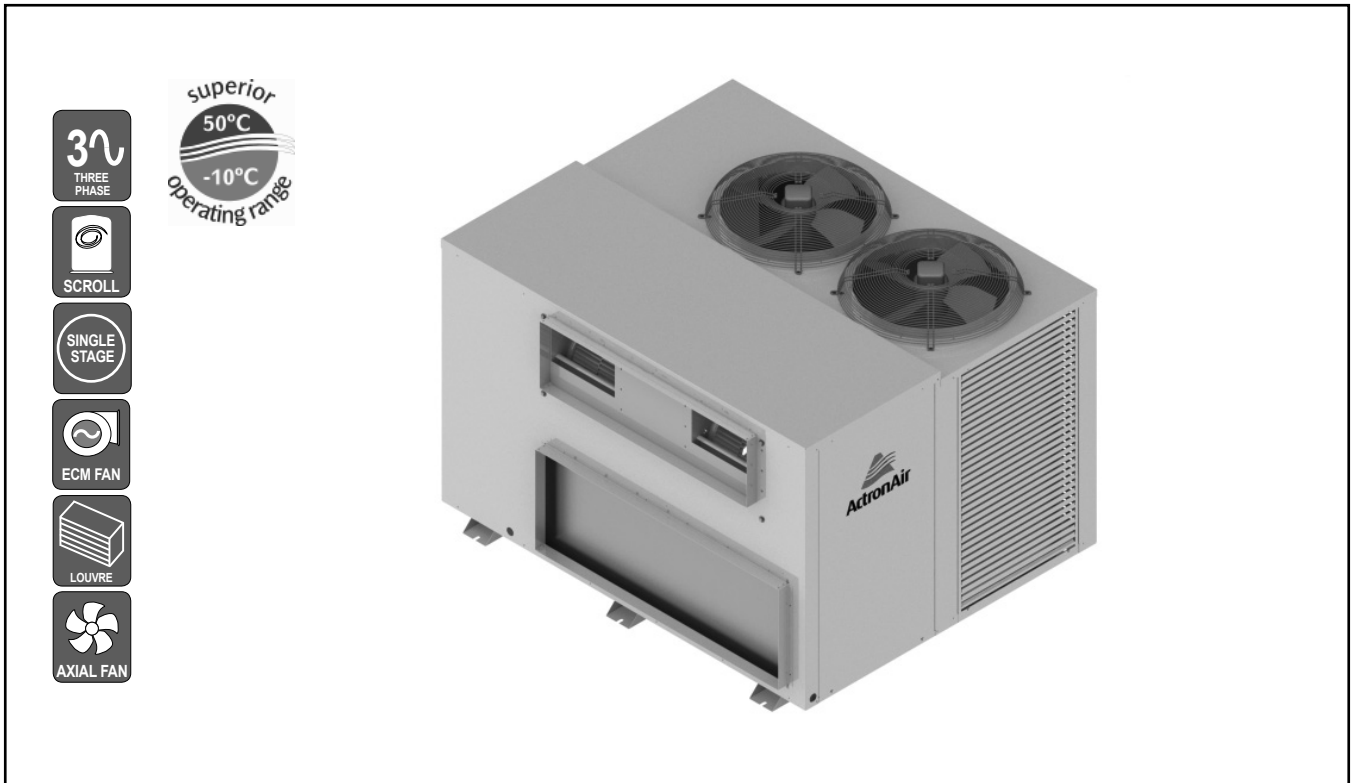


PACKAGE UNIT



3 Phase
1 Stage
17.56 kW

UNIT FEATURES

- Compliant Scroll Compressor
- ECM High Efficiency Indoor Fan Motor
- EC Variable Speed Indoor Fan
- Adjustable Dial-Up Indoor Airflow
- Fault Indication - Relay Output
- Two Speed Outdoor Fans
- Blue Epoxy Coat Coil Fin Protection - Indoor & Outdoor Coils
- Louvred Outdoor Coil Guard
- Full Factory Charged with R410A Refrigerant
- Adaptive Demand Defrost

UNIT OPTIONS

- Low Ambient Cooling
- Compressor Soft Starter
- 3-Phase Protection
- Fault Detection Board
- Third Party Control
- Additional Full Coil Coat Protection

CONTROL OPTIONS

ActronAir C7-4 (BCA Compliant)

- 7-Day Programmable Controller with 2 Events/Day,
- Temperature Set Back and After Hours Timer
- Auto, Heat & Cool Modes
- Auto/Continuous Indoor Fan Operation
- 1 Speed Indoor Fan Setting
- 1 Stage Cooling / Heating with 2nd Stage Boost Heat
- Remote Temperature Sensors
- 24-Hour ON/OFF Timer
- Manual Control Inputs
- Home/Building Automation ON/OFF Capability

UNIT COMPLIANCE

- MEPS 2012 / GEMS 2012
- AS/NZS 4755.3.1 Demand Response Capabilities
- AS/NZS 60335.1 Electrical Appliance Safety
- AS/NZS CISPR 14.1 EMC Compliance

SPECIFICATION SUMMARY

PACKAGE MODEL	PCG173U
(1)(2) TOTAL COOLING CAPACITY (kW)	17.56
(1)(2) TOTAL COOLING SENSIBLE CAPACITY (kW)	14.26
(1)(3) TOTAL HEATING CAPACITY (kW)	17.38
(4) COOLING INPUT POWER (kW)	5.01
(4) HEATING INPUT POWER (kW)	4.58
(1)(2) EER	3.50
(1)(3) COP	3.79
(5) INDOOR AIRFLOW (l/s) - MIN. / NOMINAL / MAX.	770 / 850 / 900
OUTDOOR SOUND PRESS. LEVEL @ 3M dB(A) - LOW / HIGH	52.0 / 54.0
OUTDOOR SOUND POWER LEVEL dB(A) - LOW / HIGH	69.0 / 71.0
POWER SUPPLY	400V / 3Ph+N / 50Hz
(6) RATED LOAD AMPS	12.8
(7) FULL LOAD AMPS	16.6
(8) CIRCUIT BREAKER AND CABLE AMPS	20.0
APPROXIMATE STARTING AMPS	64.5
WEIGHT (kg)	236

