T-Series and F-Series Tower Dryers

Operation Manual

PNEG-1458

Version: 4.0

Date: 05-12-22

PNEG-1458

All information, illustrations, photos and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Contents

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Read and save these instructions.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in SERIOUS INJURY or DEATH.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.

Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

ST-0001-4

Cautionary Symbols Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.

DANGER — This symbol indicates an imminently hazardous situation which, if not avoided, **will result in serious injury or death.**

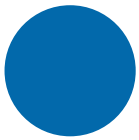
WARNING — This symbol indicates a potentially hazardous situation which, if not avoided, **can result in serious injury or death.**

CAUTION — This symbol indicates a potentially hazardous situation which, if not avoided, **can result in minor or moderate injury.**

NOTICE — This symbol is used to address practices not related to personal injury.

This symbol indicates a general hazard.

This symbol indicates a prohibited activity.



This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection

Respiratory Protection

Foot Protection

Hearing Protection

Head Protection

Fall Protection

Hand Protection

- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Warning: If the information in the manual is not followed exactly, a fire or explosion can result, causing property damage, personal injury or loss of life.
- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.
- Retain these instructions for future reference.

ST-0025-3

Install and Operate Equipment Properly

- Before attempting to remove and reinstall the fan blade, contact GSI for the recommended procedure.

ST-0033-2

Install and Operate Gas-Fired Equipment Properly

- Gas-fired equipment should be installed by a qualified pipe fitter and must conform with local codes.
- For Canada: The equipment shall be installed in accordance with the *Natural Gas and Propane Installation Code, CSA B149.1, or the Propane Storage and Handling Code, CSA B149.2,* or applicable provincial regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.
- For the United States: The equipment shall be installed in accordance with the *National Fuel Gas Code ANSI Z223.1/NFPA 54.*

ST-0016-2

For Your Safety

- If you smell gas:
  - Do not try to light any appliance.
  - Extinguish any open flames.
  - Do not touch any electrical switch.
  - Immediately call your gas supplier. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- The use and storage of gasoline and other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.
- Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

ST-0024-1

Install and Operate Electrical Equipment Properly

- Electrical controls must be installed by a qualified electrician and must meet the standards set by applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe).
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Make sure all equipment and bins are properly grounded.

ST-0075-1

Maintain Equipment and Work Area

- Understand service procedures before doing work.
- Keep area clean and dry.
- Do not service equipment while it is operating. Disconnect and lock-out power and fuel supply before entering equipment or before performing maintenance.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.
- Depressurize the fuel train before disassembling for service.
- Allow the fan to operate for 20 minutes with the burner off to purge products of combustion and to cool the components before entering.
- Check regularly for any developing gas plumbing leaks. Do not operate the dryer if any gas leak is detected. Shut down and repair before further operation.

ST-0030-2

Exercise Caution When Drying Flammable Grains

- Be aware that some grains are highly flammable including, but not limited to, rapeseed, canola, linseed, sunflower and milo.
- All grain and seed must be whole (minimal cracking or crushing), clean, and dust free before drying.
- Avoid dust and chaff from being drawn into the fan and heater.
- To reduce risk of fire, keep the fan, heater, drying plenum, and ducts clean at all times.
- In the event of a fire (or suspected fire):
    1. Shut down the entire dryer.
    2. Turn off the fuel at the tank or supply valve.
    3. Shut off and lock electrical power.
    4. Evacuate the area.
    5. Call the fire department.

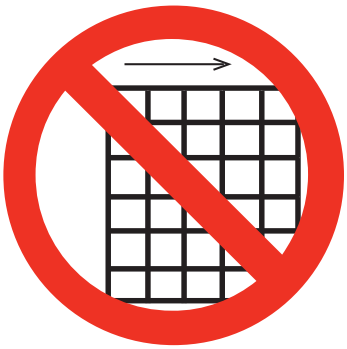
ST-0032-1

Fall Hazard

- Keep access door closed while on a platform to avoid falls.
- Always use proper personal protective equipment and proper clothing when using equipment. Failure to follow safety precautions can result in severe injury or death.

ST-0042-2

Maintain Equipment and Work Area



- Equipment is intended for the use of grain drying only. Any other use is a misuse of this equipment.
- The operating instructions in this manual pertain to the common cereal grains as indicated. When drying any other grain, contact GSI for additional recommendations.
- Be certain that capacities of auxiliary conveyors are matched to dryer metering capacities.
- On LP fired units, set pressure regulator to avoid excessive gas pressure applied to the burner during ignition and operation. Do not exceed maximum recommended drying temperatures.
- Equipment has sharp edges that can cause serious injury. To avoid injury, handle sharp edges with caution and use proper protective clothing and equipment at all times.
- All guards must be in place before and during operation. Images of guards removed in this manual are for illustration purposes only.
- Use caution when working around high-speed fans, gas burners, augers and auxiliary conveyors which can start automatically.
- Keep hands, feet, and clothing away from moving parts.
- Do not bypass any safety device or interlock.
- Do not enter the dryer or bin while it is operating.
- Do not operate in an area where combustible material will be drawn into the dryer.

ST-0034-2

Stay Clear of Hoisted Equipment

- Always use proper lifting or hoisting equipment when assembling or disassembling equipment.
- Do not walk or stand under hoisted equipment.
- Always use sturdy and stable supports when needed for installation. Not following these safety precautions creates the risk of falling equipment, which can crush personnel and cause serious injury or death.

ST-0047-1

Confined Space Hazards and Entry Procedures

- Note that the interior of this equipment is considered a confined space. Maintenance of this equipment can require access to the confined space.
- Access doors must be shut and locked except when access is required.
- Doors giving access to dangerous equipment must be safety interlocked.
- The following entry procedures must be followed:
  - Be aware of all possible hazards present inside the confined space and wear personal protective equipment (PPE) as needed.
  - Complete a permit to work and follow all permit required confined space entry procedures defined by the site manager.
  - Make sure that the area has been purged of any hazardous products or gases. Check the atmosphere for harmful gases or vapors with a suitable gas analyzer and make sure levels are safe before entering.
  - Do not smoke or use naked flames.
  - Lock out and tag out power supplies and fuel supplies to all equipment.
  - Do not work alone. Work in teams of at least three so that help is immediately available in the event of an emergency.
  - Confirm that all personnel have safely exited the equipment and tools have been recovered once work is complete.

ST-0055-1

Fall Hazard

- Ladders, stairways and platforms are for use by competent and trained personnel only. Do not allow children or other unauthorized persons to have access to the equipment.
- Access to the equipment must be restricted by the use of security fencing and lockable gates.
- Lower sections of ladders must be fitted with a lockable safety gate to prevent unauthorized access.
- Make sure that hot surfaces have had adequate time to cool before working on or in the equipment.
- Lock out and tag out power supplies and fuel supplies to all equipment.
- Do not attach lifting equipment to ladders or platforms.
- Do not go outside of the safety rails provided on elevated platforms.
- Do not work at heights during high winds, rain, snow, or ice storms.

ST-0056-1

Safety Sign-Off Sheet

Below is a sign-off sheet that can be used to verify that all personnel have read and understood the safety instructions. This sign-off sheet is provided for your convenience and personal record keeping.

Date	*Employee Name*	*Supervisor Name*

ST-0007

Emergency Stop Switch

The Emergency Stop switch is located on the upper control box door. Pushing the Emergency Stop switch will interrupt the control power and stop all dryer functions.

Emergency stop

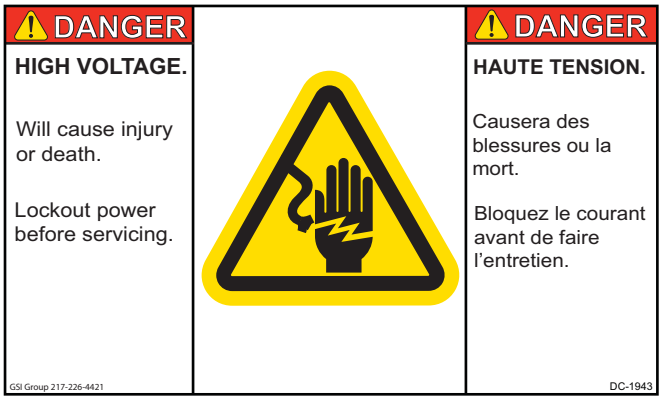
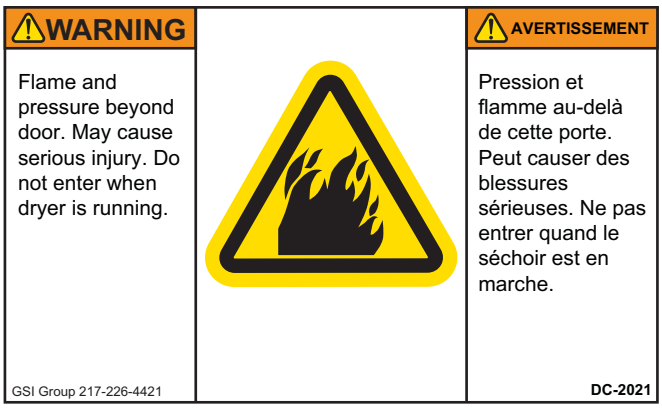
WARNING

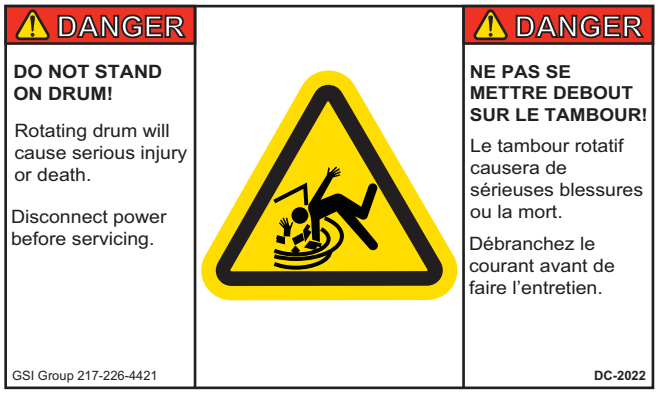
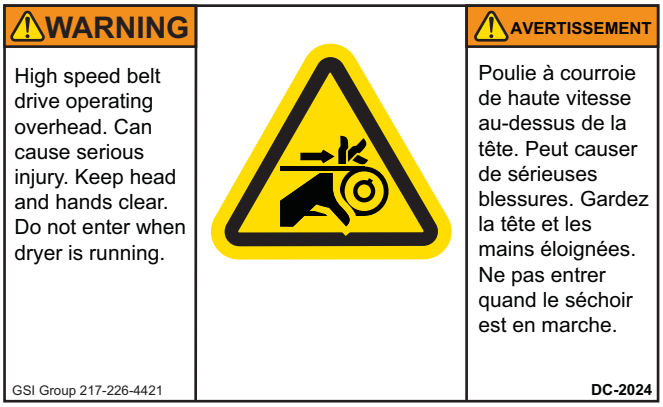
Pushing the Emergency Stop switch does not interrupt the main power to the upper control box panel.

The GSI Group recommends contacting the local power company and having a representative survey the installation so the wiring is compatible with their system and adequate power is supplied to the unit. Safety decals should be read and understood by all people in the grain handling area.

All decals located on your grain dryer must remain legible and clearly visible at all times. To replace a damaged or missing decal, contact us to receive a free replacement.

GSI Decals
1004 E. Illinois St.
Assumption, IL. 62510
Phone: 1-217-226-4421

Decal #	Decals	Location	Description
DC-1943		• Located on the inside of the fan/heater control box. • Located on the door of the dryer's upper control box door next to the main power disconnect.	Decal, Danger High Voltage, CE, CSA Harmonized
DC-1948		• Located on the lid of the fan/heater control box. • Located on the front of the fan/heater control box. • Located on the inside of the dryer's upper control box.	Decal, Danger High Voltage (LG), CE, CSA Harmonized
DC-2021		• Located on the outside of the heat section door.	Decal, Warning Flame and Pressure, CSA, CE Approved

Decal #	Decals	Location	Description
DC-2022		• Located on the inside the cooling section of the dryer on the two access doors to the metering section.	Decal, Danger Do Not Stand On Drum CSA, CE Approved
DC-2023		• Located on the louvered access door to the cooling section of the dryer.	Decal, Caution Airborne Part CSA, CE Approved
DC-2024		• Located on the louvered access door to the cooling section of the dryer.	Decal, Warning High Speed Belt, CSA, CE Approved

T-Series Tower Dryer Specifications

Models	T-1050	T-1260	T-1575	T-1875	T-20100	T-24100	T-27125
Tower Diameter[1]	**12'**						
Blower Size	43" Axial	43" Axial	490	542	542	600	600
Blower HP	50	60	75	75	100	100	125
Metering HP	1	1	1	1	1	1	1
Main Breaker Size (230V/460V)	300 / 200	300 / 200	400 / 200	400 / 200	400 / 225	400 / 225	NA / 250
Drying CFM	42,300	48,400	77,100	81,800	98,600	1,08,300	1,18,400
Cooling CFM	14,500	17,500	38,550	40,900	49,300	54,150	59,200
Burner Capacity (BTU x 1000)	11,100	11,100	16,654	17,669	21,298	23,393	25,574
Average Heat (BTU x 1000)[2]	5,711	6,543	9,576	10,159	12,246	13,451	14,705
Grain Column	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"
Overall Height[3]	45'-8"	52'-4"	59'-0"	69'-0"	75'-8"	85'-8"	92'-4"
Wet Holding (BU)	302	302	302	302	302	302	302
Heat Holding (BU)	610	756	914	1,158	1,256	1,499	1,693
Cool Holding (BU)	219	268	305	354	451	500	500
Discharge Holding (BU)	48	48	48	48	48	48	48
Dryer Holding (BU)	1,232	1,427	1,622	1,915	2,110	2,401	2,595
Outside Catwalks	0	0	1	2	2	3	3
BPH (20%->15%)[4]	1,000	1,200	1,500	1,800	2,000	2,400	2,700
BPH (25%-15%)[4]	600	720	900	1,080	1,200	1,440	1,620

Models	T-2521	T-3026	T-3531	T-4036	T-4742	T-5046	T-6055	T-7060
Tower Diameter[1]	**18'**					**24'**		
Blower Size	3-402	3-402	3-445	3-445	3-490	3-542	3-600	3-600
Blower HP	3-40	3-50	3-60	3-75	3-75	3-100	3-100	3-125
Metering HP	1.5	1.5	1.5	1.5	1.5	2	2	2
Main Breaker Size (230V/460V)	600 / 250	600 / 300	600 / 400	800 / 400	800 / 400	NA / 600	NA / 600	NA / 600
Drying CFM	1,21,950	1,45,200	1,75,800	1,92,750	2,13,600	2,82,000	3,04,800	3,37,500
Cooling CFM	60,975	72,600	87,900	96,375	1,06,800	1,41,000	1,52,400	1,68,750
Burner Capacity (BTU x 1000)	26,341	31,363	37,973	41,634	46,138	60,192	65,837	72,900
Average Heat (BTU x 1000)[2]	15,146	18,034	21,834	23,940	26,529	35,024	37,856	41,918
Grain Column	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"
Overall Height[3]	66'-0"	76'-0"	86'-0"	96'-0"	109'-4"	97'-10"	107'-10"	117'-10"
Wet Holding (BU)	731	731	731	731	731	1,279	1,279	1,279
Heat Holding (BU)	1,511	1,813	2,210	2,512	2,964	3,479	4,042	4,452
Cool Holding (BU)	529	680	737	888	1,038	1,126	1,177	1,381
Discharge Holding (BU)	144	144	144	144	144	287	287	287
Dryer Holding (BU)	2,915	3,368	3,822	4,275	4,877	6,171	6,785	7,399
Outside Catwalks	2	2	2	3	3	2	3	3
BPH (20%->15%)[4]	2,500	3,000	3,500	4,000	4,700	5,000	6,000	7,000
BPH (25%-15%)[4]	1,500	1,800	2,100	2,400	2,820	3,000	3,600	4,200

1. Dimensions exclude outside catwalks.
2. At 50° ambient temperature.
3. Optional vertical fill pipe height not included.
4. Capacities listed are wet bushels/tonnes, for mature unfrozen #2 yellow shelled dent corn at listed moisture content and are estimates based on drying principles, field results and computer simulation. Variance may occur due to grain's physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, adverse weather conditions, etc.

Discharge Height - 40"

F-Series Tower Dryer Specifications

Models	T-1050	T-1260	F-1575	F-1875	F-20100	F-24100	F-2500
Tower Diameter[1]	12'						18'
Blower Size	43" Axial	43" Axial	490	542	542	600	3-402
Blower RPM	1750	1750	1035	856	981	818	1,106
Blower HP	50	60	75	75	100	100	3-40
Metering HP	1	1	1	1	1	1	1.5
Full Amp Load 460V/230V[2]	300 / 200	300 / 200	128.5 / 244.5	128.5 / 244.5	157.5 / 302.5	157.5 / 302.5	183.5 / 354.5
Drying CFM	42,300	48,400	77,100	81,800	98,600	1,08,300	1,21,950
Cooling CFM	14,500	17,500	38,550	40,900	49,300	54,150	60,975
Burner Capacity (BTU x 1000)	11,100	11,100	16,654	17,669	21,298	23,393	26,341
Average Heat (BTU x 1000)[3]	5,711	6,543	9,576	10,159	12,246	13,451	15,146
Grain Column	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"
Overall Height[4]	45'-8"	52'-4"	59'-0"	69'-0"	75'-8"	85'-8"	66'-0"
Wet Holding (BU)	302	302	335	335	335	335	731
Heat Holding (BU)	610	756	914	1,158	1,256	1,499	1,511
Cool Holding (BU)	219	268	305	354	451	500	529
Discharge Holding (BU)	48	48	48	48	48	48	144
Dryer Holding (BU)	1,232	1,427	1,602	1,895	2,090	2,401	2,915
Outside Catwalks	0	0	1	2	2	3	2
BPH (20%->15%)[5]	1,000	1,200	1,500	1,800	2,000	2,400	2,500
BPH (25%-15%)[5]	600	720	900	1,080	1,200	1,440	1,500

Models	F-3000	F-3500	F-4000	F-4700	F-5000	F-6000	F-7000
Tower Diameter[1]	18'				24'		
Blower Size	3-402	3-445	3-445	3-490	3-542	3-600	3-600
Blower RPM	1,240	1,111	1,185	1,000	966	793	817
Blower HP	3-50	3-60	3-75	3-75	3-100	3-100	3-125
Metering HP	1.5	1.5	1.5	1.5	2	2	2
Full Amp Load 460V/230V[2]	219.5 / 426.5	252.5 / 492.5	300.5 / 588.5	300.5 / 588.5	387.5 / 762.5	387.5 / 762.5	474.5 / 936.5
Drying CFM	1,45,200	1,75,800	1,92,750	2,13,600	2,82,000	3,04,800	3,37,500
Cooling CFM	72,600	87,900	96,375	1,06,800	1,41,000	1,52,400	1,68,750
Burner Capacity (BTU x 1000)	31,363	37,973	41,634	46,138	60,192	65,837	72,900
Average Heat (BTU x 1000)[3]	18,034	21,834	23,940	26,529	35,024	37,856	41,918
Grain Column	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"	12-3/4"
Overall Height[4]	76'-0"	86'-0"	96'-0"	109'-4"	97'-10"	107'-10"	117'-10"
Wet Holding (BU)	731	731	731	731	1,279	1,279	1,279
Heat Holding (BU)	1,813	2,210	2,512	2,964	3,479	4,042	4,452
Cool Holding (BU)	680	737	888	1,038	1,126	1,177	1,381
Discharge Holding (BU)	144	144	144	144	287	287	287
Dryer Holding (BU)	3,368	3,822	4,275	4,877	6,171	6,785	7,399
Outside Catwalks	2	2	3	3	2	3	3
BPH (20%->15%)[5]	3,000	3,500	4,000	4,700	5,000	6,000	7,000
BPH (25%-15%)[5]	1,800	2,100	2,400	2,820	3,000	3,600	4,200

1. Dimensions exclude outside catwalks.
2. Includes amperage for two 10 HP auxiliary motors.
3. At 50° ambient temperature.
4. Optional vertical fill pipe height not included.
5. Capacities listed are wet bushels/tonnes, for mature unfrozen #2 yellow shelled dent corn at listed moisture content and are estimates based on drying principles, field results and computer simulation. Variance may occur due to grain's physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, adverse weather conditions, etc.

Discharge Height - 40"

T and F Series Dryers Dimensions

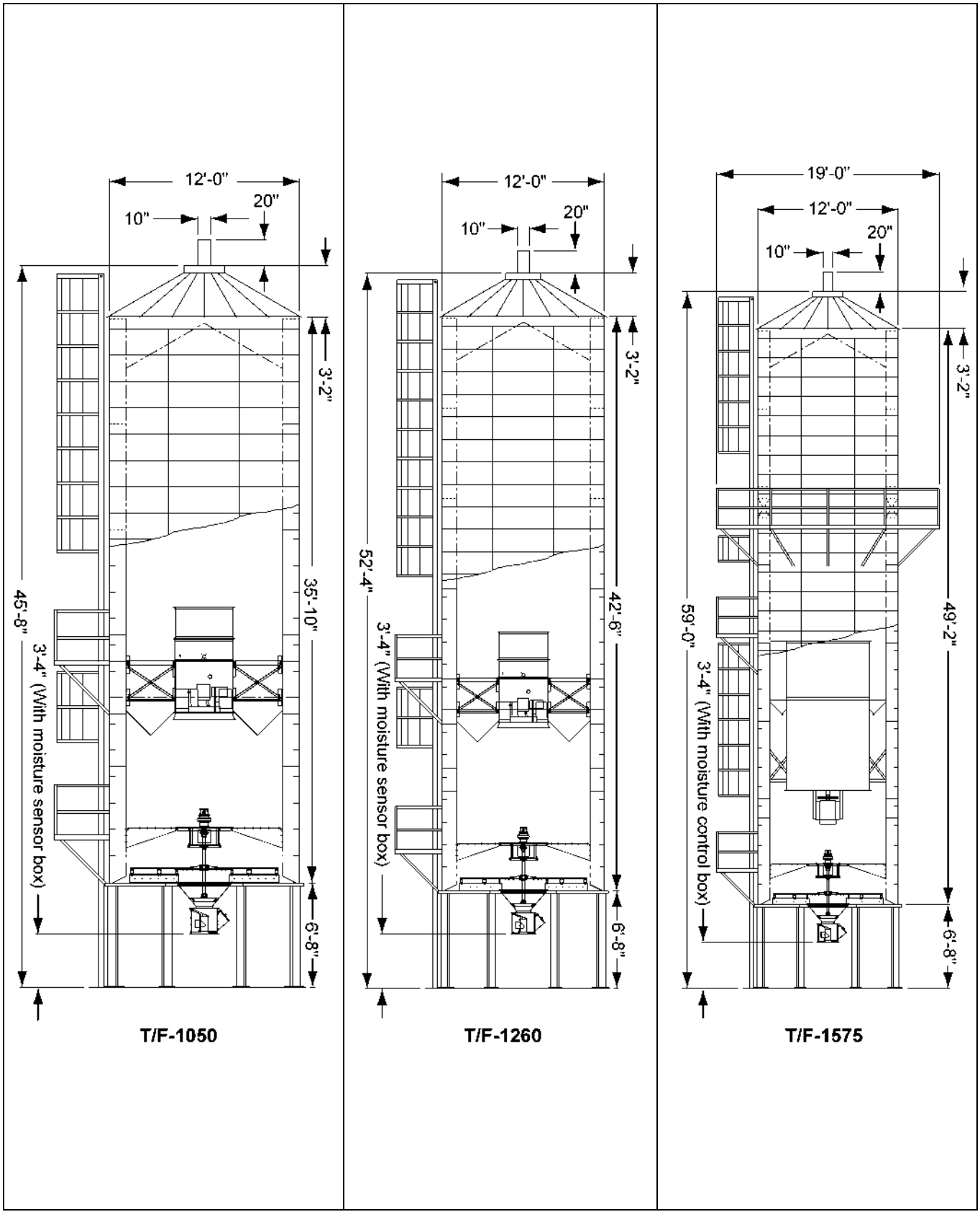


Figure 3A

T and F Series Dryers Dimensions (Continued)

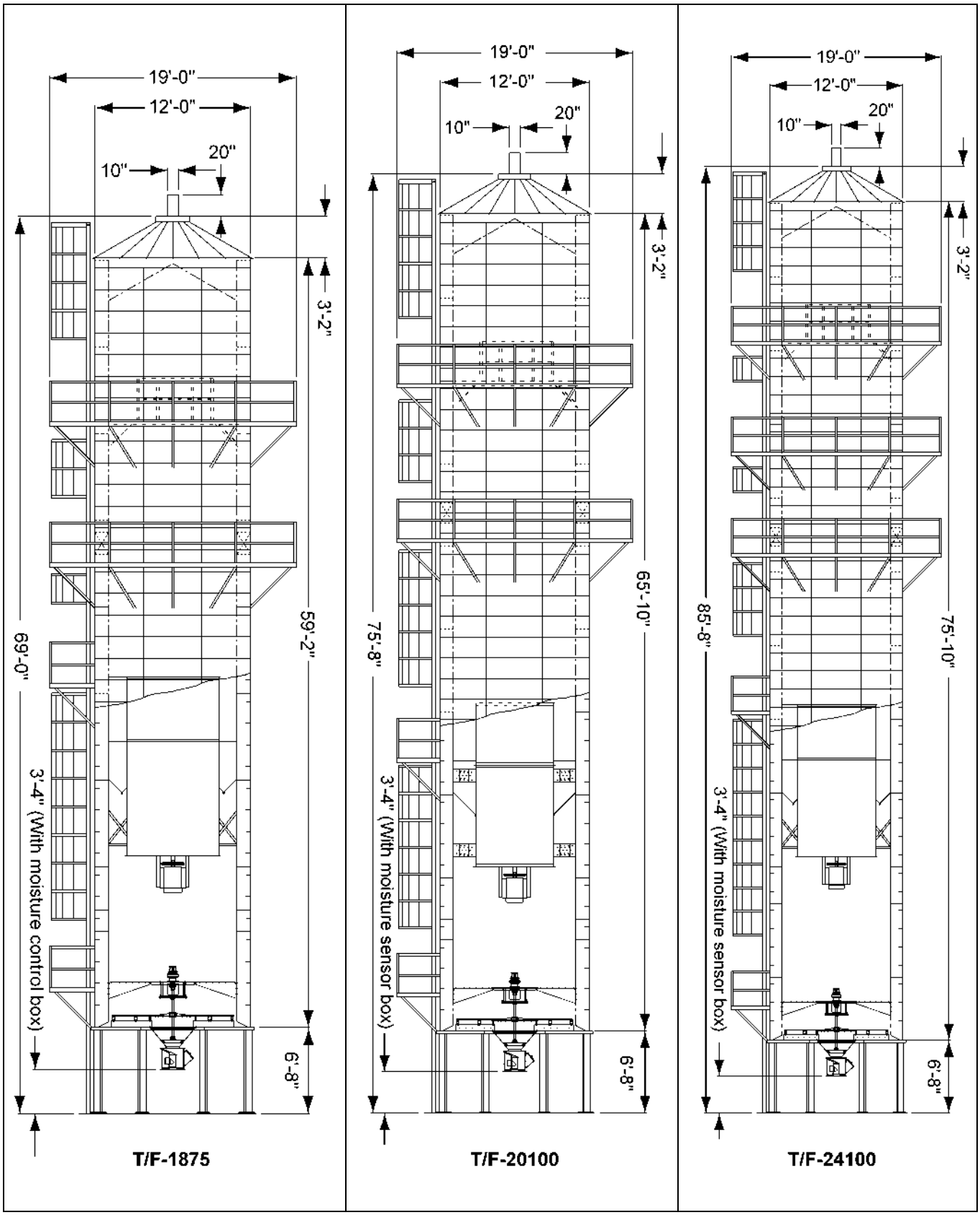


Figure 3B

T and F Series Dryers Dimensions (Continued)

