.5	15.6	10.2	5.0	15.0	10.1	5.5	13.5	9.5	5.5
	24	18.6	8.4	3.3	18.1	8.3	3.7	17.6	8.1	4.1	17.1	8.0	4.6	16.5	7.8	5.0	15.9	7.6	5.6	14.3	7.3	5.6
30	19	16.3	14.6	3.3	15.9	14.7	3.6	15.5	14.7	4.0	15.0	14.7	4.5	14.5	14.2	4.9	14.0	13.6	5.4	12.6	12.2	5.4
	21	17.1	13.2	3.3	16.7	13.3	3.6	16.2	13.3	4.1	15.8	13.2	4.5	15.2	13.1	5.0	14.7	13.0	5.5	13.2	12.3	5.5
	23	18.0	11.6	3.3	17.6	11.6	3.7	17.1	11.5	4.1	16.6	11.4	4.5	16.0	11.3	5.0	15.4	11.2	5.5	13.8	10.6	5.5
	25	19.0	9.5	3.3	18.5	9.5	3.7	18.0	9.4	4.1	17.5	9.2	4.6	16.9	9.1	5.1	16.3	8.9	5.6	14.6	8.5	5.6
32	21	17.3	14.8	3.3	16.9	14.9	3.7	16.4	15.0	4.1	15.9	14.9	4.5	15.4	14.9	5.0	14.8	14.5	5.5	13.3	12.9	5.5
	23	18.1	13.4	3.3	17.7	13.4	3.7	17.2	13.4	4.1	16.7	13.4	4.5	16.1	13.3	5.0	15.5	13.1	5.5	13.9	12.4	5.5
	25	19.0	11.7	3.3	18.5	11.6	3.7	18.0	11.6	4.1	17.5	11.5	4.6	16.9	11.4	5.1	16.3	11.2	5.6	14.6	10.6	5.6
	26	19.5	10.7	3.3	19.0	10.6	3.7	18.4	10.5	4.1	17.9	10.4	4.6	17.3	10.3	5.1	16.7	10.1	5.6	14.9	9.6	5.6

Refer page 13 for Indoor Air Flow Correction factors

Ducted Split System R32 Air Conditioners

Performance Data

Cooling Capacity (kW)

T = Total Capacity (kW)
S = Sensible Capacity (kW)
EAT = Entering Air
⬭ = Nominal Capacity (kW)

Note: Capacities are **gross** and do not include allowance for fan motor heat loss. Capacities are for close coupled systems. Interconnecting pipework will reduce capacity.

ISD 211 / OSA 211 @Nominal Capacity (1 050 l/s)

Indoor coil E.A.T.		Outdoor coil Entering Air Temperature °C DB																				
D.B. °C	W.B. °C	20			25			30			35			40			45			50		
		TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI
20	14	18.2	13.2	4.5	17.8	13.2	4.9	17.3	13.2	5.4	16.9	13.1	5.8	16.3	13.0	6.3	15.7	12.8	6.9	15.1	12.6	7.5
	15	18.9	12.0	4.5	18.5	11.9	5.0	18.0	11.9	5.4	17.5	11.8	5.9	16.9	11.7	6.4	16.3	11.5	6.9	15.7	11.2	7.5
	16	19.7	10.6	4.6	19.2	10.5	5.0	18.7	10.4	5.4	18.2	10.3	5.9	17.6	10.1	6.5	17.0	9.9	7.0	16.3	9.7	7.6
	17	20.5	9.1	4.6	20.0	8.9	5.0	19.4	8.8	5.5	18.9	8.6	6.0	18.3	8.4	6.5	17.6	8.2	7.1	16.9	7.9	7.7
22	16	19.4	13.3	4.5	18.9	13.3	5.0	18.4	13.3	5.4	17.9	13.2	5.9	17.4	13.1	6.4	16.7	12.9	7.0	16.1	12.6	7.6
	17	20.1	12.0	4.6	19.6	12.0	5.0	19.1	11.9	5.5	18.6	11.8	6.0	18.0	11.7	6.5	17.3	11.5	7.0	16.6	11.2	7.6
	18	20.8	10.6	4.6	20.3	10.6	5.0	19.8	10.5	5.5	19.2	10.3	6.0	18.6	10.1	6.5	17.9	9.9	7.1	17.2	9.7	7.7
	19	21.6	9.1	4.6	21.1	8.9	5.1	20.5	8.8	5.6	19.9	8.6	6.1	19.3	8.4	6.6	18.6	8.2	7.2	17.9	7.9	7.7
24	16	19.3	15.5	4.5	18.9	15.6	5.0	18.4	15.6	5.4	17.9	15.6	5.9	17.3	15.5	6.4	16.7	15.4	7.0	16.0	15.1	7.6
	18	20.6	13.4	4.6	20.1	13.4	5.0	19.6	13.4	5.5	19.0	13.3	6.0	18.4	13.1	6.5	17.7	12.9	7.1	17.0	12.7	7.7
	20	22.0	10.7	4.6	21.5	10.6	5.1	20.9	10.4	5.6	20.3	10.3	6.1	19.6	10.1	6.6	18.9	9.9	7.2	18.2	9.6	7.8
	21	22.8	9.1	4.6	22.2	8.9	5.1	21.6	8.7	5.6	21.0	8.5	6.1	20.3	8.3	6.7	19.6	8.1	7.2	18.8	7.8	7.8
26	17	20.0	16.7	4.6	19.5	16.8	5.0	19.0	16.8	5.5	18.5	16.8	6.0	17.9	16.7	6.5	17.2	16.6	7.0	16.5	16.0	7.6
	19	21.2	14.7	4.6	20.7	14.7	5.1	20.1	14.7	5.5	19.5	14.6	6.0	18.9	14.5	6.6	18.2	14.3	7.1	17.5	14.1	7.7
	20	21.8	13.5	4.6	21.3	13.5	5.1	20.7	13.4	5.6	20.1	13.3	6.1	19.5	13.2	6.6	18.8	13.0	7.2	18.0	12.7	7.8
	22	23.2	10.7	4.7	22.6	10.6	5.1	22.0	10.4	5.6	21.4	10.3	6.2	20.7	10.1	6.7	20.0	9.8	7.3	19.2	9.6	7.9
27	18	20.6	16.8	4.6	20.1	16.9	5.0	19.6	17.0	5.5	19.0	16.9	6.0	18.4	16.8	6.5	17.8	16.7	7.1	17.0	16.4	7.7
	19	21.2	15.8	4.6	20.7	15.9	5.1	20.1	15.9	5.5	19.5	15.9	6.0	18.9	15.7	6.6	18.2	15.6	7.1	17.5	15.3	7.7
	20	21.8	14.8	4.6	21.3	14.8	5.1	20.7	14.8	5.6	20.1	14.7	6.1	19.4	14.6	6.6	18.8	14.4	7.2	18.0	14.1	7.8
	22	23.1	12.2	4.6	22.5	12.1	5.1	21.9	12.0	5.6	21.3	11.9	6.1	20.6	11.7	6.7	19.9	11.5	7.3	19.1	11.2	7.9
28	18	20.7	17.8	4.6	20.2	17.9	5.0	19.7	18.0	5.5	19.1	18.0	6.0	18.5	17.9	6.5	17.8	17.3	7.1	17.1	16.6	7.7
	20	21.8	15.9	4.6	21.3	16.0	5.1	20.7	16.0	5.6	20.1	15.9	6.1	19.5	15.8	6.6	18.8	15.6	7.2	18.0	15.4	7.8
	22	23.1	13.6	4.6	22.5	13.6	5.1	21.9	13.5	5.6	21.2	13.4	6.1	20.6	13.2	6.7	19.8	13.0	7.3	19.0	12.8	7.9
	24	24.5	10.7	4.7	23.8	10.6	5.2	23.2	10.4	5.7	22.5	10.3	6.2	21.8	10.1	6.8	21.0	9.8	7.4	20.2	9.6	8.0
30	19	21.5	18.9	4.6	20.9	19.1	5.1	20.4	19.2	5.5	19.8	19.2	6.1	19.2	18.6	6.6	18.5	17.9	7.1	17.7	17.2	7.7
	21	22.5	17.1	4.6	22.0	17.2	5.1	21.4	17.2	5.6	20.8	17.2	6.1	20.1	17.1	6.7	19.4	16.9	7.2	18.6	16.7	7.8
	23	23.7	15.0	4.7	23.1	14.9	5.1	22.5	14.9	5.7	21.8	14.8	6.2	21.1	14.7	6.7	20.4	14.5	7.3	19.6	14.2	7.9
	25	25.0	12.3	4.7	24.4	12.2	5.2	23.7	12.1	5.7	23.0	11.9	6.3	22.3	11.7	6.8	21.5	11.5	7.4	20.6	11.2	8.0
32	21	22.8	19.2	4.6	22.2	19.4	5.1	21.6	19.4	5.6	21.0	19.4	6.1	20.3	19.4	6.7	19.6	19.0	7.2	18.8	18.3	7.8
	23	23.9	17.4	4.7	23.2	17.4	5.2	22.6	17.4	5.7	21.9	17.4	6.2	21.2	17.3	6.7	20.5	17.1	7.3	19.7	16.8	7.9
	25	25.0	15.1	4.7	24.4	15.1	5.2	23.7	15.0	5.7	23.0	14.9	6.3	22.3	14.8	6.8	21.5	14.6	7.4	20.6	14.3	8.0
	26	25.7	13.8	4.7	25.0	13.7	5.2	24.3	13.6	5.7	23.6	13.5	6.3	22.8	13.3	6.9	22.0	13.1	7.4	21.1	12.8	8.0

