



### INTRODUCTION

The 980 series stainless steel single-adjustable grilles allow air spread to be set left and right or up and down for economical versatility. These grilles feature  $\frac{3}{4}$ " on center blade spacing and are available for surface mount or lay-in T-bar applications.

### MODEL

980 - Single Deflection Supply Grille

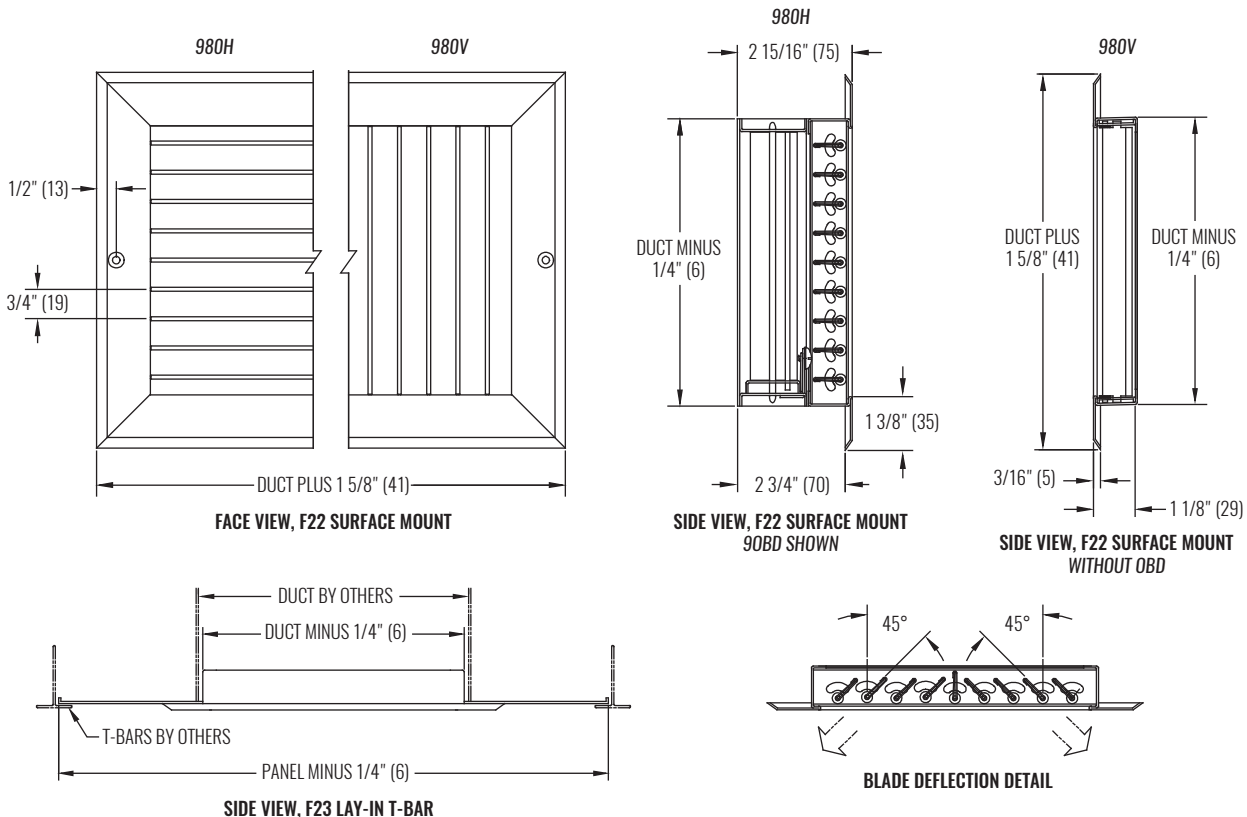
### FEATURES

- 304 Stainless steel construction (316 optional)
- Sturdy deflection blades spaced on  $\frac{3}{4}$ " centers
- Adjustable blades
- Countersunk screw holes in mounting frame
- Horizontal or vertical blades (H or V)
- Standard finish is 90 - #4 Satin Polish or 44 - British White

### ACCESSORIES

- Stainless steel OBD welded to unit, adjustable from face of grille (model 90BD)
- Plaster frame (model 98PF)
- Square to round adapter (model 9SRA)

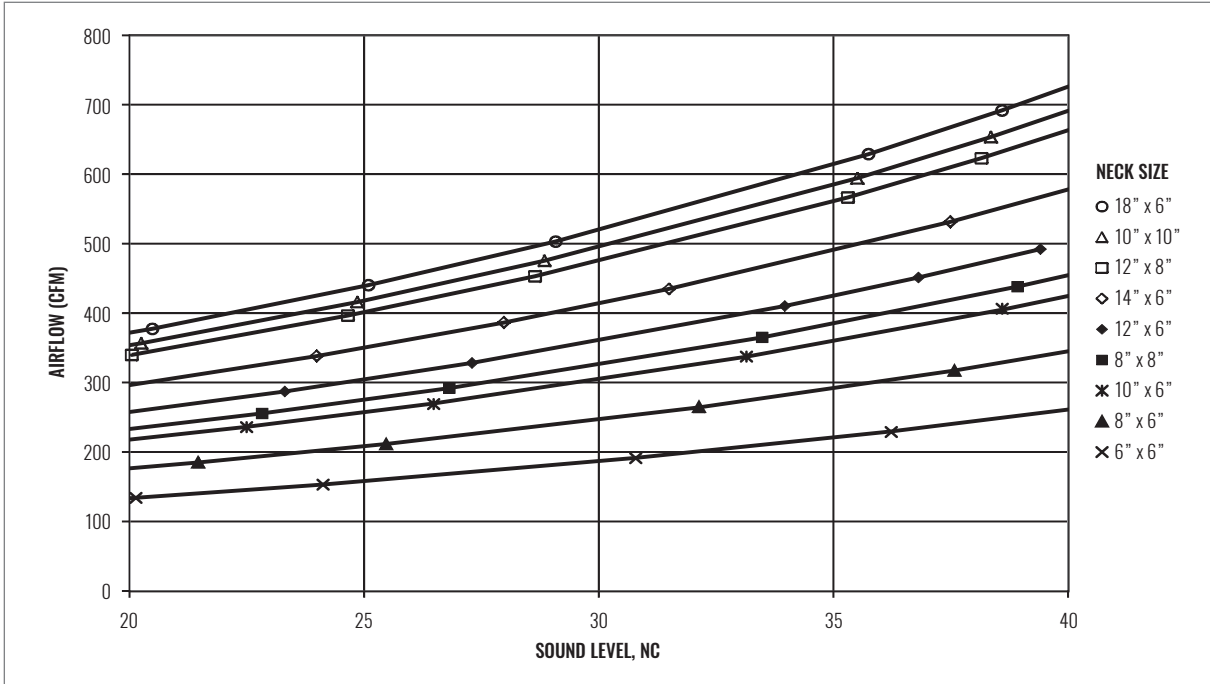
### DIMENSIONAL DATA



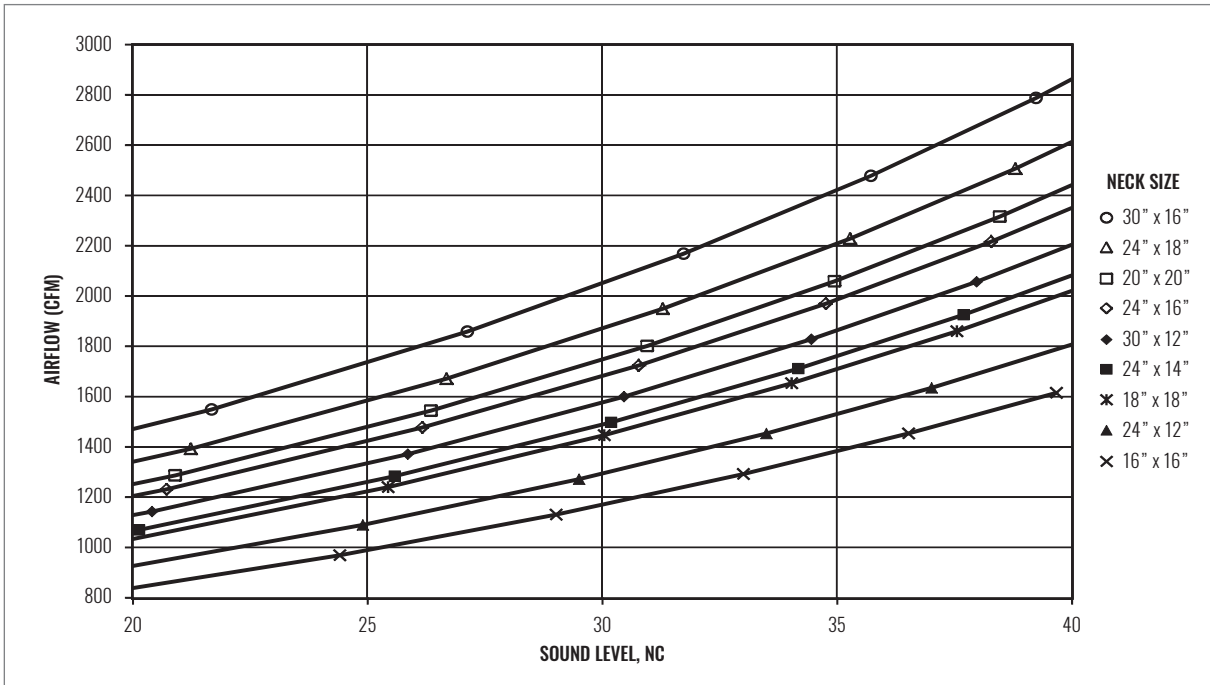
**NOTE:** Dimensions in parentheses are millimeters (mm).

**SOUND CHARTS**

**AIRFLOW VS. NC (WITH OBD/MULTILOUVER)**



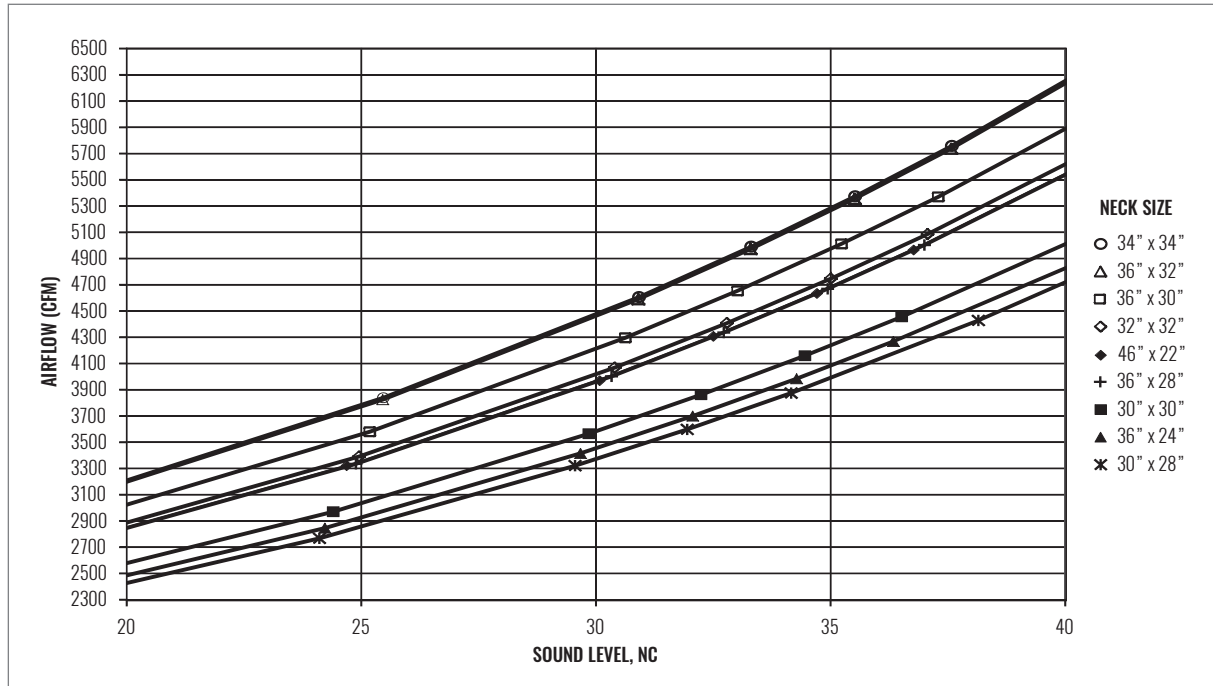
**AIRFLOW VS. NC (WITH OBD/MULTILOUVER)**



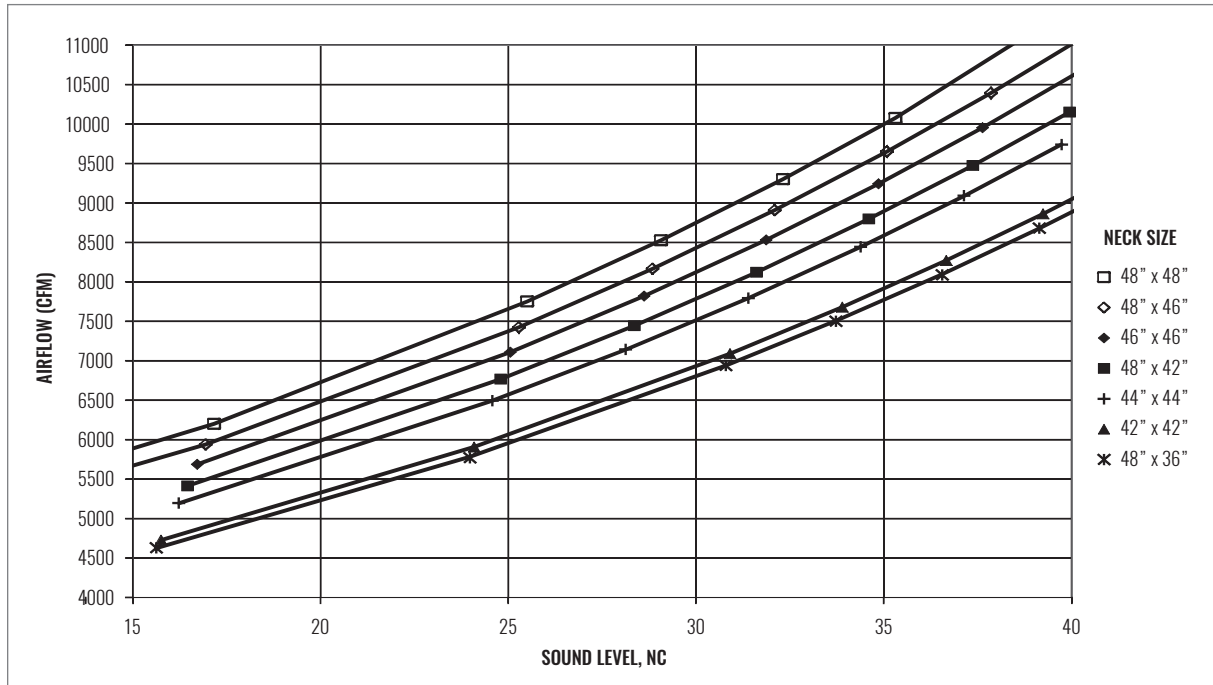
**NOTES:** Charts are at 20 BTUH/ft<sup>2</sup> loads. See the Engineering section of this catalog for instructions on how to read these charts and additional ADPI information.

