# FUJITSU



## FO\*17C Series (Non-Communicating)

Efficiencies up to 17 SEER/13 EER Nominal Sizes 2, 3, 4 & 5 Ton [7.03, 10.6, 14.06 & 17.6 kW] Cooling Capacities 17.3 to 60.5 kBTU [5.7 to 17.7 kW]

Manufactured for

### **Fujitsu General America, Inc.** Fairfield, NJ



# TWO-STAGE AIR CONDITIONERS

## Features

- New composite base pan dampens sound, captures louver panels, eliminates corrosion and reduces number of fasteners needed
- Powder coat paint system for a long lasting professional finish
- The Two-Stage Copeland Scroll<sup>™</sup> UltraTech<sup>™</sup> Compressor modulates between two capacity settings 67% and 100% providing more precise temperature control, lower humidity and greater efficiency in comparison to single stage compressors. It uses 70% fewer moving parts which also increases efficiency and reliability.
- Modern cabinet aesthetics increased curb appeal with visually appealing design
- Curved louver panels provide ultimate coil protection, enhance cabinet strength, and increased cabinet rigidity
- Optimized fan orifice optimizes airflow and reduces unit sound
- Rust resistant screws confirmed through 1500-hour salt spray testing
- Expanded Valve Space 3"-4"-5" service valve space provides a minimum working area of 27-square inches for easier access
- **Triple Service Access** 15" wide, industry leading corner service access – makes repairs easier and faster. The two fastener removable corner allows optimal access to internal unit components. Individual louver panels come out once fastener is removed, for faster coil cleaning and easier cabinet reassembly
- Diagnostic service window with two-fastener opening provides access to the high and low pressure.
- External gauge port access allows easy connection of "low-loss" gauge ports
- Single-row condenser coil makes unit lighter and allows thorough coil cleaning to maintain "out of the box" performance
- 35% fewer cabinet fasteners and fastener-free base allow for faster access to internal components and hasslefree panel removal
- Service trays hold fasteners or caps during service calls
- QR code provides technical information on demand for faster service calls
- Fan motor harness with extra long wires allows unit top to be removed without disconnecting fan wire.
- High and low pressure standard on all models.

"Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet ENERGY STAR criteria. Ask your Contractor for details or visit www.energystar.gov."

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Air (	Conditioners							
FO	<u>24</u>	<u>17</u>	<u>C</u>	Ţ	<u>J</u>	<u>c</u>	B	<u>A</u>
Brand	Capacity	SEER	Product	Туре	Voltage	Controls	Minor Series	Major Series
FO = Fujitsu	24 = 24,000 BTU/H 36 = 36,000 BTU/H 48 = 48,000 BTU/H 60 = 60,000 BTU/H	17 = 17 SEER	C = Air Conditioner	T = Two-Stage	J = 1 ph, 208-230/60	C = Communicating N = Non-Communciating	A = First Design Series B = Second Design Series	A = First Design Series

## **Available SKUs**

Physical Data				
Model No.	F02417C	F03617C	F04817C	F06017C
Nominal Tonnage	2.0	3.0	4.0	5.0
Valve Connections				
Liquid Line O.D. – in.	3/8	3/8	3/8	3/8
Suction Line O.D. – in.	3/4	3/4	7/8	7/8
Refrigerant (R-410A) furnished oz. <sup>1</sup>	128	151	204	223
Compressor Type		S	croll	1
Outdoor Coil				
Net face area – Outer Coil	19.8	22.2	32.3	32.3
Net face area – Inner Coil	_	_	_	_
Tube diameter – in.	0.375	0.375	0.375	0.375
Number of rows	1	1	1	1
Fins per inch	20	22	22	22
Outdoor Fan				
Diameter – in.	24	24	26	26
Number of blades	3	3	3	3
Motor hp	1/5	1/5	1/2	1/2
CFM	3326	3540	4251	5133
RPM	850	820	646	825
watts	112	112	132	113
Shipping weight – Ibs.	200	209	297	298
Operating weight – Ibs.	193	202	290	291
Electrical Data				
Line Voltage Data (Volts-Phase-Hz)	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Maximum overcurrent protection (amps) <sup>2</sup>	25	35	50	60
Minimum circuit ampacity <sup>3</sup>	16	21	32	42
Compressor		1	1	1
Rated load amps	11.7	15.3	21.2	28.8
Locked rotor amps	58.3	83	104	152.9
Condenser Fan Motor		1	1	1
Full load amps	1.4	1.2	5.3	5.3
Locked rotor amps	_	_	—	_

