

DUAL DUCT VARIABLE OR CONSTANT AIR VOLUME

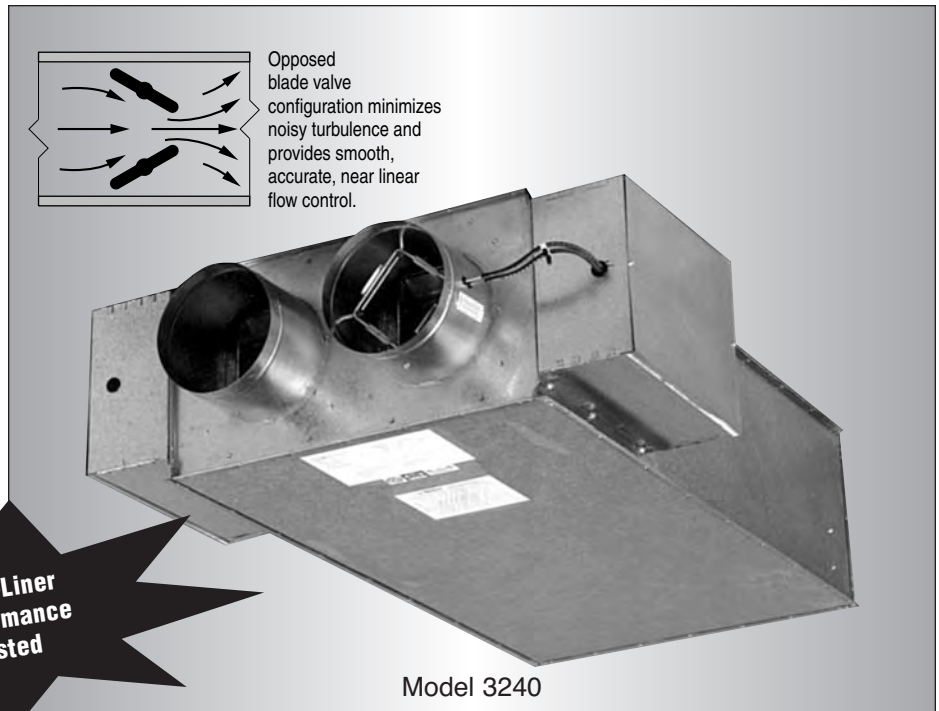
"BLENDMASTER™"

- 1 : 30 MIXING
- INDUSTRY LEADING PERFORMANCE

Model:

**3240 With High Efficiency
Mixing Attenuator**

**Steri-Liner
Performance
Tested**



Model 3240

The model 3240 "BlendMaster™" is a newly designed dual duct terminal unit offering superior performance for the most demanding applications. Maintaining high ventilation rates, humidity control and achieving high comfort levels in the pursuit of improved indoor air quality have regenerated interest in the benefits of a dual duct system design. Applications include hospitals, research laboratories, schools and other institutional facilities where both overhead heating and cooling are required and a dual duct design has been deemed the preferred system.

Equipped with specially designed low leakage opposed blade dampers, the "BlendMaster™" provides accurate airflow control of the hot and cold decks with tight shut-off. An extended integral mixer attenuator section provides superior blending of the hot and cold airflow during mixing at reduced minimum operating pressures compared to other manufacturers designs thus ensuring uniform flow and temperature equalization downstream. Minimum mixing efficiency is an unprecedented 1:30; less than 1°F (0.55°C) temperature variation at the discharge for each 30°F (16.67°C) temperature difference between the hot and cold decks.

Dual duct terminals, being inherently suited to high indoor air quality applications, are frequently specified with an 'IAQ' insulation option. For this reason, the sound data presented for this terminal unit is the first to result from extensive independent testing with the Steri-Liner option, rather than standard fiberglass insulation, thus permitting a more accurate selection than is possible with other manufacturers equipment.

STANDARD 3240 FEATURES:

- 1 in 30 minimum mixing efficiency, from independent testing in accordance with ASHRAE Std 130.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- Special extra-low leakage opposed blade damper design with blade and jamb seals. Damper leakage is less than 1% of nominal flow at 6" w.g. (1.5 kPa) per ASHRAE Standard 130. 90° rotation. ½" (13) dia. plated steel driveshaft. An indicator mark at the end of the driveshaft shows damper position.
- Low leakage casing. Less than 1% of rated airflow at 6" w.g. (1.5 kPa).

