



ModPac™ II 2- to 5-Ton Vertical Wall Mount Air Conditioners

Models AVPA24-30-36-42-48-60

General Description

The Marvair® ModPac™ II air conditioner is a vertical, wall mounted, cost effective air conditioner designed specifically for the modular and relocatable building. The unit is manufactured in eight sizes from 2 to 5 tons for a variety of building types and applications. Factory installed electric strip heat is standard. Disconnects are standard on all units (except for 460 volt models). Accessories include a full range of grilles and thermostats. Cabinet color choices include standard Marvair beige and grey as well as other options. A Marvair first, the built-in mounting flanges simplifies installation. The sloped top, another Marvair original, eliminates the need for a rainhood.

Safety Listed & Energy Certified

All ModPac air conditioners are built to UL standard 1995, 2nd edition and CAN/CSA C22, No. 236-5, 2nd edition. For energy efficiency and performance, the units are tested and rated in accordance to the ANSI/ARI (Air-Conditioning and Refrigeration Institute) Standard 390- 2003 (Single Package Vertical Units). All AVPA units meet or exceed the efficiency requirements of ANSI/ASHRAE/IESNA 90.1.2007. The ModPac air conditioners are commercial units and are not intended for use in residential applications.



AVPA36ACA0--100MU

Standard Features

Ease of Installation

- Factory installed disconnect (optional on 460V models) may eliminate need of outside disconnect.
- Built-in mounting flanges eliminate need for side brackets.
- Sloped top sheds water and minimizes chance of water leaks.
- Designed for installation in a modular builder's facility.

Attractive and Built for Long Term Operation

- Choice of colors - beige, white, grey, light brown.
- Decorative coil guard.
- High efficiency scroll compressors (AVPA24-60) provide reliable and quiet operation.

Ventilation Options

- Manual damper capable of up to 15% of rate air flow of outside air.

- Field adjustable, no pressure relief. (Standard, "N" Damper - AVPA24-60)
- Motorized, two position damper (open and closed) capable of 0 to 450 cfm of outside air and includes pressure relief. A 24-volt actuator motor controls the damper from an external input such as a time clock, CO2 sensor, energy management system or manual switch. ("B" Damper - AVPA24-60)
- Manual damper capable of 15 to 450 cfm of outside air (up to a maximum of 40% of rated air flow). No pressure relief. An external, field installed front panel replaces standard front panel. ("V" Damper - AVAP24-60)

R-410A
Refrigerant

Standard Features (continued)

Ease of Service

- Service access valves.
- All components accessible for field service.
- Nationwide network of service centers.

Quiet

- Twin blowers sized to accept full duct system.
- High density insulation

Accessories

Supply Grilles

For AVPA24	20" x 8"	P/N 80674
For AVPA30,36	28" x 8"	P/N 80675
For AVPA42,48,60	30" x 10"	P/N 80676

Return Grilles

For AVPA24	20" x 12"	P/N 80677
For AVPA30,36	28" x 14"	P/N 80678
For AVPA42,48,60	30" x 16"	P/N 80679

Return Filter Grilles

Used when filter must be changed from the interior. Also reduces sound level.

For AVPA24	20" x 12"	P/N 80671
For AVPA30,36	28" x 14"	P/N 80672
For AVPA42,48,60	30" x 16"	P/N 80673

Thermostats

Thermostat, P/N 50121

Digital thermostat. 1 stage heat, 1 stage cool. Non-programmable. Fan switch: Auto & On. Manual changeover system switch: Cool-Off-Heat. Low temperature protection. °F or °C selectable.

Thermostat, P/N 50123

Digital thermostat. 1 stage heat, 1 stage cool. 7 day programmable. Fan switch: Auto & On. Auto-changeover. Keypad lockout. Non-volatile program memory. Title 24 compliant - no batteries needed.

Thermostat, P/N 50186

Digital, non-programmable thermostat. One stage cool/One stage heat. Manual or auto changeover. Fan mode: Auto or On. Permanent retention of settings upon power loss. Field adjustable temperature calibration. Max heat and minimum cool set points. Adjustable temperature differential. Remote sensor capable. Keypad lock out. Status LED. °F or °C selectable.

Thermostat Guard, P/N 50092

For use with 50121, 50123 and 50124.

