

TECHNICAL SUPPORT MANUAL

Fan Coils

FSA2X & FSA4X

Safety Labeling and Signal Words

DANGER, WARNING, CAUTION, and NOTE

The signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTE** are used to identify levels of hazard seriousness. The signal word **DANGER** is only used on product labels to signify an immediate hazard. The signal words **WARNING**, **CAUTION**, and **NOTE** will be used on product labels and throughout this manual and other manuals that may apply to the product.

DANGER - Immediate hazards which **will** result in severe personal injury or death.

WARNING - Hazards or unsafe practices which **could** result in severe personal injury or death.

CAUTION - Hazards or unsafe practices which **may** result in minor personal injury or product or property damage.

NOTE - Used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

Signal Words in Manuals

The signal word **WARNING** is used throughout this manual in the following manner:



The signal word **CAUTION** is used throughout this manual in the following manner:



Signal Words on Product Labeling

Signal words are used in combination with colors and/or pictures on product labels.

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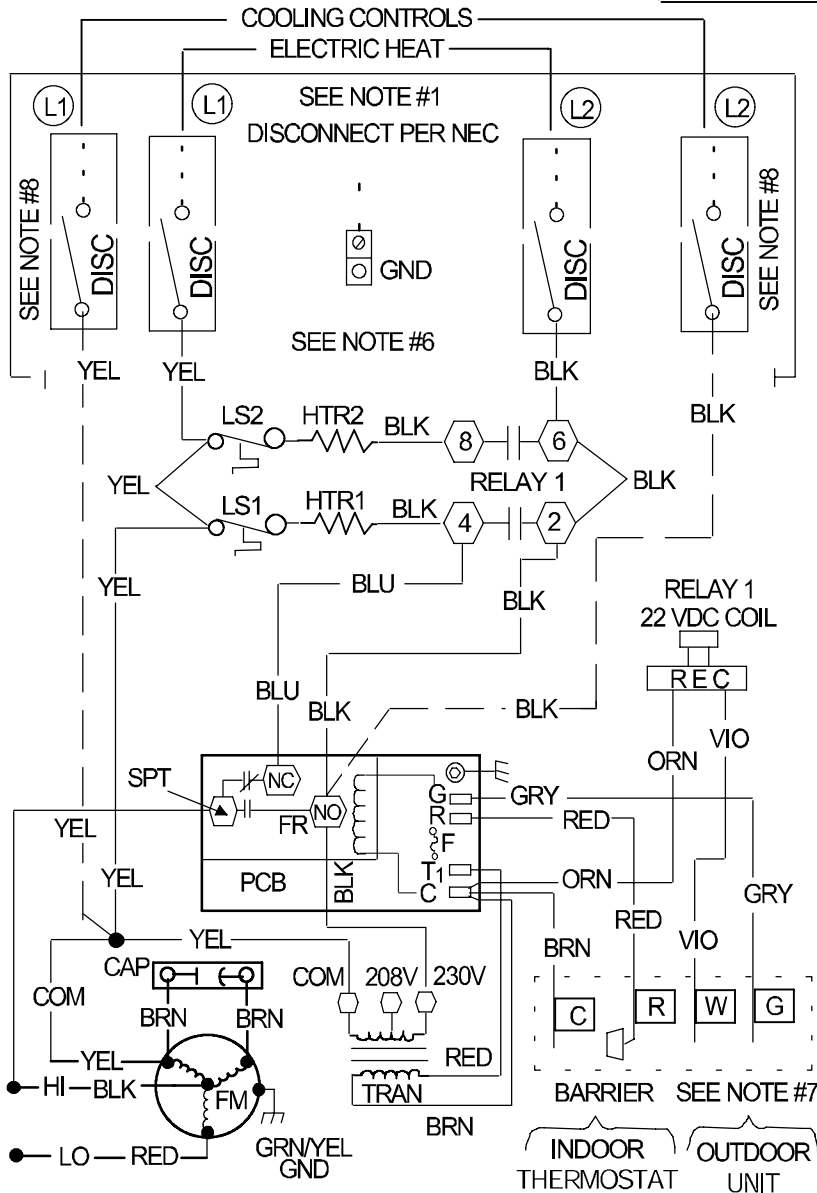
ELECTRICAL SHOCK HAZARD

Failure to turn off electric power could result in personal injury or death.

Before installing or servicing system, turn off main power to the system. There may be more than one disconnect switch, including accessory heater(s).

