

# **DESIGN 64 PBI**

## **Packaged Backward Inclined Fans**



An ISO 9001 Company

**CHICAGO BLOWER**  
CORPORATION

## **Packaged Backward Inclined Fans**



Developed initially for the dust collector industry, Chicago's new Packaged Backward Inclined (PBI) fan is also ideal for an expanding range of applications, such as laser cutters, air filtration, and pneumatic conveying, up to 150°F. Chicago's PBI fan is also the perfect replacement for older, less reliable fans. The rugged PBI fan provides the performance you need and the reliability you want, backed by **Chicago's 3-year warranty**.

Chicago's PBI fan is the right choice for your requirements, designed to increase the stable operating range by over 20%. This enables you to offer a wider performance range and thereby eliminate fan sizes. Chicago's Design 64 PBI fan is offered in 12 sizes from 122 to 365 and in standard widths of 100% through 40%. With the available motor speeds, a PBI fan will meet all your necessary performance and physical specifications.

Since Chicago's PBI is a direct drive fan, initial cost is less and belt drive problems are eliminated – periodic belt adjustments, belt squeal, horsepower guesswork. It all adds up to a more energy efficient, more dependable fan. In fact, Chicago's run tested PBI fan's most important benefit is the reliability we add to your product.

Chicago Blower representatives located throughout North America and around the globe welcome the opportunity to discuss and evaluate your application. Put Chicago Blower's experience and "Industrial Quality" fan building expertise to work for you.



*This typical dust collector installation for a laser cutter recirculates the clean exhaust within the facility. The optional outlet damper, outlet transition and outlet silencer complete the installation.*



# ***The Performance you need... the Reliability you want!***

## ***New High Performance Wheel***

Chicago has developed a new wheel for the PBI fan. The wheel uses heavy backward inclined steel blades for maximum performance in hostile environments. The PBI wheel, coupled with the streamlined inlet, virtually eliminates vibration and reduces noise levels dramatically.

## ***Rugged Housing***

Heavy gauge steel and added drive side support gussets contribute to extended vibration-free operation, critical for any installation. Continuous welding of housing assures air tight seams. The fan's support gussets have four built-in lifting eyes for easy balanced lifting.

## ***Punched Flanged Outlet/Inlet***

Equipped as standard, both the inlet and outlet are flanged and punched for easier installation. The outlet flange allows for bolting of ductwork, dampers, silencers or screens directly to the fan. An optional universal inlet flange that bolts to the equipment has a larger opening and larger diameter bolt circle.

## ***C-Face Motor Mount***

Allows C-face motors to mount directly to the fan housing, creating an airtight fit-up with no shaft seal. As the motor weight is also centered over the wheel, stability is improved when running in the vertical position.

## ***Withstands Adverse Environments***

Since some dust collector fans are installed outside the facility and subject to year-round environments, the C-face motor is bolted directly to the housing and caulked with adhesive sealant to provide weather-proofing and keep water out.



fan.net



Refer to Chicago Blower's fan.net for performance, fan curves and sound data.

For software and assistance, visit ChicagoBlower.com

## Available Options

### Square Housing

The PBI fan is also available in the square housing pioneered by Chicago Blower. Housings have welded air-tight seams with all edges flanged for exceptional rigidity, thereby allowing the fan to be installed in any of four discharge positions.



Square Housing with AMCA Type C Construction.

### Outlet Damper

Outlet dampers are often selected as a low cost option for varying the airflow. Dampers have punched flanges on both ends to simplify fan and duct connections. Opposed acting blades are standard with parallel blades available.

### Alternate Widths

To reach more precise performance requirements, alternate widths from 100% to 40% are readily available. For other widths consult the factory.

### Inlet/Outlet Screens

Welded steel screen mounts entirely within the inlet cone. Outlet screens are of expanded metal design and bolted to the outlet flange.

### Access Door

A flush mounted rectangular access door is available for quick inspection and clean-out of material build-up. The door features quick opening tension clamps with neoprene gasket.

### Drain

PBI fans can be furnished with a half coupling drain and plug to facilitate convenient and easy power washing.

### Spark Resistant Construction

For spark resistant construction, AMCA Type C consists of aluminum inlet cone and buffer between wheel backplate and housing. AMCA Type B construction is also available.

## Fan Selection

Page 5 contains multi-rating tables for Design 64 PBI fans. Each section provides data for a particular motor speed. Under each pressure (SP) rating, the Volume (CFM) and horsepower (BHP) is listed for each fan size. For pressures not provided in the tables, simply interpolate between two given pressures.

**Example:** 5000 CFM, 150°F, 1000' elevation, 5" SP

1. From the Correction Table, the correction factor for 150°F and 1000' elevation is 1.19. (Round to 1.20 for easy conversion.)
2. The equivalent SP at 70°F and sea level equals 5" SP X 1.20 = 6" SP.
3. Enter the table at 6" SP. You would select a Size 150 PBI at 3500 RPM for 5086 CFM, requiring 7.86 BHP
4. To correct the BHP to 150°F and 1000' elevation, divide by the same correction factor. 7.86/1.20 = 6.55 BHP.

