

PACKAGE UNIT



LEFT HAND AIR SUPPLY OPTION SHOWN FOR ILLUSTRATION PURPOSES ONLY. SEE UNIT DIMENSIONS DRAWING FOR DETAILS OF RIGHT HANDING OPTION.

UNIT FEATURES

- Compliant Digital Scroll Compressor
- Pre-charged with R-410A Refrigerant
- Multiple Speed Outdoor Fans
- 40-100% variable refrigeration capacity
- Electronic expansion valves
- Low ambient cooling operation to +5 deg
- Phase Protection
- Hydrophilic Blue Coat Coil Fin Protection - Indoor and Outdoor Coils
- Removable Louvred Outdoor Coil Guard
- Adaptive Demand Defrost
- EC Variable Speed Indoor Fan + Reduce Fan Airflow Feature
- Adjustable Indoor Airflow
- Foil Faced Polyethylene Insulation - Indoor unit

UNIT OPTIONS

- Compressor Soft Starters
- Additional Full Coil Coat Protection

CONTROL OPTIONS AND FEATURES

ActronAir LC7-2 (BCA Compliant)

- Available in White or Grey
- 7-day Programmable Controller with 2 Events per Day
- 24-hour ON/OFF Timer
- Temperature Setback
- After Hours Time
- Auto / Cool / Heat / Fan Only / Night Modes Functions
- Auto / Continuous Indoor Fan Operation
- Optional 2nd and 3rd Controllers with Mimic Logic
- On-Board Temperature Sensor

ActronAir Neo

- 7" Colour Touch Screen Master Controller
- In-built Wi-Fi and Blue-Tooth
- Neo Connect App
- On-Board Temperature, Humidity and Proximity Sensor
- Optional wireless Zone Sensor
- Available in White or Black

ActronAir Group Control

ActronAir BMS ICUNO (Modbus 485)

THIRD PARTY CONTROL

- Manual Control Inputs (Heat, Cool and Fan Operation)
- Analogue Input (Fan and Cool Operation)

SPECIFICATION SUMMARY

PACKAGE UNIT MODEL		PKV290T-L/R	
		(1) TOTAL	(2) NETT
(3) COOLING CAPACITY (kW)	MINIMUM	12.02	11.68
	RATED	30.32	29.51
(4) HEATING CAPACITY (kW)	MINIMUM	12.12	12.47
	RATED	29.39	30.2
(3) SENSIBLE CAPACITY (kW)		26.19	25.38
(5) COOLING INPUT POWER (kW)		8.72	
(6) HEATING INPUT POWER (kW)		8.24	
EER	RATED	3.39	
COP	RATED	3.67	
(6) INDOOR AIRFLOW (l/s) - MIN. / NOMINAL / MAX.		1200 / 1500 / 1800	
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		15.2	
(7) FULL LOAD AMPS		25.0	
(8) CIRCUIT BREAKER AMPS		32.0	
APPROXIMATE STARTING AMPS		128.0	
WEIGHT (kg)		399	

(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 circuit breaker size details.

Note: Use input power to estimate running cost.

