temperzone
QUALITY AIR CONDITIONING

Ducted Split System Air Conditioners
Technical Data

ISD 380, 465, 570, 670, 840, 950

Cooling Capacity
37.6kW - 94.9kW

Heating Capacity
35.9kW - 90.1kW

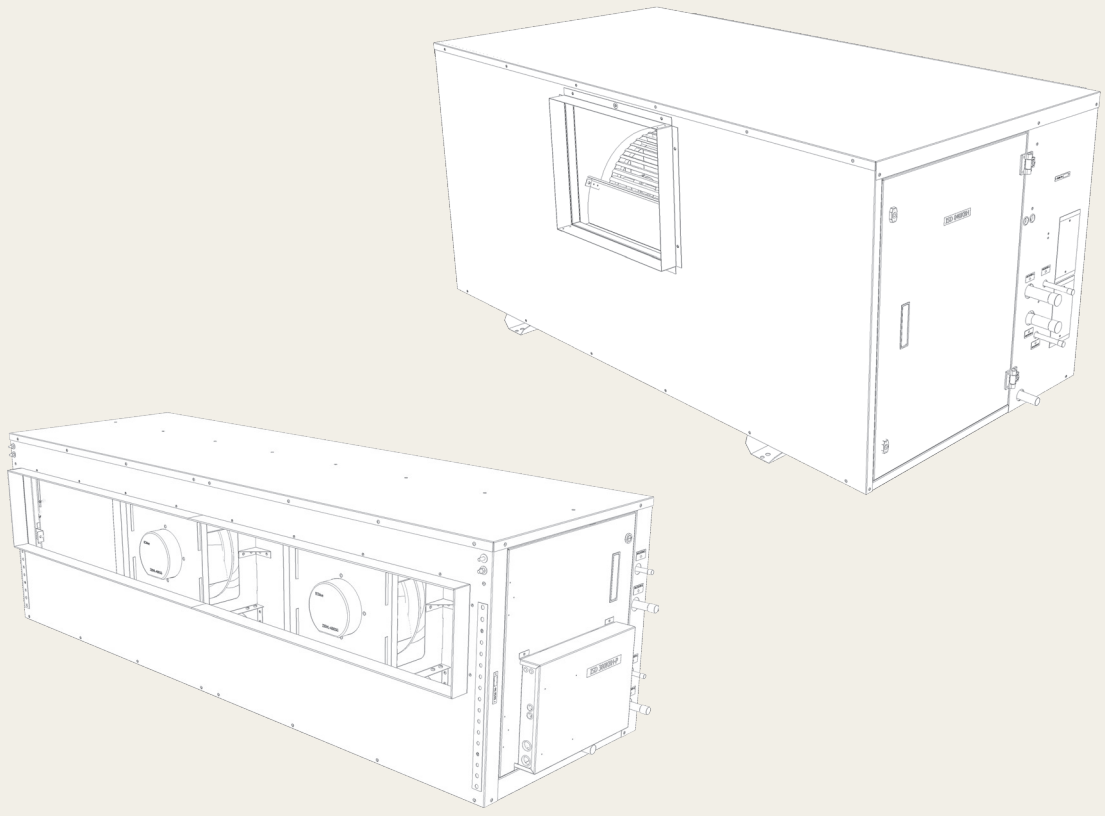
Ducted Split System Air Conditioners

Contents

Ducted Split System Air Conditioners

ISD 380–950 Series

The ISD indoor unit, together with its associated OSA outdoor unit, provides a reverse cycle (heat pump) split system air conditioner designed and developed to comply with and exceed AS/NZS 3823 specified conditions.



Ducted Split System Air Conditioners

ISD 380–950 Series

Applications

These units have been specifically developed for air conditioning of commercial premises, e.g. offices, motels, shops and restaurants

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.

Economical

These ISD/OSA systems have two independent refrigeration circuits to provide the flexibility and economy of two stage operation, i.e. utilising one or two circuits as conditions vary, plus the advantage of staggered starting.

Efficient

Each outdoor unit incorporates a high efficiency scroll compressor. ISD 380 indoor units include high efficiency EC motors. Heat exchange coils incorporate inner grooved (rifled) tube for better heat transfer.

Quiet

ISD 380 models: Each integral high efficiency electronically commutated (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.

Outdoor noise is a function of how hard the unit needs to work. When the outdoor unit is not running at maximum capacity in mid- season the outdoor fan speed and noise reduces.

The compressor is isolated in a built-in, insulated compartment to minimise noise. The indoor unit is also insulated for noise attenuation.

Performance

Use of forward curved fan enables fine tuning of the indoor unit to match the supply air requirements.

ISD 380KB-P models: Use of backward curved plug fan enables fine tuning of the indoor unit to match higher static pressure supply air requirements.

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 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.

Durable

The indoor and outdoor coil fins are epoxy coated for extra protection in corrosive environments, e.g. salt laden sea air. The 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 plate fins on mechanically expanded rifled copper tube. Coil protection guards are supplied. The indoor unit's cabinet is constructed from high grade galvanised steel and also includes a polyester powder coated drain tray.

Low Maintenance

EC motor models* - commissioning and maintenance costs are reduced through use of a fan that requires no pulley and belt adjustments or changes like traditional fans.

Ducted Split System Air Conditioners

ISD 380–950 Series

Soft Starting

EC motor models* - EC motors are soft starting therefore have none of the problems associated with high in rush current.

Control Option

EC motor models* - Fixed and stable air flows can be achieved through use of a differential pressure transducer and controller (supplied by others) to compensate for varying duct static pressures caused by dirty filters or modulating dampers. Commissioning is also made easier. The system is set up for the EC motor to be controlled variably 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 optional Signal Isolator will be required in this instance for ISD 380KBY models.

Systems' using UC6 controller* are BMS compatible with multi-unit control possible – either via digital and analogue signals or via Modbus. Refer to temperzone for protocols available.

Insulation

Closed cell foam insulation has been used in the indoor unit's cabinet to ensure no particles are introduced into the air stream. The insulation is foil faced and meets fire test standards AS 1530.3 (1999) and BS 476 parts 6 & 7.

Self Diagnostics

Systems that includes a controller (UC6) have a 7 segment LED display to indicate faults and running conditions. Many operating status conditions (including history) can be determined, without gauges, simply by using the optional UC6 Service Interface graphical display tool.
Note: OSA 870/950 use OUC4 controller.

* Refer Specification tables (p.19/20) to identify applicable models

OPTIONAL EQUIPMENT

Outdoor Unit:

UC6 Service Interface tool (OSA 310–670 only)

Indoor Unit:

1. Vertical supply air configuration.
2. Filters - EU4/G4 rated.
3. temperzone TZT-100 Room T/stat, or SAT-2 (24V) Controller kit (for non-digitals).
4. Signal isolator (Item no. 201-000-129) for using EC motors in a 0–10V DC continuously variable speed mode on ISD 380KBY models.

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. Crankcase heater prevents liquid refrigerant condensing in the compressors during the 'off' cycle.
9. Phase rotation protection device.
10. 24V control circuit

COMPRESSOR

Each high efficiency scroll type compressor is hermetically sealed, quiet running and supported on rubber mounts to minimise vibration.

REFRIGERATION PIPING

The standard unit allows for a line length up to 60 m or more ; refer specifications table pages 19 & 20.

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

Each OSA is shipped from the factory with a charge of R410A refrigerant sufficient for a 10m line length. Liquid and suction service valves are provided. Accurator expansion devices control the flow of refrigerant. The matched indoor unit is shipped with a holding charge of nitrogen. Both units have brazed pipe connections.

WIRING

The electrical supply required is:
3 phase 380–415 V a.c. 50 Hz with neutral and earth.

The compressor crankcase heater requires a 24 hour power supply. 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).