Refer page 13 for Indoor Air Flow Correction factors

Ducted Split System R32 Air Conditioners

Performance Data

Cooling Capacity (kW)

T = Total Capacity (kW)
S = Sensible Capacity (kW)
EAT = Entering Air
⬭ = Nominal Capacity (kW)

Note: Capacities are **gross** and do not include allowance for fan motor heat loss. Capacities are for close coupled systems. Interconnecting pipework will reduce capacity.

ISD 251 / OSA 251 @Nominal Capacity (1 300 l/s)

Indoor coil E.A.T.		Outdoor coil Entering Air Temperature °C DB																				
D.B. °C	W.B. °C	20			25			30			35			40			45			50		
		TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI
20	14	21.9	16.4	5.5	21.4	16.4	5.9	20.8	16.3	6.3	20.2	16.2	6.8	19.5	16.0	7.3	18.8	15.7	7.9	18.0	15.3	8.6
	15	22.7	14.9	5.5	22.2	14.9	5.9	21.6	14.8	6.4	20.9	14.6	6.9	20.2	14.4	7.4	19.5	14.1	8.0	18.6	13.7	8.7
	16	23.6	13.3	5.6	23.0	13.2	6.0	22.4	13.0	6.4	21.7	12.9	6.9	21.0	12.6	7.5	20.2	12.3	8.1	19.3	11.9	8.8
	17	24.5	11.5	5.6	23.9	11.3	6.0	23.3	11.1	6.5	22.6	10.9	7.0	21.8	10.6	7.6	21.0	10.3	8.2	20.1	9.9	8.9
22	16	23.3	16.5	5.6	22.7	16.5	6.0	22.1	16.4	6.4	21.4	16.3	6.9	20.7	16.1	7.5	19.9	15.8	8.1	19.1	15.4	8.7
	17	24.1	15.0	5.6	23.5	15.0	6.0	22.9	14.8	6.5	22.2	14.7	7.0	21.4	14.4	7.5	20.6	14.1	8.1	19.7	13.8	8.8
	18	24.9	13.4	5.7	24.3	13.2	6.1	23.7	13.1	6.5	22.9	12.9	7.0	22.2	12.6	7.6	21.3	12.3	8.2	20.4	11.9	8.9
	19	25.8	11.5	5.7	25.2	11.3	6.1	24.5	11.1	6.6	23.8	10.8	7.1	23.0	10.6	7.7	22.1	10.2	8.3	21.2	9.9	9.0
24	16	23.2	19.2	5.6	22.7	19.3	6.0	22.0	19.3	6.4	21.4	19.2	6.9	20.7	19.0	7.5	19.9	18.8	8.1	19.0	18.2	8.7
	18	24.7	16.7	5.7	24.1	16.6	6.1	23.4	16.6	6.5	22.7	16.4	7.0	21.9	16.2	7.6	21.1	15.9	8.2	20.2	15.5	8.9
	20	26.3	13.4	5.8	25.6	13.3	6.2	24.9	13.1	6.6	24.2	12.9	7.1	23.4	12.6	7.7	22.5	12.3	8.3	21.6	11.9	9.0
	21	27.2	11.5	5.8	26.5	11.3	6.2	25.8	11.1	6.7	25.0	10.8	7.2	24.2	10.5	7.8	23.3	10.2	8.4	22.3	9.8	9.1
26	17	24.0	20.6	5.6	23.4	20.7	6.0	22.8	20.7	6.5	22.1	20.6	7.0	21.3	20.5	7.5	20.5	19.7	8.1	19.6	18.8	8.8
	19	25.3	18.2	5.7	24.7	18.2	6.1	24.0	18.2	6.6	23.3	18.0	7.1	22.5	17.8	7.6	21.7	17.5	8.3	20.8	17.2	8.9
	20	26.1	16.8	5.7	25.4	16.8	6.2	24.7	16.7	6.6	24.0	16.5	7.1	23.2	16.3	7.7	22.3	16.0	8.3	21.4	15.6	9.0
	22	27.7	13.4	5.8	27.0	13.3	6.3	26.2	13.1	6.7	25.5	12.9	7.2	24.6	12.6	7.8	23.7	12.3	8.4	22.7	11.9	9.1
27	18	24.7	20.8	5.7	24.1	20.8	6.1	23.4	20.9	6.5	22.7	20.8	7.0	22.0	20.6	7.6	21.1	20.3	8.2	20.2	19.4	8.9
	19	25.4	19.6	5.7	24.7	19.6	6.1	24.1	19.6	6.6	23.3	19.5	7.1	22.5	19.3	7.6	21.7	19.0	8.3	20.8	18.6	8.9
	20	26.1	18.3	5.7	25.4	18.3	6.2	24.7	18.2	6.6	24.0	18.1	7.1	23.2	17.9	7.7	22.3	17.6	8.3	21.3	17.2	9.0
	22	27.6	15.3	5.8	26.9	15.1	6.3	26.1	15.0	6.7	25.3	14.8	7.2	24.5	14.6	7.8	23.6	14.2	8.4	22.6	13.9	9.1
28	18	24.8	22.0	5.7	24.2	22.1	6.1	23.5	22.1	6.5	22.8	22.0	7.0	22.1	21.3	7.6	21.2	20.4	8.2	20.3	19.5	8.9
	20	26.1	19.7	5.7	25.4	19.7	6.2	24.7	19.7	6.6	24.0	19.6	7.1	23.2	19.4	7.7	22.3	19.1	8.3	21.4	18.7	9.0
	22	27.5	16.9	5.8	26.8	16.9	6.2	26.1	16.8	6.7	25.3	16.6	7.2	24.4	16.4	7.8	23.5	16.1	8.4	22.5	15.7	9.1
	24	29.1	13.5	5.9	28.4	13.3	6.3	27.6	13.1	6.8	26.7	12.9	7.3	25.8	12.6	7.9	24.9	12.3	8.6	23.9	11.9	9.2
30	19	25.7	23.3	5.7	25.0	23.4	6.1	24.4	23.5	6.6	23.6	22.8	7.1	22.8	22.0	7.7	22.0	21.2	8.3	21.0	20.2	9.0
	21	26.9	21.2	5.8	26.2	21.2	6.2	25.5	21.2	6.7	24.7	21.1	7.2	23.9	20.9	7.8	23.0	20.7	8.4	22.0	20.3	9.1
	23	28.3	18.5	5.9	27.5	18.5	6.3	26.8	18.4	6.8	26.0	18.3	7.3	25.1	18.1	7.9	24.2	17.8	8.5	18.5	15.8	6.6
	25	29.7	15.3	6.0	29.0	15.2	6.4	28.2	15.1	6.9	27.3	14.8	7.4	26.4	14.6	8.0	25.4	14.3	8.6	19.5	13.1	6.6
32	21	27.2	23.7	5.8	26.5	23.8	6.2	25.8	23.8	6.7	25.0	23.8	7.2	24.2	23.4	7.8	23.3	22.5	8.4	17.8	17.1	6.5
	23	28.4	21.4	5.9	27.7	21.4	6.3	26.9	21.4	6.8	26.1	21.3	7.3	25.2	21.1	7.9	24.3	20.9	8.5	18.6	17.8	6.6
	25	29.7	18.7	6.0	29.0	18.6	6.4	28.2	18.5	6.9	27.3	18.4	7.4	26.4	18.2	8.0	25.4	17.9	8.6	19.5	16.0	6.6
	26	30.5	17.1	6.0	29.7	17.0	6.4	28.8	16.9	6.9	28.0	16.7	7.4	27.0	16.5	8.0	26.1	16.2	8.7	19.9	14.7	6.7