## SOUND CHARTS

### AIRFLOW VS. NC (WITH OBD/MULTILOUVER)



### AIRFLOW VS. NC (WITH OBD/MULTILOUVER)



**NOTES:** Charts are at 20 BTUH/ft<sup>2</sup> loads. See the Engineering section of this catalog for instructions on how to read these charts and additional ADPI information.

PERFORMANCE DATA | IP | WITH OBD/MULTILOUVER

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				in wg	ft	in wg	ft	in wg	ft								
6 x 6	0.25	400	77	.027	7-10-16	.037	5-8-12	.047	3-4-7	-	31	20	21	-	-	-	
		650	124	.071	11-15-21	.098	8-11-16	.125	5-7-9	18	43	33	34	25	15	-	
		900	172	.137	14-17-24	.188	11-13-19	.239	6-8-11	28	50	42	43	37	31	26	
		1150	220	.223	16-19-27	.307	12-15-21	.391	7-9-12	35	56	49	49	46	43	39	
		1400	268	.331	17-21-30	.455	13-16-23	.579	8-10-14	41	60	54	54	54	53	49	
8 x 6	0.33	400	106	.027	8-12-19	.037	6-9-15	.047	4-5-9	-	33	21	22	-	-	-	
		650	172	.071	13-17-24	.098	10-13-19	.125	6-8-11	19	44	34	35	26	17	11	
		900	238	.137	16-20-28	.188	13-16-22	.239	7-9-13	29	52	43	44	39	33	28	
		1150	304	.223	19-23-32	.307	14-18-25	.391	8-10-14	36	57	50	51	48	45	40	
10 x 6	0.42	400	135	.027	9-13-21	.037	7-10-17	.047	4-6-10	-	34	22	23	-	-	-	
		650	219	.071	14-19-27	.098	11-15-21	.125	6-9-12	20	45	35	36	27	18	12	
		900	304	.137	18-23-32	.188	14-18-25	.239	8-10-14	30	53	44	45	40	34	29	
		1150	388	.223	21-26-36	.307	16-20-28	.391	9-12-16	37	58	51	52	49	46	41	
		1400	472	.331	23-28-40	.455	18-22-31	.579	10-13-18	43	63	56	57	56	56	51	
8 x 8	0.44	400	146	.027	9-14-22	.037	7-11-17	.047	4-6-10	-	34	22	24	-	-	-	
		650	237	.071	15-20-28	.098	12-16-22	.125	7-9-13	21	45	36	37	28	18	13	
		900	329	.137	19-24-33	.188	15-18-26	.239	9-11-15	30	53	45	45	40	34	29	
		1150	420	.223	22-27-38	.307	17-21-29	.391	10-12-17	38	59	51	52	49	46	42	
		1400	511	.331	24-29-42	.455	19-23-32	.579	11-13-19	44	63	57	57	57	56	51	
12 x 6	0.50	400	164	.027	10-15-24	.037	8-11-18	.047	4-7-11	-	35	23	24	-	-	-	
		650	267	.071	16-21-30	.098	12-16-23	.125	7-10-14	21	46	36	37	28	19	13	
		900	369	.137	20-25-35	.188	16-19-27	.239	9-11-16	31	53	45	46	40	35	30	
		1150	472	.223	23-28-40	.307	18-22-31	.391	10-13-18	38	59	52	53	50	47	42	
		1400	574	.331	25-31-44	.455	20-24-34	.579	11-14-20	44	64	57	58	57	56	52	
14 x 6	0.58	400	193	.027	11-16-26	.037	8-12-20	.047	5-7-12	-	35	24	25	11	-	-	
		650	314	.071	17-23-33	.098	13-18-25	.125	8-10-15	22	47	37	38	29	19	14	
		900	435	.137	22-27-38	.188	17-21-30	.239	10-12-17	31	54	46	47	41	35	30	
		1150	556	.223	25-31-43	.307	19-24-34	.391	11-14-19	39	60	53	53	50	47	43	
		1400	676	.331	28-34-48	.455	21-26-37	.579	12-15-22	45	64	58	59	58	57	53	
12 x 8	0.67	400	227	.027	11-17-28	.037	9-13-21	.047	5-8-12	-	36	24	25	11	-	-	
		650	368	.071	19-25-35	.098	14-19-27	.125	8-11-16	22	47	38	39	30	20	14	
		900	510	.137	24-29-42	.188	19-23-32	.239	11-13-19	32	55	47	47	42	36	31	
		1150	651	.223	27-33-47	.307	21-26-36	.391	12-15-21	39	61	53	54	51	48	43	
		1400	793	.331	30-37-52	.455	23-28-40	.579	13-16-23	45	65	59	59	59	58	53	
10 x 10	0.69	400	238	.027	12-18-28	.037	9-14-22	.047	5-8-13	-	36	24	26	12	-	-	
		650	386	.071	19-26-36	.098	15-20-28	.125	9-11-16	23	47	38	39	30	20	15	
		900	535	.137	25-30-43	.188	19-23-33	.239	11-14-19	32	55	47	48	42	36	31	
		1150	683	.223	28-34-48	.307	22-26-37	.391	12-15-22	40	61	53	54	51	48	44	
		1400	832	.331	31-37-53	.455	24-29-41	.579	14-17-24	46	65	59	59	59	58	54	
18 x 6	0.75	400	252	.027	12-18-29	.037	9-14-23	.047	5-8-13	-	36	25	26	12	-	-	
		650	409	.071	20-26-37	.098	15-20-29	.125	9-12-17	23	48	38	39	30	20	15	
		900	566	.137	25-31-44	.188	20-24-34	.239	11-14-20	33	55	47	48	42	37	31	
		1150	723	.223	29-35-49	.307	22-27-38	.391	13-16-22	40	61	54	54	52	49	44	
		1400	880	.331	31-39-55	.455	24-30-42	.579	14-17-25	46	66	59	60	59	58	54	
12 x 10	0.83	300	217	.015	9-15-27	.021	7-11-21	.027	4-7-12	-	30	17	19	-	-	-	
		550	397	.051	18-26-37	.070	14-20-28	.089	8-12-16	18	44	34	35	24	13	-	
		800	578	.108	26-31-44	.149	20-24-34	.189	11-14-20	30	53	44	45	38	31	26	
		1050	759	.186	29-36-51	.256	23-28-39	.326	13-16-23	38	60	52	53	49	45	40	
		1300	939	.285	33-40-56	.392	25-31-44	.499	15-18-25	44	64	58	58	57	55	51	
22 x 6	0.92	300	232	.015	9-15-28	.021	7-12-22	.027	4-7-13	-	31	18	19	-	-	-	
		550	426	.051	18-27-38	.070	14-21-29	.089	8-12-17	19	45	34	35	25	13	-	
		800	620	.108	26-32-46	.149	20-25-35	.189	12-15-21	30	53	45	45	39	32	26	
		1050	813	.186	30-37-52	.256	23-29-41	.326	14-17-24	38	60	52	53	49	45	40	
		1300	1007	.285	34-41-58	.392	26-32-45	.499	15-19-26	44	65	58	59	57	56	51	

NOTE: See notes on page P1-34.

GRILLES | STAINLESS STEEL

PERFORMANCE DATA | IP | WITH OBD/MULTILOUVER

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				in wg	ft	in wg	ft	in wg	ft								
in	ft²	fpm	cfm	in wg	ft	in wg	ft	in wg	ft	NC	2	3	4	5	6	7	
12 x 12	1.00	300	264	.015	10 - 16 - 30	.021	8 - 12 - 23	.027	4 - 7 - 13	-	31	18	20	-	-	-	
		550	483	.051	20 - 29 - 40	.070	15 - 22 - 31	.089	9 - 13 - 18	19	45	35	36	25	14	-	
		800	703	.108	28 - 34 - 49	.149	22 - 27 - 38	.189	13 - 16 - 22	30	54	45	46	39	32	27	
		1050	923	.186	32 - 39 - 56	.256	25 - 31 - 43	.326	15 - 18 - 25	39	60	53	53	50	46	41	
18 x 10	1.25	300	332	.015	11 - 18 - 34	.021	9 - 14 - 26	.027	5 - 8 - 15	-	32	19	21	-	-	-	
		525	582	.047	21 - 31 - 44	.064	16 - 24 - 34	.081	9 - 14 - 20	19	45	35	36	24	12	-	
		750	831	.095	30 - 37 - 53	.131	23 - 29 - 41	.166	13 - 17 - 24	30	54	44	45	38	30	25	
		975	1080	.161	35 - 43 - 60	.221	27 - 33 - 47	.281	16 - 19 - 27	37	60	52	52	48	43	38	
14 x 14	1.36	300	366	.015	12 - 19 - 35	.021	9 - 15 - 27	.027	5 - 8 - 16	-	33	20	21	-	-	-	
		525	640	.047	22 - 33 - 47	.064	17 - 25 - 36	.081	10 - 15 - 21	19	46	35	36	25	13	-	
		750	914	.095	31 - 39 - 56	.131	24 - 30 - 43	.166	14 - 18 - 25	30	54	45	46	38	30	25	
		975	1189	.161	37 - 45 - 63	.221	28 - 35 - 49	.281	16 - 20 - 29	38	60	52	53	48	43	38	
27 x 8	1.50	300	396	.015	12 - 20 - 37	.021	9 - 15 - 28	.027	6 - 9 - 16	-	33	20	21	-	-	-	
		525	694	.047	23 - 34 - 48	.064	18 - 27 - 38	.081	10 - 15 - 22	20	46	35	36	25	13	-	
		750	991	.095	33 - 41 - 58	.131	25 - 32 - 45	.166	15 - 18 - 26	30	54	45	46	39	31	25	
		975	1289	.161	38 - 47 - 66	.221	30 - 36 - 51	.281	17 - 21 - 30	38	60	52	53	49	44	39	
22 x 10	1.53	300	410	.015	12 - 20 - 37	.021	10 - 15 - 29	.027	6 - 9 - 17	-	33	20	21	-	-	-	
		525	717	.047	23 - 35 - 49	.064	18 - 27 - 38	.081	10 - 16 - 22	20	46	36	37	25	13	-	
		750	1024	.095	33 - 42 - 59	.131	26 - 32 - 46	.166	15 - 19 - 26	30	54	45	46	39	31	26	
		975	1331	.161	39 - 47 - 67	.221	30 - 37 - 52	.281	17 - 21 - 30	38	61	53	53	49	44	39	
24 x 10	1.67	300	448	.015	13 - 21 - 39	.021	10 - 16 - 30	.027	6 - 9 - 18	-	33	21	22	-	-	-	
		475	709	.038	22 - 33 - 49	.052	17 - 26 - 38	.067	10 - 15 - 22	17	44	33	34	22	-	-	
		650	971	.071	30 - 41 - 57	.098	23 - 31 - 44	.125	14 - 18 - 26	26	51	42	43	34	24	19	
		825	1232	.115	37 - 46 - 65	.158	29 - 35 - 50	.201	17 - 21 - 29	34	57	48	49	43	36	31	
18 x 14	1.75	300	476	.015	13 - 22 - 40	.021	10 - 17 - 31	.027	6 - 10 - 18	-	34	21	22	-	-	-	
		475	754	.038	23 - 34 - 50	.052	18 - 26 - 39	.067	10 - 15 - 23	17	44	33	35	22	-	-	
		650	1032	.071	31 - 42 - 59	.098	24 - 32 - 46	.125	14 - 19 - 27	27	52	42	43	34	24	19	
		825	1309	.115	38 - 47 - 67	.158	30 - 36 - 52	.201	17 - 21 - 30	34	57	49	49	43	36	31	
16 x 16	1.78	300	485	.015	14 - 22 - 40	.021	10 - 17 - 31	.027	6 - 10 - 18	-	34	21	22	-	-	-	
		475	767	.038	23 - 34 - 51	.052	18 - 27 - 39	.067	10 - 15 - 23	17	45	34	35	22	-	-	
		650	1050	.071	31 - 42 - 60	.098	24 - 33 - 46	.125	14 - 19 - 27	27	52	42	43	34	25	19	
		825	1332	.115	39 - 47 - 67	.158	30 - 37 - 52	.201	17 - 21 - 30	34	57	49	49	43	36	31	
24 x 12	2.00	300	545	.015	14 - 23 - 43	.021	11 - 18 - 33	.027	6 - 10 - 19	-	34	21	23	-	-	-	
		475	863	.038	24 - 36 - 54	.052	19 - 28 - 42	.067	11 - 16 - 24	18	45	34	35	23	-	-	
		650	1181	.071	33 - 45 - 63	.098	26 - 35 - 49	.125	15 - 20 - 28	27	52	43	44	35	25	20	
		825	1499	.115	41 - 50 - 71	.158	32 - 39 - 55	.201	18 - 23 - 32	34	58	49	50	44	37	32	
18 x 18	2.25	300	620	.015	15 - 25 - 46	.021	12 - 19 - 35	.027	7 - 11 - 21	-	35	22	23	-	-	-	
		475	982	.038	26 - 39 - 58	.052	20 - 30 - 45	.067	12 - 18 - 26	18	46	35	36	23	-	-	
		650	1343	.071	35 - 48 - 67	.098	28 - 37 - 52	.125	16 - 21 - 30	28	53	43	44	35	26	20	
		825	1705	.115	44 - 54 - 76	.158	34 - 42 - 59	.201	20 - 24 - 34	35	58	50	51	44	37	32	
24 x 14	2.33	300	642	.015	16 - 25 - 47	.021	12 - 19 - 36	.027	7 - 11 - 21	-	35	22	23	-	-	-	
		475	1016	.038	26 - 40 - 59	.052	20 - 31 - 45	.067	12 - 18 - 26	19	46	35	36	24	-	-	
		650	1391	.071	36 - 48 - 69	.098	28 - 38 - 53	.125	16 - 22 - 31	28	53	43	44	35	26	20	
		825	1765	.115	45 - 55 - 77	.158	35 - 42 - 60	.201	20 - 25 - 35	35	59	50	51	44	38	32	
1000	2139	.169	49 - 60 - 85	.232	38 - 47 - 66	.295	22 - 27 - 38	41	63	55	56	52	47	42			

NOTE: See notes on page P1-34.

