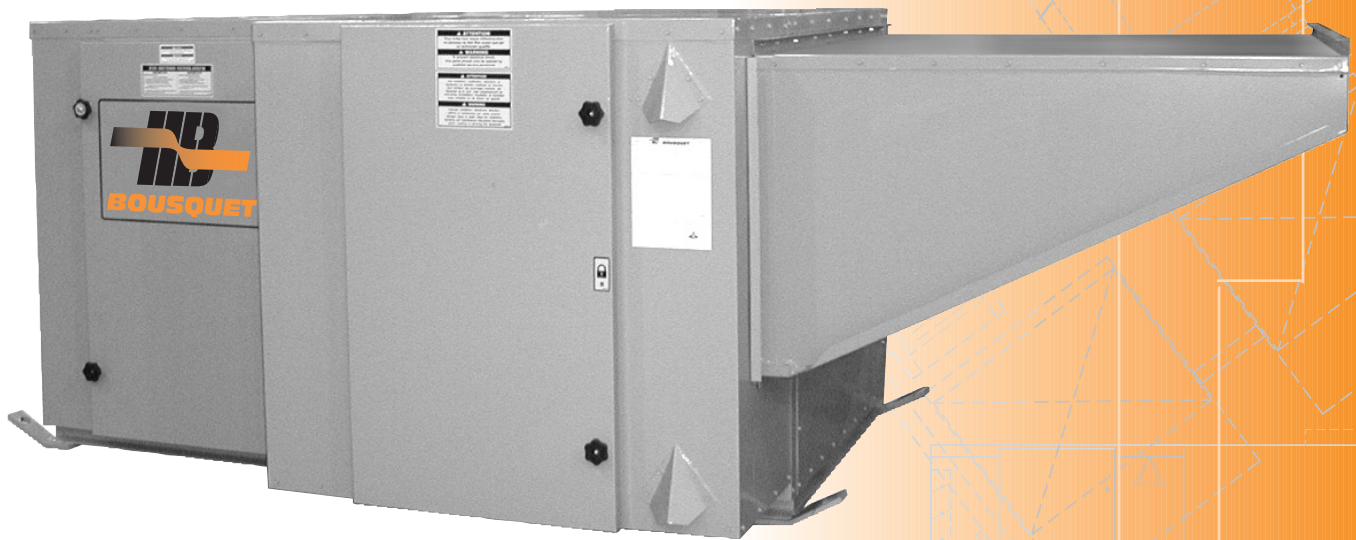


# Direct Gas-Fired Make-up Air Heaters



**SDM SERIES**  
INDOOR/OUTDOOR



**SPECIFICATIONS MANUAL**

 **MANUFACTURED BY :**  
**BOUSQUET**  
BROTHERS LIMITED

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## **BENEFITS OF A DIRECT GAS-FIRED MAKE-UP AIR HEATER**

A make-up air heater is designed to compensate for the air exhausted by one or more exhaust fans. It may also be used to compensate the air used by an industrial process or combustion air for burners.

The phenomenon of negative pressure in a building, which is caused by a lack of air compensation, may lead to conditions such as combustion products back flow from existing heating equipments, air infiltration through doors and windows, dispersal of contaminants as well as structural damages. These conditions may be circumvented by the installation of a make-up air unit to replace exhausted or depleted air.

In addition to the benefits indicated above, a make-up air heater can filter and heat or cool the air for additional comfort. Because it has a very high efficiency, the direct gas-fired make-up air heater is more cost effective than an indirect gas-fired unit.

The normal temperature of the air supplied by a direct gas-fired air heater stands between 65 and 75°F, but may be as low as 55°F. The maximum discharge temperature allowed by the CGA standards is 160°F. For air supply temperature above 100°F, a special construction is required; consult the manufacturer.

More and more engineers, architects and building owners are realizing that the installation of a make-up air heater improves indoor air quality and reduces heating costs.

Finally, the benefits of a make-up air heater are:

- Less dust and impurities;
- Elimination of cold air infiltration;
- Easy opening and closing of the exterior doors;
- Increased efficiency of exhaust fans;
- Elimination of downdraft in chimneys and ventilation openings;
- Increased efficiency of the heating systems;
- Preservation of the building structure integrity.

## **APPLICATIONS**

- Commercial kitchens
- Industrial laboratories
- Paint booths
- Compensation for negative pressure in industrial and commercial buildings
- Underground parking lots
- Mechanical workshops
- In most facilities requiring correction of negative pressure and where the unit may be interlocked to an exhaust system.

Refer to current B-149 standard under Direct Gas-fired Make-up Air Heaters

Exception: *ANYWHERE* people may sleep.

## SELECTION GUIDELINES OF A DIRECT GAS-FIRED MAKE-UP AIR HEATER

### 1. Required air flow

- Type of application
- Exhaust flow rate
- Multiplier: 1.1 for positive pressure or 0.9 for negative pressure
- The total external static pressure of the unit, air ducts and fresh air inlets

### 2. Type of installation

- Indoor or outdoor installation
- Installation on ties, roof curb, structure, slab or other
- Side of the controls (when facing the air discharge)

### 3. Heating requirements

- Inlet air temperature
- Leaving air temperature
- Heating capacity

### 4. Unit configuration

- Single, multiple or variable air flow rates
- Air flow orientation (horizontal, vertical, up or down)
- Air discharge configuration (horizontal or vertical)
- Type of fresh air intake
- Type and location of filters

### 5. Capacity modulation controls

- Modulation (MAXITROL series 14 or 44)
- Modulation from an external signal (0-10 VDC or 4-20 mA)
- Others

### 6. Remote controls

- Standard, deluxe or special remote control panel
- Room thermostat
- Others

### 7. Options

- Non-insulated roof curb
- Space for a cooling or recovery coil
- Discharge low limit thermostat
- Adjustable air inlet thermostat
- Lighting and/or power outlets
- Others

