



PRODUCTS TESTING >>

The following tables include the results of tests conducted on three double deflection air registers. The test results include noise criteria (NC), static pressure versus Airflow, throw and Ak. Extrapolation was used to obtain the performance for other sizes and other parameters within the range of products mentioned above.

TEST METHOD >>

The registers were tested in accordance with the Air Diffusion Council test code for grilles, registers and diffusers No. ADC I062:GRD-84. The registers were tested in the ETL Testing LABORATORIES, Inc.



The 470m² reverberation room was used to conduct the test. Quiet test air was provided by a variable volume air supply. Air volume was measured by the use of calibrated orifice metering station while the static pressure was measured employing a duyer model I66-I2,1/8" diameter standard pitot tube and read on a duyer manometer model 424-5.

Acoustical data was obtained employing a Bruel and Kjaer digital frequency analyzer type 2131 and analyzed by a computer. The reference sound source used for this test as a calibrated ILG Fan Serial No. I7-05-066A. The octave band sound power levels were plotted on a graph of Noise Criteria Curves which is in the ADC test code.

NOTES :

Area with horizontal dashed lines for notes.





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

| L/S | SIZE | 300 x 150 | | 300 x 200 | | 450 x 150 | | 500 x 150 | | 600 x 150 | | 750 X 150 | | 600 X 200 | | | |
|-----|------|------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|----------|----------|
| | | | | | | | | 300 x 250 | | 450 x 250 | | 500 x 200 | | 450 X 250 | | | |
| | | DEFLECTION | | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° |
| | Ac | 0.041 | | 0.055 | | 0.062 | | 0.069 | | 0.083 | | 0.093 | | 0.105 | | 0.112 | |
| | Ak | 0.023 | 0.019 | 0.030 | 0.025 | 0.033 | 0.028 | 0.036 | 0.030 | 0.049 | 0.041 | 0.057 | 0.048 | 0.067 | 0.056 | 0.073 | 0.061 |
| 94 | Vc | 2.32 | | 1.71 | | 1.53 | | 1.36 | | 1.13 | | 1.01 | | 0.90 | | 0.84 | |
| | Pv | 3.32 | | 0.421 | 0.774 | 0.312 | 0.570 | 0.150 | 0.271 | 0.082 | 0.147 | 0.057 | 0.102 | 0.039 | 0.070 | 0.031 | 0.056 |
| | Pt | 4.32 | | 0.614 | 0.969 | 0.445 | 0.699 | 0.229 | 0.346 | 0.132 | 0.193 | 0.096 | 0.138 | 0.068 | 0.096 | 0.055 | 0.077 |
| | Th. | 34-40-61 | 18-27-43 | 31-37-58 | 15-24-40 | 28-34-55 | 12-21-37 | 25-31-52 | 09-18-34 | 23-29-50 | 08-17-32 | 22-28-49 | 07-15-31 | 21-26-47 | 06-14-29 | 20-26-46 | 06-13-29 |
| | NC | 16 | 22 | <15 | <15 | <15 | >15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 118 | Vc | 2.9 | | 2.1 | | 1.9 | | 1.7 | | 1.4 | | 1.3 | | 1.1 | | 1.1 | |
| | Pv | 1.300 | 2.360 | 0.660 | 1.220 | 0.493 | 0.897 | 0.240 | 0.438 | 0.132 | 0.242 | 0.093 | 0.171 | 0.064 | 0.118 | 0.052 | 0.095 |
| | Pt | 1.800 | 2.870 | 0.910 | 1.470 | 0.702 | 1.102 | 0.350 | 0.542 | 0.196 | 0.301 | 0.140 | 0.213 | 0.097 | 0.148 | 0.079 | 0.119 |
| | Th. | 37-49-67 | 21-36-49 | 37-46-67 | 21-30-49 | 37-43-64 | 21-34-49 | 36-42-64 | 20-31-46 | 34-40-63 | 19-30-44 | 32-39-63 | 18-29-43 | 30-37-62 | 16-28-42 | 29-37-62 | 15-28-41 |
| | NC | 23 | 29 | <15 | 19 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 142 | Vc | 3.5 | | 2.6 | | 2.3 | | 2.1 | | 1.7 | | 1.5 | | 1.4 | | 1.3 | |
| | Pv | 1.880 | 3.400 | 0.970 | 1.750 | 0.710 | 1.300 | 0.345 | 0.637 | 0.189 | 0.353 | 0.133 | 0.249 | 0.092 | 0.173 | 0.074 | 0.139 |
| | Pt | 2.640 | 4.170 | 1.470 | 2.260 | 0.970 | 1.550 | 0.461 | 0.744 | 0.249 | 0.405 | 0.174 | 0.283 | 0.119 | 0.194 | 0.094 | 0.155 |
| | Th. | 43-52-73 | 27-40-52 | 43-49-73 | 24-37-55 | 40-49-70 | 24-37-52 | 38-47-68 | 22-35-50 | 36-45-66 | 20-33-48 | 35-44-65 | 20-32-47 | 34-43-64 | 19-31-46 | 34-43-63 | 18-31-46 |
| | NC | 29 | 35 | 19 | 25 | <15 | 20 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 165 | Vc | 4.1 | | 3.0 | | 2.7 | | 2.4 | | 2.0 | | 1.8 | | 1.6 | | 1.5 | |
| | Pv | 2.570 | 4.620 | 1.320 | 2.390 | 0.970 | 1.750 | 0.760 | 1.400 | 0.258 | 0.469 | 0.182 | 0.331 | 0.125 | 0.228 | 0.101 | 0.183 |
| | Pt | 3.580 | 5.640 | 1.830 | 2.900 | 1.470 | 2.260 | 1.020 | 1.650 | 0.439 | 0.654 | 0.319 | 0.470 | 0.227 | 0.332 | 0.185 | 0.270 |
| | Th. | 46-58-79 | 30-43-58 | 46-58-79 | 27-40-58 | 43-55-76 | 27-40-55 | 43-55-76 | 27-40-52 | 42-54-75 | 25-38-52 | 41-53-74 | 25-38-51 | 41-53-74 | 24-37-49 | 40-52-73 | 24-37-49 |
| | NC | 34 | 40 | 24 | 30 | 19 | 25 | 16 | 22 | <15 | 19 | <15 | 16 | <15 | <15 | <15 | <15 |
| 189 | Vc | 4.7 | | 3.4 | | 3.1 | | 2.7 | | 2.3 | | 2.0 | | 1.8 | | 1.7 | |
| | Pv | 3.330 | 6.050 | 1.730 | 3.120 | 1.270 | 2.290 | 0.990 | 1.800 | 0.343 | 0.613 | 0.242 | 0.432 | 0.168 | 0.298 | 0.135 | 0.239 |
| | Pt | 4.600 | 7.320 | 2.490 | 3.890 | 1.78 | 2.790 | 1.500 | 2.310 | 0.491 | 0.754 | 0.349 | 0.533 | 0.243 | 0.369 | 0.196 | 0.296 |
| | Th. | 49-61-85 | 37-46-61 | 49-61-85 | 34-43-61 | 46-58-82 | 34-43-58 | 46-58-79 | 31-43-58 | 45-57-79 | 30-41-57 | 44-56-78 | 29-41-56 | 44-56-76 | 28-40-56 | 43-55-76 | 28-40-55 |
| | NC | 38 | 45 | 28 | 34 | 23 | 29 | 20 | 26 | <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 |
| 212 | Vc | 5.2 | | 3.8 | | 3.4 | | 3.1 | | 2.5 | | 2.3 | | 2.0 | | 1.9 | |
| | Pv | 4.220 | 7.670 | 2.180 | 3.960 | 1.600 | 2.900 | 1.270 | 2.290 | 0.580 | 1.070 | 0.114 | 0.216 | 0.068 | 0.130 | 0.050 | 0.096 |
| | Pt | 5.740 | 9.190 | 2.950 | 4.720 | 2.360 | 3.660 | 1.780 | 2.790 | 0.840 | 1.320 | 0.185 | 0.280 | 0.113 | 0.170 | 0.084 | 0.126 |
| | Th. | 52-64-88 | 40-52-67 | 52-64-88 | 37-49-64 | 49-61-85 | 37-49-64 | 49-61-85 | 34-46-61 | 46-58-85 | 31-46-61 | 46-58-84 | 31-45-60 | 45-57-83 | 29-44-59 | 45-57-83 | 29-43-58 |
| | NC | 42 | 48 | 31 | 38 | 27 | 33 | 24 | 30 | <15 | 18 | <15 | <15 | <15 | <15 | <15 | <15 |
| 236 | Vc | | | 4.3 | | 3.8 | | 3.4 | | 2.8 | | 2.5 | | 2.3 | | 2.1 | |
| | Pv | | | 2.690 | 4.880 | 1.980 | 3.580 | 1.550 | 2.820 | 0.740 | 1.320 | 0.199 | 0.368 | 0.112 | 0.208 | 0.079 | 0.148 |
| | Pt | | | 3.710 | 5.890 | 2.740 | 4.340 | 2.310 | 3.580 | 1.240 | 1.830 | 0.401 | 0.566 | 0.244 | 0.337 | 0.182 | 0.247 |
| | Th. | | | 55-67-94 | 40-52-67 | 55-67-94 | 40-52-64 | 52-64-91 | 40-43-61 | 49-64-91 | 37-49-64 | 48-63-90 | 37-45-62 | 46-62-89 | 36-44-61 | 45-61-88 | 36-44-60 |
| | NC | | | 35 | 41 | 30 | 37 | 27 | 33 | 16 | 22 | <15 | <15 | <15 | <15 | <15 | <15 |
| 260 | Vc | | | 4.7 | | 4.2 | | 3.8 | | 3.1 | | 2.8 | | 2.5 | | 2.3 | |
| | Pv | | | 3.250 | 5.890 | 2.390 | 4.340 | 1.880 | 3.430 | 0.890 | 1.600 | 0.610 | 1.120 | 0.034 | 0.056 | 0.020 | 0.034 |
| | Pt | | | 4.520 | 7.160 | 3.400 | 5.360 | 2.640 | 4.190 | 1.400 | 2.110 | 1.120 | 1.630 | 0.083 | 0.116 | 0.054 | 0.074 |
| | Th. | | | 58-70-101 | 43-55-73 | 58-70-98 | 43-55-70 | 55-67-98 | 43-52-67 | 52-67-95 | 40-52-67 | 52-64-95 | 40-52-67 | 50-63-93 | 39-51-65 | 49-63-92 | 39-50-64 |
| | NC | | | 38 | 44 | 33 | 40 | 30 | 36 | 19 | 25 | <15 | 19 | <15 | <15 | <15 | <15 |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*SI UNITS

| 900 x 150 | | 750 x 200 | | | | 1050 x 150 | | | | 900 x 200 | | | | 1050 x 200 | | | | 900 x 250 | | | | 1050 x 200 | | | | 900 x 300 | | | | 1050 x 300 | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-------|-------|-------|------------|-------|-------|-------|-----------|-------|----|-----|------------|-----|----|-----|-----------|-----|--|--|------------|--|--|--|
| 500 x 250 | | 600 x 250 | | | | 600 x 300 | | | | 600 x 300 | | | | 750 x 250 | | | | 750 x 300 | | | | 750 x 300 | | | | 900 x 300 | | | | 1050 x 300 | | | |
| 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | | | | | | |
| 0.118 | | 0.126 | | 0.141 | | 0.146 | | 0.170 | | 0.178 | | 0.198 | | 0.214 | | 0.228 | | 0.302 | | | | | | | | | | | | | | | |
| 0.077 | 0.064 | 0.085 | 0.071 | 0.097 | 0.081 | 0.103 | 0.086 | 0.121 | 0.100 | 0.126 | 0.105 | 0.144 | 0.120 | 0.156 | 0.130 | 0.190 | 0.158 | 0.228 | 0.189 | | | | | | | | | | | | | | |
| 1.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.044 | 0.081 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.068 | 0.102 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29-3.6-6.1 | 15-27-4.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.063 | 0.119 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.081 | 0.133 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33-4.2-6.3 | 1.8-3.0-4.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.086 | 0.157 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.161 | 0.234 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40-5.2-7.3 | 2.4-3.7-4.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.116 | 0.205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.169 | 0.255 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43-5.5-7.5 | 2.7-4.0-5.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.8 | | 1.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.041 | 0.077 | 0.030 | 0.057 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.069 | 0.103 | 0.051 | 0.076 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.4-5.6-8.3 | 2.8-4.3-5.8 | 4.4-5.6-8.3 | 2.8-4.2-5.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.0 | | 1.9 | | 1.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.063 | 0.117 | 0.044 | 0.083 | 0.025 | 0.047 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.149 | 0.200 | 0.110 | 0.146 | 0.068 | 0.088 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.4-6.1-8.8 | 3.5-4.3-6.0 | 4.3-6.0-8.7 | 3.5-4.2-6.0 | 4.2-5.9-8.6 | 3.4-4.1-5.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2 | | 2.1 | | 1.8 | | 1.8 | | 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.014 | 0.024 | 0.008 | 0.014 | 0.004 | 0.006 | 0.003 | 0.005 | 0.001 | 0.002 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.040 | 0.054 | 0.026 | 0.034 | 0.013 | 0.016 | 0.011 | 0.013 | 0.004 | 0.005 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.9-6.2-9.2 | 3.8-5.0-6.4 | 4.8-6.2-9.1 | 3.8-5.0-6.3 | 4.6-6.0-9.0 | 3.7-4.9-6.2 | 4.6-6.0-9.0 | 3.7-4.9-6.2 | 4.4-5.9-8.8 | 3.6-4.8-6.0 | | | | | | | | | | | | | | | | | | | | | | | | |
| <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | | | | | | | | | | | | | |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

| L/S | SIZE | 300 x 150 | | 300 x 200 | | 450 x 150 | | 500 x 150 | | 600 x 150 | | 750 X 150 | | 600 X 200 | | | |
|-----|------------|-----------|-------|-----------|----------|-----------|----------|-----------|----------|------------|----------|------------|------------|------------|------------|------------|----------|
| | | | | | | | | 300 x 250 | | | | 450 X 250 | | | | | |
| | DEFLECTION | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° |
| | Ac | 0.041 | | 0.055 | | 0.062 | | 0.069 | | 0.083 | | 0.093 | | 0.105 | | 0.112 | |
| | Ak | 0.023 | 0.019 | 0.030 | 0.025 | 0.033 | 0.028 | 0.036 | 0.030 | 0.049 | 0.041 | 0.057 | 0.048 | 0.067 | 0.056 | 0.073 | 0.061 |
| 283 | Vc | 5.1 | | 4.6 | | 4.1 | | 3.4 | | 3.0 | | 2.7 | | 2.5 | | | |
| | Pv | | | 3.860 | 7.040 | 3.100 | 5.160 | 2.240 | 4.060 | 1.040 | 1.910 | 0.740 | 1.320 | 0.510 | 0.910 | 0.026 | 0.038 |
| | Pt | | | 5.380 | 8.560 | 4.370 | 6.430 | 3.250 | 5.080 | 1.800 | 2.670 | 1.240 | 1.830 | 1.020 | 1.420 | 0.041 | 0.056 |
| | Th. | | | 61-73-104 | 46-58-76 | 61-73-101 | 46-55-73 | 58-70-101 | 46-55-70 | 58-70-98 | 43-55-70 | 55-67-98 | 43-55-70 | 55-67-94 | 43-53-70 | 54-66-94 | 42-53-68 |
| | NC | | | 41 | 4.7 | 36 | 42 | 33 | 39 | 22 | 28 | 16 | 22 | <15 | 16 | <15 | <15 |
| 330 | Vc | | | 5.4 | | 4.8 | | 4.0 | | 3.5 | | 3.2 | | 2.9 | | | |
| | Pv | | | | | 3.860 | 7.040 | 3.050 | 5.540 | 1.420 | 2.590 | 0.990 | 1.800 | 0.690 | 1.240 | 0.590 | 1.020 |
| | Pt | | | | | 5.380 | 8.560 | 4.320 | 6.810 | 2.440 | 3.610 | 1.750 | 2.570 | 0.190 | 1.750 | 1.070 | 1.520 |
| | Th. | | | | | 64-76-104 | 49-61-76 | 64-73-101 | 49-58-73 | 61-73-101 | 46-58-73 | 58-70-101 | 46-58-73 | 58-70-97 | 46-55-73 | 55-67-97 | 46-55-70 |
| | NC | | | | | 41 | 47 | 38 | 44 | 26 | 33 | 20 | 27 | <15 | 21 | <15 | 17 |
| 378 | Vc | | | | | 5.5 | | 4.5 | | 4.1 | | 3.6 | | 3.4 | | | |
| | Pv | | | | | | | 3.990 | 7.240 | 1.880 | 3.380 | 1.290 | 2.360 | 0.910 | 1.630 | 0.740 | 1.320 |
| | Pt | | | | | | | 5.510 | 8.760 | 3.150 | 4.650 | 2.310 | 3.380 | 1.680 | 2.390 | 1.240 | 1.830 |
| | Th. | | | | | | | 64-76-107 | 52-61-79 | 64-76-107 | 52-61-76 | 61-73-104 | 49-61-76 | 61-73-100 | 49-58-76 | 58-73-100 | 49-58-73 |
| | NC | | | | | | | 42 | 48 | 31 | 37 | 25 | 31 | 19 | 25 | 15 | 22 |
| 425 | Vc | | | | | | | 5.1 | | 4.6 | | 4.1 | | 3.8 | | | |
| | Pv | | | | | | | | | 2.360 | 4.290 | 1.650 | 3.000 | 1.140 | 2.080 | 0.940 | 1.680 |
| | Pt | | | | | | | | | 3.890 | 5.820 | 2.920 | 4.270 | 2.160 | 3.100 | 1.700 | 2.440 |
| | Th. | | | | | | | | | 70-82-116 | 55-67-82 | 70-82-113 | 52-64-79 | 67-79-113 | 52-61-79 | 64-76-110 | 52-61-76 |
| | NC | | | | | | | | | 34 | 41 | 28 | 35 | 22 | 29 | 19 | 25 |
| 472 | Vc | | | | | | | 5.7 | | 5.1 | | 4.5 | | 4.2 | | | |
| | Pv | | | | | | | | | 2.920 | 5.280 | 2.030 | 3.680 | 1.400 | 2.570 | 1.140 | 2.080 |
| | Pt | | | | | | | | | 4.700 | 7.060 | 3.560 | 5.210 | 2.670 | 3.840 | 2.160 | 3.100 |
| | Th. | | | | | | | | | 76-92-125 | 58-70-85 | 76-92-122 | 58-67-82 | 73-88-119 | 55-64-82 | 70-85-116 | 55-64-79 |
| | NC | | | | | | | | | 38 | 44 | 32 | 38 | 26 | 32 | 23 | 29 |
| 566 | Vc | | | | | | | 6.8 | | 6.1 | | 5.4 | | 5.0 | | | |
| | Pv | | | | | | | | | 4.190 | 7.620 | 2.920 | 5.310 | 2.030 | 3.680 | 1.650 | 3.000 |
| | Pt | | | | | | | | | 6.730 | 10.160 | 4.950 | 7.340 | 3.560 | 5.210 | 3.180 | 4.520 |
| | Th. | | | | | | | | | 82-113-140 | 64-76-92 | 82-101-137 | 64-73-89 | 82-98-134 | 58-70-85 | 79-94-128 | 58-70-82 |
| | NC | | | | | | | | | 43 | 50 | 36 | 44 | 32 | 38 | 28 | 35 |
| 661 | Vc | | | | | | | | | 7.1 | | 6.3 | | 5.9 | | | |
| | Pv | | | | | | | | | | | 3.610 | 7.240 | 2.770 | 5.000 | 2.260 | 4.100 |
| | Pt | | | | | | | | | | | 6.400 | 10.030 | 4.800 | 7.040 | 4.290 | 6.120 |
| | Th. | | | | | | | | | | | 98-119-158 | 70-79-94 | 94-113-146 | 64-76-91 | 91-110-149 | 64-76-91 |
| | NC | | | | | | | | | | | 41 | 49 | 36 | 43 | 33 | 40 |
| 755 | Vc | | | | | | | | | | | 7.2 | | 6.7 | | | |
| | Pv | | | | | | | | | | | | 3.610 | 6.550 | 2.950 | 5.330 | |
| | Pt | | | | | | | | | | | | 6.400 | 9.350 | 5.470 | 7.870 | |
| | Th. | | | | | | | | | | | | 98-119-158 | 67-82-98 | 98-119-155 | 67-82-94 | |
| | NC | | | | | | | | | | | | 41 | 47 | 37 | 44 | |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*SI UNITS