<sup>1</sup>Refrigerant charge sufficient for 15 ft. length of refrigerant lines. For longer line set requirements see the installation instructions for information about set length and additional refrigerant charge required. <sup>2</sup>HACR type circuit breaker of fuse. <sup>3</sup>Refer to National Electrical Code manual to determine wire, fuse and disconnect size requirements.

## **Accessories**

Model No		F02417C	F03617C	F04817C	F06017C
Compressor crankcase heater*		44-17402-44	44-17402-44	44-101884-05	44-101884-05
Low ambient control		RXAD-A08	RXAD-A08	RXAD-A08	RXAD-A08
Freeze Stat		50313	50313	50313	50313
Compressor sound cover		68-23427-26	68-23427-26	68-25217-10	68-25217-10
Compressor hard start kit		SK-A1	SK-A1	SK-A1	SK-A1
Liquid Line Solenoid	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
(24 VAC, 50/60 Hz)	Solenoid Coil	61-AMG24V	61-AMG24V	61-AMG24V	61-AMG24V
Liquid Line Solenoid	Solenoid Valve	200RD2T3TVLC	200RD2T3TVLC	200RD3T3TVLC	200RD3T3TVLC
(120/240 VAC, 50/60 Hz)	Solenoid Coil	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V	61-AMG120/240V

\*Crankcase Heater recommended with Low Ambient Kit.

## Weighted Sound Power Level (dBA)

Unit Size - Voltage, Series	Standard		TYPICAL	L OCTAVE BAND SPECTRUM (dBA without tone adjustment)					
Unit Size - Voltage, Series	Rating (dBA)	125	250	500	1000	2000	4000	8000	
F02417C	72.5	48.6	53.7	62.9	63.0	60.5	57.3	54.6	
F03617C	72.3	53.1	52.7	60.9	62.4	61.2	58.4	51.6	
F04817C	73.0	46.1	50.4	59.5	64.6	59.6	55.8	54.6	
F06017C	76.7	58.8	60.5	65.6	65.2	62.9	62.4	55.5	

NOTE: Tested in accordance with AHRI Standard 270-08 (not listed in AHRI)

Unit Dimensions FO\*17C Series

## **Unit Dimensions**

	OPERATING						SHIPPING					
MODEL NO.	H (Height)		L (Length)		W (Width)		H (Height)		L (Length)		W (Width)	
NO.	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
F02417	35	889	33.75	857	33.75	857	36.75	933	36.38	924	36.38	924
F03617	39	990	33.75	857	33.75	857	40.75	1035	36.38	924	36.38	924
F04817	51	1295	35.75	908	35.75	908	52.75	1339	38.38	974	38.38	974
F06017	51	1295	35.75	908	35.75	908	52.75	1339	38.38	974	38.38	974



ST-A1226-23-00

[ ] Designates Metric Conversions







NOTE: NUMBERS IN () = mm IMPORTANT: When installing multiple units in an alcove, roof well or partially endosed area, ensure there is adequate ventillation to prevent re-circulation of discharge air. ST-A1225-01-00

## **Non-communicating Thermostat Wiring Diagrams**

The following figures show the typical wiring diagrams with outdoor units. Cooling and heat pump airflows may need to be adjusted for homeowner comfort once the system is operational.

WIRE COLOR CODE									
BK – BLACK	G – GREEN	PR – PURPLE	Y – YELLOW						
BR – BROWN	GY – GRAY	R – RED							
BL – BLUE	0 – ORANGE	W – WHITE							

**Conventional Thermostat Wiring** 



## **Application Guidelines**

- 1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01 -in. wc.
- 2. Minimum outdoor operation air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
- 3. Maximum outdoor operating air temperature is 125°F (51.7°C).
- 4. For reliable operation, unit should be level in all horizontal planes.
- 5. Use only copper wire for electric connections at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
- 6. Do not apply capillary tube indoor coils to these units.
- 7. Factory supplied filter drier must be installed.

