

**CRN, CRNRD, CRNRR, CRNLP, CRNP Series Performance Data**

IP/METRIC DATA: CRN, 5CRN, CRNRD, 5CRNRD, CRNRR, 5CRNRR, CRNLP, 5CRNLP, CRNP, 5CRNP (1 NOZZLE)

	IP Data							NC	Metric Data						
	Neck Vel.	Air Flow	Pressure		Vertical Throw				Neck Vel.	Air Flow	Pressure		Vertical Throw		
			Ps	Pt	-20°F	Isothermal	+20°F				Ps	Pt	-11°C	Isothermal	+11°C
	FPM	CFM	"WG	"WG	ft	ft	ft		m/s	L/s	Pa	Pa	m	m	m
4"	250	22	0.003	.007	1 - 2 - 6	1 - 2 - 6	1 - 2 - 6	-	1.27	10	0.7	1.7	0.1 - 0.1 - 0.6	0.1 - 0.1 - 0.6	0.1 - 0.1 - 0.6
	500	44	0.012	.027	3 - 6 - 12	3 - 6 - 12	3 - 6 - 10	-	2.54	21	2.9	6.8	0.2 - 0.6 - 2.2	0.2 - 0.6 - 2.2	0.2 - 0.6 - 2.2
	1000	87	0.047	.110	8 - 12 - 20	8 - 12 - 18	7 - 10 - 15	14	5.08	41	11.8	27.3	1.0 - 2.2 - 5.0	1.0 - 2.2 - 5.0	1.0 - 2.2 - 4.4
	1500	131	0.106	.247	12 - 17 - 25	12 - 15 - 22	10 - 13 - 18	26	7.62	62	26.5	61.4	2.2 - 3.7 - 7.5	2.2 - 3.7 - 6.6	2.2 - 3.4 - 5.4
	2000	175	0.189	.438	16 - 20 - 28	14 - 18 - 25	12 - 15 - 21	35	10.16	82	47.0	109.1	3.3 - 5.0 - 8.6	3.3 - 5.0 - 7.6	3.0 - 4.4 - 6.3
	2500	218	0.295	.685	18 - 22 - 32	16 - 20 - 28	13 - 16 - 23	42	12.70	103	73.5	170.5	4.2 - 6.2 - 9.6	4.1 - 6.0 - 8.5	3.8 - 4.9 - 7.0
5"	250	34	0.003	.007	1 - 2 - 8	1 - 2 - 8	1 - 2 - 7	-	1.27	16	0.7	1.7	0.3 - 0.6 - 2.3	0.3 - 0.6 - 2.3	0.3 - 0.6 - 2.1
	500	68	0.012	.027	3 - 8 - 15	3 - 8 - 15	3 - 7 - 13	-	2.54	32	2.9	6.8	1.0 - 2.3 - 4.7	1.0 - 2.3 - 4.7	1.0 - 2.1 - 3.9
	1000	136	0.047	.110	10 - 15 - 25	10 - 15 - 22	9 - 13 - 18	16	5.08	64	11.8	27.3	3.1 - 4.7 - 7.6	3.1 - 4.7 - 6.7	2.8 - 3.9 - 5.5
	1500	205	0.106	.247	15 - 22 - 31	15 - 19 - 27	13 - 16 - 22	28	7.62	97	26.5	61.4	4.7 - 6.6 - 9.3	4.7 - 5.8 - 8.2	3.9 - 4.8 - 6.8
	2000	273	0.189	.438	20 - 25 - 35	18 - 22 - 31	15 - 18 - 26	37	10.16	129	47.0	109.1	6.2 - 7.6 - 10.8	5.5 - 6.7 - 9.5	4.5 - 5.5 - 7.8
	2500	341	0.295	.685	23 - 28 - 40	20 - 25 - 35	17 - 20 - 29	44	12.70	161	73.5	170.5	6.9 - 8.5 - 12.0	6.1 - 7.5 - 10.6	5.0 - 6.2 - 8.7
6"	250	49	0.003	.007	1 - 2 - 9	1 - 2 - 9	1 - 2 - 8	-	1.27	23	0.7	1.7	0.3 - 0.7 - 2.8	0.3 - 0.7 - 2.8	0.3 - 0.7 - 2.6
	500	98	0.012	.027	4 - 9 - 18	4 - 9 - 18	4 - 8 - 15	-	2.54	46	2.9	6.8	1.2 - 2.8 - 5.6	1.2 - 2.8 - 5.6	1.2 - 2.6 - 4.7
	1000	196	0.047	.110	12 - 18 - 30	12 - 18 - 26	11 - 15 - 22	17	5.08	93	11.8	27.3	3.7 - 5.6 - 9.1	3.7 - 5.6 - 8.0	3.4 - 4.7 - 6.6
	1500	295	0.106	.247	18 - 26 - 37	18 - 23 - 32	15 - 19 - 27	30	7.62	139	26.5	61.4	5.6 - 7.9 - 11.2	5.6 - 7.0 - 9.9	4.7 - 5.7 - 8.1
	2000	393	0.189	.438	25 - 30 - 42	22 - 26 - 37	18 - 22 - 31	38	10.16	185	47.0	109.1	7.5 - 9.1 - 12.9	6.6 - 8.0 - 11.4	5.4 - 6.6 - 9.4
