

PACKAGE UNIT



3 Phase
2 Stage
28.90 kW

UNIT FEATURES

- Scroll Compressor
- Full Factory Charged with R410A Refrigerant
- Multiple Speed Outdoor Fans
- Blue Epoxy Coat Coil Fin Protection - Indoor & Outdoor Coils
- Louvred Outdoor Coil Guard
- Adaptive Demand Defrost

UNIT OPTIONS

- Low Ambient
- Compressor Soft Starters
- Phase Protection
- Additional Full Coil Coat Protection
- Fault Detection Board

CONTROL OPTIONS

ActronAir C7-4 (BCA Compliant)

- 7-Day Programmable Controller with 2 Events/Day
- Temperature Set Back and After Hours Timer
- Zone Kit for Control up to 4 Zones (See Control Section)
- Auto, Heat & Cool Modes
- Auto/Continuous Indoor Fan Operation
- 2 Speed Indoor Fan Setting
- Hot Start Feature
- 2 Stage Cooling/Heating with 3rd Stage Boost Heat
- Manual Control Inputs
- Remote Temperature Sensors
- 24-Hour ON/OFF Timer
- 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 11:2011 (Group 1 ClassA) EMC Compliance

SPECIFICATION SUMMARY

PACKAGE MODEL	PCA300U	
	(1) TOTAL	(2) NETT
(3) COOLING CAPACITY (kW)	28.90	27.70
(3) SENSIBLE CAPACITY (kW)	22.97	21.77
(4) HEATING CAPACITY (kW)	27.30	28.50
(5) COOLING INPUT POWER (kW)	8.50	
(5) HEATING INPUT POWER (kW)	8.72	
EER	3.40	3.26
COP	3.13	3.27
(6) INDOOR AIRFLOW (l/s) - MIN. / NOMINAL / MAX.	1275 / 1500 / 1650	
OUTDOOR SOUND PRESS. LEVEL @ 3M dB(A) - LOW / HIGH	56.9 / 60.9	
OUTDOOR SOUND POWER LEVEL dB(A) -- LOW / HIGH	73.9 / 77.9	
POWER SUPPLY	400V / 3Ph+N / 50Hz	
(2) RATED LOAD AMPS	20.1	
(7) FULL LOAD AMPS	27.1	
(8) CIRCUIT BREAKER AND CABLE AMPS	32.0	
APPROXIMATE STARTING AMPS	51.5	
WEIGHT (kg)	460	

(1) Based on unit rating excluding indoor fan kW.
 (2) Measured and tested in accordance with AS/NZS 3823.1.2.
 (3) At 27°C DB / 19°C WB entering air temperatures and 35°C ambient.
 (4) At 20°C DB entering air temperature and 7°C DB / 6°C WB ambient.
 (5) Input power includes indoor fan kW.
 (6) Max. - Min. airflow application range.
 (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