CAPACITY SELECTION DATA

PKV290T-L/R

COOLING PERFORMANCE

AIR ENTERING		TOTAL CAPACITY kW	TOTAL SENSIBLE CAPACITY - kW AT DB TEMPERATURE ONTO INDOOR COIL - °C												
OUTDOOR DB - °C	INDOOR WB - °C		20	21	22	23	24	25	26	27	28	29	30		
25	16	31.73	19.99	21.90	23.80	25.68	27.51	29.03							
	17	32.03	18.10	19.95	21.87	23.78	25.66	27.49	29.15						
	18	32.38	16.09	18.05	19.91	21.84	23.75	25.61	27.51	29.24	30.80				
	19	33.19	14.04	16.04	18.04	19.86	21.78	23.69	25.58	27.47	29.23	30.88	32.33		
	20	33.95	11.93	13.97	15.98	17.98	19.80	21.72	23.62	25.53	27.41	29.22	30.93		
	21	34.93		11.88	13.89	15.93	17.89	19.71	21.68	23.56	25.44	27.35	29.18		
	22	35.82			11.84	13.82	15.85	17.83	19.80	21.58	23.48	25.39	27.27		
30	16	30.62	19.43	21.33	23.23	25.08	26.83	28.18							
	17	30.89	17.54	19.39	21.33	23.22	25.07	26.86	28.50						
	18	31.13	15.55	17.52	19.33	21.27	23.16	25.04	26.88	28.62	29.96				
	19	31.78	13.51	15.52	17.48	19.32	21.23	23.14	25.01	26.85	28.63	30.22			
	20	32.57	11.44	13.46	15.48	17.44	19.26	21.19	23.09	24.96	26.82	28.64	30.31		
	21	33.52		11.36	13.38	15.39	17.39	19.22	21.11	23.03	24.94	26.77	28.58		
	22	34.36			11.30	13.31	15.32	17.30	19.13	21.04	22.96	24.86	26.70		
35	16	29.43	18.81	20.72	22.61	24.43	26.08								
	17	29.53	16.94	18.79	20.70	22.58	24.42	26.17	27.69						
	18	29.81	14.97	16.91	18.75	20.67	22.55	24.40	26.21	27.90					
	19	30.32	12.92	14.93	16.91	18.71	20.64	22.54	24.40	26.19	27.95	29.85			
	20	31.13	10.86	12.88	14.88	16.85	18.67	20.57	22.47	24.34	26.17	27.97	29.60		
	21	31.92		10.82	12.83	14.84	16.78	18.63	20.50	22.42	24.27	26.14	27.94		
	22	32.70			10.76	12.77	14.75	16.75	18.55	20.44	22.33	24.23	26.10		
40	16	27.96	18.09	20.02	21.86	23.63	25.11								
	17	27.99	16.17	18.08	20.00	21.84	23.68	25.32							
	18	28.18	14.29	16.25	18.04	19.98	21.85	23.65	25.40	26.86					
	19	28.64	12.25	14.26	16.37	18.01	19.93	21.84	23.64	25.44	27.07				
	20	29.32	10.21	12.24	14.23	16.17	17.98	19.88	21.77	23.62	25.42	27.14	28.56		
	21	30.05		10.18	12.18	14.18	16.12	17.94	19.81	21.72	23.59	25.37	27.16		
	22	30.81			10.12	12.13	14.10	16.07	17.89	19.74	21.65	23.51	25.36		
45	16	26.39	17.31	19.25	21.06	22.75									
	17	26.42	15.42	17.32	19.21	21.06	22.82	24.25							
	18	26.61	13.57	15.42	17.29	19.19	21.07	22.83	24.48						
	19	26.82	11.57	13.52	15.36	17.28	19.17	21.03	22.84	24.57	25.91				
	20	27.42	9.53	11.52	13.51	15.44	17.24	19.10	20.99	22.82	24.59	26.19			
	21	28.10		9.48	11.49	13.46	15.41	17.20	19.07	20.93	22.82	24.59	26.26		
	22	28.88			9.43	11.42	13.42	15.35	17.15	19.04	20.89	22.74	24.53		
50	16	24.66	16.49	18.42	20.15	21.59									
	17	24.68	14.61	16.48	18.40	20.18	21.82								
	18	24.79	12.79	14.61	16.47	18.36	20.20	21.92							
	19	24.87	10.80	12.76	14.59	16.47	18.33	20.19	21.94	23.50					
	20	25.36	8.78	10.76	12.73	14.57	16.44	18.29	20.13	21.95	23.62				
	21	25.98		8.73	10.74	12.70	14.60	16.39	18.24	20.12	21.96	23.65	25.16		
	22	26.66			8.68	10.67	12.65	14.57	16.36	18.22	20.08	21.89	23.65		

HEATING PERFORMANCE

WB TEMP ON OD COIL - °C	TOTAL HEATING CAPACITY - kW AT DB ENTERING INDOOR - °C									
	16		18		20		22		24	
	TH	IH	TH	IH	TH	IH	TH	IH	TH	IH
-10	19.65	18.86	19.55	18.77	19.45	18.67	19.36	18.59	19.27	18.50
-8	20.73	19.69	20.62	19.59	20.51	19.48	20.40	19.38	20.29	19.28
-6	21.87	20.56	21.74	20.44	21.61	20.32	21.48	20.19	21.34	20.06
-4	23.10	21.25	22.94	21.11	22.79	20.97	22.65	20.84	22.50	20.70
-2	24.36	21.68	24.19	21.53	24.03	21.39	23.85	21.23	23.69	21.08
0	25.73	22.64	25.55	22.48	25.36	22.32	25.17	22.15	24.98	21.99
2	27.03	24.60	26.83	24.42	26.62	24.23	26.41	24.03	26.20	23.84
4	28.44	28.44	28.20	28.20	27.98	27.98	27.74	27.74	27.49	27.49
6	29.88	29.88	29.64	29.64	29.39	29.39	29.21	29.21	28.94	28.94
8	31.46	31.46	31.28	31.28	31.00	31.00	30.72	30.72	30.43	30.43
10	33.21	33.21	32.91	32.91	32.61	32.61	32.30	32.30	31.98	31.98
12	34.94	34.94	34.61	34.61	34.28	34.28	33.94	33.94	33.60	33.60
14	36.75	36.75	36.39	36.39	36.01	36.01	35.65	35.65	35.27	35.27
16	38.60	38.60	38.22	38.22	37.81	37.81	37.40	37.40	37.01	37.01
18	40.54	40.54	40.11	40.11	39.69	39.69	39.26	39.26	38.80	38.80