Ducted Split System Air Conditioners

ISD 380–950 Series

Plug Fan Advantages

The ISD **380/570/670 KB**-P models with EC motor and backward curved plug fan design have the following advantages:

- higher static pressure performance (refer page 4)

- quieter than conventional fan (refer page 3); a large aperture supply air spigot reduces exit velocities and therefore less noise down ductwork. Each EC motor can vary from zero to full speed. This allows slow ramp up with no sudden noise change.

- lower installation cost due to a large supply air spigot which lessens the need for duct transitions.

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

- commissioning and maintenance costs are reduced through use of a fan that requires no pulley and belt adjustments or changes like traditional fans.

- fixed and stable air flows can be achieved through use of a differential pressure transducer and controller (supplied by others) to compensate for varying duct static pressures caused by dirty filters or modulating dampers. Commissioning is also made easier.

- the system is set up for the EC motor to be controlled variably 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.

- significant power savings are possible by slowing the fan during low occupancy or after hours (75% airflow ≈ 55% power use).

Digital Version

Digital Scroll Compressor

A digital version of the some outdoor units (OSA 380) is available that includes one fixed and one digital compressor. This provides an enhanced variable capacity ability that enables closer control of room temperature. Digital compressors have proven very reliable because of their design simplicity. Electrical harmonic noise is very low.

Extended Capability

Digitals are particularly suitable for applications requiring full or high proportions of fresh air, VAV, close control and supply air temperature control.

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).

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.

An optional Outdoor Unit fan speed controller is available and is recommended where cooling is required in below 20°C ambient conditions for long periods of time.

See over for Indoor Air Flow Correction factors >

Models	Indoor Fan	Indoor coil E.A.T.		Outdoor coil entering air temperature °C D.B.											
Indoor Unit	Air	W.B.	D.B.	23		27		31		35		39		43	
Outdoor Unit	l/s	°C	°C	Total	Sens.	Total	Sens.	Total	Sens.	Total	Sens.	Total	Sens.	Total	Sens.
ISD 380KB-P * OSA 380	2100	15	21	36.4	28.5	35.9	28.7	34.9	28.2	33.2	27.3	31.1	25.8	28.3	23.8
		17	23	38.3	28.1	37.9	28.1	36.8	27.7	35.2	26.8	33.0	25.4	30.3	23.6
		19	27	40.3	32.2	39.8	32.2	38.7	31.8	37.1	30.8	34.9	29.3	32.2	27.4
		21	31	42.2	38.1	41.7	38.2	40.7	37.7	39.1	36.6	36.8	35.0	34.1	32.8
ISD 380KBY OSA 380	2100	15	21	36.8	29.1	36.4	29.1	35.3	28.6	33.7	27.6	31.5	26.1	28.7	24.1
		17	23	38.8	28.5	38.4	28.5	37.3	28.0	35.7	27.1	33.5	25.8	30.7	23.9
		19	27	40.8	32.6	40.3	32.7	39.3	32.2	37.6	31.2	35.4	29.7	32.6	27.7
		21	31	42.8	38.6	42.3	38.7	41.2	38.2	39.6	37.1	37.4	35.5	34.6	32.2
ISD 465KB OSA 465	2550	15	21	43.7	34.6	43.2	34.5	41.9	33.9	40.0	32.8	37.4	31.0	34.0	28.6
		17	23	46.1	33.8	45.5	33.8	44.2	33.2	42.3	32.2	39.7	30.5	36.4	28.3
		19	27	48.4	38.7	47.8	38.7	46.5	38.2	44.6	37.0	42.0	35.3	38.7	32.9
		21	31	50.7	45.8	50.1	45.9	48.9	45.3	46.9	44.0	44.3	42.0	41.0	39.4
ISD 570KB-P * OSA 570	3100	15	21	55.5	43.9	54.8	43.8	53.2	43.1	50.8	41.6	47.4	39.3	43.2	36.3
		17	23	58.5	42.9	57.8	42.9	56.2	42.2	53.7	40.8	50.4	38.8	46.2	36.0
		19	27	61.4	49.1	60.7	49.2	59.1	48.5	56.6	47.0	53.3	44.8	49.1	41.7
		21	31	64.4	58.2	63.6	58.3	62.0	57.5	59.6	55.9	56.3	53.4	52.1	50.0
ISD 570KB OSA 570	3100	15	21	55.1	43.5	54.4	43.5	52.8	42.7	50.4	41.3	47.0	39.0	42.9	36.0
		17	23	58.0	42.5	57.3	42.5	55.7	41.8	53.2	40.5	50.0	38.5	45.8	35.7
		19	27	60.9	48.8	60.2	48.8	58.6	48.1	56.1	46.6	52.9	44.4	48.7	41.4
		21	31	63.9	57.7	63.1	57.8	61.6	57.0	59.1	55.4	55.8	53.0	51.6	49.6
ISD 670KB-P * OSA 670	3600	15	21	64.3	50.8	64.4	50.7	61.6	49.8	58.7	48.1	54.9	45.5	50.0	42.0
		17	23	67.7	49.6	66.8	49.6	65.0	48.8	62.1	47.3	58.3	44.9	53.4	41.6
		19	27	71.1	56.9	70.2	56.9	68.4	56.1	65.5	54.4	61.7	51.8	56.8	48.3
		21	31	74.5	67.3	73.6	67.4	71.8	66.5	68.9	64.6	65.1	61.8	60.2	57.8
ISD 670KB OSA 670	3600	15	21	64.7	51.1	63.9	51.1	62.0	50.2	59.1	48.5	55.3	45.8	50.4	42.3
		17	23	68.1	50.0	67.3	50.0	65.4	49.2	62.6	47.6	58.7	45.2	53.8	41.9
		19	27	71.6	57.3	70.7	57.3	68.9	56.5	65.9	54.8	62.1	52.2	57.2	48.6
		21	31	75.0	67.8	74.2	67.9	72.3	67.0	69.4	65.1	65.5	62.2	60.7	58.2
ISD 840KB OSA 840	4500	15	21	84.9	58.6	83.3	57.5	80.6	55.9	77.9	54.8	75.4	53.7	71.7	52.6
		17	23	89.4	63.0	87.0	61.8	80.6	60.6	81.3	59.4	78.9	58.2	74.8	57.6
		19	27	93.6	70.0	90.8	68.6	87.7	67.3	84.7	66.0	82.1	65.3	77.9	64.7
		21	31	98.2	76.2	95.1	74.8	91.6	74.1	88.9	72.6	86.3	71.9	82.7	71.2
ISD 950KB OSA 950	5000	15	21	95.1	67.4	93.4	66.1	90.3	64.2	87.3	63.0	84.4	61.7	80.3	60.5
		17	23	100.2	72.4	97.4	71.0	90.3	69.7	91.1	68.3	88.3	66.9	83.8	66.2
		19	27	104.8	80.4	101.7	78.9	98.2	77.4	94.9	75.9	92.0	75.1	87.3	74.4
		21	31	110.0	87.6	106.6	86.0	102.6	85.1	99.6	83.5	96.6	82.6	92.6	81.8

* EC Plug fan version

Ducted Split System Air Conditioners
Performance Data

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

PIPE LENGTH CAPACITY LOSS

On Cooling Cycle due to Pressure Drop

Note: Loss percentage is approximate only. No allowance made for vertical piping.

