

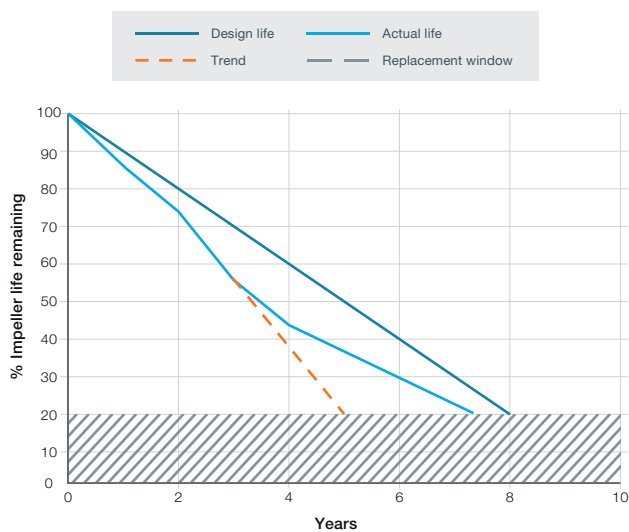
Howden Uptime

Remote monitoring for centrifugal fans



Howden Uptime is a suite of products and services, powered by our physics-based Digital Twin; a virtual replica based on our equipment design knowledge, that enables owners and operators to extend fan life, improve performance, and avoid unplanned events leading to reduced maintenance costs and improved site safety.

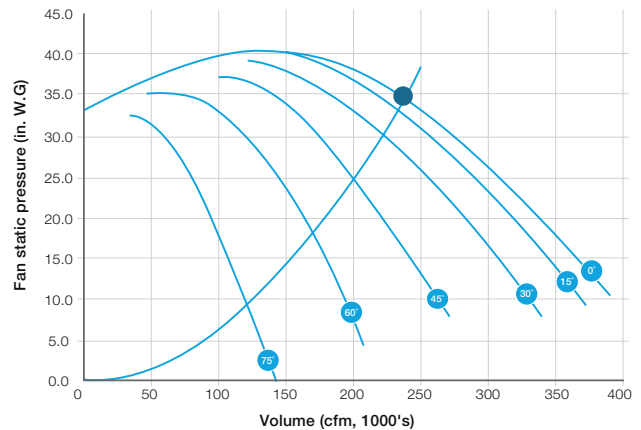
Fan life optimization



Features include:

- Overspeed and exclusion band operation
- Fatigue life trending
- Bearing health monitoring

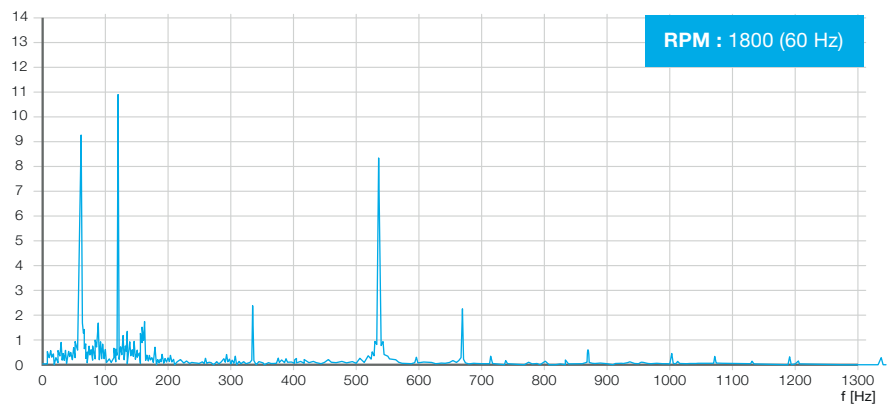
Fan performance



Features include:

- Stall warning
- Energy usage analysis
- Optimized parallel operation
- VSD modification analysis

Vibration analysis



Features include:

- RMS trending analysis
- Online spectral analysis

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Required sensors (provided by Howden or via existing instrumentation)				
	Fan life optimization	Fan performance	Vibration (RMS)	Vibration (online FFT)
Uptime edge gateway	●	●	●	●
Shaft speed	●	●	●	●
Inlet temperature	●	●		
Free and fixed end bearing temp	●			
Fan inlet control actuator position		●		
Inlet pressure		●		
Discharge pressure		●		
Inlet cone pressure		●		
Outlet temperature		●		
Free and fixed bearing vibration			●	●
FFT signal conditioning				●

Howden Uptime is a cloud-based solution delivered via a web-based user interface, enabling secure access virtually anywhere and immediate software upgrades for one low annual subscription price.

Additional analytics and maintenance services are available to enable a comprehensive predictive maintenance program tailored to individual site needs.

Combined with a Howden Service Agreement, Howden Uptime improves site safety and can reduce annual maintenance costs by as much as 20%.

For more information on Howden Uptime, please get in touch with your designated Howden contact.