PCA300U

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	29.27	18.31	19.88	21.21	22.71	24.14	25.56	26.78				
	17	29.93	16.69	18.27	19.86	21.17	22.70	24.18	25.57	26.90	28.02		
	18	30.77	15.05	16.64	18.22	19.80	21.38	22.66	24.13	25.57	26.91	28.21	29.32
	19	31.64	13.37	15.00	16.60	18.18	19.73	21.29	22.58	24.09	25.54	26.94	28.25
	20	32.49	11.70	13.33	14.91	16.54	18.10	19.67	21.21	22.52	24.04	25.50	26.94
	21	33.38		11.62	13.24	14.87	16.46	18.03	19.60	21.18	22.44	23.99	25.47
22	34.39			11.55	13.16	14.78	16.37	17.97	19.53	21.09	22.66	23.89	
30	16	28.28	17.79	19.35	20.67	22.16	23.62	24.97	26.05				
	17	28.80	16.18	17.74	19.31	20.65	22.16	23.63	25.03	26.30			
	18	29.52	14.52	16.11	17.70	19.26	20.58	22.10	23.59	25.02	26.34	27.53	
	19	30.34	12.87	14.48	16.07	17.66	19.22	20.77	22.05	23.55	25.02	26.40	27.65
	20	31.18	11.19	12.81	14.42	16.03	17.60	19.18	20.70	22.03	23.51	24.98	26.39
	21	32.02		11.12	12.75	14.35	15.95	17.52	19.12	20.65	21.96	23.46	24.91
22	32.98			11.05	12.68	14.30	15.89	17.48	19.02	20.58	21.87	23.39	
35	16	27.17	17.19	18.77	20.08	21.58	22.96	24.31					
	17	27.38	15.59	17.15	18.72	20.06	21.54	23.01	24.37	25.46			
	18	28.13	13.95	15.53	17.12	18.69	20.01	21.51	22.99	24.38	25.67	26.80	
	19	28.90	12.31	13.90	15.51	17.08	18.66	19.95	21.48	22.97	24.40	25.75	26.89
	20	29.67	10.63	12.24	13.86	15.45	17.03	18.59	20.14	21.44	22.90	24.36	25.75
	21	30.48		10.56	12.18	13.80	15.38	16.95	18.51	20.09	21.36	22.88	24.32
22	31.38			10.49	12.13	13.72	15.31	16.88	18.47	20.01	21.31	22.80	
40	16	25.92	16.55	17.90	19.41	20.89	22.25	23.41					
	17	25.94	14.94	16.51	18.07	19.38	20.87	22.30	23.61				
	18	26.58	13.32	14.90	16.49	18.06	19.34	20.85	22.30	23.68	24.85		
	19	27.28	11.66	13.26	14.86	16.43	17.99	19.32	20.81	22.29	23.70	24.97	26.07
	20	27.95	9.98	11.60	13.23	14.80	16.39	17.95	19.27	20.77	22.23	23.68	25.04
	21	28.75		9.94	11.55	13.15	14.74	16.33	17.88	19.45	20.73	22.20	23.64
22	29.61			9.86	11.49	13.11	14.69	16.27	17.83	19.38	20.67	22.15	
45	16	24.52	15.85	17.21	18.68	20.15	21.43						
	17	24.53	14.26	15.83	17.19	18.65	20.14	21.49	22.52				
	18	24.88	12.63	14.24	15.80	17.16	18.64	20.13	21.56	22.82			
	19	25.55	11.01	12.61	14.19	15.76	17.31	18.63	20.11	21.56	22.89	23.97	
	20	26.17	9.34	10.94	12.56	14.14	15.71	17.27	18.60	20.06	21.52	22.93	24.17
	21	26.96		9.28	10.90	12.50	14.10	15.66	17.23	18.55	20.03	21.48	22.94
22	27.72			9.22	10.86	12.44	14.04	15.62	17.17	18.50	20.00	21.47	
50	16	23.00	15.10	16.45	17.91	19.32	20.47						
	17	23.01	13.53	15.09	16.44	17.90	19.33	20.59					
	18	23.02	11.91	13.49	15.06	16.41	17.88	19.34	20.69	21.86			
	19	23.68	10.29	11.87	13.45	15.03	16.38	17.87	19.34	20.74	21.94		
	20	24.21	8.62	10.24	11.83	13.43	14.98	16.53	17.84	19.29	20.72	22.04	23.20
	21	24.92		8.59	10.19	11.79	13.37	14.94	16.48	17.80	19.27	20.71	22.10
22	25.61			8.53	10.13	11.73	13.32	14.89	16.43	17.77	19.22	20.69	

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	17.90	17.18	17.80	17.09	17.69	16.98	17.56	16.86	17.45	16.75
-8	18.95	18.01	18.83	17.89	18.70	17.77	18.57	17.64	18.49	17.57
-6	20.00	18.80	19.92	18.73	19.80	18.61	19.67	18.49	19.54	18.36
-4	21.23	19.53	21.09	19.40	20.95	19.28	20.80	19.14	20.65	19.00
-2	22.46	19.99	22.31	19.85	22.15	19.71	21.97	19.55	21.81	19.41
0	23.77	20.92	23.60	20.77	23.42	20.61	23.24	20.45	23.05	20.29
2	25.03	22.77	24.83	22.59	24.64	22.42	24.43	22.23	24.23	22.05
4	26.37	26.37	26.16	26.16	25.93	25.93	25.71	25.71	25.49	25.49
6	27.77	27.77	27.54	27.54	27.30	27.30	27.05	27.05	26.80	26.80
8	29.26	29.26	29.00	29.00	28.82	28.82	28.55	28.55	28.28	28.28
10	30.93	30.93	30.64	30.64	30.36	30.36	30.06	30.06	29.77	29.77
12	32.58	32.58	32.26	32.26	31.95	31.95	31.62	31.62	31.31	31.31
14	34.28	34.28	33.95	33.95	33.60	33.60	33.25	33.25	32.91	32.91
16	36.06	36.06	35.68	35.68	35.31	35.31	34.94	34.94	34.57	34.57
18	37.91	37.91	37.50	37.50	37.09	37.09	36.69	36.69	36.29	36.29

