

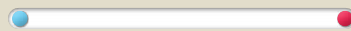


## Ducted Split System Air Conditioners Technical Data

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ISD 116, ISD 141, ISD 164, ISD 184, ISD 194, ISD 224

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Cooling Capacity  
11.4kW - 22.4kW

Heating Capacity  
10.8kW - 21.6kW

# Ducted Split System Air Conditioners

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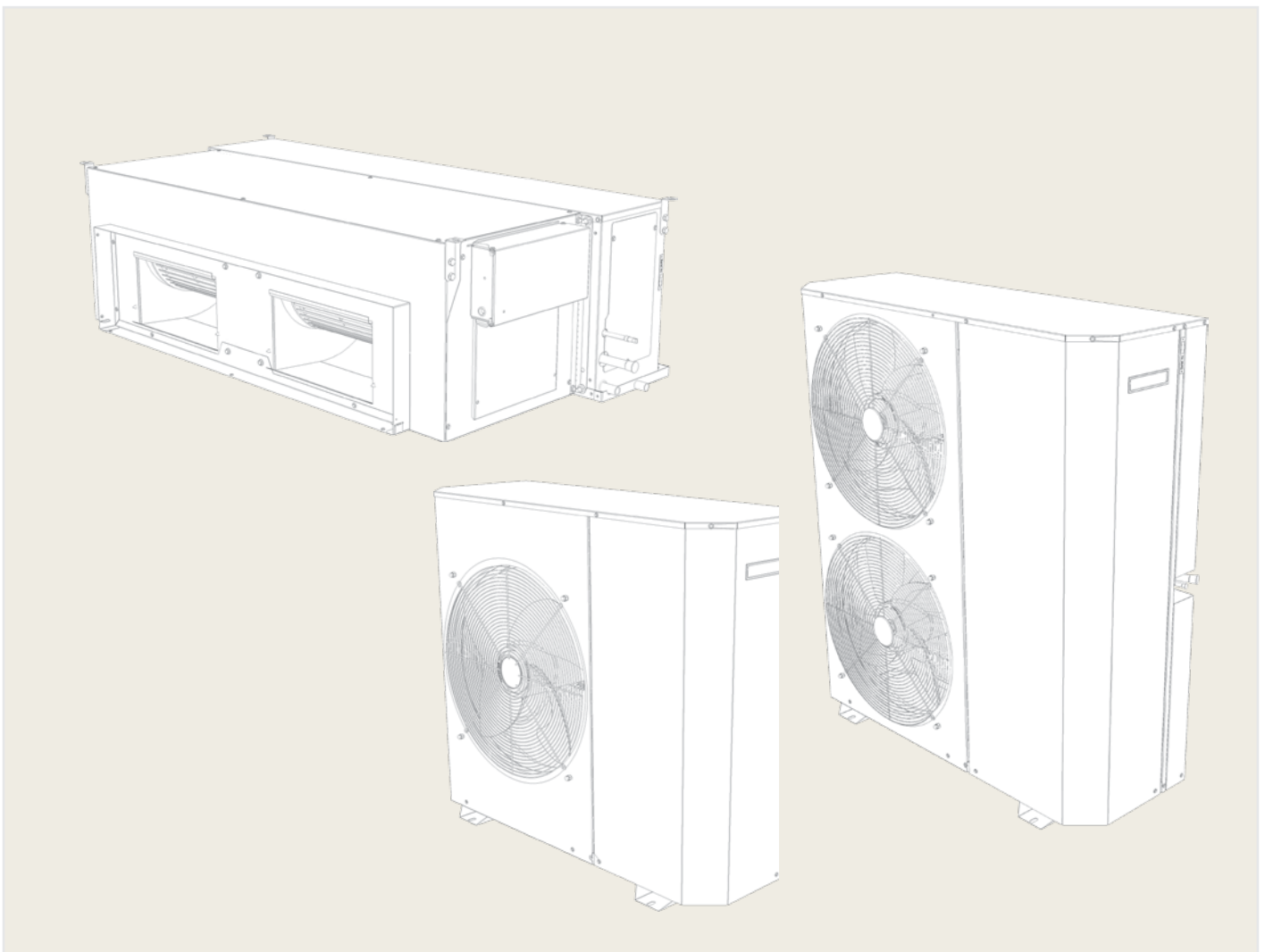
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# Ducted Split System Air Conditioners

ISD 116-224 KYX series



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



# Ducted Split System Air Conditioners

## ISD 116-224 KYX series



### 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 full or 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.

### 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 full or high proportions of fresh air should be referred to your nearest temperzone sales office to establish the correct selection of units.

### FEATURES

#### Refrigerant R410A

Each complete system uses refrigerant R410A which has a zero ozone depletion potential.

#### 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 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 compressor. Heat exchange coils use inner grooved (rifled) tube for better heat transfer.

#### Performance

The variable capacity compressor technology can provide close comfort control of the room temperature. The OSA 184F and 224F have an extra boost capacity available for fast response when well away from set point at start-up.

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 includes a temperature sensing

# Ducted Split System Air Conditioners

## ISD 116-224 KYX series



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.