Refer page 13 for Indoor Air Flow Correction factors

Ducted Split System R32 Air Conditioners

Performance Data

Cooling Capacity (kW)

T = Total Capacity (kW)
S = Sensible Capacity (kW)
EAT = Entering Air
⬭ = Nominal Capacity (kW)

Note: Capacities are **gross** and do not include allowance for fan motor heat loss. Capacities are for close coupled systems. Interconnecting pipework will reduce capacity.

ISD 351 / OSA 352 @Nominal Capacity (1 750 l/s)

Indoor coil E.A.T.		Outdoor coil Entering Air Temperature °C DB																				
D.B. °C	W.B. °C	20			25			30			35			40			45			50		
		TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI	TC	SC	PI
20	14	30.4	22.6	7.3	29.6	22.5	8.0	28.8	22.4	8.7	27.9	22.2	9.6	27.0	22.0	10.5	22.5	20.5	9.1	21.0	19.6	9.8
	15	31.5	20.6	7.3	30.7	20.5	8.0	29.9	20.3	8.8	29.0	20.1	9.6	28.0	19.8	10.6	23.3	18.7	9.2	21.8	17.8	9.9
	16	32.7	18.3	7.3	31.9	18.2	8.1	31.0	17.9	8.9	30.0	17.6	9.7	29.0	17.3	10.6	24.1	16.6	9.3	22.5	15.7	10.0
	17	34.0	15.8	7.4	33.1	15.5	8.1	32.2	15.2	8.9	31.2	14.9	9.8	30.1	14.5	10.7	25.0	14.2	9.3	23.4	13.4	10.1
22	16	32.3	22.8	7.3	31.5	22.7	8.1	30.6	22.6	8.8	29.6	22.4	9.7	28.6	22.1	10.6	23.8	20.7	9.2	22.3	19.8	9.9
	17	33.4	20.7	7.3	32.6	20.6	8.1	31.6	20.4	8.9	30.7	20.2	9.8	29.6	19.8	10.7	24.6	18.8	9.3	23.0	17.9	10.0
	18	34.6	18.4	7.4	33.7	18.2	8.1	32.7	18.0	8.9	31.7	17.7	9.8	30.6	17.3	10.8	25.4	16.7	9.4	23.7	15.8	10.1
	19	35.8	15.8	7.4	34.9	15.5	8.2	33.9	15.2	9.0	32.9	14.9	9.9	31.7	14.4	10.9	26.3	14.2	9.5	24.6	13.4	10.2
24	16	32.2	26.5	7.3	31.4	26.6	8.0	30.5	26.6	8.8	29.6	26.4	9.7	28.5	26.2	10.6	23.8	22.5	9.2	22.2	20.9	9.9
	18	34.2	23.0	7.4	33.3	22.9	8.1	32.4	22.8	8.9	31.4	22.5	9.8	30.3	22.2	10.7	25.2	20.9	9.4	23.5	19.9	10.1
	20	36.5	18.5	7.4	35.6	18.3	8.2	34.5	18.0	9.0	33.4	17.7	9.9	32.3	17.3	10.9	26.8	16.7	9.5	25.0	15.8	10.2
	21	37.7	15.8	7.4	36.8	15.5	8.2	35.7	15.2	9.1	34.6	14.8	10.0	33.4	14.4	11.0	27.7	14.3	9.6	25.8	13.4	10.3
26	17	33.2	28.5	7.3	32.4	28.5	8.1	31.5	28.5	8.9	30.5	28.4	9.7	29.5	28.2	10.7	24.5	23.2	9.3	22.9	21.6	10.0
	19	35.1	25.1	7.4	34.2	25.1	8.1	33.3	25.0	9.0	32.2	24.8	9.9	31.1	24.5	10.8	25.8	22.9	9.4	24.1	21.9	10.1
	20	36.2	23.2	7.4	35.2	23.1	8.2	34.2	22.9	9.0	33.2	22.7	9.9	32.0	22.3	10.9	26.6	21.1	9.5	24.8	20.1	10.2
	22	38.5	18.5	7.4	37.4	18.3	8.2	36.4	18.0	9.1	35.2	17.7	10.0	34.0	17.3	11.0	28.2	16.8	9.6	26.3	15.9	10.4
27	18	34.2	28.7	7.4	33.4	28.8	8.1	32.4	28.7	8.9	31.4	28.6	9.8	30.3	28.3	10.8	25.2	23.9	9.4	23.5	22.3	10.1
	19	35.2	27.0	7.4	34.3	27.1	8.1	33.3	27.0	9.0	32.7	27.4	10.0	31.1	26.5	10.8	25.9	24.6	9.4	24.1	22.9	10.2
	20	36.1	25.3	7.4	35.2	25.2	8.2	34.2	25.1	9.0	33.1	24.9	10.0	32.0	24.6	10.9	26.5	23.1	9.5	24.8	22.0	10.2
	22	38.3	21.1	7.4	37.3	20.9	8.2	36.2	20.7	9.1	35.1	20.3	10.0	33.8	20.0	11.0	28.0	19.1	9.6	26.1	18.1	10.4
28	18	34.4	30.3	7.4	33.5	30.5	8.1	32.6	30.5	8.9	31.5	30.3	9.8	30.5	29.2	10.8	25.3	24.0	9.4	23.6	22.4	10.1
	20	36.2	27.2	7.4	35.3	27.2	8.2	34.3	27.1	9.0	33.2	26.9	9.9	32.0	26.6	10.9	26.6	24.8	9.5	24.8	23.5	10.2
	22	38.2	23.4	7.4	37.2	23.3	8.2	36.1	23.1	9.1	35.0	22.8	10.0	33.7	22.4	11.0	28.0	21.3	9.6	26.1	20.2	10.4
	24	40.4	18.6	7.5	39.4	18.4	8.3	38.2	18.1	9.2	37.0	17.7	10.1	35.7	17.3	11.1	29.6	16.9	9.7	27.5	16.0	10.5
30	19	35.6	32.2	7.4	34.7	32.4	8.2	33.7	32.4	9.0	32.7	31.4	9.9	31.5	30.3	10.8	26.2	24.9	9.4	24.4	23.2	10.2
	21	37.3	29.2	7.4	36.4	29.3	8.2	35.3	29.2	9.1	34.2	29.1	10.0	33.0	28.8	11.0	27.4	26.1	9.5	25.5	24.3	10.3
	23	39.2	25.6	7.4	38.2	25.6	8.3	37.1	25.4	9.1	35.9	25.2	10.1	34.6	24.8	11.1	28.7	23.4	9.6	26.8	22.3	10.4
	25	41.3	21.2	7.5	40.2	21.0	8.3	39.1	20.8	9.2	37.8	20.4	10.2	36.5	20.0	11.2	30.2	19.3	9.7	28.1	18.3	10.5
32	21	37.7	32.7	7.4	36.8	32.9	8.2	35.7	32.9	9.1	34.6	32.8	10.0	33.4	32.1	11.0	27.7	26.4	9.6	25.8	24.5	10.3
	23	39.4	29.6	7.4	38.4	29.6	8.3	37.3	29.6	9.1	36.1	29.4	10.1	34.8	29.1	11.1	28.9	27.1	9.6	26.9	25.6	10.4
	25	41.3	25.8	7.5	40.2	25.8	8.3	39.1	25.6	9.2	37.8	25.3	10.2	36.5	25.0	11.2	30.2	23.6	9.7	28.1	22.5	10.5
	26	42.4	23.7	7.5	41.2	23.5	8.3	40.0	23.3	9.2	38.7	23.0	10.2	37.4	22.6	11.3	30.9	21.6	9.8	28.8	20.5	10.6