| | | 900 x 150 | | | | 1050 X 150 | | | | 900 x 200 | | | | 1050 x 200 | | | | | | | | | | | |
|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|----|-----|------------|--|--|--|
| 500 x 250 | | 750 x 200 | | | | 900 x 200 | | | | 750 x 250 | | | | 1050 x 200 | | | | | | | | | | | |
| | | 600 x 250 | | | | | | | | | | | | 900 x 250 | | | | 1050 x 200 | | | | | | | |
| | | 500 x 300 | | | | | | | | | | | | 750 x 300 | | | | 900 x 300 | | | | 1050 x 300 | | | |
| 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | | | | |
| 0.118 | | 0.126 | | 0.141 | | 0.146 | | 0.170 | | 0.178 | | 0.198 | | 0.214 | | 0.228 | | 0.302 | | | | | | | |
| 0.077 | 0.064 | 0.085 | 0.071 | 0.097 | 0.081 | 0.103 | 0.086 | 0.121 | 0.100 | 0.126 | 0.105 | 0.144 | 0.120 | 0.156 | 0.130 | 0.190 | 0.158 | 0.228 | 0.189 | | | | | | |
| 2.4 | | 2.2 | | 2.0 | | 1.9 | | 1.7 | | | | | | | | | | | | | | | | | |
| 0.018 | 0.027 | 0.011 | 0.016 | 0.005 | 0.007 | 0.004 | 0.005 | 0.001 | 0.002 | | | | | | | | | | | | | | | | |
| 0.030 | 0.040 | 0.019 | 0.025 | 0.009 | 0.011 | 0.007 | 0.009 | 0.003 | 0.003 | | | | | | | | | | | | | | | | |
| 54-66-94 | 42-53-68 | 53-65-93 | 42-53-67 | 52-64-91 | 41-52-67 | 52-64-91 | 41-52-65 | 50-62-89 | 40-51-65 | | | | | | | | | | | | | | | | |
| <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | | | | | |
| 2.8 | | 2.6 | | 2.3 | | 2.3 | | 1.9 | | 1.9 | | 1.7 | | | | | | | | | | | | | |
| 0.510 | 0.910 | 0.104 | 0.189 | 0.060 | 0.109 | 0.053 | 0.095 | 0.025 | 0.045 | 0.021 | 0.037 | 0.012 | 0.022 | | | | | | | | | | | | |
| 1.020 | 1.420 | 0.262 | 0.335 | 0.166 | 0.205 | 0.147 | 0.181 | 0.079 | 0.093 | 0.067 | 0.078 | 0.044 | 0.049 | | | | | | | | | | | | |
| 55-64-94 | 46-55-70 | 54-65-94 | 45-54-70 | 52-63-93 | 44-53-69 | 52-63-93 | 44-53-69 | 50-61-91 | 43-51-68 | 49-60-90 | 43-51-67 | 48-59-89 | 42-50-67 | | | | | | | | | | | | |
| <15 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | |
| 3.2 | | 3.0 | | 2.7 | | 2.6 | | 2.2 | | 2.1 | | 1.9 | | 1.8 | | 1.7 | | | | | | | | | |
| 0.660 | 1.170 | 0.530 | 0.970 | 0.106 | 0.185 | 0.091 | 0.160 | 0.042 | 0.074 | 0.034 | 0.060 | 0.020 | 0.035 | 0.013 | 0.024 | 0.010 | 0.017 | | | | | | | | |
| 1.170 | 1.680 | 1.040 | 1.470 | 0.256 | 0.332 | 0.227 | 0.291 | 0.118 | 0.145 | 0.098 | 0.120 | 0.063 | 0.074 | 0.045 | 0.052 | 0.034 | 0.039 | | | | | | | | |
| 58-70-97 | 49-58-73 | 55-67-94 | 46-58-70 | 55-67-93 | 46-56-70 | 54-67-93 | 46-56-69 | 52-65-89 | 44-55-68 | 52-65-89 | 44-55-67 | 50-63-87 | 43-54-66 | 49-62-85 | 43-54-65 | 49-62-84 | 42-54-64 | | | | | | | | |
| <15 | 20 | <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | |
| 3.6 | | 3.4 | | 3.0 | | 2.9 | | 2.5 | | 2.4 | | 2.2 | | 2.0 | | 1.9 | | | | | | | | | |
| 0.810 | 1.500 | 0.660 | 1.190 | 0.480 | 0.860 | 0.410 | 0.760 | 0.061 | 0.115 | 0.049 | 0.092 | 0.029 | 0.054 | 0.019 | 0.036 | 0.014 | 0.026 | | | | | | | | |
| 1.570 | 2.260 | 1.170 | 1.700 | 0.990 | 1.370 | 0.910 | 1.270 | 0.169 | 0.213 | 0.140 | 0.175 | 0.088 | 0.107 | 0.062 | 0.074 | 0.047 | 0.056 | | | | | | | | |
| 64-73-110 | 52-61-76 | 61-73-107 | 49-61-76 | 61-70-107 | 49-61-73 | 58-70-107 | 46-58-73 | 56-66-104 | 46-57-71 | 55-65-103 | 45-57-70 | 53-63-101 | 44-55-69 | 52-61-100 | 43-55-67 | 51-60-99 | 43-54-67 | | | | | | | | |
| 17 | 23 | <15 | 20 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | |
| 4.0 | | 3.7 | | 3.3 | | 3.2 | | 2.8 | | 2.7 | | 2.4 | | 2.2 | | 2.1 | | 1.6 | | | | | | | |
| 1.020 | 1.850 | 0.810 | 1.500 | 0.610 | 1.070 | 0.510 | 0.940 | 0.360 | 0.660 | 0.047 | 0.073 | 0.026 | 0.040 | 0.017 | 0.025 | 0.012 | 0.018 | 0.002 | 0.004 | | | | | | |
| 2.030 | 2.870 | 1.570 | 2.010 | 0.120 | 1.570 | 1.020 | 1.450 | 0.860 | 1.170 | 0.127 | 0.163 | 0.077 | 0.095 | 0.052 | 0.064 | 0.039 | 0.047 | 0.010 | 0.011 | | | | | | |
| 70-80-116 | 52-64-79 | 67-82-113 | 52-64-79 | 67-79-113 | 52-64-79 | 64-79-110 | 52-61-76 | 61-76-107 | 49-58-73 | 61-74-106 | 49-59-74 | 59-72-104 | 47-57-72 | 57-70-102 | 47-56-71 | 56-69-100 | 46-56-70 | 51-63-95 | 43-52-67 | | | | | | |
| 21 | 27 | 17 | 23 | <15 | 18 | <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 4.8 | | 4.5 | | 4.0 | | 3.9 | | 3.3 | | 3.2 | | 2.9 | | 2.6 | | 2.5 | | 1.9 | | | | | | | |
| 1.470 | 2.640 | 1.190 | 2.130 | 0.860 | 1.520 | 0.740 | 1.350 | 0.510 | 0.940 | 0.460 | 0.840 | 0.360 | 0.640 | 0.018 | 0.030 | 0.012 | 0.021 | 0.002 | 0.004 | | | | | | |
| 2.740 | 3.910 | 2.210 | 3.150 | 1.880 | 2.540 | 1.500 | 2.110 | 1.020 | 1.450 | 0.970 | 1.350 | 0.860 | 1.140 | 0.062 | 0.081 | 0.045 | 0.059 | 0.011 | 0.014 | | | | | | |
| 79-91-125 | 55-70-82 | 76-91-123 | 55-67-82 | 76-88-122 | 55-67-82 | 73-86-119 | 55-64-79 | 73-85-116 | 52-61-76 | 70-85-116 | 52-61-73 | 70-82-113 | 52-61-73 | 68-78-109 | 49-58-71 | 67-76-107 | 48-57-69 | 63-70-100 | 45-53-65 | | | | | | |
| 26 | 33 | 23 | 29 | 18 | 24 | 15 | 22 | <15 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 5.6 | | 5.2 | | 4.7 | | 4.5 | | 3.9 | | 3.7 | | 3.3 | | 3.1 | | 2.9 | | 2.2 | | | | | | | |
| 1.980 | 3.610 | 1.600 | 2.920 | 1.170 | 2.080 | 1.020 | 1.830 | 0.710 | 1.300 | 0.640 | 1.140 | 0.480 | 0.860 | 0.410 | 0.710 | 0.028 | 0.044 | 0.006 | 0.009 | | | | | | |
| 3.760 | 5.380 | 3.120 | 4.450 | 2.440 | 3.350 | 2.290 | 3.100 | 1.470 | 2.060 | 1.400 | 1.910 | 0.990 | 1.370 | 0.910 | 1.220 | 0.093 | 0.109 | 0.023 | 0.025 | | | | | | |
| 91-107-140 | 61-76-88 | 88-104-134 | 61-73-85 | 88-101-134 | 58-70-85 | 85-101-131 | 58-70-82 | 82-98-131 | 58-67-79 | 82-98-128 | 55-67-79 | 79-94-125 | 52-64-76 | 79-94-125 | 52-61-76 | 76-90-119 | 50-61-73 | 71-83-111 | 46-56-68 | | | | | | |
| 31 | 38 | 28 | 34 | 23 | 29 | 20 | 26 | <15 | 20 | <15 | 19 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 6.4 | | 6.0 | | 5.3 | | 5.2 | | 4.4 | | 4.3 | | 3.8 | | 3.5 | | 3.3 | | 2.5 | | | | | | | |
| 2.590 | 4.720 | 2.110 | 3.810 | 1.520 | 2.720 | 1.320 | 2.390 | 0.910 | 1.680 | 0.810 | 1.500 | 0.610 | 1.120 | 0.510 | 0.940 | 0.034 | 0.047 | 0.006 | 0.008 | | | | | | |
| 5.130 | 7.260 | 4.140 | 5.840 | 3.050 | 4.240 | 2.840 | 3.910 | 1.930 | 2.690 | 1.830 | 2.510 | 1.370 | 1.880 | 1.270 | 1.700 | 0.070 | 0.087 | 0.015 | 0.018 | | | | | | |
| 94-116-152 | 67-79-91 | 94-116-152 | 67-79-91 | 94-116-152 | 64-76-88 | 91-113-149 | 64-76-88 | 88-110-146 | 61-73-85 | 88-110-143 | 61-73-85 | 85-107-143 | 58-70-82 | 85-107-140 | 58-70-82 | 83-105-139 | 57-68-80 | 79-101-133 | 54-64-75 | | | | | | |
| 35 | 42 | 32 | 38 | 27 | 33 | 24 | 31 | 18 | 25 | 17 | 23 | <15 | 18 | <15 | 15 | <15 | <15 | <15 | <15 | | | | | | |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*SI UNITS

| L/S | SIZE | 300 x 150 | | 300 x 200 | | 450 x 150 | | 500 x 150 | | 600 x 150 | | 750 x 150 | | 600 x 200 | | 500 x 250 | | | |
|------|------------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|----------------|--------------|----------------|--------------|
| | | | | | | | | 300 x 250 | | | | 450 x 250 | | | | 500 x 250 | | | |
| | DEFLECTION | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | | |
| | Ac | 0.041 | | 0.055 | | 0.062 | | 0.069 | | 0.083 | | 0.093 | | 0.105 | | 0.112 | | 0.118 | |
| | Ak | 0.023 | 0.019 | 0.030 | 0.025 | 0.033 | 0.028 | 0.036 | 0.030 | 0.049 | 0.041 | 0.057 | 0.048 | 0.067 | 0.056 | 0.073 | 0.061 | 0.077 | 0.064 |
| 850 | Vc | 7.6 | | | | | | | | | | | | | | | | 7.2 | |
| | Pv | | | | | | | | | | | | | | | 3.710 | 6.760 | 3.300 | 5.970 |
| | Pt | | | | | | | | | | | | | | | 6.760 | 9.800 | 6.350 | 9.020 |
| | Th. | | | | | | | | | | | | | | | 10.4-12.8-16.5 | 7.3-8.5-10.1 | 10.1-12.8-16.2 | 7.3-8.2-9.4 |
| | NC | | | | | | | | | | | | | | | 41 | 48 | 39 | 46 |
| 944 | Vc | 8.0 | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | 4.060 | 7.370 |
| | Pt | | | | | | | | | | | | | | | | | 7.870 | 11.180 |
| | Th. | | | | | | | | | | | | | | | | | 10.7-13.4-17.1 | 7.9-8.8-10.1 |
| | NC | | | | | | | | | | | | | | | | | 43 | 49 |
| 1133 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |
| 1322 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |
| 1511 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |
| 1699 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |

SYMBOLS:

Deflection: The Angle of deflection of the face blades

L/Sec : Air volume in Litres Per second

A_c : Core Area in square meter

A_k : Effective face area in square meter square per 1000mm length

V_c : Core Velocity in meter per second

Pt : Total Pressure in mm water gauge

Th : Throw in meters

CONDITIONS

* Supply

* With Ceiling effect

* Noise Criteria values are based on (10 dB) room attenuation

* Damper is fully open





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

* SI UNITS

Table with 18 columns and 30 rows of performance data for various grille and register models. Columns represent different grille sizes (e.g., 900 x 150, 750 x 200) and rows represent different throw/drop values (e.g., 0.126, 0.085, 6.7, 2.670, 5.210, 10.1-12.5-16.2).

NOTES

- * The large throw values are based on the minimum terminal velocity of 0.25m/sec.
* The middle throw values are based on the middle terminal velocity of 0.50 m/sec.
* The small throw values are based on the maximum terminal velocity of 0.75m/sec.

CORRECTION FOR FLOW WITHOUT CEILING EFFECT:

- 1. Noise Criteria No correction required
2. Static pressure No correction required
3. Area Factor No correction required
4. Throw and drop some work has been done to show that the throw will be reduced by approximately 15-20% and the drop increased by 5-15%.





REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*SI UNITS

| L/S | SIZE | 300 x 150 | | 450 x 150 | | 500 x 150 | | 600 x 150 | | 750 x 150 | | 900 x 150 | | 1050 x 150 | | 1060 x 200 | | |
|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-------|
| | | 300 x 200 | 300 x 250 | 450 x 200 | 450 x 250 | 500 x 200 | 500 x 250 | 600 x 200 | 600 x 250 | 750 x 200 | 750 x 250 | 900 x 200 | 900 x 250 | 1050 x 200 | 1050 x 250 | 1060 x 300 | 1060 x 300 | |
| 94 | Ac | 0.041 | 0.055 | 0.062 | 0.069 | 0.083 | 0.093 | 0.105 | 0.112 | 0.118 | 0.126 | 0.141 | 0.146 | 0.170 | 0.178 | 0.198 | 0.214 | 0.228 |
| | Vc | 2.315 | 1.660 | 1.485 | 1.323 | 1.096 | | | | | | | | | | | | |
| | Pv | 0.331 | 0.166 | 0.133 | 0.106 | 0.073 | | | | | | | | | | | | |
| | Ps | 0.760 | 0.575 | 0.533 | 0.469 | 0.405 | | | | | | | | | | | | |
| | NC | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | |
| 118 | Vc | 2.906 | 2.142 | 1.856 | 1.654 | 1.370 | 1.228 | | | | | | | | | | | |
| | Pv | 0.521 | 0.283 | 0.208 | 0.165 | 0.113 | 0.091 | | | | | | | | | | | |
| | Ps | 1.020 | 0.760 | 0.649 | 0.582 | 0.488 | 0.440 | | | | | | | | | | | |
| | NC | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | |
| 142 | Vc | 3.498 | 2.577 | 2.227 | 1.985 | 1.644 | 1.473 | 1.311 | 1.224 | | | | | | | | | |
| | Pv | 0.755 | 0.410 | 0.299 | 0.238 | 0.163 | 0.131 | 0.104 | 0.090 | | | | | | | | | |
| | Ps | 1.520 | 1.020 | 0.805 | 0.691 | 0.538 | 0.465 | 0.398 | 0.363 | | | | | | | | | |
| | NC | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | |
| 165 | Vc | 4.064 | 2.995 | 2.598 | 2.316 | 1.918 | 1.719 | 1.530 | 1.427 | 1.361 | 1.269 | | | | | | | |
| | Pv | 1.019 | 0.553 | 0.408 | 0.324 | 0.222 | 0.178 | 0.141 | 0.123 | 0.112 | 0.097 | | | | | | | |
| | Ps | 2.030 | 1.270 | 1.107 | 0.927 | 0.694 | 0.586 | 0.490 | 0.440 | 0.409 | 0.367 | | | | | | | |
| | NC | 24 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| 189 | Vc | 4.655 | 3.430 | 3.068 | 2.647 | 2.192 | 1.964 | 1.748 | 1.631 | 1.555 | 1.450 | 1.293 | 1.256 | | | | | |
| | Pv | 1.337 | 0.726 | 0.581 | 0.423 | 0.290 | 0.233 | 0.185 | 0.161 | 0.146 | 0.127 | 0.101 | 0.095 | | | | | |
| | Ps | 2.540 | 1.780 | 1.020 | 1.197 | 0.824 | 0.663 | 0.527 | 0.459 | 0.418 | 0.364 | 0.290 | 0.274 | | | | | |
| | NC | 27 | 19 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 212 | Vc | 5.222 | 3.848 | 3.442 | 3.068 | 2.466 | 2.210 | 1.967 | 1.835 | 1.749 | 1.632 | 1.455 | 1.413 | 1.210 | | | | |
| | Pv | 1.682 | 0.913 | 0.731 | 0.581 | 0.367 | 0.295 | 0.234 | 0.203 | 0.185 | 0.161 | 0.128 | 0.121 | 0.088 | | | | |
| | Ps | 3.300 | 2.290 | 1.270 | 1.020 | 0.564 | 0.440 | 0.339 | 0.290 | 0.260 | 0.222 | 0.172 | 0.161 | 0.113 | | | | |
| | NC | 29 | 22 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | |
| 236 | Vc | 5.813 | 4.283 | 3.831 | 3.415 | 2.830 | 2.456 | 2.186 | 2.039 | 1.944 | 1.813 | 1.616 | 1.570 | 1.344 | 1.287 | 1.157 | | |
| | Pv | 2.084 | 1.132 | 0.905 | 0.720 | 0.494 | 0.364 | 0.288 | 0.251 | 0.228 | 0.198 | 0.158 | 0.149 | 0.109 | 0.100 | 0.081 | | |
| | Ps | 4.060 | 2.790 | 1.520 | 1.270 | 1.020 | 0.722 | 0.567 | 0.491 | 0.445 | 0.385 | 0.304 | 0.286 | 0.207 | 0.190 | 0.152 | | |
| | NC | 31 | 25 | 20 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | |





REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*SI UNITS

| L/S | SIZE | 450 x 150 | 500 x 150 | 600 x 150 | 750 x 150 | 900 x 150 | 1050 x 150 | 1050 x 200 | 1050 x 200 | 1050 x 200 | 1050 x 200 | 1050 x 200 | | | | | | | | |
|-----|------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|-----------|-------|-------|-------|-------|-------|-------|-----|
| | | 300 x 200 | 300 x 250 | 450 x 200 | 450 x 250 | 500 x 200 | 500 x 250 | 600 x 200 | 600 x 250 | 600 x 300 | 900 x 200 | 900 x 250 | 900 x 300 | | | | | | | |
| 260 | Ac | 0.041 | 0.055 | 0.062 | 0.069 | 0.083 | 0.093 | 0.105 | 0.112 | 0.118 | 0.126 | 0.141 | 0.146 | 0.170 | 0.178 | 0.198 | 0.214 | 0.228 | 0.302 | |
| | Vc | 6.404 | 4.719 | 4.221 | 3.763 | 3.118 | 2.701 | 2.404 | 2.243 | 2.138 | 1.994 | 1.778 | 1.727 | 1.478 | 1.416 | 1.273 | | | | |
| | Pv | 2.530 | 1.374 | 1.099 | 0.873 | 0.600 | 0.441 | 0.349 | 0.304 | 0.276 | 0.240 | 0.191 | 0.180 | 0.132 | 0.121 | 0.098 | | | | |
| | Ps | 4.830 | 3.300 | 2.030 | 1.780 | 1.270 | 0.879 | 0.702 | 0.615 | 0.561 | 0.490 | 0.393 | 0.372 | 0.276 | 0.254 | 0.207 | | | | |
| | NC | 34 | 29 | 24 | 20 | 17 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | |
| 283 | Vc | 6.970 | 5.136 | 4.594 | 4.096 | 3.393 | 3.040 | 2.623 | 2.447 | 2.333 | 2.175 | 1.940 | 1.884 | 1.613 | 1.545 | 1.388 | 1.281 | | | |
| | Pv | 2.997 | 1.627 | 1.302 | 1.035 | 0.710 | 0.570 | 0.415 | 0.362 | 0.329 | 0.286 | 0.227 | 0.214 | 0.157 | 0.144 | 0.116 | 0.099 | | | |
| | Ps | 5.840 | 3.810 | 2.290 | 2.030 | 1.520 | 1.020 | 0.832 | 0.721 | 0.653 | 0.565 | 0.445 | 0.419 | 0.304 | 0.278 | 0.223 | 0.189 | | | |
| | NC | 38 | 33 | 28 | 25 | 22 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | |
| | Vc | 8.128 | 5.989 | 5.357 | 4.776 | 3.957 | 3.545 | 3.155 | 2.855 | 2.721 | 2.538 | 2.263 | 2.198 | 1.881 | 1.802 | 1.620 | 1.495 | 1.261 | | |
| 330 | Pv | 4.075 | 2.213 | 1.770 | 1.407 | 0.966 | 0.775 | 0.614 | 0.492 | 0.447 | 0.389 | 0.309 | 0.292 | 0.214 | 0.196 | 0.158 | 0.135 | 0.096 | | |
| | Ps | 7.870 | 5.330 | 3.050 | 2.790 | 2.030 | 1.520 | 1.020 | 1.041 | 0.940 | 0.811 | 0.635 | 0.597 | 0.429 | 0.392 | 0.312 | 0.263 | 0.183 | | |
| | NC | 41 | 37 | 33 | 31 | 29 | 21 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | |
| | Vc | 9.310 | 6.860 | 6.136 | 5.470 | 4.532 | 4.060 | 3.614 | 3.372 | 3.214 | 2.901 | 2.586 | 2.512 | 2.150 | 2.059 | 1.851 | 1.708 | 1.441 | 1.213 | |
| | Pv | 5.347 | 2.903 | 2.323 | 1.846 | 1.267 | 1.017 | 0.806 | 0.701 | 0.637 | 0.508 | 0.404 | 0.381 | 0.279 | 0.256 | 0.207 | 0.176 | 0.125 | 0.089 | |
| 378 | Ps | 10.410 | 7.110 | 4.060 | 3.560 | 2.790 | 2.030 | 1.520 | 1.270 | 1.020 | 1.066 | 0.833 | 0.782 | 0.560 | 0.510 | 0.406 | 0.341 | 0.237 | 0.163 | |
| | NC | 45 | 40 | 37 | 35 | 32 | 25 | 20 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| | Vc | 7.713 | 6.899 | 6.151 | 5.096 | 4.565 | 4.063 | 3.614 | 3.372 | 3.214 | 2.901 | 2.586 | 2.512 | 2.150 | 2.059 | 1.851 | 1.708 | 1.441 | 1.213 | |
| | Pv | 3.670 | 2.936 | 2.334 | 1.602 | 1.286 | 1.018 | 0.806 | 0.887 | 0.806 | 0.643 | 0.511 | 0.482 | 0.353 | 0.324 | 0.262 | 0.223 | 0.159 | 0.112 | |
| | Ps | 8.890 | 5.330 | 4.830 | 3.560 | 2.540 | 1.780 | 1.520 | 1.520 | 1.520 | 1.159 | 0.893 | 0.836 | 0.588 | 0.533 | 0.418 | 0.349 | 0.237 | 0.160 | |
| 425 | NC | 45 | 40 | 38 | 36 | 36 | 31 | 24 | 20 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | |
| | Vc | 7.662 | 6.831 | 6.151 | 5.096 | 4.565 | 4.063 | 3.614 | 3.372 | 3.214 | 2.901 | 2.586 | 2.512 | 2.150 | 2.059 | 1.851 | 1.708 | 1.441 | 1.213 | |
| | Pv | 3.622 | 2.878 | 2.334 | 1.602 | 1.286 | 1.018 | 0.806 | 0.887 | 0.806 | 0.643 | 0.511 | 0.482 | 0.353 | 0.324 | 0.262 | 0.223 | 0.159 | 0.112 | |
| | Ps | 6.600 | 5.840 | 4.320 | 3.050 | 2.290 | 1.780 | 1.520 | 1.780 | 1.780 | 1.270 | 1.020 | 0.937 | 0.650 | 0.587 | 0.456 | 0.378 | 0.253 | 0.169 | |
| | NC | 44 | 43 | 40 | 40 | 36 | 30 | 22 | 26 | 22 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 472 | Vc | 8.191 | 6.787 | 6.079 | 5.411 | 4.813 | 4.489 | 4.003 | 3.887 | 3.887 | 3.225 | 3.089 | 2.776 | 2.563 | 2.161 | 1.819 | | | | |
| | Pv | 4.139 | 2.841 | 2.280 | 1.806 | 1.573 | 1.429 | 1.243 | 0.988 | 0.932 | 0.628 | 0.576 | 0.466 | 0.397 | 0.282 | 0.200 | | | | |
| | Ps | 8.380 | 6.350 | 4.320 | 3.300 | 2.790 | 2.540 | 2.030 | 1.520 | 1.520 | 1.270 | 1.270 | 0.955 | 0.856 | 0.653 | 0.533 | 0.346 | 0.224 | | |
| | NC | 48 | 48 | 45 | 39 | 35 | 30 | 27 | 21 | 18 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| | Vc | 8.191 | 6.787 | 6.079 | 5.411 | 4.813 | 4.489 | 4.003 | 3.887 | 3.887 | 3.225 | 3.089 | 2.776 | 2.563 | 2.161 | 1.819 | | | | |
| 566 | Pv | 4.139 | 2.841 | 2.280 | 1.806 | 1.573 | 1.429 | 1.243 | 0.988 | 0.932 | 0.628 | 0.576 | 0.466 | 0.397 | 0.282 | 0.200 | | | | |
| | Ps | 8.380 | 6.350 | 4.320 | 3.300 | 2.790 | 2.540 | 2.030 | 1.520 | 1.520 | 1.270 | 1.270 | 0.955 | 0.856 | 0.653 | 0.533 | 0.346 | 0.224 | | |
| | NC | 48 | 48 | 45 | 39 | 35 | 30 | 27 | 21 | 18 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| | Vc | 8.191 | 6.787 | 6.079 | 5.411 | 4.813 | 4.489 | 4.003 | 3.887 | 3.887 | 3.225 | 3.089 | 2.776 | 2.563 | 2.161 | 1.819 | | | | |
| | Pv | 4.139 | 2.841 | 2.280 | 1.806 | 1.573 | 1.429 | 1.243 | 0.988 | 0.932 | 0.628 | 0.576 | 0.466 | 0.397 | 0.282 | 0.200 | | | | |





