

**SIROCCO FAN DOUBLE SUCTION**

**"TSSF-DS" Series Rev. 00**

**'June 2023**





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INTRODUCTION &  
AMCA SEAL INFORMATION



주)티에스에어테크는 공조용 및 산업용송풍기(FAN, BLOWER), 공기  
조화기(AHU) 생산업체로서 1997년 설립 이래 송풍기 개발에 적극 참  
여하여 왔으며 그동안 축적해온 경험과 끊임없는 연구개발 및 기술혁  
신을 통해 고품질의 송풍기를 고객 여러분께 제작 공급하고자 혼신의  
노력을 다하고 있습니다.

주)티에스에어테크는 꾸준한 제품개발과 철저한 고객서비스로 명실  
상부한 송풍기(FAN)전문 메이커로서 정상에 우뚝 서고자 심혈을 기  
울여 최선을 다 할 것이며 끊임없는 기술개발과 철저한 품질관리 로  
여러분의 성원에 보답하고자 항상 노력하는 회사가 되겠습니다.  
감사합니다.



주)티에스에어테크가 획득한 TSSF SERIES SIROCCO FAN 의  
AMCA seal에 대한 내용입니다.

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

TS Airtech Co.,Ltd certifies that the type TSSF-DS Series Sirocco Fan Double Suction 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 AMCA Certified Ratings Program



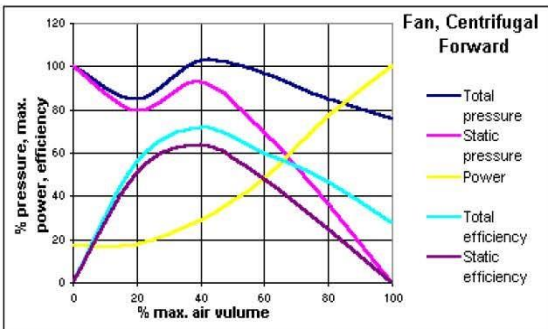
● 구조 및 형상  
익현길이가 짧으며 날개폭이 넓고 날개익수가 많으며 날개의 끝부분이 회전방향으로 굽은 전곡형 (FORWARD CURVE TYPE) 구조

● MODEL & TYPE  
SIZE : 임펠러 깃 바깥지름 기준 (#1.5호 ~ #18호)  
흡입방식 : 편흡입(Single Suction), 양흡입(Double Suction)  
베어링 지지방식 : 양축지지형, 편축지지형  
구동방식 : V-BELT 구동형(v-belt driven type)  
직결식(direct driven type-with coupling)  
재질 : STEEL, STS, PVC  
옵션 : SILENCER, GUIDE VANE, FILTER CHAMBER



● SIROCCO FAN의 특징

- 1) 대풍량 (Large air volume)  
같은 주속도의 다른 FAN보다 많은 풍량을 낼 수 있습니다.
- 2) 저소음 (Low level sound)  
정압 60mmAq이하의 저압에서 저속으로 정속한 운전이 가능합니다.
- 3) 성능특성 (Special Performance)  
특성곡선 상의 정압곡선이 다른 원심 송풍기에 비하여 완만하기 때문에 풍량변동에 따른 풍압의 변화가 적습니다. 따라서 여러개의 급, 배기구에서 급, 배기할 경우 그 일부를 패쇄하여도 큰 영향을 받지 않습니다.



● 주요용도

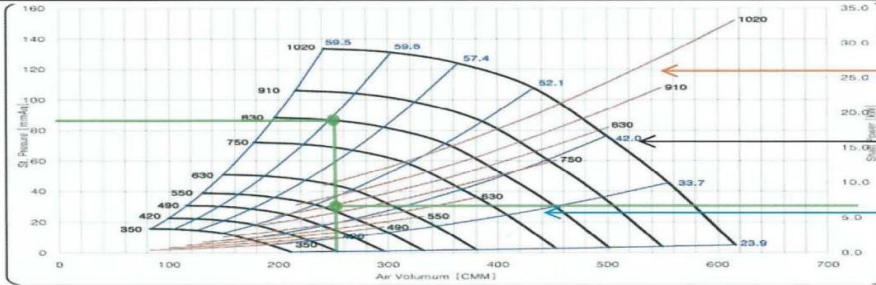
- 일반 건축물 지하주차장 및 기계실, 발전기실, 전기실 급. 배기
- 소방 제연용 급. 배기, 정화조, 주방 급. 배기
- 공기조화기 RETURN용, 지하철 환기등 기타 국소부위 급, 배기



## FAN SELECT METHOD

ex)

AIR VOLUME	STATIC PRESSURE	FAN SPEED	TOTAL EFFICIENCY	SHAFT POWER	SOUND
246 CMM	86.7 mmAq	830 rpm	59.8%	6.64 kW	95 dB(A)



- RED SHAFT POWER
- BLACK PERFORMANCE
- BLUE TOTAL EFFICIENCY

	830	910	1020
1	501	549	616
2	452	496	556
3	406	446	499
4	352	386	433
5	296	325	364
6	246	270	303
7	197	216	242

TABLE INDEX		
1	830	RPM
2	m <sup>3</sup> /min	AIR VOLUME
3	mmAq	STATIC PRESSURE
4	Kw	SHAFT POWER
5	nt	TOTAL EFFICIENCY

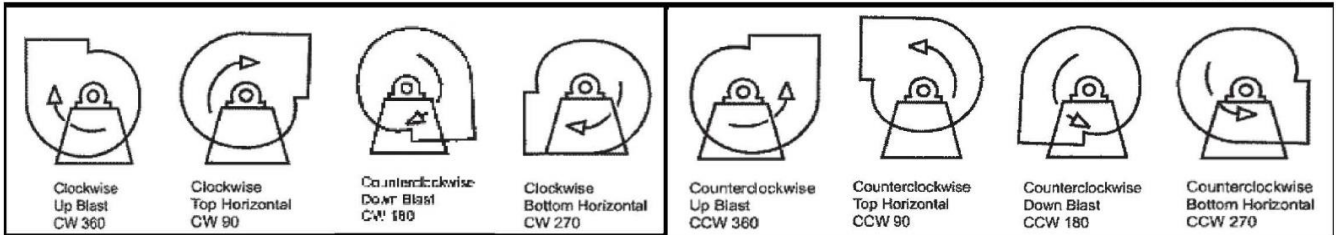
### FAN 회전과 토출방향 (Fan Rotation and Discharge)

FAN의 회전과 토출방향은 AMCA 표준 99-2406-03을 기준으로 합니다.

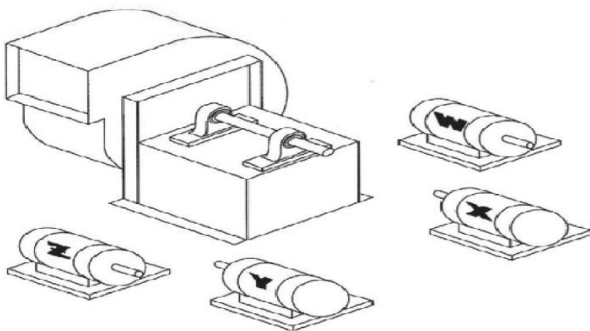
회전방향은 FAN의 구동측으로 부터 결정됩니다.

CW-clockwise rotation

CCW-center-clockwise rotation



### 모터 위치 (Motor Position)



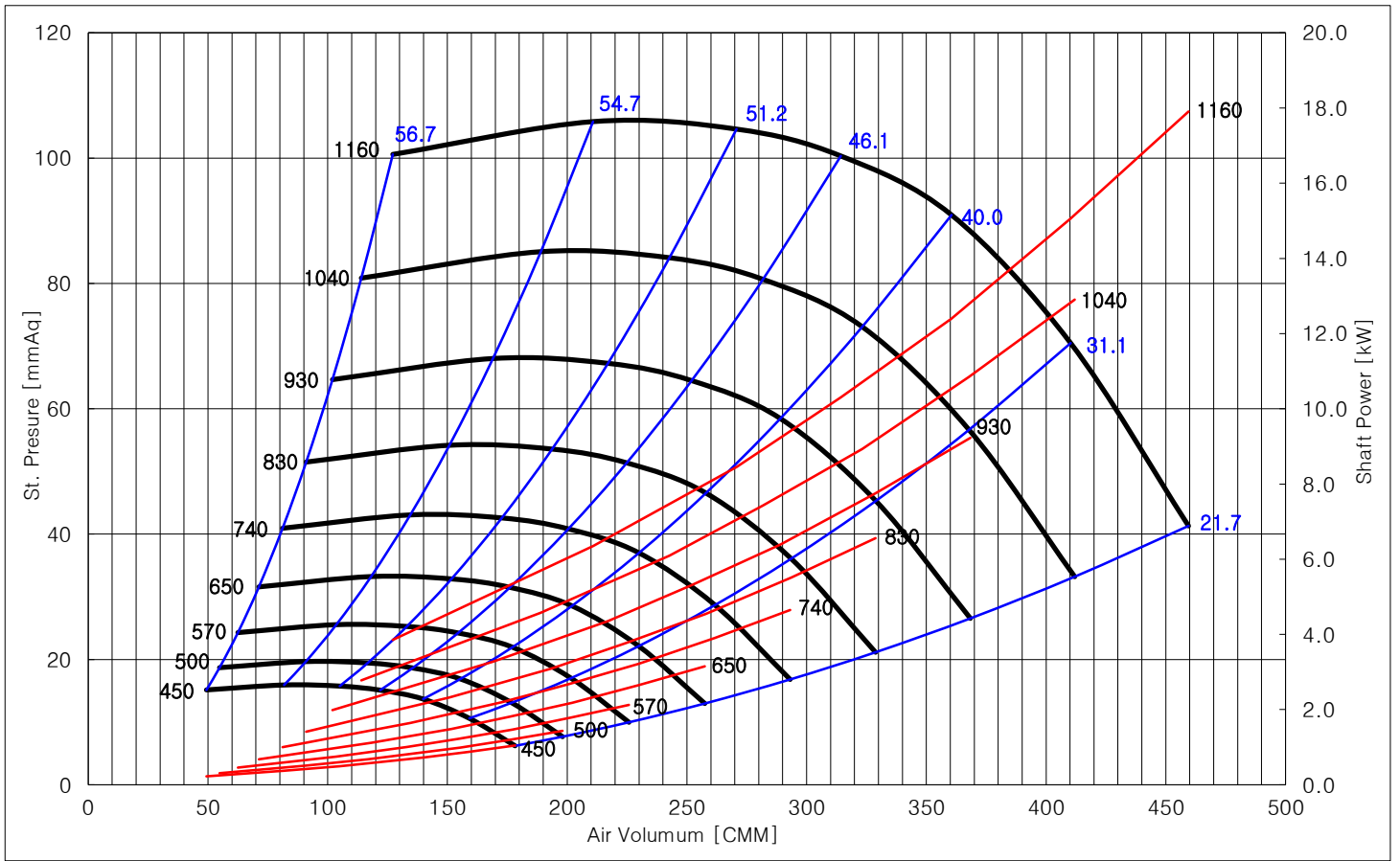
벨트구동 원심형 FAN의 모터방향은 AMCA 표준 99-2407-03을 기준으로 합니다.

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.

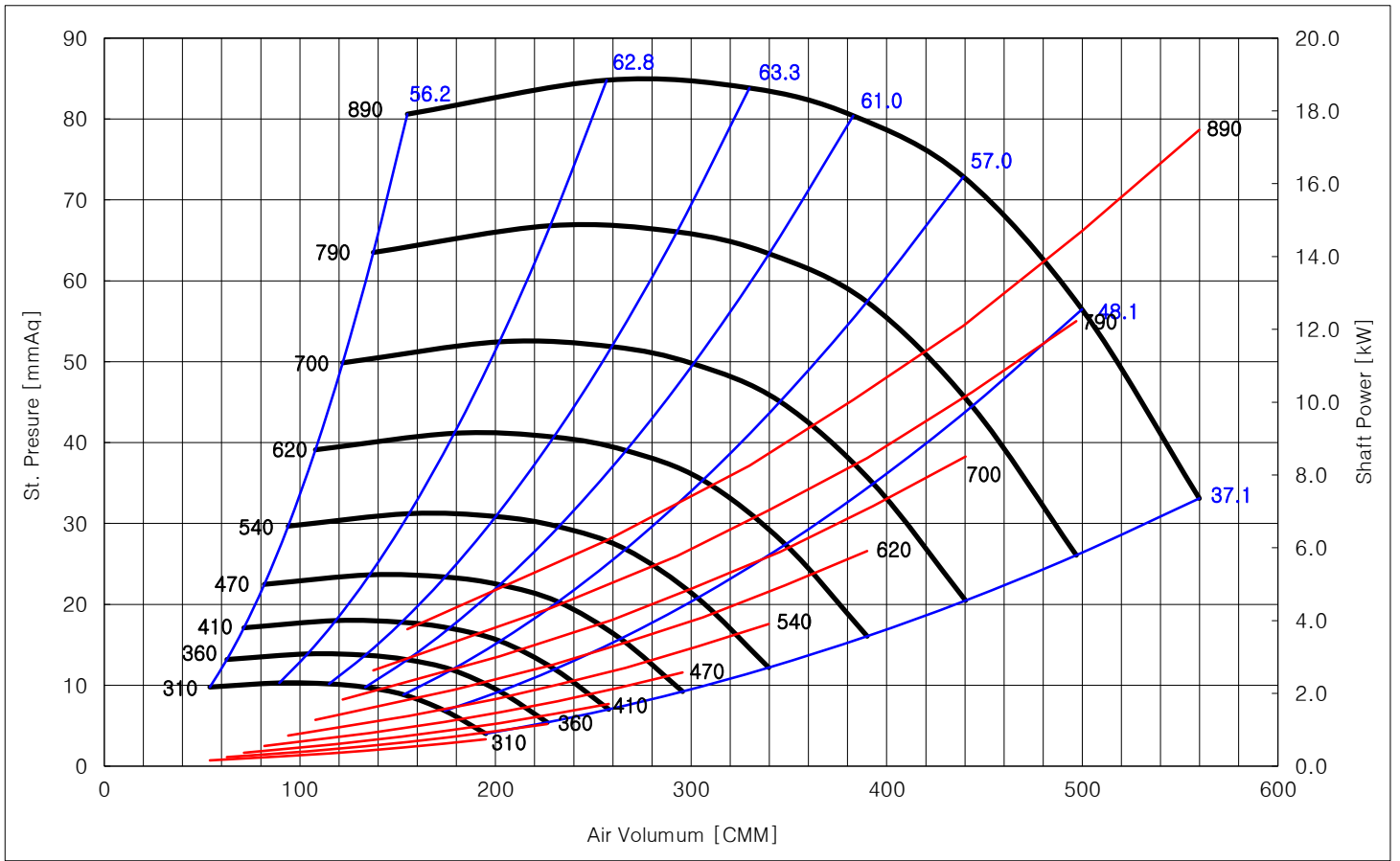
# PERFORMANCE CURVES AND NOISE DATA - TSSF #3DS



