

ENGINEERING DATA

P3 Series



Neck Velocity	400	500	600	700	800	900	1000	1200	1400
Velocity Pressure	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.090	0.122
Total Pressure, Position 1	0.029	0.045	0.065	0.089	0.116	0.146	0.181	0.260	0.354
Total Pressure, Position 2	0.047	0.074	0.106	0.144	0.189	0.239	0.295	0.425	0.578

6	Airflow (CFM)	80	100	120	140	160	180	200	235	275
	NC, Position 1	-	-	-	14	19	23	26	32	37
	NC, Position 2	-	12	18	22	26	29	32	38	42
	Throw (ft.), Position 1	2-2-5	2-3-6	2-4-7	3-4-8	3-5-8	4-6-9	4-6-9	5-7-10	6-7-11
	Throw (ft.), Position 2	2-3-6	2-4-7	3-4-7	3-5-8	4-6-8	4-6-9	5-7-9	6-7-10	6-8-11

8	Airflow (CFM)	140	175	210	245	280	315	350	420	490
	NC, Position 1	-	-	12	17	21	25	28	34	39
	NC, Position 2	-	14	19	24	28	31	34	39	44
	Throw (ft.), Position 1	2-3-7	3-4-8	3-5-9	4-6-10	4-7-11	5-7-11	5-8-12	7-9-13	8-10-14
	Throw (ft.), Position 2	3-4-8	3-5-9	4-6-9	4-7-10	5-8-11	6-8-12	6-9-12	8-9-13	8-10-14

10	Airflow (CFM)	218	273	327	382	436	491	545	654	763
	NC, Position 1	-	-	14	19	23	27	30	36	41
	NC, Position 2	-	15	20	25	29	32	35	41	45
	Throw (ft.), Position 1	3-4-8	3-5-10	4-6-12	5-7-12	5-8-13	6-9-14	7-10-15	8-12-16	10-12-18
	Throw (ft.), Position 2	3-5-9	4-6-11	5-7-12	5-8-13	6-9-14	7-10-14	8-11-15	9-12-17	10-13-18

12	Airflow (CFM)	315	390	470	550	630	705	785	940	1100
	NC, Position 1	-	-	16	20	25	29	32	38	43
	NC, Position 2	-	16	21	26	30	33	36	42	46
	Throw (ft.), Position 1	3-5-10	4-6-12	5-7-14	6-9-15	7-10-16	7-11-17	8-12-18	10-14-20	11-15-21
	Throw (ft.), Position 2	4-6-11	5-7-13	6-8-14	7-10-15	8-11-16	8-12-17	9-13-18	11-14-20	12-15-22

14	Airflow (CFM)	425	530	635	745	850	955	1060	1270	1490
	NC, Position 1	-	11	17	22	26	30	33	39	44
	NC, Position 2	11	17	22	27	31	34	37	42	47
	Throw (ft.), Position 1	4-6-11	5-7-14	6-8-16	7-10-17	8-11-19	8-13-20	9-14-21	11-16-23	13-17-25
	Throw (ft.), Position 2	4-7-13	5-8-15	7-10-16	8-11-18	9-13-19	10-14-20	11-15-21	13-16-23	14-18-25

16	Airflow (CFM)	560	700	840	980	1120	1260	1400	1680	1960
	NC, Position 1	-	12	18	23	27	31	34	40	45
	NC, Position 2	11	18	23	28	31	35	38	43	48
	Throw (ft.), Position 1	4-7-13	5-8-16	7-10-18	8-11-20	9-13-21	10-15-23	11-16-24	13-18-26	15-20-28
	Throw (ft.), Position 2	5-8-15	6-9-17	8-11-19	9-13-20	10-15-22	11-16-23	13-17-24	15-19-27	17-20-29