Refer page 13 for Indoor Air Flow Correction factors

Ducted Split System R32 Air Conditioners

Performance Data

Cooling Capacity (kW)

Indoor Air Flow Correction Factors @ nominal conditions

Cooling	Indoor Air Flow (%)			
	-20	-10	Rated	+10
Total Capacity	0.95	0.975	1.0	1.025
Sensible Capacity	0.90	0.950	1.0	1.050

Ducted Split Systems R32 Air Conditioners

Performance Data

Heating Capacity (kW)

G = Gross Capacity kW, based on nominal air flow.
N = Net Heating Capacity kW allowing for average defrost.
PI = Power Input (kW)
⬭ = Nominal Capacity (kW).

ISD 171 / OSA 171 at Nominal Capacity (800 l/s)

Air on D.B. °C	Outdoor coil entering air temperature °C DB																							
	- 10			- 5			0			5			7			10			15			20			25		
	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI
10	9.8	6.8	3.5	11.2	8.4	3.6	13.0	10.8	3.7	13.5	13.5	3.8	14.2	14.2	3.8	15.4	15.4	3.9	16.0	16.0	3.9	16.3	16.3	3.9	16.7	16.7	3.9
15	9.6	6.7	3.8	11.2	8.4	3.9	13.3	10.9	4.0	13.8	13.8	4.0	14.6	14.6	4.1	15.8	15.8	4.1	16.3	16.3	4.1	16.7	16.7	4.1	17.0	17.0	4.1
20	9.5	6.6	4.0	11.1	8.3	4.1	13.6	10.7	4.3	14.1	14.1	4.3	14.9	14.9	4.4	16.1	16.1	4.4	16.7	16.7	4.4	17.0	17.0	4.4	17.4	17.4	4.4
25	9.1	6.4	4.3	10.7	8.0	4.4	14.0	10.5	4.6	14.5	14.5	4.6	15.2	15.2	4.7	16.5	16.5	4.7	17.0	17.0	4.7	17.4	17.4	4.8	17.7	17.7	4.8

ISD 211 / OSA 211 at Nominal Capacity (1 050 l/s)

Air on D.B. °C	Outdoor coil entering air temperature °C DB																							
	- 10			- 5			0			5			7			10			15			20			25		
	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI
10	13.5	9.4	4.8	15.6	11.7	4.9	18.1	15.1	5.0	18.7	18.7	5.1	19.8	19.8	5.1	21.5	21.5	5.2	22.3	22.3	5.2	22.8	22.8	5.2	23.2	23.2	5.2
15	13.4	9.4	5.1	15.6	11.7	5.2	18.5	15.1	5.3	19.2	19.2	5.4	20.3	20.3	5.5	22.0	22.0	5.5	22.7	22.7	5.6	23.2	23.2	5.6	23.7	23.7	5.6
20	13.2	9.2	5.4	15.4	11.6	5.5	19.0	14.9	5.7	19.7	19.7	5.8	20.8	20.8	5.8	22.5	22.5	5.9	23.2	23.2	5.9	23.7	23.7	5.9	24.2	24.2	5.9
25	12.7	8.9	5.7	14.9	11.2	5.9	19.4	14.6	6.0	20.1	20.1	6.1	21.2	21.2	6.2	22.9	22.9	6.3	23.7	23.7	6.3	24.2	24.2	6.3	24.7	24.7	6.3

ISD 251 / OSA 251 at Nominal Capacity (1 300 l/s)

Air on D.B. °C	Outdoor coil entering air temperature °C DB																							
	- 10			- 5			0			5			7			10			15			20			25		
	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI
10	15	10.5	5.5	17.5	13.1	5.7	20.3	15.8	5.8	21.1	21.1	5.9	22.3	22.3	6	24.3	24.3	6.1	25.1	25.1	6.2	25.7	25.7	6.2	26.2	26.2	6.2
15	15	10.5	5.8	17.5	13.2	6	20.8	15.8	6.2	21.6	21.6	6.3	22.8	22.8	6.3	24.8	24.8	6.5	25.6	25.6	6.5	26.1	26.1	6.5	26.7	26.7	6.6
20	14.8	10.4	6.1	17.3	13	6.3	21.3	15.6	6.5	22	21.9	6.6	23.3	23.3	6.7	25.2	25.2	6.8	26.1	26.1	6.9	26.6	26.6	6.9	27.2	27.2	6.9
25	14.2	10	6.5	16.7	12.6	6.7	21.8	15.2	6.9	22.5	21.4	7	23.8	23.8	7.1	25.7	25.7	7.2	26.5	26.5	7.3	27.1	27.1	7.3	27.6	27.6	7.3

ISD 351 / OSA 352 at Nominal Capacity (1 900 l/s)