System	Performance Loss per additional 10m beyond first 5m.	Suction Pipe Size OD	Additional Pipe Length to allow per Bend Long 90° Radius (2 x pipe dia.)
ISD 380 / OSA 380	2.1 %	22	0.50 m
ISD 465 / OSA 465	2.1 %	22	0.50 m
ISD 570 / OSA 570	1.5 %	28	0.61 m
	0.7 %	35	0.76 m
ISD 670 / OSA 670	1.5 %	28	0.61 m
	0.7 %	35	0.76 m
ISD 840 / OSA 840	1.0 %	35	0.76 m
	0.8 %	41	0.80 m
ISD950 / OSA 950	1.0 %	35	0.76 m
	0.8 %	41	0.80 m

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.															
Indoor Unit Outdoor Unit	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.
ISD 380KB-P * OSA 380	15	26.3	23.7	28.5	25.6	30.4	27.1	32.4	27.9	34.4	29.4	36.9	35.1	39.3	39.3	41.2	41.2
	20	25.8	23.2	27.9	25.1	29.8	26.6	31.8	27.3	33.7	28.8	36.2	34.4	38.5	38.5	40.4	40.4
	25	24.8	22.4	26.9	24.2	28.7	25.6	30.6	26.3	32.4	27.7	34.9	32.8	37.1	37.1	38.9	38.9
ISD 380KBY OSA 380	15	26.5	23.8	28.7	25.8	30.6	27.3	32.6	28.0	34.6	29.6	37.2	35.3	39.5	39.5	41.5	41.5
	20	26.0	23.4	28.1	25.3	30.0	26.7	32.0	27.5	33.9	29.0	36.4	34.6	38.8	38.8	40.7	40.7
	25	25.0	22.5	27.1	24.4	28.9	25.7	30.8	26.5	32.7	27.9	35.1	33.0	37.3	37.3	38.2	38.2
ISD 465KB OSA 465	15	30.0	27.0	32.5	29.3	34.8	30.9	37.0	31.8	39.2	33.6	42.2	40.1	44.9	44.9	47.1	47.1
	20	29.5	26.5	31.9	28.7	34.1	30.3	36.3	31.2	38.5	32.9	41.3	39.3	44.0	44.0	46.2	46.2
	25	28.4	25.5	30.7	27.6	32.8	29.2	34.9	30.0	37.1	31.7	39.8	37.4	42.3	42.3	44.5	44.5
ISD 570KB-P * OSA 570	15	40.2	38.4	42.5	38.0	44.8	38.5	47.1	47.1	49.4	49.4	51.7	51.7	54.0	54.0	56.3	56.3
	20	39.6	37.9	41.9	37.5	44.2	44.2	46.5	46.5	48.8	48.8	51.1	51.1	53.4	53.4	55.7	55.7
	25	38.4	37.0	40.6	36.5	42.9	40.6	45.2	45.2	47.5	47.5	49.8	49.8	52.1	52.1	54.4	54.4
ISD 570KB OSA 570	15	41.5	39.6	43.8	39.2	46.2	39.7	48.6	48.6	50.9	50.9	53.3	53.3	55.7	55.7	58.0	58.0
	20	40.8	39.1	43.2	38.7	45.6	45.6	47.9	47.9	50.3	50.3	52.7	52.7	55.0	55.0	57.4	57.4
	25	39.5	38.1	41.9	37.7	44.3	41.9	46.6	46.6	49.0	49.0	51.4	51.4	53.7	53.7	56.1	56.1
ISD 670KB-P * OSA 670	15	46.7	44.7	49.4	44.2	52.1	44.8	54.7	47.5	57.4	57.4	60.1	60.1	62.7	62.7	65.4	65.4
	20	46.0	44.1	48.7	43.6	51.4	44.2	54.0	54.0	56.7	56.7	59.4	59.4	62.0	62.0	64.7	64.7
	25	44.6	43.0	47.2	42.4	49.9	49.9	52.6	52.6	55.2	55.2	57.9	57.9	60.6	60.6	63.2	63.2
ISD 670KB OSA 670	15	47.3	45.2	50.0	44.7	52.7	45.3	55.4	48.0	58.1	58.1	60.8	60.8	63.5	63.5	66.2	66.2
	20	46.6	44.7	49.3	44.1	52.0	44.8	54.7	54.7	57.4	57.4	60.1	60.1	62.8	62.8	65.5	65.5
	25	45.1	43.5	47.8	43.0	50.5	50.5	53.2	53.2	55.9	55.9	58.6	58.6	61.3	61.3	64.0	64.0
ISD 840KB OSA 840	15	54.5	47.7	59.0	50.8	63.1	52.0	67.2	53.1	71.2	53.8	76.5	59.4	81.4	63.5	85.5	85.5
	20	53.5	46.8	57.9	49.8	61.9	51.0	65.8	52.0	69.8	52.7	75.0	54.8	79.8	62.2	83.8	83.8
	25	51.5	45.1	55.7	47.9	59.6	49.1	63.4	50.1	67.2	50.8	72.2	52.7	76.9	59.9	80.7	80.7
ISD 950KB OSA 950	15	61.6	53.9	66.6	57.3	71.2	58.8	75.8	59.9	80.4	60.7	86.4	67.1	91.9	71.7	96.5	96.5
	20	60.4	52.8	65.3	56.2	69.8	57.6	74.3	58.7	78.8	59.5	84.7	61.8	90.1	70.3	94.6	94.6
	25	58.1	50.8	62.9	54.1	67.2	55.5	71.6	56.6	75.9	57.3	81.6	59.5	86.8	67.7	91.1	91.1

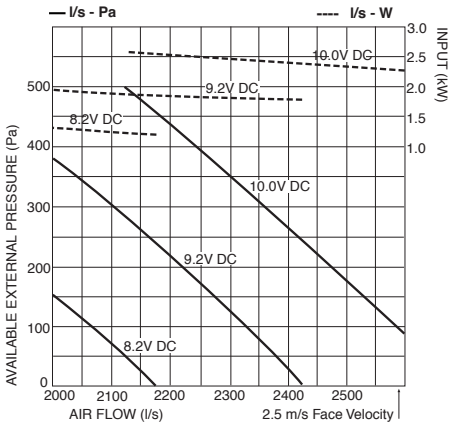
* EC Plug fan version

Ducted Split System Air Conditioners
Performance Data

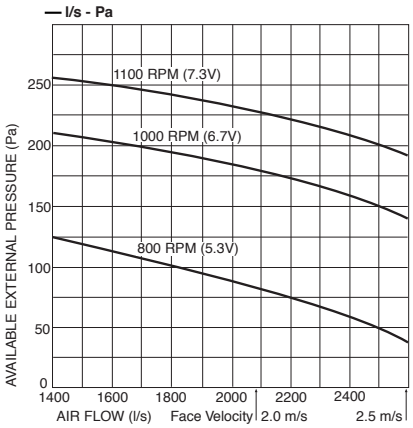
AIR HANDLING

Airflows are for a dry coil. Reduce airflow by 10% in high moisture removal conditions. In a free blow or low resistance application, beware of exceeding indoor fan motor's full load amp limit.. Refer page 11 for Filter Pressure Drop.

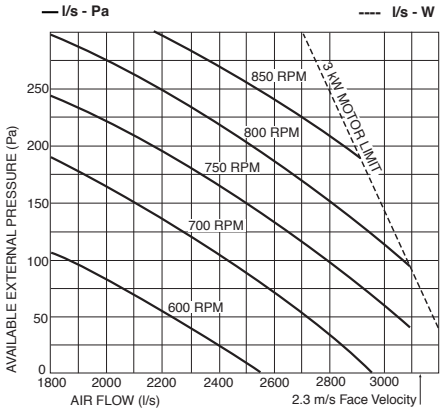
ISD 380KB-P (c/w Plug fans)



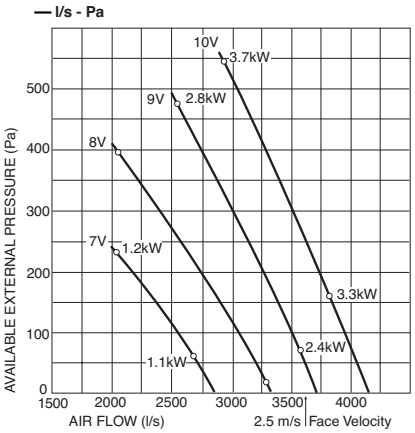
ISD 380KBY



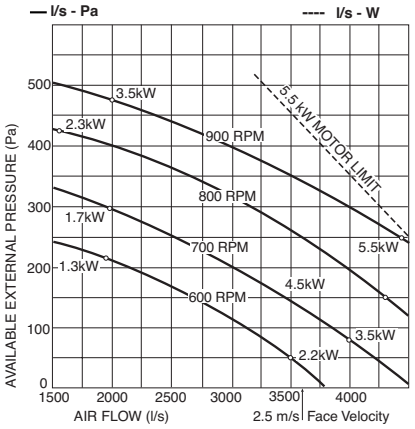
ISD 465KB



ISD 570KB-P (c/w Plug fans)



