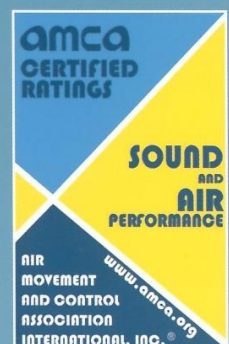




SIROCCO FAN SINGLE SUCTION

"TSSF-SS" Series Rev. 02

'July 2019





GENERAL INDEX

1. INTRODUCTION-----	2 PAGE
2. AMCA SEAL INFORMATION-----	2 PAGE

A. "TSSF" SERIES (SIROCCO FAN SINGLE SUCTION)

a-1. ABOUT FANS-----	3 PAGE
Fan structure (구조)	
Product characteristic (특징)	
Main Application (용도)	
a-2. FAN SELECT METHOD-----	4 PAGE
a-3. AIR PERFORMANCE AND SOUND DATA-----	5~18 PAGE
a-4. OVERALL DIMENSIONS-----	19 PAGE

INTRODUCTION &
AMCA SEAL INFORMATION



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

주)티에스에어테크는 꾸준한 제품개발과 철저한 고객서비스로 명실상부한 송풍기(FAN)전문 메이커로서 정상에 우뚝 서고자 심혈을 기울여 최선을 다 할 것이며 끊임없는 기술개발과 철저한 품질관리로 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.

TSAIRTECH certifies that the type "TSSF" sirocco 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.

ABOUT FANS



● 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)

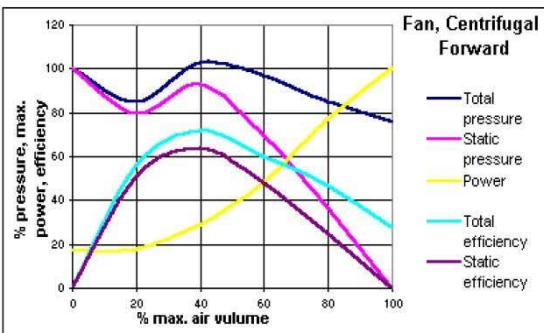
같은 주속도의 다른 FAN보다 많은 풍량을 낼 수 있습니다.

2) 저소음 (Low level sound)

정압 60mmAq이하의 저압에서 저속으로 정속한 운전이 가능합니다.

3) 성능특성 (Special Performance)

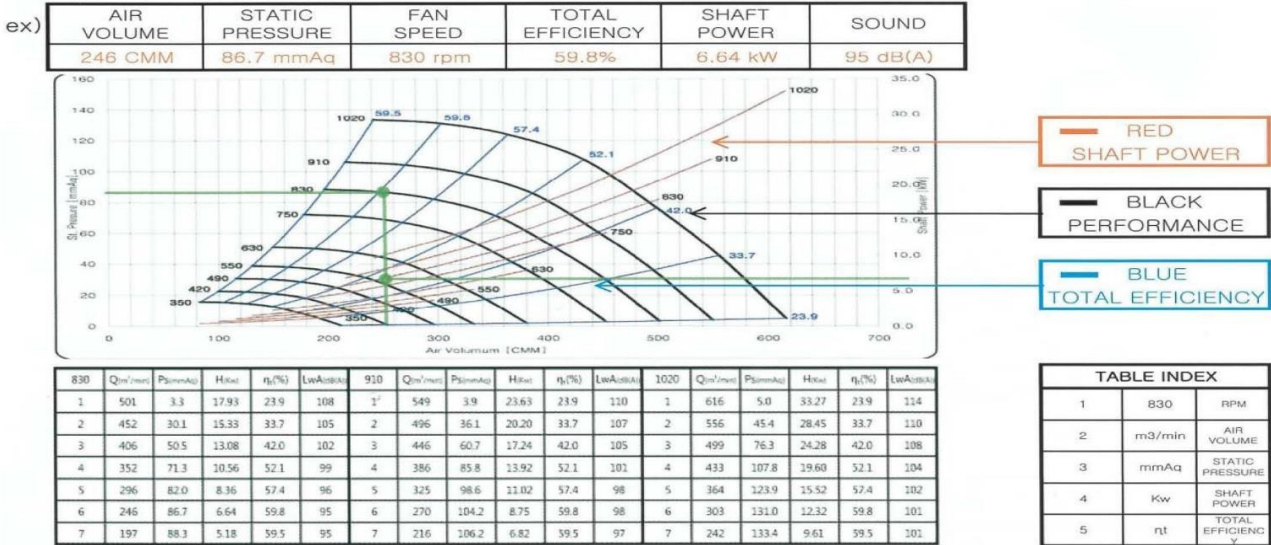
특성곡선 상의 정압곡선이 다른 원심 송풍기에 비하여 완만하기 때문에 풍량변동에 따른 풍압의 변화가 적습니다. 따라서 여러개의 급, 배기구에서 급, 배기할 경우 그 일부를 패쇄하여도 큰 영향을 받지 않습니다.



● 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



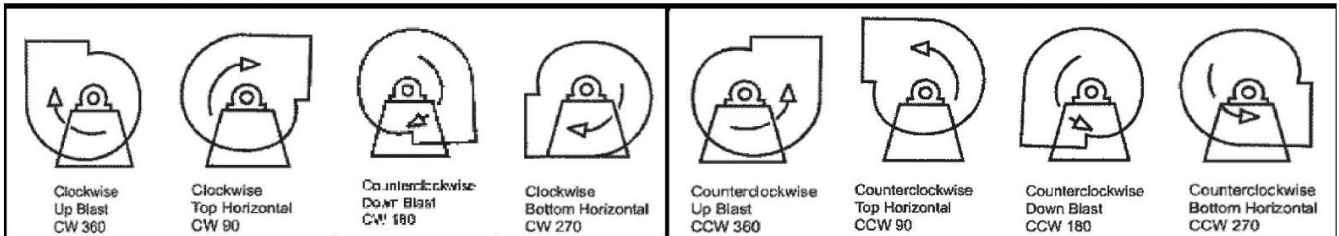
FAN 회전과 토출방향 (Fan Rotation and Discharge)

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

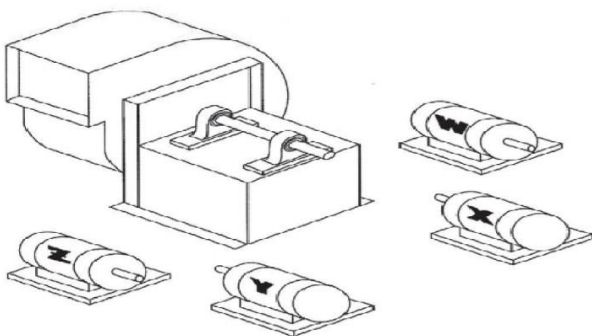
회전방향은 FAN의 구동측으로 부터 결정됩니다.

CW-clockwise rotation

CCW-center-clockwise rotation



모터 위치 (Motor Position)

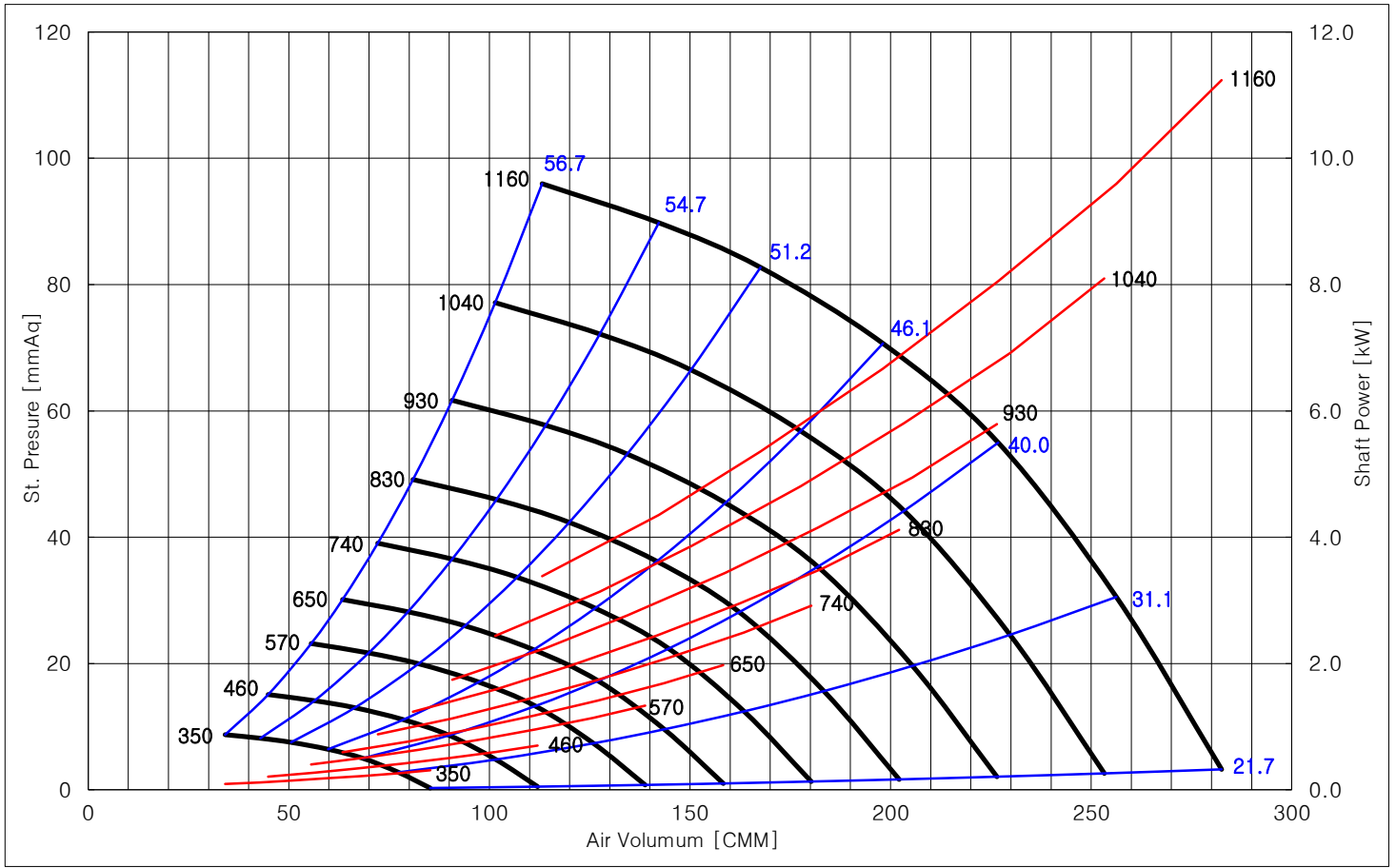


벨트구동 원심형 FAN의 모터방향은 AMCA 표준 99-2407-03을 기준으로 합니다.

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 #3SS



350	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	460	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	570	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	85	0.3	0.31	21.7	76	1	112	0.5	0.70	21.7	83	1	139	0.8	1.33	21.7	89
2	77	2.8	0.26	31.1	73	2	102	4.8	0.60	31.1	80	2	126	7.4	1.14	31.1	85
3	68	5.0	0.22	40.0	70	3	90	8.6	0.50	40.0	77	3	111	13.3	0.96	40.0	82
4	60	6.4	0.18	46.1	67	4	79	11.1	0.42	46.1	74	4	97	17.1	0.79	46.1	80
5	51	7.5	0.15	51.2	64	5	66	13.0	0.33	51.2	71	5	82	20.0	0.64	51.2	77
6	43	8.2	0.12	54.7	62	6	56	14.1	0.27	54.7	69	6	70	21.7	0.52	54.7	75
7	34	8.7	0.09	56.7	61	7	45	15.1	0.21	56.7	68	7	56	23.2	0.40	56.7	74
650	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	740	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	830	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	158	1.0	1.98	21.7	92	1	180	1.3	2.92	21.7	95	1	202	1.7	4.12	21.7	98
2	144	9.6	1.69	31.1	89	2	163	12.4	2.49	31.1	92	2	183	15.6	3.51	31.1	95
3	127	17.3	1.42	40.0	86	3	145	22.4	2.09	40.0	89	3	162	28.1	2.95	40.0	92
4	111	22.2	1.17	46.1	83	4	126	28.8	1.73	46.1	86	4	142	36.2	2.44	46.1	89
5	94	26.0	0.94	51.2	81	5	107	33.7	1.39	51.2	84	5	120	42.3	1.96	51.2	87
6	80	28.2	0.77	54.7	79	6	91	36.5	1.13	54.7	82	6	102	46.0	1.59	54.7	85
7	63	30.1	0.60	56.7	77	7	72	39.1	0.88	56.7	80	7	81	49.1	1.24	56.7	83
930	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	1040	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	1160	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	226	2.1	5.79	21.7	101	1	253	2.6	8.10	21.7	104	1	283	3.2	11.24	21.7	107
2	205	19.6	4.94	31.1	98	2	230	24.6	6.91	31.1	101	2	256	30.5	9.59	31.1	103
3	182	35.3	4.15	40.0	95	3	203	44.2	5.80	40.0	98	3	227	55.0	8.05	40.0	101
4	159	45.4	3.44	46.1	92	4	178	56.8	4.80	46.1	95	4	198	70.7	6.67	46.1	98
5	134	53.2	2.76	51.2	90	5	150	66.5	3.86	51.2	93	5	168	82.7	5.35	51.2	96
6	114	57.7	2.24	54.7	88	6	128	72.2	3.14	54.7	91	6	142	89.8	4.35	54.7	94
7	91	61.7	1.74	56.7	87	7	101	77.1	2.44	56.7	90	7	113	96.0	3.38	56.7	93