### Separable

The 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.

### 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.

### 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.

### 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 44). External fasteners are stainless 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. Outdoor coils are protected with louvred anti-hail guards.

### Soft Starting

EC motors are soft starting therefore have none of the problems associated with high inrush current.

### Insulation

Closed cell foam insulation has been used in the indoor units' cabinet to ensure no particles are introduced into the air stream. 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 to be controlled variably (within a restricted range) by a 0–10 volt DC signal that can be supplied either by a BMS system, a sophisticated controller or temperzone's optional TZZ-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.

### 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.

### Zone Control

ISD-KYX 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.

# Ducted Split System Air Conditioners

## ISD 116-224 KYX series



### OPTIONAL EQUIPMENT

#### Outdoor Unit:

1. Wall mounting brackets.
2. Anti-vibration mounts (rubber)
3. Drain connection - right angle
4. Fault relay board (201-000-105)
5. Soft Starter for lowering starting current (OSA 116/141 only).

#### 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 indoor unit)
6. Filter Box c/w EU2/G2 rated filter.

### SAFETY FEATURES

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

### COMPRESSOR

Each high efficiency variable capacity compressor is hermetically sealed, quiet running and supported on rubber mounts to minimise vibration. Digital compressors have proven very reliable because of their design simplicity; electrical harmonic noise is very low.

### REFRIGERATION PIPING

Maximum line length is 60m.

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 HFC-410A (R410A) refrigerant sufficient for a 10m line length. 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 116/141RKS:

1 phase 220–240 V a.c. 50 Hz with neutral and earth.

#### OSA 141/164/184/194/224 RKT:

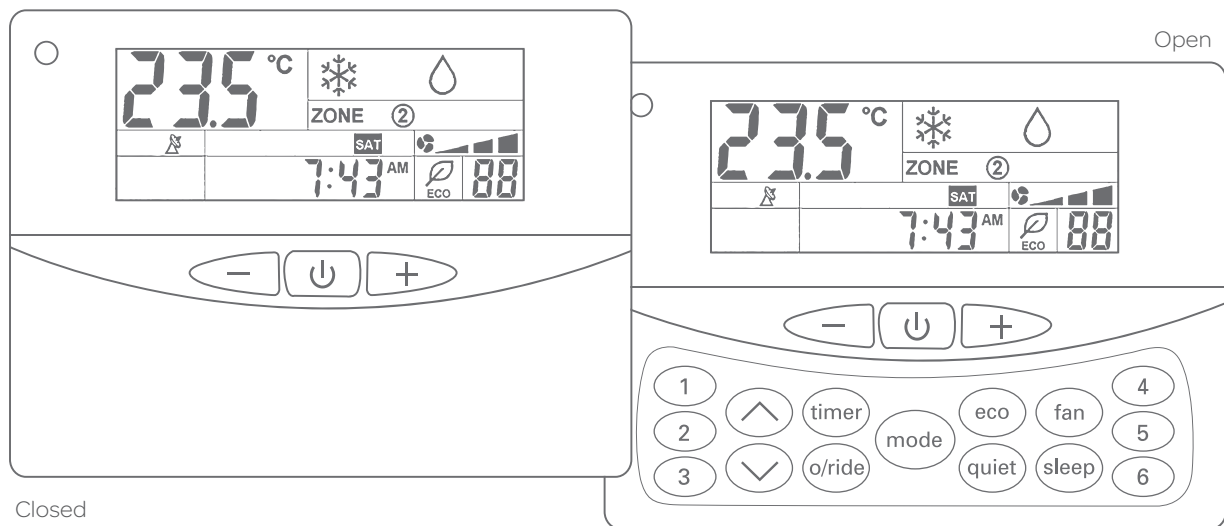
3 phase 380–415 V a.c. 50 Hz with neutral and earth.

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).

Provision has been made for compliance with DRED, ie demand response enabling device standard AS/NZS 4755.3.1.

# Ducted Split System Air Conditioners

## SAT-3 Controller (Optional)



### FEATURES SUMMARY

- 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

**Note:** Not backwards compatible with units using SAT-2.

#### TZT-100:

Refer [www.temperzone.biz](http://www.temperzone.biz) for information.

# Ducted Split System Air Conditioners Performance Data



## COOLING CAPACITY (KW)

Total = Total Capacity (kW).  
 Sens. = Sensible Capacity (kW).  
 E.A.T. = Entering Air Temperature.  
 ○ = Nominal Capacity (kW).