450	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	500	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	570	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	178	6.2	1.05	21.66	81	1	198	7.7	1.43	21.66	83	1	226	10.0	2.12	21.66	87
2	159	10.6	0.88	31.07	78	2	177	13.1	1.21	31.07	80	2	202	17.0	1.79	31.07	84
3	140	13.7	0.72	39.99	76	3	155	16.9	0.99	39.99	78	3	177	22.0	1.47	39.99	81
4	122	15.1	0.60	46.11	73	4	135	18.6	0.83	46.11	76	4	154	24.2	1.22	46.11	79
5	105	15.7	0.49	51.22	72	5	117	19.4	0.68	51.22	74	5	133	25.3	1.00	51.22	78
6	82	15.9	0.37	54.66	72	6	91	19.7	0.51	54.66	74	6	104	25.6	0.75	54.66	78
7	49	15.1	0.23	56.71	72	7	55	18.7	0.31	56.71	74	7	62	24.3	0.46	56.71	78
650	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	740	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	830	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	257	13.0	3.15	21.66	90	1	293	16.8	4.65	21.66	93	1	329	21.2	6.56	21.66	96
2	230	22.1	2.65	31.07	87	2	262	28.7	3.91	31.07	90	2	294	36.1	5.52	31.07	93
3	202	28.6	2.18	39.99	84	3	230	37.0	3.22	39.99	87	3	258	46.6	4.54	39.99	90
4	176	31.5	1.81	46.11	82	4	200	40.8	2.67	46.11	85	4	225	51.4	3.77	46.11	87
5	152	32.9	1.49	51.22	81	5	173	42.6	2.19	51.22	84	5	194	53.6	3.10	51.22	86
6	118	33.2	1.12	54.66	81	6	134	43.1	1.65	54.66	84	6	151	54.2	2.32	54.66	86
7	71	31.6	0.68	56.71	81	7	81	40.9	1.00	56.71	84	7	91	51.5	1.41	56.71	86
930	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	1040	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	1160	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	368	26.6	9.23	21.66	99	1	412	33.2	12.90	21.66	102	1	459	41.3	17.91	21.66	104
2	329	45.3	7.76	31.07	96	2	368	56.7	10.85	31.07	99	2	410	70.5	15.06	31.07	101
3	289	58.4	6.39	39.99	93	3	323	73.1	8.93	39.99	96	3	361	90.9	12.40	39.99	98
4	252	64.5	5.31	46.11	90	4	282	80.7	7.43	46.11	93	4	314	100.3	10.30	46.11	95
5	217	67.3	4.36	51.22	89	5	243	84.1	6.09	51.22	92	5	271	104.6	8.45	51.22	94
6	169	68.0	3.27	54.66	89	6	189	85.1	4.57	54.66	92	6	211	105.8	6.35	54.66	94
7	102	64.7	1.99	56.71	89	7	114	80.9	2.78	56.71	92	7	127	100.6	3.85	56.71	94

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

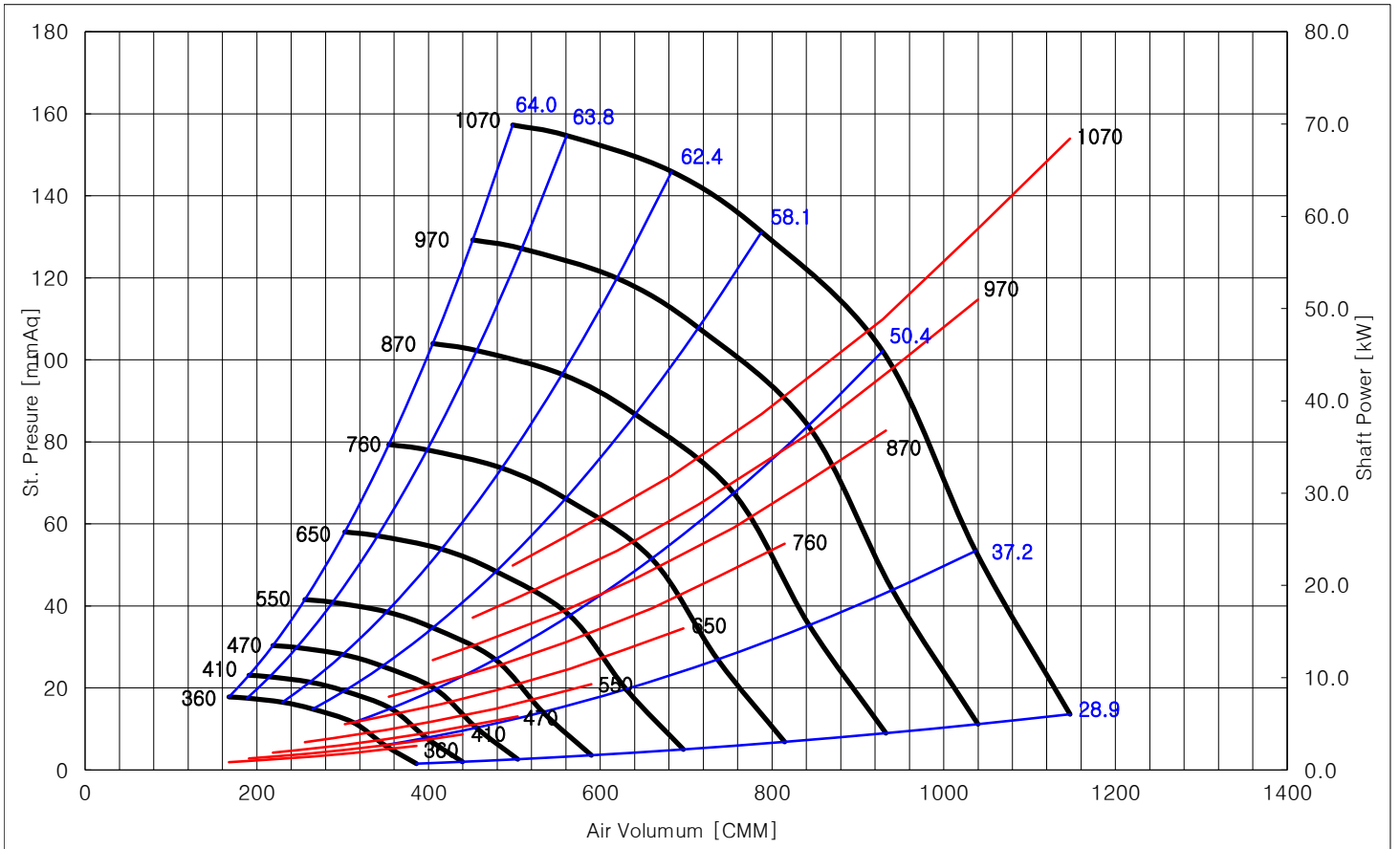
# PERFORMANCE CURVES AND NOISE DATA - TSSF #3.5DS



310	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	410	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	195	4.0	0.74	37.09	75	1	226	5.4	1.16	37.09	79	1	258	7.0	1.71	37.09	82
2	174	6.9	0.62	48.11	72	2	202	9.2	0.97	48.11	75	2	230	12.0	1.44	48.11	78
3	153	8.8	0.51	56.99	70	3	178	11.9	0.80	56.99	74	3	202	15.5	1.18	56.99	77
4	133	9.8	0.43	60.98	68	4	155	13.2	0.67	60.98	71	4	176	17.1	0.98	60.98	74
5	115	10.2	0.35	63.31	67	5	133	13.7	0.55	63.31	70	5	152	17.8	0.81	63.31	73
6	89	10.3	0.26	62.80	67	6	104	13.9	0.41	62.80	70	6	118	18.0	0.61	62.80	73
7	54	9.8	0.16	56.17	67	7	63	13.2	0.25	56.17	70	7	71	17.1	0.37	56.17	73
470	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	540	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	620	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	296	9.2	2.57	37.09	85	1	340	12.2	3.90	37.09	89	1	390	16.1	5.91	37.09	92
2	264	15.7	2.16	48.11	82	2	303	20.8	3.28	48.11	85	2	348	27.4	4.97	48.11	89
3	232	20.3	1.78	56.99	80	3	267	26.8	2.70	56.99	83	3	306	35.4	4.09	56.99	87
4	202	22.4	1.48	60.98	77	4	232	29.6	2.25	60.98	81	4	267	39.0	3.40	60.98	84
5	174	23.4	1.22	63.31	76	5	200	30.9	1.84	63.31	80	5	230	40.7	2.79	63.31	83
6	136	23.6	0.91	62.80	76	6	156	31.2	1.38	62.80	79	6	179	41.2	2.09	62.80	83
7	82	22.5	0.55	56.17	76	7	94	29.7	0.84	56.17	79	7	108	39.1	1.27	56.17	83
700	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	790	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	890	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	440	20.5	8.50	37.09	95	1	497	26.1	12.22	37.09	98	1	560	33.1	17.48	37.09	101
2	393	34.9	7.15	48.11	92	2	444	44.5	10.28	48.11	95	2	500	56.5	14.70	48.11	98
3	345	45.1	5.89	56.99	89	3	390	57.4	8.46	56.99	92	3	439	72.9	12.10	56.99	95
4	301	49.7	4.89	60.98	87	4	340	63.3	7.03	60.98	90	4	383	80.4	10.06	60.98	92
5	259	51.9	4.01	63.31	86	5	293	66.1	5.77	63.31	88	5	330	83.8	8.25	63.31	91
6	202	52.5	3.01	62.80	85	6	228	66.8	4.33	62.80	88	6	257	84.8	6.20	62.80	91
7	122	49.9	1.83	56.17	85	7	138	63.5	2.63	56.17	88	7	155	80.6	3.76	56.17	91