	2500	491	0.295	.685	27 - 34 - 47	24 - 30 - 42	20 - 24 - 35	45	12.70	232	73.5	170.5	8.3 - 10.2 - 14.4	7.3 - 9.0 - 12.7	6.1 - 7.4 - 10.5
8"	250	87	0.003	.007	1 - 3 - 12	1 - 3 - 12	1 - 3 - 11	-	1.27	41	0.7	1.7	0.4 - 0.9 - 3.7	0.4 - 0.9 - 3.7	0.4 - 0.9 - 3.4
	500	175	0.012	.027	5 - 12 - 25	5 - 12 - 25	5 - 11 - 21	-	2.54	82	2.9	6.8	1.7 - 3.7 - 7.5	1.7 - 3.7 - 7.4	1.7 - 3.4 - 6.3
	1000	349	0.047	.110	16 - 25 - 40	16 - 25 - 35	15 - 21 - 29	20	5.08	165	11.8	27.3	5.0 - 7.5 - 12.2	5.0 - 7.4 - 10.7	4.5 - 6.3 - 8.8
	1500	524	0.106	.247	25 - 35 - 49	25 - 31 - 43	21 - 25 - 36	32	7.62	247	26.5	61.4	7.5 - 10.5 - 14.9	7.4 - 9.3 - 13.1	6.3 - 7.7 - 10.8
	1750	611	0.145	.336	29 - 37 - 53	27 - 33 - 47	22 - 27 - 38	37	8.89	288	36.0	83.5	8.7 - 11.4 - 16.1	8.2 - 10.0 - 14.2	6.8 - 8.3 - 11.7
	2000	698	0.189	.438	33 - 40 - 57	29 - 35 - 50	24 - 29 - 41	41	10.16	329	47.0	109.1	9.9 - 12.2 - 17.2	8.8 - 10.7 - 15.2	7.2 - 8.8 - 12.5
10"	250	136	0.003	.007	2 - 4 - 15	2 - 4 - 15	2 - 4 - 14	-	1.27	64	0.7	1.7	0.5 - 1.2 - 4.7	0.5 - 1.2 - 4.7	0.5 - 1.2 - 4.3
	500	273	0.012	.027	7 - 15 - 31	7 - 15 - 31	7 - 14 - 26	-	2.54	129	2.9	6.8	2.1 - 4.7 - 9.4	2.1 - 4.7 - 9.3	2.1 - 4.3 - 7.8
	1000	545	0.047	.110	21 - 31 - 50	20 - 31 - 44	19 - 26 - 36	22	5.08	257	11.8	27.3	6.2 - 9.4 - 15.2	6.2 - 9.3 - 13.4	5.7 - 7.8 - 11.1
	1500	818	0.106	.247	31 - 43 - 61	31 - 38 - 54	26 - 31 - 45	34	7.62	386	26.5	61.4	9.4 - 13.2 - 18.6	9.3 - 11.6 - 16.4	7.8 - 9.6 - 13.5
	1750	954	0.145	.336	36 - 47 - 66	34 - 41 - 58	28 - 34 - 48	39	8.89	450	36.0	83.5	10.9 - 14.2 - 20.1	10.2 - 12.5 - 17.7	8.4 - 10.3 - 14.6
	2000	1091	0.189	.438	41 - 50 - 71	36 - 44 - 62	30 - 36 - 51	43	10.16	515	47.0	109.1	12.4 - 15.2 - 21.5	10.9 - 13.4 - 19.0	9.0 - 11.1 - 15.6
12"	250	196	0.003	.007	2 - 5 - 18	2 - 5 - 18	2 - 5 - 17	-	1.27	93	0.7	1.7	0.6 - 1.4 - 5.6	0.6 - 1.4 - 5.6	0.6 - 1.4 - 5.1
	500	393	0.012	.027	8 - 18 - 37	8 - 18 - 37	8 - 17 - 31	-	2.54	185	2.9	6.8	2.5 - 5.6 - 11.2	2.5 - 5.6 - 11.2	2.5 - 5.1 - 9.4
	1000	785	0.047	.110	25 - 37 - 60	25 - 37 - 53	22 - 31 - 44	24	5.08	371	11.8	27.3	7.5 - 11.2 - 18.3	7.4 - 11.2 - 16.1	6.8 - 9.4 - 13.3
	1250	982	0.074	.171	31 - 46 - 67	31 - 42 - 59	28 - 35 - 49	30	6.35	463	18.4	42.6	9.4 - 14.1 - 20.4	9.3 - 12.7 - 18.0	8.5 - 10.5 - 14.8
	1500	1178	0.106	.247	37 - 52 - 74	37 - 46 - 65	31 - 38 - 53	36	7.62	556	26.5	61.4	11.2 - 15.8 - 22.4	11.2 - 13.9 - 19.7	9.4 - 11.5 - 16.3
	1750	1374	0.145	.336	43 - 56 - 79	40 - 50 - 70	33 - 41 - 58	41	8.89	649	36.0	83.5	13.1 - 17.1 - 24.2	12.3 - 15.1 - 21.3	10.1 - 12.4 - 17.6

