



FAN & BLOWER

CENTRIFUGAL FANS

Airfoil Fan Single Suction / "SWAF" Series

'October 2020

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(주)서원에어테크는 공조용 송풍기, 산업용 송풍기, 주차장 환기시스템 제조업체로서 보다 체계화된 품질관리, 제품연구개발, 표준화 작업을 통해 고객여러분이 만족할수 있는 제품과 서비스를 제공하기 위해 노력하고 있습니다.

이에 명실상부한 송풍기(FAN)전문 메이커로서 정상에 우뚝 서고자 심혈을 기울여 최선을 다 할 것을 우리 임직원 일동은 약속드립니다.

(주)서원에어테크의 제품 및 서비스

01. 다양한 모델라인을 구축함으로써 고객이 요구가흔 모든 사양조건에 적합한 제품을 공급할 수 있습니다.
02. 고객이 요구하는 성능과 기능을 만족시키기 위해 항상 제품연구 개발에 노력하여 발전하고 변화하는 제품을 생산합니다.
03. 철저한 사내품질 관리시스템을 통해 제품 품질에 만전을 기하고 있습니다.
04. 환기설계, 최적사양 및 장비선정 등 기술서비스를 제공합니다.



(주)서원에어테크가 획득한 SWAF SERIES AIRFOIL FAN 의 AMCA seal에 대한 내용입니다.

등급표시는 AMCA 211과 AMCA 311에 의거 테스트 및 절차에 따른 것이며, AMCA 보증프로그램의 요구사항과 일치합니다.

SeoWonAIRRTECH certifies that the type "SWAF" airfoil Fans shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and AMCA publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

Airfoil Fans

고효율(High Efficiency)

원심형 송풍기중 가장 높은 효율을 가지며 50~300mmAq의 압력에 적당합니다.

안전한 운전(Safety Operation)

LIMIT LOAD(일정 회전수 아래에서는 소요 동력에 최대점이 있으므로 그점에서 풍량이 다시 증가해도 소요동력은 증가하지 않거나 오히려 감소)특성이 있으므로 과부하율이 적습니다.

견고성(High Strong Structure)

구조가 강대하면서도 견고하며, 유체학적으로도 무리가 없으므로 높은 효율과 고속회전이 가능합니다.

경제성(Economic Efficiency)

높은 효율을 발휘하므로 전동기 용량이 작아져 경제적인 운전이 가능합니다.

저소음(Low level Sound)

유압프레스에 의한 벨마우스 구조로 성형이 되고 IMPELLER로 부터 CASING 토출구까지의 STREAM LINE은 이상적인 형상으로 제작되어 종래의 제품보다 소음이 낮습니다.

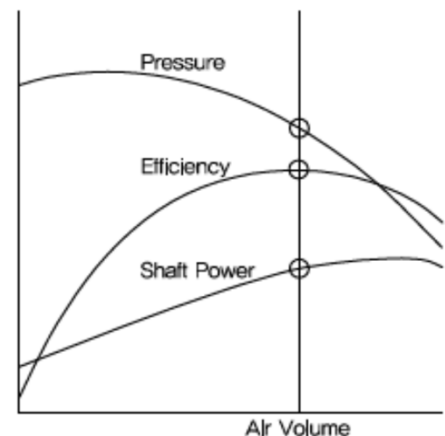
Structure of Impeller

날개의 끝 부분이 최전방향의 뒤쪽으로 굽은 BACK WARD CURVE TYPE(후곡형)으로 박판을 접어 유선형으로 성형됩니다.



Characteristic Curve

고속회전이 가능하며 소음이 적습니다.
다익형은 풍량이 증가하면 축동력이 급격히 증가 하며 Over Load가 되지만 이를 보완한것이 익형입니다.

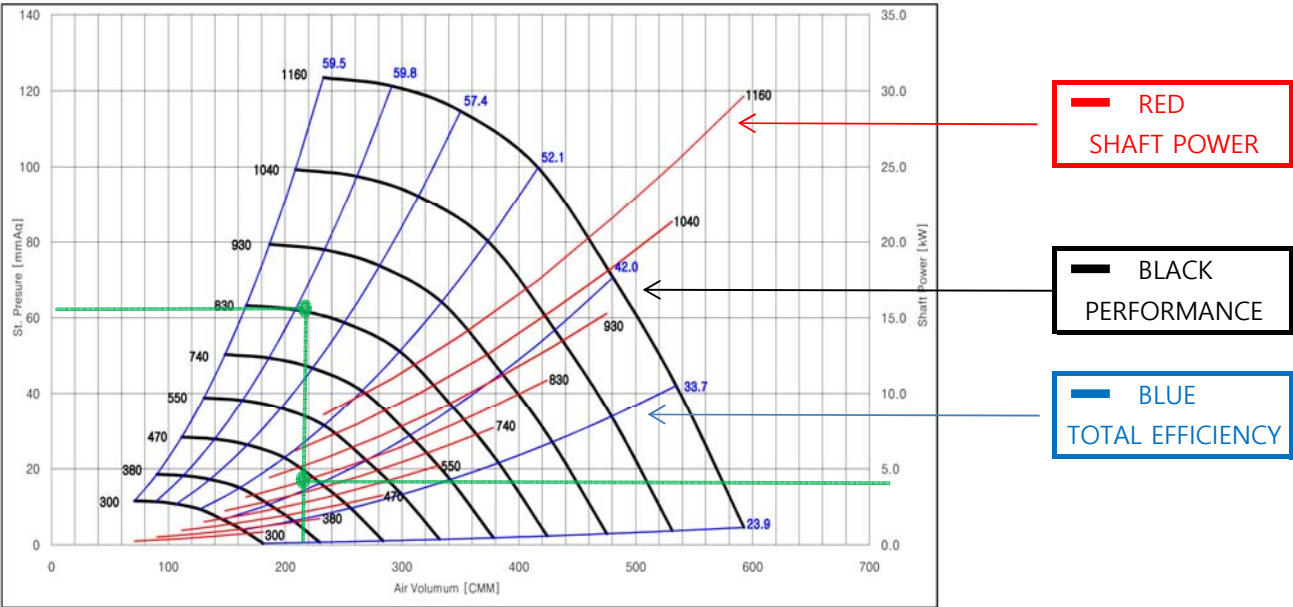


FAN SELECT METHOD

a. FAN 선정방법 예제 (Select Method Example)

ex)

AIR VOLUME	STATIC PRESSURE	FAN SPEED	TOTAL EFFICIENCY	SHAFT POWER	SOUND
208 CMM	63 mmAq	830 rpm	59.7%	4.02 kW	



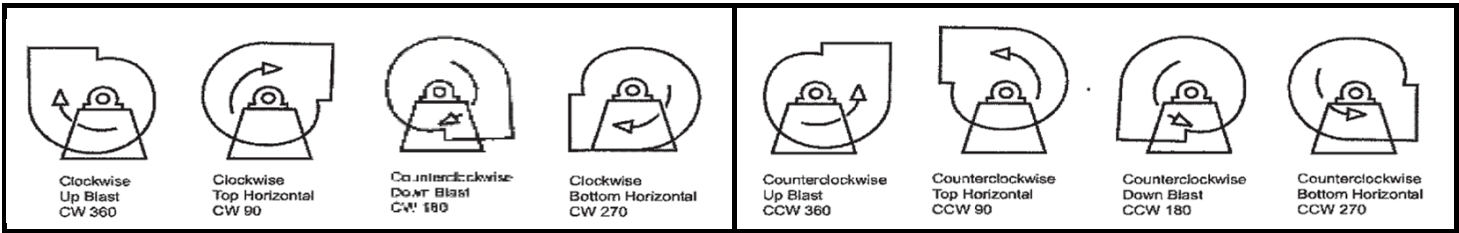
b. FAN 회전과 토출방향 (Fan Rotation and Discharge)

FAN의 회전과 토출방향은 AMCA표준 99-2406-03을 기준으로 합니다.

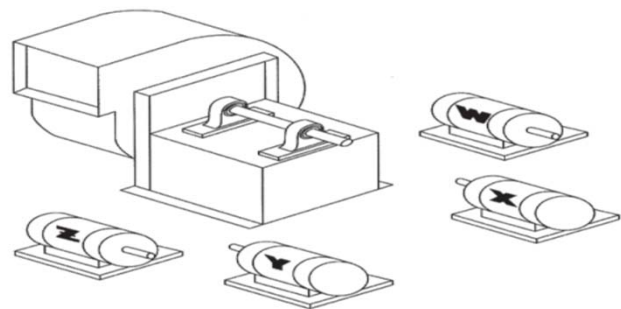
회전방향은 FAN의 구동측으로 부터 결정됩니다.

CW-clockwise rotation

CCW-center-clockwise rotation



c. 모터 위치 (Motor Position)

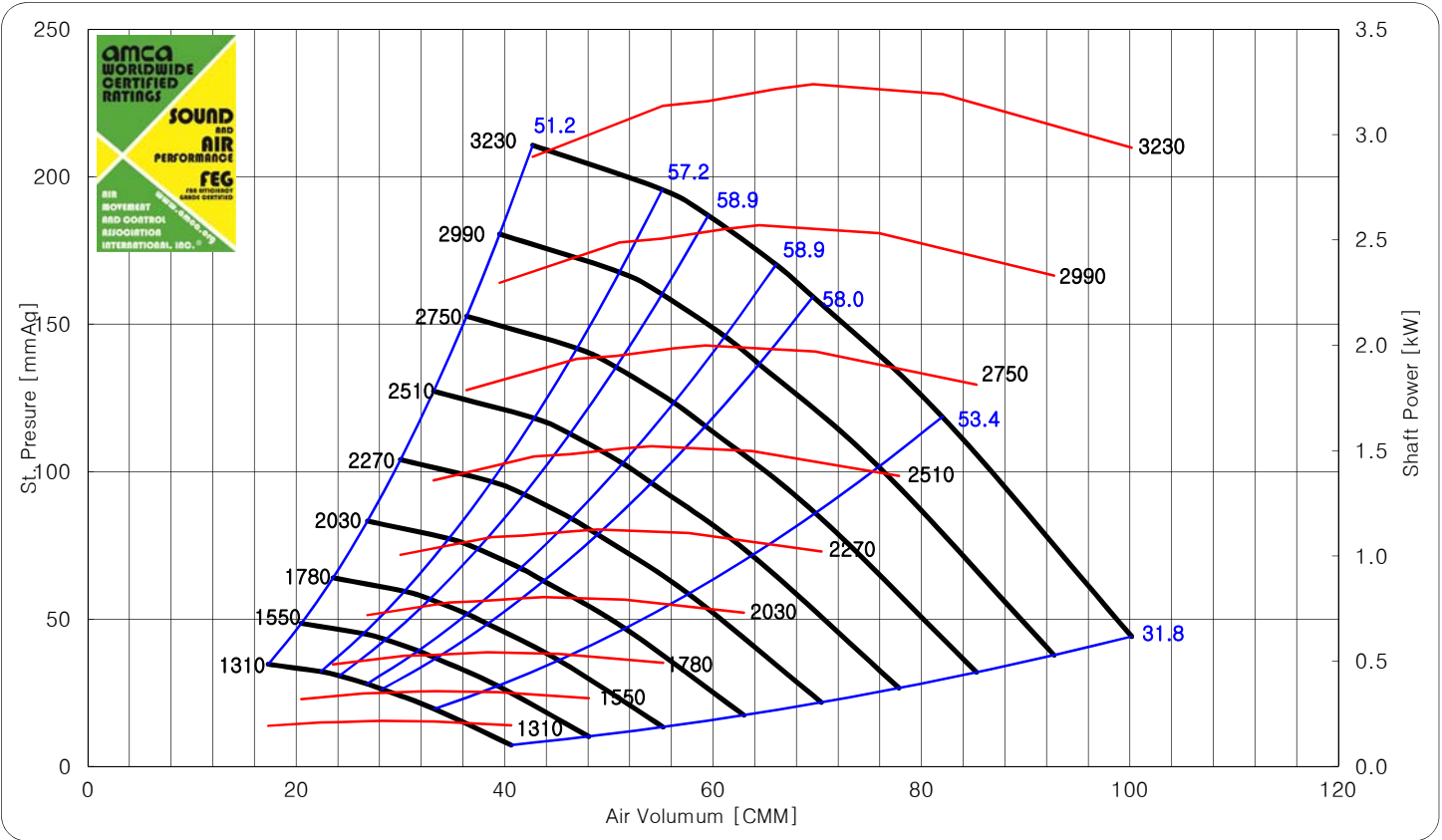


벨트구동 원심형 FAN의 모터방향은 AMCA 표준 99-2407-03을 기준으로 합니다.

모터의 위치는 FAN의 구동측 면과 지정된 위치인 W,X,Y,Z로 결정됩니다.

The position of the motor for belt drive centrifugal fan is in accordance with AMCA standard 99-2407-03. Location of motor is determined by facing the drive side of fan and designating the positions by letters W, X, Y, or Z.

