Document No.: 10000036990

Quick Installation Guide

**AUTOMATIC AIR DEHYDRATOR
KD20 / KD70 Series**

Model Covered by This Manual:

KD20 / KD22 / KD20S / KD22S/KD24-DC/KD24S-DC

KD70 / KD72 / KD70S / KD72S/KD74-DC/KD74S-DC

PLEASE READ THIS MANUAL THOROUGHLY AND SAVE FOR FUTURE REFERENCE.

In additional to this Quick Installation Guide, a complete product manual is available for access by scanning this QR code:

Or by visiting this link:

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2. PRODUCT INTRODUCTION

2.1 Product Description

The KD20 and KD70 Series Automatic Air Dehydrators are designed to provide a source of dry, pressurized air by removing moisture from the ambient air. The unit performs this process automatically with minimal maintenance requirements.

2.2 KD20 and KD70 Series Dehydrator Models

| Model	Description
KD20	0.27SCFM (460L/h), 0.2 to 7psi Configurable Pressure, 110VAC Dehydrator
KD20S	0.27SCFM (460L/h), 0.2 to 7psi Configurable Pressure, 110VAC Dehydrator, with network management protocols
KD22	0.25SCFM (420L/h), 0.2 to 7psi Configurable Pressure, 220VAC Dehydrator
KD22S	0.25SCFM (420L/h), 0.2 to 7psi Configurable Pressure, 220VAC Dehydrator, with network management protocols
KD24-DC	0.25SCFM (420L/h), 0.2 to 7psi Configurable Pressure, -48VDC Dehydrator
KD24S-DC	0.25SCFM (420L/h), 0.2 to 7psi Configurable Pressure, -48VDC Dehydrator, with network management protocols
KD70	0.78SCFM (1300L/h), 0.2 to 7psi Configurable Pressure, 110VAC Dehydrator
KD70S	0.78SCFM (1300L/h), 0.2 to 7psi Configurable Pressure, 110VAC Dehydrator, with network management
KD72	0.71SCFM (1200L/h), 0.2 to 7psi Configurable Pressure, 220VAC Dehydrator
KD72S	0.71SCFM (1200L/h), 0.2 to 7psi Configurable Pressure, 220VAC Dehydrator, with network management protocols
KD74-DC	0.71SCFM (1200L/h), 0.2 to 7psi Configurable Pressure, -48VDC Dehydrator
KD74S-DC	0.71SCFM (1200L/h), 0.2 to 7psi Configurable Pressure, -48VDC Dehydrator, with network management protocols

2.3 Product Specification

Model	KD20 / KD20S	KD22 / KD22S	KD24-DC/ KD24S-DC	KD70 / KD70S	KD72 / KD72S	KD74-DC/ KD74S-DC
Flow Rate at 25°C (77F°)	0.27SCFM (460L/h) ±10%	0.25SCFM (420L/h) ±10%		0.78SCFM (1300L/h) ±10%	0.71SCFM (1200L/h) ±10%	
Power Supply	110VAC ±10%, 60Hz	220VAC ±10%, 50/60Hz	-48VDC ±10%	110VAC ±10%, 60Hz	220VAC ±10%, 50/60Hz	-48VDC ±10%
Power Consumption	200W max			370W max		
Working Pressure	0.2 to 7psi (1 to 50kPa), Field Adjustable. Factory set low pressure at 3 psi (21kPa), and high pressure at 5psi (35kPa)					
Dew Point	Better Than -45°C (-49°F) at 25°C (77F°)					
Drying Method	High-active Aluminum Oxide Desiccant, Two Heat Regenerating Chambers					
Gas Outlet	2 Outlets, Push-on quick fit for 3/8" OD tube			4 Outlets, Push-on quick fit for 3/8" OD tube		

Noise Level	<65dB at 1m	
Operation Conditions	-25ºC to +65ºC (-13ºF to 149ºF), ≤95% Humidity	
Product Dimensions and Weight	H x L x D: 3.5x19x17.1inches (88x482x345mm), 20Lbs (9kg)	H x L x D:11x16.9x11.8 inches (278x430x300mm),42Lbs(19kg)
Shipping Dimensions and Weight	H x L x D: 9.9 x 21.6 x 17.7 inches (250x550x450mm), 26.5Lbs (12kg)	H x L x D: 16.1 x 22x 15 inches (410 x560 x380mm), 47.4Lbs (21.5kg)
Network Management	S Model Only: Support Network Management Protocols (TCP Server/Client, UDP, Multicast, SNMP) via RJ45 Interface	
Alarms	Low-Pressure, High-Pressure, Humidity, Runtime	
Installation	Desktop, 19" Rack	Desktop