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

# PERFORMANCE CURVES AND NOISE DATA - TSSF #4DS

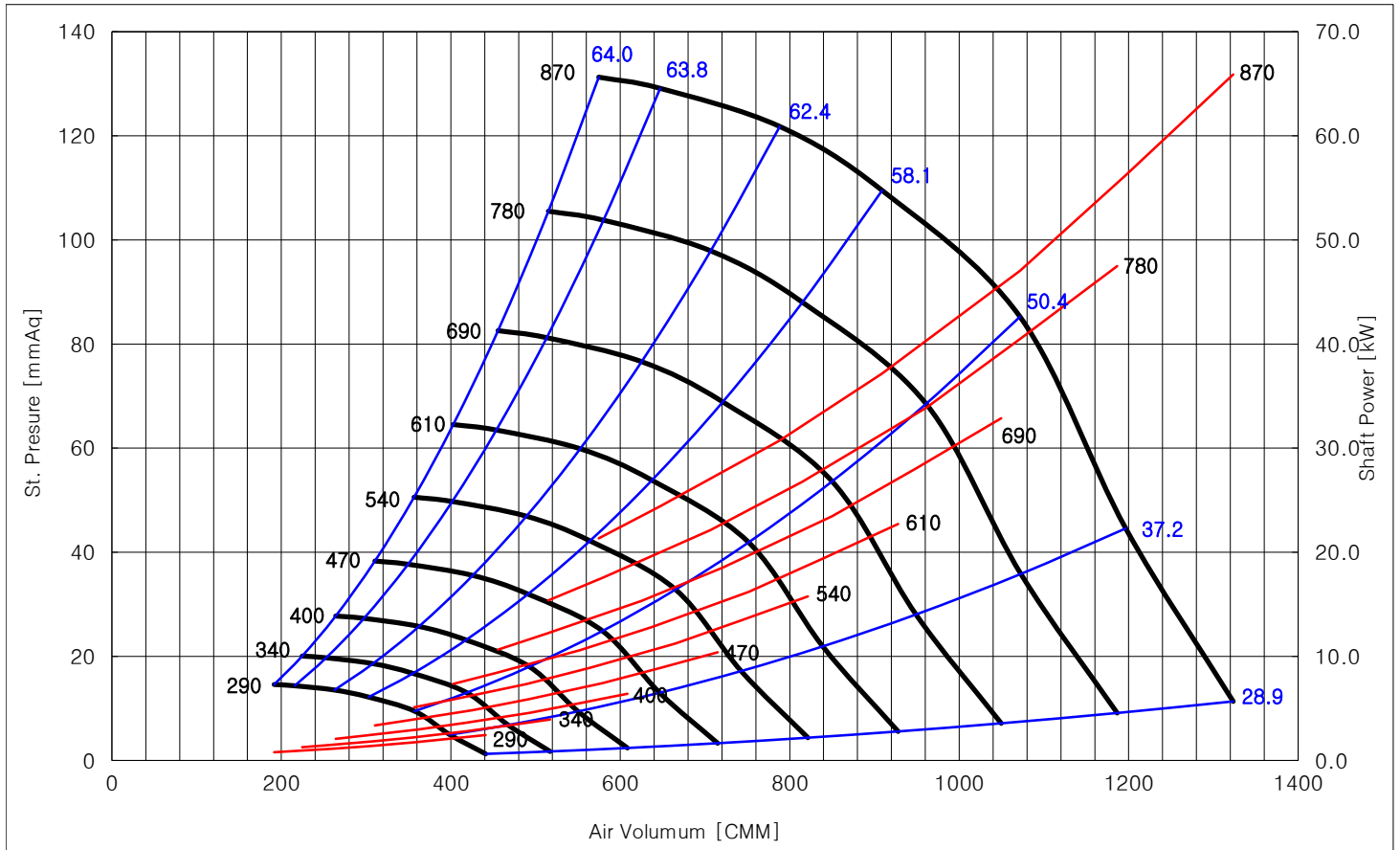


360	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	410	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	470	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	386	1.5	2.61	28.86	79	1	440	2.0	3.85	28.86	85	1	504	2.6	5.80	28.86	89
2	349	6.0	2.22	37.22	76	2	397	7.8	3.29	37.22	82	2	456	10.3	4.95	37.22	85
3	313	11.6	1.86	50.36	72	3	356	15.0	2.75	50.36	78	3	408	19.7	4.14	50.36	82
4	265	14.8	1.47	58.10	71	4	302	19.3	2.17	58.10	77	4	346	25.3	3.27	58.10	80
5	230	16.5	1.21	62.37	70	5	262	21.4	1.79	62.37	76	5	300	28.2	2.70	62.37	79
6	189	17.5	0.97	63.79	69	6	215	22.7	1.43	63.79	75	6	246	29.8	2.15	63.79	78
7	168	17.8	0.84	64.02	71	7	191	23.1	1.25	64.02	77	7	219	30.3	1.88	64.02	80
550	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	650	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	760	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	590	3.6	9.29	28.86	93	1	697	5.0	15.34	28.86	96	1	815	6.9	24.52	28.86	100
2	533	14.1	7.93	37.22	89	2	630	19.7	13.09	37.22	93	2	737	26.9	20.93	37.22	97
3	478	27.0	6.63	50.36	86	3	564	37.7	10.95	50.36	89	3	660	51.5	17.50	50.36	93
4	405	34.7	5.24	58.10	84	4	479	48.4	8.65	58.10	88	4	560	66.2	13.83	58.10	92
5	351	38.6	4.33	62.37	83	5	415	53.8	7.15	62.37	86	5	485	73.6	11.43	62.37	90
6	288	40.9	3.44	63.79	82	6	341	57.1	5.68	63.79	85	6	398	78.0	9.08	63.79	89
7	256	41.6	3.01	64.02	84	7	303	58.0	4.97	64.02	88	7	354	79.3	7.94	64.02	92
870	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	970	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	1070	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	933	9.0	36.78	28.86	103	1	1040	11.2	50.97	28.86	106	1	1147	13.6	68.42	28.86	109
2	843	35.3	31.39	37.22	100	2	940	43.9	43.51	37.22	102	2	1037	53.4	58.40	37.22	105
3	755	67.5	26.25	50.36	96	3	842	83.9	36.38	50.36	99	3	929	102.1	48.83	50.36	102
4	641	86.7	20.74	58.10	95	4	714	107.8	28.74	58.10	97	4	788	131.2	38.58	58.10	100
5	556	96.5	17.15	62.37	93	5	619	119.9	23.76	62.37	96	5	683	145.9	31.90	62.37	99
6	456	102.3	13.62	63.79	92	6	508	127.1	18.88	63.79	95	6	561	154.7	25.34	63.79	98
7	405	104.0	11.91	64.02	95	7	451	129.2	16.51	64.02	97	7	498	157.3	22.16	64.02	100

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.



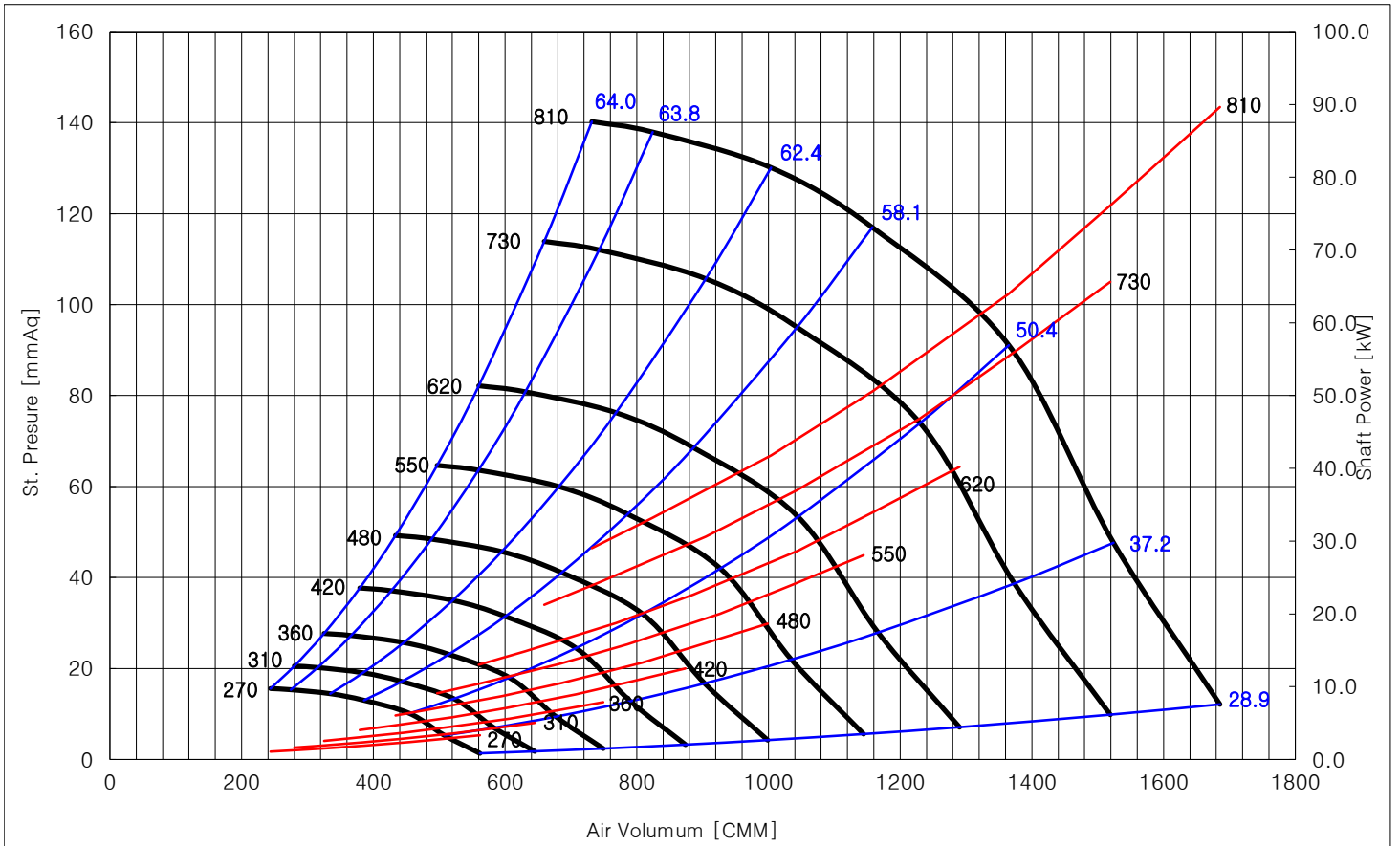
**PERFORMANCE CURVES AND NOISE DATA - TSSF #4.5DS**



290	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	340	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	400	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	441	1.3	2.44	28.86	80	1	517	1.7	3.93	28.86	84	1	608	2.4	6.40	28.86	88
2	399	5.0	2.08	37.22	77	2	468	6.8	3.36	37.22	81	2	550	9.4	5.47	37.22	85
3	357	9.5	1.74	50.36	74	3	419	13.0	2.81	50.36	77	3	493	18.0	4.57	50.36	81
4	303	12.2	1.38	58.10	72	4	355	16.7	2.22	58.10	76	4	418	23.1	3.61	58.10	80
5	263	13.5	1.14	62.37	71	5	308	18.6	1.83	62.37	75	5	362	25.7	2.99	62.37	79
6	216	14.3	0.90	63.79	71	6	253	19.7	1.46	63.79	74	6	298	27.3	2.37	63.79	78
7	192	14.6	0.79	64.02	72	7	225	20.0	1.27	64.02	76	7	264	27.8	2.07	64.02	80
470	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	540	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	610	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	715	3.3	10.39	28.86	92	1	821	4.4	15.76	28.86	96	1	928	5.6	22.71	28.86	99
2	646	13.0	8.87	37.22	89	2	743	17.2	13.45	37.22	92	2	839	21.9	19.39	37.22	95
3	579	24.9	7.41	50.36	86	3	665	32.8	11.24	50.36	89	3	751	41.9	16.21	50.36	92
4	491	32.0	5.86	58.10	84	4	564	42.2	8.89	58.10	87	4	637	53.8	12.81	58.10	90
5	426	35.5	4.84	62.37	83	5	489	46.9	7.35	62.37	86	5	553	59.9	10.59	62.37	89
6	350	37.7	3.85	63.79	82	6	402	49.7	5.84	63.79	85	6	454	63.5	8.41	63.79	88
7	310	38.3	3.36	64.02	84	7	357	50.6	5.10	64.02	88	7	403	64.5	7.36	64.02	90
690	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	780	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	870	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	1050	7.1	32.87	28.86	102	1	1186	9.1	47.49	28.86	105	1	1323	11.3	65.90	28.86	108
2	949	28.0	28.06	37.22	98	2	1073	35.8	40.53	37.22	101	2	1197	44.6	56.24	37.22	104
3	850	53.6	23.46	50.36	95	3	961	68.5	33.89	50.36	98	3	1072	85.2	47.02	50.36	101
4	721	68.9	18.54	58.10	93	4	815	88.0	26.78	58.10	96	4	909	109.5	37.16	58.10	99
5	625	76.6	15.33	62.37	92	5	707	97.9	22.14	62.37	95	5	788	121.8	30.72	62.37	98
6	513	81.2	12.18	63.79	91	6	580	103.8	17.59	63.79	94	6	647	129.1	24.41	63.79	97
7	456	82.6	10.65	64.02	93	7	515	105.5	15.38	64.02	97	7	575	131.3	21.34	64.02	100

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

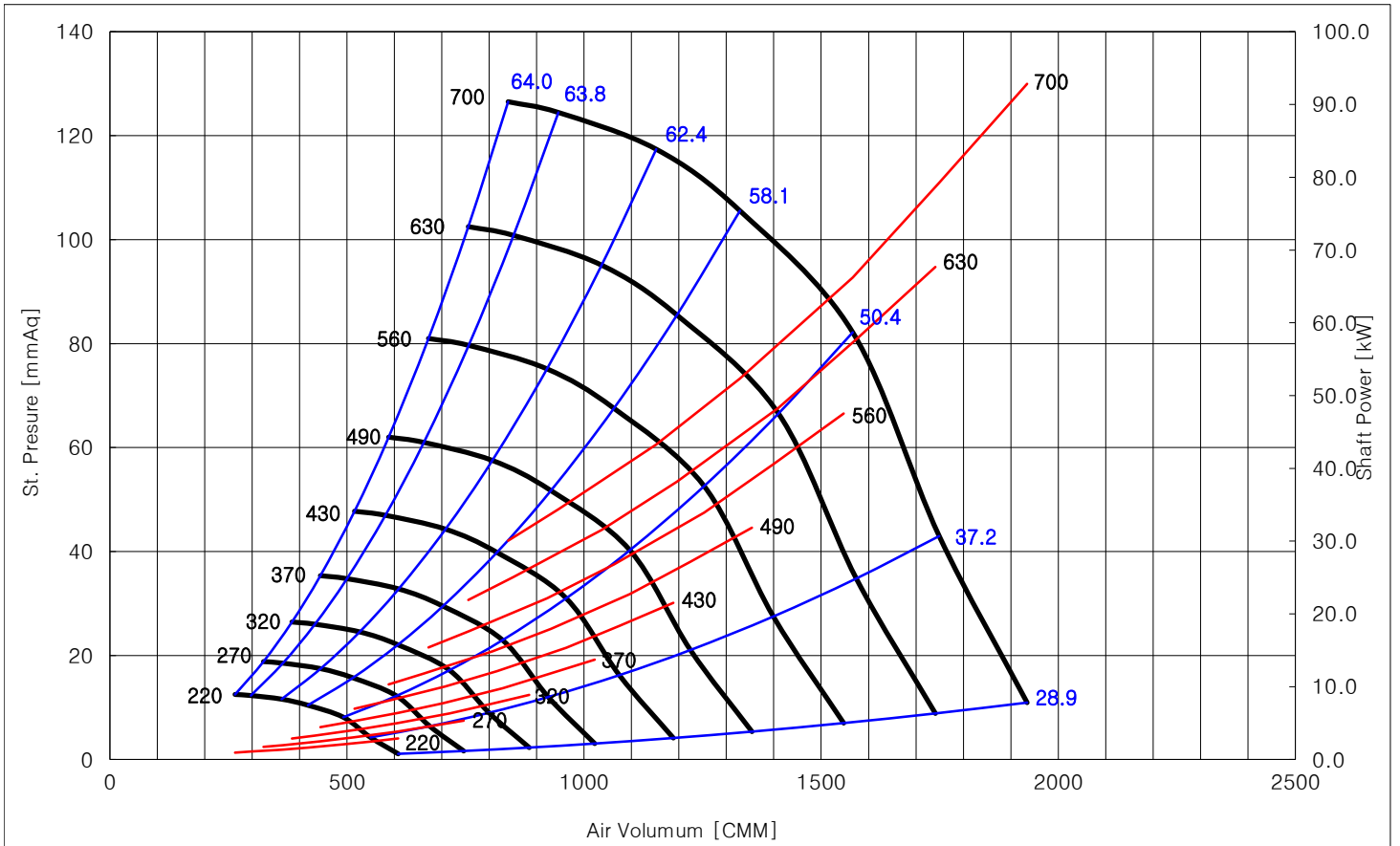
# PERFORMANCE CURVES AND NOISE DATA - TSSF #5DS



