

SUPPLY AIR UNITS

Heating Fresh Air

SFA-IGO

Indirect Gas Fired
Makeup Air Unit

General:

The SFA-IGO is an indirect, gas-fired make-up air unit for commercial applications. The unit is designed to introduce 100% fresh air into a commercial building. The SFA-IGO is roof-mounted on a perimeter curb or sleeper with optional turndown plenum. Supply air capacities range from 500 to 8000 CFM with burners from 80,000 to 600,000 BTU/hr output.

Truflow Enabled Demand Ventilation Available: The SFA can be supplied modulating bypass damper requiring a 4-20milli-amp single to provide kitchen demand ventilation down to 30% reduction in fresh air volume. The unit is then called a SFT.

Heating Capacity:

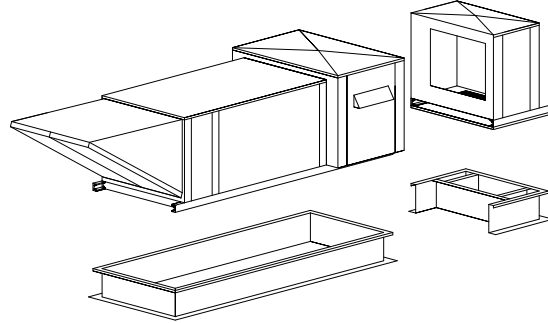
The total heating required is equal to the following:

Heating Capacity (BTU/hr) =

Supply Volume (CFM) x 1.09 x (TI - TO)

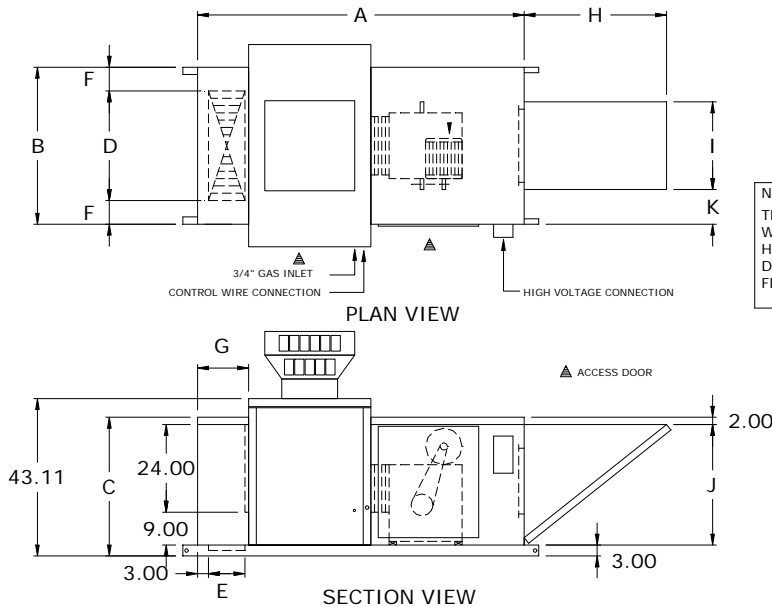
Where: TI = Supply discharge temperature required (F)

TO = Winter design temperature for the area (F)



Horsepower & RPM:

The horsepower and RPM is determined from the SFA-IGO Fan Chart. Once the Supply Volume and External Static pressure have been calculated, refer to the Chart and select a SFA size based on an acceptable outlet velocity.



NOTE:
THE DISCHARGE DIMENSIONS WITHOUT A TURNDOWN ARE 24" HIGH BY "X" DIMENSION. THE DISCHARGE IS LOCATED 12" FROM THE BOTTOM OF THE UNIT

SFA-IGO Dimensions

SFA MODEL NO.	A	B	C	D	E	F	G	H	I	J	K	MAX HP	UNIT WEIGHT (lbs)	TURNDOWN PLENUM WEIGHT (lbs)
10	81.5	32	38	20	8	6	12	24	24	31	4	3	790	55
12	89.5	43	38	30	10	6.5	14	39	24	31	9.5	5	880	67
15	97.5	43	38	34	12	4.5	16	40	36	31	3.5	7.5	1030	85
18	114.5	48	40	36	16	6	20	42	48	33	0	10	1250	103

Heater Capacity	100	150	200	250	300	350	400
X Dimension	20.06	20.06	24.56	24.56	27.56	32.56	38.69

