# Fan And Heater Application Guide

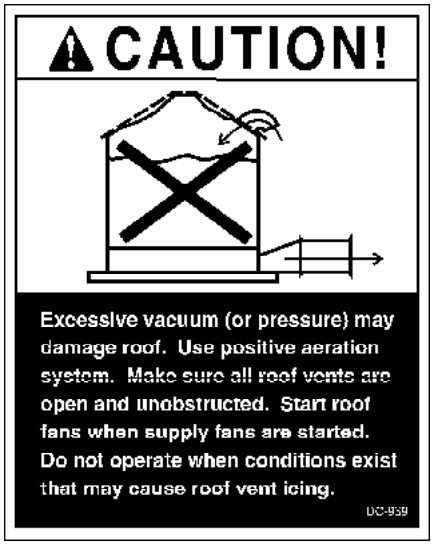
**PNEG-501**


a division of

THE GSI GROUP

# TABLE OF CONTENTS

## Roof Damage Warning and Disclaimer




GSI DOES NOT WARRANT ANY ROOF DAMAGE CAUSED BY EXCESSIVE VACUUM OR INTERNAL PRESSURE FROM FANS OR OTHER AIR MOVING SYSTEMS. ADEQUATE VENTILATION AND/OR "MAKEUP AIR" DEVICES SHOULD BE PROVIDED FOR ALL POWERED AIR HANDLING SYSTEMS. GSI DOES NOT RECOMMEND THE USE OF DOWN-WARD FLOW SYSTEMS (SUCTION). SEVERE ROOF DAMAGE CAN RESULT FROM ANY BLOCK-AGE OF AIR PASSAGES. RUNNING FANS DURING HIGH HUMIDITY/COLD WEATHER CONDITIONS CAN CAUSE AIR EXHAUST OR INTAKE PORTS TO FREEZE.

## Fuel Warning

Important! Do not use propane tanks which have previously been used for ammonia unless they have been purged according to procedures of the National L. P. Association.
Be sure fuel supply system complies with all local codes for L. P. gas installations.
DO NOT USE FLAME FOR LEAK TESTING.

## Power Warning

Be sure power is disconnected and locked out before installation!
Failure to do so may cause serious injury or death.
Important! Heater must be interlocked with fan for safe operation.
Important! Thermostat must be installed for safe operation.

## Proper Use of Product

This product is intended for the use of grain drying only! Any other use is a misuse of this product.
This product has sharp edges! These sharp edges may cause serious injury. To avoid injury handle sharp edges with caution and use proper protective clothing and equipment at all times.
Guards are removed for illustration only. All guards must be in place before and during operation.

# SAFETY ALERT DECALS

**FAILURE TO INSTALL THERMOSTAT INCREASES RISK OF FIRE IN BIN! WARRANTIES ARE VOID ON HEATERS INSTALLED WITHOUT THERMOSTATS.**

**CAUTION! BE VERY CAREFUL WHEN CHECKING OUT 220V OR 460V CONTROL CIRCUIT. SERIOUS INJURY OR DEATH MAY OCCUR IF PROPER PRECAUTIONS ARE NOT TAKEN.**

The GSI Group, Inc. recommends contacting your local power company, and having a representative survey your installation so the wiring is compatible with their system, and adequate power is supplied to your unit.

Safety decals should be read and understood by all people in the grain handling area.

If a decal is damaged or is missing contact:

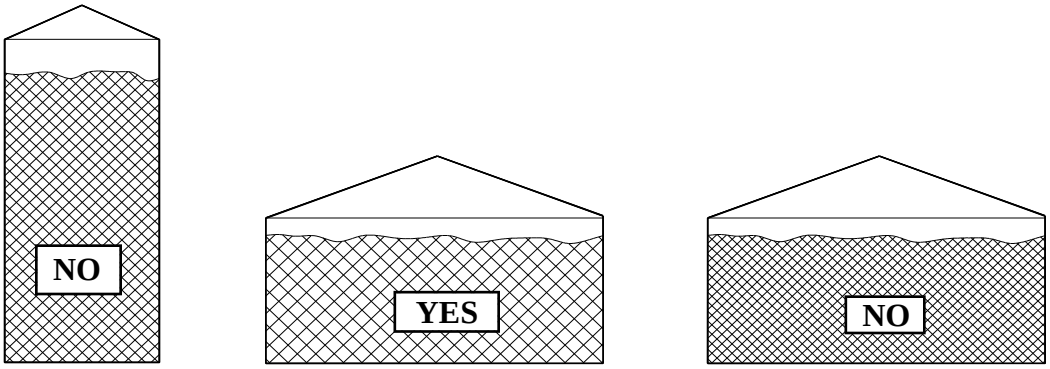
The GSI Group, Inc.
1004 E. Illinois St.
Assumption, IL 62510
217-226-4421

A free replacement will be sent to you.

**BE SURE POWER IS DISCONNECTED AND LOCKED OUT BEFORE INSTALLATION. FAILURE TO DO SO MAY CAUSE SERIOUS INJURY OR DEATH**

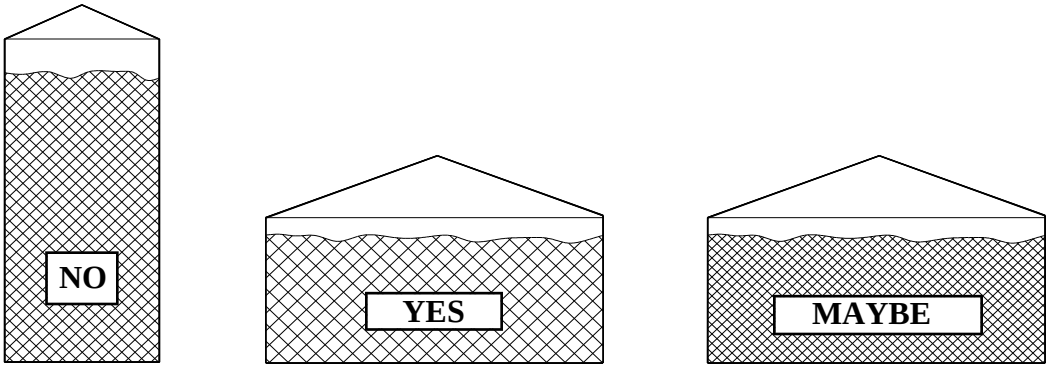
## Vane Axial Fans

3500RPM Vane Axial fans are normally high performance low static pressure fans. They are normally used for inbin drying or aeration on shorter tanks or when low resistance grains (corn, soybeans are processed. The application should be looked at very closely when aerating unusually tall tanks or high resistance grains (wheat, milo).



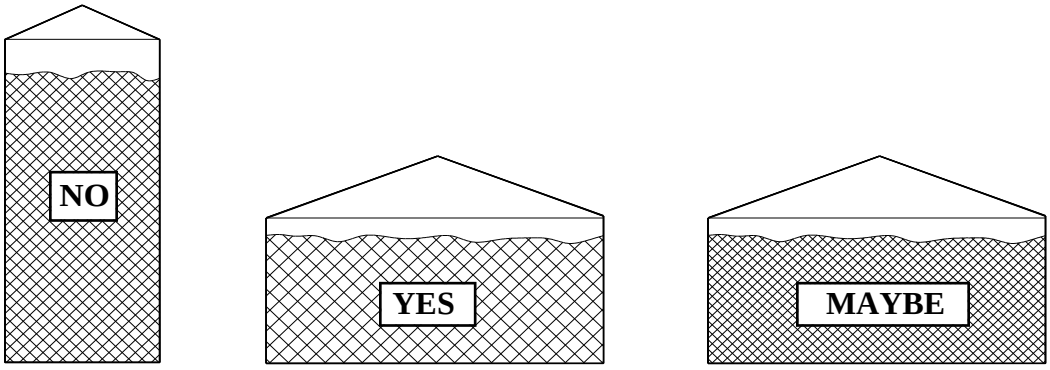

## Inline Centrifugal Fans

3500RPM Inline Centrifugal fans are normally medium performance medium static pressure fans. They are normally used for aeration on taller tanks or when high resistance grains (wheat, milo) are processed. Inlines may also be used in drying applications however care should be taken to use correct adapters when using gas heaters with these fans. These fans are often mis-applied and sold as a quiet drying fan when a vane axial fan of equal horsepower will most likely out perform it. The application should be looked at very closely when aerating unusually tall tanks or high airflow resistance grains (wheat, milo).



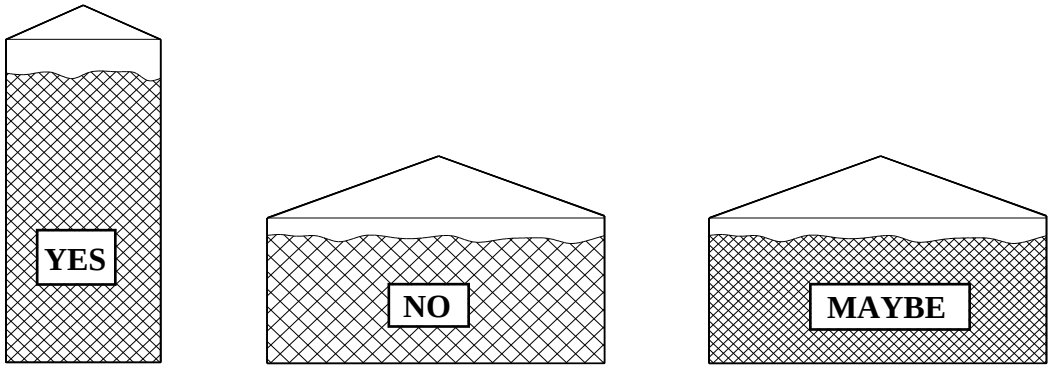
## 1750RPM Centrifugal Fans

1750RPM Centrifugal fans are normally high performance, medium static pressure fans. They are normally used for aeration or drying on shorter tanks or when low resistance grains (corn, soybeans) are processed. These fans may be used with gas heaters, either mounted on the inlet side of the fan or downwind on the outlet side. Greater airflow is attained when the heaters are mounted downwind. Fans larger than 30HP require a 17" tall plenum (floor) so the transition will clear. The application should be looked at very closely when aerating unusually tall tanks or high resistance grains (wheat, milo).




## 3500RPM Centrifugal Fans

3500RPM Centrifugal fans are normally medium preformance high static pressure fans. They are normally used for aeration on taller tanks or when high resistance grains (wheat, milo) are processed. These fans are not normally used with heaters. Although these fans are less expensive than 1750RPM fans they are not normally used on shallower grain depths because 1750RPM fans give much greater performance for the horsepower at shallow depths thus less horsepower is required.



**STEP 1**. Determine the average grain depth for a desired bin size:

**LEVEL FILL** -AVE GRAIN DEPTH (ft) = EAVE HEIGHT (ft) - FLOOR HEIGHT ft)

**PEAKED FILL**- AVE GRAIN DEPTH (ft) = EAVE HEIGHT (ft) + BIN DIAMETER (ft) ÷12, Minus FLOOR HEIGHT (ft)

**STEP 2.** Select airflow rate in CFM/BU: Use SUGGESTED AIRFLOW RATES (page 13-30) for desired drying or aeration conditions.

**STEP 3.** Using the STATIC PRESSURE TABLES:

For a selected grain, find the static pressure for the corresponding AVE GRAIN DEPTH and AIRFLOW RATE. Use the nearest height or approximate where necessary. Where stirring machines are to be used, use charts for stirring.

**STEP 4.** Determine bin capacity:

**BUSHELS = AVE GRAIN DEPTH (ft) x 0.6594 x DIAMETER (ft) x DIAMETER (ft)**

This capacity includes 5% compaction. Since the calculation uses an average grain depth, the capacity may vary from published sales capacities.

**STEP 5.** Find the required TOTAL AIR FLOW in CFM:

**TOTAL AIRFLOW (cfm) = AIRFLOW RATE x BUSHELS**

**IMPORTANT!**

If more than one fan is desired for a system, divide the TOTAL AIRFLOW by the number of fans to get the CFM REQUIRED PER FAN for fan Selection.

**STEP 6.** Using the FAN PERFORMANCE TABLE for vane axial or centrifugal fans, the TOTAL STATIC PRESSURE from Step 3, and the CFM PER FAN from Step 5, select the fan best meeting the requirements. For best fan performance, a fan should run in the mid-range of is static pressure ratings, if possible. Should excessive static pressures be encountered, as with small grain or very high airflows, consult GSI engineering for the best fan choice.

**NOTE:** Consult GSI engineering where hopper tank aeration is in question.

## Roof Vent Selection

**STEP 7.** Determine MINIMUM number of roof vents:

**NUMBER ROOF VENTS = TOTAL AIRFLOW (cfm) ÷ 1800 (cfm per vent)**

If less than a full bin is intended an increased number of roof vents will be necessary. The same fan will produce a greater airflow when the bin is less than full, due to less resistance from the grain. An inadequate number of vents may have two undesired effects

1) adding to the static pressure causing poor fan performance and less air through the grain than intended, and

2) possible structural damage to the roof due to this increased pressure. Ideally, there should be near zero static pressure in the space between the grain and the roof.

A good estimate of vent numbers particularly in drying situations, would be using the CFM from the FAN PERFORMANCE TABLE at one-half the static pressure anticipated. This new value should be divided by 1800 CFM/VENT.

Full perforated floors are recommended in most DRYING situations. Floor gauges and support spacing are dependent on the grain load for a particular bin size. Please inquire as to exact specifications. Flush floor (formed in concrete) systems are recommended when aeration only is desired. The two most important aspects of aeration design are the total perforated floor area and the entrance duct cross-sectional area. Floors should be sized for a maximum intended airflow rate. To add larger fans or bin rings at a later date may result in less than satisfactory aeration performance.

These steps are intended as a minimum requirement check for potential designs. GSI floor designs will meet these requirements and be optimised for the best results.

**STEP 8.** Determine MINIMUM required perforated floor area using TOTAL AIRFLOW from step 5.
**PERFORATED AREA (sq ft) = TOTAL AIRFLOW ÷ 30cfm/sq ft.**

**STEP 9.** Determine MINIMUM cross-sectional area of air supply duct.
**SUPPLY DUCT AREA (sq ft) = TOTAL AIRFLOW ÷ 2000 cfm/sq ft**

**IMPORTANT!**

If more than one fan is used divide the area by the number of fans. This is now the area of each entrance tunnel.

To determine the inside width of the supply ducts use the following formula. For convenience it may be necessary to increase this value to meet transition widths or "whole" dimensions.

**INSIDE DIMENSION OF SUPPLY DUCT (ft) = SUPPLY DUCT AREA (sq ft) ÷ DESIRED TUNNEL DEPTH (ft)**

**STEP 10. MAXIMUM distance between bin wall and nearest duct = AVE GRAIN DEPTH ÷ 4***

**STEP 11. MAXIMUM distance between ducts = AVE GRAIN DEPTH ÷ 2***

* These are starting values ONLY. Adequate distribution of ducts may require smaller distances.

**SITUATION:** On farm aeration of dry soybeans. 42" diameter, 9 rings, NSL series farm bin with 24" eave height. A flush floor aeration system with one fan will be used.

**1.** AVE GRAIN DEPTH, peaked = 24' + (42' /12) = 27.5'

**2.** Select 1/10 CFM/BU aeration rate for beans

**3.** From the STATIC PRESSURE TABLE for BEANS at 28' (use the next higher value or approximate) and 1/10 cfm/bu the static pressure is .91" of water.
**.91" water column**

**4.** Bin capacity, BUSHELS
**27.5' x 0.6594 x 42' x 42' = 31988 BUSHELS**

**5.** Required TOTAL AIRFLOW, CFM
**0.1 cfm/bu x 31988 bu = 3199 CFM**

**6.** From the FAN PERFORMANCE TABLE for vane axial fans, at 1" (0.91") static pressure and 3500 cfm (closest to 3199 cfm), the appropriate fan would be a 1.5hp-18"

**7.** Number of ROOF VENTS
**3500 CFM ÷ 1800 cfm/vent = 1.94, therefore 2 vents**

**8.** PERFORATED AREA of floor, sq ft
**3199 cfm ÷ 30 cfm/sq ft = 106.6 sq ft, minimum**

**9.** SUPPLY DUCT AREA, sq ft
**3199 cfm ÷ 2000 cfm/sq ft =1.60 sq ft, minimum**
**ID of supply duct for 12" deep tunnel = 1.6 sq ft ÷ 1.0 ft = 1.6 ft or 1.8"**

**10.** **Maximum distance between ducts and binwall = 27.5' ÷ 4 = 6.9'**

**SITUATION:** On farm in-bin drying of corn, 24' diameter, 6 ring, FCDL series farm bin with 22' eave height. Tank will be layer filled to level full. The drying systems will consist of a full floor with 12" plenum, stirring device, one fan and heater.

**1.** **AVE GRAIN DEPTH, level = (6 rings x 3.67) - 1 (floor) - 2 (stirring device) = 19'.**

**2.** Select 1 CFM/BU for heated air drying of corn.

**3.** From the STATIC PRESSURE TABLE for corn at 19' and 1cfm/bu the static pressure is 3.58" of water.
**3.58" water column**

**4.** Bin operating capacity, BUSHELS
**19' x 0.6594 x 24 x 24 = 7216**

**5.** Required TOTAL AIRFLOW, CFM
**1 cfm/bu x 7216 bu = 7216 CFM**

**6.** From the FAN PERFORMANCE TABLE for van axial fans, at 3.58" static pressure (4" on table) and 7216 cfm (10250 on table), the best choice would be one 15 hp 26" fan.

