

Simply smart drying systems

**INTERNATIONAL DRYING**  
CORPORATION

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# Spyder Drying System Installation Manual



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# **INTRODUCTION**

This Manual contains all the information required for a successful installation, operation and maintenance of your new Spyder Dryer.

Please read the enclosed information prior to installing your new dryer.

There is vital information for the erection and electrical connections necessary for a successful and profitable installation. By taking the time and effort to read and understand this manual, will allow your installation to be accurate and trouble-free.

Should you have any questions before, during or after your installation, please feel free to contact our office for technical assistance.

**815-477-4911**

**International Drying Corporation**

## **SPECIFICATIONS:**

<b>10HP Producer</b>		
<b>VOLTAGE:</b>	<b>AMP DRAW:</b>	<b>SERVICE FACTOR:</b>
208vac	24.9 Amps	1.15
230vac	23.2 Amps	1.15
460vac	11.6 Amps	1.15

<b>CFM'S (Cubic feet per minute)(Air Flow)</b>	<b>RPM 3490</b>	<b>4950 CFM</b>
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<b>AIR VELOCITY</b>				<b>175 MPH</b>
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<b>TEFC MOTORS</b>									<b>3 Phase</b>
<b>FRAME SIZE</b>									<b>215</b>
<b>WEIGHT</b>									<b>275 lbs</b>

## **SPECIFICATIONS:**

<b>15HP Producer</b>		
<b>VOLTAGE:</b>	<b>AMP DRAW:</b>	<b>SERVICE FACTOR:</b>
208vac	36.8 Amps	1.15
230vac	34 Amps	1.15
460vac	17 Amps	1.15

<b>CFM'S (Cubic feet per minute)(Air Flow)</b>	<b>RPM 3490</b>	<b>5500 CFM</b>
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<b>AIR VELOCITY</b>				<b>195 MPH</b>
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<b>TEFC MOTORS</b>									<b>3 Phase</b>
<b>FRAME SIZE</b>									<b>215</b>
<b>WEIGHT</b>									<b>325 lbs</b>

## **GENERAL INFORMATION**

- 10 & 15 HP Producers Available
- Touch Free Drying System
- Poly Construction
- All TEFC Motors
- High Efficiency Motors
- Each 10HP motor delivers 4950CFM
- Each 15HP Motor Delivers 5500CFM
- 3 Year Fan Warranty
- 3 Year Motor Warranty
- No Maintenance
- Air Gate Option Available for Reduced Electrical Operating Cost
- Systems from 30HP to 300HP
- Optional Spyder legs available
- Optional Articulating Mount

## **OPTIONAL EQUIPMENT AVAILABLE**

### Spyder Leg Side Attachment

- (1) Attach adaptor to housing using (6) 1 & 1/2" bolts
- (2) Attach Leg to adaptor using (8) 1" bolts
- (3) Tighten all bolts to secure air knife

### Air Gate Option

Included are screen with 8in round damper to open and close.

### Starter Motor Panel

Custom motor panels can be purchased upon request.

## **GENERAL SAFETY INFORMATION**

All Warnings, Cautions, and Safety Tips below concern the safe operation of your New Spyder Dryer. Please abide by this information as listed for your protection. Please read completely with all personnel.

- Never attempt to work on equipment while it is running
- Disconnect and lock out power
- Personnel must be trained in safe operating procedures
- All personnel should review this manual periodically
- Never allow fan to come in contact with inlet cone
- Make sure safety screens are in place and securely attached at all times
- Keep inlet screen free of debris
- Periodically clean all debris from fan blades to maintain balance during high speed operation
- Should an unusual noise or vibration develop, shut down the dryer immediately and investigate the cause. Do not restart the dryer until the cause is identified and rectified
- Wear hearing protection when working around the dryer operating area
- Emergency stop buttons must be well marked and their location and operation reviewed by all personnel
- Maintenance or repair work on equipment to be performed only by trained technician or service personnel
- Do not wear loose fitting clothing when working on or around equipment
- All car washes should have horn or alarm that sounds prior to equipment starting
- No unauthorized individuals should be allowed near the equipment at any time

## **EQUIPMENT SPECIFICATIONS**

### Single Arch Assembly

<b>Dimensions</b>	<b>Tunnel Length</b>	<b>31 &amp; 13/16</b>
	<b>Tunnel Width</b>	<b>178 &amp; 13/16</b>
	<b>Unit Height</b>	<b>132</b>
	<b>Vehicle Clearance</b>	<b>87 &amp; 5/16</b>