- Designed for pneumatic, analog electronic or digital pressure independent control.
- Multi-point averaging 'Diamond Flow' sensors standard for all applications; ensure accurate flow control.
- Gauge taps provided for field calibration and balancing.
- Downstream total flow sensing available for maximum control accuracy.
- Available in nine unit sizes to handle from 215 – 3060 cfm (101 – 1444 l/s).
- Unequal inlet sizes are an available option.
- Independently tested and certified

to ARI 880 using Steri-Liner insulation, the preferred choice for the majority of dual duct applications.

Options:

- ¾" (19) dual density fiberglass insulation is available. Exposed edges are coated to prevent erosion. Meets the requirements of NFPA 90A and UL 181.
- Available with a bottom access door.
- Other 'IAQ' insulations are available.



ARI Standard 880

A Participating Corporation in the ARI 880 Certification program.



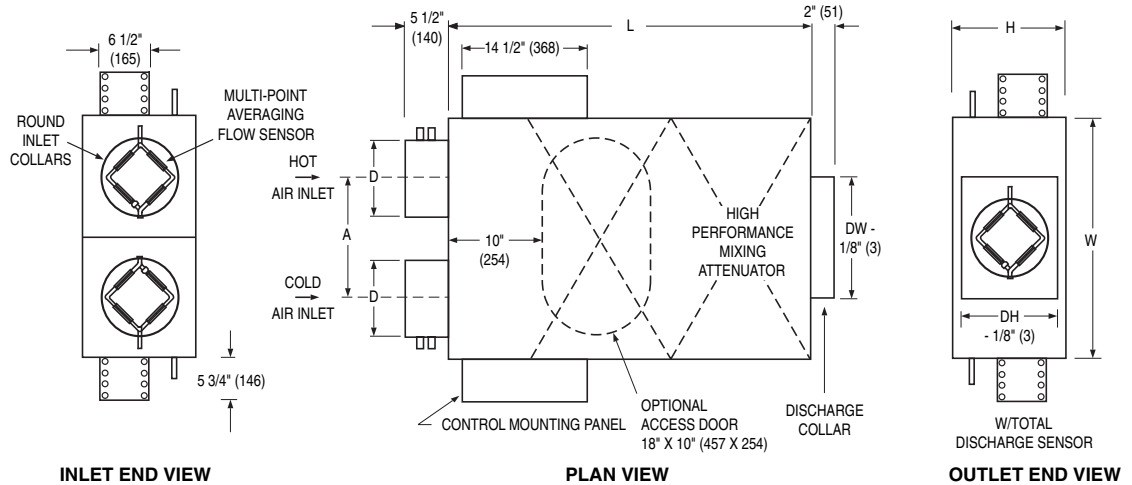
Model 3240 "BlendMaster™" • Dimensions • Mixing Applications

- Variable volume or constant volume operation.
- Rectangular discharge collar optimally sized for duct run out.
- Integral mixing attenuator construction reduces insulation seams and reduces casing leakage.
- Multi-point 'Diamond Flow' Sensor available in three location configurations to suit exact control sequence requirement.
- Double set of solid mixing baffles are standard.

- Unique low leakage opposed blade dampers control each deck independently. 90° rotation. Right hand CW to close. Left hand CCW to close.
- When unequal sized inlets are used, the casing will be governed by the larger inlet size.
- Choice of right or left hand cold deck location. Hand of unit is determined by location of cold deck looking in direction of airflow. Right hand unit illustrated.