PERFORMANCE DATA | IP | WITH OBD/MULTILOUVER

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				in wg	ft	in wg	ft	in wg	ft								
30 x 12	2.50	300	686	.015	16-26-48	.021	12-20-37	.027	7-12-22	-	35	22	24	-	-	-	
		475	1085	.038	27-41-61	.052	21-32-47	.067	12-18-27	19	46	35	36	24	11	-	
		650	1485	.071	37-50-71	.098	29-39-55	.125	17-23-32	28	53	44	45	36	26	21	
		825	1885	.115	46-56-80	.158	36-44-62	.201	21-25-36	35	59	50	51	45	38	33	
		1000	2285	.169	51-62-88	.232	39-48-68	.295	23-28-40	41	63	55	56	52	47	42	
24 x 16	2.67	300	739	.015	17-27-50	.021	13-21-39	.027	8-12-22	-	36	23	24	-	-	-	
		475	1170	.038	28-42-63	.052	22-33-49	.067	13-19-28	19	46	35	36	24	11	-	
		650	1600	.071	39-52-74	.098	30-40-57	.125	17-23-33	29	54	44	45	36	26	21	
		825	2031	.115	48-59-83	.158	37-45-64	.201	22-26-37	36	59	51	51	45	38	33	
		1000	2462	.169	53-65-91	.232	41-50-71	.295	24-29-41	41	64	56	57	52	48	43	
20 x 20	2.78	300	772	.015	17-27-51	.021	13-21-40	.027	8-12-23	-	36	23	24	-	-	-	
		475	1222	.038	29-43-64	.052	22-34-50	.067	13-20-29	19	47	36	37	24	11	-	
		650	1673	.071	40-53-75	.098	31-41-58	.125	18-24-34	29	54	44	45	36	27	21	
		825	2123	.115	49-60-85	.158	38-46-66	.201	22-27-38	36	59	51	52	45	38	33	
		1000	2573	.169	54-66-93	.232	42-51-72	.295	24-30-42	42	64	56	57	52	48	43	
24 x 18	3.00	300	836	.015	18-29-53	.021	14-22-41	.027	8-13-24	-	36	23	25	-	-	-	
		475	1323	.038	30-45-67	.052	23-35-52	.067	14-20-30	20	47	36	37	25	11	-	
		650	1810	.071	41-55-78	.098	32-43-61	.125	19-25-35	29	54	44	45	37	27	21	
		825	2298	.115	51-62-88	.158	39-48-68	.201	23-28-40	36	60	51	52	46	39	33	
		1000	2785	.169	56-69-97	.232	43-53-75	.295	25-31-44	42	64	56	57	53	48	43	
30 x 16	3.33	300	929	.015	19-30-56	.021	15-23-43	.027	8-14-25	-	37	24	25	-	-	-	
		475	1471	.038	32-48-71	.052	25-37-55	.067	14-21-32	20	47	36	37	25	12	-	
		650	2013	.071	43-58-82	.098	34-45-64	.125	20-26-37	30	55	45	46	37	27	22	
		825	2556	.115	54-66-93	.158	42-51-72	.201	24-30-42	37	60	52	52	46	39	34	
		1000	3098	.169	59-72-102	.232	46-56-79	.295	27-33-46	42	65	57	58	53	49	44	
22 x 22	3.36	300	941	.015	19-30-56	.021	15-23-44	.027	8-14-25	-	37	24	25	-	-	-	
		475	1490	.038	32-48-71	.052	25-37-55	.067	14-22-32	20	47	36	37	25	12	-	
		650	2038	.071	44-59-83	.098	34-45-64	.125	20-26-37	30	55	45	46	37	27	22	
		825	2587	.115	54-66-94	.158	42-51-72	.201	24-30-42	37	60	52	52	46	39	34	
		1000	3136	.169	59-73-103	.232	46-56-80	.295	27-33-46	42	65	57	58	53	49	44	
36 x 14	3.50	300	973	.015	19-31-57	.021	15-24-44	.027	9-14-26	-	37	24	25	-	-	-	
		475	1541	.038	32-49-72	.052	25-38-56	.067	15-22-32	20	48	37	38	25	12	-	
		650	2108	.071	44-60-84	.098	34-46-65	.125	20-27-38	30	55	45	46	37	28	22	
		825	2676	.115	55-67-95	.158	43-52-74	.201	25-30-43	37	60	52	53	46	39	34	
		1000	3243	.169	60-74-105	.232	47-57-81	.295	27-33-47	43	65	57	58	53	49	44	
24 x 22	3.67	300	1029	.015	20-32-59	.021	15-25-46	.027	9-14-27	-	37	24	25	-	-	-	
		450	1544	.034	32-47-72	.047	25-37-56	.060	14-21-33	19	47	35	36	24	-	-	
		600	2059	.061	42-59-83	.084	33-46-65	.106	19-27-38	28	53	43	44	34	24	18	
		750	2573	.095	53-66-93	.131	41-51-72	.166	24-30-42	34	58	49	50	43	35	30	
		900	3088	.137	59-72-102	.188	46-56-79	.239	27-33-46	40	63	54	55	50	44	39	
30 x 18	3.75	300	1051	.015	20-32-60	.021	15-25-46	.027	9-14-27	-	37	24	26	-	-	-	
		450	1577	.034	32-48-73	.047	25-37-57	.060	14-22-33	19	47	35	37	24	-	-	
		600	2102	.061	43-60-84	.084	33-46-65	.106	19-27-38	28	53	43	44	35	24	18	
		750	2628	.095	53-67-94	.131	41-52-73	.166	24-30-42	34	59	49	50	43	35	30	
		900	3154	.137	60-73-103	.188	46-57-80	.239	27-33-46	40	63	54	55	50	44	39	
36 x 16	4.00	300	1120	.015	21-33-62	.021	16-26-48	.027	9-15-28	-	37	25	26	-	-	-	
		450	1680	.034	33-50-75	.047	26-38-58	.060	15-22-34	19	47	36	37	24	-	-	
		600	2240	.061	44-62-87	.084	34-48-67	.106	20-28-39	28	54	44	45	35	24	19	
		750	2800	.095	55-69-97	.131	43-53-75	.166	25-31-44	35	59	50	51	43	35	30	
		900	3360	.137	62-75-107	.188	48-58-83	.239	28-34-48	40	63	55	55	50	44	39	
36 x 18	4.50	300	1267	.015	22-35-65	.021	17-27-51	.027	10-16-29	-	38	25	26	-	-	-	
		450	1900	.034	35-53-80	.047	27-41-62	.060	16-24-36	20	47	36	37	24	11	-	
		600	2534	.061	47-65-93	.084	36-51-72	.106	21-29-42	28	54	44	45	35	25	19	
		750	3167	.095	59-73-103	.131	45-57-80	.166	26-33-47	35	59	50	51	44	36	30	
		900	3800	.137	65-80-113	.188	51-62-88	.239	29-36-51	41	64	55	56	51	45	40	

NOTE: See notes on page P1-34.

PERFORMANCE DATA | IP | WITH OBD/MULTILOUVER

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				in wg	ft	in wg	ft	in wg	ft								
30 x 24	5.00	300	1417	.015	23 - 37 - 69	.021	18 - 29 - 54	.027	10 - 17 - 31	-	38	26	27	-	-	-	
		450	2125	.034	37 - 56 - 85	.047	29 - 43 - 66	.060	17 - 25 - 38	20	48	37	38	25	11	-	
		600	2834	.061	50 - 69 - 98	.084	38 - 54 - 76	.106	22 - 31 - 44	29	55	45	46	36	25	20	
		750	3542	.095	62 - 77 - 109	.131	48 - 60 - 85	.166	28 - 35 - 49	36	60	51	52	44	36	31	
		900	4250	.137	69 - 85 - 120	.188	54 - 66 - 93	.239	31 - 38 - 54	41	64	56	57	51	45	40	
42 x 18	5.25	300	1482	.015	24 - 38 - 71	.021	18 - 29 - 55	.027	11 - 17 - 32	-	39	26	27	-	-		
		450	2224	.034	38 - 57 - 87	.047	29 - 44 - 67	.060	17 - 26 - 39	20	48	37	38	25	11	-	
		600	2965	.061	51 - 71 - 100	.084	39 - 55 - 78	.106	23 - 32 - 45	29	55	45	46	36	25	20	
		750	3706	.095	63 - 79 - 112	.131	49 - 61 - 87	.166	28 - 36 - 50	36	60	51	52	44	36	31	
		900	4447	.137	71 - 87 - 123	.188	55 - 67 - 95	.239	32 - 39 - 55	41	64	56	57	51	45	40	
28 x 28	5.44	300	1547	.015	24 - 39 - 72	.021	19 - 30 - 56	.027	11 - 17 - 33	-	39	26	27	-	-		
		450	2321	.034	39 - 58 - 89	.047	30 - 45 - 69	.060	17 - 26 - 40	21	48	37	38	25	11	-	
		600	3094	.061	52 - 72 - 102	.084	40 - 56 - 79	.106	23 - 33 - 46	29	55	45	46	36	26	20	
		750	3868	.095	65 - 81 - 114	.131	50 - 63 - 89	.166	29 - 36 - 51	36	60	51	52	45	37	31	
		900	4641	.137	72 - 89 - 125	.188	56 - 69 - 97	.239	33 - 40 - 56	41	64	56	57	51	46	41	
30 x 28	5.83	300	1661	.015	25 - 40 - 75	.021	19 - 31 - 58	.027	11 - 18 - 34	-	39	26	28	-	-		
		450	2491	.034	40 - 60 - 92	.047	31 - 47 - 71	.060	18 - 27 - 41	21	49	37	38	26	12	-	
		600	3321	.061	54 - 75 - 106	.084	42 - 58 - 82	.106	24 - 34 - 48	30	55	45	46	36	26	20	
		750	4151	.095	67 - 84 - 118	.131	52 - 65 - 92	.166	30 - 38 - 53	36	61	51	52	45	37	32	
		900	4982	.137	75 - 92 - 130	.188	58 - 71 - 101	.239	34 - 41 - 58	42	65	56	57	52	46	41	
36 x 24	6.00	300	1707	.015	25 - 41 - 76	.021	20 - 32 - 59	.027	11 - 18 - 34	-	39	26	28	-	-		
		450	2561	.034	41 - 61 - 93	.047	32 - 47 - 72	.060	18 - 28 - 42	21	49	38	39	26	12	-	
		600	3415	.061	54 - 76 - 107	.084	42 - 59 - 83	.106	24 - 34 - 48	30	55	45	46	37	26	20	
		750	4269	.095	68 - 85 - 120	.131	53 - 66 - 93	.166	31 - 38 - 54	36	61	52	52	45	37	32	
		900	5122	.137	76 - 93 - 132	.188	59 - 72 - 102	.239	34 - 42 - 59	42	65	57	57	52	46	41	
30 x 30	6.25	300	1782	.015	26 - 42 - 78	.021	20 - 32 - 60	.027	12 - 19 - 35	-	39	27	28	11	-	-	
		450	2674	.034	42 - 63 - 95	.047	32 - 48 - 74	.060	19 - 28 - 43	21	49	38	39	26	12	-	
		600	3565	.061	56 - 78 - 110	.084	43 - 60 - 85	.106	25 - 35 - 49	30	56	46	47	37	26	21	
		750	4456	.095	69 - 87 - 123	.131	54 - 67 - 95	.166	31 - 39 - 55	37	61	52	53	45	37	32	
		900	5347	.137	78 - 95 - 134	.188	60 - 74 - 104	.239	35 - 43 - 60	42	65	57	58	52	46	41	
36 x 28	7.00	300	2001	.015	28 - 44 - 82	.021	21 - 34 - 64	.027	12 - 20 - 37	-	40	27	28	11	-	-	
		450	3002	.034	44 - 66 - 101	.047	34 - 51 - 78	.060	20 - 30 - 45	22	49	38	39	26	13	-	
		600	4002	.061	59 - 82 - 116	.084	46 - 64 - 90	.106	26 - 37 - 52	30	56	46	47	37	27	21	
		750	5003	.095	74 - 92 - 130	.131	57 - 71 - 101	.166	33 - 41 - 59	37	61	52	53	46	38	32	
		900	6004	.137	82 - 101 - 142	.188	64 - 78 - 110	.239	37 - 45 - 64	42	66	57	58	53	47	42	
46 x 22	7.03	300	2003	.015	28 - 44 - 82	.021	21 - 34 - 64	.027	12 - 20 - 37	-	40	27	28	11	-	-	
		450	3005	.034	44 - 66 - 101	.047	34 - 51 - 78	.060	20 - 30 - 45	22	49	38	39	26	13	-	
		600	4007	.061	59 - 82 - 116	.084	46 - 64 - 90	.106	27 - 37 - 52	30	56	46	47	37	27	21	
		750	5008	.095	74 - 92 - 130	.131	57 - 71 - 101	.166	33 - 41 - 59	37	61	52	53	46	38	32	
		900	6010	.137	82 - 101 - 143	.188	64 - 78 - 110	.239	37 - 45 - 64	42	66	57	58	53	47	42	
32 x 32	7.11	300	2035	.015	28 - 45 - 83	.021	22 - 34 - 64	.027	12 - 20 - 37	-	40	27	28	11	-	-	
		450	3052	.034	45 - 67 - 102	.047	34 - 52 - 79	.060	20 - 30 - 46	22	49	38	39	27	13	-	
		600	4069	.061	59 - 83 - 117	.084	46 - 64 - 91	.106	27 - 37 - 53	30	56	46	47	37	27	21	
		750	5086	.095	74 - 93 - 131	.131	57 - 72 - 102	.166	33 - 42 - 59	37	61	52	53	46	38	33	
		900	6104	.137	83 - 102 - 144	.188	64 - 79 - 111	.239	37 - 46 - 65	43	66	57	58	53	47	42	
36 x 30	7.50	300	2148	.015	29 - 46 - 85	.021	22 - 35 - 66	.027	13 - 21 - 38	-	40	27	29	11	-	-	
		450	3222	.034	46 - 69 - 104	.047	35 - 53 - 81	.060	21 - 31 - 47	22	50	38	40	27	13	-	
		600	4296	.061	61 - 85 - 121	.084	47 - 66 - 93	.106	27 - 38 - 54	31	56	46	47	38	27	21	
		750	5370	.095	76 - 95 - 135	.131	59 - 74 - 104	.166	34 - 43 - 61	37	62	53	53	46	38	33	
		900	6444	.137	85 - 104 - 148	.188	66 - 81 - 114	.239	38 - 47 - 66	43	66	58	58	53	47	42	
36 x 32	8.00	300	2295	.015	29 - 47 - 88	.021	23 - 37 - 68	.027	13 - 21 - 40	-	41	28	29	12	-	-	
		450	3442	.034	47 - 71 - 108	.047	37 - 55 - 84	.060	21 - 32 - 49	22	50	39	40	27	13	-	
		600	4590	.061	63 - 88 - 125	.084	49 - 68 - 97	.106	28 - 40 - 56	31	57	47	48	38	27	22	
		750	5737	.095	79 - 98 - 139	.131	61 - 76 - 108	.166	35 - 44 - 63	38	62	53	54	46	38	33	
		900	6885	.137	88 - 108 - 153	.188	68 - 84 - 118	.239	40 - 49 - 69	43	66	58	59	53	47	42	

NOTE: See notes on page P1-34.

