



Air Conditioning & Heating

## PRODUCT SPECIFICATIONS



**1½ TO 5 TON**  
**MULTI-POSITION, THREE-SPEED**

# ARUF

## AIR HANDLER WITH GALVANIZED CABINET

The Goodman® ARUF Multi-Position Air Handler is suitable for use with refrigerants R-410A and R-22. This unit features a check flowrater expansion device and may be installed in a variety of locations.

### Standard Features

- Suitable for use with refrigerants R-410A and R-22
- Check flowrater expansion device for cooling-only and heat pump applications
- Direct-drive, multi-speed motor
- Transformer and blower time-delay on all units
- ARI Certified
- ETL Listed

### Cabinet Features

- Rust-resistant, fully insulated steel cabinet
- Galvanized, leather grain-embossed finish
- Attractive Architectural Gray painted front panels
- Built-in coil has horizontal, vertical and downflow drain pans with secondary drain connections
- Built-in filter rack for 1" filter (filter not included)
- Power supply entry at top; low-voltage entry on left side and top



**NOMENCLATURE**

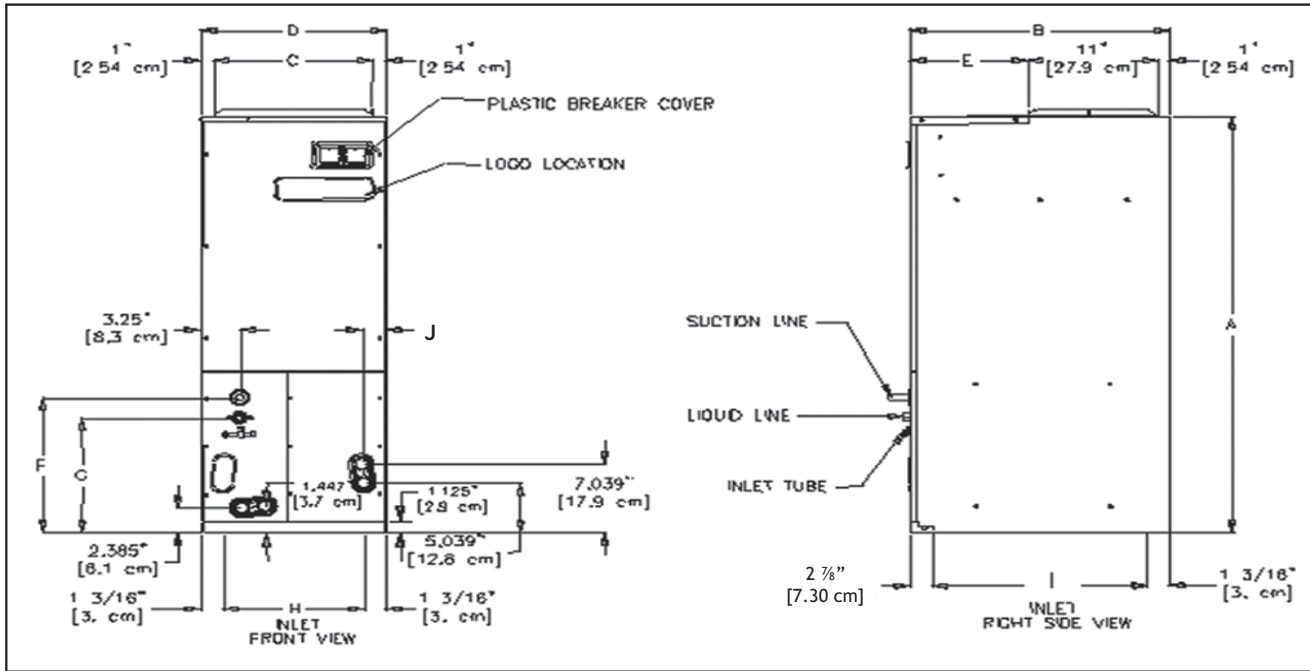
	A	R	U	F	3642	1	6	AA	
	1	2	3	4	5,6,7,8	9	10	11,12	
<b>Brand</b>									<b>Engineering *</b>
A	Single-piece Air Handler								Major/ Minor Revisions
									* Not used for inventory management
<b>Unit Application</b>									<b>Refrigerant Charge</b>
C	Ceiling Mount PSC Motor								No Digit = R-22 only
D	Downflow PSC Motor								6 = R-410A or R-22
E	Multi-Position Variable-Speed Motor								
R	Multi-Position PSC Motor								
S	Multi-Position EEM Motor								
W	Wall Mount PSC Motor								
<b>Cabinet Finish</b>									<b>Electrical</b>
U	Unpainted								1 208/240 V, 1 Phase, 60 Hz
P	Painted								
N	Uncased								
<b>Expansion Device</b>									<b>Nominal Capacity Range @ 13 SEER</b>
F	Flowrater								<b>Multi-Position &amp; Downflow Applications</b>
T	Expansion Valve								1729 1½ to 2½ Tons (for Export Systems)
									1830 1½-3½ Tons
									3642 3-3½ Tons
									<b>Ceiling Mount &amp; Wall Mount Applications</b>
									(Nominal Cooling Capacity/ Electric Heat kW)
									1805 1½ Tons Cooling/ 5 kW Electric Heat
									2405 2 Tons Cooling/ 5 kW Electric Heat
									3608 3 Tons Cooling/ 8 kW Electric Heat