SCHMATIC DIAGRAM
SEE RATING PLATE FOR VOLTS & HERTZ
FIELD POWER WIRING

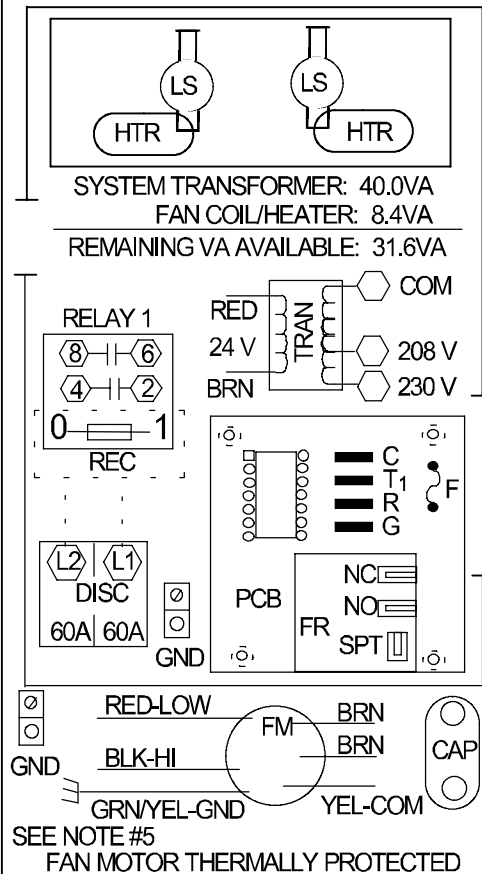
CAUTION:
NOT SUITABLE FOR USE ON SYSTEMS EXCEEDING 150V TO GROUND
ATTENTION:
NE CONVIENT PAS AUX INSTALLATIONS DE PLUS DE 150 V A LA TERRE



NOTES:

1. Use copper wire (75°C min) only between disconnect switch and unit.
2. To be wired in accordance with NEC and local codes.
3. If any of the original wire, as supplied, must be replaced, use the same or equivalent type wire.
4. Replace low voltage fuse with no greater than 5 AMP fuse.
5. (2) Speed Motor uses HI (BLK) and LOW (RED).
6. Smaller heaters will have fewer components.
7. Connect R to R, G to G, etc., see outdoor instructions for details.
8. Cooling controls wiring not used with electric heaters.

COMPONENT ARRANGEMENT



SEE NOTE #5
FAN MOTOR THERMALLY PROTECTED

LEGEND

- CAP CAPACITOR
- COM COMMON
- DISC DISCONNECT
- F FUSE
- FM FAN MOTOR
- - - - FIELD POWER WIRING
- FR PCB FAN RELAY
- GND EQUIPMENT GROUND
- HTR HEATER
- LS LIMIT SWITCH
- ◻ MARKED TERMINAL
- PLUG AND RECEPTACLE
- PCB PRINTED CIRCUIT BOARD
- REC RECTIFIER
- SPT FAN SPEED TAP LOCATION
- TRAN TRANSFORMER
- UNMARKED TERMINAL

This compartment must be closed except when servicing.



ROTATION

324494-101 REV. D

MINIMUM MOTOR SPEED SELECTION

FAN COIL SIZE	018	024	030
MOTOR SPEED ONE HTR	LO	LO	LO
MOTOR SPEED TWO HTR	LO	LO	LO

FSA2X PARTS LIST																		
KEY NO.	DESCRIPTION	PART NO.	FSA2X1800A1	FSA2X1805A1	FSA2X1807A1	FSA2X1811A1	FSA2X2400A1	FSA2X2405A1	FSA2X2407A1	FSA2X2411A1	FSA2X3000A1	FSA2X3005A1	FSA2X3007A1	FSA2X3011A1	FSA2X3600A1	FSA2X3605A1	FSA2X3607A1	FSA2X3611A1
1	Blower Assembly	DD10-6	1170634	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
1		DD10-7	1173881	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
1			1173895	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
2	Motor, Blower	1/5 HP	1170645	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
2		1/3 HP	1173839	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
2			1173840	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
3	Capacitor	5 mfd 370 Volts	1171727	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
3		10 mfd 370 Volts	1171729	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
3		15 mfd 370 Volts	1171730	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
4	Wheel, Blower	DD10-6	1170652	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
4		DD10-7	1173847	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
5	Coil & Header Assembly		1173887	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
5			1173888	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-
5			1173899	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
6	Distributor Assembly		1172624	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
6			1171603	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-
6			1171604	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
7	Valve, Expansion		1173846	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Pan, Condensate Assy		1170656	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	Pan, Condensate		1170657	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	Element	3.75 KW	1173901	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2
11		5.0 KW	1173900	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-
11		5.5 KW	1173902	-	-	-	2	-	-	2	-	-	-	2	-	-	-	2
12	Board, Circuit w/ TDR		1171000	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
13	Board, Rectifier		1171780	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
14	Switch, Limit		1170673	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
15	Relay		1170674	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
16	Disconnect		1173837	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
17	Transformer		1173844	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
18	Lug, Ground		1170677	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1
A	Panel, Top		1173889	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
A			1173892	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
B	Bracket, Filter		1170628	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
B			1173894	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
C	Support, Coil		1170629	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-
C			1173893	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2
D	Base, Fan Coil		1170630	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
D			1173882	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1