Choice of Colors

White, Grey, Light Brown, Beige

Outside Air Ventilation Schedule

Designator	Outside Air	Pressure Relief	Damper
N	0 to 15% of Rated Air Flow	No	Manual
B	0 to 450 cfm	Yes	Motorized
V*	0 to 450 cfm	No	Manual

* Field installed. See "V" damper schedule for part number.

Options

Factory Installed 460 VAC Disconnect

Model Identification

AVP

Air
Source
Vertical
Package

A

A = R410A
Refrigerant

●

Nominal Cooling

24 = 24,000 BTUH
30 = 29,400 BTUH
36 = 35,000 BTUH
42 = 42,500 BTUH
48 = 48,000 BTUH
60 = 56,000 BTUH

AC

System Type
Air Conditioner

●

Power Supply

A = 208/230V,1ø,60Hz
C = 208/230V,3ø,60Hz
D = 460V,3ø,60Hz

●

Electric Heat – kW

000 = No Heat 090 = 9 kW
040 = 4 kW 100 = 10 kW
050 = 5 kW 150 = 15 kW
080 = 8 kW

●

Configuration

M = ModPac II™ A/C

M

●

Ventilation Code

N = 0-15% fresh air with manual damper, no pressure relief)
B = Motorized two position damper (open & closed) capable of 0 to 450 cfm* of outside air, includes pressure relief)
U = Scroll Compressor

AVPA Summary Ratings (Wire Sizing) - Scroll Compressor

ELECT. HEAT		000 = None		040 = 4 kw		050 = 5 kw		080 = 8 kw		090 = 9 kw		100 = 10 kw		150 = 15 kw			
BASIC MODEL	VOLTAGE PHASE	CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #1		CKT #2	
		MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS	MCA	MFS
AVPA24ACA	208-230/1	18.9	30	22.3	30	27.4	30	43.0	45			53.5	60				
AVPA30ACA	208-230/1	21.9	35	23.4	35	28.5	35	44.1	45			54.6	60	28.5	35	52.1	60
AVPA36ACA	208-230/1	26.7	40	26.7	40	28.5	40	44.1	45			54.6	60	28.5	40	52.1	60
AVPA42ACA	208-230/1	30.7	50			30.7	50					55.2	60	30.7	50	52.1	60
AVPA48ACA	208-230/1	33.2	50			33.2	50					55.2	60	33.2	50	52.1	60
AVPA60ACA	208-230/1	40.8	60			40.8	60					57.3	60	40.8	60	52.1	60
AVPA24ACC	208-230/3	13.3	20							28.5	30						
AVPA30ACC	208-230/3	15.6	20							29.6	30			47.6	50		
AVPA36ACC	208-230/3	20.8	30							29.6	30			47.6	50		
AVPA42ACC	208-230/3	22.9	35							30.2	35			48.2	50		
AVPA48ACC	208-230/3	23.0	35							30.2	35			48.2	50		
AVPA60ACC	208-230/3	27.5	40							32.3	40			50.3	60		
AVPA24ACD	460/3	7.8	15							14.2	15			23.2	25		
AVPA30ACD	460/3	9.2	15							14.8	15			23.8	25		
AVPA36ACD	460/3	9.7	15							14.8	15			23.8	25		
AVPA42ACD	460/3	10.6	15							15.1	20			24.1	25		
AVPA48ACD	460/3	10.7	15							15.1	20			24.1	25		
AVPA60ACD	460/3	13.6	20							16.1	20			25.1	30		

MCA = Minimum Circuit Ampacity (Wire Size Amps). MFS = Maximum Fuse Size or HACR circuit breaker. MCA and MFS calculated at 240V for "A" & "C" models. For 460V units ("D" models), MCA & MFS calculated at 460V. All 460V units have a step down transformer for 230V motors.

AVPA Certified Efficiency and Capacity Ratings @ ARI Standard 390

MODEL	24			30			36			42			48			60		
	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD	ACA	ACC	ACD
COOLING BTUH	24,000			30,000			35,500			42,500			47,000			56,500		
EER	9.10			9.80			9.40			9.10			9.10			9.00		
RATED CFM	840			1000			1220			1520			1760			1850		
ESP	0.10			0.15			.015			0.15			0.20			0.20		

Cooling rated at 95°F outdoor and 80°/67°F indoor. Air flow ratings are for unit with the "N" ventilation configuration and no outside air. Performance will be affected by altitude.