### TEMPERATURE AND ALTITUDE CORRECTION

| AIR TEMP (F°) | ALTITUDE (feet) with BAROMETRIC PRESSURE (HG) |              |               |               |               |               |               |               |               |               |
|---------------|---|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|               | 0<br>29.92                                    | 500<br>29.38 | 1000<br>28.86 | 1500<br>28.33 | 2000<br>27.82 | 2500<br>27.31 | 3000<br>26.82 | 3500<br>26.32 | 4000<br>25.84 | 5000<br>24.90 |
| -15           | .79   | .81          | .82           | .84           | .85           | .87           | .88           | .90           | .96           | 1.00          |
| 0             | .87   | .88          | .90           | .92           | .93           | .95           | .97           | .99           | 1.00          | 1.04          |
| 70            | 1.00  | 1.02         | 1.04          | 1.06          | 1.08          | 1.10          | 1.12          | 1.14          | 1.16          | 1.20          |
| 100           | 1.06  | 1.08         | 1.10          | 1.12          | 1.14          | 1.16          | 1.18          | 1.20          | 1.22          | 1.27          |
| 150           | 1.15  | 1.17         | 1.19          | 1.22          | 1.24          | 1.26          | 1.28          | 1.31          | 1.33          | 1.38          |
| 200           | 1.25  | 1.27         | 1.29          | 1.32          | 1.34          | 1.36          | 1.39          | 1.42          | 1.44          | 1.50          |
| 250           | 1.34  | 1.36         | 1.39          | 1.41          | 1.44          | 1.47          | 1.49          | 1.52          | 1.55          | 1.61          |
| 300           | 1.43  | 1.46         | 1.49          | 1.51          | 1.54          | 1.57          | 1.60          | 1.63          | 1.66          | 1.72          |
| 350           | 1.53  | 1.56         | 1.58          | 1.61          | 1.64          | 1.67          | 1.70          | 1.74          | 1.77          | 1.84          |
| 400           | 1.62  | 1.65         | 1.68          | 1.71          | 1.75          | 1.78          | 1.81          | 1.84          | 1.88          | 1.95          |
| 500           | 1.81  | 1.84         | 1.88          | 1.91          | 1.95          | 1.98          | 2.02          | 2.06          | 2.10          | 2.18          |
| 600           | 2.00  | 2.04         | 2.07          | 2.11          | 2.15          | 2.19          | 2.23          | 2.27          | 2.32          | 2.40          |
| 650           | 2.09  | 2.13         | 2.17          | 2.21          | 2.25          | 2.29          | 2.34          | 2.38          | 2.43          | 2.52          |
| 700           | 2.19  | 2.23         | 2.27          | 2.31          | 2.35          | 2.40          | 2.44          | 2.49          | 2.53          | 2.63          |
| 800           | 2.38  | 2.42         | 2.48          | 2.51          | 2.56          | 2.60          | 2.65          | 2.70          | 2.75          | 2.86          |

Correction factors for temperature (F) and altitude (above sea level): standard air = .075 lbs. per cubic foot at sea level, 29.92" barometric pressure and 70° F



Chicago Blower Corporation certifies that the Design 64 PBI Fans shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program.