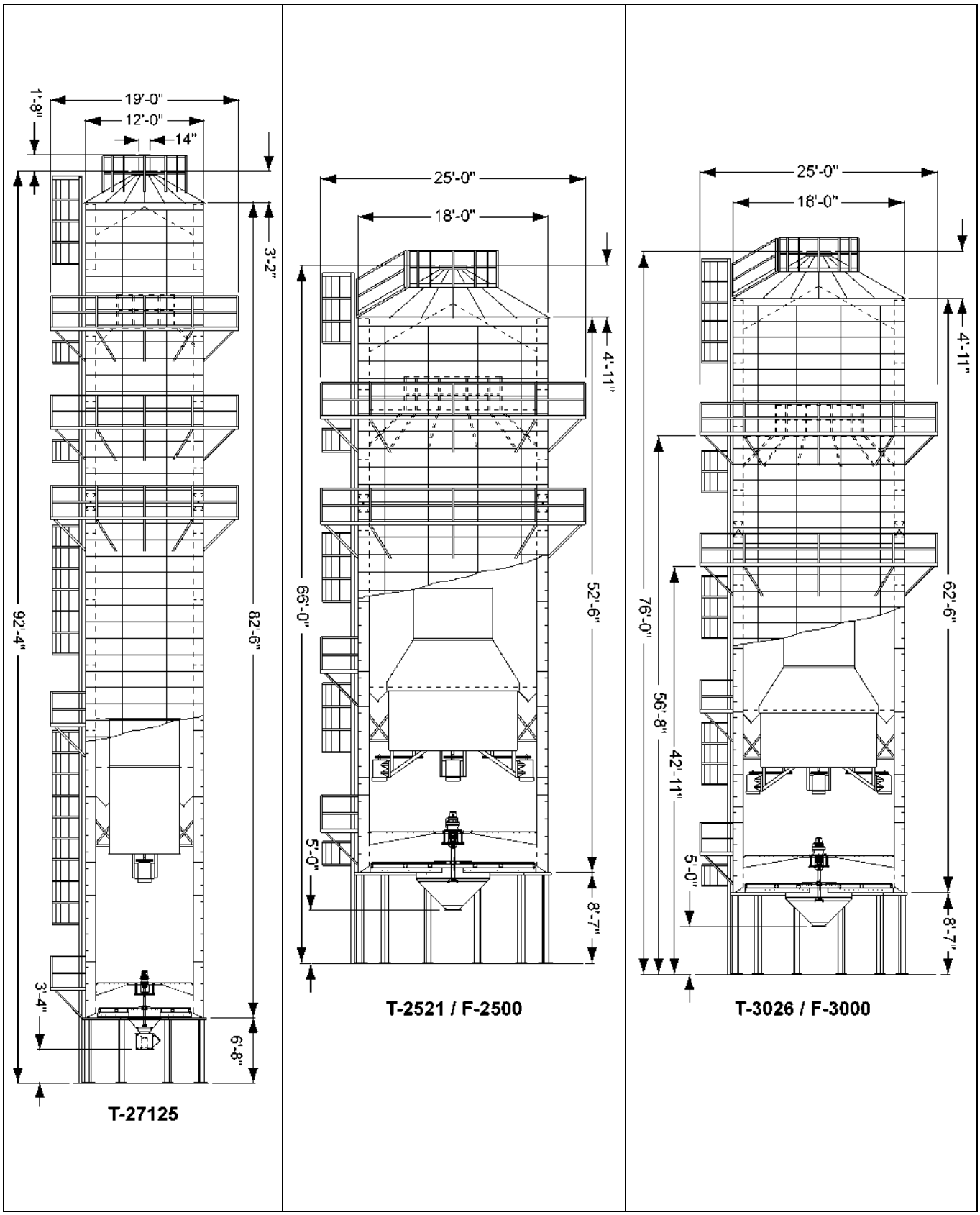


Figure 3C

T and F Series Dryers Dimensions (Continued)

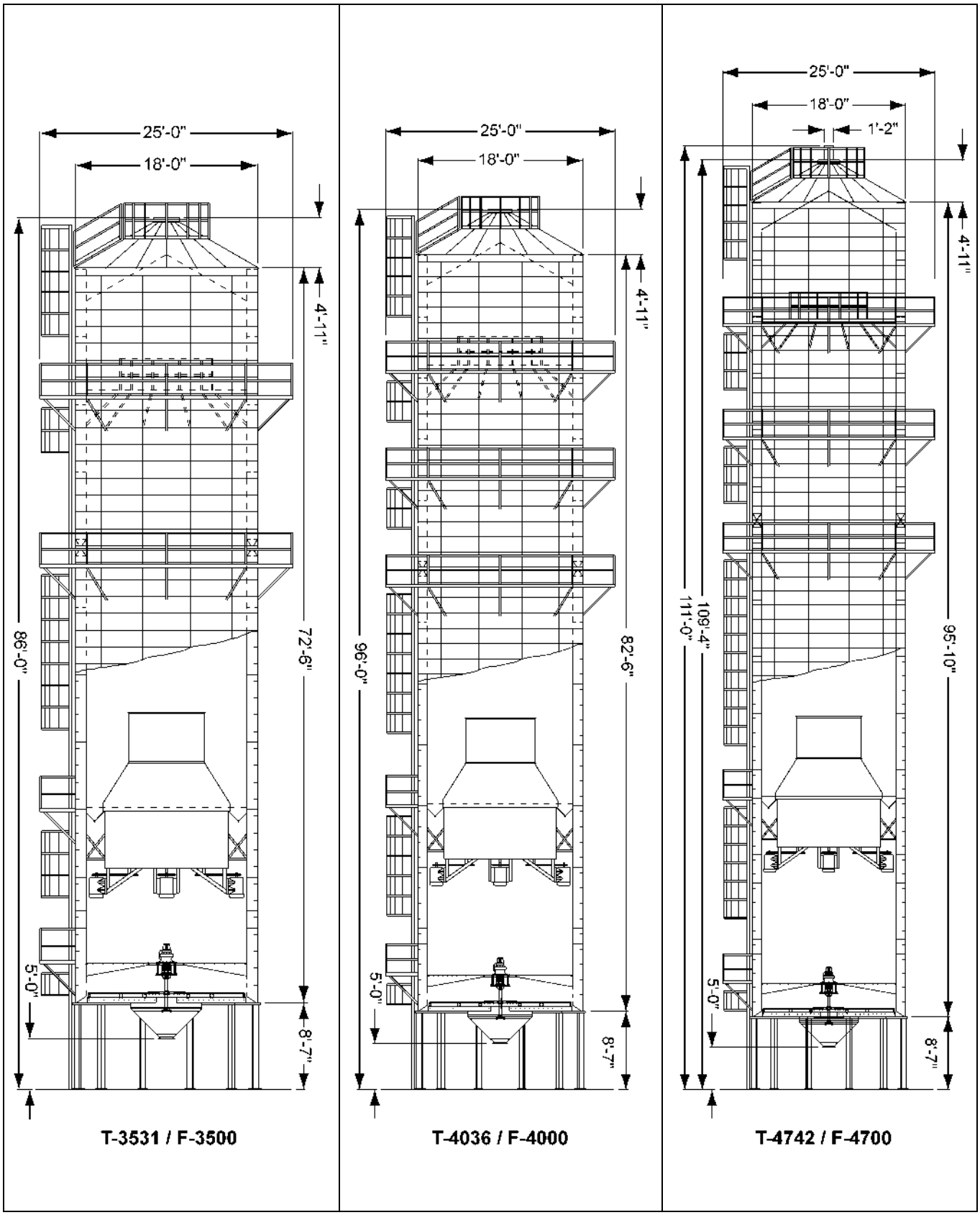


Figure 3D

T and F Series Dryers Dimensions (Continued)

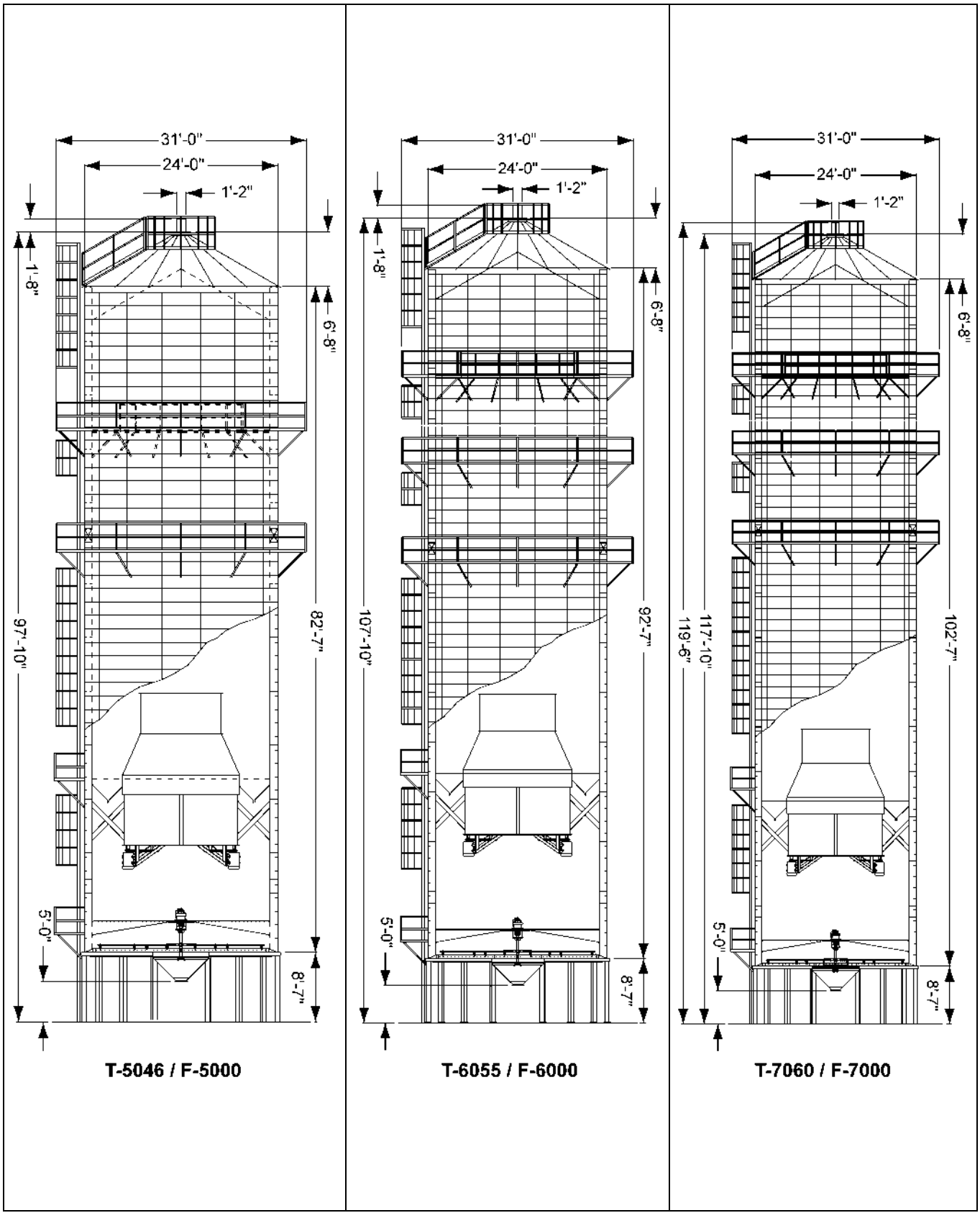


Figure 3E

Dryer Layout

System Layout

Consider the grain handling system and location of storage bins and existing conveyors when selecting dryer site, to facilitate wet grain supply and dry grain discharge to conveyors. Other considerations are prevailing wind direction, fuel and power supply locations, noise and convenience of control location.

Site Location

The dryer should not be operated inside a building or in any area not permitted by electrical code, fuel installation regulations or insurance requirements. Do not operate in an area where combustible material can be drawn into the dryer. Maintain a minimum distance of five feet (5') to other structures. Refer to dryer specifications *on Pages 17 and 18* and dimensions *on Pages 19-23.*

Foundation

The dryer should be placed on a reinforced concrete slab located in a well drained area. For recommended dryer foundations for soils with minimum soil bearing pressure of 3000 lbs/ft².

Liquid Propane (LP) Dryers with Internal Vaporizers

Liquid Draw

The dryer is designed to operate on liquid propane, with liquid draw from the supply tank. A piping system is provided on the dryer, including strainer, pressure relief valve and manual shut off valve. *(See Figure 4A on Page 25.)*

Ammonia Tanks

Do not use propane supply tanks which have previously contained ammonia or fertilizer solutions. These substances are extremely corrosive and damaging to fuel supply and burner parts.

Oil or Water in Tanks

With liquid draw from the supply tank, any water present in the tank may freeze in the piping and controls in cold weather. To ensure that tanks are free of moisture, the usual precaution is to purge with methanol. Avoid tanks which may contain an accumulation of oil or heavy hydrocarbons from long use on a vapor withdrawal system.

Natural Gas (NG) Dryers

Gas Volume and Pressure

The dryer is designed to operate on natural gas having a heat value of about 1000 BTU per cubic foot. The dryer is equipped with a natural gas supply pipe system connected to the heater solenoid valves. A regulated pressure of 10 PSI must be provided at the connection to the dryer, with gas available in sufficient volume to maintain operating pressure. *(See Figure 4B on Page 25.)*

Fuel Supply

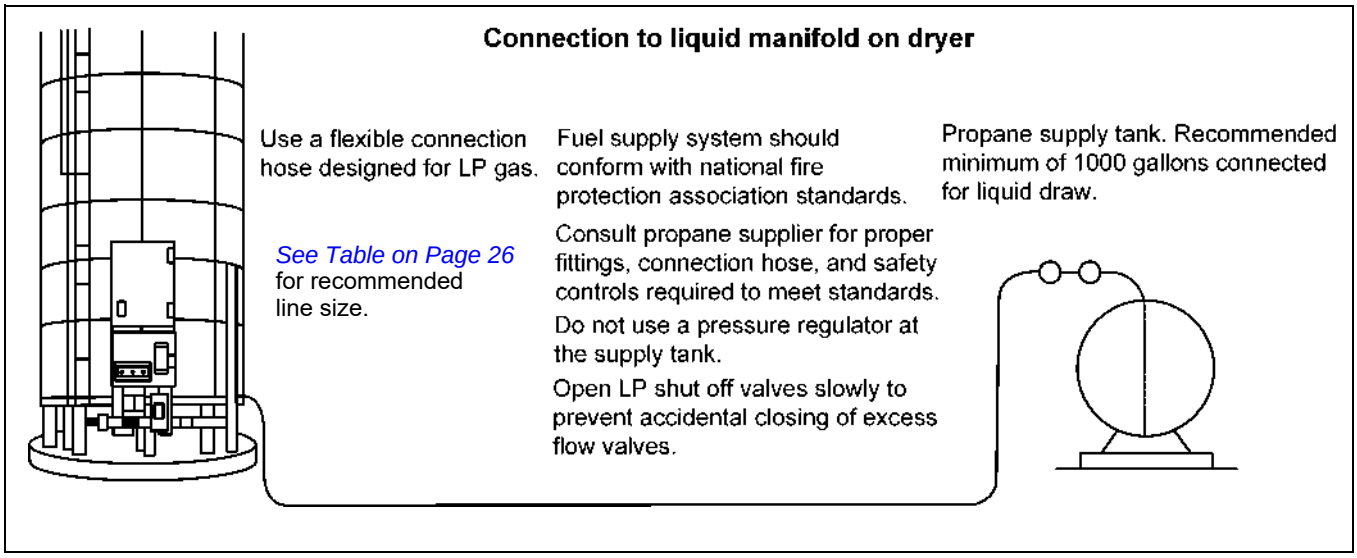


Figure 4A *Liquid Propane (LP) Fuel Supply*

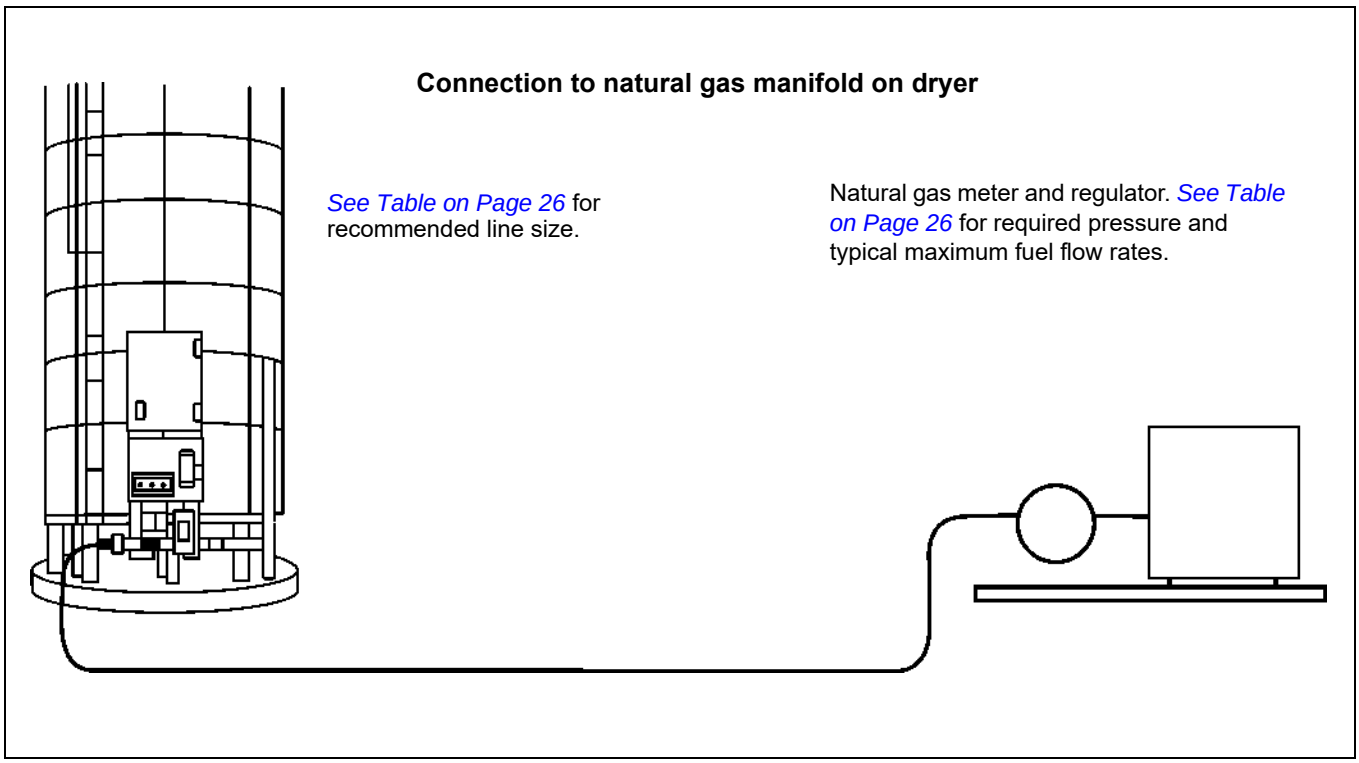


Figure 4B *Natural Gas (N) Fuel Supply*

Fuel System Recommendations

	T/F-1050	T/F-1260	T/F-1575	T/F-1875	T/F-20100	T/F-24100	T-27125
Tower Diameter	**12'**						
Burner Capacity (Btu/Hr)[1]	11100000	11100000	16654000	17669000	21298000	23393000	25574000
Maximum Fuel Usage LP (Gal/Hr)	121	121	182	193	233	255	280
Maximum Fuel Usage NG (Cu Ft/Hr)	11100	11100	16654	17669	21298	23393	25574
Recommended Gas Inlet Pipe Diameter LP	3/4"	3/4"	3/4"	1"	1"	1"	1"
Recommended Gas Inlet Pipe Diameter NG	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2"
Pressure Regulator Setting (PSI)	9	9	9	9	9	9	9
Regulated Supply Pressure (PSI)	10	10	10	10	10	10	10

[1]Burner capacity for fuel line sizing. Actual average fuel usage is typically 50%-60% of the burner capacity.

Fuel System Recommendations (Continued)

	T-2521 / F-2500	T-3026 / F-3000	T-3531 / F-3500	T-4036 / F-4000	T-4742 / F-4700	T-5046 / F-5000	T-6055 / F-6000	T-7060 / F-7000
Tower Diameter	**18'**					**24'**		
Burner Capacity (Btu/Hr)[1]	26341000	31360000	37390000	41634000	46138000	60192000	65837000	72900000
Maximum Fuel Usage LP (Gal/Hr)	288	343	409	455	504	658	720	797
Maximum Fuel Usage NG (Cu Ft/Hr)	26341	31360	37390	41634	46138	60192	65837	72900
Recommended Gas Inlet Pipe Diameter LP	3"*	3"*	3"*	3"*	3"*	4"*	4"*	6"*
Recommended Gas Inlet Pipe Diameter NG	3"	3"	3"	3"	3"	4"	4"	6"
Pressure Regulator Setting (PSI)	*	*	*	*	*	*	*	*
Regulated Supply Pressure (PSI)	10	10	10	10	10	10	10	10

[1]Burner capacity for fuel line sizing. Actual average fuel usage is typically 50%-60% of the burner capacity.

* The burner is designed to burn either natural gas or propane vapor fuel. The volume of fuel supplied must be sufficient to maintain a minimum of 7 PSI to 10 PSI pressure when the burner is operating at rated capacity. When propane is used as a fuel source, external propane vaporizers must be used in order to supply vapor gas to the dryer. Vaporizers must be sized to the burner capacity of the dryer. Fuel pressure to the dryer must be regulated to approximately 10 PSI.

Electrical Power Supply

An adequate power supply and proper wiring are important factors for maximum performance and long life of the dryer. Electrical service must be adequate enough to prevent low voltage damage to motors and control circuits.

Transformers and Wiring Voltage Drop

Advise the service representative of the local power supplier that an additional load will be placed on the line. Check on KVA rating of transformers, considering total horsepower load. The power supply wiring, main switch equipment and transformers must provide adequate motor starting and operating voltage. Voltage drop during motor starting should not exceed 14% of normal voltage and after motor is running at full speed it should be within 8% of normal voltage.

Power Supply Disconnect

All dryers are equipped with a power disconnect switch in the power box to permit total power shut down before opening the power box door, as required for inspection and service. The power disconnect switch is located on the power box door for quick shut down.

Machine to Earth Grounding

It is very important that a machine to earth ground rod be installed at the dryer. Place the ground rod that comes standard, within eight feet (8') of the dryer and attach it to the dryer control panel with at least a #6 solid, bare, copper ground wire and the clamp provided. The grounding rod located at the power pole will not provide adequate grounding for the dryer. The proper grounding will provide additional safety in case of any short and will ensure long life of all circuit boards, SCR drive and the ignition system. The ground rod must be in accordance with local requirements.

Proper Installation of Ground Rod

It is not recommended that the rod be driven into dry ground. Follow these instructions for proper installation.

1. Dig a hole large enough to hold one to two gallons of water.
2. Fill hole with water.
3. Insert rod through water and jab it into the ground.
4. Continue jabbing the rod up and down. The water will work its way down the hole, making it possible to work the rod completely into the ground. This method of installation assures good contact with the surrounding soil, making a proper ground.
5. Connect the bare, copper ground wire to the rod with proper clamp.
6. Connect ground wire to control panel with the ground lug provided in the control box.
7. Ground wire must not have any breaks or splices. Insulated wire is not recommended for grounding applications.

Connecting Auxiliary Conveyors

The auxiliary load and auxiliary unload augers or conveyors can be wired directly to the dryer. The maximum horsepower of auxiliaries that can be wired to the dryer is 10 horsepower. If an auxiliary motor is larger than what is recommended, then it must be powered from a source outside the dryer and must use a separate contractor and overload protection device for each motor. However, the operation of the auxiliaries can be performed by the control panel.

It is recommended that you contact the local power company and have a representative survey the installation to see that the wiring is compatible with their system and that adequate power is supplied to the unit. Remember that the only thing connected to the recommended service amps should be the grain dryer. Standard electrical safety practices and codes should be used. (Refer to National Electrical Code Standard Handbook by National Fire Protection Association.) A qualified electrician should make all electrical wiring installations.

Vision Control Panel Layout

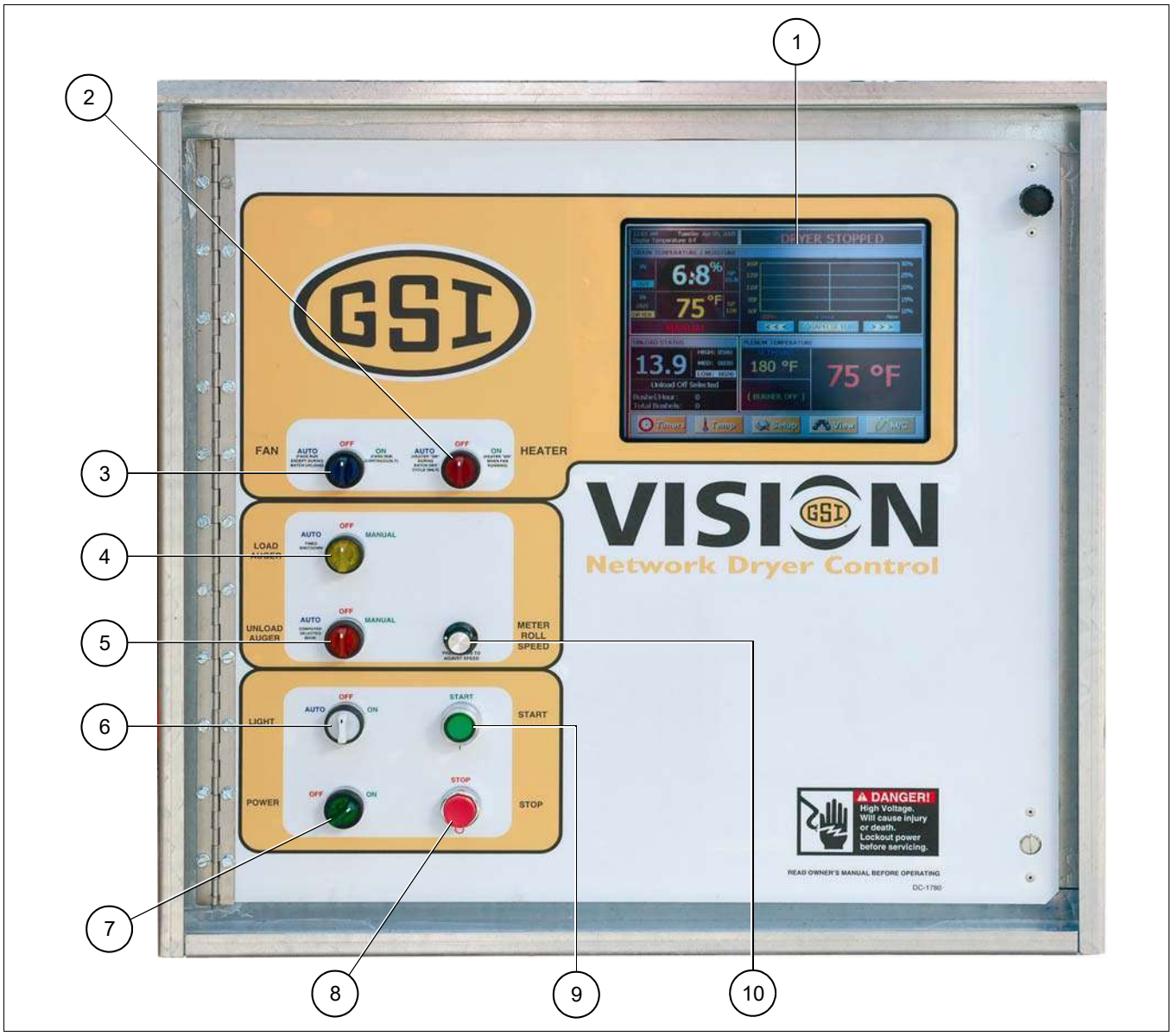


Figure 5A

Ref #	Description
1	Touch Screen
2	Heater Switch
3	Fan Switch
4	Load Auger Switch
5	Unload Auger Switch

Ref #	Description
6	Operator Light Switch
7	Control Power Switch
8	Stop Switch
9	Start Switch
10	Meter Roll Speed

The vision control system is a state of the art dryer controller used on several GSI drying products. The vision control can operate any dryer in either a batch or a continuous flow mode. Therefore, all operating instructions for the T-Series dryer describes **continuous flow** operation only.