AVPA Electrical Characteristics

BASIC MODEL	COMPRESSOR				OUTDOOR FAN MOTOR				INDOOR FAN MOTOR			
	VOLTS	RLA	LRA	MCC	VOLTS	RPM	FLA	HP	VOLTS	RPM	FLA	HP
AVPA24ACA	208/230-60-1	12.8	64.0	20.0	208/230-60-1	1075	1.5	1/5	208/230-60-1	1075	1.4	1/4
AVPA30ACA	208/230-60-1	14.1	77.0	22.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA36ACA	208/230-60-1	17.9	112.0	28.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA42ACA	208/230-60-1	19.8	109.0	31.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA48ACA	208/230-60-1	21.8	117.0	34.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA60ACA	208/230-60-1	26.2	134.0	41.0	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPA24ACC	208/230-60-3	8.3	61.0	13.0	208/230-60-1	1075	1.5	1/5	208/230-60-1	1075	1.4	1/4
AVPA30ACC	208/230-60-3	9.0	71.0	14.0	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA36ACC	208/230-60-3	13.2	88.0	20.6	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA42ACC	208/230-60-3	13.6	83.1	21.2	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA48ACC	208/230-60-3	13.7	83.1	21.4	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA60ACC	208/230-60-3	15.6	111.0	24.4	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4
AVPA24ACD	460-60-3	5.1	28.0	8.0	208/230-60-1	825	1.5	1/5	208/230-60-1	1075	1.4	1/4
AVPA30ACD	460-60-3	5.6	38.0	8.8	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA36ACD	460-60-3	6.0	44.0	9.3	208/230-60-1	1075	1.8	1/4	208/230-60-1	1075	2.5	1/4
AVPA42ACD	460-60-3	6.1	41.0	9.5	208/230-60-1	1075	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA48ACD	460-60-3	6.2	41.0	9.7	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	3.1	1/2
AVPA60ACD	460-60-3	7.7	52.0	12.1	208/230-60-1	825	2.8	1/3	208/230-60-1	1075	5.2	3/4

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current FLA = Full Load Amps
RPM = Revolutions per Minute HP = Horse Power
All 460V units have a step down transformer for 230V motors.

AVPA Unit Load Amps

BASIC MODEL NUMBER	VOLTAGE PHASE HERTZ	CURRENT AMPS		LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)						TOTAL MAXIMUM HEATING AMPS (STANDARD UNIT)					
		AC	IBM	04 kW	05 kW	08 kW	09 kW	10 kW	15 kW	04 kW	05 kW	08 kW	09 kW	10 kW	15 kW
AVP24ACA	208-230/1/60	15.7	1.4	16.7	20.8	33.3	n/a	41.7	n/a	18.1	22.2	34.7	n/a	43.1	n/a
AVP30ACA	208-230/1/60	18.4	2.5	16.7	20.8	33.3	n/a	41.7	62.5	19.2	23.3	35.8	n/a	44.2	65.0
AVP36ACA	208-230/1/60	22.2	2.5	16.7	20.8	33.3	n/a	41.7	62.5	19.2	23.3	35.8	n/a	44.2	65.0
AVP42ACA	208-230/1/60	25.7	3.1	n/a	20.8	n/a	n/a	41.7	62.5	n/a	23.9	n/a	n/a	44.8	65.6
AVP48ACA	208-230/1/60	27.7	3.1	n/a	20.8	n/a	n/a	41.7	62.5	n/a	23.9	n/a	n/a	44.8	65.6
AVP60ACA	208-230/1/60	34.2	5.2	n/a	20.8	n/a	n/a	41.7	62.5	n/a	26.0	n/a	n/a	46.9	67.7
AVP24ACC	208-230/3/60	11.2	1.4	n/a	n/a	n/a	n/a	21.7	n/a	n/a	n/a	n/a	n/a	n/a	37.5
AVP30ACC	208-230/3/60	13.3	2.5	n/a	n/a	n/a	n/a	21.7	n/a	n/a	n/a	n/a	n/a	24.2	38.6
AVP36ACC	208-230/3/60	17.5	2.5	n/a	n/a	n/a	n/a	21.7	n/a	n/a	n/a	n/a	n/a	24.2	38.6
AVP42ACC	208-230/3/60	19.5	3.1	n/a	n/a	n/a	n/a	21.7	n/a	n/a	n/a	n/a	n/a	24.8	39.2
AVP48ACC	208-230/3/60	19.6	3.1	n/a	n/a	n/a	n/a	21.7	n/a	n/a	n/a	n/a	n/a	24.8	39.2
AVP60ACC	208-230/3/60	23.6	5.2	n/a	n/a	n/a	n/a	21.7	n/a	n/a	n/a	n/a	n/a	26.9	41.3
AVP24ACD	460/3/60	6.6	0.7	n/a	n/a	n/a	n/a	10.8	n/a	18.0	n/a	n/a	n/a	11.5	18.7
AVP30ACD	460/3/60	7.8	1.3	n/a	n/a	n/a	n/a	10.8	n/a	18.0	n/a	n/a	n/a	12.1	19.3
AVP36ACD	460/3/60	8.2	1.3	n/a	n/a	n/a	n/a	10.8	n/a	18.0	n/a	n/a	n/a	12.1	19.3
AVP42ACD	460/3/60	9.1	1.6	n/a	n/a	n/a	n/a	10.8	n/a	18.0	n/a	n/a	n/a	12.4	19.6
AVP48ACD	460/3/60	9.2	1.6	n/a	n/a	n/a	n/a	10.8	n/a	18.0	n/a	n/a	n/a	12.4	19.6
AVP60ACD	460/3/60	11.7	2.6	n/a	n/a	n/a	n/a	10.8	n/a	18.0	n/a	n/a	n/a	13.4	20.6