(1) Total Capacities are based on unit rating excluding indoor fan kW.
 (2) At 27°C DB / 19°C WB entering air temperatures and 35°C ambient.
 (3) At 20°C DB entering air temperature and 7°C DB / 6°C WB ambient.
 (4) Input power includes indoor fan kW.
 (5) Max. - Min. airflow application range.
 (6) Measured and tested in accordance with AS/NZS 3823.1.2.
 (7) Full Load Amps are based on compressor and fan motors' maximum expected current.
 (8) See Specifications sheet for cable size and circuit breaker size details.

Note: Use input power to estimate running cost.



CAPACITY SELECTION DATA

PCG173U

COOLING PERFORMANCE

AIR ENTERING		TOTAL CAPACITY kW	TOTAL SENSIBLE CAPACITY - kW										
OUTDOOR DB - °C	INDOOR WB - °C		AT DB TEMPERATURE ONTO INDOOR COIL - °C										
		20	21	22	23	24	25	26	27	28	29	30	
25	16	18.37	10.91	11.95	12.97	13.98	14.97	15.79					
	17	18.39	9.90	10.89	11.93	12.96	13.98	14.96	15.86				
	18	18.74	8.81	9.87	10.87	11.91	12.94	13.95	14.97	15.91	16.75		
	19	19.21	7.70	8.79	9.86	10.85	11.88	12.91	13.93	14.95	15.90	16.79	17.57
	20	19.65	6.57	7.67	8.75	9.83	10.82	11.85	12.87	13.91	14.92	15.90	16.82
	21	20.21		6.54	7.62	8.72	9.78	10.77	11.83	12.84	13.85	14.89	15.87
22	20.73			6.52	7.59	8.69	9.75	10.81	11.78	12.80	13.83	14.85	
30	16	17.73	10.61	11.64	12.66	13.66	14.61	15.33					
	17	17.70	9.60	10.59	11.64	12.66	13.66	14.62	15.51				
	18	18.03	8.52	9.59	10.56	11.61	12.63	13.64	14.63	15.57	16.29		
	19	18.40	7.42	8.50	9.56	10.55	11.59	12.62	13.62	14.62	15.58	16.43	
	20	18.85	6.30	7.40	8.48	9.54	10.53	11.56	12.59	13.60	14.60	15.58	16.48
	21	19.40		6.26	7.35	8.44	9.51	10.50	11.52	12.56	13.59	14.57	15.55
22	19.88			6.23	7.31	8.40	9.47	10.45	11.48	12.52	13.54	14.54	
35	16	17.04	10.28	11.31	12.33	13.31	14.20						
	17	17.06	9.27	10.27	11.30	12.31	13.31	14.25	15.07				
	18	17.26	8.21	9.26	10.25	11.28	12.30	13.29	14.27	15.19			
	19	17.56	7.10	8.18	9.25	10.22	11.26	12.29	13.29	14.26	15.21	16.24	
	20	18.03	5.99	7.08	8.16	9.22	10.20	11.23	12.26	13.26	14.25	15.22	16.10
	21	18.48		5.97	7.06	8.14	9.18	10.18	11.19	12.23	13.22	14.23	15.21
22	18.93			5.94	7.02	8.09	9.17	10.14	11.16	12.18	13.20	14.21	
40	16	16.20	9.89	10.93	11.92	12.88	13.68						
	17	16.22	8.85	9.89	10.92	11.91	12.91	13.79					
	18	16.33	7.84	8.90	9.87	10.91	11.92	12.89	13.84	14.62			
	19	16.59	6.74	7.82	8.96	9.85	10.88	11.91	12.89	13.86	14.74		
	20	16.98	5.64	6.74	7.81	8.86	9.83	10.86	11.88	12.87	13.84	14.77	15.54
	21	17.40		5.62	6.70	7.78	8.83	9.81	10.82	11.85	12.86	13.82	14.78
22	17.84			5.59	6.67	7.74	8.80	9.78	10.78	11.81	12.81	13.82	
45	16	15.30	9.47	10.52	11.49	12.40							
	17	15.31	8.45	9.48	10.49	11.49	12.44	13.22					
	18	15.33	7.45	8.45	9.46	10.48	11.50	12.45	13.34				
	19	15.55	6.38	7.43	8.42	9.45	10.47	11.48	12.46	13.38	14.11		
	20	15.89	5.27	6.35	7.42	8.46	9.43	10.44	11.46	12.44	13.40	14.26	
	21	16.28		5.25	6.33	7.39	8.45	9.41	10.42	11.42	12.44	13.40	14.30
22	16.73			5.22	6.29	7.37	8.41	9.39	10.40	11.40	12.40	13.37	
50	16	14.30	9.03	10.07	11.00	11.78							
	17	14.31	8.01	9.02	10.06	11.02	11.90						
	18	14.33	7.03	8.01	9.02	10.04	11.03	11.96					
	19	14.42	5.96	7.01	8.00	9.02	10.02	11.03	11.97	12.81			
	20	14.70	4.87	5.94	7.00	7.99	9.00	10.00	10.99	11.97	12.87		
	21	15.06		4.84	5.92	6.98	8.01	8.98	9.97	10.99	11.98	12.89	13.71
22	15.45			4.81	5.89	6.96	7.99	8.96	9.96	10.97	11.94	12.89	

