



Howden



Z-series axial fans



Howden Z-series fans are the latest in axial fan development. They are specifically designed to operate at peak efficiency at the most common duty points in field erected cooling towers and air-cooled steam condensers.

Z-series fan blades have the innovative “Aerotip” blades developed by Howden

Z-series fans have a blade construction with an integral shaft and are positioned on the fan hub through aluminium blade supports using U-bolts for simple assembly and field adjustment.

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Z-series axial fans

Standard features

- Straight aerofoil designed for clockwise rotation in the horizontal position only.
- Fan diameters range from 7,925 mm to 10,973 mm (26 ft. to 36 ft.)
- Standard operating temperature range from $-20\text{ }^{\circ}\text{C}$ to $+65\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$ to $+149\text{ }^{\circ}\text{F}$).
- Fibreglass reinforced polyester (FRP) blades.
- A mild steel, polyurethane coated, fan hub with aluminium blade supports and stainless steel U-bolts, nuts and washers.

Optional features

- Polyurethane blade leading edge protection for wet cooling tower applications.
- Cast iron, polyurethane coated, coupling flange to suit the mating drive shaft with either a cylindrical or a tapered bushing connection.
- Salt water cooling tower upgrade.

Design advantages

- “Aerotip” blades enhance the aerodynamic performance of the Z-series fan and significantly reduce the ‘pressure pulse’ transmitted to the fan ring.
- Howden Z-series fans have excellent operating efficiencies, resulting in low power consumption.
- Lightweight blades, $\pm 70\text{ kgs}/155\text{ lbs}$ for a 32 ft. fan, allow simple field assembly and easy individual adjustment of the blade pitch.
- FRP blade material offers superior damping of mechanical vibrations and of structure borne noise compared with metal blades, prolonging the fan’s lifetime.
- Z-series blades have an integral shaft. This eliminates concentration of stress at mechanical joints, typical of blades with a bolted on shaft, which is a major cause of fan failures in operation.
- Z-series blades are master balanced at the factory.
- Reliable fan selection data reduces the need to reset the blade pitch at site after start up.



*Top: ZNF fan installation
in a cooling tower*

*Bottom: "Aerotip" as
an integral part of the
Z-series blades*