PERFORMANCE CURVES AND SOUND DATA - SWAF #2.5SS_FEG 60

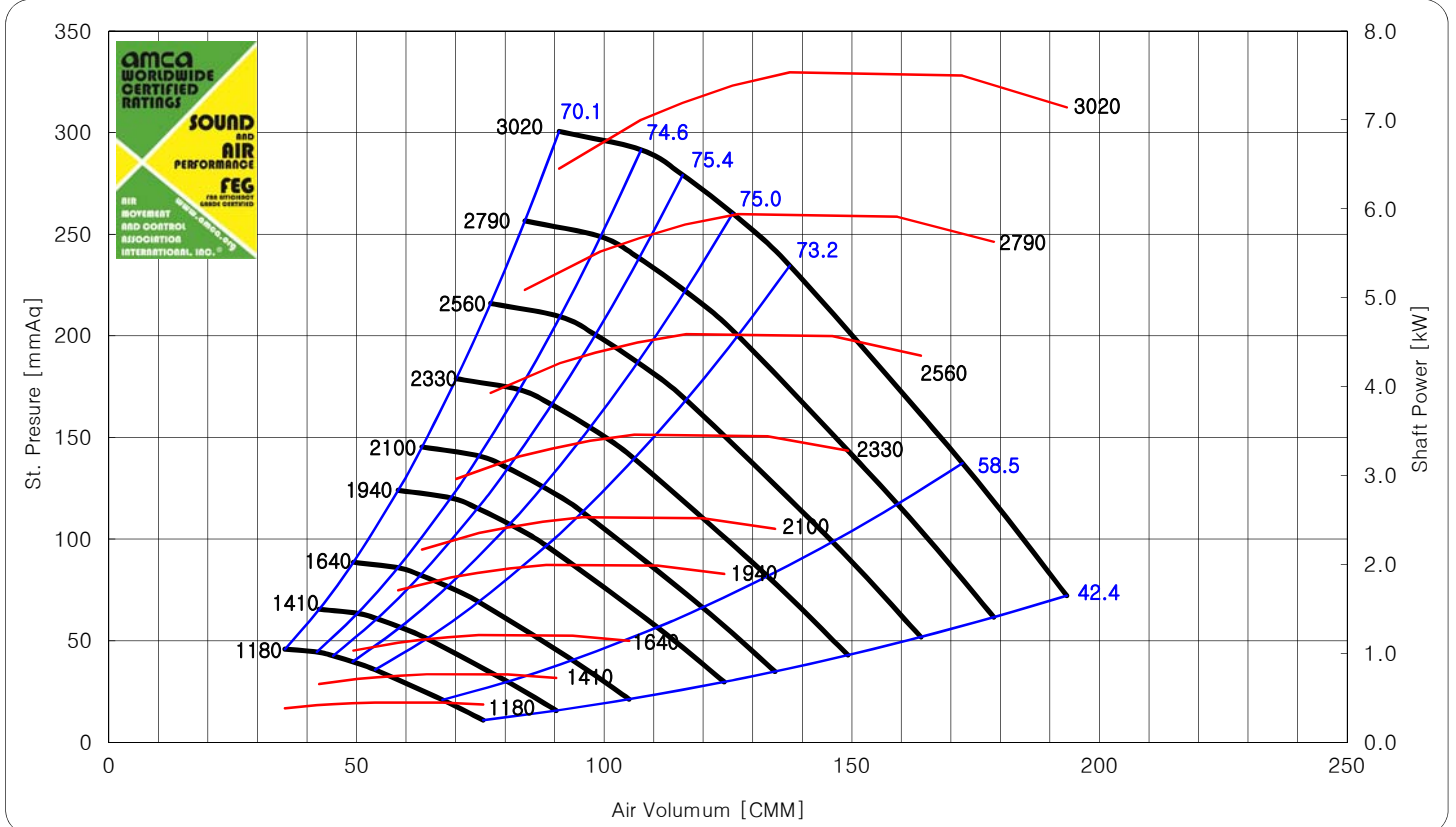


1310	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1550	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1780	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	40.62	7.25	0.20	31.83	76	1	48.06	10.15	0.32	31.83	80	1	55.20	13.39	0.49	31.83	84
2	33.26	19.51	0.21	53.39	74	2	39.35	27.31	0.35	53.39	79	2	45.19	36.02	0.53	53.39	82
3	28.23	26.20	0.22	58.01	74	3	33.40	36.68	0.36	58.01	78	3	38.35	48.37	0.54	58.01	82
4	26.78	28.01	0.21	58.93	73	4	31.69	39.21	0.36	58.93	78	4	36.39	51.71	0.54	58.93	81
5	24.14	30.74	0.21	58.85	74	5	28.56	43.04	0.35	58.85	78	5	32.80	56.76	0.53	58.85	81
6	22.36	32.19	0.21	57.21	74	6	26.45	45.06	0.35	57.21	78	6	30.38	59.43	0.53	57.21	82
7	17.31	34.66	0.19	51.24	74	7	20.49	48.53	0.32	51.24	78	7	23.53	64.00	0.48	51.24	82
2030	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2270	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2510	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	62.95	17.41	0.73	31.83	87	1	70.39	21.77	1.02	31.83	90	1	77.83	26.62	1.38	31.83	93
2	51.54	46.84	0.79	53.39	86	2	57.63	58.58	1.11	53.39	89	2	63.73	71.62	1.50	53.39	91
3	43.74	62.91	0.80	58.01	85	3	48.91	78.66	1.12	58.01	88	3	54.08	96.18	1.52	58.01	91
4	41.51	67.25	0.80	58.93	85	4	46.41	84.09	1.12	58.93	88	4	51.32	102.81	1.51	58.93	90
5	37.41	73.82	0.78	58.85	85	5	41.83	92.31	1.10	58.85	88	5	46.26	112.86	1.48	58.85	91
6	34.64	77.29	0.78	57.21	85	6	38.74	96.65	1.09	57.21	88	6	42.83	118.16	1.47	57.21	91
7	26.83	83.24	0.72	51.24	85	7	30.00	104.08	1.01	51.24	88	7	33.17	127.25	1.36	51.24	91
2750	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2990	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	3230	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	85.28	31.95	1.81	31.83	95	1	92.72	37.77	2.33	31.83	98	1	100.16	44.08	2.94	31.83	100
2	69.82	85.97	1.97	53.39	94	2	75.91	101.63	2.53	53.39	96	2	82.01	118.60	3.19	53.39	98
3	59.25	115.45	2.00	58.01	93	3	64.42	136.48	2.57	58.01	95	3	69.59	159.27	3.24	58.01	98
4	56.23	123.42	1.98	58.93	93	4	61.13	145.90	2.55	58.93	95	4	66.04	170.26	3.22	58.93	97
5	50.68	135.47	1.95	58.85	93	5	55.10	160.15	2.51	58.85	95	5	59.52	186.89	3.16	58.85	97
6	46.93	141.84	1.94	57.21	93	6	51.03	167.68	2.49	57.21	95	6	55.12	195.68	3.14	57.21	98
7	36.35	152.75	1.79	51.24	93	7	39.52	180.58	2.30	51.24	96	7	42.69	210.73	2.90	51.24	98

* Performance certified is for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #3SS_FEG 80



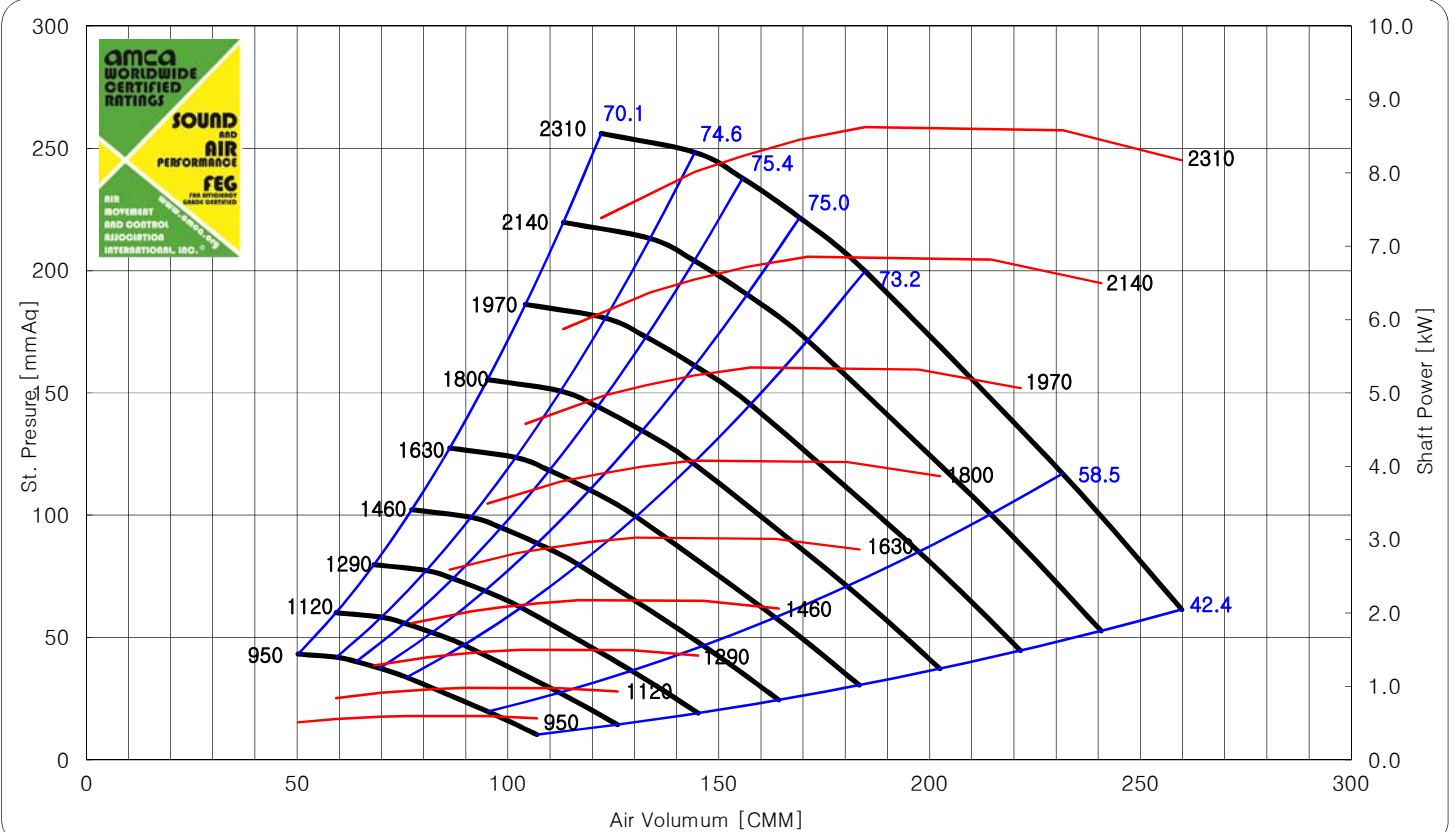
1180	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1410	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1640	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	75.57	11.03	0.43	42.36	79	1	90.30	15.74	0.73	42.36	84	1	105.03	21.30	1.14	42.36	87
2	67.34	20.98	0.45	58.51	78	2	80.47	29.95	0.76	58.51	82	2	93.59	40.52	1.20	58.51	86
3	53.72	35.81	0.45	73.21	77	3	64.19	51.14	0.77	73.21	81	3	74.66	69.18	1.21	73.21	84
4	49.20	39.73	0.441	75.00	76	4	58.79	56.73	0.75	75.00	80	4	68.38	76.74	1.18	75.00	84
5	45.27	42.62	0.43	75.38	76	5	54.09	60.85	0.73	75.38	80	5	62.92	82.32	1.15	75.38	84
6	41.98	44.51	0.42	74.61	76	6	50.17	63.56	0.71	74.61	80	6	58.35	85.99	1.12	74.61	84
7	35.52	45.90	0.38	70.10	76	7	42.44	65.54	0.66	70.10	80	7	49.37	88.66	1.03	70.10	84
1940	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2100	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2330	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	124.2	29.80	1.89	42.36	92	1	134.48	34.92	2.40	42.36	94	1	149.21	42.99	3.28	42.36	97
2	110.7	56.70	1.99	58.51	90	2	119.84	66.44	2.52	58.51	93	2	132.97	81.79	3.44	58.51	95
3	88.3	96.80	2.00	73.21	89	3	95.60	113.43	2.53	73.21	91	3	106.07	139.64	3.46	73.21	94
4	80.9	107.39	1.96	75.00	88	4	87.57	125.83	2.48	75.00	90	4	97.16	154.91	3.39	75.00	93
5	74.4	115.19	1.91	75.38	88	5	80.56	134.97	2.42	75.38	90	5	89.39	166.16	3.30	75.38	93
6	69.0	120.32	1.86	74.61	88	6	74.72	140.99	2.35	74.61	90	6	82.90	173.56	3.22	74.61	93
7	58.4	124.06	1.71	70.10	88	7	63.21	145.37	2.17	70.10	90	7	70.14	178.96	2.96	70.10	93
2560	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2790	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	3020	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	163.94	51.90	4.35	42.36	99	1	178.67	61.64	5.63	42.36	101	1	193.40	72.23	7.14	42.36	104
2	146.09	98.74	4.57	58.51	98	2	159.22	117.28	5.91	58.51	100	2	172.35	137.41	7.50	58.51	103
3	116.54	168.57	4.59	73.21	96	3	127.01	200.22	5.94	73.21	99	3	137.48	234.59	7.54	73.21	101
4	106.75	187.00	4.50	75.00	96	4	116.34	222.11	5.82	75.00	98	4	125.93	260.24	7.38	75.00	100
5	98.21	200.58	4.38	75.38	95	5	107.03	238.24	5.67	75.38	98	5	115.86	279.14	7.19	75.38	100
6	91.08	209.52	4.27	74.61	96	6	99.27	248.86	5.52	74.61	98	6	107.45	291.58	7.00	74.61	100
7	77.06	216.03	3.93	70.10	96	7	83.98	256.59	5.09	70.10	98	7	90.91	300.64	6.45	70.10	101

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses.

Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #3.5SS_FEG 80



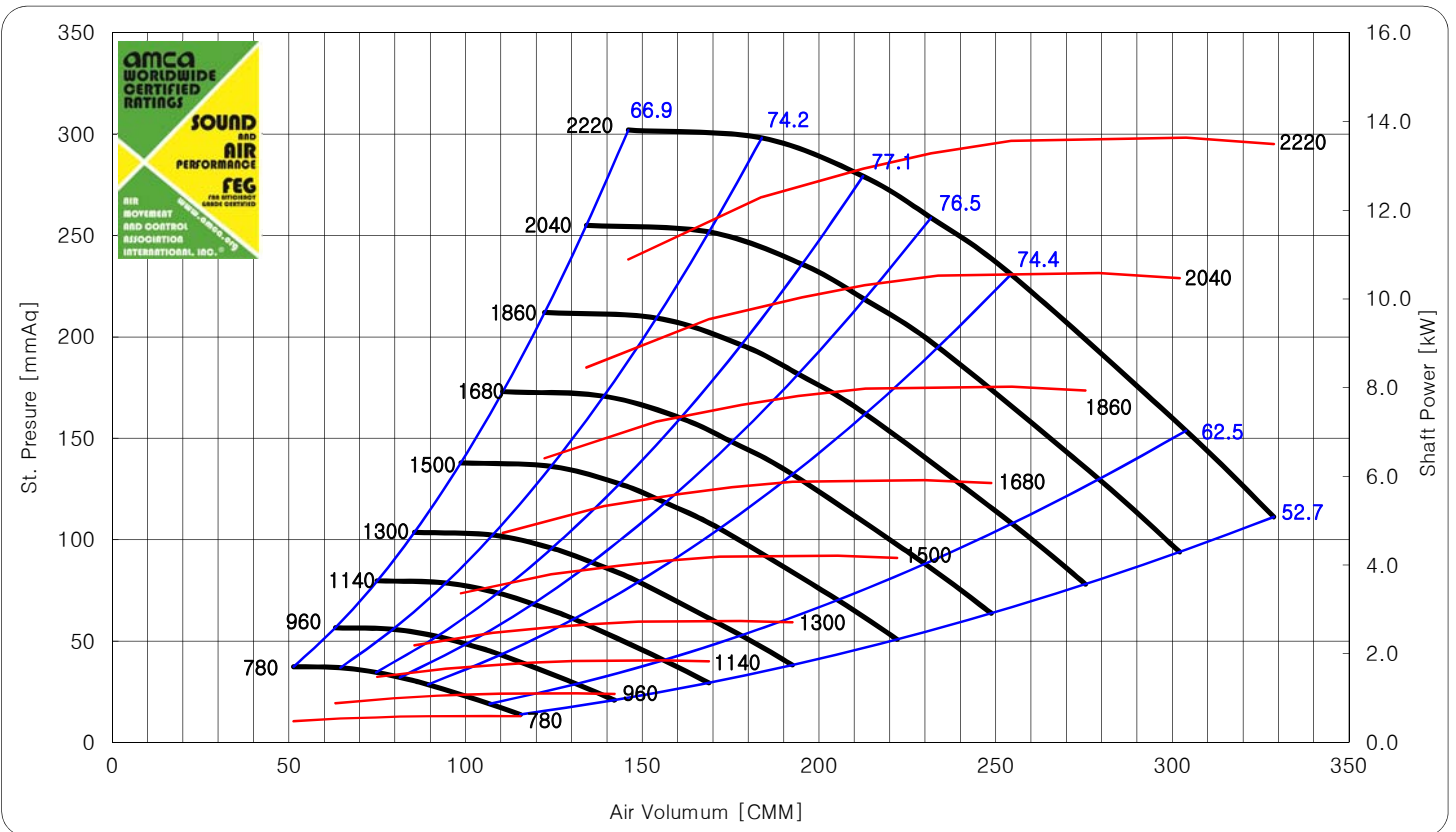
950	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1120	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1290	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	106.85	10.40	0.57	42.36	80	1	125.97	14.46	0.93	42.36	84	1	145.09	19.18	1.42	42.36	87
2	95.22	19.79	0.60	58.51	79	2	112.26	27.51	0.98	58.51	83	2	129.30	36.50	1.49	58.51	86
3	75.95	33.79	0.60	73.21	77	3	89.55	46.97	0.98	73.21	81	3	103.14	62.31	1.50	73.21	84
4	69.57	37.49	0.59	75.00	77	4	82.02	52.10	0.96	75.00	81	4	94.47	69.12	1.47	75.00	84
5	64.01	40.21	0.57	75.38	77	5	75.46	55.89	0.94	75.38	80	5	86.92	74.14	1.43	75.38	84
6	59.36	42.00	0.56	74.61	77	6	69.99	58.38	0.91	74.61	81	6	80.61	77.44	1.40	74.61	84
7	50.22	43.31	0.51	70.10	77	7	59.21	60.19	0.84	70.10	81	7	68.20	79.85	1.29	70.10	84
1460	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1630	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1800	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	164.21	24.57	2.06	42.36	90	1	183.33	30.63	2.87	42.36	93	1	202.45	37.35	3.87	42.36	96
2	146.34	46.75	2.17	58.51	89	2	163.38	58.27	3.01	58.51	92	2	180.41	71.06	4.06	58.51	94
3	116.73	79.81	2.18	73.21	87	3	130.32	99.48	3.03	73.21	90	3	143.91	121.31	4.08	73.21	92
4	106.92	88.54	2.13	75.00	87	4	119.37	110.36	2.97	75.00	89	4	131.82	134.58	4.00	75.00	92
5	98.37	94.97	2.08	75.38	86	5	109.83	118.37	2.89	75.38	89	5	121.28	144.35	3.89	75.38	91
6	91.23	99.20	2.02	74.61	87	6	101.86	123.65	2.82	74.61	89	6	112.48	150.78	3.79	74.61	92
7	77.19	102.29	1.86	70.10	87	7	86.17	127.49	2.59	70.10	90	7	95.16	155.47	3.49	70.10	92
1970	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2140	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2310	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	221.58	44.74	5.07	42.36	98	1	240.70	52.79	6.50	42.36	100	1	259.82	61.51	8.17	42.36	102
2	197.45	85.11	5.32	58.51	97	2	214.49	100.44	6.82	58.51	99	2	231.53	117.03	8.58	58.51	101
3	157.51	145.31	5.35	73.21	95	3	171.10	171.47	6.86	73.21	97	3	184.69	199.80	8.62	73.21	99
4	144.27	161.20	5.24	75.00	94	4	156.72	190.22	6.72	75.00	96	4	169.17	221.64	8.45	75.00	99
5	132.74	172.90	5.10	75.38	94	5	144.19	204.03	6.54	75.38	96	5	155.64	237.74	8.23	75.38	98
6	123.10	180.61	4.97	74.61	94	6	133.73	213.13	6.37	74.61	96	6	144.35	248.33	8.01	74.61	98
7	104.15	186.23	4.58	70.10	94	7	113.14	219.75	5.87	70.10	97	7	122.12	256.05	7.38	70.10	99

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses.

Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #4SS_FEG 80



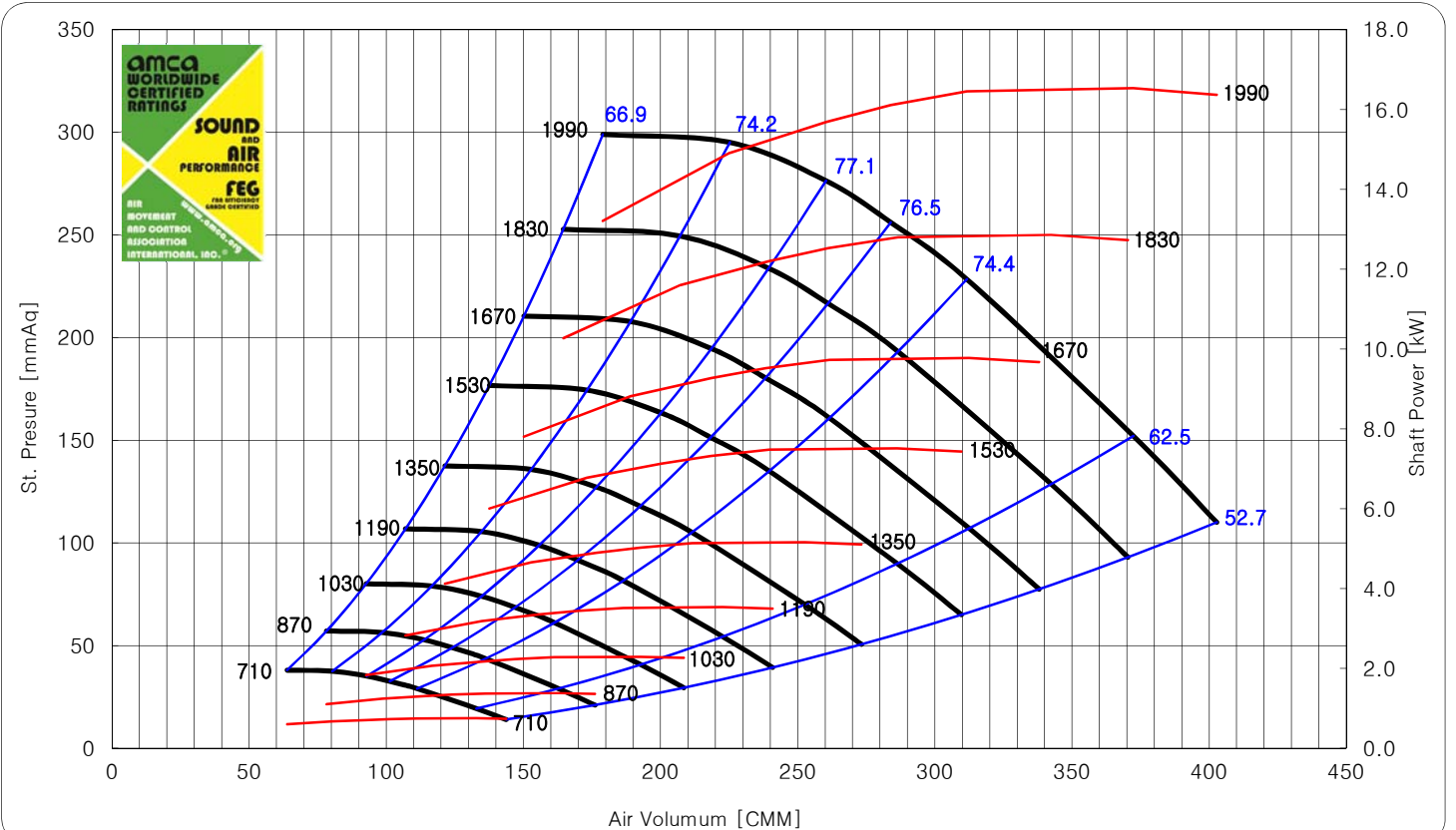
780	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	960	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1140	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	115.49	13.72	0.59	52.68	78	1	142.14	20.79	1.09	52.68	83	1	168.80	29.32	1.83	52.68	87
2	106.77	18.97	0.59	62.48	77	2	131.40	28.74	1.10	62.48	82	2	156.04	40.52	1.85	62.48	86
3	89.37	28.49	0.59	74.39	76	3	109.99	43.16	1.10	74.39	81	3	130.61	60.87	1.84	74.39	85
4	81.40	31.95	0.58	76.51	75	4	100.18	48.39	1.07	76.51	80	4	118.97	68.24	1.80	76.51	84
5	74.65	34.47	0.56	77.07	74	5	91.88	52.22	1.05	77.07	79	5	109.11	73.64	1.75	77.07	83
6	64.58	36.80	0.53	74.18	74	6	79.48	55.75	0.99	74.18	79	6	94.39	78.61	1.67	74.18	83
7	51.31	37.28	0.47	66.87	74	7	63.15	56.48	0.88	66.87	79	7	74.99	79.64	1.47	66.87	84
1300	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1500	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1680	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	192.49	38.12	2.71	52.68	91	1	222.10	50.75	4.16	52.68	94	1	248.75	63.67	5.85	52.68	97
2	177.94	52.70	2.74	62.48	90	2	205.32	70.16	4.21	62.48	93	2	229.96	88.01	5.91	62.48	96
3	148.95	79.15	2.72	74.39	88	3	171.86	105.38	4.19	74.39	92	3	192.48	132.19	5.88	74.39	95
4	135.66	88.74	2.67	76.51	87	4	156.53	118.14	4.10	76.51	91	4	175.32	148.20	5.76	76.51	94
5	124.42	95.76	2.60	77.07	86	5	143.56	127.49	3.99	77.07	90	5	160.79	159.92	5.61	77.07	93
6	107.63	102.23	2.47	74.18	87	6	124.19	136.11	3.79	74.18	90	6	139.10	170.73	5.33	74.18	94
7	85.51	103.57	2.19	66.87	87	7	98.67	137.88	3.36	66.87	90	7	110.51	172.96	4.72	66.87	94
1860	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2040	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	2220	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	275.40	78.04	7.94	52.68	100	1	302.06	93.88	10.47	52.68	103	1	328.71	111.17	13.49	52.68	105
2	254.59	107.87	8.02	62.48	99	2	279.23	129.76	10.58	62.48	102	2	303.87	153.67	13.63	62.48	104
3	213.11	162.03	7.98	74.39	98	3	233.73	194.91	10.53	74.39	100	3	254.35	230.82	13.57	74.39	103
4	194.10	181.65	7.81	76.51	97	4	212.89	218.51	10.31	76.51	99	4	231.67	258.77	13.28	76.51	102
5	178.01	196.02	7.61	77.07	96	5	195.24	235.80	10.04	77.07	99	5	212.47	279.25	12.93	77.07	101
6	154.00	209.28	7.23	74.18	96	6	168.90	251.74	9.54	74.18	99	6	183.81	298.13	12.30	74.18	102
7	122.35	212.01	6.41	66.87	96	7	134.19	255.03	8.45	66.87	99	7	146.03	302.02	10.89	66.87	102

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses.

Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #4.5SS_FEG 80



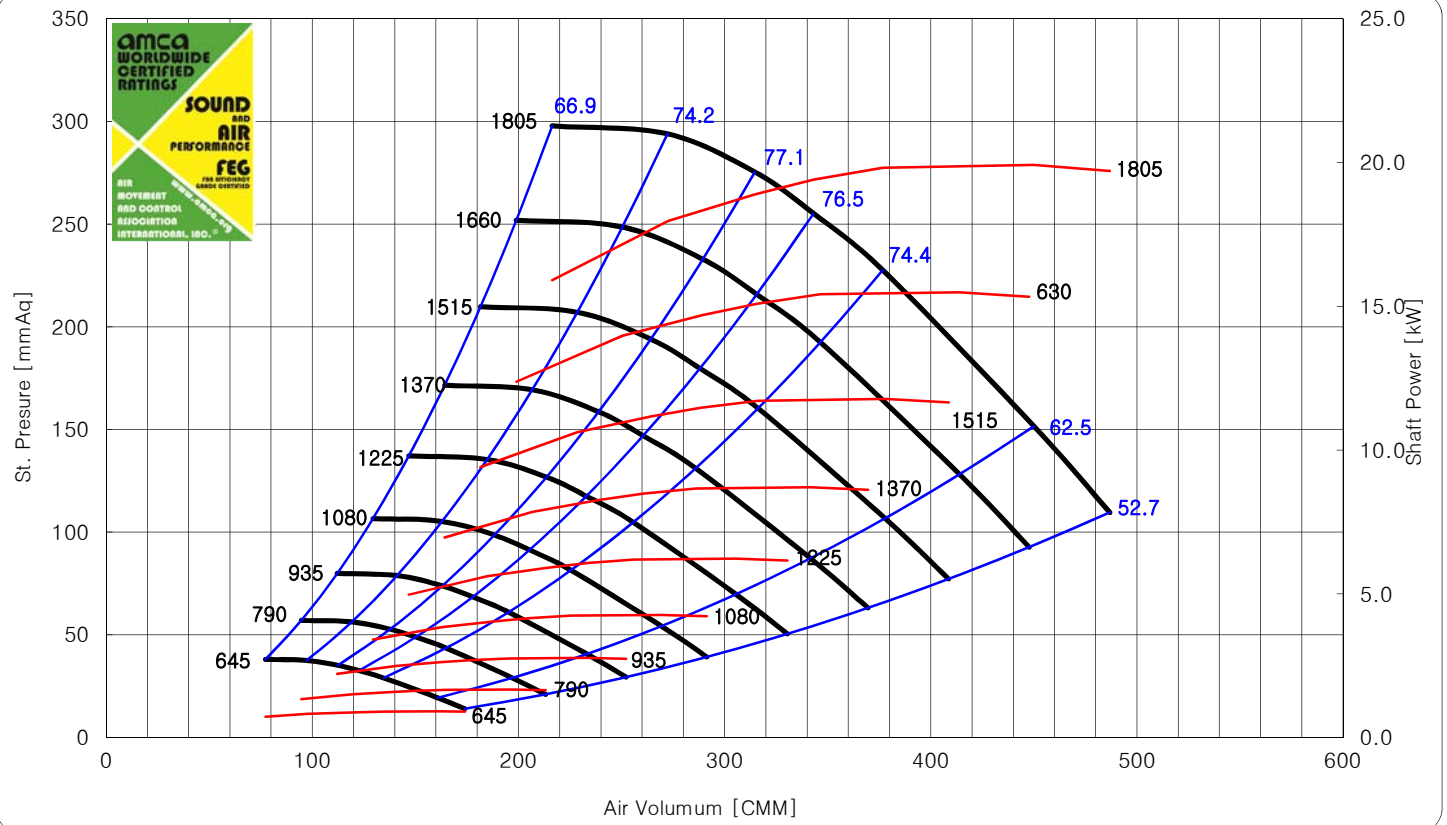
710	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	870	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1030	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	143.71	14.01	0.74	52.68	79	1	176.10	21.03	1.37	52.68	84	1	208.48	29.48	2.27	52.68	88
2	132.85	19.36	0.75	62.48	79	2	162.79	29.07	1.38	62.48	83	2	192.73	40.75	2.29	62.48	87
3	111.20	29.08	0.75	74.39	77	3	136.26	43.66	1.37	74.39	82	3	161.32	61.20	2.28	74.39	86
4	101.29	32.60	0.73	76.51	76	4	124.11	48.95	1.35	76.51	81	4	146.94	68.61	2.23	76.51	85
5	92.89	35.18	0.71	77.07	75	5	113.83	52.82	1.31	77.07	80	5	134.76	74.04	2.18	77.07	84
6	80.36	37.56	0.68	74.18	75	6	98.47	56.40	1.25	74.18	80	6	116.58	79.05	2.07	74.18	84
7	63.84	38.05	0.60	66.87	75	7	78.23	57.13	1.10	66.87	80	7	92.62	80.08	1.83	66.87	84
1190	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1350	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1530	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	240.87	39.35	3.50	52.68	92	1	273.26	50.64	5.11	52.68	95	1	309.69	65.04	7.44	52.68	98
2	222.67	54.39	3.54	62.48	91	2	252.61	70.00	5.16	62.48	94	2	286.29	89.91	7.52	62.48	97
3	186.38	81.69	3.52	74.39	89	3	211.44	105.14	5.14	74.39	92	3	239.64	135.04	7.48	74.39	95
4	169.76	91.59	3.44	76.51	88	4	192.59	117.87	5.03	76.51	91	4	218.27	151.40	7.32	76.51	94
5	155.69	98.83	3.35	77.07	87	5	176.63	127.19	4.90	77.07	90	5	200.18	163.37	7.13	77.07	94
6	134.69	105.51	3.19	74.18	88	6	152.80	135.79	4.66	74.18	91	6	173.17	174.42	6.78	74.18	94
7	107.01	106.89	2.82	66.87	88	7	121.39	137.57	4.12	66.87	91	7	137.58	176.70	6.00	66.87	94
1670	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1830	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1990	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	338.03	77.49	9.67	52.68	100	1	370.41	93.05	12.73	52.68	103	1	402.80	110.03	16.37	52.68	105
2	312.49	107.11	9.77	62.48	99	2	342.42	128.62	12.86	62.48	102	2	372.36	152.10	16.54	62.48	104
3	261.56	160.89	9.73	74.39	98	3	286.63	193.19	12.80	74.39	100	3	311.69	228.45	16.46	74.39	103
4	238.24	180.37	9.52	76.51	97	4	261.06	216.59	12.53	76.51	99	4	283.89	256.12	16.11	76.51	102
5	218.49	194.64	9.27	77.07	96	5	239.43	233.72	12.20	77.07	99	5	260.36	276.38	15.69	77.07	101
6	189.02	207.80	8.81	74.18	97	6	207.13	249.53	11.60	74.18	99	6	225.24	295.07	14.91	74.18	102
7	150.17	210.51	7.81	66.87	97	7	164.56	252.79	10.27	66.87	99	7	178.94	298.92	13.21	66.87	102

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses.

Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #5SS_FEG 80

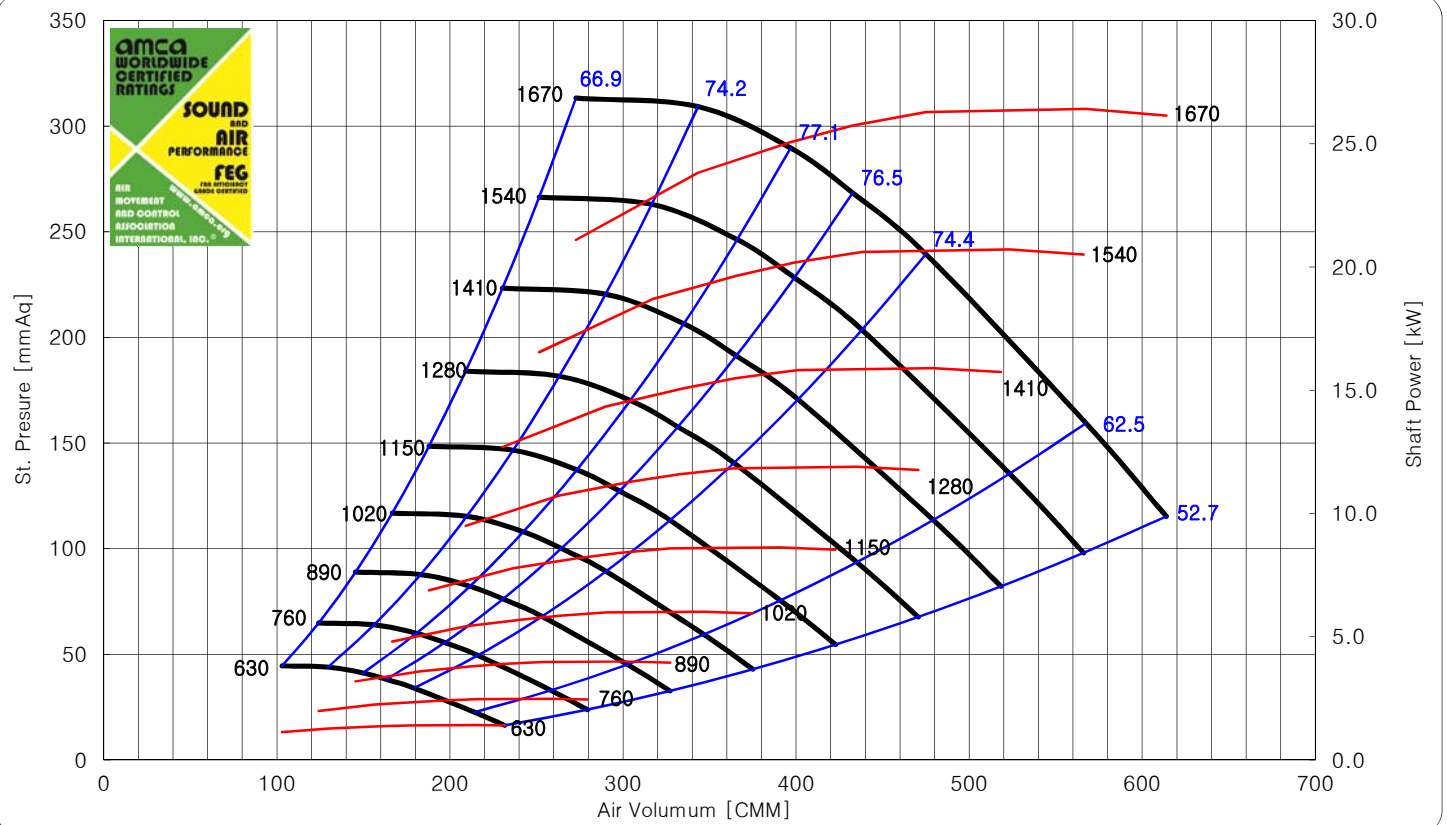


645	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	790	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	935	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	173.98	14.00	0.90	52.68	80	1	213.09	21.00	1.65	52.68	85	1	252.20	29.41	2.74	52.68	89
2	160.83	19.35	0.91	62.48	79	2	196.99	29.03	1.67	62.48	84	2	233.15	40.66	2.77	62.48	88
3	134.62	29.06	0.90	74.39	78	3	164.89	43.60	1.66	74.39	83	3	195.15	61.07	2.75	74.39	86
4	122.62	32.58	0.89	76.51	76	4	150.18	48.88	1.63	76.51	81	4	177.75	68.47	2.70	76.51	85
5	112.46	35.16	0.86	77.07	75	5	137.74	52.75	1.58	77.07	80	5	163.02	73.89	2.63	77.07	84
6	97.28	37.54	0.82	74.18	76	6	119.16	56.31	1.51	74.18	81	6	141.03	78.88	2.50	74.18	85
7	77.29	38.03	0.73	66.87	76	7	94.67	57.05	1.33	66.87	81	7	112.04	79.91	2.21	66.87	85
1080	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1225	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1370	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	291.31	39.25	4.22	52.68	92	1	330.43	50.49	6.16	52.68	95	1	369.54	63.15	8.62	52.68	98
2	269.30	54.25	4.27	62.48	91	2	305.46	69.79	6.22	62.48	94	2	341.61	87.29	8.71	62.48	97
3	225.42	81.48	4.24	74.39	90	3	255.68	104.83	6.19	74.39	83	3	285.95	131.12	8.66	74.39	96
4	205.31	91.35	4.16	76.51	89	4	232.88	117.53	6.06	76.51	92	4	260.45	147.00	8.48	76.51	94
5	188.30	98.58	4.05	77.07	88	5	213.58	126.83	5.90	77.07	91	5	238.86	158.63	8.26	77.07	94
6	162.90	105.24	3.85	74.18	88	6	184.77	135.40	5.61	74.18	91	6	206.64	169.35	7.85	74.18	94
7	129.42	106.62	3.41	66.87	88	7	146.79	137.17	4.97	66.87	91	7	164.17	171.56	6.96	66.87	94
1515	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1660	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1805	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	408.65	77.23	11.65	52.68	101	1	447.76	92.72	15.33	52.68	103	1	486.87	109.62	19.71	52.68	105
2	377.77	106.75	11.77	62.48	100	2	413.93	128.16	15.49	62.48	102	2	450.08	151.53	19.91	62.48	104
3	316.21	160.34	11.72	74.39	98	3	346.48	192.50	15.41	74.39	101	3	376.74	227.60	19.82	74.39	103
4	288.01	179.76	11.47	76.51	97	4	315.58	215.82	15.09	76.51	100	4	343.14	255.17	19.40	76.51	102
5	264.14	193.98	11.17	77.07	96	5	289.42	232.89	14.69	77.07	99	5	314.70	275.35	18.89	77.07	101
6	228.51	207.10	10.62	74.18	97	6	250.38	248.64	13.97	74.18	99	6	272.25	293.97	17.96	74.18	102
7	181.54	209.80	9.41	66.87	97	7	198.92	251.88	12.37	66.87	99	7	216.29	297.81	15.91	66.87	102

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses.
Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #5.5SS_FEG 80

