

Quick Reference Guide

OmegaAir - Series Technical Data



MODEL KEY	
Model	Unit Configuration
OSA (V, H)	Air-Cooled Air Conditioner
OSW (V, H)	Water-Cooled Air Conditioner
PBK	Remote Outdoor Propeller Condenser

Product Features

The OmegaAir System of 100% outside air units are available as water-cooled packaged units or air-cooled matched with a remote outdoor air-cooled condenser. Systems are designed for indoor application in Vertical or Horizontal configuration.

- Vertical or Horizontal Cabinet Configuration
- Water-cooled Packaged Unit
- Air-cooled Matched with Remote Outdoor Propeller Fan Condenser
- Air-cooled Condenser includes: ECM Fan Speed Control (Low Ambient to 0 Deg.F), Unit Mounted Disconnect, Motor Circuit Breaker(s) and Painted Cabinet
- Cabinet - Galvanized Metal
- Insulation - 2" Thermal/Acoustic Fiberglass (R-8)
- Double Wall / Solid Panel Liner
- 2" MERV 13, Pleated Throwaway Filters
- Draw-through Air Flow Configuration
- Belt-Drive Blower w/ Adjustable Pulley
- Sealed / Permanently Lubricated Motor Bearings
- IAQ Sloped Stainless Steel Drain Pan
- R-410A Refrigerant, Factory Charged (add'l ref. req'd. for interconnecting lines (Air-cooled Only)
- Quick Connect Fittings on Units w/ Interconnect Kit
- Aluminum Fin/Copper Tube Coils
- MOP Type Thermal Expansion Valve
- Interlaced Evaporator Coil (dual circuit units)
- Digital Scroll Compressor, 1st Circ.
- Fixed Scroll Compressor, 2nd Circ. (dual circuit units)
- Compressor Crankcase Heater(s)
- Modulating Hot Gas Reheat, 1st Circ.
- Oil Separator(s) (Air-cooled Only)
- Liquid Line Solenoid Valve(s) (Air-cooled Only)
- Filter Drier(s)
- Co-Axial Condenser(s) (Water-cooled Only)
- Electronic Head Pressure Control Valve, 3-Way w/2-Way Secondary Manual Bypass Valve (water-cooled only)
- High and Low Pressure Switches
- Single Point Power - With or Without Factory Installed Electric Heat
- Marvel Premium Microprocessor Controller w/ Wall Display *
- BMS Communications - BACnet MS/TP (field convertible to IP/Ethernet)
- Air Flow Proving Switch
- Drain Pan Overflow Switch
- Dirty Filter Switch
- Phase Reversal Sensor
- Unit Mounted Temp Sensor After Evaporator Coil

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Contact:
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Product Features Continued:

- Duct Mount Outside Air Temp/Humidity Sensor *
 - Duct Mount Supply Air Temp Sensor *
 - Wall Mount Space Temp/Humidity Sensor *
 - Dry Contacts:
 - ▶ Remote Water Pump - On/Off (Pump by Others, Water-cooled Only)
 - ▶ Water Flow Proving Switch - On/Off (Switch by Others, Water-cooled Only)
 - ▶ Remote On/Off Terminal Blocks
 - ▶ Aux. Drain Pan Switch (switch by others)
 - ▶ Outside Air Damper Control - On/Off (damper/actuator by others)
 - ▶ Outside Air Damper End Switch (damper/actuator by others)
 - Terminal Blocks for Field Supplied Smoke Detector
 - Terminal Blocks for Field Provided Heater (Electric or Gas), 0-10vdc Signal
 - Functionally Run Tested at the Factory
 - One (1) Year Limited Parts Warranty
 - Five (5) Year Limited Compressor Warranty
- * Ships Loose, Field Installed

Options

- Non-Fused Disconnect
- Condensate Pump
- Terminals for Electric or Gas Duct Heater by Others (0-10vdc Signal)
- Coated Coil – ElectroCoil / E-Coat - Evaporator
- Coated Coil – ElectroCoil / E-Coat – Hot Gas Reheat
- Painted Cabinet



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Physical Data - OmegaAir™ Section