Model	Air flow SCFM	Velocity FPM	Burner capacity (MBTU/H) Temperature rise (°F)										Motor (HP) External static pressure (w.c.)*							
			70	75	80	85	90	95	100	105	110	115	120	0"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"
SDM 25 (10 - 10)	1500	1470	116	124	132	140	149	157	165	173	182	190	198	1/2	3/4	3/4	3/4	1	-	-
	2000	1960	154	165	176	187	198	209	220	231	242	253	264	3/4	1	1	1 1/2	1 1/2	1 1/2	-
	2500	2450	193	206	220	234	248	261	275	289	303	316	330	1	1 1/2	1 1/2	2	2	2	2
	3000	2941	231	248	264	281	297	314	330	347	363	380	396	-	2	2	2	3	3	3
SDM 50 (12 - 12)	2500	1736	193	206	220	234	248	261	275	289	303	316	330	1	1	1 1/2	1 1/2	1 1/2	2	-
	3000	2083	231	248	264	281	297	314	330	347	363	380	396	1 1/2	1 1/2	1 1/2	2	2	2	3
	3500	2430	270	289	308	327	347	366	385	404	424	443	462	1 1/2	2	2	2	3	3	3
	4000	2777	308	330	352	374	396	418	440	462	484	506	528	2	2	3	3	3	3	5
	4500	3124	347	371	396	421	446	470	495	520	545	569	594	3	3	3	3	5	5	5
	5000	3472	385	413	440	468	495	523	550	578	605	633	660	-	3	5	5	5	5	5
SDM 75 (15 - 15)	3500	1741	270	289	308	327	347	366	385	404	424	443	462	1 1/2	1 1/2	1 1/2	2	2	3	-
	4000	1990	308	330	352	374	396	418	440	462	484	506	528	1 1/2	1 1/2	2	2	3	3	
	4500	2238	347	371	396	421	446	470	495	520	545	569	594	2	2	3	3	3	5	
	5000	2487	385	413	440	468	495	523	550	578	605	633	660	2	3	3	3	5	5	
	5500	2736	424	454	484	514	545	575	605	635	666	696	726	3	3	3	5	5	5	
	6000	2985	462	495	528	561	594	627	660	693	726	759	792	3	3	5	5	5	5	
	6500	3233	501	536	572	608	644	679	715	751	787	822	858	-	5	5	5	5	5	7 1/2
7000	3482	539	578	616	655	693	732	770	809	847	886	924	-	5	5	5	7 1/2	7 1/2	7 1/2	
SDM 100 (18 - 18)	5500	1916	424	454	484	514	545	575	605	635	666	696	726	3	3	3	5	5	5	
	6000	2090	462	495	528	561	594	627	660	693	726	759	792	3	3	5	5	5	5	
	6500	2264	501	536	572	608	644	679	715	751	787	822	858	3	5	5	5	5	7 1/2	
	7000	2439	539	578	616	655	693	732	770	809	847	886	924	5	5	5	5	5	7 1/2	
	7500	2613	578	619	660	701	743	784	825	866	908	949	990	5	5	5	5	7 1/2	7 1/2	
	8000	2787	616	660	704	748	792	836	880	924	968	1 012	1 056	5	5	7 1/2	7 1/2	7 1/2	7 1/2	
	8500	2961	655	701	748	795	842	888	935	982	1 029	1 075	1 122	5	7 1/2	7 1/2	7 1/2	7 1/2	7 1/2	
	9000	3135	693	743	792	842	891	941	990	1 040	1 089	1 139	1 188	5	7 1/2	7 1/2	7 1/2	7 1/2	10	
	9500	3310	732	784	836	888	941	993	1 045	1 097	1 150	1 202	1 254	5	7 1/2	7 1/2	7 1/2	10	10	
	10000	3484	770	825	880	935	990	1 045	1 100	1 155	1 210	1 265	1 320	-	7 1/2	10	10	10	10	
SDM 150 (20 - 20)	8000	1904	616	660	704	748	792	836	880	924	968	1 012	1 056	5	5	5	5	7 1/2	7 1/2	
	8500	2023	655	701	748	795	842	888	935	982	1 029	1 075	1 122	5	5	5	5	7 1/2	7 1/2	
	9000	2142	693	743	792	842	891	941	990	1 040	1 089	1 139	1 188	5	5	5	7 1/2	7 1/2	7 1/2	
	9500	2261	732	784	836	888	941	993	1 045	1 097	1 150	1 202	1 254	5	5	7 1/2	7 1/2	7 1/2	7 1/2	
	10000	2380	770	825	880	935	990	1 045	1 100	1 155	1 210	1 265	1 320	5	5	7 1/2	7 1/2	7 1/2	7 1/2	
	11000	2619	847	908	968	1 029	1 089	1 150	1 210	1 271	1 331	1 392	1 452	7 1/2	7 1/2	7 1/2	7 1/2	10	10	
	12000	2857	924	990	1 056	1 122	1 188	1 254	1 320	1 386	1 452	1 518	1 584	7 1/2	7 1/2	10	10	10	15	
	13000	3095	1 001	1 073	1 144	1 216	1 287	1 359	1 430	1 502	1 573	1 645	1 716	7 1/2	10	10	10	15	15	
	14000	3333	1 078	1 155	1 232	1 309	1 386	1 463	1 540	1 617	1 694	1 771	1 848	10	10	15	15	15	15	
	15000	3571	1 155	1 238	1 320	1 403	1 485	1 568	1 650	1 733	1 815	1 898	1 980	10	10	15	15	15	15	
SDM 200 (25 - 25)	14000	2086	1 078	1 155	1 232	1 309	1 386	1 463	1 540	1 617	1 694	1 771	1 848	7 1/2	7 1/2	7 1/2	10	10	15	
	15000	2235	1 155	1 238	1 320	1 403	1 485	1 568	1 650	1 733	1 815	1 898	1 980	7 1/2	7 1/2	10	10	15	15	
	16000	2384	1 232	1 320	1 408	1 496	1 584	1 672	1 760	1 848	1 936	2 024	2 112	7 1/2	10	10	10	15	15	
	17000	2533	1 309	1 403	1 496	1 590	1 683	1 777	1 870	1 964	2 057	2 151	2 244	7 1/2	10	10	10	15	15	
	19000	2831	1 463	1 568	1 672	1 777	1 881	1 986	2 090	2 195	2 299	2 404	2 508	10	10	15	15	15	15	
	20000	2980	1 540	1 650	1 760	1 870	1 980	2 090	2 200	2 310	2 420	2 530	2 640	15	15	15	15	15	20	
	22000	3278	1 694	1 815	1 936	2 057	2 178	2 299	2 420	2 541	2 662	2 783	2 904	15	15	15	15	20	20	
	24000	3576	1 848	1 980	2 112	2 244	2 376	2 508	2 640	2 772	2 904	3 036	3 168	15	15	20	20	25	25	
	25000	3725	1 925	2 063	2 200	2 338	2 475	2 613	2 750	2 888	3 025	3 163	3 300	20	20	20	20	25	25	

**\*STATIC PRESSURE**

Internal static pressure drop includes losses through fresh air intake hood, damper, 2-inch standard filter section and burner.

**Note 1 :** Refer to the manufacturer for higher static pressure and air flow.

**Note 2 :** Models SDM 150, 200, 300, 375 and 450 are also available with twin blowers.

**GAS PIPE SIZE (inches)**

NOTE	HEATING CAPACITY	Ø
Gas pipe size is selected for a 0.5 psig inlet pressure.	0 MBTU/H - 750 MBTU/H	1/2
	751 MBTU/H - 1 000 MBTU/H	1
Refer to the manufacturer for higher pressure.	1 001 MBTU/H - 2 500 MBTU/H	1 1/2
	2 501 MBTU/H - 5 000 MBTU/H	2
	5 001 MBTU/H & UP	3

Model	Air flow l/s	Velocity m/s	Burner capacity (kW) Temperature rise (°C)											Motor (kW) External static pressure (Pa)*						
			38	40	43	46	49	51	54	57	60	63	65	0	62	125	187	250	300	375
SDM 25 (10 - 10)	700	7,5	32	34	36	39	41	43	46	48	51	53	55	0,4	0,6	0,6	0,6	0,7	-	-
	950	10,0	44	46	49	53	56	58	62	65	69	72	75	0,6	0,7	0,7	1,1	1,1	1,1	-
	1200	12,4	55	58	62	67	71	74	78	83	87	91	94	0,7	1,1	1,1	1,5	1,5	1,5	1,5
	1400	14,9	64	68	73	78	83	86	91	96	101	106	110	-	1,5	1,5	1,5	2,2	2,2	2,2
SDM 50 (12 - 12)	1200	8,8	55	58	62	67	71	74	78	83	87	91	94	0,7	0,7	1,1	1,1	1,1	1,5	-
	1400	10,6	64	68	73	78	83	86	91	96	101	106	110	1,1	1,1	1,1	1,5	1,5	1,5	2,2
	1650	12,3	76	80	86	92	98	102	108	114	119	125	129	1,1	1,5	1,5	1,5	2,2	2,2	2,2
	1900	14,1	87	92	99	105	112	117	124	131	138	144	149	1,5	1,5	2,2	2,2	2,2	2,2	3,7
	2100	15,9	96	101	109	117	124	129	137	144	152	160	165	2,2	2,2	2,2	2,2	3,7	3,7	3,7
	2350	17,6	108	113	122	130	139	145	153	162	170	179	184	-	2,2	3,7	3,7	3,7	3,7	3,7
SDM 75 (15 - 15)	1650	8,8	76	80	86	92	98	102	108	114	119	125	129	1,1	1,1	1,1	1,5	1,5	2,2	-
	1900	10,1	87	92	99	105	112	117	124	131	138	144	149	1,1	1,1	1,5	1,5	2,2	2,2	2,2
	2100	11,4	96	101	109	117	124	129	137	144	152	160	165	1,5	1,5	2,2	2,2	2,2	2,2	3,7
	2350	12,6	108	113	122	130	139	145	153	162	170	179	184	1,5	2,2	2,2	2,2	2,2	3,7	3,7
	2600	13,9	119	126	135	144	154	160	169	179	188	198	204	2,2	2,2	2,2	3,7	3,7	3,7	3,7
	2850	15,2	131	138	148	158	169	175	186	196	206	217	224	2,2	2,2	3,7	3,7	3,7	3,7	3,7
	3000	16,4	138	145	156	167	177	185	196	206	217	228	235	-	3,7	3,7	3,7	3,7	3,7	5,6
	3300	17,7	151	159	171	183	195	203	215	227	239	251	259	-	3,7	3,7	3,7	5,6	5,6	5,6
SDM 100 (18 - 18)	2600	9,7	119	126	135	144	154	160	169	179	188	198	204	2,2	2,2	2,2	3,7	3,7	3,7	-
	2850	10,6	131	138	148	158	169	175	186	196	206	217	224	2,2	2,2	3,7	3,7	3,7	3,7	3,7
	3000	11,5	138	145	156	167	177	185	196	206	217	228	235	2,2	3,7	3,7	3,7	3,7	3,7	5,6
	3300	12,4	151	159	171	183	195	203	215	227	239	251	259	3,7	3,7	3,7	3,7	3,7	5,6	5,6
	3500	13,3	161	169	182	194	207	215	228	241	253	266	275	3,7	3,7	3,7	3,7	5,6	5,6	5,6
	3800	14,2	174	183	197	211	225	234	248	261	275	289	298	3,7	3,7	5,6	5,6	5,6	5,6	5,6
	4000	15,0	183	193	208	222	237	246	261	275	290	304	314	3,7	5,6	5,6	5,6	5,6	5,6	7,5
	4250	15,9	195	205	221	236	251	262	277	292	308	323	333	3,7	5,6	5,6	5,6	5,6	7,5	7,5
	4500	16,8	206	217	234	250	266	277	293	310	326	342	353	3,7	5,6	5,6	5,6	7,5	7,5	7,5
	4700	17,7	216	227	244	261	278	289	306	323	340	357	369	-	5,6	7,5	7,5	7,5	7,5	7,5
SDM 150 (20 - 20)	3800	9,7	174	183	197	211	225	234	248	261	275	289	298	3,7	3,7	3,7	3,7	5,6	5,6	5,6
	4000	10,3	183	193	208	222	237	246	261	275	290	304	314	3,7	3,7	3,7	3,7	5,6	5,6	5,6
	4250	10,9	195	205	221	236	251	262	277	292	308	323	333	3,7	3,7	3,7	5,6	5,6	5,6	5,6
	4500	11,5	206	217	234	250	266	277	293	310	326	342	353	3,7	3,7	5,6	5,6	5,6	5,6	5,6
	4700	12,1	216	227	244	261	278	289	306	323	340	357	369	3,7	3,7	5,6	5,6	5,6	5,6	7,5
	5200	13,3	239	251	270	289	308	320	339	358	377	395	408	5,6	5,6	5,6	5,6	7,5	7,5	7,5
	5650	14,5	259	273	293	314	334	348	368	389	409	430	443	5,6	5,6	7,5	7,5	7,5	7,5	11,2
	6000	15,7	275	290	311	333	355	369	391	413	435	456	471	5,6	7,5	7,5	7,5	11,2	11,2	11,2
	6600	16,9	303	319	343	366	390	406	430	454	478	502	518	7,5	7,5	11,2	11,2	11,2	11,2	11,2
	7000	18,1	321	338	363	389	414	431	456	482	507	532	549	7,5	7,5	11,2	11,2	11,2	11,2	11,2
SDM 200 (25 - 25)	6600	10,6	303	319	343	366	390	406	430	454	478	502	518	5,6	5,6	5,6	7,5	7,5	7,5	7,5
	7000	11,4	321	338	363	389	414	431	456	482	507	532	549	5,6	5,6	7,5	7,5	7,5	11,2	11,2
	7550	12,1	346	365	392	419	447	465	492	519	547	574	592	5,6	7,5	7,5	7,5	7,5	11,2	11,2
	8000	12,9	367	386	415	444	473	492	521	550	579	608	628	5,6	7,5	7,5	7,5	11,2	11,2	11,2
	8900	14,4	408	430	462	494	526	548	580	612	645	677	698	7,5	7,5	11,2	11,2	11,2	11,2	11,2
	9450	15,1	433	456	490	525	559	582	616	650	684	719	741	11,2	11,2	11,2	11,2	11,2	11,2	14,9
	10400	16,7	477	502	540	577	615	640	678	716	753	791	816	11,2	11,2	11,2	11,2	14,9	14,9	14,9
	11300	18,2	518	546	586	627	668	696	737	777	818	859	887	11,2	11,2	14,9	14,9	14,9	18,6	18,6
	11800	18,9	541	570	612	655	698	726	769	812	855	897	926	14,9	14,9	14,9	14,9	18,6	18,6	18,6

