

MULTI-BLADE FANS TYPE HP-4

GLASS REINFORCED PLASTIC
Diameter – 289" to 336"
8 Blades

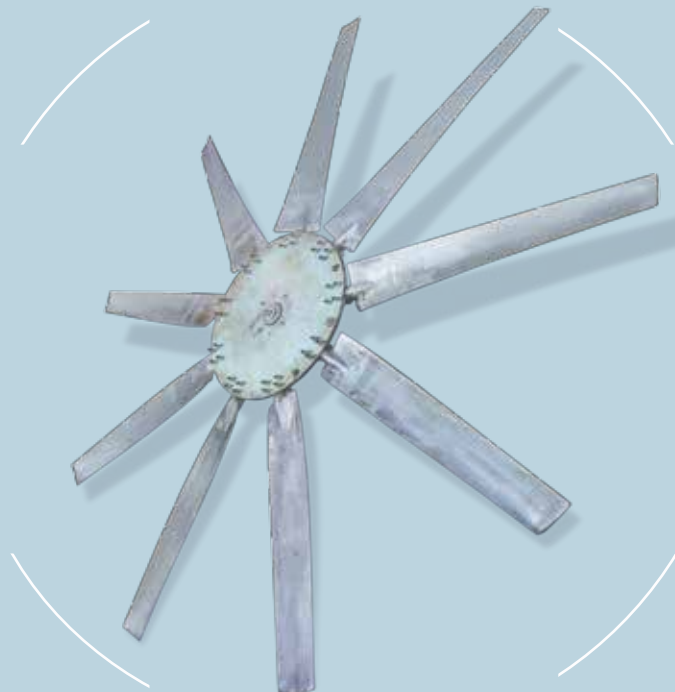


Your Full-Service
Cooling Technologies Company
www.paharpur.com

PRECISION-MANUFACTURED FAN BLADES

PAHARPUR LEADS

Each fan blade is factory balanced and precisely measured & matched with accompanying blades before shipping.



Paharpur designs and produces its own fan blades – these are factory **balanced, tested, measured and matched** to ensure stable operation, high reliability, longevity and operating economy in the rough conditions of the cooling tower.

Paharpur is constantly improving, perfecting and refining our thermal sizing to suit your need.

Precision manufacturing ensures reliable operation:

When it comes to fan efficiency, every millimetre matters – uniform blade-tip clearance, balancing, weight, width and pitch are of critical importance. Paharpur manufactures every blade specifically for every order to ensure uniformity among all fan blades supplied. This attention to detail and insistence on precision allows us to improve operating economy and ensure reliable performance.

Maximum customisation:

Paharpur has more than 00 fan diameters to choose from, under 00 fan types. Further, we can provide you with 00 types of fan hubs. This variety in material of construction, radius and design helps Paharpur provide the right combination for your

cooling tower – giving Paharpur a truly unmatched advantage while sizing your cooling tower. With maximum prospects for customisation, Paharpur can supply your with an **industry-leading solution.**

Corrosion resistance enhances service life:

Glass reinforced fibreglass construction ensures that the fan blade perform reliably over many years in the moist and turbulent conditions present in the cooling tower.

Statically balanced fans ensure dependability:

Every fan blade supplied is statically-balanced at Paharpur's facility to ensure uniform weight distribution – this helps ensure the integrity of your cooling tower, saves fan power and helps maintain the reliability of your cooling operation.

Variable-pitch provides control over power consumption:

Paharpur gives you control over your cooling tower's power consumption by providing variable pitch blades for all fans. Control power consumption with varying heat load and wet bulb temperatures.

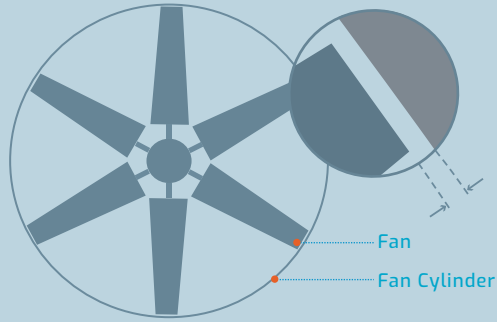
Single-piece construction for high structural integrity:

All Paharpur manufactured fan blades are made as single pieces: this helps maintain the structural integrity of the fan as joints can come under severe mechanical stress in rotating equipment. Single-piece construction means that you do not have to worry about the leading edge of the blade coming off during operation and cause damage to your equipment.

