



TURBO&MINI USER MANUAL

iDRY, LLC

2nd Edition

*Please visit our Youtube page for helpful technical videos: [iDRY Youtube](#)
Contact Technical Support: 800-406-1887 x2*

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Introduction

Congratulations on your purchase of an iDRY Systems iDRY lumber dryer. This equipment is a product of IDRY, LLC's quality engineering and manufacturing. With a high quality rugged stainless steel pressure vessel and state of the art electronics this iDRY dryer will, with proper maintenance provide long term satisfactory service. To obtain the best use of your iDRY dryer, please read this manual carefully. It will help you become familiar with the operation of the equipment and contains helpful information regarding installation, operation, maintenance and troubleshooting.

We hope you find this manual to be helpful in producing the high quality lumber your customers demand.



Safety

This equipment should be operated by trained personnel and maintained by certified professionals. The equipment is intended for non-treated lumber only and should not be used for any other purpose. Any modifications of the equipment or use of unauthorized parts is forbidden unless approved by the original manufacturer. Any electrical or plumbing work performed on this installation should be performed by certified professionals working to local codes.

Safety warnings are noted in each section; example below:



WARNING: THE VOLTAGES INSIDE THE CONTROL BOX ARE HIGH ENOUGH TO CAUSE DEATH IF YOU COME IN CONTACT WITH THEM.

The following machine specifications are for iDRY Turbo Lumber Dryers:

Specifications - Turbo

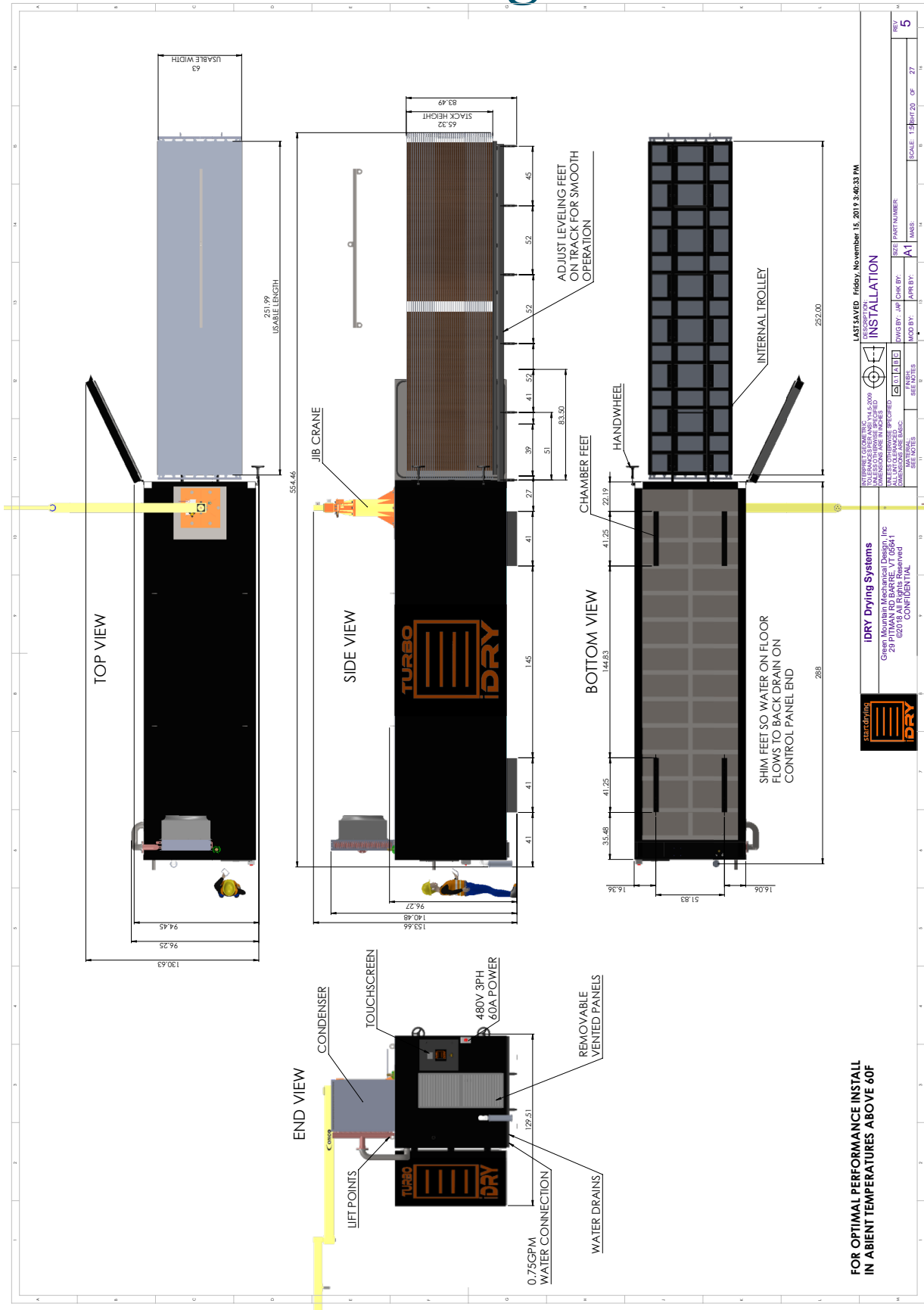
Main Power	480 VAC, 3 Phase, 60HZ, 60 Amps
Water Supply	Managed Water @ 70 Deg F / 21 C or less with avg flow of 1.5 Gallons per Minute / 2.8 Liters per minute, MIN 50 PSI
Water Chemistry	Managed water is water that is safe for use with Aluminum and routinely checked and tested.
Drains	Air Gap (included) required - 2inch / 51mm PVC Connection (2 drains)
Installation Environment	Above freezing dry space. For best operating performance ambient temperature should be kept at 70 F / 15.5 C
Remote Connection	Ethernet Cable 200 Feet / 60 Meters max
Lumber Load Capacity	21ft long x 64 inches wide x 67 inches tall
Equipment Weight	Kiln and components: 16,500lbs Heating Plates: 9,840lbs

Specifications - Turbo MINI

Main Power	208-240 VAC, 1 Phase, 60HZ, 60 amps
Water Supply	Managed Water @ 70 Deg F / 21 C or less with avg flow of 1.5 Gallons per Minute / 2.8 Liters per minute, MIN 50 PSI
Water Chemistry	See boiler specs. Managed water is water that is safe for use with Aluminum and routinely checked and tested.
Drains	Air Gap (included) required - 2inch / 51mm PVC Connection (2 drains)
Installation Environment	Above freezing dry space. For best operating performance ambient temperature should be kept at 70 F / 15.5 C
Remote Connection	Ethernet Cable 200 Feet / 60 Meters max
Lumber Load Capacity	17ft long x 48 inches wide x 55 inches tall
Equipment Weight	Kiln and components: 9,500lbs Heating Plates: 4,910lbs

Technical Drawings - Turbo

Technical Drawings - Turbo



Installation & Startup:

Complete the following prior to iDRY Systems assisted startup procedure:

Placement

1	Locate Kiln Chamber in Dry, Climate controlled space at recommended temperature of 70 DegF / 21.1 C
2	Loosen Handwheels just enough to rotate them out of the way (if you continue to loosen the threads the hand wheels will come off.
3	Shim chamber to ensure water flows to drain (chamber is pre-shimmed 1/2inch / 1.27cm)
4	Remove the ratchet Straps, then remove Track, Trolley and Bridge sections from chamber. Set aside the cardboard box.

Track & Trolley Installation

4	The two pieces on top are called the track bridge extensions.
5	Match up the track bridges to the chamber and the track frame using the two alignment tabs.
6	Adjust the track feet so that both the track and bridge are level leading up to the kiln chamber. *You will need either an adjustable wrench or an 1-1/8inch / 29mm wrench. All feet should be on the ground *The track can be used with, or without the track bridge extensions.



7

Using a string or straight edge, aligned the track angle peak from the chamber to the opposite far end of the track. It is imperative that the tracks on the track frame and extensions are in alignment with the track in the chamber. Failure to do so will result in the trolley coming off the tracks.



- 8 Place the trolley onto the track and perform an unloaded test to confirm the trolley rolls easily all the way in and out of the kiln chamber
**For door operation you will need to move the track bridge extensions. For best results mark the floor where the track and bridge sections are lined up, or permanently affix the track frame to the floor*



Plumbing

10	There are two water supply connections at the control panel end of the kiln. 1) the connection at the right side is cooling water for the vacuum pump. Here you will connect water to connection port. The fitting is a 1/2" NPT female brass fitting. 2) The connect at the left side is makeup water for the main heating system loop. Here you will connect the managed water supply to the connection port. The fitting is a 1/2" NPT female brass fitting. Managed water is water that is safe for use with Aluminum and routinely checked and tested.
11	Connect vessel drain with air gap (2" PVC / 51mm) to your facilities drain
12	Connect vacuum pump drain with air gap (2" PVC / 51mm) to your facilities drain



VIEW FROM UNDERNEATH




Electrical and plumbing installations should be performed by certified professionals based on local building codes only.