# **INSTALLATION**

## **Suggested Installation Tools and Materials**

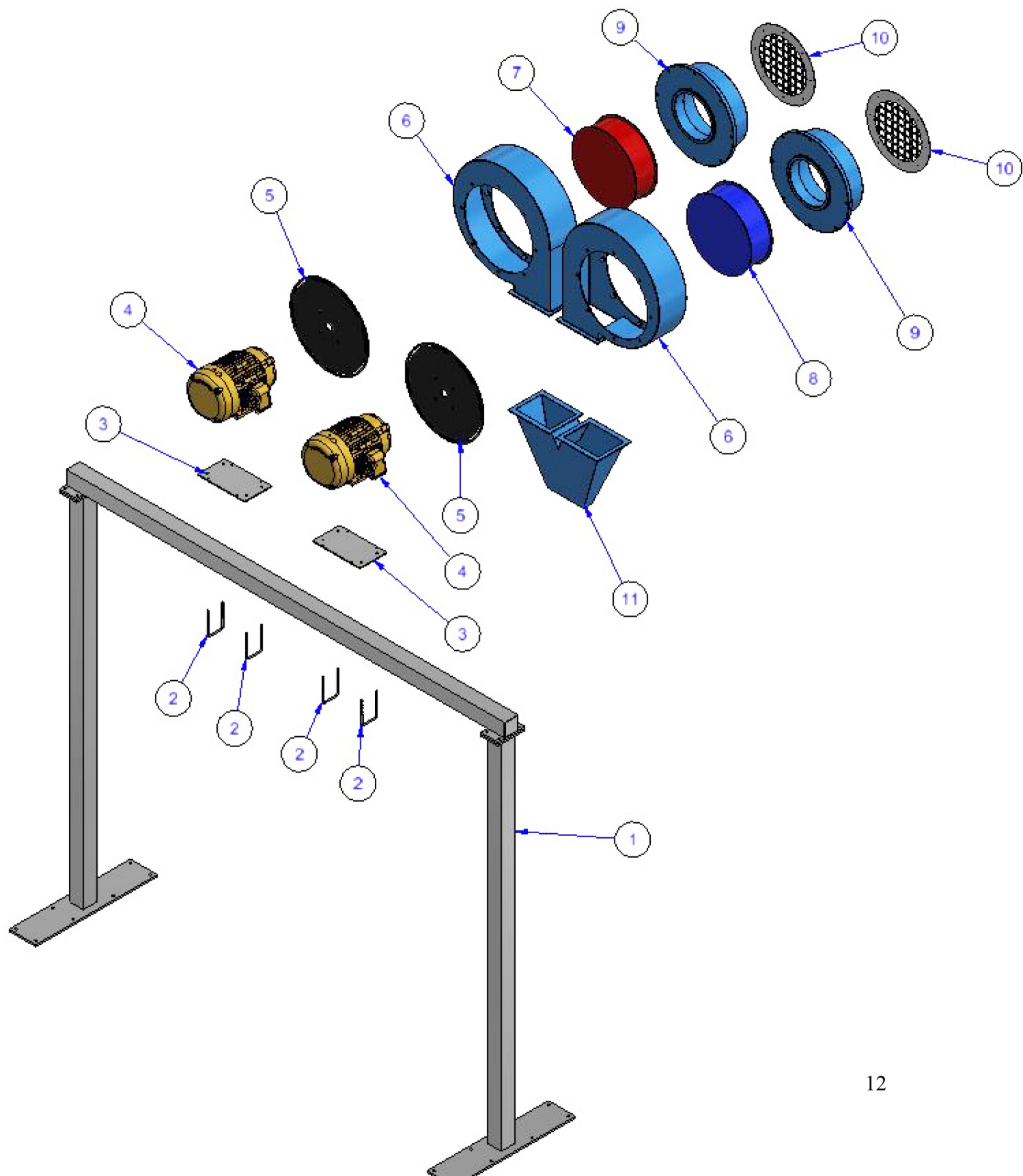
- Hammer Drill with ½” Drill Bit
- Sledge Hammer
- Set of standard Combo Wrenches
- Set of Standard 3/8” Drive Ratchet Set
- Measuring Tape
- (16) ½”x3-3/4” Wedge Anchors
- Safety Goggles
- Torpedo Level
- Manpower (2 Men Required)
- Time 1 to 6 Hours (30hp or 45hp) (Assuming no issues)

