HIGH EFFICIENCY INDUSTRIAL BACKWARD CURVED FANS

MODEL HIB
Model HIB fans from Twin City Fan & Blower employ a high-efficiency backwardly-curved impeller in a robustly constructed fan housing. Designed to handle clean air or air with light dust loading, these fans are widely used on the clean side of baghouses, in high-efficiency filtration, forced-draft, and other high pressure process supply applications. The curve below shows the HIB’s characteristic high efficiency over a broad range and its non-overloading power curve. Performance ratings shown in the curve are based on tests to AMCA Standard 210.

**Standard Features**
- High-efficiency, non-overloading impeller with continuously welded blades and a steel hub
- Statically and dynamically balanced rotor assembly
- Heavy duty self-aligning grease lubricated anti-friction split roller bearings
- Heavy-gauge reinforced housing and bearing pedestal for vibration-free service
- All fans standard with flanged inlet and outlet, access door, shaft seal, and drain
- Sizes 360 and larger fans are equipped with a pie-shaped split in the casing to permit the impeller and shaft to be removed without disturbing the inlet and outlet ductwork

**Capabilities**
- Fan sizes from 180 to 800
- Impeller diameters from 520 to 2,300 mm
- High temperature construction to 425°C available

**HIB Design 20**
- Suitable to 100 m/s tip speed
- Pressure to 6,725 Pa

**HIB Design 24**
- Suitable to 120 m/s tip speed
- Pressure to 10,000 Pa
Overview

Model HIB

Arrangement 1
The usual choice for many V-belt drive applications. Impeller is overhung. Steel bearing pedestal to size 730. Size 800 requires a concrete pedestal. Check with the factory for V-belt drive applications larger than 185 kW.

Arrangement 3SI
Single width-single inlet fan with integral inlet box and independent bearing pedestals. The impeller is supported between two bearings.

Arrangement 7SI
Arrangement 7SI is direct drive. Like the Arrangement 3SI, the impeller is mounted between the bearings. The Arrangement 7SI includes an integrated inlet box to locate the bearing outside of the airstream.

Arrangement 8
Direct coupled with a flexible coupling. The motor pedestal can be custom fabricated out of steel for up to 300 kW. On larger powered units, use of standard Arrangement 1 fan with a concrete pedestal for the motor is advisable. Variations in impeller diameters and impeller widths are available to match design performance at motor speeds. Characteristic curves showing performances at direct drive speeds are available on request.

Options/Accessories

Inlet Box Dampers
Pre-spin design, heavy-duty construction. The damper will spin the air in the direction of impeller rotation resulting in a savings in power at reduced loads.

Variable Inlet Vanes
Works on the same principle as inlet box dampers. Nested and external type variable inlet vanes are available.

Evasé
Usually fabricated by customer as part of the ductwork. Fan outlet must be expanded to equal evasé area shown in the catalog to obtain rated performance. Same gauge as fan housing when purchased from the factory.

Temperature and Vibration Detectors
Thermocouples or RTDs can be installed on the bearings. Various types of vibration switches are available.

High Temperature Construction
150 to 260°C: Requires addition of shaft cooler and high temperature grease bearings.
261 to 315°C: Above modifications plus high temperature aluminium paint.
316 to 425°C: Above modifications plus modified pedestal design.
Inlet Boxes
Integral or detached type generously designed to minimise pressure drop.

Inlet Box Positions For Centrifugal Fans

- 45° — Angular Down Intake
- 90° — Horizontal Right Intake
- 135° — Angular Up Intake
- 180° — Bottom Up Intake
- 225° — Angular Up Intake
- 270° — Horizontal Left Intake
- 315° — Angular Down Intake
- 360° — Top Down Intake

Inlet Box Arrangements

<table>
<thead>
<tr>
<th>Reference Line</th>
<th>Fan</th>
<th>Subbase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Vertical Axis through center of fan shaft.</td>
<td>Arr. 1 fan with detached inlet box. Can also be supplied in Arr. 8.</td>
<td>Arr. 1 fan with attached or integral inlet box. Can also be supplied in Arr. 8.</td>
</tr>
</tbody>
</table>