270	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	310	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	562	1.3	3.32	28.86	81	1	645	1.8	5.03	28.86	85	1	749	2.4	7.87	28.86	89
2	508	5.3	2.83	37.22	77	2	583	7.0	4.29	37.22	82	2	677	9.4	6.72	37.22	85
3	455	10.1	2.37	50.36	74	3	522	13.3	3.59	50.36	78	3	607	18.0	5.62	50.36	82
4	386	13.0	1.87	58.10	73	4	443	17.1	2.83	58.10	77	4	515	23.1	4.44	58.10	81
5	335	14.5	1.55	62.37	72	5	384	19.1	2.34	62.37	76	5	446	25.7	3.67	62.37	79
6	275	15.3	1.23	63.79	71	6	315	20.2	1.86	63.79	75	6	366	27.2	2.92	63.79	79
7	244	15.6	1.08	64.02	73	7	280	20.5	1.63	64.02	77	7	325	27.7	2.55	64.02	81
420	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	480	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	550	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	874	3.3	12.50	28.86	93	1	999	4.3	18.66	28.86	96	1	1144	5.6	28.07	28.86	100
2	790	12.8	10.67	37.22	89	2	903	16.7	15.92	37.22	93	2	1035	22.0	23.95	37.22	94
3	708	24.5	8.92	50.36	86	3	809	32.0	13.31	50.36	89	3	927	42.0	20.03	50.36	93
4	600	31.5	7.05	58.1	84	4	686	41.1	10.52	58.10	88	4	786	53.9	15.83	58.10	91
5	521	35.0	5.83	62.37	83	5	595	45.7	8.70	62.37	86	5	682	60.0	13.08	62.37	90
6	427	37.1	4.63	63.79	82	6	488	48.4	6.91	63.79	85	6	560	63.6	10.40	63.79	89
7	379	37.7	4.05	64.02	84	7	434	49.2	6.04	64.02	88	7	497	64.7	9.09	64.02	91
620	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	730	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	810	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	1290	7.1	40.20	28.86	103	1	1519	9.8	65.62	28.86	106	1	1685	12.1	89.65	28.86	108
2	1166	27.9	34.31	37.22	99	2	1373	38.7	56.01	37.22	102	2	1524	47.6	76.52	37.22	105
3	1045	53.3	28.69	50.36	96	3	1230	74.0	46.83	50.36	99	3	1365	91.1	63.98	50.36	101
4	886	68.5	22.67	58.10	94	4	1043	95.0	37.01	58.10	97	4	1158	117.0	50.56	58.10	100
5	768	76.2	18.74	62.37	93	5	905	105.7	30.59	62.37	96	5	1004	130.1	41.79	62.37	99
6	631	80.8	14.89	63.79	92	6	743	112.0	24.31	63.79	95	6	824	137.9	33.21	63.79	97
7	560	82.2	13.02	64.02	94	7	660	113.9	21.25	64.02	97	7	732	140.2	29.03	64.02	100

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

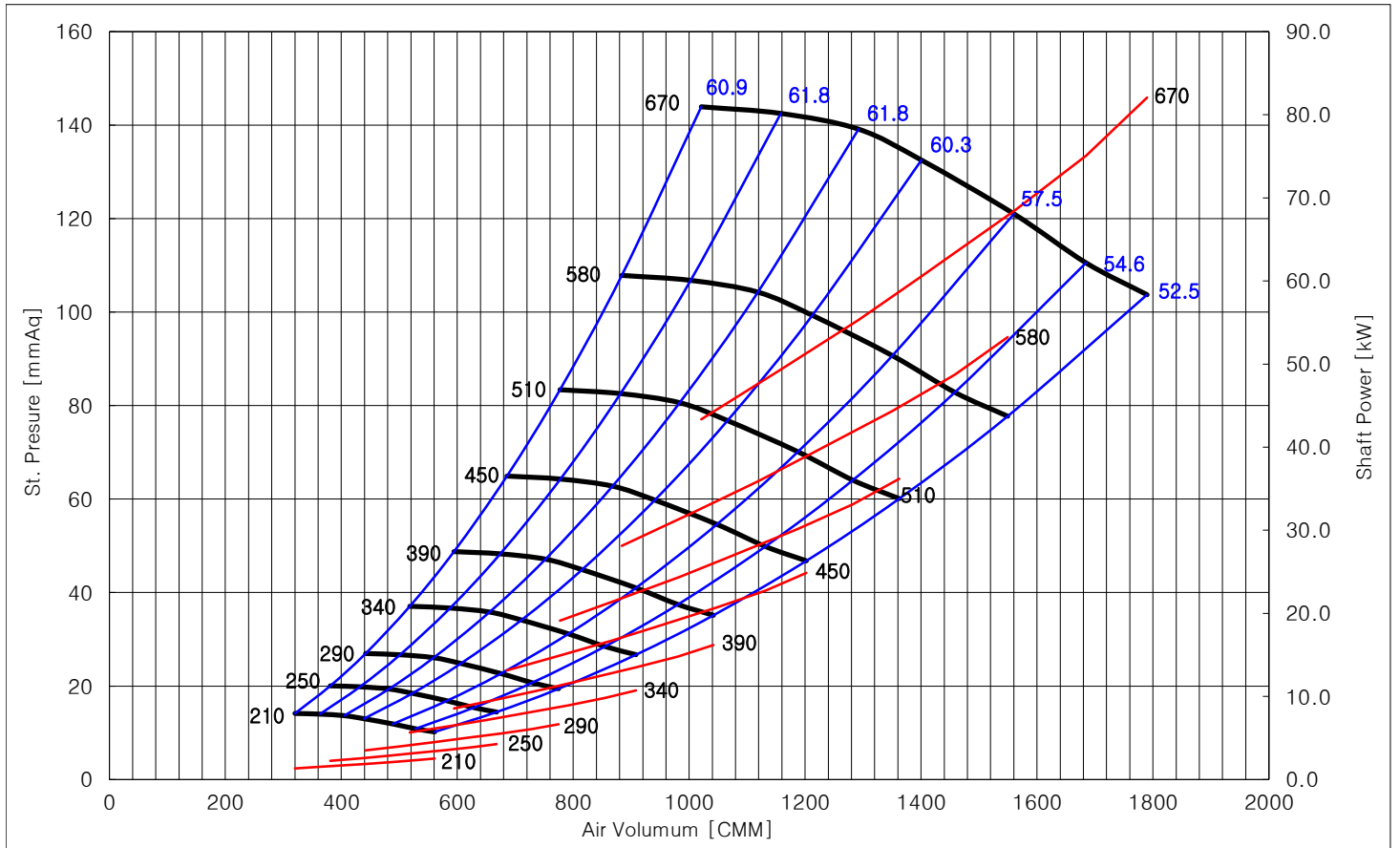
# PERFORMANCE CURVES AND NOISE DATA - TSSF #5.5DS



220	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	270	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	320	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	608	1.1	2.88	28.86	79	1	746	1.6	5.33	28.86	84	1	884	2.3	8.87	28.86	89
2	550	4.2	2.46	37.22	76	2	675	6.4	4.55	37.22	81	2	800	9.0	7.57	37.22	85
3	492	8.1	2.06	50.36	73	3	604	12.2	3.80	50.36	78	3	716	17.2	6.33	50.36	82
4	418	10.4	1.63	58.10	72	4	513	15.7	3.00	58.10	77	4	607	22.1	5.00	58.10	81
5	362	11.6	1.34	62.37	71	5	444	17.5	2.48	62.37	76	5	527	24.5	4.13	62.37	79
6	297	12.3	1.07	63.79	71	6	365	18.5	1.97	63.79	75	6	432	26.0	3.29	63.79	79
7	264	12.5	0.93	64.02	72	7	324	18.8	1.73	64.02	77	7	384	26.4	2.87	64.02	81
370	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	430	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	490	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	1022	3.1	13.71	28.86	92	1	1188	4.1	21.52	28.86	96	1	1354	5.4	31.84	28.86	100
2	924	12.0	11.70	37.22	89	2	1074	16.2	18.37	37.22	93	2	1224	21.1	27.18	37.22	96
3	828	23.0	9.78	50.36	86	3	962	31.0	15.36	50.36	89	3	1097	40.3	22.72	50.36	93
4	702	29.5	7.73	58.10	84	4	816	39.8	12.14	58.10	88	4	930	51.7	17.96	58.10	91
5	609	32.8	6.39	62.37	83	5	708	44.3	10.03	62.37	87	5	807	57.5	14.85	62.37	90
6	500	34.8	5.08	63.79	82	6	581	47.0	7.97	63.79	86	6	662	61.0	11.80	63.79	89
7	444	35.4	4.44	64.02	84	7	516	47.7	6.97	64.02	88	7	588	62.0	10.31	64.02	91
560	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	630	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	700	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	1547	7.0	47.53	28.86	103	1	1741	8.9	67.68	28.86	106	1	1934	10.9	92.84	28.86	108
2	1399	27.5	40.57	37.22	99	2	1574	34.8	57.76	37.22	102	2	1749	43.0	79.24	37.22	105
3	1253	52.6	33.92	50.36	96	3	1410	66.6	48.30	50.36	99	3	1567	82.2	66.25	50.36	101
4	1063	67.6	26.80	58.10	94	4	1196	85.5	38.16	58.10	97	4	1329	105.6	52.35	58.10	100
5	922	75.1	22.16	62.37	93	5	1037	95.1	31.55	62.37	96	5	1152	117.4	43.28	62.37	99
6	757	79.7	17.61	63.79	92	6	851	100.8	25.07	63.79	95	6	946	124.5	34.39	63.79	97
7	672	81.0	15.39	64.02	95	7	756	102.5	21.92	64.02	97	7	840	126.5	30.06	64.02	100

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

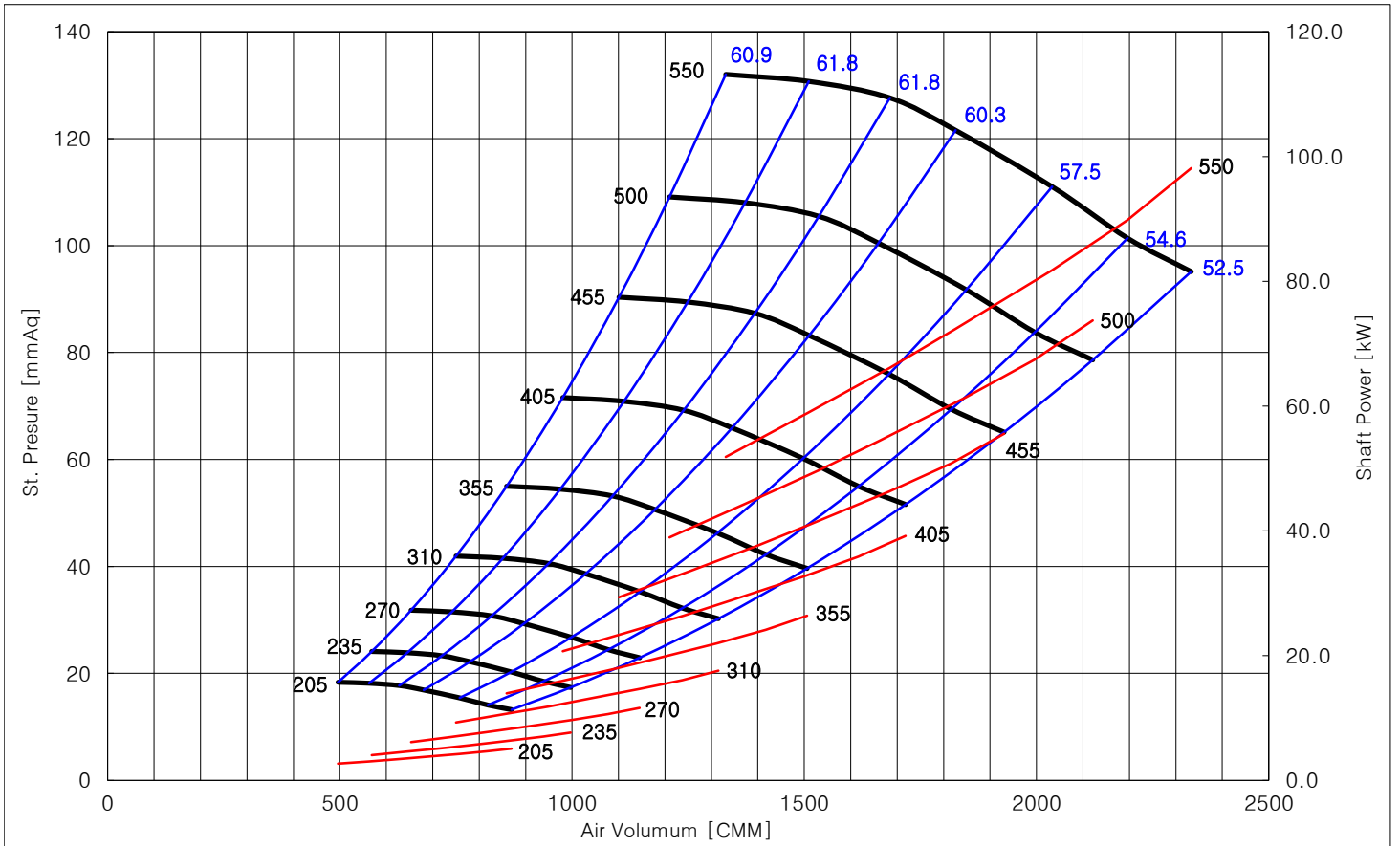
# PERFORMANCE CURVES AND NOISE DATA - TSSF #6DS



