

SHX/SVX Series

Heat Pump / DX *

Air Handling Units



MOTOR
STARTERS
NOW AVAILABLE

First Co. commercial - duty **SHX/SVX** heat pump/DX units are designed for installation within the conditioned area or as remote units with duct systems. These blower coil units are compact, with large removable panels for ease of installation and service/ All 2 - 5 ton models include R-410A TXV's and are approved for either straight cool or heat pump operation. All 7 1/2 - 20 ton models have factory installed R-410A expansion valves and are approved for straight cool only (not heat pump) operation. All 7 1/2 ton models have single circuit coils while all 10 - 20 ton models have dual-circuited coils. Separate filter access panels are provided on both sides of unit. Optional accessories include hot water coils, various motor options, mixing boxes, motor starters, and discharge plenums. **All models feature positive slope drain pans.**

Standard models are available in 8 popular sizes - 800 through 8000 nominal CFM (2 through 20 tons). All standard models are ETL listed and are rated in accordance with ARI standard 430 (see "Motor" on page 4 for more information).

2 THROUGH 20 TONS

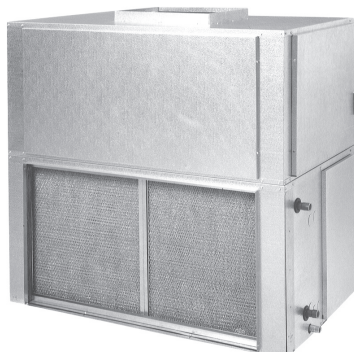
(HORIZONTAL & VERTICAL)



2 - 5 TON HORIZONTAL
(24SHX - 60SHX)
* (Heat Pump / DX)



7-1/2 - 20 TON HORIZONTAL
(90SHX - 240SHX)
* (DX only)



2 - 20 TON VERTICAL
(24SVX - 240SVX)

* (2 - 5 Ton = Heat Pump / DX • 7 1/2 - 20 Ton = DX Only)
(SVW Model Shown)



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INFORMATION REQUIRED FOR UNIT SELECTION

CFM _____ E.S.P. _____ MOTOR: HP: _____ VOLTAGE: _____ PHASE: _____
 COOLING: INDOOR: DB _____ WB _____ SUCTION TEMP. _____ OUTDOOR DB: _____
 TOTAL BTUH _____ SENS. BTUH _____
 HEATING: TOTAL BTUH _____ GPM _____ EWT _____ EAT _____
 MISC: _____

COMPONENT STATIC RESISTANCE

MODEL	NOMINAL CFM	COMPONENT STATIC RESISTANCE (INCHES OF WATER)			
		CABINET	COOLING COIL*	HEATING COIL	FILTER
			4 ROW	2 ROW	
24SHX / 24SVX	600	0.09	0.22	0.07	0.04
	700	0.10	0.29	0.09	0.05
	800	0.11	0.36	0.12	0.06
	900	0.12	0.45	0.14	0.07
	1000	0.13	0.54	0.18	0.08
36SHX / 36SVX	1000	0.09	0.26	0.08	0.04
	1100	0.10	0.31	0.10	0.05
	1200	0.11	0.36	0.12	0.06
	1300	0.12	0.41	0.13	0.07
	1400	0.13	0.46	0.15	0.08
48SHX / 48SVX	1400	0.09	0.29	0.09	0.05
	1500	0.10	0.31	0.10	0.06
	1600	0.11	0.35	0.11	0.06
	1700	0.12	0.39	0.12	0.07
	1800	0.13	0.43	0.13	0.08
60SHX / 60SVX	1800	0.10	0.29	0.09	0.05
	1900	0.11	0.31	0.10	0.06
	2000	0.12	0.35	0.11	0.06
	2100	0.13	0.39	0.12	0.07
	2200	0.15	0.43	0.13	0.08

MODEL	NOMINAL CFM	COMPONENT STATIC RESISTANCE (INCHES OF WATER)			
		CABINET	COOLING COIL*	HEATING COIL	FILTER
			4 ROW	2 ROW	
90SHX / 90SVX	2500	0.12	0.34	0.13	0.04
	2750	0.14	0.39	0.16	0.05
	3000	0.16	0.45	0.18	0.06
	3250	0.17	0.51	0.21	0.07
	3500	0.19	0.57	0.24	0.08
120SHX / 120SVX	3400	0.14	0.37	0.14	0.05
	3700	0.15	0.42	0.16	0.06
	4000	0.17	0.47	0.19	0.07
	4300	0.19	0.53	0.21	0.08
	4600	0.21	0.59	0.24	0.09
180SHX / 180SVX	5200	0.16	0.38	0.14	0.05
	5600	0.17	0.43	0.16	0.06
	6000	0.19	0.47	0.18	0.07
	6400	0.21	0.52	0.20	0.08
	6800	0.23	0.58	0.23	0.09
240SHX / 240SVX	6000	0.11	0.29	0.10	0.04
	7000	0.16	0.38	0.14	0.05
	8000	0.19	0.48	0.18	0.07
	9000	0.23	0.59	0.23	0.09
	10000	0.29	0.68	0.28	0.11

* Wet Coil (Dry Coil P.D. = Wet P.D. x .70)

Standard Features

CABINET -

Fabricated of heavy gauge galvanized steel. Seismic resistant mounting brackets are standard on 2-5 ton models.

BLOWER -

Resiliently mounted, heavy duty, double inlet, forward curved blade, centrifugal type. Each wheel is dynamically balanced for smooth, quiet operation. All blowers are belt driven with field adjustable pulleys to permit variations in static pressure and air requirements. All blowers have ball bearings.

COILS -

Fabricated of 3/8" or 1/2" OD seamless copper tubes mechanically expanded to highly efficient aluminum fins to maximize heat transfer. All 2 -5 ton models feature R-410A TXV's approved for either straight cool or heat pump operation. All 7 1/2 - 20 ton models have factory installed expansion valves approved for straight cool only (not heat pump) operation. All 7 1/2 ton models have single circuit coils while all 10 - 20 ton models have dual-circuited coils. All models have positive drain pans.

INSULATION -

The entire interior of the cabinet is insulated with one (1) inch insulation.

FILTER -

One inch throw away filters are provided as standard in all **2 - 5 ton** units. One inch permanent filters are provided as standard in all **7-1/2 - 20 ton** units. **Filters can be changed without tools.** Space available for 2".

FACTORY WIRED -

All standard motors are field or factory installed and wired at voltage specified by customer. (If not specified, multi-voltage motors will be wired at highest voltage)

MOTOR -

Standard motor is 1725 RPM. The adjustable motor mount permits easy belt adjustment. A variable pitch pulley allows balancing of the system to the desired CFM. Standard motors have internal overload protection. Therefore, units shipped with standard motors will be ETL listed. Most non-standard motors (i.e. 575V, 2-speed, TEFC, some 50 Hz., etc.) are not available with internal overload protection. Therefore, most units shipped with non-standard motors can be ETL listed with the addition of a factory installed motor starter (contact the factory for starter information and ETL verification.)

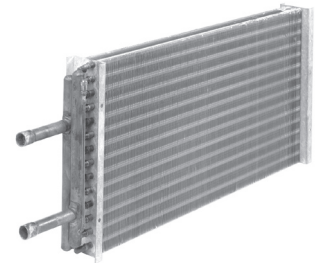
MISCELLANEOUS -

- Slotted mounting rails for easy installation (**2 -5 ton SHW** only). Rails are turned down 1/2" on each end for safer and easier installation.
- 4 x 4 junction box accepts a field installed (24/120V) relay / transformer for low voltage control.
- 3/4 inch NPT drain connections on both sides of cabinet.
- Header connections on the right side as standard. Knockouts are provided for conversion to the left side. (Looking with air flow).
- Drain pans are coated for corrosion protection.

Options (contact the factory)

1. **Stainless steel** drain pan.
2. **Motor starters.**
3. Separate 2 row **hot water coil** is factory installed in either the reheat or perheat position (reheat is standard)

PART NUMBER	FOR UNIT MODEL	MANIFOLD CONNECTIONS
24HWK 36HWK 48HWK 60HWK	24SHX/SVX 36SHX/SVX 48SHX/SVX 60SHX/SVX	7/8" OD
90HWK 120HWK 180HWK 240HWK	90SHX/SVX 120SHX/SVX 180SHX/SVX 240SHX/SVX	1-3/8" OD



Discharge plenum with four way double - deflection grille (field installed) (for SHX units only).