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

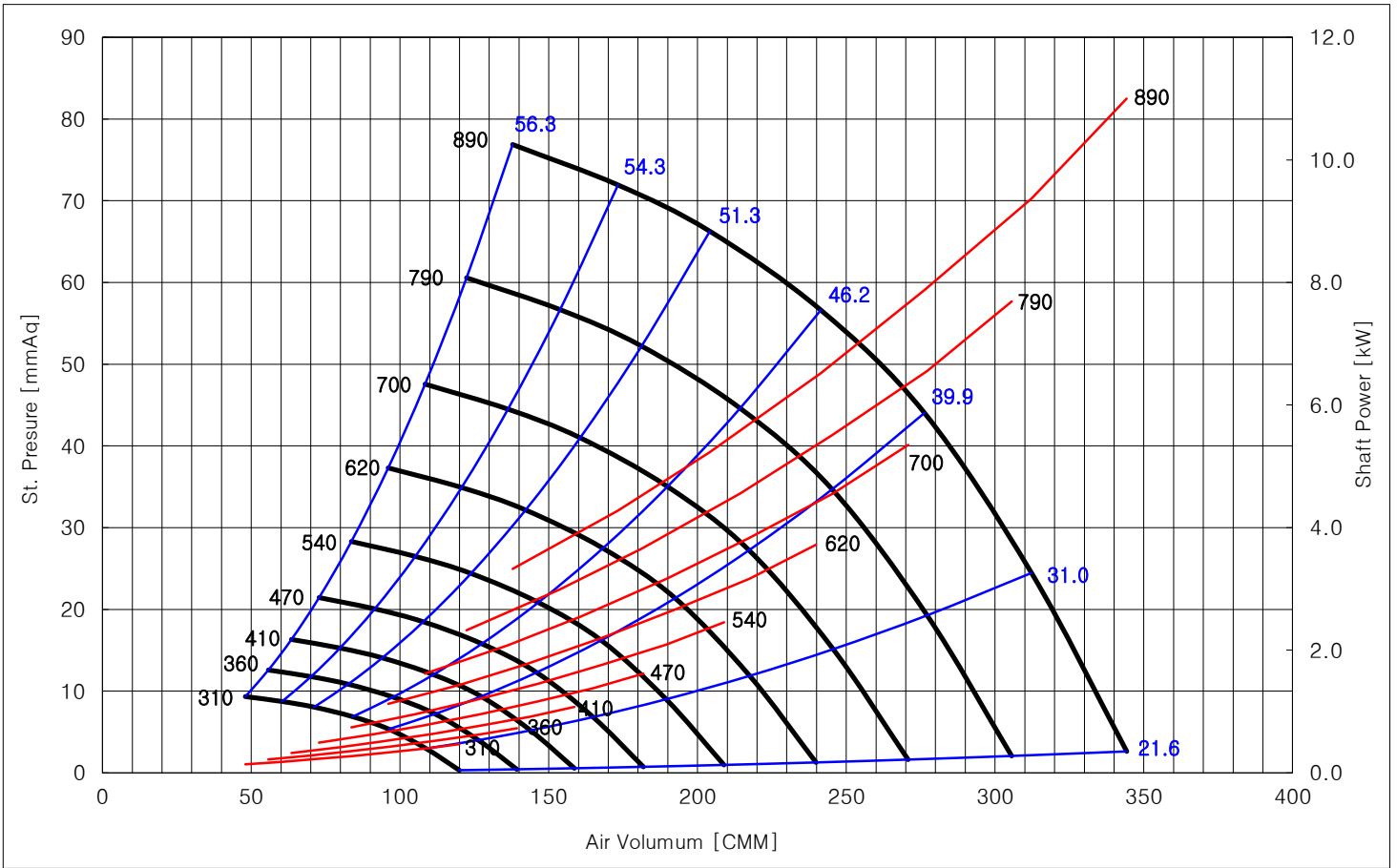
- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories). Power rating kW does not include transmission losses.



PERFORMANCE CURVES AND NOISE DATA - TSSF #3.5SS



310	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	410	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	120	0.3	0.46	21.6	78	1	139	0.4	0.73	21.6	81	1	159	0.6	1.08	21.6	85
2	109	3.0	0.40	31.0	74	2	126	4.0	0.62	31.0	78	2	144	5.2	0.92	31.0	81
3	96	5.3	0.33	39.9	72	3	112	7.2	0.52	39.9	75	3	127	9.3	0.77	39.9	79
4	84	6.9	0.28	46.2	69	4	98	9.3	0.43	46.2	72	4	111	12.0	0.64	46.2	76
5	71	8.0	0.22	51.3	66	5	83	10.8	0.35	51.3	70	5	94	14.1	0.51	51.3	73
6	60	8.7	0.18	54.3	64	6	70	11.8	0.28	54.3	67	6	80	15.3	0.42	54.3	71
7	48	9.3	0.14	56.3	62	7	56	12.6	0.22	56.3	66	7	64	16.3	0.33	56.3	69
470	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	540	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	620	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	182	0.7	1.62	21.6	88	1	209	1.0	2.46	21.6	92	1	240	1.3	3.72	21.6	95
2	165	6.8	1.38	31.0	85	2	189	9.0	2.09	31.0	89	2	218	11.9	3.17	31.0	92
3	146	12.3	1.16	39.9	82	3	168	16.2	1.76	39.9	86	3	192	21.4	2.66	39.9	89
4	128	15.8	0.96	46.2	79	4	146	20.8	1.46	46.2	83	4	168	27.5	2.20	46.2	87
5	108	18.5	0.77	51.3	77	5	124	24.4	1.17	51.3	81	5	142	32.2	1.77	51.3	84
6	92	20.1	0.63	54.3	75	6	105	26.5	0.96	54.3	78	6	121	34.9	1.45	54.3	82
7	73	21.4	0.49	56.3	73	7	84	28.3	0.74	56.3	77	7	96	37.3	1.12	56.3	81
700	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	790	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	890	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	271	1.6	5.35	21.6	98	1	306	2.1	7.69	21.6	101	1	344	2.6	11.00	21.6	104
2	246	15.1	4.56	31.0	95	2	277	19.3	6.55	31.0	98	2	312	24.5	9.37	31.0	101
3	217	27.2	3.83	39.9	92	3	245	34.7	5.51	39.9	95	3	276	44.0	7.88	39.9	98
4	190	35.0	3.17	46.2	90	4	214	44.6	4.56	46.2	93	4	241	56.6	6.52	46.2	96
5	161	41.0	2.54	51.3	87	5	181	52.2	3.66	51.3	90	5	204	66.3	5.23	51.3	93
6	136	44.5	2.08	54.3	85	6	154	56.7	2.99	54.3	88	6	173	71.9	4.28	54.3	91
7	108	47.6	1.62	56.3	84	7	122	60.6	2.33	56.3	87	7	138	76.9	3.33	56.3	90

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

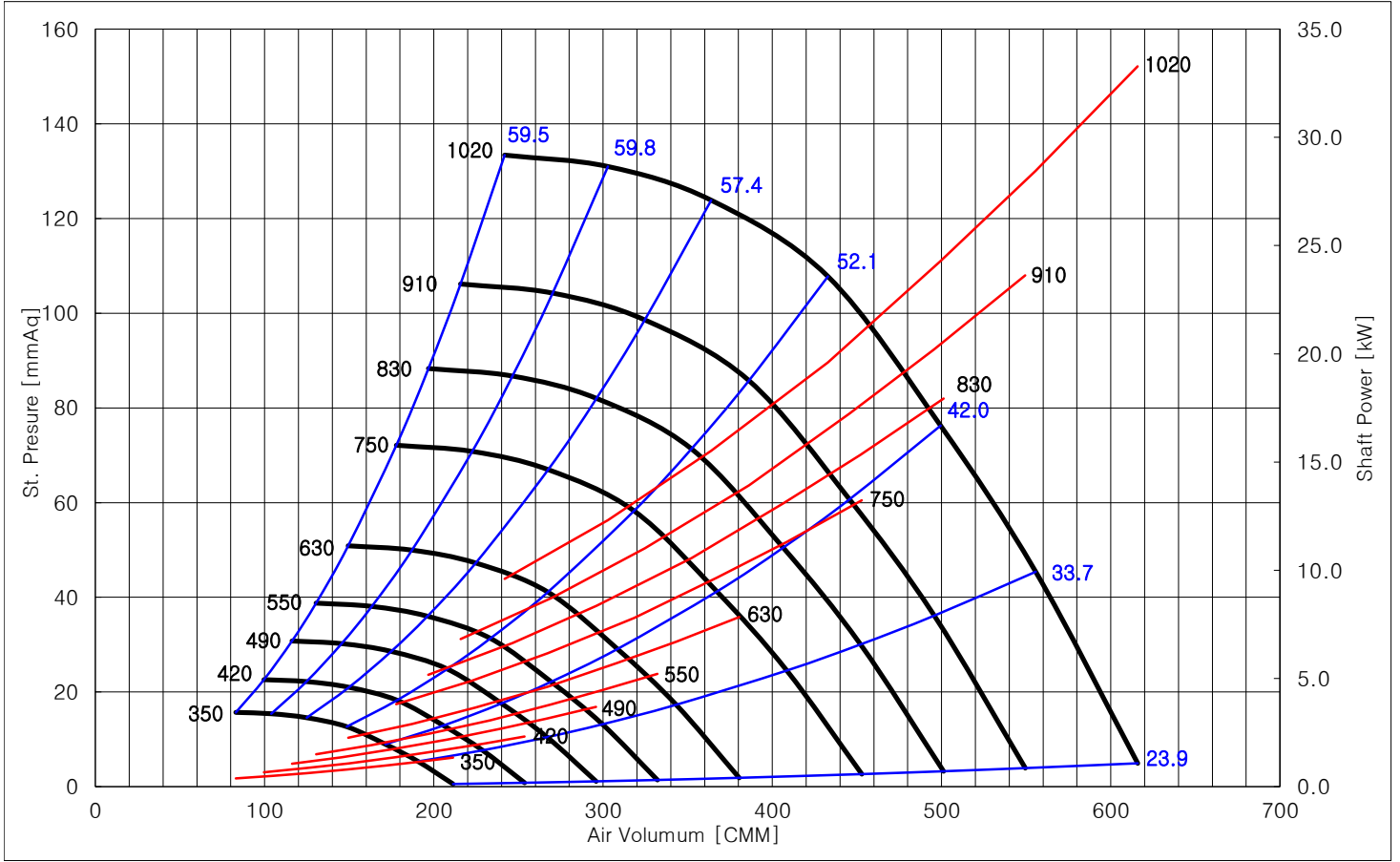
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #4SS



350	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	420	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	490	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	211	0.6	1.34	23.9	85	1	254	0.8	2.32	23.9	89	1	296	1.1	3.69	23.9	94
2	191	5.3	1.15	33.7	82	2	229	7.7	1.99	33.7	87	2	267	10.5	3.15	33.7	91
3	171	9.0	0.98	42.0	80	3	206	12.9	1.70	42.0	84	3	240	17.6	2.69	42.0	89
4	149	12.7	0.79	52.1	76	4	178	18.3	1.37	52.1	81	4	208	24.9	2.17	52.1	85
5	125	14.6	0.63	57.4	73	5	150	21.0	1.08	57.4	77	5	175	28.6	1.72	57.4	82
6	104	15.4	0.50	59.8	71	6	125	22.2	0.86	59.8	76	6	145	30.2	1.37	59.8	81
7	83	15.7	0.39	59.5	71	7	100	22.6	0.67	59.5	76	7	116	30.8	1.06	59.5	80
550	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	630	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	750	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	332	1.4	5.22	23.9	97	1	380	1.9	7.84	23.9	100	1	453	2.7	13.23	23.9	105
2	300	13.2	4.46	33.7	94	2	343	17.3	6.70	33.7	97	2	409	24.5	11.31	33.7	102
3	269	22.2	3.81	42.0	92	3	308	29.1	5.72	42.0	95	3	367	41.2	9.65	42.0	100
4	233	31.3	3.07	52.1	88	4	267	41.1	4.62	52.1	91	4	318	58.3	7.79	52.1	96
5	196	36.0	2.43	57.4	85	5	225	47.2	3.66	57.4	88	5	268	67.0	6.17	57.4	93
6	163	38.1	1.93	59.8	84	6	187	50.0	2.90	59.8	87	6	223	70.8	4.90	59.8	92
7	130	38.8	1.51	59.5	84	7	149	50.9	2.26	59.5	87	7	178	72.1	3.82	59.5	92
830	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	910	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	1020	Q(m ³ /min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	501	3.3	17.93	23.9	108	1	549	3.9	23.63	23.9	110	1	616	5.0	33.27	23.9	114
2	452	30.1	15.33	33.7	105	2	496	36.1	20.20	33.7	107	2	556	45.4	28.45	33.7	110
3	406	50.5	13.08	42.0	102	3	446	60.7	17.24	42.0	105	3	499	76.3	24.28	42.0	108
4	352	71.3	10.56	52.1	99	4	386	85.8	13.92	52.1	101	4	433	107.8	19.60	52.1	104
5	296	82.0	8.36	57.4	96	5	325	98.6	11.02	57.4	98	5	364	123.9	15.52	57.4	102
6	246	86.7	6.64	59.8	95	6	270	104.2	8.75	59.8	98	6	303	131.0	12.32	59.8	101
7	197	88.3	5.18	59.5	95	7	216	106.2	6.82	59.5	97	7	242	133.4	9.61	59.5	101