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC value less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70. Throw values are given for terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s) free jet. Vertical throw is given for the temperature differences shown. Refer to Krueger's selection software for octave band information.

All models are not available in the listed sizes of the above table. Refer to dimensional data to determine available sizes for each model.

AIR NOZZLES & ROUND GRILLES

C  
R  
N

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**CRN, CRNRD, CRNRR, CRNLP, CRNLP Series Performance Data**

IP/METRIC DATA: CRN, 5CRN, CRNRD, 5CRNRD, CRNRR, 5CRNRR, CRNLP, 5CRNLP, CRNP, 5CRNP (1 NOZZLE)

	IP Data							NC	Metric Data						
	Neck Vel.	Air Flow	Pressure		Vertical Throw				Neck Vel.	Air Flow	Pressure		Vertical Throw		
			Ps	Pt	-20°F	Isothermal	+20°F				Ps	Pt	-11°C	Isothermal	+11°C
	FPM	CFM	"WG	"WG	ft	ft	ft		m/s	L/s	Pa	Pa	m	m	m
14"	250	267	0.003	.007	2 - 5 - 21	2 - 5 - 21	2 - 5 - 20	-	1.27	126	0.7	1.7	0.7 - 1.6 - 6.5	0.7 - 1.6 - 6.5	0.7 - 1.6 - 6.0
	500	535	0.012	.027	10 - 21 - 43	10 - 21 - 43	10 - 20 - 36	-	2.54	252	2.9	6.8	2.9 - 6.5 - 13.1	2.9 - 6.5 - 13.0	2.9 - 6.0 - 10.9
	1000	1069	0.047	.110	29 - 43 - 70	29 - 43 - 62	26 - 36 - 51	25	5.08	505	11.8	27.3	8.7 - 13.1 - 21.3	8.7 - 13.0 - 18.8	7.9 - 10.9 - 15.5
	1250	1336	0.074	.171	36 - 54 - 78	36 - 49 - 69	33 - 40 - 57	32	6.35	631	18.4	42.6	10.9 - 16.4 - 23.8	10.9 - 14.8 - 21.0	9.9 - 12.2 - 17.3
	1500	1604	0.106	.247	43 - 61 - 86	43 - 53 - 76	36 - 44 - 62	37	7.62	757	26.5	61.4	13.1 - 18.4 - 26.1	13.0 - 16.3 - 23.0	10.9 - 13.4 - 19.0
	1750	1871	0.145	.336	50 - 66 - 93	47 - 58 - 82	39 - 48 - 67	42	8.89	883	36.0	83.5	15.3 - 19.9 - 28.2	14.3 - 17.6 - 24.8	11.8 - 14.5 - 20.5
16"	250	349	0.003	.007	3 - 6 - 25	3 - 6 - 25	3 - 6 - 22	-	1.27	165	0.7	1.7	0.8 - 1.9 - 7.5	0.8 - 1.9 - 7.4	0.8 - 1.9 - 6.8
	500	698	0.012	.027	11 - 25 - 49	11 - 25 - 49	11 - 22 - 41	-	2.54	329	2.9	6.8	3.3 - 7.5 - 15.0	3.3 - 7.4 - 14.9	3.3 - 6.8 - 12.5
	1000	1396	0.047	.110	33 - 49 - 80	33 - 49 - 71	30 - 41 - 58	26	5.08	659	11.8	27.3	10.0 - 15.0 - 24.3	9.9 - 14.9 - 21.5	9.1 - 12.5 - 17.7