PART NUMBER	FOR UNIT MODEL	DEPTH (1)
24DP 36DP 48DP 60DP 90DP 120DP 180DP 240DP	24SHX 36SHX 48SHX 60SHX 90SHX 120SHX 180SHX 240SHX	6"

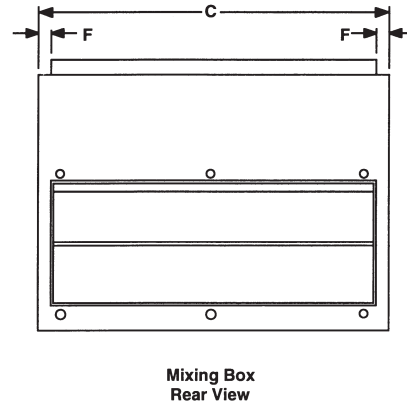
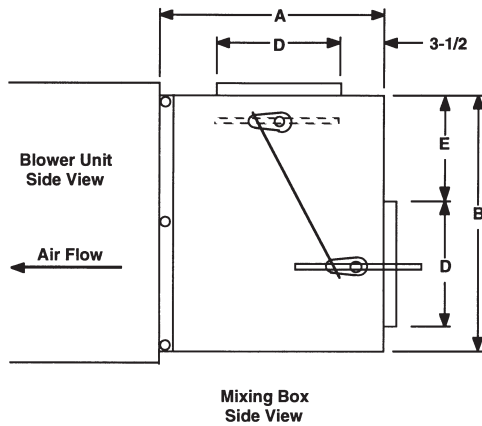


(1) Height and width are the same as the unit being attached to.

4. **Relay / Transformer** (24/120V) mounts directly on 4 x 4 junction box on each unit. Part number is **310-E301** (for 2-5 ton models only)

Options (Cont.)

Mixing Boxes



Dimensions:

MODEL	FOR UNIT MODEL	A	B	C	D	E	F	DAMPER SIZE (NOM)	SHIPPING WEIGHT
24MB	24SH, SV	16	16-3/8	18-1/8	8	6	1-1/16	2-16 x 8	40
36MB	36SH, SV	16	16-3/8	27-5/8	8	6	1-1/16	2-26 x 8	58
48MB	48SH, SV	18	20-3/8	29-1/8	10	8	1-1/16	2-27 x 10	65
60MB	60SH, SV	18	20-3/8	36-1/8	10	8	1-1/16	2-34 x 10	78
90MB	90SH, SV	18	25-3/8	45-1/8	10	8	1-1/16	2-42 x 10	110
120MB	120SH, SV	20	30-3/8	48-1/8	12	10	1-1/16	2-46 x 12	135
180MB	180SH, SV	22	37-7/8	57-1/8	14	12	1-9/16	2-54 x 14	190
240MB	240SH, SV	22	50-1/2	57-1/8	14	24	1-9/16	2-54 x 14	210

Features:

1. Cabinet fully insulated - 3/4 inch.
2. Embossed galvanized cabinet on 24-240MB.
3. Crank arms and linkage rod for damper connection are furnished. Connections can be made on either side of mixing boxes. The balance of necessary linkage hardware, damper motor, and controls to be field supplied.
4. Dampers can be positioned for either rear/top or rear/bottom locations.
5. 1" duct flanges provided on damper openings.
6. Dampers have air seals on the edges for positive closing. 24-90MB have single horizontal damper blades. 120-240MB have double horizontal damper blades.
7. When used with water coil units, a "freezestat" must be installed to prevent coil damage caused by low ambient conditions.

UNIT SELECTION PROCEDURE

1. Complete as much of the "INFORMATION REQUIRED FOR UNIT SELECTION" on page 2 as possible.

Example:

INFORMATION REQUIRED FOR UNIT SELECTION

CFM 3900 E.S.P. .80 MOTOR: HP: VOLTAGE: 230 PHASE: 3
 COOLING: INDOOR: DB WB OUTDOOR: DB
 TOTAL BTUH 158,000 SENS. BTUH GPM EWT 45
 HEATING: TOTAL BTUH GPM EWT EAT
 MISC:

2. Select the unit model that meets the required total MBH cooling and heating at the required conditions from tables on pages 16 – 23 (capacities and air are the same for SHX and SVX models).

Example: Required clg. capacity = 158,000 BTUH clg.

Unit selected = 120SHX4

3. Refer to page 7-9 for the balance of the selection procedure: If the required CFM falls within the range for the selected model, proceed to number 4. If not, use the First Co. Computer Selection Program or contact the factory for assistance.

4. Determine the required motor horsepower by matching the selected model (i.e. 120SHX4) with the closest CFM at the required External Static Pressure (ESP). Note the horsepower (HP) at the top of the CFM range that is needed.

Example: Required CFM is 3900 at .80 ESP.

HP required = 2 HP

5. Select the motor voltage, phase, and horsepower and then the appropriate Motor Drive Assembly Number that applies.

Example: Above example requires Motor Drive Assembly Number **984120-G3**

MODEL NUMBERING SYSTEM

120 S H X 4 - # - #

Nom. CLG BTU'S (1,000's) <u> </u>	Factory installed hot water coil options
Commercial air handler <u> </u>	
H-Horizontal air handler	
V-Vertical air handler <u> </u>	Motor Options
Standard coil type: <u> </u>	Rows in coil:
X = Direct Expansion (-20 Tons)	4 = 4 rows (standard)
Heat Pump (2-5 Tons)	