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

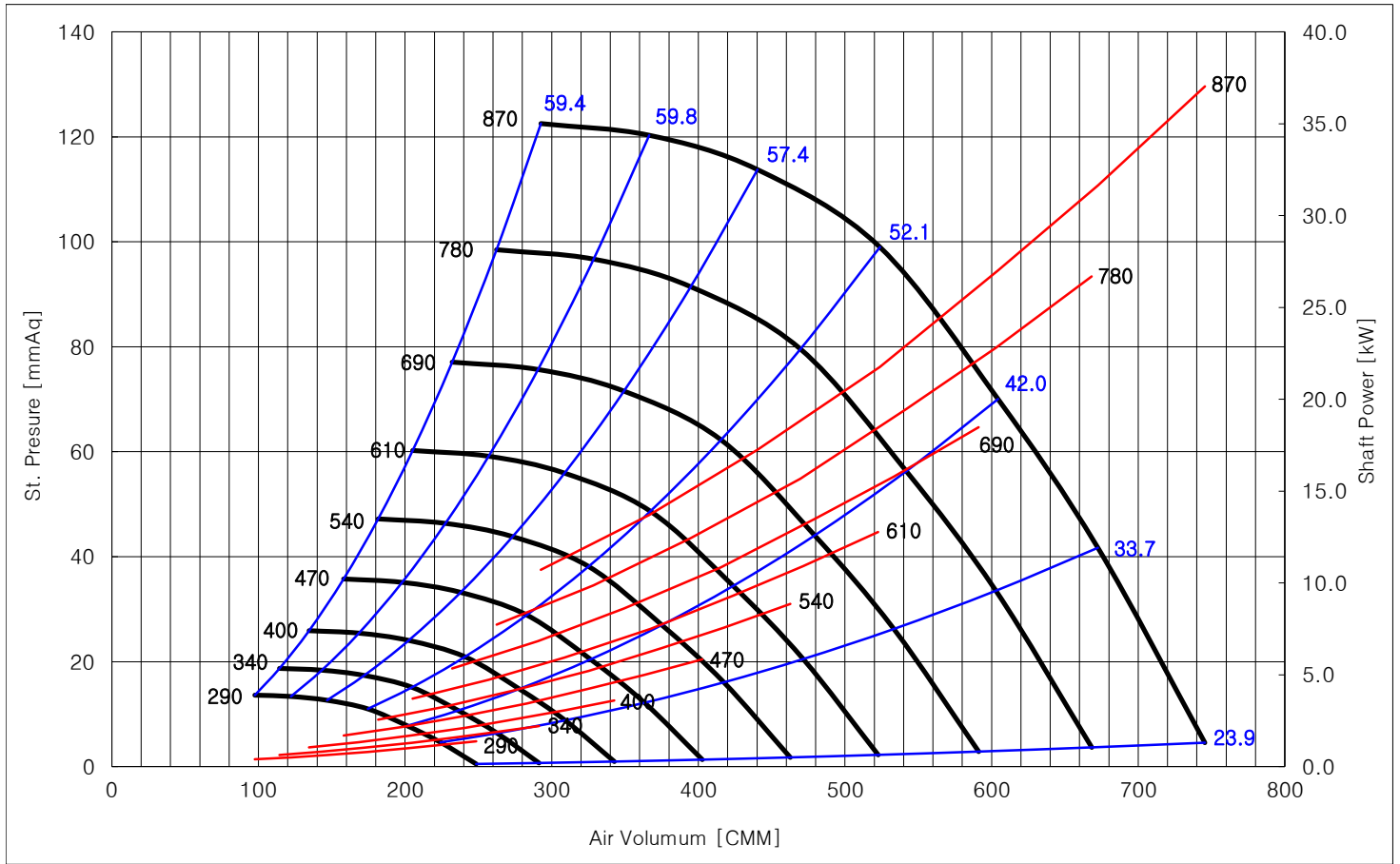
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #4.5SS



290	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	340	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	400	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	248	0.5	1.37	23.9	83	1	291	0.7	2.21	23.9	87	1	343	1.0	3.60	23.9	92
2	224	4.6	1.17	33.7	80	2	263	6.4	1.89	33.7	85	2	309	8.8	3.08	33.7	89
3	201	7.8	1.00	42.0	78	3	236	10.7	1.61	42.0	83	3	278	14.8	2.63	42.0	87
4	175	11.0	0.81	52.1	74	4	205	15.1	1.30	52.1	79	4	241	20.9	2.11	52.1	83
5	147	12.6	0.64	57.4	71	5	172	17.4	1.03	57.4	75	5	202	24.0	1.68	57.4	80
6	122	13.4	0.51	59.8	70	6	143	18.4	0.82	59.8	74	6	169	25.4	1.33	59.8	79
7	98	13.6	0.40	59.4	70	7	114	18.7	0.64	59.4	74	7	135	25.9	1.04	59.4	78
470	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	540	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	610	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	403	1.3	5.84	23.9	96	1	463	1.8	8.86	23.9	100	1	523	2.2	12.77	23.9	103
2	363	12.2	4.99	33.7	93	2	417	16.1	7.57	33.7	97	2	472	20.5	10.91	33.7	100
3	327	20.4	4.26	42.0	91	3	375	27.0	6.46	42.0	95	3	424	34.4	9.31	42.0	98
4	283	28.9	3.43	52.1	87	4	325	38.1	5.20	52.1	91	4	367	48.7	7.50	52.1	94
5	238	33.2	2.72	57.4	84	5	273	43.8	4.13	57.4	88	5	309	55.9	5.95	57.4	91
6	198	35.1	2.16	59.8	83	6	227	46.3	3.28	59.8	87	6	257	59.1	4.72	59.8	90
7	158	35.8	1.69	59.4	83	7	182	47.2	2.56	59.4	87	7	205	60.2	3.69	59.4	90
690	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	780	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	870	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	591	2.9	18.48	23.9	106	1	668	3.7	26.69	23.9	109	1	745	4.6	37.04	23.9	113
2	533	26.2	15.79	33.7	103	2	603	33.5	22.81	33.7	107	2	672	41.7	31.65	33.7	109
3	479	44.1	13.48	42.0	101	3	542	56.3	19.47	42.0	104	3	604	70.0	27.02	42.0	107
4	415	62.3	10.85	52.1	97	4	470	79.6	15.68	52.1	101	4	524	99.0	21.75	52.1	104
5	349	71.6	8.61	57.4	95	5	395	91.4	12.43	57.4	98	5	440	113.8	17.25	57.4	101
6	291	75.7	6.83	59.8	94	6	329	96.7	9.87	59.8	97	6	367	120.3	13.70	59.8	100
7	232	77.1	5.35	59.4	93	7	262	98.5	7.72	59.4	97	7	293	122.5	10.72	59.4	100

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

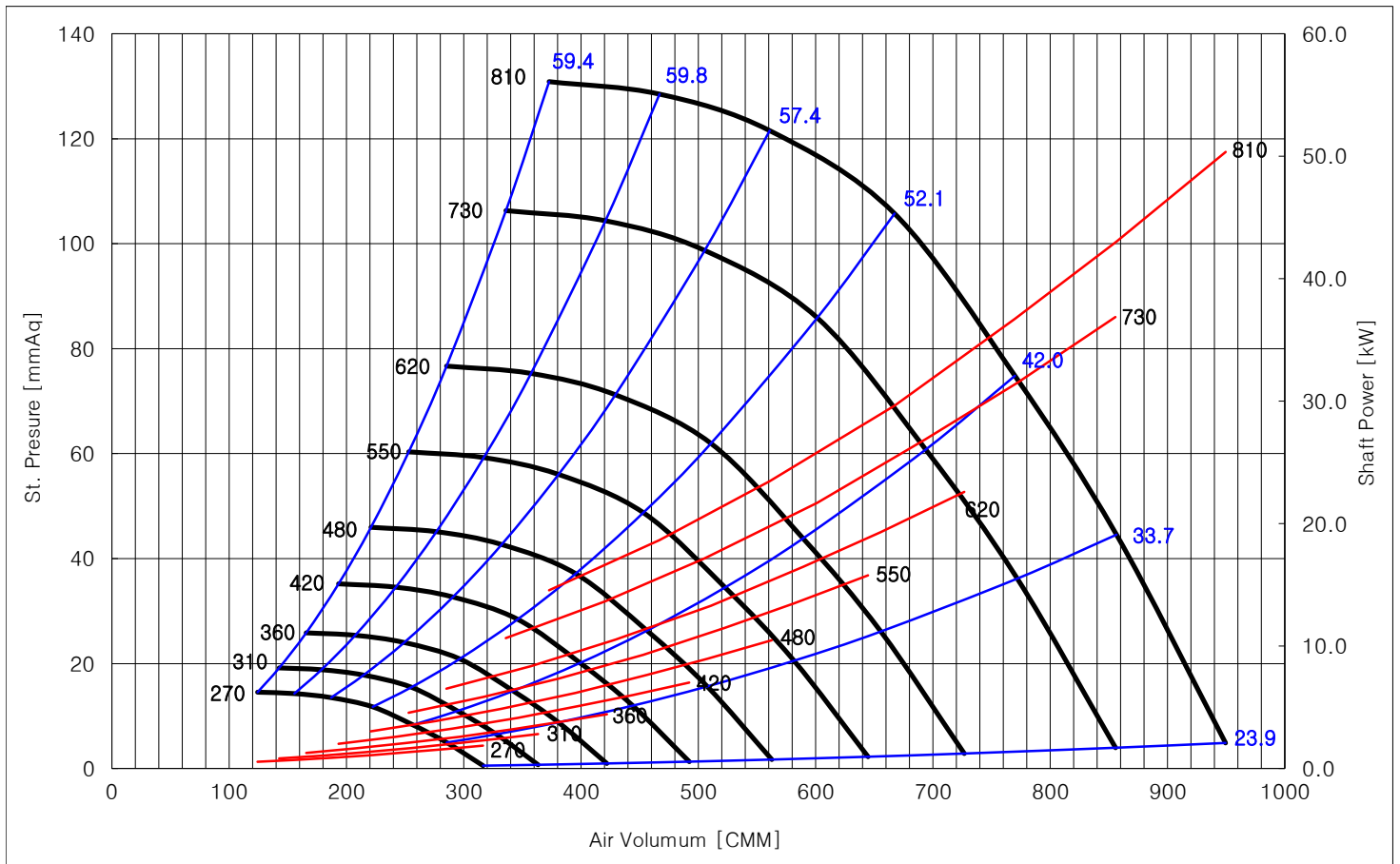
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #5SS



270	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	310	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	316	0.5	1.87	23.9	85	1	363	0.7	2.82	23.9	88	1	422	1.0	4.42	23.9	92
2	285	5.0	1.59	33.7	82	2	328	6.5	2.41	33.7	85	2	381	8.8	3.78	33.7	89
3	257	8.3	1.36	42.0	80	3	295	11.0	2.06	42.0	83	3	342	14.8	3.22	42.0	87
4	222	11.7	1.10	52.1	76	4	255	15.5	1.66	52.1	79	4	297	20.9	2.60	52.1	83
5	187	13.5	0.87	57.4	72	5	215	17.8	1.31	57.4	76	5	249	24.0	2.06	57.4	80
6	156	14.3	0.69	59.8	71	6	179	18.8	1.05	59.8	75	6	208	25.4	1.64	59.8	79
7	124	14.5	0.54	59.4	71	7	143	19.2	0.82	59.4	75	7	166	25.9	1.28	59.4	79
420	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	480	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	550	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	492	1.3	7.02	23.9	96	1	563	1.7	10.48	23.9	100	1	645	2.2	15.76	23.9	104
2	444	12.0	6.00	33.7	93	2	508	15.6	8.96	33.7	97	2	582	20.5	13.47	33.7	101
3	399	20.1	5.12	42.0	91	3	456	26.3	7.64	42.0	95	3	523	34.5	11.50	42.0	98
4	346	28.4	4.13	52.1	87	4	395	37.1	6.16	52.1	91	4	453	48.8	9.27	52.1	95
5	291	32.7	3.27	57.4	84	5	332	42.7	4.88	57.4	88	5	381	56.0	7.34	57.4	92
6	242	34.6	2.60	59.8	83	6	277	45.1	3.88	59.8	87	6	317	59.2	5.84	59.8	91
7	193	35.2	2.03	59.4	83	7	221	46.0	3.03	59.4	87	7	253	60.3	4.56	59.4	90
620	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	730	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	810	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	727	2.9	22.58	23.9	107	1	856	4.0	36.86	23.9	111	1	949	4.9	50.36	23.9	114
2	656	26.1	19.30	33.7	104	2	772	36.2	31.50	33.7	108	2	856	44.6	43.04	33.7	111
3	589	43.8	16.47	42.0	102	3	694	60.8	26.88	42.0	106	3	770	74.8	36.73	42.0	109
4	511	62.0	13.29	52.1	98	4	601	85.9	21.69	52.1	102	4	667	105.7	29.62	52.1	105
5	429	71.2	10.52	57.4	95	5	505	98.7	17.17	57.4	99	5	561	121.5	23.46	57.4	102
6	357	75.3	8.36	59.8	94	6	421	104.4	13.65	59.8	98	6	467	128.5	18.65	59.8	101
7	285	76.7	6.53	59.4	94	7	336	106.3	10.66	59.4	98	7	373	130.9	14.56	59.4	101