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

AIRFLOW CORRECTION MULTIPLIER

% VARIATION	-20%	-15%	-10%	-5%	NOMINAL	+5%	+10%	+15%	+20%
INDOOR AIRFLOW (l/s)	1200	1275	1350	1425	1500	1575	1650	1725	1800
TOTAL COOLING	0.962	0.973	0.982	0.999	1.000	1.008	1.015	1.023	1.029
SENSIBLE COOLING	1.184	0.922	0.948	0.973	1.000	1.025	1.050	1.074	1.097
HEATING FACTOR	0.988	0.991	0.995	0.998	1.000	1.002	1.005	1.007	1.009

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.



APPLICATION RANGE (COMPRESSOR ON)

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1200	34	327	38	417	42	519	46	631	50	741	55	884
1250	36	350	41	470	44	551	48	658	53	799	57	914
1300	39	398	43	499	47	603	51	710	55	823	59	959
1350	41	423	45	526	49	627	54	763	58	892	62	1004
1400	43	449	48	574	52	679	56	793	60	922	64	1039
1450	46	498	51	622	55	728	59	856	63	983	67	1102
1500	49	543	54	671	58	792	62	915	66	1041	70	1178
1550	52	589	56	697	60	821	65	970	69	1106	73	1221
1600	55	635	59	756	63	874	67	1000	71	1136	76	1290
1650	58	693	62	810	66	930	70	1063	75	1231	78	1317
1700	61	745	65	860	70	1020	74	1152	78	1293	84	1438
1750	64	795	68	916	73	1076	77	1211	81	1348	88	1505
1800	67	847	72	1003	76	1133	81	1305	85	1454	93	1582

REDUCED AIRFLOW *(COMPRESSOR OFF)

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
350											21	266
400											23	297
450											24	366
500											26	390
550							21	273	23	320	26	390
600							22	281	25	348	28	431
650							24	308	27	383	29	437
700							25	314	28	389	31	466
750							27	347	30	419	33	501
800							29	377	32	452	35	532
850							31	407	34	484	37	565
900	20	164	25	254	29	342	33	438	36	516	39	598
950	22	188	26	261	31	370	35	469	38	548	42	655
1000	24	209	28	287	32	375	36	473	40	579	44	699
1050	26	232	30	311	34	403	38	505	42	615	46	724
1100	28	256	32	340	36	431	40	533	44	650	48	766
1150	30	279	34	366	38	460	42	567	46	683	51	823
1200	32	304	36	391	40	486	44	600	48	714	53	853

NOTES:

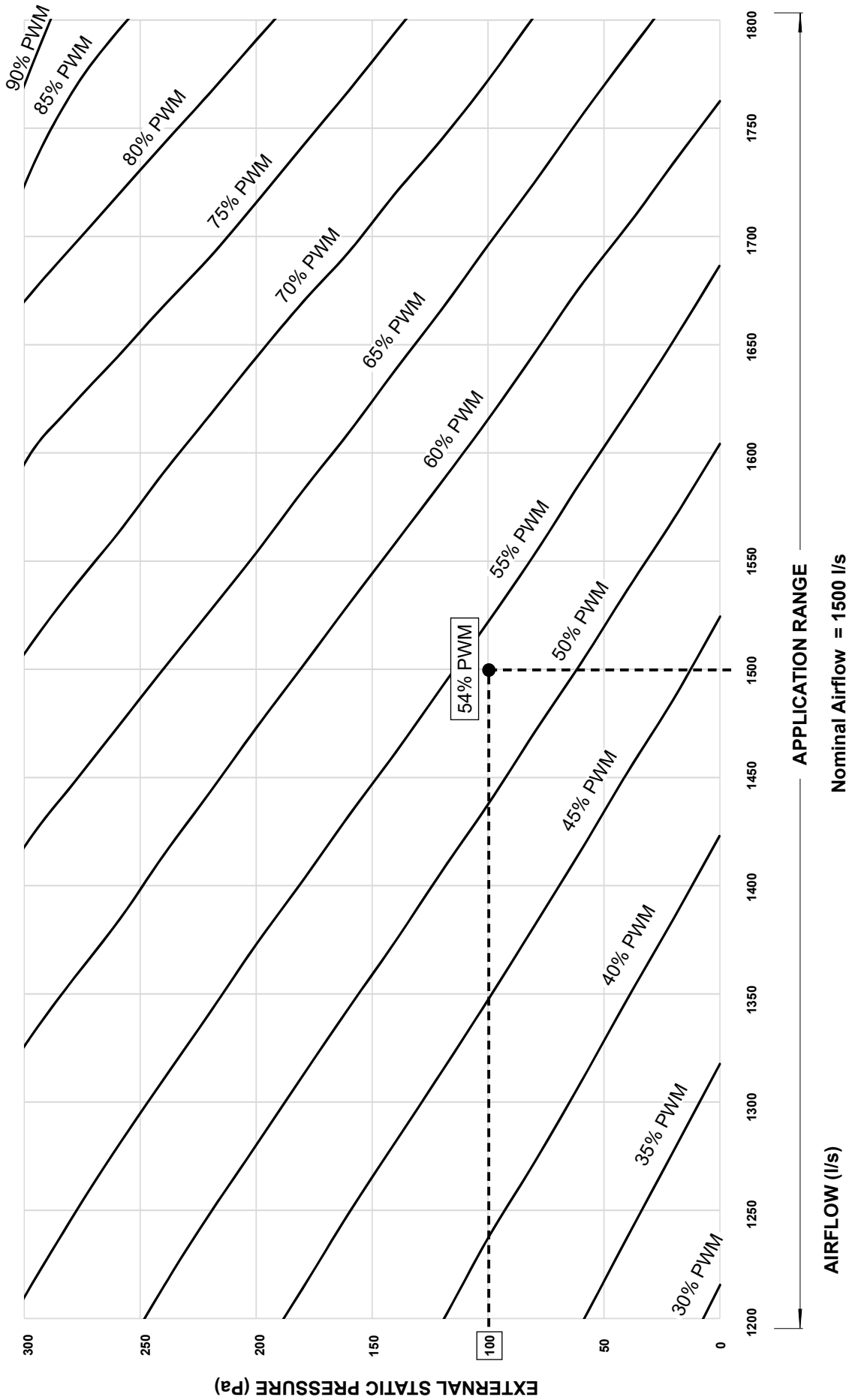
*Reduced fan airflow is the airflow during compressor OFF operation (optional feature)

W = Indoor Fan Power, Watts

PWM = Pulse Width Modulation Setting, % PWM (Adjustable through NEO / LC7-2 Interface or Outdoor Board)

Default Fan Speed Value	
Speed	Default PWM
High PWM (%)	70 (adjustable)
Medium PWM (%)	52 (adjustable)
Low PWM (%)	38 (adjustable)

Indoor Fan PWM Limits	
High PWM (%)	99
Low PWM (%)	33



Notes:

1. Performance Fan Curve shown is at Dry Coil Condition.
2. Airflow should be reduced with respect to the moisture content in the air.
3. All data provided does not include filters. Please review filter manufacturer for application.
4. 2.5 m/s face velocity point will occur at 2100 l/s.

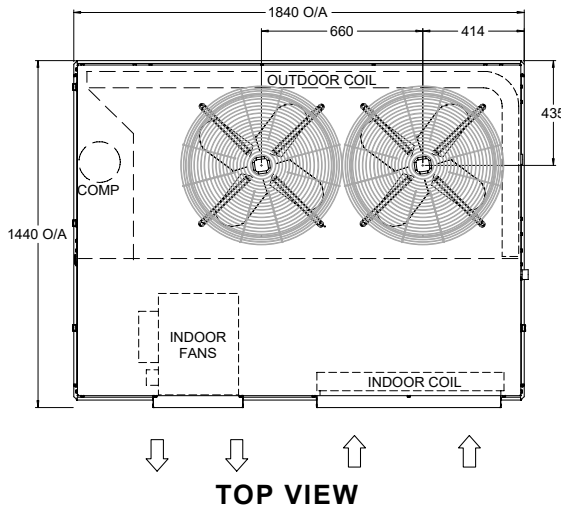
APPLICATION RANGE
Nominal Airflow = 1500 l/s