210	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	250	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	290	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	561	10.2	2.53	52.50	82	1	668	14.4	4.26	52.50	86	1	775	19.4	6.65	52.50	90
2	528	10.9	2.31	54.60	80	2	629	15.4	3.90	54.60	84	2	729	20.7	6.09	54.60	88
3	489	11.9	2.11	57.50	77	3	582	16.9	3.55	57.50	81	3	675	22.7	5.55	57.50	85
4	439	13.0	1.86	60.30	76	4	523	18.5	3.14	60.30	80	4	606	24.8	4.91	60.30	84
5	405	13.7	1.70	61.80	74	5	482	19.4	2.87	61.80	78	5	559	26.1	4.48	61.80	82
6	363	14.0	1.52	61.80	73	6	432	19.8	2.56	61.80	77	6	501	26.7	4.00	61.80	81
7	320	14.1	1.34	60.90	76	7	381	20.0	2.25	60.90	79	7	442	27.0	3.52	60.90	82
340	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	390	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	450	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	908	26.7	10.72	52.50	94	1	1042	35.1	16.19	52.50	97	1	1202	46.8	24.86	52.50	100
2	855	28.5	9.81	54.60	92	2	981	37.5	14.81	54.60	95	2	1131	49.9	22.75	54.60	98
3	792	31.2	8.94	57.50	88	3	908	41.0	13.49	57.50	92	3	1048	54.6	20.72	57.50	96
4	711	34.1	7.91	60.30	87	4	815	44.9	11.94	60.30	91	4	941	59.8	18.34	60.30	95
5	656	35.8	7.23	61.80	85	5	752	47.1	10.91	61.80	89	5	868	62.8	16.76	61.80	93
6	588	36.7	6.45	61.80	85	6	674	48.3	9.73	61.80	88	6	778	64.3	14.95	61.80	92
7	518	37.1	5.67	60.90	85	7	594	48.8	8.55	60.90	89	7	686	64.9	13.14	60.90	93
510	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	580	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	670	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	1362	60.1	36.20	52.50	105	1	1549	77.7	53.24	52.50	107	1	1790	103.7	82.07	52.50	109
2	1282	64.1	33.12	54.60	103	2	1458	82.8	48.71	54.60	105	2	1685	110.5	75.09	54.60	107
3	1188	70.1	30.17	57.50	99	3	1351	90.7	44.37	57.50	102	3	1560	121.0	68.40	57.50	105
4	1066	76.8	26.70	60.30	98	4	1212	99.3	39.27	60.30	101	4	1401	132.5	60.54	60.30	104
5	984	80.6	24.39	61.80	96	5	1119	104.3	35.88	61.80	99	5	1292	139.1	55.31	61.80	102
6	882	82.6	21.76	61.80	96	6	1003	106.8	32.00	61.80	99	6	1158	142.5	49.33	61.80	105
7	777	83.4	19.12	60.90	98	7	884	107.9	28.13	60.90	100	7	1021	143.9	43.36	60.90	105

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

# PERFORMANCE CURVES AND NOISE DATA - TSSF #7DS

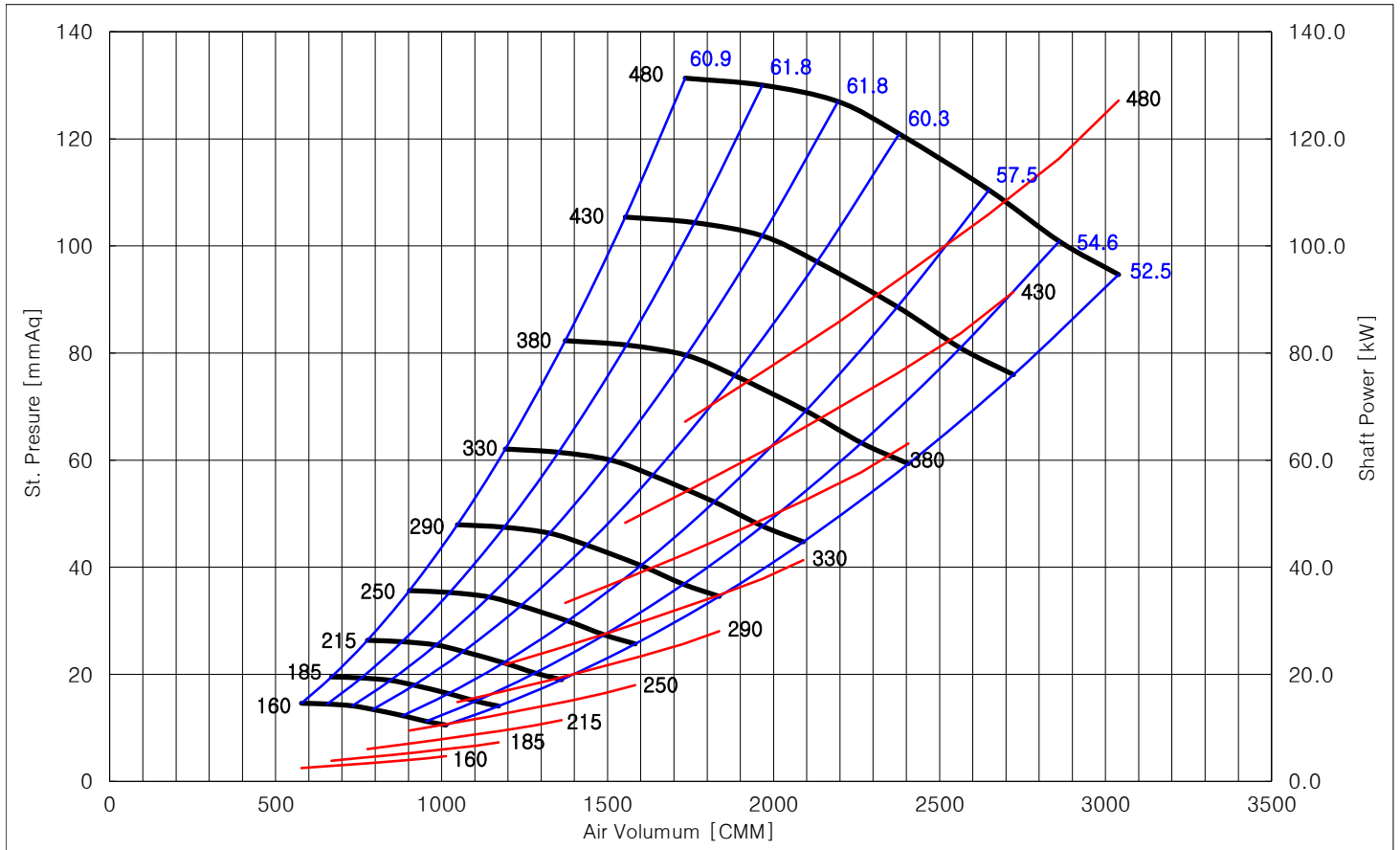


205	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	235	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	270	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	870	13.2	5.08	52.50	86	1	997	17.4	7.65	52.50	89	1	1145	22.9	11.61	52.50	93
2	818	14.1	4.65	54.60	84	2	938	18.5	7.00	54.60	87	2	1078	24.4	10.62	54.60	91
3	758	15.4	4.23	57.50	81	3	869	20.3	6.38	57.50	85	3	998	26.8	9.67	57.50	88
4	681	16.9	3.75	60.30	80	4	780	22.2	5.65	60.30	83	4	896	29.3	8.56	60.30	87
5	628	17.7	3.42	61.80	78	5	720	23.3	5.16	61.80	82	5	827	30.8	7.82	61.80	85
6	563	18.2	3.05	61.80	77	6	645	23.9	4.60	61.80	81	6	741	31.5	6.98	61.80	84
7	496	18.3	2.68	60.90	78	7	569	24.1	4.04	60.90	82	7	653	31.8	6.13	60.90	85
310	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	355	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	405	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	1315	30.2	17.57	52.50	96	1	1506	39.6	26.39	52.50	99	1	1718	51.6	39.18	52.50	102
2	1238	32.2	16.07	54.60	94	2	1417	42.2	24.14	54.60	97	2	1617	55.0	35.85	54.60	100
3	1146	35.3	14.64	57.50	91	3	1313	46.2	21.99	57.50	95	3	1498	60.2	32.65	57.50	98
4	1029	38.6	12.96	60.30	90	4	1178	50.6	19.46	60.30	94	4	1344	65.9	28.90	60.30	97
5	949	40.5	11.84	61.80	88	5	1087	53.2	17.78	61.80	92	5	1240	69.2	26.40	61.80	95
6	851	41.5	10.56	61.80	87	6	974	54.5	15.86	61.80	91	6	1112	70.9	23.55	61.80	94
7	750	41.9	9.28	60.90	89	7	859	55.0	13.94	60.90	92	7	980	71.6	20.70	60.90	95
455	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	500	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	550	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	1930	65.1	55.55	52.50	106	1	2121	78.6	73.72	52.50	108	1	2333	95.1	98.12	52.50	110
2	1817	69.4	50.83	54.60	104	2	1996	83.8	67.45	54.60	106	2	2196	101.4	89.77	54.60	108
3	1682	76.0	46.30	57.50	101	3	1849	91.7	61.44	57.50	103	3	2034	111.0	81.78	57.50	106
4	1510	83.2	40.98	60.30	100	4	1660	100.5	54.38	60.30	102	4	1826	121.6	72.38	60.30	104
5	1393	87.3	37.44	61.80	98	5	1531	105.5	49.68	61.80	101	5	1684	127.6	66.13	61.80	103
6	1249	89.5	33.39	61.80	98	6	1372	108.0	44.31	61.80	100	6	1510	130.7	58.98	61.80	104
7	1101	90.3	29.35	60.90	99	7	1210	109.1	38.95	60.90	101	7	1331	132.0	51.84	60.90	103

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.



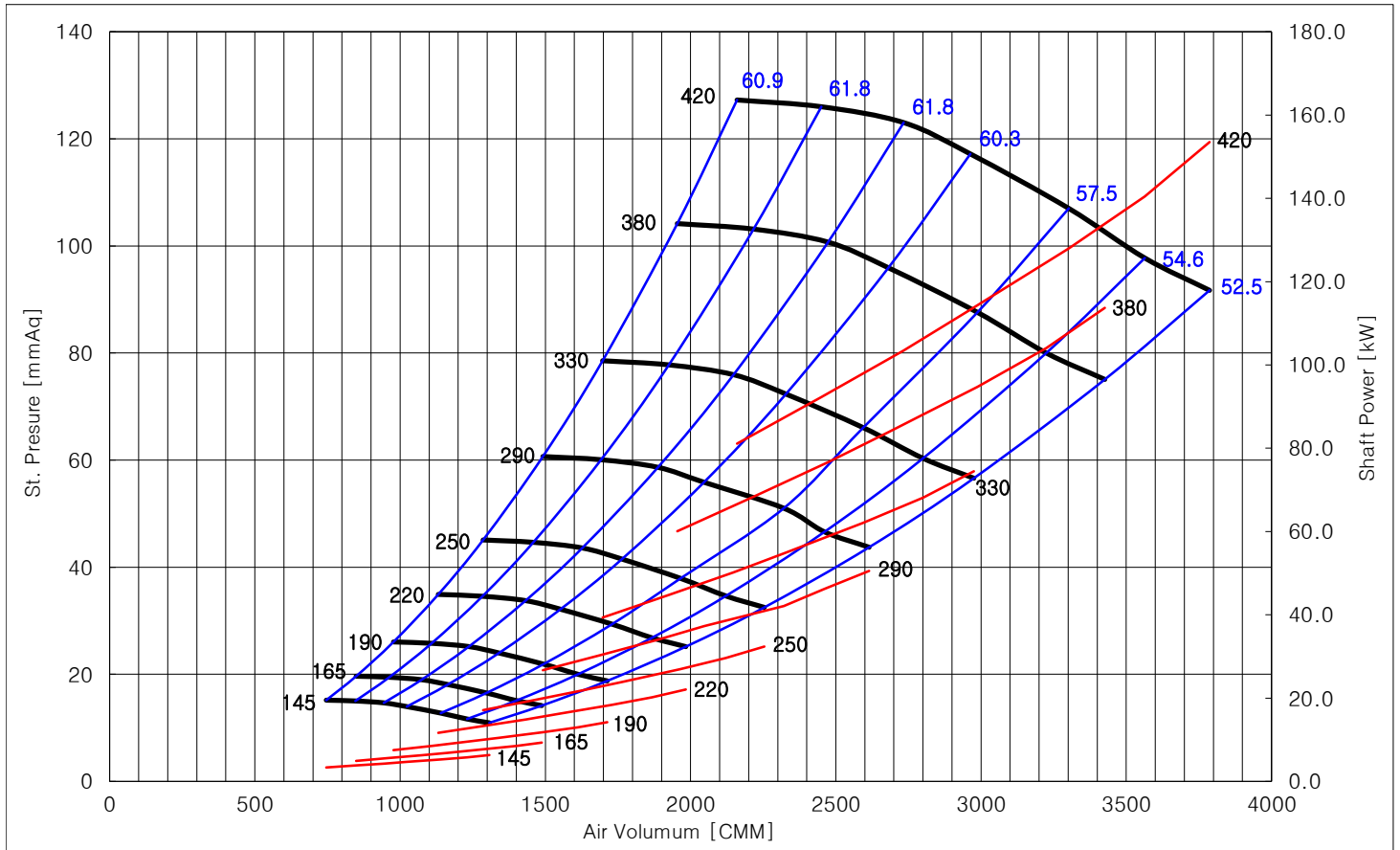
# PERFORMANCE CURVES AND NOISE DATA - TSSF #8DS