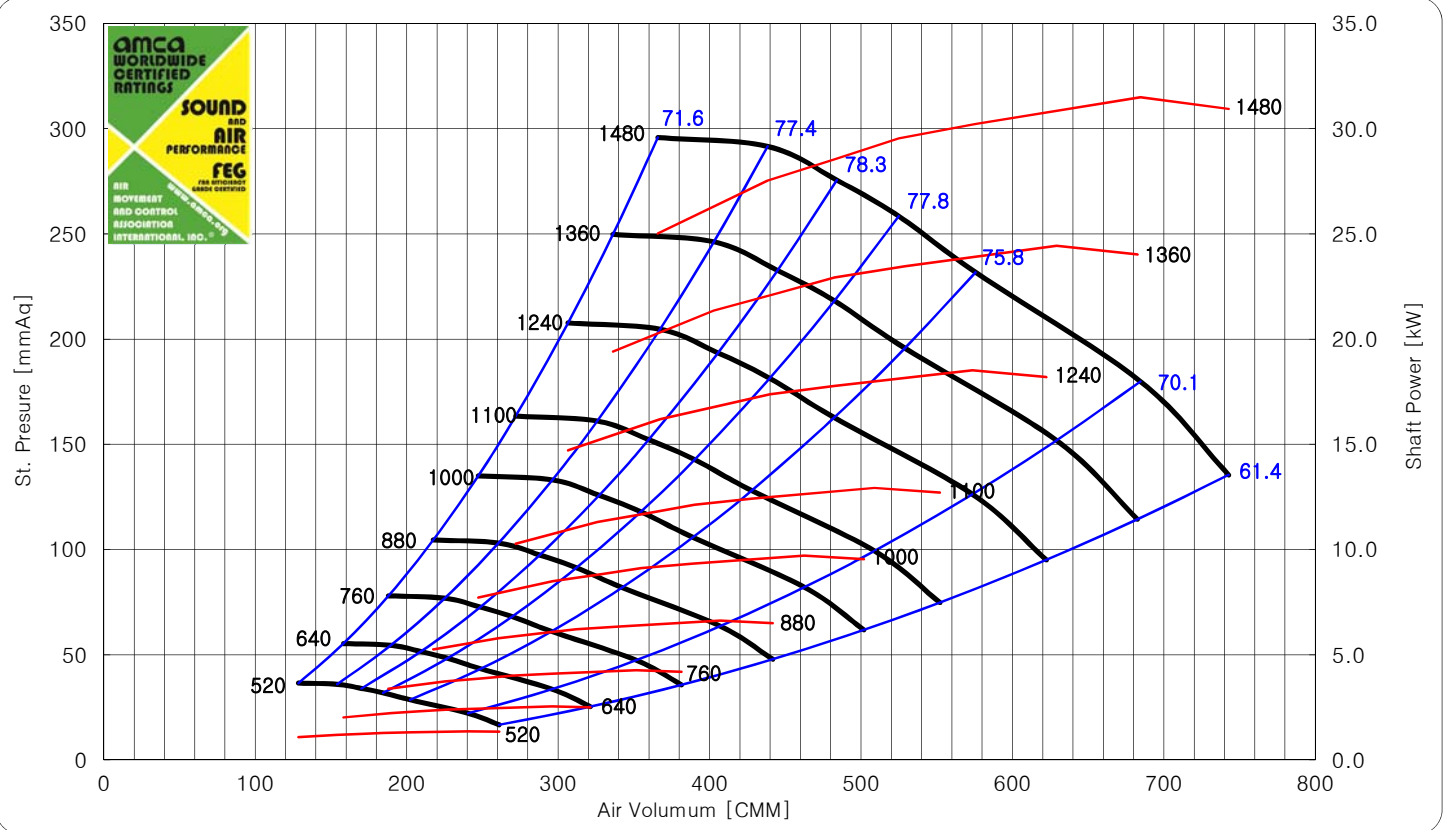


630	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	760	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	890	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	231.61	16.42	1.40	52.68	83	1	279.40	23.89	2.46	52.68	87	1	327.19	32.76	3.96	52.68	91
2	214.11	22.69	1.42	62.48	82	2	258.29	33.02	2.49	62.48	86	2	302.47	45.29	4.00	62.48	90
3	179.22	34.08	1.41	74.39	80	3	216.20	49.60	2.48	74.39	85	3	253.18	68.02	3.98	74.39	88
4	163.23	38.21	1.38	76.51	79	4	196.92	55.61	2.43	76.51	83	4	230.60	76.26	3.90	76.51	87
5	149.70	41.23	1.35	77.07	78	5	180.60	60.01	2.36	77.07	82	5	211.49	82.29	3.79	77.07	86
6	129.51	44.02	1.28	74.18	79	6	156.23	64.07	2.25	74.18	83	6	182.96	87.86	3.61	74.18	87
7	102.89	44.60	1.13	66.87	79	7	124.12	64.90	1.99	66.87	83	7	145.35	89.00	3.19	66.87	87
1020	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1150	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1280	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	374.98	43.03	5.96	52.68	94	1	422.77	54.70	8.54	52.68	97	1	470.56	67.77	11.77	52.68	99
2	346.65	59.48	6.02	62.48	93	2	390.83	75.61	8.63	62.48	96	2	435.01	93.67	11.90	62.48	98
3	290.16	89.35	5.99	74.39	92	3	327.14	113.57	8.59	74.39	94	3	364.12	140.70	11.84	74.39	97
4	264.28	100.17	5.87	76.51	90	4	297.97	127.32	8.41	76.51	93	4	331.65	157.74	11.59	76.51	96
5	242.38	108.09	5.71	77.07	89	5	273.27	137.40	8.19	77.07	92	5	304.16	170.22	11.29	77.07	95
6	209.68	115.40	5.43	74.18	90	6	236.40	146.69	7.78	74.18	93	6	263.13	181.73	10.73	74.18	95
7	166.59	116.90	4.81	66.87	90	7	187.82	148.60	6.89	66.87	93	7	209.05	184.10	9.50	66.87	96
1410	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1540	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1670	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	518.36	82.23	15.74	52.68	102	1	566.15	98.09	20.51	52.68	104	1	613.94	115.35	26.15	52.68	106
2	479.19	113.67	15.90	62.48	101	2	523.37	135.59	20.72	62.48	103	2	567.55	159.45	26.42	62.48	105
3	401.10	170.73	15.83	74.39	99	3	438.08	203.66	20.62	74.39	102	3	475.07	239.50	26.29	74.39	104
4	365.33	191.41	15.49	76.51	98	4	399.01	228.33	20.19	76.51	101	4	432.70	268.50	25.74	76.51	103
5	335.05	206.55	15.09	77.07	98	5	365.94	246.39	19.66	77.07	100	5	396.84	289.74	25.07	77.07	102
6	289.85	220.51	14.34	74.18	98	6	316.58	263.05	18.69	74.18	100	6	343.30	309.33	23.83	74.18	103
7	230.28	223.39	12.70	66.87	98	7	251.51	266.49	16.55	66.87	100	7	272.74	313.38	21.11	66.87	103

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #6SS_FEG 80

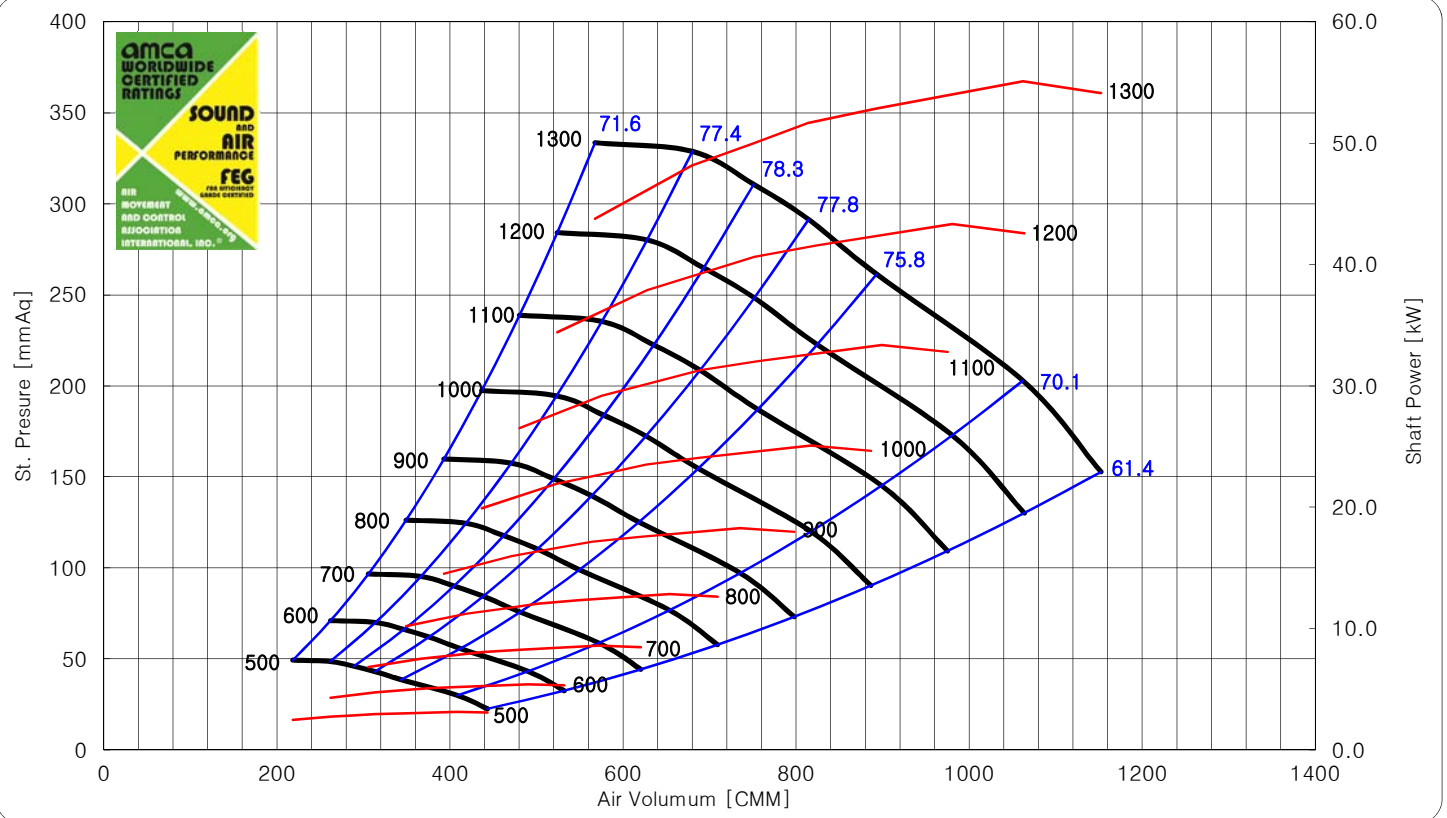


520	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	640	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	760	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	260.98	16.73	1.34	61.40	79	1	321.21	25.34	2.50	61.40	84	1	381.43	35.73	4.19	61.40	88
2	240.53	22.21	1.37	70.12	78	2	296.04	33.64	2.55	70.12	82	2	351.55	47.44	4.27	70.12	86
3	202.24	28.62	1.31	75.80	76	3	248.91	43.35	2.44	75.80	81	3	295.58	61.13	4.09	75.80	85
4	184.43	31.91	1.28	77.77	77	4	226.99	48.34	2.39	77.77	82	4	269.55	68.17	4.00	77.77	86
5	170.07	34.02	1.24	78.35	78	5	209.31	51.54	2.31	78.35	83	5	248.56	72.67	3.87	78.35	87
6	154.02	36.01	1.19	77.38	80	6	189.56	54.54	2.23	77.38	85	6	225.10	76.91	3.73	77.38	88
7	128.55	36.53	1.09	71.56	80	7	158.21	55.33	2.02	71.56	85	7	187.87	78.02	3.39	71.56	89
880	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1000	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1100	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	441.66	47.90	6.51	61.40	91	1	501.89	61.86	9.55	61.40	94	1	552.08	74.85	12.71	61.40	97
2	407.06	63.61	6.62	70.12	90	2	462.57	82.14	9.72	70.12	93	2	508.82	99.38	12.93	70.12	95
3	342.26	81.96	6.35	75.80	89	3	388.93	105.83	9.32	75.80	92	3	427.82	128.06	12.41	75.80	94
4	312.11	91.39	6.21	77.77	90	4	354.67	118.02	9.11	77.77	93	4	390.14	142.80	12.13	77.77	95
5	287.81	97.43	6.01	78.35	91	5	327.05	125.82	8.82	78.35	94	5	359.76	152.24	11.74	78.35	97
6	260.64	103.12	5.79	77.38	92	6	296.18	133.16	8.49	77.38	95	6	325.80	161.12	11.31	77.38	98
7	217.54	104.61	5.26	71.56	92	7	247.20	135.08	7.72	71.56	96	7	271.92	163.45	10.27	71.56	98
1240	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1360	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1480	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	622.34	95.11	18.21	61.40	100	1	682.57	114.41	24.02	61.40	102	1	742.79	135.49	30.95	61.40	105
2	573.58	126.29	18.53	70.12	98	2	629.09	151.92	24.44	70.12	101	2	684.60	179.91	31.50	70.12	103
3	482.27	162.73	17.78	75.80	97	3	528.94	195.75	23.46	75.80	100	3	575.61	231.81	30.23	75.80	102
4	439.79	181.47	17.38	77.77	98	4	482.35	218.29	22.92	77.77	100	4	524.91	258.51	29.54	77.77	102
5	405.55	193.46	16.81	78.35	99	5	444.79	232.71	22.18	78.35	101	5	484.04	275.59	28.59	78.35	103
6	367.27	204.75	16.20	77.38	100	6	402.81	246.29	21.37	77.38	102	6	438.35	291.67	27.54	77.38	104
7	306.53	207.71	14.72	71.56	101	7	336.19	249.85	19.42	71.56	103	7	365.86	295.89	25.02	71.56	105

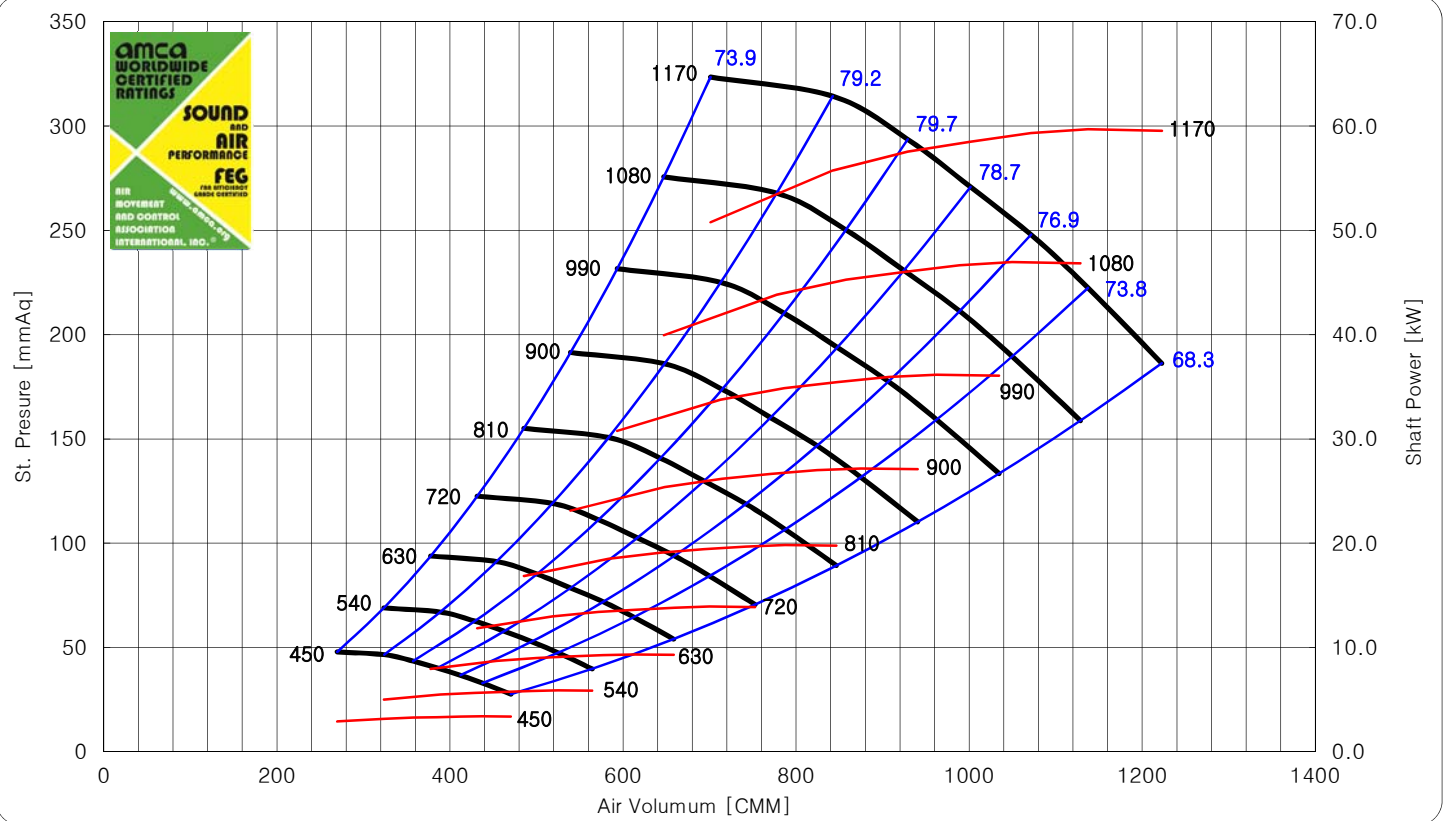
* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #7SS_FEG 80