## **Refrigerant Line Size Information**

17 SEER 2-Stage Air-Conditioners											
Unit Size	Allowable Liquid	Allowable Vapor	Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Feet)	Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Feet)							
	Line Size	Line Size		< 25	26-50	51-75	76-100	101-125	126-150		
					ertical Rise (C			, .			
	1/4"	5/8"	N/R	25 / 0.99	50 / 0.98	31 / 0.97	3 / 0.97	N/R	N/R		
	5/16"	5/8"	73	25 / 0.99	50 / 0.98	50 / 0.97	50 / 0.97	50 / 0.96	50 / 0.95		
2 Ton	3/8"	5/8"	48	25 / 0.99	50 / 0.98	50 / 0.97	50 / 0.97	50 / 0.96	50 / 0.95		
*SEE NOTE 3	1/4"	3/4"*	N/R	25 / 1.00	50 / 1.00	31 / 0.99	3 / 0.99	N/R	N/R		
	5/16"	3/4"*	73	25 / 1.00	50 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	50 / 0.98		
	3/8"	3/4"*	48	25 / 1.00	50 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	50 / 0.98		
	5/16"	5/8"	20	25 / 0.99	50 / 0.97	50 / 0.95	50 / 0.93	34 / 0.91	N/R		
	3/8"	5/8"	15	25 / 0.99	50 / 0.97	50 / 0.95	50 / 0.93	50 / 0.91	N/R		
3 Ton	5/16"	3/4"	20	25 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	34 / 0.97	18 / 0.96		
	3/8"	3/4"	15	25 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	50 / 0.97	50 / 0.96		
	1/2"	3/4"	0	25 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	50 / 0.97	50 / 0.96		
	3/8"	3/4"	0	25 / 0.99	50 / 0.98	50 / 0.97	50 / 0.95	50 / 0.94	50 / 0.93		
4 Ton	1/2"	3/4"	0	25 / 0.99	50 / 0.98	50 / 0.97	50 / 0.95	50 / 0.94	50 / 0.93		
4 1011	3/8"	7/8"	0	25 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	50 / 0.98	50 / 0.97		
	1/2"	7/8"	0	25 / 1.00	50 / 0.99	50 / 0.99	50 / 0.98	50 / 0.98	50 / 0.97		
	3/8"	3/4"	0	25 / 0.99	50 / 0.97	50 / 0.95	50 / 0.93	50 / 0.91	N/R		
5 Ton	1/2"	3/4"	0	25 / 0.99	50 / 0.97	50 / 0.95	50 / 0.93	50 / 0.91	N/R		
5 1011	3/8"	7/8"	0	25 / 1.00	50 / 0.99	50 / 0.98	50 / 0.98	50 / 0.97	39 / 0.96		
	1/2"	7/8"	0	25 / 1.00	50 / 0.99	50 / 0.98	50 / 0.98	50 / 0.97	50 / 0.96		

NOTES:

 

 OTES:

 Do not exceed 150 ft linear line length.

 Do not exceed 50 ft vertical separation if outdoor unit is above indoor unit.

 \*3/4" vapor line should only be used for 2 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.

 Always use the smallest liquid line allowable to minimize refrigerant charge.

 Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.

 Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

 1. 2. 3. 4. 5. 6.