UNIT DIMENSIONS

PKV290T-L/R

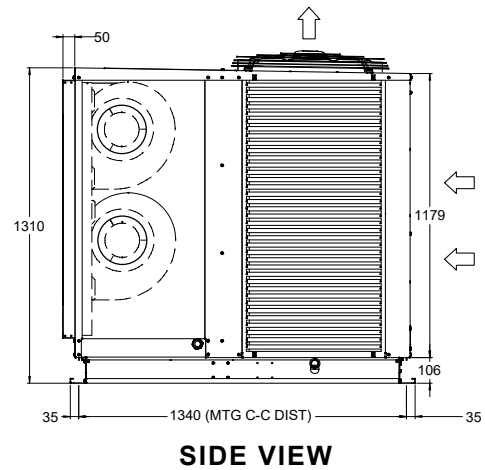
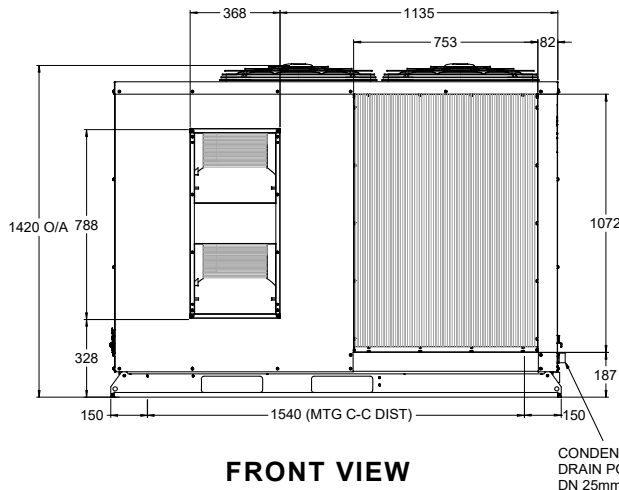
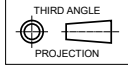
PACKAGE UNIT - WITH LEFT HAND AIR SUPPLY OPTION



OVERALL NOMINAL DIMENSION (H x W x L)
 = 1420 x 1840 x 1440
 SUPPLY DUCT (H x W) = 788 x 368
 RETURN DUCT (H x W) = 1072 x 753
 DRAIN CONNECTION = DN 25mm PN12

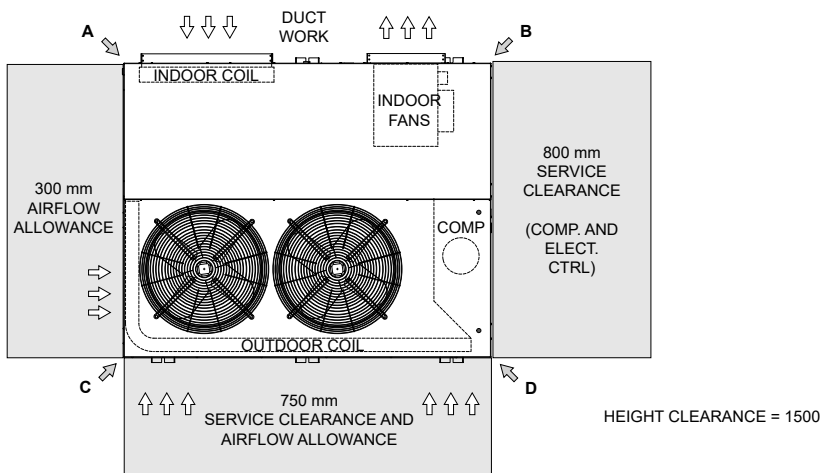
NOTES:

1. Do not scale drawing.
2. All dimensions are in mm unless specified. Refer to corresponding unit dimensional drawing for mounting hole details
3. Suggested Service Clearance and Airflow Allowances are based on conditions that the spaces are free from obstructions and walkway passage of 1m is available to allow coil replacement without lifting coil over the top of the unit.
4. Minimum service access areas and space for airflow clearances are responsibilities of the installer.
5. Under circumstances, condenser air must not recirculate back onto condenser coil. Keep all clearances free of any obstructions.
6. STACKING OF UNITS: Ensure that minimum airflow and service clearances are met.
7. MTG C-C DIST = Mounting Centre to Centre Distance.
8. Use M12 bolt for feet mounting.