BLADE-TIP CLEARANCE

PRECISION MANUFACTURING ENSURES RELIABLE PERFORMANCE

UNIFORM BLADE-TIP-CLEARANCE
UNIFORM RADIUS OF ALL BLADES



MINIMUM BLADE-TIP CLEARANCE

The clearance between the blade-tip and cylinder is minimum for optimum utilisation of fan power.

Type HP – 4-8 fan assemblies of diameters from 289-inches to 336-inches are produced on order with either standard or special bores. The eight precision moulded glass reinforced polyester blades are of twisted and tapered air foil design. The blade shank is drilled for a stainless steel pin which retains and accurately

positions the blade radially. Blade clamps are hot dip galvanized ductile iron castings – clamping hardware is hot dip galvanized carbon steel with self-locking nuts. Clamps are positioned radially by a safety bolt and clamped by three U-bolts. Welded carbon steel hub consists of cast steel centre section, steel tubular

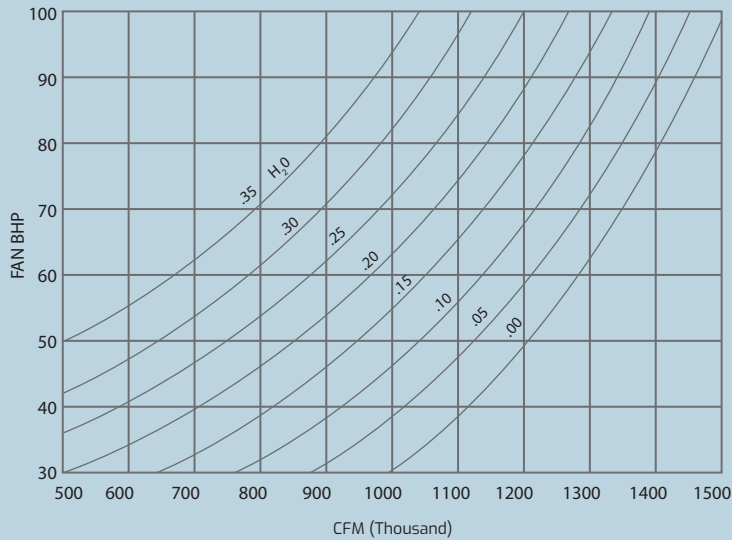
spokes and spoke braces. The hub assembly is hot dip galvanized after fabrication. The hub cover assembly consists of a domed cover which is fitted above the hub to a nacelle which mounts around the perimeter of the hub – both components are glass reinforced polyester. The nacelle shape conforms to the

contour of the inboard end of the blade and is fitted closely to the blade shank to provide on effective air seal to prevent recirculation. The domed cover is attached to the nacelle assembly. All cover hardware is stainless steel.

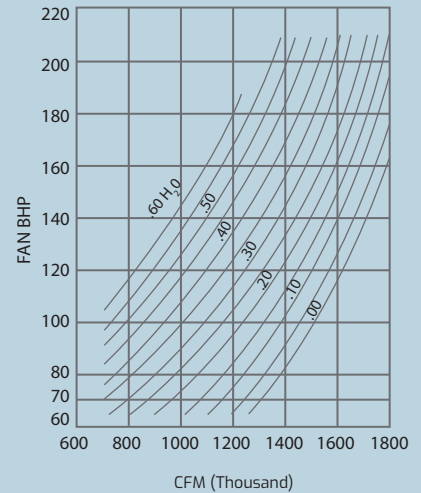
FAN PERFORMANCE DATA

The CFM shown is standard air : .075 lbs. per cubic foot equivalent to 70o dry air at sea level. Curves are based on model tests, simulating AMCA procedures. The test cylinder was eased inlet with close tip clearance.