**7.** Number of ROOF VENTS
**10250 cfm ÷ 1800 cfm/vent = 5.6, therefore 6 vents**

**NOTE!** It may be desired to increase the number of roof vents in a drying situation to account for layers or batches as the effective airflow will increase. In this example 8 vents should accommodate the airflow at one-half the expected pressure: 12700÷1800 = 7

***** Two fan/heater sets may be necessary to meet temperature requirements. Two fan/heater sets may also be necessary to provide even air/heat distribution when recirculating devices are in use.

# FAN PERFORMANCE SPECIFICATIONS

**Fan/Heater Application**

| VANE AXIAL FANS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| STATIC PRESSURE IN INCHES | | | | | | | | | |
| MODEL NO | H.P | FAN DIA | 0.0 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 |
| AF-.75 | 3/4 | 12" | 2050 | 1050 | 500 | | | | |
| AF-12 | 1 | 12" | 2000 | 1100 | 650 | 250 | | | |
| AF-14 | 1 | 14" | 3200 | 1850 | 1200 | 500 | | | |
| AF-1.5 | 1.5 | 18" | 4650 | 3600 | 2300 | 1050 | | | |
| AF-3 | 3 | 18" | 6300 | 5200 | 3700 | 2000 | 700 | | |
| AF-7 | 7 | 24" | 12750 | 11200 | 9500 | 7200 | 3600 | 950 | |
| AF-10 | 10 | 24" | 13600 | 12300 | 10900 | 8900 | 5250 | 3150 | |
| AF-156 | 15 | 26" | 17000 | 15350 | 13700 | 12000 | 9500 | 6400 | 4500 |
| AF-158 | 15 | 28" | 19500 | 18000 | 16400 | 14500 | 12400 | 9700 | 6400 |

| INLINE CENTRIFUGAL FANS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATIC PRESSURE IN INCHES | | | | | | | | | | | | | |
| MODEL NO | H.P | FAN DIA | 0.0 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 |
| ILC-1.5 | 1.5 | 18" | 2650 | 2450 | 2300 | 2100 | 1850 | 1500 | | | | | | |
| ILC-318 | 3 | 18" | 4550 | 4300 | 4000 | 3750 | 3500 | 3100 | 2700 | | | | | |
| ILC-324 | 3 | 24" | 5000 | 4725 | 4450 | 4200 | 3950 | 3600 | 3200 | 2900 | | | | |
| ILC-7 | 7.0 | 24" | 5400 | 5150 | 4900 | 4650 | 4400 | 4100 | 3800 | 3400 | | | | |
| ILC-10 | 10 | 28" | 6150 | 5950 | 5800 | 5600 | 5450 | 5250 | 5050 | 4850 | 4650 | 4400 | 4200 | 3900 |
| ILC-15 | 15 | 28" | 7950 | 7700 | 7500 | 7250 | 7000 | 6800 | 6500 | 6250 | 6000 | 5700 | 5400 | 5050 |

| 1750 RPM CENTRIFUGAL FANS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATIC PRESSURE IN INCHES | | | | | | | | | | | | | |
| MODEL NO | H.P | 0.0 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 |
| CF-3 | 3 | 6000 | 5500 | 5000 | 4500 | 4000 | 2200 | | | | | | |
| CF-5 | 5 | 8750 | 8200 | 7300 | 6750 | 6100 | 5350 | | | | | | |
| CF-7.5 | 7.5 | 12200 | 11600 | 10800 | 10000 | 9100 | 8000 | | | | | | |
| CF-10 | 10 | 13450 | 12800 | 12050 | 11350 | 10700 | 9950 | 9000 | 7250 | | | | |
| CF-15 | 15 | 17000 | 16000 | 15200 | 14400 | 13400 | 12200 | 10800 | 9200 | | | | |
| CF-20 | 20 | 20500 | 19500 | 19000 | 18000 | 17000 | 16500 | 15750 | 14400 | 13300 | | | |
| CF-25 | 25 | 24000 | 23750 | 22750 | 21750 | 21000 | 20000 | 19000 | 17750 | 16000 | 12500 | | |
| CF-30 | 30 | 28100 | 26900 | 25600 | 24600 | 23600 | 22500 | 21000 | 20100 | 19700 | 17800 | 16000 | 11500 |
| CF-40 | 40 | 32750 | 31750 | 30750 | 29750 | 28750 | 27750 | 26750 | 25750 | 24250 | 22750 | 20250 | 15000 |
| *CF-30D | 30 | 32000 | 30500 | 29500 | 28000 | 27000 | 26000 | 25500 | 23000 | 20500 | 16500 | | |
| *CF-40D | 40 | 41000 | 39000 | 38000 | 37000 | 35000 | 33500 | 32000 | 30000 | 27000 | 24000 | | |
| *CF-50D | 50 | 49500 | 47500 | 45500 | 43500 | 42000 | 40000 | 38000 | 35500 | 32000 | 25000 | | |

***DOUBLE INLET FAN.**

| 3500 RPM CENTRIFUGAL FANS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATIC PRESSURE IN INCHES | | | | | | | | | | | | | |
| MODEL NO | H.P | 0.0 | 2.0 | 4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 18.0 | 20.0 | 22.0 |
| CF-3 | 3 | 3000 | 2750 | 2450 | 2150 | 1750 | 800 | | | | | | |
| CF-5 | 5 | 4900 | 4450 | 4000 | 3500 | 2900 | 1500 | | | | | | |
| CF-7.5 | 7.5 | 5000 | 4700 | 4500 | 4200 | 3900 | 3700 | 3250 | 2300 | | | | |
| CF-10 | 10 | 6650 | 6300 | 5900 | 5600 | 5300 | 4900 | 4300 | 3000 | | | | |
| CF-15 | 15 | 10100 | 9500 | 9000 | 8400 | 7900 | 7400 | 6600 | 4600 | | | | |
| CF-20 | 20 | 9400 | 9100 | 8800 | 8500 | 8200 | 8000 | 7400 | 6800 | 6500 | 5900 | 4000 | |
| CF-30 | 30 | 13200 | 12800 | 12400 | 11900 | 11500 | 10900 | 10400 | 9800 | 9100 | 8300 | 6000 | |
| CF-40 | 40 | 19000 | 18400 | 17750 | 17125 | 16500 | 15750 | 15000 | 14125 | 13125 | 12000 | 9000 | |
| CF-50 | 50 | 21600 | 21100 | 20500 | 19750 | 19000 | 18400 | 17600 | 16800 | 16000 | 15000 | 13500 | 11500 |

# SUGGESTED AIRFLOW RATES

## Aeration

This ventilation of stored grain to maintain uniform moisture and temperature, uses low airflow rates and unheated air. The lowest rates are for dry grain and higher rates are for higher moisture contents.

| | | | |
|---|---|---|---|
| Corn | 1/10 | to | 1/5cfm/bu |
| Wheat | 1/13 | to | 1/8 cfm/bu |
| Beans | 1/10 | to | 1/7 cfm/bu |
| Rice | 1/10 | to | 1/7 cfm/bu |

## Dryeration and Cooling

Natural unheated air used to cool heated grain and/or take out remaining few moisture points.

1/5 to 1/2 cfm/bu

## Wet Holding

Higher airflow rate for maintaining wet grain for short periods of time, generally one days' conditioning capacity or no longer than the recommended SAFE STORAGE TIME.

1/2 to 1 cfm/bu

**NOTE:**
**USE MAXIMUM BIN CAPACITY TO SIZE FANS FOR APPLICATIONS IN THIS COLUMN**

## Natural Air Drying

Unheated air used on low moisture harvested grain to remove remaining moisture points, use layer method or full bin depending on initial moisture, the airflow rate selected will depend on geographic location and prevailing weather conditions.

1 1/2 to 2 1/2cfm/bu

## Low temperature Drying

5 to 20 degree F temperature rise, high airflow rates, equilbrium drying system generally employed with layer or full bin, stirring device suggested.

1 to 2cfm/bu

## High Temperature Drying

120-160 degree F plenum temperatures, high airflow rates, batch or layers recommended with stirring devices.

3/4 to 1 1/2cfm/bu

**NOTE:**
**USE 1/2 TO 3/4 BIN CAPACITY TO SIZE FANS FOR APPLICATION IN THIS COLUMN. THIS WILL AVOID UNREASONABLE FAN SIZES.**

# STATIC PRESSURE CHART FOR BEANS (W/STIRRING)

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 | | | | | | | |
| **4** | 0.74 | 0.65 | 0.06 | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.51 | | |
| **6** | 1.11 | 0.86 | 0.66 | 0.61 | 0.57 | 0.55 | 0.53 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 |
| **8** | 1.71 | 1.20 | 0.79 | 0.71 | 0.63 | 0.58 | 0.56 | 0.55 | 0.53 | 0.52 | 0.52 | 0.51 |
| **10** | 2.56 | 1.68 | 0.98 | 0.84 | 0.71 | 0.63 | 0.60 | 0.58 | 0.55 | 0.54 | 0.52 | 0.52 |
| **12** | 3.70 | 2.31 | 1.23 | 1.01 | 0.81 | 0.70 | 0.64 | 0.61 | 0.58 | 0.55 | 0.54 | 0.53 |
| **14** | 5.17 | 3.12 | 1.53 | 1.22 | 0.94 | 0.77 | 0.70 | 0.66 | 0.61 | 0.57 | 0.55 | 0.54 |
| **16** | 7.00 | 4.11 | 1.90 | 1.47 | 1.09 | 0.87 | 0.76 | 0.71 | 0.64 | 0.60 | 0.56 | 0.55 |
| **18** | 9.23 | 5.30 | 2.34 | 1.77 | 1.26 | 0.97 | 0.84 | 0.76 | 0.68 | 0.62 | 0.58 | 0.56 |
| **20** | 11.87 | 6.72 | 2.86 | 2.11 | 1.47 | 1.09 | 0.92 | 0.83 | 0.73 | 0.66 | 0.60 | 0.58 |
| **22** | 14.96 | 8.36 | 3.45 | 2.51 | 1.70 | 1.23 | 1.02 | 0.90 | 0.78 | 0.69 | 0.62 | 0.59 |
| **24** | 18.53 | 10.26 | 4.12 | 2.96 | 1.95 | 1.38 | 1.13 | 0.99 | 0.83 | 0.73 | 0.65 | 0.61 |
| **26** | | 12.41 | 4.88 | 3.46 | 2.24 | 1.55 | 1.25 | 1.08 | 0.90 | 0.77 | 0.67 | 0.63 |
| **28** | | 14.84 | 5.73 | 4.02 | 2.57 | 1.74 | 1.38 | 1.18 | 0.96 | 0.81 | 0.70 | 0.65 |
| **30** | | 17.55 | 6.68 | 4.64 | 2.92 | 1.95 | 1.52 | 1.29 | 1.04 | 0.86 | 0.73 | 0.67 |
| **32** | | | 7.72 | 5.33 | 3.31 | 2.17 | 1.68 | 1.40 | 1.11 | 0.91 | 0.77 | 0.70 |
| **34** | | | 8.86 | 6.08 | 3.73 | 2.42 | 1.85 | 1.53 | 1.20 | 0.97 | 0.80 | 0.72 |
| **36** | | | 10.11 | 6.89 | 4.19 | 2.68 | 2.03 | 1.67 | 1.29 | 1.03 | 0.84 | 0.75 |
| **38** | | | 11.47 | 7.78 | 4.68 | 2.96 | 2.22 | 1.82 | 1.39 | 1.09 | 0.88 | 0.78 |
| **40** | | | 12.94 | 8.73 | 5.21 | 3.27 | 2.43 | 1.97 | 1.49 | 1.16 | 0.92 | 0.81 |
| **42** | | | 14.52 | 9.76 | 5.78 | 3.59 | 2.65 | 2.14 | 1.60 | 1.23 | 0.97 | 0.84 |
| **44** | | | 16.23 | 10.87 | 6.40 | 3.94 | 2.89 | 2.32 | 1.72 | 1.31 | 1.02 | 0.88 |
| **46** | | | 18.06 | 12.05 | 7.05 | 4.31 | 3.14 | 2.51 | 1.84 | 1.39 | 1.07 | 0.91 |
| **48** | | | 20.01 | 13.31 | 7.74 | 4.70 | 3.41 | 2.70 | 1.97 | 1.47 | 1.12 | 0.95 |
| **50** | | | | 14.65 | 8.48 | 5.12 | 3.69 | 2.91 | 2.11 | 1.56 | 1.17 | 0.99 |
| **52** | | | | 16.08 | 9.26 | 5.56 | 3.99 | 3.14 | 2.25 | 1.66 | 1.23 | 1.03 |
| **54** | | | | 17.60 | 10.09 | 6.02 | 4.30 | 3.37 | 2.41 | 1.75 | 1.29 | 1.08 |
| **56** | | | | 19.20 | 10.96 | 6.51 | 4.63 | 3.61 | 2.56 | 1.86 | 1.36 | 1.12 |
| **58** | | | | | 11.88 | 7.02 | 4.98 | 3.87 | 2.73 | 1.96 | 1.42 | 1.17 |
| **60** | | | | | 12.85 | 7.56 | 5.34 | 4.14 | 2.90 | 2.07 | 1.49 | 1.22 |
| **62** | | | | | 13.87 | 8.12 | 5.72 | 4.42 | 3.08 | 2.19 | 1.56 | 1.27 |
| **64** | | | | | 14.94 | 8.71 | 6.11 | 4.71 | 3.27 | 2.31 | 1.64 | 1.33 |
| **66** | | | | | 16.05 | 9.33 | 6.52 | 5.01 | 3.47 | 2.44 | 1.71 | 1.38 |
| **68** | | | | | 17.22 | 9.98 | 6.95 | 5.33 | 3.67 | 2.57 | 1.79 | 1.44 |
| **70** | | | | | 18.45 | 10.65 | 7.40 | 5.66 | 3.88 | 2.70 | 1.88 | 1.50 |
| **72** | | | | | 19.72 | 11.35 | 7.87 | 6.01 | 4.10 | 2.84 | 1.96 | 1.56 |
| **74** | | | | | | 12.08 | 8.36 | 6.36 | 4.33 | 2.98 | 2.05 | 1.62 |
| **76** | | | | | | 12.84 | 8.86 | 6.73 | 4.57 | 3.13 | 2.14 | 1.69 |
| **78** | | | | | | 13.63 | 9.38 | 7.12 | 4.81 | 3.29 | 2.23 | 1.75 |
| **80** | | | | | | 14.45 | 9.93 | 7.51 | 5.07 | 3.45 | 2.33 | 1.82 |
| **82** | | | | | | 15.29 | 10.49 | 7.92 | 5.33 | 3.61 | 2.43 | 1.89 |
| **84** | | | | | | 16.17 | 11.07 | 8.35 | 5.60 | 3.78 | 2.53 | 1.97 |
| **86** | | | | | | 17.09 | 11.67 | 8.79 | 5.88 | 3.96 | 2.64 | 2.04 |
| **88** | | | | | | 18.03 | 12.29 | 9.24 | 6.16 | 4.14 | 2.75 | 2.12 |
| **90** | | | | | | 19.00 | 12.93 | 9.71 | 6.46 | 4.32 | 2.86 | 2.20 |
| **92** | | | | | | 20.01 | 13.60 | 10.19 | 6.77 | 4.51 | 2.98 | 2.28 |
| **94** | | | | | | | 14.28 | 10.69 | 7.08 | 4.71 | 3.09 | 2.36 |
| **96** | | | | | | | 14.99 | 11.21 | 7.40 | 4.91 | 3.22 | 2.45 |
| **98** | | | | | | | 15.71 | 11.74 | 7.74 | 5.12 | 3.34 | 2.54 |
| **100** | | | | | | | 16.46 | 12.28 | 8.08 | 5.33 | 3.47 | 2.63 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.15 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR CORN (W/STIRRING)