ISD 570KB



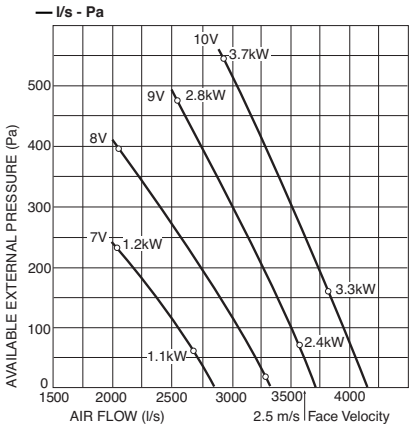
Model :		ISD 465KB	ISD 570KB
Std Motor Size	kW	3	5.5
Max. D.O.L. Motor	kW	3	7.5
Max. Fan Speed	RPM	850	1000
Std Pulley Range	RPM	600–800	600–800
Factory Setting	RPM	700	700

Ducted Split System Air Conditioners
Performance Data

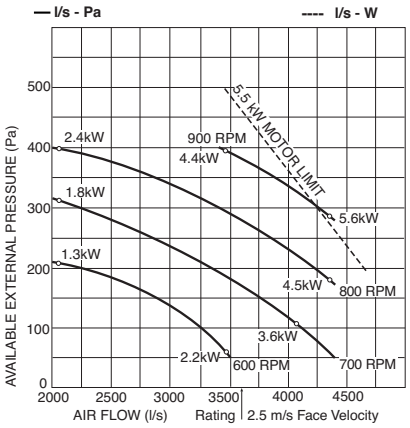
AIR HANDLING

Airflows are for a dry coil. Reduce airflow by 10% in high moisture removal conditions. In a free blow or low resistance application, beware of exceeding indoor fan motor's full load amp limit..

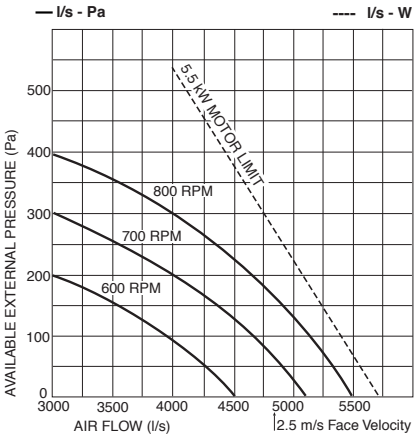
ISD 670KB-P (c/w Plug fans)



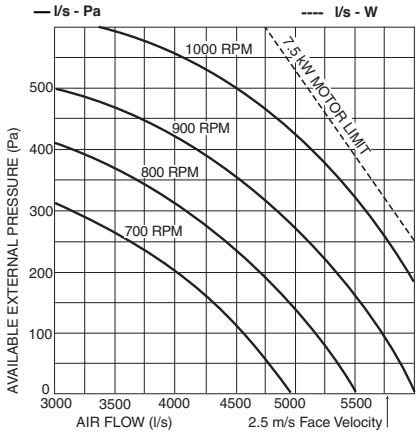
ISD 670KB



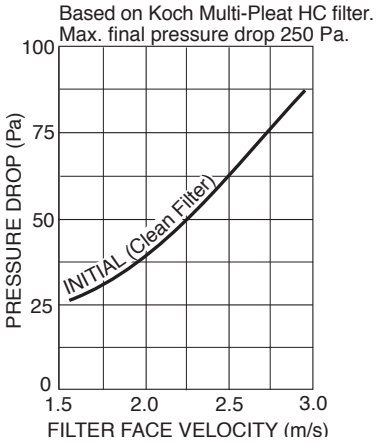
ISD 840KB



ISD 950KB



Optional Filters - Pressure Drop



Model :		ISD 670KB	ISD 840KB	ISD 950KB
Std Motor Size	kW	5.5	5.5	7.5
Max. D.O.L. Motor	kW	7.5	7.5	7.5
Max. Fan Speed	RPM	1000	950	1000
Std Pulley Range	RPM	600–800	615–755	685–840
Factory Setting	RPM	700	685	765

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, at nominal airflow.

INDOOR UNIT - SUPPLY AIR OUTLET

			OCTAVE BAND FREQUENCY Hz					
Models	FAN SPEED	SWL dB(A)	125	250	500	1K	2K	4K
			SOUND POWER LEVELS (SWL) dB					
ISD 380KBY	750 RPM (5V)	73	72	68	70	67	66	63
	950 RPM (6.3V)	80	78	73	76	75	74	70
	1150 RPM (7.6V)	85	82	78	80	80	79	74
ISD 380KB-P	LOW (7V)	71	72	70	68	67	60	54
	MED (8V)	74	74	73	71	71	65	59
	HIGH (9V)	78	75	79	74	74	69	63
ISD 465KB	810 RPM	81	79	76	79	76	74	72
ISD 570KB	600 RPM	81	80	81	78	76	76	73
	800 RPM	86	87	85	82	80	80	77
ISD 570KB-P	LOW (7V)	63	69	62	61	60	51	50
	MED (8V)	72	81	72	71	66	62	57
	HIGH (9V)	80	86	79	79	74	69	66
ISD 670KB	600 RPM	81	80	81	78	76	76	73
	800 RPM	86	87	85	82	80	80	77
ISD 670KB-P	LOW (5V)	63	69	62	61	60	51	50
	MED (7V)	72	81	72	71	66	62	57
	HIGH (9V)	80	86	79	79	74	69	66
ISD 840KB	600 RPM	81	80	81	78	76	76	73
	800 RPM	86	87	85	82	80	80	77
ISD 950KB	700 RPM	80	81	79	75	73	74	72
	900 RPM	86	86	84	82	81	80	77
	1000 RPM	88	89	87	84	82	82	79

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					
Room type	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