Heating kW shown at 240V for "A" & "C" models. Derate heat output by 25% for 208V service. Total heating amps for ALL ACA units with 15kW includes both circuits (#1 and #2) Heater kW shown at 480V for all "D" models.
NOTE: Three phase equipment contains single-phase motor loads. Values shown are maximum phase loads. Loads are not equally balanced on each phase. Total cooling and total heating amps include motor loads.

AVPA Performance Chart

Data based on 80°F(26.5°C) DB/67°F (19.5°C) Wet Bulb Return Air Temperature at Various Outdoor Temperatures at rated CFM.

Model	75°F/24°C	80°F/26.5°C	85°F/29°C	90°F/32°C	95°F/35°C	100°F/38°C	105°F/40.5°C	110°F/43.3°C	115°F/46°C
24	27,840	26,880	25,920	24,960	24,000	23,040	22,080	21,120	20,640
30	34,800	33,600	32,400	31,200	30,000	28,800	27,600	26,400	25,800
36	41,180	39,760	38,340	36,920	35,500	34,080	32,660	31,240	30,530
42	49,300	47,600	45,900	44,200	42,500	40,800	39,100	37,400	36,550
48	54,520	52,640	50,760	48,880	47,000	45,120	43,240	41,360	40,420
60	65,540	63,280	61,020	58,760	56,500	54,240	51,980	49,720	48,590

The cooling capacity of the AVPA72 three phase units is 2,000 BTUH lower when operated on 208 volts.

AVPA Sensible Total Ratio @ 95°F (35°C) Outside Air DB

MODEL	24AC	30AC	36AC	42AC	48AC	60AC
TOTAL CAPACITY	24,000	30,000	35,500	42,500	47,000	56,500
SENSIBLE HEAT RATIO	0.69	0.74	0.69	0.75	0.75	0.69
SENSIBLE CAPACITY	16,500	22,100	24,340	31,820	35,300	39,190
RATED CFM	840	1,000	1,220	1,520	1,760	1,850
ESP	0.10	0.15	0.15	0.15	0.20	0.20

Sensible ratios based upon ARI standard 390 return air conditions of 80°F (26.5°C) Dry Bulb/67°F (19.5°C) Wet Bulb

AVPA CFM @ ESP (Wet Coil)

MODEL	0.10	0.20	0.25	0.30	0.40	0.50
AVPA24	860	810	740	670		
AVPA30	1100	1000	960	920	810	
AVPA36	1310	1220	1185	1150	1060	
AVPA42		1650	1585	1520	1450	1360
AVPA48		1900	1830	1760	1700	1620
AVPA60		1900	1830	1760	1700	1620

Air flow ratings of 208-230 volt units are at 230v. Air flow ratings of 460 volt units are at 460 volts. Operation of units at a voltage different from the rating point will affect air flow.