	1250	1745	0.074	.171	41 - 62 - 90	41 - 56 - 79	37 - 46 - 65	33	6.35	824	18.4	42.6	12.5 - 18.7 - 27.2	12.4 - 17.0 - 24.0	11.3 - 14.0 - 19.8
	1500	2094	0.106	.247	49 - 69 - 98	49 - 61 - 86	41 - 50 - 71	38	7.62	988	26.5	61.4	15.0 - 21.1 - 29.8	14.9 - 18.6 - 26.3	12.5 - 15.3 - 21.7
	1750	2443	0.145	.336	58 - 75 - 106	54 - 66 - 93	44 - 54 - 77	43	8.89	1153	36.0	83.5	17.5 - 22.8 - 32.2	16.4 - 20.1 - 28.4	13.5 - 16.5 - 23.4
18"	250	442	0.003	.007	3 - 7 - 28	3 - 7 - 28	3 - 7 - 25	-	1.27	208	0.7	1.7	0.9 - 2.1 - 8.4	0.9 - 2.1 - 8.4	0.9 - 2.1 - 7.7
	500	884	0.012	.027	12 - 28 - 55	12 - 28 - 55	12 - 25 - 46	-	2.54	417	2.9	6.8	3.7 - 8.4 - 16.9	3.7 - 8.4 - 16.8	3.7 - 7.7 - 14.1
	1000	1767	0.047	.110	37 - 55 - 90	37 - 55 - 79	34 - 46 - 65	27	5.08	834	11.8	27.3	11.2 - 16.9 - 27.4	11.2 - 16.8 - 24.1	10.2 - 14.1 - 19.9
	1250	2209	0.074	.171	46 - 69 - 101	46 - 63 - 89	42 - 52 - 73	34	6.35	1042	18.4	42.6	14.1 - 21.1 - 30.6	14.0 - 19.1 - 27.0	12.8 - 15.7 - 22.3
	1500	2651	0.106	.247	55 - 78 - 110	55 - 69 - 97	46 - 57 - 80	39	7.62	1251	26.5	61.4	16.9 - 23.7 - 33.5	16.8 - 20.9 - 29.6	14.1 - 17.2 - 24.4
	1750	3093	0.145	.336	65 - 84 - 119	61 - 74 - 105	50 - 61 - 87	44	8.89	1459	36.0	83.5	19.7 - 25.6 - 36.2	18.4 - 22.6 - 31.9	15.2 - 18.6 - 26.3
20"	250	545	0.003	.007	3 - 8 - 31	3 - 8 - 31	3 - 8 - 28	-	1.27	257	0.7	1.7	1.0 - 2.3 - 9.3	1.0 - 2.3 - 9.3	1.0 - 2.3 - 8.5
	500	1091	0.012	.027	14 - 31 - 62	14 - 31 - 61	14 - 28 - 51	-	2.54	515	2.9	6.8	4.1 - 9.3 - 18.7	4.1 - 9.3 - 18.6	4.1 - 8.5 - 15.6
	750	1636	0.027	.062	31 - 46 - 87	31 - 46 - 76	28 - 42 - 63	19	3.81	772	6.6	15.3	9.3 - 14.1 - 26.4	9.3 - 14.0 - 23.2	8.5 - 12.8 - 19.2
	1000	2182	0.047	.110	41 - 62 - 100	41 - 61 - 88	37 - 51 - 73	28	5.08	1030	11.8	27.3	12.5 - 18.7 - 30.4	12.4 - 18.6 - 26.8	11.3 - 15.6 - 22.1
	1250	2727	0.074	.171	51 - 77 - 112	51 - 70 - 99	47 - 58 - 81	35	6.35	1287	18.4	42.6	15.6 - 23.4 - 34.0	15.5 - 21.2 - 30.0	14.2 - 17.5 - 24.7
	1500	3272	0.106	.247	62 - 87 - 123	61 - 76 - 108	51 - 63 - 89	40	7.62	1544	26.5	61.4	18.7 - 26.4 - 37.3	18.6 - 23.2 - 32.8	15.6 - 19.2 - 27.1