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

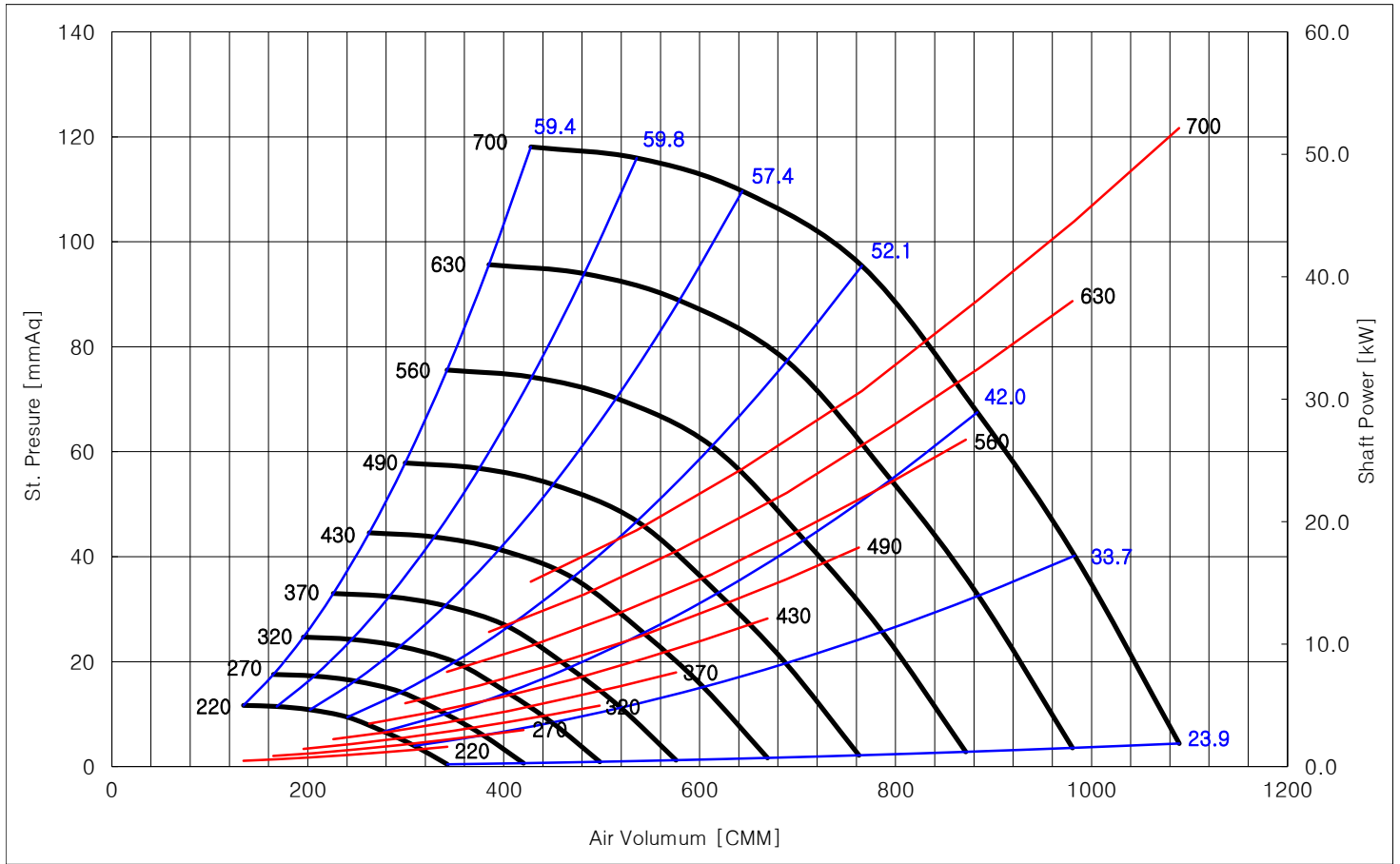
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #5.5SS



220	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	270	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	320	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	342	0.4	1.62	23.9	82	1	420	0.7	2.99	23.9	88	1	498	0.9	4.98	23.9	92
2	309	4.0	1.38	33.7	79	2	379	6.0	2.56	33.7	85	2	449	8.4	4.26	33.7	89
3	278	6.7	1.18	42.0	77	3	341	10.0	2.18	42.0	83	3	404	14.1	3.64	42.0	87
4	241	9.4	0.95	52.1	73	4	295	14.2	1.76	52.1	79	4	350	19.9	2.93	52.1	83
5	202	10.8	0.75	57.4	70	5	248	16.3	1.40	57.4	75	5	294	22.9	2.32	57.4	80
6	168	11.5	0.60	59.8	69	6	207	17.3	1.11	59.8	74	6	245	24.2	1.84	59.8	79
7	134	11.7	0.47	59.4	68	7	165	17.6	0.87	59.4	74	7	196	24.7	1.44	59.4	78
370	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	430	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	490	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	576	1.2	7.70	23.9	96	1	669	1.7	12.09	23.9	100	1	763	2.2	17.88	23.9	104
2	520	11.2	6.58	33.7	93	2	604	15.2	10.33	33.7	97	2	688	19.7	15.28	33.7	100
3	467	18.9	5.62	42.0	91	3	543	25.5	8.82	42.0	95	3	618	33.1	13.05	42.0	98
4	405	26.7	4.53	52.1	87	4	470	36.0	7.11	52.1	91	4	536	46.8	10.52	52.1	95
5	340	30.6	3.59	57.4	84	5	395	41.4	5.64	57.4	88	5	451	53.7	8.34	57.4	92
6	283	32.4	2.85	59.8	83	6	329	43.8	4.47	59.8	87	6	375	56.8	6.62	59.8	90
7	226	33.0	2.23	59.4	82	7	263	44.6	3.50	59.4	86	7	299	57.9	5.18	59.4	90
560	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	630	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	700	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	872	2.8	26.70	23.9	107	1	981	3.6	38.01	23.9	110	1	1090	4.4	52.14	23.9	113
2	786	25.7	22.81	33.7	104	2	885	32.6	32.48	33.7	107	2	983	40.2	44.56	33.7	110
3	707	43.2	19.48	42.0	102	3	795	54.7	27.74	42.0	105	3	884	67.5	38.06	42.0	108
4	613	61.1	15.71	52.1	98	4	689	77.3	22.36	52.1	101	4	766	95.4	30.68	52.1	104
5	515	70.2	12.45	57.4	95	5	579	88.8	17.72	57.4	98	5	644	109.7	24.31	57.4	101
6	429	74.2	9.88	59.8	94	6	482	93.9	14.07	59.8	97	6	536	116.0	19.30	59.8	100
7	342	75.6	7.73	59.4	94	7	385	95.6	11.01	59.4	97	7	428	118.1	15.10	59.4	100

- The A-Weighted sound rating shown has been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

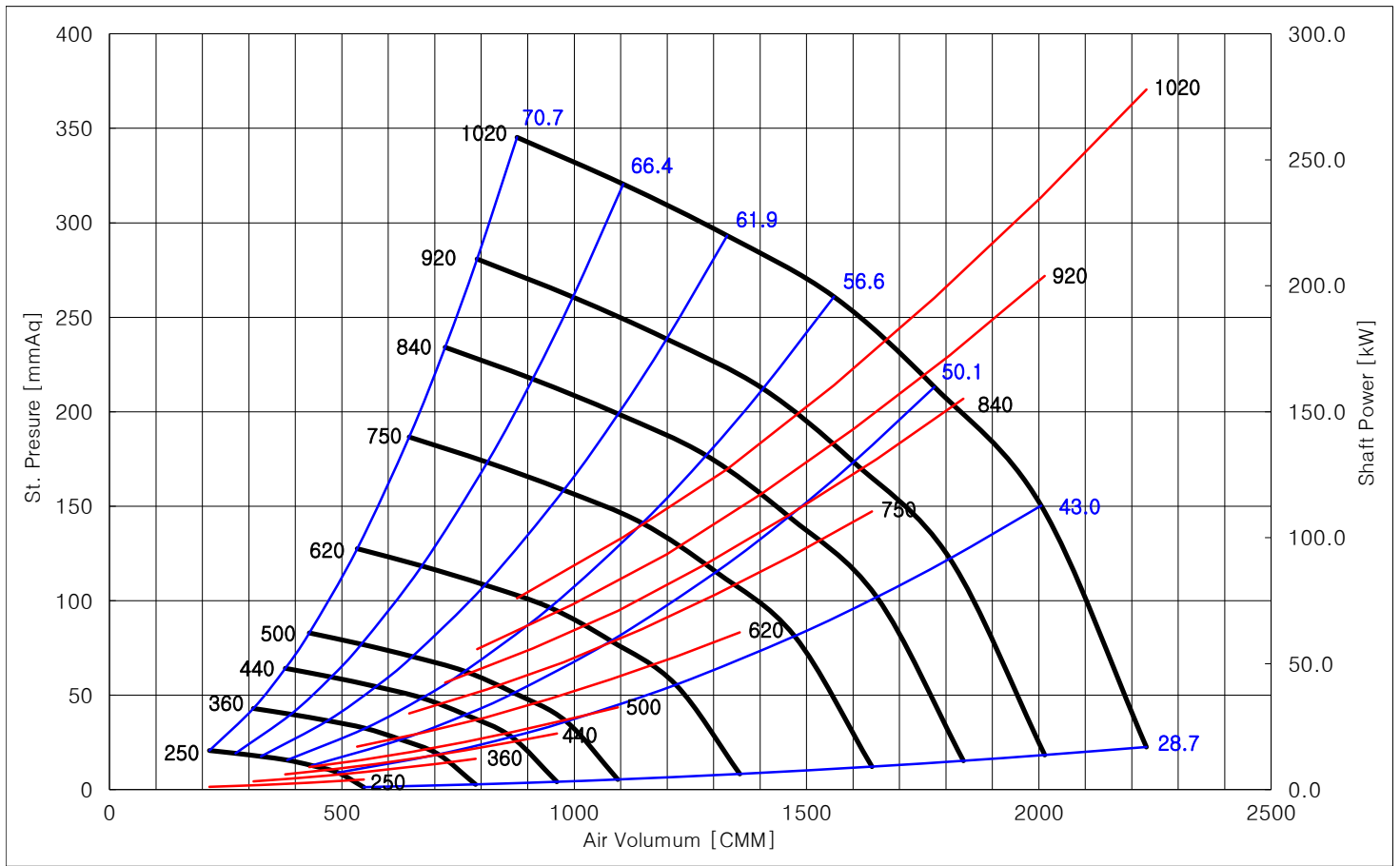
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories). Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #6SS



250	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	440	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))
1	547	1.4	4.09	28.7	91	1	788	2.8	12.22	28.7	100	1	963	4.2	22.31	28.7	105
2	491	9.0	3.46	43.0	86	2	708	18.7	10.33	43.0	95	2	865	28.0	18.87	43.0	110
3	435	12.8	2.87	50.1	83	3	627	26.5	8.58	50.1	93	3	766	39.7	15.66	50.1	98
4	382	15.7	2.36	56.6	81	4	550	32.5	7.06	56.6	91	4	673	48.5	12.89	56.6	96
5	326	17.6	1.87	61.9	78	5	469	36.5	5.59	61.9	88	5	573	54.6	10.21	61.9	93
6	271	19.3	1.48	66.4	75	6	390	39.9	4.41	66.4	85	6	477	59.6	8.05	66.4	90
7	215	20.7	1.12	70.7	72	7	310	43.0	3.34	70.7	82	7	378	64.2	6.10	70.7	87
500	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	620	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	750	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))
1	1094	5.4	32.73	28.7	108	1	1356	8.3	62.41	28.7	113	1	1641	12.2	110.48	28.7	117
2	983	36.1	27.69	43.0	103	2	1219	55.5	52.79	43.0	109	2	1474	81.3	93.45	43.0	113
3	870	51.2	22.99	50.1	101	3	1079	78.7	43.83	50.1	107	3	1305	115.2	77.58	50.1	111
4	764	62.7	18.91	56.6	99	4	948	96.4	36.05	56.6	105	4	1146	141.0	63.82	56.6	110
5	652	70.5	14.99	61.9	96	5	808	108.3	28.57	61.9	102	5	977	158.5	50.58	61.9	107
6	542	77.0	11.81	66.4	93	6	672	118.4	22.52	66.4	99	6	813	173.3	39.87	66.4	105
7	430	83.0	8.96	70.7	90	7	533	127.5	17.08	70.7	96	7	645	186.6	30.23	70.7	102
840	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	920	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	1020	Q(m³/min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))
1	1838	15.3	155.21	28.7	120	1	2013	18.4	203.92	28.7	122	1	2232	22.6	277.90	28.7	125
2	1651	101.9	131.29	43.0	116	2	1809	122.3	172.49	43.0	118	2	2005	150.3	235.07	43.0	121
3	1462	144.5	109.00	50.1	114	3	1601	173.4	143.20	50.1	116	3	1775	213.1	195.15	50.1	119
4	1284	176.9	89.66	56.6	112	4	1406	212.2	117.79	56.6	115	4	1559	260.8	160.53	56.6	117
5	1095	198.8	71.06	61.9	110	5	1199	238.5	93.36	61.9	112	5	1329	293.2	127.23	61.9	115
6	911	217.3	56.02	66.4	107	6	997	260.7	73.60	66.4	110	6	1106	320.4	100.30	66.4	113
7	722	234.1	42.47	70.7	105	7	791	280.8	55.79	70.7	107	7	877	345.2	76.03	70.7	110