HEATING PERFORMANCE

WB TEMP ON OD COIL - °C	HEATING CAPACITY - kW									
	AT DB ENTERING INDOOR - °C									
	16		18		20		22		24	
	TH	IH	TH	IH	TH	IH	TH	IH	TH	IH
-10	10.94	10.28	10.89	10.24	10.84	10.19	10.78	10.14	10.74	10.09
-8	11.67	10.86	11.61	10.80	11.55	10.74	11.49	10.68	11.42	10.62
-6	12.42	11.43	12.35	11.36	12.28	11.30	12.25	11.27	12.19	11.21
-4	13.22	11.83	13.13	11.75	13.10	11.72	13.02	11.65	12.94	11.58
-2	14.10	12.26	14.00	12.18	13.91	12.10	13.82	12.02	13.74	11.95
0	14.94	12.85	14.83	12.76	14.77	12.70	14.66	12.61	14.57	12.53
2	15.79	14.05	15.66	13.94	15.54	13.83	15.43	13.73	15.32	13.63
4	16.71	15.87	16.54	15.71	16.44	15.62	16.33	15.52	16.21	15.40
6	17.68	17.68	17.52	17.52	17.38	17.38	17.24	17.24	17.13	17.13
8	18.68	18.68	18.51	18.51	18.35	18.35	18.21	18.21	18.07	18.07
10	19.71	19.71	19.54	19.54	19.37	19.37	19.21	19.21	19.05	19.05
12	20.79	20.79	20.60	20.60	20.41	20.41	20.23	20.23	20.05	20.05
14	21.90	21.90	21.70	21.70	21.49	21.49	21.29	21.29	21.10	21.10
16	23.06	23.06	22.82	22.82	22.60	22.60	22.38	22.38	22.17	22.17
18	24.25	24.25	24.00	24.00	23.75	23.75	23.50	23.50	23.26	23.26

TH - Total Heating Capacity (kW).
IH - Integrated Heating Capacity (kW).
Includes defrost losses.

AIRFLOW CORRECTION MULTIPLIER

% VARIATION	-9.41%	-5%	NOMINAL	5%	5.88%
INDOOR AIRFLOW (l/s)	770	808	850	893	900
TOTAL COOLING	0.982	0.991	1.00	1.006	1.007
SENSIBLE COOLING	0.946	0.971	1.00	1.027	1.032
HEATING FACTOR	0.996	0.998	1.00	1.002	1.002

NOTES:

- No allowance has been made for the effect of indoor fan motor.
- Selection tables are based on nominal airflows. Correction factors must be applied for selection away from these conditions.

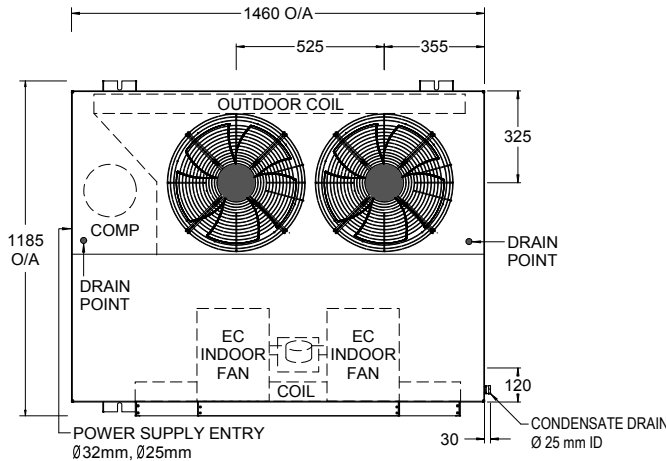


17.56 kW
3 Phase
1 Stage

UNIT DIMENSIONS

PCG173U

U PACKAGE UNIT - STANDARD MODEL

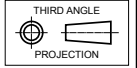


TOP VIEW

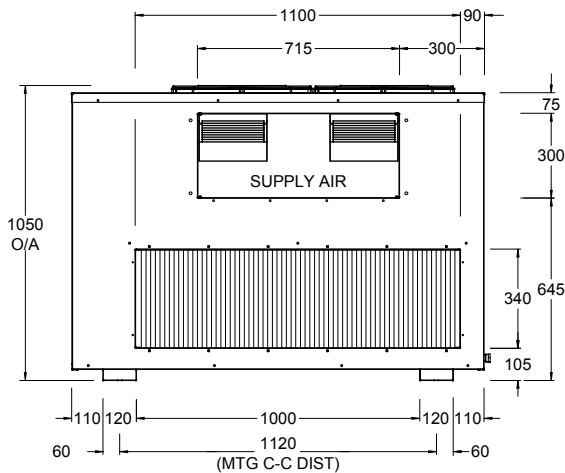
OVERALL NOMINAL DIMENSION (H x W x L)
 = 1050 x 1460 x 1185
 SUPPLY DUCT (H x W) = 300 x 1100
 RETURN DUCT (H x W) = 340 x 1100
 USE M12 BOLT FOR FEET MOUNTING

NOTES:

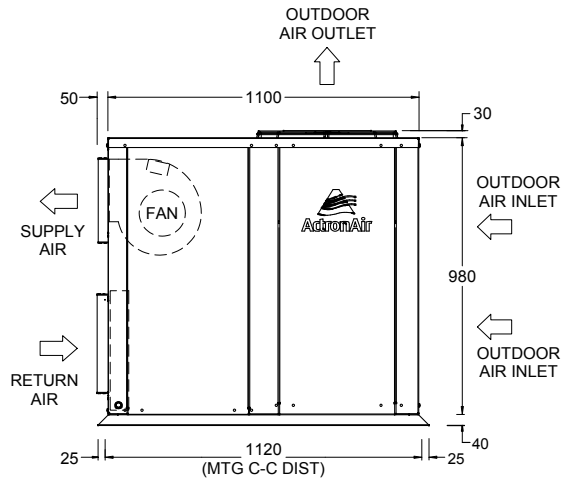
1. All dimensions are in mm unless specified.
2. Do not scale drawing.
3. Additional Full Coil Coat Protection option available on all units.
4. Suggested Service Clearance and Airflow Allowances are based on conditions that the spaces are free from obstructions and walkway passage of 1000mm is available.
5. Minimum service access areas are responsibilities of the installer.