Tons		3	4	5	6	7	8
Evaporator Supply Air (a)	CFM Range	334 - 666	445 - 888	567 - 1133	667 - 1333	756 - 1511	977 - 1952
	Max. ESP	1.2"	2.0"				
Evaporator Motors (b)	Std. HP @ 0.25" ESP	1/3	1/4		1/3	3/4	1
	Opt. HP @ 1.0" ESP	1/2			3/4	3.78	4.88
Evaporator Coil	Rows	6					
	FPI	10					
Compressor	Type	Digital Scroll			Digital and Fixed Scroll		
	Qty	2					
Weight (Net Operating) (c)	Air-Cooled – Vert.	552	728	769	777	812	851
	Water-Cooled – Vert.	575	767	814	828	875	914
	Air-Cooled – Horiz.	467	643	669	692	731	766
	Water-Cooled – Horiz.	490	692	737	745	782	821
Available Voltages	208/230-1-60	•	•	•	N/A	N/A	N/A
	208/230-3-60	•	•	•	•	•	•
	460-3-60	•	•	•	•	•	•

Tons		9	10	11	12	13.5	15
Evaporator Supply Air (a)	CFM Range	1039 - 2077	1134 - 2266	1334 - 2666	1334 - 2666	1467 - 2933	1800 - 3600
	Max. ESP	2.0"					
Evaporator Motors (b)	Std. HP @ 0.25" ESP	1/2	3/4			1	1-1/2
	Opt. HP @ 1.0" ESP	3/4	1		1-1/2		2
Evaporator Coil	Rows	6					
	FPI	10					
Compressor	Type	Digital and Fixed Scroll					
	Qty	2					
Weight (Net Operating) (c)	Air-Cooled – Vert.	1062	1104	1116	1126	1157	1256
	Water-Cooled – Vert.	1137	1179	1208	1218	1273	1372
	Air-Cooled – Horiz.	877	917	929	941	974	1080
	Water-Cooled – Horiz.	960	1002	1020	1035	1086	1186
Available Voltages	208/230-1-60	N/A	N/A	N/A	N/A	N/A	N/A
	208/230-3-60	•	•	•	•	•	•
	460-3-60	•	•	•	•	•	•

- (a) Air flow performance may require other than standard drive components. Max. ESP may not be available for the entire CFM range.
- (b) Motor Size based on 200 CFM/ton with no options. Run selection on UCA Select to verify proper motor size based on actual unit configuration.
- (c) Net operating weight is for basic unit only. Options will add weight.



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Water-Cooled Performance Data (a) (b) (c)

Standard Scroll Compressor

Tons	CFM	Entering Air Temp. (°F)		Cooling (Btuh)		Leaving Air Temp. (°F)		GPM	Leaving Water Temp. (°F)
		DB	WB	Total	Sensible	DB	WB		
3	510	95	78	41,980	22,840	54.8	54.8	9	95.9
4	710			57,971	31,510	55.1	55.1	12	95.9
5	900			72,530	39,561	55.3	55.3	15	96.6
6	1000			82,660	44,940	54.5	54.5	18	96.4
7	1250			99,390	54,480	55.8	55.7	21	96.0
8	1450			119,420	64,820	54.7	54.6	24	96.8
9	1550			126,820	69,190	54.8	54.8	27	96.7
10	1750			143,220	78,140	54.9	54.9	30	96.7
11	2000			160,350	87,780	55.5	55.5	33	96.5
12	2100			168,840	92,550	55.4	55.4	36	96.1
13.5	2400			191,280	105,010	55.8	55.7	40	96.2
15	2500			231,760	116,540	54.9	54.9	45	95.9

- (a) Capacities are gross values, not adjusted for motor heat
- (b) Some refrigerant circuit components may impact unit capacities
- (c) Entering Water Temperature 85° F

Air-Cooled Performance Data (a) (b) (c)