PERFORMANCE DATA | IP | WITH OBD/MULTILOUVER

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				in wg	ft	in wg	ft	in wg	ft								
34 x 34	8.03	300	2303	.015	30 - 47 - 88	.021	23 - 37 - 68	.027	13 - 21 - 40	-	41	28	29	12	-	-	
		450	3455	.034	47 - 71 - 108	.047	37 - 55 - 84	.060	21 - 32 - 49	22	50	39	40	27	13	-	
		600	4607	.061	63 - 88 - 125	.084	49 - 68 - 97	.106	28 - 40 - 56	31	57	47	48	38	27	22	
		750	5758	.095	79 - 99 - 140	.131	61 - 76 - 108	.166	36 - 44 - 63	38	62	53	54	46	38	33	
		900	6910	.137	88 - 108 - 153	.188	68 - 84 - 118	.239	40 - 49 - 69	43	66	58	59	53	47	42	
36 x 34	8.50	300	2442	.015	30 - 49 - 91	.021	24 - 38 - 70	.027	14 - 22 - 41	-	41	28	29	12	-	-	
		425	3459	.030	46 - 69 - 108	.042	36 - 54 - 84	.053	21 - 31 - 49	21	49	37	39	25	11	-	
		550	4477	.051	60 - 87 - 123	.070	46 - 67 - 95	.089	27 - 39 - 55	29	55	45	46	35	23	18	
		675	5494	.077	73 - 96 - 136	.106	57 - 75 - 106	.135	33 - 43 - 61	35	60	50	51	43	33	28	
		800	6511	.108	86 - 105 - 148	.149	66 - 81 - 115	.189	39 - 47 - 67	40	64	55	56	49	42	37	
42 x 30	8.75	300	2514	.015	31 - 49 - 92	.021	24 - 38 - 71	.027	14 - 22 - 41	11	41	28	29	12	-	-	
		425	3561	.030	47 - 70 - 110	.042	36 - 54 - 85	.053	21 - 32 - 49	21	49	38	39	25	11	-	
		550	4608	.051	60 - 88 - 125	.070	47 - 68 - 97	.089	27 - 40 - 56	29	55	45	46	35	23	18	
		675	5656	.077	74 - 98 - 138	.106	58 - 76 - 107	.135	33 - 44 - 62	35	60	50	51	43	34	28	
		800	6703	.108	87 - 106 - 151	.149	67 - 82 - 117	.189	39 - 48 - 68	40	64	55	56	49	42	37	
36 x 36	9.00	300	2589	.015	31 - 50 - 94	.021	24 - 39 - 72	.027	14 - 23 - 42	11	41	28	29	12	-	-	
		425	3667	.030	47 - 71 - 111	.042	37 - 55 - 86	.053	21 - 32 - 50	21	49	38	39	25	11	-	
		550	4746	.051	61 - 90 - 127	.070	48 - 69 - 98	.089	28 - 40 - 57	29	55	45	46	35	24	18	
		675	5825	.077	75 - 99 - 140	.106	58 - 77 - 109	.135	34 - 45 - 63	35	60	50	51	43	34	28	
		800	6903	.108	88 - 108 - 153	.149	68 - 84 - 118	.189	40 - 49 - 69	40	64	55	56	49	42	37	
48 x 30	10.00	300	2879	.015	33 - 53 - 99	.021	26 - 41 - 76	.027	15 - 24 - 44	11	42	29	30	13	-	-	
		425	4079	.030	50 - 75 - 117	.042	39 - 58 - 91	.053	23 - 34 - 53	22	50	38	39	26	11	-	
		550	5279	.051	65 - 94 - 134	.070	50 - 73 - 104	.089	29 - 43 - 60	29	56	45	46	36	24	18	
		675	6478	.077	79 - 105 - 148	.106	62 - 81 - 115	.135	36 - 47 - 67	35	60	51	52	43	34	29	
		800	7678	.108	93 - 114 - 161	.149	72 - 88 - 125	.189	42 - 51 - 72	40	64	56	56	50	43	37	
38 x 38	10.03	300	2891	.015	33 - 53 - 99	.021	26 - 41 - 77	.027	15 - 24 - 44	11	42	29	30	13	-	-	
		425	4095	.030	50 - 75 - 118	.042	39 - 58 - 91	.053	23 - 34 - 53	22	50	38	39	26	11	-	
		550	5300	.051	65 - 95 - 134	.070	50 - 73 - 104	.089	29 - 43 - 60	29	56	45	46	36	24	18	
		675	6504	.077	80 - 105 - 148	.106	62 - 81 - 115	.135	36 - 47 - 67	35	60	51	52	43	34	29	
		800	7709	.108	93 - 114 - 161	.149	72 - 88 - 125	.189	42 - 51 - 73	40	64	56	56	50	43	37	
42 x 36	10.50	300	3029	.015	34 - 54 - 101	.021	26 - 42 - 78	.027	15 - 24 - 46	11	42	29	30	13	-	-	
		425	4292	.030	51 - 77 - 120	.042	40 - 60 - 93	.053	23 - 35 - 54	22	50	38	40	26	12	-	
		550	5554	.051	66 - 97 - 137	.070	51 - 75 - 106	.089	30 - 44 - 62	29	56	46	47	36	24	19	
		675	6816	.077	81 - 107 - 152	.106	63 - 83 - 118	.135	37 - 48 - 68	36	61	51	52	44	34	29	
		800	8078	.108	95 - 117 - 165	.149	74 - 91 - 128	.189	43 - 53 - 74	41	65	56	57	50	43	38	
46 x 34	10.86	300	3135	.015	34 - 55 - 103	.021	27 - 43 - 80	.027	16 - 25 - 46	11	42	29	30	13	-	-	
		425	4441	.030	52 - 78 - 123	.042	40 - 61 - 95	.053	23 - 35 - 55	22	50	39	40	26	12	-	
		550	5747	.051	68 - 99 - 139	.070	52 - 76 - 108	.089	30 - 44 - 63	30	56	46	47	36	24	19	
		675	7053	.077	83 - 109 - 154	.106	64 - 85 - 120	.135	37 - 49 - 69	36	61	51	52	44	35	29	
		800	8359	.108	97 - 119 - 168	.149	75 - 92 - 130	.189	44 - 53 - 76	41	65	56	57	50	43	38	
42 x 38	11.08	300	3201	.015	35 - 56 - 104	.021	27 - 43 - 81	.027	16 - 25 - 47	12	42	29	30	13	-	-	
		425	4535	.030	53 - 79 - 124	.042	41 - 61 - 96	.053	24 - 36 - 56	22	50	39	40	26	12	-	
		550	5869	.051	68 - 100 - 141	.070	53 - 77 - 109	.089	31 - 45 - 63	30	56	46	47	36	25	19	
		675	7203	.077	84 - 110 - 156	.106	65 - 86 - 121	.135	38 - 50 - 70	36	61	51	52	44	35	29	
		800	8536	.108	98 - 120 - 170	.149	76 - 93 - 132	.189	44 - 54 - 76	41	65	56	57	50	43	38	
40 x 40	11.11	300	3210	.015	35 - 56 - 104	.021	27 - 43 - 81	.027	16 - 25 - 47	12	42	29	30	13	-	-	
		425	4547	.030	53 - 79 - 124	.042	41 - 61 - 96	.053	24 - 36 - 56	22	50	39	40	26	12	-	
		550	5884	.051	68 - 100 - 141	.070	53 - 77 - 109	.089	31 - 45 - 63	30	56	46	47	36	25	19	
		675	7221	.077	84 - 110 - 156	.106	65 - 86 - 121	.135	38 - 50 - 70	36	61	51	52	44	35	29	
		800	8559	.108	98 - 120 - 170	.149	76 - 93 - 132	.189	44 - 54 - 77	41	65	56	57	50	43	38	
48 x 36	12.00	300	3470	.015	36 - 58 - 108	.021	28 - 45 - 84	.027	16 - 26 - 49	12	42	29	31	14	-	-	
		425	4916	.030	55 - 82 - 129	.042	43 - 64 - 100	.053	25 - 37 - 58	22	50	39	40	27	12	-	
		550	6362	.051	71 - 104 - 147	.070	55 - 80 - 114	.089	32 - 47 - 66	30	56	46	47	36	25	19	
		675	7807	.077	87 - 115 - 162	.106	68 - 89 - 126	.135	39 - 52 - 73	36	61	52	53	44	35	29	
		800	9253	.108	102 - 125 - 177	.149	79 - 97 - 137	.189	46 - 56 - 80	41	65	56	57	51	43	38	

NOTE: See notes on page P1-34.

GRILLES | STAINLESS STEEL



PERFORMANCE DATA | IP | WITH OBD/MULTILOUVER

GRILLES | STAINLESS STEEL

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				in wg	ft	in wg	ft	in wg	ft								
42 x 42	12.25	300	3545	.015	37 - 59 - 109	.021	28 - 46 - 85	.027	16 - 26 - 49	12	42	30	31	14	-	-	
		425	5022	.030	55 - 83 - 130	.042	43 - 65 - 101	.053	25 - 37 - 59	22	51	39	40	27	12	-	
		550	6499	.051	72 - 105 - 148	.070	56 - 81 - 115	.089	32 - 47 - 67	30	57	46	47	37	25	19	
		675	7976	.077	88 - 116 - 164	.106	68 - 90 - 127	.135	40 - 52 - 74	36	61	52	53	44	35	30	
		800	9453	.108	103 - 126 - 179	.149	80 - 98 - 139	.189	46 - 57 - 80	41	65	56	57	51	43	38	
44 x 44	13.44	300	3897	.015	38 - 62 - 115	.021	30 - 48 - 89	.027	17 - 28 - 52	12	43	30	31	14	-	-	
		425	5521	.030	58 - 87 - 137	.042	45 - 68 - 106	.053	26 - 39 - 61	23	51	40	41	27	13	-	
		550	7145	.051	75 - 110 - 155	.070	58 - 85 - 120	.089	34 - 49 - 70	31	57	47	48	37	25	20	
		675	8768	.077	92 - 122 - 172	.106	72 - 94 - 133	.135	42 - 55 - 77	37	62	52	53	45	35	30	
48 x 42	14.00	300	4061	.015	39 - 63 - 117	.021	30 - 49 - 91	.027	18 - 28 - 53	13	43	30	31	14	-	-	
		425	5752	.030	59 - 89 - 139	.042	46 - 69 - 108	.053	27 - 40 - 63	23	51	40	41	27	13	-	
		550	7444	.051	77 - 112 - 159	.070	60 - 87 - 123	.089	35 - 50 - 71	31	57	47	48	37	26	20	
		675	9136	.077	94 - 124 - 176	.106	73 - 96 - 136	.135	42 - 56 - 79	37	62	52	53	45	36	30	
		800	10828	.108	110 - 135 - 191	.149	86 - 105 - 148	.189	50 - 61 - 86	42	66	57	58	51	44	39	
46 x 46	14.69	300	4266	.015	40 - 64 - 120	.021	31 - 50 - 93	.027	18 - 29 - 54	13	43	30	32	14	-	-	
		425	6043	.030	61 - 91 - 143	.042	47 - 71 - 111	.053	27 - 41 - 64	23	51	40	41	28	13	-	
		550	7821	.051	79 - 115 - 163	.070	61 - 89 - 126	.089	35 - 52 - 73	31	57	47	48	37	26	20	
		675	9598	.077	97 - 127 - 180	.106	75 - 99 - 140	.135	44 - 57 - 81	37	62	53	54	45	36	30	
48 x 46	15.33	300	4454	.015	41 - 66 - 123	.021	32 - 51 - 95	.027	18 - 30 - 55	13	43	31	32	15	-	-	
		425	6310	.030	62 - 93 - 146	.042	48 - 72 - 113	.053	28 - 42 - 66	23	52	40	41	28	13	-	
		550	8166	.051	81 - 117 - 166	.070	62 - 91 - 129	.089	36 - 53 - 75	31	58	47	48	37	26	20	
		675	10022	.077	99 - 130 - 184	.106	77 - 101 - 143	.135	44 - 59 - 83	37	62	53	54	45	36	31	
		800	11878	.108	116 - 142 - 200	.149	90 - 110 - 155	.189	52 - 64 - 90	42	66	57	58	52	44	39	
48 x 48	16.00	300	4651	.015	42 - 67 - 125	.021	33 - 52 - 97	.027	19 - 30 - 56	13	44	31	32	15	-	-	
		425	6589	.030	64 - 95 - 149	.042	49 - 74 - 116	.053	29 - 43 - 67	24	52	40	41	28	13	-	
		550	8527	.051	82 - 120 - 170	.070	64 - 93 - 132	.089	37 - 54 - 76	31	58	47	48	38	26	20	
		675	10465	.077	101 - 133 - 188	.106	78 - 103 - 146	.135	45 - 60 - 85	37	63	53	54	45	36	31	
800	12403	.108	118 - 145 - 205	.149	92 - 112 - 159	.189	53 - 65 - 92	42	66	58	58	52	45	39			

**NOTES:** Throw values are given for terminal velocities of 150, 100, and 50 FPM. Throw values are given for isothermal conditions. NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See correction factors in table below. See Krueger's selection software for performance data not shown, including octave band data.

NC CORRECTION DAMPER (ADD)		NC CORRECTION BLADE DEFLECTION (ADD)			THROW CORRECTION (MULTIPLY)		Pt CORRECTION (MULTIPLY)	
OBD	NO OBD	0°	22.5°	45°	OBD	NO OBD	OBD	NO OBD
0	-2	0	+4	+9	1	0.98	1	0.88