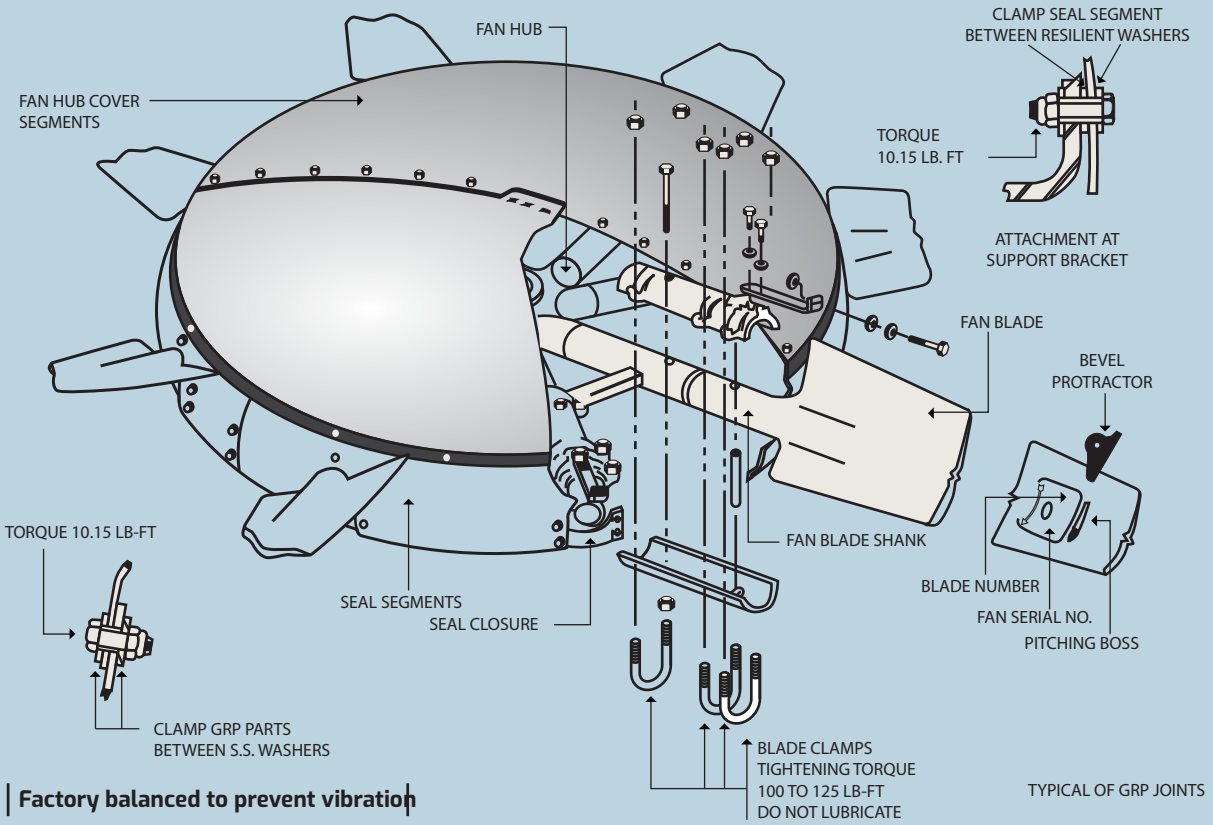
Tip clearance, fan cylinder and system characteristics can cause variation from the curve shown alongside.



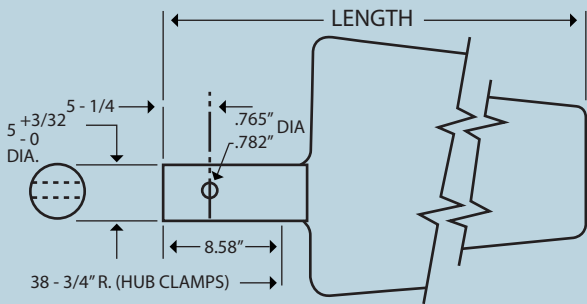
This curve is based on 105 RPM. (With Velocity Recovery Stacks.)



This curve is based on 135 RPM. (With Velocity Recovery Stacks.)