## **Refrigerant Line Size Information**

	17 SEER 2-Stage Air-Conditioners											
Unit Size	Allowable Liquid Line Size	Allowable Vapor Line Size mm [in.]	Use Long Line Guidelines for Linear Line Lengths Greater Than Shown Below (Meters)	Outdoor Unit ABOVE or BELOW Indoor Unit Equivalent Length (Meters)								
	mm [in.]			< 8	8-15	16-23	24-30	31-38	39-46			
				Maximum V	ertical Rise (O	utdoor Unit B	elow Indoor U	nit) * / Capac	ity Multiplier			
	6.35 [1/4]	15.88 [5/8]	N/R	8 / 0.99	15 / 0.98	9 / 0.97	1 / 0.97	N/R	N/R			
7.0 1/14	7.94 [5/16]	15.88 [5/8]	22	8 / 0.99	15 / 0.98	15 / 0.97	15 / 0.97	15 / 0.96	15 / 0.95			
7.0 KW [2 Ton]	9.53 [3/8]	15.88 [5/8]	15	8 / 0.99	15 / 0.99	15 / 0.97	15 / 0.97	15 / 0.96	15 / 0.95			
*SEE NOTE 3	6.35 [1/4]	19.05 [3/4]*	N/R	8 / 1.00	15 / 0.99	9 / 0.99	1 / 0.99	N/R	N/R			
	7.94 [5/16]	19.05 [3/4]*	22	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.99	15 / 0.98	15 / 0.98			
	9.53 [3/8]	19.05 [3/4]*	15	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.99	15 / 0.98	15 / 0.98			
	7.94 [5/16]	15.88 [5/8]	6	8 / 0.99	15 / 0.97	15 / 0.95	15 / 0.93	10 / 0.91	N/R			
10.6 KW	9.53 [3/8]	15.88 [5/8]	5	8 / 0.99	15 / 0.97	15 / 0.95	15 / 0.93	15 / 0.91	N/R			
[3 Ton]	7.94 [5/16]	19.05 [3/4]	6	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.98	10 / 0.97	5 / 0.96			
	9.53 [3/8]	19.05 [3/4]	5	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.98	15 / 0.97	15 / 0.96			
	12.70 [1/2]	19.05 [3/4]	0	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.98	15 / 0.97	15 / 0.96			
	9.53 [3/8]	19.05 [3/4]	0	8 / 0.99	15 / 0.98	15 / 0.97	15 / 0.95	15 / 0.94	15 / 0.93			
14.1 KW	12.70 [1/2]	19.05 [3/4]	0	8 / 0.99	15 / 0.98	15 / 0.97	15 / 0.95	15 / 0.94	15 / 0.93			
[4 Ton]	9.53 [3/8]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.98	15 / 0.98	15 / 0.97			
	12.70 [1/2]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	15 / 0.99	15 / 0.98	15 / 0.98	15 / 0.97			
	9.53 [3/8]	19.05 [3/4]	0	8 / 0.99	15 / 0.97	15 / 0.95	15 / 0.93	15 / 0.91	N/R			
17.6 KW	12.70 [1/2]	19.05 [3/4]	0	8 / 0.99	15 / 0.97	15 / 0.95	15 / 0.93	15 / 0.91	N/R			
[5 Ton]	9.53 [3/8]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	15 / 0.98	15 / 0.98	15 / 0.97	12 / 0.96			
	12.70 [1/2]	22.23 [7/8]	0	8 / 1.00	15 / 0.99	15 / 0.98	15 / 0.98	15 /0.97	15 / 0.96			

NOTES:
1. Do not exceed 46 meters linear line length.
2. Do not exceed 15 meters vertical separation if outdoor unit is above indoor unit.
3. \*19.05 mm [3/4 in.] suction line should only be used for 1.5 ton systems if outdoor unit is below or at same level as indoor to assure proper oil return.
4. Always use the smallest liquid line allowable to minimize refrigerant charge.
5. Applications shaded in light gray indicate capacity multipliers between 0.90 and 0.96 which are not recommended, but are allowed.
6. Applications shaded in dark gray are not recommended due to excessive liquid or suction pressure drop.

## Performance Data @ AHRI Standard Conditions – Cooling

Designated Teste	Designated Tested Combination (DTC)											
Outdoor Unit	Indoor Coil	Total Capacity BTU/H [kW]	Net Sensible BTU/H [kW]	Net Latent BTU/H [kW]	SEER	EER	Indoor CFM [L/s]					
F02417CTJ**A	FCC2417TSA	24000 [7.0]	18000 [5.3]	6000 [1.8]	14.00	12.20	800 [377.6]					
F03617CTJ**A	FCC3621TMA	34800 [10.2]	26000 [7.6]	8800 [2.6]	14.00	12.20	1075 [507.4]					
F04817CTJ**A	FCC6021TMA	46000 [13.5]	34400 [10.1]	11600 [3.4]	14.00	11.70	1500 [708.0]					
F06017CTJ**A	FCC6024TSA	55500 [16.3]	41700 [12.2]	13800 [4.0]	14.00	11.70	1600 [755.2]					