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.56 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | | | | |
| 4 | 0.80 | 0.68 | 0.58 | 0.55 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | | |
| 6 | 1.29 | 0.95 | 0.69 | 0.63 | 0.58 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 |
| 8 | 2.10 | 1.40 | 0.86 | 0.75 | 0.65 | 0.60 | 0.57 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 |
| 10 | 3.28 | 2.04 | 1.09 | 0.91 | 0.75 | 0.65 | 0.61 | 0.59 | 0.56 | 0.54 | 0.53 | 0.52 |
| 12 | 4.90 | 2.90 | 1.41 | 1.12 | 0.87 | 0.73 | 0.66 | 0.63 | 0.59 | 0.56 | 0.54 | 0.53 |
| 14 | 7.00 | 4.02 | 1.81 | 1.39 | 1.03 | 0.82 | 0.73 | 0.68 | 0.62 | 0.58 | 0.55 | 0.54 |
| 16 | 9.63 | 5.41 | 2.30 | 1.71 | 1.21 | 0.93 | 0.80 | 0.73 | 0.66 | 0.61 | 0.57 | 0.55 |
| 18 | 12.86 | 7.10 | 2.88 | 2.10 | 1.43 | 1.06 | 0.89 | 0.80 | 0.71 | 0.64 | 0.59 | 0.57 |
| 20 | 16.72 | 9.11 | 3.58 | 2.55 | 1.69 | 1.21 | 1.00 | 0.88 | 0.76 | 0.67 | 0.61 | 0.58 |
| 22 | | 11.47 | 4.38 | 3.08 | 1.98 | 1.37 | 1.11 | 0.97 | 0.82 | 0.71 | 0.64 | 0.60 |
| 24 | | 14.20 | 5.31 | 3.68 | 2.32 | 1.57 | 1.24 | 1.07 | 0.88 | 0.75 | 0.66 | 0.62 |
| 26 | | 17.32 | 6.35 | 4.36 | 2.69 | 1.78 | 1.39 | 1.18 | 0.95 | 0.80 | 0.69 | 0.64 |
| 28 | | | 7.53 | 5.12 | 3.11 | 2.02 | 1.55 | 1.30 | 1.03 | 0.85 | 0.72 | 0.66 |
| 30 | | | 8.85 | 5.97 | 3.58 | 2.28 | 1.73 | 1.43 | 1.12 | 0.91 | 0.76 | 0.69 |
| 32 | | | 10.31 | 6.91 | 4.09 | 2.57 | 1.92 | 1.57 | 1.21 | 0.97 | 0.80 | 0.72 |
| 34 | | | 11.92 | 7.94 | 4.66 | 2.88 | 2.13 | 1.73 | 1.32 | 1.03 | 0.84 | 0.75 |
| 36 | | | 13.69 | 9.07 | 5.27 | 3.22 | 2.36 | 1.90 | 1.42 | 1.11 | 0.88 | 0.78 |
| 38 | | | 15.62 | 10.30 | 5.93 | 3.59 | 2.61 | 2.08 | 1.54 | 1.18 | 0.93 | 0.81 |
| 40 | | | 17.72 | 11.63 | 6.65 | 3.99 | 2.88 | 2.28 | 1.67 | 1.26 | 0.98 | 0.85 |
| 42 | | | 19.99 | 13.08 | 7.43 | 4.42 | 3.16 | 2.49 | 1.80 | 1.35 | 1.03 | 0.88 |
| 44 | | | | 14.63 | 8.27 | 4.87 | 3.47 | 2.71 | 1.95 | 1.44 | 1.08 | 0.92 |
| 46 | | | | 16.30 | 9.16 | 5.36 | 3.79 | 2.95 | 2.10 | 1.53 | 1.14 | 0.96 |
| 48 | | | | 18.09 | 10.11 | 5.88 | 4.13 | 3.20 | 2.26 | 1.63 | 1.20 | 1.01 |
| 50 | | | | 19.99 | 11.13 | 6.44 | 4.50 | 3.47 | 2.43 | 1.74 | 1.27 | 1.05 |
| 52 | | | | | 12.21 | 7.02 | 4.89 | 3.75 | 2.61 | 1.85 | 1.34 | 1.10 |
| 54 | | | | | 13.36 | 7.64 | 5.30 | 4.05 | 2.80 | 1.97 | 1.41 | 1.15 |
| 56 | | | | | 14.57 | 8.30 | 5.73 | 4.37 | 2.99 | 2.09 | 1.48 | 1.20 |
| 58 | | | | | 15.85 | 8.99 | 6.18 | 4.70 | 3.20 | 2.22 | 1.56 | 1.26 |
| 60 | | | | | 17.20 | 9.72 | 6.66 | 5.04 | 3.42 | 2.36 | 1.64 | 1.32 |
| 62 | | | | | 18.63 | 10.48 | 7.16 | 5.41 | 3.65 | 2.50 | 1.73 | 1.38 |
| 64 | | | | | 20.13 | 11.29 | 7.69 | 5.79 | 3.89 | 2.65 | 1.81 | 1.44 |
| 66 | | | | | | 12.13 | 8.24 | 6.18 | 4.13 | 2.80 | 1.90 | 1.50 |
| 68 | | | | | | 13.01 | 8.81 | 6.60 | 4.39 | 2.96 | 2.00 | 1.57 |
| 70 | | | | | | 13.93 | 9.41 | 7.03 | 4.66 | 3.13 | 2.10 | 1.64 |
| 72 | | | | | | 14.90 | 10.04 | 7.49 | 4.94 | 3.30 | 2.20 | 1.71 |
| 74 | | | | | | 15.90 | 10.69 | 7.96 | 5.24 | 3.48 | 2.31 | 1.78 |
| 76 | | | | | | 16.95 | 11.37 | 8.45 | 5.54 | 3.67 | 2.42 | 1.86 |
| 78 | | | | | | 18.04 | 12.08 | 8.95 | 5.85 | 3.86 | 2.53 | 1.94 |
| 80 | | | | | | 19.17 | 12.81 | 9.48 | 6.18 | 4.06 | 2.65 | 2.02 |
| 82 | | | | | | 20.35 | 13.57 | 10.03 | 6.52 | 4.27 | 2.77 | 2.11 |
| 84 | | | | | | | 14.36 | 10.60 | 6.87 | 4.48 | 2.89 | 2.19 |
| 86 | | | | | | | 15.18 | 11.18 | 7.23 | 4.70 | 3.02 | 2.28 |
| 88 | | | | | | | 16.03 | 11.79 | 7.60 | 4.93 | 3.15 | 2.37 |
| 90 | | | | | | | 16.91 | 12.42 | 7.99 | 5.16 | 3.29 | 2.47 |
| 92 | | | | | | | 17.82 | 13.07 | 8.39 | 5.40 | 3.43 | 2.57 |
| 94 | | | | | | | 18.75 | 13.74 | 8.80 | 5.65 | 3.58 | 2.67 |
| 96 | | | | | | | 19.72 | 14.43 | 9.22 | 5.91 | 3.72 | 2.77 |
| 98 | | | | | | | | 15.15 | 9.66 | 6.17 | 3.88 | 2.87 |
| 100 | | | | | | | | 15.88 | 10.11 | 6.44 | 4.03 | 2.98 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.15 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR RICE (W/ STIRRING)

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.64 | 0.59 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.51 | | | |
| 4 | 1.14 | 0.89 | 0.68 | 0.63 | 0.58 | 0.56 | 0.54 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 |
| 6 | 2.09 | 1.45 | 0.92 | 0.80 | 0.70 | 0.63 | 0.59 | 0.57 | 0.55 | 0.54 | 0.52 | 0.52 |
| 8 | 3.59 | 2.32 | 1.28 | 1.06 | 0.86 | 0.73 | 0.67 | 0.63 | 0.59 | 0.57 | 0.54 | 0.53 |
| 10 | 5.72 | 3.53 | 1.77 | 1.41 | 1.07 | 0.86 | 0.77 | 0.71 | 0.65 | 0.60 | 0.57 | 0.55 |
| 12 | 8.57 | 5.13 | 2.41 | 1.85 | 1.34 | 1.03 | 0.89 | 0.81 | 0.72 | 0.65 | 0.60 | 0.57 |
| 14 | 12.22 | 7.15 | 3.19 | 2.39 | 1.67 | 1.24 | 1.04 | 0.92 | 0.80 | 0.70 | 0.63 | 0.60 |
| 16 | 16.73 | 9.63 | 4.14 | 3.04 | 2.06 | 1.48 | 1.21 | 1.06 | 0.89 | 0.77 | 0.68 | 0.63 |
| 18 | | 12.61 | 5.26 | 3.81 | 2.52 | 1.76 | 1.41 | 1.21 | 1.00 | 0.84 | 0.72 | 0.67 |
| 20 | | 16.11 | 6.56 | 4.69 | 3.05 | 2.08 | 1.64 | 1.39 | 1.12 | 0.92 | 0.78 | 0.71 |
| 22 | | 20.18 | 8.06 | 5.70 | 3.64 | 2.44 | 1.90 | 1.59 | 1.25 | 1.01 | 0.84 | 0.75 |
| 24 | | | 9.76 | 6.85 | 4.31 | 2.84 | 2.18 | 1.81 | 1.40 | 1.12 | 0.90 | 0.80 |
| 26 | | | 11.67 | 8.13 | 5.06 | 3.29 | 2.50 | 2.05 | 1.57 | 1.23 | 0.97 | 0.85 |
| 28 | | | 13.80 | 9.55 | 5.88 | 3.78 | 2.84 | 2.31 | 1.75 | 1.35 | 1.05 | 0.91 |
| 30 | | | 16.16 | 11.12 | 6.79 | 4.31 | 3.22 | 2.60 | 1.94 | 1.48 | 1.13 | 0.97 |
| 32 | | | 18.76 | 12.85 | 7.78 | 4.90 | 3.63 | 2.91 | 2.15 | 1.62 | 1.22 | 1.04 |
| 34 | | | | 14.73 | 8.86 | 5.53 | 4.07 | 3.25 | 2.38 | 1.77 | 1.32 | 1.11 |
| 36 | | | | 16.78 | 10.02 | 6.21 | 4.54 | 3.61 | 2.62 | 1.93 | 1.42 | 1.18 |
| 38 | | | | 18.99 | 11.28 | 6.94 | 5.05 | 4.00 | 2.88 | 2.10 | 1.53 | 1.26 |
| 40 | | | | | 12.63 | 7.73 | 5.59 | 4.41 | 3.16 | 2.28 | 1.65 | 1.35 |
| 42 | | | | | 14.08 | 8.56 | 6.17 | 4.85 | 3.45 | 2.48 | 1.77 | 1.44 |
| 44 | | | | | 15.63 | 9.46 | 6.78 | 5.31 | 3.76 | 2.68 | 1.90 | 1.53 |
| 46 | | | | | 17.27 | 10.40 | 7.44 | 5.80 | 4.08 | 2.89 | 2.04 | 1.63 |
| 48 | | | | | 19.02 | 11.41 | 8.12 | 6.32 | 4.42 | 3.12 | 2.18 | 1.73 |
| 50 | | | | | | 12.47 | 8.85 | 6.86 | 4.79 | 3.35 | 2.33 | 1.84 |
| 52 | | | | | | 13.59 | 9.62 | 7.44 | 5.16 | 3.60 | 2.48 | 1.95 |
| 54 | | | | | | 14.77 | 10.42 | 8.04 | 5.56 | 3.86 | 2.64 | 2.07 |
| 56 | | | | | | 16.01 | 11.27 | 8.67 | 5.98 | 4.13 | 2.81 | 2.19 |
| 58 | | | | | | 17.31 | 12.15 | 9.34 | 6.41 | 4.41 | 2.99 | 2.32 |
| 60 | | | | | | 18.67 | 13.08 | 10.03 | 6.86 | 4.71 | 3.17 | 2.46 |
| 62 | | | | | | 20.10 | 14.05 | 10.75 | 7.34 | 5.01 | 3.36 | 2.59 |
| 64 | | | | | | | 15.06 | 11.51 | 7.83 | 5.33 | 3.56 | 2.74 |
| 66 | | | | | | | 16.11 | 12.29 | 8.34 | 5.66 | 3.77 | 2.88 |
| 68 | | | | | | | 17.21 | 13.11 | 8.87 | 6.00 | 3.98 | 3.04 |
| 70 | | | | | | | 18.36 | 13.96 | 9.42 | 6.36 | 4.20 | 3.20 |
| 72 | | | | | | | 19.54 | 14.84 | 9.99 | 6.73 | 4.43 | 3.36 |
| 74 | | | | | | | | 15.75 | 10.58 | 7.11 | 4.66 | 3.53 |
| 76 | | | | | | | | 16.70 | 11.20 | 7.50 | 4.90 | 3.70 |
| 78 | | | | | | | | 17.68 | 11.83 | 7.90 | 5.15 | 3.88 |
| 80 | | | | | | | | 18.70 | 12.48 | 8.32 | 5.41 | 4.07 |
| 82 | | | | | | | | 19.75 | 13.16 | 8.75 | 5.68 | 4.26 |
| 84 | | | | | | | | | 13.86 | 9.20 | 5.95 | 4.45 |
| 86 | | | | | | | | | 14.58 | 9.65 | 6.23 | 4.65 |
| 88 | | | | | | | | | 15.32 | 10.13 | 6.52 | 4.86 |
| 90 | | | | | | | | | 16.08 | 10.61 | 6.81 | 5.07 |
| 92 | | | | | | | | | 16.87 | 11.11 | 7.12 | 5.29 |
| 94 | | | | | | | | | 17.68 | 11.62 | 7.43 | 5.51 |
| 96 | | | | | | | | | 18.51 | 12.15 | 7.75 | 5.74 |
| 98 | | | | | | | | | 19.36 | 12.68 | 8.08 | 5.97 |
| 100 | | | | | | | | | 20.24 | 13.24 | 8.41 | 6.21 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.15 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR WHEAT (W/ STIRRING)

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.73 | 0.65 | 0.57 | 0.55 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | | |
| 4 | 1.50 | 1.13 | 0.79 | 0.72 | 0.64 | 0.59 | 0.57 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 |
| 6 | 2.94 | 2.00 | 1.18 | 1.00 | 0.82 | 0.71 | 0.66 | 0.63 | 0.59 | 0.56 | 0.54 | 0.53 |
| 8 | 5.16 | 3.32 | 1.75 | 1.41 | 1.09 | 0.88 | 0.78 | 0.72 | 0.66 | 0.61 | 0.57 | 0.55 |
| 10 | 8.27 | 5.13 | 2.52 | 1.96 | 1.43 | 1.10 | 0.95 | 0.85 | 0.75 | 0.67 | 0.61 | 0.59 |
| 12 | 12.37 | 7.49 | 3.50 | 2.65 | 1.87 | 1.38 | 1.15 | 1.01 | 0.86 | 0.75 | 0.67 | 0.62 |
| 14 | 17.56 | 10.45 | 4.70 | 3.50 | 2.39 | 1.71 | 1.39 | 1.20 | 1.00 | 0.84 | 0.73 | 0.67 |
| 16 | | 14.04 | 6.14 | 4.50 | 3.01 | 2.10 | 1.67 | 1.43 | 1.15 | 0.95 | 0.80 | 0.72 |
| 18 | | 18.31 | 7.82 | 5.67 | 3.73 | 2.55 | 2.00 | 1.68 | 1.33 | 1.07 | 0.88 | 0.78 |
| 20 | | | 9.77 | 7.02 | 4.55 | 3.06 | 2.37 | 1.97 | 1.53 | 1.21 | 0.97 | 0.85 |
| 22 | | | 11.98 | 8.54 | 5.47 | 3.63 | 2.78 | 2.29 | 1.75 | 1.36 | 1.06 | 0.92 |
| 24 | | | 14.49 | 10.26 | 6.50 | 4.26 | 3.23 | 2.64 | 1.99 | 1.53 | 1.17 | 1.00 |
| 26 | | | 17.29 | 12.17 | 7.64 | 4.96 | 3.73 | 3.03 | 2.26 | 1.71 | 1.29 | 1.09 |
| 28 | | | 20.39 | 14.29 | 8.90 | 5.73 | 4.28 | 3.46 | 2.56 | 1.91 | 1.42 | 1.19 |
| 30 | | | | 16.61 | 10.28 | 6.56 | 4.88 | 3.92 | 2.87 | 2.12 | 1.56 | 1.29 |
| 32 | | | | 19.15 | 11.77 | 7.47 | 5.52 | 4.41 | 3.21 | 2.35 | 1.71 | 1.40 |
| 34 | | | | | 13.40 | 8.44 | 6.21 | 4.95 | 3.58 | 2.60 | 1.87 | 1.52 |
| 36 | | | | | 15.14 | 9.49 | 6.95 | 5.52 | 3.97 | 2.86 | 2.04 | 1.64 |
| 38 | | | | | 17.02 | 10.61 | 7.75 | 6.13 | 4.38 | 3.14 | 2.22 | 1.77 |
| 40 | | | | | 19.03 | 11.81 | 8.59 | 6.77 | 4.82 | 3.44 | 2.41 | 1.92 |
| 42 | | | | | | 13.09 | 9.49 | 7.46 | 5.29 | 3.75 | 2.61 | 2.06 |
| 44 | | | | | | 14.44 | 10.44 | 8.19 | 5.78 | 4.08 | 2.82 | 2.22 |
| 46 | | | | | | 15.88 | 11.44 | 8.96 | 6.30 | 4.42 | 3.04 | 2.38 |
| 48 | | | | | | 17.39 | 12.50 | 9.76 | 6.84 | 4.79 | 3.28 | 2.55 |
| 50 | | | | | | 18.99 | 13.62 | 10.61 | 7.41 | 5.17 | 3.52 | 2.73 |
| 52 | | | | | | | 14.79 | 11.50 | 8.01 | 5.57 | 3.78 | 2.92 |
| 54 | | | | | | | 16.02 | 12.44 | 8.64 | 5.98 | 4.04 | 3.11 |
| 56 | | | | | | | 17.30 | 13.41 | 9.29 | 6.42 | 4.32 | 3.32 |
| 58 | | | | | | | 18.65 | 14.43 | 9.98 | 6.87 | 4.60 | 3.53 |
| 60 | | | | | | | 20.05 | 15.50 | 10.69 | 7.34 | 4.90 | 3.74 |
| 62 | | | | | | | | 16.61 | 11.43 | 7.82 | 5.21 | 3.97 |
| 64 | | | | | | | | 17.76 | 12.19 | 8.33 | 5.53 | 4.20 |
| 66 | | | | | | | | 18.96 | 12.99 | 8.86 | 5.87 | 4.45 |
| 68 | | | | | | | | 20.21 | 13.82 | 9.40 | 6.21 | 4.70 |
| 70 | | | | | | | | | 14.67 | 9.96 | 6.56 | 4.95 |
| 72 | | | | | | | | | 15.56 | 10.54 | 6.93 | 5.22 |
| 74 | | | | | | | | | 16.48 | 11.14 | 7.31 | 5.50 |
| 76 | | | | | | | | | 17.42 | 11.76 | 7.70 | 5.78 |
| 78 | | | | | | | | | 18.40 | 12.40 | 8.10 | 6.07 |
| 80 | | | | | | | | | 19.41 | 13.06 | 8.51 | 6.37 |
| 82 | | | | | | | | | 20.45 | 13.74 | 8.94 | 6.68 |
| 84 | | | | | | | | | | 14.43 | 9.37 | 7.00 |
| 86 | | | | | | | | | | 15.15 | 9.82 | 7.32 |
| 88 | | | | | | | | | | 15.89 | 10.28 | 7.65 |
| 90 | | | | | | | | | | 16.64 | 10.75 | 8.00 |
| 92 | | | | | | | | | | 17.42 | 11.24 | 8.35 |
| 94 | | | | | | | | | | 18.22 | 11.74 | 8.71 |
| 96 | | | | | | | | | | 19.04 | 12.25 | 9.07 |
| 98 | | | | | | | | | | 19.88 | 12.77 | 9.45 |
| 100 | | | | | | | | | | | 13.30 | 9.84 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.15 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR BARLEY