REGISTERS & GRILLES
PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*SI UNITS

| L/S | SIZE | 300 x 150 | | 450 x 150 | | 500 x 150 | | 600 x 150 | | 750 x 150 | | 900 x 150 | | 1050 x 150 | | 900 x 200 | | 1050 x 200 | | | |
|------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|------------|-------|-----|--|
| | | 300 x 200 | 300 x 250 | 450 x 200 | 450 x 250 | 500 x 200 | 500 x 250 | 600 x 200 | 600 x 250 | 750 x 200 | 750 x 250 | 900 x 200 | 900 x 250 | 1050 x 200 | 1050 x 250 | 900 x 250 | 900 x 300 | 1050 x 300 | | | |
| 661 | Ac | 0.041 | 0.055 | 0.062 | 0.069 | 0.083 | 0.093 | 0.105 | 0.112 | 0.118 | 0.126 | 0.141 | 0.146 | 0.170 | 0.178 | 0.198 | 0.214 | 0.228 | 0.302 | | |
| | Vc | | | | | | 7.100 | 6.319 | 5.897 | 5.621 | 5.242 | 4.675 | 4.540 | 3.886 | 3.722 | 3.239 | 2.990 | 2.521 | 2.122 | | |
| | Pv | | | | | | 3.110 | 2.463 | 2.145 | 1.949 | 1.695 | 1.348 | 1.271 | 0.932 | 0.854 | 0.634 | 0.540 | 0.384 | 0.272 | | |
| | Ps | | | | | | 6.100 | 4.320 | 3.810 | 3.560 | 2.790 | 2.290 | 2.030 | 1.520 | 1.270 | 0.863 | 0.716 | 0.481 | 0.322 | | |
| | NC | | | | | | 44 | 39 | 34 | 34 | 31 | 27 | 23 | 18 | 15 | <15 | <15 | <15 | <15 | <15 | |
| 755 | Vc | | | | | | | 7.218 | 6.735 | 6.420 | 5.987 | 5.339 | 5.185 | 4.439 | 4.251 | 3.821 | 3.526 | 2.882 | 2.425 | | |
| | Pv | | | | | | | 3.214 | 2.798 | 2.543 | 2.211 | 1.759 | 1.659 | 1.215 | 1.115 | 0.901 | 0.767 | 0.502 | 0.365 | | |
| | Ps | | | | | | | 5.840 | 4.830 | 4.570 | 3.560 | 2.790 | 2.540 | 1.780 | 1.780 | 1.270 | 1.020 | 0.652 | 0.432 | | |
| | NC | | | | | | | 42 | 38 | 35 | 31 | 27 | 23 | 18 | <15 | <15 | <15 | <15 | <15 | | |
| | Vc | | | | | | | 8.126 | 7.583 | 7.228 | 6.741 | 6.011 | 5.838 | 4.997 | 4.786 | 4.302 | 3.970 | 3.730 | 2.729 | | |
| 850 | Pv | | | | | | | 4.074 | 3.547 | 3.223 | 2.803 | 2.229 | 2.102 | 1.540 | 1.413 | 1.141 | 0.972 | 0.858 | 0.450 | | |
| | Ps | | | | | | | 7.370 | 6.100 | 5.590 | 4.570 | 3.560 | 3.050 | 2.290 | 2.030 | 1.780 | 1.520 | 1.020 | 0.783 | | |
| | NC | | | | | | | 47 | 43 | 40 | 36 | 32 | 29 | 22 | 17 | 15 | <15 | <15 | <15 | | |
| | Vc | | | | | | | | 8.421 | 8.027 | 7.486 | 6.676 | 6.484 | 5.550 | 5.315 | 4.777 | 4.490 | 4.142 | 3.130 | | |
| | Pv | | | | | | | | 4.374 | 3.975 | 3.457 | 2.749 | 2.593 | 1.900 | 1.743 | 1.408 | 1.199 | 1.058 | 0.604 | | |
| 944 | Ps | | | | | | | 7.620 | 7.110 | 5.590 | 4.570 | 3.810 | 3.810 | 2.790 | 2.540 | 2.030 | 1.780 | 1.270 | 0.760 | | |
| | NC | | | | | | | 48 | 44 | 40 | 37 | 34 | 27 | 27 | 22 | 18 | 15 | <15 | <15 | | |
| | Vc | | | | | | | | 8.985 | 8.013 | 7.782 | 6.661 | 6.661 | 5.550 | 5.315 | 4.777 | 4.490 | 4.142 | 3.130 | | |
| | Pv | | | | | | | | 4.980 | 3.961 | 3.735 | 2.737 | 2.593 | 1.900 | 1.743 | 1.408 | 1.199 | 1.058 | 0.604 | | |
| | Ps | | | | | | | | 8.130 | 6.600 | 5.590 | 4.060 | 3.810 | 2.790 | 2.540 | 2.030 | 1.780 | 1.270 | 0.760 | | |
| 1133 | NC | | | | | | | 45 | 42 | 37 | 31 | 28 | 24 | 18 | 15 | <15 | <15 | <15 | <15 | | |
| | Vc | | | | | | | | 9.349 | 9.080 | 7.772 | 7.444 | 6.690 | 6.175 | 5.801 | 4.383 | | | | | |
| | Pv | | | | | | | | 5.392 | 5.086 | 3.726 | 3.418 | 2.761 | 2.352 | 2.076 | 1.185 | | | | | |
| | Ps | | | | | | | | 8.890 | 7.620 | 5.590 | 4.060 | 3.810 | 2.790 | 2.540 | 2.030 | 1.780 | 1.270 | 0.760 | | |
| | NC | | | | | | | | 46 | 41 | 35 | 33 | 29 | 23 | 17 | 15 | | | | | |
| 1322 | Vc | | | | | | | | 8.877 | 8.502 | 7.642 | 7.053 | 6.626 | 5.007 | | | | | | | |
| | Pv | | | | | | | | 4.861 | 4.459 | 3.602 | 3.068 | 2.708 | 1.546 | | | | | | | |
| | Ps | | | | | | | | 7.370 | 6.600 | 5.330 | 4.570 | 3.050 | 2.030 | | | | | | | |
| | NC | | | | | | | | 39 | 37 | 33 | 29 | 23 | 17 | 15 | | | | | | |
| | Vc | | | | | | | | 8.877 | 8.502 | 7.642 | 7.053 | 6.626 | 5.007 | | | | | | | |
| 1510 | Pv | | | | | | | | 4.861 | 4.459 | 3.602 | 3.068 | 2.708 | 1.546 | | | | | | | |
| | Ps | | | | | | | | 7.370 | 6.600 | 5.330 | 4.570 | 3.050 | 2.030 | | | | | | | |
| | NC | | | | | | | | 39 | 37 | 33 | 29 | 23 | 17 | 15 | | | | | | |
| | Vc | | | | | | | | 8.877 | 8.502 | 7.642 | 7.053 | 6.626 | 5.007 | | | | | | | |
| | Pv | | | | | | | | 4.861 | 4.459 | 3.602 | 3.068 | 2.708 | 1.546 | | | | | | | |





REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*SI UNITS

| L/S | SIZE | 300 x 150 | 450 x 150 | 500 x 150 | 600 x 150 | 750 x 150 | 900 x 150 | 1050 x 150 | | 1050 x 200 | | | | | | | | | |
|------|------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 300 x 200 | 300 x 250 | 450 x 200 | 500 x 200 | 450 x 250 | 600 x 200 | 500 x 250 | 600 x 250 | 750 x 200 | 900 x 200 | | | | | | | | |
| 1699 | Ac | 0.041 | 0.055 | 0.062 | 0.069 | 0.083 | 0.083 | 0.105 | 0.112 | 0.118 | 0.126 | 0.141 | 0.146 | 0.170 | 0.178 | 0.198 | 0.214 | 0.228 | 0.302 |
| | Vc | | | | | | | | | | | | | | | 8.598 | 7.936 | 7.455 | 5.633 |
| | Pv | | | | | | | | | | | | | | | 4.560 | 3.885 | 3.428 | 1.958 |
| | Ps | | | | | | | | | | | | | | | 6.860 | 5.590 | 3.810 | 2.790 |
| 1888 | NC | | | | | | | | | | | | | | | 38 | 34 | 26 | 20 |
| | Vc | | | | | | | | | | | | | | | 8.818 | 8.284 | 7.455 | 6.260 |
| | Pv | | | | | | | | | | | | | | | 4.797 | 4.234 | 2.417 | |
| | Ps | | | | | | | | | | | | | | | 7.110 | 4.830 | 3.300 | |
| 2077 | NC | | | | | | | | | | | | | | | 39 | 32 | 24 | |
| | Vc | | | | | | | | | | | | | | | 9.114 | 6.887 | | |
| | Pv | | | | | | | | | | | | | | | 5.124 | 2.926 | | |
| | Ps | | | | | | | | | | | | | | | 5.840 | 4.060 | | |
| 2266 | NC | | | | | | | | | | | | | | | | 36 | 28 | |
| | Vc | | | | | | | | | | | | | | | | | | 7.513 |
| | Pv | | | | | | | | | | | | | | | | | | 3.482 |
| | Ps | | | | | | | | | | | | | | | | | | 4.830 |

SYMBOLS:

L/Sec : Air volume in Litres Per second

A_c : Core Area in square meter

V_c : Core Velocity in meter per second

Pv : Velocity Pressure in millimeter water gauge

Ps : Negative static pressure in millimeters water gauge

NC : Noise criteria

CONDITIONS

* Return

* Damper is fully open

* Noise Criteria is based on (10 dB) room attenuation.