Air Handler							
Outdoor Unit	Indoor Coil	Total Capacity BTU/H [kW]	Net Sensible BTU/H [kW]	Net Latent BTU/H [kW]	SEER	EER	Indoor CFM [L/s]
F02417CTJ**A	FH2421TTT*MN	24000 [7.0]	18000 [5.3]	6000 [1.8]	17.0	13.0	525 [495.5]
F03617CTJ**A	FH3617TTT*MN	34800 [10.2]	26000 [7.6]	8800 [2.6]	17.0	13.0	800 [377.6]
F04817CTJ**A	FH4817TTT*MN	47000 [13.7]	34400 [10.1]	11600 [3.4]	17.0	13.0	1150 [542.7]
F06017CTJ**A	FH6017TTT*MN	56000 [16.4]	41700 [12.2]	13800 [4.0]	16.0	12.5	1175 [554.5]

Note: Additional ratings and system match ups and downloadable ratings certificates can be accessed from the AHRI website: www.ahridirectory.org

#### [ ] Designates Metric Conversions

## GUIDE SPECIFICATIONS

#### General

#### System Description

Outdoor-mounted, air-cooled, split-system air conditioner composite base pan unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, suction and legend line service valve, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a coil unit.

#### **Quality Assurance**

- Unit will be rated in accordance with the latest edition of AHRI Standard 210.
- Unit will be certified for capacity and efficiency, and listed in the latest AHRI directory.
- Unit construction will comply with latest edition of ANSI/ ASHRAE and with NEC.
- Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have c-UL-us approval.
- Unit cabinet will be capable of withstanding ASTM B117 1000hr salt spray test.
- Air-cooled condenser coils will be leak tested at 150 psig and pressure tested at 550 psig.
- Unit constructed in ISO9001 approved facility.

#### Delivery, Storage, and Handling

 Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

Warranty (for inclusion by specifying engineer) - U.S. and Canada only.

#### **Products**

#### Equipment

Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A, and special features required prior to field start-up.

#### Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.
- All units constructed with louver coil protection and corner post. Louver can be removed by removing one fastener per louver panel.

## AIR-COOLED, SPLIT-SYSTEM AIR CONDITIONER

#### **2 TO 5 NOMINAL TONS**

Fans

- Condenser fan will be direct-drive propeller type, discharging air upward.
- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated bearings. Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

#### Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.

#### Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes.

#### Refrigeration Components

- Refrigeration circuit components will include liquid-line shutoff valve with sweat connections, vapor-line shutoff valve with sweat connections, system charge of R-410A refrigerant, and compressor oil.
- Unit will be equipped with filter drier for R-410A refrigerant for field installation.

#### **Operating Characteristics**

- The capacity of the unit will meet or exceed \_\_\_\_\_ Btuh at a suction temperature of \_\_\_\_\_ °F/°C. The power consumption at full load will not exceed \_\_\_\_\_ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of \_\_\_\_\_ Btuh or greater at conditions of \_\_\_\_\_ CFM entering air temperature at the evaporator at \_\_\_\_\_ °F/°C wet bulb and \_\_\_\_\_ °F/°C dry bulb, and air entering the unit at \_\_\_\_\_ °F/°C.
- The system will have a SEER of \_\_\_\_\_ Btuh/watt or greater at DOE conditions.

#### **Electrical Requirements**

- Nominal unit electrical characteristics will be \_\_\_\_\_ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Nominal unit electrical characteristics will be \_\_\_\_\_ v, three phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of \_\_\_\_\_ v to \_\_\_\_\_ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.

#### **Special Features**

 Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.

## **GENERAL TERMS OF LIMITED WARRANTY\***

*Fujitsu General America, Inc.* will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

\*For complete details of the Limited and Conditional Warranties, including applicable terms and conditions, contact your local contractor or the Manufacturer for a copy of the product warranty certificate.

Conditional Parts (Registration Required).....Ten (10) Years Notes FO\*17C Series

Notes FO\*17C Series

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

"In keeping with its policy of continuous progress and product improvement, the right is reserved to make changes without notice." PRINTED IN U.S.A. 6-19 QG FORM NO. AFJ-226 REV. 1