Refer page 9 for Indoor Air Flow Correction factors

**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.

Models	Indoor Fan		Indoor coil		Outdoor coil entering air temperature °C D.B.											
			E.A.T.		23		27		31		35		39		43	
			D.B. °C	W.B. °C	Total	Sens.	Total	Sens.	Total	Sens.	Total	Sens.	Total	Sens.	Total	Sens.
ISD 116 OSA 116G	High	630	21	15	11.2	8.6	11.1	8.6	10.7	8.4	10.2	8.1	9.6	7.7	8.7	7.1
			23	17	11.8	8.4	11.7	8.4	11.4	8.3	10.8	8.0	10.2	7.6	9.3	7.1
			27	19	12.4	9.7	12.2	9.7	12.0	9.5	11.4	9.2	10.8	8.8	9.9	8.2
			31	21	13.0	11.4	12.9	11.4	12.5	11.3	12.1	10.9	11.4	10.5	10.5	9.8
ISD 141 OSA 141G	High	830	21	15	13.5	11.1	13.3	11.1	12.9	10.9	12.3	10.5	11.5	10.0	10.5	9.2
			23	17	14.2	10.9	14.0	10.9	13.7	10.7	13.0	10.3	12.2	9.8	11.2	9.1
			27	19	14.9	12.5	14.7	12.5	14.4	12.3	13.7	11.9	12.9	11.3	11.9	10.6
			31	21	15.6	14.7	15.5	14.7	15.1	14.6	14.5	14.1	13.7	13.5	12.7	12.7
ISD 164 OSA 164G	High	910	21	15	16.2	12.7	16.0	12.7	15.5	12.4	14.8	12.0	13.8	11.4	12.6	10.5
			23	17	17.0	12.4	16.8	12.4	16.4	12.2	15.6	11.8	14.7	11.2	13.4	10.4
			27	19	17.9	14.3	17.7	14.2	17.2	14.0	16.4	13.6	15.5	12.9	14.3	12.1
			31	21	18.8	16.8	18.6	16.8	18.1	16.6	17.4	16.1	16.4	15.4	15.2	14.4
ISD 184 OSA 184F	High	980	21	15	18.2	14.0	18.0	14.0	17.4	13.7	16.6	13.3	15.5	12.6	14.2	11.6
			23	17	19.2	13.7	18.9	13.7	18.5	13.5	17.6	13.0	16.5	12.4	15.1	11.5
			27	19	20.1	15.8	19.9	15.7	19.4	15.5	18.5	15.1	17.5	14.3	16.1	13.4
			31	21	21.2	18.6	20.9	18.6	20.4	18.4	19.6	17.8	18.5	17.1	17.1	16.0
ISD 194 OSA 194G	High	1065	21	15	19.0	15.1	18.7	15.1	18.1	14.8	17.3	14.3	16.2	13.5	14.7	12.4
			23	17	19.9	14.8	19.7	14.8	19.2	14.5	18.3	14.0	17.2	13.4	15.7	12.4
			27	19	20.9	17.0	20.7	16.9	20.2	16.7	19.2	16.2	18.2	15.4	16.7	14.4
			31	21	22.0	20.0	21.8	20.0	21.2	19.7	20.4	19.2	19.2	18.3	17.8	17.2
ISD 224 OSA 224F	High	1190	21	15	21.0	16.6	20.7	16.6	20.0	16.2	19.1	15.7	17.9	14.9	16.3	13.7
			23	17	22.0	16.2	21.8	16.2	21.2	16.0	20.2	15.4	19.0	14.7	17.4	13.6
			27	19	23.1	18.7	22.9	18.6	22.3	18.3	21.2	17.8	20.1	16.9	18.5	15.8
			31	21	24.3	22.0	22.0	22.7	23.4	21.7	22.5	21.1	21.2	20.2	19.7	18.9
ISD 224 OSA 224G	High	1190	21	15	21.8	16.8	21.5	16.8	20.9	16.5	19.9	15.9	18.6	15.1	17.0	13.9
			23	17	23.0	16.5	22.7	16.5	22.1	16.2	21.1	15.6	19.8	14.9	18.1	13.8
			27	19	24.1	18.9	23.8	18.9	22.2	18.6	22.1	18.0	21.0	17.1	19.3	16.0
			31	21	25.3	22.3	25.0	22.3	24.4	22.0	23.4	21.4	22.1	20.4	20.5	19.2



# Ducted Split System Air Conditioners

## Performance Data



### HEATING CAPACITY (KW)

G = Gross Heating Capacity kW, based on nominal air flow.

N = Net Heating Capacity kW allowing for average defrost.

○ = Nominal Capacity (kW).