22"	250	660	0.003	.007	4 - 8 - 34	4 - 8 - 34	4 - 8 - 31	-	1.27	311	0.7	1.7	1.1 - 2.6 - 10.2	1.1 - 2.6 - 10.2	1.1 - 2.6 - 9.4
	500	1320	0.012	.027	15 - 34 - 68	15 - 34 - 67	15 - 31 - 57	-	2.54	623	2.9	6.8	4.6 - 10.2 - 20.6	4.6 - 10.2 - 20.5	4.6 - 9.4 - 17.2
	750	1980	0.027	.062	34 - 51 - 95	34 - 51 - 84	31 - 46 - 69	20	3.81	934	6.6	15.3	10.2 - 15.5 - 29.0	10.2 - 15.4 - 25.5	9.4 - 14.0 - 21.1
	1000	2640	0.047	.110	45 - 68 - 110	45 - 67 - 97	41 - 57 - 80	29	5.08	1246	11.8	27.3	13.7 - 20.6 - 33.5	13.7 - 20.5 - 29.5	12.5 - 17.2 - 24.3
	1250	3300	0.074	.171	57 - 85 - 123	56 - 77 - 108	51 - 63 - 89	36	6.35	1557	18.4	42.6	17.2 - 25.8 - 37.4	17.1 - 23.3 - 33.0	15.6 - 19.2 - 27.2
	1500	3960	0.106	.247	68 - 95 - 135	67 - 84 - 119	57 - 69 - 98	41	7.62	1869	26.5	61.4	20.6 - 29.0 - 41.0	20.5 - 25.5 - 36.1	17.2 - 21.1 - 29.8
24"	250	785	0.003	.007	4 - 9 - 37	4 - 9 - 37	4 - 9 - 34	-	1.27	371	0.7	1.7	1.2 - 2.8 - 11.2	1.2 - 2.8 - 11.2	1.2 - 2.8 - 10.2
	500	1571	0.012	.027	16 - 37 - 74	16 - 37 - 74	16 - 34 - 62	-	2.54	741	2.9	6.8	5.0 - 11.2 - 22.5	5.0 - 11.2 - 22.3	5.0 - 10.2 - 18.8
	750	2356	0.027	.062	37 - 55 - 104	37 - 55 - 92	34 - 50 - 76	21	3.81	1112	6.6	15.3	11.2 - 16.9 - 31.6	11.2 - 16.8 - 27.9	10.2 - 15.3 - 23.0
	1000	3142	0.047	.110	49 - 74 - 120	49 - 74 - 106	45 - 62 - 87	30	5.08	1483	11.8	27.3	15.0 - 22.5 - 36.5	14.9 - 22.3 - 32.2	13.6 - 18.8 - 26.5
	1250	3927	0.074	.171	62 - 92 - 134	61 - 84 - 118	56 - 69 - 98	36	6.35	1853	18.4	42.6	18.7 - 28.1 - 40.8	18.6 - 25.4 - 36.0	17.0 - 21.0 - 29.7
	1500	4712	0.106	.247	74 - 104 - 147	74 - 92 - 130	62 - 76 - 107	42	7.62	2224	26.5	61.4	22.5 - 31.6 - 44.7	22.3 - 27.9 - 39.4	18.8 - 23.0 - 32.5

NOTES: NC values are based on octave band 2 - 7 sound power levels minus a room absorption 10dB, re 10<sup>-12</sup> Watts. Dash in space denotes a NC value less than 10. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70. Throw values are given for terminal velocities of 150, 100, and 50 FPM (0.75, 0.50, and 0.25 m/s) free jet. Vertical throw is given for the temperature differences shown. Refer to Krueger's selection software for octave band information.

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