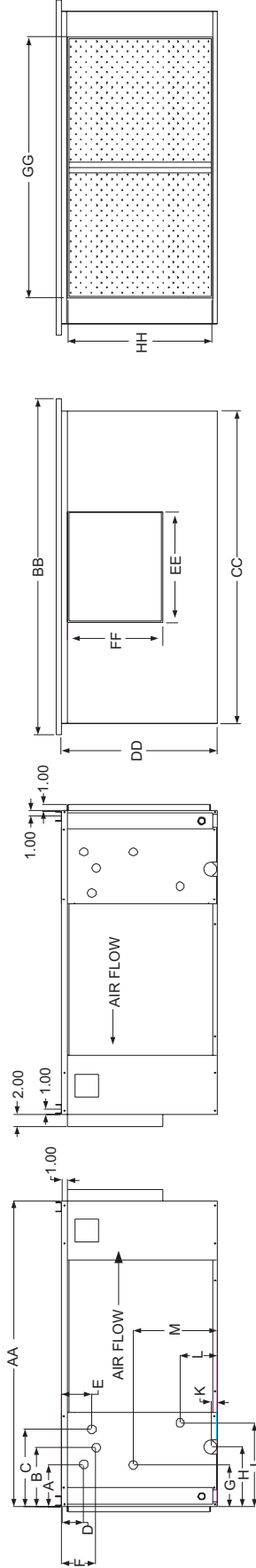
SHX / SVX MOTOR DRIVE ASSEMBLY SELECTION CHART

Model CFM	Available External Static Range			Total Static In.
	2 Row	4 Row	4R/2R	
	Coil	Coil	Coil	
24S(*)X	24S(*)X2	24S(*)X4	24S(*)X42	
- 1/4 HP -				
700	0.13 - 0.80	0.04 - 0.71	0.00 - 0.62	0.37 - 1.04
800	0.00 - 0.63	0.00 - 0.52	0.00 - 0.41	0.33 - 0.92
900	0.00 - 0.44	0.00 - 0.30	0.00 - 0.16	0.28 - 0.77
- 1/3 HP -				
700	0.36 - 1.23	0.27 - 1.14	0.18 - 1.05	0.60 - 1.47
800	0.29 - 1.03	0.18 - 0.92	0.07 - 0.81	0.58 - 1.32
900	0.21 - 0.83	0.07 - 0.69	0.00 - 0.55	0.54 - 1.16
- 1/2 HP -				
700	0.64 - 1.62	0.55 - 1.53	0.46 - 1.44	0.88 - 1.86
800	0.59 - 1.62	0.48 - 1.51	0.37 - 1.40	0.88 - 1.91
900	0.54 - 1.52	0.40 - 1.38	0.26 - 1.24	0.87 - 1.85
- 3/4 HP -				
700	0.90 - 1.62	0.81 - 1.53	0.72 - 1.44	1.14 - 1.86
800	0.87 - 1.62	0.76 - 1.51	0.65 - 1.40	1.16 - 1.91
900	0.84 - 1.61	0.70 - 1.47	0.56 - 1.33	1.17 - 1.94
36S(*)X				
36S(*)X2	36S(*)X4	36S(*)X42		
- 1/3 HP -				
1000	0.13 - 0.74	0.00 - 0.65	0.00 - 0.57	0.34 - 0.95
1100	0.07 - 0.61	0.00 - 0.52	0.00 - 0.42	0.32 - 0.86
1200	0.00 - 0.47	0.00 - 0.36	0.00 - 0.24	0.29 - 0.76
1300	0.00 - 0.34	0.00 - 0.21	0.00 - 0.08	0.26 - 0.66
- 1/2 HP -				
1000	0.34 - 1.34	0.25 - 1.25	0.17 - 1.17	0.55 - 1.55
1100	0.29 - 1.19	0.20 - 1.10	0.10 - 1.00	0.54 - 1.44
1200	0.24 - 1.04	0.13 - 0.93	0.00 - 0.81	0.53 - 1.33
1300	0.18 - 0.90	0.05 - 0.77	0.00 - 0.64	0.50 - 1.22
- 3/4 HP -				
1000	0.88 - 1.55	0.79 - 1.46	0.71 - 1.38	1.09 - 1.76
1100	0.86 - 1.55	0.77 - 1.46	0.67 - 1.36	1.11 - 1.80
1200	0.82 - 1.54	0.71 - 1.43	0.59 - 1.31	1.11 - 1.83
1300	0.78 - 1.51	0.65 - 1.38	0.52 - 1.25	1.10 - 1.83
48S(*)X				
48S(*)X2	48S(*)X4	48S(*)X42		
- 1/2 HP -				
1500	0.17 - 0.75	0.07 - 0.65	0.00 - 0.55	0.43 - 1.01
1600	0.12 - 0.66	0.00 - 0.54	0.00 - 0.43	0.40 - 0.94
1700	0.06 - 0.55	0.00 - 0.42	0.00 - 0.30	0.37 - 0.86
- 3/4 HP -				
1500	0.46 - 1.37	0.36 - 1.27	0.26 - 1.17	0.72 - 1.63
1600	0.42 - 1.26	0.30 - 1.14	0.19 - 1.03	0.70 - 1.54
1700	0.37 - 1.15	0.24 - 1.02	0.12 - 0.90	0.68 - 1.46
- 1 HP -				
1500	0.88 - 1.63	0.78 - 1.53	0.68 - 1.43	1.14 - 1.89
1600	0.85 - 1.63	0.73 - 1.51	0.62 - 1.40	1.13 - 1.91
1700	0.81 - 1.61	0.68 - 1.48	0.56 - 1.36	1.12 - 1.92
60S(*)X				
60S(*)X2	60S(*)X4	60S(*)X42		
- 1/2 HP -				
1900	0.15 - 0.59	0.00 - 0.48	0.00 - 0.38	0.42 - 0.86
2000	0.11 - 0.51	0.00 - 0.39	0.00 - 0.28	0.40 - 0.80
12100	0.06 - 0.42	0.00 - 0.29	0.00 - 0.17	0.38 - 0.74
- 3/4 HP -				
1900	0.44 - 1.16	0.33 - 1.05	0.23 - 0.95	0.71 - 1.43
2000	0.42 - 1.08	0.30 - 0.96	0.19 - 0.85	0.71 - 1.37
2100	0.38 - 0.99	0.25 - 0.86	0.13 - 0.74	0.70 - 1.31
- 1 HP -				
1900	0.77 - 1.57	0.66 - 1.46	0.56 - 1.36	1.04 - 1.84
2000	0.76 - 1.51	0.64 - 1.39	0.53 - 1.28	1.05 - 1.80
2100	0.74 - 1.43	0.61 - 1.30	0.49 - 1.18	1.06 - 1.75
- 1-1/2 HP -				
1900	1.10 - 1.91	0.99 - 1.80	0.89 - 1.70	1.37 - 2.18
2000	1.09 - 1.91	0.97 - 1.79	0.86 - 1.68	1.38 - 2.20
2100	1.07 - 1.90	0.94 - 1.77	0.82 - 1.65	1.39 - 2.22
*H = Horizontal, V = Vertical				

Model CFM	Available External Static Range			Total Static In.
	2 Row	4 Row	4R/2R	
	Coil	Coil	Coil	
90S(*)X	90S(*)X2	90S(*)X4	90S(*)X42	
- 3/4 HP -				
2800	0.00 - 0.73	0.00 - 0.58	0.00 - 0.42	0.34 - 1.09
3000	0.00 - 0.51	0.00 - 0.35	0.00 - 0.17	0.33 - 0.91
3200	0.00 - 0.30	0.00 - 0.13	0.00 - 0.00	0.31 - 0.74
- 1 HP -				
2800	0.38 - 1.17	0.23 - 1.02	0.07 - 0.86	0.74 - 1.53
3000	0.33 - 0.92	0.17 - 0.76	0.00 - 0.58	0.73 - 1.32
3200	0.27 - 0.70	0.10 - 0.53	0.00 - 0.32	0.71 - 1.14
- 1-1/2 HP -				
2800	0.63 - 1.80	0.48 - 1.65	0.32 - 1.49	0.99 - 2.16
3000	0.59 - 1.74	0.43 - 1.58	0.25 - 1.40	0.99 - 2.14
3200				
- 2 HP -				
2800	1.01 - 1.80	0.86 - 1.65	0.70 - 1.49	1.37 - 2.16
3000	0.97 - 0.75	0.81 - 1.63	0.63 - 1.45	1.37 - 2.19
3200	0.93 - 1.77	0.76 - 1.60	0.55 - 1.39	1.37 - 2.21
120S(*)X				
120S(*)X2	120S(*)X4	120S(*)X42		
- 1-1/2 HP -				
3800	0.02 - 0.97	0.00 - 0.80	0.00 - 0.63	0.41 - 1.36
4000	0.00 - 0.75	0.00 - 0.57	0.00 - 0.38	0.37 - 1.18
4200	0.00 - 0.55	0.00 - 0.35	0.00 - 0.15	0.33 - 1.01
- 2 HP -				
3800	0.51 - 1.65	0.34 - 1.48	0.17 - 1.31	0.90 - 2.04
4000	0.43 - 1.42	0.25 - 1.24	0.06 - 1.05	0.86 - 1.85
4200	0.36 - 1.20	0.16 - 1.00	0.00 - 0.80	0.82 - 1.66
- 3 HP -				
3800				
4000	0.92 - 1.52	0.74 - 1.34	0.55 - 1.15	1.35 - 1.95
4200	0.85 - 1.47	0.65 - 1.27	0.45 - 1.07	1.31 - 1.93
180S(*)X				
180S(*)X2	180S(*)X4	180S(*)X42		
- 2 HP -				
5800	0.24 - 0.92	0.06 - 0.74	0.00 - 0.57	0.66 - 1.34
6000	0.20 - 0.77	0.00 - 0.58	0.00 - 0.40	0.64 - 1.21
6200	0.16 - 0.63	0.00 - 0.43	0.00 - 0.24	0.62 - 1.09
- 3 HP -				
5800	0.50 - 1.62	0.32 - 1.44	0.15 - 1.27	0.92 - 2.04
6000	0.46 - 1.60	0.27 - 1.41	0.09 - 1.23	0.90 - 2.04
6200	0.42 - 1.47	0.22 - 1.27	0.03 - 1.08	0.88 - 1.93
240S(*)X				
240S(*)X2	240S(*)X4	240S(*)X42		
- 3 HP -				
7500	0.08 - 0.79	0.00 - 0.61	0.00 - 0.45	0.47 - 1.18
8000	0.00 - 0.45	0.00 - 0.26	0.00 - 0.08	0.39 - 0.89
8500	0.00 - 0.13	0.00 - 0.00	0.00 - 0.00	0.29 - 0.62
- 5 HP -				
7500	0.20 - 1.79	0.00 - 1.61	0.00 - 1.45	0.59 - 2.18
8000	0.07 - 1.71	0.00 - 1.52	0.00 - 1.34	0.51 - 2.15
8500	0.00 - 1.39	0.00 - 1.18	0.00 - 0.98	0.42 - 1.88
*H = Horizontal, V = Vertical				

In keeping with its policy of continuous progress and product improvement, First Co. reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.

Physical Data - Models 24SHX - 60SHX



UNIT DIMENSIONS

MODEL	UNIT CABINET				BLOWER OUTLET		RETURN DUCT CONNECTION		STUBOUT LOCATION FOR WATER COILS											
	AA	BB	CC	DD	EE	FF	GG	HH	A	B	C	D	E	F	G	H	J	K	L	M
24SHX4	37	31	27	18-7/8	8-3/4	10-7/8	18	16-1/4	8-1/4	10	12-5/16	13-3/4	6-1/2	5-3/4	---	10	13-13/16	1	4	---
36SHX4	37	40-1/2	36-1/2	18-7/8	12-1/4	10-7/8	27-1/2	16-1/4	8-1/4	10	12-5/16	13-3/4	6-1/2	5-3/4	---	10	13-13/16	1	4	---
48SHX4	39	42	38	22-7/8	13-5/8	11-7/8	29	20-1/4	---	8-1/2	12-5/16	---	5-3/4	7-1/2	7-1/4	10	13-13/16	1	3-15/16	7-15/16
60SHX4	42	49	45	22-7/8	16	13-7/8	36	20-1/4	---	8-1/2	12-5/16	---	5-3/4	7-1/2	7-1/4	10	13-13/16	1	3-15/16	7-15/16

Notes:

- 1) All drain connections are 3/4" MPT and located on same side as coil connections.
- 2) All units have knockouts on both sides for either (standard) or left side coil stub outs. (Looking with airflow)

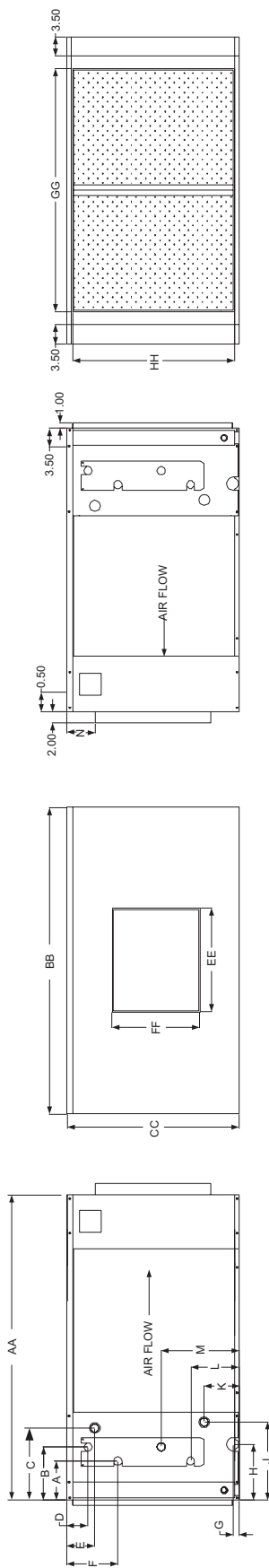
GENERAL SPECIFICATIONS

MODEL	NOM. COOL TONS	FACE AREA SQ. FT.	TUBE SIZE	STD. MOTOR HP	VOLTS	PHASE	BLOWER SIZE	FILTER SIZE	4 ROW COIL			SHIPPING WEIGHT
									LIQUID (SWEAT)	SUCTION (SWEAT)		
24SHX	2	1.9	3/8	1/4	115	1	9 X 6	16 X 25	3/8" O/D	3/4" O/D		185
36SHX	3	2.9	3/8	1/3	115	1	9 X 9	16 X 16 (2)	3/8" O/D	3/4" O/D		215
48SHX	4	3.9	3/8	1/2	115	1	10 X 10	16 X 20 (2)	1/2" O/D	7/8" O/D		250
60SHX	5	4.9	3/8	1/2	115	1	12 X 12	20 X 20 (2)	1/2" O/D	7/8" O/D		320

Notes:

- 1) All technical specifications subject to change without notice.
- 2) Additional charge for optional motors.
- 3) When SHX units are used with hot water coil the leaving air temperature must not exceed 150 degrees. At high altitude conditions, blower motor may cutout air lower LAT. Contact factory for information.
- 4) Contact factory for electric heat information (supplied by others)

Physical Data - Models 90SHX - 240SHX



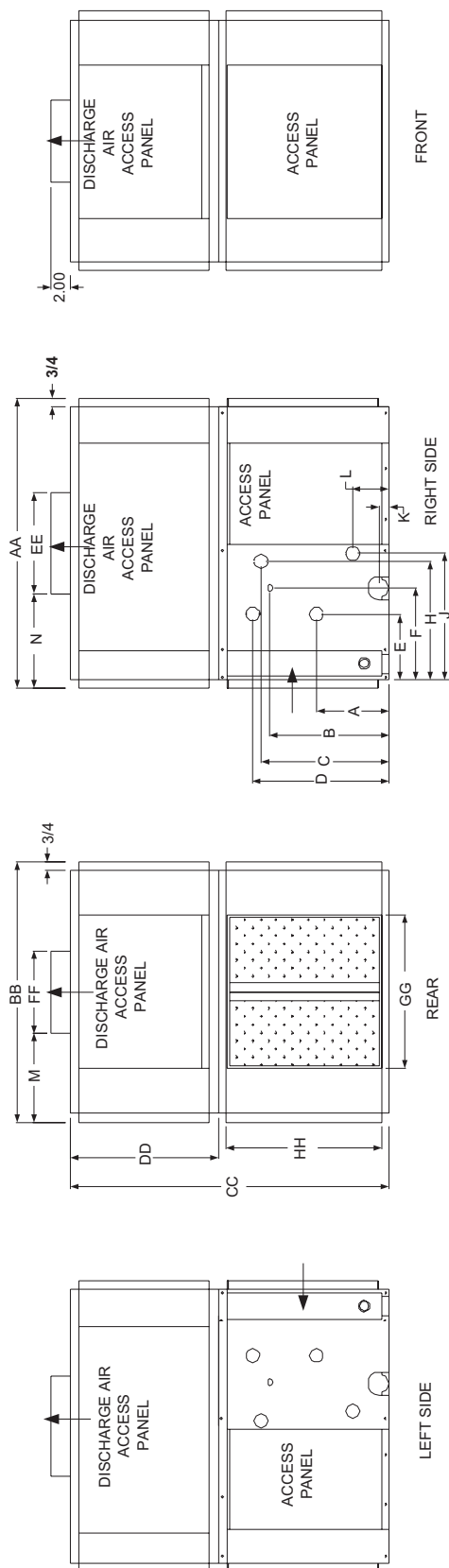
UNIT DIMENSIONS																					
MODEL	UNIT CABINET				BLOWER OUTLET		RETURN DUCT CONNECTION		STUBOUT LOCATION FOR COIL CONNECTIONS												
	AA	BB	CC		EE	FF	GG	HH	A	B	C	D	E	F	G	H	J	K	L	M	N
90SHX4	52-1/2	54	27		19-1/8	16-3/8	45	25-1/4	7-3/16	10-1/8	13-1/4	5-15/16	5-3/16	---	1	10-1/4	14-3/4	6-3/8	14-1/2	---	1
120SHX4	52-1/2	57	32		19-1/8	16-3/8	48	30-1/4	7-3/16	9-3/4	13-1/4	3-15/16	5-3/16	9-7/16	1	10-1/4	14-3/4	6-3/8	9	14-1/2	6
180SHX4	56-1/2	66	39-1/2		44-3/4	16-3/8	57	37-3/4	7-3/16	9-3/4	13-1/4	5-5/8	5-3/16	11-3/16	1	10-1/4	14-3/4	6-3/8	13-1/4	18-3/4	9-5/16
240SHX4	62-1/2	66	52		44-3/4	16-3/8	57	50-1/4	7-3/16	9-3/4	13-1/4	5-1/4	5-3/16	13-7/16	1	10-1/4	14-3/4	6-3/8	15-3/4	23-15/16	9-5/16

NOTES: 1) All drain connections are 3/4" MPT and located on same side as coil connections.
 2) All units have knockouts on both sides for either right (standard) or left side coils stub outs. (Looking with airflow)
 3) All 180SHX and 240SHX models have two blowers. Blower opening size is 16-3/8 X 16-5/8.

GENERAL SPECIFICATIONS											
MODEL	NOM. COOLING TONS	FACE AREA SQ. FT	TUBE SIZE	STD. MOTOR HP.	VOLTS	PHASE	BLOWER SIZE	4 ROW COIL			SHIPPING WEIGHT
								FILTER SIZE	LIQUID (SWEAT)	SUCTION (SWEAT)	
90SHX	7-1/2	7.3	1/2	3/4	115/230	1	15 X 15	24 X 25 (2)	5/8" O.D.	1-1/8" O.D.	400
120SHX	10	9.4	1/2	1-1/2	230/460	3	15 X 15	26 X 29 (2)	1/2" O.D.	7/8" O.D.	525
180SHX	15	14.1	1/2	1-1/2	230/460	3	15 X 12 (2)	20 X 36.5 (3)	5/8" O.D.	1-1/8" O.D.	775
240SHX	20	19.1	1/2	3	230/460	3	15 X 12 (2)	20 X 49 (3)	5/8" O.D.	1-1/8" O.D.	835

NOTES: 1) All technical specifications subject to change without notice.
 2) Additional charge for optional motors.
 3) When SHX units are used with hot water coil the leaving air temperature must not exceed 150 degrees. At high altitude conditions, blower motor may cutout at a lower LAT. Contact factory for information.
 4) Contact factory for electric heat information (supplied by others)

Physical Data - Models 24SVX - 60SVX



UNIT DIMENSIONS																					
MODEL	UNIT CABINET				BLOWER OUTLET		RETURN DUCT CONNECTION		STUBOUT LOCATION FOR COIL CONNECTIONS												
	AA	BB	CC	DD	EE	FF	GG	HH	A	B	C	D	E	F	G	H	J	K	L	M	N
24SVX4	31-3/4	28-1/2	35-1/8	16-1/4	11	9	18	16-1/4	5-7/16	13	12-3/16	---	7	8-1/2	10	13	13-7/8	1	3-13/16	9-3/4	6-3/4
36SVX4	31-3/4	38	35-1/8	16-1/4	10-7/8	12-5/8	27-1/2	16-1/4	5-7/16	13	12-3/16	---	7	8-1/2	10	13	13-7/8	1	3-13/16	12-3/4	6-3/4
48SVX4	31-3/4	39-1/2	41-7/8	19	11-3/4	13-5/8	29	20-1/4	---	15-1/8	16-15/16	8	7-3/16	8-1/2	10	13	13-7/8	1	3-13/16	13	7
60SVX4	31-3/4	46-1/2	43-1/8	20-1/4	13-7/8	16	36	20-1/4	---	15-1/8	16-15/16	8	7-3/16	8-1/2	10	13	13-7/8	1	3-13/16	15-1/8	7-5/8

NOTES: 1) All drain connections are 3/4" MPT and located on same side as coil connections.