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

AIRFLOW CORRECTION MULTIPLIER

% VARIATION	-15%	-10%	-5%	NOMINAL	+5%	+10%
INDOOR AIRFLOW (l/s)	1275	1350	1425	1500	1575	1650
TOTAL COOLING	0.972	0.982	0.991	1.00	1.008	1.014
SENSIBLE COOLING	0.919	0.947	0.973	1.00	1.027	1.053
HEATING FACTOR	0.991	0.994	0.997	1.00	1.002	1.004

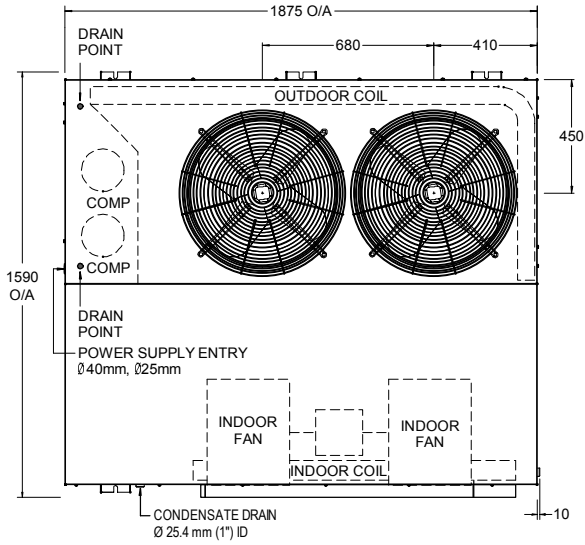
NOTES:

- 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.



28.90 kW
3 Phase 2 Stage

U PACKAGE UNIT - STANDARD MODEL

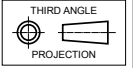


TOP VIEW

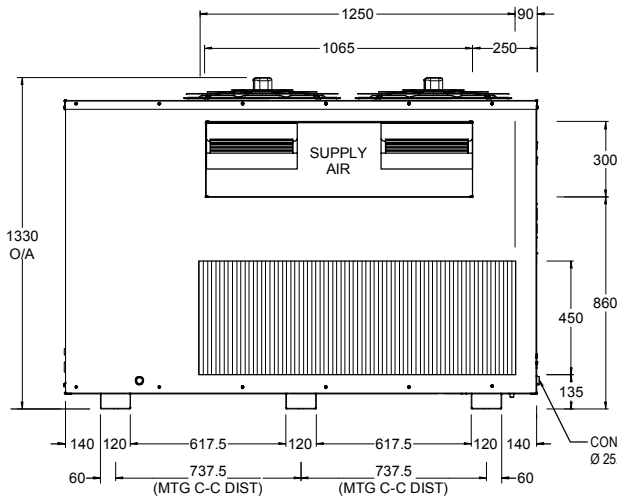
OVERALL NOMINAL DIMENSION (H x W x L)
 = 1330 x 1875 x 1590
 SUPPLY DUCT (H x W) = 300 x 1065
 RETURN DUCT (H x W) = 450 x 1250
 USE M12 BOLT FOR FEET MOUNTING

NOTES:

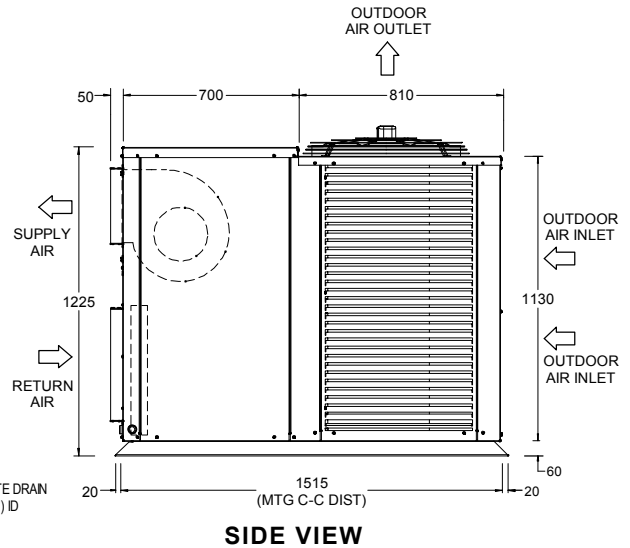
1. All dimensions are in mm unless specified.
2. Do not scale drawing.
3. Additional Full Coil Coat Protection option available on all units.