Condenser - Turbo Only

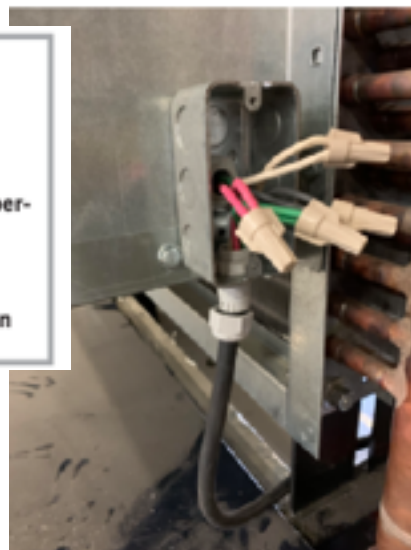
1	Remove Condenser assembly from crate and hoist into position as shown below
2	Lower condenser into place and align holes and install mounting hardware.
3	Connect the clear plastic vacuum hose from the vacuum pump to the condenser via the stainless steel union.
4	Once the condenser is secure you can feed the power cable provided to make an electrical connection at the junction box.



 **WARNING**
Risk of electrical shock, risk of damage to equipment.

Electrical installation work must only be executed by qualified personnel that knows and observes the following regulations:

- IEC 364 or CENELEC HD 384 or DIN VDE 0100, respectively,
- IEC-Report 664 or DIN VDE 0110,
- BGV A2 (VBG 4) or corresponding national accident prevention regulation.




Jib Crane - Turbo Only

1	Remove crane from crate by lifting where indicated below. *ensure power cable is free from lifting straps.
2	Lift crane into place and hinge up black paint mark on crane with mounting plate on kiln
3	Bolts should be torqued to 250 ft/lbs.
4	Refer to crane manual for further information and safety instructions



Power

9 Connect electrical power at rotary disconnect located at control panel end of chamber

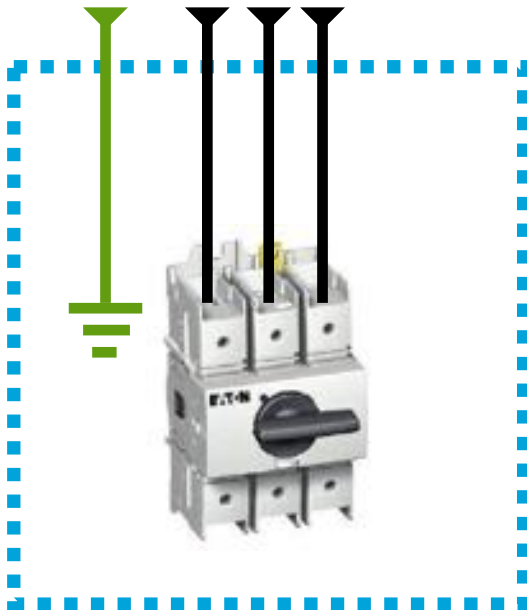
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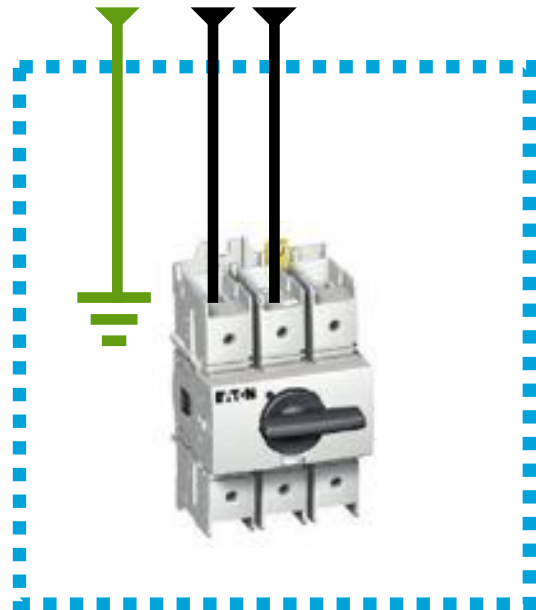
- IEC 364 or CENELEC HD 384 or DIN VDE 0100, respectively,
- IEC-Report 664 or DIN VDE 0110,
- BGV A2 (VGB 4) or corresponding national accident prevention regulation.



TURBO - 480VAC 3PH, 60Amps



TURBO MINI - 208-240VAC 1PH, 40Amps



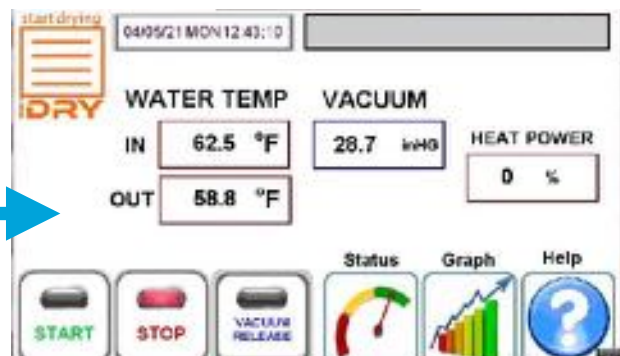
 **Electrical and plumbing installations should be performed by certified professionals based on local building codes only.**

Powering Up

19 At Control Panel turn rotary disconnect switch to power up machine



20 Allow Touch Screen to power up. Press the ACCEPT button to reach the MAIN screen.



Heating System Water Filling Procedure

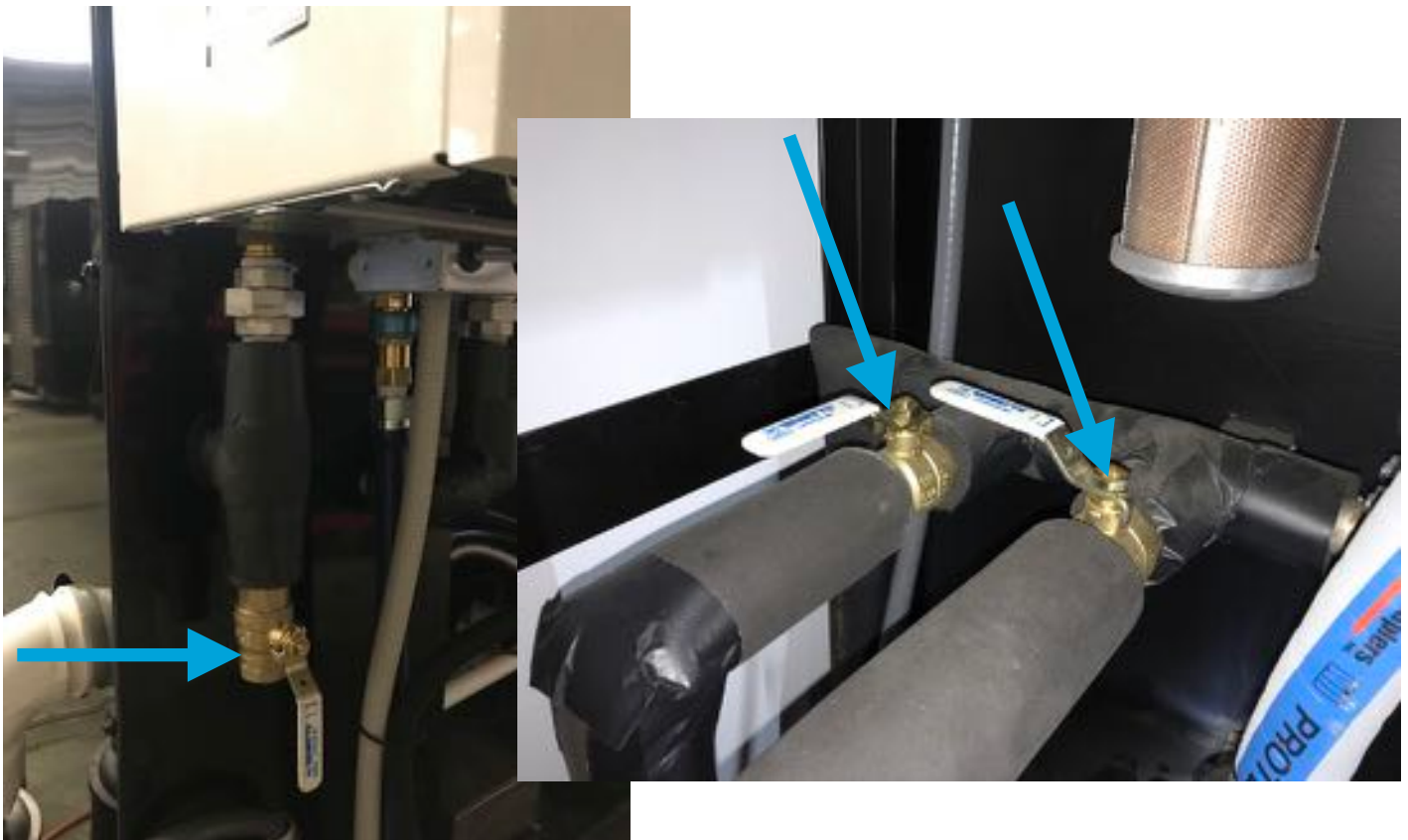
Main System Fill	
1	Turn on water supply for the main heating system loop.
2	Connect the left lowest hose to provided hose attachments (see images)
3	Point the end of the hose towards the back of the chamber
4	From the main control screen press the “Vacuum Release” button. This will also start the drain tank drain valves to operated on the timed interval.
5	Navigate to the “Fill” button. Press the “Help” button, then “Tools” button. Press the “Fill Water” button. This will turn on the water fill valve.
6	Watch the hose as air then water comes out of the hose connections. Keep running until only water is flowing. Allow water to flow for several minutes.
7	Disconnect the hose connection. Do not turn off the “fill button: until the hose is disconnected
8	Repeat procedure for the right side but use the uppermost hose.