Ship Weight (with "N" Ventilation Configuration)

MODEL	AVPA24	AVPA30/36	AVPA42	AVPA48	AVPA60
LBS.	270	350	485	510	522

Ship Weight (with "B" Ventilation Configuration)

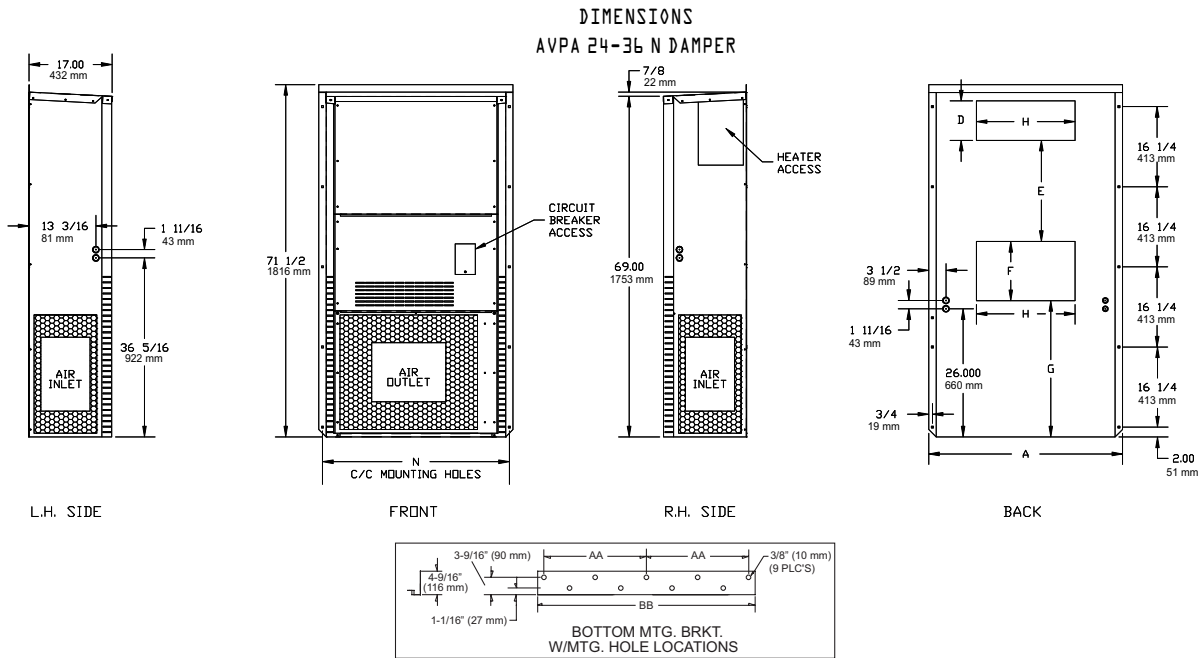
MODEL	AVPA24	AVPA30/36	AVPA42	AVPA48	AVPA60
LBS.	286	365	527	552	565

Filter Size

MODEL	AVPA24	AVPA30/36	AVPA42/48/60
FILTER SIZE (inches)	16 x 25 x 1	16 x 30 x 1	2 x 36-1/2 x 1

Dimensional Data – AVPA24-36 ModPac™ II Air Conditioner ("N" Configuration)

NOTE: Dimensional tolerance ± 1/16" (2 mm)