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



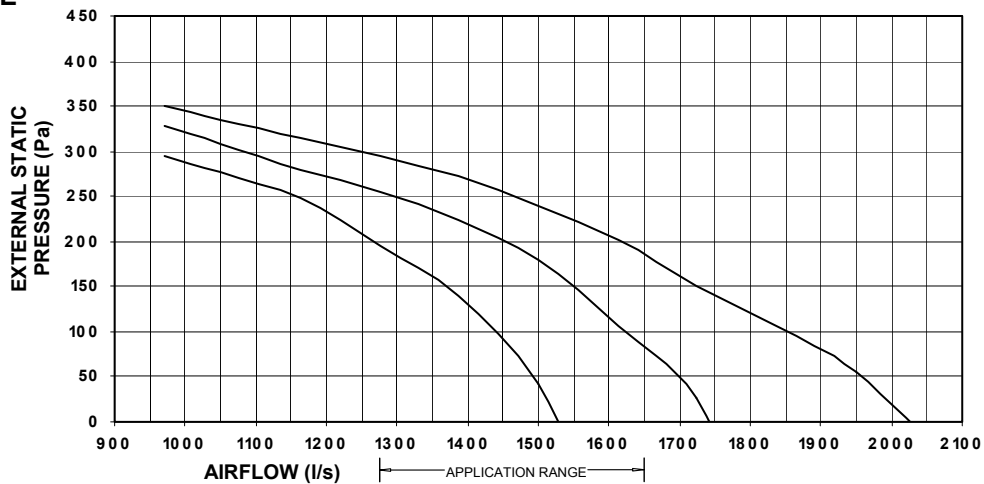
FRONT VIEW



SIDE VIEW

3 Phase
2 Stage
28.90 kW

INDOOR UNIT FAN CURVE *



* Performance Fan Curve shown is at Dry Coil Condition for 9x9 S- 1100W - Twin Deck Fan.



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	73.9	72.6	72.0	70.7	69.6	65.4	62.2	59.8
High	77.9	76.3	76.1	74.5	73.7	69.4	66.1	63.9

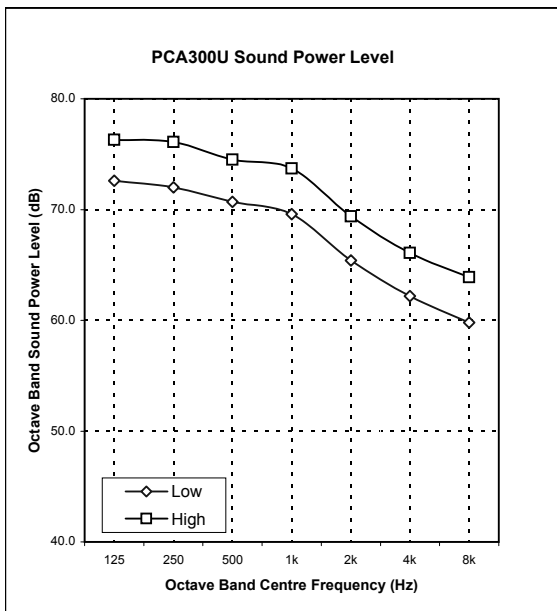
Indoor Outlet

Sound Power Level (SWL)