2.4 Appearance and Interface (KD20 Series for reference)

1. Indicator lights
2. Display window
3. Control buttons
4. Fuse
5. Power switch on/off
6. Rack brackets and handles
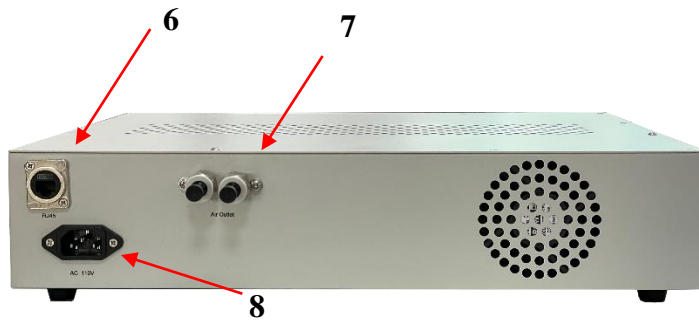
6. RJ45 Port (S model only)
7. Gas Outlets
8. Power socket

3. INSTALLATION STEPS

3.1 Installation Location

The Dehydrator KD20 Series is versatile in its placement options, designed to use on a desktop, on a standard 19" rack using the supplied mounting brackets. KD70 Series is designed for desktop placement only.

To maintain optimal performance, place the Dehydrator in a dry, well-ventilated location with access to the power supply and gas inlet of the pressurized dry air distribution system. Ensure that there are no flow restrictions in the location of the dehydrator and the dry air system.

3.2 Unpacking and Inspection

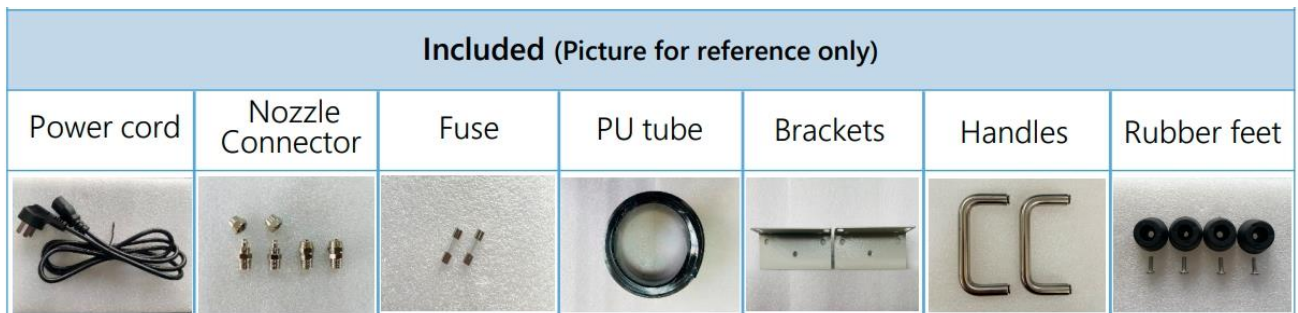Carefully inspect the package before unpacking. Record any damage on the packaging.

Unpack the dehydrator in an environmentally controlled location consistent with the operating conditions of the dehydrator. Place the unit on a flat, stable surface.

Check the contents of the package against the packing list and inspect the appearance of the dehydrator. Please inform RFS Technologies or the distributor if the unit is damaged or if any items are missing from the package.