WARNING: fill the plates and main heating system with managed water only. Consult your local water treatment specialist to ensure you are using proper water quality. Failure to do so can result in damage to heating system and heating plates.

Boiler Setup and water fill procedure - Gas Boiler Only

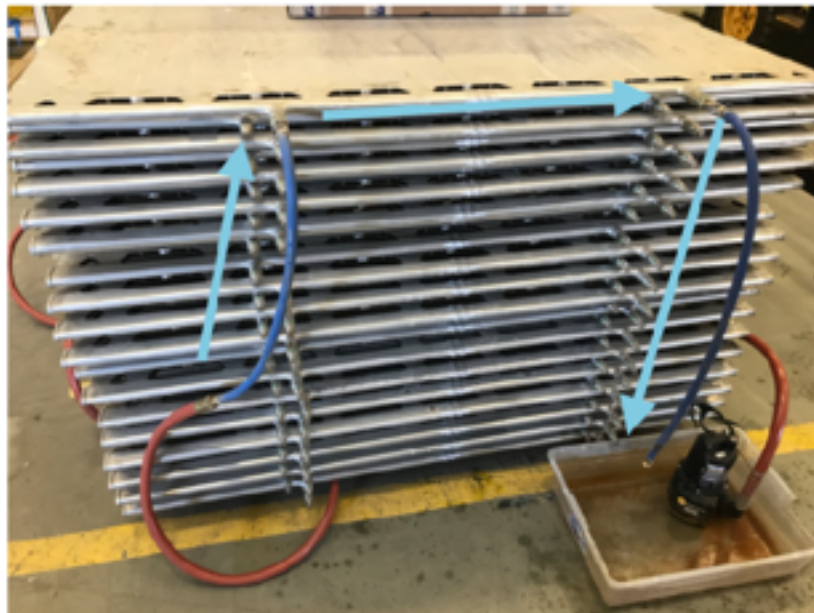
Boiler System Fill	
1	A trained boiler technician should be used to connect gas line.
2	A Trained boiler technician should be used to connect the vent.
3	Open the drain valve and the right isolation valve. Make sure the left isolation valve is closed.
4	Turn on the water fill valve from the display screen on the TOOLS page.
5	Water will enter the boiler and dump out of the drain valve.
6	Allow to run water for a few seconds then close the drain and open the left isolation valve.
7	Make sure the boiler is turned ON and ready it will be told to fire during the water system test.
8	Monitor the boiler during the water system test.
9	Refer to boiler installation and service instructions for details and trouble shooting.
10	Refer to boiler installation and service instructions for maintenance information.



WARNING: Improper boiler set-up can cause personal injury and property damage.

Heating Plates Water Filling Procedure

Heating Plates	
1	Using the jib crane attach and lift a heating plate so that it can be gently shaken during the filling process
2	Connect a treated (soft) water supply with Min of 30 PSI using the garden hose adapter to on side of the plate
3	Connect the other side of the plate to drain
4	Turn ON water supply and allow water to flow for several minutes
5	During this filling step gently shake and tilt the plate to help air pockets escape
6	Disconnect drain hose and wait several minutes. This will build up pressure
7	Re-connect drain hose and allow water to flow for several minutes
8	During this filling step gently shake and tilt the plate to help air pockets escape
9	Disconnect drain hose and repeat filling until all air is removed
10	Always disconnect the drain hose before disconnecting the fill hose
11	Place the filled plate on the trolley
12	Repeat the above procedures for all heating plates
13	Stack each plate back on the trolley using the wood spacers
14	Roll in a minimum of five (5) plates. *a minimum of five plates is required to perform the water system test.
15	See next section for “Water System Test”



WARNING: Air from heating plates must be completely removed or damage to equipment will occur

Water System Test

Water System Test	
1	Now that your water system and heating plates are filled we can perform a system test
2	Turn on your water supply and turn power on to the machine
3	Remove and store away all provided hose connectors
4	Connect the left and right sides to 5 (five) heating plates
5	From the main control screen turn OFF the “Vacuum Release” button then navigate and turn OFF the “Fill Water” button
6	On the first setup screen change the vacuum set point to 32 and water temperature set point to 60
7	Press the “Start” button and allow water to circulate for 20 Mins.
8	During this time navigate to the status screen and check that date pressure is between 20 and 30 PSI.
9	After 20 minutes change the water temperature set point to 120 Degs F and run for another 30 mins. During this time check that the temperature is rising and pressure remains in range.
10	After reaching 120 Deg F change the water set point to 160 Degs F and run until 160 Deg F is achieved.
11	Connect another 5 (five) heating plates and wait until the temperature reaches 160 Deg F
12	Repeat procedure until all plates are connected



Using the Press Bladder

The bladder is used to apply downward pressure to keep your lumber flat. Under vacuum the bladder will inflate much like a weather balloon in the super atmosphere.

- 1 Unroll the bladder on the top plate of your lumber pack with hose positioned at door end
- 2 After rolling your lumber pack into the kiln connect the bladder hose to the connector located top left side of the kiln chamber. The bladder will not inflate if not connected to this port.
- 3 When finished drying a load of lumber you can use the provided fittings to deflate your bladder for ease of rolling load out of the kiln.
- 4 **WARNING - Only use press bladder with a full load.**



Bladder Hose connection



WARNING: ONLY USE BLADDER WITH A FULL LOAD. IF LOAD IS MORE THAN THREE INCHES FROM TOP DO NOT USE BLADDER. PRESS BLADDER WILL FAIL IF INFLATED TOO MUCH.

Closing the Door

1	Confirm that all persons have exited the chamber.
2	Push in the load and monitor that the rubber hoses are out of the way.
3	Connect all water rubber hoses.
4	Remove the two track bridge extensions.
5	Close the door and tighten the hand wheels until rubber gasket contacts chamber sealing surface.
DO NOT OVERTIGHTEN HANDWHEELS, AND NEVER TIGHTEN HANDWHEELS WHEN CHAMBER IS IN OPERATION UNDER VACUUM	

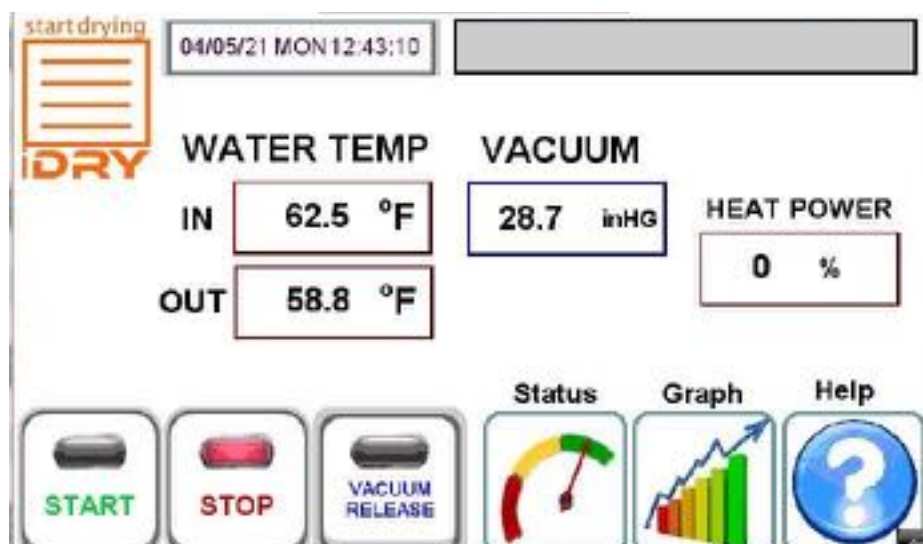


! WARNING!! CHAMBER IS A CONFINED SPACE. NO PERSONS SHALL ENTER THE CHAMBER WITHOUT A TRUSTED "BUDDY" TO SUPERVISE AND ENSURE NO PERSONS ARE IN THE CHAMBER WHEN THE DOOR IS CLOSED OR WHEN THE MACHINERY IS IN OPERATION

! WARNING!! DO NOT TIGHTEN HAND-WHEELS AFTER CHAMBER IS UNDER VACUUM - THIS WILL RESULT IN DAMAGE TO THE HAND-WHEEL!!