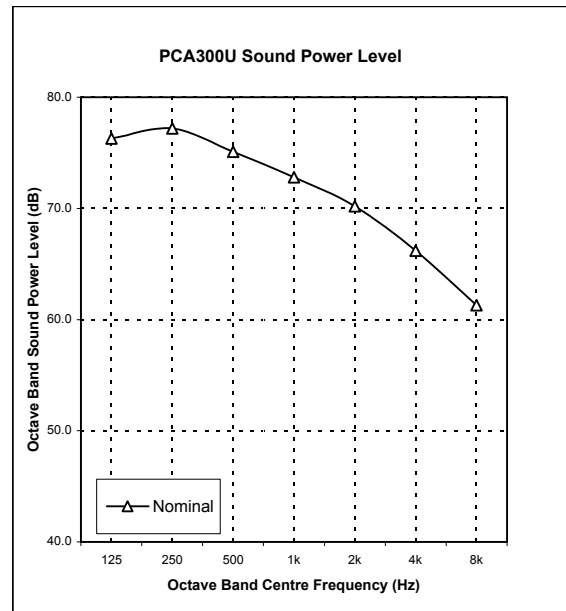
Airflow Setting	Airflow Li/s	Sound Power Level dB(A)	Octave Band Centre Frequency (Hz), dB						
			125	250	500	1k	2k	4k	8k
Nominal	1500	78.0	76.3	77.2	75.1	72.8	70.2	66.2	61.3

28.90 kW
3 Phase 2 Stage

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.



SPECIFICATIONS

PCA300U

CONSTRUCTION	
CABINET BASE	1.6 mm Galvanized Steel
CABINET TOP AND SIDES	0.9 - 1.2 mm ZA & Galv. Steel
SURFACE FINISH	65 microns Baked Polyester Powder Coat

INSULATION	
TYPE	10 mm Foil Faced Polyethylene 20 mm Expanded Polystyrene

SOUND LEVEL * dB(A)	
SOUND PRESS. - Low / High	56.9 / 60.9 @ 3m Distance
SOUND POWER LEVEL - Low / High	73.9 / 77.9
* Sound data are based on outdoor fan's manufacturer sound level data.	

ELECTRICAL	
POWER SUPPLY - 50 Hz	400 Volts x 3 Phase + Neutral
VOLTAGE RANGE (min - max)	380V - 440V
FULL LOAD AMPS * - Phase 1	27.1
FULL LOAD AMPS * - Phase 2 & 3	16.8 & 17.6
RATED LOAD AMPS**	20.1
APPROX. STARTING AMPS	51.5
IP RATING	IP44

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)	6.0mm ² (SUGGESTED MINIMUM)
CIRCUIT BREAKER SIZE - AMPS	32.0

OUTDOOR COIL	
TUBE TYPE	Copper - Rifle Bore
FIN TYPE	Aluminium - Wave
FACE AREA (m sqr)	2.51
FIN SPACING (per m)	630
COIL COATING	Blue Epoxy Coat Coil Fin Protection
ROWS	---

OUTDOOR FAN	
NUMBER OF FANS x TYPE	2 x Axial
NUMBER OF BLADES PER FAN	4
DIAMETER (mm)	560
OUTPUT kW	0.37
MOTOR TYPE / DRIVE TYPE	6 Pole External Rotor / Direct Drive
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)	0.65
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 Fan
DIAMETER / WIDTH (mm)	270 x 270
OUTPUT kW / INPUT kW	1.10 / 1.20
MOTOR TYPE / DRIVE TYPE	3 Speed 4 Pole / Direct

COMPRESSOR	
NUMBER PER UNIT x TYPE	2 x Scroll (Hermetic)
FULL LOAD AMPS	17.2
LOCKED ROTOR AMPS	51.5
STARTING METHOD	D.O.L. (optional soft starter)

REFRIGERATION SYSTEM	
REFRIGERANT TYPE	R-410A
EXPANSION CONTROL	Direct Expansion Orifice
FACTORY CHARGE (grams)	4,525 per stage (per compressor)

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

PROTECTION DEVICES	
HIGH PRESSURE CUTOFF SWITCH	Nonadjustable (Automatic Reset)
LOW PRESSURE CUTOFF 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	2 x 30 W during Comp. Off Cycle

ELECTRIC CONTROLS	
DEFROST METHOD	Reverse Cycle
DEFROST TYPE	Adaptive Demand Defrost
CONTROL CIRCUIT BREAKER	16.0 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
		30°C DB / 22°C WB	50°C DB
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.	