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

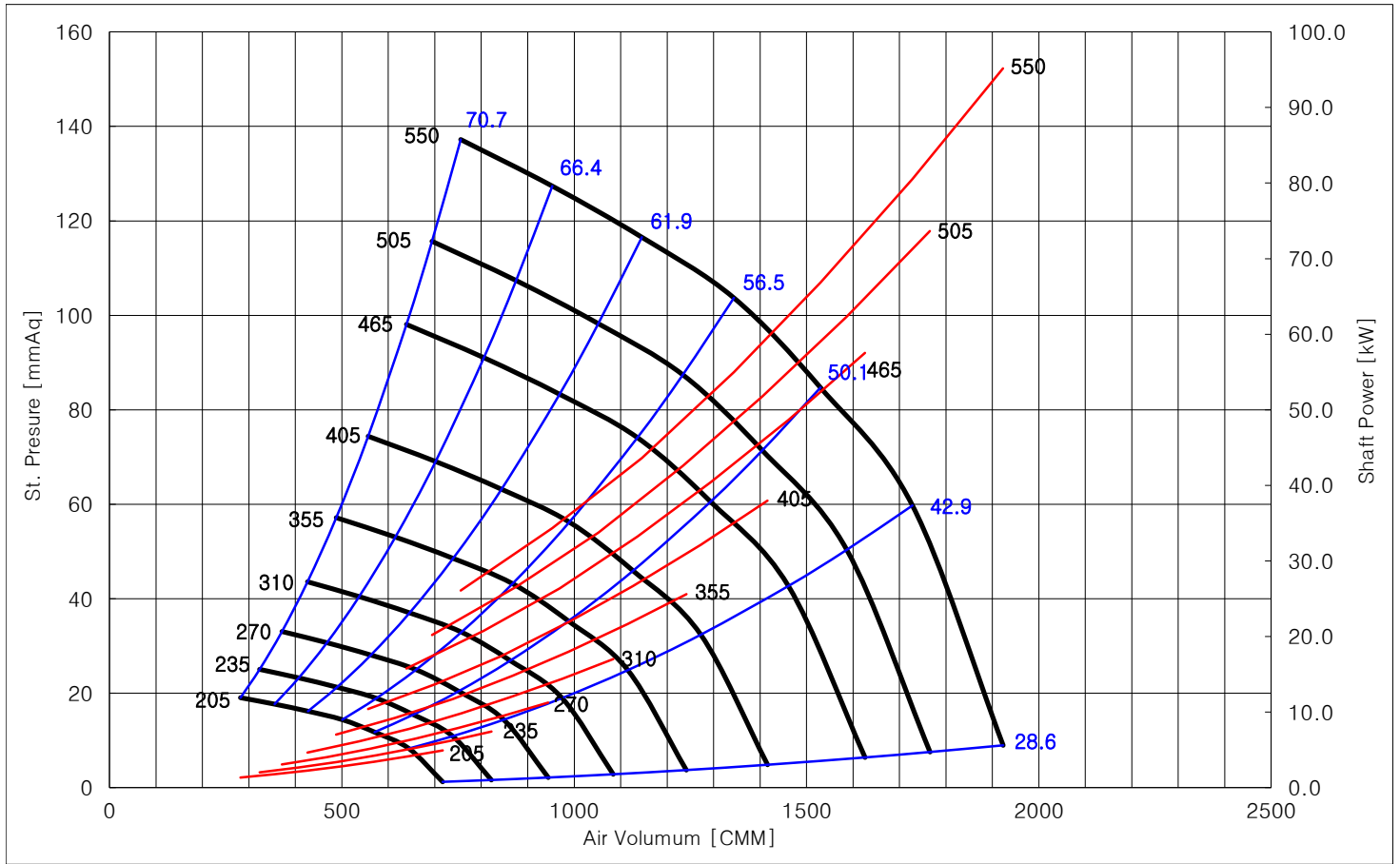
- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories). Power rating kW does not include transmission losses.



PERFORMANCE CURVES AND NOISE DATA - TSSF #7SS



205	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	235	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	270	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))
1	717	1.2	4.93	28.6	90	1	822	1.6	7.42	28.6	94	1	944	2.2	11.26	28.6	97
2	644	8.3	4.17	42.9	85	2	738	10.9	6.28	42.9	89	2	848	14.4	9.53	42.9	92
3	570	11.8	3.46	50.1	83	3	654	15.5	5.21	50.1	86	3	751	20.4	7.91	50.1	90
4	501	14.4	2.85	56.5	80	4	574	18.9	4.29	56.5	84	4	660	25.0	6.51	56.5	87
5	427	16.2	2.26	61.9	77	5	489	21.3	3.40	61.9	81	5	562	28.1	5.16	61.9	85
6	355	17.7	1.78	66.4	74	6	407	23.3	2.68	66.4	77	6	468	30.7	4.06	66.4	81
7	282	19.1	1.35	70.7	71	7	323	25.0	2.03	70.7	75	7	371	33.1	3.09	70.7	78
310	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	355	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	405	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))
1	1084	2.9	17.04	28.6	101	1	1241	3.7	25.59	28.6	104	1	1416	4.9	38.00	28.6	107
2	974	19.0	14.42	42.9	96	2	1115	24.9	21.66	42.9	99	2	1272	32.4	32.15	42.9	103
3	862	26.9	11.97	50.1	94	3	988	35.3	17.98	50.1	97	3	1127	45.9	26.69	50.1	100
4	757	32.9	9.85	56.5	91	4	867	43.2	14.79	56.5	95	4	990	56.2	21.96	56.5	98
5	646	37.0	7.81	61.9	88	5	739	48.5	11.73	61.9	92	5	844	63.2	17.42	61.9	96
6	537	40.5	6.15	66.4	85	6	615	53.1	9.24	66.4	89	6	702	69.1	13.71	66.4	92
7	426	43.6	4.67	70.7	82	7	488	57.2	7.01	70.7	86	7	557	74.4	10.41	70.7	89
465	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	505	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))	550	Q(m³/min)	Ps(mmAq)	H(kW)	ηr(%)	Lwi(dB(A))
1	1626	6.4	57.51	28.6	111	1	1766	7.6	73.66	28.6	113	1	1923	9.0	95.16	28.6	115
2	1461	42.7	48.67	42.9	106	2	1587	50.4	62.34	42.9	108	2	1728	59.7	80.53	42.9	110
3	1294	60.5	40.40	50.1	104	3	1405	71.4	51.75	50.1	106	3	1530	84.7	66.85	50.1	108
4	1136	74.1	33.24	56.5	102	4	1234	87.4	42.58	56.5	104	4	1344	103.7	55.01	56.5	106
5	969	83.3	26.36	61.9	99	5	1052	98.2	33.76	61.9	101	5	1146	116.5	43.62	61.9	104
6	806	91.0	20.76	66.4	96	6	875	107.4	26.59	66.4	98	6	953	127.4	34.35	66.4	101
7	639	98.1	15.76	70.7	93	7	694	115.7	20.19	70.7	95	7	756	137.2	26.08	70.7	98

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

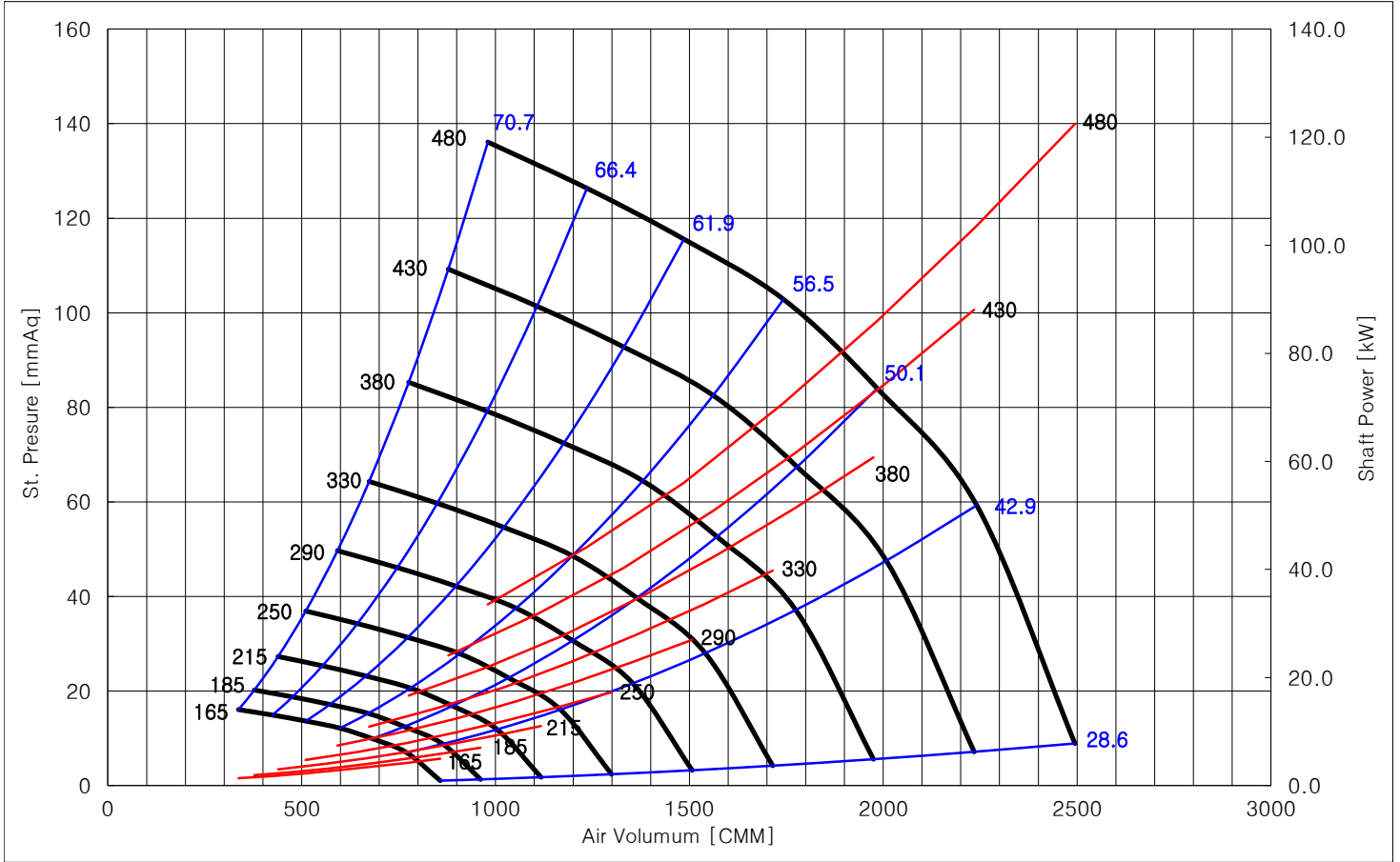
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #8SS



165	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	185	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	215	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	857	1.1	4.97	28.6	89	1	961	1.3	7.01	28.6	92	1	1117	1.8	11.00	28.6	96
2	770	7.0	4.21	42.9	84	2	864	8.8	5.93	42.9	87	2	1004	11.9	9.31	42.9	90
3	682	9.9	3.49	50.1	81	3	765	12.5	4.92	50.1	84	3	889	16.9	7.73	50.1	88
4	599	12.2	2.87	56.5	78	4	672	15.3	4.05	56.5	82	4	781	20.6	6.36	56.5	85
5	511	13.7	2.28	61.9	76	5	573	17.2	3.21	61.9	79	5	666	23.2	5.04	61.9	83
6	425	14.9	1.79	66.4	72	6	476	18.8	2.53	66.4	75	6	554	25.3	3.97	66.4	79
7	337	16.1	1.36	70.7	69	7	378	20.2	1.92	70.7	72	7	439	27.3	3.01	70.7	76
250	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	290	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	330	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	1299	2.4	17.30	28.6	99	1	1507	3.3	27.00	28.6	103	1	1715	4.2	39.79	28.6	106
2	1167	16.1	14.64	42.9	94	2	1354	21.6	22.85	42.9	98	2	1541	28.0	33.67	42.9	102
3	1034	22.8	12.15	50.1	92	3	1199	30.7	18.96	50.1	96	3	1364	39.7	27.94	50.1	99
4	908	27.9	10.00	56.5	89	4	1053	37.5	15.61	56.5	93	4	1198	48.6	23.00	56.5	97
5	774	31.4	7.92	61.9	87	5	898	42.2	12.36	61.9	91	5	1022	54.6	18.22	61.9	94
6	644	34.3	6.24	66.4	83	6	747	46.1	9.74	66.4	87	6	850	59.7	14.35	66.4	91
7	511	36.9	4.74	70.7	80	7	592	49.7	7.40	70.7	84	7	674	64.3	10.90	70.7	88
380	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	430	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	480	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	1975	5.6	60.75	28.6	110	1	2235	7.2	88.03	28.6	113	1	2494	8.9	122.45	28.6	115
2	1774	37.2	51.41	42.9	105	2	2008	47.6	74.49	42.9	108	2	2241	59.3	103.62	42.9	111
3	1571	52.7	42.67	50.1	103	3	1778	67.4	61.82	50.1	106	3	1985	84.0	86.00	50.1	109
4	1380	64.5	35.12	56.5	101	4	1561	82.5	50.88	56.5	104	4	1743	102.9	70.78	56.5	107
5	1176	72.4	27.81	61.9	98	5	1331	92.7	40.30	61.9	101	5	1486	115.6	56.06	61.9	104
6	978	79.2	21.91	66.4	95	6	1107	101.4	31.75	66.4	98	6	1236	126.3	44.17	66.4	101
7	776	85.3	16.65	70.7	92	7	878	109.2	24.12	70.7	95	7	980	136.1	33.55	70.7	98