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FSA2X PARTS LIST (continued)																		
KEY NO.	DESCRIPTION	PART NO.	FSA2X1800A1	FSA2X1805A1	FSA2X1807A1	FSA2X1811A1	FSA2X2400A1	FSA2X2405A1	FSA2X2407A1	FSA2X2411A1	FSA2X3000A1	FSA2X3005A1	FSA2X3007A1	FSA2X3011A1	FSA2X3600A1	FSA2X3605A1	FSA2X3607A1	FSA2X3611A1
E	Plate, Patch	1173883	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
F	Panel, Blower Door	1173890	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
F		1173891	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
G	Filter 16.5" X 19.625"	1173885	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
G	19.625" X 19.625"	1173886	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
H	Screw, Motor Mount	1170636	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
J	Panel, Blower Cutoff	1170637	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
J		1173897	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
K	Housing Assy, Blower	1170638	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
K		1173896	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
L	Wrapper, Blower	1170639	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
L		1173898	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
M	Plate, Blower Side	1170640	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
N	Plate, Blower Side Motor Side	1170641	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P	Ring, Inlet	1170642	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Q	Strap, Capacitor	1170643	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
R	Arm & Grommet Assy	1173747	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
S	Band, Motor Mount	1171733	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T	Grommet, Motor Mount	1171738	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
U	Shield, Condensate Pan	1170658	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
V	Panel, Control	1170679	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
W	Bracket Disconnect Mtg	1170661	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
X	Panel Protective	1170662	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
Y	Barrier	1170663	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
PARTS NOT SHOWN																		
)	(Strainer	1171740	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
)	(Harness Assy, Cooling Control	1171698	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
)	(Manual, Installation	66401500100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
)	(Warranty	40106403001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

FSA4X PARTS LIST																		
KEY NO.	DESCRIPTION	PART NO.	FSA4X1800A1	FSA4X1805A1	FSA4X1807A1	FSA4X1811A1	FSA4X2400A1	FSA4X2405A1	FSA4X2407A1	FSA4X2411A1	FSA4X3000A1	FSA4X3005A1	FSA4X3007A1	FSA4X3011A1	FSA4X3600A1	FSA4X3605A1	FSA4X3607A1	FSA4X3611A1
01	Blower Assembly DD10-6	1170634	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
01	DD10-7	1173881	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
01		1173895	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
02	Motor, Blower 1/5 HP	1170645	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
02	1/3 HP	1173839	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
02		1173840	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
03	Capacitor 5 mfd 370 Volts	1171727	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-
03	10 mfd 370 Volts	1171729	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-
03	15 mfd 370 Volts	1171730	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
04	Wheel, Blower DD10-6	1170652	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-
04	DD10-7	1173847	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
05	Coil & Header Assembly	1173851	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
05		1173850	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-
05		1173852	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
06	Distributor Assembly	1172624	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
06		1171603	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-
06		1171604	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
07	Valve, Expansion	1176347	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
07		1176348	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
09	Pan, Condensate Assy	1170656	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	Pan, Condensate	1170657	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	Element 3.75 KW	1173901	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2	-
11	5.0 KW	1173900	-	1	-	-	-	1	-	-	-	1	-	-	-	1	-	-
11	5.5 KW	1173902	-	-	-	2	-	-	-	2	-	-	-	2	-	-	-	2
12	Board, Circuit w/ TDR	1171000	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
13	Board, Rectifier	1171780	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
14	Switch, Limit	1170673	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
15	Relay	1170674	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
16	Disconnect	1173837	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
17	Transformer	1173844	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
18	Lug, Ground	1170677	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
A	Panel, Top	1173889	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
A		1173892	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
B	Bracket, Filter	1170628	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
B		1173894	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
C	Support, Coil	1170629	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-
C		1173893	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2