Typical Inlet Box Dimensions

<table>
<thead>
<tr>
<th>FAN SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>INLET AREA (m²)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>248</td>
<td>730</td>
<td>81</td>
<td>254</td>
<td>1.85</td>
<td>38 x 38</td>
</tr>
<tr>
<td>200</td>
<td>270</td>
<td>800</td>
<td>81</td>
<td>279</td>
<td>2.22</td>
<td>38 x 38</td>
</tr>
<tr>
<td>220</td>
<td>298</td>
<td>889</td>
<td>81</td>
<td>305</td>
<td>2.81</td>
<td>38 x 38</td>
</tr>
<tr>
<td>240</td>
<td>330</td>
<td>978</td>
<td>81</td>
<td>318</td>
<td>3.34</td>
<td>38 x 38</td>
</tr>
<tr>
<td>270</td>
<td>365</td>
<td>1080</td>
<td>81</td>
<td>356</td>
<td>4.10</td>
<td>38 x 38</td>
</tr>
<tr>
<td>300</td>
<td>403</td>
<td>1191</td>
<td>81</td>
<td>381</td>
<td>5.00</td>
<td>38 x 38</td>
</tr>
<tr>
<td>330</td>
<td>454</td>
<td>1324</td>
<td>81</td>
<td>419</td>
<td>6.11</td>
<td>50 x 50</td>
</tr>
<tr>
<td>360</td>
<td>492</td>
<td>1457</td>
<td>81</td>
<td>510</td>
<td>7.52</td>
<td>50 x 50</td>
</tr>
<tr>
<td>400</td>
<td>543</td>
<td>1610</td>
<td>81</td>
<td>556</td>
<td>9.20</td>
<td>65 x 65</td>
</tr>
<tr>
<td>450</td>
<td>594</td>
<td>1762</td>
<td>106</td>
<td>622</td>
<td>11.00</td>
<td>65 x 65</td>
</tr>
<tr>
<td>490</td>
<td>657</td>
<td>1952</td>
<td>106</td>
<td>678</td>
<td>13.60</td>
<td>65 x 65</td>
</tr>
<tr>
<td>540</td>
<td>724</td>
<td>2146</td>
<td>133</td>
<td>730</td>
<td>16.30</td>
<td>65 x 65</td>
</tr>
<tr>
<td>600</td>
<td>800</td>
<td>2375</td>
<td>133</td>
<td>784</td>
<td>20.00</td>
<td>75 x 75</td>
</tr>
<tr>
<td>660</td>
<td>886</td>
<td>2629</td>
<td>133</td>
<td>849</td>
<td>24.80</td>
<td>75 x 75</td>
</tr>
<tr>
<td>730</td>
<td>978</td>
<td>2908</td>
<td>159</td>
<td>940</td>
<td>30.00</td>
<td>90 x 90</td>
</tr>
<tr>
<td>800</td>
<td>1080</td>
<td>3213</td>
<td>159</td>
<td>1026</td>
<td>36.80</td>
<td>90 x 90</td>
</tr>
</tbody>
</table>

Dimensions are in mm unless otherwise indicated. Dimensions are not to be used for construction.
Performance Correction for Temperature and Altitude

The performance tables in this catalog are based on fans handling standard air at a density of 1.2 kg/m³. This is equivalent to 21°C at sea level (101.325 kPa barometric pressure). When specified performance is at a density different than standard, it must be converted to the equivalent standard conditions before entering the performance tables. The equivalent standard conditions can be calculated by using the “Temperature and Altitude Correction Factors” from the table below.