Factory balanced to prevent vibration



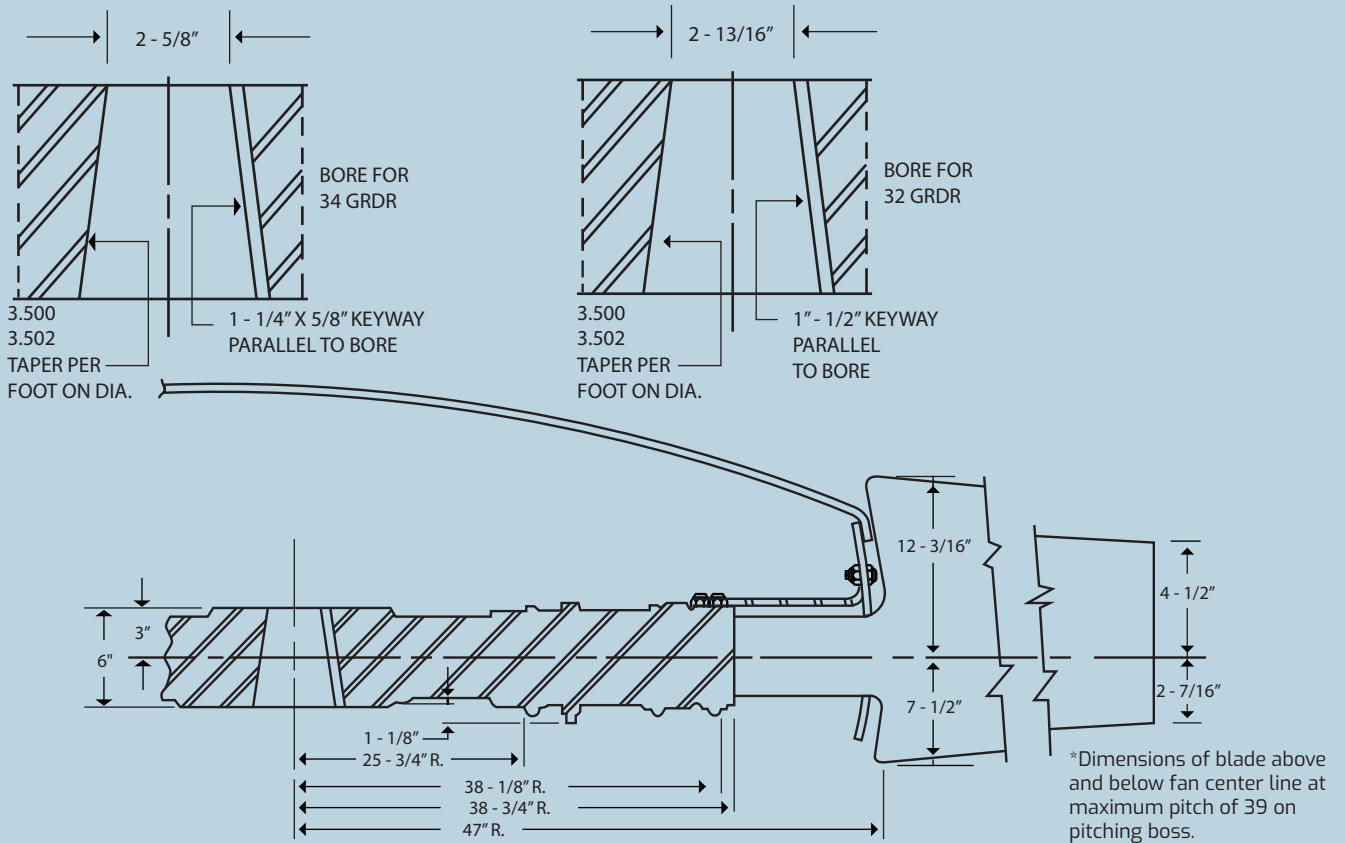
Width and thickness of standard blades for this fan decrease from inboard end to tip of blade as follows:

FAN DIA.	APPROX WIDTH		MAXIMUM THICKNESS	
	MAX.	MIN.	INBOARD	OUTBOARD
336	23-1/2"	12-1/2"	3-7/16"	7/8"



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STANDARD CROSS SECTION SHOWING HUB, HUB COVER AND BLADE DIMENSIONS



DIA.	NO. OF BLADES	BLADE LENGTH	MAX. RPM	MAX. TIP SPEED FPM	MAX. STR. BORE	APPROX. WT. EACH BLADE	APPROX. WT. HUB	APPROX. TOTAL WT.	RADIAL TIP CLEARANCE	
									MIN.*	MAX.
336	8	137.88"	135	11,900	7"	150 Lbs.	550 Lbs.	2123 Lbs.	1-1/4"	1-3/4"

*Minimum clearance at tip of trailing edge.

PAHARPUR LEADS

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PAHARPUR LEADS

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