Models	Indoor Entering Air Temp. °C		Outdoor coil entering air temperature °C D.B.																
	D.B.			-5		-3		-1		1		3		5		7		9	
		G	N.	G	N.	G	N.	G	N.	G	N.	G	N.	G	N.	G	N.	G	N.
ISD 116 OSA 116G	15	8.1	7.6	8.6	7.6	9.0	7.7	9.5	8.1	10.0	9.1	10.4	10.4	10.9	10.9	11.3	11.3		
	20	8.0	7.5	8.5	7.5	8.9	7.6	9.4	8.0	9.8	9.0	10.3	10.3	10.8	10.8	11.2	11.2	10.8	10.8
	25	7.7	7.3	8.2	7.3	8.7	7.4	9.1	7.8	9.6	8.8	10.0	10.0	10.5	10.5	11.0	11.0		
ISD 141 OSA 141G	15	9.5	8.9	10.0	8.8	10.6	9.0	11.1	9.5	11.6	10.6	12.2	12.2	12.7	12.7	13.3	13.3		
	20	9.3	8.8	9.9	8.7	10.4	8.9	11.0	9.4	11.5	10.5	12.1	12.1	12.6	12.6	13.1	13.1	12.6	12.6
	25	9.0	8.6	9.6	8.5	10.1	8.6	10.7	9.2	11.2	10.3	11.8	11.8	12.3	12.3	12.8	12.8		
ISD 164 OSA 164G	15	11.3	10.6	11.9	10.5	12.6	10.7	13.2	11.3	13.9	12.7	14.5	14.5	15.1	15.1	15.8	15.8		
	20	11.1	10.5	11.8	10.4	12.4	10.5	13.0	11.2	13.7	12.5	14.3	14.3	15.0	15.0	15.6	15.6	15.0	15.0
	25	10.8	10.2	11.4	10.1	12.0	10.2	12.7	10.9	13.3	12.2	14.0	14.0	14.6	14.6	15.3	15.3		
ISD 184 OSA 184F	15	14.1	13.3	14.9	13.2	15.7	13.3	16.5	14.2	17.3	15.8	18.1	18.1	19.0	19.0	19.8	19.8		
	20	13.9	13.1	14.7	13.0	15.5	13.2	16.3	14.0	17.1	15.7	17.9	17.9	18.7	18.7	19.5	19.5	18.7	18.7
	25	13.5	12.8	14.3	12.6	15.1	12.8	15.9	13.6	16.7	15.3	17.5	17.5	18.3	18.3	19.1	19.1		
ISD 194 OSA 194G	15	12.7	12.0	13.4	11.8	14.1	12.0	14.9	12.7	15.6	14.2	16.3	16.3	17.0	17.0	17.8	17.8		
	20	12.5	11.8	13.2	11.7	13.9	11.8	14.7	12.6	15.4	14.1	16.1	16.1	16.8	16.8	17.6	17.6	16.8	16.8
	25	12.1	11.5	12.8	11.4	13.5	11.5	14.3	12.3	15.0	13.8	15.7	15.7	16.4	16.4	17.2	17.2		
ISD 224 OSA 224F	15	17.4	16.4	18.3	16.2	19.3	16.4	20.3	17.4	21.3	19.5	22.3	22.3	23.3	23.3	24.3	24.3		
	20	17.1	16.2	18.1	16.0	19.1	16.2	20.1	17.2	21.1	19.3	22.1	22.1	23.0	23.0	23.5	23.5	23.0	23.0
	25	16.5	15.7	17.5	15.5	18.5	15.8	19.5	16.8	20.5	18.8	21.5	21.5	22.5	22.5	23.5	23.5		
ISD 224 OSA 224G	15	16.3	15.3	17.2	15.1	18.1	15.4	19.0	16.3	20.0	18.2	20.9	20.9	21.8	21.8	22.7	22.7		
	20	16.0	15.1	16.9	15.0	17.9	15.2	18.8	16.1	19.7	18.0	20.6	20.6	21.6	21.6	22.5	22.5	21.6	21.6
	25	15.5	14.7	16.4	14.5	17.4	14.8	18.3	15.7	19.2	17.6	20.1	20.1	21.1	21.0	22.0	22.0		

### INDOOR AIR FLOW CORRECTION FACTORS @ NOMINAL CONDITIONS

#### Indoor Air Flow (%)

	-20	-10.	Rated	+10
Total Capacity	0.95	0.975	1.0	1.025
Sensible Capacity	0.89	0.950	1.0	1.050

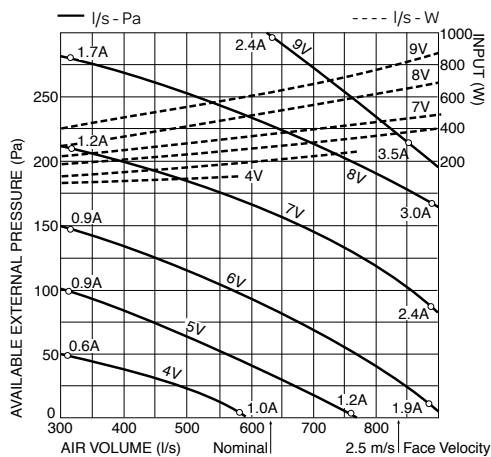
# Ducted Split System Air Conditioners Performance Data