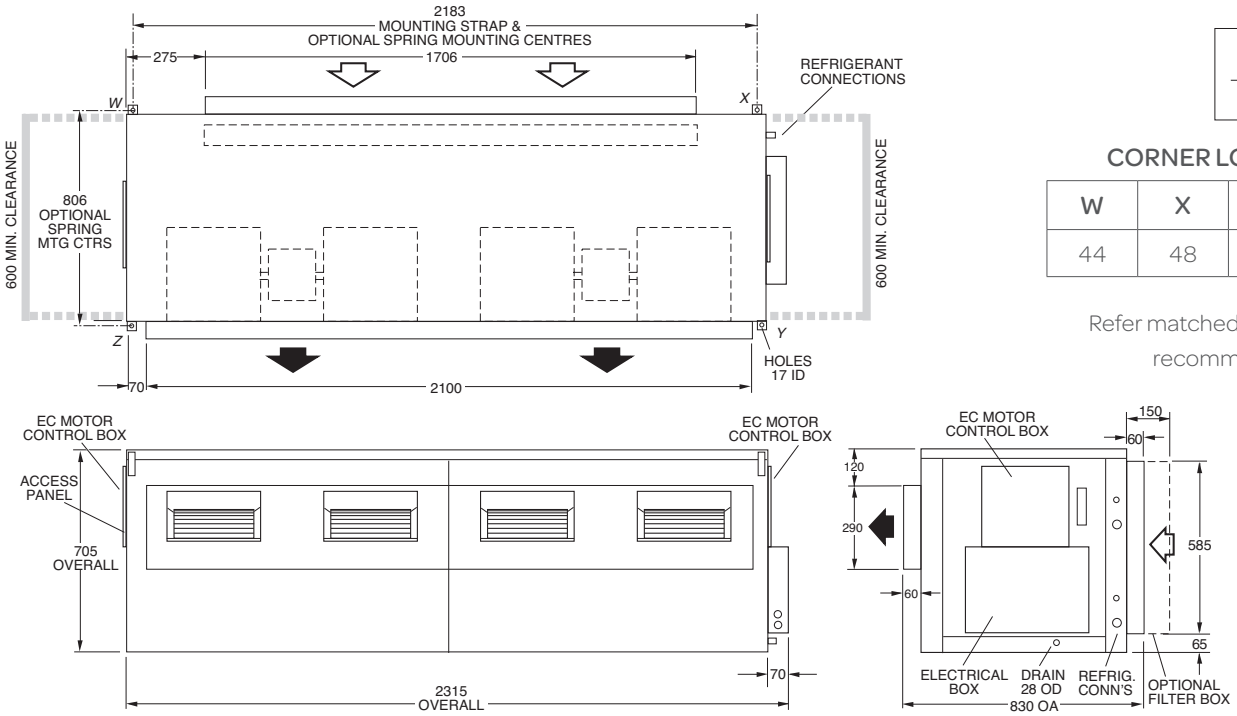
			OCTAVE BAND FREQUENCY Hz					
			125	250	500	1K	2K	4K
Models	FAN SPEED	SWL dB(A)	SOUND POWER LEVELS dB					
OSA 380	LOW	79	84	82	77	73	64	58
	HIGH	80	84	83	78	75	67	61
OSA 465	LOW	79	84	82	77	73	64	58
	HIGH	80	84	83	78	75	67	61
OSA 570	LOW	79	84	82	77	73	64	58
	HIGH	80	84	83	78	75	67	61
OSA 670	LOW	79	84	82	77	73	64	58
	HIGH	80	84	83	78	75	67	61
OSA 840	HIGH	82	85	80	79	78	73	66
OSA 950	HIGH	82	85	80	79	78	73	66

Sound Pressure Level (SPL) in decibels re 20 μPa.

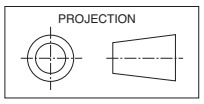
Models	FAN SPEED	SPL @ 3 m dB(A)	SOUND PRESSURE LEVELS dB					
OSA 380	LOW	63	68	66	61	57	48	42
	HIGH	64	68	67	62	59	51	45
OSA 465	LOW	63	68	66	61	57	48	42
	HIGH	64	68	67	62	59	51	45
OSA 570	LOW	63	68	66	61	57	48	42
	HIGH	64	68	67	62	59	51	45
OSA 670	LOW	63	68	66	61	57	48	42
	HIGH	64	68	67	62	59	51	45
OSA 840	HIGH	66	69	64	63	62	57	50
OSA 950	HIGH	66	69	64	63	62	57	50

Ducted Split System Air Conditioners
Dimensions (mm)

ISD 380KBY INDOOR UNIT



Not to Scale

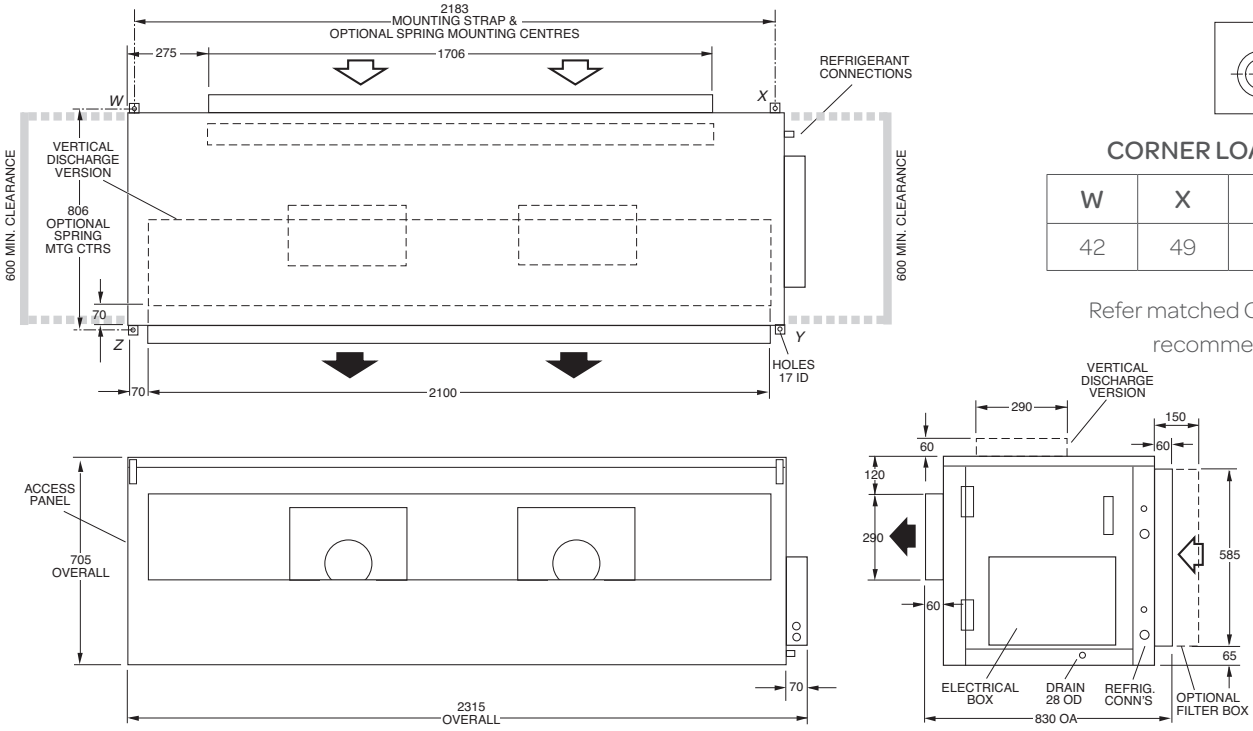


CORNER LOADS (kg)

W	X	Y	Z
44	48	58	53

Refer matched Outdoor Unit for recommended pipe sizes

ISD 380KB-P INDOOR UNIT (C/W PLUG FANS)



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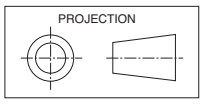


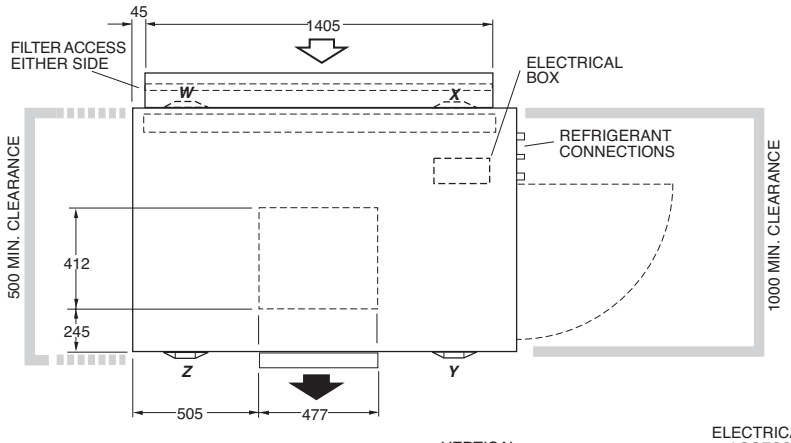
CORNER LOADS (kg)

W	X	Y	Z
42	49	42	36

Refer matched Outdoor Unit for recommended pipe sizes

Ducted Split System Air Conditioners
Dimensions (mm)

