

| Pipe Organ Blower Calculator | | | | | |
|---|--------------|-------------|--------------------------------------|------------|-------------------------------|
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| Calculate Blower Output | | | | | |
| Line # | 1st Trial | 2nd Trial | Description | Comment | Constants Used |
| 1 | 11 | 7.4 | Enter Motor Pulley Diameter, inches | | 12 inches per foot |
| 2 | 10 | 9.4 | Enter Blower Pulley Diameter, inches | | 60 seconds per minute |
| 3 | 1800 | 1760 | Enter Motor Speed, RPM | | 66 air inertial factor |
| 4 | 1746 | 1707 | Motor Speed Actual, RPM | Calculated | 97% motor speed factor |
| 5 | 1921 | 1344 | Shaft Speed Actual, RPM | Calculated | 80% fan efficiency |
| 6 | 2 | 3 | Enter Number of Fans | | 80% coefficient of discharge |
| 7 | 7 | 2 | Enter Blade width, inches | | |
| 8 | 28 | 30 | Enter Fan Diameter, inches | | These constants are used |
| 9 | 12.6 | 7.1 | WC/fan theoretical, inches | Calculated | in the calculations at left. |
| 10 | 10.1 | 5.7 | WC/fan actual, inches | Calculated | They may be changed to |
| 11 | 20.2 | 17.1 | Total WC Actual, inches | Calculated | reflect actual situations. |
| 12 | 62.4 | 19.1 | Fan Blast Area, square inches | Calculated | |
| 13 | 0.43 | 0.13 | Fan Blast Area, square feet | Calculated | |
| 14 | 210 | 157 | Airflow Velocity Pressure/second | Calculated | |
| 15 | 12592 | 9441 | Airflow Velocity Pressure/minute | Calculated | |
| 16 | 4365 | 1002 | Airflow CFM | Calculated | |
| 17 | 73 | 17 | Airflow CFS | Calculated | |
| 18 | 27.8 | 5.4 | Minimum Motor HP Required | Calculated | |
| | | | | | |
| Calculate Changes in RPM, HP & Pulley Size | | | | | |
| Line # | 1st Trial | 2nd Trial | Description | Comment | |
| 19 | 2200 | 970 | Enter Old CFM | | |
| 20 | 7.5 | 2 | Enter Old Horsepower | | |
| 21 | 10 | 7 | Enter Old Static WC, inches | | |
| 22 | 35 | 11 | Enter New Desired Static WC, inches | | |
| 23 | 1150 | 1200 | Enter Old Speed RPM | | |
| 24 | 2151 | 1504 | New Required Speed RPM | Calculated | |
| 25 | 49.1 | 3.9 | New Required Horsepower | Calculated | |
| 26 | 4116 | 1216 | New CFM | Calculated | |
| 27 | 1750 | 1760 | Enter Avail. New Motor Speed, RPM | | |
| 28 | 10 | 7.4 | Enter Motor Pulley Dia., inches | | |
| 29 | 8.1 | 8.7 | Required Blower Pulley Dia., inches | Calculated | |
| | | | | | |
| Bold numbers are either calculated or are unchangable constants. | | | | | |