SPECIFICATIONS

	ARUF 172916*	ARUF 182416*	ARUF 193116*	ARUF 303016*	ARUF 363616*
<b>Nominal Ratings</b>					
Cooling (Btu/h)	18,000 - 30,000	18,000 - 24,000	18,000 - 30,000	30,000	36,000
CFM (High/ Med/ Low)	1,025/ 790/ 570	1,025/ 790/ 570	1,025/ 780/ 545	1,330/ 1,239/ 980	1,230/ 1,140/ 955
<b>Blower</b>					
Diameter	9½"	9½"	9½"	9½"	9½"
Width	6"	6"	6"	8"	6"
Coil Drain Connect FPT	¾"	¾"	¾"	¾"	¾"
<b>Service Valve</b>					
Liquid	⅜"	⅜"	⅜"	⅜"	⅜"
Suction	¾"	¾"	⅞"	¾"	¾"
<b>Electrical Data</b>					
Voltage	208/240	208/240	208/240	208/240	208/240
Min Circuit Ampacity	2.1/2.1	2.1/2.1	1.9/1.9	3.3/3.3	3.3/3.3
Max. Overcurrent Device (amps)	15/15	15/15	15/15	15/15	15/15
Min. / Max VAC	197/ 253	197/ 253	197/ 253	197/ 253	197/ 253
Blower Motor FLA/ HP	1.7/ ⅓	1.7/ ⅓	1.48/ ¼	2.64/ ⅓	2.64/ ⅓
<b>Ship Weight (lbs)</b>	110	120	155	144	164

	ARUF 364216*	ARUF 374316*	ARUF 486016*	ARUF 496116*
<b>Nominal Ratings</b>				
Cooling (Btu/h)	36,000 - 42,000	36,000 - 42,000	48,000 - 60,000	48,000 - 60,000
CFM (High/ Med/ Low)	1,645/ 1,440/ 1,275	1,925/ 1,550/ 1,345	1,985/ 1,875/ 1,650	1,915/ 1,795/ 1,585
<b>Blower</b>				
Diameter	10⅝"	11 15/16"	10⅝"	10⅝"
Width	8"	10 11/16"	10⅝"	10⅝"
Coil Drain Connect FPT	¾"	¾"	¾"	¾"
<b>Service Valve</b>				
Liquid	⅜"	⅜"	⅜"	⅜"
Suction	⅞"	⅞"	⅞"	⅞"
<b>Electrical Data</b>				
Voltage	208/240	208/240	208/240	208/240
Min Circuit Ampacity	3.7/3.7	4.2/4.2	5.4/5.4	5.4/5.4
Max. Overcurrent Device (amps)	15/15	15/15	15/15	15/15
Min. / Max VAC	197/ 253	197/ 253	197/ 253	197/ 253
Blower Motor FLA/ HP	2.95/ ½	3.39/ ½	4.3/ ¾	4.3/ ¾
<b>Ship Weight (lbs)</b>	173	195	192	192