3 Phase 1 Stage 17.56 KW



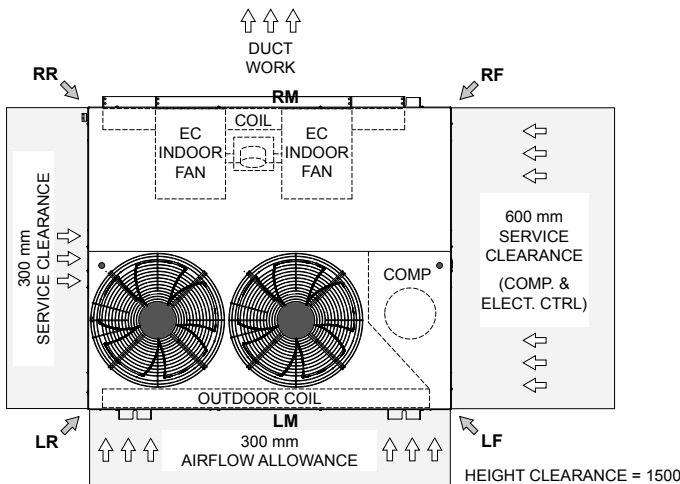
FRONT VIEW



SIDE VIEW

UNIT MODEL NUMBER	UNIT WEIGHT (kg)	CORNER WEIGHTS (kg)					
		LF	RF	LR	RR	LM	RM
PCG173U	236	86.3	59.5	42.2	48.0	N/A	N/A

MINIMUM SERVICE ACCESS CLEARANCES & AIRFLOW SPACE ALLOWANCES



PLEASE NOTE THAT UNDER ALL CIRCUMSTANCES, CONDENSER AIR MUST NOT RECIRCULATE BACK ONTO CONDENSER COIL. KEEP ALL CLEARANCES FREE OF ANY OBSTRUCTIONS

STACKING OF UNITS	
ONE IN FRONT OF THE OTHER (DISTANCE BET. LF & RF)	SIDE BY SIDE (DISTANCE BET. LF & LR)
1000 mm	1000 mm



17.56 kW
3 Phase 1 Stage

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)															
	50		75		100		125		150		175		200		225	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
770	66	288	70	333	74	371	79	422	84	474	88	512	93	561	98	610
775	67	294	71	335	75	374	80	428	85	476	89	518	94	571	99	618
800	71	315	75	358	80	404	85	457	89	502	93	550	99	610		
825	74	340	79	383	84	436	88	482	93	535	97	584				
850	78	364	83	413	88	463	92	513	97	568						
875	82	390	87	445	92	494	96	549								
900	87	431	92	483	97	547										

MOTOR / BLOWER LIMIT

NOTES:

W = Indoor Fan Power, Watts

PWM = Pulse Width Modulation Setting, % PWM

(Adjustable through CPI3-2 Board located in electrical panel).

Factory PWM Setting = 88 % PWM for 100 Pa.

88 - Data in the box indicates Factory Default Setting.

(CPI3-2) RESIDENTIAL PWM INTERFACE BOARD

LED FAN PWM DISPLAY

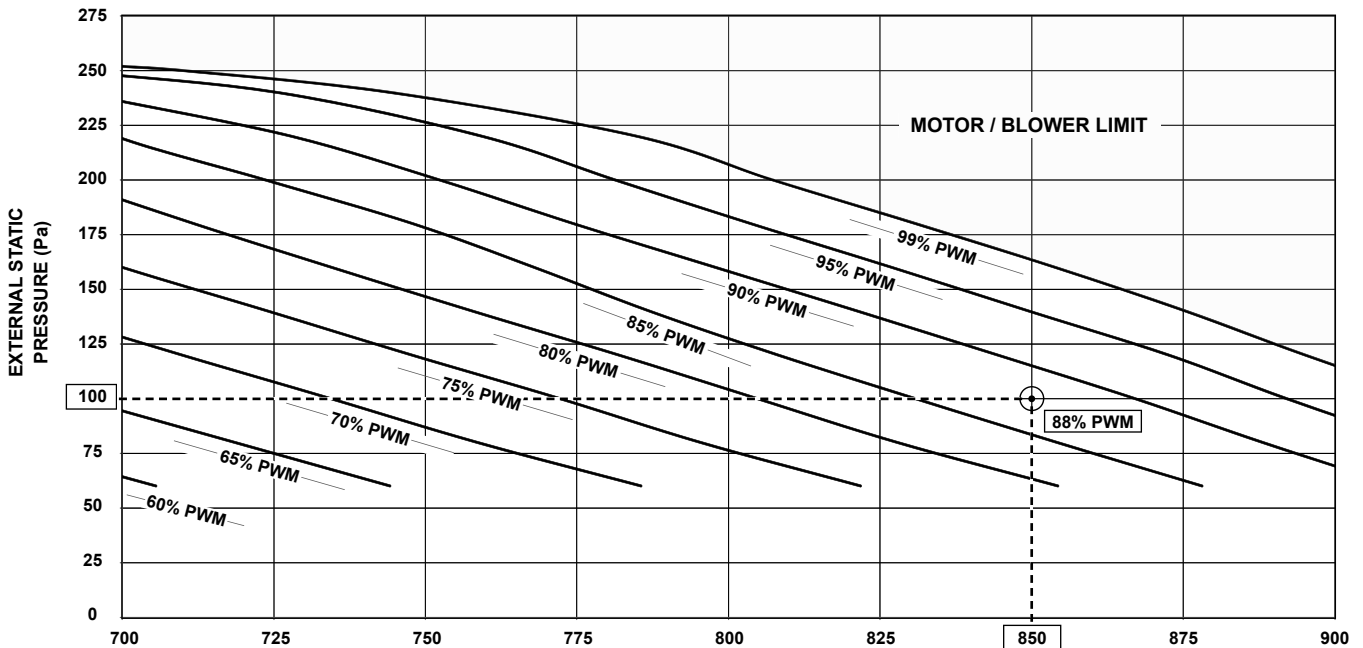
JUMPER PIN SET AS PER TABLE ON RIGHT

PWM ADJUSTMENT (POTENTIOMETER)

JUMPER PIN POSITION	INDOOR FAN
A	NOT USED
B	NOT USED
C	PCG153U
D	PCG173U
E	PCG203U
F	NOT USED

NOTES:

- LED will show PWM without %.
- Example: 88% PWM = 88 in LED.
- LED adjustments are in 1 digit increment.



