



## TJERNLUND PRODUCTS, INC.

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MODELS DSF2W (WHITE)  
 DSF2B (BLACK)

 Recognize this symbol as an indication of important Safety Information!

### OWNER INSTRUCTIONS, DO NOT DESTROY

#### WARNING

THESE INSTRUCTIONS ARE INTENDED AS AN AID TO QUALIFIED, LICENSED SERVICE PERSONNEL FOR PROPER INSTALLATION, ADJUSTMENT AND OPERATION OF THIS PRODUCT. READ THESE INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING INSTALLATION OR OPERATION. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE OR MAINTENANCE POSSIBLY RESULTING IN FIRE, ELECTRICAL SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE.

**DO NOT DESTROY. PLEASE READ CAREFULLY AND  
 KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.**

## DESCRIPTION

The D-Strat™ Series compact, high velocity destratification ceiling fans recirculate trapped air in high ceiling areas to lower heating costs, extend life of HVAC equipment and promote the comfort of occupants. The compact, 540 CFM high-velocity fan operates on only 30 watts and reduces the typical temperature differential of twenty degrees or more between ceiling and floor levels by at least fifty percent. Unlike conventional paddle blade ceiling fans, D-Strat™ fans do not have visual moving blades. Discharge velocity of 2000 FPM moves air effectively in a defined column to the floor level. Operation is quiet at 1.5 sones, ideal for office areas and other noise sensitive environments. Costs less than 1/2 cent per hour to operate based on average U.S. electrical rates. Compact design fits between roof trusses affording full access to upper level warehouse storage racking. A heavy-gauge swivel mount allows fan to be aimed to avoid obstructions, concentrated at works areas or to dry floors in wet entryways.

## GENERAL INFORMATION

Each DSF2 is electrically factory line tested before shipment. After opening carton, inspect thoroughly for shipping damage. Impeller should rotate freely and all electrical wires and connections should be secured. If any damage is found, notify freight carrier and your distributor immediately and file a concealed damage claim.

## NUMBER OF DSF2 FANS NEEDED PER APPLICATION

De-stratification fans are constantly fighting warm air that is naturally rising and concentrating near the ceiling level. As ceiling heights increase so does the volume of stratified air and the resulting temperature differential compared to the floor level. For this reason the number of fans we suggest for a given square foot area increases as ceiling heights increase. Use this table as a guide for the suggested number of DSF2 fans that should be installed to achieve effective destratification for your application. Space fans evenly with an open path to the floor from the fan discharge.

| Height to Ceiling Deck | Ft <sup>2</sup> Floor Space/Fan |
|------------------------|---------------------------------|
| 16                     | 1200                            |
| 18                     | 1000                            |
| 20                     | 900                             |
| 22                     | 800                             |
| 24                     | 700                             |

Divide Square feet of area to be served by the square feet in table based on ceiling height. Round to closest whole number for suggested quantity of fans.

**Example:** 7500 square foot area with 16' ceilings.  
 $7500/1200$  (16 foot ceiling height in table) = 6.25  
 This application would need 6 DSF2 fans.

## DSF2 SPECIFICATIONS

**Volts:** 115 VAC    **Hz:** 50/60    **Amps:** 0.24    **Watts:** 30    **CFM:** 540    **Thermal Limit:** 196°F (91°C)

**Unit dimensions with mounting bracket:** Height: 25 1/2"    Width: 12 1/8"    Weight: 21 lbs.

**NOTE:** Each DSF2 includes a built in Thermal Limit that will deactivate the DSF2 in the event of fire in the space where the temperature at the DSF2 reaches 196°F (91°C) or greater. This feature is in accordance with fire safety and insurance underwriting.

**NOTE:** Each DSF2 includes a Safety Cable that is rated for 100 lbs. The cable is required in some areas of North America where seismic activity can occur. The cable is easy to install and should be used on all DSF2 installations.

## INSTALLATION WARNINGS

### READ INSTRUCTIONS CAREFULLY PRIOR TO INSTALLING THE DSF2. DO NOT DESTROY THIS DOCUMENT.

This DSF2 must be installed by a qualified professional installer in accordance with these instructions and the latest edition of the National Electrical Code(NFPA #70) and any applicable State and Local Codes. If the DSF2 is improperly installed or misapplied, a hazardous condition such as fire, electric shock or falling parts could result causing bodily injury and/or property damage.