**\*STATIC PRESSURE**

Internal static pressure drop includes losses through fresh air intake hood, damper, 2-inch standard filter section and burner.

**Note 1 :** Refer to the manufacturer for higher static pressure and air flow.

**Note 2 :** Models SDM 150, 200, 300, 375 and 450 are also available with twin blowers.

**GAS PIPE SIZE (mm)**

NOTE	HEATING CAPACITY	Ø
Gas pipe size is selected for 3.45 kPa inlet pressure.	0 KW - 220 KW	19
	220 KW - 293 KW	25
Refer to manufacturer for higher pressure.	293 KW - 733 KW	38
	733 KW - 1465 KW	50
	1465 KW & UP	75

Model	Air flow SCFM	Velocity FPM	Burner capacity (MBTU/H) Temperature rise (°F)											Motor (HP) External static pressure (w.c.)*						
			70	75	80	85	90	95	100	105	110	115	120	0"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"
SDM 300 ( 28 - 28 )	19000	2043	1 463	1 568	1 672	1 777	1 881	1 986	2 090	2 195	2 299	2 404	2 508	7 fi	10	10	15	15	15	15
	20000	2150	1 540	1 650	1 760	1 870	1 980	2 090	2 200	2 310	2 420	2 530	2 640	10	10	10	15	15	15	15
	22000	2365	1 694	1 815	1 936	2 057	2 178	2 299	2 420	2 541	2 662	2 783	2 904	10	15	15	15	15	20	20
	24000	2580	1 848	1 980	2 112	2 244	2 376	2 508	2 640	2 772	2 904	3 036	3 168	15	15	15	15	20	20	20
	25000	2688	1 925	2 063	2 200	2 338	2 475	2 613	2 750	2 888	3 025	3 163	3 300	15	15	15	20	20	20	20
	26000	2795	2 002	2 145	2 288	2 431	2 574	2 717	2 860	3 003	3 146	3 289	3 432	15	15	20	20	20	20	25
	28000	3010	2 156	2 310	2 464	2 618	2 772	2 926	3 080	3 234	3 388	3 542	3 696	15	20	20	20	25	25	25
	30000	3225	2 310	2 475	2 640	2 805	2 970	3 135	3 300	3 465	3 630	3 795	3 960	20	20	20	25	25	25	30
	32000**	3440	2 464	2 640	2 816	2 992	3 168	3 344	3 520	3 696	3 872	4 048	4 224	20	25	25	25	30	30	30
SDM 375 ( 32 - 32 )	26000	2157	2 002	2 145	2 288	2 431	2 574	2 717	2 860	3 003	3 146	3 289	3 432	15	15	15	15	20	20	20
	28000	2323	2 156	2 310	2 464	2 618	2 772	2 926	3 080	3 234	3 388	3 542	3 696	15	15	15	20	20	20	25
	30000	2489	2 310	2 475	2 640	2 805	2 970	3 135	3 300	3 465	3 630	3 795	3 960	15	15	20	20	20	25	25
	32000	2655	2 464	2 640	2 816	2 992	3 168	3 344	3 520	3 696	3 872	4 048	4 224	20	20	20	20	25	25	30
	35000	2904	2 695	2 888	3 080	3 273	3 465	3 658	3 850	4 043	4 235	4 428	4 620	20	25	25	25	30	30	30
	40000	3319	3 080	3 300	3 520	3 740	3 960	4 180	4 400	4 620	4 840	5 060	5 280	30	30	30	40	40	40	40
	44000**	3651	3 388	3 630	3 872	4 114	4 356	4 598	4 840	5 082	5 324	5 566	5 808	40	40	40	40	40	50	50
SDM 450 ( 36 - 36 )	35000	2734	2 695	2 888	3 080	3 273	3 465	3 658	3 850	4 043	4 235	4 428	4 620	15	20	20	25	25	25	30
	40000	3124	3 080	3 300	3 520	3 740	3 960	4 180	4 400	4 620	4 840	5 060	5 280	20	25	25	30	30	30	40
	44000**	3437	3 388	3 630	3 872	4 114	4 356	4 598	4 840	5 082	5 324	5 566	5 808	25	30	30	30	40	40	40
	45000**	3515	3 465	3 713	3 960	4 208	4 455	4 703	4 950	5 198	5 445	5 693	5 940	25	30	30	40	40	40	40
	50000**	3906	3 850	4 125	4 400	4 675	4 950	5 225	5 500	5 775	6 050	6 325	6 600	30	40	40	40	50	50	50
SDM 550 ( 40 - 40 )	45000	2419	3 465	3 713	3 960	4 208	4 455	4 703	4 950	5 198	5 445	5 693	5 940	20	25	25	30	30	40	40
	50000	2688	3 850	4 125	4 400	4 675	4 950	5 225	5 500	5 775	6 050	6 325	6 600	25	30	30	40	40	40	40
	55000	2956	4 235	4 538	4 840	5 143	5 445	5 748	6 050	6 353	6 655	6 958	7 260	30	40	40	40	40	50	50
	60000	3225	4 620	4 950	5 280	5 610	5 940	6 270	6 600	6 930	7 260	7 590	7 920	40	40	40	50	50	50	60
	65000**	3494	5 005	5 363	5 720	6 078	6 435	6 793	7 150	7 508	7 865	8 223	8 580	50	50	50	50	60	60	60
SDM 700 ( 2 x 36 - 36 )	55000	2148	4 235	4 538	4 840	5 143	5 445	5 748	6 050	6 353	6 655	6 958	7 260	25	30	30	30	30	-	-
	60000	2343	4 620	4 950	5 280	5 610	5 940	6 270	6 600	6 930	7 260	7 590	7 920	30	40	40	40	40	40	-
	65000	2539	5 005	5 363	5 720	6 078	6 435	6 793	7 150	7 508	7 865	8 223	8 580	40	40	40	50	50	50	50
	70000	2734	5 390	5 775	6 160	6 545	6 930	7 315	7 700	8 085	8 470	8 855	9 240	40	50	50	50	60	60	60
	75000**	2929	5 775	6 188	6 600	7 013	7 425	7 838	8 250	8 663	9 075	9 488	9 900	50	50	50	60	60	60	75
	80000**	3124	6 160	6 600	7 040	7 480	7 920	8 360	8 800	9 240	9 680	10 120	10 560	50	60	60	60	75	75	75
	85000**	3320	6 545	7 013	7 480	7 948	8 415	8 883	9 350	9 818	10 285	10 753	11 220	50	60	75	75	75	75	100
	90000**	3515	6 930	7 425	7 920	8 415	8 910	9 405	9 900	10 395	10 890	11 385	11 880	-	60	75	75	100	100	100

**\*STATIC PRESSURE**

Internal static pressure drop includes losses through fresh air intake hood, damper, 2-inch standard filter section and burner.

**Note 1 :** Refer to the manufacturer for higher static pressure and air flow.

**Note 2 :** Models SDM 150, 200, 300, 375 and 450 are also available with twin blowers.

\*\* FOR FRESH AIR INTAKE HOOD DIMENSION AT THESE CFM, CONSULT THE MANUFACTURER.