Control Power Switch

The vision control system is turned ON or OFF with this switch.

NOTE: *This switch does NOT disconnect the power that is present at the breakers, contractors, transformers, fuses or other electrical components found in the control or power box. Turn the main disconnect handle located on the power box to the OFF position prior to servicing any of the installed components.*

Fan Switch

The fan is turned ON or OFF with this switch. Turning the switch to the ON position will turn the fan ON. Turning the switch to the OFF position turns the fan OFF. The light inside the switch will illuminate whenever the air pressure sensor senses air movement through the fan. (**NOTE:** *The fan AUTO position is not used.*)

Heater Switch

The burner is turned ON or OFF with this switch. Turning the switch to the ON position will start the burner ignition sequence if the fan is also running. Turning the switch to the OFF position turns the burner OFF. The light inside of the switch will illuminate only when the flame sensor detects the burner flame. (**NOTE:** *The heater AUTO position is not used.*)

Load Auger Switch

This switch is used to select the operation of the wet fill conveyor. In both the AUTO and the MANUAL positions, the wet fill conveyor will operate if the dryer is low on grain and will automatically shut off when the dryer is full. In the AUTO position only, the dryer will automatically shut down should the dryer go low on grain. The time period between the dryer going low on grain and the actual shut down is determined by the setting on the out of grain timer. In the MANUAL position, the out of grain timer is deactivated. The MANUAL switch position should be used for initially filling the dryer. The AUTO switch position should be used during normal dryer operation. The switch will illuminate whenever the load auger is operating.

Unload Switch

The Unload switch turns the accutrol metering system and the unload conveyor ON or OFF and also selects the operation of the metering system. In the MANUAL position, the metering system operates at the speed set by the Metering Roll Speed Rotary switch. In the AUTO position, the metering system switches to a multi-speed operation controlled by the automatic moisture control. The switch will illuminate whenever the unload auger is operating.

Outside Light Switch

The service light is turned ON or OFF with this switch. In the AUTO position, the light is turned ON while the dryer is running automatically and turns OFF if a shut down occurs. In the ON position, the light is turned ON.

Start Switch

This switch starts and operates the dryer. If all of the above Dryer Operational switches are in the OFF position, each component can be turned ON by turning the component switch to the ON position after the run switch has been pressed. Or, if the Operational switches are preset to their ON position, the vision controls will sequentially start the various dryer components after the run switch is pressed.

Stop Switch

This switch stops all dryer functions except the blower. If the Blower switch is in the ON position, the blower will continue to run for 15 minutes. If you desire the blower to be OFF, simply turn the Blower switch to the OFF position. If an automatic dryer shut down occurs, first determine and correct the cause of the shut down. Then press the Dryer Power Stop button to reset the dryer before restarting.

Boot Screen

With the Power switch in the ON position, pushing the Start switch will start the Vision computer. The first screen to appear will be the Boot screen. *(See Figure 6A.)* Notice that there are four “buttons” on the Boot screen. Install Dryer Software and Get Program From USB Flash buttons are only used for program updates that may be released at a later date. Touching the Start Dryer button will display the Default Operation screen. Touching the Exit To Windows button will close down the dryer program and take you to the Windows CE Operating System.

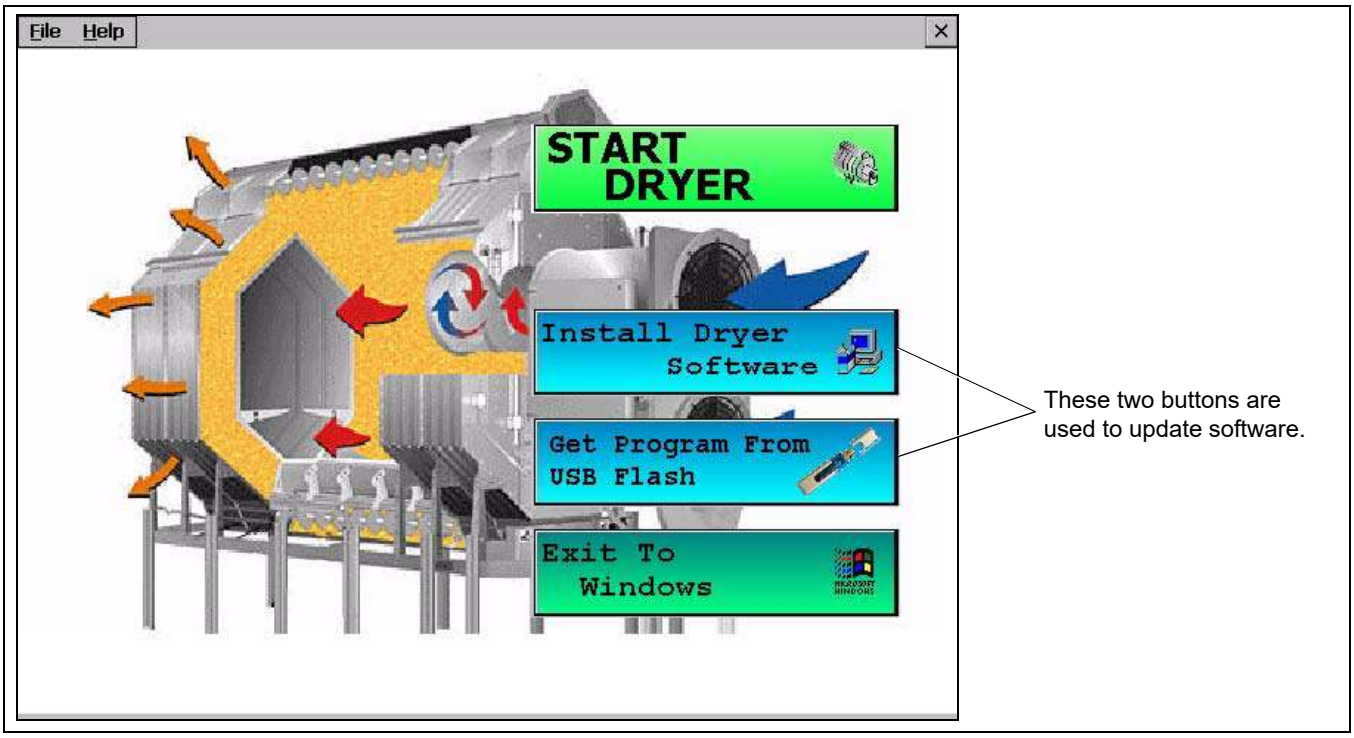


Figure 6A

Default Operation Screen

As you can see the Operation screen is divided into five sections.

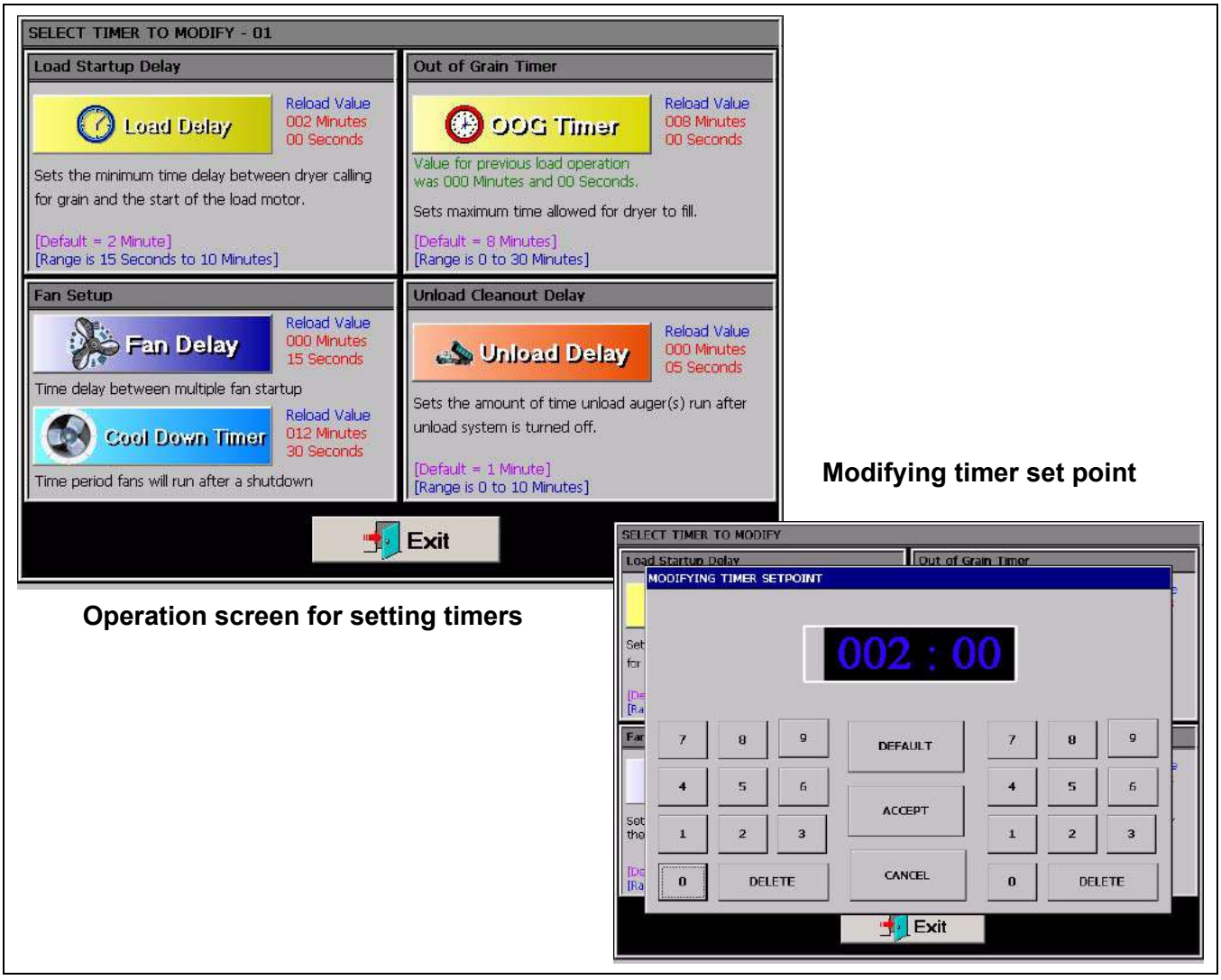
1. **Dryer operation animation:** Located on the left side of the Operation screen the operation animation shows the status of the fan/heaters, load and unload augers and meter rolls. It will also display the grain temperature, moisture content, M/C set point and bushel counter.
2. **Dryer status:** Located at the very top of the right side of the Operation screen the dryer status will tell you if the dryer is stopped, started, loading or unloading.
3. **Dryer status chart:** Located directly below dryer status. This chart will show the grain temperature, moisture in/out, temperature out and M.R.O. over a period of time.
4. **Plenum:** Located directly below dryer status chart. This will show the plenum temperature set point (SP), actual plenum temperature and burner status.
5. **Setup buttons:** Located across the bottom of the Operation screen. By touching these buttons the timers, temperature set points, dryer model and moisture control can be set up.

Figure 6B

Setting the Timers

Setting the timers for the dryer is a simple procedure. To set the timers, touch the Timers button at the bottom of Operation screen. A new screen will appear called the Select Timers to Modify screen. *(See Figure 6C on Page 33.)* As you can see there are five timers that you can modify:

1. **Load delay:** This delay is used to delay the starting of the load conveyor when the dryer is unloading to prevent the load conveyor from cycling to often.
2. **Out of grain (OOG) timer:** The OOG timer should be set to the maximum time it takes for the dryer to refill. Note that the computer will display the time required to fill the dryer on the previous load operation to aid you in setting an accurate time. If the dryer runs out of grain while the Load Auger switch is in the AUTO position, the OOG timer automatically shuts off the dryer after the period of time preset on the timer.
3. **Fan delay timer:** The fan sequence delay timer.
4. **Cool down timer:** The cool down timer is used to set the amount of time the fan is to run, after a non-heat related shut down. Setting to 0 will cause an immediate shut down on a warning. The range is from 0 to 20 minute.
5. **Unload delay timer:** The unload delay timer is used to control the amount of time the unload auger runs after the metering system stops to allow the unload auger to clean itself out.



Operation screen for setting timers

Modifying timer set point

Figure 6C

To setup a timer touch the button of the timer you wish to modify. The Modify Timer Set Point screen will then be displayed. *(See Figure 6C.)* Note that there are two number pads on this Modify screen. The left number pad is used to modify the minutes and the right number pad will modify the seconds. Touching the Default button will automatically set the timer to the default set point for that timer. The Accept button will save the timer set point displayed in the time display. Touching Cancel will exit the Modify Timer Set Point screen without saving any changes and the timer will stay at the currently saved set point.

Once you have the timer set points set touching the Exit button at the bottom of the Modify Timer Set Point screen will return you to the Operation screen.

Setting the Temperatures

Setting the plenum temperature set point for the dryer is a simple procedure. To adjust the plenum temperature touch the Temp button at the bottom of Operation screen. A new screen will appear called the Select Temperature Set Point to Modify screen. *(See Figure 6D on Page 34.)*

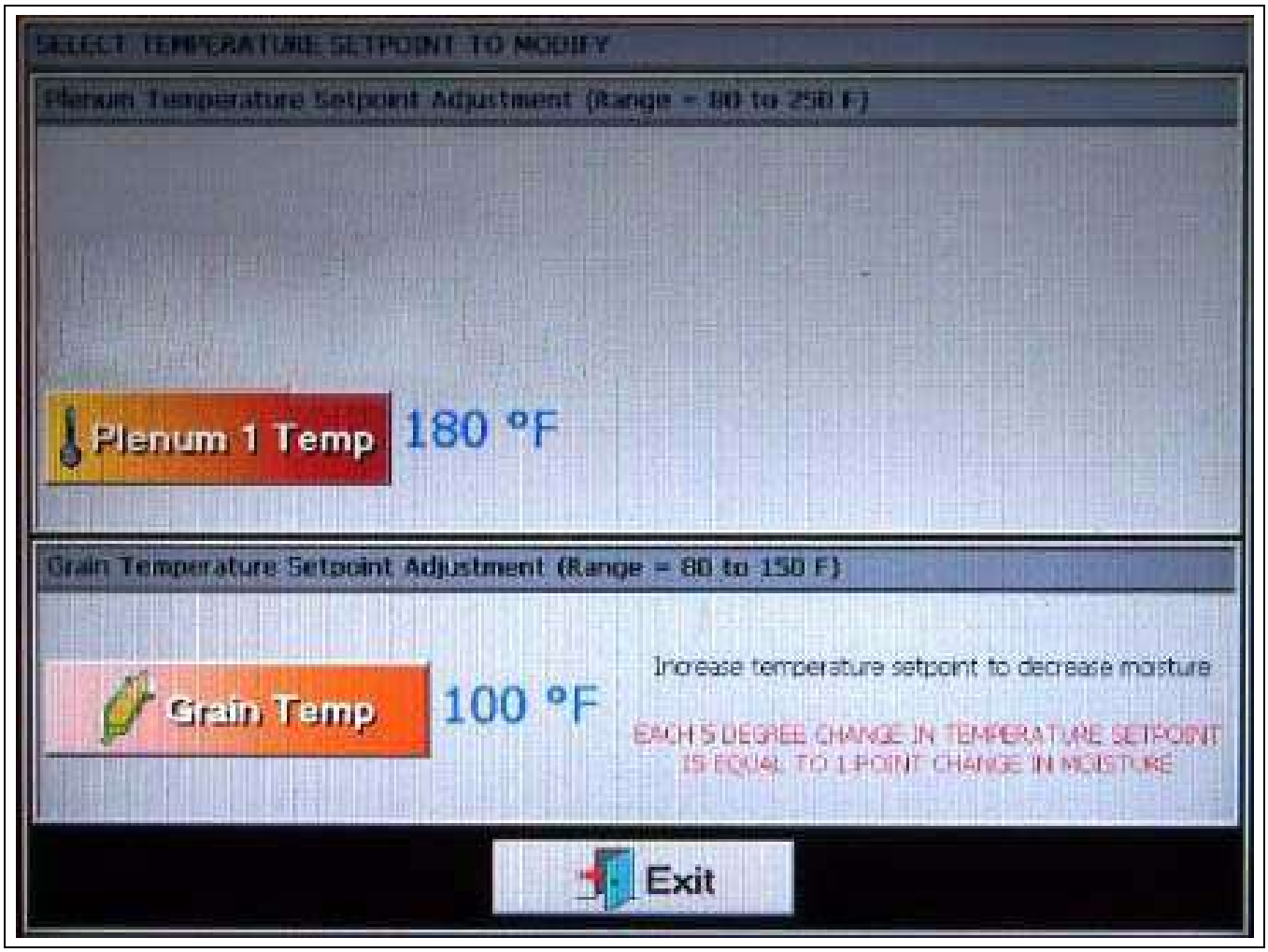


Figure 6D

The plenum temperature set point range is 80°F-250°F and the current temperature set point for each plenum is displayed next to the corresponding Plenum button.

The grain temperature set point range is 80°F-150°F and the current temperature set point for the grain temperature is displayed next to the Grain Temperature button.

Modifying a temperature set point is much like setting a timer described *on Page 32*. Touch the desired button of the set point you wish to change. The Modify Temperature Set Point screen will appear. Enter the desired temperature using the displayed number pad then touch the Accept button. Touching the Exit button at the bottom of the Select Temperature Set Point to Modify screen will return you to the Operators screen.

The Setup Screen

The Setup screen will allow you to setup other parameters of the dryer. To use the Setup screen touch the Setup button. The Select Hardware Setup Parameter to Modify screen will now be displayed. As you can see there several different parameters that can be modified on this screen:

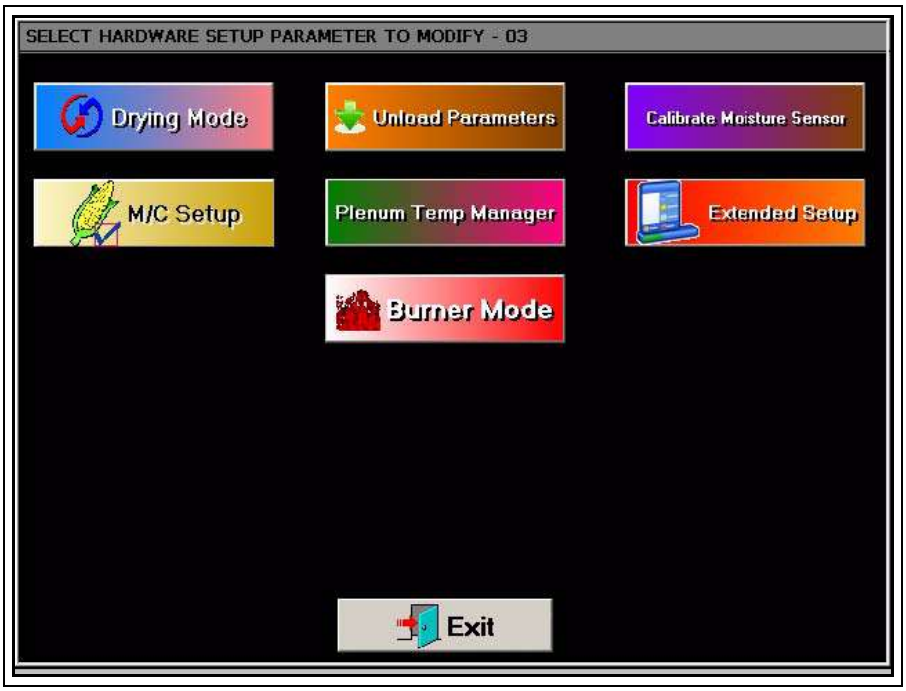


Figure 6E

1. **Drying mode:** Touching the Drying Mode button will display the Select Drying Mode window. Continuous flow will be the only option for Tower Dryers.
2. **M/C Setup:** The M/C Setup operations are described in greater detail in the dryer operation section *on Page 44* of this manual.
3. **Unload parameters:** Touching the Unload Parameters button will present a screen where you will edit you maximum and minimum unload rates.

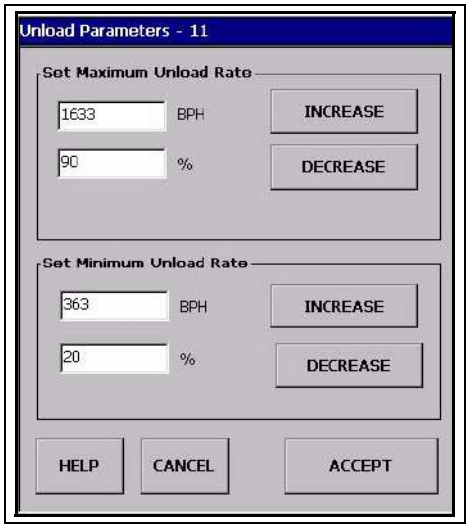


Figure 6F

4. **Plenum temperature manager:** Touching the plenum temperature manager will display a Configuration screen that will allow you to turn this feature ON or OFF. Also, a Configuration section is presented so that the user can edit the behavior of this option.

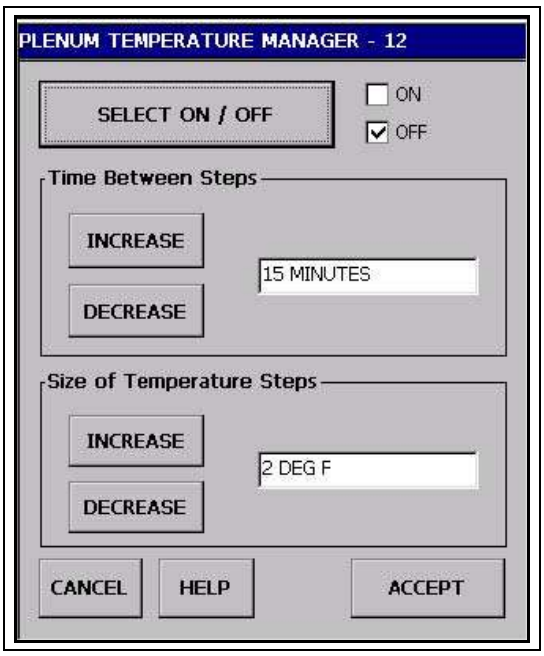


Figure 6G

5. **Burner mode:** Touching the Burner Mode button will display the Select Burner Mode screen. *(See Figure 6H.)* Tower dryer burner mode should always be set to ALL HIGH\LOW.

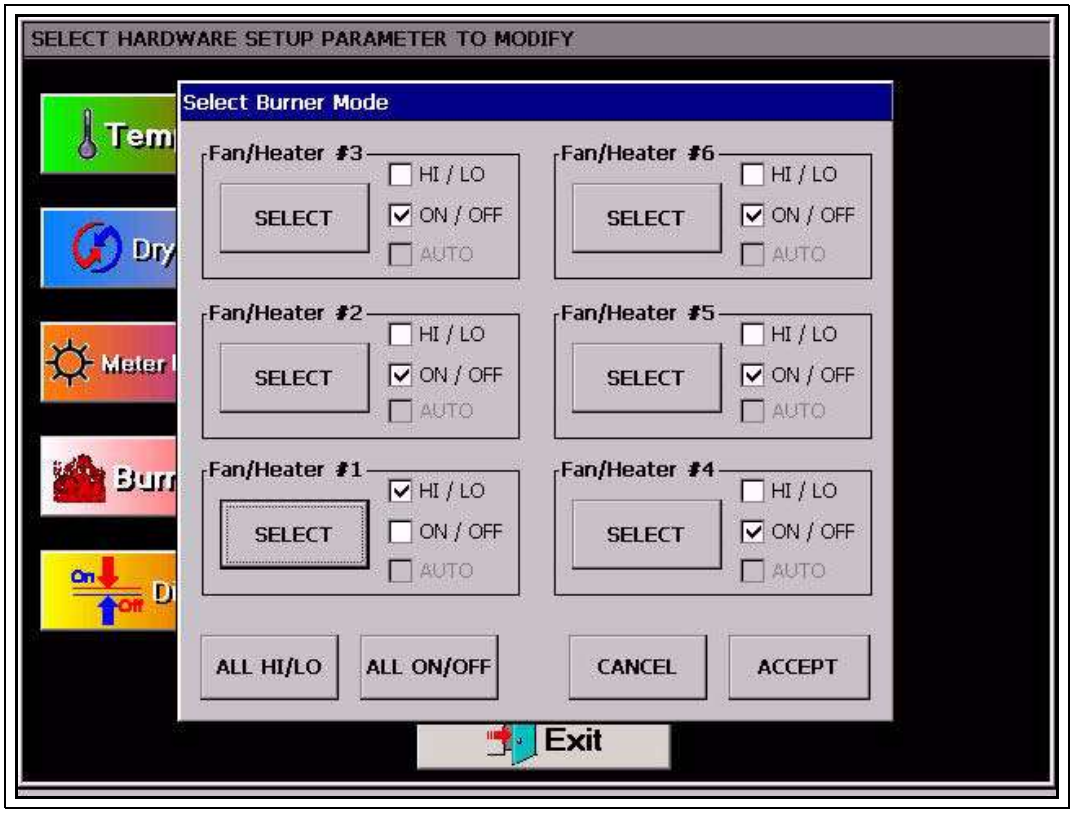


Figure 6H

6. **Calibrate moisture sensor:** Touching this button will display the Configuration screen to adjust the offset for wet and dry moisture and temperature.