**DO NOT** Connect Power to the DSF2 until it is completely installed. Disconnect Power prior to service or maintenance.

**DO NOT** use the DSF2 in hazardous environments where the electrical system could provide ignition to combustible or flammable materials.

**DO NOT** use the DSF2 to exhaust or transport hazardous or explosive materials or vapors. Personal injury and/or property damage could result.

**DO NOT** handle the DSF2 without hand protection. The DSF2 has rotating parts and may have sharp edges. Hand protection should be worn when installing, operating and maintaining the DSF2.

**DO NOT** mount the DSF2 less than 7 feet above grade. The DSF2 has unguarded rotating components that potentially could cause injury if contacted when operating. Mount the DSF2 at least 7 feet above grade and in consideration of occupants to insure a safe installation.

**DO NOT** use the power cord of the DSF2 as a means of supporting the weight or position. Personal injury and/or property damage may result.

**DO NOT** connect power supply until the DSF2 is completely installed. Disconnect power prior to service or maintenance.

## CAUTIONS

This DSF2 is designed to work in an ambient air condition between  $-10^{\circ}\text{F}$  to  $+130^{\circ}\text{F}$  ( $-23^{\circ}\text{C}$  to  $+54^{\circ}\text{C}$ ). Operation of the DSF2 outside of this temperature range can destroy DSF2 and will void the warranty.

This DSF2 is factory wired for a grounded 120 VAC power outlet. Use one Tjernlund Products, Inc., p/n DSF2TR transformer per DSF2 for single phase power supplies of 208, 220, 230, 240, 277 and 480 VAC applications.

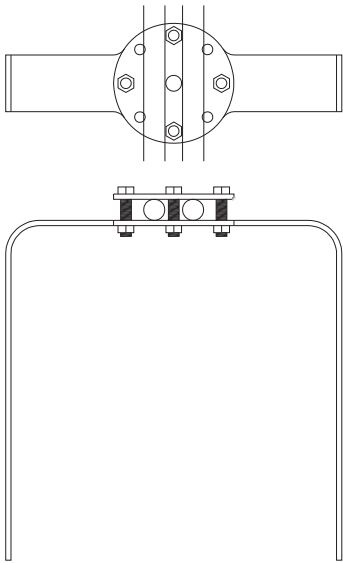
Make sure to install the DSF2 away from furnaces and other high heat sources. Excessive heat may destroy the DSF2.

This DSF2 was designed to be used in sheltered applications only. Do not use in applications where moisture from rain or snow may enter the DSF2. Damage to the DSF2 from moisture will void warranty.

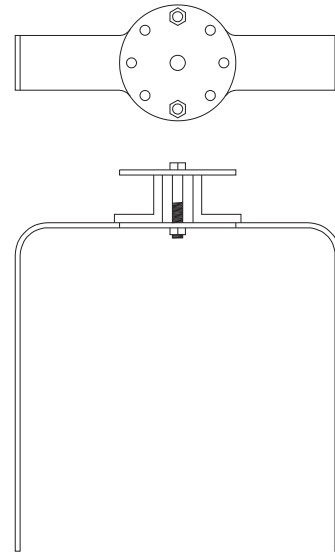
This DSF2 has rotating components that are unguarded. Use care to insure nothing comes in contact with the moving parts. Keep the power cord and other ceiling level wiring clear of the DSF2.

To properly mount and support the DSF2, use the mounting hardware and secondary safety cable as directed. Make sure the safety cable is connected to the roof truss or other load rated structural component. Follow the installation details found in these instructions.

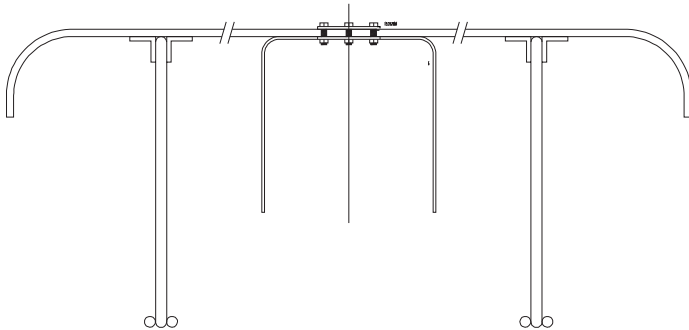
## MOUNTING OPTIONS



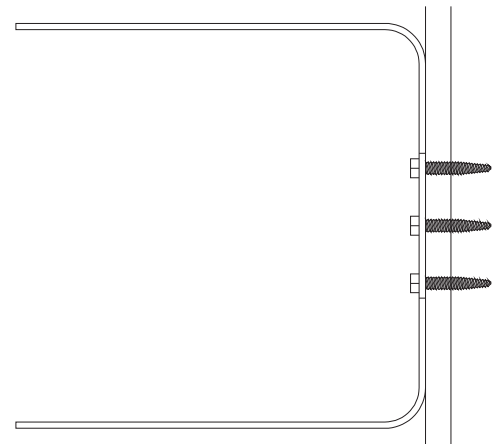
The DSF2 can be mounted to the bottom bars of a Bar Truss.