ISD 465KB INDOOR UNIT



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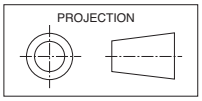
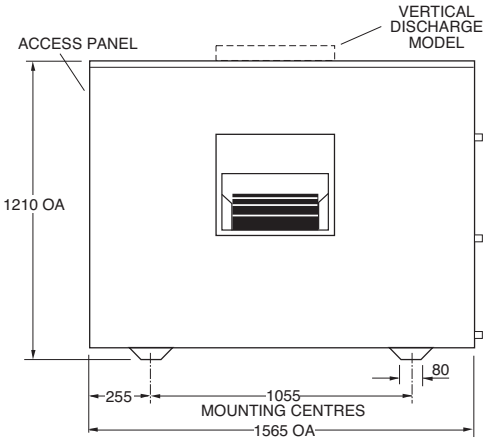
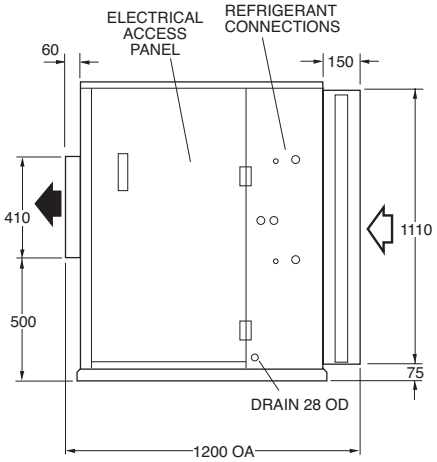


CORNER LOADS (kg)

W	X	Y	Z
57	74	82	64

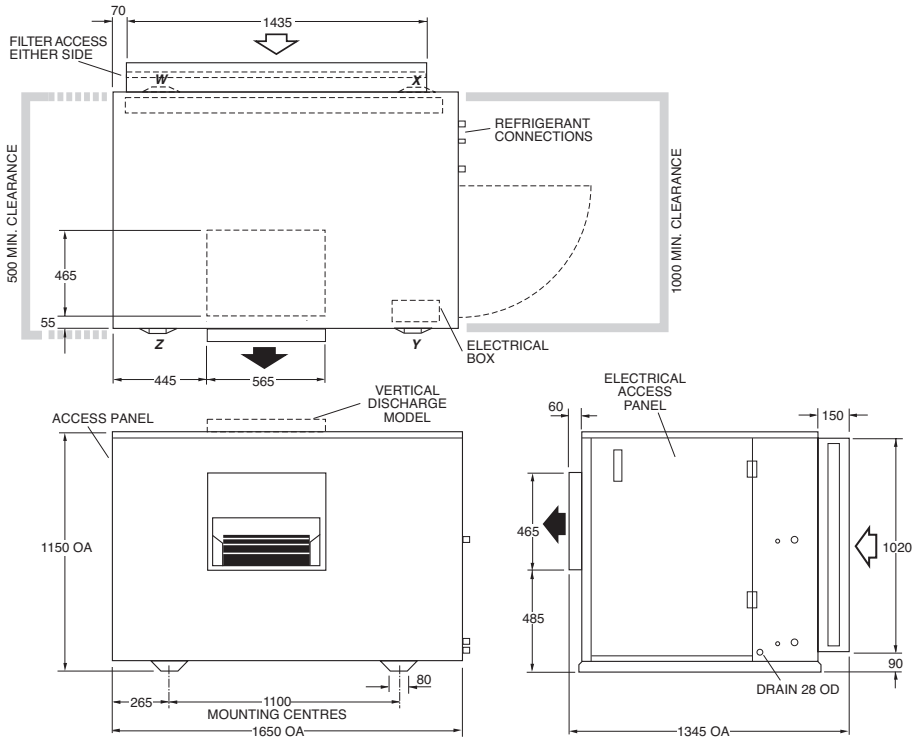
Refer matched Outdoor Unit for recommended pipe sizes





Ducted Split System Air Conditioners
Dimensions (mm)

ISD 570/670 KB INDOOR UNIT



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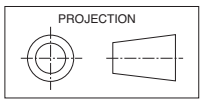
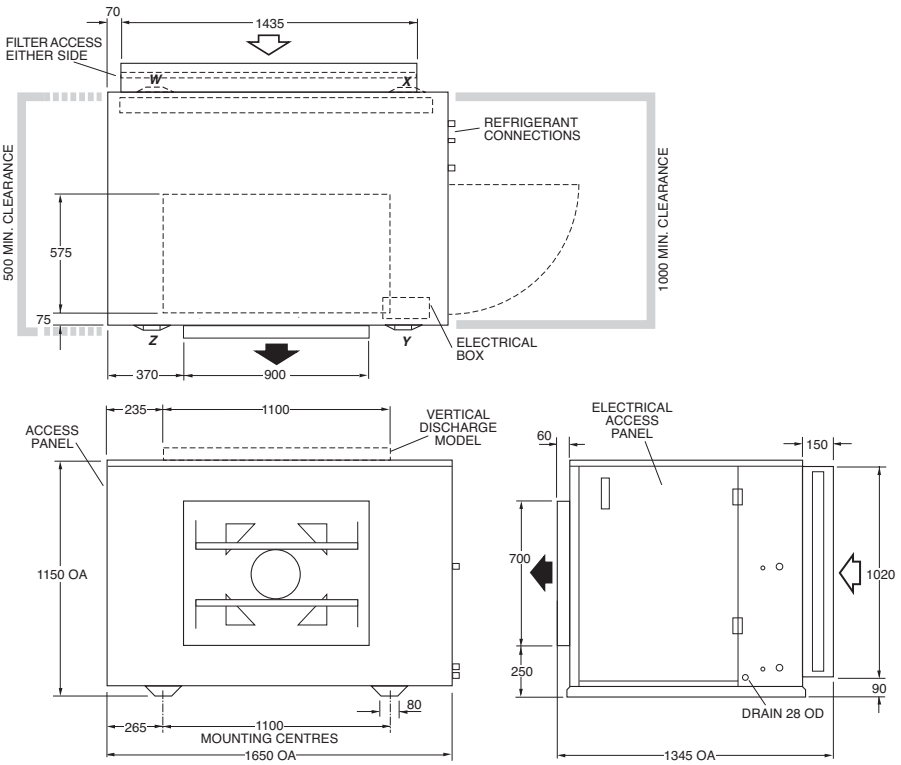


CORNER LOADS (kg)

Model	W	X	Y	Z
ISD 570	75	92	119	47
ISD 670	81	100	121	48

Refer matched Outdoor Unit for recommended pipe sizes

ISD 570/670 KB-P INDOOR UNIT (C/W PLUG FANS)



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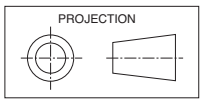


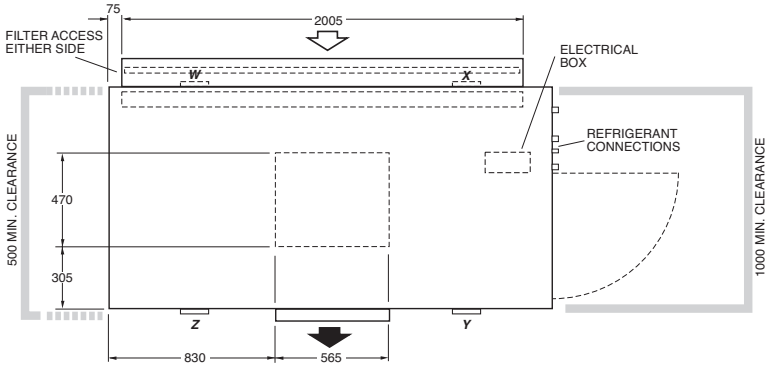
CORNER LOADS (kg)

Model	W	X	Y	Z
ISD 570	81	81	52	52
ISD 670	87	87	54	54

Refer matched Outdoor Unit for recommended pipe sizes

Ducted Split System Air Conditioners
Dimensions (mm)

