



# MODELS CSF & LSF

## BELT DRIVE CENTRIFUGAL FILTERED SUPPLY FANS



**Model CSF**  
**Hooded Design**



**Model LSF**  
**Louvered Penthouse Design**

### MODEL FEATURES

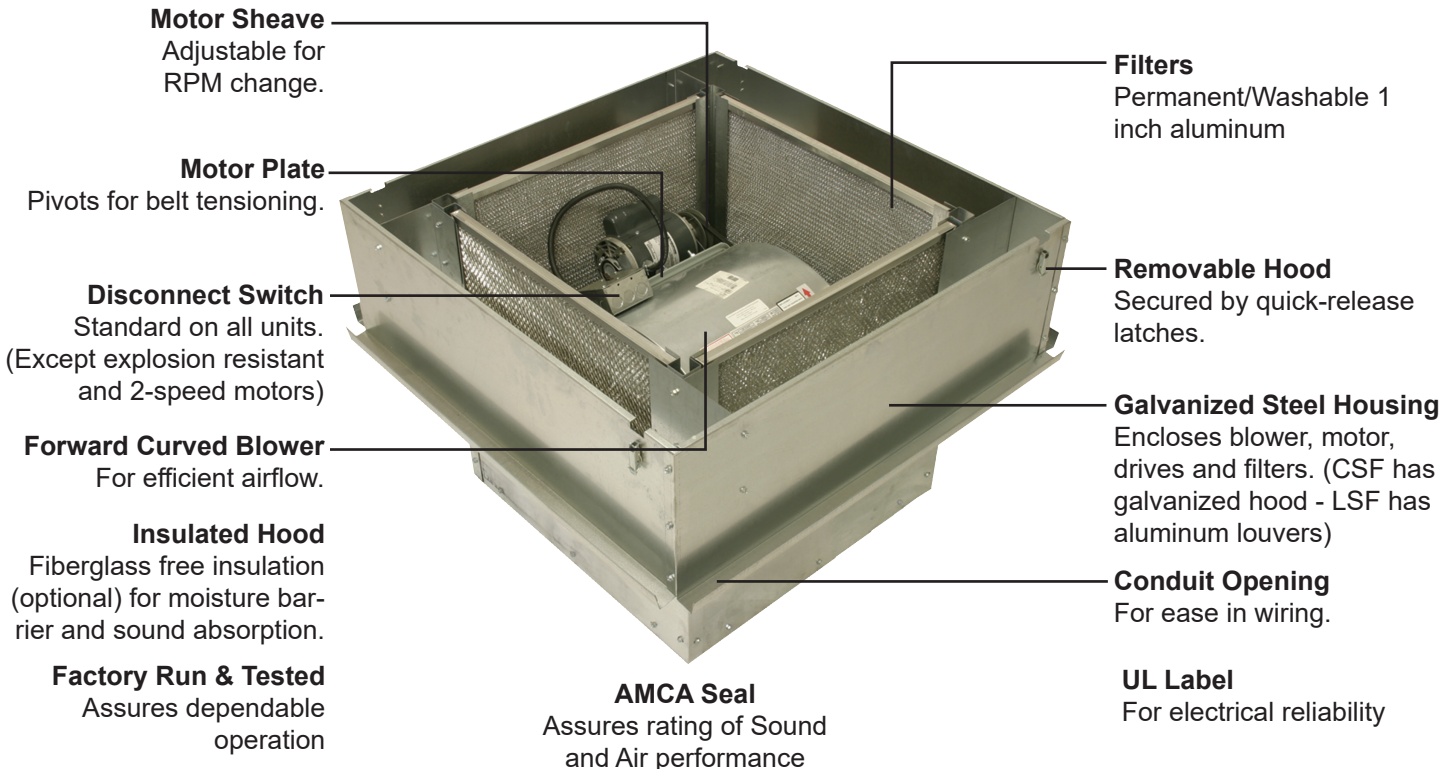
- Supply air to over 13,000 CFM in static pressure capabilities to 2" w.g.
- Heavy-galvanized construction
- Belt drives permit easy performance adjustments when needed
- Forward curved centrifugal blower for efficient air flow at low sound levels
- Filters are washable and reusable
- AMCA Air and Sound Licensed
- cULus 705 Listed

### MODEL OVERVIEW

Models CSF and LSF units are roof mounted, filtered supply fans rated from 375 to over 13,000 CFM, with static pressure capabilities to 2". Model CSF's rugged, heavy-gauge galvanized hood and stack provide maximum weather protection and long life. Model LSF's architecturally pleasing, heavy-gauge aluminum louver design provides long life and the utmost in performance efficiency. All models are belt driven for easier performance adjustment and quieter operation. Adjustable motor pulleys further simplify fan speed changes.

S&P's Centrifugal Filtered Supply Fans are used to replace exhausted fumes, vapors and gases with fresh, filtered make-up air in commercial and industrial applications such as manufacturing and assembly areas, kitchens, athletic clubs and many others.

### CONSTRUCTION FEATURES AND OPTIONS



**Industry best 5 year fan housing warranty, 1 year motor warranty**



## **CONSTRUCTION/SPECIFICATION CHECKLIST**

### **Blower/Housing**

- Statically and dynamically balanced forward curved wheel.
- 12-gauge galvanized steel blower plate/discharge opening.
- Heavy-gauge galvanized steel housing.
- Prepunched mounting holes.
- Conduit opening for wiring from below unit.

### **Hooded/Louvered Top**

- Heavy-gauge aluminum louvered design. (LSF)
- Heavy-gauge galvanized steel hood. (CSF)
- Quick-release latches for removal from housing.
- Insulated for sound absorption and moisture barrier.
- Oversized for weather protection.
- 1" washable aluminum mesh filters.
- Mitered cut and welded corners. (LSF)

### **Drives**

- Adjustable motor pulleys are standard.
- Sized for minimum 150% of drive horsepower.
- Pivoting motor plate for belt tensioning.
- Non-static oil resistant V-belts.

### **Bearings**

- Five year warranty.
- Heavy-duty ball bearing type.
- Prelubricated and permanently sealed.

### **Motors**

- One year warranty.
- Brands are nationally recognized and locally serviced.
- Open drip-proof construction is standard.
- Disconnect switch standard with single speed drip-proof and totally enclosed motors.
- Optional motor enclosures and types can be specified.

### **Certifications**

- AMCA Air and Sound Licensed.
- cULus Standard 705 Listed Power Roof Ventilator label assures electrical reliability.
- cULus label must be specified when needed.



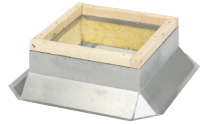
**MODELS CSF & LSF**

**BELT DRIVE CENTRIFUGAL FILTERED SUPPLY FANS**



## **OPTIONS/ACCESSORIES**

**Roof Curb:** Prefabricated heavy-gauge galvanized steel, welded construction, 12" high with 1-1/2" wood nailer. Options include burglar bars, single and double pitch construction, and additional curb heights.



**Motor Operated Damper:** Motor operated aluminum damper for positive closure against backdraft (counter balanced).



**Automatic Damper:** Automatic aluminum damper for ease in installation and effective backdraft protection (counter balanced).

**Duct Adaptor:** For ease in connecting discharge duct to fan outlet.

**Side Discharge:** For convenient connection to a supply duct when mounted on roof where the inside ceiling height is limited (CSF). Not available on CSF9.

**Special Coatings:** For protective and decorative purposes. Available coatings include: Epoxy, Synthetic Resin, and Heresite (air-dried phenolic). Contact your Soler & Palau representative or the factory for more information on available coatings and colors.



# CSF PERFORMANCE

## CSF 9

| MODEL<br>CSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    |
| 9            | 475  | 540  | RPM   | 440                            | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.03                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 12.3                           | -    | -    | -    | -    | -    | -    |
|              | 575  | 653  | RPM   | 445                            | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.04                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 12.3                           | -    | -    | -    | -    | -    | -    |
|              | 675  | 767  | RPM   | 461                            | 622  | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.05                           | 0.09 | -    | -    | -    | -    | -    |
|              |      |      | Sones | 12.6                           | 15.4 | -    | -    | -    | -    | -    |
|              | 775  | 881  | RPM   | 485                            | 625  | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.07                           | 0.1  | -    | -    | -    | -    | -    |
|              |      |      | Sones | 13.1                           | 15.5 | -    | -    | -    | -    | -    |
|              | 875  | 994  | RPM   | 512                            | 637  | 762  | -    | -    | -    | -    |
|              |      |      | BHP   | 0.08                           | 0.12 | 0.18 | -    | -    | -    | -    |
|              |      |      | Sones | 13.5                           | 15.8 | 18.2 | -    | -    | -    | -    |
|              | 975  | 1108 | RPM   | 544                            | 656  | 768  | 880  | -    | -    | -    |
|              |      |      | BHP   | 0.11                           | 0.15 | 0.2  | 0.26 | -    | -    | -    |
|              |      |      | Sones | 13.9                           | 16.3 | 18.3 | 21   | -    | -    | -    |
|              | 1075 | 1222 | RPM   | 578                            | 680  | 781  | 883  | 984  | -    | -    |
|              |      |      | BHP   | 0.13                           | 0.18 | 0.23 | 0.29 | 0.36 | -    | -    |
|              |      |      | Sones | 14.3                           | 16.9 | 18.7 | 21   | 23   | -    | -    |
|              | 1175 | 1335 | RPM   | 613                            | 706  | 800  | 892  | 986  | -    | -    |
|              |      |      | BHP   | 0.17                           | 0.21 | 0.26 | 0.33 | 0.39 | -    | -    |
|              |      |      | Sones | 14.9                           | 17.6 | 19.3 | 21   | 23   | -    | -    |
|              | 1275 | 1449 | RPM   | 650                            | 735  | 823  | 907  | 993  | 1079 | -    |
|              |      |      | BHP   | 0.2                            | 0.25 | 0.31 | 0.37 | 0.44 | 0.51 | -    |
|              |      |      | Sones | 15.8                           | 18.2 | 20   | 22   | 24   | 25   | -    |
|              | 1375 | 1563 | RPM   | 687                            | 768  | 847  | 927  | 1006 | 1086 | 1244 |
|              |      |      | BHP   | 0.25                           | 0.3  | 0.35 | 0.42 | 0.49 | 0.56 | 0.73 |
|              |      |      | Sones | 16.8                           | 19.1 | 21   | 22   | 24   | 26   | 30   |
|              | 1475 | 1676 | RPM   | 726                            | 801  | 875  | 951  | 1023 | 1097 | 1247 |
|              |      |      | BHP   | 0.29                           | 0.35 | 0.41 | 0.47 | 0.54 | 0.62 | 0.79 |
|              |      |      | Sones | 17.8                           | 19.8 | 22   | 23   | 25   | 26   | 30   |
|              | 1575 | 1790 | RPM   | 765                            | 836  | 905  | 975  | 1045 | 1113 | 1253 |
|              |      |      | BHP   | 0.35                           | 0.41 | 0.47 | 0.54 | 0.61 | 0.68 | 0.86 |
|              |      |      | Sones | 19.2                           | 21   | 23   | 24   | 25   | 27   | 30   |
|              | 1675 | 1903 | RPM   | 804                            | 872  | 937  | 1002 | 1069 | 1134 | 1263 |
|              |      |      | BHP   | 0.41                           | 0.48 | 0.54 | 0.61 | 0.68 | 0.76 | 0.93 |
|              |      |      | Sones | 20                             | 22   | 24   | 25   | 26   | 27   | 31   |
|              | 1775 | 2017 | RPM   | 844                            | 908  | 970  | 1031 | 1093 | 1157 | 1278 |
|              |      |      | BHP   | 0.48                           | 0.55 | 0.62 | 0.69 | 0.76 | 0.84 | 1.01 |
|              |      |      | Sones | 22                             | 23   | 24   | 26   | 27   | 28   | 32   |
|              | 1875 | 2131 | RPM   | 884                            | 946  | 1005 | 1063 | 1120 | 1181 | -    |
|              |      |      | BHP   | 0.56                           | 0.63 | 0.7  | 0.78 | 0.85 | 0.93 | -    |
|              |      |      | Sones | 23                             | 24   | 26   | 27   | 28   | 29   | -    |
|              | 1975 | 2244 | RPM   | 925                            | 984  | 1040 | 1095 | 1150 | 1205 | -    |
|              |      |      | BHP   | 0.65                           | 0.72 | 0.8  | 0.87 | 0.95 | 1.03 | -    |
|              |      |      | Sones | 25                             | 26   | 27   | 28   | 29   | 30   | -    |
|              | 2075 | 2358 | RPM   | 966                            | 1022 | 1076 | 1129 | 1181 | -    | -    |
|              |      |      | BHP   | 0.74                           | 0.82 | 0.9  | 0.98 | 1.06 | -    | -    |
|              |      |      | Sones | 26                             | 27   | 28   | 29   | 30   | -    | -    |
|              | 2175 | 2472 | RPM   | 1007                           | 1061 | 1113 | 1163 | -    | -    | -    |
|              |      |      | BHP   | 0.85                           | 0.93 | 1.01 | 1.09 | -    | -    | -    |
|              |      |      | Sones | 27                             | 29   | 29   | 30   | -    | -    | -    |
|              | 2275 | 2585 | RPM   | 1048                           | 1100 | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.96                           | 1.05 | -    | -    | -    | -    | -    |
|              |      |      | Sones | 29                             | 30   | -    | -    | -    | -    | -    |
|              | 2375 | 2699 | RPM   | 1089                           | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 1.09                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 30                             | -    | -    | -    | -    | -    | -    |



S&P USA Ventilation Systems, LLC., Div. of Soler & Palau Ventilation Group, certifies that the Model CSF shown herein are licensed to bear the AMCA Seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirement of the AMCA Certified Ratings Program.



Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.


**CSF 10**

| MODEL<br>CSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |      |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|------|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2    |
| 10           | 700  | 654  | RPM   | 377                            | 516  | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.04                           | 0.07 | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 3.3                            | 5.8  | -    | -    | -    | -    | -    | -     | -     | -    |
|              | 825  | 771  | RPM   | 393                            | 521  | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.05                           | 0.09 | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 3.9                            | 5.9  | -    | -    | -    | -    | -    | -     | -     | -    |
|              | 950  | 888  | RPM   | 412                            | 530  | 635  | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.07                           | 0.1  | 0.14 | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 4.7                            | 6.3  | 9.2  | -    | -    | -    | -    | -     | -     | -    |
|              | 1075 | 1005 | RPM   | 436                            | 543  | 642  | 733  | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.09                           | 0.13 | 0.17 | 0.22 | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 5.7                            | 7.1  | 9.6  | 12.6 | -    | -    | -    | -     | -     | -    |
|              | 1200 | 1121 | RPM   | 462                            | 560  | 652  | 739  | 819  | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.11                           | 0.15 | 0.2  | 0.25 | 0.3  | -    | -    | -     | -     | -    |
|              |      |      | Sones | 6.8                            | 7.8  | 10.1 | 12.9 | 15.1 | -    | -    | -     | -     | -    |
|              | 1325 | 1238 | RPM   | 491                            | 580  | 666  | 748  | 825  | 898  | -    | -     | -     | -    |
|              |      |      | BHP   | 0.14                           | 0.18 | 0.23 | 0.29 | 0.34 | 0.4  | -    | -     | -     | -    |
|              |      |      | Sones | 7.9                            | 8.7  | 11.1 | 13.3 | 15.3 | 17.5 | -    | -     | -     | -    |
|              | 1450 | 1355 | RPM   | 521                            | 603  | 683  | 760  | 833  | 904  | 1034 | -     | -     | -    |
|              |      |      | BHP   | 0.17                           | 0.22 | 0.27 | 0.33 | 0.39 | 0.45 | 0.58 | -     | -     | -    |
|              |      |      | Sones | 9.3                            | 9.8  | 11.9 | 13.9 | 15.8 | 17.8 | 22   | -     | -     | -    |
|              | 1575 | 1472 | RPM   | 552                            | 628  | 702  | 774  | 844  | 912  | 1039 | 1155  | -     | -    |
|              |      |      | BHP   | 0.21                           | 0.26 | 0.32 | 0.38 | 0.44 | 0.5  | 0.64 | 0.79  | -     | -    |
|              |      |      | Sones | 10.7                           | 11.2 | 13.2 | 14.7 | 16.4 | 18.2 | 22   | 27    | -     | -    |
|              | 1700 | 1589 | RPM   | 584                            | 655  | 724  | 792  | 858  | 923  | 1045 | 1159  | 1264  | -    |
|              |      |      | BHP   | 0.26                           | 0.31 | 0.37 | 0.43 | 0.5  | 0.56 | 0.71 | 0.86  | 1.02  | -    |
|              |      |      | Sones | 12.1                           | 12.7 | 14.3 | 15.6 | 17.2 | 18.7 | 22   | 27    | 32    | -    |
|              | 1825 | 1706 | RPM   | 616                            | 683  | 748  | 812  | 875  | 936  | 1053 | 1164  | 1268  | 1457 |
|              |      |      | BHP   | 0.31                           | 0.37 | 0.43 | 0.49 | 0.56 | 0.63 | 0.78 | 0.94  | 1.1   | 1.45 |
|              |      |      | Sones | 13.5                           | 14.4 | 15.5 | 16.7 | 17.9 | 19.5 | 23   | 28    | 33    | 43   |
|              | 1950 | 1822 | RPM   | 650                            | 712  | 773  | 834  | 893  | 951  | 1064 | 1171  | 1273  | 1460 |
|              |      |      | BHP   | 0.37                           | 0.43 | 0.5  | 0.56 | 0.63 | 0.71 | 0.86 | 1.02  | 1.19  | 1.55 |
|              |      |      | Sones | 15.1                           | 16.1 | 16.8 | 17.9 | 19.1 | 20   | 23   | 28    | 33    | 43   |
|              | 2075 | 1939 | RPM   | 684                            | 742  | 800  | 857  | 913  | 969  | 1077 | 1181  | 1279  | -    |
|              |      |      | BHP   | 0.44                           | 0.5  | 0.57 | 0.64 | 0.71 | 0.79 | 0.95 | 1.12  | 1.29  | -    |
|              |      |      | Sones | 16.7                           | 17.6 | 18.2 | 19.1 | 20   | 21   | 24   | 29    | 34    | -    |
|              | 2200 | 2056 | RPM   | 718                            | 773  | 828  | 882  | 935  | 988  | 1092 | 1192  | 1288  | -    |
|              |      |      | BHP   | 0.51                           | 0.58 | 0.65 | 0.73 | 0.8  | 0.88 | 1.04 | 1.22  | 1.4   | -    |
|              |      |      | Sones | 18.6                           | 19.1 | 19.6 | 21   | 21   | 22   | 25   | 30    | 34    | -    |
|              | 2325 | 2173 | RPM   | 752                            | 805  | 857  | 908  | 959  | 1009 | 1108 | 1205  | 1298  | -    |
|              |      |      | BHP   | 0.6                            | 0.67 | 0.74 | 0.82 | 0.9  | 0.98 | 1.15 | 1.33  | 1.52  | -    |
|              |      |      | Sones | 20                             | 21   | 21   | 22   | 23   | 24   | 27   | 30    | 35    | -    |
|              | 2450 | 2290 | RPM   | 787                            | 837  | 887  | 936  | 984  | 1032 | 1127 | 1219  | -     | -    |
|              |      |      | BHP   | 0.69                           | 0.77 | 0.84 | 0.92 | 1    | 1.09 | 1.26 | 1.45  | -     | -    |
|              |      |      | Sones | 22                             | 22   | 23   | 23   | 24   | 25   | 28   | 32    | -     | -    |
|              | 2575 | 2407 | RPM   | 822                            | 870  | 917  | 964  | 1010 | 1056 | 1147 | 1236  | -     | -    |
|              |      |      | BHP   | 0.8                            | 0.87 | 0.95 | 1.04 | 1.12 | 1.21 | 1.39 | 1.58  | -     | -    |
|              |      |      | Sones | 23                             | 24   | 24   | 25   | 25   | 27   | 29   | 33    | -     | -    |
|              | 2700 | 2523 | RPM   | 858                            | 903  | 949  | 993  | 1037 | 1081 | 1168 | -     | -     | -    |
|              |      |      | BHP   | 0.91                           | 0.99 | 1.08 | 1.16 | 1.25 | 1.34 | 1.52 | -     | -     | -    |
|              |      |      | Sones | 25                             | 26   | 26   | 27   | 27   | 28   | 31   | -     | -     | -    |
|              | 2825 | 2640 | RPM   | 893                            | 937  | 980  | 1023 | 1065 | 1107 | -    | -     | -     | -    |
|              |      |      | BHP   | 1.03                           | 1.12 | 1.21 | 1.3  | 1.39 | 1.48 | -    | -     | -     | -    |
|              |      |      | Sones | 27                             | 27   | 28   | 28   | 29   | 30   | -    | -     | -     | -    |
|              | 2950 | 2757 | RPM   | 929                            | 971  | 1012 | 1053 | 1094 | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 1.17                           | 1.26 | 1.35 | 1.44 | 1.53 | -    | -    | -     | -     | -    |
|              |      |      | Sones | 28                             | 29   | 29   | 30   | 31   | -    | -    | -     | -     | -    |
|              | 3075 | 2874 | RPM   | 965                            | 1005 | 1045 | 1084 | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 1.32                           | 1.41 | 1.5  | 1.6  | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 30                             | 31   | 31   | 32   | -    | -    | -    | -     | -     | -    |
|              | 3200 | 2991 | RPM   | 1001                           | 1040 | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 1.48                           | 1.57 | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 32                             | 33   | -    | -    | -    | -    | -    | -     | -     | -    |



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**UL STANDARD 705**

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.


**CSF12**

| MODEL<br>CSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |   |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|---|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2 |
| 12           | 1150 | 767  | RPM   | 338                            | -    | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.08                           | -    | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 3.3                            | -    | -    | -    | -    | -    | -    | -     | -     | - |
|              | 1300 | 867  | RPM   | 353                            | 459  | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.1                            | 0.14 | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 4.1                            | 5.4  | -    | -    | -    | -    | -    | -     | -     | - |
|              | 1450 | 967  | RPM   | 372                            | 464  | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.12                           | 0.17 | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 4.9                            | 5.7  | -    | -    | -    | -    | -    | -     | -     | - |
|              | 1600 | 1067 | RPM   | 394                            | 475  | 563  | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.15                           | 0.2  | 0.27 | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 6.2                            | 6.3  | 7.9  | -    | -    | -    | -    | -     | -     | - |
|              | 1750 | 1167 | RPM   | 417                            | 490  | 567  | 649  | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.19                           | 0.24 | 0.3  | 0.38 | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 7.5                            | 7.1  | 8.2  | 10.5 | -    | -    | -    | -     | -     | - |
|              | 1900 | 1267 | RPM   | 441                            | 507  | 577  | 651  | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.23                           | 0.28 | 0.35 | 0.43 | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 8.5                            | 8.1  | 8.7  | 10.7 | -    | -    | -    | -     | -     | - |
|              | 2050 | 1367 | RPM   | 465                            | 527  | 590  | 657  | 726  | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.28                           | 0.34 | 0.4  | 0.48 | 0.57 | -    | -    | -     | -     | - |
|              |      |      | Sones | 9.5                            | 9.2  | 9.5  | 11.1 | 12.8 | -    | -    | -     | -     | - |
|              | 2200 | 1467 | RPM   | 491                            | 548  | 606  | 667  | 730  | 795  | -    | -     | -     | - |
|              |      |      | BHP   | 0.33                           | 0.4  | 0.46 | 0.54 | 0.63 | 0.73 | -    | -     | -     | - |
|              |      |      | Sones | 10.6                           | 10.5 | 10.5 | 11.8 | 13.1 | 14.9 | -    | -     | -     | - |
|              | 2350 | 1567 | RPM   | 517                            | 570  | 624  | 680  | 738  | 798  | -    | -     | -     | - |
|              |      |      | BHP   | 0.4                            | 0.46 | 0.53 | 0.61 | 0.7  | 0.79 | -    | -     | -     | - |
|              |      |      | Sones | 11.6                           | 11.9 | 11.9 | 12.7 | 13.6 | 15.1 | -    | -     | -     | - |
|              | 2500 | 1667 | RPM   | 544                            | 593  | 643  | 695  | 748  | 804  | 918  | -     | -     | - |
|              |      |      | BHP   | 0.47                           | 0.54 | 0.61 | 0.69 | 0.78 | 0.87 | 1.1  | -     | -     | - |
|              |      |      | Sones | 12.9                           | 13.7 | 13.2 | 13.6 | 14.3 | 15.5 | 19.1 | -     | -     | - |
|              | 2650 | 1767 | RPM   | 570                            | 617  | 664  | 712  | 762  | 813  | 919  | 1029  | -     | - |
|              |      |      | BHP   | 0.55                           | 0.62 | 0.7  | 0.78 | 0.87 | 0.96 | 1.18 | 1.44  | -     | - |
|              |      |      | Sones | 14.2                           | 14.9 | 14.9 | 14.8 | 15.2 | 16.1 | 19.1 | 24    | -     | - |
|              | 2800 | 1867 | RPM   | 597                            | 642  | 686  | 731  | 778  | 825  | 924  | 1026  | -     | - |
|              |      |      | BHP   | 0.64                           | 0.72 | 0.8  | 0.88 | 0.97 | 1.06 | 1.28 | 1.53  | -     | - |
|              |      |      | Sones | 15.6                           | 16.4 | 16.3 | 16.1 | 16.3 | 16.9 | 19.5 | 24    | -     | - |
|              | 2950 | 1967 | RPM   | 625                            | 667  | 709  | 752  | 795  | 839  | 932  | 1028  | -     | - |
|              |      |      | BHP   | 0.74                           | 0.82 | 0.9  | 0.99 | 1.08 | 1.18 | 1.39 | 1.64  | -     | - |
|              |      |      | Sones | 17.1                           | 17.9 | 18.1 | 17.5 | 17.4 | 17.8 | 20   | 24    | -     | - |
|              | 3100 | 2067 | RPM   | 652                            | 693  | 733  | 773  | 814  | 855  | 942  | 1032  | 1124  | - |
|              |      |      | BHP   | 0.85                           | 0.93 | 1.02 | 1.11 | 1.2  | 1.3  | 1.52 | 1.76  | 2.04  | - |
|              |      |      | Sones | 18.6                           | 19.2 | 19.7 | 19.1 | 18.9 | 19.1 | 21   | 24    | 28    | - |
|              | 3250 | 2167 | RPM   | 680                            | 718  | 757  | 795  | 834  | 873  | 954  | 1039  | -     | - |
|              |      |      | BHP   | 0.97                           | 1.06 | 1.15 | 1.24 | 1.34 | 1.44 | 1.65 | 1.9   | -     | - |
|              |      |      | Sones | 20                             | 20   | 21   | 21   | 21   | 20   | 22   | 25    | -     | - |
|              | 3400 | 2267 | RPM   | 708                            | 745  | 781  | 818  | 855  | 892  | 969  | 1048  | -     | - |
|              |      |      | BHP   | 1.1                            | 1.19 | 1.29 | 1.38 | 1.48 | 1.58 | 1.8  | 2.05  | -     | - |
|              |      |      | Sones | 21                             | 22   | 22   | 23   | 22   | 22   | 23   | 25    | -     | - |
|              | 3550 | 2367 | RPM   | 736                            | 771  | 806  | 841  | 876  | 912  | 984  | -     | -     | - |
|              |      |      | BHP   | 1.24                           | 1.34 | 1.44 | 1.54 | 1.64 | 1.74 | 1.97 | -     | -     | - |
|              |      |      | Sones | 23                             | 24   | 24   | 25   | 24   | 24   | 25   | -     | -     | - |
|              | 3700 | 2467 | RPM   | 764                            | 798  | 832  | 865  | 899  | 933  | 1002 | -     | -     | - |
|              |      |      | BHP   | 1.4                            | 1.5  | 1.6  | 1.71 | 1.81 | 1.92 | 2.14 | -     | -     | - |
|              |      |      | Sones | 25                             | 25   | 25   | 26   | 26   | 25   | 26   | -     | -     | - |
|              | 3850 | 2567 | RPM   | 792                            | 825  | 857  | 890  | 922  | 954  | -    | -     | -     | - |
|              |      |      | BHP   | 1.57                           | 1.67 | 1.78 | 1.89 | 2    | 2.1  | -    | -     | -     | - |
|              |      |      | Sones | 26                             | 26   | 27   | 27   | 27   | 26   | -    | -     | -     | - |
|              | 4000 | 2667 | RPM   | 820                            | 852  | 883  | 914  | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 1.75                           | 1.86 | 1.97 | 2.08 | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 27                             | 28   | 28   | 29   | -    | -    | -    | -     | -     | - |
|              | 4150 | 2767 | RPM   | 849                            | 879  | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 1.94                           | 2.06 | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 28                             | 29   | -    | -    | -    | -    | -    | -     | -     | - |



