

SmartComfort 2400

TEMPSTAR®

Heating and Cooling Products

14+ SEER Heat Pump



Representative photo only, some models may vary in appearance.

2 THRU 5 TONS SPLIT SYSTEM

FEATURES

- "Durawhisper"™ Top design for quiet operation
- Rugged and coated inlet and discharge grilles for superior coil protection
- High efficiency scroll compressors on all models
- Suction line accumulator on all models
- Highest efficiency demand defrost with Compressor anticycle timer
- Soft defrost change over
- Low pressure cut out switch
- Large biflow filter driers

BUILT TO LAST

- G-90 Galvanized steel cabinet with integral base rails
- Triple step painting process
- Copper tube / aluminum fin coil
- Precoated condenser fins
- 5 Year parts, 10 year compressor limited warranties

EASY TO INSTALL AND SERVICE

- Filled with Service Friendly features
- Service valves on all models with 3-1/2" stubs
- Fan motor in-line disconnect plug
- Easy side access sloped control panel
- Factory charged with R-22, condenser plus 25 Ft. lines
- External high and low refrigerant service ports



Rated in accordance with ARI Standard 240. Certification applies only when used with proper components as listed with ARI.

International Comfort Products Corporation (USA)
651 Heil-Quaker Ave.
Lewisburg, Tennessee 37091

RESIDENTIAL AND COMMERCIAL SYSTEMS • SPLIT SYSTEMS • PACKAGED AIR CONDITIONERS •
COMBINATION GAS / ELECTRIC UNITS • HEAT PUMPS • AIR HANDLERS • MANUFACTURED HOME AIR
CONDITIONERS • GAS, OIL AND ELECTRIC FURNACES

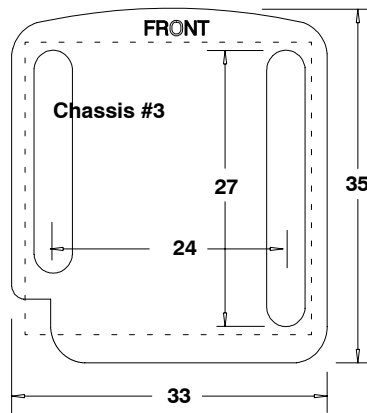
Base Specifications

Model Number	TCH424AKA	TCH430AKA	TCH436AKA	TCH442AKA	TCH448AKA	TCH460AKA
Max. Cooling Capacity (Btuh)	22600	29000	36200	40000	44500	58000
Max. Heating Capacity (Btuh)	23400	29600	38500	43000	44000	57500
SEER Label	14	14	14	14	14	14
Sound Rating Decibels	74	76	76	76	78	78
Fan HP / Type / Speeds	1/8-PSC-2	1/8-PSC-2	1/8-PSC-2	1/4-PSC-2	1/4-PSC-2	1/4-PSC-2
Fan Max RPM	840	840	840	840	840	840
Coil Face Area (Sq Ft)	26.67	26.67	26.67	26.67	26.67	26.67
Coil Rows / Fins Per Inch	2 / 22	2 / 22	2 / 22	2 / 22	2 / 22	2 / 22
Line Connection Suction I.D. Size (In.)	3/4	3/4	3/4	7/8	7/8	1-1/8
Line Connection Liquid I.D. Size (In.)	3/8	3/8	3/8	3/8	3/8	1/2
Factory Charge - R22 (Oz)	300	292	330	375	333	400
Weight Lbs. (Ship)	284	299	311	319	329	346

Electrical Specifications - 208 - 230 / 1 / 60, Voltage Range 197V - 253V

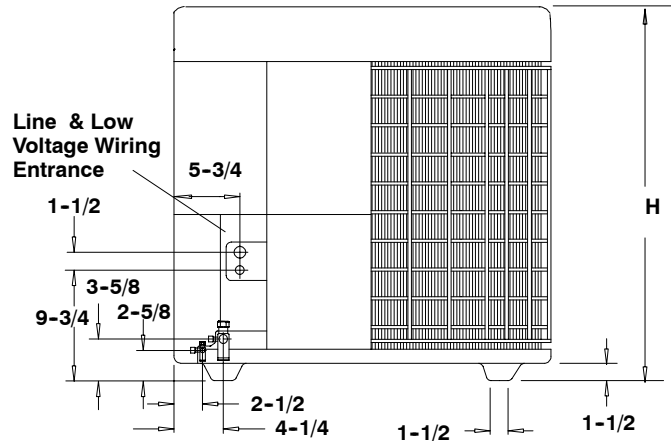
Minimum Circuit Ampacity	14.3	16	21.2	25.8	24.4	32.8
Wire Size/Max. Length (AWG Cu) Ft.	14 / 45	14 / 35	12 / 46	10 / 61	12 / 31	8 / 51
Time Delay Fuse (Amps)	15	15	30	35	30	40
Max. Fuse or HACR Breaker Size (Amps)	25	25	35	45	40	50
Compressor Full Run / Lock Rotor Amps	10.83 / 47	12.18 / 61	16.34 / 73	19.4 / 88	18.3 / 109	25 / 169
Fan Full Load / Lock Rotor Amps.	.8 / 1.5	.8 / 1.5	.8 / 1.5	1.5 / 2.9	1.5 / 2.9	1.5 / 2.9