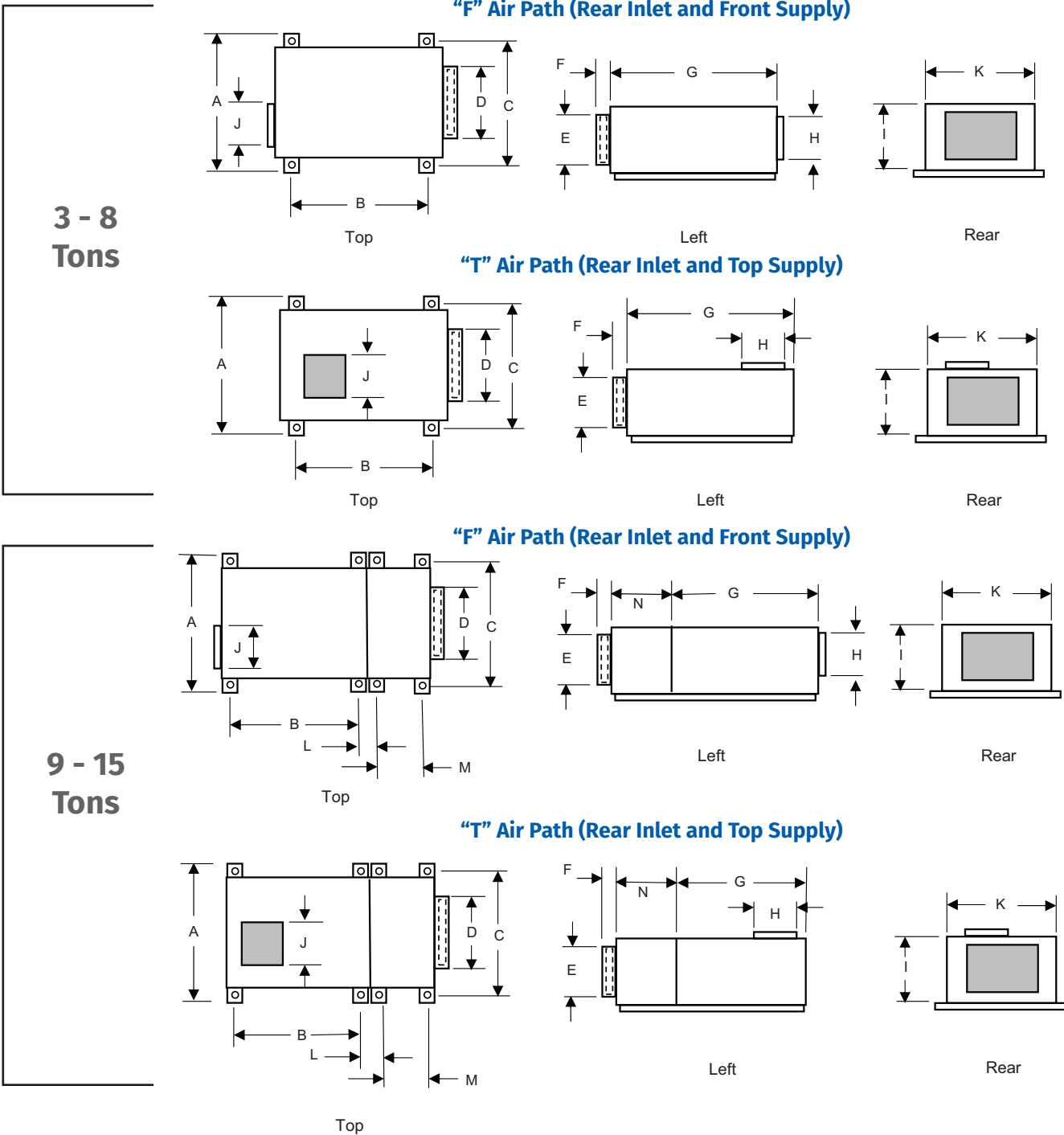
Outdoor Propeller Fan Condenser – Standard Scroll Compressor(s)

OmegaAir Tons	OmegaAir CFM	Entering Air Temp. (°F)		Cooling (Btuh)		Leaving Air Temp. (°F)	
		DB	WB	Total	Sensible	DB	WB
3	490	95	78	38,660	21,370	55.9	55.9
4	660			52,110	28,920	56.2	56.2
5	890			68,130	37,910	56.8	56.8
6	990			77,360	42,960	56.2	56.2
7	1230			92,060	51,550	57.4	57.4
8	1400			110,040	60,780	56.1	56.1
9	1500			115,880	64,270	56.6	56.6
10	1750			134,430	74,520	56.7	56.7
11	1900			145,750	80,870	56.8	56.8
12	2010			153,800	85,620	56.8	56.8
13.5	2370			176,620	98,460	57.7	57.6
15	2450			195,000	107,250	55.7	55.7