3 Phase
2 Stage
28.90 kW



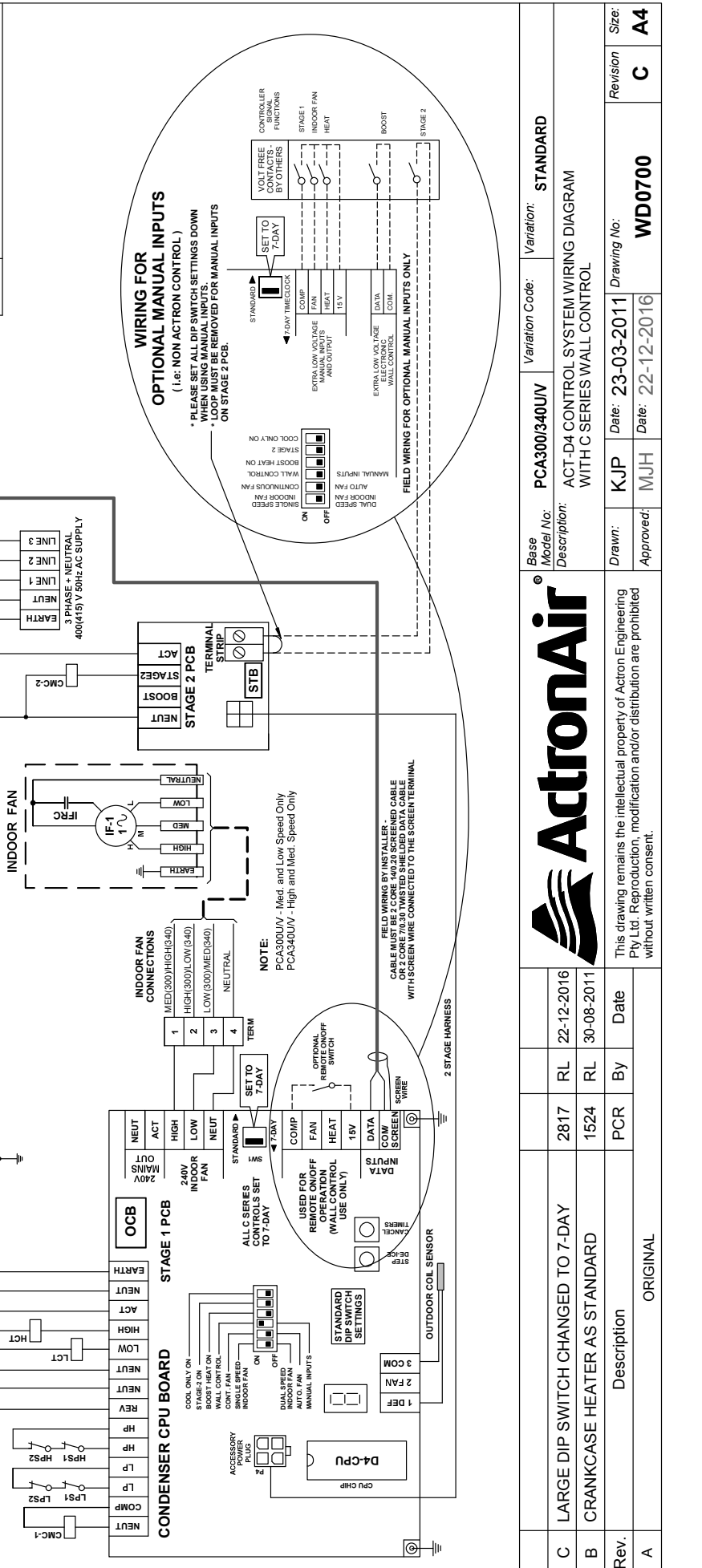
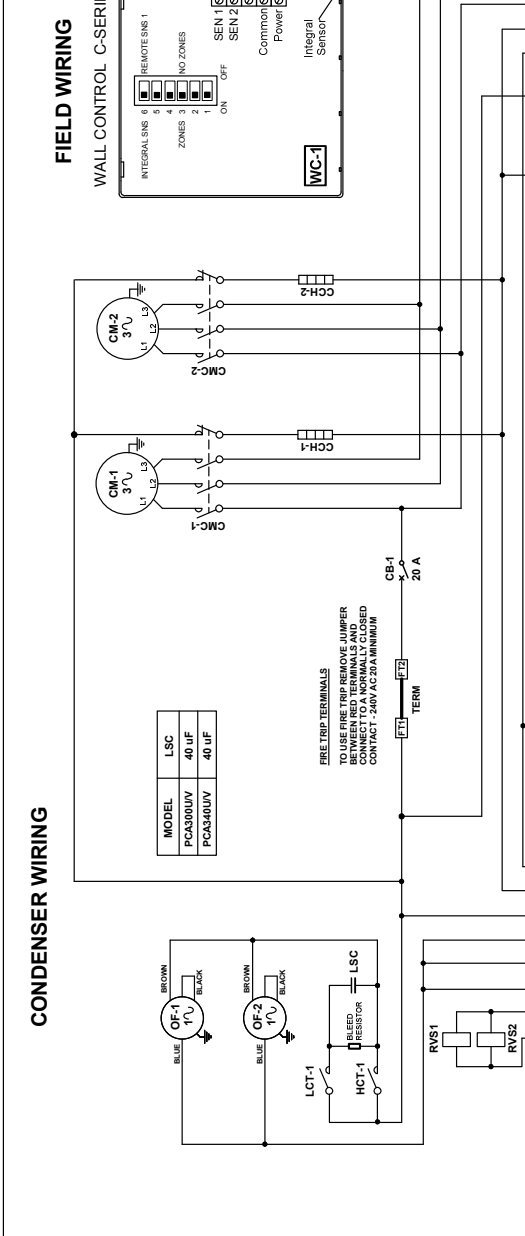
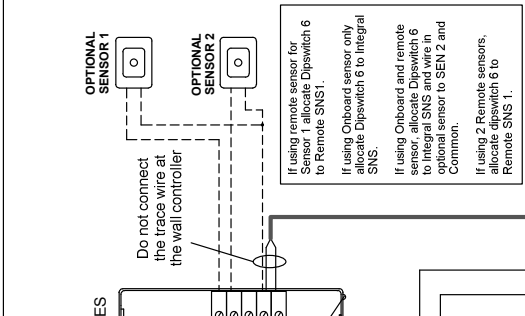
WIRING DIAGRAM