Air on D.B. °C	Outdoor coil entering air temperature °C DB																							
	- 10			- 5			0			5			7			10			15			20			25		
	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI	G	N	PI
10	20.2	14.1	7.7	23.5	17.6	7.9	27.1	22.8	8.1	28.1	28.1	8.2	29.8	29.8	8.3	32.4	32.4	8.3	33.5	33.5	8.4	34.2	34.2	8.4	35.0	35.0	8.4
15	18.7	13.1	7.0	23.6	17.7	8.4	27.9	22.8	8.6	28.9	28.9	8.7	30.5	30.5	8.8	33.2	33.2	8.9	34.3	34.3	8.9	35.0	35.0	8.9	35.8	35.8	8.9
20	18.4	12.9	7.4	23.2	17.4	8.9	28.6	22.5	9.1	29.6	29.6	9.2	31.3	31.3	9.3	33.9	33.9	9.4	35.1	35.1	9.4	35.8	35.8	9.5	36.6	36.6	9.5
25	16.2	11.3	6.7	22.5	16.9	9.4	29.3	21.9	9.7	30.4	30.3	9.8	32.0	32.0	9.9	34.7	34.7	10.0	35.8	35.8	10.0	36.6	36.6	10.1	37.3	37.3	10.1

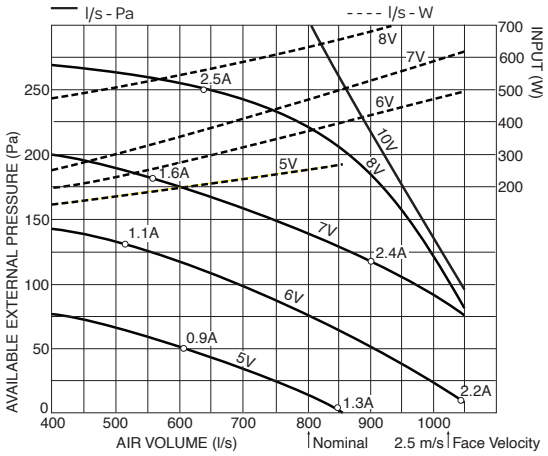
Ducted Split System R32 Air Conditioners

Performance Data

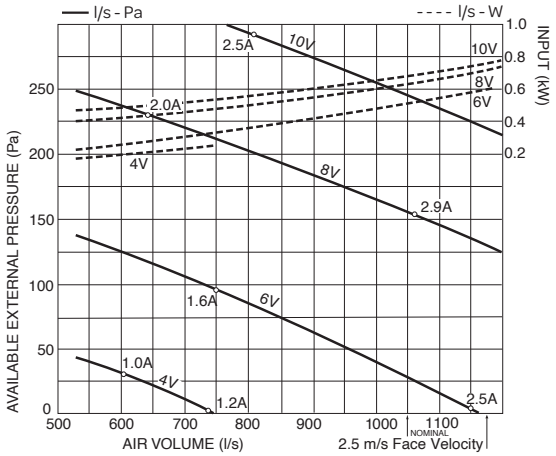
Air Handling

Airflows are for a dry coil. Reduce airflow by 10% in high moisture removal conditions. In a free blow application, beware of exceeding indoor fan motor's full load amp limit. Refer back page for filter losses. **Air flows given are for ISD units without filter installed.**

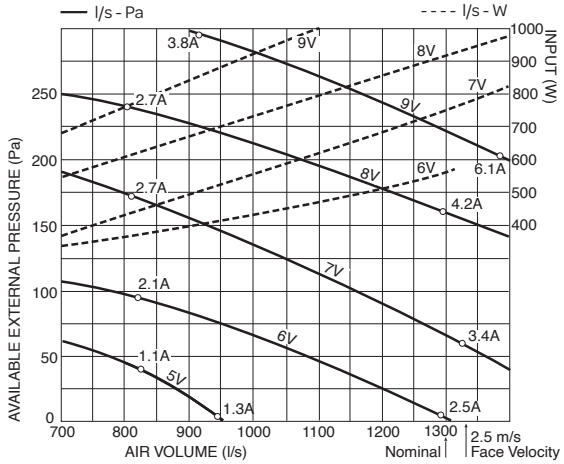
ISD 171



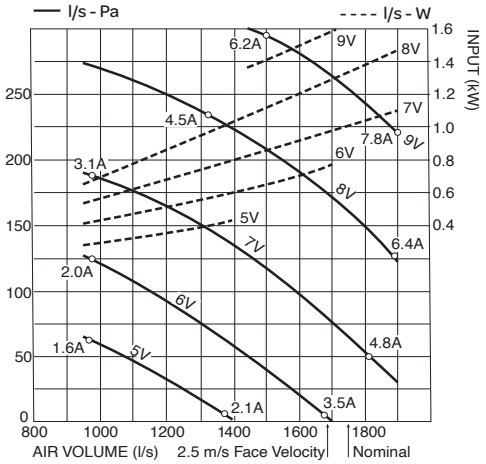
ISD 211



ISD 251

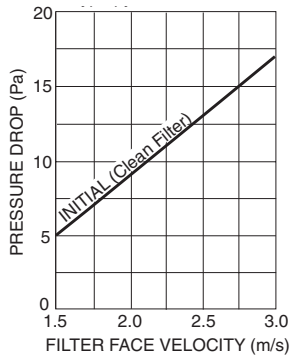


ISD 351

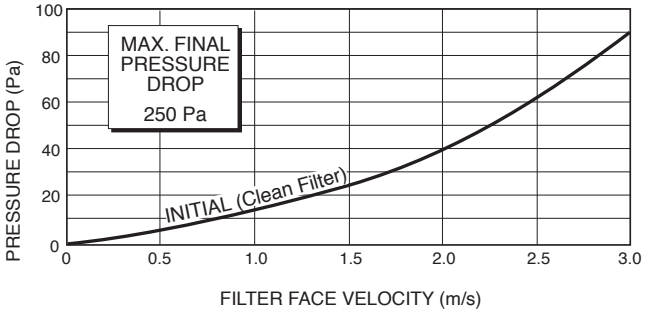


Filter Pressure Drop (optional Filter Box)

ISD 171–251: EU2/G2 rated filter media



ISD 351: EU4/G4 rated filter media



Ducted Split System R32 Air Conditioners

Performance Data

Sound Levels

Test Conditions: EN 12102-1:2017.
Diffuse field method in a reverberant room.
Measured in decibels re 1 picowatt.

Indoor Unit - Supply Air Outlet

				Octave Band Frequency Hz					
				125	250	500	1k	2k	4k
Models	Fan Speed	Static (Pa)	SWL dB(A)	Sound Power Levels (SWL) dB					
ISD 171	5 V	44	**63.3**	64.4	60.8	59.9	58.0	56.2	53.4
	6 V	65	**68.7**	70.4	65.5	64.6	63.8	61.3	59.7
	7 V	100	**72.7**	72.4	69.6	67.9	67.8	65.6	64.3
	8 V	180	**74.5**	73.5	71.5	69.0	70.0	67.3	66.1
ISD 211	6 V	60	**69.5**	68.1	65.4	65.4	65.3	62	59.7
	7 V	80	**73.1**	71.3	69.9	68.4	68.6	66	63.9
	8 V	100	**76.9**	74.3	73.4	71.5	72.7	69.9	67.8
	10 V	140	**79.4**	75.8	75.7	73.7	75.1	72.7	70.7
ISD 251	5 V	40	**64.3**	64.2	60.8	61.0	59.2	56.9	54.6
	7 V	75	**73.6**	71.4	69.3	69.1	68.8	66.4	65.5
	8 V	120	**76.8**	74.4	72.8	71.7	72.0	69.7	68.9
	9 V	150	**79.7**	74.8	74.6	73.8	75.3	72.5	72.0
ISD 351	5 V	31	**63.9**	62.8	59.9	60.9	59.4	56.8	52.5
	6 V	80	**69.0**	67.2	65.3	65.1	64.4	62	58.7
	7 V	110	**73.3**	71.9	69.2	68.7	68.9	66.3	63.7
	8 V	150	**76.9**	73.8	73.3	72.1	72.5	70.0	67.8
	9 V	180	**80.2**	77.4	76.6	75	75.8	73.3	71.1

Sound Pressure Levels (SPL) Within A Room

Deduct the room absorption effect below from the Sound Power Levels (SWL) above to obtain Sound Pressure Levels within a room.
Note: Occupant at least 1.5 m from sound source.