**GAS PIPE SIZE (inches)**

NOTE	HEATING CAPACITY	Ø
Gas pipe size is selected for 0.5 psig inlet pressure.	0 MBTU/H - 750 MBTU/H	1/2
	751 MBTU/H - 1 000 MBTU/H	1
Refer to the manufacturer for higher pressure.	1 001 MBTU/H - 2 500 MBTU/H	1 1/2
	2 501 MBTU/H - 5 000 MBTU/H	2
	5 001 MBTU/H & UP	3

Model	Air flow l/s	Velocity m/s	Burner capacity (kW) Temperature rise (°C)											Motor (kW) External static pressure (Pa)*						
			38	40	43	46	49	51	54	57	60	63	65	0	62	125	187	250	300	375
<b>SDM 300 ( 28 - 28 )</b>	8900	10,4	408	430	462	494	526	548	580	612	645	677	698	5,6	7,5	7,5	11,2	11,2	11,2	11,2
	9450	10,9	433	456	490	525	559	582	616	650	684	719	741	7,5	7,5	7,5	11,2	11,2	11,2	11,2
	10400	12,0	477	502	540	577	615	640	678	716	753	791	816	7,5	11,2	11,2	11,2	11,2	14,9	14,9
	11300	13,1	518	546	586	627	668	696	737	777	818	859	887	11,2	11,2	11,2	11,2	14,9	14,9	14,9
	11800	13,7	541	570	612	655	698	726	769	812	855	897	926	11,2	11,2	11,2	14,9	14,9	14,9	14,9
	12300	14,2	564	594	638	683	727	757	802	846	891	935	965	11,2	11,2	14,9	14,9	14,9	14,9	18,6
	13200	15,3	605	637	685	733	781	813	860	908	956	1 004	1 036	11,2	14,9	14,9	14,9	18,6	18,6	18,6
	14150	16,4	649	683	734	786	837	871	922	974	1 025	1 076	1 110	14,9	14,9	14,9	18,6	18,6	18,6	22,4
	15100**	17,5	693	729	784	838	893	930	984	1 039	1 094	1 148	1 185	14,9	18,6	18,6	18,6	22,4	22,4	22,4
<b>SDM 375 ( 32 - 32 )</b>	12300	11,0	564	594	638	683	727	757	802	846	891	935	965	11,2	11,2	11,2	11,2	14,9	14,9	14,9
	13200	11,8	605	637	685	733	781	813	860	908	956	1 004	1 036	11,2	11,2	11,2	14,9	14,9	14,9	18,6
	14150	12,6	649	683	734	786	837	871	922	974	1 025	1 076	1 110	11,2	11,2	14,9	14,9	14,9	18,6	18,6
	15100	13,5	693	729	784	838	893	930	984	1 039	1 094	1 148	1 185	14,9	14,9	14,9	14,9	18,6	18,6	22,4
	16500	14,8	757	797	856	916	976	1 016	1 075	1 135	1 195	1 255	1 295	14,9	18,6	18,6	18,6	22,4	22,4	22,4
	18900	16,9	867	912	981	1 049	1 118	1 163	1 232	1 300	1 369	1 437	1 483	22,4	22,4	22,4	29,8	29,8	29,8	29,8
	20800**	18,5	954	1 004	1 080	1 155	1 230	1 280	1 356	1 431	1 506	1 582	1 632	29,5	29,5	29,5	29,5	29,5	37,3	37,3
<b>SDM 450 ( 36 - 36 )</b>	16500	13,9	757	797	856	916	976	1 016	1 075	1 135	1 195	1 255	1 295	11,2	14,9	14,9	18,6	18,6	18,6	22,4
	18900	15,9	867	912	981	1 049	1 118	1 163	1 232	1 300	1 369	1 437	1 483	14,9	18,6	18,6	22,4	22,4	22,4	29,8
	20800**	17,5	954	1 004	1 080	1 155	1 230	1 280	1 356	1 431	1 506	1 582	1 632	18,6	22,4	22,4	22,4	29,8	29,8	29,8
	21250**	17,9	975	1 026	1 103	1 180	1 257	1 308	1 385	1 462	1 539	1 616	1 667	18,6	22,4	22,4	29,8	29,8	29,8	29,8
	23600**	19,8	1 082	1 139	1 225	1 310	1 396	1 453	1 538	1 624	1 709	1 795	1 852	22,4	29,8	29,8	29,8	37,3	37,3	37,3
<b>SDM 550 ( 40 - 40 )</b>	21250	12,3	975	1 026	1 103	1 180	1 257	1 308	1 385	1 462	1 539	1 616	1 667	14,9	18,6	18,6	22,4	22,4	29,8	29,8
	23600	13,7	1 082	1 139	1 225	1 310	1 396	1 453	1 538	1 624	1 709	1 795	1 852	18,6	22,4	22,4	29,8	29,8	29,8	29,8
	26000	15,0	1 193	1 255	1 349	1 444	1 538	1 600	1 695	1 789	1 883	1 977	2 040	22,4	29,8	29,8	29,8	29,8	37,3	37,3
	28300	16,4	1 298	1 366	1 469	1 571	1 674	1 742	1 845	1 947	2 049	2 152	2 220	29,8	29,8	29,8	37,3	37,3	37,3	44,7
	30700**	17,7	1 408	1 482	1 593	1 705	1 816	1 890	2 001	2 112	2 223	2 334	2 409	37,3	37,3	37,3	37,3	44,7	44,7	44,7
	<b>SDM 700 ( 2 x 36 - 36 )</b>	26000	10,9	1 193	1 255	1 349	1 444	1 538	1 600	1 695	1 789	1 883	1 977	2 040	18,6	22,4	22,4	22,4	22,4	-
28300		11,9	1 298	1 366	1 469	1 571	1 674	1 742	1 845	1 947	2 049	2 152	2 220	22,4	29,8	29,8	29,8	29,8	29,8	-
30700		12,9	1 408	1 482	1 593	1 705	1 816	1 890	2 001	2 112	2 223	2 334	2 409	29,8	29,8	29,8	37,3	37,3	37,3	37,3
33000		13,9	1 514	1 593	1 713	1 832	1 952	2 031	2 151	2 270	2 390	2 509	2 589	29,8	37,3	37,3	37,3	44,7	44,7	44,7
35500**		14,9	1 628	1 714	1 842	1 971	2 100	2 185	2 314	2 442	2 571	2 699	2 785	37,3	37,3	37,3	44,7	44,7	44,7	55,9
37800**		15,9	1 734	1 825	1 962	2 099	2 236	2 327	2 464	2 601	2 737	2 874	2 966	37,3	44,7	44,7	44,7	55,9	55,9	55,9
40000**		16,9	1 835	1 931	2 076	2 221	2 366	2 462	2 607	2 752	2 897	3 042	3 138	37,3	44,7	55,9	55,9	55,9	55,9	74,6
42500**		17,9	1 949	2 052	2 206	2 360	2 514	2 616	2 770	2 924	3 078	3 232	3 334	-	44,7	55,9	55,9	74,6	74,6	74,6

**\*STATIC PRESSURE**

Internal static pressure drop includes losses through fresh air intake hood, damper, 2-inch standard filter section and burner.

**Note 1 :** Refer to the manufacturer for higher static pressure and air flow.

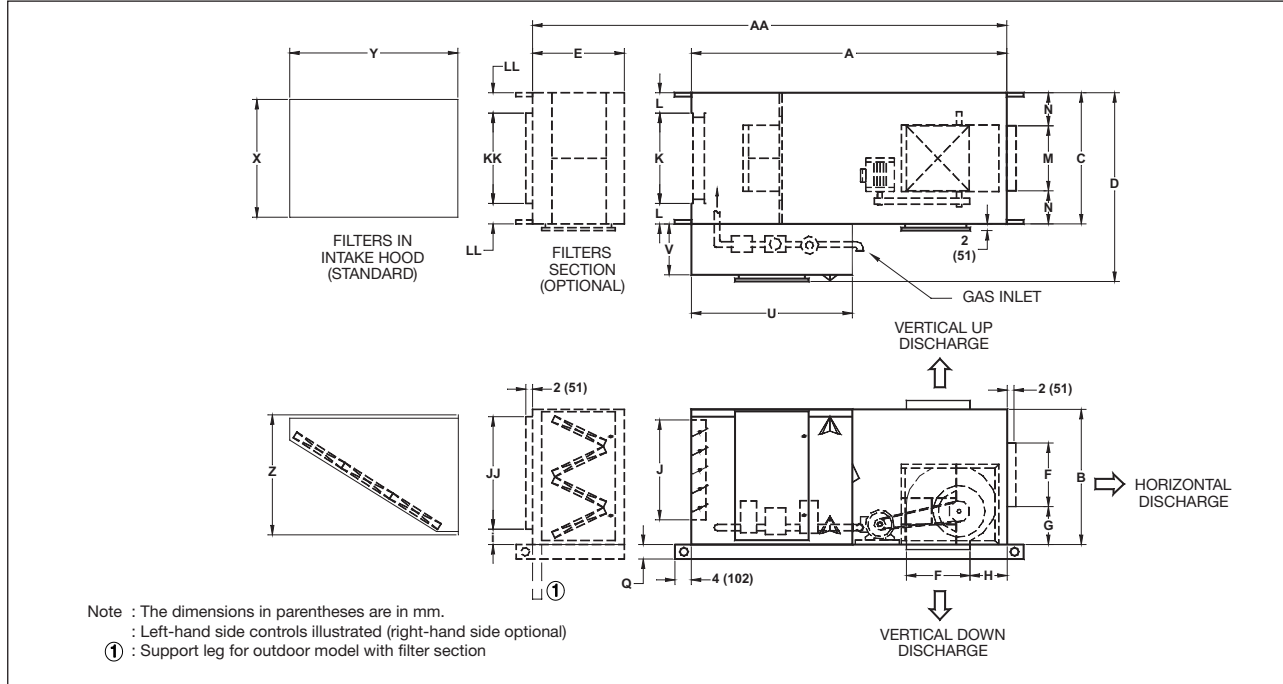
**Note 2 :** Models SDM 150, 200, 300, 375 and 450 are also available with twin blowers.