18	Airflow (CFM)	710	885	1060	1240	1420	1590	1770	2120	2480
	NC, Position 1	-	13	19	24	28	32	35	41	46
	NC, Position 2	12	18	24	28	32	36	39	44	48
	Throw (ft.), Position 1	5-7-15	6-9-18	7-11-21	9-13-22	10-15-24	11-17-25	12-18-27	15-21-29	17-22-32
	Throw (ft.), Position 2	6-8-17	7-11-19	8-13-21	10-15-23	11-17-25	13-18-26	14-19-27	17-21-30	19-23-32

20	Airflow (CFM)	875	1100	1310	1530	1750	1970	2190	2610	3060
	NC, Position 1	-	14	20	25	29	33	36	42	47
	NC, Position 2	13	19	24	29	33	36	39	45	49
	Throw (ft.), Position 1	5-8-16	7-10-21	8-12-23	10-14-25	11-16-27	12-18-28	14-20-30	16-23-33	19-25-35
	Throw (ft.), Position 2	6-9-19	8-12-22	9-14-24	11-16-25	13-19-27	14-20-29	16-22-30	19-24-33	21-25-36

24	Airflow (CFM)	1260	1570	1880	2200	2510	2820	3140	3770	4400
	NC, Position 1	-	16	22	27	31	35	38	44	49
	NC, Position 2	14	20	25	30	34	37	40	46	50
	Throw (ft.), Position 1	7-10-20	8-12-24	10-15-28	11-17-30	13-20-32	15-22-34	16-24-36	20-28-39	23-30-42
	Throw (ft.), Position 2	8-11-23	9-14-26	11-17-28	13-20-31	15-23-33	17-24-35	19-26-36	23-28-40	25-31-43

30	Airflow (CFM)	1960	2450	2940	3430	3920	4410	4900	5880	6860
	NC, Position 1	-	18	23	28	33	37	40	46	51
	NC, Position 2	15	21	27	31	35	38	41	47	51
	Throw (ft.), Position 1	8-12-24	10-15-31	12-18-35	14-21-37	16-24-40	18-27-42	20-31-45	24-35-49	28-37-53
	Throw (ft.), Position 2	9-14-28	12-18-32	14-21-35	16-25-38	19-28-41	21-31-43	23-32-46	28-35-50	31-38-54

36	Airflow (CFM)	2820	3520	4230	4930	5630	6340	7040	8450	9850
	NC, Position 1	12	19	25	30	34	38	41	47	52
	NC, Position 2	16	22	28	32	36	39	43	48	52
	Throw (ft.), Position 1	10-15-29	12-18-37	15-22-41	17-26-45	19-29-48	22-33-51	24-37-53	29-41-59	34-45-63
	Throw (ft.), Position 2	11-17-34	14-21-39	17-25-42	20-29-46	22-34-49	25-37-52	28-39-55	34-42-60	37-46-65

See page 106 for notes on performance testing.

ENGINEERING DATA

AP3 Series



Neck Velocity	400	500	600	700	800	900	1000	1200	1400
Velocity Pressure	0.010	0.016	0.022	0.031	0.040	0.050	0.062	0.090	0.122
Total Pressure, Position 1	0.029	0.045	0.065	0.089	0.116	0.146	0.181	0.260	0.354
Total Pressure, Position 2	0.047	0.074	0.106	0.144	0.189	0.239	0.295	0.425	0.578

6	Airflow (CFM)	80	100	120	140	160	180	200	235	275
	NC, Position 1	-	-	-	14	19	23	26	32	37
	NC, Position 2	-	12	18	22	26	29	32	38	42
	Throw (ft.), Position 1	2-2-5	2-3-6	2-4-7	3-4-8	3-5-8	4-6-9	4-6-9	5-7-10	6-7-11
	Throw (ft.), Position 2	2-3-6	2-4-7	3-4-7	3-5-8	4-6-8	4-6-9	5-7-9	6-7-10	6-8-11