UNIT MODEL NUMBER	UNIT WEIGHT (kg)	CORNER WEIGHTS (kg)			
		A	B	C	D
PKV290T-L	399	116	70	56	157

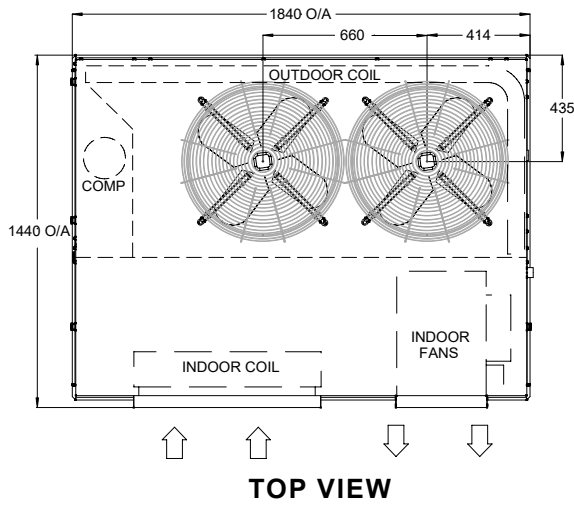
MINIMUM SERVICE ACCESS CLEARANCES & AIRFLOW SPACE ALLOWANCES



UNIT DIMENSIONS

PKV290T-L/R

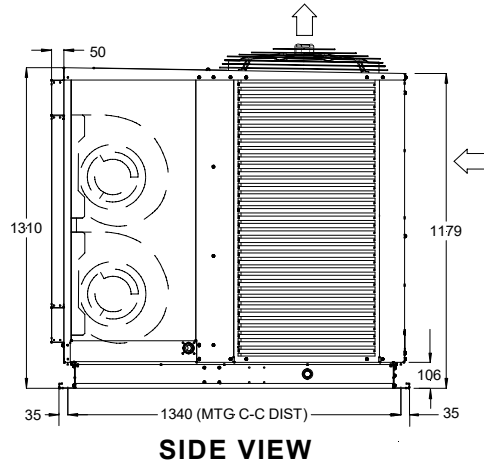
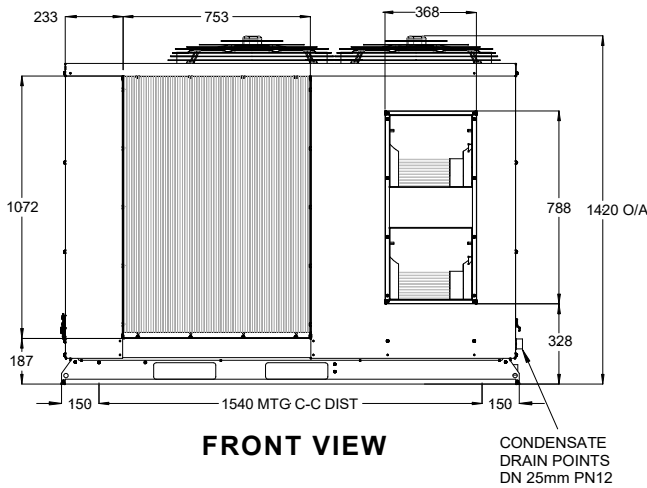
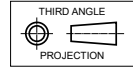
R PACKAGE UNIT - WITH RIGHT HAND AIR SUPPLY OPTION



OVERALL NOMINAL DIMENSION (H x W x L)
= 1420 x 1840 x 1440
SUPPLY DUCT (H x W) = 788 x 368
RETURN DUCT (H x W) = 1072 x 753
USE M12 BOLT FOR FEET MOUNTING

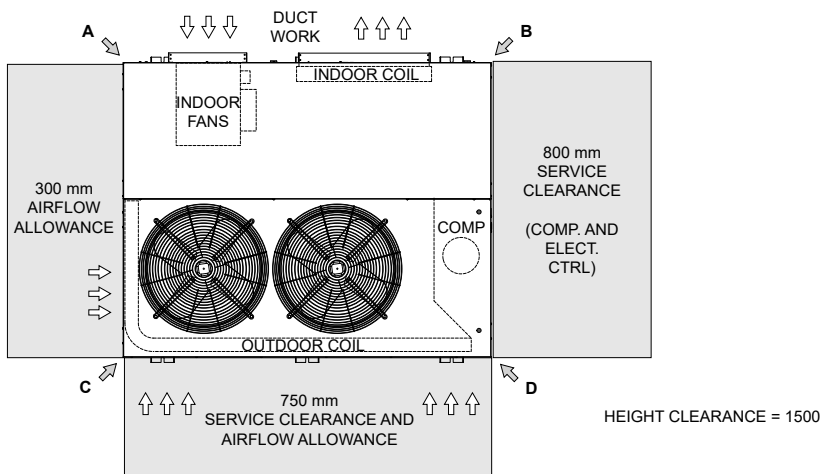
NOTES:

1. Do not scale drawing.
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PKV290T-R	399	70	116	56	157

MINIMUM SERVICE ACCESS CLEARANCES & AIRFLOW SPACE ALLOWANCES



Outdoor Radiated

Sound Power Level (SWL)

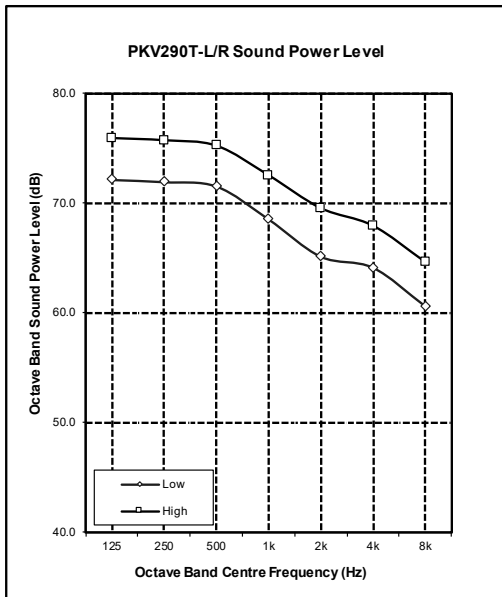
Fan Speed	Sound Power Level dB(A)	Octave Band Centre Frequency (Hz), dB						
		125	250	500	1k	2k	4k	8k
Low	73.9	72.1	71.9	71.5	68.5	65.1	64.1	60.6
High	77.9	75.9	75.7	75.2	72.5	69.5	67.9	64.6

