VISION CONTROLS

Network Dryer Control

The GSI Group, LLC • 1004 East Illinois Street • Assumption, IL 62510

QSG-001

Suggested Initial Settings Check

NOTE: Default settings work well in most cases.

1. Power on using the Control Power switch and wait 30 seconds.
2. Now viewing the "Boot Screen", select "Start Dryer".
3. Setup timers.
4. Using the "Setup" screen, select the following options to configure the dryer.
   - a.) Drying Mode — Select drying mode settings.
   - b.) Unload Parameters — Check unload parameter settings
   - c.) M/C Setup — Select moisture control settings.
   - d.) Burner Mode — Check burner mode settings.
5. Using the "Extended Setup Screen", select the following options to configure the dryer.
   - a.) Data Logger Setup — Check data logger settings.
   - b.) Set Time/Date — Check date and time settings
   - c.) Temp Scale — Check temp scale settings.

Configuration Buttons

Use the following buttons to access these system settings:

Timers — Select this button to modify **Load Delay**, **Out of Grain (OOG) Timer**, **Fan Delay**, **Unload Delay**, and **Cool Down**.

Temp — Select this button to modify the **Plenum Temperature Setpoint** and the **Grain Temperature Setpoint.**

Setup — Select this button to modify **Drying Mode**, **Moisture Control Setup**, **Unload Parameters**, **Plenum Temp Manager**, **Burner Mode**, **Calibrate Moisture Sensor**, and the **Extended Setup Screen**.

Extended Setup — Located within the Setup Screen, selecting this button allows you to modify **Diagnostics**, **Differential**, **Printer Setup**, **Meter Roll Reverse**, **BPH Calibration**, **Set Time/Date**, **Temp Scale**, **Dryer Model**, **Data Logger Setup**, **User Saved Defaults** and **Batches**.

View — Select this button to see the **Table View**, **Graph View**, **Owner's Manual**, **Error History**, **System Information** and **Software Version Info**.

M/C — Select this button to access **Modifying Temperature Setpoint** and **Modifying Moisture Setpoint**.

PERSONAL EQUIPMENT RECORD

Model Number: _____

Dryer Serial Number: _____

Number of Modules/Fans/Heaters: ____

Fuel/Length: _____

Electrical Phase/Voltage: _____

5 SPEED	- CURRENT MOISTURE CONTROL
AUTO	- UNLOAD SWITCH POSITION
HI 575	- CURRENT METER ROLL SPEED
RPM 9.9	- METER ROLL RPM
BPH 1610	- BUSHELS PER HOUR
TB 3439	- TOTAL BUSHELS
130 °F	- EXITING GRAIN TEMPERATURE
17.0%	- EXITING GRAIN MOISTURE

Note: Screen shot of 1100 Series Dryer. Screens are similar but may vary slightly depending on model.

Default Operation Screen

The Default Operation Screen is divided into five (5) sections:

1. **Dryer Operation Animation**: Located on the left side of the screen, this shows the status of the fans/heaters, load and unload augers and meter rolls. It will also display the grain temperature, moisture content, moisture control setpoint and the bushel counter.
2. **Dryer Status:** Located at the very top of the right side, the dryer status will tell the user if the dryer is stopped, started, loading or unloading.
3. **Dryer Status Chart:** This chart, located directly under dryer status, will show the grain temperature, moisture in/out, temperature out and meter roll output (M.R.O) over a period of time.
4. **Plenum(s):** Located directly below the dryer status chart, the plenum section will show temperature setpoint, actual plenum temperature and burner status.
5. **Configuration buttons:** Select from Timers, Temp, Setup, View and M/C buttons.

NOTICE: PRIOR TO OPERATION, READ THE OWNERS MANUAL FOR IMPORTANT SAFETY INSTRUCTIONS AND FULL EQUIPMENT DETAILS

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DRYER QUICK START-UP

These instructions assume that all safety checks and operational settings have been made, the dryer has been inspected to make sure no debris is in the augers, columns or metering rolls of the dryer and that the moisture control mode has been selected. If you are unfamiliar with the various operations or want more specific instructions for start-up, please refer to the complete manual for your model.

1. Before attempting to operate the dryer, ensure all safety shields are in place, all plenum bottom closure panel doors are closed, all rear access doors are closed and that all personnel are clear of the grain drying and handling machinery.
2. Turn all selector switches on the control panel to the **OFF** position.
3. Move the safety disconnect handle mounted on the dryer's upper power box to **ON**.
4. Turn on all fuel supply valves including any on the dryer, **excluding** the **Maxon valve.**
5. Turn the Control Power Switch to **ON**. Once the Boot Screen appears, select the **"Start Dryer"** button.