**PERFORMANCE DATA | METRIC | WITH OBD/MULTILOUVER**

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				Pa	m	Pa	m	Pa	m								
mm	m <sup>2</sup>	m/s	L/s	Pa	m	Pa	m	Pa	m	NC	2	3	4	5	6	7	
152 x 152	0.02	2.03	36	6.7	2.0-3.0-4.9	9.2	1.6-2.3-3.8	11.8	0.9-1.4-2.2	-	31	20	21	-	-	-	
		3.30	59	17.8	3.3-4.4-6.2	24.4	2.5-3.4-4.8	31.1	1.5-2.0-2.8	18	43	33	34	25	15	-	
		4.57	81	34.1	4.2-5.2-7.3	46.8	3.3-4.0-5.7	59.6	1.9-2.3-3.3	28	50	42	43	37	31	26	
		5.84	104	55.6	4.8-5.9-8.3	76.4	3.7-4.5-6.4	97.3	2.2-2.6-3.7	35	56	49	49	46	43	39	
		7.11	126	82.4	5.3-6.5-9.1	113.3	4.1-5.0-7.1	144.2	2.4-2.9-4.1	41	60	54	54	54	53	49	
203 x 152	0.03	2.03	50	6.7	2.4-3.6-5.7	9.2	1.8-2.8-4.5	11.8	1.1-1.6-2.6	-	33	21	22	-	-	-	
		3.30	81	17.8	3.9-5.2-7.3	24.4	3.0-4.0-5.7	31.1	1.7-2.3-3.3	19	44	34	35	26	17	11	
		4.57	112	34.1	5.0-6.1-8.6	46.8	3.9-4.7-6.7	59.6	2.2-2.7-3.9	29	52	43	44	39	33	28	
		5.84	143	55.6	5.6-6.9-9.7	76.4	4.4-5.3-7.6	97.3	2.5-3.1-4.4	36	57	50	51	48	45	40	
		7.11	175	82.4	6.2-7.6-10.8	113.3	4.8-5.9-8.3	144.2	2.8-3.4-4.8	42	62	55	56	55	55	50	
254 x 152	0.04	2.03	64	6.7	2.7-4.0-6.5	9.2	2.1-3.1-5.0	11.8	1.2-1.8-2.9	-	34	22	23	-	-	-	
		3.30	103	17.8	4.4-5.9-8.3	24.4	3.4-4.5-6.4	31.1	2.0-2.6-3.7	20	45	35	36	27	18	12	
		4.57	143	34.1	5.6-6.9-9.7	46.8	4.4-5.3-7.5	59.6	2.5-3.1-4.4	30	53	44	45	40	34	29	
		5.84	183	55.6	6.4-7.8-11.0	76.4	4.9-6.0-8.5	97.3	2.9-3.5-5.0	37	58	51	52	49	46	41	
		7.11	223	82.4	7.0-8.6-12.1	113.3	5.4-6.7-9.4	144.2	3.2-3.9-5.5	43	63	56	57	56	56	51	
203 x 203	0.04	2.03	69	6.7	2.8-4.2-6.8	9.2	2.2-3.2-5.2	11.8	1.3-1.9-3.0	-	34	22	24	-	-	-	
		3.30	112	17.8	4.5-6.1-8.6	24.4	3.5-4.7-6.7	31.1	2.0-2.7-3.9	21	45	36	37	28	18	13	
		4.57	155	34.1	5.8-7.2-10.1	46.8	4.5-5.6-7.9	59.6	2.6-3.2-4.6	30	53	45	45	40	34	29	
		5.84	198	55.6	6.6-8.1-11.5	76.4	5.1-6.3-8.9	97.3	3.0-3.6-5.2	38	59	51	52	49	46	42	
		7.11	241	82.4	7.3-8.9-12.6	113.3	5.7-6.9-9.8	144.2	3.3-4.0-5.7	44	63	57	57	57	56	51	
305 x 152	0.05	2.03	77	6.7	3.0-4.4-7.2	9.2	2.3-3.4-5.5	11.8	1.3-2.0-3.2	-	35	23	24	-	-	-	
		3.30	126	17.8	4.8-6.5-9.1	24.4	3.7-5.0-7.1	31.1	2.2-2.9-4.1	21	46	36	37	28	19	13	
		4.57	174	34.1	6.2-7.6-10.7	46.8	4.8-5.9-8.3	59.6	2.8-3.4-4.8	31	53	45	46	40	35	30	
		5.84	223	55.6	7.0-8.6-12.1	76.4	5.4-6.7-9.4	97.3	3.2-3.9-5.5	38	59	52	53	50	47	42	
		7.11	271	82.4	7.7-9.5-13.4	113.3	6.0-7.3-10.4	144.2	3.5-4.3-6.0	44	64	57	58	57	56	52	
356 x 152	0.05	2.03	91	6.7	3.2-4.8-7.8	9.2	2.5-3.7-6.0	11.8	1.4-2.2-3.5	-	35	24	25	11	-	-	
		3.30	148	17.8	5.2-7.0-9.9	24.4	4.0-5.4-7.7	31.1	2.3-3.2-4.5	22	47	37	38	29	19	14	
		4.57	205	34.1	6.7-8.2-11.7	46.8	5.2-6.4-9.0	59.6	3.0-3.7-5.2	31	54	46	47	41	35	30	
		5.84	262	55.6	7.6-9.3-13.2	76.4	5.9-7.2-10.2	97.3	3.4-4.2-5.9	39	60	53	53	50	47	43	
		7.11	319	82.4	8.4-10.3-14.5	113.3	6.5-8.0-11.3	144.2	3.8-4.6-6.5	45	64	58	59	58	57	53	
305 x 203	0.06	2.03	107	6.7	3.5-5.2-8.4	9.2	2.7-4.0-6.5	11.8	1.6-2.3-3.8	-	36	24	25	11	-	-	
		3.30	174	17.8	5.6-7.6-10.7	24.4	4.4-5.9-8.3	31.1	2.5-3.4-4.8	22	47	38	39	30	20	14	
		4.57	241	34.1	7.3-8.9-12.6	46.8	5.6-6.9-9.8	59.6	3.3-4.0-5.7	32	55	47	47	42	36	31	
		5.84	307	55.6	8.2-10.1-14.3	76.4	6.4-7.8-11.1	97.3	3.7-4.5-6.4	39	61	53	54	51	48	43	
		7.11	374	82.4	9.1-11.1-15.7	113.3	7.0-8.6-12.2	144.2	4.1-5.0-7.1	45	65	59	59	59	58	53	
254 x 254	0.06	2.03	112	6.7	3.6-5.3-8.6	9.2	2.8-4.1-6.7	11.8	1.6-2.4-3.9	-	36	24	26	12	-	-	
		3.30	182	17.8	5.8-7.8-11.0	24.4	4.5-6.0-8.5	31.1	2.6-3.5-4.9	23	47	38	39	30	20	15	
		4.57	252	34.1	7.5-9.1-12.9	46.8	5.8-7.1-10.0	59.6	3.4-4.1-5.8	32	55	47	48	42	36	31	
		5.84	322	55.6	8.4-10.3-14.6	76.4	6.5-8.0-11.3	97.3	3.8-4.6-6.6	40	61	53	54	51	48	44	
		7.11	393	82.4	9.3-11.4-16.1	113.3	7.2-8.8-12.5	144.2	4.2-5.1-7.3	46	65	59	59	59	58	54	
457 x 152	0.07	2.03	119	6.7	3.7-5.5-8.9	9.2	2.8-4.3-6.9	11.8	1.6-2.5-4.0	-	36	25	26	12	-	-	
		3.30	193	17.8	6.0-8.0-11.3	24.4	4.6-6.2-8.8	31.1	2.7-3.6-5.1	23	48	38	39	30	20	15	
		4.57	267	34.1	7.7-9.4-13.3	46.8	5.9-7.3-10.3	59.6	3.5-4.2-6.0	33	55	47	48	42	37	31	
		5.84	341	55.6	8.7-10.6-15.0	76.4	6.7-8.2-11.6	97.3	3.9-4.8-6.8	40	61	54	54	52	49	44	
		7.11	416	82.4	9.6-11.7-16.6	113.3	7.4-9.1-12.9	144.2	4.3-5.3-7.5	46	66	59	60	59	58	54	
305 x 254	0.08	1.52	102	3.8	2.8-4.4-8.2	5.2	2.1-3.4-6.4	6.6	1.2-2.0-3.7	-	30	17	19	-	-	-	
		2.79	188	12.7	5.4-7.9-11.1	17.5	4.2-6.1-8.6	22.3	2.4-3.5-5.0	18	44	34	35	24	13	-	
		4.06	273	26.9	7.8-9.5-13.4	37.0	6.0-7.4-10.4	47.1	3.5-4.3-6.0	30	53	44	45	38	31	26	
		5.33	358	46.4	8.9-10.9-15.4	63.7	6.9-8.4-11.9	81.1	4.0-4.9-6.9	38	60	52	53	49	45	40	
		6.60	443	71.1	9.9-12.1-17.1	97.7	7.7-9.4-13.3	124.3	4.5-5.5-7.7	44	64	58	58	57	55	51	
559 x 152	0.09	1.52	110	3.8	2.9-4.6-8.5	5.2	2.2-3.5-6.6	6.6	1.3-2.1-3.8	-	31	18	19	-	-	-	
		2.79	201	12.7	5.6-8.2-11.5	17.5	4.3-6.3-8.9	22.3	2.5-3.7-5.2	19	45	34	35	25	13	-	
		4.06	293	26.9	8.0-9.8-13.9	37.0	6.2-7.6-10.8	47.1	3.6-4.4-6.3	30	53	45	45	39	32	26	
		5.33	384	46.4	9.2-11.3-15.9	63.7	7.1-8.7-12.4	81.1	4.1-5.1-7.2	38	60	52	53	49	45	40	
		6.60	475	71.1	10.2-12.5-17.7	97.7	7.9-9.7-13.7	124.3	4.6-5.6-8.0	44	65	58	59	57	56	51	

**NOTE:** See notes on page P1-40.

PERFORMANCE DATA | METRIC | WITH OBD/MULTILOUVER

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				Pa	m	Pa	m	Pa	m								
mm	m <sup>2</sup>	m/s	L/s	Pa	m	Pa	m	Pa	m	NC	2	3	4	5	6	7	
305 x 305	0.09	1.52	124	3.8	3.0 - 4.9 - 9.1	5.2	2.4 - 3.8 - 7.0	6.6	1.4 - 2.2 - 4.1	-	31	18	20	-	-	-	
		2.79	228	12.7	6.0 - 8.7 - 12.3	17.5	4.6 - 6.7 - 9.5	22.3	2.7 - 3.9 - 5.5	19	45	35	36	25	14	-	
		4.06	332	26.9	8.6 - 10.5 - 14.8	37.0	6.6 - 8.1 - 11.5	47.1	3.9 - 4.7 - 6.7	30	54	45	46	39	32	27	
		5.33	436	46.4	9.8 - 12.0 - 17.0	63.7	7.6 - 9.3 - 13.2	81.1	4.4 - 5.4 - 7.6	39	60	53	53	50	46	41	
		6.60	539	71.1	10.9 - 13.4 - 18.9	97.7	8.5 - 10.4 - 14.6	124.3	4.9 - 6.0 - 8.5	45	65	59	59	58	56	52	
457 x 254	0.12	1.52	157	3.8	3.4 - 5.5 - 10.2	5.2	2.6 - 4.2 - 7.9	6.6	1.5 - 2.5 - 4.6	-	32	19	21	-	-	-	
		2.67	275	11.6	6.4 - 9.5 - 13.5	15.9	4.9 - 7.4 - 10.4	20.3	2.9 - 4.3 - 6.1	19	45	35	36	24	12	-	
		3.81	392	23.6	9.1 - 11.4 - 16.1	32.5	7.1 - 8.8 - 12.5	41.4	4.1 - 5.1 - 7.3	30	54	44	45	38	30	25	
		4.95	510	40.0	10.6 - 13.0 - 18.4	54.9	8.2 - 10.1 - 14.2	69.9	4.8 - 5.8 - 8.3	37	60	52	52	48	43	38	
356 x 356	0.13	1.52	173	3.8	3.6 - 5.7 - 10.7	5.2	2.8 - 4.4 - 8.3	6.6	1.6 - 2.6 - 4.8	-	33	20	21	-	-	-	
		2.67	302	11.6	6.7 - 10.0 - 14.1	15.9	5.2 - 7.7 - 11.0	20.3	3.0 - 4.5 - 6.4	19	46	35	36	25	13	-	
		3.81	432	23.6	9.6 - 12.0 - 16.9	32.5	7.4 - 9.3 - 13.1	41.4	4.3 - 5.4 - 7.6	30	54	45	46	38	30	25	
		4.95	561	40.0	11.1 - 13.6 - 19.3	54.9	8.6 - 10.6 - 14.9	69.9	5.0 - 6.1 - 8.7	38	60	52	53	48	43	38	
		6.10	690	60.5	12.3 - 15.1 - 21.4	83.2	9.6 - 11.7 - 16.6	105.9	5.6 - 6.8 - 9.6	44	65	58	58	56	54	49	
686 x 203	0.14	1.52	187	3.8	3.7 - 6.0 - 11.1	5.2	2.9 - 4.6 - 8.6	6.6	1.7 - 2.7 - 5.0	-	33	20	21	-	-	-	
		2.67	327	11.6	7.0 - 10.4 - 14.7	15.9	5.4 - 8.1 - 11.4	20.3	3.1 - 4.7 - 6.6	20	46	35	36	25	13	-	
		3.81	468	23.6	10.0 - 12.4 - 17.6	32.5	7.7 - 9.6 - 13.6	41.4	4.5 - 5.6 - 7.9	30	54	45	46	39	31	25	
		4.95	608	40.0	11.6 - 14.2 - 20.1	54.9	9.0 - 11.0 - 15.5	69.9	5.2 - 6.4 - 9.0	38	60	52	53	49	44	39	
		6.10	748	60.5	12.9 - 15.7 - 22.3	83.2	10.0 - 12.2 - 17.2	105.9	5.8 - 7.1 - 10.0	44	65	58	59	56	54	49	
559 x 254	0.14	1.52	193	3.8	3.8 - 6.1 - 11.3	5.2	2.9 - 4.7 - 8.8	6.6	1.7 - 2.7 - 5.1	-	33	20	21	-	-	-	
		2.67	338	11.6	7.1 - 10.6 - 15.0	15.9	5.5 - 8.2 - 11.6	20.3	3.2 - 4.8 - 6.7	20	46	36	37	25	13	-	
		3.81	483	23.6	10.1 - 12.6 - 17.9	32.5	7.8 - 9.8 - 13.9	41.4	4.6 - 5.7 - 8.0	30	54	45	46	39	31	26	
		4.95	628	40.0	11.8 - 14.4 - 20.4	54.9	9.1 - 11.2 - 15.8	69.9	5.3 - 6.5 - 9.2	38	61	53	53	49	44	39	
		6.10	773	60.5	13.1 - 16.0 - 22.6	83.2	10.1 - 12.4 - 17.5	105.9	5.9 - 7.2 - 10.2	44	65	58	59	57	54	49	
610 x 254	0.15	1.52	211	3.8	4.0 - 6.4 - 11.8	5.2	3.1 - 4.9 - 9.2	6.6	1.8 - 2.9 - 5.3	-	33	21	22	-	-	-	
		2.41	335	9.5	6.7 - 10.1 - 14.9	13.0	5.2 - 7.8 - 11.5	16.6	3.0 - 4.5 - 6.7	17	44	33	34	22	-	-	
		3.30	458	17.8	9.2 - 12.3 - 17.4	24.4	7.1 - 9.5 - 13.5	31.1	4.1 - 5.5 - 7.8	26	51	42	43	34	24	19	
		4.19	582	28.6	11.3 - 13.9 - 19.6	39.3	8.8 - 10.8 - 15.2	50.1	5.1 - 6.2 - 8.8	34	57	48	49	43	36	31	
		5.08	705	42.0	12.5 - 15.3 - 21.6	57.8	9.7 - 11.8 - 16.7	73.6	5.6 - 6.9 - 9.7	39	62	54	54	50	45	41	
457 x 356	0.16	1.52	225	3.8	4.1 - 6.5 - 12.2	5.2	3.2 - 5.1 - 9.5	6.6	1.8 - 2.9 - 5.5	-	34	21	22	-	-	-	
		2.41	356	9.5	6.9 - 10.4 - 15.3	13.0	5.4 - 8.0 - 11.9	16.6	3.1 - 4.7 - 6.9	17	44	33	35	22	-	-	
		3.30	487	17.8	9.5 - 12.7 - 18.0	24.4	7.3 - 9.8 - 13.9	31.1	4.3 - 5.7 - 8.1	27	52	42	43	34	24	19	
		4.19	618	28.6	11.7 - 14.3 - 20.2	39.3	9.0 - 11.1 - 15.7	50.1	5.3 - 6.4 - 9.1	34	57	49	49	43	36	31	
		5.08	749	42.0	12.9 - 15.7 - 22.3	57.8	10.0 - 12.2 - 17.3	73.6	5.8 - 7.1 - 10.0	40	62	54	55	50	46	41	
406 x 406	0.17	1.52	229	3.8	4.1 - 6.6 - 12.3	5.2	3.2 - 5.1 - 9.5	6.6	1.9 - 3.0 - 5.5	-	34	21	22	-	-	-	
		2.41	362	9.5	7.0 - 10.5 - 15.5	13.0	5.4 - 8.1 - 12.0	16.6	3.1 - 4.7 - 7.0	17	45	34	35	22	-	-	
		3.30	495	17.8	9.5 - 12.8 - 18.1	24.4	7.4 - 9.9 - 14.0	31.1	4.3 - 5.8 - 8.1	27	52	42	43	34	25	19	
		4.19	629	28.6	11.8 - 14.4 - 20.4	39.3	9.1 - 11.2 - 15.8	50.1	5.3 - 6.5 - 9.2	34	57	49	49	43	36	31	
		5.08	762	42.0	13.0 - 15.9 - 22.5	57.8	10.0 - 12.3 - 17.4	73.6	5.8 - 7.1 - 10.1	40	62	54	55	50	46	41	
610 x 305	0.19	1.52	257	3.8	4.4 - 7.0 - 13.0	5.2	3.4 - 5.4 - 10.1	6.6	2.0 - 3.2 - 5.9	-	34	21	23	-	-	-	
		2.41	407	9.5	7.4 - 11.1 - 16.4	13.0	5.7 - 8.6 - 12.7	16.6	3.3 - 5.0 - 7.4	18	45	34	35	23	-	-	
		3.30	557	17.8	10.1 - 13.6 - 19.2	24.4	7.8 - 10.5 - 14.9	31.1	4.6 - 6.1 - 8.6	27	52	43	44	35	25	20	
		4.19	707	28.6	12.5 - 15.3 - 21.6	39.3	9.7 - 11.9 - 16.8	50.1	5.6 - 6.9 - 9.7	34	58	49	50	44	37	32	
		5.08	857	42.0	13.8 - 16.8 - 23.8	57.8	10.7 - 13.1 - 18.5	73.6	6.2 - 7.6 - 10.7	40	62	54	55	51	46	41	
457 x 457	0.21	1.52	293	3.8	4.7 - 7.5 - 13.9	5.2	3.6 - 5.8 - 10.8	6.6	2.1 - 3.4 - 6.3	-	35	22	23	-	-	-	
		2.41	463	9.5	7.9 - 11.8 - 17.5	13.0	6.1 - 9.2 - 13.6	16.6	3.5 - 5.3 - 7.9	18	46	35	36	23	-	-	
		3.30	634	17.8	10.8 - 14.5 - 20.5	24.4	8.4 - 11.2 - 15.9	31.1	4.9 - 6.5 - 9.2	28	53	43	44	35	26	20	
		4.19	805	28.6	13.3 - 16.3 - 23.1	39.3	10.3 - 12.6 - 17.9	50.1	6.0 - 7.3 - 10.4	35	58	50	51	44	37	32	
		5.08	975	42.0	14.7 - 18.0 - 25.4	57.8	11.4 - 13.9 - 19.7	73.6	6.6 - 8.1 - 11.4	41	63	55	56	51	47	42	
610 x 356	0.22	1.52	303	3.8	4.7 - 7.6 - 14.2	5.2	3.7 - 5.9 - 11.0	6.6	2.1 - 3.4 - 6.4	-	35	22	23	-	-	-	
		2.41	480	9.5	8.0 - 12.0 - 17.8	13.0	6.2 - 9.3 - 13.8	16.6	3.6 - 5.4 - 8.0	19	46	35	36	24	-	-	
		3.30	656	17.8	11.0 - 14.7 - 20.8	24.4	8.5 - 11.4 - 16.2	31.1	4.9 - 6.6 - 9.4	28	53	43	44	35	26	20	
		4.19	833	28.6	13.6 - 16.6 - 23.5	39.3	10.5 - 12.9 - 18.2	50.1	6.1 - 7.5 - 10.6	35	59	50	51	44	38	32	
		5.08	1010	42.0	14.9 - 18.3 - 25.9	57.8	11.6 - 14.2 - 20.0	73.6	6.7 - 8.2 - 11.6	41	63	55	56	52	47	42	