Temperature and Altitude Correction Factors

<table>
<thead>
<tr>
<th>AIR TEMP °C</th>
<th>0</th>
<th>300</th>
<th>600</th>
<th>900</th>
<th>1200</th>
<th>1500</th>
<th>1750</th>
<th>2000</th>
<th>2400</th>
<th>2800</th>
<th>3500</th>
<th>4500</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAROMETRIC PRESSURE IN kPa</td>
<td>101.32</td>
<td>97.72</td>
<td>94.32</td>
<td>90.97</td>
<td>87.71</td>
<td>84.55</td>
<td>81.99</td>
<td>79.49</td>
<td>75.62</td>
<td>71.91</td>
<td>65.76</td>
<td>57.73</td>
</tr>
<tr>
<td>20</td>
<td>1.000</td>
<td>0.965</td>
<td>0.931</td>
<td>0.908</td>
<td>0.886</td>
<td>0.863</td>
<td>0.835</td>
<td>0.809</td>
<td>0.785</td>
<td>0.746</td>
<td>0.710</td>
<td>0.649</td>
</tr>
<tr>
<td>40</td>
<td>0.936</td>
<td>0.903</td>
<td>0.871</td>
<td>0.840</td>
<td>0.810</td>
<td>0.781</td>
<td>0.757</td>
<td>0.734</td>
<td>0.699</td>
<td>0.664</td>
<td>0.608</td>
<td>0.533</td>
</tr>
<tr>
<td>65</td>
<td>0.867</td>
<td>0.837</td>
<td>0.807</td>
<td>0.778</td>
<td>0.751</td>
<td>0.724</td>
<td>0.702</td>
<td>0.680</td>
<td>0.647</td>
<td>0.615</td>
<td>0.563</td>
<td>0.494</td>
</tr>
<tr>
<td>100</td>
<td>0.786</td>
<td>0.758</td>
<td>0.732</td>
<td>0.706</td>
<td>0.680</td>
<td>0.656</td>
<td>0.636</td>
<td>0.617</td>
<td>0.587</td>
<td>0.558</td>
<td>0.510</td>
<td>0.448</td>
</tr>
<tr>
<td>125</td>
<td>0.736</td>
<td>0.710</td>
<td>0.685</td>
<td>0.661</td>
<td>0.637</td>
<td>0.614</td>
<td>0.596</td>
<td>0.577</td>
<td>0.549</td>
<td>0.522</td>
<td>0.478</td>
<td>0.419</td>
</tr>
<tr>
<td>150</td>
<td>0.693</td>
<td>0.669</td>
<td>0.645</td>
<td>0.622</td>
<td>0.600</td>
<td>0.578</td>
<td>0.561</td>
<td>0.544</td>
<td>0.517</td>
<td>0.492</td>
<td>0.450</td>
<td>0.396</td>
</tr>
<tr>
<td>175</td>
<td>0.654</td>
<td>0.631</td>
<td>0.609</td>
<td>0.587</td>
<td>0.566</td>
<td>0.546</td>
<td>0.529</td>
<td>0.513</td>
<td>0.488</td>
<td>0.464</td>
<td>0.424</td>
<td>0.373</td>
</tr>
<tr>
<td>200</td>
<td>0.619</td>
<td>0.597</td>
<td>0.576</td>
<td>0.556</td>
<td>0.536</td>
<td>0.517</td>
<td>0.501</td>
<td>0.486</td>
<td>0.462</td>
<td>0.439</td>
<td>0.402</td>
<td>0.353</td>
</tr>
<tr>
<td>225</td>
<td>0.588</td>
<td>0.567</td>
<td>0.547</td>
<td>0.528</td>
<td>0.509</td>
<td>0.491</td>
<td>0.476</td>
<td>0.461</td>
<td>0.439</td>
<td>0.417</td>
<td>0.382</td>
<td>0.335</td>
</tr>
<tr>
<td>250</td>
<td>0.560</td>
<td>0.540</td>
<td>0.521</td>
<td>0.503</td>
<td>0.485</td>
<td>0.467</td>
<td>0.453</td>
<td>0.439</td>
<td>0.418</td>
<td>0.397</td>
<td>0.363</td>
<td>0.319</td>
</tr>
<tr>
<td>275</td>
<td>0.535</td>
<td>0.516</td>
<td>0.498</td>
<td>0.480</td>
<td>0.463</td>
<td>0.446</td>
<td>0.433</td>
<td>0.420</td>
<td>0.399</td>
<td>0.380</td>
<td>0.347</td>
<td>0.305</td>
</tr>
<tr>
<td>300</td>
<td>0.511</td>
<td>0.493</td>
<td>0.476</td>
<td>0.459</td>
<td>0.442</td>
<td>0.426</td>
<td>0.414</td>
<td>0.401</td>
<td>0.381</td>
<td>0.363</td>
<td>0.322</td>
<td>0.291</td>
</tr>
<tr>
<td>350</td>
<td>0.470</td>
<td>0.454</td>
<td>0.438</td>
<td>0.422</td>
<td>0.407</td>
<td>0.392</td>
<td>0.380</td>
<td>0.369</td>
<td>0.351</td>
<td>0.334</td>
<td>0.305</td>
<td>0.268</td>
</tr>
<tr>
<td>375</td>
<td>0.452</td>
<td>0.436</td>
<td>0.421</td>
<td>0.406</td>
<td>0.391</td>
<td>0.377</td>
<td>0.366</td>
<td>0.355</td>
<td>0.337</td>
<td>0.321</td>
<td>0.293</td>
<td>0.258</td>
</tr>
<tr>
<td>400</td>
<td>0.435</td>
<td>0.420</td>
<td>0.405</td>
<td>0.391</td>
<td>0.377</td>
<td>0.363</td>
<td>0.352</td>
<td>0.341</td>
<td>0.325</td>
<td>0.309</td>
<td>0.282</td>
<td>0.248</td>
</tr>
<tr>
<td>425</td>
<td>0.420</td>
<td>0.405</td>
<td>0.391</td>
<td>0.377</td>
<td>0.364</td>
<td>0.350</td>
<td>0.340</td>
<td>0.330</td>
<td>0.313</td>
<td>0.298</td>
<td>0.273</td>
<td>0.239</td>
</tr>
<tr>
<td>450</td>
<td>0.405</td>
<td>0.391</td>
<td>0.377</td>
<td>0.364</td>
<td>0.351</td>
<td>0.338</td>
<td>0.326</td>
<td>0.318</td>
<td>0.302</td>
<td>0.287</td>
<td>0.263</td>
<td>0.231</td>
</tr>
<tr>
<td>500</td>
<td>0.379</td>
<td>0.366</td>
<td>0.353</td>
<td>0.340</td>
<td>0.328</td>
<td>0.316</td>
<td>0.307</td>
<td>0.297</td>
<td>0.283</td>
<td>0.269</td>
<td>0.246</td>
<td>0.216</td>
</tr>
<tr>
<td>550</td>
<td>0.356</td>
<td>0.344</td>
<td>0.331</td>
<td>0.320</td>
<td>0.308</td>
<td>0.297</td>
<td>0.286</td>
<td>0.279</td>
<td>0.266</td>
<td>0.253</td>
<td>0.231</td>
<td>0.203</td>
</tr>
<tr>
<td>600</td>
<td>0.336</td>
<td>0.324</td>
<td>0.313</td>
<td>0.302</td>
<td>0.291</td>
<td>0.280</td>
<td>0.272</td>
<td>0.264</td>
<td>0.251</td>
<td>0.238</td>
<td>0.218</td>
<td>0.191</td>
</tr>
</tbody>
</table>