ISD 840/950 KB INDOOR UNIT



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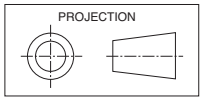
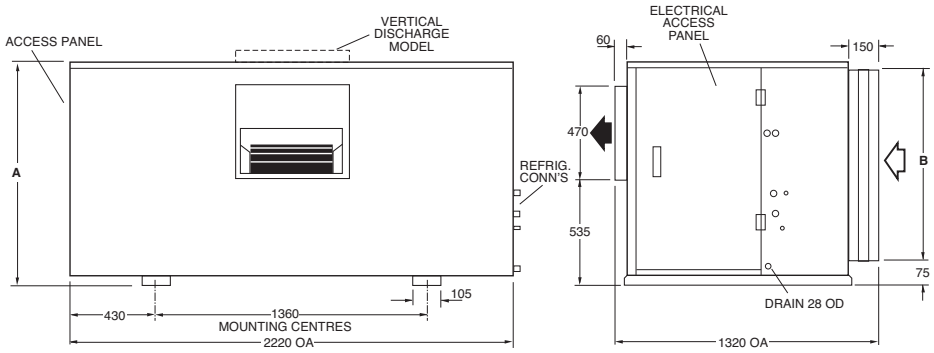


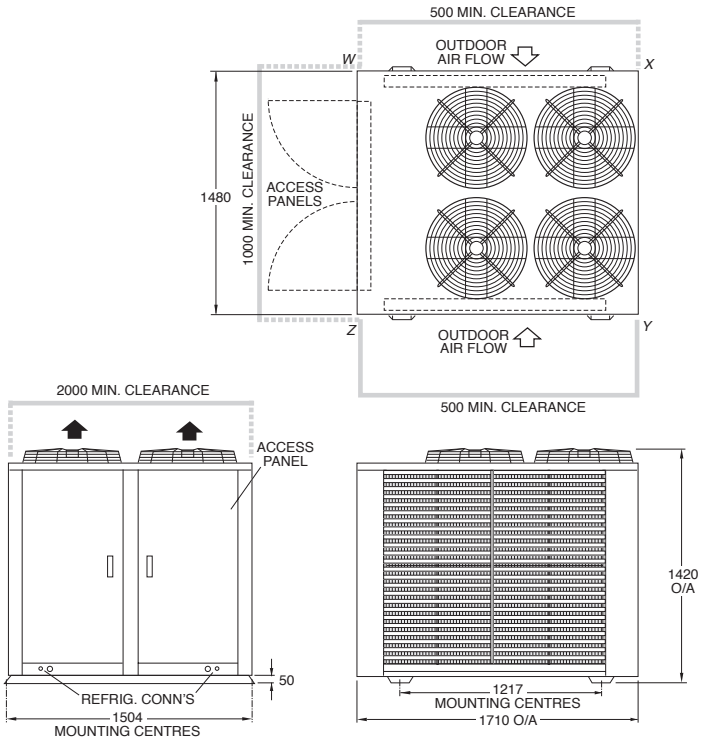
	DIM.		CORNER LOADS (kg)			
Model	A	B	W	X	Y	Z
ISD 840KB	1070	955	74	154	87	83
ISD 950KB	1280	1165	114	139	120	52

Refer matched Outdoor Unit for recommended pipe sizes



Ducted Split System Air Conditioners
Dimensions (mm)

OSA 380RKTB(G) OUTDOOR UNIT



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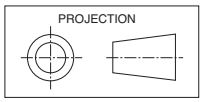


CORNER LOADS (kg)

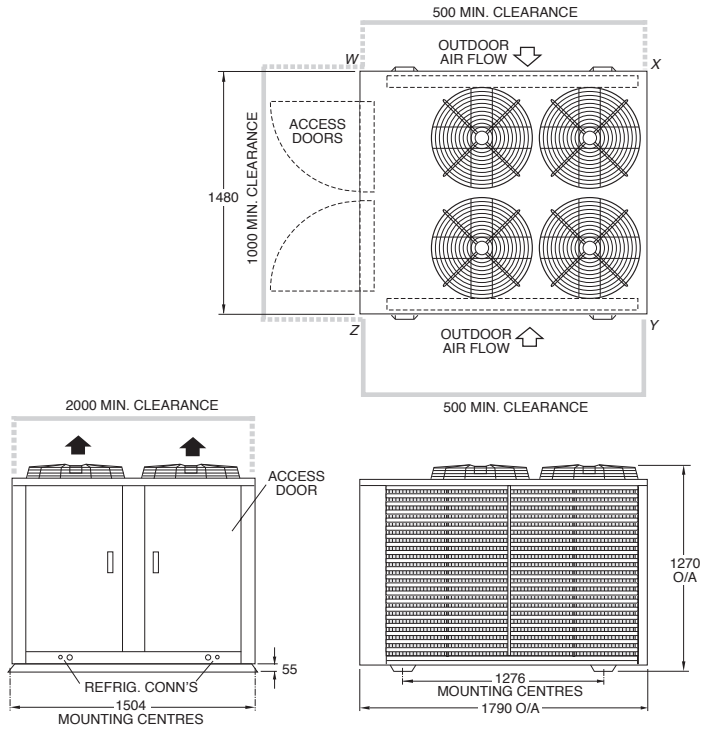
W	X	Y	Z
154	77	79	144

Recommended Pipe Sizes

Suction: 22 mm OD (x2)

Liquid: 13 mm OD (x2)

OSA 465RKTB OUTDOOR UNIT



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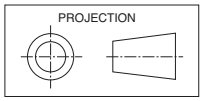


CORNER LOADS (kg)

W	X	Y	Z
146	77	77	145

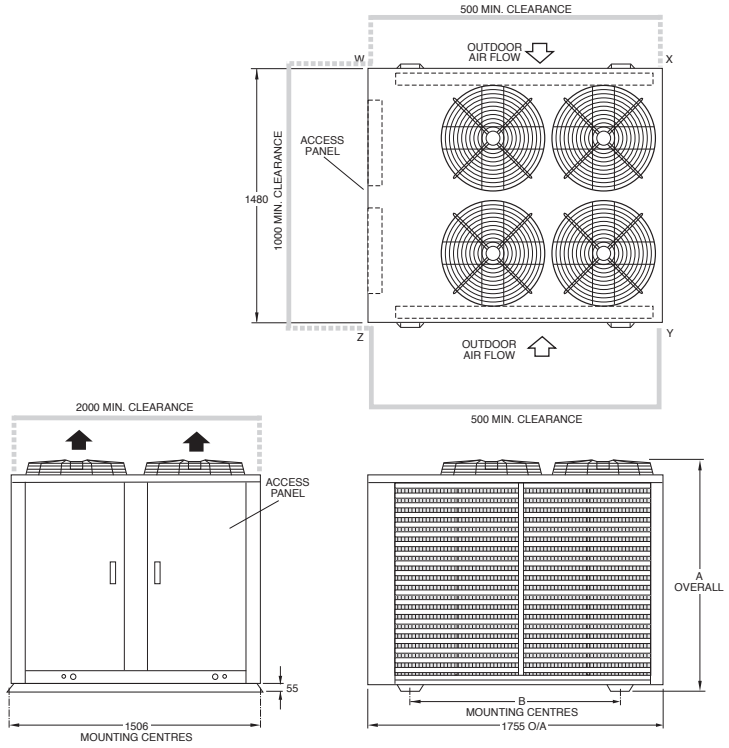
Recommended Pipe Sizes

Suction: 22 mm OD (x2)

Liquid: 13 mm OD (x2)

Ducted Split System Air Conditioners
Dimensions (mm)

OSA 570/670 RKTB OUTDOOR UNIT



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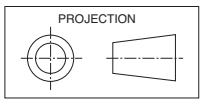