# Design 64 PBI Performance Ratings

## 3500 RPM

| FAN SIZE | 0"SP  |       | 1"SP  |       | 2"SP  |       | 3"SP  |       | 4"SP  |       | 5"SP  |       | 6"SP  |       |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |
| 122      | 3555  | 2.38  | 3359  | 2.56  | 3177  | 2.68  | 2988  | 2.78  | 2770  | 2.86  | 2500  | 2.89  | 2154  | 2.85  |
| 135      | 4758  | 3.87  | 4540  | 4.13  | 4337  | 4.30  | 4136  | 4.44  | 3919  | 4.56  | 3670  | 4.65  | 3370  | 4.70  |
| 150      | 6527  | 6.55  | 6282  | 6.92  | 6053  | 7.18  | 5832  | 7.39  | 5605  | 7.57  | 5361  | 7.73  | 5086  | 7.86  |
| 165      | 8687  | 10.56 | 8416  | 11.07 | 8160  | 11.43 | 7915  | 11.73 | 7615  | 12.06 | 7419  | 12.24 | 7149  | 12.44 |
| 182      | 12061 | 20.46 | 11689 | 20.92 | 11337 | 21.30 | 11000 | 21.63 | 10672 | 21.90 | 10347 | 22.14 | 10021 | 22.33 |
| 200      | 15858 | 32.15 | 15465 | 32.95 | 15074 | 33.48 | 14698 | 33.94 | 14334 | 34.34 | 13975 | 34.69 | 13620 | 34.99 |
| 222      | 21834 | 54.79 | 21400 | 55.97 | 20960 | 56.72 | 20535 | 57.40 | 20121 | 58.00 | 19716 | 58.54 | 19318 | 59.02 |
| FAN SIZE | 7"SP  |       | 8"SP  |       | 9"SP  |       | 10"SP |       | 11"SP |       | 12"SP |       | 13"SP |       |
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |
| 122      | 1709  | 2.64  |       |       |       |       |       |       |       |       |       |       |       |       |
| 135      | 3003  | 4.67  | 2552  | 4.48  |       |       |       |       |       |       |       |       |       |       |
| 150      | 4768  | 7.94  | 4394  | 7.95  | 3953  | 7.84  | 3431  | 7.53  |       |       |       |       |       |       |
| 165      | 6852  | 12.62 | 6518  | 12.75 | 6138  | 12.82 | 5703  | 12.73 | 5203  | 12.79 | 4629  | 12.18 |       |       |
| 182      | 9688  | 22.49 | 9343  | 22.61 | 8980  | 22.68 | 8595  | 22.71 | 8181  | 22.68 | 7734  | 22.58 | 7249  | 22.38 |
| 200      | 13263 | 35.25 | 12900 | 35.47 | 12528 | 35.65 | 12143 | 35.78 | 11740 | 35.87 | 11315 | 35.90 | 10865 | 35.87 |
| 222      | 18922 | 59.45 | 18526 | 59.84 | 18127 | 60.17 | 17723 | 60.47 | 17309 | 60.71 | 16884 | 60.91 | 16444 | 61.06 |
| FAN SIZE | 14"SP |       | 15"SP |       | 16"SP |       | 17"SP |       | 18"SP |       | 19"SP |       | 20"SP |       |
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |
| 182      | 6719  | 22.06 | 6139  | 21.59 |       |       |       |       |       |       |       |       |       |       |
| 200      | 10385 | 35.76 | 9872  | 35.55 | 9320  | 35.23 | 8727  | 34.77 |       |       |       |       |       |       |
| 222      | 15987 | 61.15 | 15508 | 61.15 | 15007 | 61.13 | 14479 | 61.00 | 13921 | 60.77 | 13332 | 60.42 | 12707 | 59.93 |
| FAN SIZE | 21"SP |       | 22"SP |       | 23"SP |       |       |       |       |       |       |       |       |       |
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |       |       |       |       |       |       |       |       |
| 222      | 12043 | 59.28 | 11339 | 58.45 | 10590 | 57.39 |       |       |       |       |       |       |       |       |

## 1760 RPM

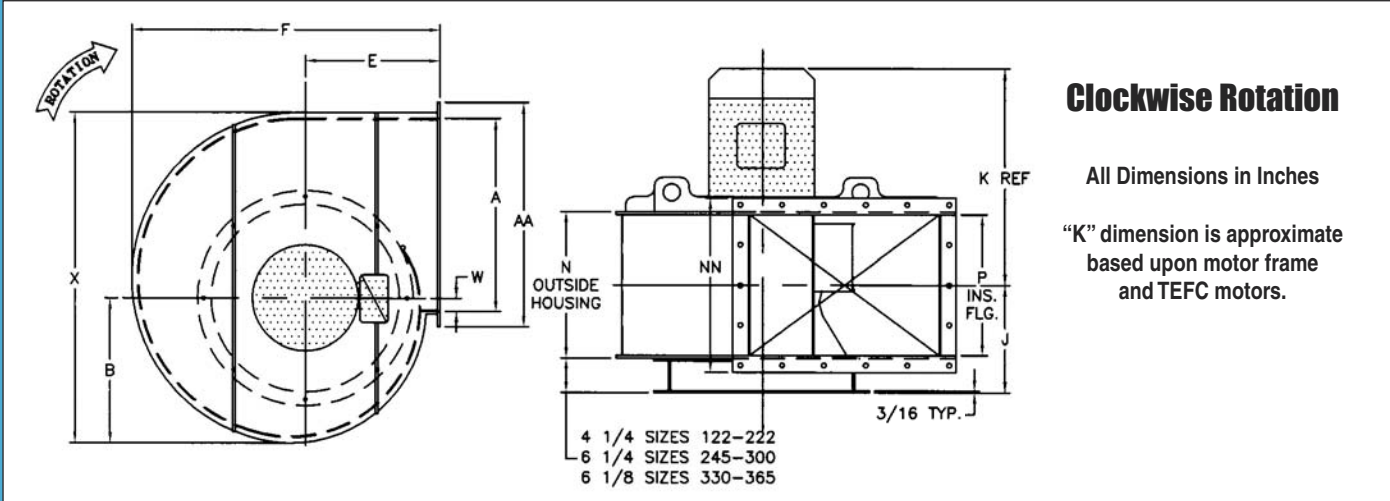
| FAN SIZE | 0"SP  |       | 1"SP  |       | 2"SP  |       | 3"SP  |       | 4"SP  |       | 5"SP  |       | 6"SP  |       |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |
| 122      | 1788  | 0.30  | 1399  | 0.36  |       |       |       |       |       |       |       |       |       |       |
| 135      | 2393  | 0.49  | 1976  | 0.58  | 1306  | 0.57  |       |       |       |       |       |       |       |       |
| 150      | 3282  | 0.83  | 2824  | 0.96  | 2228  | 1.01  |       |       |       |       |       |       |       |       |
| 165      | 4368  | 1.35  | 3863  | 1.52  | 3294  | 1.62  | 2369  | 1.56  |       |       |       |       |       |       |
| 182      | 6065  | 2.60  | 5374  | 2.78  | 4714  | 2.87  | 3921  | 2.87  |       |       |       |       |       |       |
| 200      | 7974  | 4.09  | 7216  | 4.36  | 6504  | 4.51  | 5720  | 4.56  | 4739  | 4.49  |       |       |       |       |
| 222      | 10980 | 6.97  | 10127 | 7.37  | 9334  | 7.60  | 8520  | 7.74  | 7593  | 7.78  | 6463  | 7.64  |       |       |
| 245      | 14082 | 9.44  | 13348 | 10.34 | 12747 | 10.92 | 12162 | 11.38 | 11457 | 11.80 | 10499 | 12.15 | 9151  | 12.20 |
| 270      | 18847 | 15.34 | 18024 | 16.61 | 17333 | 17.45 | 16701 | 18.11 | 16025 | 18.70 | 15026 | 19.26 | 14141 | 19.73 |
| 300      | 26679 | 29.02 | 25755 | 30.95 | 24945 | 32.30 | 24204 | 33.32 | 23459 | 34.14 | 22642 | 34.83 | 21682 | 35.37 |
| 330      | 35510 | 46.73 | 34483 | 49.38 | 33561 | 51.34 | 32724 | 52.86 | 31917 | 54.09 | 31088 | 55.14 | 30185 | 56.05 |
| 365      | 46102 | 72.21 | 44974 | 75.72 | 43939 | 78.45 | 42996 | 80.61 | 42105 | 82.40 | 41224 | 83.92 | 40314 | 85.26 |
| FAN SIZE | 7"SP  |       | 8"SP  |       | 9"SP  |       | 10"SP |       | 11"SP |       | 12"SP |       | 13"SP |       |
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |
| 270      | 12730 | 19.89 | 10873 | 19.32 |       |       |       |       |       |       |       |       |       |       |
| 300      | 20509 | 35.69 | 19053 | 35.63 | 17243 | 35.00 | 15010 | 33.67 |       |       |       |       |       |       |
| 330      | 29154 | 56.80 | 27944 | 57.33 | 26500 | 57.52 | 24772 | 57.21 | 22705 | 56.23 |       |       |       |       |
| 365      | 39334 | 86.44 | 38242 | 87.46 | 36999 | 88.27 | 35564 | 88.78 | 33896 | 88.84 | 31955 | 88.32 | 29699 | 87.03 |