PCA300U

28.90 kW
3 Phase 2 Stage

LEGEND

CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CM	COMPRESSOR MOTOR
CMC	COMPRESSOR MOTOR CONTACTOR
HCT	HIGH SPEED FAN CONTACTOR
HP	HIGH PRESSURE SWITCH
IF	INDOOR FAN MOTOR
IFRC	INDOOR FAN RUN CAPACITOR
LCT	LOW SPEED FAN CONTACTOR
LP	LOW PRESSURE SWITCH
LSC	LOW SPEED CAPACITOR
OF	OUTDOOR FAN MOTOR
OCB	OUTDOOR CONTROL BOARD
RV	REVERSING VALVE
STB	STAGE 2 CONTROL BOARD
TERM	MAIN TERMINAL BLOCKS
WC	WALL CONTROLLER



Base Model No:	PCA300/340UV	Variation Code:	STANDARD
Description:	ACT-D4 CONTROL SYSTEM WIRING DIAGRAM WITH C SERIES WALL CONTROL		
Drawn:	KJP	Date:	23-03-2011
Approved:	MJH	Date:	22-12-2016
Revision:	C	Drawing No.:	WD0700
Size:	A4		

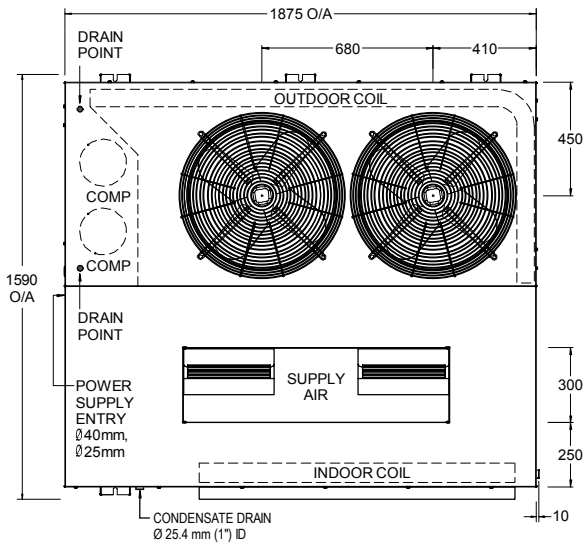
Rev.	A	Description	ORIGINAL
	B	CRANKCASE HEATER AS STANDARD	
	2817	RL	22-12-2016
	1524	RL	30-08-2011
	PCR	By	Date