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

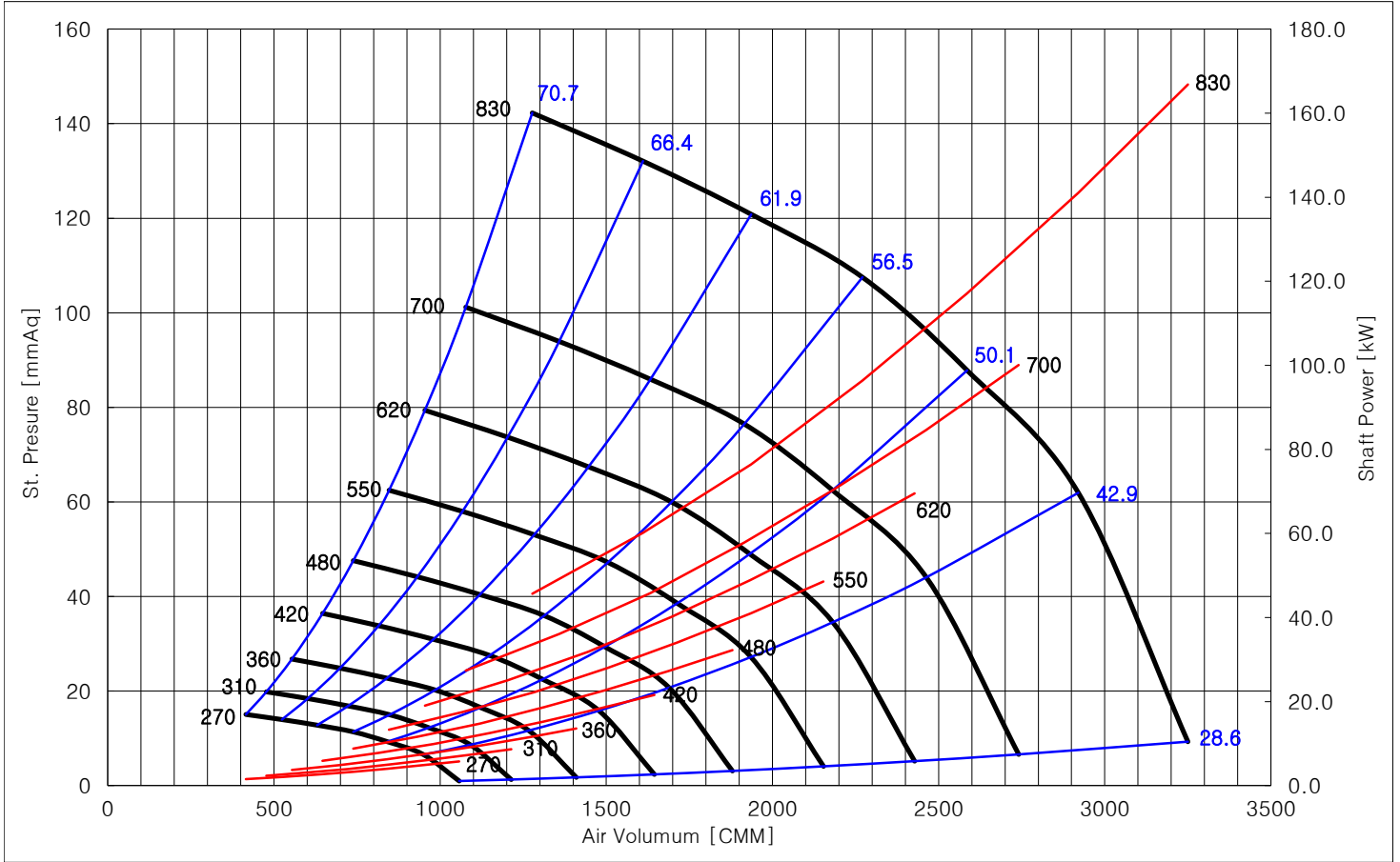
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories). Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #9SS



270	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	310	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	1057	1.0	5.74	28.6	105	1	1214	1.3	8.69	28.6	109	1	1410	1.7	13.61	28.6	113
2	950	6.6	4.86	42.9	104	2	1091	8.6	7.35	42.9	108	2	1267	11.7	11.51	42.9	111
3	841	9.3	4.03	50.1	103	3	966	12.3	6.10	50.1	107	3	1122	16.5	9.56	50.1	111
4	739	11.4	3.32	56.5	103	4	848	15.0	5.02	56.5	106	4	985	20.2	7.87	56.5	110
5	630	12.8	2.63	61.9	103	5	723	16.9	3.98	61.9	106	5	840	22.7	6.23	61.9	110
6	524	14.0	2.07	66.4	102	6	601	18.4	3.14	66.4	106	6	698	24.8	4.91	66.4	110
7	415	15.1	1.57	70.7	102	7	477	19.8	2.38	70.7	106	7	554	26.8	3.73	70.7	109
420	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	480	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	550	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	1645	2.4	21.61	28.6	116	1	1880	3.1	32.26	28.6	120	1	2154	4.1	48.53	28.6	123
2	1478	15.9	18.28	42.9	115	2	1689	20.7	27.29	42.9	118	2	1935	27.2	41.05	42.9	122
3	1309	22.5	15.18	50.1	114	3	1495	29.4	22.66	50.1	118	3	1714	38.6	34.09	50.1	121
4	1149	27.5	12.49	56.5	114	4	1313	36.0	18.64	56.5	117	4	1505	47.2	28.05	56.5	121
5	980	30.9	9.90	61.9	114	5	1120	40.4	14.78	61.9	117	5	1283	53.1	22.23	61.9	120
6	815	33.8	7.80	66.4	113	6	931	44.2	11.64	66.4	117	6	1067	58.0	17.52	66.4	120
7	646	36.4	5.92	70.7	113	7	739	47.6	8.84	70.7	116	7	846	62.5	13.29	70.7	120
620	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	700	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))	830	Q(m³/min)	Ps(mmAq)	H(kW)	ηt(%)	Lwi(dB(A))
1	2428	5.2	69.52	28.6	126	1	2741	6.6	100.05	28.6	129	1	3250	9.3	166.78	28.6	133
2	2182	34.6	58.80	42.9	125	2	2463	44.1	84.63	42.9	128	2	2920	61.9	141.08	42.9	132
3	1932	49.0	48.83	50.1	124	3	2181	62.5	70.28	50.1	127	3	2586	87.8	117.15	50.1	131
4	1696	60.0	40.18	56.5	123	4	1915	76.5	57.82	56.5	127	4	2271	107.5	96.39	56.5	131
5	1446	67.4	31.85	61.9	123	5	1633	85.9	45.83	61.9	126	5	1936	120.8	76.40	61.9	130
6	1203	73.7	25.09	66.4	123	6	1358	93.9	36.11	66.4	126	6	1610	132.1	60.20	66.4	130
7	954	79.4	19.04	70.7	123	7	1077	101.2	27.41	70.7	126	7	1277	142.3	45.69	70.7	130

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

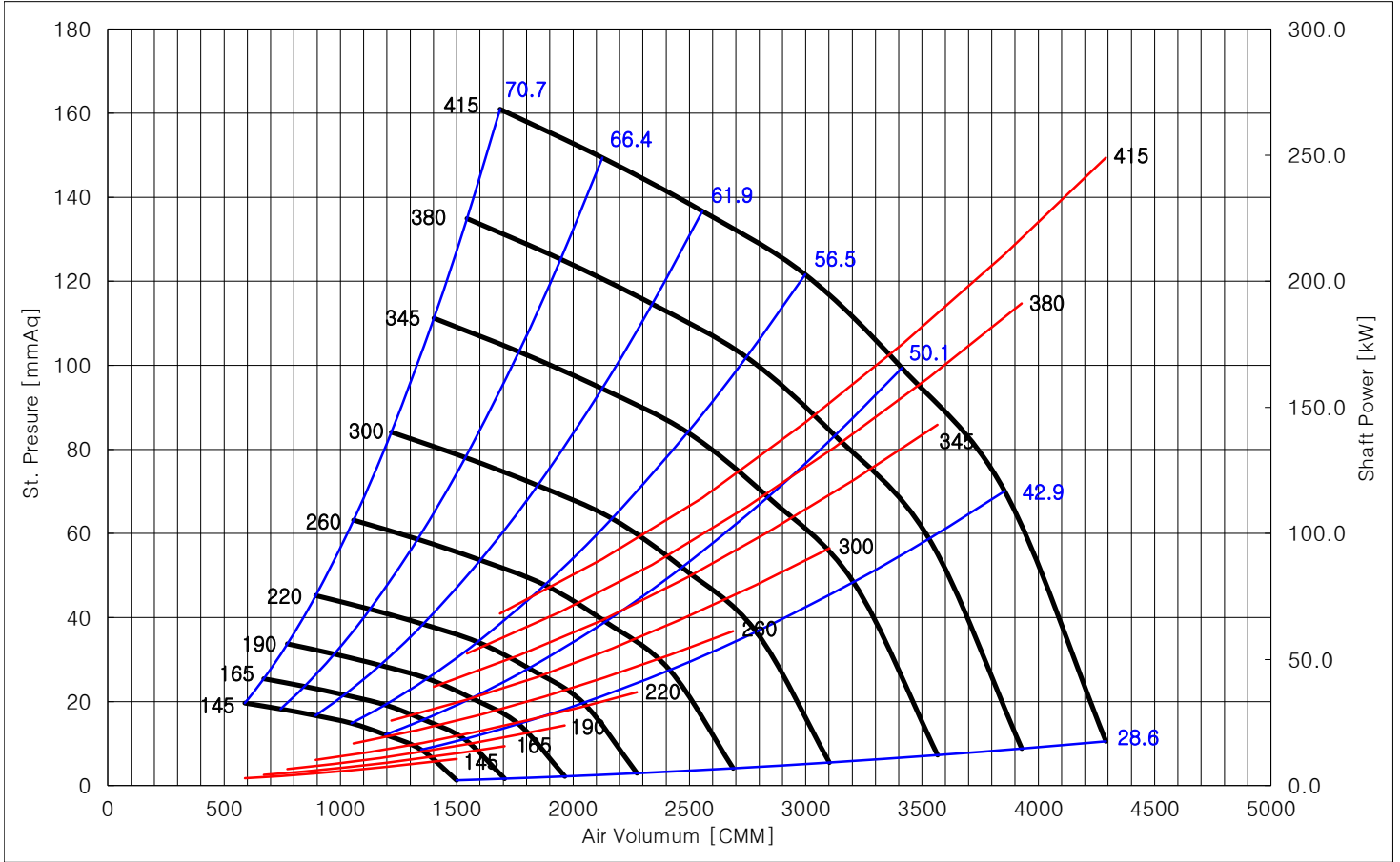
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories). Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #10SS



145	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	165	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	190	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))
1	1499	1.3	10.62	28.6	92	1	1706	1.7	15.65	28.6	95	1	1964	2.2	23.90	28.6	99
2	1347	8.6	8.99	42.9	87	2	1533	11.1	13.24	42.9	90	2	1765	14.7	20.22	42.9	94
3	1193	12.1	7.46	50.1	85	3	1357	15.7	11.00	50.1	88	3	1563	20.8	16.79	50.1	92
4	1047	14.8	6.14	56.5	83	4	1192	19.2	9.04	56.5	86	4	1373	25.5	13.81	56.5	89
5	893	16.7	4.87	61.9	80	5	1016	21.6	7.17	61.9	83	5	1170	28.6	10.95	61.9	87
6	743	18.2	3.83	66.4	77	6	845	23.6	5.65	66.4	80	6	973	31.3	8.62	66.4	84
7	589	19.6	2.91	70.7	73	7	670	25.4	4.29	70.7	77	7	772	33.7	6.54	70.7	80
220	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	260	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	300	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))
1	2275	3.0	37.10	28.6	103	1	2688	4.1	61.25	28.6	107	1	3102	5.5	94.09	28.6	110
2	2044	19.7	31.39	42.9	98	2	2415	27.5	51.82	42.9	102	2	2787	36.6	79.60	42.9	106
3	1810	27.9	26.06	50.1	95	3	2139	39.0	43.02	50.1	100	3	2468	51.9	66.09	50.1	103
4	1589	34.2	21.44	56.5	93	4	1878	47.7	35.39	56.5	97	4	2167	63.5	54.36	56.5	101
5	1355	38.4	16.99	61.9	90	5	1601	53.6	28.05	61.9	95	5	1848	71.4	43.09	61.9	98
6	1127	42.0	13.39	66.4	87	6	1332	58.6	22.10	66.4	91	6	1537	78.1	33.95	66.4	95
7	894	45.2	10.16	70.7	84	7	1056	63.2	16.77	70.7	88	7	1219	84.1	25.76	70.7	92
345	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	380	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))	415	Q(m ³ /min)	Ps(mmAq)	H(kW)	η _r (%)	Lwi(dB(A))
1	3567	7.3	143.09	28.6	114	1	3929	8.8	191.21	28.6	116	1	4291	10.5	249.06	28.6	118
2	3205	48.4	121.06	42.9	109	2	3530	58.8	161.77	42.9	112	2	3855	70.1	210.71	42.9	114
3	2838	68.7	100.51	50.1	107	3	3126	83.3	134.31	50.1	109	3	3414	99.3	174.94	50.1	112
4	2492	84.0	82.67	56.5	105	4	2745	102.0	110.47	56.5	107	4	2998	121.6	143.90	56.5	109
5	2125	94.5	65.54	61.9	102	5	2340	114.6	87.57	61.9	104	5	2556	136.7	114.07	61.9	107
6	1767	103.2	51.63	66.4	99	6	1947	125.2	69.00	66.4	101	6	2126	149.4	89.87	66.4	103
7	1402	111.2	39.17	70.7	95	7	1544	134.9	52.35	70.7	98	7	1686	160.9	68.18	70.7	100