## 1160 RPM

| FAN SIZE | 0"SP  |       | 1"SP  |       | 2"SP  |       | 3"SP  |       | 4"SP  |       | 5"SP  |       | 6"SP  |       |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   | CFM   | BHP   |
| 122      | 1179  | 0.09  |       |       |       |       |       |       |       |       |       |       |       |       |
| 135      | 1577  | 0.14  |       |       |       |       |       |       |       |       |       |       |       |       |
| 150      | 2163  | 0.24  | 1293  | 0.28  |       |       |       |       |       |       |       |       |       |       |
| 165      | 2879  | 0.38  | 2020  | 0.47  |       |       |       |       |       |       |       |       |       |       |
| 182      | 3993  | 0.74  | 2964  | 0.83  |       |       |       |       |       |       |       |       |       |       |
| 200      | 5256  | 1.17  | 4140  | 1.30  | 2636  | 1.24  |       |       |       |       |       |       |       |       |
| 222      | 7237  | 1.99  | 5994  | 2.19  | 4574  | 2.21  |       |       |       |       |       |       |       |       |
| 245      | 9281  | 2.70  | 8288  | 3.17  | 7196  | 3.45  | 4930  | 3.30  |       |       |       |       |       |       |
| 270      | 12422 | 4.39  | 11297 | 5.06  | 10251 | 5.45  | 8489  | 5.70  |       |       |       |       |       |       |
| 300      | 17584 | 8.31  | 16291 | 9.34  | 15145 | 9.90  | 13597 | 10.21 | 11083 | 9.96  |       |       |       |       |
| 330      | 23404 | 13.38 | 21949 | 14.84 | 20710 | 15.67 | 19284 | 16.24 | 17246 | 16.46 | 14173 | 15.87 |       |       |
| 365      | 30385 | 20.67 | 28767 | 22.66 | 27401 | 23.86 | 25988 | 24.72 | 24200 | 25.31 | 21712 | 25.38 | 18196 | 24.44 |