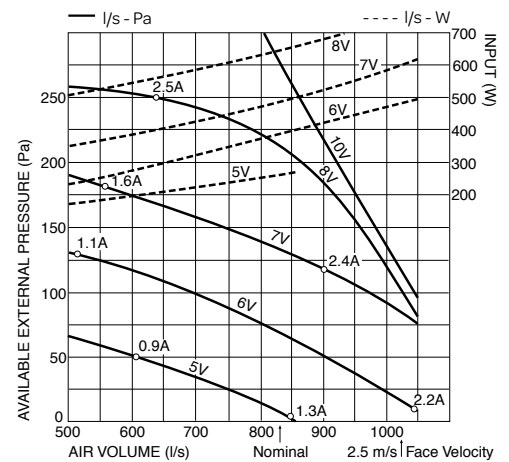
## AIR HANDLING

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.**

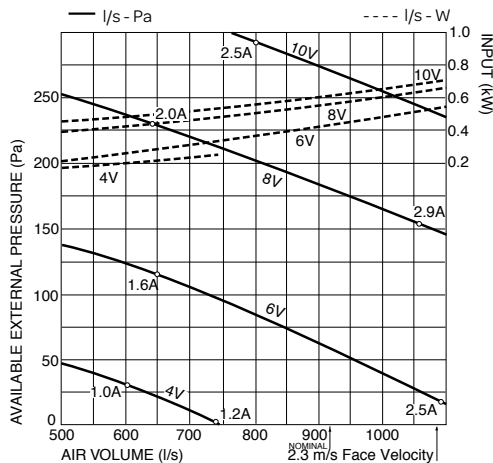
### ISD 116KYX



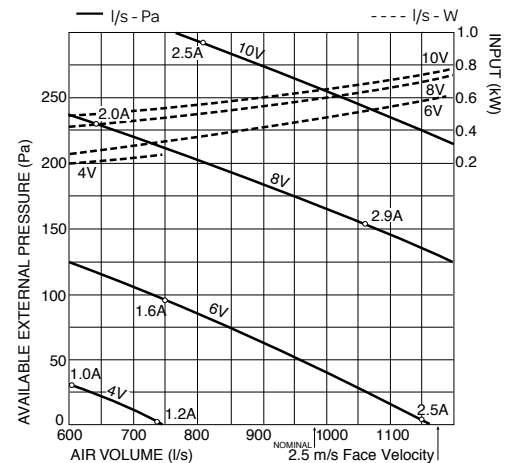
### ISD 141KYX



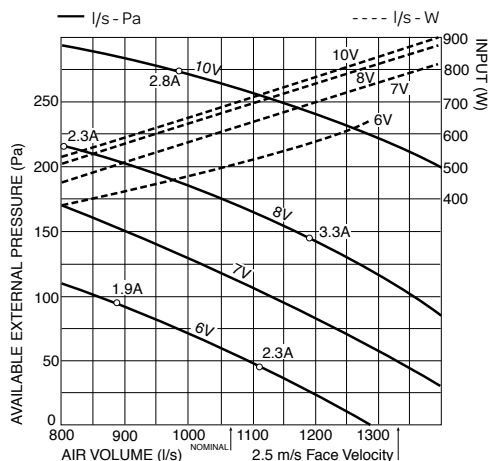
### ISD 164KYX



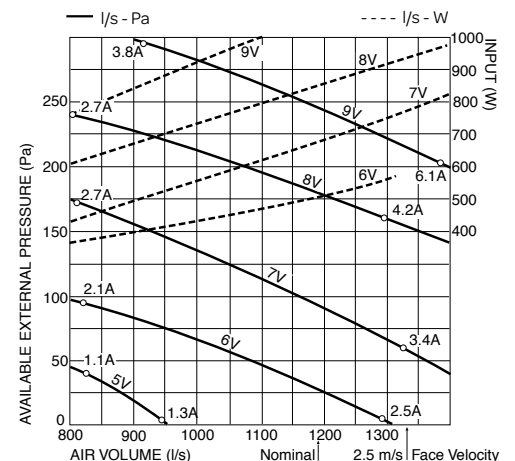
### ISD 184KYX



### ISD 194KYX



### ISD 224KYX



# Ducted Split System Air Conditioners Performance Data



## SOUND LEVELS

### Sound Power Levels (SWL)

**Test Conditions:** BS 848 PT2 1985.

Installation Type A (free inlet and outlet).

Direct method of measurement (reverberant room).

Measured in decibels re 1 picowatt.

## INDOOR UNIT - SUPPLY AIR OUTLET

Models	FAN SPEED	SWL dB(A)	OCTAVE BAND FREQUENCY Hz					
			125	250	500	1k	2k	4k
			SOUND POWER LEVELS (SWL) dB					
ISD 116	4 V	56	58	55	54	51	49	44
	6 V	68	67	65	65	64	61	60
	8 V	75	73	71	69	70	67	66
ISD 141	5 V	58	63	58	55	53	48	42
	7 V	66	70	66	62	62	57	53
	8 V	68	73	68	64	64	61	56
ISD 164	4 V	66	62	60	62	59	57	54
	6 V	69	67	65	66	65	62	59
	8 V	73	70	69	69	69	67	64
ISD 184	6 V	68	71	64	63	62	61	58
	8 V	72	75	69	67	67	65	63
ISD 194	5 V	76	76	71	70	71	69	67
	7 V	68	71	64	63	62	61	58
	8 V	72	75	69	67	67	65	63
ISD 224	5 V	64	64	61	61	59	57	55
	7 V	74	71	69	69	69	66	66
	8 V	77	74	73	72	72	70	69

## 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.

Room type	OCTAVE BAND FREQUENCY Hz					
	125	250	500	1k	2k	4k
	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 Air Conditioners