2) All units have knockouts on both sides for either right (standard) or left side coils stub outs. (Looking with airflow)

GENERAL SPECIFICATIONS												
MODEL	NOM. COOLING TONS	FACE AREA SQ. FT	TUBE SIZE	STD. MOTOR HP.	VOLTS	PHASE	BLOWER SIZE	4 ROW COIL			SHIPPING WEIGHT	
								FILTER SIZE	LIQUID (SWEAT)	SUCTION (SWEAT)		
24SVX	2	1.9	3/8	1/4	115	1	9 x 6	16 x 25	3/8" O/D	3/4" O/D	195	
36SVX	3	2.9	3/8	1/3	115	1	9 X 9	16 x 16 (2)	3/8" O/D	3/4" O/D	225	
48SVX	4	3.9	3/8	1/2	115	1	10 x 10	16 x 20 (2)	1/2" O/D	7/8" O/D	265	
60SVX	5	4.9	3/8	1/2	115	1	12 x 12	20 x 20 (2)	1/2" O/D	7/8" O/D	345	

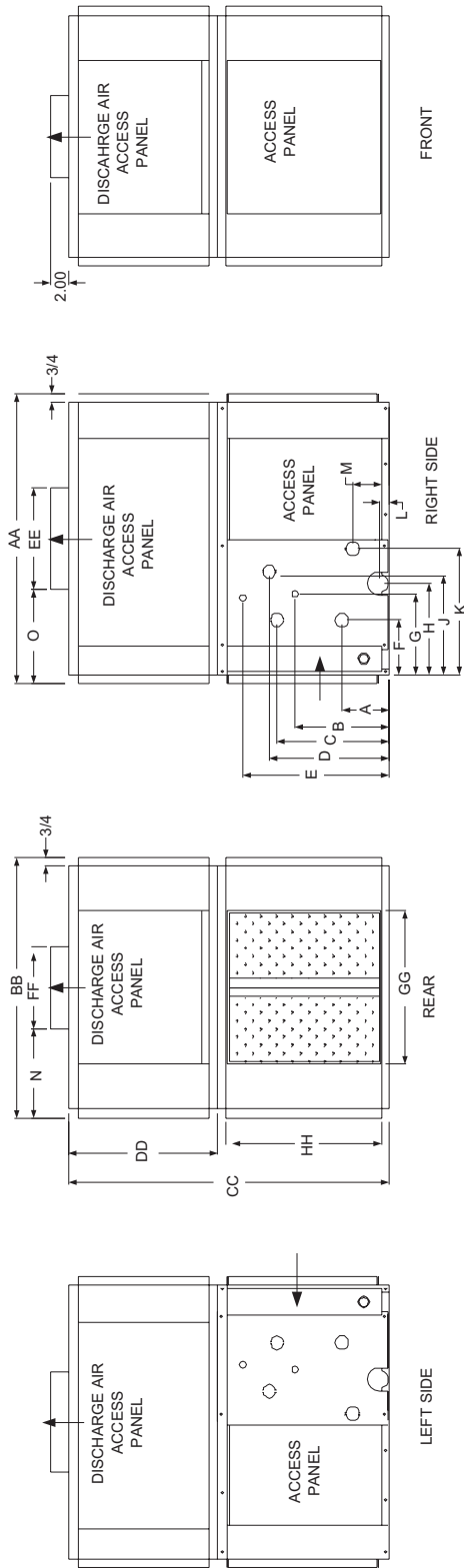
NOTES: 1) All technical specifications subject to change without notice.

2) Additional charge for optional motors.

3) When SVX units are used with hot water coil the leaving air temperature must not exceed 150 degrees. At high altitude conditions, blower motor may cutout at a lower LAT. Contact factory for information.

4) Contact factory for electric heat information (supplied by others)

Physical Data - Models 90SVX - 240SVX



UNIT DIMENSIONS																								
MODEL	UNIT CABINET				BLOWER OUTLET		RETURN DUCT CONNECTION		STUBOUT LOCATION FOR COIL CONNECTIONS															
	AA	BB	CC	DD	EE	FF	GG	HH	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
90SVX4	37-1/2	55-1/2	51	24	16-3/8	19-1/8	45	24-1/4	14-5/8	---	---	21-3/4	21-1/8	7-3/16	10-1/8	10-5/8	13-1/4	14-3/8	1	6-1/2	18-1/4	11-1/4	11-1/4	
120SVX4	37-1/2	58-1/2	56	24	16-3/8	19-1/8	48	30-1/4	9-1/8	14-5/8	22-5/8	26-3/4	28-1/8	7-3/16	9-3/4	10-5/8	13-1/4	14-3/8	1	6-1/2	19-3/4	9-3/4	9-3/4	
180SVX4	46-1/4	66	63-1/8	23-5/8	16-1/2	45	57	37-3/4	13-3/8	18-7/8	28-3/8	34-3/8	33-3/4	7-3/16	9-3/4	10-5/8	13-1/4	14-3/8	1	6-1/2	11-1/4	11-1/4	9	
240SVX4	46-1/4	66	75-1/2	23-5/8	16-1/2	45	57	50-1/4	15-13/16	24	38-5/8	46-3/4	46-5/8	7-3/16	9-3/8	10-5/8	13-1/4	14-3/8	1	6-1/2	11-1/4	11-1/4	9	

NOTES: 1) All drain connections are 3/4" MPT and located on same side as coil connections.

2) All units have knockouts on both sides for either right (standard) or left side coils stub outs. (Looking with airflow)

3) All 180SHX and 240SHX models have two blowers. Blower opening size is 16-3/8 X 16-5/8.

GENERAL SPECIFICATIONS												
MODEL	NOM. COOLING TONS	FACE AREA SQ. FT	TUBE SIZE	STD. MOTOR HP.	VOLTS	PHASE	BLOWER SIZE	4 ROW COIL			SHIPPING WEIGHT	
								FILTER SIZE	LIQUID (SWEAT)	SUCTION (SWEAT)		
90SVX	7-1/2	7.3	1/2	3/4	115/230	1	15 X 15	24 X 25 (2)	5/8" O.D.	1-1/8" O.D.	460	
120SVX	10	9.4	1/2	1-1/2	230/460	3	15 X 15	26 X 29 (2)	1/2" O.D.	7/8" O.D.	575	
180SVX	15	14.1	1/2	1-1/2	230/460	3	15 X 12 (2)	20 X 36.5 (3)	5/8" O.D.	1-1/8" O.D.	805	
240SVX	20	19.1	1/2	3	230/460	3	15 X 12 (2)	20 X 49 (3)	5/8" O.D.	1-1/8" O.D.	925	

NOTES: 1) All technical specifications subject to change without notice.

2) Additional charge for optional motors.

3) When SVX units are used with hot water coil the leaving air temperature must not exceed 150 degrees.

At high altitude conditions, blower motor may cutout at a lower LAT. Contact factory for information.