NOTE: See notes on page P1-40.

**PERFORMANCE DATA | METRIC | WITH OBD/MULTILOUVER**

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				Pa	m	Pa	m	Pa	m								
mm	m <sup>2</sup>	m/s	L/s	Pa	m	Pa	m	Pa	m	NC	2	3	4	5	6	7	
762 x 305	0.23	1.52	324	3.8	4.9-7.9-14.6	5.2	3.8-6.1-11.3	6.6	2.2-3.5-6.6	-	35	22	24	-	-	-	
		2.41	512	9.5	8.3-12.4-18.4	13.0	6.4-9.6-14.3	16.6	3.7-5.6-8.3	19	46	35	36	24	11	-	
		3.30	701	17.8	11.3-15.2-21.5	24.4	8.8-11.8-16.7	31.1	5.1-6.9-9.7	28	53	44	45	36	26	21	
		4.19	890	28.6	14.0-17.2-24.3	39.3	10.9-13.3-18.8	50.1	6.3-7.7-10.9	35	59	50	51	45	38	33	
		5.08	1078	42.0	15.4-18.9-26.7	57.8	12.0-14.6-20.7	73.6	6.9-8.5-12.0	41	63	55	56	52	47	42	
610 x 406	0.25	1.52	349	3.8	5.1-8.2-15.2	5.2	3.9-6.3-11.8	6.6	2.3-3.7-6.8	-	36	23	24	-	-	-	
		2.41	552	9.5	8.6-12.9-19.1	13.0	6.7-10.0-14.8	16.6	3.9-5.8-8.6	19	46	35	36	24	11	-	
		3.30	755	17.8	11.8-15.8-22.4	24.4	9.1-12.3-17.3	31.1	5.3-7.1-10.1	29	54	44	45	36	26	21	
		4.19	959	28.6	14.5-17.8-25.2	39.3	11.3-13.8-19.5	50.1	6.5-8.0-11.3	36	59	51	51	45	38	33	
		5.08	1162	42.0	16.0-19.6-27.7	57.8	12.4-15.2-21.5	73.6	7.2-8.8-12.5	41	64	56	57	52	48	43	
508 x 508	0.26	1.52	364	3.8	5.2-8.3-15.5	5.2	4.0-6.5-12.0	6.6	2.3-3.8-7.0	-	36	23	24	-	-	-	
		2.41	577	9.5	8.8-13.2-19.5	13.0	6.8-10.2-15.1	16.6	4.0-5.9-8.8	19	47	36	37	24	11	-	
		3.30	789	17.8	12.0-16.2-22.9	24.4	9.3-12.5-17.7	31.1	5.4-7.3-10.3	29	54	44	45	36	27	21	
		4.19	1002	28.6	14.9-18.2-25.8	39.3	11.5-14.1-20.0	50.1	6.7-8.2-11.6	36	59	51	52	45	38	33	
		5.08	1214	42.0	16.4-20.0-28.4	57.8	12.7-15.5-22.0	73.6	7.4-9.0-12.8	42	64	56	57	52	48	43	
610 x 457	0.28	1.52	394	3.8	5.4-8.7-16.2	5.2	4.2-6.7-12.5	6.6	2.4-3.9-7.3	-	36	23	25	-	-	-	
		2.41	624	9.5	9.2-13.7-20.3	13.0	7.1-10.6-15.8	16.6	4.1-6.2-9.1	20	47	36	37	25	11	-	
		3.30	854	17.8	12.5-16.8-23.8	24.4	9.7-13.0-18.4	31.1	5.6-7.6-10.7	29	54	44	45	37	27	21	
		4.19	1084	28.6	15.5-18.9-26.8	39.3	12.0-14.7-20.8	50.1	7.0-8.5-12.1	36	60	51	52	46	39	33	
		5.08	1314	42.0	17.0-20.9-29.5	57.8	13.2-16.2-22.9	73.6	7.7-9.4-13.3	42	64	56	57	53	48	43	
762 x 406	0.31	1.52	439	3.8	5.7-9.1-17.0	5.2	4.4-7.1-13.2	6.6	2.6-4.1-7.7	-	37	24	25	-	-	-	
		2.41	694	9.5	9.7-14.5-21.4	13.0	7.5-11.2-16.6	16.6	4.3-6.5-9.6	20	47	36	37	25	12	-	
		3.30	950	17.8	13.2-17.7-25.1	24.4	10.2-13.7-19.4	31.1	5.9-8.0-11.3	30	55	45	46	37	27	22	
		4.19	1206	28.6	16.3-20.0-28.3	39.3	12.6-15.5-21.9	50.1	7.3-9.0-12.7	37	60	52	52	46	39	34	
		5.08	1462	42.0	18.0-22.0-31.1	57.8	13.9-17.0-24.1	73.6	8.1-9.9-14.0	42	65	57	58	53	49	44	
559 x 559	0.31	1.52	444	3.8	5.7-9.2-17.1	5.2	4.4-7.1-13.3	6.6	2.6-4.1-7.7	-	37	24	25	-	-	-	
		2.41	703	9.5	9.7-14.6-21.6	13.0	7.5-11.3-16.7	16.6	4.4-6.6-9.7	20	47	36	37	25	12	-	
		3.30	962	17.8	13.3-17.8-25.2	24.4	10.3-13.8-19.6	31.1	6.0-8.0-11.4	30	55	45	46	37	27	22	
		4.19	1221	28.6	16.4-20.1-28.4	39.3	12.7-15.6-22.0	50.1	7.4-9.0-12.8	37	60	52	52	46	39	34	
		5.08	1480	42.0	18.1-22.1-31.3	57.8	14.0-17.2-24.3	73.6	8.1-10.0-14.1	42	65	57	58	53	49	44	
914 x 356	0.33	1.52	459	3.8	5.8-9.4-17.4	5.2	4.5-7.3-13.5	6.6	2.6-4.2-7.8	-	37	24	25	-	-	-	
		2.41	727	9.5	9.9-14.8-21.9	13.0	7.7-11.5-17.0	16.6	4.4-6.7-9.9	20	48	37	38	25	12	-	
		3.30	995	17.8	13.5-18.1-25.7	24.4	10.5-14.1-19.9	31.1	6.1-8.2-11.5	30	55	45	46	37	28	22	
		4.19	1263	28.6	16.7-20.4-28.9	39.3	12.9-15.8-22.4	50.1	7.5-9.2-13.0	37	60	52	53	46	39	34	
		5.08	1531	42.0	18.4-22.5-31.8	57.8	14.2-17.4-24.7	73.6	8.3-10.1-14.3	43	65	57	58	53	49	44	
610 x 559	0.34	1.52	486	3.8	6.0-9.6-17.9	5.2	4.7-7.5-13.9	6.6	2.7-4.3-8.1	-	37	24	25	-	-	-	
		2.29	729	8.5	9.6-14.4-22.0	11.7	7.5-11.2-17.0	14.9	4.3-6.5-9.9	19	47	35	36	24	-	-	
		3.05	972	15.1	12.8-17.9-25.4	20.8	9.9-13.9-19.7	26.5	5.8-8.1-11.4	28	53	43	44	34	24	18	
		3.81	1214	23.6	16.0-20.0-28.4	32.5	12.4-15.5-22.0	41.4	7.2-9.0-12.8	34	58	49	50	43	35	30	
		4.57	1457	34.1	17.9-22.0-31.1	46.8	13.9-17.0-24.1	59.6	8.1-9.9-14.0	40	63	54	55	50	44	39	
762 x 457	0.35	1.52	496	3.8	6.1-9.7-18.1	5.2	4.7-7.5-14.0	6.6	2.7-4.4-8.2	-	37	24	26	-	-	-	
		2.29	744	8.5	9.7-14.6-22.2	11.7	7.5-11.3-17.2	14.9	4.4-6.6-10.0	19	47	35	37	24	-	-	
		3.05	992	15.1	13.0-18.1-25.6	20.8	10.1-14.0-19.9	26.5	5.8-8.2-11.5	28	53	43	44	35	24	18	
		3.81	1240	23.6	16.2-20.3-28.7	32.5	12.6-15.7-22.2	41.4	7.3-9.1-12.9	34	59	49	50	43	35	30	
		4.57	1488	34.1	18.1-22.2-31.4	46.8	14.0-17.2-24.3	59.6	8.2-10.0-14.1	40	63	54	55	50	44	39	
914 x 406	0.37	1.52	529	3.8	6.3-10.0-18.7	5.2	4.9-7.8-14.5	6.6	2.8-4.5-8.4	-	37	25	26	-	-	-	
		2.29	793	8.5	10.0-15.1-22.9	11.7	7.8-11.7-17.8	14.9	4.5-6.8-10.3	19	47	36	37	24	-	-	
		3.05	1057	15.1	13.4-18.7-26.5	20.8	10.4-14.5-20.5	26.5	6.0-8.4-11.9	28	54	44	45	35	24	19	
		3.81	1321	23.6	16.7-20.9-29.6	32.5	13.0-16.2-22.9	41.4	7.5-9.4-13.3	35	59	50	51	43	35	30	
		4.57	1586	34.1	18.7-22.9-32.4	46.8	14.5-17.8-25.1	59.6	8.4-10.3-14.6	40	63	55	55	50	44	39	
914 x 457	0.42	1.52	598	3.8	6.7-10.7-19.9	5.2	5.2-8.3-15.4	6.6	3.0-4.8-9.0	-	38	25	26	-	-	-	
		2.29	897	8.5	10.7-16.0-24.4	11.7	8.3-12.4-18.9	14.9	4.8-7.2-11.0	20	47	36	37	24	11	-	
		3.05	1196	15.1	14.2-19.9-28.1	20.8	11.0-15.4-21.8	26.5	6.4-9.0-12.7	28	54	44	45	35	25	19	
		3.81	1495	23.6	17.8-22.2-31.5	32.5	13.8-17.2-24.4	41.4	8.0-10.0-14.2	35	59	50	51	44	36	30	
		4.57	1794	34.1	19.9-24.4-34.5	46.8	15.4-18.9-26.7	59.6	9.0-11.0-15.5	41	64	55	56	51	45	40	