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 0.67 | 0.61 | 0.55 | 0.54 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | | | |
| **4** | 1.25 | 0.96 | 0.71 | 0.65 | 0.60 | 0.57 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| **6** | 2.36 | 1.62 | 1.00 | 0.86 | 0.73 | 0.65 | 0.61 | 0.59 | 0.56 | 0.54 | 0.53 | 0.52 |
| **8** | 4.10 | 2.63 | 1.42 | 1.16 | 0.92 | 0.77 | 0.70 | 0.66 | 0.61 | 0.58 | 0.55 | 0.54 |
| **10** | 6.58 | 4.05 | 2.00 | 1.57 | 1.17 | 0.93 | 0.82 | 0.75 | 0.68 | 0.62 | 0.58 | 0.56 |
| **12** | 9.89 | 5.91 | 2.74 | 2.09 | 1.49 | 1.13 | 0.96 | 0.86 | 0.76 | 0.68 | 0.62 | 0.59 |
| **14** | 14.11 | 8.25 | 3.66 | 2.72 | 1.88 | 1.37 | 1.14 | 1.00 | 0.85 | 0.74 | 0.66 | 0.62 |
| **16** | 19.33 | 11.13 | 4.76 | 3.48 | 2.34 | 1.66 | 1.34 | 1.16 | 0.96 | 0.82 | 0.71 | 0.66 |
| **18** | | 14.58 | 6.07 | 4.38 | 2.88 | 1.99 | 1.58 | 1.35 | 1.09 | 0.90 | 0.77 | 0.70 |
| **20** | | 18.64 | 7.59 | 5.41 | 3.50 | 2.36 | 1.85 | 1.55 | 1.23 | 1.00 | 0.83 | 0.74 |
| **22** | | | 9.34 | 6.60 | 4.19 | 2.79 | 2.15 | 1.79 | 1.39 | 1.11 | 0.90 | 0.80 |
| **24** | | | 11.31 | 7.93 | 4.98 | 3.26 | 2.49 | 2.05 | 1.57 | 1.23 | 0.98 | 0.85 |
| **26** | | | 13.53 | 9.42 | 5.85 | 3.78 | 2.86 | 2.33 | 1.76 | 1.36 | 1.06 | 0.92 |
| **28** | | | 16.01 | 11.08 | 6.82 | 4.36 | 3.26 | 2.64 | 1.98 | 1.50 | 1.15 | 0.98 |
| **30** | | | 18.75 | 12.91 | 7.87 | 4.99 | 3.70 | 2.98 | 2.21 | 1.66 | 1.25 | 1.06 |
| **32** | | | | 14.92 | 9.03 | 5.67 | 4.18 | 3.35 | 2.45 | 1.82 | 1.36 | 1.14 |
| **34** | | | | 17.10 | 10.29 | 6.41 | 4.70 | 3.74 | 2.72 | 2.00 | 1.47 | 1.22 |
| **36** | | | | 19.48 | 11.65 | 7.21 | 5.26 | 4.17 | 3.01 | 2.19 | 1.60 | 1.31 |
| **38** | | | | | 13.11 | 8.07 | 5.85 | 4.62 | 3.31 | 2.39 | 1.72 | 1.40 |
| **40** | | | | | 14.69 | 8.98 | 6.49 | 5.10 | 3.64 | 2.61 | 1.86 | 1.50 |
| **42** | | | | | 16.37 | 9.96 | 7.17 | 5.62 | 3.98 | 2.84 | 2.01 | 1.61 |
| **44** | | | | | 18.17 | 11.00 | 7.89 | 6.16 | 4.34 | 3.08 | 2.16 | 1.72 |
| **46** | | | | | 20.09 | 12.11 | 8.65 | 6.74 | 4.72 | 3.33 | 2.32 | 1.84 |
| **48** | | | | | | 13.28 | 9.46 | 7.35 | 5.13 | 3.59 | 2.49 | 1.96 |
| **50** | | | | | | 14.52 | 10.31 | 7.99 | 5.55 | 3.87 | 2.66 | 2.09 |
| **52** | | | | | | 15.82 | 11.20 | 8.66 | 6.00 | 4.16 | 2.85 | 2.22 |
| **54** | | | | | | 17.20 | 12.14 | 9.37 | 6.47 | 4.47 | 3.04 | 2.36 |
| **56** | | | | | | 18.64 | 13.13 | 10.11 | 6.95 | 4.79 | 3.24 | 2.51 |
| **58** | | | | | | 20.16 | 14.17 | 10.88 | 7.46 | 5.12 | 3.45 | 2.66 |
| **60** | | | | | | | 15.25 | 11.69 | 8.00 | 5.47 | 3.66 | 2.82 |
| **62** | | | | | | | 16.38 | 12.54 | 8.55 | 5.83 | 3.89 | 2.98 |
| **64** | | | | | | | 17.56 | 13.42 | 9.13 | 6.20 | 4.12 | 3.15 |
| **66** | | | | | | | 18.79 | 14.34 | 9.73 | 6.59 | 4.36 | 3.32 |
| **68** | | | | | | | 20.07 | 15.29 | 10.35 | 6.99 | 4.61 | 3.50 |
| **70** | | | | | | | | 16.29 | 10.99 | 7.41 | 4.87 | 3.69 |
| **72** | | | | | | | | 17.32 | 11.66 | 7.84 | 5.14 | 3.88 |
| **74** | | | | | | | | 18.38 | 12.36 | 8.29 | 5.42 | 4.08 |
| **76** | | | | | | | | 19.49 | 13.07 | 8.75 | 5.70 | 4.29 |
| **78** | | | | | | | | | 13.82 | 9.22 | 6.00 | 4.50 |
| **80** | | | | | | | | | 14.58 | 9.72 | 6.30 | 4.72 |
| **82** | | | | | | | | | 15.37 | 10.22 | 6.61 | 4.94 |
| **84** | | | | | | | | | 16.19 | 10.74 | 6.93 | 5.17 |
| **86** | | | | | | | | | 17.03 | 11.28 | 7.26 | 5.41 |
| **88** | | | | | | | | | 17.90 | 11.83 | 7.60 | 5.65 |
| **90** | | | | | | | | | 18.79 | 12.40 | 7.95 | 5.90 |
| **92** | | | | | | | | | 19.71 | 12.99 | 8.31 | 6.16 |
| **94** | | | | | | | | | | 13.59 | 8.68 | 6.42 |
| **96** | | | | | | | | | | 14.20 | 9.05 | 6.69 |
| **98** | | | | | | | | | | 14.84 | 9.44 | 6.96 |
| **100** | | | | | | | | | | 15.48 | 9.83 | 7.25 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR BEANS

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2** | 0.57 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | | | | |
| **4** | 0.82 | 0.69 | 0.59 | 0.56 | 0.54 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | |
| **6** | 1.30 | 0.97 | 0.71 | 0.65 | 0.59 | 0.56 | 0.54 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| **8** | 2.07 | 1.41 | 0.88 | 0.77 | 0.67 | 0.61 | 0.58 | 0.56 | 0.54 | 0.53 | 0.52 | 0.52 |
| **10** | 3.18 | 2.04 | 1.13 | 0.94 | 0.78 | 0.68 | 0.63 | 0.60 | 0.57 | 0.55 | 0.53 | 0.52 |
| **12** | 4.68 | 2.86 | 1.45 | 1.16 | 0.91 | 0.76 | 0.69 | 0.65 | 0.60 | 0.57 | 0.55 | 0.53 |
| **14** | 6.60 | 3.91 | 1.85 | 1.44 | 1.07 | 0.86 | 0.76 | 0.70 | 0.64 | 0.60 | 0.56 | 0.55 |
| **16** | 8.98 | 5.21 | 2.33 | 1.76 | 1.27 | 0.98 | 0.84 | 0.77 | 0.69 | 0.63 | 0.58 | 0.56 |
| **18** | 11.88 | 6.77 | 2.90 | 2.15 | 1.50 | 1.11 | 0.94 | 0.84 | 0.74 | 0.66 | 0.61 | 0.58 |
| **20** | 15.33 | 8.61 | 3.57 | 2.60 | 1.76 | 1.27 | 1.05 | 0.93 | 0.80 | 0.70 | 0.63 | 0.60 |
| **22** | 19.36 | 10.76 | 4.34 | 3.12 | 2.06 | 1.45 | 1.18 | 1.03 | 0.86 | 0.75 | 0.66 | 0.62 |
| **24** | | 13.23 | 5.22 | 3.70 | 2.40 | 1.65 | 1.32 | 1.13 | 0.94 | 0.80 | 0.69 | 0.64 |
| **26** | | 16.04 | 6.21 | 4.36 | 2.78 | 1.87 | 1.48 | 1.25 | 1.02 | 0.85 | 0.73 | 0.67 |
| **28** | | 19.20 | 7.32 | 5.09 | 3.19 | 2.12 | 1.65 | 1.38 | 1.10 | 0.91 | 0.76 | 0.69 |
| **30** | | | 8.55 | 5.91 | 3.65 | 2.39 | 1.83 | 1.53 | 1.20 | 0.97 | 0.80 | 0.72 |
| **32** | | | 9.91 | 6.80 | 4.16 | 2.68 | 2.04 | 1.68 | 1.30 | 1.04 | 0.85 | 0.76 |
| **34** | | | 11.40 | 7.77 | 4.71 | 3.00 | 2.26 | 1.85 | 1.41 | 1.11 | 0.89 | 0.79 |
| **36** | | | 13.03 | 8.84 | 5.31 | 3.34 | 2.49 | 2.02 | 1.53 | 1.19 | 0.94 | 0.83 |
| **38** | | | 14.80 | 9.99 | 5.95 | 3.71 | 2.75 | 2.22 | 1.66 | 1.27 | 1.00 | 0.86 |
| **40** | | | 16.72 | 11.24 | 6.65 | 4.11 | 3.02 | 2.42 | 1.79 | 1.36 | 1.05 | 0.90 |
| **42** | | | 18.79 | 12.58 | 7.39 | 4.54 | 3.31 | 2.64 | 1.94 | 1.46 | 1.11 | 0.95 |
| **44** | | | | 14.02 | 8.19 | 4.99 | 3.62 | 2.87 | 2.09 | 1.56 | 1.17 | 0.99 |
| **46** | | | | 15.56 | 9.04 | 5.47 | 3.95 | 3.12 | 2.25 | 1.66 | 1.24 | 1.04 |
| **48** | | | | 17.21 | 9.95 | 5.98 | 4.30 | 3.38 | 2.42 | 1.77 | 1.31 | 1.09 |
| **50** | | | | 18.96 | 10.91 | 6.52 | 4.66 | 3.65 | 2.60 | 1.89 | 1.38 | 1.14 |
| **52** | | | | | 11.93 | 7.10 | 5.05 | 3.94 | 2.79 | 2.01 | 1.46 | 1.20 |
| **54** | | | | | 13.01 | 7.70 | 5.46 | 4.24 | 2.99 | 2.14 | 1.53 | 1.25 |
| **56** | | | | | 14.15 | 8.34 | 5.89 | 4.56 | 3.19 | 2.27 | 1.62 | 1.31 |
| **58** | | | | | 15.35 | 9.01 | 6.34 | 4.89 | 3.41 | 2.41 | 1.70 | 1.38 |
| **60** | | | | | 16.61 | 9.71 | 6.81 | 5.24 | 3.64 | 2.55 | 1.79 | 1.44 |
| **62** | | | | | 17.94 | 10.44 | 7.30 | 5.61 | 3.87 | 2.70 | 1.89 | 1.51 |
| **64** | | | | | 19.33 | 11.21 | 7.82 | 5.99 | 4.12 | 2.86 | 1.98 | 1.58 |
| **66** | | | | | | 12.02 | 8.36 | 6.39 | 4.37 | 3.02 | 2.08 | 1.65 |
| **68** | | | | | | 12.86 | 8.92 | 6.80 | 4.64 | 3.19 | 2.19 | 1.72 |
| **70** | | | | | | 13.74 | 9.50 | 7.23 | 4.91 | 3.37 | 2.29 | 1.80 |
| **72** | | | | | | 14.65 | 10.11 | 7.68 | 5.20 | 3.55 | 2.41 | 1.88 |
| **74** | | | | | | 15.61 | 10.75 | 8.15 | 5.50 | 3.74 | 2.52 | 1.96 |
| **76** | | | | | | 16.59 | 11.40 | 8.63 | 5.81 | 3.94 | 2.64 | 2.05 |
| **78** | | | | | | 17.62 | 12.09 | 9.13 | 6.13 | 4.14 | 2.76 | 2.13 |
| **80** | | | | | | 18.69 | 12.79 | 9.65 | 6.46 | 4.34 | 2.89 | 2.22 |
| **82** | | | | | | 19.80 | 13.53 | 10.18 | 6.80 | 4.56 | 3.02 | 2.32 |
| **84** | | | | | | | 14.29 | 10.74 | 7.15 | 4.78 | 3.15 | 2.41 |
| **86** | | | | | | | 15.07 | 11.31 | 7.51 | 5.01 | 3.29 | 2.51 |
| **88** | | | | | | | 15.88 | 11.90 | 7.89 | 5.24 | 3.43 | 2.61 |
| **90** | | | | | | | 16.72 | 12.51 | 8.27 | 5.49 | 3.58 | 2.71 |
| **92** | | | | | | | 17.58 | 13.15 | 8.67 | 5.74 | 3.73 | 2.82 |
| **94** | | | | | | | 18.48 | 13.80 | 9.08 | 5.99 | 3.88 | 2.93 |
| **96** | | | | | | | 19.40 | 14.47 | 9.50 | 6.26 | 4.04 | 3.04 |
| **98** | | | | | | | 20.35 | 15.15 | 9.94 | 6.53 | 4.20 | 3.16 |
| **100** | | | | | | | | 15.86 | 10.38 | 6.80 | 4.37 | 3.27 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR CLOVER