PERFORMANCE CURVES AND SOUND DATA - SWAF #8SS_FEG 80

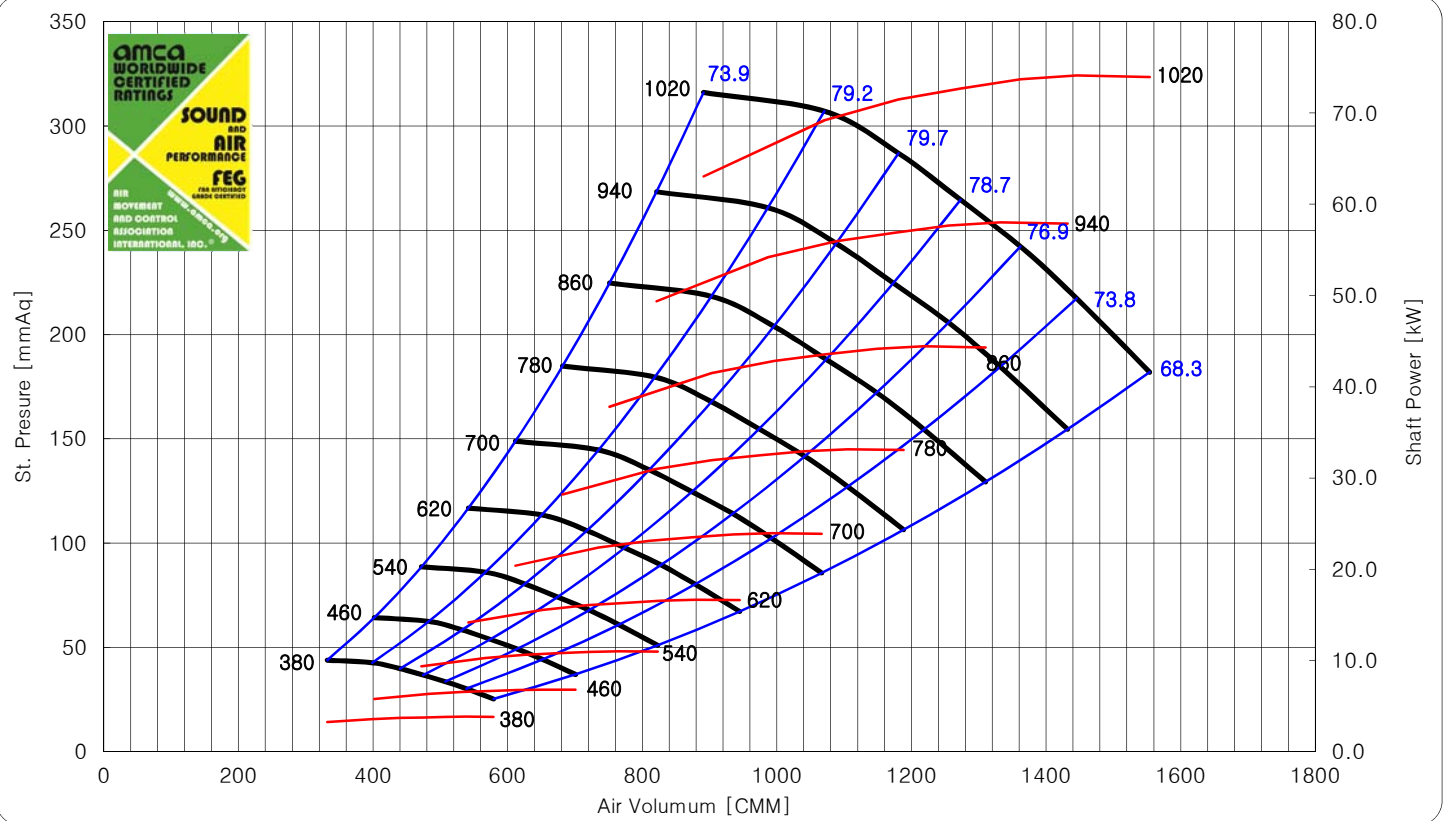


450	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	540	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	630	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	470.25	27.55	3.39	68.32	79	1	564.31	39.67	5.85	68.32	83	1	658.36	54.00	9.30	68.32	87
2	437.41	32.90	3.40	73.79	77	2	524.89	47.38	5.87	73.79	82	2	612.37	64.48	9.32	73.79	86
3	412.12	36.68	3.38	76.87	77	3	494.54	52.81	5.83	76.87	81	3	576.97	71.88	9.26	76.87	85
4	385.21	40.05	3.33	78.68	76	4	462.25	57.68	5.75	78.68	81	4	539.30	78.50	9.14	78.68	85
5	357.30	43.44	3.27	79.72	76	5	428.76	62.55	5.66	79.72	81	5	500.22	85.14	8.98	79.72	85
6	323.98	46.50	3.17	79.23	76	6	388.77	66.96	5.48	79.23	80	6	453.57	91.13	8.70	79.23	84
7	269.64	47.85	2.89	73.86	75	7	323.57	68.91	4.99	73.86	80	7	377.50	93.79	7.93	73.86	84
720	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	810	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	900	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	752.41	70.53	13.88	68.32	91	1	846.46	89.26	19.76	68.32	94	1	940.51	110.20	27.10	68.32	97
2	699.85	84.22	13.91	73.79	89	2	787.33	106.60	19.80	73.79	92	2	874.82	131.60	27.17	73.79	95
3	659.39	93.89	13.83	76.87	89	3	741.81	118.83	19.69	76.87	92	3	824.24	146.70	27.01	76.87	95
4	616.34	102.54	13.64	78.68	88	4	693.38	129.77	19.42	78.68	92	4	770.42	160.21	26.63	78.68	94
5	571.68	111.20	13.41	79.72	88	5	643.14	140.73	19.10	79.72	91	5	714.60	173.74	26.20	79.72	94
6	518.37	119.03	12.99	79.23	88	6	583.16	150.65	18.49	79.23	91	6	647.96	185.99	25.37	79.23	93
7	431.43	122.50	11.83	73.86	87	7	485.36	155.04	16.85	73.86	91	7	539.29	191.41	23.11	73.86	93
990	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1080	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1170	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1034.56	133.34	36.07	68.32	99	1	1128.61	158.69	46.83	68.32	102	1	1222.66	186.24	59.54	68.32	104
2	962.30	159.24	36.16	73.79	98	2	1049.78	189.50	46.94	73.79	100	2	1137.26	222.40	59.68	73.79	102
3	906.66	177.51	35.95	76.87	97	3	989.08	211.25	46.67	76.87	100	3	1071.51	247.93	59.33	76.87	102
4	847.46	193.86	35.45	78.68	97	4	924.51	230.71	46.02	78.68	99	4	1001.55	270.76	58.51	78.68	101
5	786.06	210.23	34.87	79.72	96	5	857.52	250.19	45.27	79.72	99	5	928.97	293.63	57.55	79.72	101
6	712.75	225.05	33.77	79.23	96	6	777.55	267.82	43.84	79.23	98	6	842.34	314.32	55.74	79.23	101
7	593.22	231.61	30.76	73.86	96	7	647.15	275.63	39.94	73.86	98	7	701.07	323.48	50.78	73.86	100

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #9SS_FEG 80

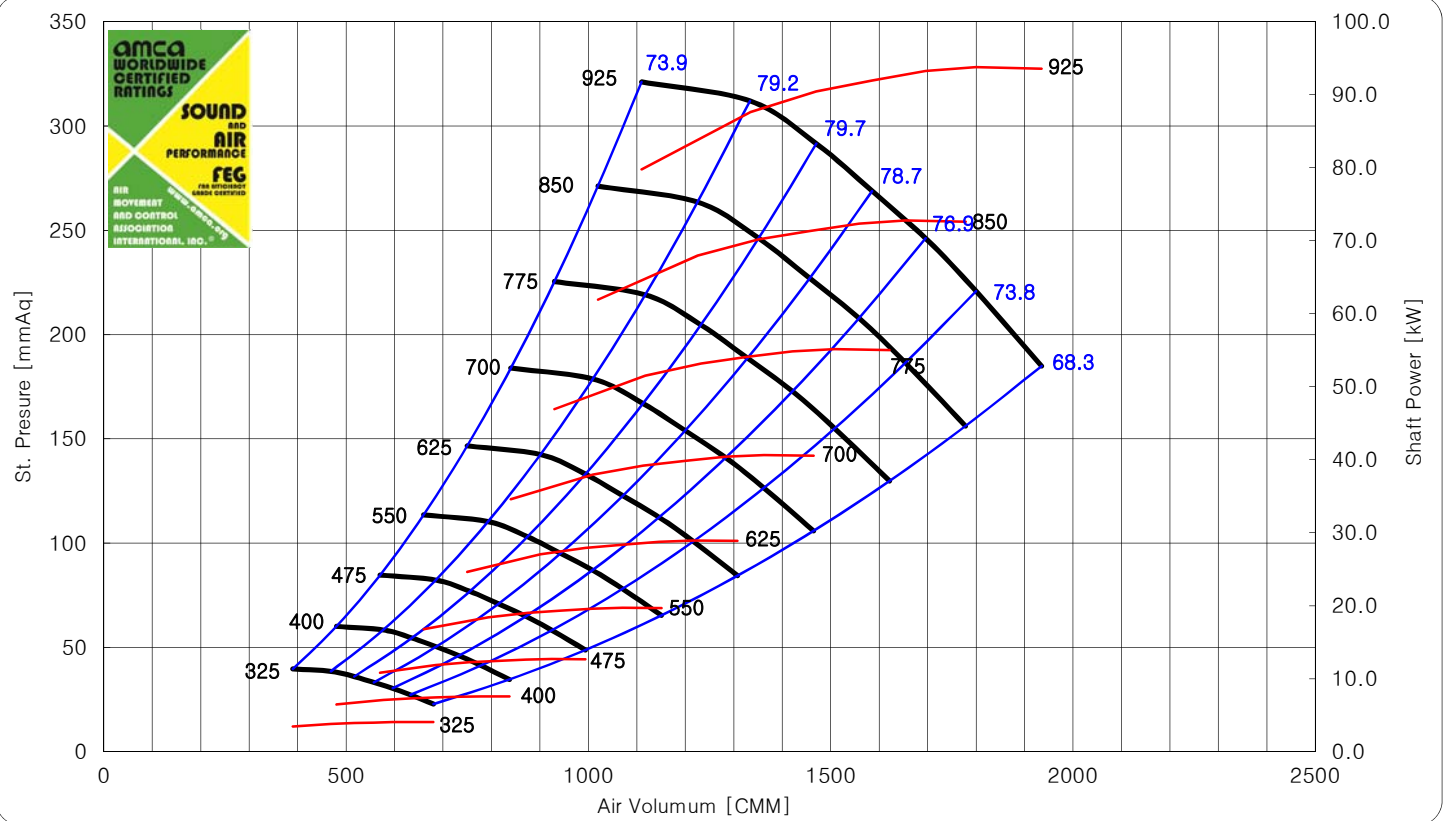


380	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	460	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	540	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	578.91	25.26	3.82	68.32	78	1	700.78	37.01	6.78	68.32	83	1	822.66	51.01	10.97	68.32	87
2	538.47	30.16	3.83	73.79	77	2	651.84	44.20	6.80	73.79	82	2	765.20	60.91	11.00	73.79	86
3	507.34	33.62	3.81	76.87	76	3	614.15	49.27	6.76	76.87	81	3	720.96	67.90	10.93	76.87	85
4	474.22	36.72	3.76	78.68	76	4	574.05	53.81	6.67	78.68	81	4	673.89	74.15	10.78	78.68	85
5	439.85	39.82	3.70	79.72	75	5	532.45	58.36	6.56	79.72	80	5	625.05	80.42	10.61	79.72	84
6	398.84	42.63	3.58	79.23	75	6	482.80	62.47	6.35	79.23	80	6	566.77	86.08	10.27	79.23	84
7	331.95	43.87	3.26	73.86	75	7	401.83	64.29	5.78	73.86	80	7	471.71	88.59	9.36	73.86	84
620	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	700	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	780	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	944.54	67.24	16.61	68.32	91	1	1066.41	85.71	23.90	68.32	94	1	1188.29	106.42	33.06	68.32	97
2	878.56	80.30	16.65	73.79	89	2	991.92	102.35	23.96	73.79	92	2	1105.29	127.09	33.15	73.79	95
3	827.77	89.51	16.55	76.87	89	3	934.57	114.10	23.82	76.87	92	3	1041.38	141.67	32.95	76.87	95
4	773.72	97.75	16.32	78.68	88	4	873.56	124.61	23.49	78.68	91	4	973.39	154.72	32.50	78.68	94
5	717.66	106.01	16.05	79.72	88	5	810.26	135.13	23.10	79.72	91	5	902.86	167.79	31.96	79.72	94
6	650.73	113.48	15.55	79.23	88	6	734.70	144.66	22.37	79.23	91	6	818.66	179.61	30.95	79.23	94
7	541.60	116.79	14.16	73.86	87	7	611.48	148.87	20.38	73.86	91	7	681.36	184.84	28.20	73.86	93
860	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	940	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	1020	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1310.16	129.37	44.32	68.32	99	1	1432.04	154.56	57.87	68.32	102	1	1553.91	181.99	73.94	68.32	104
2	1218.65	154.49	44.43	73.79	98	2	1332.01	184.57	58.01	73.79	100	2	1445.37	217.32	74.12	73.79	102
3	1148.19	172.22	44.16	76.87	97	3	1255.00	205.75	57.67	76.87	100	3	1361.81	242.26	73.69	76.87	102
4	1073.23	188.08	43.55	78.68	97	4	1173.06	224.70	56.87	78.68	99	4	1272.90	264.58	72.67	78.68	102
5	995.46	203.97	42.84	79.72	96	5	1088.06	243.68	55.94	79.72	99	5	1180.66	286.92	71.47	79.72	101
6	902.63	218.34	41.49	79.23	96	6	986.59	260.85	54.18	79.23	98	6	1070.56	307.14	69.22	79.23	101
7	751.25	224.71	37.80	73.86	96	7	821.13	268.46	49.36	73.86	98	7	891.01	316.10	63.06	73.86	100

* Performance certified for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #10SS_FEG 80