   NOTE: After the safety check, if the dryer is equipped with an electric Maxon gas valve, it will be armed. If the Maxon valve is a manual model, move the handle for the valve to allow gas flow.
6. Move the Load Switch to **MANUAL** and push the Start Button. The top auger will immediately start and fill the dryer.
7. After the dryer fills completely, turn the Load Switch to the **AUTO** position.
8. Turn each Fan Switch **ON**. The fan(s) will start and switches will light up when sensing air pressure.
9. Turn the Heater Switch(s) **ON** to light the burners.
10. Confirm that all burners are set at 180°F *(82°C)* for start-up.
11. Refer to the All Heat or Dry & Cool time and manual speed charts to determine how long to run the burners based on the incoming moisture. If running Dry & Cool after running for the time specified, turn off the burner on the cooling fan(s) and allow to run for 10 additional minutes.
12. Turn the Unload Switch to **MANUAL** and set the Meter Roll Speed to the chart setting.
13. Increase the drying temperature(s) to your normal operating temperature(s).
14. Run in **MANUAL** for a minimum of 6 minutes for each point of moisture to be removed.
15. Turn the Unload Switch to **AUTO**.

DRYER SHUTDOWN

1. Turn **OFF** in sequence: Shutoff Load switch, then burners (top to bottom), then fans (top to bottom), and finally the Unload switch.
2. Close the fuel supply valve at the tank or valve along the fuel line.
3. If the burner is operating, let the dryer run out of fuel and it will shutdown automatically due to loss of flame.
4. Close the fuel valve at the dryer and press the dryer **STOP** button.
5. Turn **OFF** the Control Power Switch.
6. Turn **OFF** the safety disconnect handle on the front of the power box and turn **OFF** the main power to the dryer.

APPROXIMATE DRYING SETTINGS

Drying Settings

Dry & Cool: This process cools the grain before it exits the dryer, as the lowest fan is ran without the burner. This mode cools the grain in the dryer for safe storage in bins with standard aeration.

All Heat: Also referred to as Full Heat, this process discharges grain hot without any cooling. All fans are operated with their burners on. The grain must be cooled in bins equipped with airflows higher than standard aeration requiring additional management. ***Typically, 1%-3% of moisture is removed in the cooling process.*** Therefore, hot shelled corn should be removed from the dryer at approximately 17% moisture if the final desired moisture content is 15%. Each farm and each bin, depending on conditions, practices and amount of airflow, will vary in the amount of moisture removed. Once the moisture removal of each bin is determined, it should be recorded for future reference. Drying capacity is substantially higher using the All Heat process versus the Dry and Cool process.

Drying Temperatures

Shelled Corn: For shelled corn with an initial moisture content of 20% -30%, the recommended temperature on a two fan dryer is 230°F *(110°C)* for the top fan with the range being 210°F – 240°F *(99°C - 116°C)*. The recommended temperature for the bottom fan is 180°F *(82°C)* with the range being 170°F – 190°F *(77°C - 88°C)*. If operating a two fan dry and cool or a single fan all heat, the recommended temperature is 210°F *(99°C)* with the range being 200°F – 230°F *(93°C - 110°C)*.

Small Grain & Soybeans: For drying wheat, oats, milo and soybeans, a temperature of 140°F - 160°F *(60°C - 71°C)* is suggested. Settings may change from year to year.

Rice: For drying rice, a temperature no higher than 130°F *(54°C)* is recommended.

NOTE: On dryers with Grain Inverters all burners must be set for the same temperature.

Drying Tips and Suggestions

For obtaining the highest drying efficiency, use the highest possible drying temperatures which will not adversely affect grain quality.

If the dryer is to be shutdown while filled with grain, it is recommended that hot grain be cooled for a minimum of 15 minutes, particularly in colder weather to prevent water vapor condensation and possible freezing.

KEY

(**IM**) Initial Moisture
(**DT**) Dry Time
(**SM**) Manual Meter Roll Speed - Single Module
(**2S**) Manual Meter Roll Speed - Two Stack
(**3S**) Manual Meter Roll Speed - Three Stack

All Heat Start Settings

IM	DT	SM	2S	3S
17%	16 min.	630	990	990
18%	21 min.	480	990	990
19%	26 min.	390	810	990
20%	32 min.	320	670	990
21%	37 min	270	570	860
22%	42 min	240	510	770
23%	47 min	210	450	680
24%	51 min.	200	410	620
25%	54 min.	180	390	590
26%	58 min.	170	360	550
27%	62 min.	160	340	510
28%	67 min.	150	320	480
29%	72 min.	140	300	450
30%	76 min.	130	280	420
31%	81 min.	120	260	390
32%	86 min.	120	250	370
33%	91 min.	110	230	350
34%	96 min.	100	220	330
35%	100 min.	100	210	320

Dry & Cool Start Settings

IM	DT	SM	2S	3S
17%	18 min.	360	890	990
18%	24 min.	270	670	910
19%	30 min.	220	540	730
20%	35 min.	190	460	620
21%	40 min.	160	400	540
22%	45 min.	140	360	480
23%	50 min.	130	320	440
24%	55 min.	120	290	400
25%	60 min.	110	270	360
26%	65 min.	100	250	330
27%	70 min.	90	260	310
28%	75 min.	90	210	290
29%	80 min.	80	200	270
30%	85 min.	80	190	260
31%	90 min.	70	180	240
32%	95 min.	70	170	230
33%	100 min.	60	160	220
34%	105 min.	60	150	210
35%	110 min.	60	150	200

These settings assume normal, full commercial corn plenum temperatures and normal drying corn.