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1.50 | 1.16 | 0.83 | 0.74 | 0.66 | 0.61 | 0.58 | 0.56 | 0.55 | 0.53 | 0.52 | 0.52 |
| 4 | 4.63 | 3.19 | 1.82 | 1.48 | 1.15 | 0.93 | 0.82 | 0.76 | 0.68 | 0.63 | 0.59 | 0.56 |
| 6 | 10.09 | 6.69 | 3.50 | 2.73 | 1.97 | 1.47 | 1.23 | 1.08 | 0.92 | 0.79 | 0.69 | 0.64 |
| 8 | 18.06 | 11.75 | 5.89 | 4.49 | 3.13 | 2.24 | 1.80 | 1.54 | 1.24 | 1.02 | 0.84 | 0.76 |
| 10 | | 18.44 | 9.01 | 6.79 | 4.64 | 3.23 | 2.54 | 2.13 | 1.66 | 1.31 | 1.04 | 0.90 |
| 12 | | | 12.89 | 9.64 | 6.49 | 4.45 | 3.44 | 2.85 | 2.17 | 1.67 | 1.28 | 1.08 |
| 14 | | | 17.54 | 13.04 | 8.70 | 5.89 | 4.52 | 3.70 | 2.78 | 2.09 | 1.56 | 1.29 |
| 16 | | | | 17.02 | 11.27 | 7.57 | 5.77 | 4.69 | 3.48 | 2.58 | 1.88 | 1.53 |
| 18 | | | | | 14.21 | 9.48 | 7.18 | 5.82 | 4.28 | 3.13 | 2.25 | 1.81 |
| 20 | | | | | 17.52 | 11.63 | 8.78 | 7.08 | 5.17 | 3.75 | 2.66 | 2.12 |
| 22 | | | | | | 14.02 | 10.54 | 8.48 | 6.17 | 4.44 | 3.12 | 2.46 |
| 24 | | | | | | 16.64 | 12.49 | 10.02 | 7.25 | 5.20 | 3.62 | 2.83 |
| 26 | | | | | | 19.52 | 14.61 | 11.70 | 8.44 | 6.02 | 4.16 | 3.24 |
| 28 | | | | | | | 16.91 | 13.52 | 9.72 | 6.91 | 4.75 | 3.68 |
| 30 | | | | | | | 19.39 | 15.48 | 11.11 | 7.87 | 5.38 | 4.15 |
| 32 | | | | | | | | 17.58 | 12.59 | 8.89 | 6.06 | 4.66 |
| 34 | | | | | | | | 19.83 | 14.17 | 9.98 | 6.78 | 5.19 |
| 36 | | | | | | | | | 15.85 | 11.14 | 7.55 | 5.77 |
| 38 | | | | | | | | | 17.63 | 12.37 | 8.36 | 6.37 |
| 40 | | | | | | | | | 19.51 | 13.67 | 9.21 | 7.01 |
| 42 | | | | | | | | | | 15.04 | 10.11 | 7.68 |
| 44 | | | | | | | | | | 16.47 | 11.06 | 8.39 |
| 46 | | | | | | | | | | 17.98 | 12.05 | 9.12 |
| 48 | | | | | | | | | | 19.56 | 13.09 | 9.90 |
| 50 | | | | | | | | | | | 14.17 | 10.70 |
| 52 | | | | | | | | | | | 15.29 | 11.54 |
| 54 | | | | | | | | | | | 16.47 | 12.41 |
| 56 | | | | | | | | | | | 17.68 | 13.32 |
| 58 | | | | | | | | | | | 18.95 | 14.26 |
| 60 | | | | | | | | | | | 20.26 | 15.23 |
| 62 | | | | | | | | | | | | 16.24 |
| 64 | | | | | | | | | | | | 17.28 |
| 66 | | | | | | | | | | | | 18.36 |
| 68 | | | | | | | | | | | | 19.47 |
| 70 | | | | | | | | | | | | |
| 72 | | | | | | | | | | | | |
| 74 | | | | | | | | | | | | |
| 76 | | | | | | | | | | | | |
| 78 | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 84 | | | | | | | | | | | | |
| 86 | | | | | | | | | | | | |
| 88 | | | | | | | | | | | | |
| 90 | | | | | | | | | | | | |
| 92 | | | | | | | | | | | | |
| 94 | | | | | | | | | | | | |
| 96 | | | | | | | | | | | | |
| 98 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC CHART FOR WHITE POPCORN

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.69 | 0.62 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.51 | | |
| 4 | 1.35 | 1.03 | 0.74 | 0.68 | 0.62 | 0.58 | 0.56 | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 |
| 6 | 2.59 | 1.77 | 1.07 | 0.92 | 0.77 | 0.67 | 0.63 | 0.60 | | 0.55 | 0.53 | 0.53 |
| 8 | 4.52 | 2.90 | 1.55 | 1.26 | 0.99 | 0.82 | 0.73 | 0.69 | 0.63 | 0.59 | 0.56 | 0.55 |
| 10 | 7.25 | 4.48 | 2.21 | 1.72 | 1.28 | 1.00 | 0.87 | 0.79 | 0.71 | 0.64 | 0.59 | 0.57 |
| 12 | 10.87 | 6.53 | 3.04 | 2.31 | 1.64 | 1.23 | 1.04 | 0.92 | 0.80 | 0.71 | 0.64 | 0.60 |
| 14 | 15.47 | 9.12 | 4.07 | 3.03 | 2.08 | 1.51 | 1.24 | 1.08 | 0.91 | 0.78 | 0.69 | 0.64 |
| 16 | | 12.28 | 5.31 | 3.89 | 2.61 | 1.83 | 1.47 | 1.27 | 1.04 | 0.87 | 0.74 | 0.68 |
| 18 | | 16.05 | 6.76 | 4.89 | 3.22 | 2.21 | 1.75 | 1.48 | 1.18 | 0.97 | 0.81 | 0.73 |
| 20 | | 20.48 | 8.45 | 6.05 | 3.91 | 2.64 | 2.05 | 1.72 | 1.35 | 1.08 | 0.88 | 0.79 |
| 22 | | | 10.38 | 7.37 | 4.70 | 3.12 | 2.40 | 1.99 | 1.53 | 1.21 | 0.97 | 0.85 |
| 24 | | | 12.57 | 8.85 | 5.58 | 3.66 | 2.78 | 2.28 | 1.74 | 1.35 | 1.06 | 0.91 |
| 26 | | | 15.01 | 10.51 | 6.56 | 4.25 | 3.20 | 2.61 | 1.96 | 1.50 | 1.15 | 0.99 |
| 28 | | | 17.74 | 12.35 | 7.64 | 4.90 | 3.67 | 2.97 | 2.21 | 1.66 | 1.26 | 1.06 |
| 30 | | | | 14.37 | 8.82 | 5.61 | 4.17 | 3.35 | 2.47 | 1.84 | 1.38 | 1.15 |
| 32 | | | | 16.59 | 10.12 | 6.38 | 4.71 | 3.77 | 2.76 | 2.03 | 1.50 | 1.24 |
| 34 | | | | 19.00 | 11.52 | 7.22 | 5.30 | 4.22 | 3.06 | 2.24 | 1.63 | 1.34 |
| 36 | | | | | 13.03 | 8.11 | 5.93 | 4.70 | 3.39 | 2.46 | 1.77 | 1.44 |
| 38 | | | | | 14.66 | 9.07 | 6.60 | 5.22 | 3.74 | 2.69 | 1.92 | 1.55 |
| 40 | | | | | 16.40 | 10.10 | 7.32 | 5.77 | 4.11 | 2.94 | 2.08 | 1.67 |
| 42 | | | | | 18.27 | 11.20 | 8.09 | 6.35 | 4.50 | 3.20 | 2.25 | 1.79 |
| 44 | | | | | 20.27 | 12.36 | 8.90 | 6.97 | 4.91 | 3.47 | 2.42 | 1.92 |
| 46 | | | | | | 13.60 | 9.76 | 7.62 | 5.35 | 3.76 | 2.61 | 2.05 |
| 48 | | | | | | 14.91 | 10.66 | 8.30 | 5.81 | 4.07 | 2.80 | 2.20 |
| 50 | | | | | | 16.29 | 11.62 | 9.03 | 6.29 | 4.39 | 3.00 | 2.34 |
| 52 | | | | | | 17.74 | 12.62 | 9.79 | 6.80 | 4.72 | 3.22 | 2.50 |
| 54 | | | | | | 19.27 | 13.68 | 10.58 | 7.33 | 5.07 | 3.44 | 2.66 |
| 56 | | | | | | | 14.78 | 11.42 | 7.88 | 5.43 | 3.67 | 2.83 |
| 58 | | | | | | | 15.94 | 12.29 | 8.46 | 5.81 | 3.91 | 3.00 |
| 60 | | | | | | | 17.15 | 13.20 | 9.06 | 6.21 | 4.16 | 3.18 |
| 62 | | | | | | | 18.41 | 14.15 | 9.69 | 6.62 | 4.42 | 3.37 |
| 64 | | | | | | | 19.73 | 15.14 | 10.34 | 7.05 | 4.68 | 3.57 |
| 66 | | | | | | | | 16.17 | 11.02 | 7.49 | 4.96 | 3.77 |
| 68 | | | | | | | | 17.24 | 11.72 | 7.95 | 5.25 | 3.98 |
| 70 | | | | | | | | 18.35 | 12.45 | 8.42 | 5.55 | 4.19 |
| 72 | | | | | | | | 19.50 | 13.21 | 8.91 | 5.85 | 4.42 |
| 74 | | | | | | | | | 13.99 | 9.42 | 6.17 | 4.65 |
| 76 | | | | | | | | | 14.80 | 9.94 | 6.50 | 4.88 |
| 78 | | | | | | | | | 15.63 | 10.48 | 6.83 | 5.12 |
| 80 | | | | | | | | | 16.50 | 11.04 | 7.18 | 5.38 |
| 82 | | | | | | | | | 17.39 | 11.62 | 7.54 | 5.63 |
| 84 | | | | | | | | | 18.30 | 12.21 | 7.90 | 5.90 |
| 86 | | | | | | | | | 19.25 | 12.82 | 8.28 | 6.17 |
| 88 | | | | | | | | | 20.22 | 13.44 | 8.67 | 6.45 |
| 90 | | | | | | | | | | 14.08 | 9.06 | 6.73 |
| 92 | | | | | | | | | | 14.75 | 9.47 | 7.03 |
| 94 | | | | | | | | | | 15.42 | 9.89 | 7.33 |
| 96 | | | | | | | | | | 16.12 | 10.32 | 7.64 |
| 98 | | | | | | | | | | 16.84 | 10.76 | 7.95 |
| 100 | | | | | | | | | | 17.57 | 11.21 | 8.27 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR EARCORN

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.51 | 0.51 | | | | | | | | | | |
| 4 | 0.57 | 0.53 | 0.51 | 0.51 | | | | | | | | |
| 6 | 0.69 | 0.60 | 0.53 | 0.52 | 0.51 | 0.51 | | | | | | |
| 8 | 0.92 | 0.71 | 0.57 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | | |
| 10 | 1.28 | 0.89 | 0.62 | 0.58 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | |
| 12 | 1.78 | 1.13 | 0.70 | 0.62 | 0.56 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | | |
| 14 | 2.45 | 1.46 | 0.79 | 0.68 | 0.59 | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 | | |
| 16 | 3.33 | 1.89 | 0.92 | 0.76 | 0.63 | 0.57 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | |
| 18 | 4.41 | 2.42 | 1.08 | 0.86 | 0.68 | 0.59 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| 20 | 5.74 | 3.06 | 1.27 | 0.97 | 0.74 | 0.62 | 0.58 | 0.56 | 0.53 | 0.52 | 0.51 | 0.51 |
| 22 | 7.33 | 3.83 | 1.50 | 1.11 | 0.81 | 0.66 | 0.60 | 0.57 | 0.54 | 0.52 | 0.51 | 0.51 |
| 24 | 9.20 | 4.74 | 1.77 | 1.27 | 0.89 | 0.70 | 0.63 | 0.59 | 0.55 | 0.53 | 0.52 | 0.51 |
| 26 | 11.37 | 5.79 | 2.07 | 1.46 | 0.98 | 0.75 | 0.66 | 0.61 | 0.56 | 0.54 | 0.52 | 0.51 |
| 28 | 13.87 | 6.99 | 2.43 | 1.67 | 1.09 | 0.80 | 0.69 | 0.63 | 0.58 | 0.55 | 0.53 | 0.52 |
| 30 | 16.71 | 8.36 | 2.83 | 1.92 | 1.21 | 0.86 | 0.73 | 0.66 | 0.59 | 0.55 | 0.53 | 0.52 |
| 32 | 19.91 | 9.91 | 3.28 | 2.19 | 1.34 | 0.93 | 0.77 | 0.69 | 0.61 | 0.56 | 0.53 | 0.52 |
| 34 | | 11.63 | 3.78 | 2.49 | 1.49 | 1.00 | 0.81 | 0.72 | 0.63 | 0.57 | 0.54 | 0.53 |
| 36 | | 13.55 | 4.34 | 2.83 | 1.66 | 1.08 | 0.86 | 0.75 | 0.65 | 0.59 | 0.55 | 0.53 |
| 38 | | 15.67 | 4.95 | 3.20 | 1.84 | 1.18 | 0.92 | 0.79 | 0.67 | 0.60 | 0.55 | 0.53 |
| 40 | | 18.00 | 5.63 | 3.60 | 2.04 | 1.28 | 0.98 | 0.83 | 0.69 | 0.61 | 0.56 | 0.54 |
| 42 | | | 6.36 | 4.05 | 2.26 | 1.38 | 1.05 | 0.88 | 0.72 | 0.63 | 0.57 | 0.54 |
| 44 | | | 7.17 | 4.53 | 2.50 | 1.50 | 1.12 | 0.93 | 0.75 | 0.64 | 0.58 | 0.55 |
| 46 | | | 8.04 | 5.05 | 2.75 | 1.63 | 1.20 | 0.98 | 0.78 | 0.66 | 0.59 | 0.56 |
| 48 | | | 8.98 | 5.61 | 3.03 | 1.76 | 1.28 | 1.04 | 0.81 | 0.68 | 0.59 | 0.56 |
| 50 | | | 9.99 | 6.22 | 3.33 | 1.91 | 1.37 | 1.10 | 0.85 | 0.70 | 0.61 | 0.57 |
| 52 | | | 11.08 | 6.87 | 3.65 | 2.07 | 1.47 | 1.17 | 0.89 | 0.72 | 0.62 | 0.58 |
| 54 | | | 12.24 | 7.57 | 3.99 | 2.24 | 1.57 | 1.24 | 0.93 | 0.74 | 0.63 | 0.58 |
| 56 | | | 13.49 | 8.32 | 4.35 | 2.42 | 1.68 | 1.31 | 0.97 | 0.76 | 0.64 | 0.59 |
| 58 | | | 14.81 | 9.11 | 4.74 | 2.61 | 1.80 | 1.39 | 1.01 | 0.79 | 0.65 | 0.60 |
| 60 | | | 16.23 | 9.96 | 5.15 | 2.81 | 1.92 | 1.48 | 1.06 | 0.82 | 0.67 | 0.61 |
| 62 | | | 17.72 | 10.85 | 5.59 | 3.02 | 2.05 | 1.57 | 1.11 | 0.84 | 0.68 | 0.62 |
| 64 | | | 19.31 | 11.80 | 6.05 | 3.25 | 2.19 | 1.66 | 1.17 | 0.87 | 0.70 | 0.63 |
| 66 | | | | 12.81 | 6.54 | 3.49 | 2.33 | 1.76 | 1.22 | 0.90 | 0.71 | 0.64 |
| 68 | | | | 13.86 | 7.06 | 3.74 | 2.49 | 1.86 | 1.28 | 0.94 | 0.73 | 0.65 |
| 70 | | | | 14.98 | 7.60 | 4.01 | 2.65 | 1.97 | 1.34 | 0.97 | 0.75 | 0.66 |
| 72 | | | | 16.16 | 8.17 | 4.29 | 2.82 | 2.09 | 1.41 | 1.01 | 0.77 | 0.67 |
| 74 | | | | 17.39 | 8.77 | 4.58 | 3.00 | 2.21 | 1.48 | 1.04 | 0.79 | 0.68 |
| 76 | | | | 18.69 | 9.40 | 4.89 | 3.19 | 2.34 | 1.55 | 1.08 | 0.81 | 0.70 |
| 78 | | | | 20.04 | 10.06 | 5.21 | 3.38 | 2.47 | 1.62 | 1.12 | 0.83 | 0.71 |
| 80 | | | | | 10.75 | 5.55 | 3.59 | 2.61 | 1.70 | 1.17 | 0.85 | 0.72 |
| 82 | | | | | 11.48 | 5.90 | 3.80 | 2.76 | 1.78 | 1.21 | 0.87 | 0.74 |
| 84 | | | | | 12.23 | 6.27 | 4.02 | 2.91 | 1.87 | 1.26 | 0.90 | 0.75 |
| 86 | | | | | 13.02 | 6.65 | 4.25 | 3.06 | 1.96 | 1.31 | 0.92 | 0.77 |
| 88 | | | | | 13.84 | 7.05 | 4.50 | 3.23 | 2.05 | 1.36 | 0.95 | 0.78 |
| 90 | | | | | 14.69 | 7.47 | 4.75 | 3.40 | 2.15 | 1.41 | 0.97 | 0.80 |
| 92 | | | | | 15.58 | 7.90 | 5.01 | 3.58 | 2.25 | 1.47 | 1.00 | 0.82 |
| 94 | | | | | 16.50 | 8.35 | 5.28 | 3.76 | 2.35 | 1.52 | 1.03 | 0.84 |
| 96 | | | | | 17.46 | 8.82 | 5.56 | 3.95 | 2.46 | 1.58 | 1.06 | 0.85 |
| 98 | | | | | 18.45 | 9.30 | 5.85 | 4.15 | 2.57 | 1.64 | 1.09 | 0.87 |
| 100 | | | | | 19.48 | 9.80 | 6.16 | 4.36 | 2.68 | 1.70 | 1.12 | 0.89 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR FLAX