4) Contact factory for electric heat information (supplied by others)

2 - 5 TON FAN PERFORMANCE (SHX and SVX)

MODEL	NOMINAL CFM	COIL FACE VELOCITY FPM	TOTAL STATIC PRESSURE - INCHES OF WATER									
			0.5		0.6		0.7		0.8		0.9	
			RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
24SHX/ 24SVX	600	300	770	1/6	840	1/6	900	1/6	990	1/4	1050	1/4
	700	350	780	1/6	850	1/6	910	1/4	990	1/4	1040	1/4
	800	400	800	1/4	860	1/4	910	1/4	990	1/4	1040	1/4
	900	450	810	1/4	880	1/4	925	1/4	1000	1/4	1050	1/3
	1000	500	830	1/4	900	1/4	950	1/3	1000	1/3	1060	1/3
36SHX/ 36SVX	1000	333	805	1/4	880	1/4	940	1/3	1000	1/3	1060	1/3
	1100	367	810	1/4	890	1/3	940	1/3	1000	1/3	1050	1/2
	1200	400	820	1/3	900	1/3	950	1/3	1005	1/2	1050	1/2
	1300	434	840	1/3	905	1/3	960	1/3	1010	1/2	1060	1/2
	1400	466	870	1/3	920	1/3	980	1/2	1020	1/2	1090	1/2
48SHX/ 48SVX	1400	350	720	1/3	775	1/3	825	1/2	870	1/3	910	1/2
	1500	375	740	1/3	785	1/2	830	1/2	875	1/2	920	1/2
	1600	400	750	1/2	800	1/2	840	1/2	890	1/2	925	3/4
	1700	425	770	1/2	810	1/2	860	1/2	895	1/2	930	3/4
	1800	450	785	1/2	825	1/2	870	1/2	910	1/2	945	3/4
60SHX/ 60SVX	1800	360	580	1/2	630	1/2	680	1/2	725	1/2	770	3/4
	1900	380	580	1/2	630	1/2	680	1/2	725	1/2	775	3/4
	2000	400	590	1/2	635	1/2	680	1/2	730	1/2	770	3/4
	2100	420	600	1/2	640	1/2	690	1/2	730	3/4	770	3/4
	2200	440	600	1/2	645	1/2	690	1/2	735	3/4	775	3/4

7-1/2 - 20 TON FAN PERFORMANCE (SHX and SVX)

MODEL	NOMINAL CFM	COIL FACE VELOCITY FPM	TOTAL STATIC PRESSURE - INCHES OF WATER									
			0.6		0.7		0.8		0.9		1.0	
			RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
90SHX/ 90SVX	2500	333	580	1/2	600	3/4	640	3/4	690	3/4	710	3/4
	2750	366	580	1/2	605	3/4	640	3/4	690	3/4	710	3/4
	3000	400	580	3/4	610	3/4	640	3/4	680	3/4	710	1
	3250	433	590	3/4	630	1	660	1	700	1	715	1
	3500	466	605	1	635	1	670	1	700	1	720	1
120SHX/ 120SVX	3400	354	600	1	630	1	670	1	700	1	730	1-1/2
	3700	385	610	1	650	1	680	1-1/2	705	1-1/2	740	1-1/2
	4000	417	630	1-1/2	670	1-1/2	695	1-1/2	710	1-1/2	750	1-1/2
	4300	448	650	1-1/2	685	1-1/2	705	1-1/2	730	1-1/2	770	2
	4600	480	670	1-1/2	700	2	720	2	760	2	790	2
180SHX/ 180SVX	5200	364	590	1-1/2	620	1-1/2	650	1-1/2	690	1-1/2	710	1-1/2
	5600	391	600	1-1/2	630	1-1/2	670	1-1/2	700	1-1/2	720	2
	6000	420	610	1-1/2	640	1-1/2	680	1-1/2	700	2	730	2
	6400	447	625	2	660	2	690	2	710	2	740	3
	6800	475	640	2	680	2	700	3	720	3	760	3
240SHX/ 240SVX	6000	314	610	1-1/2	640	1-1/2	670	1-1/2	700	2	730	2
	7000	366	640	2	690	2	710	3	740	3	760	3
	8000	419	700	3	720	3	750	3	790	3	800	3
	9000	470	730	5	760	5	800	5	810	5	830	5
	10000	500	800	5	820	5	840	5	880	5	900	5

Notes:

- 1) Shaded area indicates the R.P.M. and C.F.M. range of the standard motor and pulleys.
- 2) To determine available brake horsepower (BHP), take above nominal HP and multiply as follows:
For 1/4 HP to 3/4 HP motors: BHP = nominal X 1.25
For 1 HP to 5 HP motors: BHP = nominal X 1.15
- 3) Special pulleys and motors can be factory furnished at an additional charge.
- 4) Horsepower tabulated indicates minimum recommended motor H.P.
- 5) **Rated in accordance with ARI Standard 430.**

2 - 5 TON FAN PERFORMANCE (SHX and SVX) (Con't. from previous page)

NOMINAL CFM	COIL FACE VELOCITY FPM	TOTAL STATIC PRESSURE - INCHES OF WATER											
		1.0		1.2		1.4		1.6		1.8		2.0	
		RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
600	300	1105	1/4	1210	1/3	1310	1/3	1420	1/3	1510	1/2	---	---
700	350	1100	1/4	1200	1/3	1300	1/3	1405	1/2	1500	1/2	---	---
800	400	1100	1/3	1195	1/3	1295	1/2	1395	1/2	1470	1/2	---	---
900	450	1100	1/3	1190	1/3	1290	1/2	1390	1/2	1460	1/2	---	---
1000	500	1110	1/3	1200	1/2	1295	1/2	1390	1/2	1450	3/4	---	---
1000	333	1110	1/2	1230	1/2	<u>1335</u>	<u>1/2</u>	<u>1440</u>	<u>3/4</u>	<u>1540</u>	<u>3/4</u>	---	---
1100	367	1110	1/2	1215	1/2	1325	1/2	<u>1425</u>	<u>3/4</u>	<u>1520</u>	<u>3/4</u>	---	---
1200	400	1110	1/2	1210	1/2	1315	3/4	1415	3/4	<u>1500</u>	<u>3/4</u>	---	---
1300	434	1110	1/2	1220	1/2	1315	3/4	1410	3/4	1490	3/4	---	---
1400	466	1120	1/2	1220	3/4	1320	3/4	1410	3/4	1500	3/4	---	---
1400	350	955	1/2	1050	3/4	1135	3/4	1215	3/4	<u>1300</u>	<u>1</u>	<u>1380</u>	<u>1</u>
1500	375	960	1/2	1050	3/4	1135	3/4	1210	3/4	1295	1	1370	1
1600	400	970	3/4	1050	3/4	1140	3/4	1210	3/4	1290	1	1360	1
1700	425	980	3/4	1065	3/4	1140	3/4	1210	3/4	1290	1	1350	1
1800	450	985	3/4	1070	3/4	1150	3/4	1215	1	1280	1	---	---
1800	360	820	3/4	900	3/4	<u>975</u>	<u>3/4</u>	<u>1050</u>	<u>1</u>	<u>1125</u>	<u>1</u>	<u>1200</u>	<u>1-1/2</u>
1900	380	815	3/4	895	3/4	970	3/4	<u>1045</u>	<u>1</u>	<u>1120</u>	<u>1</u>	<u>1190</u>	<u>1-1/2</u>
2000	400	815	3/4	890	3/4	965	1	1040	1	<u>1110</u>	<u>1</u>	<u>1180</u>	<u>1-1/2</u>
2100	420	815	3/4	885	3/4	960	1	1035	1	1105	1-1/2	1175	1-1/2
2200	440	815	3/4	885	3/4	960	1	1030	1	1100	1-1/2	1165	1-1/2

7-1/2 - 20 TON FAN PERFORMANCE (SHX and SVX) (Con't. from previous page)

NOMINAL CFM	COIL FACE VELOCITY FPM	TOTAL STATIC PRESSURE - INCHES OF WATER									
		1.2		1.4		1.6		1.8		2.0	
		RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
2500	333	790	3/4	850	1	915	1-1/2	990	1-1/2	1030	1-1/2
2750	366	780	1	840	1	905	1-1/2	980	1-1/2	1020	1-1/2
3000	400	780	1	835	1-1/2	900	1-1/2	970	1-1/2	1010	1-1/2
3250	433	790	1-1/2	840	1-1/2	900	1-1/2	950	1-1/2	1005	2
3500	466	790	1-1/2	845	1-1/2	900	1-1/2	950	2	1005	2
3400	354	790	1-1/2	850	1-1/2	900	1-1/2	950	2	1005	2
3700	385	800	1-1/2	855	1-1/2	905	2	950	2	1005	2
4000	417	805	1-1/2	860	2	910	2	960	2	1005	2
4300	448	820	2	875	2	915	3	970	3	1010	3
4600	480	830	2	890	3	930	3	980	3	1015	3
5200	364	780	2	830	2	900	2	950	3	1000	3
5600	391	790	2	840	2	905	3	950	3	1000	3
6000	420	795	2	850	3	910	3	960	3	1000	3
6400	447	800	3	860	3	915	3	970	3	1000	5
6800	475	810	3	870	3	920	5	975	5	1005	5
6000	314	795	2	850	3	910	3	960	<u>3</u>	1000	3
7000	366	810	3	880	3	920	5	960	<u>5</u>	1000	5
8000	419	850	5	900	5	940	5	990	5	1020	5
9000	470	890	5	920	5	980	5	---	---	---	---
10000	500	---	---	---	---	---	---	---	---	---	---

Notes:

- 1) Shaded area indicates the R.P.M. and C.F.M. range of the standard motor and pulleys.
- 2) To determine available brake horsepower (BHP), take above nominal HP and multiply as follows:
For 1/4 HP to 3/4 HP motors: BHP = nominal X 1.25
For 1 HP to 5 HP motors: BHP = nominal X 1.15
- 3) Special pulleys and motors can be factory furnished at an additional charge.
- 4) Horsepower tabulated indicates minimum recommended motor H.P.
- 5) **Rated in accordance with ARI Standard 430.**

24SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP/ °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F	
				DB	WB			DB	WB			DB	WB
40	600	35.0	20.3	53.7	52.9	29.2	18.4	51.7	51.0	23.4	16.2	50.0	49.4
	800	41.5	24.7	56.5	55.3	34.6	22.4	54.1	53.0	27.7	19.8	52.0	51.0
	1000	46.5	28.3	58.8	57.2	38.7	25.8	56.1	54.6	31.0	22.9	53.7	52.4
45	600	30.2	18.4	56.6	55.9	24.3	16.4	54.7	54.0	18.5	14.2	53.1	52.5
	800	35.8	22.5	58.9	57.8	28.8	20.2	56.7	55.6	21.9	17.5	54.7	53.7
	1000	40.1	25.9	60.9	59.4	32.3	23.4	58.4	56.9	24.6	20.4	56.1	54.8
50	600	24.9	16.4	59.7	58.9	19.1	14.4	57.8	57.1	13.2	12.1	56.3	55.7
	800	29.5	20.2	61.6	60.4	22.6	17.8	59.4	58.3	15.7	15.1	57.5	56.5
	1000	33.0	23.5	63.2	61.7	25.3	20.8	60.8	59.3	17.7	17.7	58.6	- - -

HOT WATER HEATING CAPACITIES

24HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
600	3.0	0.9	33.3	121	158
800			38.4	115	154
1000			42.9	110	151
600	6.0	3.2	36.6	126	168
800			43.2	120	166
1000			49.0	115	164
600	9.0	6.7	37.9	128	172
800			45.3	122	170
1000			51.8	118	168

Notes:

- 1) See below for hot water heating correction factor
- 2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

* 70 degree return air

HOT WATER HEATING CORRECTION FACTORS

ENTERING AIR TEMP. (°F)	ENTERING WATER TEMPERATURE (°F)								
	100	110	120	130	140	150	160	170	180
50	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091	1.182
55	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045	1.136
60	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000	1.091
65	0.318	0.409	0.500	0.591	0.682	0.773	0.864	0.955	1.045
70	0.272	0.363	0.455	0.545	0.636	0.727	0.818	0.909	1.000
75	0.227	0.318	0.409	0.500	0.591	0.682	0.773	0.864	0.955
80	0.182	0.272	0.363	0.455	0.545	0.636	0.727	0.818	0.909

Notes:

- 1) To determine heating capacity at other than 180 deg. E.W.T. and 70 deg. E.A.T. multiply the selected heating capacity at 180 deg. times the appropriate correction factor from above chart.
- 1) These correction factors may be used on all First Co. published 180 deg. heating capacities.
- 1) When **SHX/SVX** units are used with hot water coils the leaving air temperature must not exceed 150 degrees. At high altitude conditions, blower motor may cutout at lower LAT. Contact factory for information.

36SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG AIR °F	
				DB	WB			DB	WB			DB	WB
40	1000	55.8	32.7	54.8	53.9	46.5	29.6	52.6	51.8	37.2	26.1	50.8	50.0
	1200	62.0	36.9	56.5	55.4	51.7	33.5	54.1	53.1	41.4	29.7	52.1	51.1
	1400	67.2	40.7	58.1	56.7	56.0	37.0	55.5	54.2	44.8	32.9	53.3	52.0
45	1000	48.1	29.7	57.5	56.6	38.8	26.5	55.4	54.6	29.5	23.0	53.7	53.0
	1200	53.4	33.7	59.0	57.9	43.1	30.2	56.7	55.6	32.8	26.2	54.8	53.8
	1400	57.9	37.2	60.4	58.9	46.7	33.4	57.9	56.5	35.5	29.2	55.7	54.5
50	1000	39.7	26.6	60.4	59.5	30.4	23.3	58.4	57.6	21.1	19.7	56.8	56.0
	1200	44.1	30.3	61.6	60.5	33.8	26.7	59.4	58.3	23.5	22.6	57.6	56.7
	1400	47.8	33.6	62.8	61.3	36.6	29.7	60.4	59.0	25.3	25.3	58.3	---

HOT WATER HEATING CAPACITIES

36HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
1000	4.0	1.6	53.3	119	153
1200			58.7	115	150
1400			65.4	112	148
1000	8.0	6.1	59.4	125	165
1200			66.2	121	164
1400			72.5	118	162
1000	12.0	13.1	61.5	127	170
1200			68.7	123	168
1400			75.4	120	167

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

48SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG AIR °F	
				DB	WB			DB	WB			DB	WB
40	1400	76.1	44.8	55.4	54.4	63.4	40.6	53.1	52.2	50.8	35.9	51.3	50.4
	1600	82.1	48.9	56.7	55.5	68.4	44.4	54.3	53.2	54.8	39.4	52.2	51.2
	1800	87.3	52.7	57.9	56.5	72.7	48.0	55.3	54.0	58.2	42.6	53.1	51.9
45	1400	65.6	40.7	58.1	57.1	52.9	36.5	55.9	55.0	40.2	31.6	54.1	53.3
	1600	70.7	44.6	59.2	58.0	57.1	40.0	56.9	55.7	43.4	34.8	54.9	53.8
	1800	75.2	48.2	60.2	58.8	60.7	43.3	57.7	56.4	46.2	37.8	55.6	54.4
50	1400	54.1	36.5	60.8	59.8	41.4	32.1	58.8	57.9	28.8	27.2	57.0	56.2
	1600	58.3	40.2	61.8	60.6	44.7	35.4	59.5	58.4	30.0	30.0	57.6	---
	1800	62.0	43.5	62.6	61.2	47.5	38.4	60.2	58.9	32.7	32.7	58.2	---

HOT WATER HEATING CAPACITIES

48HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
1400	5.0	2.0	72.8	118	151
1600			78.0	115	149
1800			82.7	113	147
1400	8.0	4.8	79.2	122	160
1600			85.4	119	159
1800			91.4	117	157
1400	12.0	10.4	83.3	125	166
1600			90.2	122	165
1800			97.0	120	164

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

60SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F	
				DB	WB			DB	WB			DB	WB
40	1800	96.7	57.0	55.7	54.6	80.6	51.8	53.4	52.4	64.5	45.8	51.5	50.6
	2000	102.6	61.1	56.7	55.5	85.5	55.6	54.3	53.2	68.4	49.2	52.2	51.2
	2200	107.9	64.9	57.7	56.3	89.9	59.1	55.1	53.9	72.0	52.4	52.9	51.8
45	1800	83.3	51.9	58.3	57.3	67.2	46.5	56.1	55.1	51.1	40.4	54.2	53.4
	2000	88.4	55.8	59.2	58.0	71.3	50.0	56.9	55.7	54.3	43.5	54.9	53.8
	2200	92.9	59.4	60.0	58.6	75.0	53.3	57.6	56.3	57.0	46.5	55.4	54.3
50	1800	68.7	46.6	61.0	60.0	52.7	41.0	58.9	58.0	36.6	34.7	57.2	56.3
	2000	72.9	50.2	61.8	60.6	55.9	44.2	59.5	58.4	37.5	37.5	57.6	---
	2200	76.7	53.6	62.5	61.1	58.7	47.3	60.1	58.8	40.2	40.2	58.1	---

HOT WATER HEATING CAPACITIES

60HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
1800	6.0	3.1	93.1	118	149
2000			98.2	116	147
2200			103.1	113	145
1800	9.0	6.6	100.4	122	158
2000			106.5	119	156
2200			112.6	117	155
1800	12.0	11.5	104.4	124	163
2000			111.0	121	162
2200			117.7	120	160

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

90SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F	
				DB	WB			DB	WB			DB	WB
40	2500	147.9	85.9	53.2	52.6	123.3	77.7	51.2	50.7	98.7	68.5	49.6	49.2
	3000	164.2	97.3	55.0	54.3	136.9	88.2	52.8	52.1	109.5	78.0	50.9	50.3
	3500	176.7	107.1	56.7	55.8	147.3	97.4	54.2	53.4	117.9	86.4	52.1	51.4
45	2500	127.4	77.8	56.2	55.6	102.8	69.4	54.3	53.8	78.2	60.0	52.8	52.3
	3000	141.5	88.5	57.7	57.0	114.1	79.2	55.6	54.9	86.8	68.8	53.8	53.2
	3500	152.2	97.9	59.1	58.2	122.8	87.9	56.8	55.9	93.4	76.6	54.7	54.0
50	2500	105.1	69.5	59.3	58.7	80.5	60.9	57.5	57.0	55.9	51.2	56.0	55.5
	3000	116.7	79.5	60.5	59.8	89.4	69.8	58.4	57.8	62.1	59.1	56.8	56.1
	3500	125.6	88.4	61.6	60.8	96.2	77.9	59.4	58.6	66.3	66.3	57.5	---