Starting the Kiln

1	Press “Start” button
2	Watch the vacuum set point for a few minutes to ensure the actual vacuum begins to drop towards 4 inHG Vacuum
3	The temperature will automatically warm up the wood slowly and continue to rise over time. Temperature will rise more gradually using low power mode
4	The kiln will reach a max temperature of 160 Deg F but the time to achieve that temperature will vary depending on power mode, species, initial moisture content (MC), thickness and more.
5	Drying time will vary by species. 4/4 maple will take approximately four to six (4-6) days to dry. Each additional inch would take an additional 3 days. Some species will take longer.
6	See section SYSTEM SETUP for parameter settings.



Kiln Monitoring

1	The operator should spend a few minutes at the kiln each day to monitor the drying process and functionality of the equipment.
2	The vacuum pump may only run periodically to maintain vacuum pressure
3	Any any time in the drying process the operator may press “Stop” and “Release Vacuum.” Once the vacuum is completely released the operator can open the door and check the condition of the wood.
4	The STATUS screen and TREND GRAPHS are useful tools for monitoring kiln performance.

Unloading the Kiln

Opening The Door

1	Press “Stop” and control panel HMI (touchscreen)
2	Press “Vacuum Release” on the Touchscreen.
3	Loosen and swing free door hand wheels, open door.
4	Check the moisture content of the wood.
5	If the wood is not yet at the desired moisture content then close the door and continue drying.
6	If the wood is at or below desired moisture content then continue with unload procedure.
7	Disconnect bladder hose and connect the vent adapter.
8	If the bladder is inflated and pressing against the ceiling close the door and pull a vacuum to deflate. Running the vacuum for about 10 mins should deflate the bladder enough.
9	Disconnect all rubber water hoses and Install the two track bridge extensions.
10	Connect to the bottom cart and pull the load out. Never pull on the plates.



Unloading the Kiln - Check Moisture Content

Checking Oven Weighted Samples

1	Pull at least 4 of the sample boards that were oven tested and weighed prior to starting the load.
2	Reference the ASTM D4442-15 standard for proper oven weight sampling of lumber samples for proper procedure

SYSTEM SETUP

TOOLS

Tools Screen and Functions

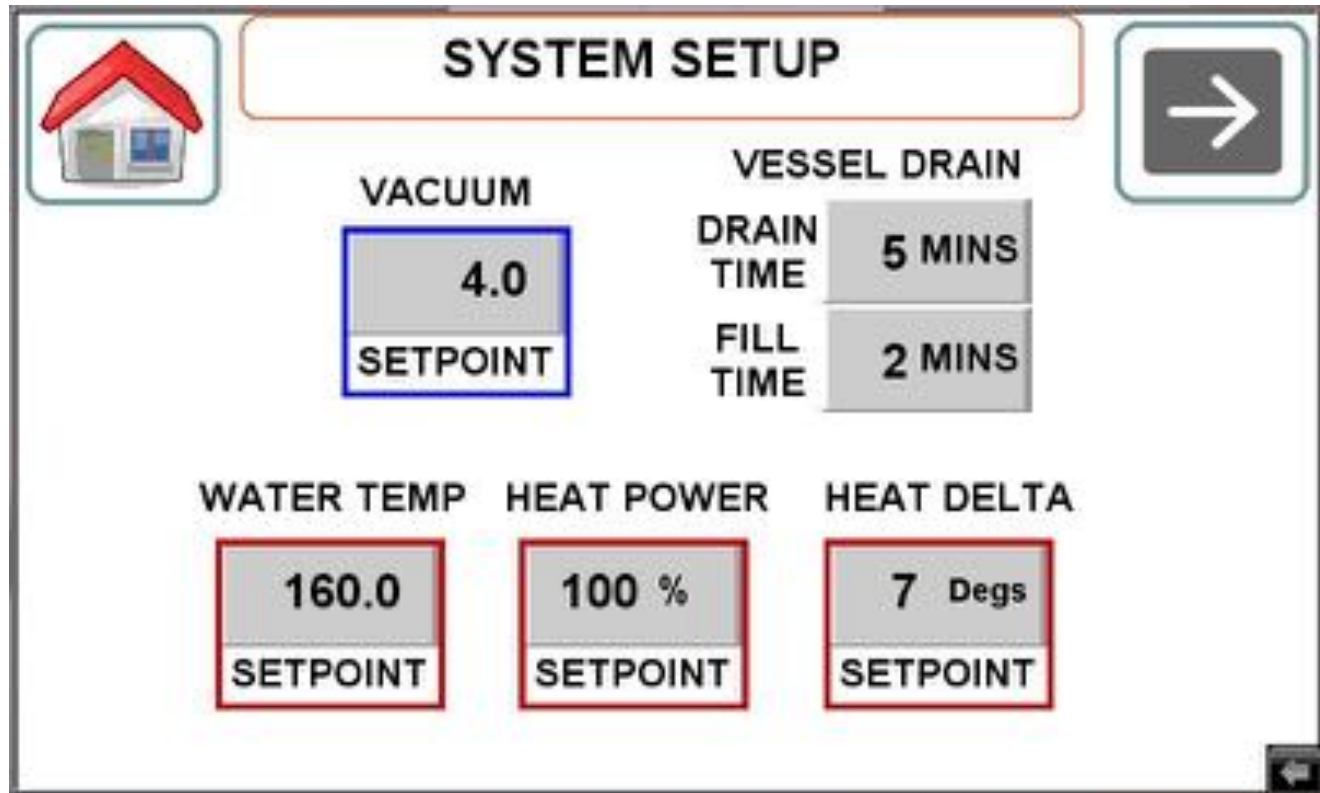
- 1 Navigate to the tools screen by pressing “Help” button then the “Tools” button



MC CALC	This button will navigate to the moisture calculation screen
LOW POWER	This button can be used for reduced heating and slower drying
FILL WATER	This button is only used to fill the main system with water
CONTINUE TO DRAIN	This button can be used to continuously run the drain cycle
LOAD DEFAULTS	This button will load all default settings
INTERNET	This button can be used to help diagnose internet connectivity issues
DATE & TIME	This button can be used to change the date and time