160	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	185	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	215	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	1013	10.5	4.71	52.50	84	1	1171	14.1	7.28	52.50	88	1	1361	19.0	11.43	52.50	91
2	954	11.2	4.31	54.60	82	2	1103	15.0	6.66	54.60	85	2	1281	20.2	10.46	54.60	89
3	883	12.3	3.93	57.50	79	3	1021	16.4	6.07	57.50	83	3	1187	22.2	9.52	57.50	87
4	793	13.4	3.47	60.30	78	4	917	18.0	5.37	60.30	82	4	1065	24.3	8.43	60.30	85
5	731	14.1	3.17	61.80	76	5	846	18.9	4.91	61.80	80	5	983	25.5	7.70	61.80	83
6	656	14.4	2.83	61.80	75	6	758	19.3	4.38	61.80	79	6	881	26.1	6.87	61.80	82
7	578	14.6	2.49	60.90	77	7	668	19.5	3.85	60.90	80	7	777	26.3	6.04	60.90	84
250	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	290	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	330	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	1583	25.7	17.97	52.50	95	1	1836	34.5	28.04	52.50	98	1	2090	44.7	41.32	52.50	102
2	1490	27.4	16.44	54.60	93	2	1728	36.8	25.66	54.60	96	2	1967	47.7	37.81	54.60	100
3	1380	30.0	14.97	57.50	90	3	1600	40.3	23.37	57.50	94	3	1821	52.2	34.44	57.50	97
4	1239	32.8	13.25	60.30	89	4	1437	44.1	20.69	60.30	93	4	1635	57.2	30.48	60.30	96
5	1143	34.4	12.11	61.80	87	5	1326	46.3	18.90	61.80	91	5	1509	60.0	27.85	61.80	94
6	1024	35.3	10.80	61.80	86	6	1188	47.5	16.86	61.80	90	6	1352	61.5	24.84	61.80	93
7	903	35.6	9.49	60.90	87	7	1047	47.9	14.82	60.90	91	7	1192	62.1	21.83	60.90	93
380	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	430	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))	480	Q(m³/min)	Ps(mmAq)	H(kW)	η <sub>r</sub> (%)	Lwi(dB(A))
1	2406	59.3	63.09	52.50	105	1	2723	76.0	91.42	52.50	108	1	3039	94.6	127.16	52.50	111
2	2265	63.2	57.73	54.60	103	2	2563	80.9	83.64	54.60	106	2	2861	100.9	116.34	54.60	109
3	2097	69.2	52.58	57.50	100	3	2373	88.6	76.19	57.50	103	3	2649	110.4	105.98	57.50	106
4	1883	75.8	46.54	60.30	99	4	2131	97.0	67.44	60.30	102	4	2378	120.9	93.80	60.30	105
5	1737	79.6	42.52	61.80	97	5	1966	101.9	61.61	61.80	100	5	2194	127.0	85.70	61.80	103
6	1557	81.5	37.93	61.80	96	6	1762	104.4	54.95	61.80	100	6	1967	130.0	76.44	61.80	102
7	1373	82.3	33.33	60.90	98	7	1553	105.4	48.30	60.90	101	7	1734	131.3	67.18	60.90	103

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

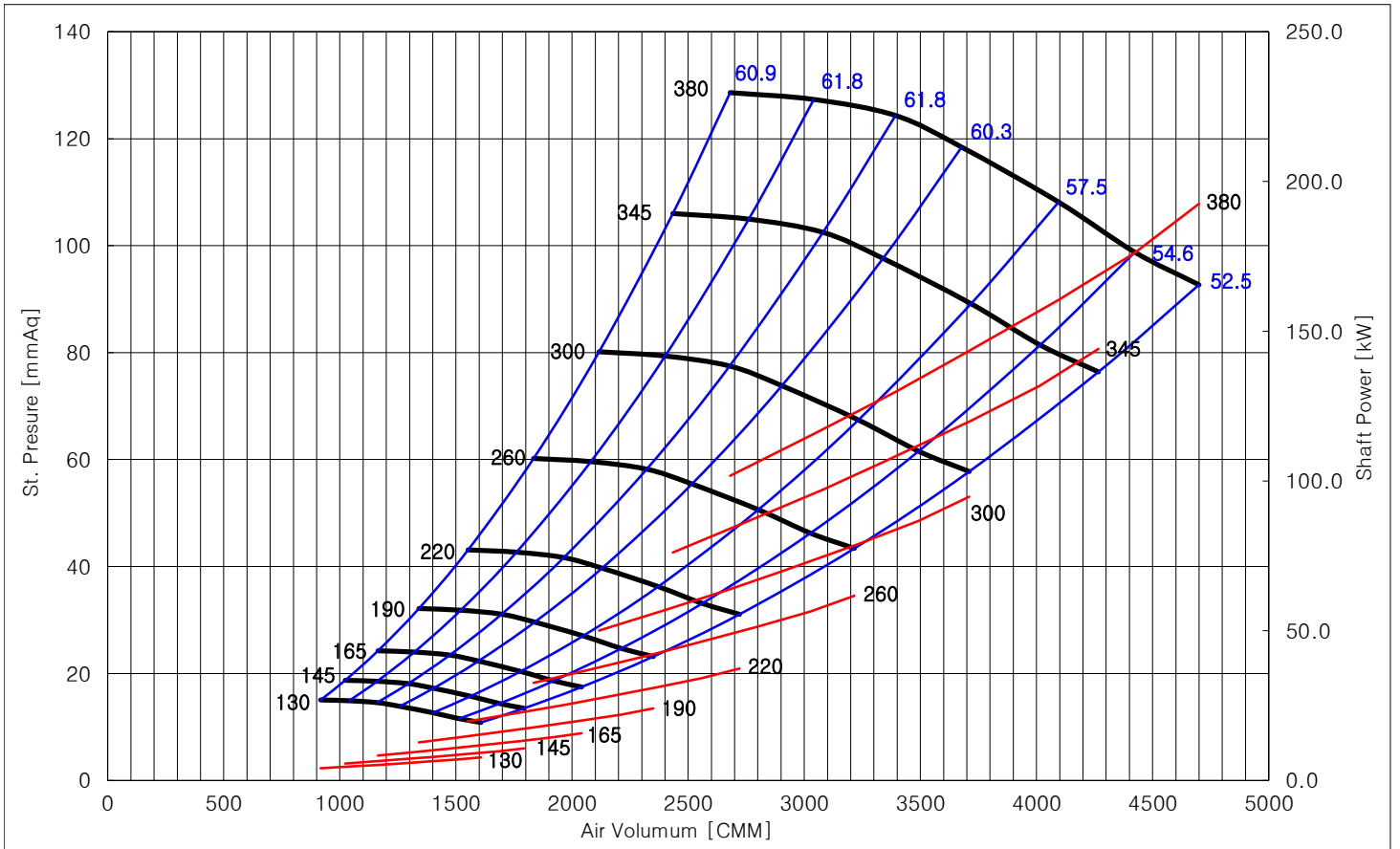
# PERFORMANCE CURVES AND NOISE DATA - TSSF #9DS



145	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	165	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	190	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	1307	10.9	6.32	52.50	84	1	1488	14.2	9.31	52.50	88	1	1713	18.8	14.21	52.50	92
2	1230	11.6	5.78	54.60	82	2	1400	15.1	8.52	54.60	86	2	1612	20.0	13.00	54.60	90
3	1140	12.8	5.26	57.50	80	3	1297	16.5	7.76	57.50	84	3	1494	21.9	11.84	57.50	87
4	1023	14.0	4.66	60.30	79	4	1164	18.1	6.87	60.30	83	4	1341	24.0	10.48	60.30	86
5	944	14.7	4.26	61.80	77	5	1074	19.0	6.27	61.80	81	5	1237	25.2	9.58	61.80	84
6	846	15.0	3.80	61.80	76	6	963	19.4	5.60	61.80	80	6	1108	25.8	8.54	61.80	83
7	746	15.2	3.34	60.90	77	7	849	19.6	4.92	60.90	81	7	977	26.0	7.51	60.90	84
220	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	250	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	290	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	1984	25.2	22.06	52.50	95	1	2254	32.5	32.38	52.50	98	1	2615	43.7	50.54	52.50	102
2	1867	26.8	20.19	54.60	93	2	2121	34.6	29.62	54.60	96	2	2461	46.6	46.24	54.60	100
3	1730	29.4	18.39	57.50	91	3	1966	37.9	26.98	57.50	94	3	2321	51.0	42.12	57.50	97
4	1552	32.2	16.27	60.30	90	4	1764	41.5	23.88	60.30	93	4	2046	55.9	37.28	60.30	96
5	1432	33.8	14.87	61.80	88	5	1627	43.6	21.82	61.80	91	5	1888	58.7	34.06	61.80	94
6	1283	34.6	13.26	61.80	87	6	1458	44.6	19.46	61.80	90	6	1692	60.1	30.38	61.80	93
7	1131	34.9	11.66	60.90	88	7	1286	45.1	17.10	60.90	91	7	1491	60.7	26.70	60.90	94
330	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	380	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	420	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	2975	56.6	74.46	52.50	105	1	3426	75.1	113.70	52.50	109	1	3787	91.7	153.52	52.50	112
2	2800	60.3	68.13	54.60	103	2	3225	80.0	104.02	54.60	107	2	3564	97.7	140.45	54.60	110
3	2594	66.1	62.06	57.50	101	3	2988	87.6	94.76	57.50	104	3	3302	107.0	127.94	57.50	107
4	2328	72.3	54.93	60.30	99	4	2681	95.9	83.87	60.30	103	4	2963	117.2	113.24	60.30	106
5	2148	76.0	50.18	61.80	98	5	2473	100.7	76.62	61.80	101	5	2734	123.0	103.46	61.80	104
6	1925	77.8	44.76	61.80	97	6	2217	103.1	68.35	61.80	100	6	2450	126.0	92.28	61.80	103
7	1697	78.6	39.34	60.90	98	7	1954	104.2	60.07	60.90	101	7	2160	127.3	81.10	60.90	104

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

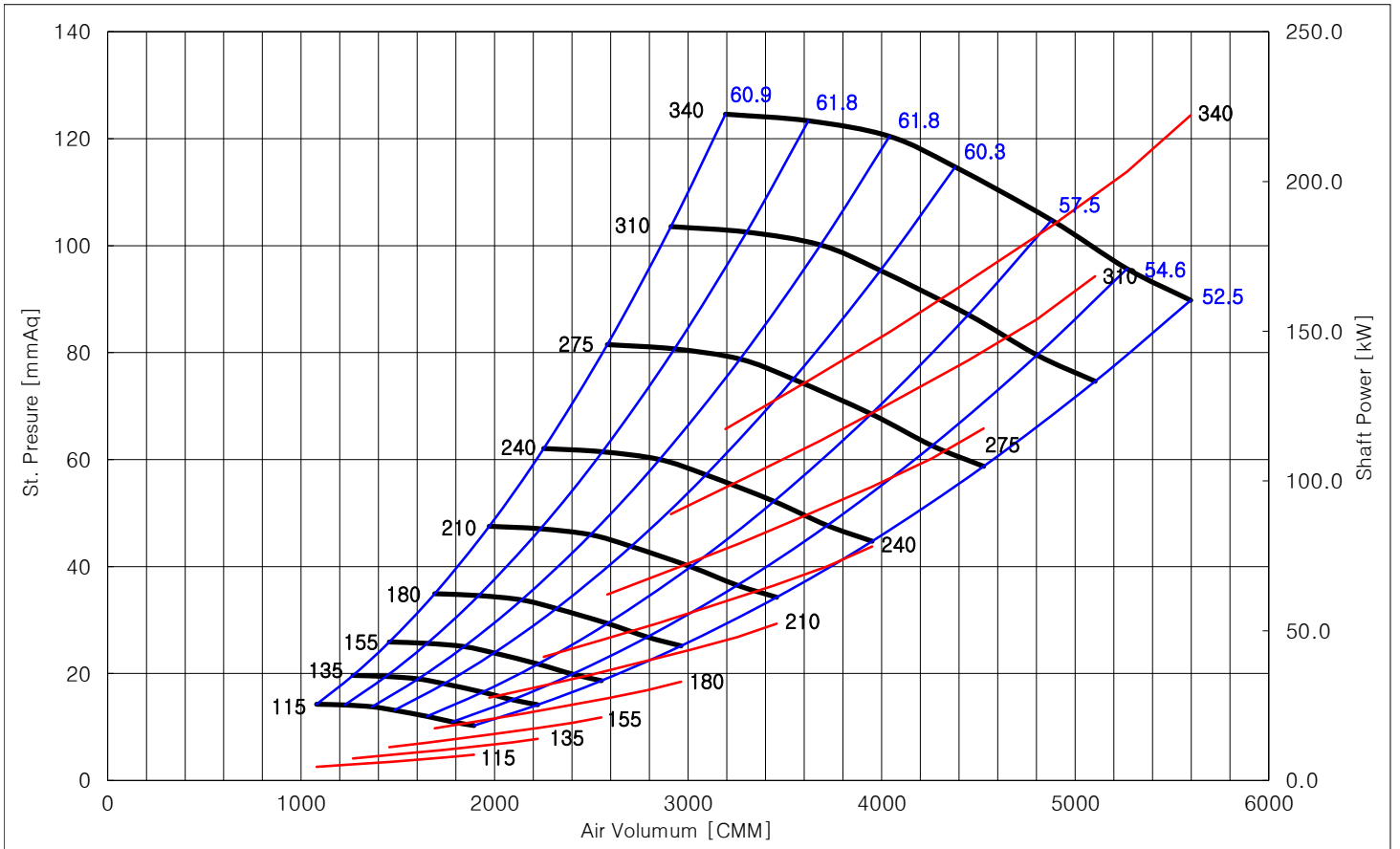
# PERFORMANCE CURVES AND NOISE DATA - TSSF #10DS