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1.50 | 1.16 | 0.83 | 0.74 | 0.66 | 0.61 | 0.58 | 0.56 | 0.55 | 0.53 | 0.52 | 0.52 |
| 4 | 4.63 | 3.19 | 1.82 | 1.48 | 1.15 | 0.93 | 0.82 | 0.76 | 0.68 | 0.63 | 0.59 | 0.56 |
| 6 | 10.09 | 6.69 | 3.50 | 2.73 | 1.97 | 1.47 | 1.23 | 1.08 | 0.92 | 0.79 | 0.69 | 0.64 |
| 8 | 18.06 | 11.75 | 5.89 | 4.49 | 3.13 | 2.24 | 1.80 | 1.54 | 1.24 | 1.02 | 0.84 | 0.76 |
| 10 | | 18.44 | 9.01 | 6.79 | 4.64 | 3.23 | 2.54 | 2.13 | 1.66 | 1.31 | 1.04 | 0.90 |
| 12 | | | 12.89 | 9.64 | 6.49 | 4.45 | 3.44 | 2.85 | 2.17 | 1.67 | 1.28 | 1.08 |
| 14 | | | 17.54 | 13.04 | 8.70 | 5.89 | 4.52 | 3.70 | 2.78 | 2.09 | 1.56 | 1.29 |
| 16 | | | | 17.02 | 11.27 | 7.57 | 5.77 | 4.69 | 3.48 | 2.58 | 1.88 | 1.53 |
| 18 | | | | | 14.21 | 9.48 | 7.18 | 5.82 | 4.28 | 3.13 | 2.25 | 1.81 |
| 20 | | | | | 17.52 | 11.63 | 8.78 | 7.08 | 5.17 | 3.75 | 2.66 | 2.12 |
| 22 | | | | | | 14.02 | 10.54 | 8.48 | 6.17 | 4.44 | 3.12 | 2.46 |
| 24 | | | | | | 16.64 | 12.49 | 10.02 | 7.25 | 5.20 | 3.62 | 2.83 |
| 26 | | | | | | 19.52 | 14.61 | 11.70 | 8.44 | 6.02 | 4.16 | 3.24 |
| 28 | | | | | | | 16.91 | 13.52 | 9.72 | 6.91 | 4.75 | 3.68 |
| 30 | | | | | | | 19.39 | 15.48 | 11.11 | 7.87 | 5.38 | 4.15 |
| 32 | | | | | | | | 17.58 | 12.59 | 8.89 | 6.06 | 4.66 |
| 34 | | | | | | | | 19.83 | 14.17 | 9.98 | 6.78 | 5.19 |
| 36 | | | | | | | | | 15.85 | 11.14 | 7.55 | 5.77 |
| 38 | | | | | | | | | 17.63 | 12.37 | 8.36 | 6.37 |
| 40 | | | | | | | | | 19.51 | 13.67 | 9.21 | 7.01 |
| 42 | | | | | | | | | | 15.04 | 10.11 | 7.68 |
| 44 | | | | | | | | | | 16.47 | 11.06 | 8.39 |
| 46 | | | | | | | | | | 17.98 | 12.05 | 9.12 |
| 48 | | | | | | | | | | 19.56 | 13.09 | 9.90 |
| 50 | | | | | | | | | | | 14.17 | 10.70 |
| 52 | | | | | | | | | | | 15.29 | 11.54 |
| 54 | | | | | | | | | | | 16.47 | 12.41 |
| 56 | | | | | | | | | | | 17.68 | 13.32 |
| 58 | | | | | | | | | | | 18.95 | 14.26 |
| 60 | | | | | | | | | | | 20.26 | 15.23 |
| 62 | | | | | | | | | | | | 16.24 |
| 64 | | | | | | | | | | | | 17.28 |
| 66 | | | | | | | | | | | | 18.36 |
| 68 | | | | | | | | | | | | 19.47 |
| 70 | | | | | | | | | | | | |
| 72 | | | | | | | | | | | | |
| 74 | | | | | | | | | | | | |
| 76 | | | | | | | | | | | | |
| 78 | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 84 | | | | | | | | | | | | |
| 86 | | | | | | | | | | | | |
| 88 | | | | | | | | | | | | |
| 90 | | | | | | | | | | | | |
| 92 | | | | | | | | | | | | |
| 94 | | | | | | | | | | | | |
| 96 | | | | | | | | | | | | |
| 98 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

| Grain depth in feet | Static Pressure Chart For Milo<br>Static Pressure (inches of water column) Airflow Rate (cfm per bushel) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **3** | **2** | **1** | **3/4** | **1/2** | **1/3** | **1/4** | **1/5** | **1/7** | **1/10** | **1/15** | **1/20** |
| **2** | 0.74 | 0.66 | 0.58 | 0.56 | 0.54 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | | |
| **4** | 1.59 | 1.18 | 0.81 | 0.73 | 0.65 | 0.60 | 0.57 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 |
| **6** | 3.17 | 2.13 | 1.23 | 1.03 | 0.85 | 0.73 | 0.67 | 0.63 | 0.59 | 0.57 | 0.54 | 0.53 |
| **8** | 5.64 | 3.58 | 1.85 | 1.48 | 1.13 | 0.91 | 0.80 | 0.74 | 0.67 | 0.62 | 0.58 | 0.56 |
| **10** | 9.12 | 5.59 | 2.69 | 2.07 | 1.50 | 1.14 | 0.98 | 0.88 | 0.77 | 0.68 | 0.62 | 0.59 |
| **12** | 13.73 | 8.21 | 3.76 | 2.82 | 1.97 | 1.44 | 1.19 | 1.05 | 0.88 | 0.77 | 0.68 | 0.63 |
| **14** | 19.58 | 11.51 | 5.08 | 3.75 | 2.54 | 1.80 | 1.45 | 1.25 | 1.03 | 0.86 | 0.74 | 0.68 |
| **16** | | 15.54 | 6.66 | 4.84 | 3.21 | 2.22 | 1.75 | 1.49 | 1.19 | 0.98 | 0.81 | 0.73 |
| **18** | | 20.34 | 8.52 | 6.13 | 3.99 | 2.70 | 2.10 | 1.76 | 1.38 | 1.11 | 0.90 | 0.80 |
| **20** | | | 10.68 | 7.61 | 4.88 | 3.25 | 2.50 | 2.07 | 1.60 | 1.25 | 0.99 | 0.87 |
| **22** | | | 13.14 | 9.30 | 5.89 | 3.87 | 2.94 | 2.41 | 1.83 | 1.41 | 1.10 | 0.95 |
| **24** | | | 15.93 | 11.19 | 7.02 | 4.56 | 3.44 | 2.79 | 2.10 | 1.59 | 1.22 | 1.03 |
| **26** | | | 19.05 | 13.31 | 8.27 | 5.32 | 3.98 | 3.21 | 2.38 | 1.79 | 1.34 | 1.13 |
| **28** | | | | 15.66 | 9.65 | 6.15 | 4.57 | 3.67 | 2.70 | 2.00 | 1.48 | 1.23 |
| **30** | | | | 18.24 | 11.17 | 7.06 | 5.22 | 4.17 | 3.04 | 2.23 | 1.63 | 1.34 |
| **32** | | | | | 12.82 | 8.05 | 5.91 | 4.71 | 3.40 | 2.48 | 1.79 | 1.45 |
| **34** | | | | | 14.61 | 9.12 | 6.67 | 5.28 | 3.80 | 2.74 | 1.96 | 1.58 |
| **36** | | | | | 16.54 | 10.27 | 7.48 | 5.90 | 4.22 | 3.02 | 2.14 | 1.71 |
| **38** | | | | | 18.62 | 11.50 | 8.34 | 6.56 | 4.66 | 3.32 | 2.33 | 1.86 |
| **40** | | | | | | 12.81 | 9.26 | 7.27 | 5.14 | 3.64 | 2.54 | 2.00 |
| **42** | | | | | | 14.22 | 10.24 | 8.01 | 5.64 | 3.97 | 2.75 | 2.16 |
| **44** | | | | | | 15.71 | 11.28 | 8.81 | 6.17 | 4.33 | 2.98 | 2.33 |
| **46** | | | | | | 17.29 | 12.38 | 9.64 | 6.74 | 4.70 | 3.21 | 2.50 |
| **48** | | | | | | 18.96 | 13.54 | 10.52 | 7.33 | 5.09 | 3.46 | 2.69 |
| **50** | | | | | | | 14.76 | 11.45 | 7.95 | 5.50 | 3.73 | 2.88 |
| **52** | | | | | | | 16.04 | 12.42 | 8.59 | 5.93 | 4.00 | 3.08 |
| **54** | | | | | | | 17.39 | 13.44 | 9.27 | 6.38 | 4.28 | 3.28 |
| **56** | | | | | | | 18.81 | 14.51 | 9.99 | 6.85 | 4.58 | 3.50 |
| **58** | | | | | | | 20.29 | 15.63 | 10.73 | 7.34 | 4.89 | 3.73 |
| **60** | | | | | | | | 16.79 | 11.50 | 7.84 | 5.21 | 3.96 |
| **62** | | | | | | | | 18.01 | 12.30 | 8.37 | 5.54 | 4.20 |
| **64** | | | | | | | | 19.28 | 13.14 | 8.92 | 5.89 | 4.45 |
| **66** | | | | | | | | | 14.01 | 9.49 | 6.24 | 4.71 |
| **68** | | | | | | | | | 14.91 | 10.07 | 6.61 | 4.98 |
| **70** | | | | | | | | | 15.85 | 10.68 | 6.99 | 5.26 |
| **72** | | | | | | | | | 16.81 | 11.31 | 7.39 | 5.54 |
| **74** | | | | | | | | | 17.81 | 11.96 | 7.80 | 5.84 |
| **76** | | | | | | | | | 18.85 | 12.64 | 8.22 | 6.14 |
| **78** | | | | | | | | | 19.92 | 13.33 | 8.65 | 6.46 |
| **80** | | | | | | | | | | 14.04 | 9.09 | 6.78 |
| **82** | | | | | | | | | | 14.78 | 9.55 | 7.11 |
| **84** | | | | | | | | | | 15.54 | 10.02 | 7.45 |
| **86** | | | | | | | | | | 16.32 | 10.51 | 7.80 |
| **88** | | | | | | | | | | 17.12 | 11.00 | 8.16 |
| **90** | | | | | | | | | | 17.95 | 11.52 | 8.52 |
| **92** | | | | | | | | | | 18.80 | 12.04 | 8.90 |
| **94** | | | | | | | | | | 19.67 | 12.58 | 9.29 |
| **96** | | | | | | | | | | | 13.13 | 9.68 |
| **98** | | | | | | | | | | | 13.69 | 10.09 |
| **100** | | | | | | | | | | | 14.27 | 10.50 |

# PRESSURE CHART

| Grain depth | Static Pressure Chart For Oats<br>Static Pressure (inches of water column) Airflow Rate (cfm per bushel) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| in feet | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
| 2 | 0.68 | 0.62 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.51 | | |
| 4 | 1.33 | 1.01 | 0.73 | 0.67 | 0.61 | 0.57 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| 6 | 2.57 | 1.74 | 1.05 | 0.90 | 0.75 | 0.67 | 0.62 | 0.60 | 0.57 | 0.55 | 0.53 | 0.52 |
| 8 | 4.53 | 2.87 | 1.52 | 1.23 | 0.96 | 0.80 | 0.72 | 0.67 | 0.62 | 0.59 | 0.56 | 0.54 |
| 10 | 7.31 | 4.46 | 2.16 | 1.68 | 1.24 | 0.98 | 0.85 | 0.78 | 0.69 | 0.63 | 0.59 | 0.57 |
| 12 | 11.03 | 6.54 | 2.99 | 2.26 | 1.60 | 1.20 | 1.01 | 0.90 | 0.78 | 0.69 | 0.63 | 0.60 |
| 14 | 15.78 | 9.18 | 4.01 | 2.96 | 2.03 | 1.46 | 1.20 | 1.05 | 0.89 | 0.77 | 0.68 | 0.63 |
| 16 | | 12.41 | 5.25 | 3.81 | 2.54 | 1.78 | 1.43 | 1.23 | 1.01 | 0.85 | 0.73 | 0.67 |
| 18 | | 16.29 | 6.71 | 4.81 | 3.14 | 2.14 | 1.69 | 1.43 | 1.15 | 0.94 | 0.79 | 0.72 |
| 20 | | | 8.41 | 5.97 | 3.82 | 2.56 | 1.99 | 1.66 | 1.31 | 1.05 | 0.86 | 0.77 |
| 22 | | | 10.36 | 7.29 | 4.60 | 3.03 | 2.32 | 1.92 | 1.48 | 1.17 | 0.94 | 0.83 |
| 24 | | | 12.58 | 8.78 | 5.47 | 3.56 | 2.69 | 2.21 | 1.68 | 1.30 | 1.02 | 0.89 |
| 26 | | | 15.07 | 10.45 | 6.45 | 4.14 | 3.10 | 2.52 | 1.89 | 1.45 | 1.12 | 0.96 |
| 28 | | | 17.85 | 12.31 | 7.52 | 4.78 | 3.55 | 2.87 | 2.13 | 1.61 | 1.22 | 1.03 |
| 30 | | | | 14.35 | 8.70 | 5.48 | 4.05 | 3.24 | 2.38 | 1.78 | 1.33 | 1.11 |
| 32 | | | | 16.60 | 10.00 | 6.24 | 4.58 | 3.65 | 2.66 | 1.96 | 1.45 | 1.20 |
| 34 | | | | 19.06 | 11.40 | 7.06 | 5.15 | 4.09 | 2.95 | 2.15 | 1.57 | 1.29 |
| 36 | | | | | 12.92 | 7.95 | 5.77 | 4.56 | 3.27 | 2.36 | 1.71 | 1.39 |
| 38 | | | | | 14.56 | 8.90 | 6.43 | 5.06 | 3.60 | 2.59 | 1.85 | 1.49 |
| 40 | | | | | 16.32 | 9.93 | 7.14 | 5.60 | 3.96 | 2.83 | 2.00 | 1.60 |
| 42 | | | | | 18.21 | 11.02 | 7.90 | 6.17 | 4.34 | 3.08 | 2.16 | 1.72 |
| 44 | | | | | 20.23 | 12.18 | 8.70 | 6.77 | 4.75 | 3.34 | 2.33 | 1.84 |
| 46 | | | | | | 13.42 | 9.55 | 7.41 | 5.17 | 3.62 | 2.50 | 1.97 |
| 48 | | | | | | 14.72 | 10.44 | 8.09 | 5.62 | 3.91 | 2.69 | 2.11 |
| 50 | | | | | | 16.11 | 11.39 | 8.80 | 6.09 | 4.22 | 2.88 | 2.25 |
| 52 | | | | | | 17.57 | 12.39 | 9.55 | 6.58 | 4.55 | 3.09 | 2.40 |
| 54 | | | | | | 19.11 | 13.44 | 10.34 | 7.10 | 4.88 | 3.30 | 2.55 |
| 56 | | | | | | | 14.54 | 11.16 | 7.64 | 5.24 | 3.52 | 2.71 |
| 58 | | | | | | | 15.70 | 12.03 | 8.21 | 5.61 | 3.75 | 2.88 |
| 60 | | | | | | | 16.91 | 12.93 | 8.80 | 5.99 | 3.99 | 3.05 |
| 62 | | | | | | | 18.17 | 13.87 | 9.42 | 6.39 | 4.24 | 3.23 |
| 64 | | | | | | | 19.49 | 14.85 | 10.06 | 6.80 | 4.50 | 3.42 |
| 66 | | | | | | | | 15.88 | 10.73 | 7.23 | 4.76 | 3.61 |
| 68 | | | | | | | | 16.94 | 11.42 | 7.68 | 5.04 | 3.81 |
| 70 | | | | | | | | 18.05 | 12.14 | 8.14 | 5.33 | 4.02 |
| 72 | | | | | | | | 19.20 | 12.88 | 8.62 | 5.62 | 4.23 |
| 74 | | | | | | | | 20.39 | 13.65 | 9.12 | 5.93 | 4.45 |
| 76 | | | | | | | | | 14.45 | 9.63 | 6.24 | 4.68 |
| 78 | | | | | | | | | 15.28 | 10.16 | 6.57 | 4.91 |
| 80 | | | | | | | | | 16.13 | 10.70 | 6.90 | 5.15 |
| 82 | | | | | | | | | 17.01 | 11.26 | 7.25 | 5.40 |
| 84 | | | | | | | | | 17.92 | 11.84 | 7.61 | 5.65 |
| 86 | | | | | | | | | 18.86 | 12.44 | 7.97 | 5.91 |
| 88 | | | | | | | | | 19.83 | 13.05 | 8.35 | 6.18 |
| 90 | | | | | | | | | | 13.69 | 8.73 | 6.46 |
| 92 | | | | | | | | | | 14.34 | 9.13 | 6.74 |
| 94 | | | | | | | | | | 15.00 | 9.54 | 7.03 |
| 96 | | | | | | | | | | 15.69 | 9.95 | 7.33 |
| 98 | | | | | | | | | | 16.39 | 10.38 | 7.63 |
| 100 | | | | | | | | | | 17.12 | 10.82 | 7.95 |