SCREEN #1 SETUP PARAMETERS

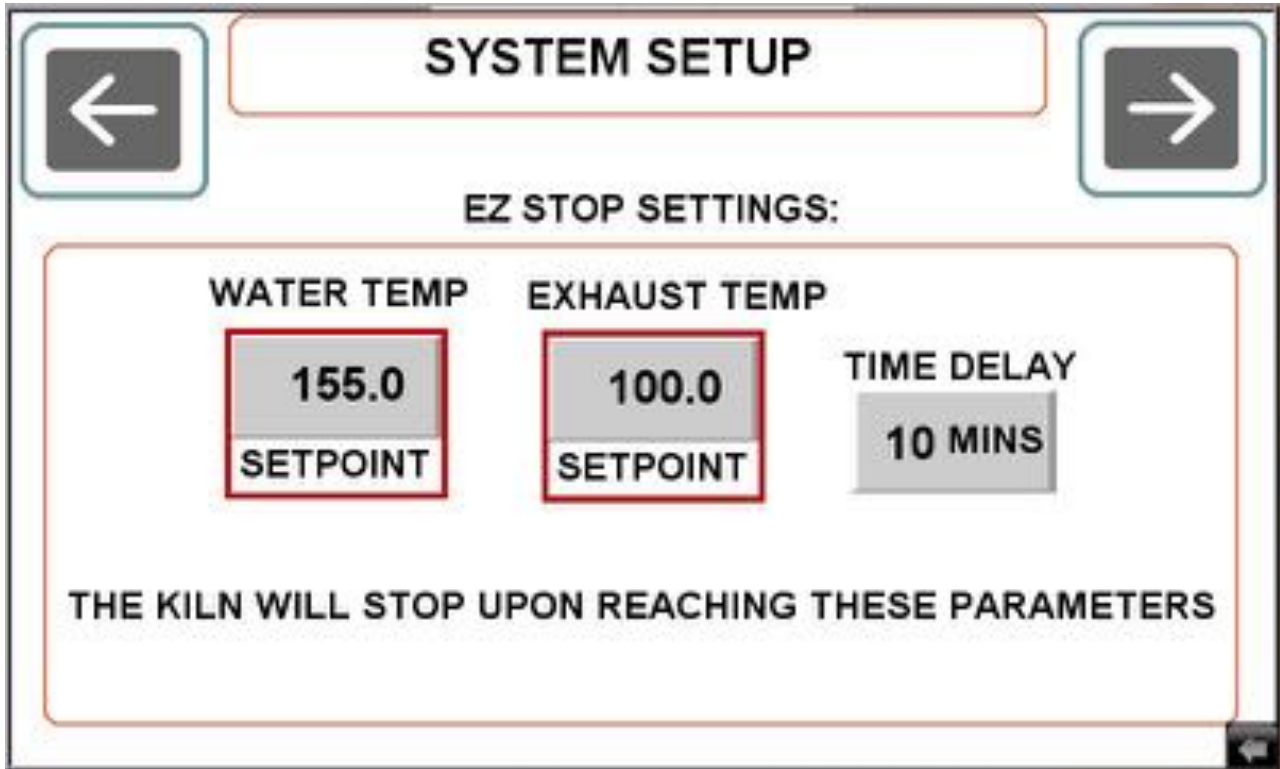
1	Navigate to system setup screen #1
2	Press “Help” at control panel HMI (touchscreen) then press “Setup”



VACUUM	Set Point should stay at 4 unless otherwise instructed by iDRY Systems
WATER TEMPERATURE	Set point is the maximum attainable temperature. The system will automatically control the ramp rate depending on heat power and delta set point. It is possible that the maximum temperature is not reached until the very end of the drying process and can be used as a drying indicator.
HEAT POWER	Can be used to limit the temperature rise
HEAT DELTA	Set point is used to control the temperature rise. The temperature entering the kiln (IN) is kept within this delta to the temperature exiting the kiln (OUT). This is known as the Delta T or drop across the load. A larger Delta T means a more aggressive rise in temperature.
VESSEL DRAIN	Cycle times can be adjusted

SCREEN #2 SETUP PARAMETERS

1	Navigate to system setup screen #2
2	Press "Help" at control panel HMI (touchscreen) then press "Setup"
3	Press the "Right Arrow"



The setup parameters on this screen can be used to stop the kiln. The kiln will stop if these three conditions are satisfied.

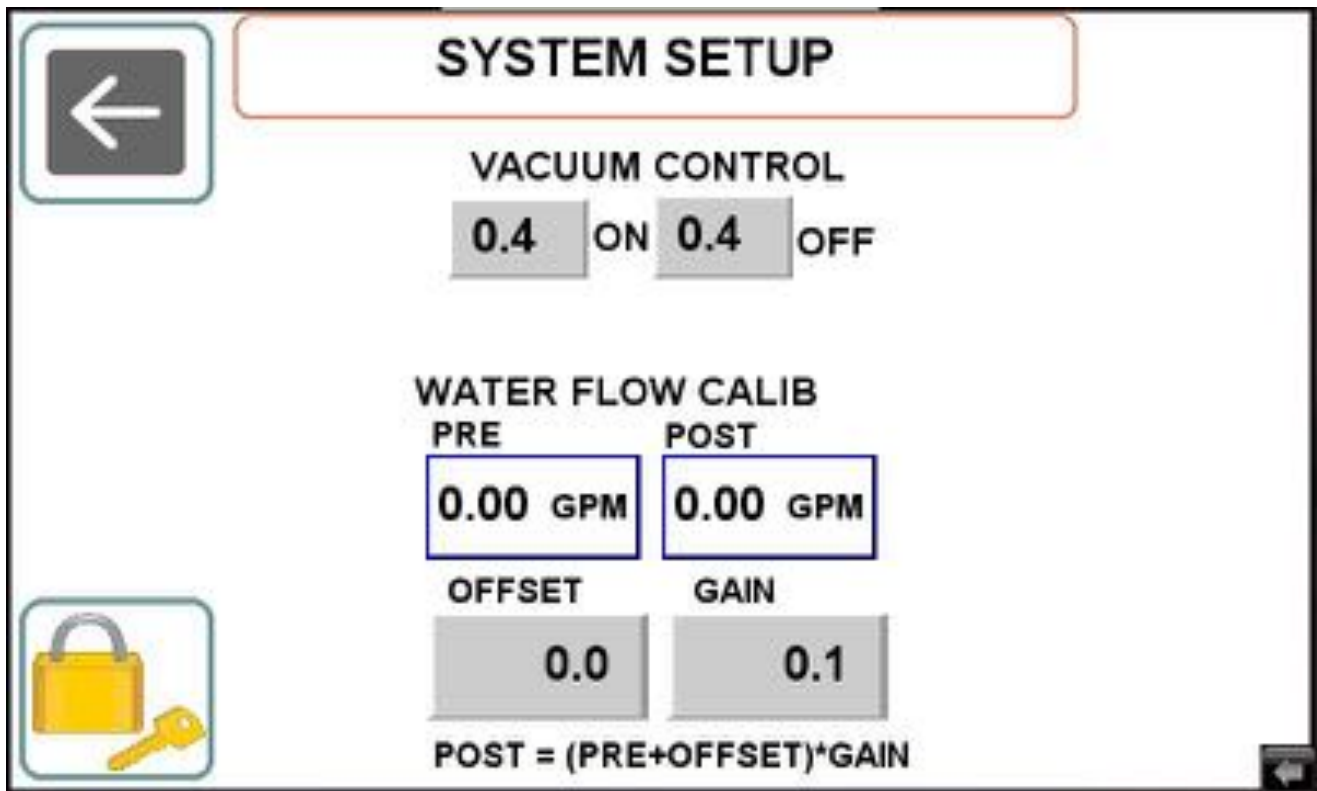
The entering (IN) WATER TEMPERATURE needs to be above 155 Degs F

The EXHAUST TEMPERATURE in the measurement of air temperature exiting the condenser while the vacuum pump is running. The vacuum pump is pulling air from the kiln, through the condenser and out the vacuum pump discharge. Since vacuum has very little air the most heat transfer will be because of steam. If the water temperature is high and the exhaust temperature is low then it can be determined that the wood is dryer. During the process this exhaust temperature can be monitored from the status screen and the trend graphs.

The conditions of water temperature and exhaust temperature need to be met for the amount of STOP TIME. After this time the kiln will stop.

SCREEN #3 SETUP PARAMETERS

1	Navigate to system setup screen #3
2	Press “Help” at control panel HMI (touchscreen) then press “Setup”
3	Press the “Right Arrow” and again press the “Right Arrow”



VACUUM CONTROL	Should not be adjusted unless instructed to do so by iDRY Systems
WATER FLOW CALIBRATION	Should not be adjusted unless instructed to do so by iDRY Systems
PAD LOCK	Button is only used by iDRY Systems

CORRECT USE

Lumber preparation

Care must be taken when preparing stacks of green lumber before the stacking and loading process begins. Lumber should be free from rocks and debris that could damage heating plates. Lumber should be sorted by thickness and moisture content.

Proper Stacking

Lumber pile and heating plates must be stacked vertically enough to fit into the kiln chamber. Lumber should not stick out beyond plates. Lumber should be placed on plates to reduce open spaces as best as possible. A large open void between boards may bend and damage plates. Place lumber on the plates so as to fully support the edges of the plates. Lumber should not stick out on the ends so far as to end up between the manifold. Do not lift heating plates with anything other than the provided spreader bar with cables.

Reducing Degrade

Drying slower can reduce degrade. Use LOW POWER mode or lower temperature set point until the lumber is below 25% Moisture Content. Only load Oak that is below 25% MC. Even below 25% Oak can have significant degrade so caution is advised.

Winter vs Summer

The kiln is designed to operate most efficiently in an operating environment of 70 Degs F. If your space is colder in the winter time then the kiln could dry slower. If your space is warmer in the summer then it may dry faster. Using LOW POWER mode in the summer and improving the ventilation in the space would be recommended. Adding more insulation or space heating in the winter would be recommended.