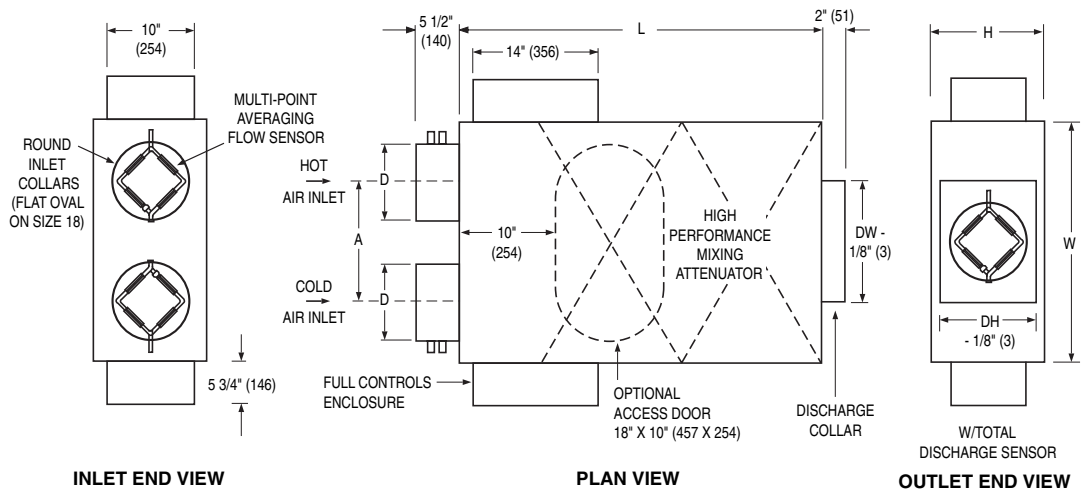
Pneumatic Controls

- Universal pneumatic control mounting panel features double wall stand-off construction for strength and rigidity. Controls mounting screws do not penetrate casing.



Analog Electronic and Digital Controls

- A full NEMA 1 controls enclosure is provided for factory mounted controls. Optional for field mounted controls.



Dimensional Data

Imperial Units (inches)							
Unit Size	Inlet Dia. D	cfm Range	W	H	L	A	Outlet DW x DH
4	3 7/8	0 - 215	24	10	47	11	8 x 8
5	4 7/8	0 - 310					
6	5 7/8	0 - 500					
7	6 7/8	0 - 710	24	12 1/2	47	11	10 x 10
8	7 7/8	0 - 1000					
9	8 7/8	0 - 1300	34	14	60	16 7/8	14 x 12
10	9 7/8	0 - 1435					
12	11 7/8	0 - 2150					
14	13 7/8	0 - 3060	42	18	72	20 7/8	22 x 16

Metric Units (mm)							
Unit Size	Inlet Dia. D	l/s Range	W	H	L	A	Outlet DW x DH
4	98	0 - 101	610	254	1194	279	203 x 203
5	124	0 - 146					
6	149	0 - 236					
7	175	0 - 335	610	318	1194	279	254 x 254
8	200	0 - 472					
9	225	0 - 614	864	356	1524	410	356 x 305
10	251	0 - 677					
12	302	0 - 1015					
14	353	0 - 1444	1067	457	1829	511	559 x 406



DUAL DUCT TERMINAL UNITS

Performance Data • NC Level Application Guide Model 3240 "BlendMaster™" • With Mixing Attenuator and Steri-Liner Insulation