## Performance Data



### OUTDOOR UNIT

Models	FAN SPEED	OCTAVE BAND FREQUENCY Hz						
		SWL dB(A)	125	250	500	1K	2K	4K
			SOUND POWER LEVELS (SWL) dB					
OSA 116	LOW	69	76	67	69	60	58	52
	MED	71	79	70	71	63	58	53
	HIGH	73	81	73	72	66	62	55
OSA 141	LOW	72	81	71	72	61	58	56
	MED	73	81	72	73	63	59	56
	HIGH	74	81	74	73	67	61	57
OSA 164	LOW	68	73	66	66	63	57	51
	MED	69	74	68	67	64	59	52
	HIGH	72	85	69	68	66	60	54
OSA 184	LOW	68	74	67	65	63	57	52
	MED	69	78	69	66	64	59	53
	HIGH	70	79	70	67	65	60	55
OSA 194	LOW	68	74	67	65	63	57	52
	HIGH	70	79	70	67	65	60	55
OSA 224	LOW	73	78	74	71	68	62	55
	MED	74	78	76	73	69	63	57
	HIGH	76	82	78	73	71	65	59

### Sound Pressure Level (SPL) in decibels re 20 $\mu$ Pa

Models	FAN SPEED	SPL @ 3 m dB(A)	SOUND PRESSURE LEVELS (SPL) dB					
			125	250	500	1K	2K	4K
OSA 116	LOW	53	60	51	53	44	42	36
	MED	55	63	54	55	47	42	37
	HIGH	57	65	57	56	50	46	39
OSA 141	LOW	56	65	55	56	45	42	40
	MED	57	65	56	57	47	43	40
	HIGH	58	65	58	57	51	45	41
OSA 164	LOW	52	57	50	50	47	41	35
	MED	53	58	52	51	48	43	36
	HIGH	56	69	53	52	50	44	38
OSA 184	LOW	52	58	51	49	47	41	36
	MED	53	62	53	50	48	43	37
	HIGH	54	63	54	51	49	44	39
OSA 194	LOW	52	58	51	49	47	41	36
	HIGH	54	63	54	51	49	44	39
OSA 224	LOW	57	62	58	55	52	46	39
	MED	58	62	60	57	53	47	41
	HIGH	60	66	62	57	55	49	43

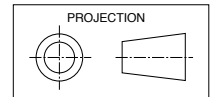
# Ducted Split System Air Conditioners

## Dimensions (mm)



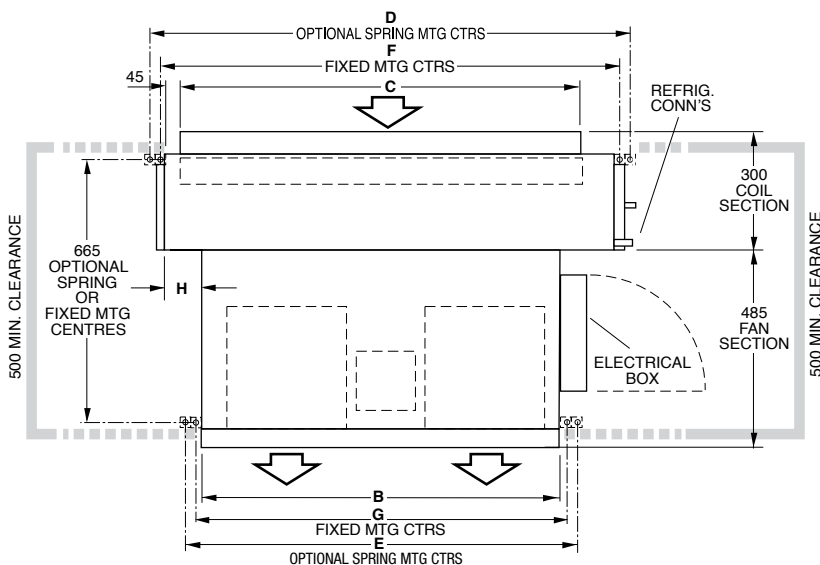
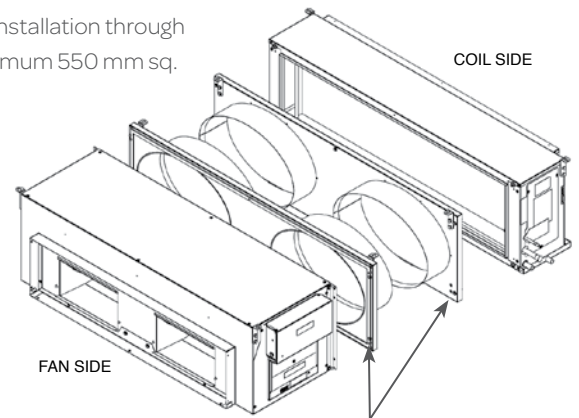
### ISD INDOOR UNIT