Initial Moisture Content

4 or more kiln samples should be taken from each side of the kiln at the door end and place back on any layer that can be reached except the top layer.

Reference the ASTM D4442-15 standard for proper oven weight sampling of lumber samples for proper procedure.

Mixing Species

Species with similar drying characteristics may be mixed in the same load with some level of risk to the more difficult to dry species. Care should be taken to sample and control the kiln operation based on the more difficult to dry species or the wetter species. As an example Walnut from Green and Hard Maple from Green would not dry similarly enough to dry together.

Mixing Thickness

Each layer between the plates must be the same thickness.

Frozen Lumber

Lumber that is frozen should be either thawed in warm storage prior to startup, or a warmup stage should be performed in the process before vacuum is applied.

Drying Interruptions

Interruptions in the drying process from checking the wood, maintenance or any other interruption causing the kiln to lose temperature and pressure for more than 2 hours will exponentially increase the drying time and may cause drying degrade. Rapid case hardening of the lumber during the interruption will slow the rate of diffusion of water to the surface of the wood. This drying process must be restarted with more heat and energy to continue the drying process.

Troubleshooting

Troubleshooting and Alarms

ISSUE	Possible Cause	Solution
No power at start up	No power to Kiln	Verify facility power to Kiln is turned on
	Main disconnect not turned on	Turn on the main disconnect
	Loose wire	A power wire may be loose or disconnected
	Fuse Blown	In the control panel box. Located in the top right corner. Check fuses.
Vacuum pump does not run	No power to the pump	Vacuum Pump Motor Starter Fault. Reset starter.
	No water to the pump	Check water connection and flow rate
	Pump is seized	Using the seized pump instructions. You will need to rotate the motor internal to the pump.
Vacuum pump runs but no vacuum in chamber	Door not closed	Verify there is no obstruction between the door gasket and kiln. verify the door is closed tightly.
	No water to the pump	Verify you have the proper water pressure going to the kiln. On the water flow meter. Verify the display is showing water flow.
	Flow Meter display is reading zero	Check water flow and pressure.
	Check Rotation	Check Rotation

ISSUE	Possible Cause	Solution
Vacuum Pressure displayed on the HMI display is reading zero	Transducer not reading	Loose connection on TB1100, TB3v+ and TB3v- in control panel box. Bad Transducer Replace
Alarm: Condenser Fan Starter Fault	Power Fluctuation	Reset the motor starter
	Over current on motor	Reset the motor starter
	Check Rotation	Check Rotation
Alarm: No Water to Vac Pump	No water to the vacuum pump	Verify you have the proper water pressure going to the kiln. On the water flow meter verify the display is showing water flow.
Alarm: Vac Pump Starter Fault	Power Fluctuation	Reset the motor starter
	Over current on motor	Reset the motor starter
	Seized vacuum pump	Using the seized pump instructions. You will need to rotate the motor internal to the pump.
Alarm: High Temperature	Temp Probe not Reading	Loose Connection on CO-04RTD Module R1+, R1- and R1C or R2+, R2- and R2C Bad Temp probe Replace
Alarm: Cant Reach Vacuum	Vacuum not achieved within 60 minutes	Vacuum leak Door Seal leak. Verify door seal is free from debris and door is closed tightly

ISSUE	Possible Cause	Solution
Excessive water build-up on floor of Kiln	Floor drain hole plugged with debris	Clean and clear debris from drain
	Kiln not shimmed to slope toward the drain	Shims should be placed under the feet to slope the kiln toward the control panel end slightly towards the drain connection
Wood has checked	Too high temperature during drying	Use low power mode
	Initial moisture content too high for drying species	Air dry to 25% core moisture content
Wood moisture content uneven	Temperature rise was too fast	Use low power mode
	Uneven lumber thickness	Check lumber thickness before stacking.
	Air pockets in heating system	Repeat fill procedure
Wood has honeycombed	Heating plate hose not connected	Check hose connections
	Initial moisture content too high for drying species	Air dry to 25% core moisture content
	Initial moisture content too high for drying species	Air dry to 25% core moisture content

Please visit our Youtube page for helpful technical videos: [iDRY Youtube](#)
Contact Technical Support: 800-406-1887 x2

Warning labels



Refer to Operators Manual



Shut off machine before servicing



Confined space. Buddy system is required



Burn Hazard



Risk of Electrical Shock!



General Warning

Terms and Conditions

PLEASE READ THIS DOCUMENT CAREFULLY. IT CONTAINS VERY IMPORTANT INFORMATION REGARDING YOUR RIGHTS AND OBLIGATIONS, INCLUDING LIMITATIONS AND EXCLUSIONS THAT MIGHT APPLY TO YOU.

These terms and conditions apply to the purchase and sale of products and services through IDRY, LLC (referred to as the “Company”) and idrywood.com (referred to as the “Site (s)”). By placing an order for such products and services, you agree to be bound by and accept these terms and conditions. If you do not agree to these terms and conditions, you should not obtain products or services from this Company or the site. These terms and conditions are subject to change by the Company (at time also referred to as “us” or “we”) without prior written notice at any time, in our sole discretion. The latest version of the terms and conditions will be posted on the Company web site, and you should review these terms and conditions prior to purchasing any product and services that are available through the Company or through the Company’s site. Also, these terms and conditions are an integral part of the Site Terms of Use that apply generally to the use of our Site. You should also carefully review our Privacy Policy before placing an order for goods or services from the Company or through this Site.

1. Order Acceptance and Cancellation

Your receipt of an electronic or other form of order confirmation does not signify our acceptance of your order, nor does it constitute confirmation of our offer to sell. We reserve the right at any time after receipt of your order to accept, decline, or limit your order for any reason, whether or not your credit card has been charged. If your credit card has been charged and your order is canceled you will receive a prompt refund credit to your account. We reserve the right at any time after receipt of your order, without prior notice to you, to supply less than the quantity you ordered of any item.

Once an order (“Order”) has been placed, it cannot be cancelled unless the shipment is unavoidably delayed. In this case, we will do our best to cancel the order if requested.

We are a manufacturer selling products to end user customers and do not accept orders from dealers, exporters, wholesalers, or other customers who intend to resell the products and services which are offered by the Company or on our Site.

We make every effort to maintain the availability of our Site. However, should we experience technical difficulties, we are not responsible for orders that are not processed or accepted. The price quoted is exclusive to only the items listed in the quotation, or otherwise agreed in writing. Even in the event all terms of the quotation and price are accepted by the Company, the Company always reserves the right to cancel shipping an order if there is reasonable concern for your credit worthiness.

3. Pricing, General Conditionals of Sale and Changes in Pricing and Products

If the price or terms acknowledged in your Order are different than the price and terms quoted by the Company, the price and terms quoted by the Company will be binding, unless changed in writing. In the event of a price dispute, you will be allowed 10 days from the date of the Order to contact the Company in writing to specifically set forth the details of the price dispute but this does not allow you to cancel the Order. Cancellation of an Order or return of a purchased item must be pre-approved by the Company in writing prior to the return of the purchased item. All written authorizations provided to you by the Company for return of an item purchased from the Company must accompany the Order and shipping documents in order for the return of the purchased item to be credited to you.

We are constantly updating and revising our offerings of products and services, and we may discontinue products and services at any time without notice. To the extent that we provide information on availability of products or services, you should not rely on such information, and we will not be liable for any lack of availability of products or services that you may order through the Company or our Site.

All pricing for the products and services offered by the Company or available on our Site is subject to change. For all of our prices and products, we reserve the right to make adjustments due to changing market conditions, product discontinuation, material or parts price changes, errors in advertisements and other extenuating circumstances.

3. Payment Terms and Sales Taxes

Terms of payment are within our sole discretion and, unless otherwise agreed by us in writing, payment must be received by us prior to our acceptance of an Order.

For certain products we accept credit cards for such purchases. You represent and warrant that (i) the credit card information you supply to us is true, correct and complete, (ii) charges incurred by you will be honored by your credit card company, and (iii) you will pay charges incurred by you at the posted prices, including all applicable taxes, if any.

Otherwise Payments are to be made via wire transfer.

All payments must be in United States dollars. Current billing address and phone information must be included with every order. You agree to pay interest on all past-due sums at the greater of the rate of 1.5% per month or the highest rate allowed by law of the state where the Product is shipped and for legal expenses associated with collection. We retain a security interest in the products and all proceeds thereof until the full purchase price therefore (including taxes and additional charges) has been paid.

Charges for shipping and handling will be made in accordance with our then-current shipping policies, as described below.