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

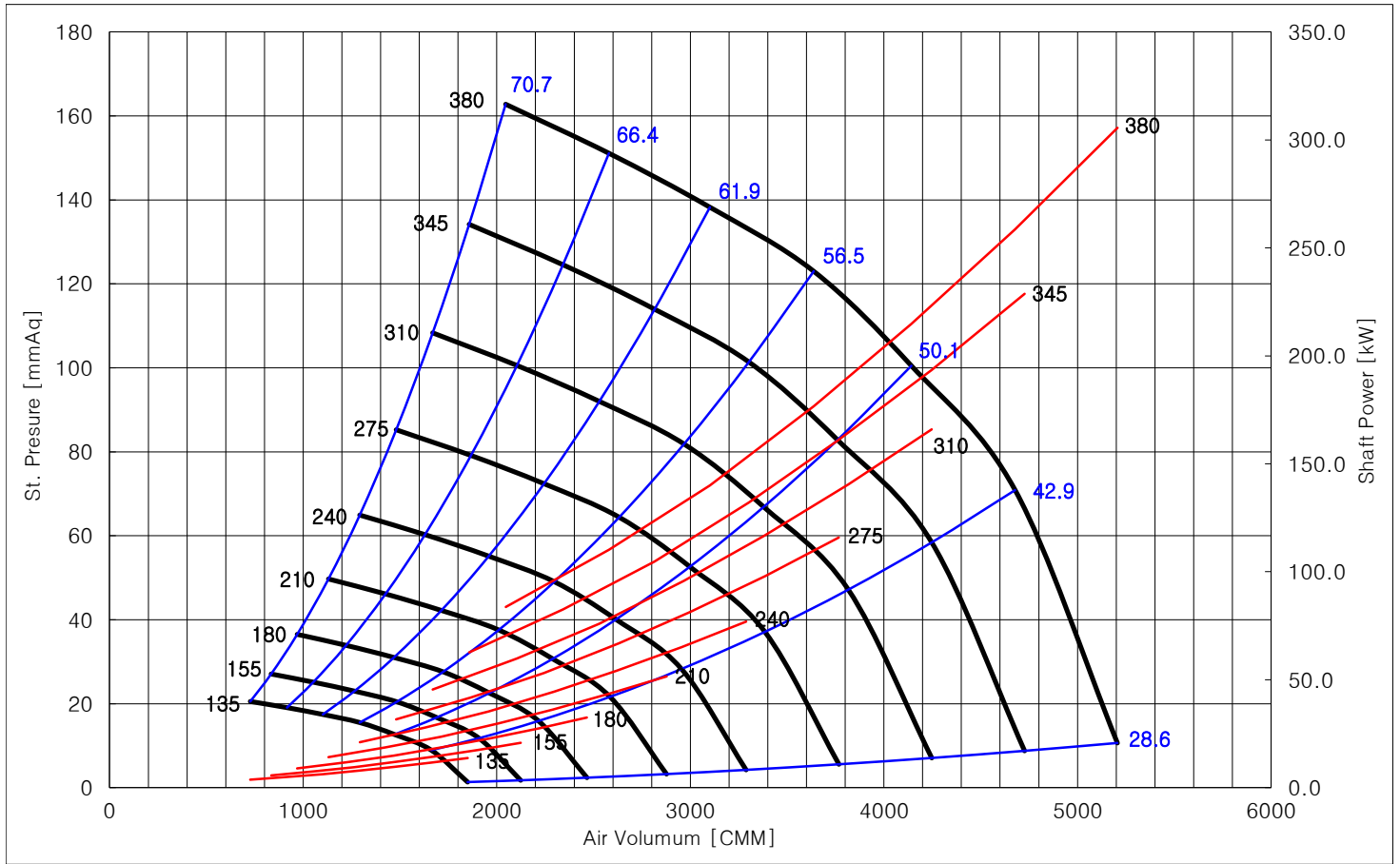
- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



PERFORMANCE CURVES AND NOISE DATA - TSSF #11SS



135	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	155	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	180	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	1849	1.3	13.71	28.6	93	1	2123	1.8	20.74	28.6	96	1	2466	2.4	32.49	28.6	100
2	1662	8.9	11.59	42.9	88	2	1908	11.8	17.55	42.9	91	2	2216	15.9	27.48	42.9	95
3	1471	12.7	9.63	50.1	85	3	1689	16.7	14.57	50.1	89	3	1962	22.5	22.82	50.1	93
4	1292	15.5	7.92	56.5	84	4	1484	20.5	11.98	56.5	87	4	1723	27.6	18.77	56.5	91
5	1102	17.4	6.28	61.9	81	5	1265	23.0	9.50	61.9	84	5	1469	31.0	14.88	61.9	88
6	916	19.1	4.95	66.4	78	6	1052	25.1	7.48	66.4	81	6	1222	33.9	11.72	66.4	85
7	727	20.5	3.75	70.7	74	7	835	27.1	5.68	70.7	78	7	969	36.5	8.89	70.7	82
210	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	240	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	275	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	2877	3.3	51.59	28.6	104	1	3288	4.3	77.01	28.6	107	1	3767	5.6	115.85	28.6	111
2	2585	21.6	43.64	42.9	99	2	2954	28.3	65.15	42.9	102	2	3385	37.1	98.01	42.9	106
3	2289	30.7	36.24	50.1	97	3	2616	40.1	54.09	50.1	100	3	2997	52.6	81.37	50.1	104
4	2010	37.6	29.81	56.5	95	4	2297	49.1	44.49	56.5	98	4	2632	64.4	66.93	56.5	101
5	1714	42.2	23.63	61.9	92	5	1959	55.1	35.27	61.9	95	5	2244	72.4	53.06	61.9	99
6	1425	46.1	18.61	66.4	89	6	1629	60.3	27.79	66.4	92	6	1867	79.1	41.80	66.4	96
7	1131	49.7	14.12	70.7	85	7	1292	64.9	21.08	70.7	89	7	1481	85.2	31.71	70.7	92
310	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	345	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	380	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	4247	7.1	165.95	28.6	114	1	4726	8.8	228.74	28.6	116	1	5206	10.7	305.66	28.6	118
2	3816	47.2	140.39	42.9	109	2	4247	58.4	193.52	42.9	112	2	4678	70.9	258.59	42.9	115
3	3379	66.9	116.56	50.1	107	3	3760	82.8	160.67	50.1	109	3	4142	100.5	214.70	50.1	111
4	2967	81.9	95.88	56.5	104	4	3302	101.4	132.16	56.5	107	4	3637	123.0	176.60	56.5	110
5	2530	92.0	76.00	61.9	102	5	2815	114.0	104.76	61.9	104	5	3101	138.2	139.99	61.9	107
6	2104	100.6	59.88	66.4	99	6	2342	124.5	82.54	66.4	101	6	2579	151.1	110.29	66.4	105
7	1669	108.3	45.43	70.7	95	7	1857	134.2	62.62	70.7	98	7	2046	162.8	83.68	70.7	102

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

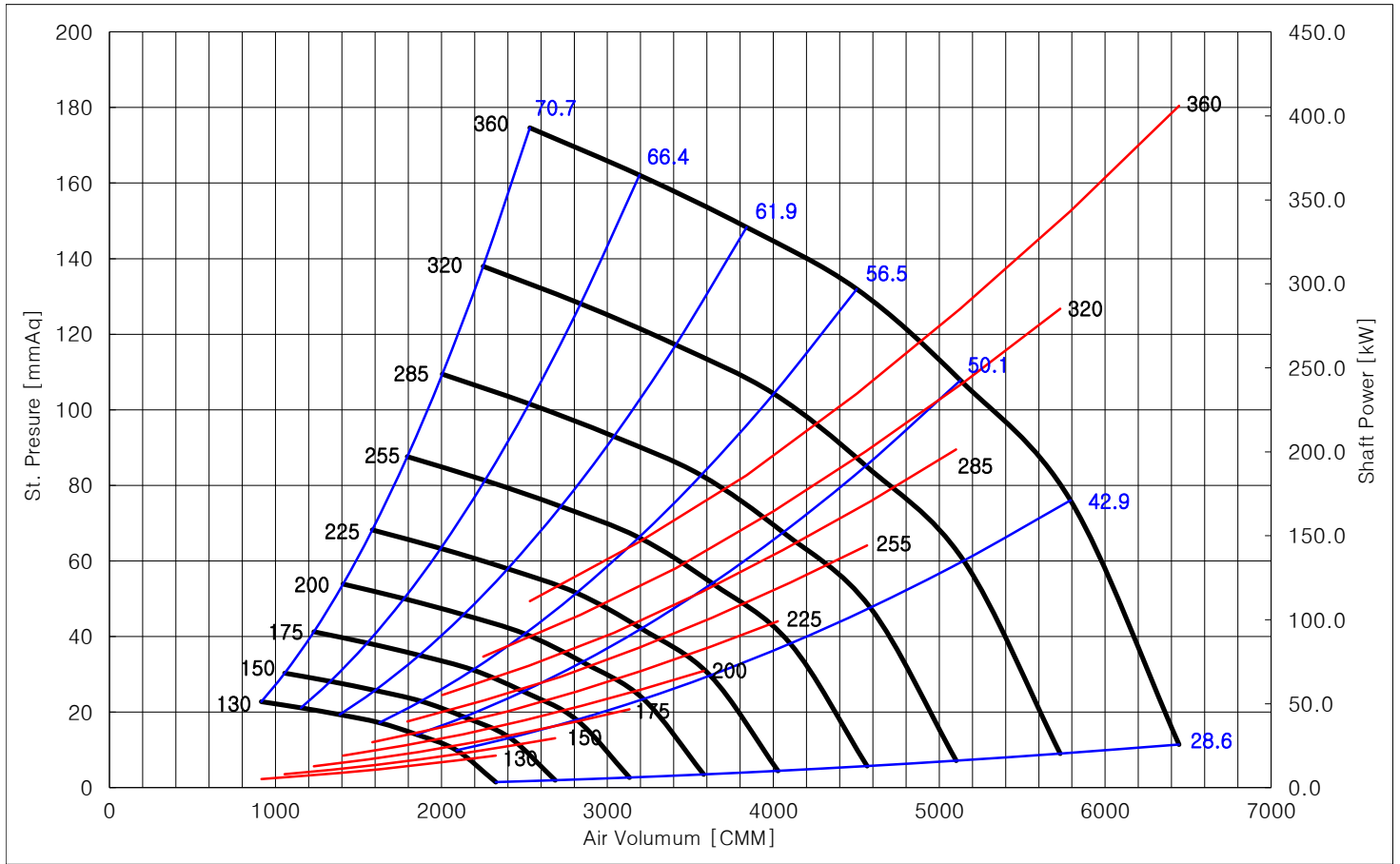
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories). Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #12SS



130	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	150	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	175	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	2327	1.5	19.12	28.6	95	1	2685	2.0	29.36	28.6	98	1	3133	2.7	46.63	28.6	103
2	2091	9.9	16.17	42.9	90	2	2413	13.2	24.84	42.9	93	2	2815	18.0	39.45	42.9	97
3	1852	14.1	13.43	50.1	87	3	2136	18.7	20.63	50.1	91	3	2493	25.5	32.75	50.1	95
4	1626	17.2	11.04	56.5	86	4	1876	22.9	16.97	56.5	89	4	2189	31.2	26.94	56.5	93
5	1386	19.3	8.75	61.9	83	5	1600	25.7	13.45	61.9	86	5	1866	35.0	21.36	61.9	90
6	1153	21.1	6.90	66.4	80	6	1331	28.1	10.60	66.4	84	6	1552	38.3	16.83	66.4	87
7	915	22.8	5.23	70.7	76	7	1055	30.3	8.04	70.7	80	7	1231	41.3	12.77	70.7	84
200	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	225	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	255	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	3581	3.5	69.61	28.6	106	1	4028	4.5	99.11	28.6	109	1	4565	5.7	144.27	28.6	112
2	3217	23.5	58.89	42.9	101	2	3619	29.7	83.84	42.9	104	2	4102	38.1	122.05	42.9	107
3	2849	33.3	48.89	50.1	99	3	3205	42.1	69.61	50.1	101	3	3632	54.1	101.34	50.1	105
4	2502	40.7	40.21	56.5	96	4	2814	51.5	57.26	56.5	99	4	3190	66.2	83.35	56.5	102
5	2133	45.8	31.88	61.9	94	5	2399	57.9	45.39	61.9	97	5	2719	74.4	66.07	61.9	100
6	1774	50.0	25.12	66.4	91	6	1996	63.3	35.76	66.4	94	6	2262	81.3	52.06	66.4	97
7	1407	53.9	19.05	70.7	87	7	1583	68.2	27.13	70.7	90	7	1794	87.6	39.49	70.7	93
285	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	320	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	360	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	5102	7.2	201.41	28.6	115	1	5729	9.0	285.10	28.6	118	1	6445	11.4	405.94	28.6	121
2	4585	47.7	170.40	42.9	110	2	5148	60.1	241.20	42.9	113	2	5791	76.0	343.43	42.9	116
3	4059	67.6	141.47	50.1	108	3	4558	85.2	200.26	50.1	111	3	5128	107.8	285.14	50.1	114
4	3565	82.7	116.37	56.5	105	4	4003	104.3	164.72	56.5	108	4	4503	131.9	234.53	56.5	111
5	3039	92.9	92.24	61.9	103	5	3412	117.2	130.57	61.9	105	5	3839	148.3	185.92	61.9	109
6	2528	101.6	72.68	66.4	99	6	2839	128.1	102.87	66.4	102	6	3193	162.1	146.47	66.4	105
7	2005	109.4	55.14	70.7	96	7	2251	138.0	78.05	70.7	99	7	2533	174.6	111.13	70.7	102

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value shown are for inlet LwiA sound power levels for installation type B - free inlet, ducted outlet.