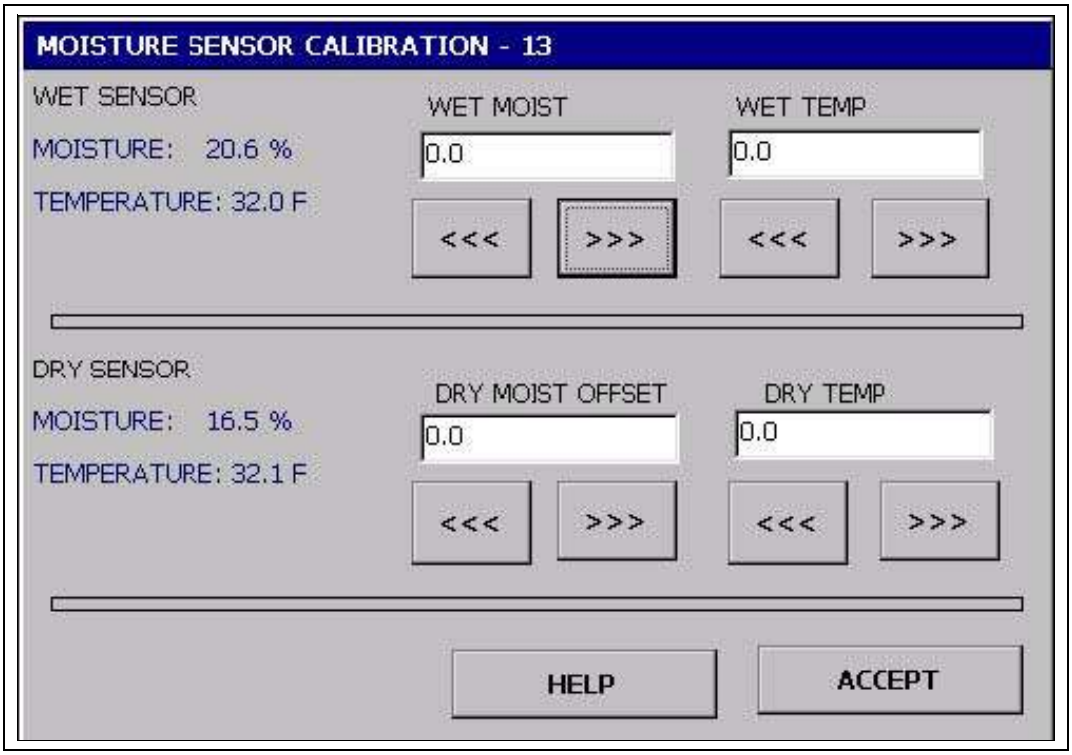


Figure 6I

7. **Extended setup:** Touching this button will display a setup menu with extended features and options.

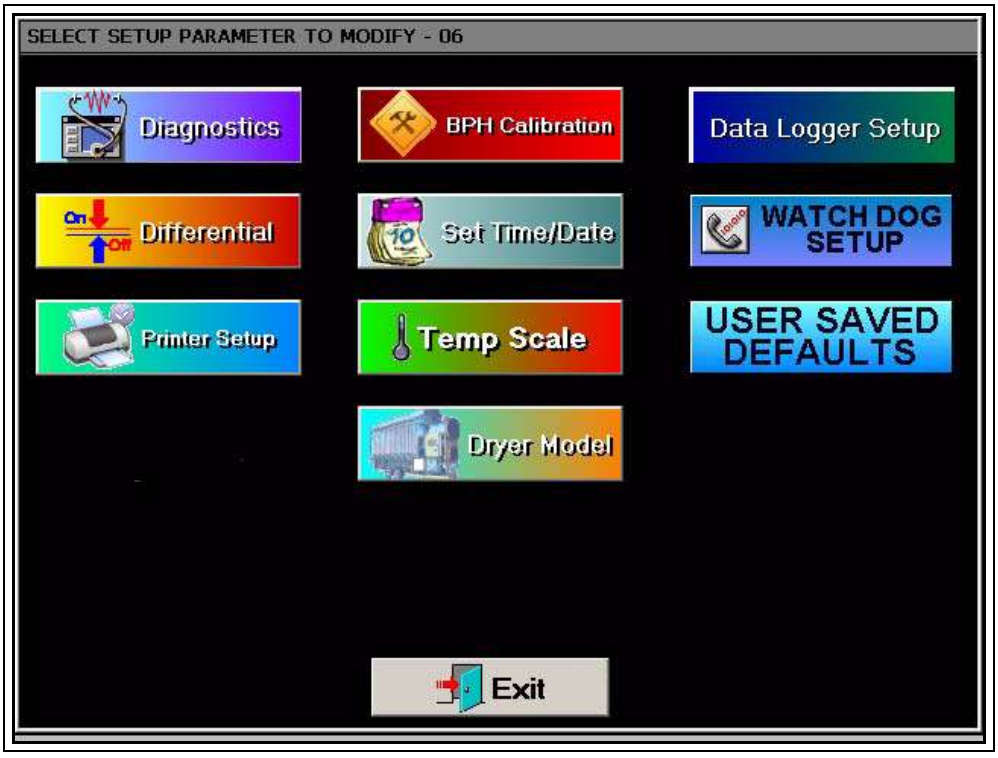


Figure 6J

1. **Diagnostics:** The Diagnostics operations are described in greater detail in the service section *on Page 96* of this manual.

2. **Differential:** Touching the Differential button will display the Modify Burner Differential Settings screen. *(See Figure 6K.)* Adjusting the burner differential settings allows the operator to keep the plenum temperature within a certain range. For example: If you have the temperature set point at 180° and you select ± 3° as the burner differential, then the burner will switch to low heat at 183° and back to high heat at 177°. To modify a burner differential setting first touch the Plenum button you wish to modify, then select one of the five differential setting button on the right side of the Modify Burner Differential Settings screen. Touch the Accept/Exit button to save settings and return to the Select Hardware Setup Parameter to Modify screen. **NOTE:** *Tower dryer only have plenum #1.*

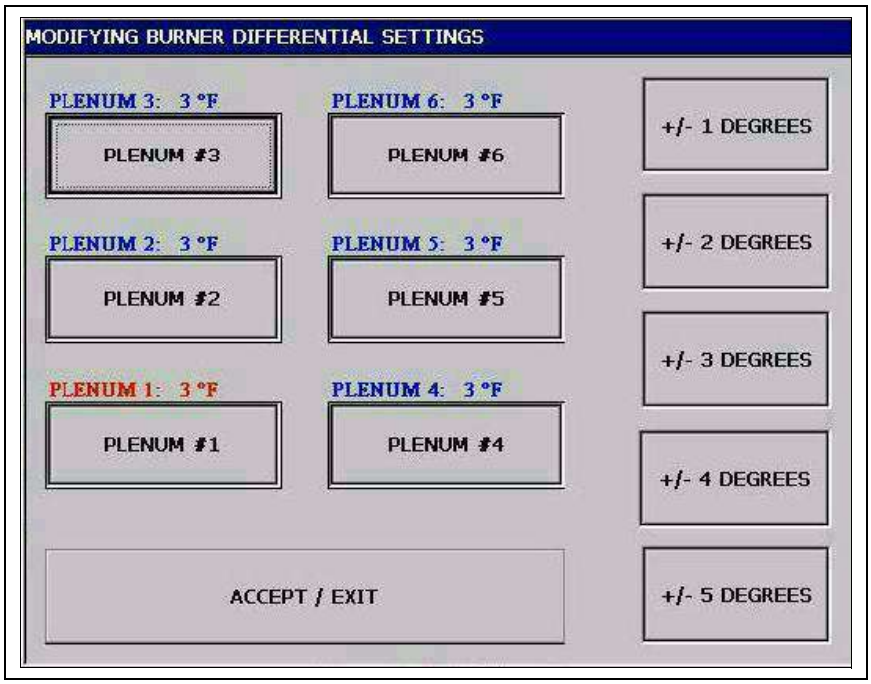


Figure 6K

3. **Printer setup:** This section only applies if the dryer is equipped with a printer.

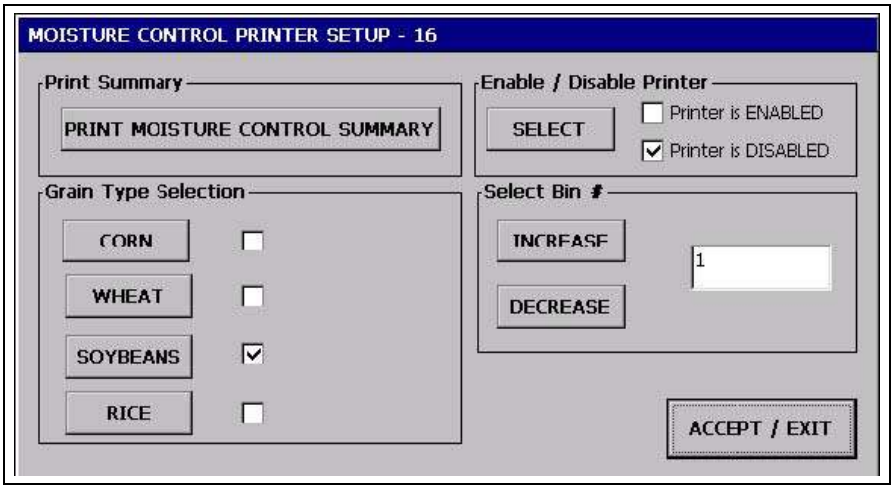


Figure 6L

4. **BPH Calibration:** Touching the BHP Calibration button will display the Unload Bushels Setup screen. *(See Figure 6M.)* As you can see the bushel counter can be cleared by touching the Clear button. However if the bushel counter is out of calibration it can be calibrated by touching the Increase and Decrease buttons.

   Example: If you ran 1000 bushels through the dryer but the bushel counter on the dryer reads 900 bushels then touch the Decrease button until the calibration reads 90% or if you ran a 1000 bushels and the counter reads 1100 bushels then touch the Increase button until the calibration reads 110%.

   When you are finished with the calibration or clearing the bushel counter touch the Accept button to return to the Hardware Setup Parameter screen.

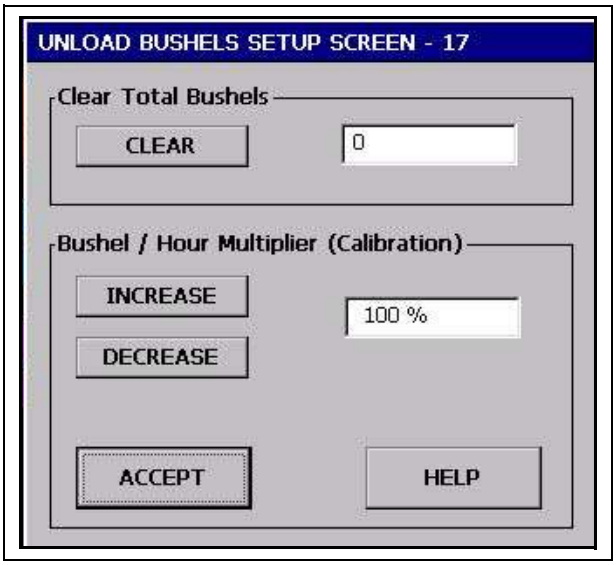


Figure 6M

5. **Set Time/Date:** Touching the Set Time/Date button will display the Set Time/Date window. Use the up and down buttons to change each of the parameters for date and time. Touch Accept/Exit to save settings and return to the Select Hardware Parameter to Modify screen.

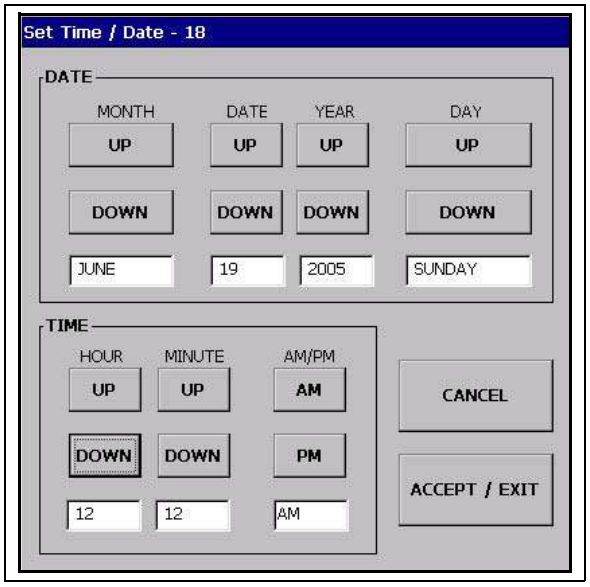


Figure 6N

6. **Temperature scale:** Touch the Temperature Scale button to choose either English units or SI units temperature scales. Depending what temperature scale you now operating in touching this button will display a pop-up window asking if you want to switch to SI (celsius, metric tons, etc.,) or English units (fahrenheit, bushels, etc.).

7. **Dryer model:** Touching the Dryer Model button will display the Dryer Hardware Setup window. In order for the dryer operate properly the following items must be entered correctly: model number and fuel type. Touch the select button until a check mark appears next to the parameter corresponding to the dryer model.

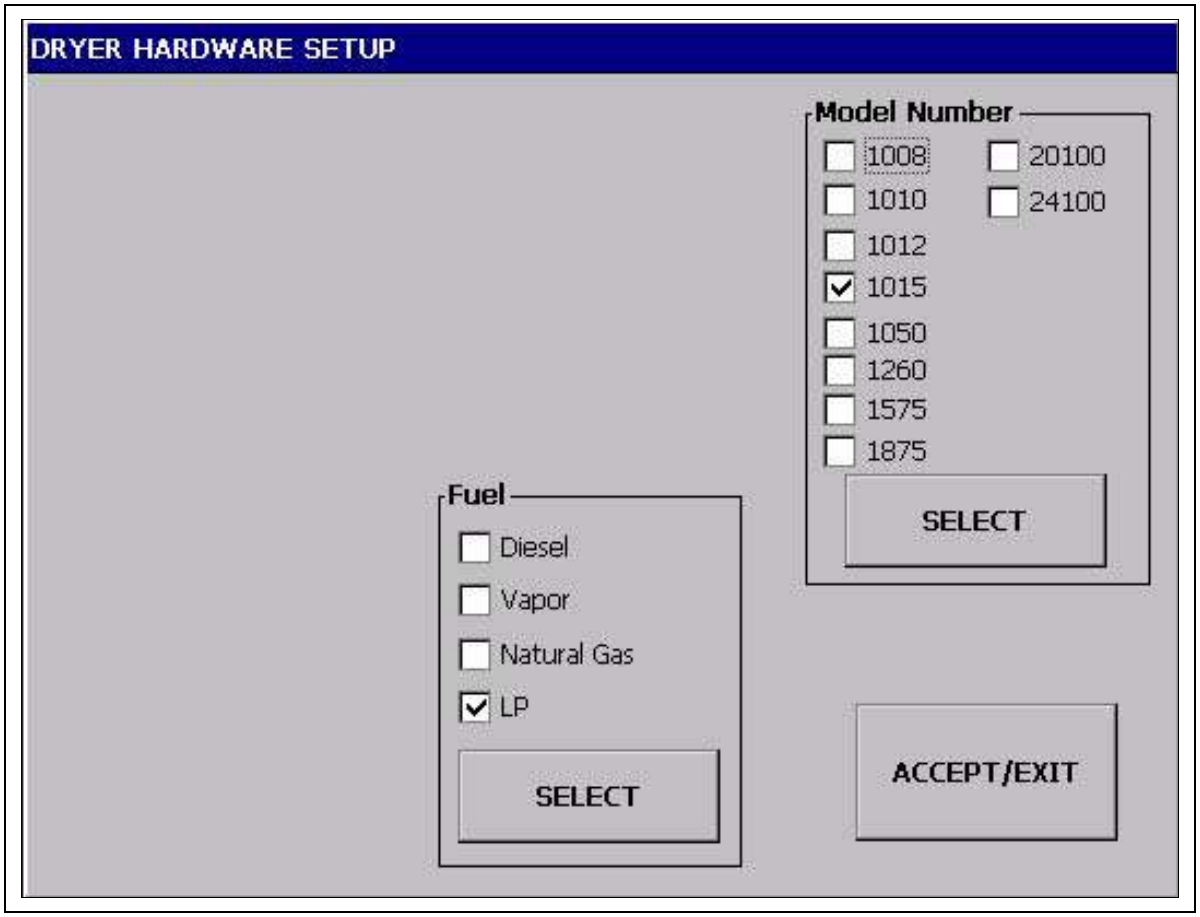


Figure 6O

8. **Data logger setup:** Touching this button will display a dialogue box which will allow you to turn this option ON. Also, you will have the option to delete the log file or copy it to a USB thumb drive.

9. **User saved defaults:** Pressing this button will prompt you to save the current dryer settings as the default settings for the system.

Dryer Pre-Season Checks

This section gives a series of checks to be carried out on the dryer before starting for the first time in the drying season. If any of the checks fail to produce the stated result, you should consult your dealer.

You should not attempt to use the dryer unless all the pre-start checks have been successfully completed.

Before attempting to operate the dryer make sure all safety shields are in place, all access doors are closed and all personnel are clear of the dryer.

Inspect the Accutrol Metering System

Open the two access doors and inspect the accutrol sweep metering system to ensure that the system is free of foreign material.

Electrical Power

Turn ON the electrical power supply to the dryer, set all circuit breakers to ON, including the safety disconnect handle mounted on front of the dryer power panel.

Control Power Switch

Turn the Control Power switch to ON. At this point the controller will lock out all other dryer functions. Once the Boot screen appears *(See Page 31)*, touch the Start Dryer button and the dryer will perform a safety circuit check. If a fault is found, the cause will be displayed on the Main screen. If all are found safe, the Start switch will illuminate, indicating that the dryer is ready to be started.

Start Switch

Push the Dryer Start switch and all the selector switches on the control panel will be activated.

Fuel Check

If using LP gas, make sure the tank has plenty of fuel and that the tank **does not** have a regulator mounted on the liquid line. Slowly open the main fuel supply valve at the tank. Then, open the manual shut off valve on the dryer to allow fuel flow to the dryer.

If using natural gas, make sure an adequate supply at 10 PSI of pressure is available. Turn ON the valve along the supply line. Inspect all gas lines and connections for possible leaks.

Any gas leaks must be fixed immediately.

Load Auger

With the grain supply shut off, quickly bump the Load Auger switch to manual and check all filling equipment for proper rotation.

Turn the Load Auger switch to the AUTO position. The filling equipment should run for eight minutes and then the dryer will shut down leaving the safety shut down message (out of grain warning) displayed. Press the Dryer Power Stop button to reset the panel, then press the Start button.

Unload Auto Operation

To check auto operation place the Unload switch in the AUTO setting. Check unload equipment for proper rotation.

Unload Manual Operation

To check manual operation move the Unload switch to the MANUAL position. Check unload equipment for proper rotation.

Accutrol Sweep Metering System Operation

To check the metering operation turn the knob clockwise and the metering speed should increase. The metering system should be turning clockwise when viewed from above. Turning the knob counterclockwise will decrease the speed. When the meter system is set to maximum (1000) the meter roll speed should be 2.4 RPM. Turn the Unload switch OFF after these checks are complete. The bottom auger will continue to run for 60 seconds (default clean out delay setting) after the switch is turned OFF to allow for clean out.

Fan Switch

Momentarily turn the Fan switch to ON and observe the fan for rotation.

Burner Safety

To check the burner safety function, first make sure the main gas valve is OFF. Turn the Fan switch ON and allow the fan to start. Then, turn the Heater switch ON. The dryer will go through a 15 seconds purse time follower by a 10 seconds ignition time. The dryer will them shut down. The safety message, “Ignition Failure Fan #” will appear.

Burner Test Fire

Test fire the burner by starting the fan. Adjust the plenum temperature set point to 140°F (60°C). Turn ON the fuel supply them, turn the Burner switch to ON. After the 15 seconds purge time, manually latch the electronic shut off valve (maxon valve) during the ignition time. The burner should illuminate and the plenum temperature will start to increase. Adjust the High-Fire adjustment valve so that the burner pressure gauge reads 25-30 ounces of pressure. *(See Figure 7A on Page 43.)* When the plenum temperature reaches the set point, the cycle solenoid will close. Adjust the Low-Fire valve so that the burner pressure gauge reads 6-8 ounces of pressure. The computer should cycle the burner between high and low 3 to 4 times a minute. If, during normal operation, the burner remains on High-Fire or the dryer does not get to operating temperature, slightly open the High-Fire valve. If the burner stays on Low-Fire and does not cycle, slightly close the Low-Fire valve.

Dryer Shut Down

To shut down the dryer,

1. Close the fuel supply valve at the tank or valve along the fuel line.
2. If the burner is operating, let the dryer run out of fuel and it will shut down automatically due to loss of flame.
3. Close the fuel valve at the dryer and press the Dryer Power Stop button.
4. Turn OFF the control power.
5. Turn OFF the safety disconnect handle on the front of the power box and turn OFF the main power to the dryer.

Emergency

In case of emergency push the Dryer Stop button or the Emergency Stop button. This will interrupt power to the control panel and the fan, burner and all augers will stop immediately.

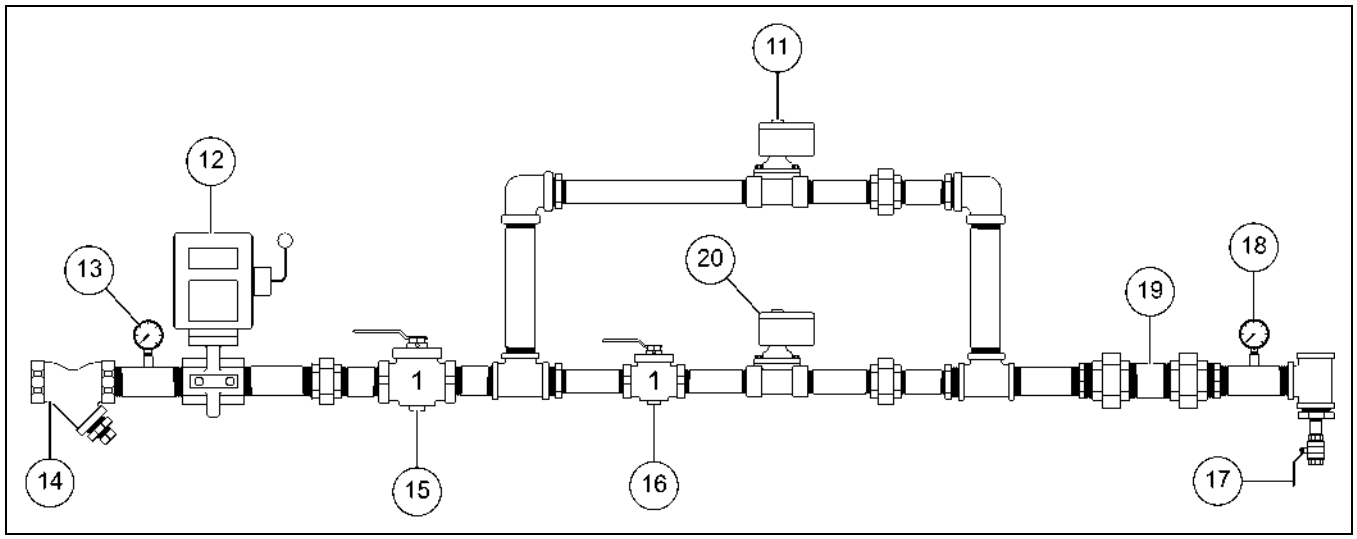


Figure 7A

Ref #	Description
11	Cycle Solenoid Valve
12	Electronic Shut Off Valve (Maxon Valve)
13	Inlet Pressure Gauge (0-30 PSI)
14	Strainer
15	High-Fire Adjustment Valve

Ref #	Description
16	Low-Fire Adjustment Valve
17	Fuel Train Drain Valve (Open when Dryer is not in Use)
18	Burner Pressure Gauge (0-60 OZ.)
19	Orifice Weldment
20	Main Solenoid Valve

Dryer Start-Up and Operation

Drying Temperatures

Shelled Corn

For shelled corn with an initial moisture content of 20%-30%, the recommended drying temperature is 210°F-220°F (93°C-104°C). For lower initial moisture content, lower drying temperatures in the 180°F-200°F (82°C-93°C) range.

Small Grain

For drying small grain (wheat, oats, barley, milo), 150°F (66°C) is suggested.

Soybeans

Drying temperatures are critical in drying soybeans. A temperature of 130°F (54°C) is recommended to keep grain temperature low.

Drying Efficiency

The general rule for obtaining the highest drying efficiency is to use the highest possible drying temperatures which will not adversely affect grain quality.

Dryer Shut Down

Cooling Hot Grain

If the dryer is to be shut down while filled with grain, it is recommended that hot grain be cooled for 10 to 15 minute, especially in cold weather, to prevent water vapor condensation and possible freezing of such condensate following shut down.

Initial Setup Parameters

Turn the Control Power switch to ON. When the Boot screen appears touch the Start Dryer button. The computer will run a quick check of the system network after which the Operation screen will appear.

Timer and Delay Settings

Setting the timers for the vision dryer is a simple procedure. To set the timers touch the Timers button at the bottom of Operation screen. A new screen will appear called the Select Timers to Modify screen. *(See Figure 8A on Page 45.)* As you can see there are five timers that you can modify:

1. Load timer
2. Out of grain (OOG) timer
3. Fan delay timer
4. Cool down timer
5. Unload delay timer

1. **Load delay:** This delay is used to delay the starting of the load auger when the dryer is unloading to prevent the load auger from cycling to often.
2. **Out of grain (OOG) timer:** The OOG timer should be set to the maximum time it takes for the dryer to refill during continuous or batch drying modes. Note that the Vision computer will display the time required to fill the dryer on the previous load operation to aid you in setting an accurate time. If the dryer runs out of grain while the Load Auger switch is in the AUTO position, the OOG timer automatically shuts off the dryer after the period of time preset on the timer. **NOTE:** *The time it took to load the dryer for the previous load operation is displayed directly below the OOG button in green letters.*
3. **Fan delay timer:** The fan sequence delay timer is not used on 1 fan dryers.
4. **Cool down timer:** The cool down timer is used to control the amount of time the fan will continue to run on a non heat related shut down. To set the time, touch the Cool Down Timer button and enter the minutes and seconds you wish for the fan to run. Entering Zero in for minutes and seconds will cause the fan to stop immediately on a shut down warning. **NOTE:** *Pressing the Stop button will override the cool down mode and cause an immediate shut down of the fans.*
5. **Unload delay timer:** The unload delay timer is used to control the amount of time the unload auger runs after the metering rolls stop to allow the unload auger to clean itself out.

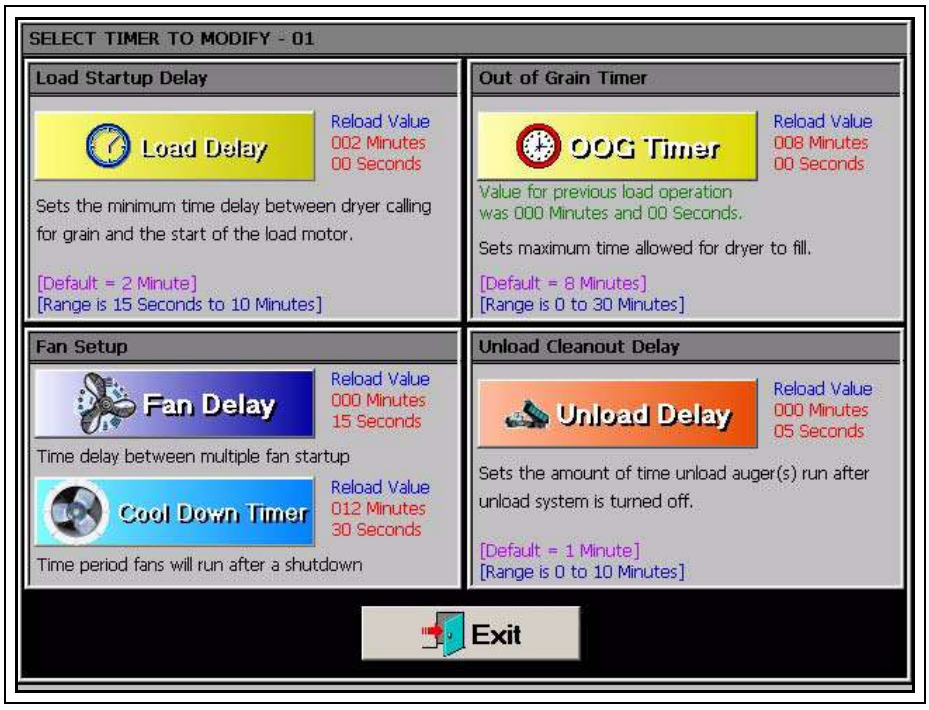


Figure 8A

To setup a timer touch the button of the timer you wish to modify. The Modify Timer Set Point screen will then be displayed. *(See Figure 8B on Page 46.)* Note that there are two number pads on this Modify screen. The left number pad is used to modify the minutes and the right number pad will modify the seconds. Touching the Default button will automatically set the timer to the default set point for that timer. The Accept button will save the timer set point displayed in the time display. Touching cancel will exit the Modify Timer Set Point screen without saving any changes and the timer will stay at the currently saved set point.