Dimensions		
Model	Chassis	Height (H)
424	3	44-1/8
430	3	44-1/8
436	3	44-1/8
442	3	44-1/8
448	3	44-1/8
460	3	44-1/8



Minimum Mounting Pad Sizes with pad starting at 9" from structure for minimum clearances

Chassis #3 27" W X 28" D



Accessory	Description	Used On
AMF153TKB	Expansion Valve Kit	1 1/2 - 3 Ton
AMF355TKB	Expansion Valve Kit	3 1/2 - 5 Ton
AXWR01DFA	Fossil Fuel Kit	All Models
AMA001TDA	Indoor Blower Time Delay	All Models
AMB001CMA	Mesh Grille Guard (Pkg of 6) Trim to Fit	All Models
1053477 *	Compressor Crankcase Heater Solid State "Stick On" Type	All Models
1148113 *	Compressor Crankcase Heater "Wrap-around" Type (6.5 to 8.5 inch Dia Compressors)**	**All Models
1061482 *	Compressor Crankcase Heater "Wrap-around" Type (4.2 to 6.7 inch Dia Compressors)**	**All Models
1060833*	Compressor Sound Jacket (Small Scroll)	1 1/2 - 3 Ton
1060834 *	Compressor Sound Jacket (Large Scroll)	3 1/2 - 5 Ton