\*\* FOR FRESH AIR INTAKE HOOD DIMENSION AT THESE CFM, CONSULT THE MANUFACTURER.

GAS PIPE SIZE (mm)		
NOTE	HEATING CAPACITY	Ø
Gas pipe size is selected for 3.45 kPa inlet pressure.	0 KW - 220 KW	19
	220 KW - 293 KW	25
Refer to the manufacturer for higher pressure.	293 KW - 733 KW	38
	733 KW - 1465 KW	50
	1465 KW & UP	75



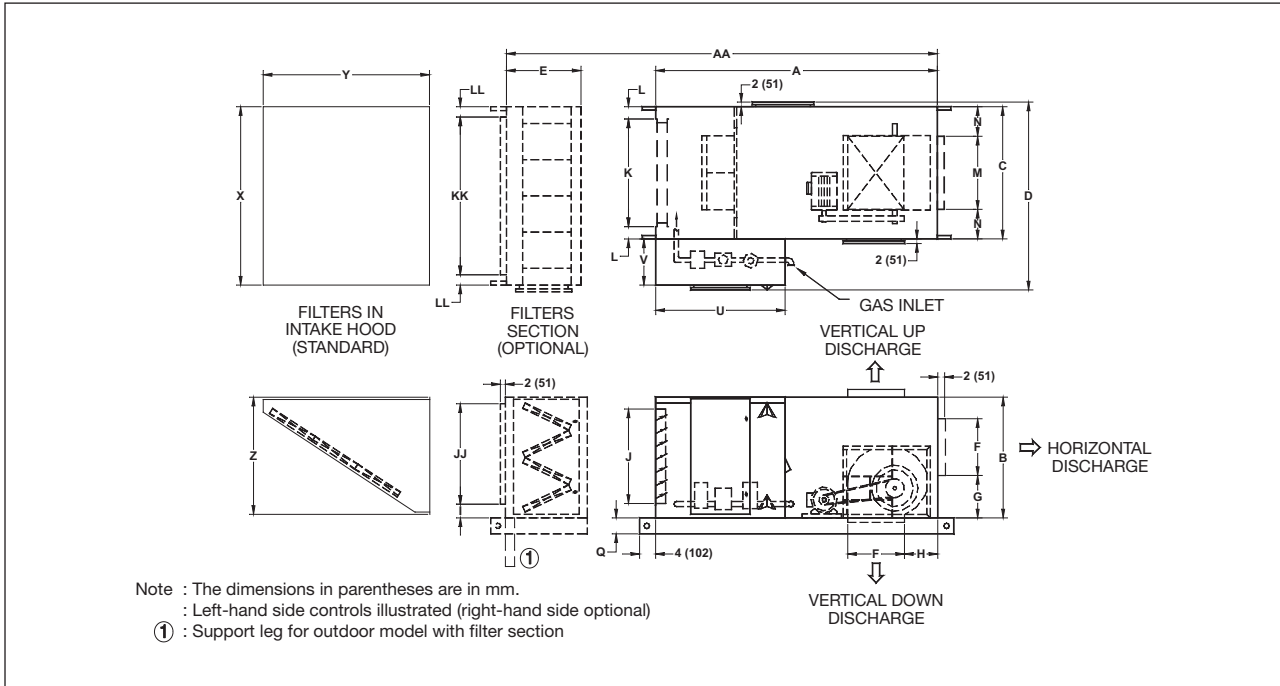
# SDM 25 to SDM 75



MODEL NO. FAN SIZE	SDM 25 10-10		SDM 50 12-12		SDM 75 15-15	
	in	mm	in	mm	in	mm
FILTERS	1-16x20	1-406x508	4-20x20	4-508x508	2-20x20	2-508x508
IN UNIT	1-20x20	1-508x508			4-16x20	4-406x508
FILTERS IN	1-20x20	1-508x508	2-16x20	2-406x508	3-16x20	3-406x508
INTAKE HOOD	1-20x25	1-508x635	2-16x25	2-406x635	3-16x25	3-406x635
A <sup>1</sup>	75-1/2	1918	75-1/2	1918	75-1/2	1918
AA <sup>1</sup>	85-1/2	2172	103	2616	106	2692
B	38	965	38	965	38	965
C	26	660	40	1016	40	1016
D	45	1143	59	1499	59	1499
E	10	254	27-1/2	699	30-1/2	775
F	11-5/8	295	13-11/16	348	16-1/8	410
G <sup>2</sup>	8	203	8-7/8	225	10-3/16	258
H	8-1/8	206	9-7/16	240	10-3/4	273
I	1	25	12	305	14	356
J	20	508	20	508	20	508
JJ	35-1/2	902	22	559	20	508
K	20	508	25	635	34	864
KK	20	508	32	813	46-1/2	1181
L	3	76	7-1/2	191	3	76
LL	3	76	4	102	4-1/4	108
M	13-1/4	337	15-7/8	403	18-7/8	479
N	6-3/8	162	12-1/16	306	10-9/16	268
Q	3	76	3	76	3	76
U	40	1016	40	1016	40	1016
V	15	381	15	381	15	381
X	20	508	32	813	48	1219
Y <sup>1</sup>	42	1067	42	1067	42	1067
Z	27	686	27	686	27	686
<b>Weight<sup>3</sup></b>	1150 lbs	521 kg	1201 lbs	544 kg	1316 lbs	597 kg

**Note 1 :** Add up dimensions **A** or **AA** and **Y** to determine the overall length of the unit with a fresh air intake hood for outdoor model.  
**2 :** Refer to the manufacturer for G with spring vibration isolators option.  
**3 :** Weight is for standard outdoor unit with 1-in (25-mm) insulation and standard air intake hood. Refer to the manufacturer for non-standard units.