The DSF2 can be mounted to the bottom angles of a Angle Iron Truss.



The DSF2 can be mounted to a rod or pipe mounted between two Trusses.

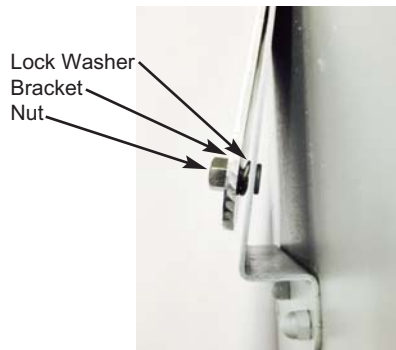


The DSF2 can be mounted from a wall. (Installer must provide proper bolts and wall anchors).

**NOTE:** Failure to follow these mounting instructions may lead to a DSF2 that will not stay in position and could possibly lead to a dangerous mounting condition. After the mounting bracket has been installed firmly in place, the DSF2 can be secured to the mounting bracket. Make sure to consider the routing of the power cord before mounting the DSF2 to insure the cord is routed away from the fan's moving parts and pivot points. Make sure to place one of the provided lock washers over each of the side mounting studs before securing the DSF2 to the mounting bracket. Once the unit studs are inserted through the mounting bracket, install the tooth nut to the studs with the teeth of the nut facing the bracket. The images below show the order of the hardware before and after it is installed.



Tooth Nut, Mounting Bracket, Lock Washer, Stud



Mounting Hardware Shown Assembled.

Once the fan is secured to the Mounting Bracket, tighten the (2) nuts with a 9/16" wrench or until the nuts apply tension to the bracket. Pivot the DSF2 to the final mounting angle desired. Finish tightening the (2) nuts firmly to insure the fan does not move during operation.

### SAFETY CABLE INSTALLATION

The provided safety cable is purchased from a certified 3rd party. Follow the cable provider's installation instructions. The following images are to serve as aide to those instructions.



Loop safety cable around solid anchor point.



Feed cable end through clamp as instructed.



Feed cable with clamp through DSF2 holes.



Feed cable back through clamp with **minimum 6"** tail.

### ACCESSORIES

#### Optional Equipment:

DSF2FG - Fan Guard Kit Shields fan blades from incidental contact.

#### Optional Controls:

DSF2TR - Multi-Voltage Transformer converts all typical ceiling level power sources to 120 VAC.  
(Single Phase 208,220,230,240,277 & 480 Volt)

950-8415 - 120 Volt Wall Mount Speed Control Rated for use with up to 20 DSF2 fans.

#### TJERNLUND LIMITED ONE YEAR WARRANTY

Tjernlund Products, Inc. warrants to the original purchaser of this product that the product will be free from defects due to faulty material or workmanship for a period of (1) year from the date of original purchase or delivery to the original purchaser, whichever is earlier. Remedies under this warranty are limited to repairing or replacing, at our option, any product which shall, within the above stated warranty period, be returned to Tjernlund Products, Inc. at the address listed below, postage prepaid. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, AND TJERNLUND PRODUCTS, INC. EXPRESSLY DISCLAIMS LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS PRODUCT. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES AND NO AGENT IS AUTHORIZED TO ASSUME FOR US ANY LIABILITY ADDITIONAL TO THOSE SET FORTH IN THIS LIMITED WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE STATED DURATION OF THIS LIMITED WARRANTY. Some states do not allow limitation on how long an implied warranty lasts, so that limitation may not apply to you. In addition, some states do not allow the exclusion or limitation of incidental or consequential damages, so that above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from State to State. Send all inquiries regarding warranty work to Tjernlund Products, Inc. 1601 9th Street, White Bear Lake, MN 55110-6794. Phone (651) 426-2993 • (800) 255-4208 • Fax (651) 426-9547 • Email fanmail@tjfans.com.