8	Airflow (CFM)	140	175	210	245	280	315	350	420	490
	NC, Position 1	-	-	12	17	21	25	28	34	39
	NC, Position 2	-	14	19	24	28	31	34	39	44
	Throw (ft.), Position 1	2-3-7	3-4-8	3-5-9	4-6-10	4-7-11	5-7-11	5-8-12	7-9-13	8-10-14
	Throw (ft.), Position 2	3-4-8	3-5-9	4-6-9	4-7-10	5-8-11	6-8-12	6-9-12	8-9-13	8-10-14

10	Airflow (CFM)	218	273	327	382	436	491	545	654	763
	NC, Position 1	-	-	14	19	23	27	30	36	41
	NC, Position 2	-	15	20	25	29	32	35	41	45
	Throw (ft.), Position 1	3-4-8	3-5-10	4-6-12	5-7-12	5-8-13	6-9-14	7-10-15	8-12-16	10-12-18
	Throw (ft.), Position 2	3-5-9	4-6-11	5-7-12	5-8-13	6-9-14	7-10-14	8-11-15	9-12-17	10-13-18

12	Airflow (CFM)	315	390	470	550	630	705	785	940	1100
	NC, Position 1	-	-	16	20	25	29	32	38	43
	NC, Position 2	-	16	21	26	30	33	36	42	46
	Throw (ft.), Position 1	3-5-10	4-6-12	5-7-14	6-9-15	7-10-16	7-11-17	8-12-18	10-14-20	11-15-21
	Throw (ft.), Position 2	4-6-11	5-7-13	6-8-14	7-10-15	8-11-16	8-12-17	9-13-18	11-14-20	12-15-22

14	Airflow (CFM)	425	530	635	745	850	955	1060	1270	1490
	NC, Position 1	-	11	17	22	26	30	33	39	44
	NC, Position 2	11	17	22	27	31	34	37	42	47
	Throw (ft.), Position 1	4-6-11	5-7-14	6-8-16	7-10-17	8-11-19	8-13-20	9-14-21	11-16-23	13-17-25
	Throw (ft.), Position 2	4-7-13	5-8-15	7-10-16	8-11-18	9-13-19	10-14-20	11-15-21	13-16-23	14-18-25

16	Airflow (CFM)	560	700	840	980	1120	1260	1400	1680	1960
	NC, Position 1	-	12	18	23	27	31	34	40	45
	NC, Position 2	11	18	23	28	31	35	38	43	48
	Throw (ft.), Position 1	4-7-13	5-8-16	7-10-18	8-11-20	9-13-21	10-15-23	11-16-24	13-18-26	15-20-28
	Throw (ft.), Position 2	5-8-15	6-9-17	8-11-19	9-13-20	10-15-22	11-16-23	13-17-24	15-19-27	17-20-29

18	Airflow (CFM)	710	885	1060	1240	1420	1590	1770	2120	2480
	NC, Position 1	-	13	19	24	28	32	35	41	46
	NC, Position 2	12	18	24	28	32	36	39	44	48
	Throw (ft.), Position 1	5-7-15	6-9-18	7-11-21	9-13-22	10-15-24	11-17-25	12-18-27	15-21-29	17-22-32
	Throw (ft.), Position 2	6-8-17	7-11-19	8-13-21	10-15-23	11-17-25	13-18-26	14-19-27	17-21-30	19-23-32

Notes:

1. All pressures are given in inches of water.
2. Throw values are given for terminal velocities of 150, 100 and 50 fpm.
3. Throw values are given for isothermal conditions.
4. To obtain static pressure, subtract the velocity pressure from the total pressure.
5. If the diffuser is mounted on an exposed duct, the throw values are 70% of those listed in the table and will be project downward.
6. Each NC value represents the noise criteria curve which will not be exceeded by the sound pressure in any of the octave bands. 2nd through 7th, with a room absorption of 10dB, re 10^{-12} watts.
7. Dash (-) in space denotes an NC value of less than 10.
8. Diffusers are shipped in Position 1 (cones down).
9. Data was obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70-1991. Actual performance, with flexible duct inlet, may vary in the field.