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | 12 x 6 | | 12 x 8 | | 18 x 6 | | 20 x 6 | | 24 x 6 | | 30 x 6 | | 24 x 8 | | 20 x 10 | | | |
|-----|------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | | | | | | | 12 x 10 | | 18 x 8 | | 20 x 8 | | 18 x 10 | | | | | |
| | | DEFLECTION | | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° |
| | Ac | 0.451 | | 0.612 | | 0.684 | | 0.768 | | 0.927 | | 1.034 | | 1.162 | | 1.246 | | 1.307 | |
| | Ak | 0.2430 | 0.2020 | 0.3200 | 0.2660 | 0.3600 | 0.2990 | 0.3920 | 0.3250 | 0.5290 | 0.4390 | 0.6180 | 0.5130 | 0.7240 | 0.6010 | 0.7880 | 0.6540 | 0.8300 | 0.6890 |
| 200 | Vc | 443 | | 327 | | 292 | | 260 | | 216 | | 193 | | 172 | | 161 | | | |
| | Pv | 0.0330 | 0.0610 | 0.0166 | 0.0305 | 0.0123 | 0.0224 | 0.0059 | 0.0107 | 0.0032 | 0.0058 | 0.0023 | 0.0040 | 0.0015 | 0.0027 | 0.0012 | 0.0022 | | |
| | Pt | 0.0430 | 0.0710 | 0.0242 | 0.0382 | 0.0175 | 0.0275 | 0.0090 | 0.0136 | 0.0052 | 0.0076 | 0.0038 | 0.0054 | 0.0027 | 0.0038 | 0.0022 | 0.0030 | | |
| | Th. | 11-13-20 | 6-9-14 | 10-12-19 | 5-8-13 | 9-11-18 | 4-7-12 | 8-10-17 | 3-6-11 | 8-10-17 | 3-5-11 | 7-9-16 | 2-5-10 | 7-9-15 | 2-5-10 | 7-8-15 | 2-4-9 | | |
| | NC | 16 | 22 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 250 | Vc | 554 | | 408 | | 365 | | 326 | | 270 | | 242 | | 215 | | 201 | | 191 | |
| | Pv | 0.0510 | 0.0930 | 0.0260 | 0.0480 | 0.0194 | 0.0353 | 0.0095 | 0.0173 | 0.0052 | 0.0095 | 0.0037 | 0.0067 | 0.0025 | 0.0046 | 0.0020 | 0.0037 | 0.0017 | 0.0032 |
| | Pt | 0.0710 | 0.1130 | 0.0360 | 0.0580 | 0.0277 | 0.0434 | 0.0138 | 0.0213 | 0.0077 | 0.0118 | 0.0055 | 0.0084 | 0.0038 | 0.0058 | 0.0031 | 0.0047 | 0.0027 | 0.0040 |
| | Th. | 12-16-22 | 7-11-16 | 12-15-22 | 7-10-16 | 12-14-21 | 7-11-16 | 12-14-21 | 7-10-15 | 11-13-21 | 6-10-14 | 11-13-21 | 6-10-14 | 10-12-20 | 5-9-14 | 10-12-20 | 5-9-13 | 10-12-20 | 5-9-13 |
| | NC | 23 | 29 | <15 | 19 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 300 | Vc | 665 | | 490 | | 438 | | 391 | | 324 | | 290 | | 258 | | 241 | | 230 | |
| | Pv | 0.0740 | 0.1340 | 0.0380 | 0.0690 | 0.0280 | 0.0510 | 0.0136 | 0.0251 | 0.0075 | 0.0139 | 0.0052 | 0.0098 | 0.0036 | 0.0068 | 0.0029 | 0.0055 | 0.0025 | 0.0047 |
| | Pt | 0.1040 | 0.1640 | 0.0580 | 0.0890 | 0.0380 | 0.0610 | 0.0182 | 0.0293 | 0.0098 | 0.0159 | 0.0068 | 0.0111 | 0.0047 | 0.0076 | 0.0037 | 0.0061 | 0.0032 | 0.0052 |
| | Th. | 14-17-24 | 9-13-17 | 14-16-24 | 8-12-18 | 13-16-23 | 8-12-17 | 12-15-22 | 7-11-16 | 12-15-22 | 7-11-16 | 12-15-21 | 6-11-16 | 11-14-21 | 6-10-15 | 11-14-21 | 6-10-15 | 11-14-21 | 6-10-15 |
| | NC | 29 | 35 | 19 | 25 | <15 | 20 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 350 | Vc | 776 | | 572 | | 511 | | 456 | | 378 | | 338 | | 301 | | 281 | | 268 | |
| | Pv | 0.1010 | 0.1820 | 0.0520 | 0.0940 | 0.0380 | 0.0690 | 0.0300 | 0.0550 | 0.0102 | 0.0185 | 0.0072 | 0.0130 | 0.0049 | 0.0090 | 0.0040 | 0.0072 | 0.0034 | 0.0062 |
| | Pt | 0.1410 | 0.2220 | 0.0720 | 0.1140 | 0.0580 | 0.0890 | 0.0400 | 0.0650 | 0.0173 | 0.0257 | 0.0125 | 0.0185 | 0.0089 | 0.0131 | 0.0073 | 0.0106 | 0.0063 | 0.0092 |
| | Th. | 15-19-26 | 10-14-19 | 15-19-26 | 9-13-19 | 14-18-25 | 9-13-18 | 14-18-25 | 9-13-17 | 14-18-25 | 8-13-17 | 14-18-24 | 8-12-17 | 13-17-24 | 8-12-16 | 13-17-24 | 8-12-16 | 13-17-24 | 8-12-16 |
| | NC | 34 | 40 | 24 | 30 | 19 | 25 | 16 | 22 | <15 | 19 | <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 |
| 400 | Vc | 887 | | 653 | | 584 | | 521 | | 431 | | 387 | | 344 | | 321 | | 306 | |
| | Pv | 0.1310 | 0.2380 | 0.0680 | 0.1230 | 0.0500 | 0.0900 | 0.0390 | 0.0710 | 0.0135 | 0.0241 | 0.0095 | 0.0170 | 0.0066 | 0.0117 | 0.0053 | 0.0094 | 0.0046 | 0.0081 |
| | Pt | 0.1810 | 0.2880 | 0.0980 | 0.1530 | 0.0700 | 0.1100 | 0.0590 | 0.0910 | 0.0193 | 0.0297 | 0.0137 | 0.0210 | 0.0096 | 0.0145 | 0.0077 | 0.0117 | 0.0066 | 0.0100 |
| | Th. | 16-20-28 | 12-15-20 | 16-20-28 | 11-14-20 | 15-19-27 | 11-14-19 | 15-19-26 | 10-14-19 | 15-19-26 | 10-14-19 | 15-19-25 | 10-13-19 | 14-18-25 | 9-13-18 | 14-18-25 | 9-13-18 | 14-18-25 | 9-13-18 |
| | NC | 38 | 45 | 28 | 34 | 23 | 29 | 20 | 26 | <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 450 | Vc | 998 | | 735 | | 658 | | 586 | | 485 | | 435 | | 387 | | 361 | | 344 | |
| | Pv | 0.1660 | 0.3020 | 0.0860 | 0.1560 | 0.0630 | 0.1140 | 0.0500 | 0.0900 | 0.0230 | 0.0420 | 0.0045 | 0.0085 | 0.0027 | 0.0051 | 0.0020 | 0.0038 | 0.0016 | 0.0030 |
| | Pt | 0.2260 | 0.3620 | 0.1160 | 0.1860 | 0.0930 | 0.1440 | 0.0700 | 0.1100 | 0.0330 | 0.0520 | 0.0073 | 0.0110 | 0.0044 | 0.0067 | 0.0033 | 0.0050 | 0.0027 | 0.0040 |
| | Th. | 17-21-29 | 13-17-22 | 17-21-29 | 12-16-21 | 16-20-28 | 12-16-21 | 16-20-28 | 11-15-20 | 15-19-28 | 10-15-20 | 15-19-28 | 10-15-20 | 15-19-27 | 10-14-19 | 15-19-27 | 9-14-19 | 15-18-27 | 9-14-19 |
| | NC | 42 | 48 | 31 | 38 | 27 | 33 | 24 | 30 | <15 | 18 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 500 | Vc | | | 817 | | 731 | | 651 | | 539 | | 483 | | 430 | | 401 | | 383 | |
| | Pv | | | 0.1060 | 0.1920 | 0.0780 | 0.1410 | 0.0610 | 0.1110 | 0.0290 | 0.0520 | 0.0078 | 0.0145 | 0.0044 | 0.0082 | 0.0031 | 0.0058 | 0.0025 | 0.0046 |
| | Pt | | | 0.1460 | 0.2320 | 0.1080 | 0.1710 | 0.0910 | 0.1410 | 0.0490 | 0.0720 | 0.0158 | 0.0223 | 0.0096 | 0.0133 | 0.0072 | 0.0097 | 0.0058 | 0.0079 |
| | Th. | | | 18-22-31 | 13-17-22 | 18-22-31 | 13-17-21 | 17-21-30 | 13-16-20 | 16-21-30 | 12-16-21 | 16-21-30 | 12-15-20 | 15-20-29 | 12-15-20 | 15-20-29 | 12-14-20 | 15-20-29 | 12-14-20 |
| | NC | | | 35 | 41 | 30 | 37 | 27 | 33 | 16 | 22 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 550 | Vc | | | 898 | | 804 | | 716 | | 593 | | 532 | | 473 | | 442 | | 421 | |
| | Pv | | | 0.1280 | 0.2320 | 0.0940 | 0.1710 | 0.0740 | 0.1350 | 0.0350 | 0.0630 | 0.0240 | 0.0441 | 0.0013 | 0.0022 | 0.0008 | 0.0013 | 0.0006 | 0.0009 |
| | Pt | | | 0.1780 | 0.2820 | 0.1340 | 0.2110 | 0.1040 | 0.1650 | 0.0550 | 0.0830 | 0.0440 | 0.0642 | 0.0032 | 0.0046 | 0.0021 | 0.0029 | 0.0016 | 0.0021 |
| | Th. | | | 19-23-33 | 14-18-24 | 19-23-32 | 14-18-23 | 18-22-32 | 14-17-22 | 17-22-31 | 13-17-22 | 17-21-31 | 13-17-22 | 16-21-31 | 13-17-21 | 16-21-30 | 13-17-21 | 16-20-30 | 13-16-21 |
| | NC | | | 38 | 44 | 33 | 40 | 30 | 36 | 19 | 25 | <15 | 19 | <15 | <15 | <15 | <15 | <15 | <15 |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | 12 x 6 | | 12 x 8 | | 18 x 6 | | 20 x 6 | | 24 x 6 | | 30 x 6 | | 24 x 8 | | 20 x 10 | | | |
|------|------------|--------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | 12 x 8 | | 12 x 10 | | 12 x 12 | | 18 x 8 | | 20 x 8 | | 18 x 10 | | 24 x 8 | | 20 x 10 | | | |
| | DEFLECTION | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | | |
| | Ac | 0.4511 | | 0.6122 | | 0.6844 | | 0.7678 | | 0.927 | | 1.0344 | | 1.1622 | | 1.2456 | | 1.3067 | |
| 600 | Ak | 0.243 | 0.202 | 0.320 | 0.266 | 0.360 | 0.299 | 0.392 | 0.325 | 0.529 | 0.439 | 0.618 | 0.5130 | 0.724 | 0.601 | 0.788 | 0.654 | 0.830 | 0.689 |
| | Vc | 980 | | 877 | | 781 | | 647 | | 580 | | 516 | | 482 | | 459 | | | |
| | Pv | | | 0.1520 | 0.2770 | 0.1220 | 0.2030 | 0.0880 | 0.1600 | 0.0410 | 0.0750 | 0.0290 | 0.0520 | 0.0200 | 0.0360 | 0.0010 | 0.0015 | 0.0007 | 0.0011 |
| | Pt | | | 0.2120 | 0.3370 | 0.1720 | 0.2530 | 0.1280 | 0.2000 | 0.0710 | 0.1050 | 0.0490 | 0.0720 | 0.0400 | 0.0560 | 0.0016 | 0.0022 | 0.0012 | 0.0016 |
| | Th. | | | 20-24-34 | 15-19-25 | 20-24-33 | 15-18-24 | 19-23-33 | 15-18-23 | 19-23-32 | 14-18-23 | 18-22-32 | 14-18-23 | 18-22-31 | 14-19-23 | 18-22-31 | 14-17-22 | 18-22-31 | 14-17-22 |
| | NC | | | 41 | 47 | 36 | 42 | 33 | 39 | 22 | 28 | 16 | 22 | <15 | 16 | <15 | <15 | <15 | <15 |
| 700 | Vc | | | 1023 | | 912 | | 755 | | 677 | | 602 | | 562 | | 536 | | | |
| | Pv | | | | | 0.1520 | 0.2770 | 0.1200 | 0.2180 | 0.0560 | 0.1020 | 0.0390 | 0.0710 | 0.0270 | 0.049 | 0.0220 | 0.0400 | 0.0200 | 0.0360 |
| | Pt | | | | | 0.2120 | 0.3370 | 0.1700 | 0.2680 | 0.0960 | 0.1420 | 0.0690 | 0.1012 | 0.0470 | 0.069 | 0.0400 | 0.0600 | 0.0400 | 0.0560 |
| | Th. | | | | | 21-25-34 | 16-20-25 | 21-24-33 | 16-19-24 | 20-24-33 | 15-19-24 | 19-23-33 | 15-19-24 | 19-23-32 | 15-18-24 | 18-22-32 | 15-18-23 | 18-21-31 | 15-18-23 |
| | NC | | | 41 | 47 | 38 | 44 | 26 | 33 | 20 | 27 | <15 | 21 | <15 | 17 | <15 | 15 | <15 | 15 |
| 800 | Vc | | | 1042 | | 863 | | 773 | | 688 | | 642 | | 612 | | | | | |
| | Pv | | | | | 0.1570 | 0.2850 | 0.0740 | 0.1330 | 0.0510 | 0.0930 | 0.0360 | 0.0640 | 0.0290 | 0.0520 | 0.0260 | 0.0460 | 0.0260 | 0.0460 |
| | Pt | | | | | 0.2170 | 0.3450 | 0.1240 | 0.1830 | 0.0910 | 0.1331 | 0.0660 | 0.0940 | 0.0490 | 0.0720 | 0.0460 | 0.0466 | 0.0460 | 0.0466 |
| | Th. | | | | | 22-25-35 | 17-20-26 | 21-25-35 | 17-20-25 | 20-24-34 | 16-20-25 | 20-24-33 | 16-19-25 | 19-24-33 | 16-19-24 | 19-23-32 | 16-19-24 | 19-23-32 | 16-19-24 |
| | NC | | | | | 42 | 48 | 31 | 37 | 25 | 31 | 19 | 25 | 15 | 22 | <15 | 20 | <15 | 20 |
| 900 | Vc | | | 971 | | 870 | | 774 | | 723 | | 689 | | | | | | | |
| | Pv | | | | | 0.0930 | 0.1690 | 0.0650 | 0.1180 | 0.0450 | 0.0820 | 0.0370 | 0.0660 | 0.0320 | 0.0590 | 0.0320 | 0.0590 | 0.0320 | 0.0590 |
| | Pt | | | | | 0.1530 | 0.2290 | 0.1150 | 0.1681 | 0.0850 | 0.1220 | 0.0670 | 0.0960 | 0.0620 | 0.0890 | 0.0620 | 0.0890 | 0.0620 | 0.0890 |
| | Th. | | | | | 23-27-38 | 18-22-27 | 23-27-37 | 17-21-26 | 22-26-37 | 17-20-26 | 21-25-36 | 17-20-25 | 21-24-36 | 17-20-25 | 21-24-36 | 17-20-25 | 21-24-36 | 17-20-25 |
| | NC | | | | | 34 | 41 | 28 | 35 | 22 | 29 | 19 | 25 | 17 | 23 | 17 | 23 | 17 | 23 |
| 1000 | Vc | | | 1079 | | 967 | | 860 | | 803 | | 765 | | | | | | | |
| | Pv | | | | | 0.1150 | 0.2080 | 0.0800 | 0.1450 | 0.0550 | 0.1010 | 0.0450 | 0.0820 | 0.0400 | 0.0730 | 0.0400 | 0.0730 | 0.0400 | 0.0730 |
| | Pt | | | | | 0.1850 | 0.2780 | 0.1400 | 0.2051 | 0.1050 | 0.1510 | 0.0850 | 0.1220 | 0.0800 | 0.1130 | 0.0800 | 0.1130 | 0.0800 | 0.1130 |
| | Th. | | | | | 25-30-41 | 19-23-28 | 25-30-40 | 19-22-27 | 24-29-29 | 18-21-27 | 23-28-38 | 18-21-26 | 23-27-38 | 17-21-26 | 23-27-38 | 17-21-26 | 23-27-38 | 17-21-26 |
| | NC | | | | | 38 | 44 | 32 | 38 | 26 | 32 | 23 | 29 | 21 | 27 | 21 | 27 | 21 | 27 |
| 1200 | Vc | | | 1294 | | 1160 | | 1033 | | 963 | | 918 | | | | | | | |
| | Pv | | | | | 0.1680 | 0.3000 | 0.1150 | 0.2090 | 0.0800 | 0.1450 | 0.0650 | 0.1180 | 0.0580 | 0.1040 | 0.0580 | 0.1040 | 0.0580 | 0.1040 |
| | Pt | | | | | 0.2650 | 0.4000 | 0.1950 | 0.2890 | 0.1400 | 0.2050 | 0.1250 | 0.1780 | 0.1080 | 0.1540 | 0.1080 | 0.1540 | 0.1080 | 0.1540 |
| | Th. | | | | | 27-37-46 | 21-25-30 | 27-33-45 | 21-24-29 | 27-32-48 | 19-23-28 | 26-31-42 | 19-23-27 | 26-30-41 | 18-23-27 | 26-30-41 | 18-23-27 | 26-30-41 | 18-23-27 |
| | NC | | | | | 43 | 50 | 36 | 44 | 36 | 38 | 28 | 35 | 26 | 33 | 26 | 33 | 26 | 33 |
| 1400 | Vc | | | 1353 | | 1205 | | 1124 | | 1071 | | | | | | | | | |
| | Pv | | | | | 0.1420 | 0.2850 | 0.1090 | 0.1970 | 0.0890 | 0.1610 | 0.0780 | 0.1420 | 0.0780 | 0.1420 | 0.0780 | 0.1420 | 0.0780 | 0.1420 |
| | Pt | | | | | 0.2520 | 0.3949 | 0.1890 | 0.2770 | 0.1690 | 0.2410 | 0.1480 | 0.2120 | 0.1480 | 0.2120 | 0.1480 | 0.2120 | 0.1480 | 0.2120 |
| | Th. | | | | | 32-39-52 | 23-26-31 | 31-37-48 | 21-25-30 | 30-36-49 | 21-25-30 | 30-36-49 | 21-25-30 | 30-35-46 | 20-25-29 | 30-35-46 | 20-25-29 | 30-35-46 | 20-25-29 |
| | NC | | | | | 41 | 49 | 36 | 43 | 33 | 40 | 31 | 38 | 31 | 38 | 31 | 38 | 31 | 38 |
| 1600 | Vc | | | 1377 | | 1285 | | 1224 | | | | | | | | | | | |
| | Pv | | | | | 0.1420 | 0.2580 | 0.1160 | 0.2100 | 0.1020 | 0.1860 | 0.1020 | 0.1860 | 0.1020 | 0.1860 | 0.1020 | 0.1860 | 0.1020 | 0.1860 |
| | Pt | | | | | 0.2520 | 0.3680 | 0.2160 | 0.3100 | 0.2020 | 0.2860 | 0.2020 | 0.2860 | 0.2020 | 0.2860 | 0.2020 | 0.2860 | 0.2020 | 0.2860 |
| | Th. | | | | | 32-39-52 | 22-27-32 | 32-36-51 | 22-27-31 | 31-38-50 | 22-27-31 | 31-38-50 | 22-27-31 | 31-38-50 | 22-26-30 | 31-38-50 | 22-26-30 | 31-38-50 | 22-26-30 |
| | NC | | | | | 41 | 47 | 37 | 44 | 35 | 42 | 35 | 42 | 35 | 42 | 35 | 42 | 35 | 42 |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| 36 x 6 | | 30 x 8 | | 42 x 6 | | 36 x 8 | | 30 x 10 | | 42 x 8 | | 36 x 10 | | 42 x 10 | | 42 x 12 | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 18 x 12 | | 20 x 12 | | 24 x 12 | | 24 x 12 | | 30 x 10 | | 30 x 12 | | 36 x 12 | | 36 x 12 | | 42 x 12 | |
| 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° |
| 1.401 | | 1.572 | | 1.618 | | 1.890 | | 1.973 | | 2.196 | | 2.379 | | 2.821 | | 3.351 | |
| 0.915 | 0.759 | 1.040 | 0.870 | 1.110 | 0.920 | 1.300 | 1.080 | 1.360 | 1.130 | 1.550 | 1.290 | 1.680 | 1.400 | 2.050 | 1.700 | 2.450 | 2.030 |
| 428 | | 382 | | 371 | | 317 | | | | | | | | | | | |
| 0.0004 | 0.0006 | 0.0002 | 0.0003 | 0.0002 | 0.0002 | 0.00005 | 0.0001 | | | | | | | | | | |
| 0.0007 | 0.0010 | 0.0004 | 0.0004 | 0.0003 | 0.0004 | 0.0001 | 0.0001 | | | | | | | | | | |
| 17-21-31 | 14-17-22 | 17-21-30 | 13-17-22 | 17-21-30 | 13-17-22 | 17-20-29 | 13-17-21 | | | | | | | | | | |
| <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | |
| 500 | | 445 | | 433 | | 370 | | 355 | | 319 | | | | | | | |
| 0.0041 | 0.0075 | 0.0024 | 0.0043 | 0.0021 | 0.0037 | 0.0010 | 0.0018 | 0.0008 | 0.0014 | 0.0005 | 0.0009 | | | | | | |
| 0.0103 | 0.0132 | 0.0065 | 0.0081 | 0.0058 | 0.0071 | 0.0031 | 0.0037 | 0.0026 | 0.0031 | 0.0017 | 0.0019 | | | | | | |
| 18-21-31 | 15-18-23 | 17-21-31 | 15-18-23 | 17-21-31 | 15-17-23 | 17-20-30 | 14-17-22 | 16-20-30 | 14-17-22 | 16-19-30 | 14-17-22 | | | | | | |
| <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 571 | | 509 | | 494 | | 423 | | 405 | | 364 | | 336 | | 284 | | | |
| 0.0210 | 0.0380 | 0.0042 | 0.0073 | 0.0036 | 0.0063 | 0.0017 | 0.0029 | 0.0013 | 0.0023 | 0.0008 | 0.0014 | 0.0005 | 0.0009 | 0.0004 | 0.0007 | | |
| 0.0410 | 0.0580 | 0.0101 | 0.0131 | 0.0089 | 0.0115 | 0.0046 | 0.0057 | 0.0039 | 0.0047 | 0.0025 | 0.0029 | 0.0018 | 0.0020 | 0.0014 | 0.0015 | | |
| 18-22-31 | 15-19-23 | 18-22-31 | 15-19-23 | 18-22-31 | 15-19-23 | 17-22-30 | 15-18-22 | 17-21-29 | 15-18-22 | 17-21-29 | 14-18-22 | 16-21-28 | 14-18-22 | 16-20-28 | 14-18-21 | | |
| <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | |
| 642 | | 573 | | 556 | | 476 | | 456 | | 410 | | 378 | | 319 | | | |
| 0.0260 | 0.0470 | 0.0190 | 0.0340 | 0.0160 | 0.0300 | 0.0024 | 0.0045 | 0.0019 | 0.0036 | 0.0011 | 0.0021 | 0.0008 | 0.0014 | 0.0006 | 0.0010 | | |
| 0.0460 | 0.0670 | 0.0390 | 0.0540 | 0.0360 | 0.0500 | 0.0066 | 0.0084 | 0.0055 | 0.0069 | 0.0034 | 0.0042 | 0.0024 | 0.0029 | 0.0019 | 0.0022 | | |
| 20-24-35 | 16-20-25 | 20-23-35 | 16-20-24 | 19-23-35 | 15-19-24 | 18-22-34 | 15-19-23 | 18-21-34 | 15-19-23 | 18-21-33 | 15-18-23 | 17-20-33 | 14-18-22 | 17-20-33 | 14-18-22 | | |
| <15 | 20 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | |
| 714 | | 636 | | 618 | | 529 | | 507 | | 455 | | 420 | | 355 | | 298 | |
| 0.0320 | 0.0590 | 0.0240 | 0.0420 | 0.0200 | 0.0370 | 0.0140 | 0.0260 | 0.0019 | 0.0029 | 0.0010 | 0.0016 | 0.0007 | 0.0010 | 0.0005 | 0.0007 | 0.0001 | 0.0001 |
| 0.0620 | 0.0790 | 0.0440 | 0.0620 | 0.0400 | 0.0570 | 0.0340 | 0.0460 | 0.0050 | 0.0064 | 0.0030 | 0.0038 | 0.0021 | 0.0025 | 0.0015 | 0.0018 | 0.0004 | 0.0004 |
| 22-27-37 | 17-21-26 | 22-26-37 | 17-21-26 | 21-26-36 | 17-20-25 | 20-25-35 | 16-19-24 | 20-24-35 | 16-19-24 | 19-24-34 | 16-19-24 | 19-23-33 | 15-19-23 | 18-23-33 | 15-18-23 | 17-21-31 | 14-17-22 |
| 17 | 23 | <15 | 18 | <15 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 856 | | 764 | | 742 | | 635 | | 608 | | 547 | | 504 | | 425 | | 358 | |
| 0.0470 | 0.0840 | 0.0340 | 0.0600 | 0.0290 | 0.0530 | 0.0200 | 0.0370 | 0.0180 | 0.0330 | 0.0140 | 0.0250 | 0.0007 | 0.0012 | 0.0005 | 0.0008 | 0.0001 | 0.0002 |
| 0.0870 | 0.1240 | 0.0740 | 0.1000 | 0.0590 | 0.0830 | 0.0400 | 0.0570 | 0.0380 | 0.0530 | 0.0340 | 0.0450 | 0.0024 | 0.0032 | 0.0018 | 0.0023 | 0.0004 | 0.0005 |
| 25-30-40 | 18-22-27 | 25-29-40 | 18-22-27 | 24-29-39 | 18-21-26 | 24-28-38 | 17-20-25 | 23-28-38 | 17-20-24 | 23-27-37 | 17-20-24 | 23-26-36 | 16-19-23 | 22-25-35 | 16-19-23 | 21-23-33 | 15-18-21 |
| 23 | 29 | 18 | 24 | 15 | 22 | <15 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 999 | | 891 | | 865 | | 741 | | 709 | | 638 | | 589 | | 496 | | 418 | |
| 0.0630 | 0.1150 | 0.0460 | 0.0820 | 0.0400 | 0.0720 | 0.0280 | 0.0510 | 0.0250 | 0.0450 | 0.0190 | 0.0340 | 0.0160 | 0.0280 | 0.0011 | 0.0017 | 0.0002 | 0.0003 |
| 0.1230 | 0.1750 | 0.0960 | 0.1320 | 0.0900 | 0.1220 | 0.0580 | 0.0810 | 0.0550 | 0.0750 | 0.0390 | 0.0540 | 0.0360 | 0.0480 | 0.0037 | 0.0043 | 0.0009 | 0.0010 |
| 29-34-44 | 20-24-28 | 29-33-44 | 19-23-28 | 28-33-43 | 19-23-27 | 27-32-43 | 19-22-26 | 27-32-42 | 18-22-26 | 26-31-41 | 17-21-25 | 23-31-41 | 17-20-25 | 25-30-39 | 17-20-24 | 23-28-37 | 15-19-22 |
| 28 | 34 | 23 | 29 | 20 | 26 | <15 | 20 | <15 | 19 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| 1142 | | 1018 | | 989 | | 847 | | 811 | | 729 | | 673 | | 567 | | 477 | |
| 0.0830 | 0.1500 | 0.0600 | 0.1070 | 0.0520 | 0.0940 | 0.0360 | 0.0660 | 0.0320 | 0.0590 | 0.0240 | 0.0440 | 0.0200 | 0.0370 | 0.0013 | 0.0019 | 0.0002 | 0.0003 |
| 0.1630 | 0.2300 | 0.1200 | 0.1670 | 0.1120 | 0.1540 | 0.0760 | 0.1060 | 0.0720 | 0.0900 | 0.0540 | 0.0740 | 0.0500 | 0.0670 | 0.0027 | 0.0034 | 0.0006 | 0.0007 |
| 31-38-50 | 22-26-30 | 31-38-50 | 21-25-29 | 30-37-49 | 21-25-29 | 29-36-48 | 20-24-28 | 29-36-47 | 20-24-28 | 28-35-47 | 19-23-27 | 28-35-46 | 19-23-27 | 27-35-46 | 19-22-26 | 26-33-44 | 18-21-25 |
| 32 | 38 | 27 | 33 | 24 | 31 | 18 | 25 | 17 | 23 | <15 | 18 | <15 | 15 | <15 | <15 | <15 | <15 |





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | 12 x 6 | | 12 x 8 | | 18 x 6 | | 20 x 6 | | 24 x 6 | | 30 x 6 | | 24 x 8 | | 20 x 10 | | | |
|------|------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--------|--------|-------|----------|----------|----------|----------|
| | | | | | | | | | | | | | | | | | | | |
| | DEFLECTION | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | | |
| | Ac | 0.451 | | 0.612 | | 0.684 | | 0.768 | | 0.927 | | 1.034 | | 1.162 | | 1.246 | | 1.307 | |
| | AK | 0.243 | 0.202 | 0.320 | 0.266 | 0.360 | 0.299 | 0.392 | 0.325 | 0.529 | 0.439 | 0.618 | 0.5130 | 0.724 | 0.601 | 0.788 | 0.654 | 0.830 | 0.689 |
| 1800 | Vc | 1445 | | | | | | | | | | | | | | | | 1378 | |
| | Pv | | | | | | | | | | | | | | | 0.1460 | 0.2660 | 0.1300 | 0.2350 |
| | Pt | | | | | | | | | | | | | | | 0.2660 | 0.3860 | 0.2500 | 0.3550 |
| | Th. | | | | | | | | | | | | | | | 34-42-54 | 24-28-33 | 33-42-56 | 24-27-31 |
| | NC | | | | | | | | | | | | | | | 41 | 48 | 39 | 46 |
| 2000 | Vc | 1531 | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | 0.1600 | 0.2900 |
| | Pt | | | | | | | | | | | | | | | | | 0.3100 | 0.4400 |
| | Th. | | | | | | | | | | | | | | | | | 35-44-56 | 26-29-33 |
| | NC | | | | | | | | | | | | | | | | | 43 | 49 |
| 2400 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |
| 2800 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |
| 3200 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |
| 3600 | Vc | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | |
| | Pt | | | | | | | | | | | | | | | | | | |
| | Th. | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | |

SYMBOLS:

Deflection: The Angle of deflection of the face blades

CFM : Air volume in Cubic Foot Per Minute

A_c : Core Area in square foot

A_k : Effective face area in square foot

V_c : Core Velocity in foot per minute

P_v : Velocity Pressure in inch water gauge

P_t : Total Pressure in inch water gauge

Th : Throw in feet

NC : Noise Criteria

CONDITIONS

* Supply

* With Ceiling effect

* Noise Criteria values are based on (10 dB)

*room attenuation

* Damper is fully open





REGISTERS & GRILLES

PERFORMANCE DATA - SUPPLY

SAR, SAG, RAR, RAG

IMPERIAL UNITS

| 36 X 6 | | 30 X 8 | | | | 42 X 6 | | | | 36 X 8 | | | | 42 X 8 | | | | 36 X 10 | | | | 42 X 10 | | | | 42 X 12 | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|-----|----|-----|---------|-----|----|-----|---------|--|--|--|
| 18 X 12 | | 20 X 12 | | | | 24 X 12 | | | | 30 X 10 | | | | 30 X 12 | | | | 36 X 12 | | | | 42 X 12 | | | | | | | |
| 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | 0° | 45° | | | | |
| 1.401 | | 1.572 | | 1.618 | | 1.890 | | 1.973 | | 2.196 | | 2.379 | | 2.821 | | 3.351 | | | | | | | | | | | | | |
| 0.915 | 0.759 | 1.040 | 0.870 | 1.110 | 0.920 | 1.300 | 1.080 | 1.360 | 1.130 | 1.550 | 1.290 | 1.680 | 1.400 | 2.050 | 1.700 | 2.450 | 2.030 | | | | | | | | | | | | |
| 1285 | | 1145 | | 1113 | | 952 | | 912 | | 820 | | 757 | | 638 | | 537 | | | | | | | | | | | | | |
| 0.1050 | 0.1900 | 0.0760 | 0.1350 | 0.0660 | 0.1190 | 0.0460 | 0.0840 | 0.0410 | 0.0740 | 0.0310 | 0.0560 | 0.0260 | 0.0470 | 0.0170 | 0.0310 | 0.0004 | 0.0007 | | | | | | | | | | | | |
| 0.2050 | 0.2900 | 0.1560 | 0.2150 | 0.1460 | 0.1990 | 0.1060 | 0.1440 | 0.0910 | 0.1240 | 0.0710 | 0.0960 | 0.0660 | 0.0870 | 0.0370 | 0.0510 | 0.0021 | 0.0019 | | | | | | | | | | | | |
| 33-41-53 | 24-27-31 | 33-40-52 | 23-27-31 | 32-39-52 | 22-27-30 | 32-39-51 | 22-26-30 | 31-39-51 | 21-25-30 | 31-38-50 | 21-24-29 | 30-38-50 | 21-24-28 | 30-37-49 | 19-24-27 | 29-36-47 | 18-22-26 | | | | | | | | | | | | |
| 36 | 42 | 31 | 37 | 28 | 35 | 22 | 29 | 20 | 27 | 15 | 22 | <15 | 19 | <15 | <15 | <15 | <15 | | | | | | | | | | | | |
| 1427 | | 1273 | | 1236 | | 1058 | | 1014 | | 911 | | 841 | | 709 | | 597 | | | | | | | | | | | | | |
| 0.1290 | 0.2340 | 0.0940 | 0.1670 | 0.0810 | 0.1470 | 0.0570 | 0.1030 | 0.0510 | 0.0920 | 0.0380 | 0.0690 | 0.0320 | 0.0580 | 0.0210 | 0.0380 | 0.0140 | 0.0260 | | | | | | | | | | | | |
| 0.2490 | 0.3540 | 0.1940 | 0.2670 | 0.1710 | 0.2370 | 0.1270 | 0.1730 | 0.1110 | 0.1520 | 0.0880 | 0.1190 | 0.0820 | 0.1080 | 0.0510 | 0.0680 | 0.0340 | 0.0460 | | | | | | | | | | | | |
| 35-44-56 | 26-29-33 | 35-42-55 | 25-28-32 | 34-42-55 | 24-28-31 | 34-41-54 | 24-28-31 | 33-41-54 | 23-27-31 | 33-41-54 | 23-26-30 | 32-40-53 | 22-26-29 | 32-40-52 | 21-25-28 | 32-39-51 | 20-24-27 | | | | | | | | | | | | |
| 39 | 45 | 34 | 40 | 32 | 38 | 26 | 32 | 24 | 30 | 19 | 25 | 16 | 22 | <15 | <15 | <15 | <15 | | | | | | | | | | | | |
| 1713 | | 1527 | | 1483 | | 1270 | | 1216 | | 1093 | | 1009 | | 851 | | 716 | | | | | | | | | | | | | |
| 0.2800 | 0.3380 | 0.1000 | 0.2410 | 0.1170 | 0.2120 | 0.0700 | 0.1490 | 0.0780 | 0.1320 | 0.0660 | 0.0990 | 0.0460 | 0.0830 | 0.0300 | 0.0550 | 0.0210 | 0.0370 | | | | | | | | | | | | |
| 0.3500 | 0.5080 | 0.2400 | 0.3810 | 0.2470 | 0.3420 | 0.1700 | 0.2490 | 0.1680 | 0.2220 | 0.1360 | 0.1690 | 0.1060 | 0.1430 | 0.0700 | 0.0950 | 0.0510 | 0.0670 | | | | | | | | | | | | |
| 37-47-59 | 20-32-37 | 37-46-59 | 28-32-36 | 36-46-58 | 27-30-34 | 36-45-57 | 26-30-34 | 35-45-57 | 25-29-33 | 33-45-57 | 25-28-33 | 34-44-56 | 24-28-32 | 34-43-56 | 24-27-31 | 34-42-55 | 23-27-31 | | | | | | | | | | | | |
| 45 | 51 | 40 | 46 | 37 | 44 | 31 | 38 | 30 | 36 | 25 | 31 | 22 | 28 | <15 | 20 | <15 | <15 | | | | | | | | | | | | |
| | | | | 1731 | | 1481 | | 1419 | | 1275 | | 1177 | | 993 | | 836 | | | | | | | | | | | | | |
| | | | | 0.1590 | 0.2890 | 0.1110 | 0.2020 | 0.0990 | 0.1800 | 0.0750 | 0.1350 | 0.0620 | 0.1130 | 0.0410 | 0.0740 | 0.0280 | 0.0510 | | | | | | | | | | | | |
| | | | | 0.3390 | 0.3690 | 0.2310 | 0.3220 | 0.1190 | 0.3000 | 0.1750 | 0.2350 | 0.1420 | 0.1930 | 0.1010 | 0.1340 | 0.0680 | 0.0910 | | | | | | | | | | | | |
| | | | | 38-49-60 | 30-34-38 | 38-48-59 | 29-34-37 | 38-48-59 | 28-32-36 | 38-47-59 | 27-31-36 | 37-46-58 | 27-30-36 | 37-46-58 | 26-30-35 | 37-46-57 | 25-29-35 | | | | | | | | | | | | |
| | | | | 42 | 49 | 36 | 43 | 34 | 41 | 29 | 35 | 26 | 33 | 19 | 25 | <15 | 18 | | | | | | | | | | | | |
| | | | | | | 1693 | | 1622 | | 1457 | | 1345 | | 1135 | | 955 | | | | | | | | | | | | | |
| | | | | | | 0.1460 | 0.2640 | 0.1290 | 0.2350 | 0.0970 | 0.1770 | 0.0810 | 0.1480 | 0.0540 | 0.0970 | 0.0370 | 0.0670 | | | | | | | | | | | | |
| | | | | | | 0.3160 | 0.4340 | 0.2890 | 0.3950 | 0.2170 | 0.2970 | 0.1910 | 0.2580 | 0.1340 | 0.1770 | 0.0970 | 0.1270 | | | | | | | | | | | | |
| | | | | | | 40-51-62 | 32-36-40 | 40-51-62 | 30-35-39 | 39-50-61 | 30-34-39 | 39-49-60 | 30-33-38 | 39-49-60 | 29-33-38 | 38-48-59 | 28-32-37 | | | | | | | | | | | | |
| | | | | | | 40 | 47 | 39 | 45 | 34 | 40 | 31 | 37 | 23 | 30 | 16 | 23 | | | | | | | | | | | | |
| | | | | | | | | 1824 | | 1640 | | 1513 | | 1276 | | 1074 | | | | | | | | | | | | | |
| | | | | | | | | 0.1640 | 0.2970 | 0.1230 | 0.2240 | 0.1030 | 0.1870 | 0.0680 | 0.1230 | 0.0460 | 0.0840 | | | | | | | | | | | | |
| | | | | | | | | 0.2540 | 0.4870 | 0.2930 | 0.3940 | 0.2430 | 0.3270 | 0.1680 | 0.2230 | 0.1160 | 0.1540 | | | | | | | | | | | | |
| | | | | | | | | 42-54-65 | 33-38-42 | 41-53-64 | 33-37-41 | 41-53-63 | 32-36-41 | 41-52-62 | 31-36-40 | 40-51-61 | 31-35-40 | | | | | | | | | | | | |
| | | | | | | | | 42 | 49 | 37 | 41 | 34 | 41 | 27 | 33 | 20 | 26 | | | | | | | | | | | | |

NOTES

- * The large throw values are based on the minimum terminal velocity of 50 fpm
- * The middle throw values are based on the middle terminal velocity of 100 fpm
- * The small throw values are based on the maximum terminal velocity of 150 fpm

CORRECTION FOR FLOW WITHOUT CEILING EFFECT:

1. Noise Criteria No correction required
2. Static pressure No correction required
3. Area Factor No correction required
4. Throw and drop some work has been done to show that the throw will be reduced by approximately 15-20% and the drop increased by 5-15%.





REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | DEFLECTION | 12 X 6 | 12 X 8 | 18 X 6 | 20 X 6 | 24 X 6 | 20 X 8 | 30 X 6 | 24 X 8 | 20 X 10 | 36 X 6 | 30 X 8 | 42 X 6 | 36 X 8 | 30 X 10 | 42 X 8 | 36 X 10 | 42 X 10 | 30 X 12 | 36 X 12 | 42 X 12 |
|-----|------|------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|---------|--------|---------|---------|---------|---------|---------|
| | | | 0.451 | 0.612 | 0.684 | 0.768 | 0.927 | 1.034 | 1.162 | 1.246 | 1.307 | 1.401 | 1.572 | 1.618 | 1.890 | 1.973 | 2.196 | 2.379 | 2.821 | 3.351 | | |
| 200 | Ac | | | | | | | | | | | | | | | | | | | | | |
| | Vc | 443 | 327 | 292 | 260 | 216 | | | | | | | | | | | | | | | | |
| | Pv | 0.012 | 0.007 | 0.005 | 0.004 | 0.003 | | | | | | | | | | | | | | | | |
| | Ps | 0.030 | 0.023 | 0.021 | 0.019 | 0.016 | | | | | | | | | | | | | | | | |
| 250 | NC | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | | | | | |
| | Vc | 554 | 408 | 365 | 326 | 270 | 242 | | | | | | | | | | | | | | | |
| | Pv | 0.019 | 0.010 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | | | | | | | | | | |
| | Ps | 0.040 | 0.030 | 0.026 | 0.023 | 0.020 | 0.018 | | | | | | | | | | | | | | | |
| 300 | NC | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | | | | | | | |
| | Vc | 665 | 490 | 438 | 391 | 324 | 290 | 258 | 241 | | | | | | | | | | | | | |
| | Pv | 0.028 | 0.015 | 0.012 | 0.010 | 0.007 | 0.005 | 0.004 | 0.004 | | | | | | | | | | | | | |
| | Ps | 0.0600 | 0.0400 | 0.0322 | 0.0276 | 0.0215 | 0.0186 | 0.0159 | 0.0145 | | | | | | | | | | | | | |
| 350 | NC | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| | Vc | 776 | 572 | 511 | 456 | 378 | 338 | 301 | 281 | 268 | 250 | | | | | | | | | | | |
| | Pv | 0.038 | 0.020 | 0.016 | 0.013 | 0.009 | 0.007 | 0.006 | 0.005 | 0.004 | 0.004 | | | | | | | | | | | |
| | Ps | 0.0800 | 0.0500 | 0.0443 | 0.0371 | 0.0278 | 0.0234 | 0.0196 | 0.0176 | 0.0164 | 0.0147 | | | | | | | | | | | |
| 400 | NC | 24 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| | Vc | 887 | 653 | 584 | 521 | 431 | 387 | 344 | 321 | 306 | 285 | 255 | 247 | | | | | | | | | |
| | Pv | 0.049 | 0.027 | 0.021 | 0.017 | 0.012 | 0.009 | 0.007 | 0.006 | 0.006 | 0.006 | 0.005 | 0.004 | 0.004 | | | | | | | | |
| | Ps | 0.100 | 0.070 | 0.040 | 0.048 | 0.033 | 0.027 | 0.021 | 0.018 | 0.017 | 0.015 | 0.012 | 0.11 | 0.11 | | | | | | | | |
| 450 | NC | 27 | 19 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| | Vc | 998 | 735 | 658 | 586 | 485 | 435 | 387 | 361 | 344 | 321 | 286 | 278 | 238 | | | | | | | | |
| | Pv | 0.062 | 0.034 | 0.027 | 0.021 | 0.015 | 0.012 | 0.009 | 0.008 | 0.007 | 0.006 | 0.005 | 0.004 | 0.004 | | | | | | | | |
| | Ps | 0.130 | 0.090 | 0.050 | 0.040 | 0.023 | 0.018 | 0.014 | 0.012 | 0.010 | 0.009 | 0.007 | 0.006 | 0.005 | 0.005 | | | | | | | |
| 500 | NC | 29 | 22 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 |
| | Vc | 1108 | 817 | 731 | 651 | 539 | 483 | 430 | 401 | 383 | 357 | 318 | 309 | 265 | 253 | 228 | | | | | | |
| | Pv | 0.077 | 0.042 | 0.033 | 0.026 | 0.018 | 0.015 | 0.012 | 0.010 | 0.009 | 0.008 | 0.006 | 0.006 | 0.004 | 0.004 | 0.004 | 0.003 | | | | | |
| | Ps | 0.160 | 0.110 | 0.060 | 0.050 | 0.040 | 0.029 | 0.023 | 0.020 | 0.018 | 0.015 | 0.012 | 0.011 | 0.008 | 0.008 | 0.008 | 0.006 | 0.006 | 0.006 | 0.006 | 0.006 | 0.006 |





REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | | 12 X 6 | 12 X 8 | 18 X 6 | 20 X 6 | 24 X 6 | 24 X 8 | 30 X 6 | 24 X 8 | 20 X 10 | 36 X 6 | 36 X 8 | 42 X 6 | 36 X 8 | 30 X 10 | 42 X 8 | 36 X 10 | 42 X 10 | 30 X 12 | 36 X 12 | 42 X 12 | | | | |
|------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|---------|--------|---------|---------|---------|---------|---------|----|----|----|--|
| | Ac | Vc | Pv | Ps | Nc | Vc | Pv | Ps | Nc | Vc | Pv | Ps | Nc | Vc | Pv | Ps | Nc | Vc | Pv | Ps | Nc | Vc | Pv | Ps | Nc | |
| 550 | 0.451 | 1219 | 0.612 | 898 | 804 | 716 | 593 | 442 | 1.162 | 1.246 | 1.307 | 1.401 | 1.572 | 1.618 | 1.890 | 1.973 | 2.196 | 2.379 | 2.821 | 3.351 | | | | | | |
| | 0.093 | 0.050 | 0.040 | 0.032 | 0.018 | 0.014 | 0.012 | 0.012 | 0.014 | 0.012 | 0.011 | 0.010 | 0.008 | 0.007 | 0.005 | 0.005 | 0.004 | | | | | | | | | |
| | 0.190 | 0.130 | 0.080 | 0.070 | 0.035 | 0.028 | 0.025 | 0.025 | 0.028 | 0.025 | 0.022 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | | | | | | | | | |
| | 34 | 29 | 24 | 20 | 15 | 15 | 17 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | |
| | 1330 | 980 | 877 | 781 | 647 | 516 | 482 | 459 | 428 | 382 | 371 | 317 | 252 | 273 | 304 | 273 | 251 | | | | | | | | | |
| 600 | 0.110 | 0.060 | 0.048 | 0.038 | 0.026 | 0.021 | 0.017 | 0.014 | 0.017 | 0.014 | 0.013 | 0.011 | 0.009 | 0.009 | 0.006 | 0.006 | 0.005 | 0.004 | | | | | | | | |
| | 0.230 | 0.150 | 0.090 | 0.080 | 0.040 | 0.033 | 0.029 | 0.029 | 0.033 | 0.029 | 0.026 | 0.023 | 0.018 | 0.017 | 0.012 | 0.011 | 0.009 | 0.008 | | | | | | | | |
| | 38 | 33 | 28 | 25 | 22 | 16 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | |
| | 1552 | 1143 | 1023 | 912 | 755 | 602 | 562 | 536 | 500 | 445 | 433 | 370 | 294 | 248 | 355 | 319 | 294 | | | | | | | | | |
| | 0.150 | 0.082 | 0.065 | 0.052 | 0.036 | 0.029 | 0.023 | 0.020 | 0.018 | 0.016 | 0.012 | 0.012 | 0.009 | 0.008 | 0.006 | 0.006 | 0.006 | 0.005 | 0.004 | | | | | | | |
| 700 | 0.310 | 0.210 | 0.120 | 0.110 | 0.080 | 0.060 | 0.040 | 0.042 | 0.038 | 0.038 | 0.032 | 0.032 | 0.025 | 0.024 | 0.017 | 0.016 | 0.012 | 0.011 | 0.007 | | | | | | | |
| | 41 | 37 | 33 | 31 | 29 | 21 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| | 1773 | 1307 | 1169 | 1042 | 863 | 773 | 688 | 642 | 612 | 509 | 494 | 423 | 364 | 336 | 284 | 239 | | | | | | | | | | |
| | 0.196 | 0.106 | 0.085 | 0.068 | 0.046 | 0.037 | 0.030 | 0.026 | 0.023 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | |
| | 0.410 | 0.208 | 0.160 | 0.140 | 0.110 | 0.080 | 0.060 | 0.050 | 0.040 | 0.040 | 0.043 | 0.031 | 0.022 | 0.020 | 0.016 | 0.014 | 0.009 | 0.007 | | | | | | | | |
| 800 | 45 | 40 | 37 | 35 | 32 | 25 | 20 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| | 1470 | 1315 | 1172 | 1042 | 863 | 773 | 688 | 642 | 612 | 509 | 494 | 423 | 364 | 336 | 284 | 239 | | | | | | | | | | |
| | 0.135 | 0.108 | 0.086 | 0.068 | 0.046 | 0.037 | 0.030 | 0.026 | 0.023 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | | |
| | 0.350 | 0.210 | 0.190 | 0.140 | 0.110 | 0.080 | 0.060 | 0.050 | 0.040 | 0.040 | 0.043 | 0.031 | 0.022 | 0.020 | 0.016 | 0.014 | 0.009 | 0.007 | | | | | | | | |
| | 45 | 40 | 37 | 35 | 32 | 25 | 20 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| 900 | 1470 | 1315 | 1172 | 1042 | 863 | 773 | 688 | 642 | 612 | 509 | 494 | 423 | 364 | 336 | 284 | 239 | | | | | | | | | | |
| | 0.135 | 0.108 | 0.086 | 0.068 | 0.046 | 0.037 | 0.030 | 0.026 | 0.023 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | | |
| | 0.350 | 0.210 | 0.190 | 0.140 | 0.110 | 0.080 | 0.060 | 0.050 | 0.040 | 0.040 | 0.043 | 0.031 | 0.022 | 0.020 | 0.016 | 0.014 | 0.009 | 0.007 | | | | | | | | |
| | 45 | 40 | 37 | 35 | 32 | 25 | 20 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| | 1563 | 1294 | 1160 | 1033 | 860 | 765 | 689 | 642 | 573 | 556 | 476 | 410 | 378 | 319 | 269 | | | | | | | | | | | |
| 1000 | 0.135 | 0.108 | 0.086 | 0.068 | 0.046 | 0.037 | 0.030 | 0.026 | 0.023 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | | |
| | 0.350 | 0.210 | 0.190 | 0.140 | 0.110 | 0.080 | 0.060 | 0.050 | 0.040 | 0.040 | 0.043 | 0.031 | 0.022 | 0.020 | 0.016 | 0.014 | 0.009 | 0.007 | | | | | | | | |
| | 44 | 43 | 40 | 36 | 30 | 24 | 22 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| | 1563 | 1294 | 1160 | 1033 | 860 | 765 | 689 | 642 | 573 | 556 | 476 | 410 | 378 | 319 | 269 | | | | | | | | | | | |
| | 0.152 | 0.104 | 0.084 | 0.066 | 0.046 | 0.037 | 0.030 | 0.026 | 0.023 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | | |
| 1200 | 0.330 | 0.250 | 0.170 | 0.130 | 0.100 | 0.080 | 0.060 | 0.060 | 0.050 | 0.040 | 0.037 | 0.026 | 0.026 | 0.023 | 0.018 | 0.015 | 0.014 | 0.009 | 0.006 | | | | | | | |
| | 48 | 45 | 39 | 35 | 30 | 27 | 21 | 18 | 15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| | 1563 | 1294 | 1160 | 1033 | 860 | 765 | 689 | 642 | 573 | 556 | 476 | 410 | 378 | 319 | 269 | | | | | | | | | | | |
| | 0.152 | 0.104 | 0.084 | 0.066 | 0.046 | 0.037 | 0.030 | 0.026 | 0.023 | 0.020 | 0.016 | 0.015 | 0.011 | 0.010 | 0.008 | 0.008 | 0.007 | 0.005 | 0.004 | | | | | | | |
| | 0.330 | 0.250 | 0.170 | 0.130 | 0.100 | 0.080 | 0.060 | 0.060 | 0.050 | 0.040 | 0.037 | 0.026 | 0.026 | 0.023 | 0.018 | 0.015 | 0.014 | 0.009 | 0.006 | | | | | | | |





REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | 12 X 6 | 18 X 6 | 20 X 6 | 24 X 6 | 30 X 6 | 24 X 8 | 20 X 10 | 36 X 6 | 30 X 8 | 42 X 6 | 36 X 8 | 30 X 10 | 42 X 8 | 36 X 10 | 42 X 10 | 36 X 12 | 42 X 12 | | | | | | | | | | |
|------|------|--------|---------|--------|---------|---------|--------|---------|--------|--------|--------|--------|---------|--------|---------|---------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 12 X 8 | 12 X 10 | 18 X 8 | 12 X 12 | 18 X 10 | 20 X 8 | 1.034 | 0.927 | 0.612 | 0.684 | 0.768 | 0.451 | 0.612 | | | | | 0.684 | 0.768 | 0.927 | 1.034 | 1.162 | 1.246 | 1.307 | 1.401 | 1.572 | 1.618 |
| 1400 | Ac | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1600 | NC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1800 | NC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2000 | NC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2400 | NC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2800 | NC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3200 | NC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vc | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | | | | | | | | |





REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

SAR, SAG, RAR, RAG

*IMPERIAL UNITS

| CFM | SIZE | | 12 X 6 | 12 X 8 | 18 X 6 | 20 X 6 | 24 X 6 | 24 X 8 | 30 X 6 | 30 X 8 | 36 X 6 | 36 X 8 | 42 X 6 | 42 X 8 | 42 X 10 | 36 X 10 | 30 X 10 | 30 X 12 | 36 X 12 | 42 X 12 | |
|------|------|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|--|
| | Ac | Vc | 0.451 | 0.612 | 0.684 | 0.768 | 0.927 | 1.034 | 1.162 | 1.246 | 1.307 | 1.401 | 1.572 | 1.618 | 1.890 | 1.973 | 2.196 | 2.379 | 2.821 | 3.351 | |
| 3600 | Vc | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | | | |
| 4000 | Vc | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | | | |
| 4400 | Vc | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | | | |
| 4800 | Vc | | | | | | | | | | | | | | | | | | | | |
| | Pv | | | | | | | | | | | | | | | | | | | | |
| | Ps | | | | | | | | | | | | | | | | | | | | |
| | NC | | | | | | | | | | | | | | | | | | | | |

SYMBOLS:

CFM : Air volume in Cubic Foot Per Minute

Ac : Core Area in square foot

Vc : Core Velocity in foot per minute

Pv : Velocity Pressure in inch water gauge

Ps : Negative Static Pressure in inch water gauge

NC : Noise Criteria

CONDITIONS

* Return

* Damper is fully open.

* Noise Criteria is based on (10-dB) room attenuation.





PERFORATED REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

PAG, PAR

*SI UNITS

| L/S | SIZE | 300 x 100 | | 500 x 150 | | 600 x 150 | | 750 x 150 | | 600 x 200 | | 750 x 200 | | 900 x 200 | | 750 x 250 | | 450 x 450 | | 750 x 300 | | 525 x 525 | | 600 x 600 | | |
|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|-----------|--|-----------|--|-----------|--|-----------|--|--|
| | | 150 x 150 | 200 x 150 | 250 x 150 | 200 x 200 | 300 x 250 | 300 x 300 | 450 x 250 | 400 x 300 | 500 x 300 | 600 x 300 | 450 x 450 | 750 x 300 | 525 x 525 | 600 x 600 | | | | | | | | | | | |
| | | Ac | 0.020 | 0.027 | 0.035 | 0.037 | 0.071 | 0.086 | 0.108 | 0.116 | 0.146 | 0.176 | 0.183 | 0.200 | 0.222 | 0.274 | 0.359 | | | | | | | | | |
| | | Vc | Pv | Ps | NC | | | | | | | | | | | | | | | | | | | | | |
| 94 | Vc | 4.67 | 3.47 | 2.72 | 2.53 | 1.32 | 1.10 | 0.87 | 0.81 | | | | | | | | | | | | | | | | | |
| | Pv | 1.419 | 0.768 | 0.464 | 0.400 | 0.104 | 0.070 | 0.044 | 0.038 | | | | | | | | | | | | | | | | | |
| | Ps | 10.480 | 5.804 | 3.572 | 3.095 | 0.847 | 0.581 | 0.370 | 0.319 | | | | | | | | | | | | | | | | | |
| | NC | 37 | 28 | 22 | 21 | 11 | 9 | 7 | 7 | | | | | | | | | | | | | | | | | |
| 118 | Vc | | 4.34 | 3.40 | 3.17 | 1.65 | 1.37 | 1.09 | 1.02 | 0.81 | | | | | | | | | | | | | | | | |
| | Pv | | 1.220 | 0.737 | 0.635 | 0.165 | 0.112 | 0.070 | 0.060 | 0.037 | | | | | | | | | | | | | | | | |
| | Ps | | 9.062 | 5.578 | 4.833 | 1.322 | 0.907 | 0.578 | 0.499 | 0.316 | | | | | | | | | | | | | | | | |
| | NC | | 34 | 27 | 25 | 14 | 11 | 9 | 9 | 7 | | | | | | | | | | | | | | | | |
| 142 | Vc | | 5.21 | 4.08 | 3.80 | 1.98 | 1.64 | 1.31 | 1.22 | 0.97 | 0.81 | | | | | | | | | | | | | | | |
| | Pv | | 1.781 | 1.076 | 0.927 | 0.241 | 0.163 | 0.102 | 0.088 | 0.055 | 0.037 | | | | | | | | | | | | | | | |
| | Ps | | 13.042 | 8.027 | 6.955 | 1.902 | 1.306 | 0.831 | 0.718 | 0.455 | 0.315 | | | | | | | | | | | | | | | |
| | NC | | 41 | 32 | 30 | 16 | 14 | 11 | 10 | 8 | 7 | | | | | | | | | | | | | | | |
| 165 | Vc | | 6.07 | 4.76 | 4.43 | 2.32 | 1.92 | 1.53 | 1.42 | 1.13 | 0.94 | | | | | | | | | | | | | | | |
| | Pv | | 2.451 | 1.481 | 1.276 | 0.332 | 0.225 | 0.140 | 0.121 | 0.075 | 0.051 | | | | | | | | | | | | | | | |
| | Ps | | 17.743 | 10.921 | 9.462 | 2.588 | 1.776 | 1.131 | 0.976 | 0.619 | 0.428 | | | | | | | | | | | | | | | |
| | NC | | 47 | 38 | 35 | 19 | 16 | 13 | 12 | 10 | 8 | | | | | | | | | | | | | | | |
| 189 | Vc | | | 5.44 | 5.07 | 2.65 | 2.19 | 1.75 | 1.62 | 1.29 | 1.08 | 1.03 | | | | | | | | | | | | | | |
| | Pv | | | 1.953 | 1.683 | 0.438 | 0.296 | 0.185 | 0.159 | 0.099 | 0.068 | 0.062 | | | | | | | | | | | | | | |
| | Ps | | | 14.257 | 12.354 | 3.379 | 2.319 | 1.476 | 1.274 | 0.808 | 0.559 | 0.513 | | | | | | | | | | | | | | |
| | NC | | | 43 | 40 | 21 | 18 | 14 | 13 | 11 | 9 | 9 | | | | | | | | | | | | | | |
| 212 | Vc | | | 6.12 | 5.70 | 2.98 | 2.47 | 1.97 | 1.83 | 1.45 | 1.21 | 1.16 | | | | | | | | | | | | | | |
| | Pv | | | 2.494 | 2.149 | 0.559 | 0.378 | 0.237 | 0.203 | 0.127 | 0.086 | 0.079 | | | | | | | | | | | | | | |
| | Ps | | | 18.038 | 15.629 | 4.275 | 2.934 | 1.868 | 1.612 | 1.023 | 0.707 | 0.649 | | | | | | | | | | | | | | |
| | NC | | | 48 | 45 | 24 | 20 | 16 | 15 | 12 | 10 | 10 | | | | | | | | | | | | | | |
| 236 | Vc | | | | 6.33 | 3.31 | 2.74 | 2.19 | 2.03 | 1.62 | 1.34 | 1.29 | | | | | | | | | | | | | | |
| | Pv | | | | 2.673 | 0.696 | 0.470 | 0.294 | 0.253 | 0.157 | 0.107 | 0.098 | | | | | | | | | | | | | | |
| | Ps | | | | 19.289 | 5.276 | 3.621 | 2.305 | 1.990 | 1.262 | 0.873 | 0.801 | | | | | | | | | | | | | | |
| | NC | | | | 49 | 27 | 22 | 18 | 17 | 13 | 11 | 11 | | | | | | | | | | | | | | |
| 260 | Vc | | | | 6.97 | 3.64 | 3.01 | 2.40 | 2.23 | 1.78 | 1.48 | 1.42 | 1.30 | | | | | | | | | | | | | |
| | Pv | | | | 3.258 | 0.848 | 0.573 | 0.359 | 0.308 | 0.192 | 0.131 | 0.120 | 0.100 | | | | | | | | | | | | | |
| | Ps | | | | 23.332 | 6.382 | 4.380 | 2.789 | 2.407 | 1.527 | 1.056 | 0.969 | 0.816 | | | | | | | | | | | | | |
| | NC | | | | 54 | 29 | 24 | 20 | 18 | 15 | 12 | 12 | 11 | | | | | | | | | | | | | |
| 283 | Vc | | | | 7.60 | 3.97 | 3.29 | 2.62 | 2.44 | 1.94 | 1.61 | 1.54 | 1.42 | 1.28 | | | | | | | | | | | | |
| | Pv | | | | 3.902 | 1.015 | 0.687 | 0.430 | 0.369 | 0.230 | 0.157 | 0.143 | 0.120 | 0.097 | | | | | | | | | | | | |
| | Ps | | | | 27.760 | 7.593 | 5.211 | 3.318 | 2.864 | 1.816 | 1.257 | 1.153 | 0.970 | 0.790 | | | | | | | | | | | | |
| | NC | | | | 59 | 32 | 26 | 21 | 20 | 16 | 13 | 13 | 12 | 11 | | | | | | | | | | | | |
| 330 | Vc | | | | | 4.63 | 3.84 | 3.06 | 2.84 | 2.26 | 1.88 | 1.80 | 1.65 | 1.49 | | | | | | | | | | | | |
| | Pv | | | | | 1.398 | 0.945 | 0.591 | 0.508 | 0.316 | 0.216 | 0.197 | 0.165 | 0.133 | | | | | | | | | | | | |
| | Ps | | | | | 10.329 | 7.089 | 4.514 | 3.896 | 2.471 | 1.709 | 1.568 | 1.320 | 1.075 | | | | | | | | | | | | |
| | NC | | | | | 37 | 31 | 25 | 23 | 18 | 15 | 15 | 14 | 12 | | | | | | | | | | | | |
| 378 | Vc | | | | | 5.29 | 4.38 | 3.50 | 3.25 | 2.59 | 2.15 | 2.06 | 1.89 | 1.70 | 1.38 | | | | | | | | | | | |
| | Pv | | | | | 1.843 | 1.247 | 0.780 | 0.670 | 0.417 | 0.285 | 0.260 | 0.218 | 0.176 | 0.113 | | | | | | | | | | | |
| | Ps | | | | | 13.485 | 9.255 | 5.893 | 5.086 | 3.226 | 2.232 | 2.048 | 1.724 | 1.403 | 0.919 | | | | | | | | | | | |
| | NC | | | | | 42 | 35 | 28 | 26 | 21 | 18 | 17 | 16 | 14 | 11 | | | | | | | | | | | |





PERFORATED REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

PAG, PAR

*SI UNITS

| L/S | SIZE | 300 x 100 | | 500 x 150 | | 600 x 150 | | 750 x 150 | | 900 x 200 | | 750 x 200 | | 600 x 200 | | 450 x 200 | |
|------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| | | 150 x 150 | 200 x 150 | 250 x 150 | 300 x 250 | 300 x 300 | 400 x 300 | 500 x 300 | 600 x 300 | 750 x 250 | 600 x 250 | 450 x 450 | 750 x 300 | 525 x 525 | 600 x 600 | | |
| | | 0.020 | 0.027 | 0.035 | 0.037 | 0.071 | 0.086 | 0.108 | 0.116 | 0.146 | 0.176 | 0.183 | 0.200 | 0.222 | 0.274 | 0.359 | |
| | | Ac | 0.020 | 0.027 | 0.035 | 0.037 | 0.071 | 0.086 | 0.108 | 0.116 | 0.146 | 0.176 | 0.183 | 0.200 | 0.222 | 0.274 | 0.359 |
| 425 | Vc | | | | | 5.95 | 4.93 | 3.93 | 3.65 | 2.91 | 2.42 | 2.32 | 2.13 | 1.92 | 1.55 | | |
| | Pv | | | | | 2.354 | 1.592 | 0.996 | 0.855 | 0.533 | 0.363 | 0.332 | 0.278 | 0.224 | 0.145 | | |
| | Ps | | | | | 17.061 | 11.709 | 7.455 | 6.435 | 4.082 | 2.824 | 2.590 | 2.181 | 1.775 | 1.163 | | |
| | NC | | | | | 47 | 39 | 31 | 29 | 23 | 20 | 19 | 17 | 16 | 13 | | |
| 472 | Vc | | | | | | 5.48 | 4.37 | 4.06 | 3.23 | 2.69 | 2.57 | 2.36 | 2.13 | 1.72 | 1.31 | |
| | Pv | | | | | | 1.981 | 1.239 | 1.064 | 0.663 | 0.452 | 0.413 | 0.346 | 0.279 | 0.180 | 0.102 | |
| | Ps | | | | | | 14.451 | 9.201 | 7.942 | 5.037 | 3.485 | 3.197 | 2.691 | 2.191 | 1.435 | 0.834 | |
| | NC | | | | | | 43 | 35 | 32 | 26 | 22 | 21 | 19 | 17 | 14 | 11 | |
| 566 | Vc | | | | | | 6.58 | 5.25 | 4.87 | 3.88 | 3.23 | 3.09 | 2.83 | 2.56 | 2.07 | 1.58 | |
| | Pv | | | | | | 2.891 | 1.809 | 1.552 | 0.968 | 0.660 | 0.603 | 0.505 | 0.408 | 0.263 | 0.149 | |
| | Ps | | | | | | 20.798 | 13.242 | 11.430 | 7.250 | 5.015 | 4.601 | 3.873 | 3.153 | 2.066 | 1.200 | |
| | NC | | | | | | 51 | 41 | 38 | 31 | 26 | 25 | 23 | 21 | 17 | 13 | |
| 661 | Vc | | | | | | | 6.12 | 5.68 | 4.53 | 3.76 | 3.60 | 3.31 | 2.98 | 2.41 | 1.84 | |
| | Pv | | | | | | | 2.490 | 2.137 | 1.332 | 0.908 | 0.831 | 0.695 | 0.561 | 0.362 | 0.206 | |
| | Ps | | | | | | | 18.015 | 15.549 | 9.863 | 6.823 | 6.259 | 5.269 | 4.290 | 2.810 | 1.633 | |
| | NC | | | | | | | 48 | 45 | 36 | 30 | 29 | 27 | 24 | 20 | 15 | |
| 755 | Vc | | | | | | | 6.99 | 6.50 | 5.17 | 4.30 | 4.12 | 3.78 | 3.41 | 2.76 | 2.10 | |
| | Pv | | | | | | | 3.285 | 2.819 | 1.757 | 1.198 | 1.096 | 0.916 | 0.740 | 0.477 | 0.271 | |
| | Ps | | | | | | | 23.519 | 20.301 | 12.877 | 8.907 | 8.172 | 6.879 | 5.600 | 3.669 | 2.132 | |
| | NC | | | | | | | 54 | 51 | 41 | 34 | 33 | 30 | 27 | 22 | 17 | |
| 849 | Vc | | | | | | | | 7.31 | 5.82 | 4.84 | 4.63 | 4.25 | 3.83 | 3.10 | 2.36 | |
| | Pv | | | | | | | | 3.599 | 2.243 | 1.530 | 1.399 | 1.170 | 0.945 | 0.609 | 0.346 | |
| | Ps | | | | | | | | 25.683 | 16.291 | 11.269 | 10.339 | 8.703 | 7.085 | 4.642 | 2.697 | |
| | NC | | | | | | | | 57 | 46 | 38 | 37 | 34 | 31 | 25 | 19 | |
| 944 | Vc | | | | | | | | | 6.47 | 5.38 | 5.15 | 4.72 | 4.26 | 3.45 | 2.63 | |
| | Pv | | | | | | | | | 2.791 | 1.903 | 1.741 | 1.455 | 1.176 | 0.758 | 0.431 | |
| | Ps | | | | | | | | | 20.105 | 13.908 | 12.760 | 10.741 | 8.745 | 5.729 | 3.329 | |
| | NC | | | | | | | | | 50 | 42 | 41 | 37 | 34 | 28 | 21 | |
| 1133 | Vc | | | | | | | | | | 6.45 | 6.18 | 5.67 | 5.11 | 4.14 | 3.15 | |
| | Pv | | | | | | | | | | 2.778 | 2.540 | 2.124 | 1.716 | 1.106 | 0.629 | |
| | Ps | | | | | | | | | | 20.016 | 18.363 | 15.458 | 12.585 | 8.245 | 4.790 | |
| | NC | | | | | | | | | | 50 | 48 | 44 | 40 | 33 | 25 | |

SYMBOLS:

- L/S : Air volume in Litre per second
- A_c : Core Area in square meter
- V_c : Core Velocity in meter per second
- P_v : Velocity Pressure in mm water gauge
- P_s : Negative Static Pressure in mm water gauge
- NC : Noise Criteria

CONDITIONS

- * Return
- * Damper is fully open.
- * Noise Criteria is based on (10-dB) room attenuation.