* Order from Service Parts

PERFORMANCE DATA COOLING / HEATING

Outdoor Model	Indoor Model	Cooling 95 F					Heating 47 F			Heating 17 F		CFM	Pin/TXV
		Btuh	SEER	S/T	EER	WATTS	Btuh	COP	HSPF	Btuh	COP		
TCH424AKA*	FCV36****	22800	15.00	.77	13.4	1520	22800	3.46	8.30	12100	2.28	850	TXV
TCH424AKA*	EX*36F****	22600	14.00	.76	12.5	1614	23400	3.26	8.20	12500	2.18	800	TXV
TCH424AKA*	FCX36****	22600	14.00	.76	12.5	1614	23400	3.26	8.20	12500	2.18	800	TXV
TCH424AKA*	EX*36J****	22600	14.00	.76	12.5	1614	23400	3.26	8.20	12500	2.18	800	TXV
TCH424AKA*	EX*24F****+MV12F19****	22400	15.00	.76	13.3	1493	22800	3.38	8.20	12100	2.26	800	TXV
TCH424AKA*	FCX24****	22000	14.00	.77	12.3	1571	23400	3.20	8.15	12600	2.14	800	TXV
TCH424AKA*	EX*24B****	22000	14.00	.76	12.3	1571	23400	3.20	8.15	12600	2.14	800	TXV
TCH424AKA*	EP*30F****+TXV+MV12F19****	21200	14.00	.76	12.4	1514	22800	3.34	8.20	12100	2.24	600	TXV
TCH430AKA*	FCV36****	29000	15.00	.78	13.9	1933	29600	3.38	8.25	16300	2.50	1000	TXV
TCH430AKA*	EX*36F****+MV12F19****	29000	15.00	.77	13.9	1933	28800	3.64	8.40	16300	2.50	1000	TXV
TCH430AKA*	EX*36J****	28400	14.10	.77	12.5	2014	29400	3.46	8.30	16900	2.36	1000	TXV
TCH430AKA*	EX*36J****	28400	14.10	.77	12.5	2014	29400	3.46	8.30	16900	2.36	1000	TXV
TCH430AKA*	FCP36****+TXV	28400	13.40	.78	12.9	2119	29600	3.38	8.25	17000	2.34	1000	TXV
TCH430AKA*	FCX36****	28400	14.00	.78	12.3	2029	29600	3.44	8.50	17000	2.36	1000	TXV
TCH430AKA*	EP*36F****+TXV+MV12F19****	27400	14.80	.77	13.2	1851	28800	3.58	8.40	16300	2.50	1000	TXV
TCH436AKA*	EX*42J****+MV16J22****	36200	15.00	.76	13.0	2413	38000	3.80	9.30	24400	2.78	1200	TXV
TCH436AKA*	FCX48****	36000	14.00	.75	12.3	2571	38500	3.70	9.25	25000	2.70	1200	TXV
TCH436AKA*	EX*42J****	36000	14.20	.76	12.4	2535	38500	3.70	9.25	24800	2.70	1200	TXV
TCH436AKA*	EX*36F****+MV12F19****	35600	14.80	.75	12.8	2405	38000	3.74	9.30	24400	2.76	1200	TXV
TCH436AKA*	FCV36****	35600	14.80	.75	12.8	2405	38000	3.74	9.30	24400	2.76	1200	TXV
TCH436AKA*	EX*36J****	35400	14.00	.75	12.2	2529	38500	3.64	9.20	24800	2.70	1200	TXV
TCH436AKA*	FCX36****	35400	14.00	.75	12.1	2529	38500	3.66	9.20	24800	2.70	1200	TXV
TCH436AKA*	EX*36F****	35400	14.00	.75	12.2	2529	38500	3.64	9.20	24800	2.70	1200	TXV
TCH436AKA*	EP*42F****+MV12F19****+TXV	35000	14.70	.75	12.6	2381	38000	3.68	9.25	24400	2.76	1200	TXV
TCH436AKA*	FCP42****+TXV	34800	13.70	.76	11.9	2540	38500	3.60	9.15	25000	2.68	1200	TXV
TCH442AKA*	EX*48N****+EV(MV)20N26****	40000	14.00	.75	12.5	2857	38000	3.44	8.40	21200	2.34	1350	TXV
TCH442AKA*	FCV48****	40000	14.00	.75	12.5	2857	38000	3.44	8.40	21200	2.34	1350	TXV
TCH442AKA*	EX*42J****	39000	12.60	.75	11.2	3095	43000	3.56	8.00	21600	2.10	1400	TXV
TCH442AKA*	EP*48F****+EV(MV)12F19****+TXV	38500	13.80	.75	12.2	2790	42000	3.70	8.10	20600	2.24	1350	TXV
TCH442AKA*	EX*48N****	38500	13.00	.75	11.0	2962	43000	3.44	7.95	22000	2.08	1400	TXV
TCH442AKA*	FCX48****	38500	13.00	.75	11.0	2962	43000	3.44	7.95	22000	2.08	1400	TXV
TCH442AKA*	FCP48****+TXV	37800	11.80	.76	10.6	3203	43000	3.44	7.95	22000	2.08	1400	TXV
TCH448AKA*	FCV60****	46000	14.00	.75	12.1	3286	43000	3.60	8.95	26800	2.36	1500	TXV
TCH448AKA*	EX*60N****+EV(MV)20N26****	46000	14.00	.75	12.1	3817	43000	3.60	8.95	26800	2.36	1500	TXV
TCH448AKA*	EX*60N****	45000	13.00	.75	11.0	3462	44000	3.34	8.65	28200	2.24	1500	TXV
TCH448AKA*	EAH5548*	44500	12.10	.75	11.0	3678	44000	3.44	8.70	27800	2.28	1500	.084
TCH448AKA*	FCP60****	44500	11.70	.75	10.7	3803	44000	3.34	8.65	28200	2.24	1500	.079
TCH448AKA*	FCV48****	43500	13.10	.75	11.5	3321	43000	3.60	8.85	26800	2.36	1500	TXV
TCH448AKA*	EP*60N****+EV(MV)20N26****+TXV	43500	13.30	.75	11.5	3271	43000	3.58	8.80	26800	2.36	1500	TXV
TCH448AKA*	EP*60J****+EV(MV)16J22****+TXV	43500	13.30	.75	11.5	3271	43000	3.58	8.80	26800	2.36	1500	TXV
TCH448AKA*	EX*48N****	43000	12.20	.74	10.6	3525	43500	3.42	8.70	27800	2.28	1500	TXV
TCH448AKA*	FCX48****	42500	11.70	.75	10.2	3632	44000	3.34	8.65	28200	2.24	1500	TXV
TCH460AKA*	EX*60N****+EV(MV)20N26****	58000	13.00	.70	11.1	4462	56000	3.68	8.40	39000	2.50	1750	TXV
TCH460AKA*	FCV60****	58000	13.00	.70	11.1	4462	56000	3.68	8.40	39000	2.50	1750	TXV
TCH460AKA*	EX*60N****	57500	12.60	.70	10.8	4563	56500	3.62	8.35	39500	2.46	1750	TXV
TCH460AKA*	FCX60****	57000	12.10	.70	10.4	4711	57000	3.66	8.30	39500	2.42	1750	TXV
TCH460AKA*	EP*60J****+EV(MV)16J22****+TXV	54500	12.30	.71	10.6	4431	56000	3.66	8.40	39000	2.52	1750	TXV
TCH460AKA*	EP*60N****+EV(MV)20N26****+TXV	54500	12.30	.71	10.6	4431	56000	3.66	8.40	39000	2.52	1750	TXV

