



Z-CHILL™ FAN & DIFFUSER SYSTEM is a breakthrough, patented system designed to effectively spot cool or heat the unconditioned space within a facility by dispersing conditioned air and/or forced heat evenly over the **Z-Tech™** fan blades to provide companies an economical spot cooling and heating system to keep businesses operating at their highest level.

Different is cool®.

Features

Blade & Hub Design

- Patented **Z-Tech™** blade design with 20° plus pitch
- Cast hub eliminates hardware connections for the safest, most reliable solution available.
- Symmetrical **Z-Tech™** blade design allows for true reversibility for year-round operation
- Pitched hub design with same 20° plus pitch as blade
- Designer Series offers custom color combinations and designs
- Blades supported by the full width of the blade unlike airfoil designs that support the airfoil with a narrow post.

Motor

- **ABB** Dodge Quantis **Z-Tech** Drive Train
- H insulation provides a 140° ambient temperature rating
- Viton sealing system protects the gear box
- IP55; Optional voltages available:
- 200-240VAC 1 Phase
- 200-240VAC & 380-480VAC 3 Phase

Diffuser

- Patented design tailored to the design of the **Z-Tech™** blade technology

Controller

- Open-platform **ABB** controller
- NEMA 4X; IP66/67 variable frequency drive
- ESFR (Early Suppression Fast Response) and ROHS compliant
- NECA standard built-in LOTO (lock out, tag out) disconnect

Installation

- Suitable for mounting to I-beam, top or bottom chord angle iron, L-bracket and Z-purlin; multiple installation applications available

Benefits

Blade & Hub Design

- Increases coverage area up to 30% compared to HVLS fans
- No wind chill created when using **Z-Tech™** fan in reverse operation
- Over 45K sq ft destratification coverage; reduces energy heating costs
- Eliminates air-flow dead zone under the fan
- Ability to customize **Z-Tech™** fan to best compliment your facility

Controller

- Steamline building management system integration
- Largest heat sink in the industry
- Easy +24 VDC connection to existing alarm systems
- Control up to 25 fans from a single controller (controllers are interlinked by a hard-wire connection so fan control signals are daisy-chained through the fan system).
- Keypad may be removed from the face of the controller and wall or column mounted via CAT6 cable (ACS355 controller only).

Diffuser

- Even air or heat distribution across all 5 **Z-Tech™** blades
- Internal insulation to prevent/minimize condensation on outside of diffuser; configured for 16" round ducting
- Maximum 20 ton capacity

Installation

- Safety ring: ¼" powder coated steel
- **Z-Tech™ SS** safety system provides (2) custom straps with a break strength of 16,000lbs each which easily exceeds traditional 5/16" steel aircraft cable of around 10,000lbs
- Lifetime warranty: blades, hub and mounting system
- 15-year warranty: motor, gearbox and hub

WHAT IS Z-TECH™

The patented **Z-Tech™** stepped blade is an enhanced form of venting and venting creates better air displacement.

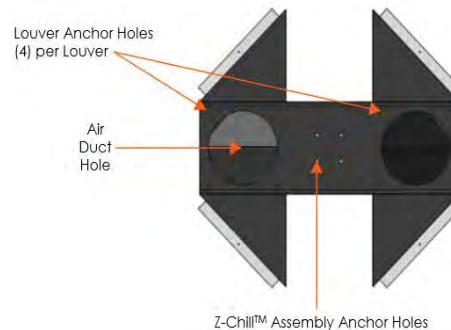
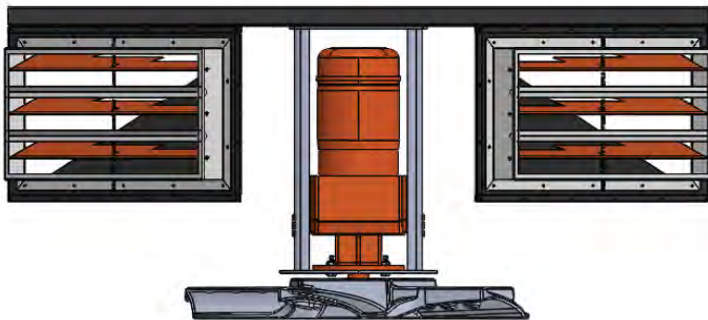
The stepped blade allows the velocity of air flow to move past the steps at which point the pressure immediately decreases allowing for a significant increase in thrust and air movement.



HOW TO SIZE A Z-CHILL™ FAN & DIFFUSER SYSTEM FOR YOUR FACILITY

Nominal Fan Diameter	Maximum Coverage Area (Cooling)	Maximum Coverage Area (Destratification)	Maximum Spacing Between Fans	Minimum Spacing From Wall	Clearance Needed From Ceiling	Minimum Blade Height
16 FOOT	130 FT	160 FT	120 FT	16 FT	5 FT	16 FT
18 FOOT	135 FT	180 FT	125 FT	18 FT	5 FT	18 FT
20 FOOT	150 FT	200 FT	140 FT	20 FT	5 FT	20 FT
22 FOOT	165 FT	220 FT	155 FT	22 FT	5 FT	22 FT
24 FOOT	180 FT	240 FT	170 FT	24 FT	5 FT	24 FT

Z-CHILL™ DIFFUSER



- Dual **Z-Chill™** diffusers are specifically designed to equally distribute both filtered, conditioned and or forced heat into the designed air distribution pattern of the **Z-Tech™** (16 - 24ft) fans. Includes a closed cell thermal insulation design with pvc jacketing to prevent/minimize condensation on the outside of the entire unit.
- **Z-Chill™** diffusers incorporate stepped **Z-Tech™** internal prisms to equally split the incoming conditioned air and the adjustable stepped **Z-Tech™** vented louvers are designed to equally distribute the air across the entire circumference of the 5-blade **Z-Tech™** stepped fan blade design. The diffusers include bottom perforations that are designed to disperse air spread in the center.
- The system is direct mounted between the down tube and weldment and motor/hub mounting yoke hardware and requires no additional support. The incoming spiral insulated ducting (provided by others) will need support prior to final connections. Dual **Z-Tech™** diffusers feature 16-inch round HVAC ducting receptacles. Receptacles are rated for 5-10 ton HVAC capacity each (supplied by others). It is recommended all attached spiral inlet ducting be wrapped and insulated.
- **Z-Chill™** works the same with tempered forced air (HVAC systems) for both cooling and heating. Roof top (industrial & commercial) units as well as split systems incorporate energy efficient heat pumps that can disperse the heat through the **Z-Chill™** dual diffusers.
- True reversibility is achieved because of the symmetrical **Z-Tech™** blades including the engineered pitch, rake and cup. Applying forced heat and stratifying several thousand square feet without creating uncomfortable wind chills make this superior patented technology the only chameleon to properly solve conditioned air movement in large spaces at a low operating cost.