Nominal Airflow = 850 l/s

AIRFLOW (l/s)



Outdoor Radiated

Sound Power Level (SWL)

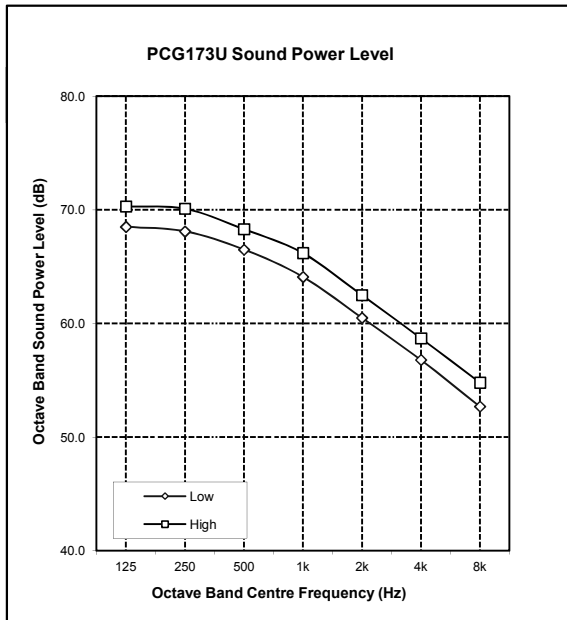
Fan Speed	Sound Power Level dB(A)	Octave Band Centre Frequency (Hz), dB						
		125	250	500	1k	2k	4k	8k
Low	69.0	68.5	68.1	66.5	64.1	60.5	56.8	52.7
High	71.0	70.3	70.1	68.3	66.2	62.5	58.7	54.8

Indoor Outlet

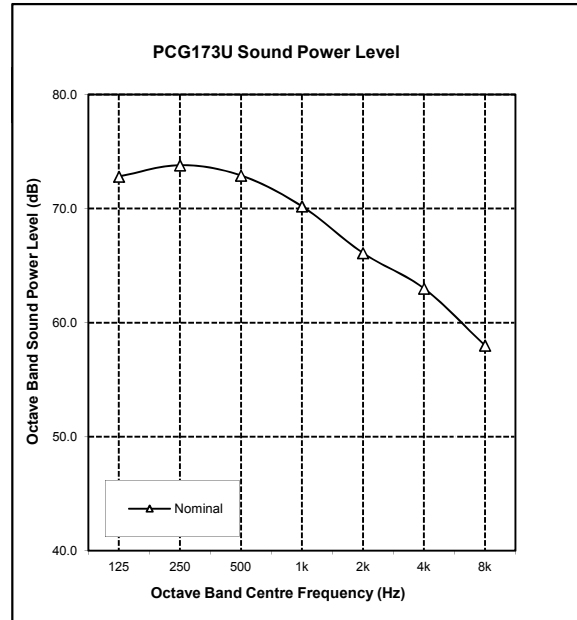
Sound Power Level (SWL)

Airflow Setting	Airflow Li/s	Sound Power Level dB(A)	Octave Band Centre Frequency (Hz), dB						
			125	250	500	1k	2k	4k	8k
Nominal	850	75.0	72.8	73.8	72.9	70.2	66.1	63.0	58.0

OUTDOOR RADIATED



INDOOR OUTLET



NOTES:

1. Radiated sound power levels are based on ISO 3743-2.
2. Outlet sound power levels are based on ISO 13347-2.



17.56 kW
3 Phase 1 Stage

CONSTRUCTION	
CABINET BASE	1.2 mm Galvanized Steel
CABINET TOP AND SIDES	0.9 - 1.2 mm ZA & Galv. Steel
SURFACE FINISH	65 µ Baked Polyester Powder Coat

INSULATION (Indoor Unit)	
TYPE	10 mm Foil Faced Polyethylene 12 mm Expanded Polystyrene

ELECTRICAL	
VOLTAGE	400 Volts
FREQUENCY	50 Hz
No. OF PHASES	3 Phase + Neutral
MINIMUM VOLTAGE	380 V
MAXIMUM VOLTAGE	440 V
FULL LOAD AMPS PHASE - 1*	16.6
FULL LOAD AMPS PHASE - 2 & 3*	11.2
RATED LOAD AMPS**	12.8
APPROX. STARTING AMPS	64.5
IP RATING	IP 44

IMPORTANT - The local electricity authority may require limits on starting current and voltage drop, please check prior to purchase.
* Full Load Amps are based on Compressor and Fan Motor's maximum expected current.
** Rated Load Amps are measured and tested in accordance with AS/NZS3823.1.2.