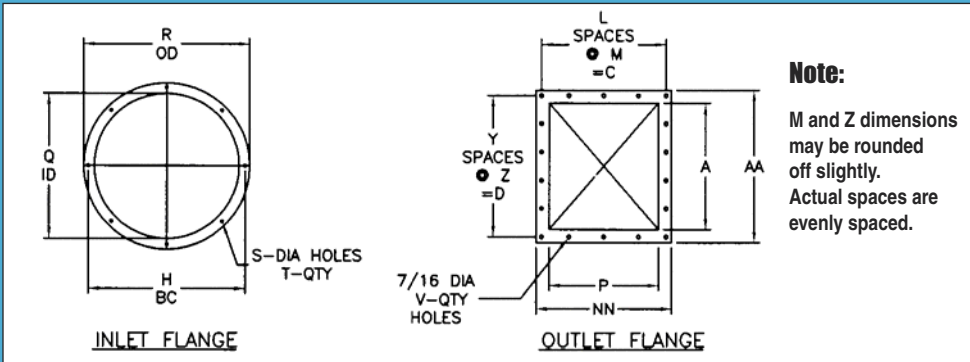
- Notes:
1. Performance certified is for installation type B – Free inlet, Ducted outlet.
  2. Performance ratings do not include the effects of appurtenances (accessories).
  3. Power ratings (BHP) do not include transmission losses.
  4. Ratings at 70F, 0.075 lbs/ft<sup>3</sup> Density, Sea Level Elevation.

# Design 64 PBI Scroll Housing Dimensions



| FAN SIZE | Wheel Dia. | A        | B       | E        | F        | J        | K        | N        | P       | W       | X        | AA       | NN       | Motor Frame |        | Total Weight | FAN SIZE |
|----------|------------|----------|---------|----------|----------|----------|----------|----------|---------|---------|----------|----------|----------|-------------|--------|--------------|----------|
|          |            |          |         |          |          |          |          |          |         |         |          |          |          | Min.        | Max.   |              |          |
| 122      | 12-5/8     | 13-3/4   | 10-7/8  | 9-15/16  | 22-13/16 | 9-1/8    | 17-7/16  | 9-3/4    | 9-3/8   | 3/4     | 24-3/8   | 17-11/16 | 13-3/8   | 143TC       | 184TC  | 157          | 122      |
| 135      | 13-7/8     | 15-1/4   | 12-1/16 | 10-3/16  | 25-1/16  | 9-5/8    | 21-1/4   | 10-3/4   | 10-3/8  | 13/16   | 27       | 19-3/16  | 14-3/8   | 143TC       | 215TC  | 181          | 135      |
| 150      | 15-3/8     | 16-13/16 | 13-1/4  | 11-3/4   | 27-7/16  | 10-1/8   | 21-3/4   | 11-3/4   | 11-3/8  | 7/8     | 29-11/16 | 20-3/4   | 15-3/8   | 143TC       | 215TC  | 205          | 150      |
| 165      | 16-7/8     | 18-7/16  | 14-1/2  | 12-11/16 | 29-7/8   | 10-11/16 | 26-11/16 | 12-7/8   | 12-1/2  | 15/16   | 32-1/2   | 22-7/16  | 16-1/2   | 143TC       | 256TC  | 231          | 165      |
| 182      | 18-5/8     | 20-3/8   | 16      | 13-13/16 | 32-3/4   | 11-3/8   | 33-5/8   | 14-1/4   | 13-7/8  | 15/16   | 35-15/16 | 24-1/2   | 17-7/8   | 143TC       | 326TSC | 327          | 182      |
| 200      | 20-3/8     | 22-3/8   | 17-1/2  | 14-15/16 | 35-11/16 | 12-1/16  | 34-5/16  | 15-5/8   | 15-1/4  | 1-1/8   | 39-1/4   | 26-3/8   | 19-1/4   | 182TC       | 326TSC | 395          | 200      |
| 222      | 22-5/8     | 24-7/8   | 19-3/8  | 16-3/8   | 39-3/8   | 12-7/8   | 35-1/8   | 17-1/4   | 16-7/8  | 1-1/4   | 43-1/2   | 28-7/8   | 20-15/16 | 182TC       | 326TC  | 458          | 222      |
| 245      | 25         | 27-3/8   | 21-1/4  | 18-13/16 | 44-1/16  | 15-3/4   | 36       | 18-15/16 | 18-9/16 | 1-3/8   | 47-3/4   | 31-3/8   | 22-5/8   | 213TC       | 326TC  | 581          | 245      |
| 270      | 27-1/2     | 30-1/16  | 23-3/8  | 20-5/8   | 48-3/8   | 16-11/16 | 36-15/16 | 20-13/16 | 20-7/16 | 1-7/16  | 52-1/2   | 34-1/8   | 24-1/2   | 213TC       | 326TC  | 697          | 270      |
| 300      | 30-1/2     | 33-9/16  | 26      | 22-5/8   | 53-1/2   | 17-13/16 | 38-1/16  | 23-1/8   | 22-3/4  | 1-11/16 | 58-3/8   | 37-5/8   | 26-3/4   | 213TC       | 326TC  | 832          | 300      |
| 330      | 33-1/2     | 36-7/8   | 28-1/2  | 24-11/16 | 58-9/16  | 18-9/16  | 36-11/16 | 24-7/8   | 24-7/8  | 1-7/8   | 64       | 40-7/8   | 28-7/8   | 284TC       | 365TC  | 1318         | 330      |
| 365      | 36-1/2     | 40-1/4   | 31      | 27-3/16  | 64-3/16  | 19-3/4   | 37-7/8   | 27-1/4   | 27-1/4  | 2       | 69-3/4   | 44-1/4   | 31-1/4   | 284TC       | 365TC  | 1469         | 365      |