Indoor Outlet

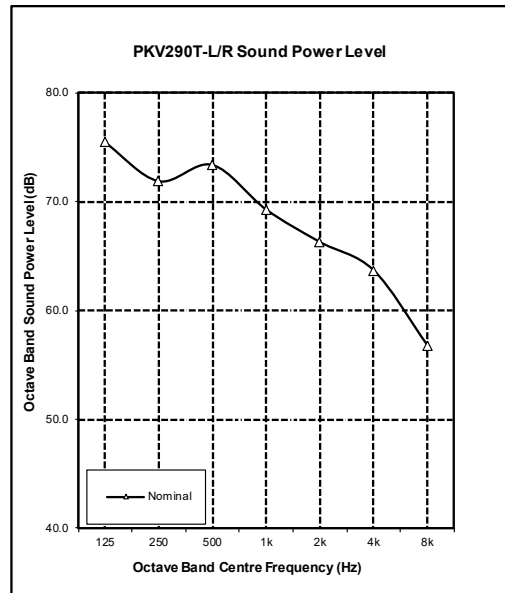
Sound Power Level (SWL)

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	74.9	75.5	71.9	73.4	69.3	66.3	63.7	56.8

OUTDOOR RADIATED



INDOOR OUTLET



NOTE:

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

SPECIFICATIONS

PKV290T-L/R

CONSTRUCTION	
CABINET BASE	1.9 mm Galvanised Steel
CABINET TOP AND SIDES	0.9 - 1.6 mm Galvanised Steel
SURFACE FINISH	65 μ Baked Polyester Powder Coat

INSULATION	
TYPE	Foil Faced Polyethylene

ELECTRICAL	
POWER SUPPLY - 50 Hz	400 Volts x 3 Phase + Neutral
VOLTAGE RANGE (min - max)	376 V - 424 V
FULL LOAD AMPS * - (L1 / L2 / L3)	23.4 / 25.0 / 24.2
RATED LOAD AMPS**	15.2
APPROX. STARTING AMPS	128.0
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 and CIRCUIT BREAKER SIZE	
Refer to latest edition of AS/ANZ 3000 or AS/ANZ 3008 Australian/New Zealand Wiring Rules to determine required cable size.	
CIRCUIT BREAKER - AMPS	32.0

OUTDOOR COIL	
TUBE TYPE	Copper - Rifle Bore
FIN TYPE	Aluminium - Wave
FACE AREA (m ²)	2.46
FIN SPACING (per m)	630
COIL COATING	Hydrophilic Blue Coat Coil Fin Protection

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	3 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 - Wave
FIN SPACING (per m)	590
COIL COATING	Hydrophilic Blue Coat Coil Fin Protection

INDOOR FAN	
NUMBER OF FANS x TYPE	2 x Centrifugal EC Fan
DIAMETER / WIDTH (mm)	270 x 270
INPUT kW TOTAL	0.85
MOTOR TYPE / DRIVE TYPE	Variable Speed EC Motor / Direct
FAN SPEED CONTROL	Electronic Control

COMPRESSOR	
NUMBER PER UNIT x TYPE	1 x Digital Scroll (Hermetic)
FULL LOAD AMPS	20.0
LOCKED ROTOR AMPS	128.0
STARTING METHOD	D.O.L. (optional soft starter)

REFRIGERATION SYSTEM	
REFRIGERANT TYPE	R-410A
EXPANSION CONTROL	Direct Expansion Orifice
FACTORY CHARGE (grams)	9,000

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	50.0 W during Comp. Off Cycle

ELECTRIC CONTROLS	
DEFROST METHOD	Reverse Cycle
DEFROST TYPE	Adaptive Demand Defrost
CONTROL CIRCUIT BREAKER	10.0 Amps
LC7 FIELD CONTROL WIRING	Cat5e UTP (AWG24) Data 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	5°C DB
Heating	Max.	24°C DB	19.5°C DB / 18°C WB
	Min.	16°C DB	-10°C WB