Model	DIMENSIONS (mm)								POINT LOADS (kg)			
	A	B	C	D	E	F	G	H	W	X	Y	Z
ISD 116	1150	968	934	1172	1066	1109	1003	55	15	18	17	15
ISD 141	1280	968	1099	1306	1066	1242	1003	120	16	19	17	16
ISD 164	1470	1098	1289	1496	1391	1433	1328	50	22	23	21	17
ISD 184	1470	1098	1289	1496	1391	1433	1328	50	26	24	20	14
ISD 194	1630	1098	1450	1656	1391	1593	1328	120	24	26	22	18
ISD 224	1630	1098	1450	1656	1391	1593	1328	120	24	26	21	20



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

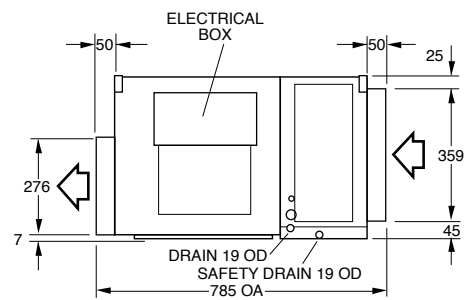
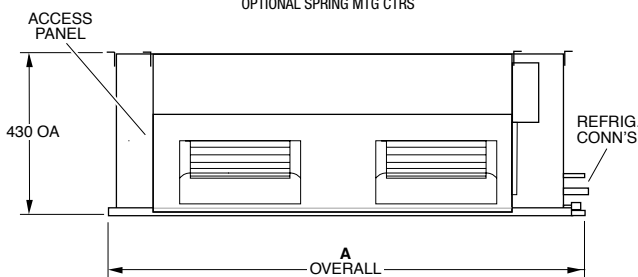
Separable for ease of installation through small man holes – minimum 550 mm sq. clear aperture.



#### OPTIONAL

Spigot plate adaptors  
Double Inlet

- ISD 116/141: Ø400 mm
- ISD 141/164/184: Ø450 mm
- ISD 194/224: Ø450 mm



Drawings are NOT TO SCALE

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

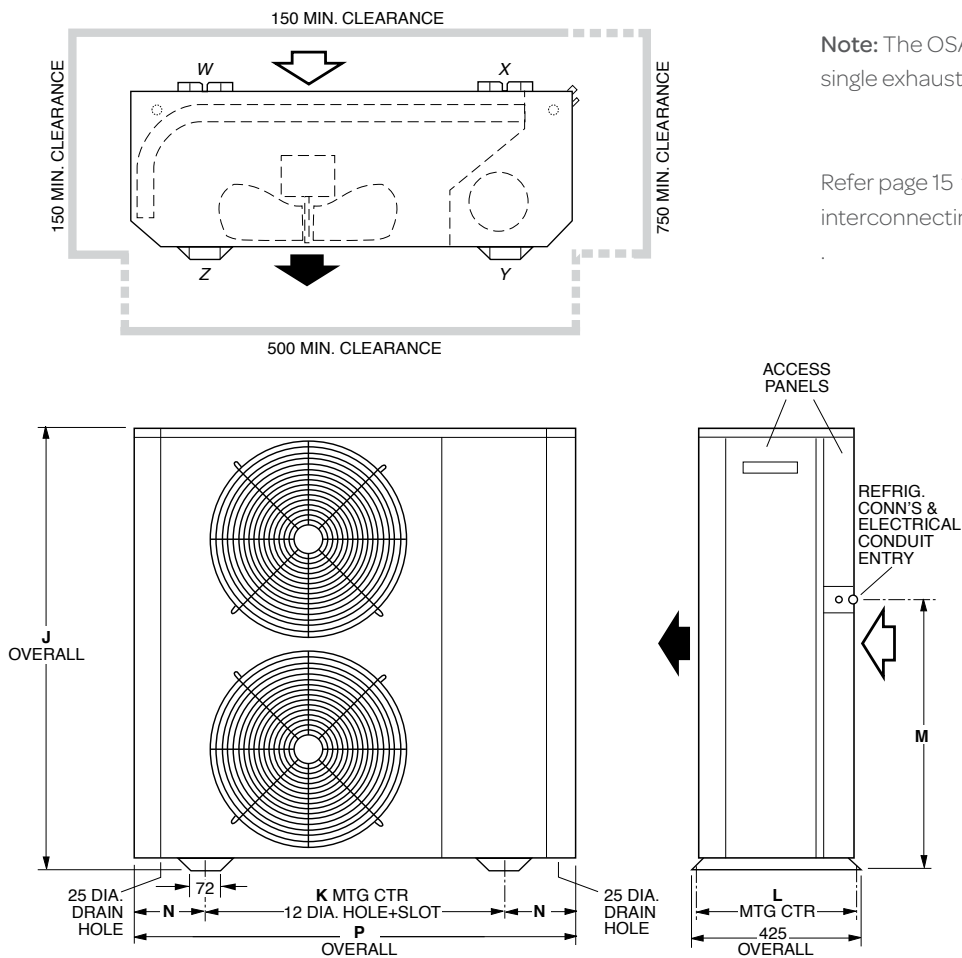
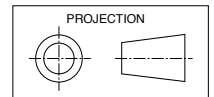
# Ducted Split System Air Conditioners