4. Shipping Policy

We offer a variety of shipping options to meet your shipping needs. We use only premium carriers with various delivery options available for many items. Please check the Order or individual product page for specific delivery options. All deliveries are insured and guaranteed against loss, theft and damage. All shipping prices are quoted in United States dollars. No C.O.D. orders can be accepted. You are responsible for any imposed duty and taxes by any and all duly authorized governmental entity. Delivery shall be defined as the receipt of equipment or product whether at your facility (which may be loading onto a truck commissioned by the customer at our facility) or an alternative facility designated by you.

Please note the posted shipping time frame is listed on the Order or on the individual product page and may vary from item to item. The posted shipping time frame is contingent upon payment or credit card approval and may be delayed should we experience difficulties in obtaining authorization.

There may be occasional delays beyond the posted Order processing time. If the delay is more than 14 business days, we will send you an e-mail message notifying you of the delay. If the delay will be less than 5 business days, we will ship the product as soon as it is received. If your product is on backorder for more than 30 business days, we will send you an e-mail message asking if you want to cancel the Order. If you do not advise us that you would like to cancel the Order, we will keep the Order active and continue to send you inquiries every 5 business days until the Order is cancelled or delivery occurs.

These shipping terms are accepted by you by placing an Order with us.

Refer to the Delivery Schedule which sets forth the estimated delivery timeframe subsequent to the receipt of a signed contract, initial payment or Order.

5. Advertising Disclaimer and Trademarks

We are not responsible for the accuracy of the descriptions of products and services that are offered by us or are posted on our Site. Nor are we responsible for typographical, pricing, product information, advertising or shipping errors.

In the event a product or service is stated at or listed at an incorrect price or with incorrect information due to

typographical error or error in pricing, we shall have the right to refuse or cancel any Orders placed for products or services listed at the incorrect price. We shall have the right to refuse or cancel any such Orders whether or not the Order has been confirmed and your payment is received or your credit card charged. If your payment is received or your credit card has already been charged for the purchase and your Order is cancelled, we will immediately issue a credit or refund check to you or your credit card account in the amount of the charge.

All trademarks and registered trademarks relating to products and services offered directly by the Company or available through the Company Site are the sole property of the Company.

6. INSTALLATION, STARTUP, AND TRAINING

Prior to delivery, you will provide proof that all required power, water, air supply and drains for the vacuum dryer and or ancillary equipment using licensed professionals (ie. locally licensed and insured Plumbers and Electricians).

Sufficient technical information will be provided with the products to allow proper operation and maintenance by you. Should you require unusual or special information or support, additional customer service or consulting costs will be charged. Installation of the primary supply of water, electricity, steam and air are your responsibility at your expense. Only a licensed plumber and electrician may perform installation work directly associated with the products manufactured by the Company and ordered by you. During the installation process the Company will work only with licensed professionals. If any work required for installation of the products purchased by you is performed by a person that is not licensed in the appropriate trade the limited warranties detailed in paragraph 7 below shall be voidable at the sole election of the Company. The Company offers onsite training or service after installation of any products. All onsite training or onsite or off-site service provided to you by the Company after installation of any purchased products shall be charged at the rate of \$950.00 per day for each Company representative together with all costs for travel, lodging and meals. All such costs shall be paid in advance or at the discretion of the Company at the conclusion of such services.

7. LIMITED WARRANTY

All Company products including all component parts to guarantee proper functioning of the Company products are deemed by the Company to be free of defects in workmanship and material for one (1) year from date of Delivery of the product purchased. This warranty is limited to repairing or replacing products which a manufacturer's investigation shows were defective at the time of installation by the Company. In the event of a warranty claim, you will be responsible to pay installation expenses, but not parts costs.

The express warranty set forth herein is in lieu of all other warranties, express or implied, including, without limitation, any warranties of merchantability or fitness for a particular purpose; all such warranties are hereby disclaimed and excluded by the Company. Repair or replacement of defective products as provided above is the sole and exclusive remedy provided hereunder and the Company will not be liable for any further loss, damages, or expenses, including incidental or consequential damages, arising directly or indirectly from the sale or use of this product.

USE OF OTHER THAN COMPANY PARTS VOIDS THIS WARRANTY

8. Disclaimer and Limitation of Liability

Our responsibility for defects relating to the products and services offered by us or available on our Site is limited to the procedures described in our return policy set forth below. EXCEPT FOR THE TERMS OF THE LIMITED WARRANTY SET FORTH IN SECTION 7 HEREOF, ALL PRODUCTS AND SERVICES OFFERED BY US OR AVAILABLE ON THIS SITE ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THE WARRANT OF NON-INFRINGEMENT. WITHOUT LIMITING THE FOREGOING, WE MAKE NO WARRANTY THAT THE PRODUCTS AND SERVICES OFFERED BY US OR AVAILABLE ON THIS

SITE WILL MEET YOUR REQUIREMENTS; THE RESULTS THAT MAY BE OBTAINED FROM THE USE OF THE PRODUCTS OR SERVICES WILL BE EFFECTIVE, ACCURATE OR RELIABLE; OR THE QUALITY OF ANY PRODUCTS OR SERVICES WILL MEET YOUR EXPECTATIONS. SOME JURISDICTIONS LIMIT OR DO NOT ALLOW THE DISCLAIMER OF IMPLIED OR OTHER WARRANTIES SO THE ABOVE DISCLAIMER MAY NOT APPLY TO THE EXTENT SUCH JURISDICTION'S LAW IS APPLICABLE TO YOUR PURCHASE OF PRODUCTS AND SERVICES.

WE DO NOT ACCEPT LIABILITY BEYOND THE REMEDIES SET FORTH HEREIN, INCLUDING ANY LIABILITY FOR PRODUCTS AND SERVICES THAT ARE NOT AVAILABLE FOR USE OR FOR LOST OR CORRUPTED DATA OR SOFTWARE. IN NO EVENT SHALL THE COMPANY OR ITS SUBSIDIARIES, AFFILIATED COMPANIES, AGENTS, SHAREHOLDERS, EMPLOYEES, OR OFFICERS (COLLECTIVELY, OUR "AFFILIATES") HAVE ANY OBLIGATIONS OR LIABILITIES TO YOU OR ANY OTHER PERSON FOR LOSS OF PROFITS, FOR LOSS OF BUSINESS OR USE, OR FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY, OR ANY OTHER THEORY OR FORM OF ACTION, EVEN IF WE OR OUR AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY THEREOF, ARISING OUT OR IN CONNECTION WITH THE SALE, DELIVERY, USE, REPAIR OR PERFORMANCE OF THE PRODUCTS SOLD BY THE COMPANY OR AVAILABLE THROUGH THE COMPANY SITE. NO EMPLOYEE OR REPRESENTATIVE OF THE COMPANY IS AUTHORIZED TO MODIFY THIS LIMITATION.

OUR SOLE AND ENTIRE MAXIMUM LIABILITY FOR ANY REASON, AND YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY CAUSE WHATSOEVER, SHALL BE LIMITED TO THE ACTUAL AMOUNT PAID BY YOU FOR THE PRODUCTS AND SERVICES YOU HAVE ORDERED THROUGH THE COMPANY OR THROUGH OUR SITE.

SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR CERTAIN DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU TO THE EXTENT SUCH JURISDICTION'S LAW IS APPLICABLE TO YOUR PURCHASE OF PRODUCTS AND SERVICES.

9. Warranty and Return Policy

The products and services offered directly by the Company or available through the Company Site are covered under the Company limited warranty as detailed in Section 7 hereof.

We offer a 30 day return policy on selected products based on the Company's return policy. To return products, you must call 1-800-406-1887 or e-mail our Returns Department mark@idrysystems.com to obtain a Return Merchandise Authorization (RMA) number before shipping your product. NO returns of any type will be accepted without an RMA number. For faster service, please have the following information on hand when calling for an RMA number: customer name, invoice or order number, SKU number, and nature of the problem.

To expedite the processing of your refund or credit, we ask that products be returned within 7 days of the date that we issue the RMA. All returned products MUST be 100% complete, contain ALL original boxes and packing materials, have original UPC codes on the manufacturer boxes, and contain all manuals, blank warranty and registration cards, and other accessories and documentation provided by the manufacturer. You are responsible for shipping charges on returned items; we will match your shipping method on your replacement or exchange item(s). You must insure the shipment or accept the risk of loss or damage during shipment. We strongly recommend that you fully insure your return shipment against loss or damage and that you use a carrier that can provide you with proof of delivery for your protection.

If your order arrives in a damaged condition, save the merchandise AND the original box and packing it arrived in, and notify us immediately to arrange for a carrier inspection and a pick-up of the damaged merchandise.