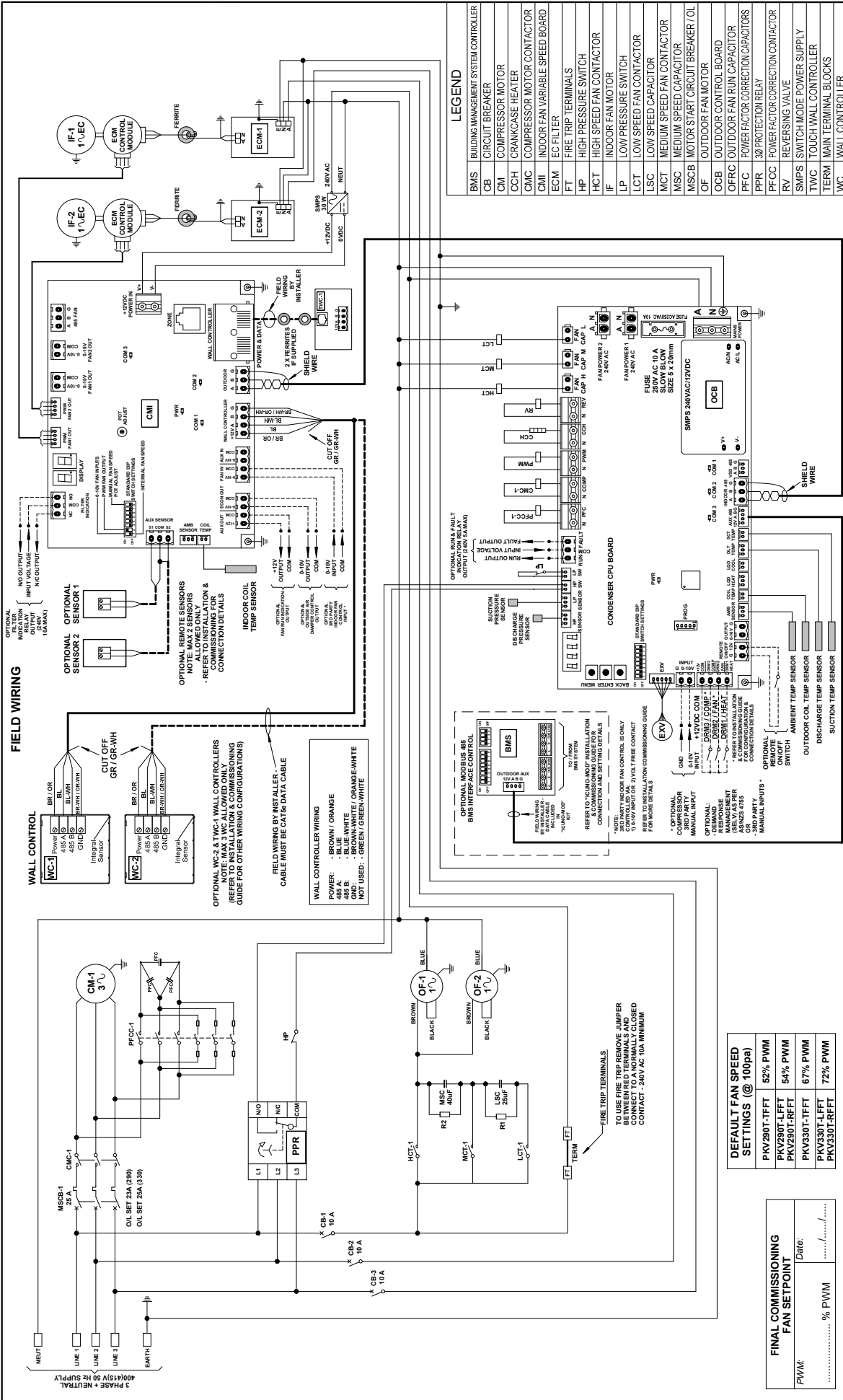
AIR FILTERS	
All return air including fresh air must have adequate filters supplied and fitted by the installing contractor. Filters must be located in accessible location between the return air grille and the unit.	
ActronAir does not supply or make any provisions for return air filter.	

UNIT COMPLIANCE	
<ul style="list-style-type: none"> AS/NZS 3823.2 (MEPS) AS/NZS 4755.3.1:2012 (DRM1, 2 and 3) AS/NZS CISPR 11, Group 1 Class A (EMC) 	



WIRING DIAGRAM

PKV290T-L/R



Base Model No: PKV290/330T		Variation Code: STANDARD	
Description: UNO SERIES CONTROL SYSTEM WIRING DIAGRAM WITH C SERIES WALL CONTROL, CMI VARIABLE SPEED INDOOR FAN CONTROL BOARD & PFC			
Drawn: RL	Date: 30-01-2019	Approved: JL	Date: 20-09-2022
Revision: E	Revision: E	Size: A3	Size: A3
Drawing No: WD2103		Drawing No: WD2103	
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Rev. E	3571	PCR	By Date
D			
Description: ADDED FERRITE TO TWC-1		Date: 16-09-2022	
ORIGINAL			