	Octave Band Frequency Hz					
	125	250	500	1k	2k	4k
Room type	Room Absorption Effect					
Soft	4	8	11	11	11	11
Medium	3	7	8	9	9	9
Hard	0	1	3	4	4	5

Ducted Split System R32 Air Conditioners

Performance Data

Sound Levels

Outdoor Units

			Octave Band Frequency Hz					
			125	250	500	1K	2K	4K
Models	Comp. %	SWL dB(A)	Sound Power Levels (SWL) dB					
OSA 171	50	72.1	79.0	74.7	69.2	66.2	61.0	54.3
	75	72.4	79.0	74.3	69.7	66.7	61.9	56.9
	100	73.8	80.0	76.9	70.1	68.5	62.6	59.6
OSA 211	50	70.1	73.7	69.7	67.8	65.8	60.1	54.9
	75	72.0	75.8	69.6	70.9	67.3	60.5	57.2
	100	74.8	79.3	69.0	74.6	69.3	63.7	59.7
OSA 251	50	74.4	78.8	74.4	72.5	69.6	64.5	57.8
	75	74.5	79.7	74.8	72.4	69.4	64.6	58.1
	100	74.9	80.3	74.7	72.6	69.8	65.4	59.7
OSA 352	50	73.9	81.7	74.2	71.1	68.7	63.8	57.2
	75	74.4	80.8	75.3	71.4	69.1	65.5	58.8
	100	76.4	84.3	75.4	73.3	70.3	68.7	62.3

Note: Outdoor fans running at full speed

Models	Comp. %	SPL @ 3 m dB(A)	Sound Pressure Levels (SPL) dB					
OSA 171	50	56.1	63.0	58.7	53.2	50.2	45.0	38.3
	75	56.4	63.0	58.3	53.7	50.7	45.9	40.9
	100	57.8	64.0	60.9	54.1	52.5	46.6	43.6
OSA 211	50	54.1	57.7	53.7	51.8	49.8	44.1	38.9
	75	56.0	59.8	53.6	54.9	51.3	44.5	41.2
	100	58.8	63.3	53.0	58.6	53.3	47.7	43.7
OSA 251	50	58.4	62.8	58.4	56.5	53.6	48.5	41.8
	75	58.5	63.7	58.8	56.4	53.4	48.6	42.1
	100	58.9	64.3	58.7	56.6	53.8	49.4	43.7
OSA 352	50	57.9	65.7	58.2	55.1	52.7	47.8	41.2
	75	58.4	64.8	59.3	55.4	53.1	49.5	42.8
	100	60.4	68.3	59.4	57.3	54.3	52.7	46.3

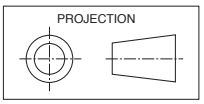
Sound Pressure Level (SPL) in decibels re 20 µPa

Ducted Split System R32 Air Conditioners

Dimensions (mm)

ISD Indoor Unit

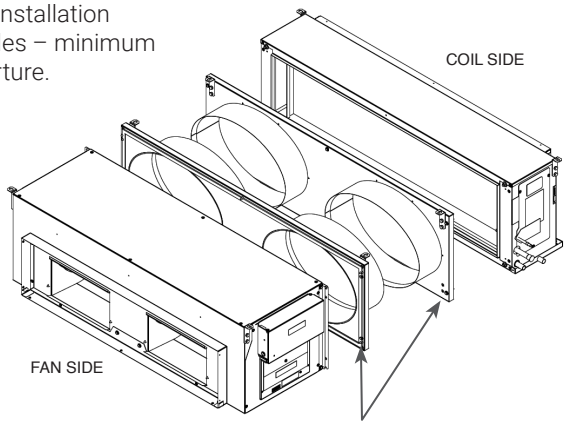
	Dimensions (mm)								Point Loads (kg)			
Model	A	B	C	D	E	F	G	H	W	X	Y	Z
ISD 171	1280	968	1099	1306	1066	1242	1003	120	16	19	17	16
ISD 211	1470	1098	1289	1496	1391	1433	1328	50	26	24	20	14
ISD 251	1630	1098	1450	1656	1391	1593	1328	120	24	26	21	20

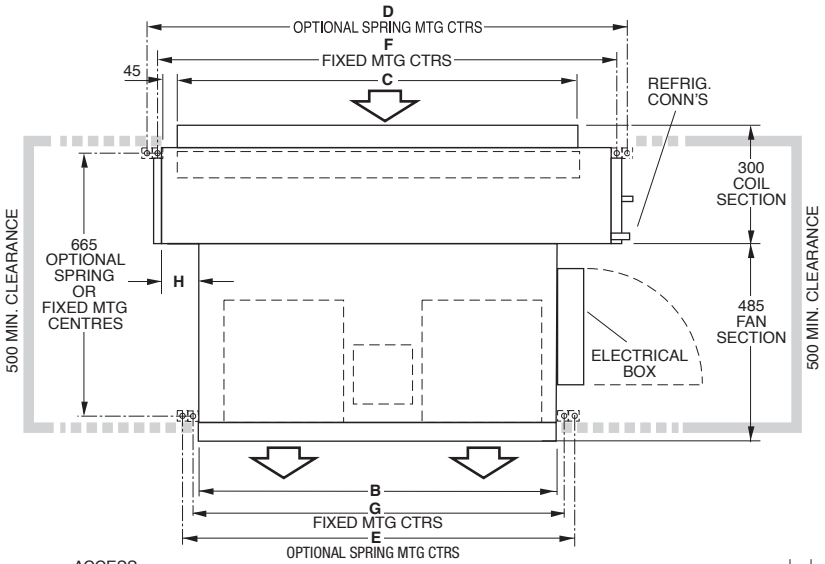


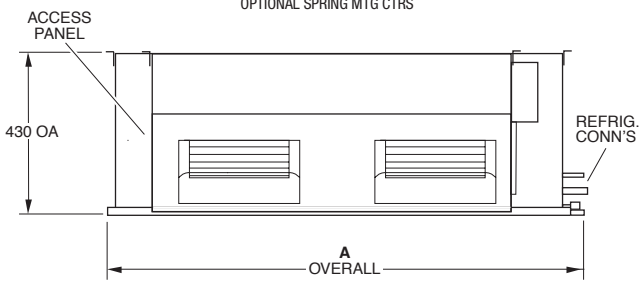
Not to Scale

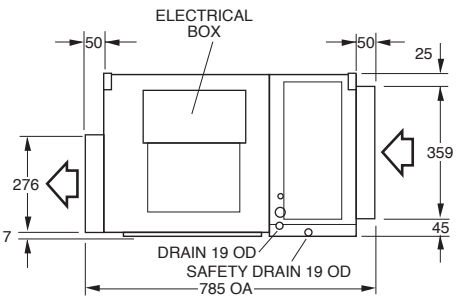
Note: Fan motor can be accessed from panel above or sides: no more than two panels at once.

Separable for ease of installation through small man holes – minimum 550 mm sq. clear aperture.









OPTIONAL

Spigot plate adaptors (NZ only)
Double Inlet

- ISD 171: Ø400 mm
- ISD 211: Ø450 mm
- ISD 251: Ø450 mm

Materials and specifications are subject to change without notice due to the manufacturer's ongoing research and development programme.