S&P USA Ventilation Systems, LLC., Div. of Soler & Palau Ventilation Group, certifies that the Model CSF shown herein are licensed to bear the AMCA Seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirement of the AMCA Certified Ratings Program.



**UL STANDARD 705**

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.





## CSF 15

| MODEL<br>CSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |   |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|---|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2 |
| 15           | 1625 | 763  | RPM   | 285                            | -    | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.1                            | -    | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 3.6                            | -    | -    | -    | -    | -    | -    | -     | -     | - |
|              | 1825 | 857  | RPM   | 296                            | 389  | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.12                           | 0.2  | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 4.1                            | 6.4  | -    | -    | -    | -    | -    | -     | -     | - |
|              | 2125 | 998  | RPM   | 319                            | 398  | 475  | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.17                           | 0.25 | 0.34 | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 4.9                            | 6.8  | 9.1  | -    | -    | -    | -    | -     | -     | - |
|              | 2325 | 1092 | RPM   | 337                            | 403  | 479  | 548  | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.22                           | 0.29 | 0.38 | 0.49 | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 5.9                            | 7.1  | 9.2  | 11.6 | -    | -    | -    | -     | -     | - |
|              | 2625 | 1232 | RPM   | 367                            | 421  | 488  | 550  | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.29                           | 0.36 | 0.46 | 0.57 | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 7.2                            | 7.9  | 9.8  | 11.7 | -    | -    | -    | -     | -     | - |
|              | 2825 | 1326 | RPM   | 388                            | 436  | 493  | 559  | 614  | -    | -    | -     | -     | - |
|              |      |      | BHP   | 0.36                           | 0.43 | 0.52 | 0.63 | 0.75 | -    | -    | -     | -     | - |
|              |      |      | Sones | 8.2                            | 8.6  | 10.1 | 12.3 | 14.2 | -    | -    | -     | -     | - |
|              | 3125 | 1467 | RPM   | 420                            | 462  | 510  | 566  | 624  | 673  | -    | -     | -     | - |
|              |      |      | BHP   | 0.47                           | 0.54 | 0.63 | 0.74 | 0.87 | 1    | -    | -     | -     | - |
|              |      |      | Sones | 9.7                            | 9.9  | 10.9 | 12.6 | 14.8 | 16.9 | -    | -     | -     | - |
|              | 3325 | 1561 | RPM   | 442                            | 481  | 524  | 572  | 629  | 680  | 775  | -     | -     | - |
|              |      |      | BHP   | 0.55                           | 0.63 | 0.72 | 0.83 | 0.95 | 1.09 | 1.39 | -     | -     | - |
|              |      |      | Sones | 10.8                           | 11.1 | 11.7 | 13.1 | 15.2 | 17.5 | 21   | -     | -     | - |
|              | 3625 | 1702 | RPM   | 476                            | 510  | 548  | 590  | 637  | 688  | 777  | -     | -     | - |
|              |      |      | BHP   | 0.7                            | 0.78 | 0.87 | 0.98 | 1.11 | 1.24 | 1.55 | -     | -     | - |
|              |      |      | Sones | 12.6                           | 12.6 | 13.1 | 14.2 | 15.7 | 18.1 | 22   | -     | -     | - |
|              | 3825 | 1796 | RPM   | 499                            | 531  | 566  | 604  | 646  | 693  | 782  | 867   | -     | - |
|              |      |      | BHP   | 0.82                           | 0.9  | 0.99 | 1.1  | 1.22 | 1.36 | 1.67 | 2.02  | -     | - |
|              |      |      | Sones | 13.8                           | 13.9 | 14.3 | 15.1 | 16.3 | 18.4 | 22   | 26    | -     | - |
|              | 4125 | 1937 | RPM   | 534                            | 562  | 594  | 628  | 665  | 704  | 793  | 869   | -     | - |
|              |      |      | BHP   | 1.01                           | 1.1  | 1.19 | 1.3  | 1.42 | 1.56 | 1.87 | 2.22  | -     | - |
|              |      |      | Sones | 15.6                           | 15.7 | 16.1 | 16.7 | 17.8 | 19.2 | 23   | 26    | -     | - |
|              | 4325 | 2031 | RPM   | 557                            | 584  | 613  | 645  | 679  | 715  | 798  | 877   | 951   | - |
|              |      |      | BHP   | 1.16                           | 1.25 | 1.34 | 1.45 | 1.58 | 1.71 | 2.02 | 2.37  | 2.76  | - |
|              |      |      | Sones | 16.9                           | 17.1 | 17.3 | 17.8 | 18.9 | 19.8 | 23   | 26    | 29    | - |
|              | 4625 | 2171 | RPM   | 593                            | 617  | 644  | 672  | 703  | 735  | 807  | 887   | 957   | - |
|              |      |      | BHP   | 1.4                            | 1.49 | 1.6  | 1.71 | 1.83 | 1.97 | 2.27 | 2.62  | 3.01  | - |
|              |      |      | Sones | 19.1                           | 19.3 | 19.4 | 19.9 | 21   | 22   | 24   | 27    | 30    | - |
|              | 4825 | 2265 | RPM   | 616                            | 640  | 664  | 691  | 720  | 750  | 816  | 892   | 964   | - |
|              |      |      | BHP   | 1.59                           | 1.68 | 1.78 | 1.9  | 2.02 | 2.16 | 2.46 | 2.81  | 3.2   | - |
|              |      |      | Sones | 21                             | 21   | 21   | 22   | 22   | 23   | 25   | 27    | 31    | - |
|              | 5125 | 2406 | RPM   | 652                            | 673  | 697  | 721  | 747  | 775  | 834  | 898   | -     | - |
|              |      |      | BHP   | 1.89                           | 1.99 | 2.09 | 2.21 | 2.33 | 2.47 | 2.78 | 3.12  | -     | - |
|              |      |      | Sones | 23                             | 24   | 24   | 24   | 24   | 25   | 26   | 28    | -     | - |
|              | 5325 | 2500 | RPM   | 676                            | 696  | 718  | 742  | 766  | 792  | 848  | -     | -     | - |
|              |      |      | BHP   | 2.11                           | 2.21 | 2.32 | 2.44 | 2.57 | 2.7  | 3.01 | -     | -     | - |
|              |      |      | Sones | 25                             | 25   | 25   | 25   | 25   | 26   | 27   | -     | -     | - |
|              | 5625 | 2641 | RPM   | 712                            | 731  | 751  | 773  | 796  | 820  | -    | -     | -     | - |
|              |      |      | BHP   | 2.48                           | 2.58 | 2.69 | 2.81 | 2.94 | 3.08 | -    | -     | -     | - |
|              |      |      | Sones | 27                             | 27   | 27   | 27   | 27   | 28   | -    | -     | -     | - |
|              | 5825 | 2735 | RPM   | 736                            | 754  | 774  | 794  | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 2.74                           | 2.85 | 2.97 | 3.09 | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 28                             | 29   | 28   | 29   | -    | -    | -    | -     | -     | - |
|              | 6125 | 2876 | RPM   | 772                            | 789  | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | BHP   | 3.17                           | 3.29 | -    | -    | -    | -    | -    | -     | -     | - |
|              |      |      | Sones | 31                             | 32   | -    | -    | -    | -    | -    | -     | -     | - |



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### UL STANDARD 705

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.