**NOTE:** See notes on page P1-40.

**PERFORMANCE DATA | METRIC | WITH OBD/MULTILOUVER**

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				Pa	m	Pa	m	Pa	m								
762 x 610	0.46	1.52	669	3.8	7.0 - 11.3 - 21.0	5.2	5.5 - 8.8 - 16.3	6.6	3.2 - 5.1 - 9.5	-	38	26	27	-	-	-	
		2.29	1003	8.5	11.3 - 16.9 - 25.8	11.7	8.8 - 13.1 - 20.0	14.9	5.1 - 7.6 - 11.6	20	48	37	38	25	11	-	
		3.05	1337	15.1	15.1 - 21.0 - 29.8	20.8	11.7 - 16.3 - 23.1	26.5	6.8 - 9.5 - 13.4	29	55	45	46	36	25	20	
		3.81	1672	23.6	18.8 - 23.5 - 33.3	32.5	14.6 - 18.2 - 25.8	41.4	8.5 - 10.6 - 15.0	36	60	51	52	44	36	31	
		4.57	2006	34.1	21.0 - 25.8 - 36.4	46.8	16.3 - 20.0 - 28.2	59.6	9.5 - 11.6 - 16.4	41	64	56	57	51	45	40	
1067 x 457	0.49	1.52	700	3.8	7.2 - 11.6 - 21.5	5.2	5.6 - 9.0 - 16.7	6.6	3.2 - 5.2 - 9.7	-	39	26	27	-	-	-	
		2.29	1049	8.5	11.6 - 17.3 - 26.4	11.7	9.0 - 13.4 - 20.4	14.9	5.2 - 7.8 - 11.9	20	48	37	38	25	11	-	
		3.05	1399	15.1	15.4 - 21.5 - 30.4	20.8	11.9 - 16.7 - 23.6	26.5	6.9 - 9.7 - 13.7	29	55	45	46	36	25	20	
		3.81	1749	23.6	19.3 - 24.1 - 34.0	32.5	14.9 - 18.6 - 26.4	41.4	8.7 - 10.8 - 15.3	36	60	51	52	44	36	31	
		4.57	2099	34.1	21.5 - 26.4 - 37.3	46.8	16.7 - 20.4 - 28.9	59.6	9.7 - 11.9 - 16.8	41	64	56	57	51	45	40	
711 x 711	0.51	1.52	730	3.8	7.4 - 11.8 - 22.0	5.2	5.7 - 9.1 - 17.0	6.6	3.3 - 5.3 - 9.9	-	39	26	27	-	-	-	
		2.29	1095	8.5	11.8 - 17.7 - 26.9	11.7	9.1 - 13.7 - 20.9	14.9	5.3 - 8.0 - 12.1	21	48	37	38	25	11	-	
		3.05	1460	15.1	15.7 - 22.0 - 31.1	20.8	12.2 - 17.0 - 24.1	26.5	7.1 - 9.9 - 14.0	29	55	45	46	36	26	20	
		3.81	1825	23.6	19.7 - 24.6 - 34.8	32.5	15.2 - 19.0 - 26.9	41.4	8.9 - 11.1 - 15.6	36	60	51	52	45	37	31	
		4.57	2190	34.1	22.0 - 26.9 - 38.1	46.8	17.0 - 20.9 - 29.5	59.6	9.9 - 12.1 - 17.1	41	64	56	57	51	46	41	
762 x 711	0.54	1.52	784	3.8	7.6 - 12.2 - 22.8	5.2	5.9 - 9.5 - 17.7	6.6	3.4 - 5.5 - 10.2	-	39	26	28	-	-	-	
		2.29	1176	8.5	12.2 - 18.3 - 27.9	11.7	9.5 - 14.2 - 21.6	14.9	5.5 - 8.3 - 12.6	21	49	37	38	26	12	-	
		3.05	1567	15.1	16.3 - 22.8 - 32.2	20.8	12.6 - 17.7 - 25.0	26.5	7.3 - 10.2 - 14.5	30	55	45	46	36	26	20	
		3.81	1959	23.6	20.4 - 25.5 - 36.0	32.5	15.8 - 19.7 - 27.9	41.4	9.2 - 11.5 - 16.2	36	61	51	52	45	37	32	
		4.57	2351	34.1	22.8 - 27.9 - 39.4	46.8	17.7 - 21.6 - 30.6	59.6	10.2 - 12.6 - 17.8	42	65	56	57	52	46	41	
914 x 610	0.56	1.52	806	3.8	7.7 - 12.4 - 23.1	5.2	6.0 - 9.6 - 17.9	6.6	3.5 - 5.6 - 10.4	-	39	26	28	-	-	-	
		2.29	1209	8.5	12.4 - 18.6 - 28.3	11.7	9.6 - 14.4 - 21.9	14.9	5.6 - 8.4 - 12.7	21	49	38	39	26	12	-	
		3.05	1612	15.1	16.5 - 23.1 - 32.7	20.8	12.8 - 17.9 - 25.3	26.5	7.4 - 10.4 - 14.7	30	55	45	46	37	26	20	
		3.81	2015	23.6	20.7 - 25.8 - 36.5	32.5	16.0 - 20.0 - 28.3	41.4	9.3 - 11.6 - 16.4	36	61	52	52	45	37	32	
		4.57	2417	34.1	23.1 - 28.3 - 40.0	46.8	17.9 - 21.9 - 31.0	59.6	10.4 - 12.7 - 18.0	42	65	57	57	52	46	41	
762 x 762	0.58	1.52	841	3.8	7.9 - 12.7 - 23.6	5.2	6.1 - 9.8 - 18.3	6.6	3.6 - 5.7 - 10.6	-	39	27	28	11	-	-	
		2.29	1262	8.5	12.7 - 19.0 - 28.9	11.7	9.8 - 14.7 - 22.4	14.9	5.7 - 8.6 - 13.0	21	49	38	39	26	12	-	
		3.05	1682	15.1	16.9 - 23.6 - 33.4	20.8	13.1 - 18.3 - 25.9	26.5	7.6 - 10.6 - 15.0	30	56	46	47	37	26	21	
		3.81	2103	23.6	21.1 - 26.4 - 37.3	32.5	16.4 - 20.4 - 28.9	41.4	9.5 - 11.9 - 16.8	37	61	52	53	45	37	32	
		4.57	2524	34.1	23.6 - 28.9 - 40.9	46.8	18.3 - 22.4 - 31.7	59.6	10.6 - 13.0 - 18.4	42	65	57	58	52	46	41	
914 x 711	0.65	1.52	944	3.8	8.4 - 13.4 - 25.0	5.2	6.5 - 10.4 - 19.4	6.6	3.8 - 6.0 - 11.3	-	40	27	28	11	-	-	
		2.29	1417	8.5	13.4 - 20.1 - 30.6	11.7	10.4 - 15.6 - 23.7	14.9	6.0 - 9.1 - 13.8	22	49	38	39	26	13	-	
		3.05	1889	15.1	17.9 - 25.0 - 35.4	20.8	13.9 - 19.4 - 27.4	26.5	8.1 - 11.3 - 15.9	30	56	46	47	37	27	21	
		3.81	2361	23.6	22.4 - 28.0 - 39.5	32.5	17.3 - 21.7 - 30.6	41.4	10.1 - 12.6 - 17.8	37	61	52	53	46	38	32	
		4.57	2833	34.1	25.0 - 30.6 - 43.3	46.8	19.4 - 23.7 - 33.6	59.6	11.3 - 13.8 - 19.5	42	66	57	58	53	47	42	
1168 x 559	0.65	1.52	945	3.8	8.4 - 13.4 - 25.0	5.2	6.5 - 10.4 - 19.4	6.6	3.8 - 6.0 - 11.3	-	40	27	28	11	-	-	
		2.29	1418	8.5	13.4 - 20.1 - 30.6	11.7	10.4 - 15.6 - 23.7	14.9	6.0 - 9.1 - 13.8	22	49	38	39	26	13	-	
		3.05	1891	15.1	17.9 - 25.0 - 35.4	20.8	13.9 - 19.4 - 27.4	26.5	8.1 - 11.3 - 15.9	30	56	46	47	37	27	21	
		3.81	2364	23.6	22.4 - 28.0 - 39.6	32.5	17.3 - 21.7 - 30.7	41.4	10.1 - 12.6 - 17.8	37	61	52	53	46	38	32	
		4.57	2836	34.1	25.0 - 30.6 - 43.3	46.8	19.4 - 23.7 - 33.6	59.6	11.3 - 13.8 - 19.5	42	66	57	58	53	47	42	
813 x 813	0.66	1.52	960	3.8	8.4 - 13.5 - 25.2	5.2	6.5 - 10.5 - 19.5	6.6	3.8 - 6.1 - 11.3	-	40	27	28	11	-	-	
		2.29	1440	8.5	13.5 - 20.3 - 30.9	11.7	10.5 - 15.7 - 23.9	14.9	6.1 - 9.1 - 13.9	22	49	38	39	27	13	-	
		3.05	1920	15.1	18.0 - 25.2 - 35.7	20.8	14.0 - 19.5 - 27.6	26.5	8.1 - 11.3 - 16.0	30	56	46	47	37	27	21	
		3.81	2400	23.6	22.6 - 28.2 - 39.9	32.5	17.5 - 21.8 - 30.9	41.4	10.1 - 12.7 - 17.9	37	61	52	53	46	38	33	
		4.57	2881	34.1	25.2 - 30.9 - 43.7	46.8	19.5 - 23.9 - 33.8	59.6	11.3 - 13.9 - 19.6	43	66	57	58	53	47	42	
914 x 762	0.70	1.52	1014	3.8	8.7 - 13.9 - 25.9	5.2	6.7 - 10.8 - 20.1	6.6	3.9 - 6.3 - 11.7	-	40	27	29	11	-	-	
		2.29	1521	8.5	13.9 - 20.9 - 31.7	11.7	10.8 - 16.2 - 24.6	14.9	6.3 - 9.4 - 14.3	22	50	38	40	27	13	-	
		3.05	2028	15.1	18.5 - 25.9 - 36.6	20.8	14.4 - 20.1 - 28.4	26.5	8.3 - 11.7 - 16.5	31	56	46	47	38	27	21	
		3.81	2534	23.6	23.2 - 29.0 - 41.0	32.5	18.0 - 22.4 - 31.7	41.4	10.4 - 13.0 - 18.4	37	62	53	53	46	38	33	
		4.57	3041	34.1	25.9 - 31.7 - 44.9	46.8	20.1 - 24.6 - 34.8	59.6	11.7 - 14.3 - 20.2	43	66	58	58	53	47	42	
914 x 813	0.74	1.52	1083	3.8	9.0 - 14.4 - 26.8	5.2	6.9 - 11.1 - 20.7	6.6	4.0 - 6.5 - 12.0	-	41	28	29	12	-	-	
		2.29	1625	8.5	14.4 - 21.6 - 32.8	11.7	11.1 - 16.7 - 25.4	14.9	6.5 - 9.7 - 14.8	22	50	39	40	27	13	-	
		3.05	2166	15.1	19.2 - 26.8 - 37.9	20.8	14.9 - 20.7 - 29.3	26.5	8.6 - 12.0 - 17.0	31	57	47	48	38	27	22	
		3.81	2708	23.6	24.0 - 29.9 - 42.3	32.5	18.6 - 23.2 - 32.8	41.4	10.8 - 13.5 - 19.1	38	62	53	54	46	38	33	
		4.57	3249	34.1	26.8 - 32.8 - 46.4	46.8	20.7 - 25.4 - 35.9	59.6	12.0 - 14.8 - 20.9	43	66	58	59	53	47	42	

NOTE: See notes on page P1-40.

GRILLES | STAINLESS STEEL

**PERFORMANCE DATA | METRIC | WITH OBD/MULTILOUVER**

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				Pa	m	Pa	m	Pa	m								
mm	m²	m/s	L/s	Pa	m	Pa	m	Pa	m	NC	2	3	4	5	6	7	
864 x 864	0.75	1.52	1087	3.8	9.0 - 14.4 - 26.8	5.2	7.0 - 11.2 - 20.8	6.6	4.0 - 6.5 - 12.1	-	41	28	29	12	-	-	
		2.29	1631	8.5	14.4 - 21.6 - 32.9	11.7	11.2 - 16.7 - 25.5	14.9	6.5 - 9.7 - 14.8	22	50	39	40	27	13	-	
		3.05	2174	15.1	19.2 - 26.8 - 37.9	20.8	14.9 - 20.8 - 29.4	26.5	8.6 - 12.1 - 17.1	31	57	47	48	38	27	22	
		3.81	2718	23.6	24.0 - 30.0 - 42.4	32.5	18.6 - 23.2 - 32.9	41.4	10.8 - 13.5 - 19.1	38	62	53	54	46	38	33	
		4.57	3261	34.1	26.8 - 32.9 - 46.5	46.8	20.8 - 25.5 - 36.0	59.6	12.1 - 14.8 - 20.9	43	66	58	59	53	47	42	
914 x 864	0.79	1.52	1152	3.8	9.2 - 14.8 - 27.6	5.2	7.2 - 11.5 - 21.4	6.6	4.2 - 6.7 - 12.4	-	41	28	29	12	-	-	
		2.16	1633	7.6	14.0 - 21.0 - 32.9	10.4	10.9 - 16.3 - 25.5	13.3	6.3 - 9.5 - 14.8	21	49	37	39	25	11	-	
		2.79	2113	12.7	18.1 - 26.4 - 37.4	17.5	14.0 - 20.5 - 29.0	22.3	8.2 - 11.9 - 16.8	29	55	45	46	35	23	18	
		3.43	2593	19.2	22.2 - 29.3 - 41.4	26.3	17.2 - 22.7 - 32.1	33.5	10.0 - 13.2 - 18.6	35	60	50	51	43	33	28	
		4.06	3073	26.9	26.0 - 31.9 - 45.1	37.0	20.2 - 24.7 - 35.0	47.1	11.7 - 14.4 - 20.3	40	64	55	56	49	42	37	
1067 x 762	0.81	1.52	1186	3.8	9.4 - 15.0 - 28.0	5.2	7.3 - 11.7 - 21.7	6.6	4.2 - 6.8 - 12.6	11	41	28	29	12	-	-	
		2.16	1681	7.6	14.2 - 21.3 - 33.4	10.4	11.0 - 16.5 - 25.8	13.3	6.4 - 9.6 - 15.0	21	49	38	39	25	11	-	
		2.79	2175	12.7	18.4 - 26.8 - 37.9	17.5	14.2 - 20.8 - 29.4	22.3	8.3 - 12.1 - 17.1	29	55	45	46	35	23	18	
		3.43	2669	19.2	22.6 - 29.7 - 42.0	26.3	17.5 - 23.0 - 32.6	33.5	10.2 - 13.4 - 18.9	35	60	50	51	43	34	28	
		4.06	3164	26.9	26.4 - 32.4 - 45.8	37.0	20.5 - 25.1 - 35.5	47.1	11.9 - 14.6 - 20.6	40	64	55	56	49	42	37	
914 x 914	0.84	1.52	1222	3.8	9.5 - 15.3 - 28.4	5.2	7.4 - 11.8 - 22.0	6.6	4.3 - 6.9 - 12.8	11	41	28	29	12	-	-	
		2.16	1731	7.6	14.4 - 21.6 - 33.8	10.4	11.2 - 16.8 - 26.2	13.3	6.5 - 9.7 - 15.2	21	49	38	39	25	11	-	
		2.79	2240	12.7	18.7 - 27.2 - 38.5	17.5	14.5 - 21.1 - 29.8	22.3	8.4 - 12.3 - 17.3	29	55	45	46	35	24	18	
		3.43	2749	19.2	22.9 - 30.2 - 42.7	26.3	17.7 - 23.4 - 33.1	33.5	10.3 - 13.6 - 19.2	35	60	50	51	43	34	28	
		4.06	3258	26.9	26.8 - 32.8 - 46.4	37.0	20.8 - 25.4 - 36.0	47.1	12.1 - 14.8 - 20.9	40	64	55	56	49	42	37	
1219 x 762	0.93	1.52	1359	3.8	10.0 - 16.1 - 30.0	5.2	7.8 - 12.5 - 23.2	6.6	4.5 - 7.2 - 13.5	11	42	29	30	13	-	-	
		2.16	1925	7.6	15.2 - 22.8 - 35.7	10.4	11.8 - 17.7 - 27.7	13.3	6.8 - 10.3 - 16.1	22	50	38	39	26	11	-	
		2.79	2491	12.7	19.7 - 28.7 - 40.6	17.5	15.2 - 22.3 - 31.5	22.3	8.9 - 12.9 - 18.3	29	56	45	46	36	24	18	
		3.43	3057	19.2	24.1 - 31.8 - 45.0	26.3	18.7 - 24.7 - 34.9	33.5	10.9 - 14.3 - 20.2	35	60	51	52	43	34	29	
		4.06	3624	26.9	28.3 - 34.6 - 49.0	37.0	21.9 - 26.8 - 38.0	47.1	12.7 - 15.6 - 22.0	40	64	56	56	50	43	37	
965 x 965	0.93	1.52	1364	3.8	10.1 - 16.1 - 30.0	5.2	7.8 - 12.5 - 23.3	6.6	4.5 - 7.3 - 13.5	11	42	29	30	13	-	-	
		2.16	1933	7.6	15.2 - 22.9 - 35.8	10.4	11.8 - 17.7 - 27.7	13.3	6.9 - 10.3 - 16.1	22	50	38	39	26	11	-	
		2.79	2501	12.7	19.7 - 28.8 - 40.7	17.5	15.3 - 22.3 - 31.5	22.3	8.9 - 12.9 - 18.3	29	56	45	46	36	24	18	
		3.43	3070	19.2	24.2 - 31.9 - 45.1	26.3	18.8 - 24.7 - 34.9	33.5	10.9 - 14.3 - 20.3	35	60	51	52	43	34	29	
		4.06	3638	26.9	28.3 - 34.7 - 49.1	37.0	22.0 - 26.9 - 38.0	47.1	12.7 - 15.6 - 22.1	40	64	56	56	50	43	37	
1067 x 914	0.98	1.52	1430	3.8	10.3 - 16.5 - 30.8	5.2	8.0 - 12.8 - 23.8	6.6	4.6 - 7.4 - 13.8	11	42	29	30	13	-	-	
		2.16	2025	7.6	15.6 - 23.4 - 36.6	10.4	12.1 - 18.1 - 28.4	13.3	7.0 - 10.5 - 16.5	22	50	38	40	26	12	-	
		2.79	2621	12.7	20.2 - 29.5 - 41.7	17.5	15.6 - 22.8 - 32.3	22.3	9.1 - 13.3 - 18.7	29	56	46	47	36	24	19	
		3.43	3217	19.2	24.8 - 32.6 - 46.1	26.3	19.2 - 25.3 - 35.8	33.5	11.1 - 14.7 - 20.8	36	61	51	52	44	34	29	
		4.06	3812	26.9	29.0 - 35.5 - 50.2	37.0	22.5 - 27.5 - 38.9	47.1	13.1 - 16.0 - 22.6	41	65	56	57	50	43	38	
1168 x 864	1.01	1.52	1479	3.8	10.5 - 16.8 - 31.3	5.2	8.1 - 13.0 - 24.3	6.6	4.7 - 7.6 - 14.1	11	42	29	30	13	-	-	
		2.16	2096	7.6	15.9 - 23.8 - 37.2	10.4	12.3 - 18.4 - 28.9	13.3	7.1 - 10.7 - 16.8	22	50	39	40	26	12	-	
		2.79	2712	12.7	20.5 - 30.0 - 42.4	17.5	15.9 - 23.2 - 32.8	22.3	9.2 - 13.5 - 19.1	30	56	46	47	36	24	19	
		3.43	3328	19.2	25.2 - 33.2 - 46.9	26.3	19.5 - 25.7 - 36.4	33.5	11.3 - 14.9 - 21.1	36	61	51	52	44	35	29	
		4.06	3945	26.9	29.5 - 36.1 - 51.1	37.0	22.9 - 28.0 - 39.6	47.1	13.3 - 16.3 - 23.0	41	65	56	57	50	43	38	
1067 x 965	1.03	1.52	1511	3.8	10.6 - 17.0 - 31.6	5.2	8.2 - 13.2 - 24.5	6.6	4.8 - 7.6 - 14.2	12	42	29	30	13	-	-	
		2.16	2140	7.6	16.0 - 24.0 - 37.6	10.4	12.4 - 18.6 - 29.2	13.3	7.2 - 10.8 - 16.9	22	50	39	40	26	12	-	
		2.79	2770	12.7	20.7 - 30.3 - 42.8	17.5	16.1 - 23.5 - 33.2	22.3	9.3 - 13.6 - 19.3	30	56	46	47	36	25	19	
		3.43	3399	19.2	25.5 - 33.5 - 47.4	26.3	19.7 - 26.0 - 36.8	33.5	11.5 - 15.1 - 21.3	36	61	51	52	44	35	29	
		4.06	4029	26.9	29.8 - 36.5 - 51.6	37.0	23.1 - 28.3 - 40.0	47.1	13.4 - 16.4 - 23.2	41	65	56	57	50	43	38	
1016 x 1016	1.03	1.52	1515	3.8	10.6 - 17.0 - 31.7	5.2	8.2 - 13.2 - 24.5	6.6	4.8 - 7.6 - 14.2	12	42	29	30	13	-	-	
		2.16	2146	7.6	16.1 - 24.1 - 37.7	10.4	12.4 - 18.7 - 29.2	13.3	7.2 - 10.8 - 17.0	22	50	39	40	26	12	-	
		2.79	2777	12.7	20.8 - 30.3 - 42.9	17.5	16.1 - 23.5 - 33.2	22.3	9.3 - 13.6 - 19.3	30	56	46	47	36	25	19	
		3.43	3408	19.2	25.5 - 33.6 - 47.5	26.3	19.8 - 26.0 - 36.8	33.5	11.5 - 15.1 - 21.4	36	61	51	52	44	35	29	
		4.06	4039	26.9	29.9 - 36.6 - 51.7	37.0	23.1 - 28.3 - 40.1	47.1	13.4 - 16.5 - 23.3	41	65	56	57	50	43	38	
1219 x 914	1.11	1.52	1638	3.8	11.0 - 17.7 - 32.9	5.2	8.5 - 13.7 - 25.5	6.6	5.0 - 8.0 - 14.8	12	42	29	31	14	-	-	
		2.16	2320	7.6	16.7 - 25.0 - 39.2	10.4	12.9 - 19.4 - 30.4	13.3	7.5 - 11.3 - 17.6	22	50	39	40	27	12	-	
		2.79	3002	12.7	21.6 - 31.5 - 44.6	17.5	16.7 - 24.4 - 34.5	22.3	9.7 - 14.2 - 20.1	30	56	46	47	36	25	19	
		3.43	3685	19.2	26.5 - 34.9 - 49.4	26.3	20.5 - 27.1 - 38.3	33.5	11.9 - 15.7 - 22.2	36	61	52	53	44	35	29	
		4.06	4367	26.9	31.0 - 38.0 - 53.8	37.0	24.1 - 29.5 - 41.7	47.1	14.0 - 17.1 - 24.2	41	65	56	57	51	43	38	