Inlet Size	Airflow cfm l/s		Min. inlet ΔPs " w.g. Pa	NC Levels @ Inlet pressure (ΔPs) shown												
				DISCHARGE						RADIATED						
				Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	
4	200	94	0.08	21	-	-	-	-	-	-	-	-	-	-	-	
	150	71	0.05	13	-	-	-	-	-	-	-	-	-	-	-	
	100	47	0.03	6	-	-	-	-	-	-	-	-	-	-	-	
	75	35	0.02	4	-	-	-	-	-	-	-	-	-	-	-	
	50	24	0.01	2	-	-	-	-	-	-	-	-	-	-	-	
5	300	142	0.15	36	-	-	-	-	-	-	-	-	-	23	27	
	250	118	0.11	26	-	-	-	-	-	-	-	-	-	-	20	
	100	94	0.07	18	-	-	-	-	-	-	-	-	-	-	-	
	125	59	0.03	8	-	-	-	-	-	-	-	-	-	-	-	
	75	35	0.01	3	-	-	-	-	-	-	-	-	-	-	-	
6	500	236	0.32	80	-	-	-	-	-	23	-	-	22	25	26	30
	400	189	0.22	55	-	-	-	-	-	20	-	-	-	21	25	28
	300	142	0.13	32	-	-	-	-	-	-	-	-	-	-	20	22
	200	94	0.06	15	-	-	-	-	-	-	-	-	-	-	-	20
	100	47	0.02	5	-	-	-	-	-	-	-	-	-	-	-	-
7	650	307	0.57	141	-	-	-	27	30	35	-	-	27	33	38	42
	550	260	0.43	106	-	-	-	23	27	32	-	-	23	29	34	39
	335	158	0.18	45	-	-	-	-	-	-	-	-	24	25	20	23
	225	106	0.09	23	-	-	-	-	-	-	-	-	-	-	-	-
	110	52	0.03	7	-	-	-	-	-	-	-	-	-	-	-	-
8	850	401	0.72	179	-	*	-	24	26	35	20	-	26	33	36	41
	700	330	0.50	124	-	-	-	25	29	35	-	*	25	33	36	40
	500	236	0.29	72	-	-	-	24	25	23	-	-	25	32	35	35
	350	146	0.15	37	-	-	-	-	-	-	-	-	23	25	20	22
	200	94	0.06	15	-	-	-	-	-	-	-	-	-	-	-	-
9	1050	495	0.29	72	-	-	-	25	29	35	-	-	27	34	38	42
	900	425	0.22	55	-	-	-	24	28	34	-	-	25	33	37	40
	675	319	0.13	33	-	-	-	-	-	-	-	-	22	25	28	28
	450	212	0.06	16	-	-	-	-	-	-	-	-	-	-	22	22
	225	106	0.02	5	-	-	-	-	-	-	-	-	-	-	-	-
10	1350	637	0.40	99	-	-	-	25	29	35	22	22	27	33	38	43
	1100	519	0.28	70	-	-	-	25	29	35	-	-	25	33	36	40
	800	378	0.16	40	-	-	-	22	23	20	-	-	25	29	30	30
	550	260	0.08	20	-	-	-	-	-	-	-	-	-	21	24	25
	250	118	0.02	5	-	-	-	-	-	-	-	-	-	-	-	-
12	1950	920	0.74	184	27	*	26	32	35	42	30	*	32	36	41	48
	1600	755	0.50	124	-	-	25	31	35	40	21	21	30	37	41	46
	1200	566	0.28	70	-	-	23	30	32	34	-	-	30	35	37	37
	800	376	0.13	32	-	-	-	21	21	20	-	-	23	25	25	30
	400	189	0.03	8	-	-	-	-	-	-	-	-	-	-	-	20
14	2700	1274	0.78	194	25	*	26	29	30	35	30	*	32	37	40	48
	2100	991	0.45	112	-	-	20	24	27	31	21	21	31	37	40	46
	1600	755	0.26	65	-	20	-	20	25	30	-	-	30	35	37	37
	1050	496	0.11	27	-	-	-	-	20	23	-	-	23	25	25	31
	550	260	0.03	8	-	-	-	-	-	-	-	-	-	-	-	20

Performance Notes:

1. NC levels are calculated based on procedures as documented on page C7.
2. Dash (-) in space indicates NC level less than 20.
3. Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.

Performance Data • Discharge Sound Power Levels Model 3240 "BlendMaster™" • With Mixing Attenuator and Steri-Liner Insulation