**CSF18**

| MODEL<br>CSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |      |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|------|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2    |
| 18           | 2250 | 765  | RPM   | 253                            | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.14                           | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 2.1                            | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              | 2600 | 884  | RPM   | 269                            | 336  | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.18                           | 0.26 | -    | -    | -    | -    | -    | -     | -     | -    |
|              |      |      | Sones | 2.8                            | 3.4  | -    | -    | -    | -    | -    | -     | -     | -    |
|              | 2950 | 1003 | RPM   | 283                            | 346  | 404  | 459  | 509  | -    | -    | -     | -     | -    |
|              |      |      | BHP   | 0.23                           | 0.32 | 0.42 | 0.54 | 0.66 | -    | -    | -     | -     | -    |
|              |      |      | Sones | 3.5                            | 3.9  | 4.7  | 5.9  | 7.1  | -    | -    | -     | -     | -    |
|              | 3300 | 1122 | RPM   | 302                            | 359  | 413  | 465  | 513  | 558  | -    | -     | -     | -    |
|              |      |      | BHP   | 0.3                            | 0.4  | 0.5  | 0.62 | 0.75 | 0.89 | -    | -     | -     | -    |
|              |      |      | Sones | 4.4                            | 4.5  | 5.2  | 6.3  | 7.3  | 8.7  | -    | -     | -     | -    |
|              | 3650 | 1241 | RPM   | 323                            | 375  | 426  | 473  | 519  | 563  | 643  | 716   | -     | -    |
|              |      |      | BHP   | 0.38                           | 0.49 | 0.6  | 0.72 | 0.86 | 1    | 1.31 | 1.65  | -     | -    |
|              |      |      | Sones | 5.5                            | 5.4  | 6.1  | 6.7  | 7.7  | 9.1  | 12.4 | 14.5  | -     | -    |
|              | 4000 | 1361 | RPM   | 344                            | 392  | 438  | 483  | 527  | 568  | 647  | 719   | -     | -    |
|              |      |      | BHP   | 0.48                           | 0.59 | 0.71 | 0.84 | 0.98 | 1.13 | 1.45 | 1.79  | -     | -    |
|              |      |      | Sones | 6.8                            | 6.3  | 6.7  | 7.3  | 8.2  | 9.4  | 12.6 | 14.7  | -     | -    |
|              | 4350 | 1480 | RPM   | 365                            | 410  | 453  | 497  | 536  | 576  | 652  | 722   | 787   | -    |
|              |      |      | BHP   | 0.6                            | 0.72 | 0.84 | 0.98 | 1.12 | 1.27 | 1.6  | 1.96  | 2.34  | -    |
|              |      |      | Sones | 7.9                            | 7.4  | 7.6  | 8.2  | 8.9  | 10.1 | 13.1 | 14.9  | 16.7  | -    |
|              | 4700 | 1599 | RPM   | 387                            | 429  | 470  | 509  | 550  | 586  | 658  | 726   | 790   | -    |
|              |      |      | BHP   | 0.73                           | 0.86 | 1    | 1.14 | 1.28 | 1.44 | 1.78 | 2.15  | 2.54  | -    |
|              |      |      | Sones | 9.7                            | 8.6  | 8.7  | 9.1  | 9.9  | 11.1 | 13.4 | 15.3  | 17.2  | -    |
|              | 5050 | 1718 | RPM   | 410                            | 450  | 488  | 525  | 563  | 597  | 666  | 732   | 794   | 909  |
|              |      |      | BHP   | 0.88                           | 1.02 | 1.17 | 1.31 | 1.47 | 1.63 | 1.98 | 2.35  | 2.76  | 3.63 |
|              |      |      | Sones | 12.1                           | 10.2 | 10.1 | 10.4 | 11.2 | 11.9 | 14.1 | 15.8  | 17.6  | 21   |
|              | 5400 | 1837 | RPM   | 433                            | 470  | 506  | 541  | 576  | 611  | 675  | 739   | 799   | 912  |
|              |      |      | BHP   | 1.06                           | 1.21 | 1.36 | 1.52 | 1.68 | 1.84 | 2.2  | 2.58  | 3     | 3.89 |
|              |      |      | Sones | 14.6                           | 12.1 | 11.7 | 11.8 | 12.3 | 13.3 | 14.7 | 16.3  | 17.9  | 22   |
|              | 5750 | 1956 | RPM   | 456                            | 492  | 526  | 559  | 591  | 624  | 686  | 747   | 806   | 916  |
|              |      |      | BHP   | 1.25                           | 1.42 | 1.58 | 1.74 | 1.91 | 2.08 | 2.45 | 2.84  | 3.26  | 4.17 |
|              |      |      | Sones | 17.7                           | 13.9 | 13.5 | 13.4 | 13.7 | 14.5 | 15.6 | 16.9  | 18.5  | 22   |
|              | 6100 | 2075 | RPM   | 479                            | 513  | 546  | 577  | 608  | 639  | 701  | 757   | 813   | 921  |
|              |      |      | BHP   | 1.47                           | 1.65 | 1.82 | 1.99 | 2.17 | 2.35 | 2.72 | 3.13  | 3.56  | 4.48 |
|              |      |      | Sones | 21                             | 16.1 | 15.5 | 15.1 | 15.3 | 15.8 | 16.7 | 17.7  | 19.1  | 22   |
|              | 6450 | 2194 | RPM   | 503                            | 535  | 566  | 596  | 626  | 655  | 714  | 768   | 822   | 927  |
|              |      |      | BHP   | 1.72                           | 1.91 | 2.09 | 2.27 | 2.45 | 2.64 | 3.03 | 3.44  | 3.88  | 4.83 |
|              |      |      | Sones | 24                             | 18.7 | 17.3 | 16.8 | 16.9 | 17.1 | 17.8 | 18.6  | 19.7  | 23   |
|              | 6800 | 2313 | RPM   | 527                            | 558  | 587  | 616  | 644  | 672  | 727  | 782   | 833   | 934  |
|              |      |      | BHP   | 1.99                           | 2.19 | 2.38 | 2.57 | 2.76 | 2.96 | 3.36 | 3.79  | 4.23  | 5.2  |
|              |      |      | Sones | 26                             | 21   | 19.1 | 18.6 | 18.8 | 18.4 | 18.9 | 19.7  | 21    | 23   |
|              | 7150 | 2432 | RPM   | 551                            | 580  | 609  | 636  | 663  | 690  | 742  | 794   | 844   | 942  |
|              |      |      | BHP   | 2.3                            | 2.5  | 2.7  | 2.9  | 3.11 | 3.31 | 3.73 | 4.16  | 4.62  | 5.6  |
|              |      |      | Sones | 28                             | 24   | 21   | 21   | 20   | 19.9 | 20   | 21    | 22    | 24   |
|              | 7500 | 2551 | RPM   | 575                            | 603  | 630  | 657  | 683  | 709  | 759  | 808   | 859   | 951  |
|              |      |      | BHP   | 2.63                           | 2.85 | 3.06 | 3.27 | 3.48 | 3.69 | 4.12 | 4.57  | 5.04  | 6.04 |
|              |      |      | Sones | 30                             | 27   | 23   | 22   | 22   | 22   | 22   | 22    | 23    | 25   |
|              | 7850 | 2670 | RPM   | 599                            | 626  | 652  | 678  | 703  | 728  | 776  | 824   | 871   | 961  |
|              |      |      | BHP   | 2.99                           | 3.22 | 3.44 | 3.66 | 3.88 | 4.1  | 4.55 | 5.01  | 5.5   | 6.52 |
|              |      |      | Sones | 32                             | 29   | 25   | 24   | 24   | 24   | 24   | 24    | 25    | 26   |
|              | 8200 | 2789 | RPM   | 623                            | 649  | 675  | 699  | 723  | 747  | 794  | 840   | 885   | 973  |
|              |      |      | BHP   | 3.38                           | 3.63 | 3.86 | 4.09 | 4.32 | 4.55 | 5.02 | 5.49  | 5.99  | 7.03 |
|              |      |      | Sones | 34                             | 32   | 27   | 26   | 25   | 25   | 25   | 25    | 26    | 27   |



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**UL STANDARD 705**

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**CSF18 Cont.**

| MODEL<br>CSF | CFM   | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |      |
|--------------|-------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|------|
|              |       |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2    |
| 18           | 8550  | 2908 | RPM   | 647                            | 673  | 697  | 721  | 744  | 767  | 812  | 856   | 900   | 987  |
|              |       |      | BHP   | 3.81                           | 4.07 | 4.31 | 4.55 | 4.79 | 5.03 | 5.51 | 6.01  | 6.51  | 7.58 |
|              |       |      | Sones | 36                             | 35   | 30   | 28   | 27   | 27   | 27   | 27    | 28    | 29   |
|              | 8900  | 3027 | RPM   | 672                            | 696  | 720  | 743  | 766  | 788  | 831  | 874   | 916   | -    |
|              |       |      | BHP   | 4.28                           | 4.54 | 4.8  | 5.05 | 5.3  | 5.55 | 6.05 | 6.56  | 7.08  | -    |
|              |       |      | Sones | 39                             | 39   | 34   | 30   | 29   | 29   | 29   | 29    | 29    | -    |
|              | 9250  | 3146 | RPM   | 696                            | 720  | 743  | 765  | 787  | 808  | 851  | 892   | 933   | -    |
|              |       |      | BHP   | 4.78                           | 5.06 | 5.33 | 5.59 | 5.85 | 6.11 | 6.63 | 7.15  | 7.69  | -    |
|              |       |      | Sones | 41                             | 42   | 37   | 33   | 31   | 31   | 31   | 31    | 31    | -    |
|              | 9600  | 3265 | RPM   | 721                            | 744  | 766  | 788  | 809  | 829  | 870  | 910   | -     | -    |
|              |       |      | BHP   | 5.32                           | 5.61 | 5.89 | 6.16 | 6.43 | 6.7  | 7.24 | 7.78  | -     | -    |
|              |       |      | Sones | 44                             | 45   | 41   | 37   | 34   | 34   | 34   | 34    | -     | -    |
|              | 9950  | 3384 | RPM   | 745                            | 768  | 789  | 810  | 831  | 851  | -    | -     | -     | -    |
|              |       |      | BHP   | 5.9                            | 6.2  | 6.49 | 6.78 | 7.06 | 7.34 | -    | -     | -     | -    |
|              |       |      |       | 48                             | 49   | 45   | 41   | 37   | 36   | -    | -     | -     | -    |
|              | 10300 | 3503 | RPM   | 771                            | 796  | 819  | 840  | 862  | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 6.5                            | 6.9  | 7.2  | 7.5  | 7.8  | -    | -    | -     | -     | -    |
|              |       |      | Sones | 52                             | 53   | 51   | 46   | 42   | -    | -    | -     | -     | -    |
|              | 10650 | 3622 | RPM   | 796                            | 820  | 842  | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 7.3                            | 7.6  | 7.8  | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 56                             | 57   | 56   | -    | -    | -    | -    | -     | -     | -    |



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**UL STANDARD 705**

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## CSF20

| MODEL<br>CSF | CFM   | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |      |
|--------------|-------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|------|
|              |       |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2    |
| 20           | 2800  | 698  | RPM   | 223                            | 288  | 342  | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.16                           | 0.25 | 0.35 | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 3.7                            | 5.4  | 7.6  | -    | -    | -    | -    | -     | -     | -    |
|              | 3340  | 833  | RPM   | 241                            | 299  | 351  | 397  | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.22                           | 0.32 | 0.44 | 0.56 | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 4.8                            | 6.2  | 8.5  | 10.8 | -    | -    | -    | -     | -     | -    |
|              | 3880  | 968  | RPM   | 262                            | 313  | 361  | 405  | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.31                           | 0.42 | 0.55 | 0.68 | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 6.1                            | 7.2  | 9.3  | 11.7 | -    | -    | -    | -     | -     | -    |
|              | 4420  | 1102 | RPM   | 285                            | 331  | 375  | 416  | 455  | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.42                           | 0.55 | 0.68 | 0.83 | 0.98 | -    | -    | -     | -     | -    |
|              |       |      | Sones | 7.6                            | 8.6  | 10.6 | 12.9 | 14.8 | -    | -    | -     | -     | -    |
|              | 4960  | 1237 | RPM   | 310                            | 350  | 390  | 429  | 465  | 500  | -    | -     | -     | -    |
|              |       |      | BHP   | 0.57                           | 0.7  | 0.84 | 1    | 1.16 | 1.33 | -    | -     | -     | -    |
|              |       |      | Sones | 9.3                            | 10.3 | 12.1 | 14.3 | 15.8 | 17.3 | -    | -     | -     | -    |
|              | 5500  | 1372 | RPM   | 335                            | 372  | 408  | 444  | 478  | 511  | -    | -     | -     | -    |
|              |       |      | BHP   | 0.74                           | 0.88 | 1.03 | 1.2  | 1.37 | 1.55 | -    | -     | -     | -    |
|              |       |      | Sones | 11.3                           | 12.4 | 13.9 | 15.7 | 16.9 | 18.4 | -    | -     | -     | -    |
|              | 6040  | 1506 | RPM   | 361                            | 394  | 428  | 461  | 493  | 524  | -    | -     | -     | -    |
|              |       |      | BHP   | 0.96                           | 1.1  | 1.26 | 1.44 | 1.62 | 1.81 | -    | -     | -     | -    |
|              |       |      | Sones | 13.9                           | 14.8 | 16.3 | 17.3 | 18.4 | 19.6 | -    | -     | -     | -    |
|              | 6580  | 1641 | RPM   | 388                            | 418  | 449  | 479  | 510  | 539  | 596  | 649   | -     | -    |
|              |       |      | BHP   | 1.21                           | 1.36 | 1.53 | 1.71 | 1.91 | 2.11 | 2.53 | 2.98  | -     | -    |
|              |       |      | Sones | 16.8                           | 17.5 | 18.4 | 19.1 | 20   | 21   | 24   | 27    | -     | -    |
|              | 7120  | 1776 | RPM   | 415                            | 443  | 471  | 499  | 527  | 557  | 609  | 661   | 709   | 800  |
|              |       |      | BHP   | 1.51                           | 1.67 | 1.85 | 2.04 | 2.24 | 2.45 | 2.89 | 3.36  | 3.85  | 4.85 |
|              |       |      | Sones | 19.8                           | 20   | 20   | 21   | 22   | 23   | 25   | 28    | 32    | 40   |
|              | 7660  | 1910 | RPM   | 442                            | 468  | 494  | 521  | 547  | 573  | 624  | 673   | 721   | 809  |
|              |       |      | BHP   | 1.85                           | 2.02 | 2.21 | 2.4  | 2.61 | 2.83 | 3.3  | 3.79  | 4.29  | 5.36 |
|              |       |      | Sones | 22                             | 22   | 22   | 23   | 24   | 25   | 27   | 30    | 34    | 42   |
|              | 8200  | 2045 | RPM   | 470                            | 494  | 518  | 543  | 568  | 592  | 641  | 687   | 733   | 819  |
|              |       |      | BHP   | 2.25                           | 2.43 | 2.62 | 2.82 | 3.04 | 3.27 | 3.75 | 4.26  | 4.79  | 5.9  |
|              |       |      | Sones | 25                             | 25   | 25   | 26   | 26   | 27   | 29   | 32    | 35    | 43   |
|              | 8740  | 2180 | RPM   | 497                            | 520  | 543  | 566  | 589  | 612  | 658  | 703   | 746   | 830  |
|              |       |      | BHP   | 2.7                            | 2.88 | 3.09 | 3.3  | 3.52 | 3.76 | 4.26 | 4.78  | 5.33  | 6.49 |
|              |       |      | Sones | 27                             | 28   | 28   | 28   | 28   | 29   | 31   | 34    | 37    | 45   |
|              | 9280  | 2314 | RPM   | 525                            | 547  | 568  | 590  | 612  | 634  | 677  | 719   | 761   | 842  |
|              |       |      | BHP   | 3.2                            | 3.4  | 3.61 | 3.83 | 4.06 | 4.31 | 4.82 | 5.36  | 5.93  | 7.13 |
|              |       |      | Sones | 30                             | 31   | 30   | 31   | 31   | 32   | 34   | 36    | 40    | 47   |
|              | 9820  | 2449 | RPM   | 554                            | 574  | 594  | 615  | 635  | 656  | 697  | 737   | 777   | 855  |
|              |       |      | BHP   | 3.77                           | 3.98 | 4.2  | 4.43 | 4.67 | 4.92 | 5.45 | 6.01  | 6.6   | 7.84 |
|              |       |      | Sones | 33                             | 34   | 33   | 33   | 34   | 34   | 37   | 39    | 42    | 50   |
|              | 10360 | 2584 | RPM   | 582                            | 601  | 620  | 640  | 659  | 678  | 717  | 756   | 795   | -    |
|              |       |      | BHP   | 4.41                           | 4.62 | 4.85 | 5.09 | 5.33 | 5.59 | 6.14 | 6.71  | 7.32  | -    |
|              |       |      | Sones | 35                             | 37   | 37   | 36   | 37   | 37   | 40   | 42    | 45    | -    |
|              | 10900 | 2718 | RPM   | 610                            | 628  | 647  | 665  | 683  | 702  | 739  | 776   | -     | -    |
|              |       |      | BHP   | 5.11                           | 5.33 | 5.57 | 5.81 | 6.07 | 6.34 | 6.9  | 7.49  | -     | -    |
|              |       |      | Sones | 38                             | 39   | 39   | 39   | 40   | 41   | 43   | 46    | -     | -    |
|              | 11440 | 2853 | RPM   | 639                            | 656  | 673  | 691  | 708  | 726  | 761  | -     | -     | -    |
|              |       |      | BHP   | 5.88                           | 6.12 | 6.36 | 6.62 | 6.88 | 7.16 | 7.73 | -     | -     | -    |
|              |       |      | Sones | 41                             | 43   | 43   | 44   | 44   | 45   | 47   | -     | -     | -    |
|              | 11980 | 2988 | RPM   | 667                            | 684  | 700  | 717  | 734  | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 6.73                           | 6.97 | 7.23 | 7.49 | 7.77 | -    | -    | -     | -     | -    |
|              |       |      | Sones | 45                             | 47   | 48   | 48   | 49   | -    | -    | -     | -     | -    |
|              | 12520 | 3122 | RPM   | 696                            | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 7.66                           | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 50                             | -    | -    | -    | -    | -    | -    | -     | -     | -    |