Ducted Split System R32 Air Conditioners

Dimensions (mm)

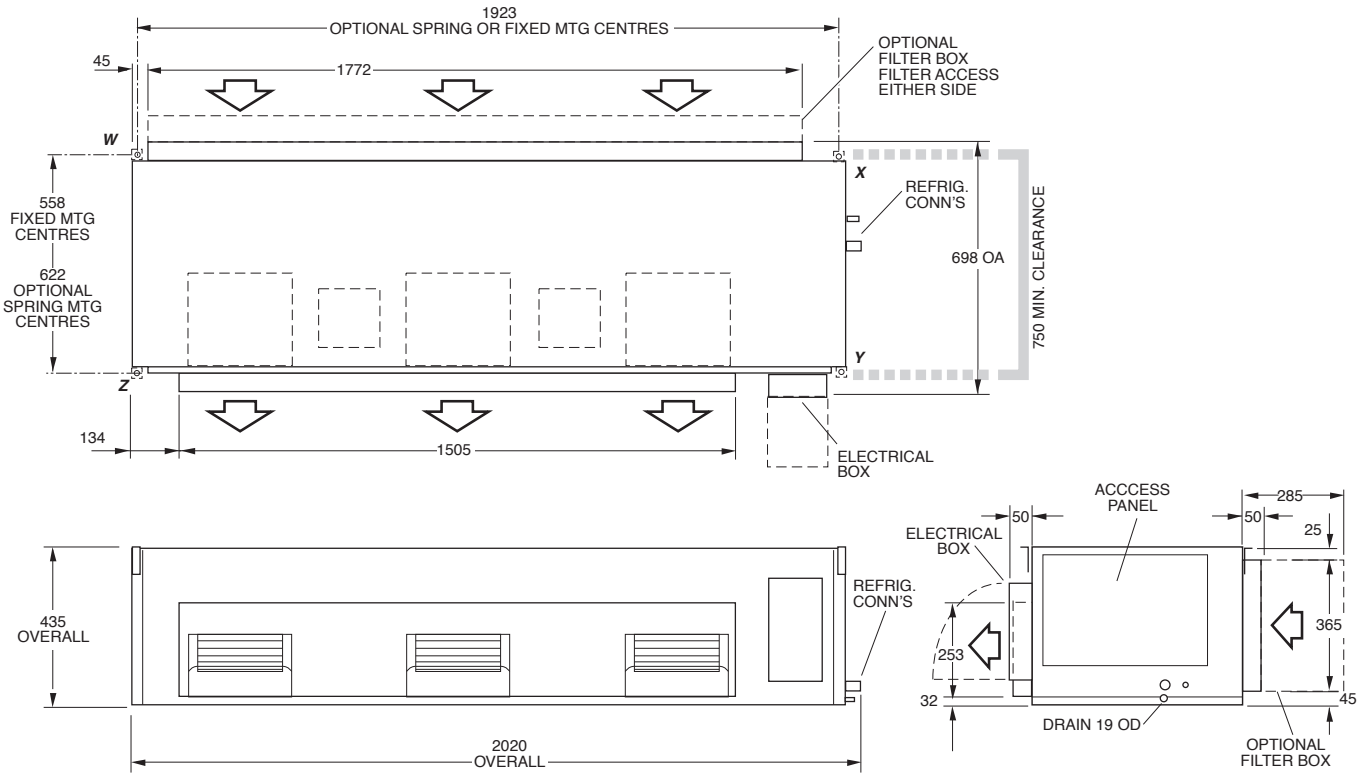
ISD Indoor Unit

	Point Loads (kg)			
Model	W	X	Y	Z
ISD 351	31	27	37	32

Note: Fan motor can be accessed from panel above or sides: no more than two panels at once.

PROJECTION

Not to Scale



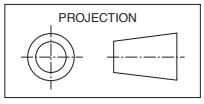
Materials and specifications are subject to change without notice due to the manufacturer's ongoing research and development programme.

Ducted Split System R32 Air Conditioners

Dimensions (mm)

OSA Outdoor Unit

	Dimensions					Point Loads (kg)			
Model	J	K	L	M	N	W	X	Y	Z
OSA 171	965	789	402	169	1126	27	21	42	11
OSA 211	1270	789	402	169	1126	21	40	37	31
OSA 251	1372	889	442	209	1306	10	69	25	57



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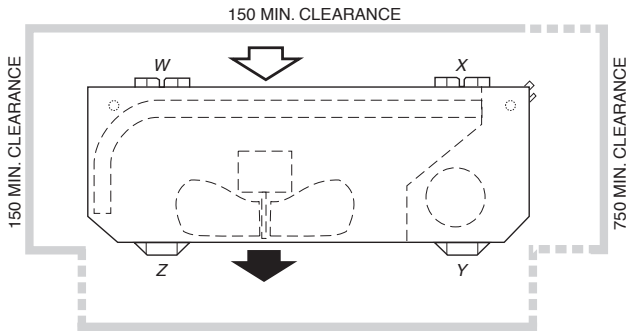

Note: The OSA 171 models have a single exhaust air fan.

Refer page 15 for recommended interconnecting pipe sizes

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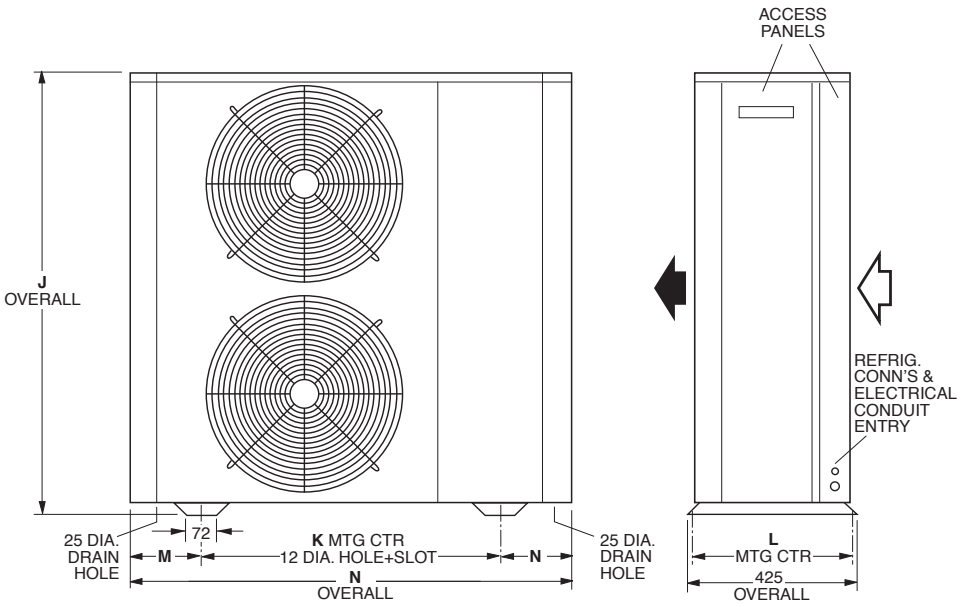


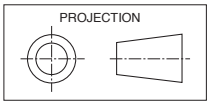
Materials and specifications are subject to change without notice due to the manufacturer's ongoing research and development programme.