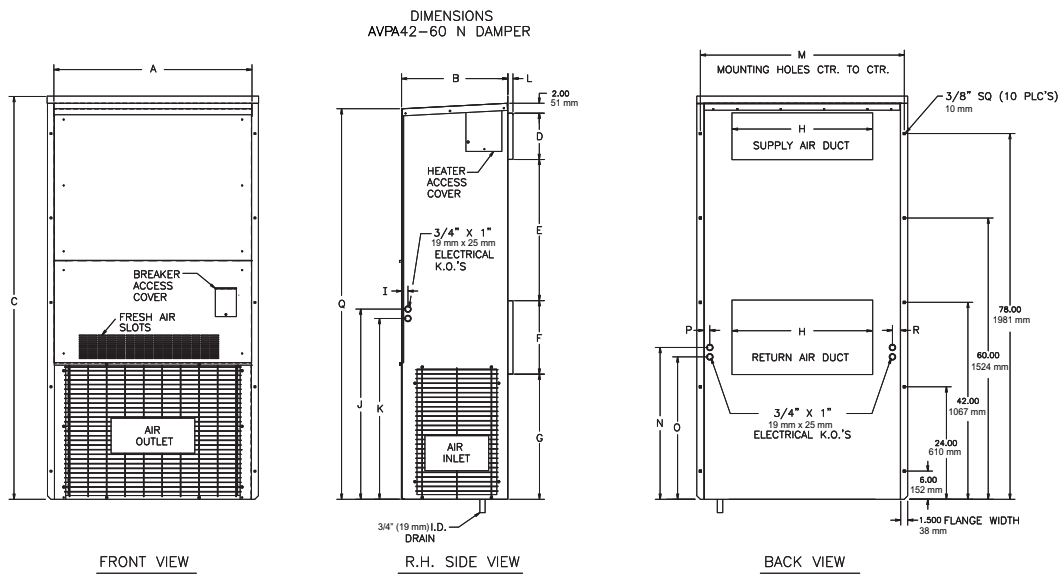


MODEL		A	D	E	F	G	H	N	AA	BB
AVPA24	IN	39-3/8	8	20-1/2	12	27-3/4	20	37-7/8	17-5/8	35-1/4
	MM	1000	203	521	305	705	508	962	448	895
AVPA30-36	IN	44-9/16	8	18	14	28-1/2	28	43-1/16	20-1/4	40-1/2
	MM	1132	203	457	356	724	711	1094	514	1029

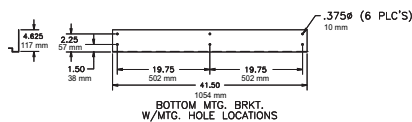
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Dimensional Data – AVPA42-60 ModPac™ II Air Conditioner ("N" Configuration)

NOTE: Dimensional tolerance ± 1/16" (2 mm)

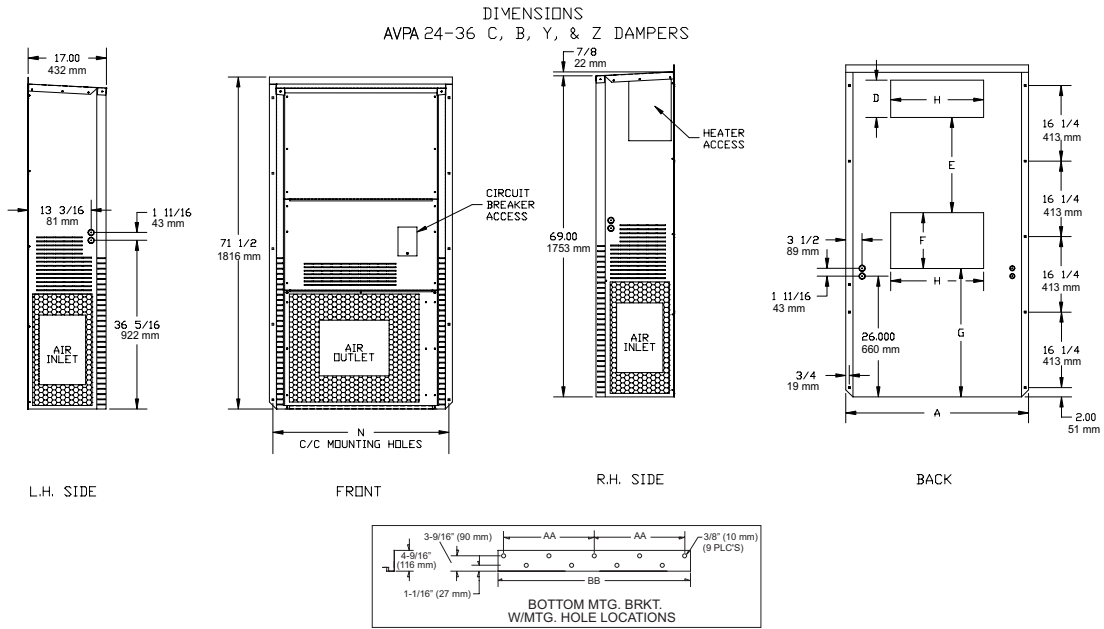


MODEL		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
AVPA42-60	IN	42-1/8	22-5/8	86.00	10.00	30.00	16.00	26-1/2	30.00	1-5/16	40-9/16	38-9/16	1-1/8	43-1/2	32-3/8	30-3/8	1-1/4	83.30	1.725
	MM	1070	575	2184	254	762	406	673	762	33	1030	979	29	1105	822	772	32	2116	44



Dimensional Data – AVPA24-36 ModPac™ II Air Conditioner ("B" Configuration)