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# LSF PERFORMANCE

## LSF 9

| MODEL<br>LSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    |
| 9            | 475  | 540  | RPM   | 431                            | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.03                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 4.1                            | -    | -    | -    | -    | -    | -    |
|              | 575  | 653  | RPM   | 437                            | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.04                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 4.3                            | -    | -    | -    | -    | -    | -    |
|              | 675  | 767  | RPM   | 455                            | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.05                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 4.9                            | -    | -    | -    | -    | -    | -    |
|              | 775  | 881  | RPM   | 480                            | 614  | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.06                           | 0.1  | -    | -    | -    | -    | -    |
|              |      |      | Sones | 5.8                            | 10.3 | -    | -    | -    | -    | -    |
|              | 875  | 994  | RPM   | 509                            | 628  | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.08                           | 0.12 | -    | -    | -    | -    | -    |
|              |      |      | Sones | 6.9                            | 11   | -    | -    | -    | -    | -    |
|              | 975  | 1108 | RPM   | 540                            | 647  | 755  | -    | -    | -    | -    |
|              |      |      | BHP   | 0.1                            | 0.14 | 0.19 | -    | -    | -    | -    |
|              |      |      | Sones | 8.3                            | 11.9 | 15.2 | -    | -    | -    | -    |
|              | 1075 | 1222 | RPM   | 574                            | 672  | 769  | 867  | -    | -    | -    |
|              |      |      | BHP   | 0.13                           | 0.17 | 0.22 | 0.27 | -    | -    | -    |
|              |      |      | Sones | 9.8                            | 13   | 15.7 | 18.9 | -    | -    | -    |
|              | 1175 | 1335 | RPM   | 610                            | 700  | 789  | 878  | -    | -    | -    |
|              |      |      | BHP   | 0.16                           | 0.2  | 0.25 | 0.31 | -    | -    | -    |
|              |      |      | Sones | 11.7                           | 14   | 16.4 | 19.3 | -    | -    | -    |
|              | 1275 | 1449 | RPM   | 646                            | 731  | 814  | 894  | 976  | -    | -    |
|              |      |      | BHP   | 0.2                            | 0.24 | 0.29 | 0.35 | 0.41 | -    | -    |
|              |      |      | Sones | 13.7                           | 15.3 | 17.4 | 20   | 25   | -    | -    |
|              | 1375 | 1563 | RPM   | 683                            | 763  | 840  | 915  | 991  | 1067 | -    |
|              |      |      | BHP   | 0.24                           | 0.29 | 0.34 | 0.4  | 0.46 | 0.53 | -    |
|              |      |      | Sones | 15.3                           | 16.7 | 18.5 | 22   | 26   | 32   | -    |
|              | 1475 | 1676 | RPM   | 721                            | 796  | 868  | 939  | 1009 | 1080 | 1223 |
|              |      |      | BHP   | 0.29                           | 0.34 | 0.39 | 0.45 | 0.52 | 0.59 | 0.75 |
|              |      |      | Sones | 16.8                           | 18.1 | 19.7 | 23   | 28   | 33   | 48   |
|              | 1575 | 1790 | RPM   | 759                            | 832  | 899  | 965  | 1031 | 1098 | 1231 |
|              |      |      | BHP   | 0.34                           | 0.4  | 0.46 | 0.52 | 0.58 | 0.65 | 0.81 |
|              |      |      | Sones | 18.4                           | 19.8 | 21   | 25   | 29   | 35   | 49   |
|              | 1675 | 1903 | RPM   | 797                            | 867  | 931  | 994  | 1056 | 1118 | 1243 |
|              |      |      | BHP   | 0.41                           | 0.47 | 0.52 | 0.59 | 0.65 | 0.72 | 0.88 |
|              |      |      | Sones | 20                             | 22   | 24   | 27   | 32   | 36   | 50   |
|              | 1775 | 2017 | RPM   | 837                            | 903  | 965  | 1024 | 1084 | 1142 | 1259 |
|              |      |      | BHP   | 0.48                           | 0.54 | 0.6  | 0.66 | 0.73 | 0.81 | 0.96 |
|              |      |      | Sones | 22                             | 24   | 26   | 30   | 34   | 39   | 52   |
|              | 1875 | 2131 | RPM   | 876                            | 940  | 999  | 1056 | 1112 | 1168 | 1279 |
|              |      |      | BHP   | 0.55                           | 0.62 | 0.68 | 0.75 | 0.82 | 0.9  | 1.06 |
|              |      |      | Sones | 24                             | 26   | 29   | 33   | 37   | 42   | 55   |
|              | 1975 | 2244 | RPM   | 915                            | 978  | 1034 | 1089 | 1142 | 1195 | -    |
|              |      |      | BHP   | 0.64                           | 0.71 | 0.78 | 0.85 | 0.92 | 0.99 | -    |
|              |      |      | Sones | 26                             | 29   | 32   | 36   | 40   | 45   | -    |
|              | 2075 | 2358 | RPM   | 955                            | 1015 | 1070 | 1123 | 1174 | 1224 | -    |
|              |      |      | BHP   | 0.73                           | 0.81 | 0.88 | 0.95 | 1.03 | 1.1  | -    |
|              |      |      | Sones | 29                             | 32   | 36   | 40   | 44   | 49   | -    |
|              | 2175 | 2472 | RPM   | 995                            | 1053 | 1107 | 1157 | -    | -    | -    |
|              |      |      | BHP   | 0.84                           | 0.91 | 0.99 | 1.07 | -    | -    | -    |
|              |      |      | Sones | 33                             | 36   | 39   | 44   | -    | -    | -    |
|              | 2275 | 2585 | RPM   | 1035                           | 1092 | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 0.95                           | 1.03 | -    | -    | -    | -    | -    |
|              |      |      | Sones | 36                             | 40   | -    | -    | -    | -    | -    |
|              | 2375 | 2699 | RPM   | 1075                           | -    | -    | -    | -    | -    | -    |
|              |      |      | BHP   | 1.07                           | -    | -    | -    | -    | -    | -    |
|              |      |      | Sones | 40                             | -    | -    | -    | -    | -    | -    |



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# LSF 10

| MODEL<br>LSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 |
| 10           | 950  | 888  | RPM   | 421                            | -    | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 0.07                           | -    | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 5.5                            | -    | -    | -    | -    | -    | -    | -     | -     |
|              | 1075 | 1005 | RPM   | 444                            | -    | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 0.09                           | -    | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 6.3                            | -    | -    | -    | -    | -    | -    | -     | -     |
|              | 1200 | 1121 | RPM   | 470                            | 572  | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 0.11                           | 0.16 | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 7.2                            | 10.3 | -    | -    | -    | -    | -    | -     | -     |
|              | 1325 | 1238 | RPM   | 498                            | 592  | 682  | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 0.14                           | 0.19 | 0.25 | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 8.3                            | 11.4 | 14.5 | -    | -    | -    | -    | -     | -     |
|              | 1450 | 1355 | RPM   | 528                            | 615  | 698  | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 0.18                           | 0.23 | 0.29 | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 9.6                            | 12.6 | 15.1 | -    | -    | -    | -    | -     | -     |
|              | 1575 | 1472 | RPM   | 559                            | 639  | 717  | 793  | 866  | -    | -    | -     | -     |
|              |      |      | BHP   | 0.22                           | 0.28 | 0.34 | 0.4  | 0.47 | -    | -    | -     | -     |
|              |      |      | Sones | 11                             | 13.9 | 16.2 | 18.3 | 22   | -    | -    | -     | -     |
|              | 1700 | 1589 | RPM   | 591                            | 666  | 739  | 810  | 879  | 947  | 1074 | -     | -     |
|              |      |      | BHP   | 0.27                           | 0.33 | 0.39 | 0.46 | 0.53 | 0.61 | 0.78 | -     | -     |
|              |      |      | Sones | 12.5                           | 15.1 | 17.1 | 19.2 | 23   | 24   | 31   | -     | -     |
|              | 1825 | 1706 | RPM   | 623                            | 694  | 762  | 829  | 895  | 959  | 1082 | 1196  | -     |
|              |      |      | BHP   | 0.32                           | 0.39 | 0.45 | 0.52 | 0.6  | 0.68 | 0.85 | 1.04  | -     |
|              |      |      | Sones | 14.3                           | 16.4 | 18.3 | 20   | 23   | 25   | 31   | 38    | -     |
|              | 1950 | 1822 | RPM   | 657                            | 723  | 787  | 851  | 913  | 974  | 1092 | 1203  | 1308  |
|              |      |      | BHP   | 0.39                           | 0.45 | 0.52 | 0.59 | 0.67 | 0.75 | 0.93 | 1.13  | 1.33  |
|              |      |      | Sones | 15.7                           | 17.9 | 19.5 | 21   | 24   | 26   | 32   | 38    | 45    |
|              | 2075 | 1939 | RPM   | 691                            | 753  | 814  | 874  | 933  | 991  | 1104 | 1212  | 1315  |
|              |      |      | BHP   | 0.46                           | 0.52 | 0.6  | 0.67 | 0.75 | 0.83 | 1.02 | 1.22  | 1.43  |
|              |      |      | Sones | 17                             | 19.5 | 21   | 22   | 25   | 27   | 33   | 39    | 46    |
|              | 2200 | 2056 | RPM   | 725                            | 784  | 841  | 898  | 954  | 1010 | 1118 | 1223  | 1323  |
|              |      |      | BHP   | 0.54                           | 0.61 | 0.68 | 0.76 | 0.84 | 0.93 | 1.11 | 1.32  | 1.53  |
|              |      |      | Sones | 18.5                           | 21   | 22   | 24   | 26   | 28   | 34   | 40    | 46    |
|              | 2325 | 2173 | RPM   | 759                            | 815  | 870  | 924  | 978  | 1030 | 1134 | 1235  | -     |
|              |      |      | BHP   | 0.63                           | 0.7  | 0.78 | 0.86 | 0.94 | 1.03 | 1.22 | 1.43  | -     |
|              |      |      | Sones | 20                             | 22   | 24   | 25   | 28   | 29   | 35   | 41    | -     |
|              | 2450 | 2290 | RPM   | 794                            | 847  | 900  | 951  | 1002 | 1053 | 1152 | 1249  | -     |
|              |      |      | BHP   | 0.72                           | 0.8  | 0.88 | 0.96 | 1.05 | 1.14 | 1.34 | 1.55  | -     |
|              |      |      | Sones | 22                             | 24   | 25   | 27   | 30   | 31   | 36   | 42    | -     |
|              | 2575 | 2407 | RPM   | 829                            | 880  | 930  | 979  | 1028 | 1076 | 1172 | -     | -     |
|              |      |      | BHP   | 0.83                           | 0.91 | 1    | 1.08 | 1.17 | 1.27 | 1.46 | -     | -     |
|              |      |      | Sones | 25                             | 26   | 27   | 28   | 31   | 33   | 38   | -     | -     |
|              | 2700 | 2523 | RPM   | 865                            | 913  | 961  | 1008 | 1055 | 1101 | -    | -     | -     |
|              |      |      | BHP   | 0.95                           | 1.03 | 1.12 | 1.21 | 1.3  | 1.4  | -    | -     | -     |
|              |      |      | Sones | 26                             | 27   | 29   | 30   | 33   | 34   | -    | -     | -     |
|              | 2825 | 2640 | RPM   | 900                            | 947  | 993  | 1038 | 1083 | 1127 | -    | -     | -     |
|              |      |      | BHP   | 1.08                           | 1.17 | 1.26 | 1.35 | 1.45 | 1.55 | -    | -     | -     |
|              |      |      | Sones | 28                             | 29   | 31   | 32   | 35   | 36   | -    | -     | -     |
|              | 2950 | 2757 | RPM   | 936                            | 981  | 1025 | 1068 | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 1.22                           | 1.31 | 1.41 | 1.5  | -    | -    | -    | -     | -     |
|              |      |      | Sones | 30                             | 31   | 33   | 34   | -    | -    | -    | -     | -     |
|              | 3075 | 2874 | RPM   | 972                            | 1015 | 1057 | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 1.37                           | 1.47 | 1.57 | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 32                             | 33   | 35   | -    | -    | -    | -    | -     | -     |
|              | 3200 | 2991 | RPM   | 1008                           | -    | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | BHP   | 1.54                           | -    | -    | -    | -    | -    | -    | -     | -     |
|              |      |      | Sones | 34                             | -    | -    | -    | -    | -    | -    | -     | -     |



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## UL STANDARD 705

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.