Example:
Assume a Model HIB 540 to handle 16.5 m³/sec at 3250 Pa SP at 250°C at an altitude of 900 m.

1. Knowing the operating conditions are 250°C and 900 m altitude, the correction factor can be found in the table above to be 0.503.
2. Divide the operating SP by this factor:
   
   \[
   \text{3250 \div 0.503 = 6460 Pa SP}
   \]

   This is the equivalent SP at standard air density.

Derating Factors For High Temperature

<table>
<thead>
<tr>
<th>TEMP. (°C)</th>
<th>STANDARD STEEL</th>
<th>STAINLESS STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1.000</td>
<td>CONSULT FACTORY</td>
</tr>
<tr>
<td>95</td>
<td>0.990</td>
<td>CONSULT FACTORY</td>
</tr>
<tr>
<td>150</td>
<td>0.975</td>
<td></td>
</tr>
<tr>
<td>205</td>
<td>0.955</td>
<td></td>
</tr>
<tr>
<td>260</td>
<td>0.930</td>
<td></td>
</tr>
<tr>
<td>315</td>
<td>0.904</td>
<td></td>
</tr>
<tr>
<td>370</td>
<td>0.880</td>
<td></td>
</tr>
<tr>
<td>425</td>
<td>0.837</td>
<td></td>
</tr>
</tbody>
</table>

Standard steel construction is suitable for use in gas temperatures to 425°C. Aluminum impellers are suitable for temperatures to 120°C only.