Many matches require a pin change. Always check pin size to insure maximum performance. PIN=Refrigerant orifice PIN size. TD1=AMA001 TDA Indoor Blower Time Delay Kit, required to make SEER indicated. All products using an electronic fan control satisfy TD1 requirements. TXV=Thermostatic Expansion Valve, TXV153 (AMF153) replaces HTXV1, 2 or 3 where listed in ratings, TXV335 (AMF335) Replaces HTXV4 or 5 where listed in ratings. EP* = EPA, EPD, EPM series of coils. EX* = EXA, EXD, EXM series of coils. EE* = EEA OR EED series of coils.

MODEL NUMBER IDENTIFICATION GUIDE

MODEL NUMBER * PRODUCT FAMILY N = Brand	HP	2	24	A	K	A	SALES CODE
							ELECTRICAL K = 208/230-1-60 H = 208/230-3-60
PRODUCT TYPE AC = Air Conditioning CA = Condenser A/C HP = Heat Pump CH = Condenser H/P							CONNECTIONS A = Sweat / Valve
NOMINAL SEER RATING 0 = 10 2 = 12 4 = 14							NOMINAL CAPACITY MBTUH 18 = 18,000 24 = 24,000 30 = 30,000 36 = 36,000 42 = 42,000 48 = 48,000 60 = 60,000

EXTENDED REFRIGERANT LINE CORRECTION FACTORS

Varying Line Length in Feet (m) vs. Total Capacity Multiplier					
25 (8)	50 (15)	75 (23)	100 (30)	125 (38)	150 (46)
1.00	.99	.98	.96	.94	.92

REFRIGERANT CHARGE DATA

All models are factory charged with R-22 for outdoor unit, 25' (8m) of refrigerant line and matching indoor section.
 Refrigerant charge correction per foot (305mm) of line:
 1/4" O.D. = .25 oz.; 5/16" O.D. = .45 oz.; 3/8" O.D. = .60 oz.;
 1/2" O.D. = 1.2 oz.

VOLTAGE CORRECTION FACTORS

Volts	Capacity	Watts
208	.98	.99

INDOOR AIRFLOW CORRECTION TABLE

% Rated Air	90	95	100	105	110
Total Cap. Mult.	.98	.99	1.00	1.01	1.03
Sens Cap. Mult.	.95	.98	1.00	1.03	1.05

INDOOR TEMPERATURE CORRECTION TABLE

(Based on 95°F Ambient)

Indoor D.B. °F (°C).	Correction Factor	Entering Indoor Wet Bulb °F (°C).						
		59 (15)	61 (16)	63 (17)	65 (18)	67 (19)	69 (20)	71 (21)
70 (21)	Total Cap. Mult.	.90	.93	.96	.99	1.02	-	-
	Sens Cap. Mult.	.86	.85	.82	.77	.70	-	-
75 (24)	Total Cap. Mult.	.89	.92	.95	.98	1.01	1.04	-
	Sens Cap. Mult.	1.04	1.03	1.00	.95	.88	.78	-
80 (26)	Total Cap. Mult.	.88	.91	.94	.97	1.00	1.03	1.06
	Sens Cap. Mult.	1.18	1.17	1.14	1.08	1.00	.89	.73
85 (29)	Total Cap. Mult.	-	.90	.93	.96	.99	1.02	1.05
	Sens Cap. Mult.	-	1.29	1.26	1.20	1.11	.98	.81

Bold Type = approximately 50% Relative Humidity