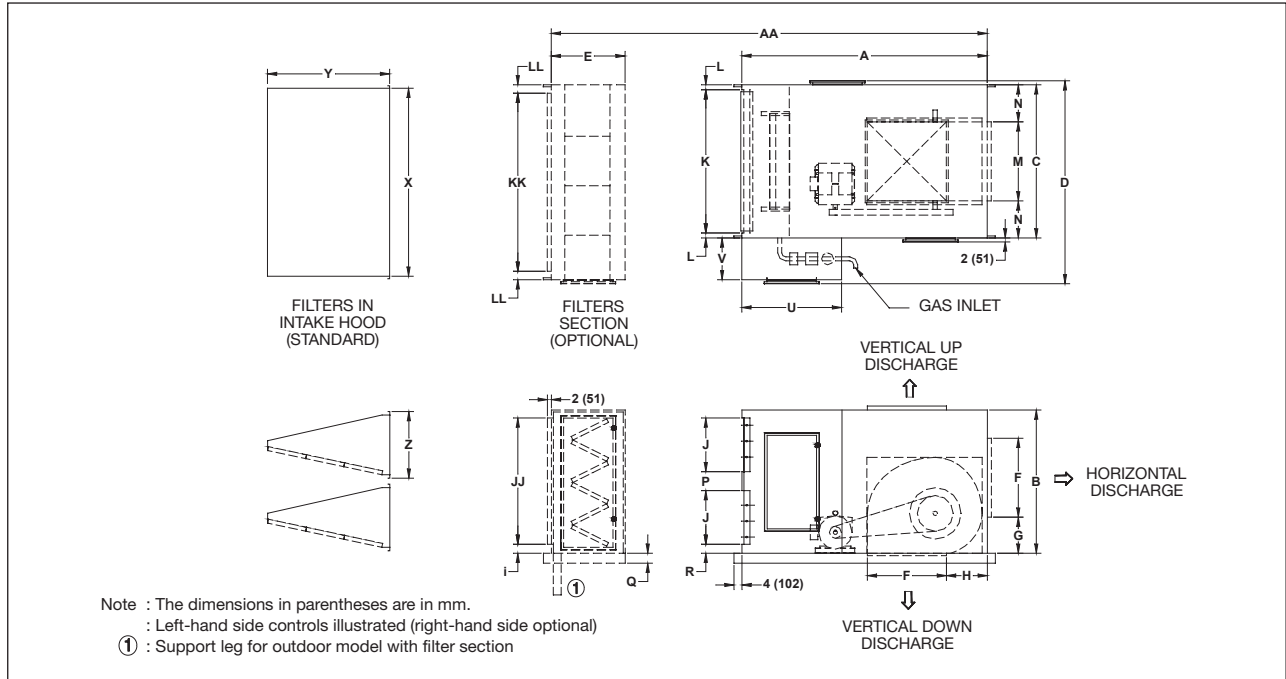
# SDM 100 to SDM 300



MODEL NO. FAN SIZE	SDM 100 18-18		SDM 150 20-20		SDM 200 25-25		SDM 300 28-28	
	in	mm	in	mm	in	mm	in	mm
FILTERS	9-16x20	9-406x508	8-16x20	8-406x508	5-20x20	5-508x508	18-20x20	18-508x508
IN UNIT			4-16x25	4-406x635	10-20x25	10-508x635	6-20x25	6-508x635
FILTERS IN	6-20x25	6-508x635	9-20x25	9-508x635	8-16x25	8-406x635	5-20x25	5-508x635
INTAKE HOOD					8-20x25	8-508x635	15-20x20	15-508x508
A <sup>1</sup>	90-1/2	2299	90-1/2	2299	106-1/2	2705	110	2794
AA <sup>1</sup>	115-3/4	2940	118-1/2	3010	140	3556	148	3759
B	45	1143	45	1143	58	1473	58	1473
C	45	1143	50	1270	58	1473	73	1854
D	67	1702	74	1880	83	2108	97	2464
E	25-1/4	641	28	711	33-1/2	851	38	265
F	19-1/8	486	25-3/8	645	31-3/4	806	35-5/8	904
G <sup>2</sup>	10-9/16	268	11-3/16	284	13-7/8	352	15-7/8	403
H	12-1/2	318	13	330	15-7/8	403	17-7/8	454
I	10	254	5	127	6	279	6	152
J	31	787	36	914	48	1219	48	1219
JJ	31	787	36	914	48	1219	48	1219
K	36	914	42	1067	51	1295	66	1676
KK	49	1245	58	1473	68	1727	82-1/2	2086
L	4-1/2	114	4	102	3-1/2	89	3-1/2	89
LL	7	178	5	127	4	102	4-1/4	108
M	22-1/8	562	25-3/8	645	31-3/4	806	35-5/8	904
N	11-7/16	291	12-5/16	313	13-1/8	334	18-11/16	297
Q	4	102	4	102	4	102	5	127
U	45	1143	45	1143	50	1270	50	1270
V	18	457	18	457	18	457	18	457
X	50	1270	60	1524	72	1829	85	2160
Y <sup>1</sup>	58	1474	70	1778	89	2261	93	2362
Z	34	864	43	1092	56	1422	52	1321
<b>Weight<sup>3</sup></b>	1638 lbs	743 kg	2004 lbs	909 kg	2332 lbs	1058 kg	3016 lbs	1368 kg

**Note 1 :** Add up dimensions **A** or **AA** and **Y** to determine the overall length of the unit with a fresh air intake hood for outdoor model.  
**2 :** Refer to the manufacturer for G with spring vibration isolators option.  
**3 :** Weight is for standard outdoor unit with 1-in (25-mm) insulation and standard air intake hood. Refer to the manufacturer for non-standard units.

# SDM 375 to SDM 550

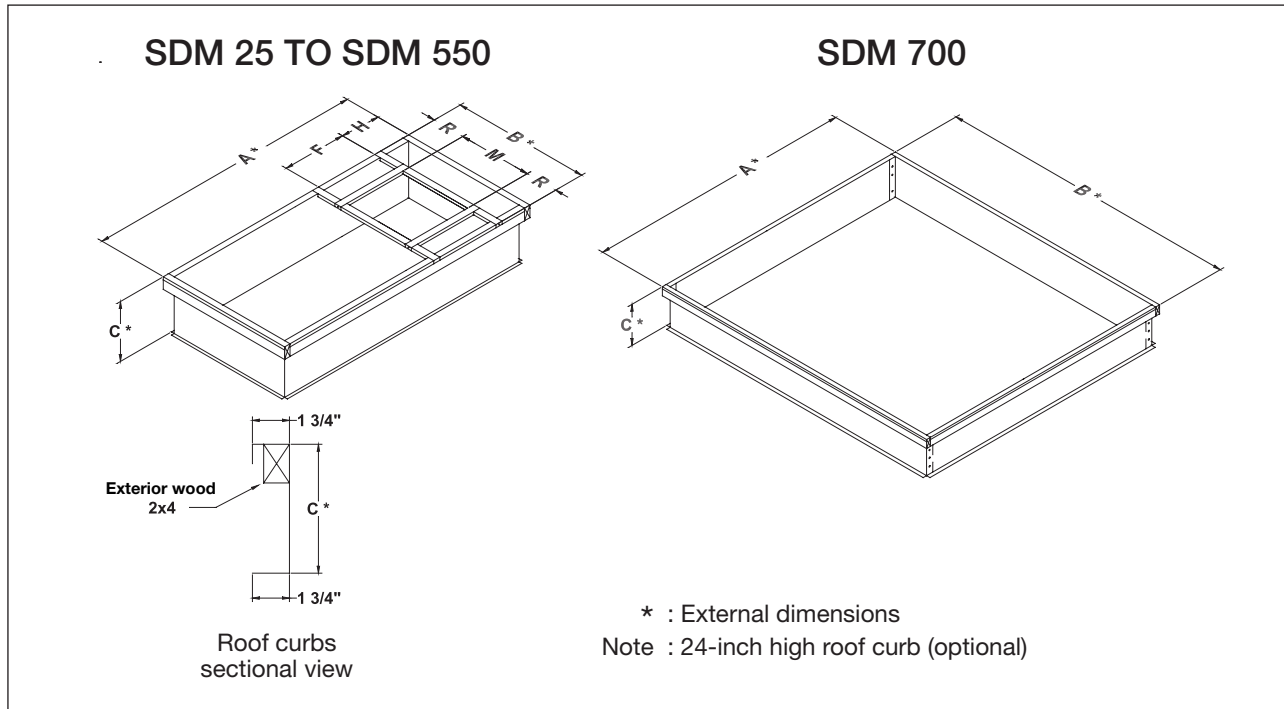


MODEL NO. FAN SIZE	SDM 375 32-32		SDM 450 36-36		SDM 550 40-40	
	in	mm	in	mm	in	mm
FILTERS	18-20x25	18-508x635	30-20x20	30-508x508	21-24x24	21-610x610
IN UNIT	6-20x20	6-508x508			14-20x24	14-508x610
FILTERS IN INTAKE HOOD	18-20x25	18-508x635	20-20x25	20-508x635	24-20x25	24-508x635
	6-20x20	6-508x508	10-16x25	10-406x635	12-16x25	12-406x635
A <sup>1</sup>	123	3124	120	3048	142	3607
AA <sup>1</sup>	161	4089	158	4013	180	4572
B	72	1829	72	1829	95	2413
C	77	1956	81	2057	92	2337
D	104	2642	112	2845	119-5/8	3038
E	38	965	38	965	38	965
F	39-7/8	1013	44-3/4	1137	50	1270
G <sup>2</sup>	18-1/8	460	20-5/16	516	21-3/8	543
H	20-1/16	510	22-1/4	565	24-1/2	622
I	5-1/4	133	6	152	9	229
J	27	686	27	686	36	914
JJ	61-1/2	1562	62	1575	82	2083
K	68-1/2	1740	72-1/2	1842	81	2057
KK	89-1/2	2273	95-1/2	2426	104	2642
L	4-1/4	64	4-1/4	108	5-1/2	140
LL	4-1/4	108	4-1/4	108	5-1/2	140
M	39-7/8	1013	44-3/4	1137	50	1270
N	18-9/16	471	18-1/8	460	21	533
P	7-1/2	191	8	203	9-1/2	241
Q	5	127	5	127	6	152
R	5-1/4	133	6	152	9	229
U	50	1270	50	1270	60	1524
V	21	533	23	584	23	584
X	94-1/2	2400	99-1/2	2527	112	2845
Y <sup>1</sup>	61-1/4	1556	67-1/2	1715	77-1/2	1969
Z	33-1/2	851	34	864	44	1118
Weight <sup>3</sup>	3760 lbs	1706 Kg	4710 lbs	2136 Kg	5436 lbs	2466 Kg

**Note 1 :** Add up dimensions **A** or **AA** and **Y** to determine the overall length of the unit with a fresh air intake hood for outdoor model.  
**2 :** Refer to the manufacturer for G with spring vibration isolators option.  
**3 :** Weight is for standard outdoor unit with 1-in (25-mm) insulation and standard air intake hood. Refer to the manufacturer for non-standard units.