DEFECTIVE returns can be returned directly to us within 10 days from the earlier of the sales Order or the installation date for, at our discretion, credit, replacement, exchange or repair. Any item that is missing the UPC can ONLY be replaced with the same item. After 5 days, all Company warranties apply and you should contact the appropriate Company warrant service provider identified by the Company on the sales Order.

NON-DEFECTIVE returns may be accepted within 30 days subject to company's discretion and a 20%

restocking fee. Credit will be issued only in such instances where the Company deems the situation appropriate, and such items are returned in like new condition.

Questions regarding our warranty and return policies should be addressed via e-mail to mark@idrysystems.com or by regular mail to 29 Pitman Rd Barre, VT 05641, Attention: Mark. These policies set forth your sole and exclusive rights with respect to return of products and services that you may purchase through our site.

10. End User License Agreement

The use of all Company products require that you consent to the use of a software program which the Company has titled the “Dryer Control Software” (the “Software Product”) and accompanying documentation. You agree that so long as you own and operate a Company Product you agree to be bound by terms and conditions of the End User Software Product License Agreement (“End User Software Product License Agreement”) which shall be provided to you at the time of purchase of a Company Product. This Software Product is protected by copyright laws and treaties, as well as laws and treaties related to other forms of intellectual property. The Company, or its subsidiaries, affiliates, and suppliers own intellectual property rights in the Software Product. As a Licensee of the Software Product you agree to download, use, copy, or change the Software Product is subject to these rights and to all the terms and conditions of the End User Software Product License Agreement.

11. Acceptance

YOU ACCEPT AND AGREE TO BE BOUND BY THE TERMS OF THIS AGREEMENT BY INSTALLING, USING, OR COPYING THE SOFTWARE PRODUCT. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF END USER SOFTWARE PRODUCT LICENSE AGREEMENT, YOU MUST NOT INSTALL, USE, OR COPY THE SOFTWARE PRODUCT.

12. License Grant

The End User Software Product License Agreement entitles you to install and use one copy of the Software Product. In addition, you may make one archival copy of the Software Product. The archival copy must be on a storage medium other than a hard drive, and may only be used for the reinstallation of the Software Product. This Agreement does not permit the installation or use of multiple copies of the Software Product, or the installation of the Software Product on more than one computer at any given time, on a system that allows shared use of applications, on a multi-user network, or on any configuration or system of computers that allows multiple users. Multiple copy use of installation is only allowed if you obtain a separate End User Software Product License Agreement for each user.

13. Restrictions on Transfer

Without obtaining prior written consent of the Company, you may not assign your rights and obligations under the End User Software Product License Agreement, or redistribute, encumber, sell, rent lease, sublicense, or otherwise transfer your rights to the Software Product.

14. Restrictions on Use

You may not use, copy, or install the Software Products on any system with more than one computer, or permit the use, copying, or installation of the Software Product by more than one user or on more than one computer. If you have been granted separate End User Software Product License Agreements you may not use, copy or install the Software Product on any system with more than the number of computers, PLCs or HMIs permitted by End User Software Product License Agreement, or permit the use, copying, or installation by more users, or on more computers than the number permitted by the End User Software Product License Agreement.

You may not recompile, “reverse-engineer”, disassemble, or otherwise attempt to derive the source code for the Software Product.

You may not use the database portion of the Software Product in connection with any software other than the Software Product.

15. Restrictions on Alteration

You may not modify the Software Product or create any derivative work of the Software Product or its accompanying documentation. Derivative works include but are not limited to translations. You may not alter

any files or libraries in any portion of the Software Product. You may not reproduce the database portion or create any tables or reports relating to the database portion.

16. Restrictions on Copying

You may not copy any part of the Software Product except to the extent that licensed use inherently demands the creation of a temporary copy stored in computer memory and not permanently affixed on storage medium. You may make one archival copy which must be stored on a medium other than a computer hard drive.

17. Limited Storage Medium Warranty

For a period of 90 days from the earlier of the date of installation or from the date that you download the Software Product, as applicable, the Company warrants that when properly installed and used under normal conditions, the storage medium on which the Software Product is shipped will be free of defects in material and workmanship. All such Software Product warranties are limited as well as stated in Section 7 and 8 hereof.

18. Consent to Use of Data

You agree that the Company and its subsidiaries may collect and use technical and related information, including but not limited to technical information about your Product, your physical location, system and application software, that is gathered periodically to facilitate the provision of software updates, product support and other services to you (if any) related to the Software Product. You further agree that the Company may use this information, as long as it is in a form that does not personally identify you, to improve our products, services and technologies.

19. Advertising Disclaimer and Trademarks

While the Company with its product information brochures or as stated on the Company Site strives to make every effort to include accurate descriptions of the products and services offered by the Company directly or on its Site, the Company hereby disclaims any unintended inaccuracy of such descriptions. It is impossible for the Company product information brochures or the Company's site to avoid typographical, pricing, advertising, or other errors in these descriptions.

In the unlikely event that an order is placed for a product or service which has been listed with an incorrect price or product information, the Company directly or on the Company Site reserves the right to refuse or cancel any such Orders.

All trademarks and registered trademarks relating to products and services offered by the Company directly or offered on its Site remain the property of the Company.

20. Safe Shopping Guarantee

In the event you use the Company Site, your browser and our secure server encrypt confidential information during transmission, ensuring that transactions stay private and protected. We guarantee the safety of your credit card information in the following manner: if any unauthorized use of your credit card occurs as a result of your credit card purchase on our Site, simply notify your credit card provider in accordance with its reporting rules and procedures. If, through no fault of your own, your credit card company finds credit card fraud but does not waive your entire liability for unauthorized charges, we will reimburse you for the remaining liability up to a maximum of \$1000. This guarantee applies to purchases made using our secure server (<https://> protocol).

You can always order by telephone. Call us at *1-800-406-1887* within the United States and Canada. We cannot accept orders from outside the United States or Canada. No matter how you place your order with us, we want you to have a satisfactory buying experience.

21. Privacy and Customer Information

We are committed to protecting your privacy. To make your purchasing experience more convenient, we gather information about you. We maintain the privacy of your information using security technologies and adhere to policies that prevent unauthorized use of your personal information. See our Privacy Policy.

At any time you may update your customer account information by following the instructions posted

elsewhere on this site. Here you may update your name, password, billing address, shipping address, e-mail address, telephone number, and credit card information.

22. Force Majeure

In addition to any excuse provided by applicable law, we shall be excused from liability for non-delivery or delay in delivery of products and service available through our site arising from any event beyond our reasonable control, whether or not foreseeable by either party, including but not limited to, labor disturbance, war, fire, accident, adverse weather, inability to secure transportation, governmental act or regulation, and other causes or events beyond our reasonable control, whether or not similar to those which are enumerated above.

23. Entire Agreement

Except for the terms and conditions contained in the End User Software Product License Agreement, these terms and conditions constitute the entire agreement and understanding between us concerning the subject matter hereof and supersedes all prior agreements and understandings of the parties with respect thereto. These terms and conditions may NOT be altered, supplemented, or amended by the use of any other document(s). Any attempt to alter, supplement or amend this document or to enter an order for products or services which are subject to additional or altered terms and conditions shall be null and void, unless otherwise agreed to in a written agreement signed by you and us. To the extent that anything in or associated with site is in conflict or inconsistent with these terms and conditions, these terms and conditions shall take precedence.

25. Governing Law and Statute of Limitations

All company actions and the Company Site is controlled by us from our offices within the State of Vermont, United States of America. The Company and the Company Site can be accessed from all 50 states, as well as from other countries around the world. As each of these places has laws that may differ from those of Vermont, by accessing this site both of us agree that the statutes and laws of the State of Vermont, without regard to the conflicts of laws principles thereof, will apply to all matters relating to the use of this site and the purchase of products and services available through this site. Each of us agrees and hereby submits to the exclusive personal jurisdiction and venue of the Court of Washington County Barre, Vermont and the United States District Court for the District of Vermont with respect to such matters.

Any cause of action brought by you against us or our Affiliates must be instituted with Two (2) year(s) after the cause of action arises or be deemed forever waived and barred.

We make no representation that the products and services available at the Company or through the Company Site are appropriate or available for use in locations outside of the United States and Canada, and accessing them from territories where such products and services are illegal is prohibited. Those who choose to access this site from other locations do so on their own initiative and are responsible for compliance with local laws.

9. Privacy and Customer Information

In addition to the protections in Section 9 (§ 128:195), the site owner will typically include further information regarding information collected during sales transactions and the procedures taken to insure the privacy of such information. For example, the sales terms and conditions should include a cross-reference to the site's overall privacy policy. In addition, customers should be reminded of their ability to update their customer account information, including name, password, billing and shipping addresses, e-mail addresses, and credit card information.