## Flange Dimensions

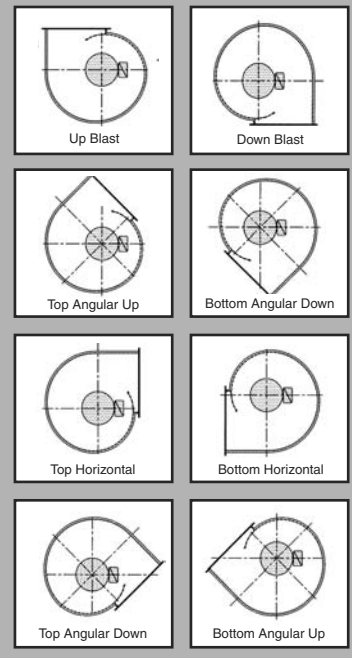


| FAN SIZE | Wheel Dia. | C        | D        | H        | L | M       | Q      | R      | S    | T  | V  | Y | Z       | FAN SIZE |
|----------|------------|----------|----------|----------|---|---------|--------|--------|------|----|----|---|---------|----------|
| 122      | 12-5/8     | 11-3/8   | 15-11/16 | 14-3/8   | 2 | 5-11/16 | 12-7/8 | 16     | 9/16 | 8  | 8  | 2 | 7-27/32 | 122      |
| 135      | 13-7/8     | 12-3/8   | 17-3/16  | 15-15/16 | 2 | 6-3/16  | 14-1/4 | 17-3/4 | 9/16 | 8  | 8  | 2 | 8-19/32 | 135      |
| 150      | 15-3/8     | 13-3/8   | 18-3/4   | 17-1/2   | 2 | 6-11/16 | 15-3/4 | 19-1/4 | 9/16 | 8  | 10 | 3 | 6-1/4   | 150      |
| 165      | 16-7/8     | 14-1/2   | 20-7/16  | 19-3/8   | 2 | 7-1/4   | 17-5/8 | 21-1/8 | 9/16 | 8  | 10 | 3 | 6-13/16 | 165      |
| 182      | 18-5/8     | 15-7/8   | 22-1/2   | 21-1/2   | 2 | 7-15/16 | 19-5/8 | 23-1/2 | 9/16 | 12 | 10 | 3 | 7-1/2   | 182      |
| 200      | 20-3/8     | 17-1/4   | 24-3/8   | 23-1/2   | 3 | 5-3/4   | 21-5/8 | 25-1/2 | 9/16 | 12 | 12 | 3 | 8-1/8   | 200      |
| 222      | 22-5/8     | 18-15/16 | 26-7/8   | 26-1/8   | 3 | 6-5/16  | 24-1/4 | 28-1/8 | 9/16 | 12 | 14 | 4 | 6-23/32 | 222      |
| 245      | 25         | 20-5/8   | 29-3/8   | 28-3/4   | 3 | 6-7/8   | 26-5/8 | 30-3/4 | 9/16 | 16 | 14 | 4 | 7-11/32 | 245      |
| 270      | 27-1/2     | 22-1/2   | 32-1/8   | 31-5/8   | 3 | 7-1/2   | 29-5/8 | 33-3/4 | 9/16 | 16 | 14 | 4 | 8-1/32  | 270      |
| 300      | 30-1/2     | 24-3/4   | 35-5/8   | 35-1/4   | 3 | 8-1/4   | 33-1/8 | 37-1/4 | 9/16 | 16 | 16 | 5 | 7-1/8   | 300      |
| 330      | 33-1/2     | 26-7/8   | 38-7/8   | 38-3/4   | 5 | 5-3/8   | 36-3/8 | 40-3/8 | 9/16 | 16 | 24 | 7 | 5-9/16  | 330      |
| 365      | 36-1/2     | 29-7/32  | 42-1/4   | 42       | 5 | 5-27/32 | 39-5/8 | 43-5/8 | 9/16 | 16 | 24 | 7 | 6-1/32  | 365      |

## Discharge and Rotation

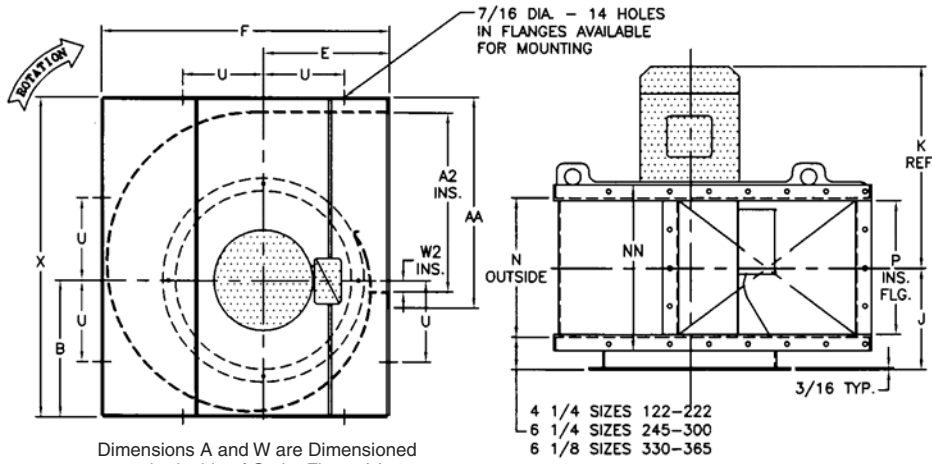
Position of Discharge and Rotation (viewed from the drive side)