NOTE: Dimensional tolerance ± 1/16" (2 mm)

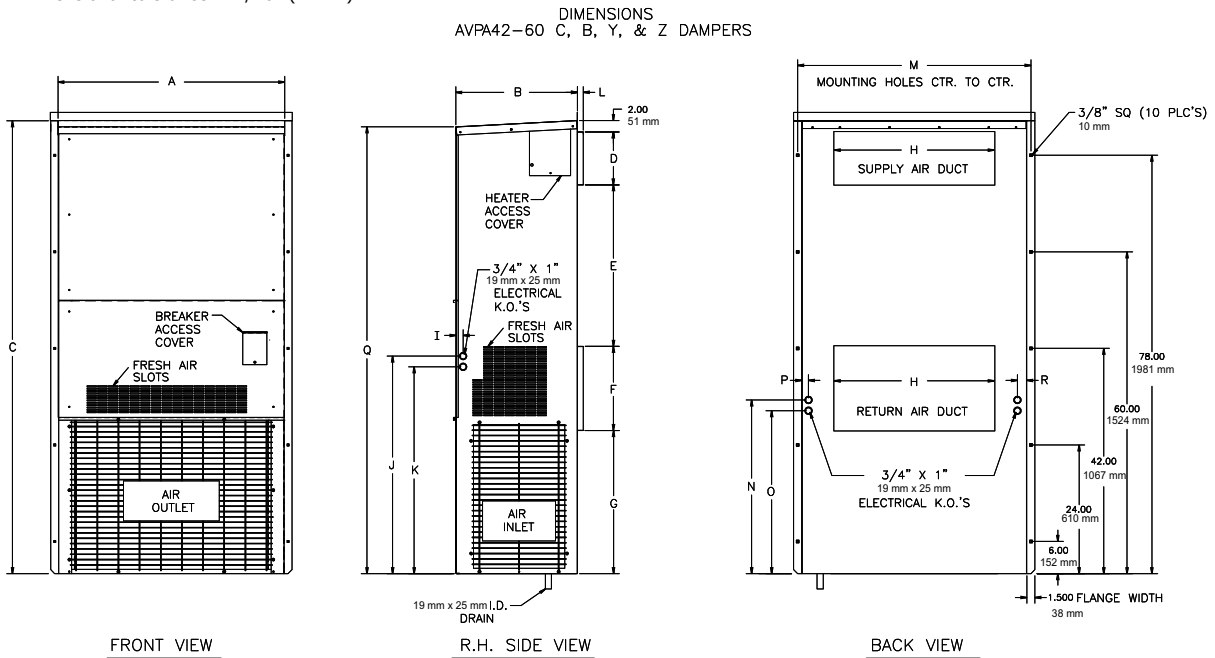


MODEL		A	D	F	E	G	H	N	AA	BB
AVPA24	IN	39-3/8	8	20-1/2	12	27-3/4	20	37-7/8	17-5/8	35-1/4
	MM	1000	203	521	305	705	508	962	448	895
AVPA30-36	IN	44-9/16	8	18	14	28-1/2	28	43-1/16	20-1/4	40-1/2
	MM	1132	203	457	356	724	711	1094	514	1029

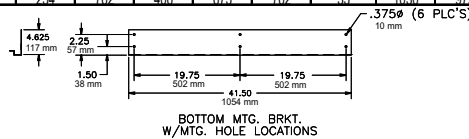
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Dimensional Data – AVPA42-60 ModPac™ II Air Conditioner ("B" Configuration)

NOTE: Dimensional tolerance ± 1/16" (2 mm)



MODEL		A	R	C	D	F	E	G	H	I	J	K	L	M	N	O	P	Q	R
AVPA42-60	IN	42-1/8	22-5/8	86.00	10.00	30.00	16.00	26-1/2	30.00	1-5/16	40-9/16	38-9/16	1-1/8	43-1/2	32-3/8	30-3/8	1-1/4	83.30	1.725
	MM	1070	575	2184	254	762	406	673	762	33	1030	979	29	1105	822	772	32	2116	44





Notes

Complete installation instructions are in the ModPac™ II A/C I&O Manual. Detailed dimensional data available upon request. A complete warranty statement can be found in each product's Installation/Operation Manual, on our website, www.marvair.com or by contacting Marvair® at 229-273-3636. As part of the Marvair continuous improvement program, specifications are subject to change without notice.



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