Once you have the timer set points set touching the Exit button at the bottom of the Modify Timer Set Point screen will return you to the Operation screen.

Figure 8B

Setting the Temperatures

Setting the temperature set points for the dryer is a simple procedure. To adjust the temperature set points touch the Temp button at the bottom of Operation screen. A new screen will appear called the Select Temperature Set Point to Modify screen. *(See Figure 8C.)* As you can see you modify the set point for the plenum by touching the Plenum 1 Temperature button.

The plenum temperature set point range is 80°F-250°F and the current temperature set point for each plenum is displayed next to the corresponding Plenum button.

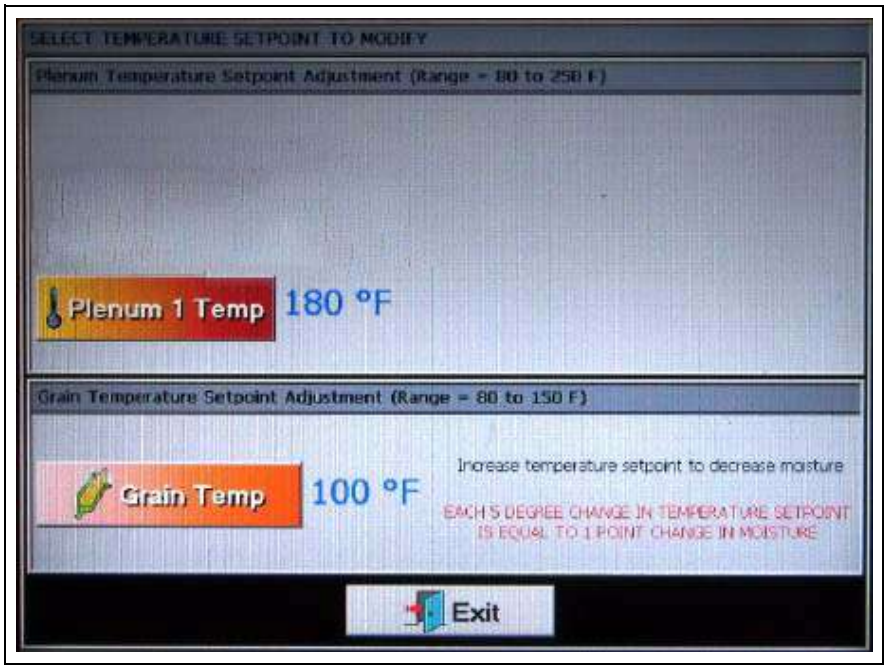


Figure 8C

The grain temperature set point range is 80°F-150°F and the current temperature set point for the grain temperature is displayed next to the Grain Temperature button.

Modifying a temperature set point is much like setting a timer described *on Page 32*. Touch the desired button of the set point you wish to change. The Modify Temperature Set Point screen will appear. Enter the desired temperature using the displayed number pad then touch the Accept button. Touching the Exit button at the bottom of the Select Temperature Set Point to Modify screen will return you to the Operators screen.

Start-Up

Start-Up Procedure

At the beginning of each harvest and before filling the dryer with grain make sure to inspect the dryer for rodent damage, proper belt tension and missing or damaged safety shields. Test operate the dryer using the pre-start check procedures.

1. Before attempting to operate the dryer make sure that all safety shields and access doors are in place and closed and all personnel are clear of the grain dryer and grain handling machinery.
2. Turn all selector switches on the control panel to the OFF position.
3. Turn ON the electrical power supply to the dryer and move the safety disconnect handle mounted on the dryer's power box to ON.
4. Turn the Control Power switch to ON. The switch will illuminate. The vision control computer will boot up. At this point the controller will lock out all other dryer functions. Once the Boot screen appears, touch the Start Dryer button and the dryer will perform its safety circuit checks. If a fault is found the cause will be displayed on the Display screen (Touch screen). If all safeties do not detect a problem. The dryer is ready to be started.
5. Move the Load Auger switch to MANUAL and push the Dryer Start switch. The fill conveyor will immediately start and the Load Auger switch will illuminate. If additional loading equipment is wired to the dryer it will also start immediately.
6. When the dryer is full of grain the fill conveyor will stop automatically and any auxiliary loading equipment wired to the dryer will also stop.

The dryer is now ready to begin drying grain. *See Page 48* for advanced moisture control dryer operation.

Continuous Flow Drying Mode Using Advanced Moisture Control

Full Heat Continuous Flow Operation

This section begins with *Step 7* and it is assumed that *Step 1* through *Step 6* in the start-up procedure described *on Page 47* have been completed.

7. Touch the Setup button at the bottom of the Dryer Operation screen. Once the Hardware Parameter screen is displayed, touch the Drying Mode button. **NOTE:** *Tower Dryers are always operated in the continuous flow mode. Press the Accept button and return to the Hardware Parameter screen.*

8. Touch the M/C Setup button. When the Moisture Control Selection window appears select the MOISTURE then VARIABLE moisture control option. Then set the maximum grain temperature under the Safety Parameters group. Now touch the Setup button then the Unload Parameters button. When the Unload Parameters window appears, set the % (percent) MAXIMUM Unloading Rate to a value slightly lower than the maximum unload rate of the unloading equipment. (**NOTE:** *This percentage will need to be experimentally found by manually operating the dryer unload at various unload rates to determine the maximum unload rate which the equipment can handle.*) Set the MINIMUM unloading rate at 10%. Once these values have been determined, touch the Accept/Exit button. In this screen, you also have the option of automatically adjusting the drying temperature downward if the automatic moisture control continuously calls for an unload rate which is higher than the maximum unload rate. To select this option, turn the Plenum Temperature Manager to the “ON” position. (*See Page 35* under the Setup screen.) You have the option of controlling the frequency at which the plenum temperature will be adjusted (time between possible steps) and the size of each temperature change for each step (size of temperature steps). These settings will be a trial and error adjustment that will be made based on the site of the unload equipment. Initially, the step time should be “15 MINUTE” and the size of the temperature step should be “AUTO”. If drying conditions change after the plenum temperature manager has lowered the drying temperature, the plenum temperature will also re-increase the drying temperature.

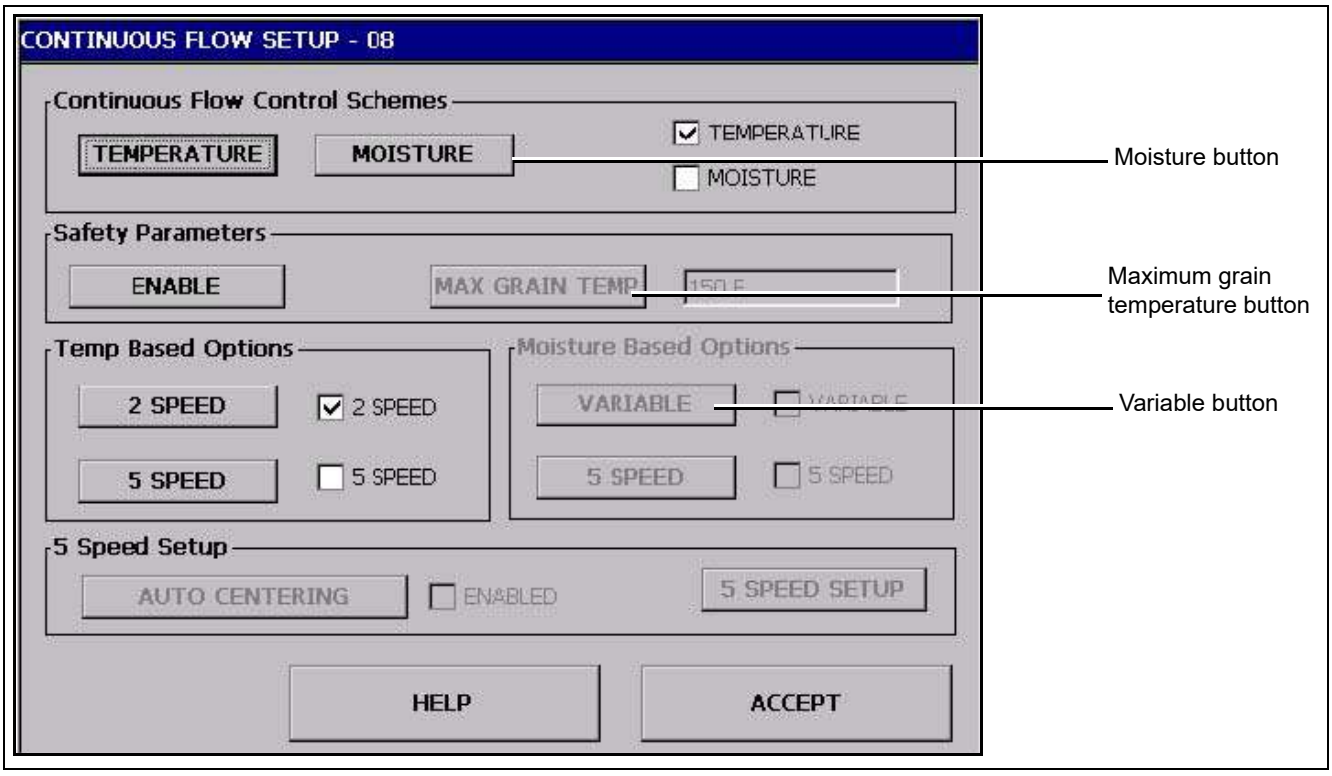


Figure 8D

9. Now touch the Setup button >> Extended Setup button >> Printer Setup. When the Storage Parameters window appears select the type of grain that is to be dried and select the storage bin to be used (the bin number is for reference only and has nothing to do with the control of moisture). The optional printer can also be enabled or disabled by touching the Printer Setup button. After you have made the selection, touch the Exit button to accept and exit.
10. You will also see a button to calibrate the moisture sensors. Do not calibrate the sensors at this time.
11. Now touch the Exit button at the bottom of the screen and return to the Dryer Operation screen.

    The setup is almost complete and you are now ready to begin drying grain using the variable moisture control system. The following steps start the flow of grain through the dryer and finish setting up the moisture control.
12. Make sure the Unload switch is **OFF**.
13. Open the main fuel supply valve on the tank if using LP gas or the valve in the fuel supply line if using natural gas.
14. The dryer should already be filled with grain. Turn the Load Auger switch to the **AUTO** position. In both the AUTO and MANUAL positions, the Dryer Grain Level switch will automatically keep the dryer full of grain. In the AUTO position, the dryer will shut down after a preset time period using the out of grain timer.
15. Look in the drying reference tables section *on Pages 50-95* for the chart settings that correspond to the model of dryer. Pick the initial moisture content and the drying temperature to select an initial unload rate.
16. Turn the Fan switch to **ON**. The fan will start and the switch will illuminate when air pressure is detected.
17. Start the burner by turning the Heater switch to ON. After purging for approximately 15 second the burner will fire and the Heater switch will illuminate. This indicates that the flame sensing circuit is sensing burner flame. For information concerning burner adjustment see the dryer pre-start checks section *on Page 41* of this manual.
18. If the dryer is filled with wet corn, run the fan/heater 6 minute/point of moisture to be removed before starting the unload.

Drying Time Table - T/F-1050

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	54	26.7	1324	63	23.7	1545	72	20.7	1766
18	15	41	36.7	998	48	31.4	1165	54	27.5	1331
19	15	33	45.0	814	39	38.5	949	44	33.7	1085
20	15	28	52.9	691	33	45.4	807	38	39.7	922
21	15	25	60.9	601	29	52.2	701	33	45.7	801
22	15	22	69.1	530	25	59.2	618	29	51.8	706
23	15	19	77.8	470	22	66.7	549	26	58.4	627
24	15	17	87.3	419	20	74.8	489	23	65.5	559
25	15	15	97.6	375	18	83.6	438	20	73.2	500
26	15	14	108.9	336	16	93.3	392	18	81.6	448
27	15	12	121.2	302	14	103.9	352	16	90.9	403
28	15	11	134.5	272	13	115.3	317	15	100.9	363
29	15	10	148.9	246	12	127.6	287	13	111.7	328
30	15	9	164.2	223	11	140.8	260	12	123.2	297
31	15	8	180.4	203	10	154.6	237	11	135.3	270
32	15	8	197.3	186	9	169.1	216	10	148.0	247
33	15	7	214.6	171	8	184.0	199	9	161.0	227
34	15	6	232.2	158	8	199.0	184	9	174.1	210
35	15	6	249.7	147	7	214.0	171	8	187.3	195

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	40	37.1	988	45	33.3	1097	49	30.3	1207
16	13	30	49.2	744	34	44.2	827	37	40.2	910
17	13	25	60.3	607	28	54.3	674	30	49.3	742
18	13	21	71.0	516	23	63.9	573	26	58.1	630
19	13	18	81.6	448	20	73.5	498	22	66.8	548
20	13	16	92.7	395	18	83.4	439	20	75.8	483
21	13	14	104.4	351	16	93.9	390	17	85.4	429
23	13	11	130.9	280	13	117.8	311	14	107.1	342
25	13	9	162.5	225	10	146.2	250	11	132.9	275

Drying Time Table - T/F-1050 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	25	60.6	604	28	53.0	690	32	47.1	777
16	13	19	78.4	467	22	68.6	534	25	61.0	600
17	13	16	93.5	392	18	81.8	448	21	72.7	503
18	13	14	106.7	343	16	93.3	392	18	83.0	441
19	13	13	118.8	308	14	103.9	352	16	92.4	396
20	13	11	130.4	281	13	114.1	321	15	101.4	361
21	13	11	142.1	258	12	124.3	294	14	110.5	331
23	13	9	167.4	219	10	146.5	250	11	130.2	281
25	13	8	197.1	186	9	172.4	212	10	153.3	239

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	18	85.1	430	20	75.6	484	22	68.0	538
12	9	13	112.8	324	15	100.3	365	17	90.3	405
13	9	11	138.4	264	12	123.0	297	13	110.7	330
14	9	9	162.9	225	10	144.8	253	11	130.4	281
15	9	8	187.4	195	9	166.6	220	10	149.9	244
16	9	7	212.7	172	8	189.1	194	9	170.2	215
17	9	6	239.6	153	7	213.0	172	8	191.7	191
18	9	6	268.7	136	6	238.8	153	7	214.9	170
19	9	5	300.4	122	6	267.0	137	6	240.3	152

Based on 100% Unload rate of…...**2450 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T/F-1260

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	64	28.8	1577	75	24.7	1840	86	21.6	2103
18	15	49	38.2	1189	57	32.7	1387	65	28.6	1585
19	15	40	46.8	969	46	40.1	1131	53	35.1	1292
20	15	34	55.1	823	39	47.2	961	45	41.3	1098
21	15	29	63.4	716	34	54.3	835	39	47.5	954
22	15	26	71.9	631	30	61.6	736	34	53.9	841
23	15	23	81.0	560	27	69.4	653	30	60.8	747
24	15	20	90.8	499	24	77.9	583	27	68.1	666
25	15	18	101.6	447	21	87.1	521	24	76.2	595
26	15	16	113.3	400	19	97.1	467	22	85.0	534
27	15	15	126.1	360	17	108.1	420	20	94.6	480
28	15	13	140.0	324	15	120.0	378	18	105.0	432
29	15	12	155.0	293	14	132.8	341	16	116.2	390
30	15	11	170.9	265	13	146.5	310	14	128.2	354
31	15	10	187.8	242	12	160.9	282	13	140.8	322
32	15	9	205.3	221	11	176.0	258	12	154.0	295
33	15	8	223.4	203	10	191.4	237	11	167.5	271
34	15	8	241.6	188	9	207.1	219	10	181.2	250
35	15	7	259.9	175	8	222.7	204	9	194.9	233

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	48	38.6	1176	53	34.7	1307	59	31.6	1438
16	13	36	51.2	887	40	46.0	985	44	41.9	1084
17	13	29	62.8	723	33	56.5	803	36	51.4	883
18	13	25	73.9	614	28	66.5	682	31	60.4	750
19	13	22	85.0	534	24	76.5	593	27	69.5	652
20	13	19	96.4	470	21	86.8	523	23	78.9	575
21	13	17	108.6	418	19	97.8	464	21	88.9	510
23	13	14	136.2	333	15	122.6	370	17	111.4	407
25	13	11	169.1	268	12	152.2	298	13	138.3	328

Drying Time Table - T/F-1260 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	29	63.1	719	34	55.2	822	38	49.0	925
16	13	23	81.6	556	26	71.4	635	29	63.5	715
17	13	19	97.3	466	22	85.1	533	24	75.7	600
18	13	17	111.0	409	19	97.1	467	21	86.3	525
19	13	15	123.6	367	17	108.1	419	19	96.1	472
20	13	14	135.7	334	16	118.7	382	18	105.5	430
21	13	13	147.9	307	14	129.4	351	16	115.0	394
23	13	11	174.2	260	12	152.4	298	14	135.5	335
25	13	9	205.1	221	10	179.5	253	12	159.5	284

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	21	88.5	512	24	78.7	576	26	70.8	641
12	9	16	117.4	386	18	104.4	434	20	94.0	483
13	9	13	144.1	315	14	128.1	354	16	115.3	394
14	9	11	169.6	267	12	150.7	301	14	135.7	334
15	9	9	195.0	233	11	173.4	262	12	156.0	291
16	9	8	221.4	205	9	196.8	231	10	177.1	256
17	9	7	249.4	182	8	221.7	205	9	199.5	227
18	9	7	279.6	162	7	248.5	183	8	223.7	203
19	9	6	312.6	145	7	277.9	163	7	250.1	181

Based on 100% Unload rate of…...**2450 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T/F-1575

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	89	25.1	2189						
18	15	67	33.2	1650	79	28.5	1925	90	24.9	2200
19	15	55	40.8	1345	64	35.0	1569	73	30.6	1793
20	15	47	48.0	1143	54	41.1	1333	62	36.0	1523
21	15	41	55.2	993	47	47.3	1159	54	41.4	1325
22	15	36	62.7	875	42	53.7	1021	48	47.0	1167
23	15	32	70.6	777	37	60.5	907	42	52.9	1036
24	15	28	79.1	693	33	67.8	808	38	59.4	924
25	15	25	88.5	620	30	75.8	723	34	66.4	826
26	15	23	98.7	556	26	84.6	648	30	74.0	741
27	15	20	109.9	499	24	94.2	582	27	82.4	666
28	15	18	122.0	450	21	104.5	525	24	91.5	600
29	15	17	135.0	406	19	115.7	474	22	101.3	542
30	15	15	148.9	368	18	127.6	430	20	111.7	491
31	15	14	163.6	335	16	140.2	391	18	122.7	447
32	15	13	178.9	307	15	153.3	358	17	134.1	409
33	15	12	194.6	282	13	166.8	329	15	145.9	376
34	15	11	210.5	261	12	180.4	304	14	157.9	347
35	15	10	226.4	242	12	194.0	283	13	169.8	323

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	67	33.6	1632	74	30.2	1814	81	27.5	1995
16	13	50	44.6	1230	56	40.1	1367	61	36.5	1504
17	13	41	54.7	1003	45	49.2	1114	50	44.7	1226
18	13	35	64.4	852	39	57.9	947	43	52.7	1041
19	13	30	74.0	741	34	66.6	823	37	60.6	905
20	13	27	84.0	653	30	75.6	725	33	68.7	798
21	13	24	94.6	579	26	85.2	644	29	77.4	708
23	13	19	118.6	462	21	106.8	514	23	91.7	565
25	13	15	147.3	372	17	132.6	414	19	120.5	455

Drying Time Table - T/F-1575 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	41	54.9	998	47	48.1	1141	52	42.7	1283
16	13	31	71.1	772	36	62.2	882	40	55.3	992
17	13	26	84.7	647	30	74.1	740	34	65.9	832
18	13	23	96.7	567	26	84.6	648	30	75.2	729
19	13	21	107.7	509	24	94.2	582	27	83.7	655
20	13	19	118.2	464	22	103.4	530	24	91.9	596
21	13	17	128.8	426	20	112.7	487	22	100.2	547
23	13	15	151.8	361	17	132.8	413	19	118.0	465
25	13	13	178.7	307	14	156.3	351	16	139.0	395

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	29	77.1	711	33	68.5	800	36	61.7	889
12	9	22	102.3	536	25	90.9	603	27	81.9	670
13	9	18	125.5	437	20	111.6	492	22	100.4	546
14	9	15	147.7	371	17	131.3	418	19	118.2	464
15	9	13	169.9	323	15	151.0	363	16	135.9	403
16	9	12	192.9	284	13	171.4	320	15	154.3	355
17	9	10	217.2	252	12	193.1	284	13	173.8	316
18	9	9	243.6	225	10	216.5	253	11	194.9	281
19	9	8	272.3	201	9	242.1	227	10	217.9	252

Based on 100% Unload rate of…...**2450 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T/F-1875

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	83	27.4	2538	97	23.5	2961			
18	15	62	36.3	1913	73	31.1	2232	83	27.2	2550
19	15	51	44.6	1559	59	38.2	1819	68	33.4	2079
20	15	43	52.4	1325	50	45.0	1545	58	39.3	1766
21	15	38	60.3	1152	44	51.7	1344	50	45.2	1536
22	15	33	68.5	1015	39	58.7	1184	44	51.4	1353
23	15	29	77.1	901	34	66.1	1051	39	57.8	1201
24	15	26	86.5	803	31	74.1	937	35	64.9	1071
25	15	23	96.7	719	27	82.9	838	31	72.5	958
26	15	21	107.9	644	25	92.4	752	28	80.9	859
27	15	19	120.0	579	22	102.9	675	25	90.0	772
28	15	17	133.3	521	20	114.2	608	23	100.0	695
29	15	15	147.5	471	18	126.5	549	21	110.6	628
30	15	14	162.7	427	16	139.5	498	19	122.0	569
31	15	13	178.8	389	15	153.2	453	17	134.1	518
32	15	12	195.5	355	14	167.5	415	15	146.6	474
33	15	11	212.6	327	12	182.3	381	14	159.5	436
34	15	10	230.0	302	12	197.2	352	13	172.5	403
35	15	9	247.4	281	11	212.0	328	12	185.5	374

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	62	36.7	1893	69	33.0	2103	76	30.0	2313
16	13	47	48.7	1426	52	43.8	1585	57	39.9	1743
17	13	38	59.7	1163	42	53.8	1292	46	48.9	1421
18	13	32	70.3	988	36	63.3	1098	39	57.5	1207
19	13	28	80.9	859	31	72.8	954	34	66.2	1050
20	13	25	91.8	757	27	82.6	841	30	75.1	925
21	13	22	103.4	672	24	93.1	746	27	84.6	821
23	13	17	129.7	536	19	116.7	595	21	106.1	655
25	13	14	161.0	432	16	144.9	480	17	131.7	528

Drying Time Table - T/F-1875 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	38	60.0	1157	43	52.5	1323	49	46.7	1488
16	13	29	77.7	895	33	68.0	1022	38	60.4	1150
17	13	24	92.6	750	28	81.0	857	31	72.0	965
18	13	21	105.7	657	25	92.5	751	28	82.2	845
19	13	19	117.7	590	22	103.0	675	25	91.5	759
20	13	18	129.2	538	20	113.0	615	23	100.5	692
21	13	16	140.8	494	18	123.2	564	21	109.5	635
23	13	14	165.8	419	16	145.1	479	18	129.0	539
25	13	12	195.3	356	13	170.8	407	15	151.9	458

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	27	84.3	824	30	74.9	928	34	67.4	1031
12	9	20	111.8	621	23	99.4	699	25	89.4	777
13	9	17	137.2	507	19	121.9	570	21	109.7	633
14	9	14	161.4	430	16	143.5	484	18	129.2	538
15	9	12	185.7	374	14	165.1	421	15	148.5	468
16	9	11	210.8	330	12	187.3	371	13	168.6	412
17	9	10	237.4	293	11	211.0	329	12	189.9	366
18	9	9	266.2	261	10	236.6	294	11	212.9	326
19	9	8	297.6	233	9	264.5	263	10	238.1	292

Based on 100% Unload rate of…...**3063 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T/F-20100

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	95	26.0	2902						
18	15	71	34.5	2187	83	29.5	2552	95	25.8	2916
19	15	58	42.3	1783	68	36.2	2080	78	31.7	2377
20	15	49	49.8	1515	58	42.6	1767	66	37.3	2020
21	15	43	57.2	1317	50	49.0	1536	57	42.9	1756
22	15	38	65.0	1160	44	55.7	1354	51	48.7	1547
23	15	34	73.2	1030	39	62.7	1202	45	54.9	1373
24	15	30	82.0	919	35	70.3	1072	40	61.5	1225
25	15	27	91.7	822	31	78.6	959	36	68.8	1096
26	15	24	102.3	737	28	87.7	859	32	76.7	982
27	15	22	113.9	662	25	97.6	772	29	85.4	882
28	15	19	126.4	596	23	108.4	695	26	94.8	795
29	15	18	139.9	538	21	120.0	628	23	105.0	718
30	15	16	154.4	488	19	132.3	570	21	115.8	651
31	15	15	169.6	444	17	145.3	519	19	127.2	593
32	15	13	185.4	406	15	158.9	474	18	139.1	542
33	15	12	201.7	374	14	172.9	436	16	151.3	498
34	15	11	218.2	345	13	187.0	403	15	163.7	460
35	15	10	234.7	321	12	201.1	375	14	176.0	428

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	71	34.8	2164	78	31.3	2404	86	28.5	2645
16	13	53	46.2	1631	59	41.6	1812	65	37.8	1993
17	13	43	56.7	1330	48	51.0	1477	53	46.4	1625
18	13	37	66.7	1130	41	60.0	1255	45	54.6	1381
19	13	32	76.7	982	36	69.1	1091	39	62.8	1200
20	13	28	87.1	865	31	78.4	961	35	71.3	1058
21	13	25	98.1	768	28	88.3	854	31	80.3	939
23	13	20	123.0	613	22	110.7	681	24	100.6	749
25	13	16	152.7	494	18	137.4	548	20	124.9	603

Drying Time Table - T/F-20100 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	43	56.9	1323	49	49.8	1512	56	44.3	1701
16	13	33	73.7	1023	38	64.5	1169	43	57.3	1315
17	13	28	87.8	858	32	76.9	980	36	68.3	1103
18	13	25	100.3	752	28	87.7	859	32	78.0	966
19	13	22	111.6	675	25	97.7	772	28	86.8	868
20	13	20	122.5	615	23	107.2	703	26	95.3	791
21	13	18	133.5	564	21	116.8	645	24	103.9	726
23	13	16	157.3	479	18	137.7	547	20	122.4	616
25	13	13	185.2	407	15	162.1	465	17	144.1	523

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	31	79.9	943	35	71.1	1061	38	64.0	1178
12	9	23	106.1	711	26	94.3	799	29	84.8	888
13	9	19	130.1	579	21	115.6	652	24	104.1	724
14	9	16	153.1	492	18	136.1	554	20	122.5	615
15	9	14	176.1	428	16	156.6	481	17	140.9	535
16	9	12	199.9	377	14	177.7	424	15	159.9	471
17	9	11	225.2	335	12	200.2	376	14	180.1	418
18	9	10	252.5	298	11	224.4	336	12	202.0	373
19	9	9	282.3	267	10	250.9	300	11	225.8	334