PERFORATED REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

PAG, PAR

*IMPERIAL UNITS

| CFM | SIZE | PERFORMANCE DATA - RETURN | | | | | | | | | | | | | | | |
|-----|------|---------------------------|-------|--------|-------|---------|--------|---------|--------|--------|--------|---------|---------|---------|---------|---------|-------|
| | | 12 x 4 | | | | 20 x 6 | | | | 24 x 6 | | | | 30 x 6 | | | |
| | | 6 x 6 | 8 x 6 | 10 x 6 | 8 x 8 | 12 x 10 | 18 x 8 | 18 x 10 | 24 x 8 | 30 x 8 | 36 x 8 | 30 x 10 | 18 x 18 | 30 x 12 | 21 x 21 | 24 x 24 | |
| | | Ac | 0.218 | 0.293 | 0.373 | 0.401 | 0.768 | 0.927 | 1.162 | 1.251 | 1.571 | 1.890 | 1.973 | 2.151 | 2.384 | 2.947 | 3.868 |
| 200 | Vc | 918 | 683 | 536 | 499 | 260 | 216 | 172 | 160 | | | | | | | | |
| | Pv | 0.056 | 0.030 | 0.018 | 0.016 | 0.004 | 0.003 | 0.002 | 0.001 | | | | | | | | |
| | Ps | 0.413 | 0.228 | 0.141 | 0.122 | 0.033 | 0.023 | 0.015 | 0.013 | | | | | | | | |
| | NC | 37 | 28 | 22 | 21 | 11 | 9 | 7 | 7 | | | | | | | | |
| 250 | Vc | | 854 | 670 | 623 | 326 | 270 | 215 | 200 | 159 | | | | | | | |
| | Pv | | 0.048 | 0.029 | 0.025 | 0.007 | 0.004 | 0.003 | 0.002 | 0.001 | | | | | | | |
| | Ps | | 0.357 | 0.220 | 0.190 | 0.052 | 0.036 | 0.023 | 0.020 | 0.012 | | | | | | | |
| | NC | | 34 | 27 | 25 | 14 | 11 | 9 | 9 | 7 | | | | | | | |
| 300 | Vc | | 1025 | 804 | 748 | 391 | 324 | 258 | 240 | 191 | 159 | | | | | | |
| | Pv | | 0.070 | 0.042 | 0.036 | 0.009 | 0.006 | 0.004 | 0.003 | 0.002 | 0.001 | | | | | | |
| | Ps | | 0.513 | 0.316 | 0.274 | 0.075 | 0.051 | 0.033 | 0.028 | 0.018 | 0.012 | | | | | | |
| | NC | | 41 | 32 | 30 | 16 | 14 | 11 | 10 | 8 | 7 | | | | | | |
| 350 | Vc | | 1195 | 938 | 873 | 456 | 378 | 301 | 280 | 223 | 185 | | | | | | |
| | Pv | | 0.097 | 0.058 | 0.050 | 0.013 | 0.009 | 0.006 | 0.005 | 0.003 | 0.002 | | | | | | |
| | Ps | | 0.699 | 0.430 | 0.373 | 0.102 | 0.070 | 0.045 | 0.038 | 0.024 | 0.017 | | | | | | |
| | NC | | 47 | 38 | 35 | 19 | 16 | 13 | 12 | 10 | 8 | | | | | | |
| 400 | Vc | | | 1071 | 997 | 521 | 431 | 344 | 320 | 255 | 212 | 203 | | | | | |
| | Pv | | | 0.077 | 0.066 | 0.017 | 0.012 | 0.007 | 0.006 | 0.004 | 0.003 | 0.002 | | | | | |
| | Ps | | | 0.561 | 0.486 | 0.133 | 0.091 | 0.058 | 0.050 | 0.032 | 0.022 | 0.020 | | | | | |
| | NC | | | 43 | 40 | 21 | 18 | 14 | 13 | 11 | 9 | 9 | | | | | |
| 450 | Vc | | | 1205 | 1122 | 586 | 485 | 387 | 360 | 286 | 238 | 228 | | | | | |
| | Pv | | | 0.098 | 0.085 | 0.022 | 0.015 | 0.009 | 0.008 | 0.005 | 0.003 | 0.003 | | | | | |
| | Ps | | | 0.710 | 0.615 | 0.168 | 0.116 | 0.074 | 0.063 | 0.040 | 0.028 | 0.026 | | | | | |
| | NC | | | 48 | 45 | 24 | 20 | 16 | 15 | 12 | 10 | 10 | | | | | |
| 500 | Vc | | | | 1247 | 651 | 539 | 430 | 400 | 318 | 265 | 253 | | | | | |
| | Pv | | | | 0.105 | 0.027 | 0.019 | 0.012 | 0.010 | 0.006 | 0.004 | 0.004 | | | | | |
| | Ps | | | | 0.759 | 0.208 | 0.143 | 0.091 | 0.078 | 0.050 | 0.034 | 0.032 | | | | | |
| | NC | | | | 49 | 27 | 22 | 18 | 17 | 13 | 11 | 11 | | | | | |
| 550 | Vc | | | | 1371 | 716 | 593 | 473 | 440 | 350 | 291 | 279 | 256 | | | | |
| | Pv | | | | 0.128 | 0.033 | 0.023 | 0.014 | 0.012 | 0.008 | 0.005 | 0.005 | 0.004 | | | | |
| | Ps | | | | 0.919 | 0.251 | 0.172 | 0.110 | 0.095 | 0.060 | 0.042 | 0.038 | 0.032 | | | | |
| | NC | | | | 54 | 29 | 24 | 20 | 18 | 15 | 12 | 12 | 11 | | | | |
| 600 | Vc | | | | 1496 | 781 | 647 | 516 | 480 | 382 | 317 | 304 | 279 | 252 | | | |
| | Pv | | | | 0.154 | 0.040 | 0.027 | 0.017 | 0.015 | 0.009 | 0.006 | 0.006 | 0.005 | 0.004 | | | |
| | Ps | | | | 1.093 | 0.299 | 0.205 | 0.131 | 0.113 | 0.072 | 0.049 | 0.045 | 0.038 | 0.031 | | | |
| | NC | | | | 59 | 32 | 26 | 21 | 20 | 16 | 13 | 13 | 12 | 11 | | | |
| 700 | Vc | | | | | 912 | 755 | 602 | 560 | 445 | 370 | 355 | 325 | 294 | | | |
| | Pv | | | | | 0.055 | 0.037 | 0.023 | 0.020 | 0.012 | 0.008 | 0.008 | 0.006 | 0.005 | | | |
| | Ps | | | | | 0.407 | 0.279 | 0.178 | 0.153 | 0.097 | 0.067 | 0.062 | 0.052 | 0.042 | | | |
| | NC | | | | | 37 | 31 | 25 | 23 | 18 | 15 | 15 | 14 | 12 | | | |
| 800 | Vc | | | | | 1042 | 863 | 688 | 639 | 509 | 423 | 405 | 372 | 336 | 271 | | |
| | Pv | | | | | 0.073 | 0.049 | 0.031 | 0.026 | 0.016 | 0.011 | 0.010 | 0.009 | 0.007 | 0.004 | | |
| | Ps | | | | | 0.531 | 0.364 | 0.232 | 0.200 | 0.127 | 0.088 | 0.081 | 0.068 | 0.055 | 0.036 | | |
| | NC | | | | | 42 | 35 | 28 | 26 | 21 | 18 | 17 | 16 | 14 | 11 | | |





PERFORATED REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

PAR,PAG

*IMPERIAL UNITS

| CFM | SIZE | 12 x 4 | | | | 20 x 6 | 24 x 6 | 30 x 6 | | | | | | | | |
|------|------|--------|-------|--------|-------|---------|--------|---------|-------|---------|--------|---------|-------|-------|-------|-------|
| | | 6 x 6 | 8 x 6 | 10 x 6 | | | 18 x 8 | | | 24 x 8 | 30 x 8 | 36 x 8 | | | | |
| | | | | | 8 x 8 | 12 x 10 | | 18 x 10 | | 24 x 10 | | 30 x 10 | | | | |
| | Ac | 0.218 | 0.293 | 0.373 | 0.401 | 0.768 | 0.927 | 1.162 | 1.251 | 1.571 | 1.890 | 1.973 | 2.151 | 2.384 | 2.947 | 3.868 |
| 900 | Vc | | | | | 1172 | 971 | 774 | 719 | 573 | 476 | 456 | 418 | 377 | 305 | |
| | Pv | | | | | 0.093 | 0.063 | 0.039 | 0.034 | 0.021 | 0.014 | 0.013 | 0.011 | 0.009 | 0.006 | |
| | Ps | | | | | 0.672 | 0.461 | 0.294 | 0.253 | 0.161 | 0.111 | 0.102 | 0.086 | 0.070 | 0.046 | |
| | NC | | | | | 47 | 39 | 31 | 29 | 23 | 20 | 19 | 17 | 16 | 13 | |
| 1000 | Vc | | | | | | 1079 | 860 | 799 | 636 | 529 | 507 | 465 | 419 | 339 | 259 |
| | Pv | | | | | | 0.078 | 0.049 | 0.042 | 0.026 | 0.018 | 0.016 | 0.014 | 0.011 | 0.007 | 0.004 |
| | Ps | | | | | | 0.569 | 0.362 | 0.313 | 0.198 | 0.137 | 0.126 | 0.106 | 0.086 | 0.057 | 0.033 |
| | NC | | | | | | 43 | 35 | 32 | 26 | 22 | 21 | 19 | 17 | 14 | 11 |
| 1200 | Vc | | | | | | 1294 | 1033 | 959 | 764 | 635 | 608 | 558 | 503 | 407 | 310 |
| | Pv | | | | | | 0.114 | 0.071 | 0.061 | 0.038 | 0.026 | 0.024 | 0.020 | 0.016 | 0.010 | 0.006 |
| | Ps | | | | | | 0.819 | 0.521 | 0.450 | 0.285 | 0.197 | 0.181 | 0.152 | 0.124 | 0.081 | 0.047 |
| | NC | | | | | | 51 | 41 | 38 | 31 | 26 | 25 | 23 | 21 | 17 | 13 |
| 1400 | Vc | | | | | | | 1205 | 1119 | 891 | 741 | 709 | 651 | 587 | 475 | 362 |
| | Pv | | | | | | | 0.098 | 0.084 | 0.052 | 0.036 | 0.033 | 0.027 | 0.022 | 0.014 | 0.008 |
| | Ps | | | | | | | 0.709 | 0.612 | 0.388 | 0.269 | 0.246 | 0.207 | 0.169 | 0.111 | 0.064 |
| | NC | | | | | | | 48 | 45 | 36 | 30 | 29 | 27 | 24 | 20 | 15 |
| 1600 | Vc | | | | | | | 1377 | 1279 | 1018 | 847 | 811 | 744 | 671 | 543 | 414 |
| | Pv | | | | | | | 0.129 | 0.111 | 0.069 | 0.047 | 0.043 | 0.036 | 0.029 | 0.019 | 0.011 |
| | Ps | | | | | | | 0.926 | 0.799 | 0.507 | 0.351 | 0.322 | 0.271 | 0.220 | 0.144 | 0.084 |
| | NC | | | | | | | 54 | 51 | 41 | 34 | 33 | 30 | 27 | 22 | 17 |
| 1800 | Vc | | | | | | | | 1439 | 1145 | 952 | 912 | 837 | 755 | 611 | 465 |
| | Pv | | | | | | | | 0.142 | 0.088 | 0.060 | 0.055 | 0.046 | 0.037 | 0.024 | 0.014 |
| | Ps | | | | | | | | 1.011 | 0.641 | 0.444 | 0.407 | 0.343 | 0.279 | 0.183 | 0.106 |
| | NC | | | | | | | | 57 | 46 | 38 | 37 | 34 | 31 | 25 | 19 |
| 2000 | Vc | | | | | | | | | 1273 | 1058 | 1014 | 930 | 839 | 679 | 517 |
| | Pv | | | | | | | | | 0.110 | 0.075 | 0.069 | 0.057 | 0.046 | 0.030 | 0.017 |
| | Ps | | | | | | | | | 0.792 | 0.548 | 0.502 | 0.423 | 0.344 | 0.226 | 0.131 |
| | NC | | | | | | | | | 50 | 42 | 41 | 37 | 34 | 28 | 21 |
| 2400 | Vc | | | | | | | | | | 1270 | 1216 | 1116 | 1007 | 814 | 621 |
| | Pv | | | | | | | | | | 0.109 | 0.100 | 0.084 | 0.068 | 0.044 | 0.025 |
| | Ps | | | | | | | | | | 0.788 | 0.723 | 0.609 | 0.495 | 0.325 | 0.189 |
| | NC | | | | | | | | | | 50 | 48 | 44 | 40 | 33 | 25 |

SYMBOLS:

- CFM : Air volume in Cubic Feet Per Minute
- A_c : Core Area in square foot
- V_c : Core Velocity in foot per minute
- P_v : Velocity Pressure in inches water gauge
- P_s : Negative Static Pressure in inches water gauge
- NC : Noise Criteria

CONDITIONS

- * Return
- * Damper is fully open.
- * Noise Criteria is based on (10-dB) room attenuation.





EGG CRATE REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

ECR, ECG

*SI UNITS

| L/S | SIZE | 300 x 100 | 200 x 150 | 250 x 150 | 200 x 200 | 300 x 250 | 300 x 300 | 450 x 250 | 400 x 300 | 600 x 200 | 750 x 200 | 900 x 200 | 750 x 250 | 450 x 450 | 750 x 300 | 525 x 525 | 600 x 600 |
|-----|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 150 x 150 | 200 x 150 | 250 x 150 | 200 x 200 | 300 x 250 | 300 x 300 | 450 x 250 | 400 x 300 | 600 x 200 | 750 x 200 | 900 x 200 | 750 x 250 | 450 x 450 | 750 x 300 | 525 x 525 | 600 x 600 |
| | Ac | 0.020 | 0.027 | 0.035 | 0.037 | 0.071 | 0.086 | 0.108 | 0.116 | 0.146 | 0.176 | 0.183 | 0.200 | 0.222 | 0.274 | 0.359 | |
| 94 | Vc | 4.7 | 3.5 | 2.7 | 2.5 | 1.3 | 1.1 | 0.9 | 0.8 | | | | | | | | |
| | Pv | 1.423 | 0.783 | 0.491 | 0.426 | 0.118 | 0.082 | 0.052 | 0.045 | | | | | | | | |
| | Ps | 2.871 | 1.568 | 0.955 | 0.824 | 0.219 | 0.149 | 0.094 | 0.081 | | | | | | | | |
| | NC | 29 | 21 | 16 | 15 | <15 | <15 | <15 | <15 | | | | | | | | |
| 118 | Vc | | 4.3 | 3.4 | 3.2 | 1.7 | 1.4 | 1.1 | 1.0 | 0.8 | | | | | | | |
| | Pv | | 1.232 | 0.763 | 0.662 | 0.184 | 0.127 | 0.081 | 0.070 | 0.045 | | | | | | | |
| | Ps | | 2.474 | 1.506 | 1.300 | 0.345 | 0.235 | 0.148 | 0.127 | 0.080 | | | | | | | |
| | NC | | 27 | 21 | 19 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| 142 | Vc | | 5.2 | 4.1 | 3.8 | 2.0 | 1.6 | 1.3 | 1.2 | 1.0 | 0.8 | | | | | | |
| | Pv | | 1.766 | 1.093 | 0.949 | 0.264 | 0.182 | 0.116 | 0.101 | 0.064 | 0.045 | | | | | | |
| | Ps | | 3.591 | 2.185 | 1.887 | 0.501 | 0.341 | 0.215 | 0.185 | 0.116 | 0.080 | | | | | | |
| | NC | | 33 | 25 | 23 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 165 | Vc | | 6.1 | 4.8 | 4.4 | 2.3 | 1.9 | 1.5 | 1.4 | 1.1 | 0.9 | | | | | | |
| | Pv | | 2.393 | 1.482 | 1.286 | 0.357 | 0.246 | 0.158 | 0.136 | 0.087 | 0.060 | | | | | | |
| | Ps | | 39 | 2.994 | 2.586 | 0.686 | 0.467 | 0.294 | 0.253 | 0.159 | 0.109 | | | | | | |
| | NC | | | 30 | 28 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 189 | Vc | | | 5.4 | 5.1 | 2.6 | 2.2 | 1.7 | 1.6 | 1.3 | 1.1 | 1.0 | | | | | |
| | Pv | | | 1.928 | 1.674 | 0.465 | 0.321 | 0.205 | 0.177 | 0.113 | 0.079 | 0.072 | | | | | |
| | Ps | | | 3.933 | 3.397 | 0.902 | 0.613 | 0.387 | 0.333 | 0.209 | 0.143 | 0.131 | | | | | |
| | NC | | | 35 | 32 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 212 | Vc | | | 6.1 | 5.7 | 3.0 | 2.5 | 2.0 | 1.8 | 1.5 | 1.2 | 1.2 | | | | | |
| | Pv | | | 2.432 | 2.111 | 0.587 | 0.404 | 0.259 | 0.224 | 0.143 | 0.099 | 0.091 | | | | | |
| | Ps | | | 5.003 | 4.321 | 1.147 | 0.780 | 0.492 | 0.423 | 0.265 | 0.182 | 0.167 | | | | | |
| | NC | | | 39 | 36 | 18 | 15 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 236 | Vc | | | | 6.3 | 3.3 | 2.7 | 2.2 | 2.0 | 1.6 | 1.3 | 1.3 | | | | | |
| | Pv | | | | 2.599 | 0.722 | 0.498 | 0.319 | 0.276 | 0.176 | 0.122 | 0.112 | | | | | |
| | Ps | | | | 5.359 | 1.422 | 0.968 | 0.610 | 0.525 | 0.329 | 0.226 | 0.207 | | | | | |
| | NC | | | | 41 | 20 | 17 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 260 | Vc | | | | 7.0 | 3.6 | 3.0 | 2.4 | 2.2 | 1.8 | 1.5 | 1.4 | 1.3 | | | | |
| | Pv | | | | 3.137 | 0.871 | 0.601 | 0.385 | 0.333 | 0.212 | 0.147 | 0.135 | 0.114 | | | | |
| | Ps | | | | 6.510 | 1.728 | 1.176 | 0.741 | 0.637 | 0.400 | 0.274 | 0.251 | 0.211 | | | | |
| | NC | | | | 45 | 22 | 18 | <15 | <15 | <15 | <15 | <15 | <15 | | | | |
| 283 | Vc | | | | 7.6 | 4.0 | 3.3 | 2.6 | 2.4 | 1.9 | 1.6 | 1.5 | 1.4 | 1.3 | | | |
| | Pv | | | | 3.724 | 1.035 | 0.713 | 0.457 | 0.395 | 0.252 | 0.175 | 0.161 | 0.136 | 0.111 | | | |
| | Ps | | | | 7.777 | 2.064 | 1.405 | 0.885 | 0.761 | 0.478 | 0.328 | 0.300 | 0.252 | 0.204 | | | |
| | NC | | | | 49 | 25 | 20 | 16 | 15 | <15 | <15 | <15 | <15 | 7 | | | |
| 330 | Vc | | | | | 4.6 | 3.8 | 3.1 | 2.8 | 2.3 | 1.9 | 1.8 | 1.7 | 1.5 | | | |
| | Pv | | | | | 1.402 | 0.967 | 0.619 | 0.535 | 0.341 | 0.237 | 0.218 | 0.184 | 0.150 | | | |
| | Ps | | | | | 2.828 | 1.924 | 1.213 | 1.043 | 0.655 | 0.449 | 0.411 | 0.345 | 0.279 | | | |
| | NC | | | | | 29 | 24 | 19 | 17 | <15 | <15 | <15 | <15 | <15 | | | |
| 378 | Vc | | | | | 5.3 | 4.4 | 3.5 | 3.2 | 2.6 | 2.2 | 2.1 | 1.9 | 1.7 | 1.4 | | |
| | Pv | | | | | 1.825 | 1.258 | 0.805 | 0.696 | 0.444 | 0.309 | 0.283 | 0.239 | 0.195 | 0.129 | | |
| | Ps | | | | | 3.716 | 2.528 | 1.593 | 1.370 | 0.860 | 0.590 | 0.540 | 0.453 | 0.367 | 0.238 | | |
| | NC | | | | | 34 | 27 | 21 | 20 | 16 | <15 | <15 | <15 | <15 | <15 | | |





EGG CRATE REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

ECR, ECG

*SI UNITS

| L/S | SIZE | 300 x 100 | | 500 x 150 | | 600 x 150 | | 750 x 150 | | 900 x 200 | | 750 x 300 | | 525 x 525 | | 600 x 600 | | |
|------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|-----------|-------|-----------|-------|--|
| | | 150 x 150 | 200 x 150 | 250 x 150 | | | 450 x 200 | | 600 x 200 | 750 x 200 | 900 x 200 | | | | | | | |
| | | | | | 200 x 200 | 300 x 250 | | 450 x 250 | | 600 x 250 | | 750 x 250 | | | | | | |
| | | Ac | 0.020 | 0.027 | 0.035 | 0.037 | 0.071 | 0.086 | 0.108 | 0.116 | 0.146 | 0.176 | 0.183 | 0.200 | 0.222 | 0.274 | 0.359 | |
| 425 | Vc | | | | | 6.0 | 4.9 | 3.9 | 3.7 | 2.9 | 2.4 | 2.3 | 2.1 | 1.9 | 1.6 | | | |
| | Pv | | | | | 2.302 | 1.587 | 1.016 | 0.879 | 0.560 | 0.389 | 0.358 | 0.302 | 0.246 | 0.162 | | | |
| | Ps | | | | | 4.726 | 3.216 | 2.026 | 1.743 | 1.094 | 0.750 | 0.687 | 0.576 | 0.467 | 0.303 | | | |
| | NC | | | | | 38 | 31 | 24 | 23 | 18 | <15 | <15 | <15 | <15 | <15 | | | |
| 472 | Vc | | | | | | 5.5 | 4.4 | 4.1 | 3.2 | 2.7 | 2.6 | 2.4 | 2.1 | 1.7 | 1.3 | | |
| | Pv | | | | | | 1.954 | 1.251 | 1.082 | 0.690 | 0.479 | 0.440 | 0.371 | 0.303 | 0.200 | 0.117 | | |
| | Ps | | | | | | 3.988 | 2.513 | 2.162 | 1.357 | 0.931 | 0.852 | 0.714 | 0.579 | 0.376 | 0.215 | | |
| | NC | | | | | | 35 | 27 | 25 | 20 | 16 | 15 | <15 | <15 | <15 | <15 | | |
| 566 | Vc | | | | | | 6.6 | 5.2 | 4.9 | 3.9 | 3.2 | 3.1 | 2.8 | 2.6 | 2.1 | 1.6 | | |
| | Pv | | | | | | 2.800 | 1.792 | 1.550 | 0.988 | 0.687 | 0.631 | 0.532 | 0.434 | 0.286 | 0.167 | | |
| | Ps | | | | | | 5.788 | 3.647 | 3.137 | 1.969 | 1.351 | 1.237 | 1.037 | 0.840 | 0.545 | 0.313 | | |
| | NC | | | | | | 42 | 33 | 31 | 24 | 20 | 19 | 17 | 15 | <15 | <15 | | |
| 661 | Vc | | | | | | | 6.1 | 5.7 | 4.5 | 3.8 | 3.6 | 3.3 | 3.0 | 2.4 | 1.8 | | |
| | Pv | | | | | | | 2.429 | 2.101 | 1.340 | 0.931 | 0.855 | 0.721 | 0.589 | 0.388 | 0.227 | | |
| | Ps | | | | | | | 4.997 | 4.298 | 2.698 | 1.850 | 1.694 | 1.421 | 1.151 | 0.747 | 0.428 | | |
| | NC | | | | | | | 39 | 36 | 28 | 23 | 22 | 20 | 18 | <15 | <15 | | |
| 755 | Vc | | | | | | | 7.0 | 6.5 | 5.2 | 4.3 | 4.1 | 3.8 | 3.4 | 2.8 | 2.1 | | |
| | Pv | | | | | | | 3.162 | 2.734 | 1.744 | 1.211 | 1.113 | 0.939 | 0.766 | 0.504 | 0.295 | | |
| | Ps | | | | | | | 6.564 | 5.646 | 3.544 | 2.431 | 2.226 | 1.866 | 1.512 | 0.981 | 0.563 | | |
| | NC | | | | | | | 45 | 42 | 33 | 27 | 26 | 23 | 21 | 17 | <15 | | |
| 849 | Vc | | | | | | | | 7.3 | 5.8 | 4.8 | 4.6 | 4.3 | 3.8 | 3.1 | 2.4 | | |
| | Pv | | | | | | | | 3.449 | 2.200 | 1.528 | 1.404 | 1.184 | 0.966 | 0.636 | 0.372 | | |
| | Ps | | | | | | | | 7.182 | 4.508 | 3.092 | 2.831 | 2.374 | 1.923 | 1.248 | 0.716 | | |
| | NC | | | | | | | | 47 | 37 | 30 | 29 | 26 | 24 | 19 | <15 | | |
| 944 | Vc | | | | | | | | | 6.5 | 5.4 | 5.1 | 4.7 | 4.3 | 3.4 | 2.6 | | |
| | Pv | | | | | | | | | 2.708 | 1.881 | 1.728 | 1.458 | 1.190 | 0.783 | 0.458 | | |
| | Ps | | | | | | | | | 5.591 | 3.835 | 3.511 | 2.944 | 2.385 | 1.547 | 0.888 | | |
| | NC | | | | | | | | | 42 | 34 | 33 | 30 | 27 | 21 | 16 | | |
| 1133 | Vc | | | | | | | | | | 6.5 | 6.2 | 5.7 | 5.1 | 4.1 | 3.2 | | |
| | Pv | | | | | | | | | | 2.696 | 2.476 | 2.088 | 1.704 | 1.122 | 0.656 | | |
| | Ps | | | | | | | | | | 5.565 | 5.096 | 4.272 | 3.462 | 2.246 | 1.289 | | |
| | NC | | | | | | | | | | 41 | 40 | 36 | 32 | 26 | 19 | | |

SYMBOLS:

- L/S : Air volume in Litre per second
- A_c : Core Area in square meter
- V_c : Core Velocity in meter per second
- P_v : Velocity Pressure in mm water gauge
- P_s : Negative Static Pressure in mm water gauge
- NC : Noise Criteria

CONDITIONS

- * Return
- * Damper is fully open.
- * Noise Criteria is based on (10-dB) room attenuation.