130	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	145	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	165	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))
1	1608	10.8	7.71	52.50	86	1	1793	13.5	10.70	52.50	89	1	2041	17.5	15.76	52.50	92
2	1513	11.6	7.05	54.60	84	2	1688	14.4	9.79	54.60	86	2	1921	18.6	14.42	54.60	89
3	1401	12.7	6.43	57.50	81	3	1563	15.7	8.92	57.50	84	3	1778	20.4	13.14	57.50	87
4	1258	13.9	5.69	60.30	80	4	1403	17.2	7.89	60.30	83	4	1597	22.3	11.63	60.30	86
5	1161	14.6	5.20	61.80	78	5	1295	18.1	7.21	61.80	81	5	1473	23.4	10.62	61.80	84
6	1040	14.9	4.63	61.80	77	6	1160	18.5	6.43	61.80	80	6	1320	24.0	9.48	61.80	83
7	917	15.1	4.07	60.90	78	7	1023	18.7	5.65	60.90	81	7	1164	24.2	8.33	60.90	84
190	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	220	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	260	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))
1	2350	23.2	24.07	52.50	95	1	2721	31.1	37.36	52.50	98	1	3216	43.4	61.68	52.50	103
2	2212	24.7	22.02	54.60	93	2	2561	33.1	34.19	54.60	96	2	3026	46.2	56.43	54.60	100
3	2048	27.0	20.06	57.50	90	3	2371	36.2	31.14	57.50	94	3	2802	50.6	51.40	57.50	98
4	1839	29.6	17.75	60.30	89	4	2129	39.7	27.56	60.30	93	4	2516	55.4	45.49	60.30	97
5	1696	31.1	16.22	61.80	87	5	1964	41.7	25.18	61.80	91	5	2321	58.2	41.56	61.80	95
6	1521	31.8	14.47	61.80	86	6	1761	42.7	22.46	61.80	90	6	2081	59.6	37.07	61.80	94
7	1340	32.2	12.72	60.90	87	7	1552	43.1	19.74	60.90	91	7	1834	60.2	32.58	60.90	95
300	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	345	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	380	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))
1	3710	57.8	94.74	52.50	106	1	4267	76.4	144.09	52.50	109	1	4700	92.7	192.55	52.50	112
2	3492	61.6	86.68	54.60	104	2	4016	81.4	131.84	54.60	107	2	4423	98.8	176.17	54.60	110
3	3233	67.4	78.96	57.50	101	3	3718	89.1	120.09	57.50	105	3	4095	108.1	160.47	57.50	108
4	2903	73.8	69.89	60.30	100	4	3339	97.6	106.29	60.30	103	4	3678	118.4	142.03	60.30	107
5	2679	77.5	63.85	61.80	98	5	3080	102.5	97.11	61.80	102	5	3393	124.3	129.76	61.80	105
6	2401	79.4	56.95	61.80	97	6	2761	105.0	86.62	61.80	101	6	3041	127.3	115.74	61.80	104
7	2116	80.2	50.05	60.90	99	7	2434	106.0	76.12	60.90	103	7	2681	128.6	101.72	60.90	105

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

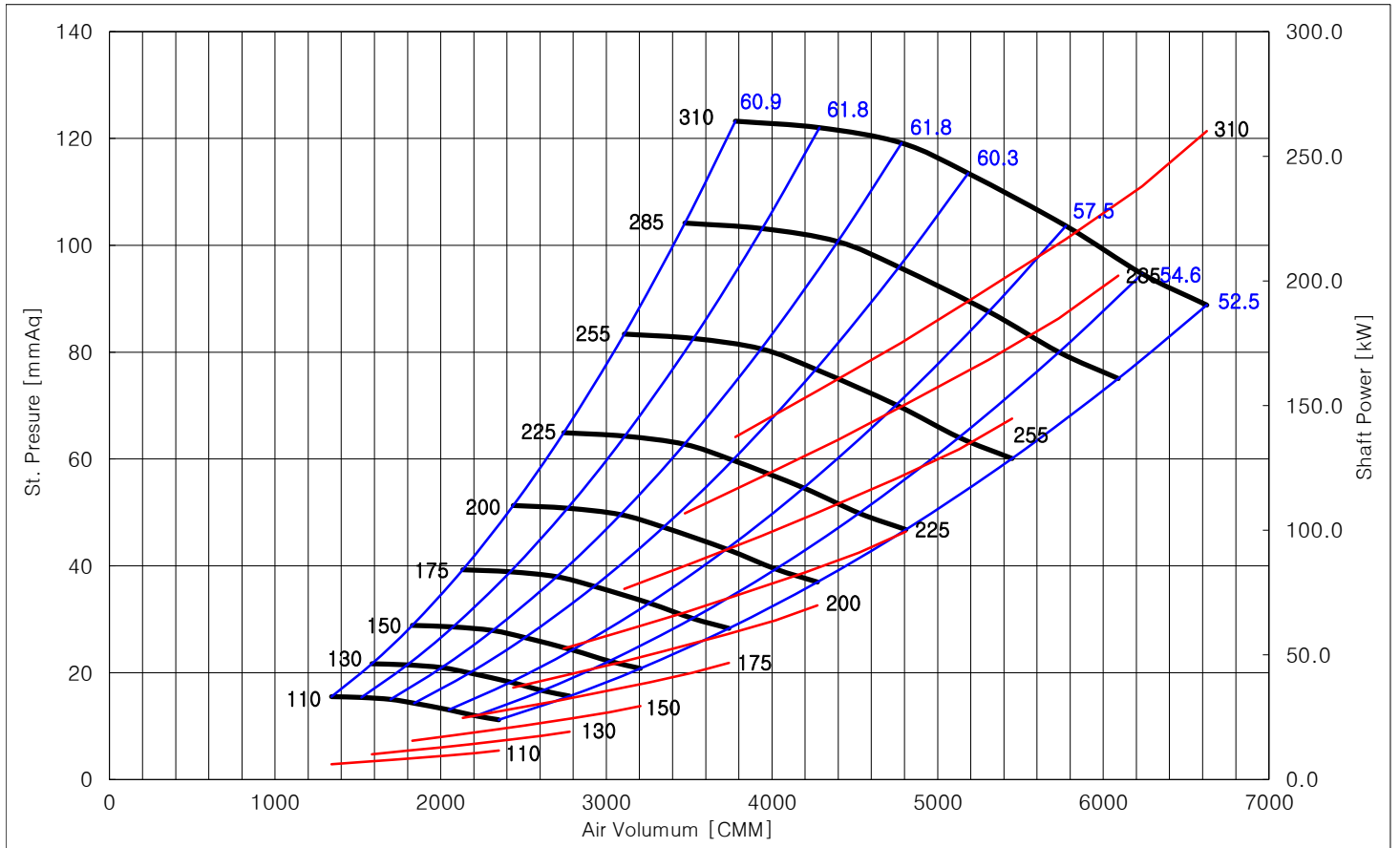
# PERFORMANCE CURVES AND NOISE DATA - TSSF #11DS



115	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	135	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	155	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	1893	10.3	8.60	52.50	93	1	2222	14.2	13.90	52.50	96	1	2552	18.7	21.05	52.50	100
2	1782	10.9	7.86	54.60	88	2	2092	15.1	12.72	54.60	91	2	2401	19.9	19.25	54.60	95
3	1650	12.0	7.16	57.50	85	3	1937	16.5	11.59	57.50	89	3	2224	21.8	17.54	57.50	93
4	1481	13.1	6.34	60.30	84	4	1739	18.1	10.26	60.30	87	4	1997	23.8	15.52	60.30	91
5	1367	13.8	5.79	61.80	81	5	1604	19.0	9.37	61.80	84	5	1842	25.0	14.18	61.80	88
6	1225	14.1	5.17	61.80	78	6	1438	19.4	8.36	61.80	81	6	1651	25.6	12.65	61.80	85
7	1080	14.3	4.54	60.90	74	7	1268	19.6	7.35	60.90	78	7	1455	25.9	11.12	60.90	82
180	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	210	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	240	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	2963	25.2	32.96	52.50	104	1	3457	34.2	52.34	52.50	107	1	3951	44.7	78.12	52.50	111
2	2789	26.8	30.15	54.60	99	2	3254	36.5	47.88	54.60	102	2	3718	47.7	71.48	54.60	106
3	2583	29.4	27.47	57.50	97	3	3013	40.0	43.62	57.50	100	3	3443	52.2	65.11	57.50	104
4	2319	32.2	24.31	60.30	95	4	2705	43.8	38.61	60.30	98	4	3092	57.2	57.63	60.30	101
5	2139	33.8	22.21	61.80	92	5	2496	45.9	35.27	61.80	95	5	2852	60.0	52.65	61.80	99
6	1917	34.6	19.81	61.80	89	6	2237	47.1	31.46	61.80	92	6	2556	61.5	46.96	61.80	96
7	1690	34.9	17.41	60.90	85	7	1972	47.5	27.65	60.90	89	7	2254	62.1	41.27	60.90	92
275	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	310	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	340	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	4527	58.7	117.53	52.50	114	1	5103	74.6	168.36	52.50	116	1	5597	89.8	222.12	52.50	118
2	4261	62.6	107.53	54.60	109	2	4803	79.5	154.04	54.60	112	2	5268	95.7	203.22	54.60	115
3	3946	68.5	97.95	57.50	107	3	4448	87.1	140.31	57.50	109	3	4878	104.8	185.12	57.50	111
4	3542	75.0	86.69	60.30	104	4	3993	95.4	124.19	60.30	107	4	4380	114.7	163.84	60.30	110
5	3268	78.8	79.21	61.80	102	5	3684	100.1	113.46	61.80	104	5	4041	120.4	149.69	61.80	107
6	2929	80.7	70.65	61.80	99	6	3302	102.5	101.20	61.80	101	6	3622	123.3	133.52	61.80	105
7	2582	81.5	62.09	60.90	95	7	2911	103.6	88.94	60.90	98	7	3193	124.6	117.35	60.90	102