NOTE: See notes on page P1-40.

PERFORMANCE DATA | METRIC | WITH OBD/MULTILOUVER

GRILLES | STAINLESS STEEL

NOM DUCT	DUCT AREA	NECK VEL	AIR FLOW	0°		22.5°		45°		SOUND	OCTAVE BAND, dB						
				Pt	THROW	Pt	THROW	Pt	THROW		NC	2	3	4	5	6	7
				Pa	m	Pa	m	Pa	m								
mm	m <sup>2</sup>	m/s	L/s	Pa	m	Pa	m	Pa	m	NC	2	3	4	5	6	7	
1067 x 1067	1.14	1.52	1673	3.8	11.1 - 17.9 - 33.3	5.2	8.6 - 13.8 - 25.8	6.6	5.0 - 8.0 - 15.0	12	42	30	31	14	-	-	
		2.16	2370	7.6	16.9 - 25.3 - 39.6	10.4	13.1 - 19.6 - 30.7	13.3	7.6 - 11.4 - 17.8	22	51	39	40	27	12	-	
		2.79	3067	12.7	21.8 - 31.9 - 45.1	17.5	16.9 - 24.7 - 34.9	22.3	9.8 - 14.3 - 20.3	30	57	46	47	37	25	19	
		3.43	3764	19.2	26.8 - 35.3 - 49.9	26.3	20.8 - 27.4 - 38.7	33.5	12.1 - 15.9 - 22.5	36	61	52	53	44	35	30	
		4.06	4461	26.9	31.4 - 38.4 - 54.3	37.0	24.3 - 29.8 - 42.1	47.1	14.1 - 17.3 - 24.5	41	65	56	57	51	43	38	
1118 x 1118	1.25	1.52	1839	3.8	11.7 - 18.7 - 34.9	5.2	9.0 - 14.5 - 27.0	6.6	5.3 - 8.4 - 15.7	12	43	30	31	14	-	-	
		2.16	2606	7.6	17.7 - 26.5 - 41.5	10.4	13.7 - 20.6 - 32.2	13.3	8.0 - 11.9 - 18.7	23	51	40	41	27	13	-	
		2.79	3372	12.7	22.9 - 33.4 - 47.2	17.5	17.7 - 25.9 - 36.6	22.3	10.3 - 15.0 - 21.3	31	57	47	48	37	25	20	
		3.43	4138	19.2	28.1 - 37.0 - 52.3	26.3	21.8 - 28.7 - 40.6	33.5	12.6 - 16.7 - 23.6	37	62	52	53	45	35	30	
1219 x 1067	1.30	1.52	1916	3.8	11.9 - 19.1 - 35.6	5.2	9.2 - 14.8 - 27.6	6.6	5.4 - 8.6 - 16.0	13	43	30	31	14	-	-	
		2.16	2715	7.6	18.1 - 27.1 - 42.4	10.4	14.0 - 21.0 - 32.9	13.3	8.1 - 12.2 - 19.1	23	51	40	41	27	13	-	
		2.79	3513	12.7	23.4 - 34.1 - 48.2	17.5	18.1 - 26.4 - 37.4	22.3	10.5 - 15.3 - 21.7	31	57	47	48	37	26	20	
		3.43	4312	19.2	28.7 - 37.8 - 53.4	26.3	22.2 - 29.3 - 41.4	33.5	12.9 - 17.0 - 24.0	37	62	52	53	45	36	30	
		4.06	5110	26.9	33.6 - 41.1 - 58.2	37.0	26.0 - 31.9 - 45.1	47.1	15.1 - 18.5 - 26.2	42	66	57	58	51	44	39	
1168 x 1168	1.37	1.52	2013	3.8	12.2 - 19.6 - 36.5	5.2	9.5 - 15.2 - 28.3	6.6	5.5 - 8.8 - 16.4	13	43	30	32	14	-	-	
		2.16	2852	7.6	18.5 - 27.8 - 43.4	10.4	14.3 - 21.5 - 33.7	13.3	8.3 - 12.5 - 19.6	23	51	40	41	28	13	-	
		2.79	3691	12.7	24.0 - 34.9 - 49.4	17.5	18.6 - 27.1 - 38.3	22.3	10.8 - 15.7 - 22.2	31	57	47	48	37	26	20	
		3.43	4530	19.2	29.4 - 38.7 - 54.8	26.3	22.8 - 30.0 - 42.4	33.5	13.2 - 17.4 - 24.6	37	62	53	54	45	36	30	
		4.06	5369	26.9	34.4 - 42.2 - 59.6	37.0	26.7 - 32.7 - 46.2	47.1	15.5 - 19.0 - 26.8	42	66	57	58	51	44	39	
1219 x 1168	1.42	1.52	2102	3.8	12.5 - 20.0 - 37.3	5.2	9.7 - 15.5 - 28.9	6.6	5.6 - 9.0 - 16.8	13	43	31	32	15	-	-	
		2.16	2978	7.6	18.9 - 28.4 - 44.4	10.4	14.7 - 22.0 - 34.4	13.3	8.5 - 12.8 - 20.0	23	52	40	41	28	13	-	
		2.79	3854	12.7	24.5 - 35.7 - 50.5	17.5	19.0 - 27.7 - 39.1	22.3	11.0 - 16.1 - 22.7	31	58	47	48	37	26	20	
		3.43	4730	19.2	30.0 - 39.6 - 56.0	26.3	23.3 - 30.7 - 43.4	33.5	13.5 - 17.8 - 25.2	37	62	53	54	45	36	31	
		4.06	5606	26.9	35.2 - 43.1 - 60.9	37.0	27.3 - 33.4 - 47.2	47.1	15.8 - 19.4 - 27.4	42	66	57	58	52	44	39	
1219 x 1219	1.49	1.52	2195	3.8	12.8 - 20.5 - 38.1	5.2	9.9 - 15.9 - 29.5	6.6	5.7 - 9.2 - 17.2	13	44	31	32	15	-	-	
		2.16	3110	7.6	19.3 - 29.0 - 45.4	10.4	15.0 - 22.5 - 35.2	13.3	8.7 - 13.0 - 20.4	24	52	40	41	28	13	-	
		2.79	4024	12.7	25.0 - 36.5 - 51.6	17.5	19.4 - 28.3 - 40.0	22.3	11.3 - 16.4 - 23.2	31	58	47	48	38	26	20	
		3.43	4939	19.2	30.7 - 40.4 - 57.2	26.3	23.8 - 31.3 - 44.3	33.5	13.8 - 18.2 - 25.7	37	63	53	54	45	36	31	
		4.06	5854	26.9	35.9 - 44.0 - 62.2	37.0	27.9 - 34.1 - 48.2	47.1	16.2 - 19.8 - 28.0	42	66	58	58	52	45	39	

**NOTES:** Throw values are given for terminal velocities of 0.75, 0.50, and 0.25 m/s. Throw values are given for isothermal conditions. NC values are based on octave band 2 - 7 sound power levels minus a room absorption of 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70, ISO Standard 5219, and ISO Standard 3741. See correction factors in table below. See Krueger's selection software for performance data not shown, including octave band data.

NC CORRECTION DAMPER (ADD)		NC CORRECTION BLADE DEFLECTION (ADD)			THROW CORRECTION (MULTIPLY)		Pt CORRECTION (MULTIPLY)	
OBD	NO OBD	0°	22.5°	45°	OBD	NO OBD	OBD	NO OBD
0	-2	0	+4	+9	1	0.98	1	0.88

**ENGINEERING SPECIFICATION & CONFIGURATION**
**980**

The single deflection supply grille shall be a Krueger model 980. This grille must have individually adjustable blades on 3/4" centers with plastic blade pivots. The blades shall be constructed of roll formed 304 stainless steel with minimum 0.050" thickness. The frame of the grille must be constructed of 20 gage 304 stainless steel with countersunk screw holes (#6x1 1/4" stainless sheet metal screws provided by manufacturer). This frame must also produce a border of 1 3/8" around all sides of the grille with mitered corners. Optional 304 stainless steel damper available made of 20 gage stainless steel welded to the supply grille and operable from the face.

Optional 316 stainless steel construction available.

**FINISH**

The finish shall be 90 - #4 Satin Polish, obtained by finishing with a 120-grit abrasive, or 44 - British White.

**1. SERIES: (XXX)**

980 - Single Deflection Supply Grille with Adjustable Blades on 3/4" Centers

**2. PATTERN: (X)**

H - Horizontal Blades  
V - Vertical Blades

**3. WIDTH: (XX)**

4" - 48" in 1" Increments

**4. HEIGHT: (XX)**

4" - 60" in 1" Increments

**5. MATERIAL: (XXX)**

304 - Stainless Steel Grade 304  
316 - Stainless Steel Grade 316

**6. FRAME STYLE: (XXX)**

F22 - Surface Mount  
F23 - Lay-in T-Bar

**7. PANEL: (XX)x(XX)**

None  
24"x24" \*  
24"x48" \*

**8. FASTENING METHOD: (XX)**

00 - No Screw Holes  
01 - Countersunk Screw Holes \*\*

**9. DAMPER: (XX)**

00 - No Damper  
01 - Stainless Steel OBD †

**10. ACCESSORIES: (XX) (XX)**

00 - No Accessories  
01 - Plaster Frame  
XX - Square to Round Adapter ‡  
(Specify size from 04 - 18" in increments of 2", depending on neck size)

**11. FINISH: (XX)**

90 - #4 Satin Polish  
44 - British White

\* Only available with Frame 23.

\*\* Unit shipped with #6x1 1/4" stainless steel sheet metal screws.

† Damper is welded to unit.

‡ Square to Round Adapter is not available with OBD.

**SAMPLE CONFIGURATION: 980 - H - 18x24 - 304 - F22 - NONE - 01 - 01 - 00 - 00 - 90**