SFA-IGO Fan Chart

MODEL NO.	CFM	OUTLET VELOCITY (FPM)	EXTERNAL STATIC PRESSURE ("W.C.)													
			0.25		0.50		0.75		1.00		1.50		2.00		2.50	
			RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
SFA 10	500	490	700	0.10	845	0.12	1000	0.17	1160	0.21						
	1000	980	600	1.12	871	0.15	930	0.27	1036	0.35	1300	0.49				
	1500	1470	800	0.25	973	0.37	1040	0.48	1180	0.63	1375	0.85				
	2000	1960	1000	0.63	1109	0.74	1182	0.82	1289	0.92	1395	1.15				
	2500	2451	1180	0.92	1280	1.25	1370	1.51	1463	1.65	1550	1.79				
SFA 12	1500	1042	450	0.15	690	0.30	805	0.41	896	0.50						
	2000	1389	640	0.33	753	0.53	820	0.65	918	0.72	1130	1.10	1195	1.31	1281	1.42
	2500	1736	785	0.69	850	0.75	965	0.80	1021	1.12	1181	1.36	1370	1.80	1454	2.12
	3000	2083	843	0.92	906	1.11	1000	1.25	1078	1.41	1206	1.73	1337	2.25	1465	2.72
	3500	2430	950	1.51	1001	1.18	1089	1.71	1165	2.02	1263	2.40	1298	2.71	1553	3.64
SFA 15	3000	1493	410	0.50	605	0.69	702	0.83	759	0.95	921	1.32	1035	1.80	1100	2.65
	3500	1741	580	0.75	675	0.91	731	1.21	802	1.36	953	1.70	1050	2.27	1146	2.93
	4000	1990	615	0.87	702	1.26	782	1.46	837	1.61	975	2.12	1078	2.60	1168	3.06
	4500	2238	700	1.47	755	1.32	816	1.83	861	2.12	998	2.67	1100	3.19	1187	3.85
	5000	2487	781	2.28	802	2.06	875	2.40	925	2.58	1040	3.18	1142	3.75	1222	4.60
SFA 18	4000	1394	400	0.63	502	0.94	596	1.22	665	1.42	784	2.14	919	2.64		
	4500	1568	415	0.81	525	1.00	605	1.42	673	1.96	790	2.20	924	3.23		
	5000	1742	516	1.30	596	1.48	640	1.70	701	2.10	800	2.63	1030	3.20	1070	4.21
	5500	1916	561	1.60	609	1.73	681	2.15	713	2.51	816	3.02	1060	3.83	1162	4.33
	6000	2090	574	1.73	615	2.21	696	2.58	732	2.89	847	4.57	930	4.29	1205	5.15
	6500	2265	602	2.36	660	2.70	715	3.00	770	3.28	863	4.11	945	4.87	1215	5.85
	7000	2439	643	2.61	675	3.09	748	3.55	802	4.09	902	4.89	994	5.97	1067	6.38
	7500	2613	682	3.41	740	3.92	787	4.30	842	4.67	927	5.89	1013	6.43	1079	7.18
	8000	2788	733	4.17	771	4.33	830	4.98	866	5.91	950	6.43	1028	7.18	1103	8.01

NOTES:

- The capacities shown above include resistance of the basic fan, filter, and heater unit with motorized inlet damper. Resistance of the ductwork, hood, diffuser, and grilles must be calculated to determine the EXTERNAL STATIC PRESSURE.
- Performance is based on standard air. (Density 0.075 lbs/ft³ at 70° F) Horsepower data includes drive losses.
- For higher EXTERNAL STATIC PRESSURES consult factory.
- See the Spring Air Systems Inc. Compensating Engineering Manual for additional unit and burner information.

SPECIFICATION:

General

The Commercial ventilation unit shall be a Spring Air Systems Model SFA____-IGO outdoor design, assembled, wired and tested prior to shipment with a supply capacity of ____ CFM @ ____ "W.C. external static pressure. The SFA unit shell is installed in accordance with the CSA, CGA and local authorities having jurisdiction.

Description:

The unit shall be supplied complete with supply fan, open drip proof motor, drives, belts, replaceable media filters, motorized fresh air damper with end switch, disconnect switch, motor starter (shipped loose or mounted), and inlet cowl with filters. The unit casing shall be a minimum 18 Ga. satin coat steel construction suitably reinforced to ensure rigidity with access panels from fan motor and drives. The fan shall be a forward curved DWDI, AMCA rated, belt driven, statically and dynamically balanced.

Heat Exchanger:

Indirect gas fired, gravity vented burner, with stainless steel heat exchanger and burner complete with mechanical/electronic modulation, intermittent-duty pilot ignition gas controls, for use with natural gas, non-lockup type. Controls to include mechanical modulation, modulator/regulator valve, combination main/pilot/manual valve, spark ignition controller, overheat control and low voltage transformer. Ductstat bulb to be located in discharge ductwork by installer.

Accessories:

- Insulated turndown plenum.
- Perimeter roof curb.
- RPD05 remote station
- Electronic Control
- Discharge duct stat for electronic control
- Unit mounted ambient stat.
- Power vent