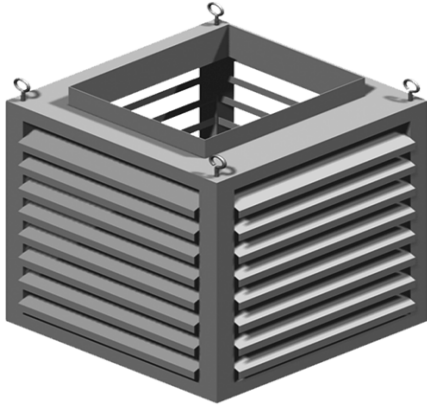


# ROOF CURBS

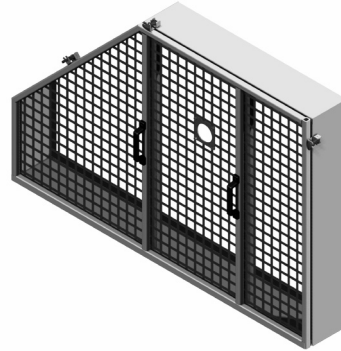


		<b>SDM 25</b>	<b>SDM 50</b>	<b>SDM 75</b>	<b>SDM 100</b>	<b>SDM 150</b>	<b>SDM 200</b>	<b>SDM 300</b>	<b>SDM 375</b>	<b>SDM 450</b>	<b>SDM 550</b>	<b>SDM 700</b>
A*	in mm	71-1/8 1807	71-1/8 1807	71-1/8 1807	90 2286	90 2286	106 2692	109-1/2 2781	122-1/2 3112	119-1/2 3035	141-1/2 3594	117-1/2 2985
B*	in mm	22-1/4 565	35-1/8 892	35-1/8 892	44-1/2 1130	49-1/2 1257	57-1/2 1461	72-1/2 1842	76-1/2 1943	80-1/2 2045	91-1/2 2324	215 5461
C*	in mm	18 457	18 457	18 457	18 457	18 457	18 457	18 457	18 457	18 457	18 457	18 457
F	in mm	13-1/8 333	17-3/8 441	17-3/8 441	20-5/8 524	26-7/8 683	33-1/4 845	37-1/8 943	44-3/4 1137	46-1/4 1137	- -	- -
H	in mm	6-5/16 160	7-7/16 189	7-7/16 189	11-15/16 303	12 305	14-15/16 379	16-7/8 429	19-13/16 503	20-7/8 530	- -	- -
M	in mm	14-7/8 378	20-1/8 511	20-1/8 511	23-5/8 600	26-7/8 683	33-1/4 845	37-1/8 943	41-3/4 1060	46-1/4 1137	- -	- -
R	in mm	4-7/16 113	7-1/2 191	7-1/2 191	10-7/16 265	11-5/16 287	12-1/8 308	17-11/16 449	17-3/8 441	17-1/8 435	- -	- -
Weight	lbs Kg	117 53	135 61	135 61	145 66	155 70	185 84	230 104	300 136	300 136	- -	- -

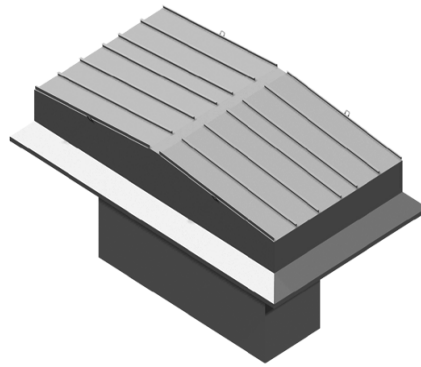
# OPTIONS



FOUR-WAY DISCHARGE PLENUM



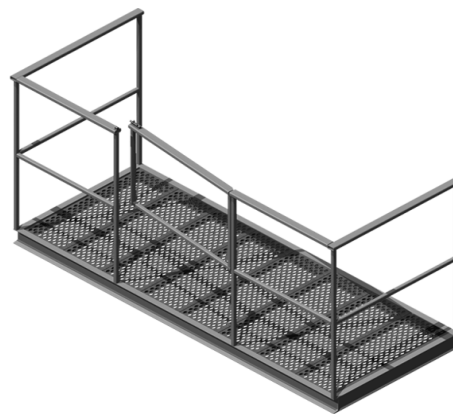
BELT GUARD



MUSHROOM AIR INTAKE

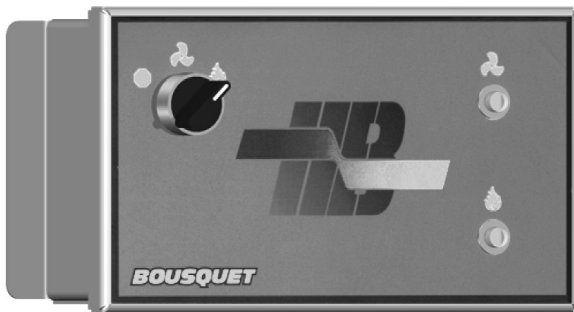


SERVICE CABINET



SERVICE PLATFORM

## REMOTE CONTROL PANEL (optional)

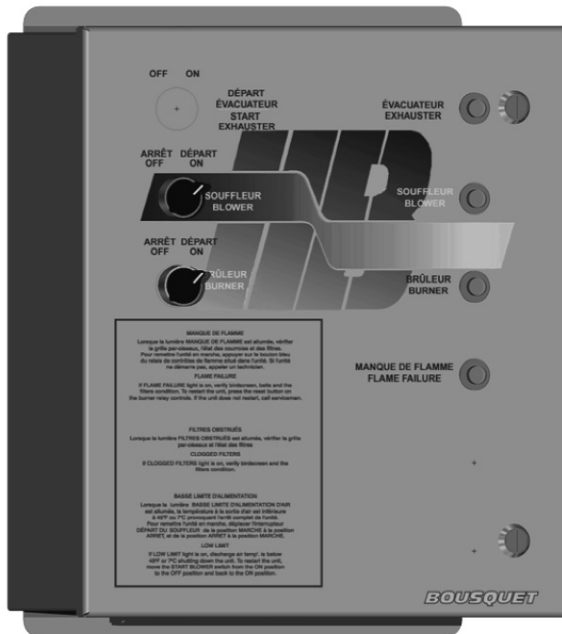


### BASIC CONTROL PANEL

- STOP/BLOWER/BURNER SWITCH
- BLOWER OPERATION LIGHT
- BURNER OPERATION LIGHT
- CONNECTING TERMINAL BLOCK

### OPTIONAL EQUIPMENT

- MAXITROL REMOTE TEMPERATURE SELECTOR (SHIPPED SEPARATELY)



### DELUXE CONTROL PANEL

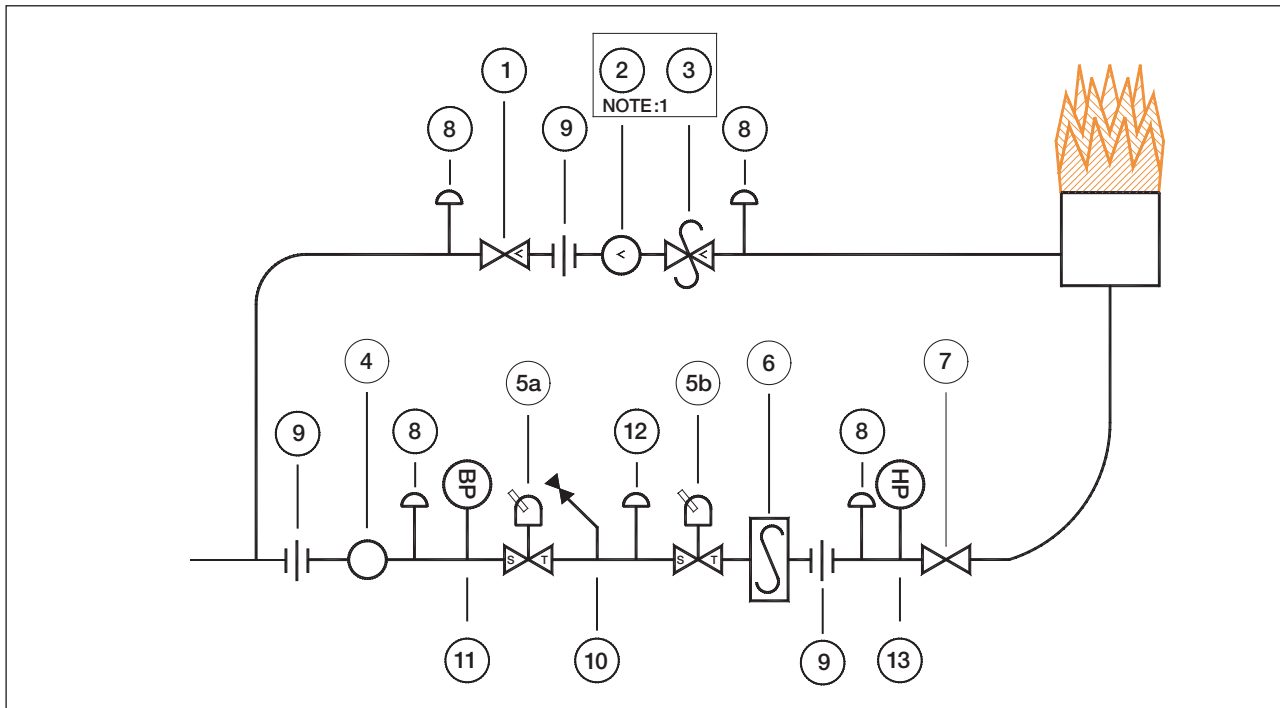
- STOP/START/BLOWER SELECTOR
- STOP/START/BURNER SELECTOR
- BLOWER OPERATION LIGHT
- EXHAUST FAN OPERATION LIGHT
- BURNER OPERATION LIGHT
- FLAME FAILURE ALARM LIGHT
- TERMINAL BLOCK