# LSF 12

| MODEL<br>LSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |
|--------------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|
|              |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 |
| 12           | 1450 | 967  | RPM   | 391                            | 478  | 575  | -    | -    | -    | -    | -     |
|              |      |      | BHP   | 0.14                           | 0.2  | 0.28 | -    | -    | -    | -    | -     |
|              |      |      | Sones | 6.4                            | 8    | 11.1 | -    | -    | -    | -    | -     |
|              | 1600 | 1067 | RPM   | 414                            | 492  | 576  | -    | -    | -    | -    | -     |
|              |      |      | BHP   | 0.18                           | 0.24 | 0.31 | -    | -    | -    | -    | -     |
|              |      |      | Sones | 7.5                            | 8.6  | 11.2 | -    | -    | -    | -    | -     |
|              | 1750 | 1167 | RPM   | 439                            | 510  | 583  | 663  | -    | -    | -    | -     |
|              |      |      | BHP   | 0.22                           | 0.28 | 0.36 | 0.46 | -    | -    | -    | -     |
|              |      |      | Sones | 8.6                            | 9.4  | 11.6 | 14.1 | -    | -    | -    | -     |
|              | 1900 | 1267 | RPM   | 465                            | 530  | 596  | 667  | 742  | -    | -    | -     |
|              |      |      | BHP   | 0.27                           | 0.33 | 0.41 | 0.5  | 0.62 | -    | -    | -     |
|              |      |      | Sones | 9.8                            | 10.5 | 12.4 | 14.5 | 16.8 | -    | -    | -     |
|              | 2050 | 1367 | RPM   | 491                            | 552  | 613  | 676  | 743  | -    | -    | -     |
|              |      |      | BHP   | 0.33                           | 0.4  | 0.47 | 0.56 | 0.67 | -    | -    | -     |
|              |      |      | Sones | 11.2                           | 11.7 | 13.1 | 14.9 | 16.9 | -    | -    | -     |
|              | 2200 | 1467 | RPM   | 518                            | 576  | 632  | 689  | 749  | 813  | -    | -     |
|              |      |      | BHP   | 0.4                            | 0.47 | 0.54 | 0.63 | 0.74 | 0.86 | -    | -     |
|              |      |      | Sones | 12.7                           | 13.1 | 13.9 | 15.3 | 17.2 | 20   | -    | -     |
|              | 2350 | 1567 | RPM   | 545                            | 600  | 652  | 705  | 760  | 818  | -    | -     |
|              |      |      | BHP   | 0.47                           | 0.55 | 0.63 | 0.72 | 0.82 | 0.94 | -    | -     |
|              |      |      | Sones | 13.9                           | 14.5 | 15.1 | 16.2 | 17.7 | 20   | -    | -     |
|              | 2500 | 1667 | RPM   | 573                            | 625  | 675  | 724  | 775  | 827  | 938  | -     |
|              |      |      | BHP   | 0.56                           | 0.64 | 0.72 | 0.81 | 0.91 | 1.03 | 1.3  | -     |
|              |      |      | Sones | 15.4                           | 15.7 | 16.2 | 17.3 | 18.6 | 21   | 26   | -     |
|              | 2650 | 1767 | RPM   | 601                            | 651  | 698  | 744  | 791  | 840  | 941  | -     |
|              |      |      | BHP   | 0.65                           | 0.74 | 0.82 | 0.92 | 1.02 | 1.13 | 1.39 | -     |
|              |      |      | Sones | 16.8                           | 17.3 | 17.7 | 18.6 | 20   | 22   | 26   | -     |
|              | 2800 | 1867 | RPM   | 629                            | 677  | 722  | 766  | 810  | 855  | 949  | 1049  |
|              |      |      | BHP   | 0.76                           | 0.85 | 0.94 | 1.04 | 1.14 | 1.25 | 1.51 | 1.82  |
|              |      |      | Sones | 18.1                           | 18.9 | 19.2 | 20   | 21   | 22   | 27   | 31    |
|              | 2950 | 1967 | RPM   | 657                            | 703  | 747  | 789  | 830  | 873  | 960  | 1052  |
|              |      |      | BHP   | 0.87                           | 0.97 | 1.07 | 1.17 | 1.27 | 1.38 | 1.63 | 1.94  |
|              |      |      | Sones | 19.4                           | 20   | 20   | 21   | 22   | 23   | 27   | 32    |
|              | 3100 | 2067 | RPM   | 685                            | 730  | 772  | 812  | 852  | 892  | 973  | 1059  |
|              |      |      | BHP   | 1                              | 1.11 | 1.21 | 1.31 | 1.42 | 1.53 | 1.78 | 2.07  |
|              |      |      | Sones | 21                             | 22   | 22   | 23   | 23   | 25   | 28   | 32    |
|              | 3250 | 2167 | RPM   | 714                            | 758  | 798  | 836  | 874  | 912  | 989  | -     |
|              |      |      | BHP   | 1.14                           | 1.25 | 1.36 | 1.47 | 1.58 | 1.69 | 1.94 | -     |
|              |      |      | Sones | 22                             | 23   | 24   | 24   | 25   | 26   | 29   | -     |
|              | 3400 | 2267 | RPM   | 742                            | 785  | 824  | 861  | 898  | 934  | -    | -     |
|              |      |      | BHP   | 1.3                            | 1.42 | 1.53 | 1.64 | 1.75 | 1.87 | -    | -     |
|              |      |      | Sones | 24                             | 25   | 25   | 26   | 26   | 27   | -    | -     |
|              | 3550 | 2367 | RPM   | 771                            | 813  | 850  | 886  | 921  | 956  | -    | -     |
|              |      |      | BHP   | 1.47                           | 1.59 | 1.71 | 1.82 | 1.94 | 2.06 | -    | -     |
|              |      |      | Sones | 25                             | 26   | 27   | 27   | 28   | 29   | -    | -     |
|              | 3700 | 2467 | RPM   | 800                            | 840  | 877  | 912  | -    | -    | -    | -     |
|              |      |      | BHP   | 1.65                           | 1.78 | 1.9  | 2.02 | -    | -    | -    | -     |
|              |      |      | Sones | 27                             | 28   | 28   | 28   | -    | -    | -    | -     |
|              | 3850 | 2567 | RPM   | 829                            | 868  | 904  | -    | -    | -    | -    | -     |
|              |      |      | BHP   | 1.85                           | 1.98 | 2.11 | -    | -    | -    | -    | -     |
|              |      |      | Sones | 28                             | 29   | 30   | -    | -    | -    | -    | -     |
|              | 4000 | 2667 | RPM   | 858                            | -    | -    | -    | -    | -    | -    | -     |
|              |      |      | BHP   | 2.06                           | -    | -    | -    | -    | -    | -    | -     |
|              |      |      | Sones | 30                             | -    | -    | -    | -    | -    | -    | -     |



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**UL STANDARD 705**

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.



# LSF 15

| MODEL LSF | CFM  | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |
|-----------|------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|
|           |      |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 |
| 15        | 1625 | 763  | RPM   | 293                            | -    | -    | -    | -    | -    | -    | -     | -     |
|           |      |      | BHP   | 0.1                            | -    | -    | -    | -    | -    | -    | -     | -     |
|           |      |      | Sones | 4.5                            | -    | -    | -    | -    | -    | -    | -     | -     |
|           | 1825 | 857  | RPM   | 305                            | 390  | -    | -    | -    | -    | -    | -     | -     |
|           |      |      | BHP   | 0.13                           | 0.19 | -    | -    | -    | -    | -    | -     | -     |
|           |      |      | Sones | 5.1                            | 6.8  | -    | -    | -    | -    | -    | -     | -     |
|           | 2125 | 998  | RPM   | 330                            | 403  | 475  | -    | -    | -    | -    | -     | -     |
|           |      |      | BHP   | 0.18                           | 0.25 | 0.33 | -    | -    | -    | -    | -     | -     |
|           |      |      | Sones | 6.3                            | 7.6  | 9.6  | -    | -    | -    | -    | -     | -     |
|           | 2325 | 1092 | RPM   | 348                            | 416  | 480  | 547  | -    | -    | -    | -     | -     |
|           |      |      | BHP   | 0.22                           | 0.29 | 0.37 | 0.47 | -    | -    | -    | -     | -     |
|           |      |      | Sones | 7.2                            | 8.2  | 9.8  | 11.7 | -    | -    | -    | -     | -     |
|           | 2625 | 1232 | RPM   | 377                            | 434  | 495  | 552  | 612  | -    | -    | -     | -     |
|           |      |      | BHP   | 0.3                            | 0.37 | 0.46 | 0.55 | 0.67 | -    | -    | -     | -     |
|           |      |      | Sones | 8.7                            | 9.3  | 10.5 | 12.1 | 14.1 | -    | -    | -     | -     |
|           | 2825 | 1326 | RPM   | 397                            | 451  | 508  | 559  | 615  | 670  | -    | -     | -     |
|           |      |      | BHP   | 0.36                           | 0.43 | 0.53 | 0.62 | 0.73 | 0.86 | -    | -     | -     |
|           |      |      | Sones | 9.6                            | 10.2 | 11.3 | 12.4 | 14.3 | 16.4 | -    | -     | -     |
|           | 3125 | 1467 | RPM   | 428                            | 477  | 525  | 578  | 624  | 674  | -    | -     | -     |
|           |      |      | BHP   | 0.47                           | 0.55 | 0.64 | 0.74 | 0.85 | 0.97 | -    | -     | -     |
|           |      |      | Sones | 11.4                           | 11.6 | 12.4 | 13.8 | 14.9 | 16.8 | -    | -     | -     |
|           | 3325 | 1561 | RPM   | 449                            | 495  | 541  | 590  | 634  | 680  | -    | -     | -     |
|           |      |      | BHP   | 0.55                           | 0.64 | 0.73 | 0.84 | 0.94 | 1.07 | -    | -     | -     |
|           |      |      | Sones | 12.7                           | 12.8 | 13.4 | 14.6 | 15.7 | 17.1 | -    | -     | -     |
|           | 3625 | 1702 | RPM   | 482                            | 524  | 566  | 608  | 655  | 694  | 779  | -     | -     |
|           |      |      | BHP   | 0.7                            | 0.79 | 0.89 | 0.99 | 1.11 | 1.23 | 1.51 | -     | -     |
|           |      |      | Sones | 14.4                           | 14.6 | 14.9 | 15.7 | 17.1 | 18.2 | 21   | -     | -     |
|           | 3825 | 1796 | RPM   | 504                            | 544  | 584  | 623  | 666  | 707  | 785  | 866   | -     |
|           |      |      | BHP   | 0.81                           | 0.91 | 1.01 | 1.11 | 1.23 | 1.36 | 1.63 | 1.95  | -     |
|           |      |      | Sones | 15.7                           | 15.7 | 16.1 | 16.6 | 18.1 | 19.3 | 22   | 25    | -     |
|           | 4125 | 1937 | RPM   | 537                            | 575  | 612  | 648  | 685  | 726  | 797  | 873   | 948   |
|           |      |      | BHP   | 1                              | 1.1  | 1.21 | 1.32 | 1.44 | 1.57 | 1.85 | 2.16  | 2.52  |
|           |      |      | Sones | 17.7                           | 17.9 | 18.2 | 18.4 | 19.2 | 20   | 23   | 26    | 29    |
|           | 4325 | 2031 | RPM   | 559                            | 595  | 631  | 666  | 701  | 737  | 810  | 879   | 951   |
|           |      |      | BHP   | 1.14                           | 1.25 | 1.36 | 1.48 | 1.6  | 1.73 | 2.01 | 2.32  | 2.67  |
|           |      |      | Sones | 19.3                           | 19.2 | 19.1 | 19.6 | 21   | 21   | 24   | 26    | 29    |
|           | 4625 | 2171 | RPM   | 593                            | 627  | 660  | 693  | 726  | 759  | 830  | 892   | 959   |
|           |      |      | BHP   | 1.37                           | 1.49 | 1.61 | 1.73 | 1.86 | 1.99 | 2.28 | 2.59  | 2.94  |
|           |      |      | Sones | 20                             | 21   | 21   | 22   | 22   | 23   | 25   | 27    | 30    |
|           | 4825 | 2265 | RPM   | 616                            | 649  | 681  | 712  | 743  | 775  | 841  | 905   | 966   |
|           |      |      | BHP   | 1.55                           | 1.67 | 1.8  | 1.92 | 2.05 | 2.19 | 2.48 | 2.79  | 3.14  |
|           |      |      | Sones | 23                             | 23   | 23   | 23   | 24   | 24   | 26   | 28    | 30    |
|           | 5125 | 2406 | RPM   | 650                            | 681  | 711  | 741  | 771  | 800  | 860  | 925   | -     |
|           |      |      | BHP   | 1.84                           | 1.97 | 2.1  | 2.23 | 2.37 | 2.51 | 2.81 | 3.13  | -     |
|           |      |      | Sones | 25                             | 25   | 25   | 25   | 26   | 26   | 27   | 29    | -     |
|           | 5325 | 2500 | RPM   | 673                            | 703  | 732  | 761  | 789  | 818  | 875  | -     | -     |
|           |      |      | BHP   | 2.05                           | 2.19 | 2.32 | 2.46 | 2.6  | 2.74 | 3.05 | -     | -     |
|           |      |      | Sones | 27                             | 27   | 27   | 27   | 27   | 27   | 28   | -     | -     |
|           | 5625 | 2641 | RPM   | 707                            | 736  | 764  | 791  | 818  | 845  | -    | -     | -     |
|           |      |      | BHP   | 2.4                            | 2.54 | 2.69 | 2.83 | 2.98 | 3.13 | -    | -     | -     |
|           |      |      | Sones | 29                             | 29   | 29   | 29   | 29   | 29   | -    | -     | -     |
|           | 5825 | 2735 | RPM   | 730                            | 758  | 785  | 812  | -    | -    | -    | -     | -     |
|           |      |      | BHP   | 2.65                           | 2.8  | 2.95 | 3.1  | -    | -    | -    | -     | -     |
|           |      |      | Sones | 31                             | 31   | 31   | 31   | -    | -    | -    | -     | -     |
|           | 6125 | 2876 | RPM   | 765                            | -    | -    | -    | -    | -    | -    | -     | -     |
|           |      |      | BHP   | 3.07                           | -    | -    | -    | -    | -    | -    | -     | -     |
|           |      |      | Sones | 33                             | -    | -    | -    | -    | -    | -    | -     | -     |



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**UL STANDARD 705**

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.