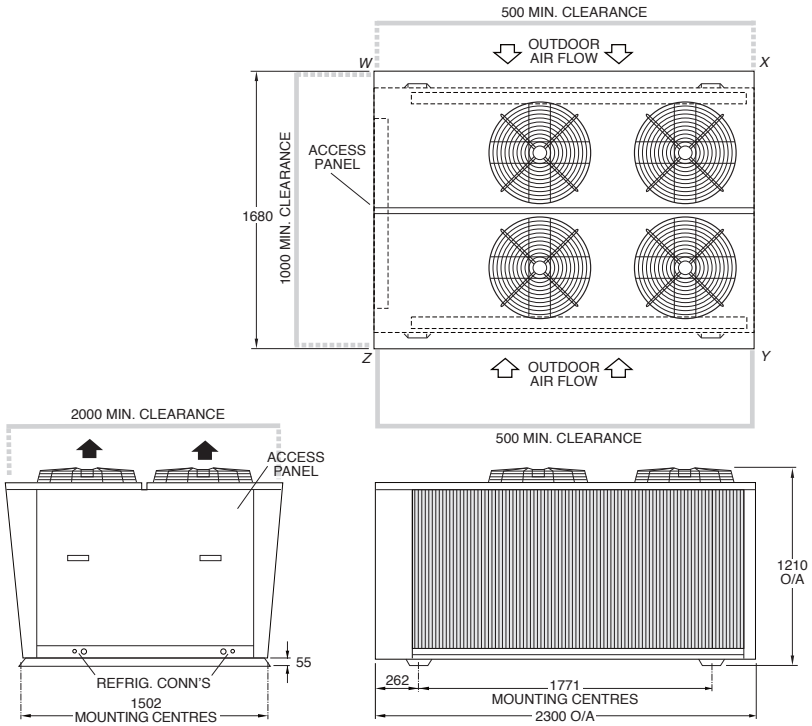
	DIM.		CORNER LOADS (kg)			
Model	A	B	W	X	Y	Z
OSA 570	1345	1263	174	81	81	175
OSA 670	1390	1231	182	88	88	183

Recommended Pipe Sizes

Suction: 28 mm or 35 mm OD (x2)

Liquid: 13 mm OD (x2)

OSA 840/950 RKTB OUTDOOR UNIT



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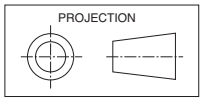

CORNER LOADS (kg)

Model	W	X	Y	Z
OSA 840	193	92	92	194
OSA 950	185	109	109	186

Recommended Pipe Sizes

Suction: 35 mm OD (x2)

Liquid: 16 mm OD (x2)

Ducted Split System Air Conditioners
Specifications

System				
Indoor Unit		ISD 380KBY	ISD 380KB-P	ISD 465KB
Outdoor Unit		OSA 380RKTB	OSA 380RKTB	OSA 465RKTVB
Nominal Cooling Capacity *1	**kW**	37.6	37.1	44.6
Net Cooling Capacity	**kW**	36.4	35.9	42.6
Heating Capacity *2		38.8 (35.9)	38.5 (35.7)	44.0
EER / AEER (Cooling)		3.26 / 3.21	3.20 / 3.15	2.98 / 2.95
COP / ACOP (Heating)		3.46 / 3.44	3.43 / 3.41	3.53 / 3.51
Controller		UC6		
Indoor air fan type		forward curved	backward curved	forward curved
Indoor air fan motor		EC	EC plug	AC induction
Air Flow *3	**l/s**	2100		2550
Power Source *4		3 phase 400 V a.c. 50 Hz		
Indoor Fan Full Load Amps	**A/ph.**	6 (x2)	2.5 (x2)	6.2
Running Amps (Total System)	**A/ph.**	16 / 20 / 20	17 / 22 / 17	31 / 26 / 25
Max. Running Amps (Total Sys.)	**A/ph.**	21 / 25 / 25	22 / 27 / 22	43 / 37 / 37
Refrigerant		R410A		
Maximum Vertical Separation	**m**	20		20
Maximum Standard Line Length	**m**	60		30 or 60*5
Pipe Sizes (Suction/Liquid)	**mm OD**	22 / 13		22 / 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 Weight (indoor/outdoor)	**kg**	203 / 458	169 / 458	277 / 445
Shipping Weight (ind./out.) (approx.)	**kg**	226 / 511	195 / 511	300 / 490

Notes:

*1 Nominal Cooling Capacity 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.

Net Cooling Capacity at AS/NZS 3823 includes an allowance for indoor fan motor heat loss.
( ) Bracketed figure is performance when matched to digital outdoor unit, ie OSA 380RKTBG.

*2 Heating Capacity (reverse cycle units only) 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.

*3 Supply air flow at Nominal Cooling Capacity conditions stated above.

*4 Power source includes voltage limits.

*5 Extra suction accumation required.

Ducted Split System Air Conditioners
Specifications

System							
Indoor Unit		ISD 570KB	ISD 570KB-P	ISD 670KB	ISD 670KB-P	ISD 840KB	ISD 950KB
Outdoor Unit		OSA 570RKTB	OSA 570RKTB	OSA 670RKTB	OSA 670RKTB	OSA 840RKTB	OSA 950RKTB
Nominal Cooling Capacity *1	kW	56.1	56.6	65.9	65.5	84.7	94.9
Net Cooling Capacity	kW	54.0	55.0	62.8	63.0	79.4	90.0
Heating Capacity *2		55.9	53.4	62.8	62.0	79.8	90.1
EER / AEER (Cooling)		3.10 / 3.09	3.27 / 3.26	2.97 / 2.96	3.07 / 3.06	2.70 / 2.68	2.70 / 2.68
COP / ACOP (Heating)		3.37 / 3.35	3.48 / 3.46	3.47 / 3.45	3.43 / 3.41	3.21 / 3.19	3.30 / 2.28
Controller		UC6				OUC	
Indoor air fan type		forward curved	backward curved	forward curved	backward curved	forward curved	forward curved
Indoor air fan motor		AC induction	EC plug	AC induction	EC plug	AC induction	AC induction
Air Flow *3	l/s	3100		3600		4500	5000
Power Source *4		3 phase 400 V a.c. 50 Hz					
Indoor Fan Full Load Amps	A/ph.	11.0	5.7	11.0	5.7	11.0	14.3
Running Amps (Total System)	A/ph.	38 / 33 / 32	34 / 28 / 27	38 / 43 / 38	34 / 39 / 33	59 / 50/ 50	68 / 59 / 59
Max. Running Amps (Total Sys.)	A/ph.	47 / 42 / 41	44 / 38 / 37	50 / 54 / 48	45 / 50 / 44	84 / 73 / 73	93 / 82 / 82
Refrigerant		R410A					
Maximum Vertical Separation	m	20		20		20	20
Maximum Standard Line Length	m	60 / 90		60 / 90		50 / 90	50 / 90
Pipe Sizes (Suction/Liquid)	mm OD	(28 or 35)*5 / 13		(28 or 35)*5 / 13		35 / 16	35 / 16
Operating Range (outdoor ambient)							
Cooling		-10°C to 52°C				-10°C to 46°C	
Heating		-15°C to 25°C				-15°C to 25°C	
Finish							
Indoor Unit		zinc galvanised steel					
Outdoor Unit		grey polyester powder coat					
Weight							
Net Weight (indoor/outdoor)	kg	333 / 511	266 / 511	350 / 541	282 / 541	398 / 546	425 / 560
Shipping Weight (ind./out.) (approx.)	kg	380 / 565	380 / 565	397 / 580	329 / 580	451 / 638	479 / 651

Notes:

*1 Nominal Cooling Capacity 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.

Net Cooling Capacity at AS/NZS 3823 includes an allowance for indoor fan motor heat loss.
( ) Bracketed figure is performance when matched to digital outdoor unit, ie OSA 380RKTBG.

*2 Heating Capacity (reverse cycle units only) 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.

*3 Supply air flow at Nominal Cooling Capacity conditions stated above.

*4 Power source includes voltage limits.

*5 Longer line length require greater size suction line.

temperzone
QUALITY AIR CONDITIONING

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