Based on 100% Unload rate of…...**3063 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T/F-24100

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15									
18	15	82	35.9	2504	95	30.8	2921			
19	15	67	44.1	2041	78	37.8	2382	89	33.0	2722
20	15	57	51.9	1734	66	44.5	2023	75	38.9	2312
21	15	49	59.7	1508	57	51.1	1759	66	44.7	2010
22	15	43	67.7	1328	51	58.0	1550	58	50.8	1771
23	15	39	76.3	1179	45	65.4	1376	51	57.2	1573
24	15	34	85.5	1052	40	73.3	1227	46	64.1	1402
25	15	31	95.6	941	36	81.9	1098	41	71.7	1254
26	15	28	106.6	843	32	91.4	984	37	80.0	1124
27	15	25	118.7	758	29	101.7	884	33	89.0	1010
28	15	22	131.8	682	26	113.0	796	30	98.8	910
29	15	20	145.9	617	23	125.0	719	27	109.4	822
30	15	18	160.9	559	21	137.9	652	24	120.7	745
31	15	17	176.8	509	19	151.5	594	22	132.6	678
32	15	15	193.3	465	18	165.7	543	20	145.0	620
33	15	14	210.3	428	16	180.2	499	19	157.7	570
34	15	13	227.5	395	15	195.0	461	17	170.6	527
35	15	12	244.6	368	14	209.7	429	16	183.5	490

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	81	36.3	2478	90	32.7	2753	99	29.7	3028
16	13	61	48.2	1867	68	43.3	2075	75	39.4	2282
17	13	50	59.1	1522	55	53.2	1691	61	48.3	1861
18	13	42	69.5	1293	47	62.6	1437	52	56.9	1581
19	13	37	80.0	1124	41	72.0	1249	45	65.4	1374
20	13	32	90.8	991	36	81.7	1101	40	74.3	1211
21	13	29	102.3	880	32	92.0	977	35	83.7	1075
23	13	23	128.2	702	25	115.4	780	28	104.9	857
25	13	18	159.2	565	20	143.3	628	23	130.2	691

Drying Time Table - T/F-24100 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	49	59.4	1515	57	51.9	1732	64	46.2	1948
16	13	38	76.8	1171	44	67.2	1338	49	59.7	1506
17	13	32	91.6	982	37	80.1	1123	41	71.2	1263
18	13	28	104.5	861	32	91.4	984	36	81.3	1107
19	13	25	116.3	773	29	101.8	883	32	90.5	994
20	13	23	127.7	704	26	111.8	805	30	99.3	905
21	13	21	139.2	646	24	121.8	738	27	108.3	831
23	13	18	164.0	548	20	143.5	627	23	127.5	705
25	13	15	193.1	466	17	168.9	532	20	150.2	599

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	35	83.3	1079	40	74.1	1214	44	66.7	1349
12	9	27	110.6	814	30	98.3	915	33	88.4	1017
13	9	22	135.6	663	24	120.5	746	27	108.5	829
14	9	18	159.6	563	21	141.9	634	23	127.7	704
15	9	16	183.6	490	18	163.2	551	20	146.9	612
16	9	14	208.4	432	16	185.2	486	18	166.7	539
17	9	13	234.7	383	14	208.7	431	16	187.8	479
18	9	11	263.2	342	13	234.0	384	14	210.6	427
19	9	10	294.3	306	11	261.6	344	12	235.4	382

Based on 100% Unload rate of…...**3063 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-27125

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15									
18	15	91	36.5	2782						
19	15	74	44.8	2268	86	38.4	2646	99	33.6	3024
20	15	63	52.7	1927	73	45.2	2248	84	39.5	2569
21	15	55	60.6	1675	64	52.0	1955	73	45.5	2234
22	15	48	68.8	1476	56	59.0	1722	64	51.6	1968
23	15	43	77.5	1311	50	66.4	1529	57	58.1	1747
24	15	38	86.9	1169	45	74.5	1364	51	65.2	1558
25	15	34	97.2	1045	40	83.3	1220	46	72.9	1394
26	15	31	108.4	937	36	92.9	1093	41	81.3	1249
27	15	27	120.7	842	32	103.4	982	37	90.5	1123
28	15	25	134.0	758	29	114.8	885	33	100.5	1011
29	15	22	148.3	685	26	127.1	799	30	111.2	913
30	15	20	163.5	621	24	140.2	725	27	122.7	828
31	15	18	179.7	565	22	154.0	660	25	134.7	754
32	15	17	196.4	517	20	168.4	603	23	147.3	689
33	15	16	213.7	475	18	183.2	555	21	160.3	634
34	15	14	231.2	439	17	198.2	513	19	173.4	586
35	15	13	248.6	409	16	213.1	477	18	186.5	545

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	90	36.9	2753	100	33.2	3059			
16	13	68	49.0	2075	75	44.1	2306	83	40.1	2536
17	13	55	60.0	1692	61	54.0	1880	67	49.1	2068
18	13	47	70.7	1437	52	63.6	1597	57	57.8	1756
19	13	41	81.3	1249	45	73.2	1388	50	66.5	1527
20	13	36	92.3	1101	40	83.0	1223	44	75.5	1345
21	13	32	103.9	977	35	93.5	1086	39	85.0	1195
23	13	25	130.3	780	28	117.3	866	31	106.6	953
25	13	20	161.8	628	23	145.6	698	25	132.4	767

Drying Time Table - T-27125 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	55	60.3	1684	63	52.8	1924	71	46.9	2165
16	13	42	78.1	1301	49	68.3	1487	55	60.7	1673
17	13	36	93.1	1091	41	81.4	1247	46	72.4	1403
18	13	31	106.2	956	36	92.9	1093	40	82.6	1230
19	13	28	118.3	859	32	103.5	982	36	92.0	1104
20	13	26	129.8	782	29	113.6	894	33	101.0	1006
21	13	23	141.5	718	27	123.8	821	30	110.0	923
23	13	20	166.7	609	23	145.8	696	26	129.6	784
25	13	17	196.2	518	19	171.7	592	22	152.6	666

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	39	84.7	1199	44	75.3	1349	49	67.8	1499
12	9	30	112.4	904	33	99.9	1017	37	89.9	1130
13	9	24	137.8	737	27	122.5	829	30	110.3	921
14	9	20	162.3	626	23	144.2	704	26	129.8	783
15	9	18	186.6	544	20	165.9	612	22	149.3	680
16	9	16	211.8	480	18	188.3	540	20	169.5	599
17	9	14	238.6	426	16	212.1	479	17	190.9	532
18	9	12	267.5	380	14	237.8	427	15	214.0	475
19	9	11	299.1	340	12	265.9	382	14	239.3	425

Based on 100% Unload rate of…...**3063 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-2521

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	63	25.6	3539	74	22.0	4129	84	19.2	4719
18	15	48	34.0	2668	56	29.1	3112	64	25.5	3557
19	15	39	41.7	2175	45	35.7	2537	52	31.3	2900
20	15	33	49.1	1848	38	42.1	2156	44	36.8	2463
21	15	29	56.4	1606	33	48.4	1874	38	42.3	2142
22	15	25	64.1	1415	29	54.9	1651	34	48.0	1887
23	15	22	72.2	1257	26	61.8	1466	30	54.1	1675
24	15	20	80.9	1121	23	69.3	1307	27	60.7	1494
25	15	18	90.5	1002	21	77.5	1169	24	67.8	1336
26	15	16	100.9	898	19	86.5	1048	21	75.7	1198
27	15	14	112.3	807	17	96.3	942	19	84.2	1076
28	15	13	124.7	727	15	106.9	848	17	93.5	969
29	15	12	138.0	657	14	118.3	766	16	103.5	876
30	15	11	152.2	596	12	130.5	695	14	114.2	794
31	15	10	167.2	542	11	143.3	632	13	125.4	723
32	15	9	182.9	496	10	156.7	578	12	137.1	661
33	15	8	198.9	456	9	170.5	532	11	149.2	608
34	15	8	215.2	421	9	184.5	491	10	161.4	562
35	15	7	231.4	392	8	198.4	457	9	173.6	522

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	47	34.3	2640	52	30.9	2933	58	28.1	3226
16	13	36	45.6	1989	39	41.0	2211	43	37.3	2432
17	13	29	55.9	1622	32	50.3	1802	35	45.7	1982
18	13	25	65.8	1378	27	59.2	1531	30	53.8	1684
19	13	21	75.7	1198	24	68.1	1331	26	61.9	1464
20	13	19	85.9	1055	21	77.3	1173	23	70.3	1290
21	13	17	96.8	937	19	87.1	1041	20	79.2	1145
23	13	13	121.3	747	15	109.2	830	16	99.2	914
25	13	11	150.6	602	12	135.5	669	13	123.2	736

Drying Time Table - T-2521 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	29	56.2	1614	33	49.1	1845	37	43.7	2075
16	13	22	72.7	1248	25	63.6	1426	29	56.5	1604
17	13	19	86.6	1046	21	75.8	1196	24	67.4	1345
18	13	16	98.9	917	19	86.5	1048	21	76.9	1179
19	13	15	110.1	824	17	96.3	941	19	85.6	1059
20	13	13	120.8	750	15	105.7	857	17	94.0	965
21	13	12	131.7	688	14	115.2	787	16	102.4	885
23	13	10	155.2	584	12	135.8	668	13	120.7	751
25	13	9	182.7	496	10	159.8	567	11	142.1	638

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	21	78.8	1150	23	70.1	1294	26	63.1	1437
12	9	15	104.6	867	17	93.0	975	19	83.7	1083
13	9	13	128.3	707	14	114.1	795	16	102.6	883
14	9	11	151.0	600	12	134.3	675	13	120.8	750
15	9	9	173.7	522	10	154.4	587	12	139.0	652
16	9	8	197.2	460	9	175.3	517	10	157.7	575
17	9	7	222.1	408	8	197.4	459	9	177.7	510
18	9	7	249.0	364	7	221.4	410	8	199.2	455
19	9	6	278.4	326	7	247.5	366	7	222.7	407

Based on 100% Unload rate of…...**5600 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-3026

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	60	25.7	4231	71	22.0	4936	81	19.3	5641
18	15	46	34.1	3189	53	29.2	3720	61	25.6	4252
19	15	37	41.8	2599	43	35.9	3033	50	31.4	3466
20	15	32	49.3	2208	37	42.2	2576	42	36.9	2944
21	15	27	56.7	1920	32	48.6	2240	37	42.5	2560
22	15	24	64.3	1692	28	55.1	1974	32	48.2	2256
23	15	21	72.4	1502	25	62.1	1752	29	54.3	2002
24	15	19	81.2	1339	22	69.6	1563	26	60.9	1786
25	15	17	90.8	1198	20	77.8	1398	23	68.1	1597
26	15	15	101.3	1074	18	86.8	1253	20	76.0	1432
27	15	14	112.7	965	16	96.6	1126	18	84.6	1286
28	15	12	125.2	869	14	107.3	1014	17	93.9	1159
29	15	11	138.6	785	13	118.8	916	15	103.9	1047
30	15	10	152.8	712	12	131.0	830	14	114.6	949
31	15	9	167.9	648	11	143.9	756	12	125.9	864
32	15	8	183.6	593	10	157.3	691	11	137.7	790
33	15	8	199.7	545	9	171.2	636	10	149.8	726
34	15	7	216.0	504	8	185.2	587	10	162.0	671
35	15	7	232.3	468	8	199.1	546	9	174.2	624

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	45	34.5	3155	50	31.0	3505	55	28.2	3856
16	13	34	45.7	2378	38	41.2	2642	42	37.4	2906
17	13	28	56.1	1939	31	50.5	2154	34	45.9	2369
18	13	24	66.1	1647	26	59.4	1830	29	54.0	2013
19	13	20	76.0	1432	23	68.4	1591	25	62.2	1750
20	13	18	86.2	1262	20	77.6	1402	22	70.6	1542
21	13	16	97.1	1120	18	87.4	1244	20	79.5	1369
23	13	13	121.8	893	14	109.6	993	16	99.6	1092
25	13	10	151.2	720	11	136.1	799	13	123.7	879

Drying Time Table - T-3026 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	28	56.4	1929	31	49.3	2205	35	43.9	2481
16	13	21	72.9	1491	24	63.8	1704	27	56.7	1917
17	13	18	87.0	1251	20	76.1	1429	23	67.6	1608
18	13	16	99.3	1096	18	86.9	1252	20	77.2	1409
19	13	14	110.5	984	16	96.7	1125	18	85.9	1266
20	13	13	121.3	897	15	106.2	1025	16	94.4	1153
21	13	12	132.2	823	13	115.7	940	15	102.8	1058
23	13	10	155.8	698	11	136.3	798	13	121.1	898
25	13	8	183.4	593	10	160.5	678	11	142.6	763

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	20	79.1	1374	22	70.4	1546	25	63.3	1718
12	9	15	105.0	1036	17	93.3	1165	18	84.0	1295
13	9	12	128.8	845	14	114.5	950	15	103.0	1056
14	9	10	151.6	717	12	134.8	807	13	121.3	897
15	9	9	174.4	624	10	155.0	702	11	139.5	780
16	9	8	197.9	550	9	175.9	618	10	158.3	687
17	9	7	222.9	488	8	198.2	549	9	178.4	610
18	9	6	250.0	435	7	222.2	490	8	200.0	544
19	9	6	279.5	389	6	248.4	438	7	223.6	486

Based on 100% Unload rate of…...**7000 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-3531

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	73	25.8	5140	86	22.1	5996	98	19.4	6853
18	15	55	34.2	3874	65	29.3	4519	74	25.7	5165
19	15	45	42.0	3158	53	36.0	3684	60	31.5	4211
20	15	38	49.4	2683	45	42.4	3130	51	37.1	3577
21	15	33	56.8	2333	39	48.7	2721	44	42.6	3110
22	15	29	64.5	2055	34	55.3	2398	39	48.4	2740
23	15	26	72.7	1825	30	62.3	2129	35	54.5	2433
24	15	23	81.5	1627	27	69.9	1898	31	61.1	2170
25	15	21	91.1	1455	24	78.1	1698	28	68.3	1940
26	15	19	101.6	1305	22	87.1	1522	25	76.2	1740
27	15	17	113.1	1172	20	97.0	1367	22	84.8	1563
28	15	15	125.6	1056	18	107.7	1232	20	94.2	1408
29	15	14	139.0	954	16	119.2	1113	18	104.3	1272
30	15	12	153.3	865	14	131.4	1009	16	115.0	1153
31	15	11	168.4	787	13	144.4	918	15	126.3	1050
32	15	10	184.2	720	12	157.9	840	14	138.1	960
33	15	9	200.4	662	11	171.8	772	13	150.3	882
34	15	9	216.8	612	10	185.8	714	12	162.6	816
35	15	8	233.1	569	9	199.8	664	11	174.8	758

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	55	34.6	3833	61	31.1	4259	67	28.3	4685
16	13	41	45.9	2889	46	41.3	3210	50	37.6	3531
17	13	34	56.3	2355	37	50.7	2617	41	46.1	2878
18	13	29	66.3	2001	32	59.6	2223	35	54.2	2445
19	13	25	76.2	1739	28	68.6	1933	30	62.4	2126
20	13	22	86.5	1533	24	77.9	1703	27	70.8	1873
21	13	19	97.5	1361	22	87.7	1512	24	79.7	1663
23	13	16	122.2	1085	17	110.0	1206	19	100.0	1327
25	13	12	151.7	874	14	136.5	971	15	124.1	1068

Drying Time Table - T-3531 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	33	56.6	2344	38	49.5	2679	43	44.0	3014
16	13	26	73.2	1812	30	64.0	2071	33	56.9	2329
17	13	22	87.3	1520	25	76.4	1737	28	67.9	1954
18	13	19	99.6	1331	22	87.1	1522	24	77.5	1712
19	13	17	110.9	1196	20	97.0	1367	22	86.2	1538
20	13	16	121.7	1089	18	106.5	1245	20	94.7	1401
21	13	14	132.6	1000	16	116.1	1142	18	103.2	1285
23	13	12	156.3	848	14	136.7	970	16	121.6	1091
25	13	10	184.0	721	12	161.0	824	13	143.1	927

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	24	79.4	1670	27	70.6	1878	30	63.5	2087
12	9	18	105.4	1258	20	93.7	1416	22	84.3	1573
13	9	15	129.2	1026	16	114.9	1154	18	103.4	1282
14	9	12	152.1	872	14	135.2	981	16	121.7	1090
15	9	11	175.0	758	12	155.5	853	14	140.0	947
16	9	10	198.6	668	11	176.5	751	12	158.9	835
17	9	8	223.7	593	10	198.8	667	11	179.0	741
18	9	8	250.8	529	8	223.0	595	9	200.7	661
19	9	7	280.4	473	8	249.3	532	8	224.4	591

Based on 100% Unload rate of…...**7000 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-4036

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	82	26.3	5738	96	22.5	6694			
18	15	62	34.9	4324	72	29.9	5045	82	26.1	5766
19	15	50	42.8	3525	59	36.6	4113	67	32.1	4701
20	15	43	50.3	2995	50	43.1	3494	57	37.7	3993
21	15	37	57.9	2604	43	49.6	3038	50	43.4	3472
22	15	33	65.7	2294	38	56.3	2677	44	49.3	3059
23	15	29	74.0	2037	34	63.4	2376	39	55.5	2716
24	15	26	83.0	1816	30	71.1	2119	35	62.2	2422
25	15	23	92.8	1625	27	79.5	1895	31	69.6	2166
26	15	21	103.5	1456	24	88.7	1699	28	77.6	1942
27	15	19	115.2	1309	22	98.7	1527	25	86.4	1745
28	15	17	127.9	1179	20	109.6	1375	22	95.9	1571
29	15	15	141.6	1065	18	121.3	1242	20	106.2	1420
30	15	14	156.1	965	16	133.8	1126	18	117.1	1287
31	15	13	171.5	879	15	147.0	1025	17	128.6	1172
32	15	11	187.5	804	13	160.7	938	15	140.7	1072
33	15	11	204.0	739	12	174.9	862	14	153.0	985
34	15	10	220.7	683	11	189.2	797	13	165.5	910
35	15	9	237.4	635	11	203.4	741	12	178.0	847

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	61	35.2	4279	68	31.7	4754	75	28.8	5230
16	13	46	46.7	3225	51	42.1	3583	56	38.2	3942
17	13	38	57.3	2629	42	51.6	2921	46	46.9	3213
18	13	32	67.5	2234	35	60.7	2482	39	55.2	2730
19	13	28	77.6	1942	31	69.9	2158	34	63.5	2373
20	13	24	88.1	1711	27	79.3	1901	30	72.1	2091
21	13	22	99.2	1519	24	89.3	1688	27	81.2	1856
23	13	17	124.4	1212	19	112.0	1346	21	101.8	1481
25	13	14	154.5	976	15	139.0	1084	17	126.4	1193

Drying Time Table - T-4036 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	37	57.6	2617	43	50.4	2990	48	44.8	3364
16	13	29	74.5	2023	33	65.2	2311	37	58.0	2600
17	13	24	88.9	1696	28	77.7	1939	31	69.1	2181
18	13	21	101.4	1486	24	88.7	1699	27	78.9	1911
19	13	19	112.9	1335	22	98.8	1526	25	87.8	1716
20	13	17	123.9	1216	20	108.4	1390	22	96.4	1564
21	13	16	135.1	1116	18	118.2	1275	20	105.0	1435
23	13	14	159.1	947	15	139.2	1082	17	123.8	1218
25	13	11	187.3	805	13	163.9	919	15	145.7	1034

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	27	80.9	1864	30	71.9	2097	33	64.7	2330
12	9	20	107.3	1405	23	95.4	1581	25	85.8	1756
13	9	16	131.6	1145	18	117.0	1289	20	105.3	1432
14	9	14	154.9	973	16	137.7	1095	17	123.9	1216
15	9	12	178.2	846	14	158.4	952	15	142.5	1057
16	9	11	202.2	745	12	179.7	839	13	161.8	932
17	9	9	227.8	662	11	202.5	744	12	182.2	827
18	9	8	255.4	590	9	227.0	664	11	204.3	738
19	9	8	285.5	528	8	253.8	594	9	228.4	660

Based on 100% Unload rate of…...**7000 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-4742

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	94	27.1	6561						
18	15	71	36.0	4945	82	30.8	5769	94	27.0	6593
19	15	58	44.1	4031	67	37.8	4703	77	33.1	5375
20	15	49	51.9	3425	57	44.5	3996	65	38.9	4566
21	15	43	59.7	2978	50	51.2	3474	57	44.8	3970
22	15	37	67.8	2623	44	58.1	3061	50	50.8	3498
23	15	33	76.4	2329	39	65.4	2717	44	57.3	3105
24	15	30	85.6	2077	35	73.4	2423	40	64.2	2769
25	15	27	95.7	1858	31	82.1	2167	35	71.8	2477
26	15	24	106.8	1665	28	91.5	1943	32	80.1	2221
27	15	21	118.9	1496	25	101.9	1746	29	89.1	1995
28	15	19	132.0	1348	22	113.1	1572	26	99.0	1797
29	15	17	146.1	1218	20	125.2	1420	23	109.5	1623
30	15	16	161.1	1104	18	138.1	1288	21	120.8	1472
31	15	14	177.0	1005	17	151.7	1172	19	132.7	1340
32	15	13	193.5	919	15	165.9	1072	18	145.1	1225
33	15	12	210.5	845	14	180.4	986	16	157.9	1126
34	15	11	227.8	781	13	195.2	911	15	170.8	1041
35	15	10	244.9	726	12	209.9	847	14	183.7	968

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	70	36.3	4893	78	32.7	5436	85	29.7	5980
16	13	53	48.2	3688	59	43.4	4097	64	39.5	4507
17	13	43	59.2	3006	48	53.2	3340	52	48.4	3674
18	13	36	69.6	2554	41	62.7	2838	45	57.0	3122
19	13	32	80.1	2221	35	72.1	2467	39	65.5	2714
20	13	28	90.9	1956	31	81.8	2174	34	74.4	2391
21	13	25	102.4	1737	28	92.2	1930	30	83.8	2123
23	13	20	128.4	1385	22	115.5	1539	24	105.0	1693
25	13	16	159.4	1116	18	143.4	1240	19	130.4	1364

Drying Time Table - T-4742 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	43	59.4	2992	49	52.0	3419	55	46.2	3847
16	13	33	76.9	2313	38	67.3	2643	42	59.8	2974
17	13	28	91.7	1940	32	80.2	2217	36	71.3	2494
18	13	24	104.6	1700	28	91.6	1942	31	81.4	2185
19	13	22	116.5	1527	25	101.9	1745	28	90.6	1963
20	13	20	127.9	1391	23	111.9	1589	26	99.5	1788
21	13	18	139.4	1276	21	121.9	1458	23	108.4	1641
23	13	15	164.2	1083	18	143.7	1238	20	127.7	1393
25	13	13	193.3	920	15	169.1	1051	17	150.4	1183

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	30	83.4	2131	34	74.2	2398	38	66.7	2664
12	9	23	110.7	1607	26	98.4	1807	29	88.6	2008
13	9	19	135.8	1310	21	120.7	1473	23	108.6	1637
14	9	16	159.8	1113	18	142.1	1252	20	127.9	1391
15	9	14	183.8	967	16	163.4	1088	17	147.1	1209
16	9	12	208.7	852	14	185.5	959	15	166.9	1065
17	9	11	235.0	757	12	208.9	851	14	188.0	946
18	9	10	263.5	675	11	234.3	759	12	210.8	844
19	9	9	294.6	604	10	261.9	679	11	235.7	754

Based on 100% Unload rate of…...**7000 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-5046

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	93	25.6	8167						
18	15	70	33.9	6156	82	29.1	7182	94	25.4	8208
19	15	57	41.6	5018	67	35.7	5855	76	31.2	6691
20	15	49	49.0	4263	57	42.0	4974	65	36.7	5684
21	15	42	56.3	3707	49	48.3	4324	56	42.2	4942
22	15	37	63.9	3266	44	54.8	3810	50	47.9	4354
23	15	33	72.0	2899	39	61.7	3383	44	54.0	3866
24	15	30	80.7	2586	34	69.2	3017	39	60.5	3448
25	15	26	90.3	2313	31	77.4	2698	35	67.7	3084
26	15	24	100.7	2073	28	86.3	2419	32	75.5	2764
27	15	21	112.1	1863	25	96.1	2173	28	84.1	2483
28	15	19	124.4	1678	22	106.6	1957	26	93.3	2237
29	15	17	137.7	1516	20	118.0	1768	23	103.3	2021
30	15	16	151.9	1374	18	130.2	1603	21	113.9	1832
31	15	14	166.9	1251	17	143.0	1459	19	125.2	1668
32	15	13	182.5	1144	15	156.4	1335	17	136.8	1525
33	15	12	198.5	1052	14	170.1	1227	16	148.9	1402
34	15	11	214.7	972	13	184.1	1134	15	161.1	1296
35	15	10	230.9	904	12	197.9	1055	14	173.2	1205

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	70	34.3	6091	77	30.8	6767	85	28.0	7444
16	13	52	45.5	4591	58	40.9	5101	64	37.2	5611
17	13	43	55.8	3742	48	50.2	4158	52	45.6	4574
18	13	36	65.7	3179	40	59.1	3533	44	53.7	3886
19	13	32	75.5	2764	35	68.0	3071	39	61.8	3378
20	13	28	85.7	2435	31	77.1	2706	34	70.1	2977
21	13	25	96.5	2162	27	86.9	2402	30	79.0	2643
23	13	20	121.0	1725	22	108.9	1916	24	99.0	2108
25	13	16	150.3	1389	18	135.2	1543	19	123.0	1698

Drying Time Table - T-5046 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	43	56.0	3725	49	49.0	4257	55	43.6	4789
16	13	33	72.5	2879	38	63.4	3290	42	56.4	3702
17	13	28	86.4	2415	32	75.6	2760	35	67.2	3105
18	13	24	98.7	2116	28	86.3	2418	31	76.7	2720
19	13	22	109.8	1900	25	96.1	2172	28	85.4	2443
20	13	20	120.6	1731	23	105.5	1978	25	93.8	2226
21	13	18	131.4	1588	21	115.0	1815	23	102.2	2042
23	13	15	154.8	1348	18	135.5	1541	20	120.4	1733
25	13	13	182.3	1145	15	159.5	1309	17	141.8	1472

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	30	78.7	2653	34	69.9	2985	38	62.9	3317
12	9	23	104.4	2000	26	92.8	2250	29	83.5	2500
13	9	19	128.0	1630	21	113.8	1834	23	102.4	2038
14	9	16	150.7	1385	18	134.0	1558	20	120.6	1731
15	9	14	173.3	1204	15	154.1	1355	17	138.7	1505
16	9	12	196.7	1061	14	174.9	1194	15	157.4	1326
17	9	11	221.6	942	12	197.0	1060	13	177.3	1177
18	9	10	248.5	840	11	220.9	945	12	198.8	1050
19	9	9	277.8	751	10	247.0	845	11	222.3	939

Based on 100% Unload rate of…...**8750 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-6055