When a fan operates at temperatures higher than 20°C, the maximum RPMs allowable must be adjusted according to the de-rating factor found in the table at the left.

Stainless steel impellers must be derated even at ambient operating temperatures. Please consult factory for stainless steel derating factors.
### Material and Mechanical Specifications

#### Back Plate Blade Ring Impeller Cone Value

<table>
<thead>
<tr>
<th>FAN</th>
<th>DESIGN</th>
<th>SHAFT DIA.</th>
<th>MAX. KW V-BELT DRIVE*</th>
<th>MIN. SHEAVE DIA.*</th>
<th>MAX. KW DIRECT DRIVE</th>
<th>MAX RPM**</th>
<th>BACK PLATE</th>
<th>BLADE</th>
<th>RING</th>
<th>IMPeller CONE</th>
<th>WR VALUE (kg-m²)</th>
<th>HSG. GAUGE (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>20</td>
<td>55</td>
<td>22</td>
<td>14</td>
<td>30</td>
<td>3724</td>
<td>6</td>
<td>3</td>
<td>---</td>
<td>3</td>
<td>0.80</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>55</td>
<td>37</td>
<td>13</td>
<td>45</td>
<td>3839</td>
<td>8</td>
<td>5</td>
<td>---</td>
<td>3</td>
<td>0.97</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>220</td>
<td>55</td>
<td>37</td>
<td>19</td>
<td>45</td>
<td>3058</td>
<td>6</td>
<td>3</td>
<td>---</td>
<td>3</td>
<td>1.77</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>240</td>
<td>55</td>
<td>37</td>
<td>19</td>
<td>45</td>
<td>3870</td>
<td>8</td>
<td>5</td>
<td>---</td>
<td>3</td>
<td>2.06</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>220</td>
<td>55</td>
<td>37</td>
<td>19</td>
<td>45</td>
<td>3058</td>
<td>6</td>
<td>3</td>
<td>---</td>
<td>3</td>
<td>1.77</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>240</td>
<td>55</td>
<td>37</td>
<td>19</td>
<td>45</td>
<td>3870</td>
<td>8</td>
<td>5</td>
<td>---</td>
<td>3</td>
<td>2.06</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>220</td>
<td>55</td>
<td>37</td>
<td>19</td>
<td>45</td>
<td>3058</td>
<td>6</td>
<td>3</td>
<td>---</td>
<td>3</td>
<td>1.77</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>240</td>
<td>55</td>
<td>37</td>
<td>19</td>
<td>45</td>
<td>3870</td>
<td>8</td>
<td>5</td>
<td>---</td>
<td>3</td>
<td>2.06</td>
<td>5</td>
</tr>
</tbody>
</table>

### Bare Fan Weights (kg)

<table>
<thead>
<tr>
<th>FAN SIZE</th>
<th>CLASS 1.9</th>
<th>CLASS 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>352</td>
<td>352</td>
</tr>
<tr>
<td>200</td>
<td>386</td>
<td>386</td>
</tr>
<tr>
<td>220</td>
<td>405</td>
<td>405</td>
</tr>
<tr>
<td>240</td>
<td>423</td>
<td>423</td>
</tr>
<tr>
<td>270</td>
<td>509</td>
<td>509</td>
</tr>
<tr>
<td>300</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>330</td>
<td>705</td>
<td>705</td>
</tr>
<tr>
<td>360</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>400</td>
<td>1127</td>
<td>1127</td>
</tr>
<tr>
<td>450</td>
<td>1373</td>
<td>1373</td>
</tr>
<tr>
<td>490</td>
<td>1745</td>
<td>1745</td>
</tr>
<tr>
<td>540</td>
<td>2145</td>
<td>2145</td>
</tr>
<tr>
<td>600</td>
<td>2945</td>
<td>2945</td>
</tr>
<tr>
<td>660</td>
<td>3377</td>
<td>3377</td>
</tr>
<tr>
<td>730</td>
<td>4105</td>
<td>4105</td>
</tr>
</tbody>
</table>