Ducted Split System R32 Air Conditioners

Dimensions (mm)

OSA 352 Outdoor Unit

Point Loads (kg)			
W	X	Y	Z
57	74	89	34



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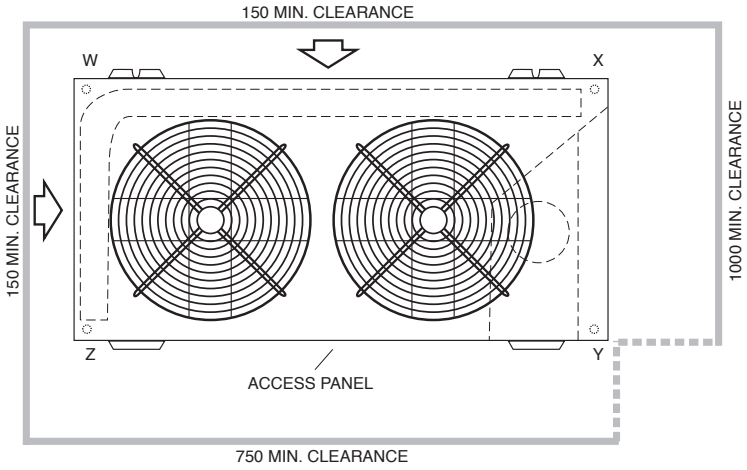
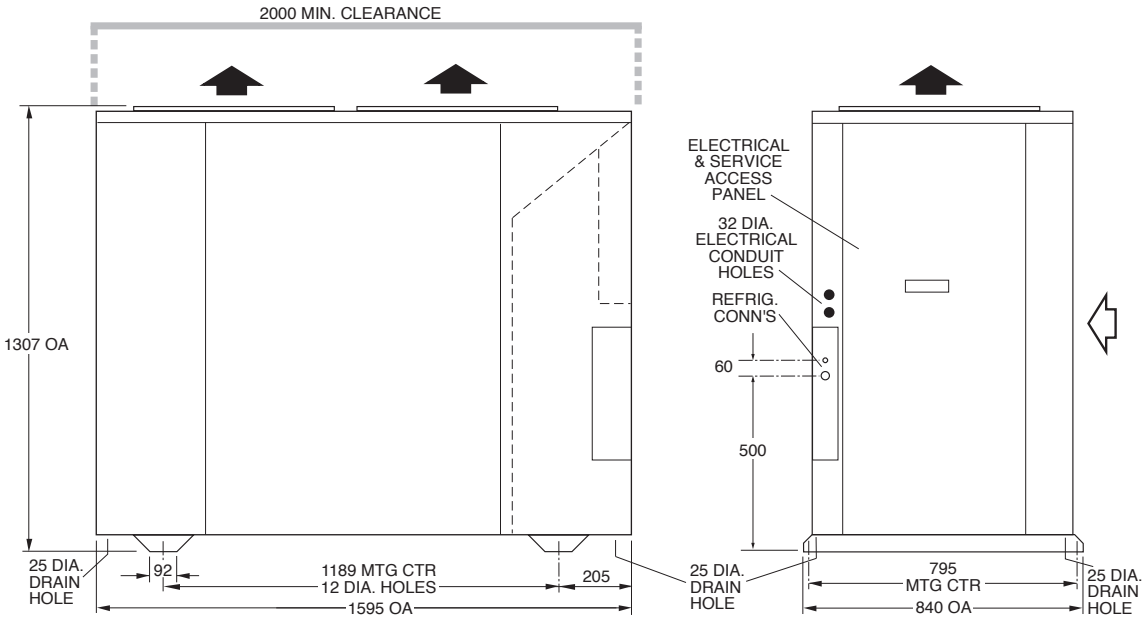


Recommended
Interconnecting Pipe Sizes
Suction : 28 mm OD
Liquid : 13 mm OD



Materials and specifications are subject to change without notice due to the manufacturer's ongoing research and development programme.

Ducted Split System R32 Air Conditioners

Specifications

econex
nex gen R32 inverter

System					
Indoor Unit	ISD 171LYX		ISD 211LYX	ISD 251LYX	ISD 351LYX
Outdoor Unit	OSA 171RLSFH	OSA 171RLTFH	OSA 211RLTFH	OSA 251RLTFH	OSA 352RLTFV
Cooling Capacity [1] kW	14.8 (8.6~18.5)		19.5 (9.4~25.3)	23.3 (13.3~29.5)	32.7 (13.5~37.1)
Net Cooling Capacity (MEPS) [1] kW	14.5		19	22.5	31.5
EER / AEER (cooling)	3.15 / 3.12	3.26 / 3.23	3.15 / 3.13	3.19 / 3.17	3.14 / 3.13
Heating Capacity [2] kW	14.9 (7.0~18.3)		20.8 (8.4~25.6)	23.3 (10.4~29.2)	31.3 (12.0~35.3)
COP / ACOP (heating)	3.28 / 3.25	3.42 / 3.39	3.57 / 3.54	3.48 / 3.45	3.36 / 3.35
Nominal Air Flow [3] l/s	800 (400~1000)		1050 (525~1180)	1300 (650~1330)	1750 (950~1900)
Sound Levels [4]					
Indoor Unit (SWL)	69		71	74	77
Outdoor Unit (SPL)	56	56	55	59	58
Power Source [5]	1 phase 230V	3 phase 400 V a.c. 50 Hz			
Compressor type	inverter				
Indoor Fan Max. Current A	3.5		6	6	10 (total)
Running Amps (Total) A/ph.	21	9 / 6.5 / 6.5	13 / 9 / 10	16 / 10 / 10.5	17 / 12 / 17
Max. Running Amps (Total) A/ph.	35	15 / 11 / 11	23 / 14.5 / 15.5	24 / 15.5 /15.5	30.5 / 21 / 24
Refrigerant	R32 (Class A2L)				
Maximum Vertical Separation m	20		20	20	20
Maximum Line Length [6] m	60		60	60	90
Pipe Sizes (Suction/Liquid) mm OD	19 / 9.5		19 / 9.5	22 / 13	28 / 13
Operating Range (outdoor ambient)					
Cooling	–10°C to 52°C				
Heating	–15°C to 25°C				
Finish					
Indoor Unit	zinc galvanised steel				
Outdoor Unit	grey polyester powder coat				
Weight (net/shipping) kg					
Indoor Unit	68 / 78		86 / 97	89 / 101	124 / 140
Outdoor Unit	105 / 115	101 / 111	129 / 136	161 / 168	254 / 266

Notes:

1. Nominal Cooling Capacity (gross) at AS/NZS 3823 conditions:
   - Indoor Entering Air Temperature 27°C D.B., 19°C W.B.;
   - Outdoor Entering Air Temperature 35°C D.B.
2. Heating Capacity at AS/NZS 3823 conditions:
   - Indoor Entering Air Temperature 20°C D.B.;
   - Outdoor Entering Air Temperature 7°C D.B., 6°C W.B.
3. Supply air flow at Nominal Cooling Capacity conditions stated above.
4. Sound Levels are measured at nominal cooling capacity conditions stated above. SPL measured at 3m from unit and at full fan speed.
5. Voltage range: Single phase systems 220–240 V; Three phase systems 380–415 V
6. Max. Line Length is the 'effective' line length once an allowance has been made for any bends and vertical piping on site.

Compliance:

AS/NZS 3823.2:2013 Minimum Energy Performance standards
AS/NZS 60335.2.40:2019 Safety of Electrical Appliances
AS/NZS CISPR14.1:2001 EMC standard
AS 4506:2005 Powder coat salt spray Class D High Marine

Ducted Split System R32 Air Conditioners

Notes

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Materials and specifications are subject to change without notice due to the manufacturer's ongoing research and development programme.

07/24 Pamphlet No. 4131