**DIMENSIONS**



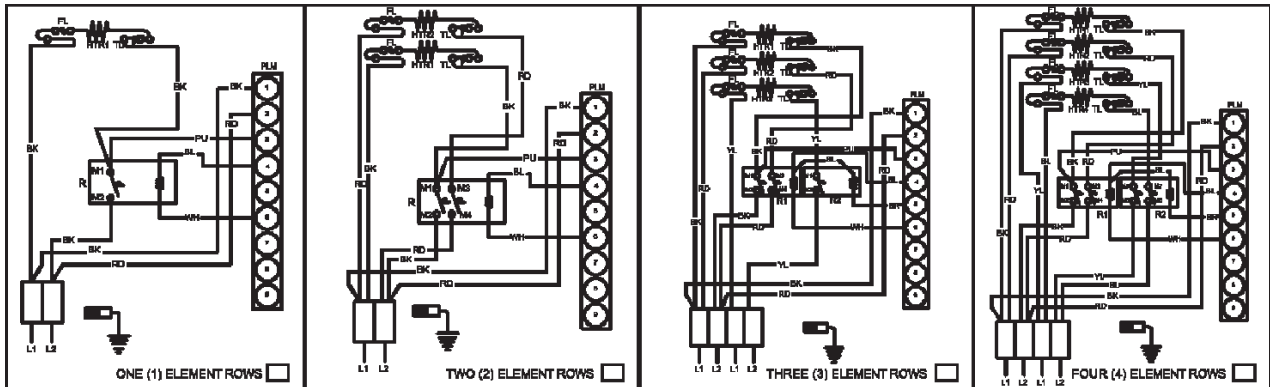
Model	A	B	C	D	E	F	G	H	I	J
ARUF172916*	42 <sup>1</sup> / <sub>8</sub> "	22"	13 <sup>1</sup> / <sub>2</sub> "	15 <sup>1</sup> / <sub>2</sub> "	10"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	13 <sup>3</sup> / <sub>8</sub> "	17 <sup>15</sup> / <sub>16</sub> "	2"
ARUF182416*	42 <sup>1</sup> / <sub>8</sub> "	22"	13 <sup>1</sup> / <sub>2</sub> "	15 <sup>1</sup> / <sub>2</sub> "	10"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	13 <sup>3</sup> / <sub>8</sub> "	17 <sup>15</sup> / <sub>16</sub> "	2"
ARUF193116*	46 <sup>3</sup> / <sub>4</sub> "	22"	17 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	10"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	17 <sup>1</sup> / <sub>8</sub> "	17 <sup>15</sup> / <sub>16</sub> "	2"
ARUF303016*	46 <sup>3</sup> / <sub>4</sub> "	22"	17 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	10"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	17 <sup>1</sup> / <sub>8</sub> "	17 <sup>15</sup> / <sub>16</sub> "	2"
ARUF363616*	46 <sup>3</sup> / <sub>4</sub> "	22"	17 <sup>1</sup> / <sub>2</sub> "	19 <sup>1</sup> / <sub>2</sub> "	10"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	17 <sup>1</sup> / <sub>8</sub> "	17 <sup>15</sup> / <sub>16</sub> "	1 <sup>4</sup> / <sub>5</sub> "
ARUF364216*	53 <sup>1</sup> / <sub>4</sub> "	24"	20"	22"	12"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	19 <sup>5</sup> / <sub>8</sub> "	19 <sup>15</sup> / <sub>16</sub> "	1 <sup>4</sup> / <sub>5</sub> "
ARUF374316*	53 <sup>1</sup> / <sub>4</sub> "	24"	20"	22"	12"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	19 <sup>5</sup> / <sub>8</sub> "	19 <sup>15</sup> / <sub>16</sub> "	1 <sup>4</sup> / <sub>5</sub> "
ARUF486016*	53 <sup>1</sup> / <sub>4</sub> "	24"	20"	22"	12"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	19 <sup>5</sup> / <sub>8</sub> "	19 <sup>15</sup> / <sub>16</sub> "	1 <sup>4</sup> / <sub>5</sub> "
ARUF496116*	53 <sup>1</sup> / <sub>4</sub> "	24"	20"	22"	12"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	19 <sup>5</sup> / <sub>8</sub> "	19 <sup>15</sup> / <sub>16</sub> "	1 <sup>4</sup> / <sub>5</sub> "
ARUF496116*	53 <sup>1</sup> / <sub>4</sub> "	24"	20"	22"	12"	14 <sup>1</sup> / <sub>2</sub> "	11 <sup>15</sup> / <sub>16</sub> "	19 <sup>5</sup> / <sub>8</sub> "	19 <sup>15</sup> / <sub>16</sub> "	1 <sup>4</sup> / <sub>5</sub> "