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	87	26.5	9152						
18	15	66	35.2	6898	76	30.1	8048	87	26.4	9197
19	15	53	43.1	5623	62	37.0	6561	71	32.3	7498
20	15	45	50.8	4777	53	43.5	5574	60	38.1	6370
21	15	39	58.4	4154	46	50.0	4846	53	43.8	5538
22	15	35	66.3	3660	41	56.8	4269	46	49.7	4879
23	15	31	74.6	3249	36	64.0	3790	41	56.0	4332
24	15	28	83.7	2898	32	71.7	3380	37	62.8	3863
25	15	25	93.6	2592	29	80.2	3024	33	70.2	3455
26	15	22	104.4	2323	26	89.5	2710	29	78.3	3098
27	15	20	116.2	2087	23	99.6	2435	26	87.1	2783
28	15	18	129.0	1880	21	110.6	2193	24	96.7	2507
29	15	16	142.8	1698	19	122.4	1982	22	107.1	2265
30	15	15	157.5	1540	17	135.0	1796	19	118.1	2053
31	15	13	173.0	1402	16	148.3	1635	18	129.8	1869
32	15	12	189.2	1282	14	162.2	1496	16	141.9	1709
33	15	11	205.8	1178	13	176.4	1375	15	154.4	1571
34	15	10	222.6	1089	12	190.8	1271	14	167.0	1452
35	15	10	239.4	1013	11	205.2	1182	13	179.6	1351

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	65	35.5	6825	72	32.0	7584	79	29.1	8342
16	13	49	47.1	5144	54	42.4	5716	60	38.6	6287
17	13	40	57.8	4194	44	52.0	4660	49	47.3	5126
18	13	34	68.1	3563	38	61.3	3959	41	55.7	4354
19	13	29	78.3	3098	33	70.5	3442	36	64.1	3786
20	13	26	88.9	2729	29	80.0	3032	32	72.7	3336
21	13	23	100.1	2423	26	90.1	2692	28	81.9	2961
23	13	18	125.5	1933	20	112.9	2147	22	102.7	2362
25	13	15	155.8	1557	16	140.2	1730	18	127.5	1902

Drying Time Table - T-6055 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	40	58.1	4174	45	50.8	4770	51	45.2	5366
16	13	31	75.2	3226	35	65.8	3687	39	58.5	4148
17	13	26	89.6	2706	29	78.4	3092	33	69.7	3479
18	13	23	102.3	2371	26	89.5	2710	29	79.6	3048
19	13	20	113.9	2130	23	99.6	2434	26	88.6	2738
20	13	18	125.0	1940	21	109.4	2217	24	97.2	2494
21	13	17	136.2	1780	19	119.2	2034	22	106.0	2289
23	13	14	160.5	1511	16	140.5	1727	18	124.8	1943
25	13	12	189.0	1283	14	165.4	1467	16	147.0	1650

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	28	81.6	2973	32	72.5	3345	35	65.3	3717
12	9	21	108.2	2241	24	96.2	2521	27	86.6	2801
13	9	17	132.7	1827	20	118.0	2055	22	106.2	2284
14	9	15	156.3	1552	17	138.9	1746	18	125.0	1940
15	9	13	179.7	1349	14	159.7	1518	16	143.8	1687
16	9	11	204.0	1189	13	181.3	1338	14	163.2	1486
17	9	10	229.8	1056	11	204.2	1187	13	183.8	1319
18	9	9	257.6	941	10	229.0	1059	11	206.1	1177
19	9	8	288.0	842	9	256.0	947	10	230.4	1052

Based on 100% Unload rate of…...**10530 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - T-7060

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	96	26.4	10107						
18	15	72	35.1	7618	84	30.1	8888	96	26.3	10157
19	15	59	43.0	6210	69	36.9	7245	79	32.3	8280
20	15	50	50.6	5276	58	43.4	6155	67	38.0	7035
21	15	44	58.2	4587	51	49.9	5352	58	43.7	6116
22	15	38	66.1	4041	45	56.7	4715	51	49.6	5389
23	15	34	74.4	3588	40	63.8	4186	45	55.8	4784
24	15	30	83.5	3200	35	71.6	3733	41	62.6	4267
25	15	27	93.3	2862	32	80.0	3339	36	70.0	3816
26	15	24	104.1	2566	28	89.2	2993	32	78.1	3421
27	15	22	115.9	2305	26	99.3	2689	29	86.9	3073
28	15	20	128.7	2076	23	110.3	2422	26	96.5	2768
29	15	18	142.4	1876	21	122.1	2188	24	106.8	2501
30	15	16	157.1	1701	19	134.6	1984	22	117.8	2267
31	15	15	172.6	1548	17	147.9	1806	20	129.4	2064
32	15	13	188.7	1416	16	161.7	1652	18	141.5	1888
33	15	12	205.3	1301	14	175.9	1518	16	153.9	1735
34	15	11	222.1	1203	13	190.3	1403	15	166.5	1604
35	15	11	238.8	1119	12	204.7	1305	14	179.1	1491

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	72	35.4	7537	80	31.9	8375	87	29.0	9212
16	13	54	47.0	5681	60	42.3	6312	66	38.5	6944
17	13	44	57.7	4631	49	51.9	5146	54	47.2	5661
18	13	37	67.9	3935	42	61.1	4372	46	55.5	4809
19	13	32	78.1	3421	36	70.3	3801	40	63.9	4181
20	13	29	88.6	3014	32	79.8	3349	35	72.5	3684
21	13	25	99.8	2676	28	89.8	2973	31	81.7	3270
23	13	20	125.2	2134	23	112.6	2372	25	102.4	2609
25	13	16	155.4	1719	18	139.9	1910	20	127.1	2101

Drying Time Table - T-7060 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	44	58.0	4609	50	50.7	5268	56	45.1	5926
16	13	34	75.0	3563	39	65.6	4072	44	58.3	4581
17	13	28	89.4	2988	32	78.2	3415	36	69.5	3842
18	13	25	102.0	2618	28	89.3	2992	32	79.3	3366
19	13	22	113.6	2352	26	99.4	2688	29	88.3	3024
20	13	20	124.7	2142	23	109.1	2448	26	97.0	2754
21	13	19	135.9	1966	21	118.9	2247	24	105.7	2528
23	13	16	160.1	1669	18	140.1	1907	20	124.5	2145
25	13	13	188.5	1417	15	164.9	1620	17	146.6	1822

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	31	81.3	3284	35	72.3	3694	39	65.1	4105
12	9	24	107.9	2475	26	95.9	2784	29	86.3	3094
13	9	19	132.4	2018	22	117.7	2270	24	105.9	2522
14	9	16	155.8	1714	18	138.5	1928	20	124.7	2143
15	9	14	179.2	1490	16	159.3	1677	18	143.4	1863
16	9	12	203.4	1313	14	180.8	1477	16	162.8	1641
17	9	11	229.2	1166	12	203.7	1311	14	183.3	1457
18	9	10	256.9	1040	11	228.4	1170	12	205.6	1299
19	9	9	287.3	930	10	255.4	1046	11	229.8	1162

Based on 100% Unload rate of…...**10530 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-2500

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	47	25.6	3539	55	22.0	4129	63	19.2	4719
18	15	36	34.0	2668	41	29.1	3112	47	25.5	3557
19	15	29	41.7	2175	34	35.7	2537	39	31.3	2900
20	15	25	49.1	1848	29	42.1	2156	33	36.8	2463
21	15	21	56.4	1606	25	48.4	1874	29	42.3	2142
22	15	19	64.1	1415	22	54.9	1651	25	48.0	1887
23	15	17	72.2	1257	20	61.8	1466	22	54.1	1675
24	15	15	80.9	1121	17	69.3	1307	20	60.7	1494
25	15	13	90.5	1002	16	77.5	1169	18	67.8	1336
26	15	12	100.9	898	14	86.5	1048	16	75.7	1198
27	15	11	112.3	807	13	96.3	942	14	84.2	1076
28	15	10	124.7	727	11	106.9	848	13	93.5	969
29	15	9	138.0	657	10	118.3	766	12	103.5	876
30	15	8	152.2	596	9	130.5	695	11	114.2	794
31	15	7	167.2	542	8	143.3	632	10	125.4	723
32	15	7	182.9	496	8	156.7	578	9	137.1	661
33	15	6	198.9	456	7	170.5	532	8	149.2	608
34	15	6	215.2	421	7	184.5	491	7	161.4	562
35	15	5	231.4	392	6	198.4	457	7	173.6	522

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	35	34.3	2640	39	30.9	2933	43	28.1	3226
16	13	27	45.6	1989	29	41.0	2211	32	37.3	2432
17	13	22	55.9	1622	24	50.3	1802	26	45.7	1982
18	13	18	65.8	1378	20	59.2	1531	22	53.8	1684
19	13	16	75.7	1198	18	68.1	1331	20	61.9	1464
20	13	14	85.9	1055	16	77.3	1173	17	70.3	1290
21	13	12	96.8	937	14	87.1	1041	15	79.2	1145
23	13	10	121.3	747	11	109.2	830	12	99.2	914
25	13	8	150.6	602	9	135.5	669	10	123.2	736

Drying Time Table - F-2500 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	22	56.2	1614	25	49.1	1845	28	43.7	2075
16	13	17	72.7	1248	19	63.6	1426	21	56.5	1604
17	13	14	86.6	1046	16	75.8	1196	18	67.4	1345
18	13	12	98.9	917	14	86.5	1048	16	76.9	1179
19	13	11	110.1	824	13	96.3	941	14	85.6	1059
20	13	10	120.8	750	11	105.7	857	13	94.0	965
21	13	9	131.7	688	10	115.2	787	12	102.4	885
23	13	8	155.2	584	9	135.8	668	10	120.7	751
25	13	7	182.7	496	8	159.8	567	9	142.1	638

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	15	78.8	1150	17	70.1	1294	19	63.1	1437
12	9	12	104.6	867	13	93.0	975	14	83.7	1083
13	9	9	128.3	707	11	114.1	795	12	102.6	883
14	9	8	151.0	600	9	134.3	675	10	120.8	750
15	9	7	173.7	522	8	154.4	587	9	139.0	652
16	9	6	197.2	460	7	175.3	517	8	157.7	575
17	9	5	222.1	408	6	197.4	459	7	177.7	510
18	9	5	249.0	364	5	221.4	410	6	199.2	455
19	9	4	278.4	326	5	247.5	366	5	222.7	407

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-3000

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	56	25.7	4231	66	22.0	4936	75	19.3	5641
18	15	43	34.1	3189	50	29.2	3720	57	25.6	4252
19	15	35	41.8	2599	40	35.9	3033	46	31.4	3466
20	15	29	49.3	2208	34	42.2	2576	39	36.9	2944
21	15	26	56.7	1920	30	48.6	2240	34	42.5	2560
22	15	23	64.3	1692	26	55.1	1974	30	48.2	2256
23	15	20	72.4	1502	23	62.1	1752	27	54.3	2002
24	15	18	81.2	1339	21	69.6	1563	24	60.9	1786
25	15	16	90.8	1198	19	77.8	1398	21	68.1	1597
26	15	14	101.3	1074	17	86.8	1253	19	76.0	1432
27	15	13	112.7	965	15	96.6	1126	17	84.6	1286
28	15	12	125.2	869	14	107.3	1014	15	93.9	1159
29	15	10	138.6	785	12	118.8	916	14	103.9	1047
30	15	9	152.8	712	11	131.0	830	13	114.6	949
31	15	9	167.9	648	10	143.9	756	12	125.9	864
32	15	8	183.6	593	9	157.3	691	11	137.7	790
33	15	7	199.7	545	8	171.2	636	10	149.8	726
34	15	7	216.0	504	8	185.2	587	9	162.0	671
35	15	6	232.3	468	7	199.1	546	8	174.2	624

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	42	34.5	3155	47	31.0	3505	51	28.2	3856
16	13	32	45.7	2378	35	41.2	2642	39	37.4	2906
17	13	26	56.1	1939	29	50.5	2154	32	45.9	2369
18	13	22	66.1	1647	24	59.4	1830	27	54.0	2013
19	13	19	76.0	1432	21	68.4	1591	23	62.2	1750
20	13	17	86.2	1262	19	77.6	1402	21	70.6	1542
21	13	15	97.1	1120	17	87.4	1244	18	79.5	1369
23	13	12	121.8	893	13	109.6	993	15	99.6	1092
25	13	10	151.2	720	11	136.1	799	12	123.7	879

Drying Time Table - F-3000 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	26	56.4	1929	29	49.3	2205	33	43.9	2481
16	13	20	72.9	1491	23	63.8	1704	26	56.7	1917
17	13	17	87.0	1251	19	76.1	1429	21	67.6	1608
18	13	15	99.3	1096	17	86.9	1252	19	77.2	1409
19	13	13	110.5	984	15	96.7	1125	17	85.9	1266
20	13	12	121.3	897	14	106.2	1025	15	94.4	1153
21	13	11	132.2	823	13	115.7	940	14	102.8	1058
23	13	9	155.8	698	11	136.3	798	12	121.1	898
25	13	8	183.4	593	9	160.5	678	10	142.6	763

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	18	79.1	1374	21	70.4	1546	23	63.3	1718
12	9	14	105.0	1036	16	93.3	1165	17	84.0	1295
13	9	11	128.8	845	13	114.5	950	14	103.0	1056
14	9	10	151.6	717	11	134.8	807	12	121.3	897
15	9	8	174.4	624	9	155.0	702	10	139.5	780
16	9	7	197.9	550	8	175.9	618	9	158.3	687
17	9	7	222.9	488	7	198.2	549	8	178.4	610
18	9	6	250.0	435	7	222.2	490	7	200.0	544
19	9	5	279.5	389	6	248.4	438	6	223.6	486

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-3500

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	69	25.8	5140	80	22.1	5996	91	19.4	6853
18	15	52	34.2	3874	60	29.3	4519	69	25.7	5165
19	15	42	42.0	3158	49	36.0	3684	56	31.5	4211
20	15	36	49.4	2683	42	42.4	3130	48	37.1	3577
21	15	31	56.8	2333	36	48.7	2721	41	42.6	3110
22	15	27	64.5	2055	32	55.3	2398	37	48.4	2740
23	15	24	72.7	1825	28	62.3	2129	32	54.5	2433
24	15	22	81.5	1627	25	69.9	1898	29	61.1	2170
25	15	19	91.1	1455	23	78.1	1698	26	68.3	1940
26	15	17	101.6	1305	20	87.1	1522	23	76.2	1740
27	15	16	113.1	1172	18	97.0	1367	21	84.8	1563
28	15	14	125.6	1056	16	107.7	1232	19	94.2	1408
29	15	13	139.0	954	15	119.2	1113	17	104.3	1272
30	15	12	153.3	865	13	131.4	1009	15	115.0	1153
31	15	10	168.4	787	12	144.4	918	14	126.3	1050
32	15	10	184.2	720	11	157.9	840	13	138.1	960
33	15	9	200.4	662	10	171.8	772	12	150.3	882
34	15	8	216.8	612	10	185.8	714	11	162.6	816
35	15	8	233.1	569	9	199.8	664	10	174.8	758

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	51	34.6	3833	57	31.1	4259	62	28.3	4685
16	13	39	45.9	2889	43	41.3	3210	47	37.6	3531
17	13	31	56.3	2355	35	50.7	2617	38	46.1	2878
18	13	27	66.3	2001	30	59.6	2223	33	54.2	2445
19	13	23	76.2	1739	26	68.6	1933	28	62.4	2126
20	13	20	86.5	1533	23	77.9	1703	25	70.8	1873
21	13	18	97.5	1361	20	87.7	1512	22	79.7	1663
23	13	14	122.2	1085	16	110.0	1206	18	100.0	1327
25	13	12	151.7	874	13	136.5	971	14	124.1	1068

Drying Time Table - F-3500 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	31	56.6	2344	36	49.5	2679	40	44.0	3014
16	13	24	73.2	1812	28	64.0	2071	31	56.9	2329
17	13	20	87.3	1520	23	76.4	1737	26	67.9	1954
18	13	18	99.6	1331	20	87.1	1522	23	77.5	1712
19	13	16	110.9	1196	18	97.0	1367	21	86.2	1538
20	13	15	121.7	1089	17	106.5	1245	19	94.7	1401
21	13	13	132.6	1000	15	116.1	1142	17	103.2	1285
23	13	11	156.3	848	13	136.7	970	15	121.6	1091
25	13	10	184.0	721	11	161.0	824	12	143.1	927

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	22	79.4	1670	25	70.6	1878	28	63.5	2087
12	9	17	105.4	1258	19	93.7	1416	21	84.3	1573
13	9	14	129.2	1026	15	114.9	1154	17	103.4	1282
14	9	12	152.1	872	13	135.2	981	15	121.7	1090
15	9	10	175.0	758	11	155.5	853	13	140.0	947
16	9	9	198.6	668	10	176.5	751	11	158.9	835
17	9	8	223.7	593	9	198.8	667	10	179.0	741
18	9	7	250.8	529	8	223.0	595	9	200.7	661
19	9	6	280.4	473	7	249.3	532	8	224.4	591

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-4000

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	77	26.3	5738	89	22.5	6694			
18	15	58	34.9	4324	67	29.9	5045	77	26.1	5766
19	15	47	42.8	3525	55	36.6	4113	63	32.1	4701
20	15	40	50.3	2995	47	43.1	3494	53	37.7	3993
21	15	35	57.9	2604	41	49.6	3038	46	43.4	3472
22	15	31	65.7	2294	36	56.3	2677	41	49.3	3059
23	15	27	74.0	2037	32	63.4	2376	36	55.5	2716
24	15	24	83.0	1816	28	71.1	2119	32	62.2	2422
25	15	22	92.8	1625	25	79.5	1895	29	69.6	2166
26	15	19	103.5	1456	23	88.7	1699	26	77.6	1942
27	15	17	115.2	1309	20	98.7	1527	23	86.4	1745
28	15	16	127.9	1179	18	109.6	1375	21	95.9	1571
29	15	14	141.6	1065	17	121.3	1242	19	106.2	1420
30	15	13	156.1	965	15	133.8	1126	17	117.1	1287
31	15	12	171.5	879	14	147.0	1025	16	128.6	1172
32	15	11	187.5	804	13	160.7	938	14	140.7	1072
33	15	10	204.0	739	11	174.9	862	13	153.0	985
34	15	9	220.7	683	11	189.2	797	12	165.5	910
35	15	8	237.4	635	10	203.4	741	11	178.0	847

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	57	35.2	4279	63	31.7	4754	70	28.8	5230
16	13	43	46.7	3225	48	42.1	3583	53	38.2	3942
17	13	35	57.3	2629	39	51.6	2921	43	46.9	3213
18	13	30	67.5	2234	33	60.7	2482	36	55.2	2730
19	13	26	77.6	1942	29	69.9	2158	32	63.5	2373
20	13	23	88.1	1711	25	79.3	1901	28	72.1	2091
21	13	20	99.2	1519	23	89.3	1688	25	81.2	1856
23	13	16	124.4	1212	18	112.0	1346	20	101.8	1481
25	13	13	154.5	976	14	139.0	1084	16	126.4	1193

Drying Time Table - F-4000 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	35	57.6	2617	40	50.4	2990	45	44.8	3364
16	13	27	74.5	2023	31	65.2	2311	35	58.0	2600
17	13	23	88.9	1696	26	77.7	1939	29	69.1	2181
18	13	20	101.4	1486	23	88.7	1699	25	78.9	1911
19	13	18	112.9	1335	20	98.8	1526	23	87.8	1716
20	13	16	123.9	1216	19	108.4	1390	21	96.4	1564
21	13	15	135.1	1116	17	118.2	1275	19	105.0	1435
23	13	13	159.1	947	14	139.2	1082	16	123.8	1218
25	13	11	187.3	805	12	163.9	919	14	145.7	1034

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	25	80.9	1864	28	71.9	2097	31	64.7	2330
12	9	19	107.3	1405	21	95.4	1581	23	85.8	1756
13	9	15	131.6	1145	17	117.0	1289	19	105.3	1432
14	9	13	154.9	973	15	137.7	1095	16	123.9	1216
15	9	11	178.2	846	13	158.4	952	14	142.5	1057
16	9	10	202.2	745	11	179.7	839	12	161.8	932
17	9	9	227.8	662	10	202.5	744	11	182.2	827
18	9	8	255.4	590	9	227.0	664	10	204.3	738
19	9	7	285.5	528	8	253.8	594	9	228.4	660

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-4700

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15	87	27.1	6561						
18	15	66	36.0	4945	77	30.8	5769	88	27.0	6593
19	15	54	44.1	4031	63	37.8	4703	72	33.1	5375
20	15	46	51.9	3425	53	44.5	3996	61	38.9	4566
21	15	40	59.7	2978	46	51.2	3474	53	44.8	3970
22	15	35	67.8	2623	41	58.1	3061	47	50.8	3498
23	15	31	76.4	2329	36	65.4	2717	41	57.3	3105
24	15	28	85.6	2077	32	73.4	2423	37	64.2	2769
25	15	25	95.7	1858	29	82.1	2167	33	71.8	2477
26	15	22	106.8	1665	26	91.5	1943	30	80.1	2221
27	15	20	118.9	1496	23	101.9	1746	27	89.1	1995
28	15	18	132.0	1348	21	113.1	1572	24	99.0	1797
29	15	16	146.1	1218	19	125.2	1420	22	109.5	1623
30	15	15	161.1	1104	17	138.1	1288	20	120.8	1472
31	15	13	177.0	1005	16	151.7	1172	18	132.7	1340
32	15	12	193.5	919	14	165.9	1072	16	145.1	1225
33	15	11	210.5	845	13	180.4	986	15	157.9	1126
34	15	10	227.8	781	12	195.2	911	14	170.8	1041
35	15	10	244.9	726	11	209.9	847	13	183.7	968

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	65	36.3	4893	72	32.7	5436	80	29.7	5980
16	13	49	48.2	3688	55	43.4	4097	60	39.5	4507
17	13	40	59.2	3006	45	53.2	3340	49	48.4	3674
18	13	34	69.6	2554	38	62.7	2838	42	57.0	3122
19	13	30	80.1	2221	33	72.1	2467	36	65.5	2714
20	13	26	90.9	1956	29	81.8	2174	32	74.4	2391
21	13	23	102.4	1737	26	92.2	1930	28	83.8	2123
23	13	18	128.4	1385	21	115.5	1539	23	105.0	1693
25	13	15	159.4	1116	17	143.4	1240	18	130.4	1364

Drying Time Table - F-4700 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	40	59.4	2992	46	52.0	3419	51	46.2	3847
16	13	31	76.9	2313	35	67.3	2643	40	59.8	2974
17	13	26	91.7	1940	30	80.2	2217	33	71.3	2494
18	13	23	104.6	1700	26	91.6	1942	29	81.4	2185
19	13	20	116.5	1527	23	101.9	1745	26	90.6	1963
20	13	19	127.9	1391	21	111.9	1589	24	99.5	1788
21	13	17	139.4	1276	19	121.9	1458	22	108.4	1641
23	13	14	164.2	1083	17	143.7	1238	19	127.7	1393
25	13	12	193.3	920	14	169.1	1051	16	150.4	1183

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	28	83.4	2131	32	74.2	2398	36	66.7	2664
12	9	21	110.7	1607	24	98.4	1807	27	88.6	2008
13	9	17	135.8	1310	20	120.7	1473	22	108.6	1637
14	9	15	159.8	1113	17	142.1	1252	19	127.9	1391
15	9	13	183.8	967	15	163.4	1088	16	147.1	1209
16	9	11	208.7	852	13	185.5	959	14	166.9	1065
17	9	10	235.0	757	11	208.9	851	13	188.0	946
18	9	9	263.5	675	10	234.3	759	11	210.8	844
19	9	8	294.6	604	9	261.9	679	10	235.7	754

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-5000

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15									
18	15	87	36.1	6551						
19	15	71	44.3	5340	83	37.9	6230	95	33.2	7121
20	15	60	52.1	4537	71	44.7	5293	81	39.1	6049
21	15	53	59.9	3945	61	51.4	4602	70	44.9	5259
22	15	46	68.0	3475	54	58.3	4055	62	51.0	4634
23	15	41	76.6	3085	48	65.7	3600	55	57.5	4114
24	15	37	85.9	2752	43	73.6	3210	49	64.4	3669
25	15	33	96.1	2461	38	82.3	2871	44	72.0	3281
26	15	29	107.1	2206	34	91.8	2574	39	80.4	2942
27	15	26	119.3	1982	31	102.2	2313	35	89.4	2643
28	15	24	132.4	1785	28	113.5	2083	32	99.3	2381
29	15	22	146.6	1613	25	125.6	1882	29	109.9	2151
30	15	19	161.7	1462	23	138.6	1706	26	121.2	1950
31	15	18	177.6	1331	21	152.2	1553	24	133.2	1775
32	15	16	194.2	1217	19	166.4	1420	22	145.6	1623
33	15	15	211.2	1119	17	181.1	1306	20	158.4	1492
34	15	14	228.5	1034	16	195.9	1207	18	171.4	1379
35	15	13	245.8	962	15	210.7	1122	17	184.3	1283

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	86	36.5	6482	96	32.8	7202			
16	13	65	48.4	4885	72	43.6	5428	80	39.6	5971
17	13	53	59.4	3983	59	53.4	4425	65	48.6	4868
18	13	45	69.9	3383	50	62.9	3759	55	57.2	4135
19	13	39	80.4	2942	44	72.3	3268	48	65.8	3595
20	13	35	91.2	2592	38	82.1	2880	42	74.6	3168
21	13	31	102.7	2301	34	92.5	2557	37	84.1	2812
23	13	24	128.8	1835	27	115.9	2039	30	105.4	2243
25	13	20	159.9	1478	22	143.9	1642	24	130.8	1807

Drying Time Table - F-5000 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	53	59.6	3964	60	52.2	4530	68	46.4	5096
16	13	41	77.2	3064	47	67.5	3502	53	60.0	3939
17	13	34	92.0	2570	39	80.5	2937	44	71.6	3304
18	13	30	105.0	2252	34	91.9	2573	39	81.7	2895
19	13	27	116.9	2022	31	102.3	2311	35	90.9	2600
20	13	25	128.3	1842	28	112.3	2105	32	99.8	2368
21	13	23	139.8	1690	26	122.4	1932	29	108.8	2173
23	13	19	164.8	1435	22	144.2	1640	25	128.1	1845
25	13	16	194.0	1219	19	169.7	1393	21	150.9	1567

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	38	83.7	2824	42	74.4	3177	47	67.0	3530
12	9	28	111.1	2128	32	98.7	2394	35	88.9	2660
13	9	23	136.3	1735	26	121.1	1952	29	109.0	2169
14	9	20	160.4	1474	22	142.6	1658	25	128.3	1842
15	9	17	184.5	1282	19	164.0	1442	21	147.6	1602
16	9	15	209.4	1129	17	186.1	1270	19	167.5	1411
17	9	13	235.8	1002	15	209.6	1128	17	188.7	1253
18	9	12	264.4	894	13	235.1	1006	15	211.6	1117
19	9	11	295.7	800	12	262.8	900	13	236.5	999

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-6000

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15									
18	15	95	36.4	7134						
19	15	78	44.6	5816	90	38.2	6785			
20	15	66	52.5	4941	77	45.0	5764	88	39.4	6588
21	15	57	60.4	4296	67	51.8	5012	76	45.3	5727
22	15	50	68.5	3785	59	58.7	4415	67	51.4	5046
23	15	45	77.2	3360	52	66.2	3920	60	57.9	4480
24	15	40	86.6	2997	47	74.2	3496	53	64.9	3995
25	15	36	96.8	2680	42	83.0	3127	48	72.6	3574
26	15	32	108.0	2403	37	92.5	2803	43	81.0	3203
27	15	29	120.2	2159	34	103.0	2518	38	90.1	2878
28	15	26	133.4	1944	30	114.3	2268	35	100.1	2592
29	15	23	147.7	1756	27	126.6	2049	31	110.8	2342
30	15	21	162.9	1592	25	139.6	1858	28	122.2	2123
31	15	19	178.9	1450	23	153.4	1691	26	134.2	1933
32	15	18	195.6	1326	21	167.7	1547	24	146.7	1768
33	15	16	212.8	1219	19	182.4	1422	22	159.6	1625
34	15	15	230.3	1126	18	197.4	1314	20	172.7	1502
35	15	14	247.6	1048	16	212.2	1222	19	185.7	1397