## Dimensions (mm)



### OSA OUTDOOR UNIT

Model	DIMENSIONS						POINT LOADS (kg)			
	J	K	L	M	N	P	W	X	Y	Z
OSA 116	965	750	398	475	183	1120	16	38	50	24
OSA 141	965	750	398	475	183	1120	16	38	50	24
OSA 164	1120	750	398	627	184	1120	16	56	46	30
OSA 184	1270	765	397	617	184	1155	17	54	32	36
OSA 194	1270	786	397	617	184	1155	22	60	38	40
OSA 224	1385	936	397	730	209	1335	36	72	48	29



**Note:** The OSA 116/141 models have a single exhaust air fan.

Refer page 15 for recommended interconnecting pipe sizes

Drawings are NOT TO SCALE

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# Ducted Split System Air Conditioners Specifications



System							
Indoor Unit	ISD 116KYX	ISD 141KYX	ISD 164KYX	ISD 184KYX	ISD 194KYX	ISD 224KYX	ISD 224KYX
Outdoor Unit	OSA 116G	OSA 141G	OSA 164G	OSA 184F	OSA 194G	OSA 224F	OSA 224G
<b>Nominal Cooling Capacity *<sup>1</sup> kW</b>	4.6-11.4	5.5-13.7	6.4-16.4	8.7-18.5-19.5	7.5-19.2	11.5-21.4-23.7	8.8-22.4
<b>Net Cooling Capacity (MEPS) *<sup>1</sup> kW</b>	11.1	13.4	16.0	17.9	18.7	20.6	21.1
<b>EER / AEER (cooling)</b>	3.28 / 3.26	3.14 / 3.12	3.13 / 3.12	3.15 / 3.10	3.25 / 3.20	3.11 / 3.10	3.18 / 3.16
<b>Heating Capacity *<sup>2</sup> kW</b>	4.3-10.8	5.1-12.6	6.0-15.0	8.2-18.7	6.7-16.8	10.5-23-24.5	8.6-21.6
<b>COP / ACOP (heating)</b>	3.55 / 3.35	3.52 / 3.50	3.60 / 3.58	3.29 / 3.27	3.58 / 3.56	3.12 / 3.10	3.26 / 3.24
<b>Air Flow*<sup>3</sup> l/s</b>	630	830	910	980	1065	1190	1190
Sound Levels * <sup>4</sup>							
Indoor Unit (SWL)	68	66	69	72	68	74	74
Outdoor Unit (SPL)	57	58	56	54	54	60	60
<b>Power Source *<sup>5</sup></b>	1 phase or 3 phase		3 phase 415 V a.c. 50 Hz				
<b>Compressor type</b>	digital	digital	digital	inverter	digital	inverter	digital
<b>Indoor Fan Max. Current A</b>	3.5	3.5	3.7	5	4	6	6
Running Amps (Total)							
OSA*RKS (1Ø) A	17	20	-	-	-	-	-
OSA*RKT (3Ø) A/ph.	7 / 5 / 5	9 / 6 / 6	10 / 7 / 7	12 / 9 / 9	12 / 8 / 8	15 / 10 / 10	15 / 9 / 9
<b>Refrigerant</b>	HFC-410A ( R410A)						
<b>Maximum Vertical Separation m</b>	20	20	20	20	20	20	20
<b>Maximum Line Length m</b>	60	60	60	60	60	60	60
<b>Pipe Sizes (Suction/Liquid) mm OD</b>	16 / 9.5	16 * <sup>6</sup> / 9.5	19 / 9.5	19 / 9.5	19 / 9.5	22 / 13	22 / 13
Operating Range (outdoor ambient)							
<b>Cooling</b>	-10°C to 52°C						
<b>Heating</b>	-15°C to 25°C						
Finish							
Indoor Unit	zinc galvanised steel						
Outdoor Unit	grey polyester powder coat						
Weight (net/shipping) kg							
Indoor Unit	65 / 76	68 / 75	83 / 97	85 / 96	90 / 110	91 / 113	91 / 113
Outdoor Unit	128 / 131	128 / 134	134 / 142	139 / 154	160 / 198	185 / 195	185 / 195

## Notes:

\*<sup>1</sup> 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.

\*<sup>2</sup> Heating Capacity at AS/NZS 3823 conditions:

- Indoor Entering Air Temperature 21°C D.B.;
- Outdoor Entering Air Temperature 7°C D.B., 6°C W.B.

\*<sup>3</sup> Supply air flow at Nominal Cooling Capacity conditions stated above.

\*<sup>4</sup> Sound Levels are measured at nominal cooling capacity conditions stated above. SPL measured at 3m from unit and at High fan speed.

**Optional Filter Box** c/w EU2/G2 rated media (clean):

<b>Coil Face Velocity (m/s)</b>	1.5	2.0	2.5
<b>Pressure Loss (Pa)</b>	5	9	13

\*<sup>5</sup> Voltage range: Single phase systems 220-240 V;  
Three phase systems 380-415 V

\*<sup>6</sup> Use 19 mm size suction pipe above 20m line length.

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