CABLE SIZE & CIRCUIT BREAKER SIZE	
Suggested minimum cable size should be used as a guide only, refer to AS/NZS 3000 "Australian/New Zealand Wiring Rules" for more details.	
CABLE SIZE (MAIN LINE)	2.5 mm ² (SUGGESTED MINIMUM)
CIRCUIT BREAKER SIZE (Amps)	20.0

OUTDOOR COIL	
TUBE TYPE	Copper - Rifle Bore
FIN TYPE	Aluminium - Wave
FACE AREA (m sqr)	1.29
FIN SPACING (per m)	472
COIL COATING	Blue Epoxy Coat Coil Fin Protection
ROWS	---

OUTDOOR FAN	
NUMBER OF FANS x TYPE	2 x Axial
NUMBER OF BLADES PER FAN	5
DIAMETER (mm)	450
OUTPUT kW (each)	0.145
MOTOR TYPE / DRIVE TYPE	6 Pole External Rotor / Direct
FAN SPEED CONTROL	2 Speed via Capacitor
The standard type outdoor fans fitted to this unit will accept up to 5Pa of external static resistance.	

INDOOR COIL	
TUBE TYPE	Copper - Rifle Bore
FIN TYPE	Aluminium - Louvre
FACE ARE (m sqr)	0.41
FIN SPACING (per m)	472
COIL COATING	Blue Epoxy Coat Coil Fin Protection
ROWS	---

INDOOR FAN	
NUMBER OF FANS x TYPE	1 x Twin Deck Centrifugal EC Fan
DIAMETER / WIDTH (mm)	240 x 180
OUTPUT kW	0.373
MOTOR TYPE / DRIVE TYPE	Variable Speed EC Motor / Direct

COMPRESSOR	
NUMBER PER UNIT x TYPE	1 x Scroll (Hermetic)
FULL LOAD AMPS	10.8
LOCKED ROTOR AMPS	64.5
STARTING METHOD	D.O.L. (optional soft starter)

REFRIGERATION SYSTEM	
REFRIGERANT TYPE	R-410A
EXPANSION CONTROL	Direct Expansion Orifice
FACTORY CHARGE (grams)	6,750

FILTER DRIER	
CONNECTION SIZE & TYPE	9.52 mm (3/8") ODF - Soldered
FACTORY SUPPLIED / FITTED	No
See Installation Section for complete Filter Drier specifications.	

PROTECTION DEVICES	
HIGH PRESSURE CUTOOUT SWITCH	Nonadjustable (Automatic Reset)
LOW PRESSURE CUTOOUT SWITCH	Nonadjustable (Automatic Reset)
COMPRESSOR MOTOR TEMP.	Internal Thermal Cut-Out
INDOOR FAN OVERLOAD	Internal Thermal Cut-Out
OUTDOOR FAN OVERLOAD	Internal Thermal Cut-Out
SUMP HEATER WATTS *	30 (if fitted)
*Crankcase Heater is an optional Kit & needs to be ordered separately if required.	

ELECTRIC CONTROLS	
DEFROST METHOD	Reverse Cycle
DEFROST TYPE	Adaptive Demand Defrost
CONTROL CIRCUIT BREAKER	10.0 Amps
CONTROL FIELD WIRING	2 Core 14 / 0.20 Screened Cable

OPERATING RANGE				
It is essential that the unit is correctly sized for the application and operates within its recommended range of operating conditions as shown below.				
MODE	RANGE	INDOOR AIR INTAKE TEMPERATURE	OUTDOOR AIR INTAKE TEMPERATURE	
Cooling	Max.	30°C DB / 22°C WB	50°C DB	
	Min.	20°C DB / 16°C WB	15°C DB	
Heating	Max.	24°C DB	19.5°C DB / 18°C WB	
	Min.	16°C DB	-10°C WB	
IMPORTANT - For low ambient cooling use option S. Lower ambient available on request. Contact your nearest ActronAir office for more details.				
Low Ambient Cooling	Option S	Max.	29°C DB / 19°C WB	50°C DB
		Min.	20°C DB / 15°C WB	5°C DB
	On Request	Max.	29°C DB / 19°C WB	50°C DB
		Min.	20°C DB / 15°C WB	-5°C DB

AIR FILTERS	
All return air including fresh air must have adequate filters supplied and fitted by the installing contractor. Filters must be located in accessible location between the return air grille and the unit.- ActronAir® does not supply or make any provisions for return air filter.	



WIRING DIAGRAM

PCG173U

LEGEND

CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CM	COMPRESSOR MOTOR
CMC	COMPRESSOR MOTOR CONTACTOR
CPI	INDOOR FAN VARIABLE SPEED BOARD
EMC	EC FILTER
HP	HIGH PRESSURE SWITCH
IF	INDOOR FAN MOTOR
LP	LOW PRESSURE SWITCH
LSC	LOW SPEED CAPACITOR
OF	OUTDOOR FAN MOTOR
OCB	OUTDOOR CONTROL BOARD
OFRC	OUTDOOR FAN RUN CAPACITOR
RV	REVERSING VALVE
WC	WALL CONTROLLER

FINAL COMMISSIONING FAN SETPOINT

PWM: % PWM

Date:/...../.....

If using remote sensor for Sensor 1, allocate Dipswitch 6 to Remote SNS1.

If using Onboard sensor only, allocate Dipswitch 6 to Integral SNS.