## **Installation Steps**

1. Attach Legs to horizontal arch using supplied hardware
2. Stand up arch and position per dimensional drawings for location of arch
3. Make sure arch is plumb and level in all directions
4. Anchor arch to concrete floor using wedge anchors
5. Bolt motor plate to feet of motor with supplied hardware
6. Lift motor assembly using fork lift up to arch
7. Using supplied (4) U-bolts, attach blower motor to arch and snug U-bolts
8. Position head on arch accordingly
9. Tighten 4” U-bolts completely

## Installation Electric

- Electrician to provide materials and labor to install 3-phase power (208vac, 230vac or 460vac) to the air dryer motors on the dryer arch through properly sized 3 pole circuit breakers and motor starters with thermal overloads in conjunction with any and all local codes.
- Electrician is to provide materials and labor to install single phase (24vac or 120vac) power from the equipment controller (equipment start/stop system) to the activator for each electric motor in the system.
- **BE SURE THAT ALL ELECTRIC MOTORS ARE PROPERLY WIRED FOR THE SITE SUPPLY VOLTAGE BEING USED**
- Wire all air producer 3 phase motors for staggered start. That is, no more than one motor should start at the same time
- **Do not use wire nuts for electric motor connections. All motor connections should be wired using properly sized split bolt connectors. (Failure to use split bolt connectors can void motor warranty)**



## **PARTS LIST**

**Per Motor Assembly**

- (1)**  
**SPYDERARCH-13Ø**
- (2)**  
**U-BOLTSS4”X5.6”**
- (3)**  
**SPYDERMOUNTPLATE**
- (4)**  
**MOTOR10HP-C**  
**MOTOR15HP-C**
- (5)**  
**SPYDPINWHEEL**
- (6)**  
**SPYDHSNBLUE**  
**SPYDHSNBLK**
- (7)**  
**SPYDERWHEEL-CW-10-IDC (GREY)**  
**SPYDWHEEL-CW-15-IDC (BLUE)**  
**SPYDWHEEL-CCW-10-IDC-(BLACK)**  
**SPYDWHEEL-CCW-15-IDC (RED)**
- (8)**  
**SPYD-INTAKE-POLY-BLACK**  
**SPYD-INTAKE-POLY-BLUE**
- (9)**  
**SPYD-SCREEN**
- (10)**  
**SPYDDUAL-BLACK**  
**SPYDDUAL-BLUE**  
**SPYDNOZBLUELONG**  
**SPYDNOZBLUESHORT**  
**SPYDNOZBLKLONG**  
**SPYDNOZBLKSHORT**

## **TROUBLESHOOTING**

<b>Problem</b>	<b>Possible Cause</b>	<b>Probable Remedy</b>
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<b>Dryer Does Not Energize</b>	<b>Overload Tripped</b>	<b>Check Motor Starter Overload and Reset If Overload Trips</b>
	<b>Motor Problem</b>	<b>If proper voltage is reaching Motor terminals, check motor integrity. Repair or replace As necessary</b>

<b>Excessive Vibration</b>	<b>Check for Material Build up on Fan</b>	<b>Inspect and Clean fan</b>
	<b>Missing Counter Balance</b>	<b>Inspect and replace fan</b>
	<b>Looseness in Drive Train</b>	<b>Inspect and tighten or replace taperlock, Keystock, motor mount, Inlet cone</b>
	<b>Misaligned or Damaged Fan</b>	<b>Inspect, Adjust, or Replace as Necessary</b>

<b>Problem</b>	<b>Possible Cause</b>	<b>Probable Remedy</b>
<b>Change in Noise Or Sound Level</b>	<b>Bearing</b>	<b>Lubricate or Replace</b>
	<b>Scraping or Ticking</b>	<b>Rotating parts contacting Inspect and Correct</b>
	<b>Misaligned or Damaged Fan</b>	<b>Inspect, Adjust, or Replace as Necessary</b>
<b>High Motor Temperature</b>	<b>High Amp Draw</b>	<b>Check Amp Draw at Motor. Do not continue operation until cause is determined and Rectified</b>
<b>High Bearing Temperature</b>	<b>Improper Lubrication</b>	<b>Too much, too little, or unsuitable lubrication</b>
<b>Poor Performance</b>	<b>Blocked Intake</b>	<b>Clean Debris from Intake screen</b>
	<b>Dirty Fan</b>	<b>Clean and Inspect fan</b>
	<b>Incorrect fan rotation</b>	<b>Verify fan rotation</b>
	<b>Blocked Exit</b>	<b>Clean Exit Nozzle</b>

**815-477-4911**



**"Your Car Wash Drying Experts"**