Inlet Size	Airflow cfm /s	Min. inlet ΔPs "w.g. Pa	Sound Power Octave Bands @ Inlet pressure shown																																									
			Min. ΔPs							0.5" w.g. (125Pa) ΔPs							1.0" w.g. (250Pa) ΔPs							1.5" w.g. (375Pa) ΔPs							2.0" w.g. (500Pa) ΔPs							3.0" w.g. (750Pa) ΔPs						
			2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7						
4	200 94	0.08 21	40	34	27	-	-	-	43	38	31	30	-	-	47	46	38	34	27	26	49	50	42	36	31	30	51	52	44	37	33	34	53	54	47	40	36	39						
	150 71	0.05 13	38	32	24	-	-	-	41	36	28	27	-	-	45	44	35	31	23	23	47	48	39	33	27	27	49	50	43	34	29	31	51	52	46	39	32	36						
	100 47	0.03 6	-	29	-	-	-	-	-	36	26	27	-	-	44	41	33	28	23	25	45	44	38	31	26	29	48	48	43	35	28	32	47	47	42	37	31	37						
	75 35	0.02 4	-	-	-	-	-	-	-	34	28	-	-	-	-	33	34	27	21	23	-	33	35	30	25	27	-	33	34	29	26	30	-	33	35	29	28	33						
	50 24	0.01 2	-	-	-	-	-	-	-	34	28	-	-	-	-	33	34	27	21	23	-	33	35	30	25	27	-	33	34	29	26	30	-	33	35	29	28	33						
5	300 142	0.15 36	45	41	37	29	22	-	48	47	42	35	27	32	49	48	43	39	30	28	53	55	47	42	35	33	56	57	50	43	37	36	58	60	53	45	40	41						
	250 118	0.11 26	41	35	29	20	-	-	44	39	33	32	21	-	48	47	40	36	29	27	50	51	44	38	33	31	52	53	46	39	35	35	54	55	49	42	38	40						
	200 94	0.07 18	39	33	26	-	-	-	42	37	30	29	-	-	46	45	37	33	25	24	48	49	41	35	29	28	50	51	45	36	31	32	52	53	48	41	34	37						
	125 59	0.03 8	-	30	-	-	-	-	-	37	28	29	-	-	45	42	35	30	25	26	46	45	40	33	28	30	49	49	45	37	30	33	48	48	44	39	33	38						
	75 35	0.01 3	-	-	-	-	-	-	-	35	30	20	-	-	-	34	36	29	23	24	-	34	37	32	27	28	-	34	36	31	28	31	-	34	37	31	30	34						
6	500 236	0.32 80	51	50	45	37	31	27	52	52	46	38	32	28	55	54	49	44	35	32	57	57	51	46	38	36	60	60	54	47	40	39	62	64	57	50	44	44						
	400 189	0.22 55	47	43	39	31	24	-	50	49	44	37	29	34	51	50	45	41	32	30	55	57	49	44	37	35	58	59	52	45	39	38	60	62	55	47	42	43						
	300 142	0.13 32	43	37	31	22	-	-	46	41	35	34	23	-	50	49	42	38	31	29	52	53	46	40	35	33	54	55	48	41	37	37	56	57	51	44	40	42						
	200 94	0.06 15	-	32	21	-	-	-	-	39	31	32	23	-	47	44	38	33	29	28	48	47	43	36	32	32	51	51	47	40	34	35	50	50	47	42	37	40						
	100 47	0.02 5	-	-	-	-	-	-	-	36	32	22	-	-	-	35	38	31	25	25	-	35	39	34	29	29	-	35	38	33	30	32	-	35	39	33	32	35						
7	650 307	0.57 141	50	51	48	42	36	30	50	51	48	42	36	30	60	60	54	48	42	38	66	67	59	52	46	45	69	70	62	54	49	48	73	74	68	60	55	54						
	550 260	0.43 106	47	48	45	39	33	27	47	48	45	39	33	27	57	57	51	45	39	35	63	64	56	49	43	42	66	67	59	51	46	45	70	71	65	57	52	51						
	335 158	0.18 45	41	36	31	23	-	-	49	50	42	37	31	28	57	59	51	44	38	36	59	61	53	47	41	40	56	56	51	45	41	42	55	56	54	48	44	46						
	225 106	0.09 23	-	34	28	-	-	-	47	45	37	32	28	24	44	42	39	34	33	33	45	45	42	37	33	36	47	47	44	39	37	40	50	50	46	42	40	44						
	110 52	0.03 7	-	31	25	-	-	-	45	42	34	29	25	22	42	39	36	31	30	31	43	42	39	34	30	34	45	44	41	36	34	38	48	47	44	39	37	42						