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	94	36.7	7058						
16	13	71	48.8	5320	79	43.9	5911	87	39.9	6502
17	13	58	59.8	4337	64	53.8	4819	71	48.9	5301
18	13	49	70.4	3685	55	63.4	4094	60	57.6	4503
19	13	43	81.0	3203	47	72.9	3559	52	66.2	3915
20	13	38	91.9	2822	42	82.7	3136	46	75.2	3450
21	13	33	103.5	2506	37	93.2	2784	41	84.7	3063
23	13	27	129.8	1999	30	116.8	2221	33	106.2	2443
25	13	21	161.1	1610	24	145.0	1789	26	131.8	1968

Drying Time Table - F-6000 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	58	60.1	4316	66	52.6	4933	74	46.7	5550
16	13	44	77.7	3337	51	68.0	3813	57	60.5	4290
17	13	37	92.7	2798	43	81.1	3198	48	72.1	3598
18	13	33	105.8	2452	37	92.6	2802	42	82.3	3152
19	13	29	117.8	2202	34	103.1	2517	38	91.6	2832
20	13	27	129.3	2006	31	113.1	2293	34	100.6	2579
21	13	25	140.9	1841	28	123.3	2104	32	109.6	2367
23	13	21	166.0	1563	24	145.3	1786	27	129.1	2009
25	13	18	195.4	1327	20	171.0	1517	23	152.0	1706

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	41	84.4	3075	46	75.0	3459	51	67.5	3844
12	9	31	111.9	2318	35	99.5	2607	39	89.5	2897
13	9	25	137.3	1889	28	122.0	2126	31	109.8	2362
14	9	21	161.6	1605	24	143.6	1806	27	129.3	2006
15	9	19	185.9	1396	21	165.2	1570	23	148.7	1744
16	9	16	211.0	1230	18	187.5	1383	20	168.8	1537
17	9	15	237.6	1092	16	211.2	1228	18	190.1	1365
18	9	13	266.4	974	15	236.8	1095	16	213.1	1217
19	9	12	297.9	871	13	264.8	980	15	238.3	1088

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Drying Time Table - F-7000

Corn Dry and Cool

Moisture		170°F			190°F			210°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
17	15									
18	15									
19	15	84	43.4	6263	97	37.2	7307			
20	15	71	51.1	5321	83	43.8	6208	95	38.3	7094
21	15	62	58.7	4626	72	50.3	5397	82	44.0	6168
22	15	54	66.7	4076	63	57.1	4755	72	50.0	5434
23	15	48	75.1	3619	56	64.4	4222	64	56.3	4825
24	15	43	84.2	3227	50	72.2	3765	57	63.1	4303
25	15	38	94.1	2886	45	80.7	3367	51	70.6	3848
26	15	34	105.0	2587	40	90.0	3019	46	78.7	3450
27	15	31	116.9	2325	36	100.2	2712	41	87.7	3100
28	15	28	129.8	2094	33	111.2	2443	37	97.3	2792
29	15	25	143.6	1892	29	123.1	2207	34	107.7	2522
30	15	23	158.4	1715	27	135.8	2001	30	118.8	2287
31	15	21	174.0	1561	24	149.2	1821	28	130.5	2082
32	15	19	190.3	1428	22	163.1	1666	25	142.7	1904
33	15	17	207.0	1312	20	177.4	1531	23	155.3	1750
34	15	16	223.9	1213	19	192.0	1415	22	168.0	1618
35	15	15	240.8	1128	18	206.4	1316	20	180.6	1504

Wheat, Barley, Milo, Oats Dry and Cool

Moisture		140°F			150°F			160°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13									
16	13	76	47.4	5729	85	42.7	6366	93	38.8	7003
17	13	62	58.2	4671	69	52.4	5190	76	47.6	5709
18	13	53	68.5	3968	59	61.6	4409	65	56.0	4850
19	13	46	78.7	3450	51	70.9	3833	56	64.4	4217
20	13	41	89.4	3040	45	80.4	3377	50	73.1	3715
21	13	36	100.7	2699	40	90.6	2998	44	82.4	3298
23	13	29	126.2	2152	32	113.6	2392	35	103.3	2631
25	13	23	156.7	1734	26	141.0	1926	28	128.2	2119

Drying Time Table - F-7000 (Continued)

Soybeans Dry and Cool

Moisture		120°F			130°F			140°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
15	13	62	58.4	4649	71	51.1	5313	80	45.5	5977
16	13	48	75.6	3593	55	66.2	4107	62	58.8	4620
17	13	40	90.2	3014	46	78.9	3444	52	70.1	3875
18	13	35	102.9	2641	40	90.0	3018	45	80.0	3395
19	13	32	114.5	2372	36	100.2	2711	41	89.1	3049
20	13	29	125.8	2160	33	110.0	2469	37	97.8	2778
21	13	26	137.0	1983	30	119.9	2266	34	106.6	2549
23	13	22	161.5	1683	26	141.3	1923	29	125.6	2163
25	13	19	190.1	1429	22	166.3	1633	25	147.8	1838

Canola Dry and Cool

Moisture		130°F			140°F			150°F		
% In	% Out	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH	% Unload Rate	Dry Time	Capacity Dry BPH
11	9	44	82.0	3312	50	72.9	3725	55	65.6	4139
12	9	33	108.8	2496	37	96.8	2808	42	87.1	3120
13	9	27	133.5	2035	31	118.7	2289	34	106.8	2543
14	9	23	157.2	1729	26	139.7	1945	29	125.7	2161
15	9	20	180.8	1503	23	160.7	1691	25	144.6	1879
16	9	18	205.2	1324	20	182.4	1490	22	164.1	1655
17	9	16	231.1	1176	18	205.4	1323	20	184.9	1469
18	9	14	259.1	1048	16	230.3	1179	17	207.3	1311
19	9	13	289.7	938	14	257.5	1055	16	231.8	1172

Based on 100% Unload rate of…...**7500 BPH**

The above drying capacities are estimates based on drying principles, field results and computer simulations. Variances may occur due to grain physiological factors (kernel size, chemical composition, variety, maturity), excessive fines, weather conditions, etc. Rates shown are a guide only due to wide variances in the driability of modern hybrids.

Pre-Seasonal Inspection and Service

The dryer is made of weather-resistant material and is designed to require minimum service. However, each season we recommend the following items be checked before the unit is used and any damaged or questionable parts replaced. These checks will help eliminate possible failures and assure dependable operation of the equipment.

1. Shut off electrical power. Open power box and control box and inspect for moisture, rodent damage or accumulated foreign material present. Inspect and tighten any loose terminal connections. Replace any damaged or deteriorated wiring.
2. Lubricate the blowers, motors and metering system as outlined in the lubrication table *on Page 99*.
3. Check blower belts for proper tension.
4. Inspect and clean the burner. Visually check that no holes in the stainless steel air mixing plates are plugged. If burner ports are plugged, clear them with a piece of wire or a drill bit. (**NOTE:** *Pre-2002 model dryers require a #47 drill bit.*)
5. Check electrical connections at both the flame rod and spark plug. Clean spark ignitor and flame rod. Replace if necessary.
6. Check drain valve on gas train to ensure that there is no water in the gas train. Valve should always be open when the dryer is not being used. Ensure that drain valve is closed prior to dryer operation.
7. Check the discharge area to ensure that the area is cleaned of stalks and old grain. Inspect the sweeps for excessive wear.

   IMPORTANT: *The covers to the discharge sections on the tower dryers must be in place and clamped down at all times when the dryer is in operation. If the cover is off during operation, the vacuum created by the blowers will suck foreign matter from the discharge area and deposit it in the heat section of the dryer plugging the inside screens of the dryer also creating a fire hazard.*

See pre-season check list *on Page 98*.

Seasonal Inspection and Service

IMPORTANT: *The covers to the metering system access door(s) must be in place at all times when the dryer is in operation. Before turning blowers always make sure this door is clamped into position.*

1. Follow lubrication guides as outlined in the lubrication table.
2. **Do not let grain fines and dust accumulate inside the cooling section of the dryer.** Bi-weekly if drying most products or daily if drying milo, clean the cooling chamber floor of fines and dust. Sweep down the cooling section sheets if necessary. Fines can be swept into the unload systems.
3. **Do not let grain fines and dust accumulate inside the heat section of the dryer.** Daily check the hopper divider that separates the heat section from the cooling section to ensure that it remains clean and open.
4. When cleaning dryer, check the grain discharge area on the dryer. On accutrol sweep dryers check the sweeps for trash or stalk build ups that could be obstructing grain flow.

5. The dryer is not intended to be a grain storage structure. Storing grain in the dryer for extended periods of time can result in plugged grain columns, torn or stretched perforated dryer wall sheets, and can place undue structural stress on the interior rolled plenum channels that form the roundness of the dryer. During the drying season, if the dryer is only being operated occasionally, the metering system on the dryer must be operated for five minutes every other day to make sure that the grain in the drying columns remains loose and free flowing. If a weather event such as rain or snow storm occurs when the dryer is full of grain, the dryer must be operated the next day to make sure that the wet grain does not swell up in the drying columns.
6. When drying dirty corn in high humidity conditions, sludge may build up in the upper outside sheets of the dryer. This build up can be removed by either washing the sheets down with a high pressure water hose or by shutting incoming grain, dropping the grain level to below the plugged area and then running the fans and burner to dry the affected area. Tapping or sweeping the sheets will dislodge debris. Attempting to sweep off the sheet build up while it is still wet will usually plug the sheet more.

In Case of Fire

1. When you first detect a fire, the entire drying operation should be shut down, including grain flow into and out of the dryer. The emergency controls may have already done this. Also, shut off the electrical and fuel supply to the dryer.
2. Do not try to cool a fire by running fan(s).
3. Never run grain from the dryer into the elevator or storage if a fire is known or suspected.
4. Locate the area of the fire.
5. If the fire can be extinguished with a fire extinguisher, water hose or by removing the burning material, this should be done right away. Watch the dryer closely for another fire after one has occurred.
6. Emergency discharge slide gates at the bottom of each column as well as easy access gates located near the hopper discharge area permit fast dumping of each individual grain column.
7. A fire extinguisher should be located at or near the dryer, if a fire seems to be getting out of control call the fire department.

End of Season Service

1. Empty the dryer at the end of the drying season. The dryer must not be used for grain storage. Grain left in the dryer will compact, can become wet, swell, and/or spoil. This can result in plugged grain columns, torn or stretched perforated dryer wall sheets, and can place undue structural stress on the dryer's interior rolled plenum channel rings.
2. Clean out the plenum roof grain cushion and remove any grain that may be hanging up on the plenum roof.
3. Make sure the grain exchangers are clean.
4. Clean out the hopper that divides the heat section from the cooling section.
5. Clean the cooling chamber floor.
6. Remove all grain and trash from the metering drum floor. This grain can be raked out by hand by opening the slide gates located in the hopper bottom of the dryer.
7. Make sure gas supply is shut off to the dryer.
8. Open the gas train drain valve located on the bottom of the gas train.
9. It is a good practice to cover the burner with a tarpaulin or plastic to ensure a clean burner.

Pre-Season Service Check List

___ Lubricate blower bearings.

___ Lubricate blower motor bearings, if needed.

___ Check blower belts and adjust if necessary.

___ Clean burner ports.

___ Inspect flame rod and spark ignitor.

___ Check oil levels in gear boxes.

___ Inspect divider hopper between heat and cooling section. Clean if necessary.

___ Inspect bindicator grain level switches.

___ Inspect metering system access door cover seals.

___ Lubricate metering system access door cover hold down latches.

___ Lubricate modulator motor linkage.

___ Check butterfly operation in modulating valve.

___ Check gas pressure gauges.

___ Check interior of maxon shut off valves for corrosion. Clean if necessary.

___ Clean control and power panels, tighten loose connections and check for leaks.

___ Inspect metering systems. Clean accumulated stalks and old grain.

___ Start-up dryer and check operating controls.

___ Other: Itemize _____

End of Season Shut Down Procedure

___ Start unload and empty all grain from dryers.

___ Clean out grain cushion (on plenum roof under fill spout). Clean plenum roof.

___ Clean off grain exchangers.

___ Clean out divider hopper, between heating and cooling section.

___ Clean inside cooling sheets and cooling floor.

___ Remove all grain and trash from unload section of dryer.

___ Open emergency grain discharge doors (and drain doors in zimmerman dryers).

___ Open drain valve in gas train.

___ Cover burner with a tarp or plastic sheeting.

Lubrication Table

Location	Instructions	Type of Lubrication	Lubrication Interval
Accutrol (sweep unload) top and bottom drive bearings.	Lubricate slowly until lube shows through seal. Wipe clean.	High quality, grade #2 lithium based grease.	Beginning of season (annually).
Accutrol (sweep unload) coupling hub.	Remove the two lube plugs from the cover. Lubricate slowly until grease begins seeping through relief plug.	High quality, grade #2 lithium based grease.	Beginning of season (annually).
Blower shaft bearings.	Lubricate bottom bearing plug slowly counting the grease gun pump until lube shows through the seal. Wipe clean. Use same # of grease gun pumps for top bearing.	High quality, grade #2 lithium based grease.	Every 4 weeks of dryer operation.
Blower motor bearings.	See motor lubrication procedure *below*.	High quality, grade #2 lithium based grease.	Every 2 years (Normal operation, ever 8-10 months continuous operation).
Metering variable speed drive motor.	See motor lubrication procedure *below*.	High quality, grade #2 lithium based grease.	Every 2 years (Normal operation, ever 8-10 months continuous operation).
Accutrol gear box.	Grease filled gear box. Replenish grease to the first stage (upper) reduction mechanism through grease fitting provided (typically quantity= 0.3 oz. of grease.	High quality, grade #2 lithium based grease.	Beginning of season (annually).

[1]**Lubrication of motors** - Operate motor for 20 minutes. Clean grease fitting. Remove grease relief plug and using a low pressure grease gun, pump in the required grease. After re-lubricating, allow motor to run for 10 minutes before replacing relief hardware. ***DO NOT over grease***.

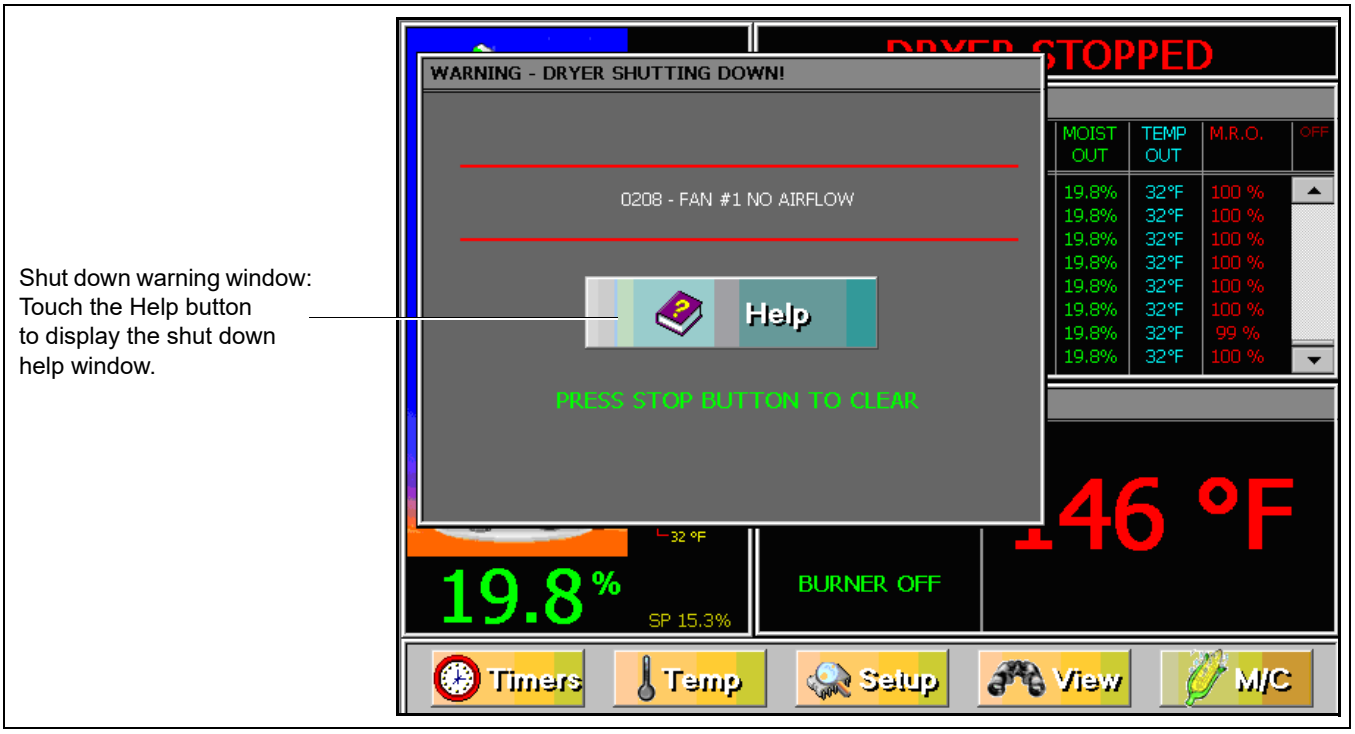


Figure 11A

Fan/Heater Generated Errors

The following is a list of errors that are generated with the fan/heater controller. Each fan/heater has there own set of safeties which are listed below. You will need to inspect the controller associated with the error. **Example**: If you get this error, it is telling you the problem is with housing 1 (bottom most fan) High-Limit. *(See Figure 11A.)*

Air Switch x Stuck

The air switch contacts have closed prior to the fan starting, indicating a freewheeling blade or improper setting of the air switch. The message will distinguish between which fan caused the shut down. This indicates that 12 VDC has been lost to terminal **J4-04** on the Fan/Heater board.

Fan x Loss of Airflow

This error message is displayed when airflow (air pressure) has been established but was lost for some reason. This could happen if while during the dryers operation the grain has settled or shrinkage in the grain columns causing a loss of air pressure in the plenum chamber.

Fan x No Airflow

Contacts in the air switch have never opened due to the fan not turning or the air switch may need adjustment. The message will distinguish between which fan caused the shut down.

Flame Loss x

The flame sensor has failed to detect a burner flame which had been established but was lost for some reason and there is a problem with the flame sensing circuitry or the dryer is not getting burner fuel. The message will distinguish between which burner caused the shut down. The reference to the number one is telling you that it is burner number one which is the bottom most fan.

Grain Temp Short x

This error indicates there is a shorted condition with one of the grain temperature sensors located inside the left or right grain columns. This could be a shorted sensor or the sensor wires could be shorted.

Grain x Overheat

An over temperature condition has occurred in one of the grain columns causing the control to shut down the dryer. This control is set at 210°F (99°C) and automatically resets itself when cool. This can be caused from a grain column plugged with trash or the meter rolls may be adjusted to slow. Feel the grain columns to determine which one may be causing the problems. If all the columns are hot to the touch then you will probably need to check the meter roll settings. If not, then examine the column that feels hot, make sure you can see the grain moving down the column screens. For more information on service see meter roll servicing.

Housing x High-Limit

The temperature High-Limit located on the fan/burner housing has opened, indicating an over temperature condition has occurred towards the rear of the fan/heater housing. This control is set at 200°F (93°C) and must be manually reset. The message will distinguish between which fan housing caused the shut down. The reference to the number one is telling you that it is fan number one which is the bottom most fan.

Ignition Failure x

This condition happens during the initial ignition of the burner. If the burner fails to light, check to make sure that the gas has been turned ON and/or the maxon valve has been turned ON. The reference to the number one is telling you that it is burner number one which is the bottom most fan.

Illegal Flame x

This message is displayed when the flame detection circuit of the heater is sensing flame when the burner is supposed to be OFF. Example, if you shut down the dryer and the heater continues to burn due to a solenoid stuck in an open state, it will generate this type of error.

Motor Overload x

One of the thermal overloads on either the fan, load, unload or auxiliary motors has opened, indicating an over current condition. The overloads must be manually reset. The message will distinguish between which fan overload caused the shut down. The reference to the number one is telling you that it is fan number one which is the bottom most fan.

Vapor x High-Limit

The LP gas vapor temperature sensor located in the gas pipe train downstream from the vaporizer, has opened indicating that the vaporizer is running too hot and must be readjusted. This sensor is set at 200°F (93°C) and automatically resets itself when cool. The message will distinguish between which burner caused the shut down. The reference to the number one is telling you that it is burner number one which is the bottom most fan/heater unit, is where the malfunction is located. Try adjusting the vaporizer coils farther away from the burners flame. You may also want to try switching the burner mode from High/Low to ON/OFF, especially on warmer days.

Input/Output Generated Errors

The following is a list of errors that are generated with the Input/Output board located in the upper control box.

Air System Failure

A shut down has occurred due to a air system that was installed with an integral safety switch that was in the unit. The air system safety connections are located in the upper control box on the terminal strip. This can occur if this safety looses 12 VDC to terminal **J1-10** on the Input/Output board. This input is jumpered on the terminal strip when it leaves the factory and is usually installed in the field by a qualified electrician.

Aux Load Overload

The motor overload relay has tripped on the aux load motor circuit located in the upper control box. This can occur if this safety looses 12 VDC to terminal **J1-05** on the Input/Output board. Push the Red button on the overload to reset this error. This is caused from the motor operating with to much of a work load, which in turn uses more current (amperage). If the problem reoccurs then check the motor to make sure it is not being overworked. You may need to call an electrician to measure the motors full load amps (FLA).

Aux Unload Overload

The motor overload relay has tripped on the aux unload motor circuit located in the upper control box. This can occur if this safety looses 12 VDC to terminal **J1-04** on the Input/Output board. Push the Red button on the overload to reset this error. This is caused from the motor operating with to much of a work load, which in turn uses more current (amperage). If the problem reoccurs then check the motor to make sure it is not being overworked. You may need to call an electrician to measure the motors full load amps (FLA).

Load Motor Overload

The motor overload has tripped on the load motor overload located in the upper control box. This can occur if this safety looses 12 VDC to terminal **J1-03** on the Input/Output board. Push the Red button on the overload to reset this error. This is caused from the motor operating with to much of a work load, which in turn uses more current (amperage). If the problem reoccurs then check the motor to make sure it is not being overworked. You may need to call an electrician to measure the motors full load amps (FLA).

Meter Rolls Failed

If you have the meter roll speed adjustment turned too low (not turning), this will cause this error message. It also could indicate that you have a defective meter roll sensor, the metering roll drive system has failed to turn or broken chain or jammed metering roll is a possibility. This can occur if the input is not receiving a 5 volt pulse on terminal **J4-04** on the Input/Output board.

Out of Grain

The dryer has run low on grain and the out of grain timer has timed out, shutting the dryer down. The unload auger will continue to run so it can clean out the remaining grain before shutting down.

Unload Motor Overload

The motor overload has tripped on the unload motor overload located in the upper control box. This indicates that 12 VDC has been lost to terminal **J1-02** on the Input/Output board. Push the Red button on the overload to reset this error. This is caused from the motor operating with to much of a work load, which in turn uses more current (amperage). If the problem reoccurs then check the motor to make sure it is not being overworked. You may need to call an electrician to measure the motors full load amps (FLA).

User Safety

A shut down has occurred due to a user installed safety switch that was installed on the dryer. The user installed safety connections are located in the upper control box on the terminal strip. This also indicates that 12 VDC has been lost to terminal **J2-01** on the Input/Output board. This input is jumpered on the terminal strip when it leaves the factory and is usually installed in the field by a qualified electrician.

Master Display Generated Errors

The following is a list of errors that are generated with the Master Display board located in the lower control box.

Cont-Batch Mode Chng

This error occurs when you switch the Dryer Mode switch from the continuous flow to the staged batch position while the dryer is running in the continuous flow mode. To avoid this shut down, stop the dryer before switching modes. Press stop to clear the error.

Network Failed FH x

This error is generated whenever Fan/Heater board has lost its communications link with the Input/Output board (upper control panel) and the Master Display board (lower control panel). Check the ethernet cable jacks to make sure they are plugged in tightly. An ethernet cable is a computer communication cable that looks like the phone cable in the home. *(See Figure 11B on Page 104.)* The reference to the number one (FH1) is telling you that it is fan number one which is the bottom most fan.

Network Failed Input/Output

This error is generated whenever Input/Output board (upper control panel) has lost its communications link with the master (lower control panel door) and the Fan/Heater boards. Check the ethernet cable jacks to make sure they are plugged in tightly. There are three LED lights next to this plug, one indicates power and the other two indicate data being transmitted. These two labeled RXD and TXD, should be flashing randomly back and forth indicating network activity.

Network Failed Mast

This error is generated whenever Master Display board (lower control panel) has lost its communications link with the Input/Output board (upper control panel door) and the Fan/Heater boards. Check the ethernet cable jacks to make sure they are plugged in tightly.

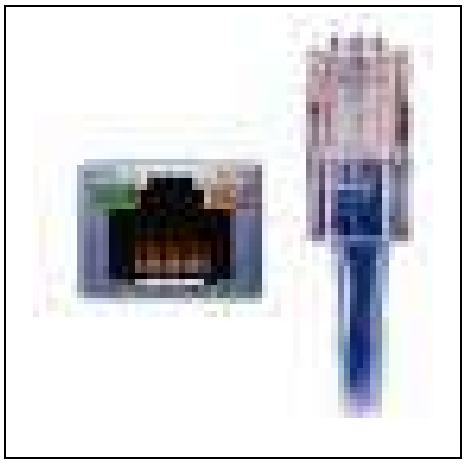


Figure 11B

Plenum Temp Open x

This error indicates there is a open condition with the plenum temperature sensor located inside the plenum chamber. This could be a open sensor or the sensor wires could have a open connection.

Plenum Temp Short x

This error indicates there is a shorted condition with the plenum temperature sensor located inside the plenum chamber. This could be a shorted sensor or the sensor wires could be shorted.

Plenum x Overheat

An over temperature condition has occurred inside the dryer plenum. This control is a 300°F (149°C) limit and automatically resets itself when cool. The message will distinguish between which plenum caused the shut down.

Limited Warranty - N.A. Grain Products

The GSI Group, LLC. (“GSI”) warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI’s sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements:

The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

	Product	Warranty Period
Storage	Grain Bin Structural Design • Sidewall, roof, doors, platforms and walkarounds • Flooring (when installed using GSI specified floor support system for that floor) • Hopper tanks (BFT, GHT, NCHT, and FCHT)	5 Years
Conditioning	Dryer Structural Design - (Tower, Portable and TopDry) • Includes (frame, portable dryer screens, ladders, access doors and platforms)	5 Years
	All other Dryer parts including: • Electrical (controls, sensors, switches and internal wiring)	2 Years
	All Non-PTO Driven Centrifugal and Axial Fans	3 Years
	Bullseye Controllers	2 Years
Material Handling	Bucket Elevators Structural Design	5 Years
	Towers Structural Design	5 Years
	Catwalks Structural Design	5 Years
	Accessories (stairs, ladders and platforms) Structural Design	5 Years

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above.

(Limited Warranty - N.A. Grain Products_ revised 01 October 2020)

This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

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