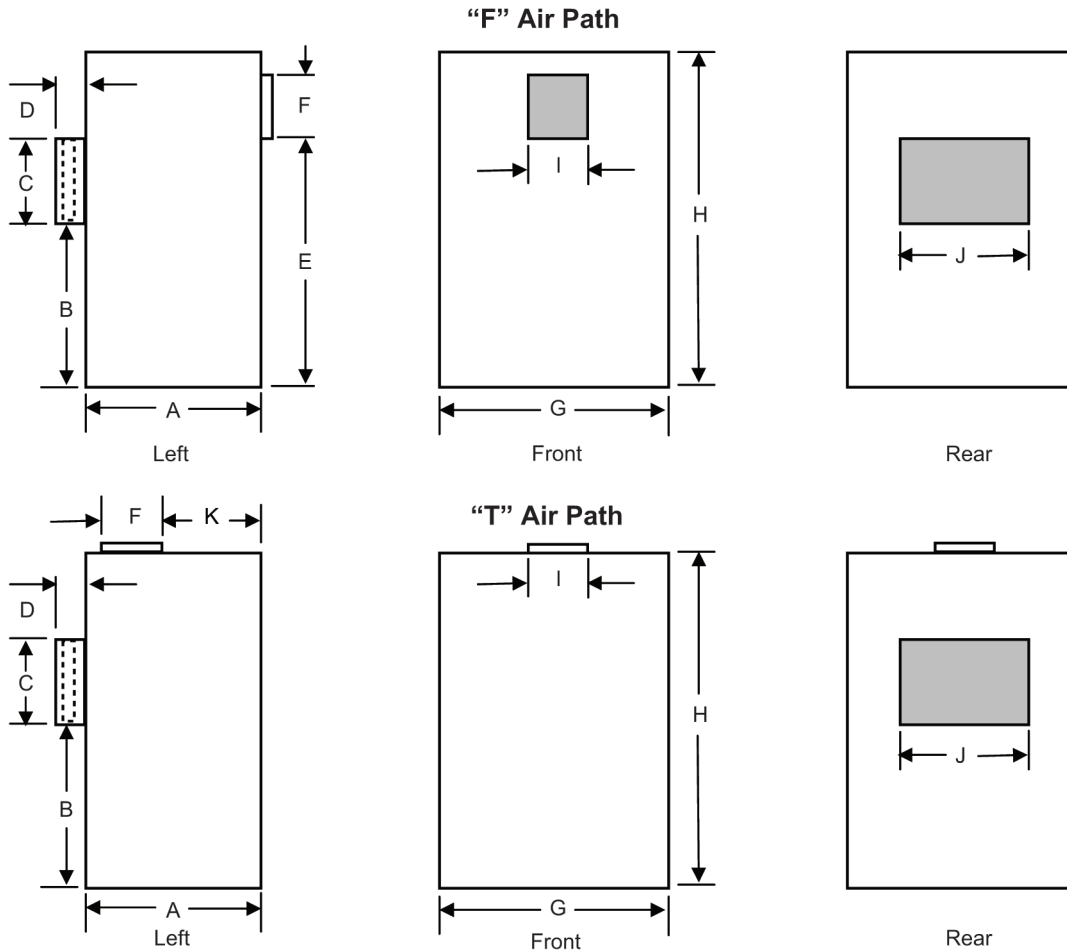
- (a) Capacities are gross values, not adjusted for motor heat.
- (b) Some refrigerant circuit components may impact on unit capacities.
- (c) Ambient Air Temperature 95°F

Dimensions - Horizontal

Not To Scale



Dimensions - Vertical



Not To Scale

Tons	A	B	C	D*	E	F	G	H	I	J	K
3 - 8	31	29-1/4	20	5 or 7	57-7/8	11-3/8	48	72	10-1/2	39-1/8	16-1/2
9 - 15	31	26-7/8	25	5 or 7	61-1/2	13-5/8	72	78	12-7/16	51-1/8	15-1/16

*Extended filter rack to 28 or 30 inches with optional heat