### Impeller Weights (kg)

<table>
<thead>
<tr>
<th>FAN SIZE</th>
<th>CLASS 1.9</th>
<th>CLASS 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>200</td>
<td>32</td>
<td>38</td>
</tr>
<tr>
<td>220</td>
<td>39</td>
<td>47</td>
</tr>
<tr>
<td>240</td>
<td>44</td>
<td>54</td>
</tr>
<tr>
<td>270</td>
<td>71</td>
<td>79</td>
</tr>
<tr>
<td>300</td>
<td>84</td>
<td>101</td>
</tr>
<tr>
<td>330</td>
<td>105</td>
<td>120</td>
</tr>
<tr>
<td>360</td>
<td>117</td>
<td>137</td>
</tr>
<tr>
<td>400</td>
<td>169</td>
<td>211</td>
</tr>
<tr>
<td>450</td>
<td>200</td>
<td>279</td>
</tr>
<tr>
<td>490</td>
<td>315</td>
<td>380</td>
</tr>
<tr>
<td>540</td>
<td>445</td>
<td>525</td>
</tr>
<tr>
<td>600</td>
<td>581</td>
<td>616</td>
</tr>
<tr>
<td>660</td>
<td>671</td>
<td>783</td>
</tr>
<tr>
<td>730</td>
<td>785</td>
<td>956</td>
</tr>
<tr>
<td>800†</td>
<td>924</td>
<td>1144</td>
</tr>
</tbody>
</table>

### Notes:
- * Minimum sheave diameter when using maximum motor power rating. Check with factory on applications over 200 kW.
- ** Maximum fan RPM listed is for carbon steel construction. For stainless steel construction, contact the factory.
- † Size 800 HIB is not supplied with conventional bearing pedestal. Instead, channel sub-bases are supplied. The sub-base is to be mounted on concrete pedestal in the field. Fan weights include weight of channel sub-base.
Notes:
1. Performance certified is for installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet Lwa sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:

1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
### Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet Lwa sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
Notes:
1. Performance certified is for Installation Type B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10 E-12 watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
**Notes:**

1. Performance certified is for Installation Types B & D: Free or ducted inlet, ducted outlet.
2. Power rating (kW) does not include transmission losses.
3. Performance ratings do not include the effects of appurtenances (accessories).
4. The sound power level ratings shown are in decibels, referred to 10^(-12) watts calculated per AMCA Standard 301.
5. Values shown are for inlet LwA sound power levels for Installation Type B: Free inlet, ducted outlet.
6. Ratings do not include the effects of duct end correction.
7. The A-weighted sound ratings shown have been calculated per AMCA Standard 301.
TWIN CITY FAN - CATALOGUE M1100

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.

NOTES:
1. CW rotation shown, CCW rotation is similar but opposite.
2. Size 800 will be supplied with channel sub-base to be mounted on concrete pedestal in the field.
3. Standard accessories: bolted access door, housing drain, pie split housing, shaft seal, punched inlet and outlet flanges.

HIB, Arrangement 1, Sizes 360-800

FAN SIZE | KS | HIB-20 | HIB-24
--- | --- | --- | ---
360 | 20 x 12 | 25 x 14 | 254 | 673 | 406 | 584 | 165 | 24 | 1367 | 564 | 75 | 90 | 229 | 5
400 | 25 x 14 | 28 x 16 | 279 | 724 | 457 | 635 | 191 | 32 | 1422 | 621 | 90 | 100 | 254 | 5
450 | 30 x 14 | 28 x 16 | 295 | 775 | 508 | 635 | 216 | 32 | 1534 | 686 | 90 | 100 | 254 | 5
490 | 28 x 16 | 32 x 18 | 330 | 838 | 559 | 699 | 241 | 40 | 1684 | 756 | 100 | 115 | 279 | 6
540 | 28 x 16 | 32 x 18 | 330 | 889 | 610 | 749 | 267 | 40 | 1729 | 837 | 100 | 115 | 279 | 6
600 | 32 x 18 | 32 x 18 | 349 | 940 | 660 | 800 | 292 | 40 | 1832 | 926 | 115 | 125 | 296 | 6
660 | 32 x 18 | 32 x 18 | 356 | 1003 | 711 | 884 | 318 | 40 | 1913 | 1018 | 115 | 125 | 326 | 6
730 | 32 x 18 | 32 x 18 | 381 | 1067 | 762 | 927 | 343 | 48 | 2019 | 1125 | 115 | 125 | 305 | 8
800 | 32 x 18 | Enquire | 406 | 1130 | 813 | 981 | 368 | 48 | 2203 | 1245 | 125 | Enquire | 324 | 8