**LSF 18**

| MODEL<br>LSF | CFM   | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |      |   |   |
|--------------|-------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|------|---|---|
|              |       |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2    |   |   |
| 18           | 2250  | 765  | RPM   | 253                            | -    | -    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.13                           | -    | -    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 4.2                            | -    | -    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              | 2600  | 884  | RPM   | 269                            | 336  | -    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.17                           | 0.25 | -    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 5.3                            | 8.3  | -    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              | 2950  | 1003 | RPM   | 287                            | 348  | 404  | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.23                           | 0.31 | 0.41 | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 6.3                            | 6.9  | 8    | -    | -    | -    | -    | -     | -     | -    | - | - |
|              | 3300  | 1122 | RPM   | 306                            | 362  | 415  | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.3                            | 0.39 | 0.49 | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 7.5                            | 8    | 8.8  | -    | -    | -    | -    | -     | -     | -    | - | - |
|              | 3650  | 1241 | RPM   | 326                            | 379  | 427  | 474  | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.38                           | 0.48 | 0.59 | 0.7  | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 8.6                            | 9.3  | 9.8  | 10.8 | -    | -    | -    | -     | -     | -    | - | - |
|              | 4000  | 1361 | RPM   | 347                            | 396  | 442  | 485  | 527  | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.48                           | 0.59 | 0.7  | 0.82 | 0.95 | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 9.8                            | 10.4 | 11.1 | 11.7 | 12.8 | -    | -    | -     | -     | -    | - | - |
|              | 4350  | 1480 | RPM   | 369                            | 415  | 458  | 499  | 538  | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.59                           | 0.71 | 0.83 | 0.96 | 1.09 | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 11.1                           | 11.7 | 12.4 | 12.9 | 13.7 | -    | -    | -     | -     | -    | - | - |
|              | 4700  | 1599 | RPM   | 391                            | 435  | 475  | 514  | 551  | 588  | 657  | -     | -     | -    | - | - |
|              |       |      | BHP   | 0.72                           | 0.85 | 0.99 | 1.12 | 1.26 | 1.4  | 1.7  | -     | -     | -    | - | - |
|              |       |      | Sones | 12.3                           | 13.1 | 13.7 | 14.4 | 14.9 | 15.8 | 17.9 | -     | -     | -    | - | - |
|              | 5050  | 1718 | RPM   | 414                            | 455  | 493  | 530  | 565  | 600  | 667  | 730   | -     | -    | - | - |
|              |       |      | BHP   | 0.87                           | 1.02 | 1.16 | 1.3  | 1.45 | 1.59 | 1.91 | 2.24  | -     | -    | - | - |
|              |       |      | Sones | 13.7                           | 14.6 | 15   | 15.8 | 16.3 | 17.1 | 19.1 | 21    | -     | -    | - | - |
|              | 5400  | 1837 | RPM   | 437                            | 476  | 512  | 547  | 581  | 614  | 678  | 739   | 797   | -    | - | - |
|              |       |      | BHP   | 1.04                           | 1.2  | 1.35 | 1.5  | 1.65 | 1.81 | 2.14 | 2.48  | 2.84  | -    | - | - |
|              |       |      | Sones | 14.9                           | 16   | 16.7 | 17.3 | 17.9 | 18.5 | 20   | 22    | 24    | -    | - | - |
|              | 5750  | 1956 | RPM   | 460                            | 497  | 532  | 565  | 597  | 629  | 690  | 749   | 805   | 912  | - | - |
|              |       |      | BHP   | 1.24                           | 1.4  | 1.57 | 1.73 | 1.89 | 2.05 | 2.39 | 2.75  | 3.12  | 3.9  | - | - |
|              |       |      | Sones | 16.6                           | 17.5 | 18   | 18.7 | 19.6 | 20   | 21   | 23    | 25    | 29   | - | - |
|              | 6100  | 2075 | RPM   | 483                            | 519  | 552  | 584  | 615  | 645  | 703  | 760   | 814   | 918  | - | - |
|              |       |      | BHP   | 1.45                           | 1.63 | 1.81 | 1.98 | 2.15 | 2.32 | 2.67 | 3.04  | 3.43  | 4.23 | - | - |
|              |       |      | Sones | 18                             | 19.1 | 20   | 20   | 21   | 22   | 23   | 24    | 26    | 30   | - | - |
|              | 6450  | 2194 | RPM   | 506                            | 541  | 573  | 603  | 633  | 662  | 718  | 772   | 825   | 925  | - | - |
|              |       |      | BHP   | 1.69                           | 1.89 | 2.07 | 2.25 | 2.43 | 2.61 | 2.98 | 3.36  | 3.76  | 4.59 | - | - |
|              |       |      | Sones | 19.7                           | 21   | 21   | 22   | 23   | 23   | 24   | 25    | 27    | 31   | - | - |
|              | 6800  | 2313 | RPM   | 530                            | 563  | 594  | 623  | 652  | 680  | 733  | 786   | 836   | 934  | - | - |
|              |       |      | BHP   | 1.96                           | 2.17 | 2.36 | 2.55 | 2.74 | 2.93 | 3.32 | 3.71  | 4.12  | 4.98 | - | - |
|              |       |      | Sones | 21                             | 22   | 23   | 24   | 24   | 25   | 26   | 27    | 28    | 31   | - | - |
|              | 7150  | 2432 | RPM   | 554                            | 586  | 615  | 644  | 671  | 698  | 750  | 800   | 849   | 943  | - | - |
|              |       |      | BHP   | 2.26                           | 2.47 | 2.68 | 2.88 | 3.08 | 3.28 | 3.68 | 4.1   | 4.52  | 5.4  | - | - |
|              |       |      | Sones | 23                             | 24   | 25   | 26   | 26   | 26   | 28   | 28    | 30    | 32   | - | - |
|              | 7500  | 2551 | RPM   | 577                            | 608  | 637  | 665  | 691  | 717  | 767  | 815   | 863   | 954  | - | - |
|              |       |      | BHP   | 2.58                           | 2.81 | 3.03 | 3.24 | 3.45 | 3.66 | 4.08 | 4.51  | 4.95  | 5.86 | - | - |
|              |       |      | Sones | 25                             | 25   | 26   | 27   | 28   | 28   | 29   | 30    | 31    | 34   | - | - |
|              | 7850  | 2670 | RPM   | 601                            | 631  | 659  | 686  | 711  | 736  | 785  | 831   | 877   | 966  | - | - |
|              |       |      | BHP   | 2.93                           | 3.18 | 3.41 | 3.63 | 3.86 | 4.07 | 4.51 | 4.96  | 5.41  | 6.35 | - | - |
|              |       |      | Sones | 26                             | 27   | 28   | 29   | 29   | 30   | 31   | 32    | 33    | 35   | - | - |
|              | 8200  | 2789 | RPM   | 625                            | 654  | 681  | 707  | 732  | 756  | 803  | 848   | 892   | 978  | - | - |
|              |       |      | BHP   | 3.32                           | 3.58 | 3.82 | 4.06 | 4.29 | 4.52 | 4.98 | 5.44  | 5.9   | 6.87 | - | - |
|              |       |      | Sones | 28                             | 29   | 30   | 30   | 31   | 32   | 32   | 33    | 34    | 37   | - | - |
|              | 8550  | 2908 | RPM   | 650                            | 678  | 704  | 729  | 753  | 776  | 822  | 866   | 908   | 992  | - | - |
|              |       |      | BHP   | 3.74                           | 4.01 | 4.27 | 4.51 | 4.76 | 5    | 5.47 | 5.95  | 6.44  | 7.43 | - | - |
|              |       |      | Sones | 30                             | 31   | 32   | 32   | 33   | 33   | 34   | 35    | 36    | 38   | - | - |
|              | 8900  | 3027 | RPM   | 674                            | 701  | 727  | 751  | 774  | 797  | 841  | 884   | 925   | -    | - | - |
|              |       |      | BHP   | 4.19                           | 4.48 | 4.75 | 5.01 | 5.26 | 5.51 | 6.01 | 6.5   | 7.01  | -    | - | - |
|              |       |      | Sones | 32                             | 33   | 34   | 34   | 35   | 36   | 36   | 37    | 38    | -    | - | - |
|              | 9250  | 3146 | RPM   | 698                            | 725  | 749  | 773  | 796  | 818  | 861  | 902   | 942   | -    | - | - |
|              |       |      | BHP   | 4.68                           | 4.98 | 5.26 | 5.53 | 5.8  | 6.06 | 6.58 | 7.09  | 7.61  | -    | - | - |
|              |       |      | Sones | 34                             | 35   | 35   | 36   | 37   | 37   | 38   | 39    | 40    | -    | - | - |
|              | 9600  | 3265 | RPM   | 723                            | 748  | 772  | 795  | 817  | 839  | 881  | 921   | -     | -    | - | - |
|              |       |      | BHP   | 5.21                           | 5.52 | 5.82 | 6.1  | 6.38 | 6.65 | 7.19 | 7.72  | -     | -    | - | - |
|              |       |      | Sones | 36                             | 37   | 37   | 38   | 39   | 39   | 40   | 41    | -     | -    | - | - |
|              | 9950  | 3384 | RPM   | 747                            | 772  | 795  | 818  | 839  | 860  | 901  | -     | -     | -    | - | - |
|              |       |      | BHP   | 5.78                           | 6.1  | 6.41 | 6.71 | 7    | 7.28 | 7.84 | -     | -     | -    | - | - |
|              |       |      | Sones | 38                             | 39   | 39   | 40   | 40   | 41   | 43   | -     | -     | -    | - | - |
|              | 10300 | 3503 | RPM   | 771                            | 796  | 819  | 840  | 862  | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 6.38                           | 6.72 | 7.04 | 7.35 | 7.65 | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 40                             | 40   | 41   | 42   | 43   | -    | -    | -     | -     | -    | - | - |
|              | 10650 | 3622 | RPM   | 796                            | 820  | 842  | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | BHP   | 7.03                           | 7.38 | 7.72 | -    | -    | -    | -    | -     | -     | -    | - | - |
|              |       |      | Sones | 42                             | 43   | 44   | -    | -    | -    | -    | -     | -     | -    | - | - |



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**UL STANDARD 705**

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.