Clockwise shown, Counterclockwise available





# Design 64 PBI Square Housing Dimensions



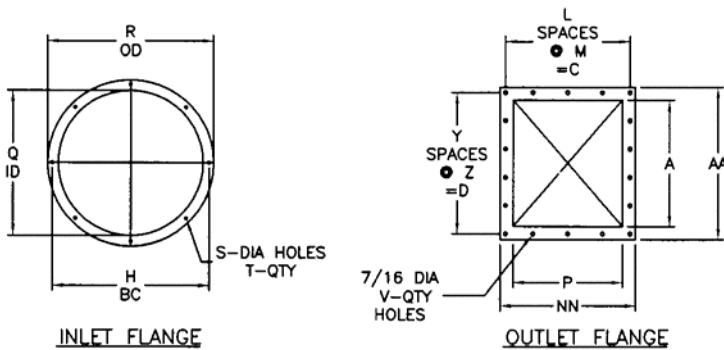
## Clockwise Rotation

All Dimensions in Inches

"K" dimension is approximate based upon motor frame and TEFC motors.

| FAN SIZE | Wheel Dia. | A        | B       | E        | F        | J        | K        | N        | P       | U  | W      | X       | AA       | NN       | Motor Frame |        | Total Weight | FAN SIZE |
|----------|------------|----------|---------|----------|----------|----------|----------|----------|---------|----|--------|---------|----------|----------|-------------|--------|--------------|----------|
|          |            |          |         |          |          |          |          |          |         |    |        |         |          |          | Min.        | Max.   |              |          |
| 122      | 12-5/8     | 13-9/16  | 10-7/8  | 9-15/16  | 22-13/16 | 9-1/8    | 17-7/16  | 9-3/4    | 9-3/8   | 7  | 21/32  | 25-7/8  | 17-11/16 | 13-3/8   | 143TC       | 184TC  | 185          | 122      |
| 135      | 13-7/8     | 15-1/16  | 12-1/16 | 10-13/16 | 25-1/16  | 9-5/8    | 21-1/4   | 10-3/4   | 10-3/8  | 8  | 23/32  | 28-1/2  | 19-3/16  | 14-3/8   | 143TC       | 215TC  | 212          | 135      |
| 150      | 15-3/8     | 16-5/8   | 13-1/4  | 11-3/4   | 27-7/16  | 10-1/8   | 21-3/4   | 11-3/4   | 11-3/8  | 8  | 25/32  | 31-3/16 | 20-3/4   | 15-3/8   | 143TC       | 215TC  | 240          | 150      |
| 165      | 16-7/8     | 18-1/4   | 14-1/2  | 12-11/16 | 29-7/8   | 10-11/16 | 26-11/16 | 12-7/8   | 12-1/2  | 9  | 27/32  | 34      | 22-7/16  | 16-1/2   | 143TC       | 256TC  | 271          | 165      |
| 182      | 18-5/8     | 20-1/8   | 16      | 13-13/16 | 32-3/4   | 11-3/8   | 33-5/8   | 14-1/4   | 13-3/4  | 11 | 13/16  | 37-1/2  | 24-1/2   | 17-7/8   | 143TC       | 326TSC | 391          | 182      |
| 200      | 20-3/8     | 22-1/8   | 17-1/2  | 14-15/16 | 35-11/16 | 12-1/16  | 34-5/16  | 15-5/8   | 15-1/8  | 11 | 1      | 40-1/4  | 26-3/8   | 19-1/4   | 182TC       | 326TSC | 467          | 200      |
| 222      | 22-5/8     | 24-5/8   | 19-3/8  | 16-3/8   | 39-3/8   | 12-7/8   | 35-1/8   | 17-1/4   | 16-3/4  | 11 | 1-1/8  | 45      | 28-7/8   | 20-15/16 | 182TC       | 326TC  | 542          | 222      |
| 245      | 25         | 27-1/8   | 21-1/4  | 18-13/16 | 44-1/16  | 15-3/4   | 36       | 18-15/16 | 18-7/16 | 12 | 1-1/4  | 49-1/4  | 31-3/8   | 22-5/8   | 213TC       | 326TC  | 681          | 245      |
| 270      | 27-1/2     | 29-13/16 | 23-3/8  | 20-5/8   | 48-3/8   | 16-11/16 | 36-15/16 | 20-13/16 | 20-5/16 | 13 | 1-5/16 | 54      | 34-1/8   | 24-1/2   | 213TC       | 326TC  | 813          | 270      |
| 300      | 30-1/2     | 33-5/16  | 26      | 22-5/8   | 53-1/2   | 17-13/16 | 38-1/16  | 23-1/8   | 22-5/8  | 13 | 1-9/16 | 59-7/8  | 37-5/8   | 26-3/4   | 213TC       | 326TC  | 968          | 300      |
| 330      | 33-1/2     | 36-5/8   | 28-1/2  | 24-11/16 | 58-9/16  | 18-9/16  | 38-11/16 | 24-7/8   | 24-3/8  | 14 | 1-3/4  | 65-1/2  | 40-7/8   | 28-7/8   | 284TC       | 365TC  | 1482         | 330      |
| 365      | 36-1/2     | 40       | 31      | 27-3/16  | 64-3/16  | 19-3/4   | 37-7/8   | 27-1/4   | 26-3/4  | 16 | 1-7/8  | 71-1/4  | 44-1/4   | 31-1/4   | 284TC       | 365TC  | 1658         | 365      |