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FSA4X PARTS LIST																		
KEY NO.	DESCRIPTION	PART NO.	FSA4X1800A1	FSA4X1805A1	FSA4X1807A1	FSA4X1811A1	FSA4X2400A1	FSA4X2405A1	FSA4X2407A1	FSA4X2411A1	FSA4X3000A1	FSA4X3005A1	FSA4X3007A1	FSA4X3011A1	FSA4X3600A1	FSA4X3605A1	FSA4X3607A1	FSA4X3611A1
D	Base, Fan Coil	1170630	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
D		1173882	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
E	Plate, Patch	1173883	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
F	Panel, Blower Door	1173890	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
F		1173891	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
G	Filter 16.5" X 19.625"	1173885	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
G	19.625" X 19.625"	1173886	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
H	Screw, Motor Mount	1170636	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
J	Panel, Blower Cutoff	1170637	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
J		1173897	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
K	Housing Assy, Blower	1170638	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
K		1173896	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
L	Wrapper, Blower	1170639	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
L		1173898	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
M	Plate, Blower Side	1170640	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
N	Plate, Blower Side Motor Side	1170641	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P	Ring, Inlet	1170642	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Q	Strap, Capacitor	1170643	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
R	Arm & Grommet Assy	1173747	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
S	Band, Motor Mount	1171733	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T	Grommet, Motor Mount	1171738	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
U	Shield, Condensate Pan	1170658	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
V	Panel, Control	1170679	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
W	Bracket Disconnect Mtg	1170661	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
X	Panel Protective	1170662	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
Y	Barrier	1170663	-	1	1	1	-	1	1	1	-	1	1	1	-	1	1	1
PARTS NOT SHOWN																		
)	Extension coil asy	1175061	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
)		1175062	-	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1
)	Extension Support	1175064	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
)		1175063	-	-	-	-	1	1	1	1	1	1	1	1	-	-	-	-
)		1175065	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1
)	Paint	1171357	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
)	Strainer	1171740	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
)	Harness Assy, Cooling Control	1171698	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

AIRFLOW PERFORMANCE - CFM at a given Speed and Static reading							
Model Size	Blower Speed	Measured Static Pressure, inlet to outlet (inches water column)					
		0.10	0.20	0.30	0.40	0.50	0.60
FSA*X18	High	995	955	910	862	811	-
	Low	738	711	678	641	600	-
FSA*X24	High	950	908	861	810	754	693
	Low	732	699	662	621	576	527
FSA*X30	High	1128	1082	1030	973	911	845
	Low	1053	1011	964	911	854	791
FSA*X36	High	1408	1355	1295	1227	1152	1068
	Low	1191	1157	1113	1061	1000	931

* Denotes 2 (R-22), 4 (R-410A)

NOTES:

1. Airflow based on dry coil at 230V with factory approved filter and 2 element electric heater.
2. Not recommended for use above 0.60 inches water column external static pressure.
3. Shaded cells indicate airflow is greater than 450 CFM per ton.

STATIC PRESSURE CORRECTION FROM DRY TO WET COIL (inches of water column)

AIRFLOW PERFORMANCE chart was developed using fan coils with DRY coils. When taking a static reading across a WET coil, adjust the static pressure numbers in the AIRFLOW PERFORMANCE chart by **adding** the values in this table.

Model Size	CFM								
	500	600	700	800	900	1000	1100	1200	1300
FSA*X18	.034	.049	.063	-	-	-	-	-	-
FSA*X24	.021	.033	.045	.056	.068	-	-	-	-
FSA*X30	-	-	-	.056	.068	.079	.090	-	-
FSA*X36	-	-	-	-	-	.055	.064	.073	.081

* Denotes 2 (R-22), 4 (R-410A)

STATIC PRESSURE CORRECTION FOR ELECTRIC HEATERS (inches of water column)

AIRFLOW PERFORMANCE chart was developed using fan coils with 2-element electric heaters (7.5 kW or 11 kW). When using a 1-element electric heater (5 kW), or no electric heater, adjust the static pressure numbers in the AIRFLOW PERFORMANCE chart by **subtracting** the values in this table.

Electric Heater	CFM								
	500	600	700	800	900	1000	1100	1200	1300
none	.012	.018	.028	.050	.075	.100	.130	-	-
5 kW	.002	.003	.003	.015	.020	.030	.050	-	-

FAN COIL MODEL NUMBER IDENTIFICATION GUIDE

	F	S	A	2	X	18**	A	1
F = Fan Coil		MOTOR TYPE			REFRIGERANT		METERING DEVICE	
S = Standard PSC		INSTALLATION TYPE						
A = Apartment		NOMINAL CAPACITY						
2 = R-22 4 = R-410								
X = TXV								
18** = 18,000 BTUH = 1½ tons		** = 00 = no electric heat						
24** = 24,000 BTUH = 2 tons		** = 05, 07, or 11 kW electric heat (factory installed)						
30** = 30,000 BTUH = 2½ tons								
36** = 36,000 BTUH = 3 tons								
Sales Code								
Engineering Revision								