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

# PERFORMANCE CURVES AND NOISE DATA - TSSF #12DS

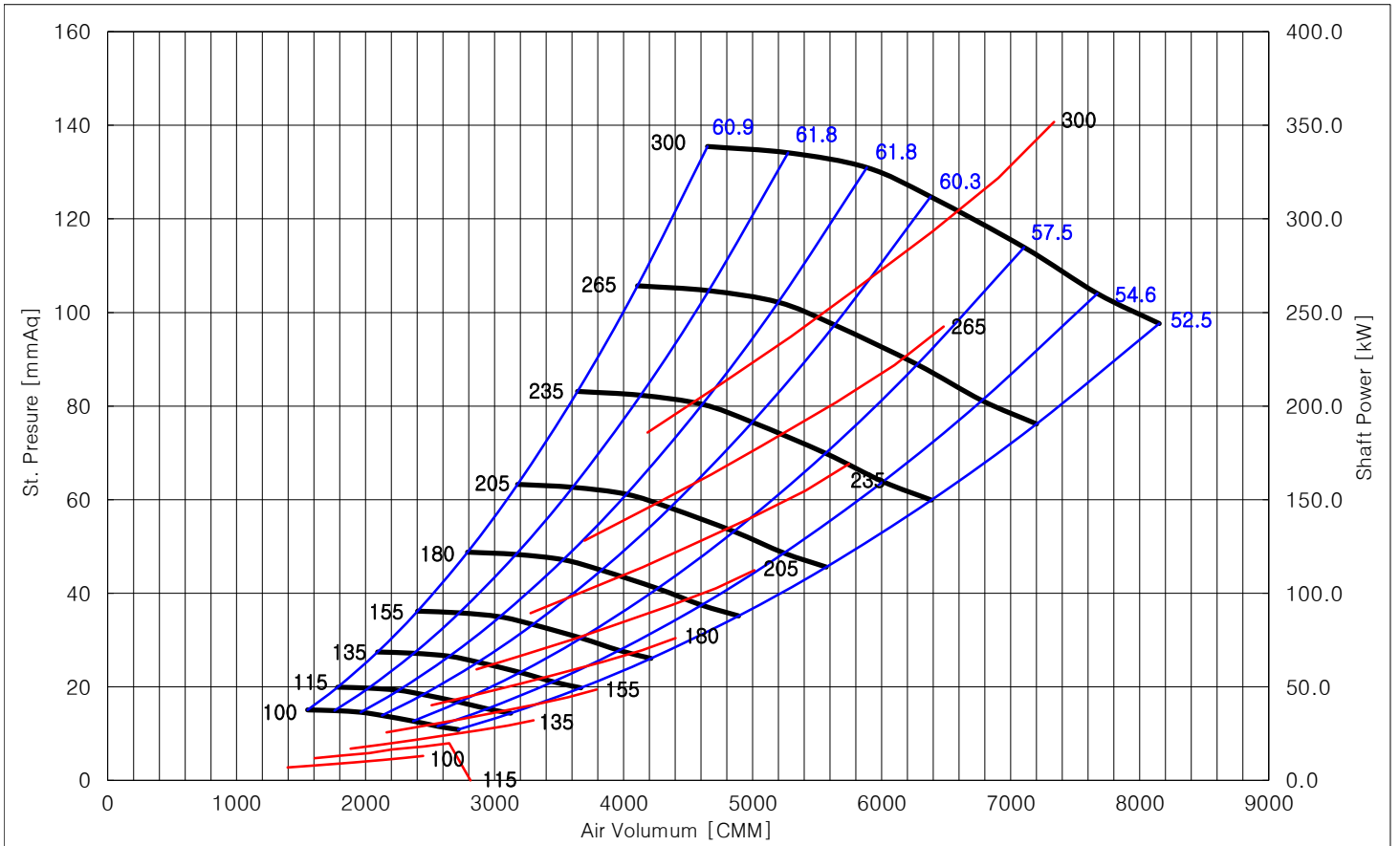


110	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	130	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	150	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	2351	11.2	11.62	52.50	95	1	2778	15.6	19.18	52.50	98	1	3206	20.8	29.47	52.50	103
2	2213	11.9	10.63	54.60	90	2	2615	16.6	17.55	54.60	93	2	3017	22.2	26.96	54.60	97
3	2049	13.0	9.69	57.50	87	3	2422	18.2	15.99	57.50	91	3	2794	24.3	24.56	57.50	95
4	1840	14.3	8.57	60.30	86	4	2174	20.0	14.15	60.30	89	4	2509	26.6	21.74	60.30	93
5	1697	15.0	7.83	61.80	83	5	2006	21.0	12.93	61.80	86	5	2314	27.9	19.86	61.80	90
6	1521	15.4	6.99	61.80	80	6	1798	21.5	11.53	61.80	84	6	2074	28.6	17.71	61.80	87
7	1341	15.5	6.14	60.90	76	7	1585	21.7	10.13	60.90	80	7	1829	28.9	15.57	60.90	84
175	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	200	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	225	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	3740	28.3	46.80	52.50	106	1	4274	37.0	69.85	52.50	109	1	4809	46.8	99.46	52.50	112
2	3520	30.2	42.81	54.60	101	2	4023	39.4	63.91	54.60	104	2	4526	49.9	91.00	54.60	107
3	3260	33.0	39.00	57.50	99	3	3725	43.1	58.22	57.50	101	3	4191	54.6	82.89	57.50	105
4	2927	36.2	34.52	60.30	96	4	3345	47.2	51.53	60.30	99	4	3763	59.8	73.36	60.30	102
5	2700	38.0	31.54	61.80	94	5	3086	49.6	47.08	61.80	97	5	3471	62.8	67.03	61.80	100
6	2420	38.9	28.13	61.80	91	6	2766	50.8	41.99	61.80	94	6	3111	64.3	59.79	61.80	97
7	2133	39.3	24.72	60.90	87	7	2438	51.3	36.90	60.90	90	7	2743	64.9	52.54	60.90	93
255	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	285	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	310	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	5450	60.1	144.78	52.50	115	1	6091	75.1	202.13	52.50	118	1	6625	88.8	260.13	52.50	121
2	5129	64.1	132.46	54.60	110	2	5733	80.0	184.93	54.60	113	2	6235	94.7	237.99	54.60	116
3	4750	70.1	120.66	57.50	108	3	5309	87.6	168.46	57.50	111	3	5774	103.6	216.79	57.50	114
4	4265	76.8	106.80	60.30	105	4	4766	95.9	149.10	60.30	108	4	5184	113.5	191.88	60.30	111
5	3934	80.6	97.57	61.80	103	5	4397	100.7	136.22	61.80	105	5	4783	119.2	175.30	61.80	109
6	3526	82.6	87.03	61.80	99	6	3941	103.1	121.50	61.80	102	6	4287	122.0	156.36	61.80	105
7	3109	83.4	76.49	60.90	96	7	3474	104.2	106.78	60.90	99	7	3779	123.3	137.42	60.90	102

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.



# PERFORMANCE CURVES AND NOISE DATA - TSSF #13DS

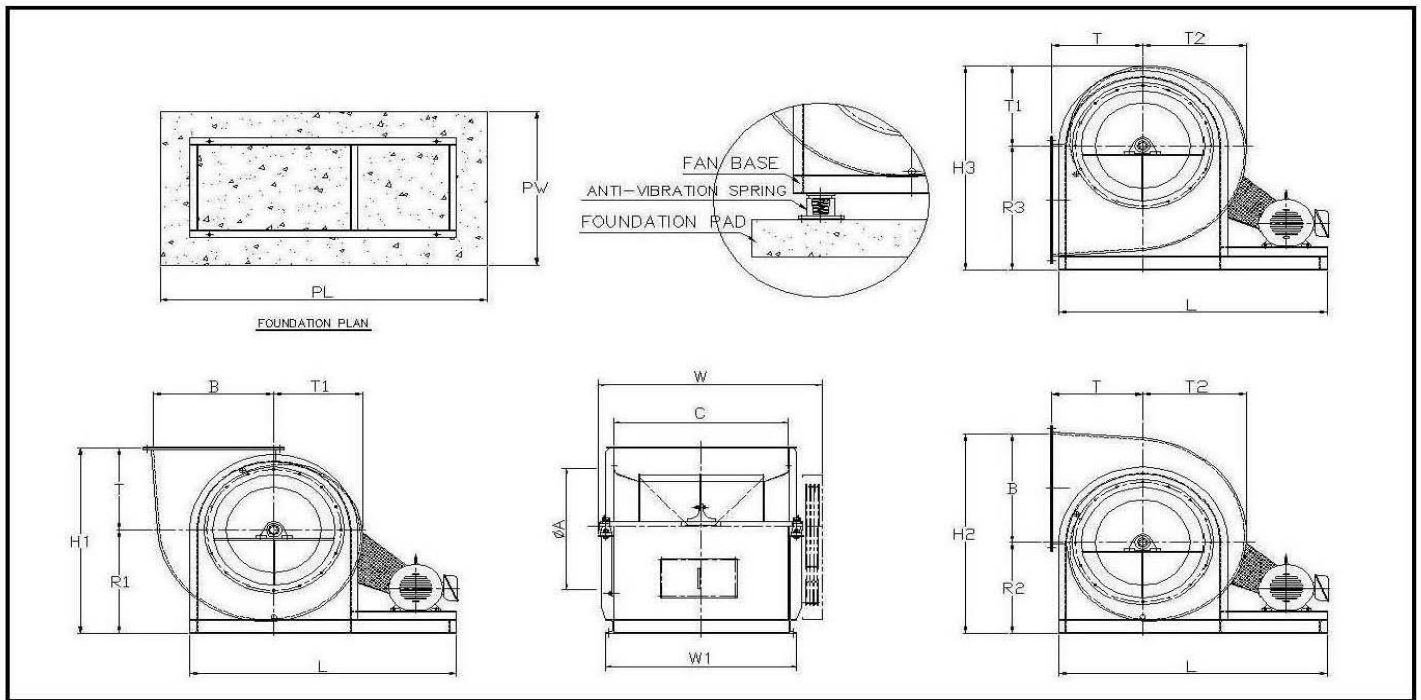


100	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	115	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	135	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	2717	10.8	13.03	52.50	94	1	3125	14.3	19.82	52.50	98	1	3668	19.8	32.06	52.50	102
2	2557	11.6	11.92	54.60	89	2	2941	15.3	18.13	54.60	93	2	3452	21.1	29.33	54.60	97
3	2368	12.7	10.86	57.50	87	3	2723	16.7	16.51	57.50	91	3	3197	23.1	26.72	57.50	94
4	2126	13.9	9.61	60.30	85	4	2445	18.3	14.62	60.30	89	4	2870	25.3	23.65	60.30	92
5	1962	14.6	8.78	61.80	82	5	2256	19.2	13.35	61.80	86	5	2648	26.5	21.60	61.80	90
6	1758	14.9	7.83	61.80	79	6	2022	19.7	11.91	61.80	83	6	2374	27.2	19.27	61.80	87
7	1550	15.1	6.88	60.90	76	7	1782	19.9	10.47	60.90	80	7	2092	27.4	16.93	60.90	83
155	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	180	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	205	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	4212	26.1	48.52	52.50	106	1	4891	35.1	75.98	52.50	109	1	5570	45.6	112.25	52.50	112
2	3964	27.8	44.39	54.60	101	2	4603	37.5	69.52	54.60	104	2	5243	48.6	102.70	54.60	107
3	3670	30.4	40.43	57.50	98	3	4262	41.0	63.33	57.50	102	3	4854	53.2	93.55	57.50	105
4	3296	33.3	35.79	60.30	96	4	3827	44.9	56.05	60.30	99	4	4359	58.2	82.80	60.30	103
5	3040	35.0	32.70	61.80	93	5	3531	47.1	51.21	61.80	97	5	4021	61.2	75.64	61.80	100
6	2725	35.8	29.16	61.80	90	6	3165	48.3	45.67	61.80	94	6	3604	62.6	67.47	61.80	97
7	2402	36.2	25.63	60.90	87	7	2790	48.8	40.14	60.90	90	7	3177	63.3	59.30	60.90	94
235	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	265	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))	300	Q(m³/min)	Ps(mmAq)	H(kW)	$\eta_r$ (%)	Lwi(dB(A))
1	6385	59.9	169.09	52.50	115	1	7201	76.2	242.46	52.50	118	1	8152	97.6	351.78	52.50	122
2	6010	63.8	154.70	54.60	110	2	6777	81.2	221.83	54.60	114	2	7672	104.0	321.85	54.60	117
3	5565	69.9	140.92	57.50	108	3	6275	88.9	202.07	57.50	111	3	7104	113.9	293.17	57.50	115
4	4997	76.5	124.72	60.30	106	4	5635	97.3	178.85	60.30	109	4	6379	124.7	259.49	60.30	112
5	4610	80.4	113.95	61.80	103	5	5198	102.2	163.40	61.80	106	5	5885	131.0	237.07	61.80	109
6	4132	82.3	101.64	61.80	100	6	4659	104.7	145.75	61.80	103	6	5275	134.1	211.46	61.80	106
7	3642	83.1	89.33	60.90	97	7	4107	105.7	128.09	60.90	100	7	4650	135.5	185.84	60.90	103

- The A-Weighted sound ratings shown have been calculated per AMCA International Standard 301  
 - Values shown are for inlet LwiA sound power levels for installation type B -free inlet, ducted outlet  
 - Performance certified is for installation type B - free inlet, ducted outlet  
 - Performance ratings do not include the effects of appurtenances(accessories), Power rating kW does not include transmission losses.

# OVERALL DIMENSION

## Forward Wheels (Sirocco) - "TSSF" SERIES



FAN NO.		DIMENSION (TSSF SERIES)													
		# 3	# 3.5	# 4	# 4.5	# 5	# 5.5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13
Inlet	A	465	540	645	725	805	885	910	1060	1215	1365	1520	1705	1860	2015
	B	460	535	610	685	765	845	915	1070	1220	1375	1525	1675	1830	1980
Outlet	C	600	700	810	910	1015	1115	1210	1415	1615	1815	2020	2240	2450	2650
	W	760	860	980	1090	1205	1340	1450	1690	1885	2115	2310	2810	2980	3270
Center Height	R1	455	525	570	660	725	775	830	975	1125	1275	1405	1625	1665	1810
	R2	415	465	515	565	650	690	780	870	1005	1135	1255	1380	1505	1610
	R3	515	590	675	770	840	910	970	1140	1315	1485	2475	1835	1990	2140
Total Height	H1	765	880	995	1120	1280	1360	1480	1685	1965	2180	2455	2795	2945	3170
	H2	865	975	1125	1245	1430	1530	1680	1920	2225	2485	2745	3055	3335	3590
	H3	825	940	1085	1205	1395	1490	1640	1870	2175	2435	2765	3075	3355	3610
Casing	T	350	410	460	510	560	610	660	740	860	1000	1130	1170	1280	1360
	T1	340	390	450	485	560	610	680	780	890	1010	1050	1240	1365	1470
	T2	385	450	520	580	660	700	790	890	1050	1160	1290	1485	1525	1670
Fan Base	L	1000	1150	1300	1400	1600	1650	1700	2000	2200	2400	2600	2750	2900	3300
	W1	680	780	890	990	1115	1215	1310	1515	1715	1945	2170	2390	2600	2800
Fan Pad	PL	1300	1450	1600	1700	1900	1950	2000	2300	2500	2700	2900	3050	3200	3600
	PW	980	1080	1190	1290	1415	1515	1610	1815	2015	2245	2470	2690	2900	3100

(All Dimensions in mm)