# LSF 20

| MODEL<br>LSF | CFM   | OV   |       | Static Pressure in Inches w.g. |      |      |      |      |      |      |       |       |      |
|--------------|-------|------|-------|--------------------------------|------|------|------|------|------|------|-------|-------|------|
|              |       |      |       | 1/8                            | 1/4  | 3/8  | 1/2  | 5/8  | 3/4  | 1    | 1-1/4 | 1-1/2 | 2    |
| 20           | 2800  | 698  | RPM   | 222                            | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.15                           | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 3.5                            | -    | -    | -    | -    | -    | -    | -     | -     | -    |
|              | 3340  | 833  | RPM   | 239                            | 297  | 350  | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.21                           | 0.31 | 0.42 | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 4.6                            | 5.8  | 7.2  | -    | -    | -    | -    | -     | -     | -    |
|              | 3880  | 968  | RPM   | 259                            | 312  | 359  | 405  | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.3                            | 0.4  | 0.53 | 0.66 | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 5.8                            | 6.8  | 7.8  | 9.3  | -    | -    | -    | -     | -     | -    |
|              | 4420  | 1102 | RPM   | 282                            | 328  | 372  | 414  | 454  | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 0.41                           | 0.52 | 0.65 | 0.79 | 0.94 | -    | -    | -     | -     | -    |
|              |       |      | Sones | 7.1                            | 7.8  | 8.8  | 10   | 11.9 | -    | -    | -     | -     | -    |
|              | 4960  | 1237 | RPM   | 306                            | 346  | 388  | 425  | 463  | 499  | -    | -     | -     | -    |
|              |       |      | BHP   | 0.55                           | 0.67 | 0.8  | 0.95 | 1.11 | 1.28 | -    | -     | -     | -    |
|              |       |      | Sones | 8.6                            | 8.9  | 9.9  | 10.9 | 12.7 | 14.6 | -    | -     | -     | -    |
|              | 5500  | 1372 | RPM   | 332                            | 367  | 405  | 441  | 475  | 509  | 572  | -     | -     | -    |
|              |       |      | BHP   | 0.72                           | 0.84 | 0.99 | 1.15 | 1.31 | 1.49 | 1.86 | -     | -     | -    |
|              |       |      | Sones | 10.1                           | 10.3 | 11.2 | 12.5 | 13.9 | 15.7 | 19   | -     | -     | -    |
|              | 6040  | 1506 | RPM   | 358                            | 390  | 423  | 457  | 490  | 520  | 581  | 638   | -     | -    |
|              |       |      | BHP   | 0.93                           | 1.06 | 1.21 | 1.37 | 1.55 | 1.74 | 2.13 | 2.54  | -     | -    |
|              |       |      | Sones | 11.8                           | 11.9 | 12.6 | 13.9 | 15.5 | 16.8 | 19.7 | 22    | -     | -    |
|              | 6580  | 1641 | RPM   | 384                            | 414  | 443  | 474  | 506  | 535  | 592  | 647   | 699   | -    |
|              |       |      | BHP   | 1.17                           | 1.31 | 1.47 | 1.64 | 1.82 | 2.02 | 2.43 | 2.86  | 3.31  | -    |
|              |       |      | Sones | 13.6                           | 13.8 | 14.3 | 15.5 | 16.9 | 18.4 | 21   | 23    | 26    | -    |
|              | 7120  | 1776 | RPM   | 412                            | 438  | 466  | 493  | 523  | 552  | 604  | 657   | 707   | 800  |
|              |       |      | BHP   | 1.46                           | 1.61 | 1.77 | 1.95 | 2.14 | 2.34 | 2.77 | 3.22  | 3.7   | 4.68 |
|              |       |      | Sones | 15.9                           | 15.7 | 16.2 | 17.1 | 18.6 | 20   | 22   | 24    | 26    | 32   |
|              | 7660  | 1910 | RPM   | 439                            | 464  | 489  | 514  | 540  | 568  | 620  | 669   | 717   | 808  |
|              |       |      | BHP   | 1.8                            | 1.95 | 2.12 | 2.3  | 2.5  | 2.71 | 3.15 | 3.62  | 4.12  | 5.16 |
|              |       |      | Sones | 18.5                           | 18.1 | 18.3 | 19.3 | 20   | 22   | 24   | 25    | 27    | 33   |
|              | 8200  | 2045 | RPM   | 467                            | 489  | 513  | 537  | 561  | 585  | 637  | 682   | 728   | 816  |
|              |       |      | BHP   | 2.19                           | 2.35 | 2.52 | 2.71 | 2.91 | 3.12 | 3.58 | 4.07  | 4.59  | 5.67 |
|              |       |      | Sones | 21                             | 21   | 21   | 22   | 22   | 23   | 25   | 26    | 28    | 34   |
|              | 8740  | 2180 | RPM   | 495                            | 516  | 538  | 560  | 582  | 605  | 653  | 699   | 741   | 826  |
|              |       |      | BHP   | 2.62                           | 2.79 | 2.97 | 3.17 | 3.38 | 3.59 | 4.06 | 4.57  | 5.1   | 6.23 |
|              |       |      | Sones | 24                             | 24   | 24   | 24   | 24   | 25   | 26   | 28    | 30    | 35   |
|              | 9280  | 2314 | RPM   | 523                            | 542  | 563  | 584  | 605  | 626  | 670  | 715   | 756   | 837  |
|              |       |      | BHP   | 3.12                           | 3.3  | 3.48 | 3.69 | 3.9  | 4.12 | 4.61 | 5.12  | 5.67  | 6.84 |
|              |       |      | Sones | 28                             | 27   | 26   | 26   | 26   | 26   | 28   | 30    | 32    | 36   |
|              | 9820  | 2449 | RPM   | 551                            | 569  | 589  | 608  | 628  | 648  | 688  | 731   | 773   | 849  |
|              |       |      | BHP   | 3.68                           | 3.86 | 4.05 | 4.26 | 4.48 | 4.71 | 5.21 | 5.74  | 6.3   | 7.5  |
|              |       |      | Sones | 30                             | 29   | 29   | 28   | 28   | 28   | 29   | 31    | 34    | 38   |
|              | 10360 | 2584 | RPM   | 579                            | 597  | 615  | 633  | 652  | 671  | 709  | 748   | 789   | -    |
|              |       |      | BHP   | 4.3                            | 4.49 | 4.69 | 4.9  | 5.13 | 5.37 | 5.87 | 6.42  | 6.99  | -    |
|              |       |      | Sones | 33                             | 32   | 31   | 31   | 30   | 30   | 31   | 33    | 35    | -    |
|              | 10900 | 2718 | RPM   | 607                            | 624  | 641  | 659  | 676  | 694  | 730  | 767   | 805   | -    |
|              |       |      | BHP   | 4.98                           | 5.18 | 5.39 | 5.61 | 5.85 | 6.09 | 6.61 | 7.16  | 7.75  | -    |
|              |       |      | Sones | 36                             | 35   | 34   | 33   | 33   | 33   | 33   | 35    | 37    | -    |
|              | 11440 | 2853 | RPM   | 636                            | 652  | 668  | 685  | 701  | 718  | 752  | -     | -     | -    |
|              |       |      | BHP   | 5.74                           | 5.95 | 6.16 | 6.39 | 6.63 | 6.88 | 7.41 | -     | -     | -    |
|              |       |      | Sones | 39                             | 37   | 36   | 36   | 35   | 35   | 35   | -     | -     | -    |
|              | 11980 | 2988 | RPM   | 664                            | 680  | 695  | 711  | 727  | 743  | -    | -     | -     | -    |
|              |       |      | BHP   | 6.57                           | 6.79 | 7.01 | 7.25 | 7.49 | 7.75 | -    | -     | -     | -    |
|              |       |      | Sones | 42                             | 40   | 39   | 39   | 38   | 38   | -    | -     | -     | -    |
|              | 12520 | 3122 | RPM   | 693                            | 708  | -    | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | BHP   | 7.48                           | 7.7  | -    | -    | -    | -    | -    | -     | -     | -    |
|              |       |      | Sones | 45                             | 43   | -    | -    | -    | -    | -    | -     | -     | -    |



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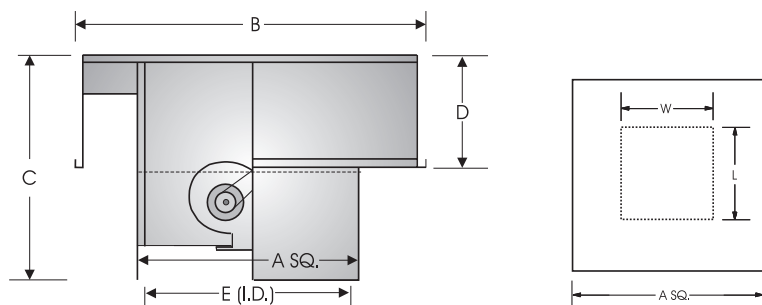


## UL STANDARD 705

Performance certified is for installation type B: free inlet, ducted outlet. Power rating (BHP) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at a distance of 1.5 m (5 ft) in a hemispherical free field calculated per AMCA International Standard 301. Values shown are for installation type B: ducted outlet hemispherical sone levels. Ratings do not include the effect of duct end correction.



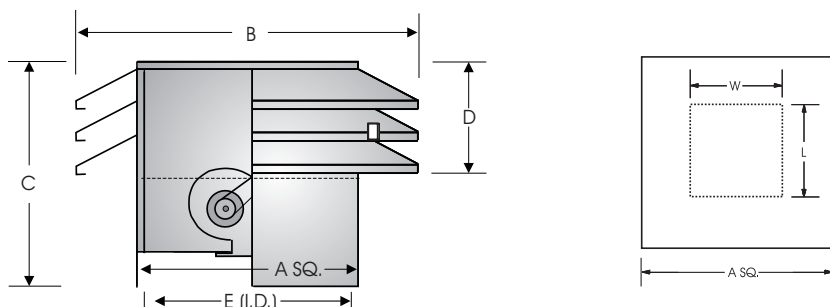
## DIMENSIONS



### CSF

### Discharge Opening

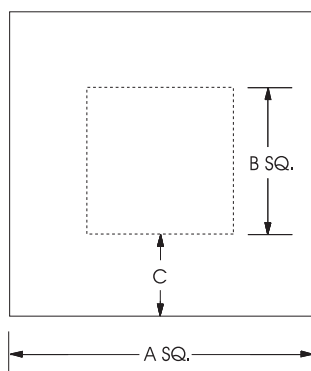
| Model Size | A Housing OD | B Overall Width | C Overall Height | D Intake Height | Roof Opening | E Curb Cap ID | Damper OD | Discharge Opening | Filter Size/No. | No. Tiers | Avg. Ship Weight (lbs.) |
|------------|--------------|-----------------|------------------|-----------------|--------------|---------------|-----------|-------------------|-----------------|-----------|-------------------------|
| CSF-9      | 24 -1/2      | 37-1/2          | 23-1/2           | 16              | 19-1/2       | 24 X 24       | 16        | 12 X 10-1/2       | 16 X 20 X 1 (4) | N/A       | 265                     |
| CSF-10     | 28-1/2       | 43              | 23-1/2           | 16              | 23-1/2       | 28 X 28       | 20        | 13-1/4 X 11-5/8   | 16 X 25 X 1 (4) | N/A       | 290                     |
| CSF-12     | 28-1/2       | 43              | 30-1/2           | 16              | 23-1/2       | 28 X 28       | 20        | 15-7/8 X 13-5/8   | 16 X 25 X 1 (4) | N/A       | 340                     |
| CSF-15     | 32-1/2       | 50-1/2          | 32               | 16              | 27-1/2       | 32 X 32       | 24        | 18-7/8 X 16-1/4   | 16 X 25 X 1 (4) | N/A       | 380                     |
| CSF-18     | 36-1/2       | 56-1/2          | 38-1/2           | 22              | 31-3/8       | 36 X 36       | 27        | 22-1/4 X 19       | 20 X 25 X 1 (4) | N/A       | 540                     |
| CSF-20     | 51-1/4       | 74-1/2          | 46-3/4           | 26              | 46           | 51 X 51       | 42        | 23-1/8 X 25       | 20 X 25 X 1 (8) | N/A       | 890                     |



### LSF

### Discharge Opening

| Model Size | A Housing OD | B Overall Width | C Overall Height | D Intake Height | Roof Opening | E Curb Cap ID | Damper OD | Discharge Opening | Filter Size/No.       | No. Tiers | Avg. Ship Weight (lbs.) |
|------------|--------------|-----------------|------------------|-----------------|--------------|---------------|-----------|-------------------|-----------------------|-----------|-------------------------|
| LSF-9      | 24 -1/2      | 37-3/4          | 23-3/4           | 16-1/8          | 19-1/2       | 24 X 24       | 16        | 12 X 10-1/2       | 16 X 20 X 1 (4)       | 3         | 265                     |
| LSF-10     | 28-1/2       | 41-3/4          | 23-3/4           | 16              | 23-1/2       | 28 X 28       | 20        | 13-1/4 X 11-5/8   | 16 X 25 X 1 (4)       | 3         | 290                     |
| LSF-12     | 28-1/2       | 41-3/4          | 30-1/2           | 16              | 23-1/2       | 28 X 28       | 20        | 15-7/8 X 13-5/8   | 16 X 25 X 1 (4)       | 3         | 340                     |
| LSF-15     | 32-1/2       | 45-3/4          | 32               | 18              | 27-1/2       | 32 X 32       | 24        | 18-7/8 X 16-1/4   | 21-1/2 X 28 X 1 (4)   | 4         | 380                     |
| LSF-18     | 36-1/2       | 50              | 38-5/8           | 23              | 31-3/8       | 36 X 36       | 27        | 22-1/4 X 19       | 24 X 30 X 1 (4)       | 5         | 540                     |
| LSF-20     | 51-1/2       | 65              | 47               | 26              | 46           | 51 X 51       | 42        | 23-1/8 X 25       | 25-1/2 x 45-1/2 X (4) | 5         | 890                     |



### Duct Adaptor Dimensions

| Model/Size CSF/LSF | A SQ.  | B SQ.  | C     |
|--------------------|--------|--------|-------|
| CSF/LSF-9          | 18-1/2 | 14-1/2 | 2     |
| CSF/LSF-10         | 22-1/2 | 18-1/2 | 2     |
| CSF/LSF-12         | 22-1/2 | 18-1/2 | 2     |
| CSF/LSF-15         | 26-1/2 | 20-1/2 | 3     |
| CSF/LSF-18         | 30-1/2 | 24-1/2 | 3     |
| CSF/LSF-20         | 45     | 30     | 7-1/2 |