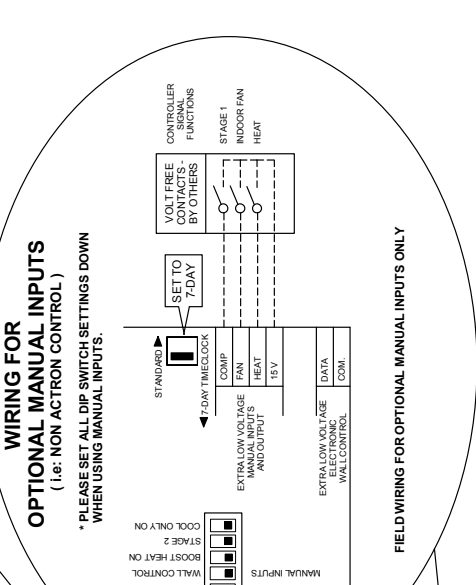
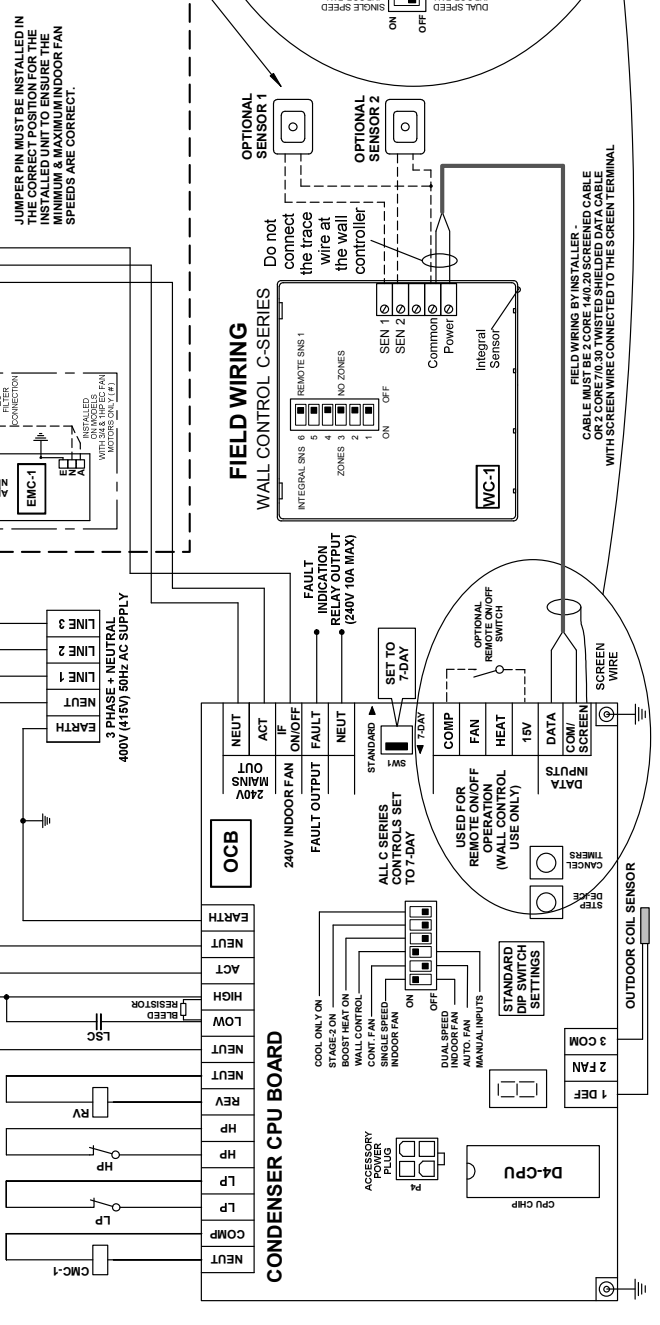
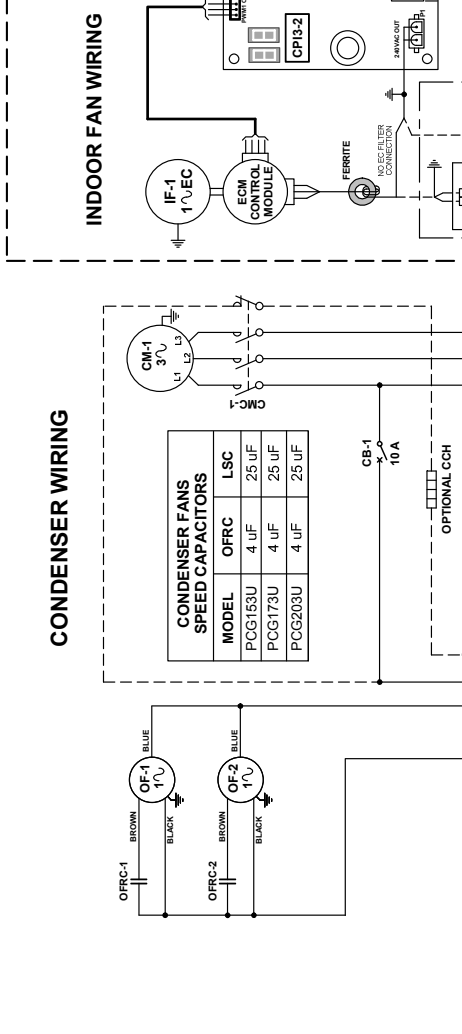
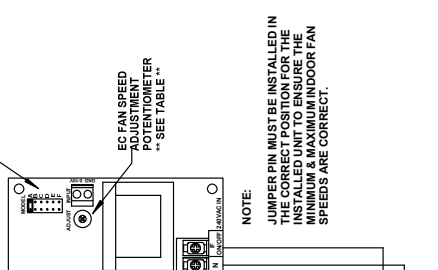
If using Onboard and remote sensor, allocate Dipswitch 6 to Integral SNS and wire in optional sensor to SEN 2 and Common.

If using 2 Remote sensors, allocate dipswitch 6 to Remote SNS 1.