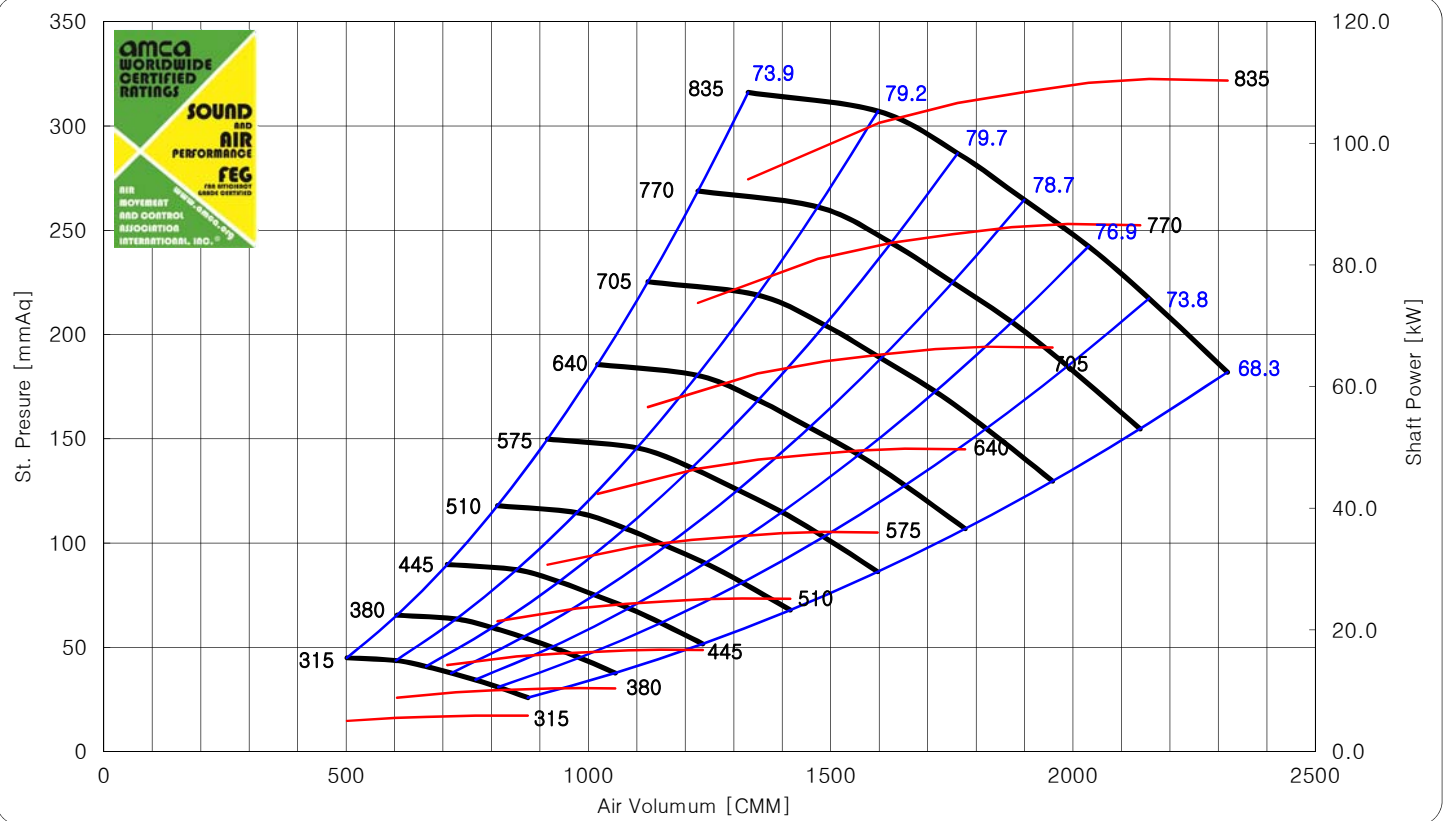


325	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))	400	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))	475	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))
1	679.92	22.83	4.06	68.32	77	1	836.82	34.58	7.57	68.32	83	1	993.73	48.76	12.67	68.32	87
2	632.43	27.26	4.07	73.79	76	2	778.37	41.29	7.58	73.79	81	2	924.32	58.23	12.70	73.79	86
3	595.86	30.39	4.04	76.87	75	3	733.37	46.03	7.54	76.87	81	3	870.88	64.91	12.63	76.87	85
4	556.96	33.19	3.99	78.68	75	4	685.49	50.27	7.44	78.68	80	4	814.02	70.89	12.45	78.68	85
5	516.60	35.99	3.92	79.72	75	5	635.82	54.52	7.31	79.72	80	5	755.03	76.87	12.25	79.72	84
6	468.43	38.52	3.80	79.23	74	6	576.52	58.36	7.08	79.23	80	6	684.62	82.29	11.86	79.23	84
7	389.87	39.65	3.46	73.86	74	7	479.83	60.06	6.45	73.86	79	7	569.80	84.69	10.81	73.86	84
550	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))	625	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))	700	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))
1	1150.63	65.37	19.67	68.32	91	1	1307.54	84.42	28.86	68.32	94	1	1464.44	105.89	40.55	68.32	97
2	1070.26	78.07	19.72	73.79	89	2	1216.21	100.81	28.93	73.79	93	2	1362.15	126.45	40.65	73.79	96
3	1008.38	87.03	19.60	76.87	89	3	1145.89	112.38	28.76	76.87	92	3	1283.40	140.97	40.41	76.87	95
4	942.55	95.04	19.33	78.68	88	4	1071.07	122.73	28.36	78.68	92	4	1199.60	153.95	39.85	78.68	95
5	874.25	103.07	19.01	79.72	88	5	993.46	133.09	27.90	79.72	91	5	1112.68	166.95	39.19	79.72	94
6	792.72	110.33	18.41	79.23	88	6	900.82	142.47	27.02	79.23	91	6	1008.92	178.72	37.96	79.23	94
7	659.77	113.55	16.77	73.86	88	7	749.74	146.63	24.61	73.86	91	7	839.71	183.93	34.58	73.86	94
775	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))	850	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))	925	Q(CMM)	PS(mmAq)	H(Kw)	η_t (%)	LwA(dB(A))
1	1621.34	129.80	55.03	68.32	100	1	1778.25	156.14	72.60	68.32	102	1	1935.15	184.91	93.56	68.32	104
2	1508.10	155.00	55.16	73.79	98	2	1654.04	186.46	72.77	73.79	101	2	1799.99	220.81	93.79	73.79	103
3	1420.90	172.79	54.84	76.87	98	3	1558.41	207.85	72.35	76.87	100	3	1695.92	246.15	93.24	76.87	103
4	1328.13	188.71	54.08	78.68	97	4	1456.66	227.00	71.35	78.68	100	4	1585.19	268.82	91.95	78.68	102
5	1231.89	204.64	53.19	79.72	97	5	1351.11	246.17	70.17	79.72	99	5	1470.32	291.53	90.44	79.72	102
6	1117.01	219.07	51.51	79.23	97	6	1225.11	263.52	67.96	79.23	99	6	1333.21	312.07	87.59	79.23	101
7	929.68	225.45	46.93	73.86	96	7	1019.65	271.20	61.92	73.86	99	7	1109.62	321.17	79.79	73.86	101

* Performance certified is for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #11SS_FEG 80

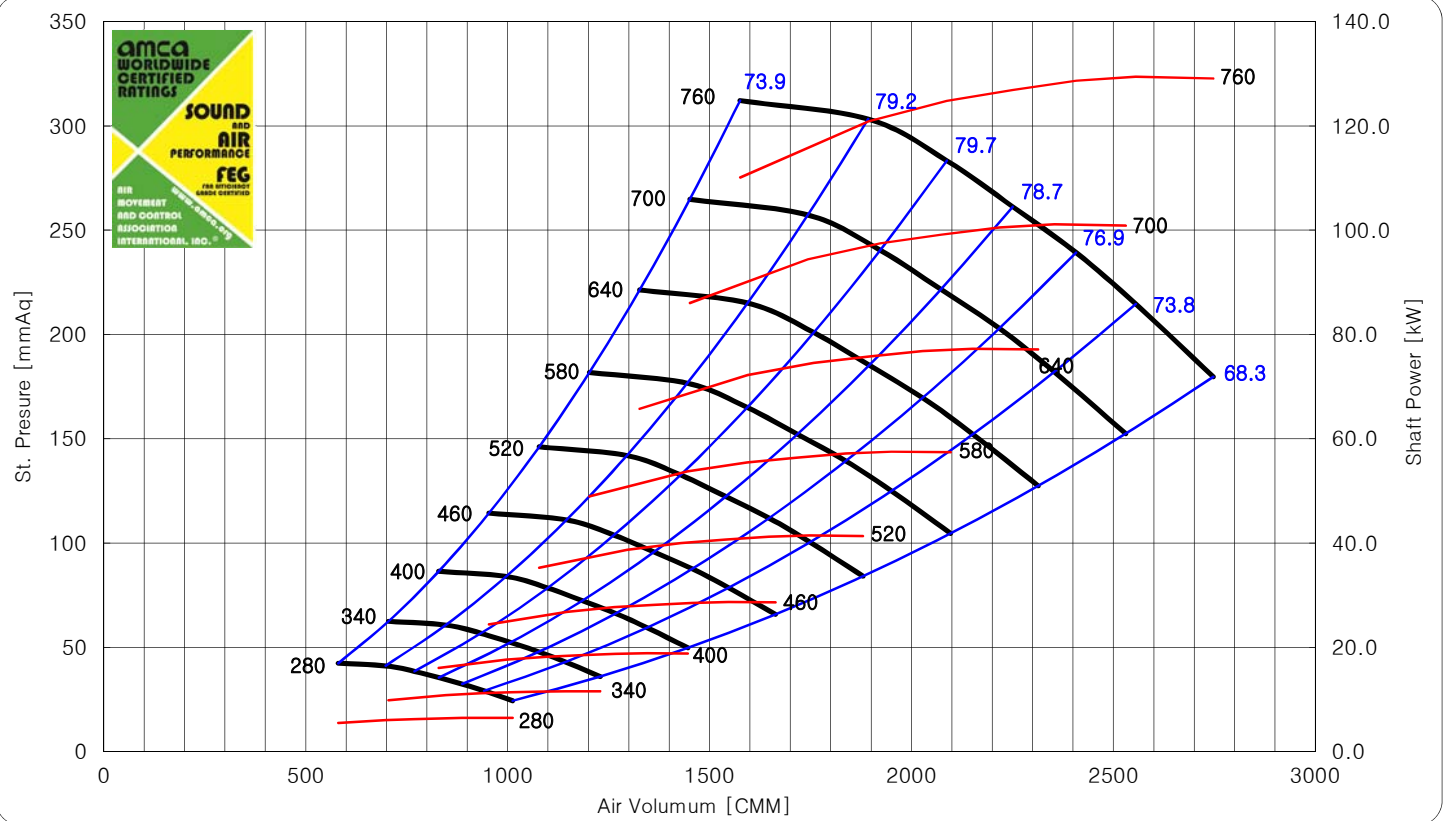


315	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	380	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	445	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	874.78	25.90	5.92	68.32	79	1	1055.28	37.69	10.40	68.32	84	1	1235.79	51.69	16.70	68.32	88
2	813.67	30.93	5.94	73.79	78	2	981.58	45.01	10.43	73.79	83	2	1149.48	61.73	16.74	73.79	87
3	766.63	34.48	5.90	76.87	77	3	924.82	50.18	10.36	76.87	82	3	1083.02	68.81	16.64	76.87	86
4	716.58	37.65	5.82	78.68	77	4	864.44	54.80	10.22	78.68	82	4	1012.31	75.15	16.41	78.68	86
5	664.65	40.83	5.73	79.72	77	5	801.80	59.43	10.05	79.72	81	5	938.95	81.49	16.14	79.72	86
6	602.67	43.71	5.55	79.23	76	6	727.03	63.61	9.74	79.23	81	6	851.39	87.24	15.64	79.23	85
7	501.60	44.99	5.05	73.86	76	7	605.10	65.47	8.87	73.86	81	7	708.61	89.78	14.24	73.86	85
510	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	575	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	640	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1416.30	67.89	25.14	68.32	92	1	1596.81	86.30	36.03	68.32	95	1	1777.32	106.91	49.68	68.32	98
2	1317.38	81.08	25.20	73.79	90	2	1485.28	103.06	36.12	73.79	93	2	1653.18	127.68	49.81	73.79	96
3	1241.21	90.38	25.05	76.87	90	3	1399.40	114.89	35.91	76.87	93	3	1557.60	142.33	49.51	76.87	96
4	1160.17	98.70	24.71	78.68	89	4	1308.04	125.47	35.41	78.68	92	4	1455.90	155.44	48.83	78.68	95
5	1076.10	107.04	24.30	79.72	89	5	1213.25	136.06	34.83	79.72	92	5	1350.40	168.56	48.03	79.72	95
6	975.75	114.58	23.54	79.23	89	6	1100.11	145.65	33.73	79.23	92	6	1224.47	180.44	46.51	79.23	94
7	812.11	117.92	21.44	73.86	88	7	915.61	149.90	30.73	73.86	92	7	1019.12	185.70	42.38	73.86	94
705	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	770	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	835	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1957.83	129.73	66.41	68.32	100	1	2138.34	154.76	86.53	68.32	102	1	2318.85	181.99	110.34	68.32	105
2	1821.08	154.93	66.57	73.79	99	2	1988.98	184.81	86.74	73.79	101	2	2156.88	217.33	110.61	73.79	103
3	1715.79	172.71	66.18	76.87	98	3	1873.98	206.02	86.23	76.87	101	3	2032.18	242.27	109.96	76.87	103
4	1603.77	188.61	65.27	78.68	98	4	1751.63	224.99	85.04	78.68	100	4	1899.50	264.58	108.44	78.68	102
5	1487.55	204.54	64.20	79.72	97	5	1624.71	244.00	83.64	79.72	100	5	1761.86	286.93	106.66	79.72	102
6	1348.83	218.96	62.17	79.23	97	6	1473.20	261.19	81.01	79.23	99	6	1597.56	307.15	103.30	79.23	101
7	1122.62	225.34	56.64	73.86	97	7	1226.13	268.81	73.80	73.86	99	7	1329.63	316.10	94.11	73.86	101

* Performance certified is for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #12SS_FEG 80