HOT WATER HEATING CAPACITIES

90HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
2500	8.0	1.0	146.2	124	143
3000			160.5	120	140
3500			171.5	115	137
2500	14.0	2.8	162.3	130	157
3000			180.4	126	154
3500			196.2	122	153
2500	21.0	6.1	171.1	133	164
3000			191.2	129	162
3500			209.1	125	160

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

120SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F	
				DB	WB			DB	WB			DB	WB
40	3400	196.6	114.8	53.7	53.1	163.9	104.0	51.7	51.1	131.2	91.7	50.0	49.5
	4000	215.0	128.0	55.4	54.6	179.2	116.2	53.1	52.4	143.5	102.8	51.2	50.6
	4600	229.1	139.4	57.0	56.0	191.0	126.9	54.5	53.6	152.9	112.6	52.3	51.6
45	3400	169.4	104.2	56.6	56.0	136.7	93.1	54.7	54.1	104.0	80.5	53.1	52.6
	4000	185.2	116.6	58.0	57.3	149.5	104.4	55.8	55.1	113.7	90.7	54.0	53.4
	4600	197.4	127.6	59.3	58.4	159.3	114.6	56.9	56.1	121.2	99.9	54.9	54.1
50	3400	139.8	93.2	59.6	59.0	107.1	81.7	57.8	57.2	74.4	68.9	56.2	55.7
	4000	152.9	104.8	60.7	60.0	117.1	92.2	58.7	58.0	81.3	78.1	56.9	56.3
	4600	162.9	115.2	61.8	60.9	124.8	101.7	59.5	58.7	86.6	86.6	57.6	---

HOT WATER HEATING CAPACITIES

120HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
3400	11.0	1.0	198.5	124	144
4000			215.8	120	140
4600			229.4	116	138
3400	18.0	2.8	217.8	129	156
4000			239.8	125	153
4600			257.8	122	151
3400	25.0	5.3	227.8	132	162
4000			251.9	128	160
4600			272.0	125	158

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

180SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F	
				DB	WB			DB	WB			DB	WB
50	5200	298.6	174.7	53.9	53.3	248.9	158.2	51.8	51.3	199.21	139.6	50.1	49.6
	6000	322.8	192.1	55.4	54.6	269.1	174.4	53.1	52.4	215.4	154.3	51.2	50.5
	6800	342.1	207.6	56.7	55.9	285.2	188.8	54.3	53.5	228.2	167.5	52.2	51.4
45	5200	257.3	158.6	56.8	56.1	207.6	141.6	54.8	54.2	157.9	122.6	53.2	52.6
	6000	278.2	175.1	58.0	57.2	224.4	156.8	55.8	55.1	170.7	136.2	54.0	53.3
	6800	294.7	189.8	59.2	58.3	237.8	170.4	56.8	56.0	180.9	148.5	54.8	54.0
50	5200	212.3	141.9	59.7	59.1	162.6	124.4	57.9	57.3	112.9	105.0	56.3	55.8
	6000	229.5	157.3	60.7	60.0	175.8	138.4	58.7	58.0	122.1	117.3	56.9	56.3
	6800	243.2	171.3	61.7	60.8	186.3	151.2	59.4	58.6	128.7	128.7	57.5	---

HOT WATER HEATING CAPACITIES

180HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
5200	17.0	1.9	308.7	125	144
6000			332.3	121	141
6800			352.6	118	138
5200	25.0	4.1	332.3	129	153
6000			360.2	125	151
6800			386.1	123	149
5200	35.0	8.0	347.8	132	160
6000			378.5	128	158
6800			407.5	125	157

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

240SHX / SVX

DIRECT EXPANSION COOLING CAPACITIES

SUCTION TEMP. °F	CFM	85°F DB / 71°F WB ENT. AIR				80°F DB / 67°F WB ENT. AIR				75°F DB / 63°F WB ENT. AIR			
		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F		TOTAL MBTUH	SENS. MBTUH	LVG. AIR °F	
				DB	WB			DB	WB			DB	WB
40	6000	365	211	52.5	52.0	303	190	50.7	50.2	241	167	49.3	48.9
	8000	433	258	55.2	54.5	359	233	53.0	52.4	286	206	51.2	50.6
	10000	480	296	57.6	56.7	398	269	55.1	54.2	316	238	53.0	52.2
45	6000	313	190	55.6	55.2	251	169	53.9	53.5	189	145	52.6	52.2
	8000	372	234	57.9	57.2	298	209	55.8	55.2	224	181	54.1	53.5
	10000	412	271	59.9	59.0	330	243	57.5	56.7	248	211	55.5	54.7
50	6000	257	169	58.9	58.4	195	147	57.3	56.8	133	123	56.0	55.6
	8000	305	210	60.7	60.0	231	184	58.7	58.1	155	145	57.1	56.3
	10000	337	244	62.4	61.4	256	215	60.1	59.2	183	170	58.1	57.2

HOT WATER HEATING CAPACITIES

240HWK (2 ROW COIL)					
180°F ENTERING WATER TEMPERATURE					
CFM	GPM	WTR. P.D. FT.	TOTAL MBH	LVG. AIR °F	LVG. WTR °F
6000	15.0	0.9	323	120	137
8000			369	113	131
10000			415	108	125
6000	25.0	2.3	361	126	151
8000			420	119	146
10000			457	112	144
6000	35.0	4.3	382	192	158
8000			449	122	154
10000			494	116	152

* 70 degree return air

Notes: 1) See page 14 for hot water heating correction factors.
2) Optional 2 row hot water coil can be factory installed in either the reheat (std.) or preheat positions.

GUIDE SPECIFICATIONS

Furnish and install First Co. **SHX/SVX** Series Blower - Coil units as indicated on the plans.

CABINETS

Cabinets shall be manufactured of heavy gauge galvanized steel. The entire interior of the cabinet shall be insulated with one inch thick IAQ type insulation. Removable access panels shall be provided on both sides of the cabinet for maintenance and service. All cabinets shall have 2" supply and 1" return flanges.

INSULATION

The entire interior of the cabinet shall be insulated with one (1) inch insulation. This insulation must meet the requirements of ASTM C 1071, ASTM G 21, ASTM G 22, NFPA 90A, UL-181, and the cleaning practices of NAIMA.

MOTOR / BLOWERS

Blowers shall be resiliently mounted, with ball bearings, forward curved blade, and of centrifugal type. Each wheel shall be dynamically balanced for smooth, quiet operation. Blowers shall be belt driven with field adjustable pulleys to permit variations in static pressure and air requirements. Standard motors are 1725 RPM either single or three phase. All motors to be field or factory installed and wired at voltage specified by customer.

COILS

All **SHX/SVX** series coils shall consist of aluminum fins mechanically bonded onto 3/8" or 1/2" OD seamless copper tubing. All coils shall be leak tested at 350 PSIG minimum air pressure. 2 - 5 ton models shall feature factory installed expansion valves approved for either straight cool or heat pump operation and be of single circuit design. 10 - 20 ton models shall be dual-circuited and have factory installed expansion valves approved for straight cool only (not heat pump) operation. 7 1/2 ton model has single circuit coil. Drain pans shall be coated for corrosion protection.

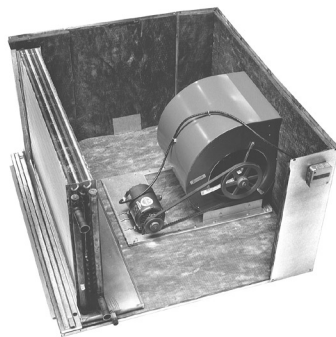
FILTERS

One inch throw away filters are standard in 2-5 ton **SHX/SVX** units.

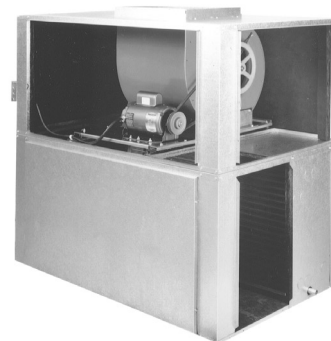
One inch permanent filters are provided as standard in 7-20 ton **SHX/SVX** units. Filters shall be accessible without tools.

LISTING

All standard motors are ETL Listed. All air handlers shall be rated in accordance with ARI Standard 430. Standard motors have internal overload protection. Therefore, units shipped with standard motors will be ETL listed. Most non-standard motors (i.e. 575V, 2-speed, TEFC, some 50 Hz., etc.) are not available with internal overload protection. Therefore, most units shipped with non-standard motors can be ETL listed with the addition of a factory installed motor starter (contact the factory for starter information and ETL verification.)



SHX
(SHW UNIT SHOWN)



SVX

Catalog No. SHX-SVX508 (Replaces SHX-SVX307)