EGG CRATE REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

ECR, ECG

*IMPERIAL UNITS

| CFM | SIZE | 12 x 4 | | | | 20 x 6 | 24 x 6 | 30 x 6 | | | | | | | | | |
|-----|-------|--------|-------|--------|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| | | 6 x 6 | 8 x 6 | 10 x 6 | | | 18 x 8 | | 24 x 8 | 30 x 8 | 36 x 8 | | | | | | |
| | | | | | 8 x 8 | 12 x 10 | | 18 x 10 | | 24 x 10 | | 30 x 10 | | | | | |
| | | | | | | | 12 x 12 | | 16 x 12 | 20 x 12 | 24 x 12 | | 18 x 18 | 30 x 12 | 21 x 21 | 24 x 24 | |
| Ac | 0.218 | 0.293 | 0.373 | 0.401 | 0.768 | 0.927 | 1.162 | 1.251 | 1.571 | 1.890 | 1.973 | 2.151 | 2.384 | 2.947 | 3.868 | | |
| 200 | Vc | 918 | 683 | 536 | 499 | 260 | 216 | 172 | 160 | | | | | | | | |
| | Pv | 0.056 | 0.031 | 0.019 | 0.017 | 0.005 | 0.003 | 0.002 | 0.002 | | | | | | | | |
| | Ps | 0.113 | 0.062 | 0.038 | 0.032 | 0.009 | 0.006 | 0.004 | 0.003 | | | | | | | | |
| | NC | 29 | 21 | 16 | 15 | <15 | <15 | <15 | <15 | | | | | | | | |
| 250 | Vc | | 854 | 670 | 623 | 326 | 270 | 215 | 200 | 159 | | | | | | | |
| | Pv | | 0.049 | 0.030 | 0.026 | 0.007 | 0.005 | 0.003 | 0.003 | 0.002 | | | | | | | |
| | Ps | | 0.097 | 0.059 | 0.051 | 0.014 | 0.009 | 0.006 | 0.005 | 0.003 | | | | | | | |
| | NC | | 27 | 21 | 19 | <15 | <15 | <15 | <15 | <15 | | | | | | | |
| 300 | Vc | | 1025 | 804 | 748 | 391 | 324 | 258 | 240 | 191 | 159 | | | | | | |
| | Pv | | 0.070 | 0.043 | 0.037 | 0.010 | 0.007 | 0.005 | 0.004 | 0.003 | 0.002 | | | | | | |
| | Ps | | 0.141 | 0.086 | 0.074 | 0.020 | 0.013 | 0.008 | 0.007 | 0.005 | 0.003 | | | | | | |
| | NC | | 33 | 25 | 23 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 350 | Vc | | 1195 | 938 | 873 | 456 | 378 | 301 | 280 | 223 | 185 | | | | | | |
| | Pv | | 0.094 | 0.058 | 0.051 | 0.014 | 0.010 | 0.006 | 0.005 | 0.003 | 0.002 | | | | | | |
| | Ps | | 0.194 | 0.118 | 0.102 | 0.027 | 0.018 | 0.012 | 0.010 | 0.006 | 0.004 | | | | | | |
| | NC | | 39 | 30 | 28 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | | |
| 400 | Vc | | | 1071 | 997 | 521 | 431 | 344 | 320 | 255 | 212 | 203 | | | | | |
| | Pv | | | 0.076 | 0.066 | 0.018 | 0.013 | 0.008 | 0.007 | 0.004 | 0.003 | 0.003 | | | | | |
| | Ps | | | 0.155 | 0.134 | 0.035 | 0.024 | 0.015 | 0.013 | 0.008 | 0.006 | 0.005 | | | | | |
| | NC | | | 35 | 32 | 16 | <15 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 450 | Vc | | | 1205 | 1122 | 586 | 485 | 387 | 360 | 286 | 238 | 228 | | | | | |
| | Pv | | | 0.096 | 0.083 | 0.023 | 0.016 | 0.010 | 0.009 | 0.006 | 0.004 | 0.004 | | | | | |
| | Ps | | | 0.197 | 0.170 | 0.045 | 0.031 | 0.019 | 0.017 | 0.010 | 0.007 | 0.007 | | | | | |
| | NC | | | 39 | 36 | 18 | 15 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 500 | Vc | | | | 1247 | 651 | 539 | 430 | 400 | 318 | 265 | 253 | | | | | |
| | Pv | | | | 0.102 | 0.028 | 0.020 | 0.013 | 0.011 | 0.007 | 0.005 | 0.004 | | | | | |
| | Ps | | | | 0.211 | 0.056 | 0.038 | 0.024 | 0.021 | 0.013 | 0.009 | 0.008 | | | | | |
| | NC | | | | 41 | 20 | 17 | <15 | <15 | <15 | <15 | <15 | | | | | |
| 550 | Vc | | | | 1371 | 716 | 593 | 473 | 440 | 350 | 291 | 279 | 256 | | | | |
| | Pv | | | | 0.123 | 0.034 | 0.024 | 0.015 | 0.013 | 0.008 | 0.006 | 0.005 | 0.004 | | | | |
| | Ps | | | | 0.256 | 0.068 | 0.046 | 0.029 | 0.025 | 0.016 | 0.011 | 0.010 | 0.008 | | | | |
| | NC | | | | 45 | 22 | 18 | <15 | <15 | <15 | <15 | <15 | <15 | | | | |
| 600 | Vc | | | | 1496 | 781 | 647 | 516 | 480 | 382 | 317 | 304 | 279 | 252 | | | |
| | Pv | | | | 0.147 | 0.041 | 0.028 | 0.018 | 0.016 | 0.010 | 0.007 | 0.006 | 0.005 | 0.004 | | | |
| | Ps | | | | 0.306 | 0.081 | 0.055 | 0.035 | 0.030 | 0.019 | 0.013 | 0.012 | 0.010 | 0.008 | | | |
| | NC | | | | 49 | 25 | 20 | 16 | 15 | <15 | <15 | <15 | <15 | 7 | | | |
| 700 | Vc | | | | | 912 | 755 | 602 | 560 | 445 | 370 | 355 | 325 | 294 | | | |
| | Pv | | | | | 0.055 | 0.038 | 0.024 | 0.021 | 0.013 | 0.009 | 0.009 | 0.007 | 0.006 | | | |
| | Ps | | | | | 0.111 | 0.076 | 0.048 | 0.041 | 0.026 | 0.018 | 0.016 | 0.014 | 0.011 | | | |
| | NC | | | | | 29 | 24 | 19 | 17 | <15 | <15 | <15 | <15 | <15 | | | |
| 800 | Vc | | | | | 1042 | 863 | 688 | 639 | 509 | 423 | 405 | 372 | 336 | 271 | | |
| | Pv | | | | | 0.072 | 0.050 | 0.032 | 0.027 | 0.017 | 0.012 | 0.011 | 0.009 | 0.008 | 0.005 | | |
| | Ps | | | | | 0.146 | 0.100 | 0.063 | 0.054 | 0.034 | 0.023 | 0.021 | 0.018 | 0.014 | 0.009 | | |
| | NC | | | | | 34 | 27 | 21 | 20 | 16 | <15 | <15 | <15 | <15 | <15 | | |





GRILLES & REGISTERS

EGG CRATE REGISTERS & GRILLES

PERFORMANCE DATA - RETURN

ECR, ECG

*IMPERIAL UNITS

| CFM | SIZE | 12 x 4 | | 20 x 6 | | 24 x 6 | | 30 x 6 | | 30 x 8 | | 36 x 8 | | 30 x 10 | | 18 x 18 | | 30 x 12 | | 21 x 21 | | 24 x 24 | | |
|------|------|--------|-------|--------|-------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|---------|--|---------|--|---------|--|--|
| | | 6 x 6 | 8 x 6 | 10 x 6 | 8 x 8 | 12 x 10 | 18 x 8 | 18 x 10 | 16 x 12 | 20 x 12 | 24 x 12 | 18 x 18 | 30 x 12 | 21 x 21 | 24 x 24 | | | | | | | | | |
| | Ac | 0.218 | 0.293 | 0.373 | 0.401 | 0.768 | 0.927 | 1.162 | 1.251 | 1.571 | 1.890 | 1.973 | 2.151 | 2.384 | 2.947 | 3.868 | | | | | | | | |
| 900 | Vc | | | | | 1172 | 971 | 774 | 719 | 573 | 476 | 456 | 418 | 377 | 305 | | | | | | | | | |
| | Pv | | | | | 0.091 | 0.062 | 0.040 | 0.035 | 0.022 | 0.015 | 0.014 | 0.012 | 0.010 | 0.006 | | | | | | | | | |
| | Ps | | | | | 0.186 | 0.127 | 0.080 | 0.069 | 0.043 | 0.030 | 0.027 | 0.023 | 0.018 | 0.012 | | | | | | | | | |
| | NC | | | | | 38 | 31 | 24 | 23 | 18 | <15 | <15 | <15 | <15 | <15 | | | | | | | | | |
| 1000 | Vc | | | | | | 1079 | 860 | 799 | 636 | 529 | 507 | 465 | 419 | 339 | 259 | | | | | | | | |
| | Pv | | | | | | 0.077 | 0.049 | 0.043 | 0.027 | 0.019 | 0.017 | 0.015 | 0.012 | 0.008 | 0.005 | | | | | | | | |
| | Ps | | | | | | 0.157 | 0.099 | 0.085 | 0.053 | 0.037 | 0.034 | 0.028 | 0.023 | 0.015 | 0.008 | | | | | | | | |
| | NC | | | | | | 35 | 27 | 25 | 20 | 16 | 15 | <15 | <15 | <15 | <15 | | | | | | | | |
| 1200 | Vc | | | | | | 1294 | 1033 | 959 | 764 | 635 | 608 | 558 | 503 | 407 | 310 | | | | | | | | |
| | Pv | | | | | | 0.110 | 0.071 | 0.061 | 0.039 | 0.027 | 0.025 | 0.021 | 0.017 | 0.011 | 0.007 | | | | | | | | |
| | Ps | | | | | | 0.228 | 0.144 | 0.124 | 0.078 | 0.053 | 0.049 | 0.041 | 0.033 | 0.021 | 0.012 | | | | | | | | |
| | NC | | | | | | 42 | 33 | 31 | 24 | 20 | 19 | 17 | 15 | <15 | <15 | | | | | | | | |
| 1400 | Vc | | | | | | | 1205 | 1119 | 891 | 741 | 709 | 651 | 587 | 475 | 362 | | | | | | | | |
| | Pv | | | | | | | 0.096 | 0.083 | 0.053 | 0.037 | 0.034 | 0.028 | 0.023 | 0.015 | 0.009 | | | | | | | | |
| | Ps | | | | | | | 0.197 | 0.169 | 0.106 | 0.073 | 0.067 | 0.056 | 0.045 | 0.029 | 0.017 | | | | | | | | |
| | NC | | | | | | | 39 | 36 | 28 | 23 | 22 | 20 | 18 | <15 | <15 | | | | | | | | |
| 1600 | Vc | | | | | | | 1377 | 1279 | 1018 | 847 | 811 | 744 | 671 | 543 | 414 | | | | | | | | |
| | Pv | | | | | | | 0.124 | 0.108 | 0.069 | 0.048 | 0.044 | 0.037 | 0.030 | 0.020 | 0.012 | | | | | | | | |
| | Ps | | | | | | | 0.258 | 0.222 | 0.140 | 0.096 | 0.088 | 0.073 | 0.060 | 0.039 | 0.022 | | | | | | | | |
| | NC | | | | | | | 45 | 42 | 33 | 27 | 26 | 23 | 21 | 17 | <15 | | | | | | | | |
| 1800 | Vc | | | | | | | | 1439 | 1145 | 952 | 912 | 837 | 755 | 611 | 465 | | | | | | | | |
| | Pv | | | | | | | | 0.136 | 0.087 | 0.060 | 0.055 | 0.047 | 0.038 | 0.025 | 0.015 | | | | | | | | |
| | Ps | | | | | | | | 0.283 | 0.177 | 0.122 | 0.111 | 0.093 | 0.076 | 0.049 | 0.028 | | | | | | | | |
| | NC | | | | | | | | 47 | 37 | 30 | 29 | 26 | 24 | 19 | <15 | | | | | | | | |
| 2000 | Vc | | | | | | | | | 1273 | 1058 | 1014 | 930 | 839 | 679 | 517 | | | | | | | | |
| | Pv | | | | | | | | | 0.107 | 0.074 | 0.068 | 0.057 | 0.047 | 0.031 | 0.018 | | | | | | | | |
| | Ps | | | | | | | | | 0.220 | 0.151 | 0.138 | 0.116 | 0.094 | 0.061 | 0.035 | | | | | | | | |
| | NC | | | | | | | | | 42 | 34 | 33 | 30 | 27 | 21 | 16 | | | | | | | | |
| 2400 | Vc | | | | | | | | | | 1270 | 1216 | 1116 | 1007 | 814 | 621 | | | | | | | | |
| | Pv | | | | | | | | | | 0.106 | 0.097 | 0.082 | 0.067 | 0.044 | 0.026 | | | | | | | | |
| | Ps | | | | | | | | | | 0.219 | 0.201 | 0.168 | 0.136 | 0.088 | 0.051 | | | | | | | | |
| | NC | | | | | | | | | | 41 | 40 | 36 | 32 | 26 | 19 | | | | | | | | |

SYMBOLS:

- CFM : Air volume in cubic Feet per minute
- A_c : Core Area in foot square
- V_c : Core Velocity in foot per minute
- P_v : Velocity Pressure in inches water gauge
- P_s : Negative Static Pressure in inches water gauge
- NC : Noise Criteria

CONDITIONS

- * Return
- * Damper is fully open.
- * Noise Criteria is based on (10-dB) room attenuation.





DOOR GRILLES
PERFORMANCE DATA

DG

***SI UNITS**

| A _c M ² | NOMINAL SIZE MM | VC M/S | 0.508 | 0.762 | 1.016 | 1.27 | 1.524 | 1.778 | 2.032 |
|----------------------------------|---------------------------------|--------|-------|-------|--------|--------|-------|-------|-------|
| | | PVMMWG | 0.015 | 0.035 | 0.0625 | 0.0975 | 0.14 | 0.19 | 0.250 |
| | | PSMMWG | 0.275 | 0.65 | 1.15 | 1.825 | 2.6 | 3.525 | 4.65 |
| 0.02 | 250x100 | L/S | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| | | NC | - | - | - | - | - | 16 | 19 |
| 0.05 | 400x150 | L/S | 26 | 40 | 53 | 66 | 79 | 92 | 106 |
| | | NC | - | - | 17 | 24 | 28 | 31 | 35 |
| 0.07 | 500x150,400x200 | L/S | 35 | 52 | 70 | 87 | 105 | 122 | 140 |
| | | NC | - | - | 19 | 25 | 30 | 33 | 36 |
| 0.09 | 700x150,500x200,400x250 | L/S | 47 | 70 | 93 | 117 | 140 | 164 | 187 |
| | | NC | - | 15 | 23 | 29 | 32 | 36 | 40 |
| 0.14 | 750x200,600x250,500x300,400x350 | L/S | 69 | 104 | 139 | 173 | 208 | 243 | 277 |
| | | NC | - | 19 | 26 | 31 | 37 | 41 | 44 |
| 0.19 | 800x250,650x300,550x350,500x400 | L/S | 94 | 142 | 189 | 236 | 283 | 330 | 378 |
| | | NC | - | 24 | 31 | 37 | 42 | 46 | 49 |
| 0.23 | 800x300,700x350,600x400,550x450 | L/S | 118 | 177 | 236 | 295 | 354 | 413 | 472 |
| | | NC | 16 | 27 | 34 | 40 | 44 | 48 | 52 |
| 0.29 | 850x350,750x400,650x450,600x500 | L/S | 145 | 218 | 291 | 363 | 436 | 509 | 581 |
| | | NC | 19 | 30 | 37 | 43 | 47 | 51 | 55 |
| 0.35 | 850x400,750x450,700x500,600x550 | L/S | 178 | 267 | 356 | 445 | 534 | 623 | 712 |
| | | NC | 22 | 32 | 40 | 46 | 50 | 54 | 58 |
| 0.40 | 850x450,800x500,700x550,650x600 | L/S | 204 | 306 | 409 | 511 | 613 | 715 | 817 |
| | | NC | 24 | 34 | 42 | 47 | 52 | 56 | 60 |
| 0.44 | 850x500,800x550,700x600,650x650 | L/S | 224 | 336 | 447 | 559 | 671 | 783 | 895 |
| | | NC | 24 | 35 | 42 | 48 | 52 | 57 | 62 |
| 0.50 | 850x550,800x600,750x650,700x700 | L/S | 252 | 379 | 505 | 631 | 757 | 884 | 1010 |
| | | NC | 26 | 36 | 44 | 50 | 55 | 58 | 63 |

SYMBOLS:

- L/S** : Air volume in litre per second
- A_c** : Core Area in meter square
- V_c** : Core Velocity in meter per second
- NC** : Noise Criteria
- P_v** : Velocity Pressure in mm water gauge
- P_s** : Static Pressure in mm water gauge





DOOR GRILLES

PERFORMANCE DATA

DG

*IMPERIAL UNITS

| A _c FT ² | NOMINAL SIZE INCH | VC FPM | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
|-----------------------------------|----------------------------|--------|--------|--------|--------|--------|--------|--------|-------|
| | | PVIWG | 0.0006 | 0.0014 | 0.0025 | 0.0039 | 0.0056 | 0.0076 | 0.010 |
| | | PSIWG | 0.011 | 0.026 | 0.046 | 0.073 | 0.104 | 0.141 | 0.186 |
| 0.21 | 10 x 4 | CFM | 21 | 32 | 42 | 53 | 63 | 74 | 84 |
| | | NC | - | - | - | - | - | 16 | 19 |
| 0.56 | 16 x 6 | CFM | 56 | 84 | 112 | 140 | 168 | 196 | 224 |
| | | NC | - | - | 17 | 24 | 28 | 31 | 35 |
| 0.74 | 20x6, 6x8 | CFM | 74 | 111 | 148 | 185 | 222 | 259 | 296 |
| | | NC | - | - | 19 | 25 | 30 | 33 | 36 |
| 0.99 | 28x6, 20x8, 16x10 | CFM | 99 | 149 | 198 | 248 | 297 | 347 | 396 |
| | | NC | - | 15 | 23 | 29 | 32 | 36 | 40 |
| 1.47 | 30x8, 20x12, 24x10, 16x14 | CFM | 147 | 221 | 294 | 368 | 441 | 515 | 588 |
| | | NC | - | 19 | 26 | 31 | 37 | 41 | 44 |
| 2.00 | 32x10, 26x12, 22x14, 20x16 | CFM | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| | | NC | - | 24 | 31 | 37 | 42 | 46 | 49 |
| 2.50 | 32x12, 28x14, 24x16, 22x18 | CFM | 250 | 375 | 500 | 625 | 750 | 875 | 1000 |
| | | NC | 16 | 27 | 34 | 40 | 44 | 48 | 52 |
| 3.08 | 34x14, 30x16, 26x18, 24x20 | CFM | 308 | 462 | 616 | 770 | 924 | 1078 | 1232 |
| | | NC | 19 | 30 | 37 | 43 | 47 | 51 | 55 |
| 3.77 | 34x16, 30x18, 28x20, 24x22 | CFM | 377 | 566 | 754 | 943 | 1131 | 1320 | 1508 |
| | | NC | 22 | 32 | 40 | 46 | 50 | 54 | 58 |
| 4.33 | 34x18, 32x20, 28x22, 26x24 | CFM | 433 | 650 | 866 | 1083 | 1299 | 1516 | 1732 |
| | | NC | 24 | 34 | 42 | 47 | 52 | 56 | 60 |
| 4.74 | 34x20, 32x22, 28x24, 26x26 | CFM | 474 | 711 | 948 | 1185 | 1422 | 1659 | 1896 |
| | | NC | 24 | 35 | 42 | 48 | 52 | 57 | 62 |
| 5.35 | 34x22, 32x24, 30x26, 28x28 | CFM | 535 | 803 | 1070 | 1338 | 1605 | 1873 | 2140 |
| | | NC | 26 | 36 | 44 | 50 | 55 | 58 | 63 |

SYMBOLS:

- CFM** : Air volume in cubic foot per minute
A_c : Core Area in feet square
V_c : Core Velocity in feet per minute
NC : Noise Criteria
P_v : Velocity Pressure in inches water gauge
P_s : Static Pressure in inches water gauge