DIMENSIONS ARE NOT TO BE USED FOR CONSTRUCTION. CERTIFIED DRAWINGS AVAILABLE UPON REQUEST.
Furnish and install as indicated on the plans, Twin City Fan & Blower model HIB industrial duty backward curved fans.

**HOUSING** — Fan housings shall be made of a heavy-gauge steel with continuously welded construction and braced with structural shapes to eliminate any resonant vibration and provide smooth operation. Sizes 360 and larger shall be equipped with a pie-shaped split in the casing to permit the impeller and shaft to be removed without disturbing the inlet and outlet ductwork. Casing split must be fully sealed and bolted together to prevent any leaks. Flanged inlet and outlet, access door, shaft seal, and drain shall be provided as standard equipment.

**IMPELLER** — Blade design shall be backward curved for high efficiency and have non-overloading performance characteristics. Blades shall be die-formed of special alloy material for strength and accuracy of contour and continuously welded to the impeller inlet cone and back-plate. A heavy steel (not cast iron) hub shall be provided. Impellers shall be shrunk fit on the shafts, and hubs shall include puller holes for use in the event of impeller removal. Impellers shall be statically and dynamically balanced on precision electronic machines, as well as balance tuned after complete assembly.

**SHAFT** — Shafts are to be solid material selected for AISI 1040 or 1045 hot rolled steel (or European equivalent), accurately turned, ground, polished and ring gauged for accuracy.

**BEARINGS** — Fans must be supplied with heavy-duty, self-aligning grease or oil lubricated anti-friction spherical roller bearings with split pillow block housings (bearing races not split) to provide long bearing life.

**DRIVE** — Cast iron, fixed pitch sheaves are recommended for best reliability. Variable pitch sheaves can be provided on applications up through 15 kW when specified. Drives and belts are located external to the fan casing and rated for 150% of the required motor rating (kW).

**FINISH & COATING** — The entire assembly, excluding the shaft, is thoroughly degreased and deburred before application of a protective coating to the entire assembly. The fan shaft is coated with a petroleum-based rust protectant.

**ACCESSORIES** — When specified, accessories such as belt guards, access doors, companion flanges, variable inlet vanes, outlet dampers, inlet boxes, inlet box dampers, evasés, evasé dampers, shaft coolers, shaft seals, inlet screens, drains, scroll and side liners, etc., shall be provided by Twin City Fan & Blower to maintain one source responsibility.

**FACTORY TEST RUN** — All fans prior to shipment shall be completely assembled and test run as a unit at the specified operating speed or maximum RPM allowed for the particular construction type. Each impeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 “Balance Quality and Vibration Levels for Fans” to Fan Application Category BV-3, Balance Quality Grade G6.3. Vibration measurements shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

**GUARANTEE** — Manufacturer shall guarantee the workmanship and materials for its High Efficiency Industrial Backward Curved Fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.
INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS  UTILITY SETS  PLENUM & PLUG FANS  INLINE CENTRIFUGAL FANS
MIXED FLOW FANS  TUBEAXIAL & VANEAXIAL FANS  PROPELLER WALL FANS  PROPELLER ROOF VENTILATORS
CENTRIFUGAL ROOF & WALL EXHAUSTERS  CEILING VENTILATORS  GRAVITY VENTILATORS  DUCT BLOWERS
RADIAL BLADED FANS  RADIAL TIP FANS  HIGH EFFICIENCY INDUSTRIAL FANS  PRESSURE BLOWERS
LABORATORY EXHAUST FANS  FILTERED SUPPLY FANS  MANCOOLERS  FIBERGLASS FANS  CUSTOM FANS