## AIRFLOW DATA

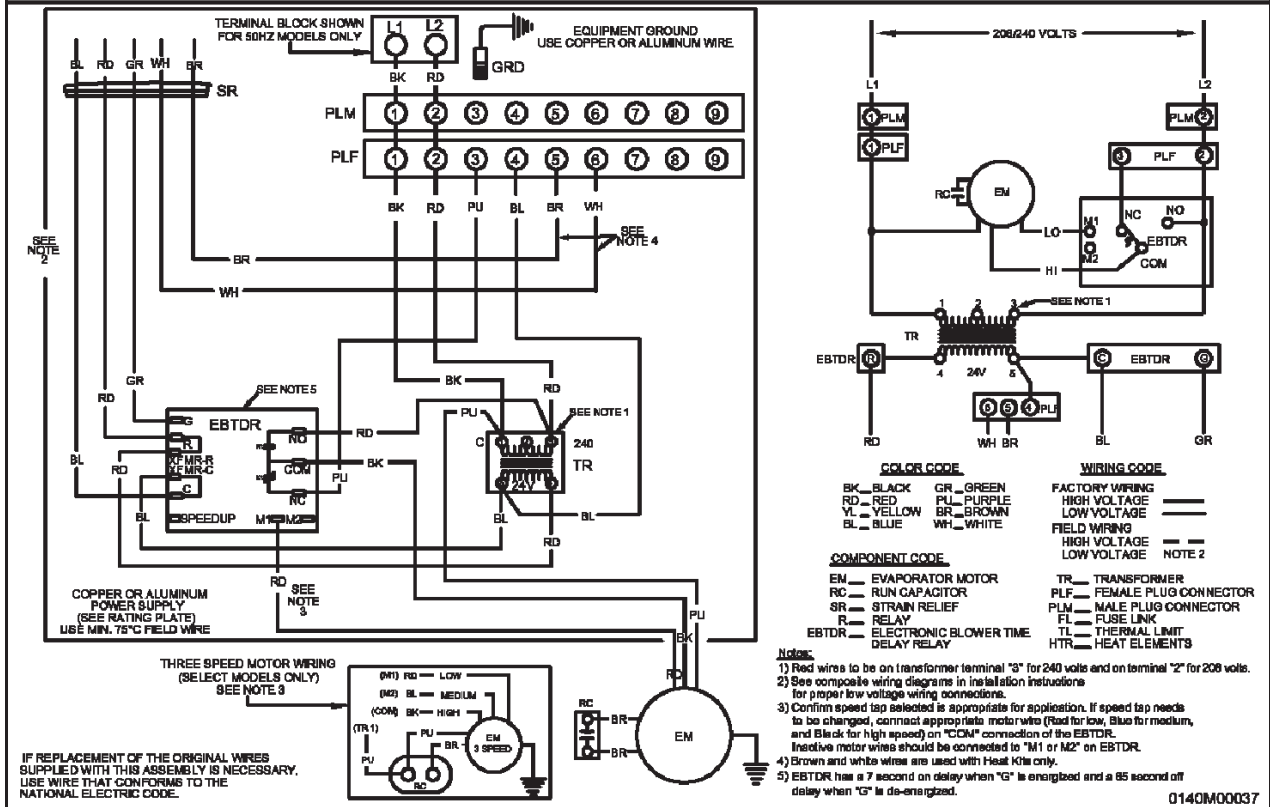
Model	Motor Speed	CFM delivered against External Static Pressure				
		0.1"	0.2"	0.3"	0.4"	0.5"
ARPF182416*	High	1,155	1,090	1,025	950	895
	Med.	875	830	790	750	715
	Low	640	610	570	535	490
ARPF193116*	High	1,135	1,085	1,025	965	915
	Med.	860	825	780	750	680
	Low	600	570	545	500	465
ARPF303016*	High	1,455	1,385	1,330	1,205	1,090
	Med.	1,340	1,290	1,230	1,140	1,050
	Low	1,075	1,030	980	910	840
ARPF363616*	High	1,345	1,290	1,230	1,150	1,070
	Med	1,270	1,210	1,140	1,075	980
	Low	1,045	1,005	955	885	805
ARPF364216*	High	1,700	1,680	1,645	1,610	1,535
	Med.	1,500	1,480	1,440	1,380	1,325
	Low	1,345	1,320	1,275	1,230	1,195
ARPF374316*	High	2,065	2,000	1,925	1,860	1,780
	Med.	1,685	1,635	1,550	1,470	1,410
	Low	1,490	1,425	1,345	1,280	1,205
ARPF486016*	High	2,135	2,080	1,985	1,900	1,805
	Med.	1,975	1,935	1,875	1,775	1,675
	Low	1,715	1,670	1,650	1,590	1,530
ARPF496116*	High	2,075	2,000	1,915	1,875	1,715
	Med.	1,935	1,865	1,795	1,715	1,610
	Low	1,670	1,625	1,585	1,525	1,455