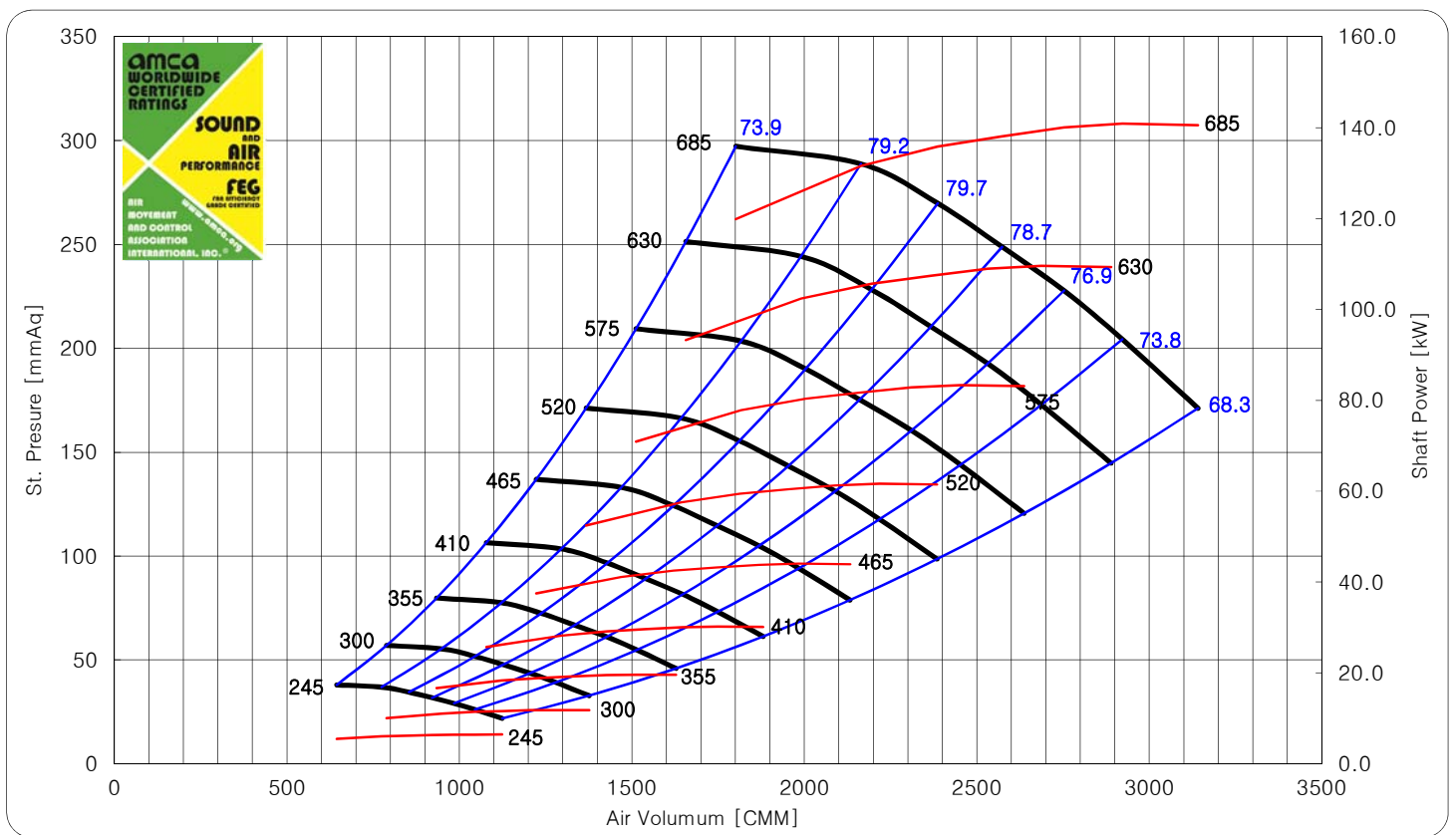


280	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	340	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	400	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1012.22	24.40	6.46	68.32	79	1	1229.13	35.97	11.56	68.32	84	1	1446.03	49.79	18.83	68.32	88
2	941.52	29.14	6.47	73.79	78	2	1143.27	42.96	11.59	73.79	83	2	1345.03	59.46	18.87	73.79	87
3	887.08	32.48	6.43	76.87	77	3	1077.17	47.89	11.52	76.87	82	3	1267.26	66.28	18.76	76.87	86
4	829.17	35.47	6.35	78.68	77	4	1006.84	52.30	11.36	78.68	82	4	1184.52	72.39	18.50	78.68	86
5	769.08	38.47	6.24	79.72	76	5	933.89	56.72	11.18	79.72	81	5	1098.69	78.50	18.20	79.72	85
6	697.36	41.18	6.05	79.23	76	6	846.80	60.71	10.82	79.23	81	6	996.23	84.03	17.62	79.23	85
7	580.41	42.38	5.51	73.86	76	7	704.78	62.48	9.86	73.86	81	7	829.15	86.48	16.06	73.86	85
460	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	520	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	580	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1662.93	65.85	28.63	68.32	92	1	1879.84	84.15	41.36	68.32	95	1	2096.74	104.69	57.39	68.32	98
2	1546.78	78.64	28.70	73.79	90	2	1748.54	100.49	41.46	73.79	94	2	1950.29	125.01	57.53	73.79	96
3	1457.35	87.66	28.53	76.87	90	3	1647.44	112.02	41.22	76.87	93	3	1837.53	139.36	57.19	76.87	96
4	1362.20	95.73	28.14	78.68	89	4	1539.88	122.34	40.65	78.68	93	4	1717.56	152.19	56.40	78.68	95
5	1263.49	103.82	27.68	79.72	89	5	1428.30	132.67	39.98	79.72	92	5	1593.10	165.05	55.48	79.72	95
6	1145.67	111.13	26.80	79.23	89	6	1295.10	142.02	38.72	79.23	92	6	1444.54	176.68	53.73	79.23	95
7	953.53	114.37	24.42	73.86	89	7	1077.90	146.16	35.27	73.86	92	7	1202.27	181.83	48.95	73.86	94
640	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	700	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	760	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	2313.65	127.46	77.11	68.32	100	1	2530.55	152.48	100.89	68.32	103	1	2747.46	179.75	129.12	68.32	107
2	2152.04	152.22	77.30	73.79	99	2	2353.80	182.09	101.14	73.79	101	2	2555.55	214.65	129.44	73.79	105
3	2027.62	169.68	76.84	76.87	98	3	2217.71	202.99	100.55	76.87	101	3	2407.80	239.28	128.68	76.87	105
4	1895.24	185.31	75.78	78.68	98	4	2072.92	221.69	99.15	78.68	100	4	2250.59	261.32	126.90	78.68	104
5	1757.90	200.96	74.54	79.72	98	5	1922.71	240.41	97.52	79.72	100	5	2087.51	283.39	124.81	79.72	104
6	1593.97	215.13	72.19	79.23	97	6	1743.41	257.35	94.45	79.23	99	6	1892.84	303.36	120.88	79.23	104
7	1326.65	221.40	65.77	73.86	97	7	1451.02	264.85	86.05	73.86	99	7	1575.39	312.20	110.13	73.86	103

* Performance certified is for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

PERFORMANCE CURVES AND SOUND DATA - SWAF #13SS_FEG 80

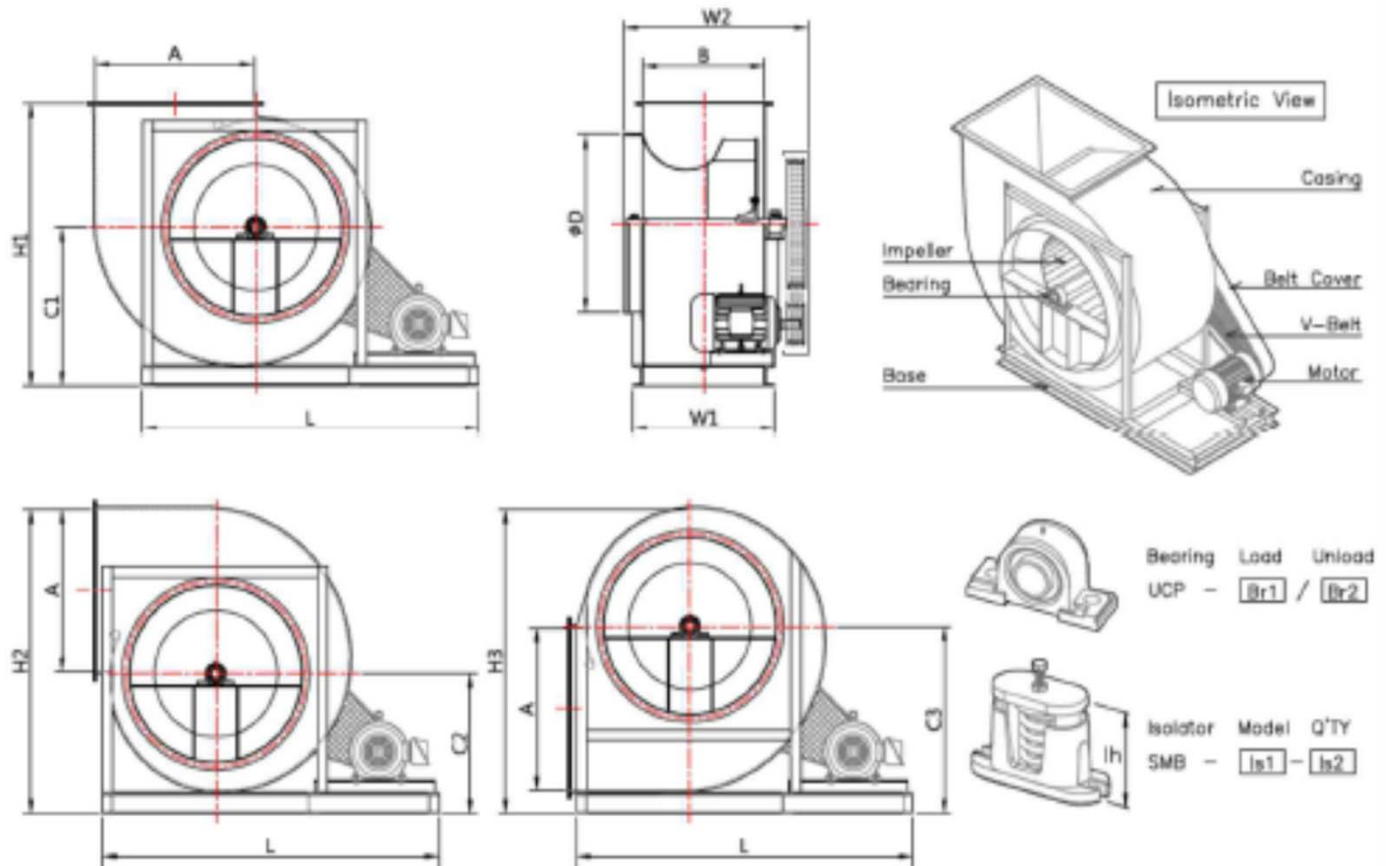


245	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	300	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	355	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1123.53	21.89	6.43	68.32	78	1	1375.75	32.82	11.81	68.32	83	1	1627.97	45.96	19.56	68.32	88
2	1045.05	26.14	6.45	73.79	77	2	1279.65	39.19	11.83	73.79	82	2	1514.26	54.88	19.61	73.79	86
3	984.63	29.14	6.41	76.87	76	3	1205.67	43.69	11.77	76.87	81	3	1426.71	61.18	19.49	76.87	86
4	920.34	31.82	6.32	78.68	76	4	1126.95	47.71	11.60	78.68	81	4	1333.56	66.81	19.23	78.68	85
5	853.65	34.51	6.22	79.72	76	5	1045.29	51.74	11.41	79.72	81	5	1236.93	72.46	18.91	79.72	85
6	774.05	36.94	6.02	79.23	75	6	947.81	55.39	11.05	79.23	80	6	1121.58	77.56	18.31	79.23	84
7	644.23	38.02	5.48	73.86	75	7	788.85	57.01	10.07	73.86	80	7	933.48	79.82	16.68	73.86	84
410	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	465	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	520	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	1880.19	61.30	30.14	68.32	91	1	2132.41	78.85	43.96	68.32	95	1	2384.63	98.61	61.48	68.32	97
2	1748.86	73.20	30.21	73.79	90	2	1983.46	94.16	44.07	73.79	93	2	2218.07	117.75	61.63	73.79	96
3	1647.75	81.60	30.03	76.87	89	3	1868.79	104.97	43.81	76.87	93	3	2089.83	131.27	61.27	76.87	95
4	1540.17	89.12	29.62	78.68	89	4	1746.77	114.63	43.21	78.68	92	4	1953.38	143.36	60.42	78.68	95
5	1428.56	96.65	29.13	79.72	89	5	1620.20	124.32	42.50	79.72	92	5	1811.83	155.46	59.43	79.72	95
6	1295.34	103.46	28.21	79.23	88	6	1469.11	133.08	41.16	79.23	91	6	1642.87	166.42	57.56	79.23	94
7	1078.10	106.47	25.70	73.86	88	7	1222.72	136.96	37.50	73.86	91	7	1367.35	171.27	52.44	73.86	94
575	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	630	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))	685	Q(CMM)	PS(mmAq)	H(Kw)	eta _t (%)	LwA(dB(A))
1	2636.85	120.57	83.13	68.32	100	1	2889.07	144.74	109.33	68.32	102	1	3141.29	171.11	140.54	68.32	104
2	2452.67	143.98	83.33	73.79	98	2	2687.27	172.84	109.60	73.79	101	2	2921.88	204.34	140.88	73.79	103
3	2310.86	160.50	82.84	76.87	98	3	2531.90	192.68	108.96	76.87	100	3	2752.94	227.79	140.06	76.87	103
4	2159.99	175.29	81.69	78.68	98	4	2366.60	210.42	107.45	78.68	100	4	2573.20	248.77	138.12	78.68	102
5	2003.47	190.09	80.35	79.72	97	5	2195.11	228.20	105.68	79.72	100	5	2386.74	269.78	135.85	79.72	102
6	1816.64	203.49	77.82	79.23	97	6	1990.41	244.28	102.36	79.23	99	6	2164.17	288.79	131.57	79.23	101
7	1511.97	209.42	70.90	73.86	97	7	1656.59	251.40	93.25	73.86	99	7	1801.22	297.21	119.87	73.86	101

* Performance certified is for installation type B - free inlet. Ducted outlet. Performance ratings(kW) do not include transmission losses. Performance ratings do not include the effects of appurtenances(accessories)

* Values shown are for inlet LwA sound power levels for installation Type B-free inlet. Ducted outlet. Ratings do not include the effects of duct end correction. The A-weighted sound ratings shown have been calculated per AMCA international Standard 301.

OVERALL DIMENSIONS

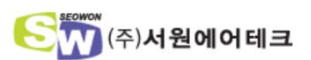


FAN NO.		DIMENSION(SWAF SERIES)														
		#2.5	#3	#3.5	#4	#4.5	#5	#5.5	#6	#7	#8	#9	#10	#11	#12	#13
Outlet	A	380	455	530	610	685	760	840	915	1065	1220	1370	1525	1675	1830	1980
	B	300	360	420	480	540	600	660	720	840	965	1085	1205	1325	1445	1565
Center Height	C1	405	470	535	600	655	720	785	845	955	1125	1250	1310	1610	1650	1970
	C2	365	420	480	530	590	645	705	760	895	1010	1120	1200	1375	1500	1770
	C3	465	540	605	670	765	840	910	990	1165	1310	1460	1675	1785	1805	2295
Inlet	D	400	480	560	640	720	800	880	950	1110	1260	1420	1580	1730	1890	2050
Fan Base	L	950	1050	1150	1300	1370	1600	1650	1700	2000	2200	2400	2500	2750	2900	3200
Width	W1	380	440	500	560	620	685	740	800	920	1065	1175	1335	1455	1575	1695
	W2	530	610	670	730	820	880	940	1000	1140	1265	1385	1555	1675	1795	1915
Total Height	H1	705	815	935	1060	1165	1285	1405	1525	1695	1960	2185	2355	2780	2930	3430
	H2	745	880	1005	1140	1270	1405	1530	1670	1960	2220	2480	2670	3075	3220	3885
	H3	755	890	1010	1155	1280	1415	1535	1670	1960	2220	2480	2820	3025	3170	3895
Bearing	Br1	206	207	208	209	210	210	211	212	312	313	314	315	316	316	317
	Br2	206	206	207	208	208	209	210	211	212	213	214	215	216	216	317
Isolator	Is1	105	105	135	135	135	135	135	135	135	135	150	150	150	150	150
	Is2	50	100	150	150	150	200	150	200	300	300	500	500	500	750	750
	Is2	4	4	4	4	4	4	6	6	6	6	6	6	6	6	6



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Products



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