### OPTIONAL EQUIPMENT

- EXHAUST FAN STOP/START SWITCH
- DISCHARGE AIR LOW LIMIT LIGHT
- CLOGGED FILTER LIGHT
- HIGH GAS PRESSURE ALARM LIGHT
- LOW GAS PRESSURE ALARM LIGHT
- UNIT PURGE CYCLE COMPLETED LIGHT
- LOW AND HIGH AIR VOLUME LIGHTS
- TEMPERATURE SELECTOR (MAXITROL)
- KEY LOCK

**Note :** Refer to manufacturer for additional features

# TYPICAL GAS PIPING



## COMPONENTS

## DESCRIPTION

### PILOT BURNER PIPING

- 1** Pilot Manual shut-off valve
- 2** Pilot Gas pressure regulator (see note 1)
- 3** Pilot Automatic safety shut-off valve (see note 1)

### BURNER PIPING

- 4** Main Burner Gas Pressure regulator (see note 2)
- 5a** Automatic valve (see note 3)
- 5b** Automatic valve (see note 3)
- 6** Modulating gas valve
- 7** Ignition manual test valve
- 8** 1/8 inch diameter gas pressure test port
- 9** Piping union

### OPTIONS

- 10** Normally open vent valve (see note 6)
- 11** Low gas pressure safety cut-off switch (see notes 5 and 6)
- 12** 1/8 inch diameter test port (400 000 BTU/H and more)
- 13** High gas pressure safety cut-off switch (see notes 4-5 and 6)

**Note 1 :** May be separate or combined in a single valve, as the situation may be

**Note 2 :** Not required when the modulating valve (6) has an internal regulator such as MR212D, E or G

**Note 3 :** For input rate of 5 000 000 BTU/H and less, one safety shut-off incorporating valve seal overtravel interlock can be used

**Note 4 :** Required when gas pressure is greater than 1/2 psig

**Note 5 :** As per FM standard

**Note 6 :** As per IRI standard



# STANDARD AND OPTIONAL FEATURES

## STANDARD :

- C.S.A. certified for Canada and USA
- Natural or propane gas burner
- Adjustable burner profile plate
- Stainless steel burner with 25:1 turndown ratio
- Inlet gas pressure of 14 inches w.g. (natural or propane gas)
- Main power supply: 575, 460, 208 volts (3 phases, 60 Hz)
- One-speed ODP energy efficient, 1800 RPM motor
- Adjustable motor base
- Connecting electrical terminal block
- MAXITROL series 14L: Integrated or remote temperature selector TD114 & TS114 temperature sensor
- All the electrical and mechanical components required for proper operation of the unit
- Flame rod detector
- All the necessary air temperature and differential pressure control switches
- Double width, double inlet, forward-curved blade fan ball bearings
- "Galvanned" satin steel exterior panel (18 gauge) coated with enamel-based paint
- 1-inch coated reinforced fiberglass insulation inside all panels
- Variable pitch pulley for motors of 5-HP or less
- Fixed pitch pulley for motors of 7.5-HP or more
- Lifting lugs on both sides of unit for easy handling and installation
- Rubber pads vibration isolators for fan and motor
- Air intake hood with birdscreen for outdoor unit

## OPTIONAL :

- Modulation with 30:1 turndown ratio
- High gas pressure regulator
- Purge period
- FM, IRI standard for gas train
- Two air flows obtained by choking inlet motorized dampers (min. 50% of nominal CFM) or two speed motor
- Variable air volume from 25 to 100% of maximum air capacity (VFD required)
- Inlet motorized damper (fresh air) or discharge damper (fan outlet), according to specifications
- Ultra-violet flame detector (UV)
- TEFC energy efficient motor
- Single phase main power supply: 220, 110 volts
- Main power supply disconnect (with or without fuses)
- Heater for outdoor control panel
- Temperature control MAXITROL series 44 - with 2 adjustable air temperature set point (min. & max.) and including a room thermostat T244 with a remote temperature selector and a TS144 temperature sensor mounted on fan discharge.
- Room thermostat for series 14
- Adjustable fresh air inlet thermostat
- Discharge air low temperature limit
- Clogged filter indicator
- Gas modulation for operation with 0-10 VDC or 4-20 mA signal from the building automation system
- Differential pressure switch for exhaust fan interlock
- Roof curb
- Insulated double wall construction available in 1, 2, 4 and 6 inches thick
- Solid or perforated galvanized steel liner
- Double width, double inlet, backward-curved, airfoil blade or plenum fan
- Available filters: 2-inch replaceable or washable filters or metallic frame or other type (in air intake hood or "V" bank in unit)
- Spring-type vibration isolators
- Four way discharge plenum
- Service cabinet for outdoor installation
- Service platform
- Mushroom air intake hood
- Cooling and recovery coil
- Electrical control sequence for paint shop (delayed exhaust fan activation)
- Vertical arrangement

# TYPICAL SPECIFICATION

## SDM DIRECT GAS-FIRED MAKE-UP AIR HEATERS

### GENERAL

Supply and install a Bousquet model SDM-\_\_\_\_ direct gas-fired air heater operating on natural gas (or propane), and for indoor (out-door) installation. The manufacturer must be accredited by the CWB in compliance with standard CSA W47.1. to meet the minimum standard applicable to all types of welds including stainless steel.

### PERFORMANCE

The heater shall have the capacity to heat \_\_\_\_\_ CFM of standard air from \_\_\_\_\_°F to \_\_\_\_\_°F, for a net heat output of \_\_\_\_\_ MBH. The fuel used will be natural gas (or propane) at an inlet pressure of \_\_\_\_\_ inches WC.

### UNIT CONSTRUCTION

The support frame will be made of welded U-shaped structural steel. The walls and roof will be single wall and built with 18 gauge satin finish steel panels with 1-inch thick reinforced-coated fiberglass insulating material. Each panel should not exceed 20 inches wide, and have 2-90° plied edges in order to provide structural rigidity. They will be assembled together with screws, and sealed with a PVC gasket and a urethane joint for positive waterproofing and air tightness. The outer surfaces of the unit will be treated with a phosphate cleaner-conditioner and covered with an anticorrosive epoxy based primer exceeding the Canadian (type 1-GP-40) and American (type TT-P-636 D) standards for salt mist and humidity. The finish will be ensured with first quality high performance alkyd resin enamel applied at the plant. Each unit section will have hinged gasgetted doors with screwed knob handles for easy access to every components.

### BURNER AND GAS PIPING

The burner will be Midco air flow type, consisting of cast iron gas distributor and stainless diffuser baffles, factory mounted on a galvanized steel profile plate equipped with air flow adjustable plates. All gas piping and control equipment required for the proper operation of the unit shall be factory installed, and tested.

The gas pilot piping will be equipped with an electronic spark ignitor, manual shut-off valve, gas pressure regulator, automatic shut-off valves, manual cock and 2 pressure test ports. The gas supply of the main burner will include a pressure regulator, an automatic quick-closing shut-off valve, an automatic slow-opening valve, a manual ignition valve, 3 pressure test ports and a modulating gas valve. The burner and gas piping assembly will have a modulating turndown ratio of at least 25:1.

## FAN SECTION

The fan section will be designed according to the Air Movement and Control Association (AMCA) standards. The fan and motor will be installed on a steel structure welded in compliance with the CWB standards and rest on anti-vibration rubber pads. An access door will provide access for maintenance of the fan, motor, bearings, belts and pulleys. The fan will be a centrifugal forward-curved (FC) type, double width double inlet wheel (DWDI), model \_\_\_\_\_. The motor will be \_\_\_\_\_ HP, 1800 RPM, open drip-proof (ODP), thermally protected and with premium efficiency; it will be installed on a base to enable the adjustment of the belt tension and pulleys alignment.

## FILTERS

The filters shall be pleated large surface disposable type, 2-inch thick and 30% efficient.

Option 1: Filters will be mounted in galvanized steel sliding frame located in air intake hood, equipped with an access hinged panel for easy replacement.

Option 2: Filters will be mounted inside the unit in galvanized steel sliding frames, and accessible through a hinged access door; rubber gaskets will be provided where required to ensure tightness between filters and access door, and to avoid air by-pass and maximize filtration.

## INLET DAMPER

The air inlet damper will be parallel blades standard construction in galvanized steel and equipped with an on-off electric actuator.

## AIR INTAKE

The air intake hood will be "angle" type, mounted on unit end, and equipped with a bird screen. Inlet hood air velocity shall not exceed 500 FPM.

## ELECTRICITY & CONTROLS

- \_\_\_\_\_ volts, 3 phases 60 cycles supply
- Terminal block for power connection
- Temperature control: MAXITROL 14 with temperature selector
- Flame safeguard with indicating lights (Honeywell or Fireye)
- Magnetic starter with thermal overloads
- Outdoor air temperature limit
- Low and high pressure switch
- Heater in control box for outdoor unit

## CERTIFICATION

All SDM direct gas fired make-up air heaters must be CSA approved and certified according to standards CAN/CSA3.7 - ANSI Z83.4.

## START-UP & FACTORY ADJUSTMENT

Each unit shall be fired tested and pre-adjusted at factory prior to shipment. Site start-up shall be performed by a qualified technician, with appropriate cards for gas equipment, and authorized by the manufacturer.

## OPTIONS

Refer to catalogue for options.



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