8	850 401	0.72 179	55	56	53	48	42	37	* * * * *	60	60	56	51	45	41	65	66	59	53	47	45	69	68	63	55	50	49	74	76	68	60	55	54											
	700 330	0.51 126	50	51	48	42	36	30	50	51	48	42	36	30	60	60	54	48	42	38	66	67	59	52	46	45	69	70	62	54	49	48	73	74	68	60	55	54						
	500 236	0.29 72	45	43	39	32	26	-	50	50	43	38	31	28	59	60	52	45	39	38	64	65	59	51	45	44	65	67	60	52	46	46	63	64	58	51	47	48						
	350 165	0.15 37	41	36	31	23	-	-	49	50	42	37	31	28	57	59	51	44	38	36	59	61	53	47	41	40	56	56	51	45	41	42	55	56	54	48	44	46						
	200 94	0.06 15	-	34	28	-	-	-	47	45	37	32	28	24	44	42	39	34	33	33	45	45	42	37	33	36	47	47	44	39	37	40	50	50	47	42	40	44						
9	1050 495	0.29 72	54	52	49	44	38	32	57	55	52	47	41	36	65	61	55	49	44	41	71	67	57	50	45	46	74	70	61	52	47	48	78	75	64	55	49	51						
	900 425	0.22 55	53	51	48	43	37	31	56	54	51	46	40	35	64	60	54	48	43	40	70	66	56	49	44	45	73	69	60	51	46	47	77	74	63	54	48	50						
	675 319	0.13 33	48	42	39	33	30	24	55	51	44	37	31	29	62	59	49	40	36	38	65	60	52	42	38	40	62	61	53	44	39	41	62	60	55	48	41	45						
	450 212	0.06 16	45	37	33	27	-	-	54	49	40	33	28	26	60	56	45	36	32	34	59	54	46	37	33	35	54	54	48	40	34	37	58	55	51	44	37	41						
	225 106	0.02 5	38	34	30	-	-	-	49	49	38	31	28	26	47	49	41	33	30	39	48	51	45	37	33	36	49	51	46	39	33	37	51	52	49	42	35	43						
10	1350 637	0.40 99	60	58	55	50	45	40	61	60	57	51	46	41	65	62	58	52	47	43	71	67	59	54	49	47	74	71	62	54	50	50	79	76	66	57	52	53						
	1100 519	0.28 70	54	52	49	44	38	32	57	55	52	47	41	36	65	61	55	49	44	41	71	67	57	50	45	46	74	70	61	52	47	48	78	75	64	55	49	51						
	800 378	0.16 40	49	45	42	36	30	24	55	51	45	39	32	29	63	60	50	42	37	39	69	64	55	45	40	42	69	65	55	46	41	43	65	63	57	49	43	46						
	550 260	0.08 20	46	39	35	29	-	-	55	51	42	35	30	28	61	58	47	38	34	36	60	56	48	39	35	37	55	56	50	42	36	39	59	57	53	46	39	43						
	250 118	0.02 5	38	34	30	-	-	-	49	49	38	31	28	26	47	49	41	33	30	39	48	51	45	37	33	36	49	51	46	39	33	37	51	52	49	42	35	43						
12	1950 920	0.74 184	68	69	60	54	51	48	* * * * *	69	68	58	51	48	45	73	73	61	51	49	48	77	76	63	52	50	51	82	82	66	57	56	58											
	1600 755	0.50 124	62	61	54	47	44	41	62	61	54	47	44	41	67	67	56	48	46	43	73	72	59	50	48	47	76	76	62	52	50	51	81	81	67	54	54	56						
	1200 566	0.28 70	54	52	46	39	35	31	58	56	47	40	36	33	67	66	53	43	40	40	72	72	58	47	46	46	74	73	60	48	48	49	74	74	62	50	51	54						
	800 378	0.13 32	47	43	37	30	27	20	57	56	42	36	31	30	63	62	49	41	39	39	66	64	52	43	44	44	64	64	54	43	44	47	63	63	57	46	45	50						
	400 189	0.03 8	-	-	28	-	-	-	50	48	37	34	30	28	51	48	40	32	35	36	52	51	46	35	37	38	53	52	48	37	42	42	56	55	52	41	43	48						
14	2700 1274	0.78 194	71	68	62	55	52	49	* * * * *	72	68	62	55	52	50	74	71	63	56	53	51	75	72	64	57	54	53	78	75	66	57	55	56											
	2100 991	0.45 112	64	60	55	48	44	41	64																																			