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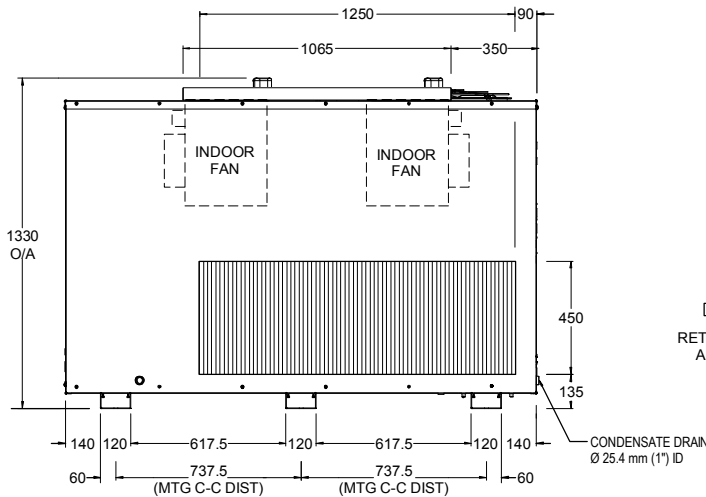
UNIT DIMENSIONS

PCA300V

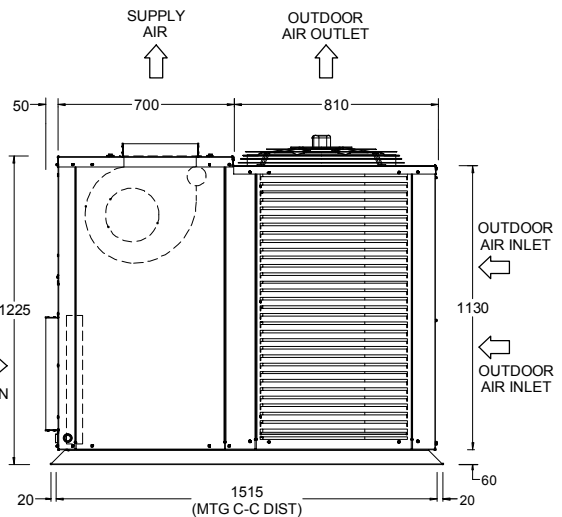
V PACKAGE UNIT - WITH FAN COIL VERTICAL DISCHARGE



TOP VIEW



FRONT VIEW

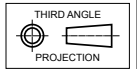


SIDE VIEW

OVERALL NOMINAL DIMENSION (H x W x L)
 = 1330 x 1875 x 1575
 SUPPLY DUCT (H x W) = 300 x 1065
 RETURN DUCT (H x W) = 450 x 1250
 USE M12 BOLT FOR FEET MOUNTING

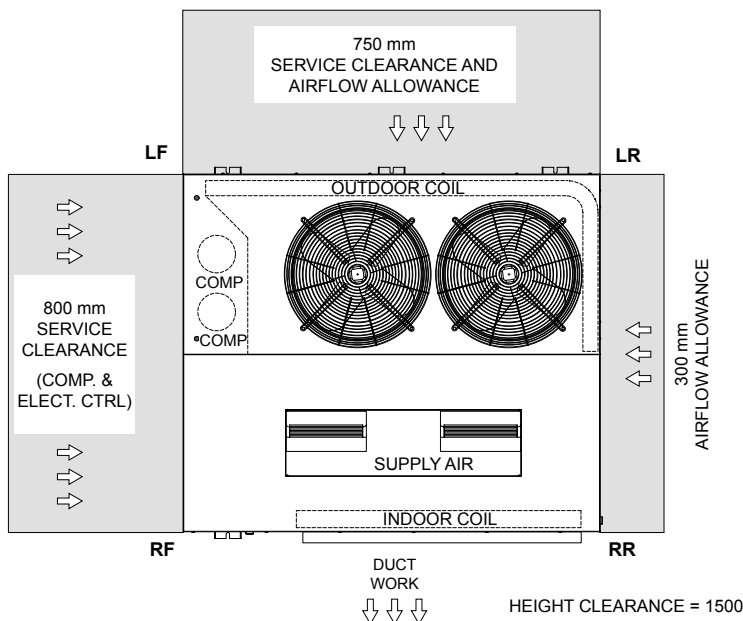
NOTES:

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
2 Stage
28.90 kW

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