## Flange Dimensions

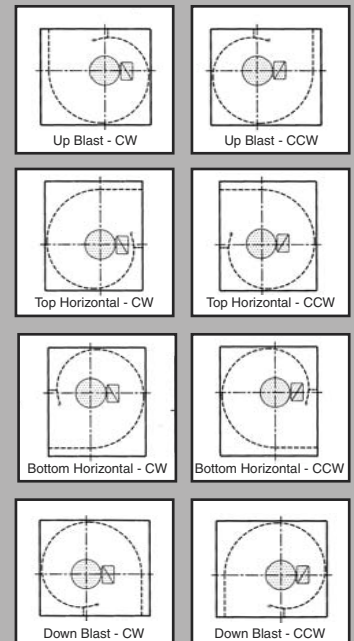


### Note:

M and Z dimensions may be rounded off slightly. Actual spaces are evenly spaced.

## Discharge and Rotation

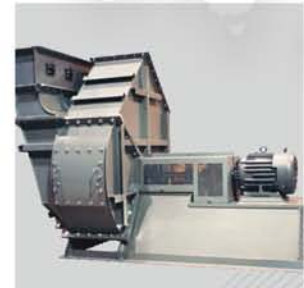
Position of Discharge and Rotation (viewed from the drive side)



| FAN SIZE | Wheel Dia. | C        | D        | H        | L | M       | Q      | R      | S    | T  | V  | Y | Z       | FAN SIZE |
|----------|------------|----------|----------|----------|---|---------|--------|--------|------|----|----|---|---------|----------|
| 122      | 12-5/8     | 11-3/8   | 15-11/16 | 14-3/8   | 2 | 5-11/16 | 12-7/8 | 16     | 9/16 | 8  | 8  | 2 | 7-27/32 | 122      |
| 135      | 13-7/8     | 12-3/8   | 17-3/16  | 15-15/16 | 2 | 6-3/16  | 14-1/4 | 17-3/4 | 9/16 | 8  | 8  | 2 | 8-19/32 | 135      |
| 150      | 15-3/8     | 13-3/8   | 18-3/4   | 17-1/2   | 2 | 6-11/16 | 15-3/4 | 19-1/4 | 9/16 | 8  | 10 | 3 | 6-1/4   | 150      |
| 165      | 16-7/8     | 14-1/2   | 20-7/16  | 19-3/8   | 2 | 7-1/4   | 17-5/8 | 21-1/8 | 9/16 | 8  | 10 | 3 | 6-13/16 | 165      |
| 182      | 18-5/8     | 15-7/8   | 22-1/2   | 21-1/2   | 2 | 7-15/16 | 19-5/8 | 23-1/2 | 9/16 | 12 | 10 | 3 | 7-1/2   | 182      |
| 200      | 20-3/8     | 17-1/4   | 24-3/8   | 23-1/2   | 3 | 5-3/4   | 21-5/8 | 25-1/2 | 9/16 | 12 | 12 | 3 | 8-1/8   | 200      |
| 222      | 22-5/8     | 18-15/16 | 26-7/8   | 26-1/8   | 3 | 6-5/16  | 24-1/4 | 28-1/8 | 9/16 | 12 | 14 | 4 | 6-23/32 | 222      |
| 245      | 25         | 20-5/8   | 29-3/8   | 28-3/4   | 3 | 6-7/8   | 26-5/8 | 30-3/4 | 9/16 | 16 | 14 | 4 | 7-11/32 | 245      |
| 270      | 27-1/2     | 22-1/2   | 32-1/8   | 31-5/8   | 3 | 7-1/2   | 29-5/8 | 33-3/4 | 9/16 | 16 | 14 | 4 | 8-1/32  | 270      |
| 300      | 30-1/2     | 24-3/4   | 35-5/8   | 35-1/4   | 3 | 8-1/4   | 33-1/8 | 37-1/4 | 9/16 | 16 | 16 | 5 | 7-1/8   | 300      |
| 330      | 33-1/2     | 26-7/8   | 38-15/16 | 38-3/4   | 5 | 5-3/8   | 36-3/8 | 40-3/8 | 9/16 | 16 | 24 | 7 | 5-9/16  | 330      |
| 365      | 36-1/2     | 29-7/32  | 42-7/32  | 42       | 5 | 5-27/32 | 39-5/8 | 43-5/8 | 9/16 | 16 | 24 | 7 | 6-1/32  | 365      |

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