Performance Data • Radiated Sound Power Levels

Model 3240 "BlendMaster™" • With Mixing Attenuator and Steri-Liner Insulation

Inlet Size	Airflow cfm l/s	Min. inlet ΔPs "w.g. Pa	Sound Power Octave Bands @ Inlet pressure shown																																									
			Min. ΔPs							0.5" w.g. (125Pa) ΔPs							1.0" w.g. (250Pa) ΔPs							1.5" w.g. (375Pa) ΔPs							2.0" w.g. (500Pa) ΔPs							3.0" w.g. (750Pa) ΔPs						
			2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7						
4	200 94	0.08 21	-	33	27	23	-	-	45	38	29	29	27	23	49	44	33	31	32	27	52	48	37	34	35	31	53	50	39	36	37	34	54	51	42	38	39	38						
	150 71	0.05 13	-	31	24	20	-	-	43	36	26	26	23	20	47	42	30	28	28	24	50	46	34	31	31	28	51	48	38	33	33	31	52	49	41	37	35	35						
	100 47	0.03 6	-	-	21	-	-	-	-	35	25	25	23	-	-	41	29	27	26	25	46	46	34	30	29	31	50	47	38	32	31	32	49	45	41	37	34	37						
	75 35	0.02 4	-	-	-	21	-	-	-	-	24	22	21	-	-	41	30	26	26	24	-	38	36	30	28	28	-	39	40	33	30	31	-	38	41	38	34	36						
	50 24	0.01 2	-	-	-	21	-	-	-	-	24	22	21	-	-	41	30	26	26	24	-	38	36	30	28	28	-	39	40	33	30	31	-	38	41	38	34	36						
5	300 142	0.15 36	48	40	35	30	28	25	51	44	36	34	33	27	53	47	38	36	36	30	56	51	42	39	39	34	58	54	44	40	41	36	59	57	47	43	44	41						
	250 118	0.11 26	-	34	29	25	20	-	46	39	31	31	29	24	50	45	35	33	34	28	53	49	39	36	37	32	54	51	41	38	39	35	55	52	44	40	41	39						
	200 94	0.07 18	-	32	26	22	-	-	44	37	28	28	25	21	48	43	32	30	30	25	51	47	36	33	33	29	52	49	40	35	35	32	53	50	43	39	37	36						
	125 59	0.03 8	-	-	23	-	-	-	-	36	27	27	25	-	-	42	31	29	28	26	47	47	36	32	31	32	51	48	40	34	33	33	50	46	43	39	36	38						
	75 35	0.01 3	-	-	23	20	-	-	-	-	26	24	23	-	-	42	32	28	28	25	-	39	38	32	30	29	-	40	42	35	32	32	-	39	43	40	36	37						
6	500 236	0.32 80	53	46	41	37	33	31	57	49	42	38	34	31	58	53	44	42	41	32	60	56	47	43	43	38	62	58	48	45	45	40	64	60	51	46	47	44						
	400 189	0.22 55	50	42	37	32	30	27	53	46	38	36	35	29	55	49	40	38	38	32	58	53	44	41	41	36	60	56	46	42	43	38	61	59	49	45	46	43						
	300 142	0.13 32	-	36	31	27	22	-	48	41	33	33	31	26	52	47	37	35	36	30	55	51	41	38	39	34	56	53	43	40	41	37	57	54	46	42	43	41						
	200 94	0.06 15	-	-	26	-	-	-	-	38	30	30	29	-	-	44	34	32	32	28	49	49	39	35	35	34	53	50	42	37	37	35	52	48	46	42	40	40						
	100 47	0.02 5	-	-	25	22	-	-	-	-	28	26	25	-	-	43	34	30	30	26	-	40	40	34	32	30	-	41	44	37	34	33	-	40	45	42	38	38						
7	650 307	0.57 141	54	49	40	37	31	29	54	49	40	37	31	29	59	57	45	41	36	33	64	62	50	44	40	38	67	66	53	45	42	41	71	70	58	49	46	45						
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	225 106	0.09 23	-	-	-	-	-	-	-	40	30	28	25	25	-	41	32	30	31	30	47	43	34	32	33	34	47	45	37	34	35	37	49	46	37	35	37	41						
	110 52	0.03 7	-	-	-	-	-	-	-	37	27	25	22	23	-	38	29	27	28	28	45	40	31	29	30	32	45	42	34	31	32	35	47	43	34	32	34	39						
8	850 401	0.72 179	57	52	43	39	34	31	* * * * *	61	57	47	42	37	35	64	62	50	45	41	39	67	66	54	46	43	42	72	71	59	50	47	46											
	700 330	0.51 126	54	49	40	37	31	29	54	49	40	37	31	29	59	57	45	41	36	33	64	62	50	44	40	38	67	66	53	45	42	41	71	70	58	49	46	45						
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	250 118	0.02 5	-	-	-	-	-	-	-	38	27	23	-	-	-	43	33	28	26	29	46	46	36	31	28	30	46	48	39	33	30	31	46	48	43	36	32	35						
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14	2700 1274	0.78 194	65	60	48	41	37	33	* * * * *	65	62	50	45	39	35	69	66	53	49	44	39	73	70	57	52	47	43	77	75	63	56	51	49											
	2100 991	0.45 112	59	53	42	35	28	23	59	53	42	35	28	23	66	61																												