PCB JUMPER PIN POSITION TABLES

- MODEL HAS EC FILTER FITTED

JUMPER PIN POSITION	INDOOR FAN SPEED SETTINGS (@ 100Hz)	DEFAULT FAN SPEED
A	NOT USED	NOT USED
B	NOT USED	NOT USED
C	PCG153U	84
D	PCG173U	88
E	PCG203U	68
F	NOT USED	NOT USED



FIELD WIRING FOR OPTIONAL MANUAL INPUTS ONLY

B	CPI-R1 CHANGED TO CPI3-2	2249	RL	18-02-2014
	CHANGE FAN SETPOINT VOLTAGE TO % PWM	1992	RL	18-02-2014
Rev.	Description	PCR	By	Date
A	ORIGINAL			

Base Model No:	PCG153/173/203U	Variation Code:	STANDARD
Description:	D4 CONTROL SYSTEM WITH C7 SERIES WALL CONTROL WIRING DIAGRAM		
Drawn:	RL	Date:	05-12-2011
Approved:	MJH	Date:	18-02-2014
Drawing No:	WD0790	Revision:	B
Size:	A4		

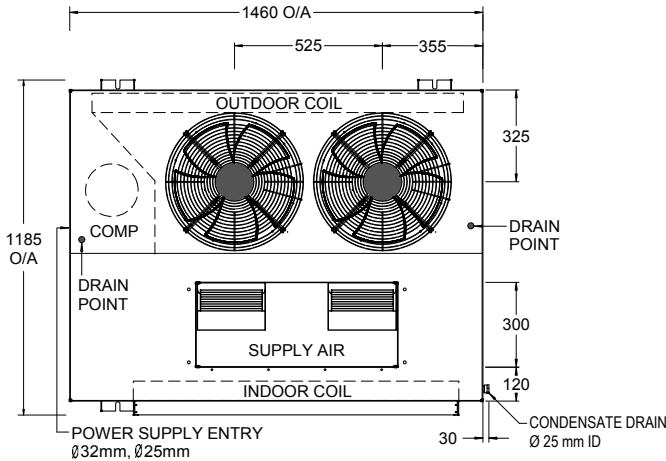


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3 Phase
1 Stage
17.56 kW

V PACKAGE UNIT - WITH FAN COIL VERTICAL DISCHARGE

17.56 kW
3 Phase 1 Stage

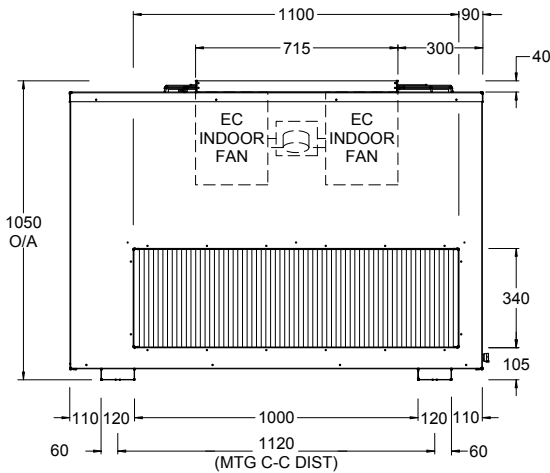
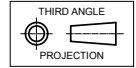


TOP VIEW

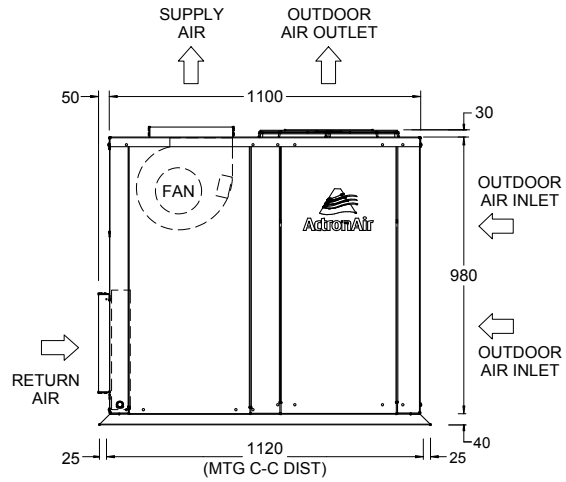
OVERALL NOMINAL DIMENSION (H x W x L)
= 1050 x 1460 x 1185
SUPPLY DUCT (H x W) = 300 x 715
RETURN DUCT (H x W) = 340 x 1100
USE M12 BOLT FOR FEET MOUNTING

NOTES:

1. All dimensions are in mm unless specified.
2. Do not scale drawing.
3. Additional Full Coil Coat Protection option available on all units.
4. Suggested Service Clearance and Airflow Allowances are based on conditions that the spaces are free from obstructions and walkway passage of 1000mm is available.
5. Minimum service access areas are responsibilities of the installer.

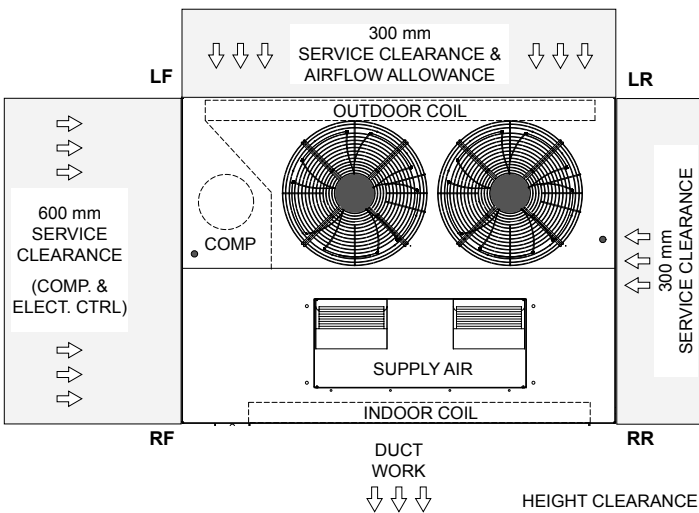


FRONT VIEW



SIDE VIEW

MINIMUM SERVICE ACCESS CLEARANCES & AIRFLOW SPACE ALLOWANCES



PLEASE NOTE THAT UNDER ALL CIRCUMSTANCES, CONDENSER AIR MUST NOT RECIRCULATE BACK ONTO CONDENSER COIL. KEEP ALL CLEARANCES FREE OF ANY OBSTRUCTIONS

STACKING OF UNITS	
ONE IN FRONT OF THE OTHER (DISTANCE BET. LF & RF)	SIDE BY SIDE (DISTANCE BET. LF & LR)
1000 mm	800 mm