**Note:** Assumes dry coil with filter in place; SCFM correction for wet coil = 4%

# ARPF WIRING DIAGRAM



NOTE: WHEN INSTALLING HEATER KIT, ENSURE SPEED TAP DOES NOT EXCEED MINIMUM BLOWER SPEED (MBS) SPECIFIED FOR THE AIRHANDLER/HEATER KIT COMBINATION ON THIS UNIT'S S&R PLATE. AFTER INSTALLING OPTIONAL HEAT KIT, MARK AN "X" IN THE  PROVIDED ABOVE. MARK ACCORDING TO NUMBER OF HEATER ELEMENT ROWS INSTALLED. NO MARK INDICATES NO HEAT KIT INSTALLED.



Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

<p><b>WARNING</b></p>	<p><b>High Voltage:</b>                  Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.</p>	
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## ACCESSORIES

### HEAT KIT APPLICATIONS

	ARUF 172916*	ARUF 182416*	ARUF 193116*	ARUF 303016*	ARUF 363616*	ARUF 364216*	ARUF 374316*	ARUF 486016*	ARUF 496116*
HKR-03*	X	X	X	X	X	X	X	X	X
HKR-05*, HKR-05C*	X	X	X	X	X	X	X	X	X
HKR-06*	X	X	X	X	X	X	X	X	X
HKR-08*, HKR-08C*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X	X	X	X	X	X
HKR-10*, HKR-10C*	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X	X	X	X	X
HKR-15C*	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>2</sup>	X <sup>3</sup>	X <sup>3</sup>	X	X
HKR-20C*				X <sup>2</sup>		X <sup>3</sup>	X <sup>3</sup>	X	X
HKR-21C*				X <sup>2</sup>		X <sup>3</sup>	X <sup>3</sup>	X	X
^ HKR3-15*				X <sup>2</sup>	X <sup>2</sup>	X <sup>3</sup>	X <sup>3</sup>	X	X
^ HKR3-20*				X <sup>2</sup>		X <sup>3</sup>	X <sup>3</sup>	X	X

\* Revision level that may or may not be designated

C Circuit breaker option

^ Heat kit requires three-phase power supply

<sup>1</sup> Air handler must either be on medium or high speed

<sup>2</sup> Air handler must be on high speed

<sup>3</sup> For static pressure of 0.6 or higher, air handler must be on medium or high speed

### EXPANSION VALVE KITS FOR AIR CONDITIONING AND HEAT PUMP APPLICATIONS

Kit Number	Description	Application	Refrigerant	Tonnage: Outdoor Unit
XVB18-36C	20% Bleed Valve	AC Only	R-22	1½ - 3 Ton
XVB42-60C	20% Bleed Valve	AC Only	R-22	3½ - 5 Ton
XV18-36C	Non-bleed Valve	AC Only	R-22	1½ - 3 Ton
XV42-60C	Non-bleed Valve	AC Only	R-22	3½ - 5 Ton
TX2N2	Non-bleed Valve	AC or HP	R-22	1½ - 2 Ton
TX3N2	Non-bleed Valve	AC or HP	R-22	2½ - 3 Ton
TX5N2	Non-bleed Valve	AC or HP	R-22	3½ - 5 Ton
TX2N4	Non-bleed Valve	AC or HP	R-410A	1½ - 2 Ton
TX3N4	Non-bleed Valve	AC or HP	R-410A	2½ - 3 Ton
TX5N4	Non-bleed Valve	AC or HP	R-410A	3½ - 5 Ton

### DRAIN PAN INSULATION KIT FOR DOWNFLOW APPLICATIONS

Chassis Size	Insulation Kit
Small (15½")	DPI18-30/20
Medium (19½")	DPI36-42/20
Large (22")	DPI48-60/20

Note: Each kit contains enough material to modify 20 coils

### FILTERS

Model	Filter #	Qty Required
1729/ 1824	FIL 18-32	1
1931	FIL-36-42	1
3030/ 3636	FIL-36-42	1
3642/ 3743	FIL 48-61	1
4860/4961	FIL 48-61	1

## PRODUCT SPECIFICATIONS

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## NOTES