# STATIC PRESSURE CHART FOR PEANUT

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.51 | | | | | | | | | | | |
| 4 | 0.53 | 0.52 | 0.51 | | | | | | | | | |
| 6 | 0.60 | 0.55 | 0.52 | 0.51 | 0.51 | | | | | | | |
| 8 | 0.71 | 0.61 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | | | |
| 10 | 0.88 | 0.70 | 0.57 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | | |
| 12 | 1.12 | 0.82 | 0.60 | 0.57 | 0.54 | 0.52 | 0.51 | 0.51 | 0.51 | | | |
| 14 | 1.44 | 0.98 | 0.66 | 0.60 | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | | |
| 16 | 1.85 | 1.18 | 0.72 | 0.64 | 0.58 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | |
| 18 | 2.35 | 1.43 | 0.80 | 0.69 | 0.60 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | |
| 20 | 2.96 | 1.74 | 0.89 | 0.75 | 0.63 | 0.57 | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 |
| 22 | 3.69 | 2.10 | 1.00 | 0.82 | 0.67 | 0.59 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| 24 | 4.54 | 2.52 | 1.13 | 0.90 | 0.71 | 0.61 | 0.57 | 0.55 | 0.53 | 0.52 | 0.51 | 0.51 |
| 26 | 5.53 | 3.01 | 1.28 | 0.99 | 0.76 | 0.64 | 0.59 | 0.57 | 0.54 | 0.53 | 0.51 | 0.51 |
| 28 | 6.66 | 3.56 | 1.45 | 1.10 | 0.81 | 0.67 | 0.61 | 0.58 | 0.55 | 0.53 | 0.52 | 0.51 |
| 30 | 7.95 | 4.19 | 1.65 | 1.21 | 0.87 | 0.70 | 0.63 | 0.59 | 0.56 | 0.54 | 0.52 | 0.51 |
| 32 | 9.39 | 4.90 | 1.86 | 1.35 | 0.94 | 0.73 | 0.65 | 0.61 | 0.57 | 0.54 | 0.52 | 0.52 |
| 34 | 11.00 | 5.69 | 2.10 | 1.49 | 1.01 | 0.77 | 0.68 | 0.63 | 0.58 | 0.55 | 0.53 | 0.52 |
| 36 | 12.79 | 6.57 | 2.36 | 1.66 | 1.10 | 0.81 | 0.70 | 0.64 | 0.59 | 0.55 | 0.53 | 0.52 |
| 38 | 14.76 | 7.53 | 2.65 | 1.83 | 1.19 | 0.86 | 0.73 | 0.67 | 0.60 | 0.56 | 0.54 | 0.52 |
| 40 | 16.93 | 8.59 | 2.97 | 2.03 | 1.29 | 0.91 | 0.76 | 0.69 | 0.61 | 0.57 | 0.54 | 0.53 |
| 42 | 19.29 | 9.74 | 3.32 | 2.24 | 1.39 | 0.97 | 0.80 | 0.71 | 0.63 | 0.58 | 0.54 | 0.53 |
| 44 | | 11.00 | 3.69 | 2.47 | 1.51 | 1.03 | 0.84 | 0.74 | 0.65 | 0.59 | 0.55 | 0.53 |
| 46 | | 12.36 | 4.10 | 2.72 | 1.63 | 1.09 | 0.88 | 0.77 | 0.66 | 0.60 | 0.56 | 0.54 |
| 48 | | 13.83 | 4.54 | 2.98 | 1.77 | 1.16 | 0.92 | 0.80 | 0.68 | 0.61 | 0.56 | 0.54 |
| 50 | | 15.41 | 5.01 | 3.27 | 1.91 | 1.23 | 0.97 | 0.83 | 0.70 | 0.62 | 0.57 | 0.55 |
| 52 | | 17.11 | 5.51 | 3.58 | 2.07 | 1.31 | 1.02 | 0.86 | 0.72 | 0.63 | 0.57 | 0.55 |
| 54 | | 18.93 | 6.05 | 3.91 | 2.23 | 1.39 | 1.07 | 0.90 | 0.74 | 0.64 | 0.58 | 0.55 |
| 56 | | | 6.62 | 4.26 | 2.41 | 1.48 | 1.12 | 0.94 | 0.76 | 0.66 | 0.59 | 0.56 |
| 58 | | | 7.24 | 4.63 | 2.59 | 1.58 | 1.18 | 0.98 | 0.79 | 0.67 | 0.60 | 0.56 |
| 60 | | | 7.89 | 5.02 | 2.79 | 1.68 | 1.24 | 1.02 | 0.81 | 0.68 | 0.60 | 0.57 |
| 62 | | | 8.57 | 5.44 | 3.00 | 1.78 | 1.31 | 1.07 | 0.84 | 0.70 | 0.61 | 0.58 |
| 64 | | | 9.30 | 5.88 | 3.22 | 1.89 | 1.38 | 1.12 | 0.87 | 0.72 | 0.62 | 0.58 |
| 66 | | | 10.07 | 6.35 | 3.45 | 2.01 | 1.45 | 1.17 | 0.90 | 0.73 | 0.63 | 0.59 |
| 68 | | | 10.88 | 6.84 | 3.70 | 2.14 | 1.53 | 1.22 | 0.93 | 0.75 | 0.64 | 0.59 |
| 70 | | | 11.73 | 7.36 | 3.96 | 2.27 | 1.61 | 1.28 | 0.96 | 0.77 | 0.65 | 0.60 |
| 72 | | | 12.63 | 7.90 | 4.23 | 2.40 | 1.69 | 1.34 | 1.00 | 0.79 | 0.66 | 0.61 |
| 74 | | | 13.57 | 8.47 | 4.51 | 2.54 | 1.78 | 1.40 | 1.03 | 0.81 | 0.67 | 0.62 |
| 76 | | | 14.56 | 9.07 | 4.81 | 2.69 | 1.88 | 1.46 | 1.07 | 0.83 | 0.68 | 0.62 |
| 78 | | | 15.60 | 9.69 | 5.12 | 2.85 | 1.97 | 1.53 | 1.11 | 0.85 | 0.70 | 0.63 |
| 80 | | | 16.68 | 10.35 | 5.44 | 3.01 | 2.07 | 1.60 | 1.15 | 0.88 | 0.71 | 0.64 |
| 82 | | | 17.81 | 11.03 | 5.78 | 3.18 | 2.18 | 1.67 | 1.19 | 0.90 | 0.72 | 0.65 |
| 84 | | | 18.99 | 11.74 | 6.14 | 3.36 | 2.29 | 1.75 | 1.24 | 0.93 | 0.73 | 0.66 |
| 86 | | | 20.22 | 12.49 | 6.50 | 3.54 | 2.40 | 1.83 | 1.28 | 0.95 | 0.75 | 0.66 |
| 88 | | | | 13.26 | 6.89 | 3.73 | 2.52 | 1.91 | 1.33 | 0.98 | 0.76 | 0.67 |
| 90 | | | | 14.06 | 7.29 | 3.93 | 2.64 | 1.99 | 1.38 | 1.01 | 0.78 | 0.68 |
| 92 | | | | 14.90 | 7.70 | 4.14 | 2.77 | 2.08 | 1.43 | 1.04 | 0.79 | 0.69 |
| 94 | | | | 15.77 | 8.13 | 4.35 | 2.90 | 2.17 | 1.48 | 1.06 | 0.81 | 0.70 |
| 96 | | | | 16.67 | 8.57 | 4.58 | 3.04 | 2.27 | 1.54 | 1.10 | 0.82 | 0.71 |
| 98 | | | | 17.61 | 9.04 | 4.81 | 3.18 | 2.36 | 1.59 | 1.13 | 0.84 | 0.73 |
| 100 | | | | 18.58 | 9.52 | 5.04 | 3.33 | 2.47 | 1.65 | 1.16 | 0.86 | 0.74 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR POPCORN*

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.61 | 0.57 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | | | | |
| 4 | 1.01 | 0.81 | 0.64 | 0.60 | 0.57 | 0.54 | 0.53 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 |
| 6 | 1.79 | 1.27 | 0.83 | 0.74 | 0.65 | 0.60 | 0.57 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 |
| 8 | 3.03 | 1.98 | 1.13 | 0.95 | 0.78 | 0.68 | 0.63 | 0.61 | 0.57 | 0.55 | 0.53 | 0.53 |
| 10 | 4.80 | 2.97 | 1.52 | 1.22 | 0.95 | 0.79 | 0.71 | 0.67 | 0.62 | 0.58 | 0.55 | 0.54 |
| 12 | 7.18 | 4.29 | 2.04 | 1.58 | 1.17 | 0.92 | 0.81 | 0.74 | 0.67 | 0.62 | 0.58 | 0.56 |
| 14 | 10.22 | 5.97 | 2.68 | 2.02 | 1.44 | 1.09 | 0.93 | 0.83 | 0.73 | 0.66 | 0.61 | 0.58 |
| 16 | 14.01 | 8.03 | 3.45 | 2.55 | 1.75 | 1.28 | 1.06 | 0.94 | 0.81 | 0.71 | 0.64 | 0.60 |
| 18 | 18.59 | 10.51 | 4.37 | 3.17 | 2.12 | 1.50 | 1.22 | 1.07 | 0.89 | 0.77 | 0.68 | 0.63 |
| 20 | | 13.44 | 5.45 | 3.90 | 2.55 | 1.76 | 1.41 | 1.21 | 0.99 | 0.83 | 0.72 | 0.66 |
| 22 | | 16.85 | 6.68 | 4.73 | 3.03 | 2.05 | 1.61 | 1.36 | 1.10 | 0.91 | 0.76 | 0.70 |
| 24 | | | 8.09 | 5.67 | 3.58 | 2.37 | 1.84 | 1.54 | 1.22 | 0.99 | 0.82 | 0.73 |
| 26 | | | 9.67 | 6.72 | 4.18 | 2.73 | 2.09 | 1.73 | 1.35 | 1.07 | 0.87 | 0.78 |
| 28 | | | 11.44 | 7.89 | 4.86 | 3.13 | 2.37 | 1.94 | 1.49 | 1.17 | 0.93 | 0.82 |
| 30 | | | 13.40 | 9.19 | 5.60 | 3.57 | 2.67 | 2.17 | 1.64 | 1.27 | 1.00 | 0.87 |
| 32 | | | 15.56 | 10.62 | 6.41 | 4.04 | 3.00 | 2.43 | 1.81 | 1.38 | 1.07 | 0.92 |
| 34 | | | 17.94 | 12.18 | 7.29 | 4.55 | 3.36 | 2.70 | 1.99 | 1.50 | 1.15 | 0.98 |
| 36 | | | | 13.87 | 8.25 | 5.11 | 3.74 | 2.99 | 2.19 | 1.63 | 1.23 | 1.04 |
| 38 | | | | 15.71 | 9.28 | 5.70 | 4.15 | 3.30 | 2.39 | 1.77 | 1.31 | 1.10 |
| 40 | | | | 17.70 | 10.40 | 6.34 | 4.59 | 3.63 | 2.61 | 1.91 | 1.41 | 1.17 |
| 42 | | | | 19.84 | 11.59 | 7.03 | 5.06 | 3.98 | 2.85 | 2.07 | 1.50 | 1.24 |
| 44 | | | | | 12.87 | 7.76 | 5.56 | 4.36 | 3.10 | 2.23 | 1.61 | 1.31 |
| 46 | | | | | 14.23 | 8.53 | 6.09 | 4.75 | 3.36 | 2.40 | 1.71 | 1.39 |
| 48 | | | | | 15.68 | 9.35 | 6.65 | 5.17 | 3.63 | 2.58 | 1.83 | 1.47 |
| 50 | | | | | 17.21 | 10.22 | 7.24 | 5.62 | 3.92 | 2.77 | 1.94 | 1.56 |
| 52 | | | | | 18.84 | 11.14 | 7.87 | 6.08 | 4.23 | 2.97 | 2.07 | 1.65 |
| 54 | | | | | | 12.11 | 8.52 | 6.57 | 4.55 | 3.17 | 2.20 | 1.74 |
| 56 | | | | | | 13.13 | 9.21 | 7.09 | 4.88 | 3.39 | 2.33 | 1.84 |
| 58 | | | | | | 14.20 | 9.94 | 7.62 | 5.23 | 3.62 | 2.47 | 1.94 |
| 60 | | | | | | 15.33 | 10.70 | 8.19 | 5.60 | 3.85 | 2.62 | 2.04 |
| 62 | | | | | | 16.50 | 11.49 | 8.78 | 5.98 | 4.10 | 2.77 | 2.15 |
| 64 | | | | | | 17.74 | 12.32 | 9.39 | 6.38 | 4.35 | 2.93 | 2.27 |
| 66 | | | | | | 19.03 | 13.18 | 10.03 | 6.79 | 4.62 | 3.09 | 2.38 |
| 68 | | | | | | 20.37 | 14.09 | 10.70 | 7.22 | 4.89 | 3.26 | 2.51 |
| 70 | | | | | | | 15.02 | 11.39 | 7.67 | 5.18 | 3.44 | 2.63 |
| 72 | | | | | | | 16.00 | 12.11 | 8.13 | 5.47 | 3.62 | 2.76 |
| 74 | | | | | | | 17.02 | 12.86 | 8.61 | 5.78 | 3.81 | 2.90 |
| 76 | | | | | | | 18.07 | 13.63 | 9.11 | 6.10 | 4.00 | 3.04 |
| 78 | | | | | | | 19.16 | 14.44 | 9.63 | 6.42 | 4.20 | 3.18 |
| 80 | | | | | | | 20.29 | 15.27 | 10.16 | 6.76 | 4.40 | 3.32 |
| 82 | | | | | | | | 16.13 | 10.71 | 7.11 | 4.62 | 3.48 |
| 84 | | | | | | | | 17.02 | 11.28 | 7.47 | 4.84 | 3.63 |
| 86 | | | | | | | | 17.94 | 11.86 | 7.84 | 5.06 | 3.79 |
| 88 | | | | | | | | 18.89 | 12.47 | 8.22 | 5.29 | 3.96 |
| 90 | | | | | | | | 19.87 | 13.09 | 8.61 | 5.53 | 4.12 |
| 92 | | | | | | | | | 13.73 | 9.01 | 5.77 | 4.30 |
| 94 | | | | | | | | | 14.39 | 9.43 | 6.02 | 4.48 |
| 96 | | | | | | | | | 15.07 | 9.85 | 6.28 | 4.66 |
| 98 | | | | | | | | | 15.77 | 10.29 | 6.54 | 4.84 |
| 100 | | | | | | | | | 16.48 | 10.74 | 6.81 | 5.04 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

*** (YELLOW PEARL)**

# STATIC PRESSURE CHART FOR RAPE

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1.09 | 0.89 | 0.69 | 0.64 | 0.59 | 0.56 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| 4 | 3.03 | 2.12 | 1.27 | 1.07 | 0.88 | 0.75 | 0.69 | 0.65 | 0.61 | 0.57 | 0.55 | 0.54 |
| 6 | 6.53 | 4.30 | 2.28 | 1.81 | 1.36 | 1.07 | 0.92 | 0.84 | 0.74 | 0.67 | 0.61 | 0.58 |
| 8 | 11.81 | 7.52 | 3.74 | 2.87 | 2.05 | 1.51 | 1.26 | 1.10 | 0.93 | 0.80 | 0.70 | 0.65 |
| 10 | 19.06 | 11.88 | 5.67 | 4.27 | 2.95 | 2.10 | 1.69 | 1.44 | 1.17 | 0.97 | 0.81 | 0.73 |
| 12 | | 17.47 | 8.09 | 6.02 | 4.06 | 2.82 | 2.22 | 1.87 | 1.47 | 1.17 | 0.95 | 0.83 |
| 14 | | | 11.04 | 8.13 | 5.40 | 3.68 | 2.86 | 2.37 | 1.82 | 1.42 | 1.11 | 0.96 |
| 16 | | | 14.54 | 10.62 | 6.97 | 4.69 | 3.59 | 2.95 | 2.23 | 1.70 | 1.30 | 1.10 |
| 18 | | | 18.60 | 13.51 | 8.78 | 5.84 | 4.44 | 3.62 | 2.70 | 2.03 | 1.51 | 1.26 |
| 20 | | | | 16.79 | 10.83 | 7.14 | 5.39 | 4.37 | 3.23 | 2.39 | 1.75 | 1.43 |
| 22 | | | | 20.50 | 13.13 | 8.59 | 6.45 | 5.20 | 3.81 | 2.79 | 2.01 | 1.63 |
| 24 | | | | | 15.69 | 10.20 | 7.62 | 6.12 | 4.46 | 3.23 | 2.31 | 1.85 |
| 26 | | | | | 18.50 | 11.97 | 8.91 | 7.13 | 5.16 | 3.72 | 2.62 | 2.08 |
| 28 | | | | | | 13.89 | 10.30 | 8.22 | 5.92 | 4.24 | 2.97 | 2.34 |
| 30 | | | | | | 15.98 | 11.82 | 9.40 | 6.74 | 4.80 | 3.33 | 2.61 |
| 32 | | | | | | 18.24 | 13.45 | 10.68 | 7.63 | 5.41 | 3.73 | 2.91 |
| 34 | | | | | | | 15.19 | 12.04 | 8.57 | 6.05 | 4.15 | 3.22 |
| 36 | | | | | | | 17.06 | 13.49 | 9.58 | 6.74 | 4.60 | 3.55 |
| 38 | | | | | | | 19.05 | 15.04 | 10.65 | 7.47 | 5.08 | 3.91 |
| 40 | | | | | | | | 16.68 | 11.78 | 8.24 | 5.58 | 4.28 |
| 42 | | | | | | | | 18.42 | 12.98 | 9.05 | 6.11 | 4.67 |
| 44 | | | | | | | | 20.25 | 14.24 | 9.91 | 6.67 | 5.08 |
| 46 | | | | | | | | | 15.56 | 10.81 | 7.25 | 5.52 |
| 48 | | | | | | | | | 16.95 | 11.75 | 7.86 | 5.97 |
| 50 | | | | | | | | | 18.41 | 12.74 | 8.50 | 6.44 |
| 52 | | | | | | | | | 19.93 | 13.76 | 9.17 | 6.93 |
| 54 | | | | | | | | | | 14.84 | 9.86 | 7.45 |
| 56 | | | | | | | | | | 15.95 | 10.58 | 7.98 |
| 58 | | | | | | | | | | 17.11 | 11.33 | 8.53 |
| 60 | | | | | | | | | | 18.32 | 12.11 | 9.11 |
| 62 | | | | | | | | | | 19.57 | 12.92 | 9.70 |
| 64 | | | | | | | | | | | 13.75 | 10.32 |
| 66 | | | | | | | | | | | 14.61 | 10.95 |
| 68 | | | | | | | | | | | 15.51 | 11.61 |
| 70 | | | | | | | | | | | 16.43 | 12.28 |
| 72 | | | | | | | | | | | 17.38 | 12.98 |
| 74 | | | | | | | | | | | 18.35 | 13.70 |
| 76 | | | | | | | | | | | 19.36 | 14.44 |
| 78 | | | | | | | | | | | 20.40 | 15.20 |
| 80 | | | | | | | | | | | | 15.98 |
| 82 | | | | | | | | | | | | 16.78 |
| 84 | | | | | | | | | | | | 17.61 |
| 86 | | | | | | | | | | | | 18.45 |
| 88 | | | | | | | | | | | | 19.32 |
| 90 | | | | | | | | | | | | 20.21 |
| 92 | | | | | | | | | | | | |
| 94 | | | | | | | | | | | | |
| 96 | | | | | | | | | | | | |
| 98 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR RICE