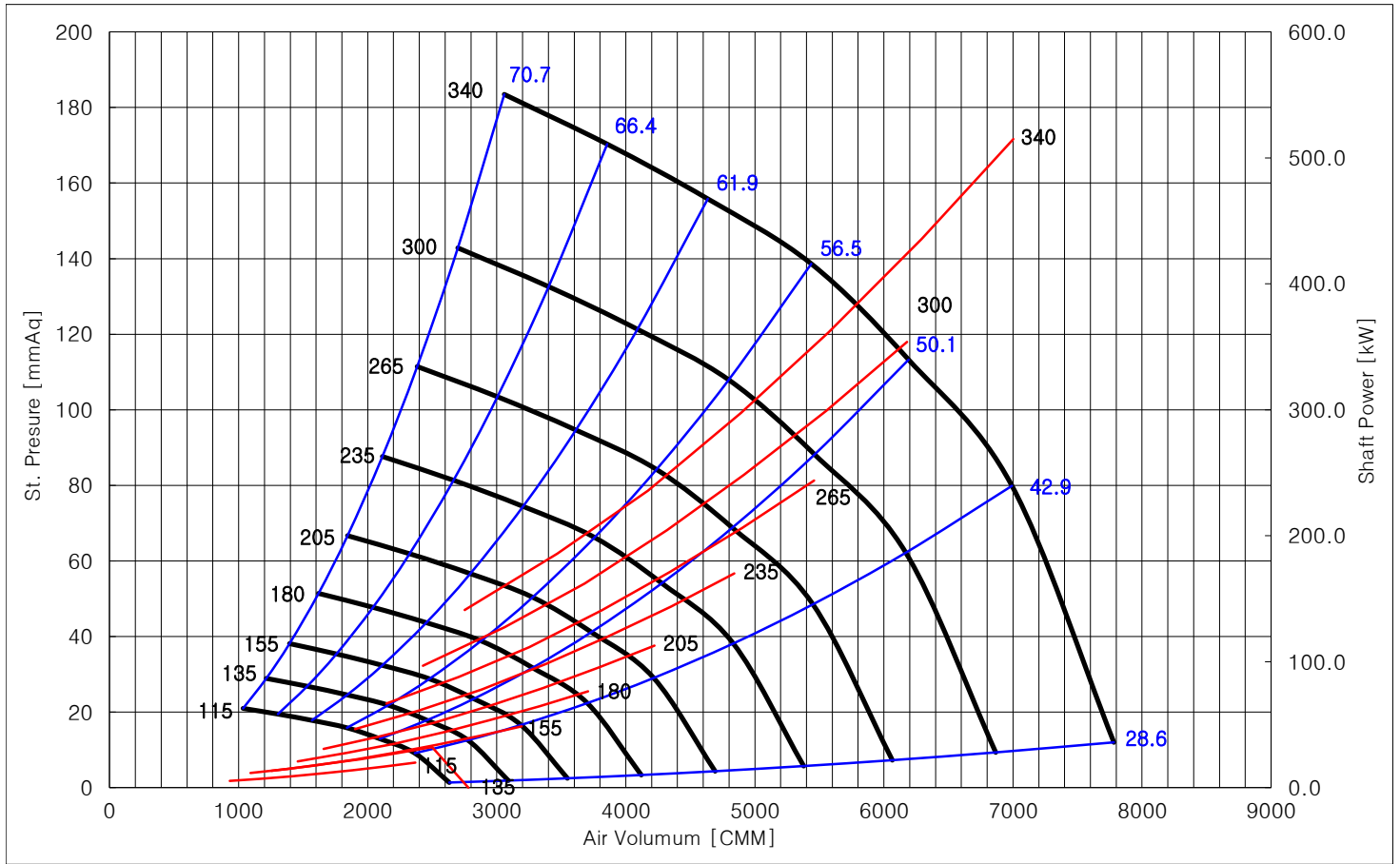
- Performance certified is for installation type B - free inlet, ducted outlet.

- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

PERFORMANCE CURVES AND NOISE DATA - TSSF #13SS



115	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	135	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	155	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	2632	1.4	19.93	28.6	94	1	3090	1.9	32.24	28.6	98	1	3548	2.5	48.79	28.6	102
2	2365	9.1	16.86	42.9	89	2	2776	12.6	27.27	42.9	93	2	3188	16.6	41.28	42.9	97
3	2094	13.0	14.00	50.1	87	3	2458	17.9	22.64	50.1	91	3	2822	23.5	34.27	50.1	94
4	1839	15.9	11.51	56.5	85	4	2159	21.9	18.63	56.5	89	4	2479	28.8	28.19	56.5	92
5	1568	17.8	9.13	61.9	82	5	1840	24.6	14.76	61.9	86	5	2113	32.4	22.35	61.9	90
6	1304	19.5	7.19	66.4	79	6	1531	26.8	11.63	66.4	83	6	1758	35.4	17.61	66.4	87
7	1034	21.0	5.46	70.7	76	7	1214	28.9	8.82	70.7	80	7	1394	38.1	13.36	70.7	83
180	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	205	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	235	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	4120	3.4	76.41	28.6	106	1	4692	4.4	112.88	28.6	109	1	5379	5.7	170.04	28.6	112
2	3702	22.4	64.65	42.9	101	2	4216	29.0	95.50	42.9	104	2	4833	38.2	143.86	42.9	107
3	3278	31.7	53.67	50.1	98	3	3733	41.2	79.29	50.1	102	3	4279	54.1	119.44	50.1	105
4	2878	38.9	44.15	56.5	96	4	3278	50.4	65.22	56.5	99	4	3758	66.2	98.24	56.5	103
5	2454	43.7	35.00	61.9	93	5	2795	56.6	51.70	61.9	97	5	3204	74.4	77.88	61.9	100
6	2041	47.7	27.57	66.4	90	6	2325	61.9	40.73	66.4	94	6	2665	81.4	61.36	66.4	97
7	1619	51.4	20.92	70.7	87	7	1844	66.7	30.90	70.7	90	7	2114	87.6	46.55	70.7	94
265	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	300	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))	340	Q(m³/min)	Ps(mmAq)	H(kW)	η_r (%)	Lwi(dB(A))
1	6065	7.3	243.83	28.6	115	1	6866	9.4	353.76	28.6	118	1	7782	12.0	514.98	28.6	122
2	5450	48.5	206.28	42.9	110	2	6169	62.2	299.29	42.9	114	2	6992	79.9	435.68	42.9	117
3	4825	68.8	171.27	50.1	108	3	5463	88.2	248.49	50.1	111	3	6191	113.3	361.73	50.1	115
4	4238	84.2	140.87	56.5	106	4	4797	107.9	204.39	56.5	109	4	5437	138.6	297.53	56.5	112
5	3613	94.7	111.67	61.9	103	5	4090	121.3	162.02	61.9	106	5	4635	155.8	235.85	61.9	109
6	3005	103.5	87.98	66.4	100	6	3402	132.6	127.65	66.4	103	6	3856	170.3	185.82	66.4	106
7	2384	111.5	66.75	70.7	97	7	2698	142.8	96.84	70.7	100	7	3058	183.5	140.98	70.7	103

- The A-Weighted sound rating shown have been calculated per AMCA Standard 301

- Value 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.

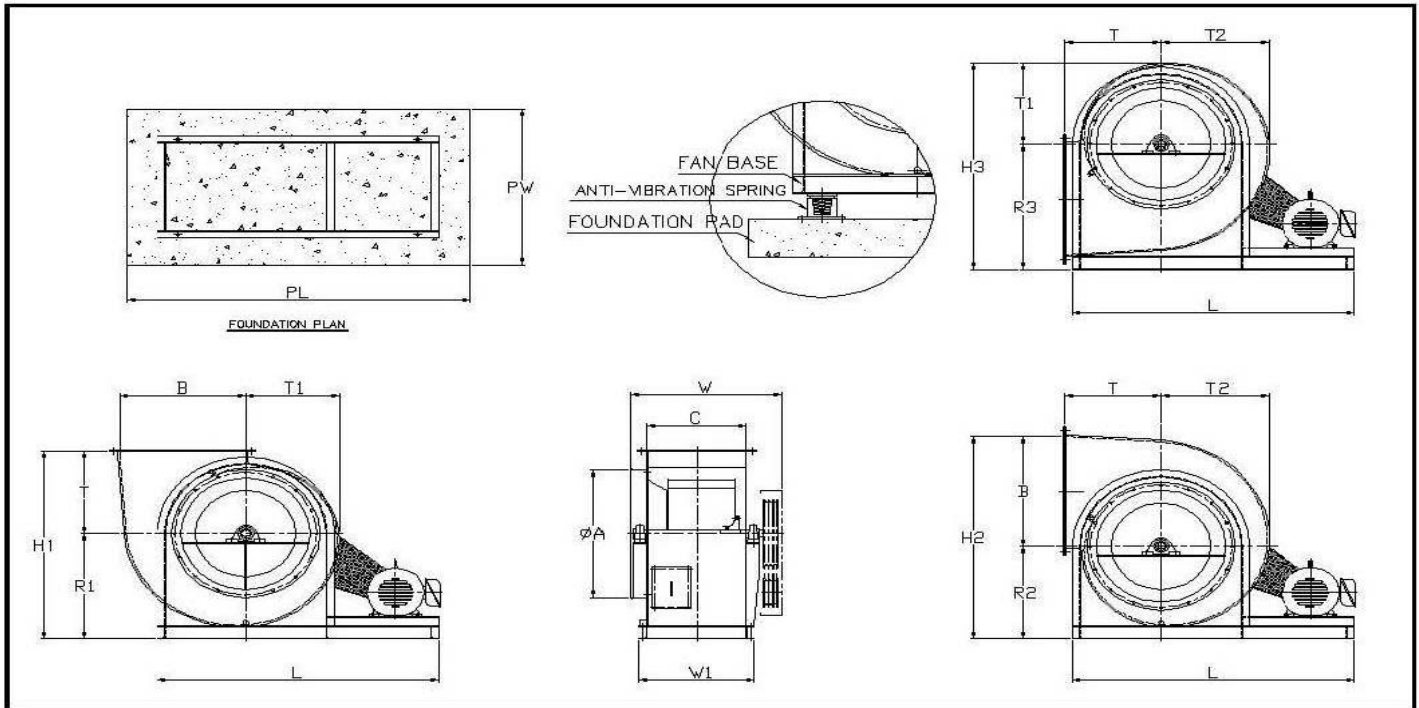
- Performance ratings do not include the effects of apputenances(accessories), Power rating kW does not include transmission losses.



TS AIRTECH Co., Ltd.

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	480	560	635	710	795	875	930	1090	1240	1395	1550	1705	1860	2015
	B	460	535	615	690	770	845	915	1070	1220	1375	1525	1675	1830	1985
Outlet	C	360	420	480	540	600	660	720	840	960	1080	1200	1320	1440	1560
	W	590	660	730	800	870	965	1030	1210	1380	1530	1670	1750	1900	2000
Center Height	R1	455	525	570	660	725	775	830	975	1125	1275	1410	1540	1482	1990
	R2	415	465	515	565	650	690	780	870	1005	1135	1250	1375	1480	1750
	R3	515	590	675	770	840	910	970	1140	1315	1485	1805	1980	1972	2365
Total Height	H1	765	880	995	1120	1280	1360	1480	1685	1965	2180	2460	2710	2762	3550
	H2	865	975	1125	1245	1430	1530	1680	1920	2225	2485	2775	3050	3310	3735
	H3	825	940	1085	1205	1395	1490	1640	1870	2175	2435	2935	3215	3312	3975
Casing	T	350	410	460	510	560	610	660	740	860	1000	1050	1170	1280	1560
	T1	340	390	450	485	560	610	680	780	890	1010	1130	1235	1340	1610
	T2	385	450	520	580	660	700	790	890	1050	1160	1290	1400	1342	1850
Fan Base	L	1000	1150	1300	1400	1600	1650	1700	2000	2200	2400	2600	2800	3500	3600
	W1	440	500	560	620	700	760	820	940	1060	1210	1330	1470	1590	1710
Fan Pad	PL	1300	1450	1600	1700	1900	1950	2000	2300	2500	2700	2900	3100	3800	3900
	PW	740	800	860	920	1000	1060	1120	1240	1360	1510	1655	1750	1890	1995

(All Dimensions in mm)