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.68 | 0.62 | 0.56 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 | 0.51 | 0.51 | | |
| 4 | 1.33 | 1.01 | 0.73 | 0.67 | 0.61 | 0.57 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.51 |
| 6 | 2.57 | 1.74 | 1.05 | 0.90 | 0.75 | 0.67 | 0.62 | 0.60 | 0.57 | 0.55 | 0.53 | 0.52 |
| 8 | 4.53 | 2.87 | 1.52 | 1.23 | 0.96 | 0.80 | 0.72 | 0.67 | 0.62 | 0.59 | 0.56 | 0.54 |
| 10 | 7.31 | 4.46 | 2.16 | 1.68 | 1.24 | 0.98 | 0.85 | 0.78 | 0.69 | 0.63 | 0.59 | 0.57 |
| 12 | 11.03 | 6.54 | 2.99 | 2.26 | 1.60 | 1.20 | 1.01 | 0.90 | 0.78 | 0.69 | 0.63 | 0.60 |
| 14 | 15.78 | 9.18 | 4.01 | 2.96 | 2.03 | 1.46 | 1.20 | 1.05 | 0.89 | 0.77 | 0.68 | 0.63 |
| 16 | | 12.41 | 5.25 | 3.81 | 2.54 | 1.78 | 1.43 | 1.23 | 1.01 | 0.85 | 0.73 | 0.67 |
| 18 | | 16.29 | 6.71 | 4.81 | 3.14 | 2.14 | 1.69 | 1.43 | 1.15 | 0.94 | 0.79 | 0.72 |
| 20 | | | 8.41 | 5.97 | 3.82 | 2.56 | 1.99 | 1.66 | 1.31 | 1.05 | 0.86 | 0.77 |
| 22 | | | 10.36 | 7.29 | 4.60 | 3.03 | 2.32 | 1.92 | 1.48 | 1.17 | 0.94 | 0.83 |
| 24 | | | 12.58 | 8.78 | 5.47 | 3.56 | 2.69 | 2.21 | 1.68 | 1.30 | 1.02 | 0.89 |
| 26 | | | 15.07 | 10.45 | 6.45 | 4.14 | 3.10 | 2.52 | 1.89 | 1.45 | 1.12 | 0.96 |
| 28 | | | 17.85 | 12.31 | 7.52 | 4.78 | 3.55 | 2.87 | 2.13 | 1.61 | 1.22 | 1.03 |
| 30 | | | | 14.35 | 8.70 | 5.48 | 4.05 | 3.24 | 2.38 | 1.78 | 1.33 | 1.11 |
| 32 | | | | 16.60 | 10.00 | 6.24 | 4.58 | 3.65 | 2.66 | 1.96 | 1.45 | 1.20 |
| 34 | | | | 19.06 | 11.40 | 7.06 | 5.15 | 4.09 | 2.95 | 2.15 | 1.57 | 1.29 |
| 36 | | | | | 12.92 | 7.95 | 5.77 | 4.56 | 3.27 | 2.36 | 1.71 | 1.39 |
| 38 | | | | | 14.56 | 8.90 | 6.43 | 5.06 | 3.60 | 2.59 | 1.85 | 1.49 |
| 40 | | | | | 16.32 | 9.93 | 7.14 | 5.60 | 3.96 | 2.83 | 2.00 | 1.60 |
| 42 | | | | | 18.21 | 11.02 | 7.90 | 6.17 | 4.34 | 3.08 | 2.16 | 1.72 |
| 44 | | | | | 20.23 | 12.18 | 8.70 | 6.77 | 4.75 | 3.34 | 2.33 | 1.84 |
| 46 | | | | | | 13.42 | 9.55 | 7.41 | 5.17 | 3.62 | 2.50 | 1.97 |
| 48 | | | | | | 14.72 | 10.44 | 8.09 | 5.62 | 3.91 | 2.69 | 2.11 |
| 50 | | | | | | 16.11 | 11.39 | 8.80 | 6.09 | 4.22 | 2.88 | 2.25 |
| 52 | | | | | | 17.57 | 12.39 | 9.55 | 6.58 | 4.55 | 3.09 | 2.40 |
| 54 | | | | | | 19.11 | 13.44 | 10.34 | 7.10 | 4.88 | 3.30 | 2.55 |
| 56 | | | | | | | 14.54 | 11.16 | 7.64 | 5.24 | 3.52 | 2.71 |
| 58 | | | | | | | 15.70 | 12.03 | 8.21 | 5.61 | 3.75 | 2.88 |
| 60 | | | | | | | 16.91 | 12.93 | 8.80 | 5.99 | 3.99 | 3.05 |
| 62 | | | | | | | 18.17 | 13.87 | 9.42 | 6.39 | 4.24 | 3.23 |
| 64 | | | | | | | 19.49 | 14.85 | 10.06 | 6.80 | 4.50 | 3.42 |
| 66 | | | | | | | | 15.88 | 10.73 | 7.23 | 4.76 | 3.61 |
| 68 | | | | | | | | 16.94 | 11.42 | 7.68 | 5.04 | 3.81 |
| 70 | | | | | | | | 18.05 | 12.14 | 8.14 | 5.33 | 4.02 |
| 72 | | | | | | | | 19.20 | 12.88 | 8.62 | 5.62 | 4.23 |
| 74 | | | | | | | | 20.39 | 13.65 | 9.12 | 5.93 | 4.45 |
| 76 | | | | | | | | | 14.45 | 9.63 | 6.24 | 4.68 |
| 78 | | | | | | | | | 15.28 | 10.16 | 6.57 | 4.91 |
| 80 | | | | | | | | | 16.13 | 10.70 | 6.90 | 5.15 |
| 82 | | | | | | | | | 17.01 | 11.26 | 7.25 | 5.40 |
| 84 | | | | | | | | | 17.92 | 11.84 | 7.61 | 5.65 |
| 86 | | | | | | | | | 18.86 | 12.44 | 7.97 | 5.91 |
| 88 | | | | | | | | | 19.83 | 13.05 | 8.35 | 6.18 |
| 90 | | | | | | | | | | 13.69 | 8.73 | 6.46 |
| 92 | | | | | | | | | | 14.34 | 9.13 | 6.74 |
| 94 | | | | | | | | | | 15.00 | 9.54 | 7.03 |
| 96 | | | | | | | | | | 15.69 | 9.95 | 7.33 |
| 98 | | | | | | | | | | 16.39 | 10.38 | 7.63 |
| 100 | | | | | | | | | | 17.12 | 10.82 | 7.95 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# STATIC PRESSURE CHART FOR WHEAT

**Static Pressure (inches of water column)**

**Airflow Rate (cfm per bushel)**

| GRAIN DEPTH FEET | 3 | 2 | 1 | 3/4 | 1/2 | 1/3 | 1/4 | 1/5 | 1/7 | 1/10 | 1/15 | 1/20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 0.80 | 0.69 | 0.59 | 0.57 | 0.55 | 0.53 | 0.52 | 0.52 | 0.51 | 0.51 | 0.51 | |
| 4 | 1.80 | 1.32 | 0.88 | 0.78 | 0.68 | 0.62 | 0.59 | 0.57 | 0.55 | 0.54 | 0.52 | 0.52 |
| 6 | 3.68 | 2.46 | 1.39 | 1.15 | 0.92 | 0.78 | 0.71 | 0.66 | 0.62 | 0.58 | 0.55 | 0.54 |
| 8 | 6.58 | 4.18 | 2.14 | 1.69 | 1.27 | 1.00 | 0.87 | 0.79 | 0.71 | 0.64 | 0.60 | 0.57 |
| 10 | 10.64 | 6.54 | 3.14 | 2.40 | 1.72 | 1.29 | 1.08 | 0.96 | 0.83 | 0.73 | 0.65 | 0.61 |
| 12 | 15.99 | 9.62 | 4.41 | 3.31 | 2.28 | 1.65 | 1.35 | 1.17 | 0.97 | 0.83 | 0.72 | 0.66 |
| 14 | | 13.47 | 5.98 | 4.41 | 2.97 | 2.08 | 1.66 | 1.42 | 1.15 | 0.95 | 0.80 | 0.72 |
| 16 | | 18.16 | 7.85 | 5.72 | 3.77 | 2.59 | 2.03 | 1.71 | 1.35 | 1.09 | 0.89 | 0.79 |
| 18 | | | 10.05 | 7.24 | 4.71 | 3.17 | 2.45 | 2.04 | 1.58 | 1.24 | 0.99 | 0.87 |
| 20 | | | 12.59 | 9.00 | 5.78 | 3.83 | 2.93 | 2.41 | 1.84 | 1.42 | 1.11 | 0.95 |
| 22 | | | 15.48 | 10.99 | 6.98 | 4.58 | 3.47 | 2.83 | 2.13 | 1.62 | 1.24 | 1.05 |
| 24 | | | 18.74 | 13.23 | 8.33 | 5.41 | 4.06 | 3.29 | 2.45 | 1.84 | 1.38 | 1.15 |
| 26 | | | | 15.72 | 9.82 | 6.32 | 4.72 | 3.80 | 2.80 | 2.08 | 1.53 | 1.27 |
| 28 | | | | 18.48 | 11.46 | 7.32 | 5.43 | 4.36 | 3.18 | 2.34 | 1.70 | 1.39 |
| 30 | | | | | 13.25 | 8.41 | 6.21 | 4.96 | 3.59 | 2.62 | 1.88 | 1.53 |
| 32 | | | | | 15.21 | 9.59 | 7.05 | 5.60 | 4.04 | 2.92 | 2.08 | 1.67 |
| 34 | | | | | 17.32 | 10.86 | 7.95 | 6.30 | 4.51 | 3.24 | 2.29 | 1.83 |
| 36 | | | | | 19.60 | 12.23 | 8.92 | 7.04 | 5.02 | 3.58 | 2.51 | 1.99 |
| 38 | | | | | | 13.69 | 9.95 | 7.84 | 5.56 | 3.94 | 2.74 | 2.16 |
| 40 | | | | | | 15.25 | 11.05 | 8.68 | 6.14 | 4.33 | 2.99 | 2.35 |
| 42 | | | | | | 16.92 | 12.22 | 9.58 | 6.74 | 4.74 | 3.25 | 2.54 |
| 44 | | | | | | 18.68 | 13.46 | 10.53 | 7.39 | 5.17 | 3.53 | 2.74 |
| 46 | | | | | | | 14.77 | 11.53 | 8.06 | 5.62 | 3.82 | 2.95 |
| 48 | | | | | | | 16.15 | 12.58 | 8.77 | 6.09 | 4.12 | 3.18 |
| 50 | | | | | | | 17.61 | 13.69 | 9.52 | 6.59 | 4.44 | 3.41 |
| 52 | | | | | | | 19.14 | 14.85 | 10.30 | 7.11 | 4.77 | 3.65 |
| 54 | | | | | | | | 16.07 | 11.12 | 7.65 | 5.12 | 3.91 |
| 56 | | | | | | | | 17.35 | 11.97 | 8.22 | 5.48 | 4.17 |
| 58 | | | | | | | | 18.68 | 12.86 | 8.80 | 5.85 | 4.45 |
| 60 | | | | | | | | 20.06 | 13.79 | 9.42 | 6.24 | 4.73 |
| 62 | | | | | | | | | 14.75 | 10.05 | 6.65 | 5.03 |
| 64 | | | | | | | | | 15.75 | 10.71 | 7.07 | 5.33 |
| 66 | | | | | | | | | 16.79 | 11.40 | 7.50 | 5.65 |
| 68 | | | | | | | | | 17.87 | 12.11 | 7.95 | 5.97 |
| 70 | | | | | | | | | 18.99 | 12.84 | 8.41 | 6.31 |
| 72 | | | | | | | | | 20.14 | 13.60 | 8.89 | 6.66 |
| 74 | | | | | | | | | | 14.38 | 9.38 | 7.02 |
| 76 | | | | | | | | | | 15.19 | 9.89 | 7.39 |
| 78 | | | | | | | | | | 16.02 | 10.41 | 7.77 |
| 80 | | | | | | | | | | 16.88 | 10.95 | 8.16 |
| 82 | | | | | | | | | | 17.76 | 11.50 | 8.56 |
| 84 | | | | | | | | | | 18.67 | 12.07 | 8.97 |
| 86 | | | | | | | | | | 19.61 | 12.66 | 9.40 |
| 88 | | | | | | | | | | | 13.26 | 9.83 |
| 90 | | | | | | | | | | | 13.88 | 10.28 |
| 92 | | | | | | | | | | | 14.51 | 10.73 |
| 94 | | | | | | | | | | | 15.16 | 11.20 |
| 96 | | | | | | | | | | | 15.82 | 11.68 |
| 98 | | | | | | | | | | | 16.50 | 12.17 |
| 100 | | | | | | | | | | | 17.20 | 12.68 |

**.50" Water Column have been Added To Static Pressure to Account for System Loss**
**Static Pressures are Calculated Using a 1.5 Factor Applied to Shedd's Data**

# HEATER APPLICATION & SIZING

Fan selection and examination of a customer's drying requirements should precede heater selection. Generally, the size and type of fan, vane axial or centrifugal, limits the choice of heater to be used in a particular situation. For best results GSI heaters should be matched with GSI fans. When using more than one fan and heater on a bin they should be of like sizes.

The available fuel source should be considered. Liquid propane heaters are recommended in areas where average outdoor temperatures during drying may fall below 32 degrees F or where over one million BTU/hr are used. This will avoid unreasonable fuel tank capacities. LP vapor heaters will function properly in most other areas. For the best performance the proper tank size should be used to provide the required BTU/hr to the heater. Recommendations may be obtained from the local gas supplier.

Natural gas operation requires proper fuel line sizes with a regulator in the supply line. Sizing of the lines should be done by the local natural gas supplier. Where natural gas wells are used gas quality should be evaluated periodically to assure even continuous operation.

Whether a heater(s) is suited for a high or low temperature drying situation can be determined by checking its rated performance against the operator's conditions.

The LTD heater is exclusively for low temperature drying. Generally, the electric and lo-fire gas heaters are considered low temperature heaters. Most other heaters can be operated as high or medium temperature heaters with the proper adjustments.

A thermostat is required when a heater is used. The Series 2000 heater comes standard with a thermostat sensor. Only 1 thermostat is required for each bin drying system. Thermostat must be installed per instructions when two fan and heaters are being connected. **Connecting two heaters in parallel to one thermostat should never be done.** A humidistat-thermostat combination may also be used, but is not recommended for high temp drying or locations where there are wide variations in temperature. It is important to advise the customer of proper installation of thermostat for best results.

HI-LO heaters are used for high temp drying systems where constant plenum heat is desirable. The heater switches between high and low flame to maintain temperature within 6 degree F in plenum. When using a HI-LO heater a HI-LO thermostat is required. When connecting 2 HI-LO heaters to a bin a relay is required to plug into main heater smart board. This allows both units to cycle together.

Modulating valves are another optional feature of GSI heaters. The heater has a mechanical valve installed that maintains plenum temperature by constantly adjusting gas pressure. **Modulating valves are not recommended when two heaters are used on a bin. A thermostat is still required on units with modulating valves.**

## Heater Sizing

The following formula may be used for calculating BTU's needed to heat the airstream produced by the fan. Formula should not be used for accurate calculation of gas usage, use only as a guideline.

**CFM x 1.2x Degree of heat rise F=BTU's required**

Example: To heat a 12000 CFM stream of air to 140 Degrees ( 40 degrees Ambient )

**12000 x 1.2 x (140-40) = 1,440,000 BTU's required**

## Operating Temperature Table

| | LO-TEMP BATCH | HIGH-TEMP BATCH DRY NO STIRRING | HIGH-TEMP WITH STIRRING | CONTINUOUS FLOW (RECIRCULATING) |
|---|---|---|---|---|
| **CORN** | 5-20$^0$ ABOVE AMBIENT TEMP | 120$^0$ | 140$^0$ | 160$^0$ |
| **RICE** | 5-10$^0$ ABOVE AMBIENT TEMP | 100$^0$ | 100$^0$ | NOT RECOMMENDED |
| **BEANS & WHEAT** | 5-20$^0$ ABOVE AMBIENT TEMP | 110$^0$ | 120$^0$ | NOT RECOMMENDED |

**IMPORTANT!**
**DO NOT EXCEED PLENUM TEMPERATURES LISTED IN TABLE**

**THIS TABLE IS NOT INTENDED AS A DRYING GUIDE.**
**IT SHOULD BE USED AS A REFERENCE FOR SETTING MAXIMUM PLENUM TEMPERATURE FOR SAFE OPERATION.**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June 1998