The following accessories are included with the dehydrator：

	KD20 Series	Part Number	KD70 Series	Part Number
1	Power cord x 1 piece, 6ft (1.8m) length	AC: KD25002 DC: KD25004	Power cord x 1 piece, 6ft (1.8m) length	AC: KD25002 DC: KD25004
2	Spare Fuse x 2 pieces	See table below	Spare Fuse x 2 pieces	See table below
3	Nozzle connector x 2 pieces, G 1/8 to 3/8" tube	KD26001	Nozzle connector x 4 pieces, G 1/8 to 3/8" tube	KD26001
4	Teflon tape x 1 roll	KD29001	Teflon tape x 1 roll	KD29001
5	PU tube x 33ft (10m) length	KD24009	PU tube x 33ft (10m) length	KD24009
6	Bracket x1 pair	KD30002		
7	Handle x 1pair	KD30006		
8	Rubber feet x 4 pieces with hardware	KD29003		

Dehydrator Model	KD20 / KD20S	KD22 / KD22S	KD24-DC/ KD24S-DC	KD70 / KD70S	KD72 / KD72S	KD74-DC/ KD74S-DC
Fuse Model	3A	2A	8A	5A	3A	10A
Part Number	KD22003	KD22002	KD22006	KD22004	KD22003	KD22007

| Included (Picture for reference only)						
Power cord	Nozzle Connector	Fuse	PU tube	Brackets	Handles	Rubber feet

3.3 Staging the Dehydrator

Leave the power switch on the dehydrator in the OFF position. Connect the unit to the appropriate power source using the power cord provided.

Remove the insert from one of the gas outlets by following these steps:

Step1, Depress the release ring: using your thumb and forefinger, gently depress the white plastic ring of the gas outlet towards the unit. This will disengage the locking mechanism holding the insert in place.

Step 2, Pull the insert out: while holding the release ring, pull the black insert away from the gas port with a firm, straight motion. Refer to the following pictures.

Step 3, Store the insert in a safe place for future use.
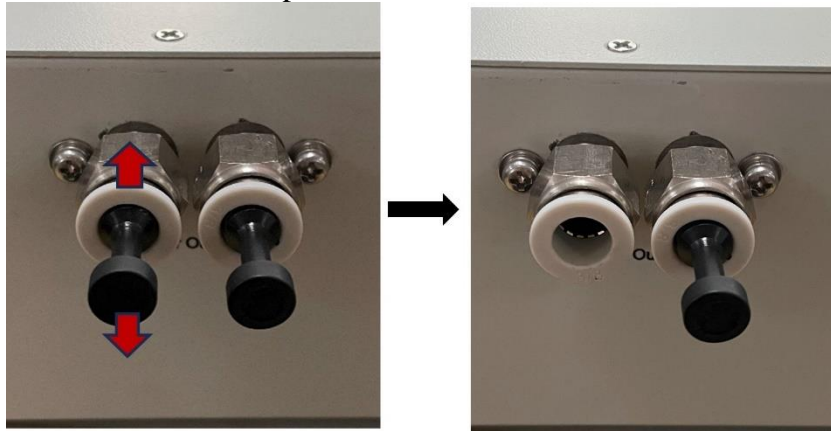
Switch on the power to activate the dehydrator and let it run for 3-5 minutes with nothing attached to the dry air outlet fitting. Check the airflow coming from the gas outlet using your finger. Disregard any alarms shown on the front panel.

If the dryer does not operate, please check the power supply. Report the issue if the dehydrator does not function correctly or if there is no airflow from the gas outlet.

Upon completion of the staging process, power off the dehydrator and proceed with its installation at the designated final location.

3.4 Installation Mode of KD20 Series

The Dehydrator is designed for desktop and 19-inch rack mounting. Please select an appropriate installation model based on the actual site conditions.

[The following images are for reference only. Accessories may be different for different models].

3.4.1 Desktop Installation

Four screw holes are prepared at the bottom of the dehydrator. Fix the rubber feet on the hole by using the screws. Both rubber feet and screws are included in the accessory package. Please refer to the following diagrams for guidance on instructions and measurements.
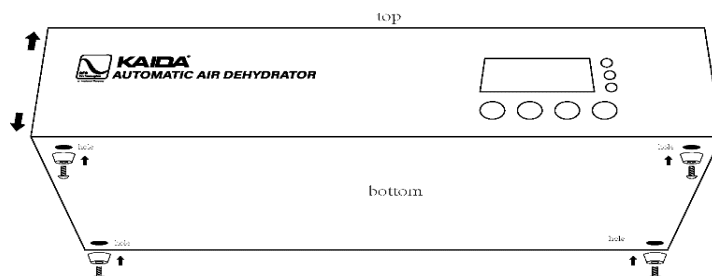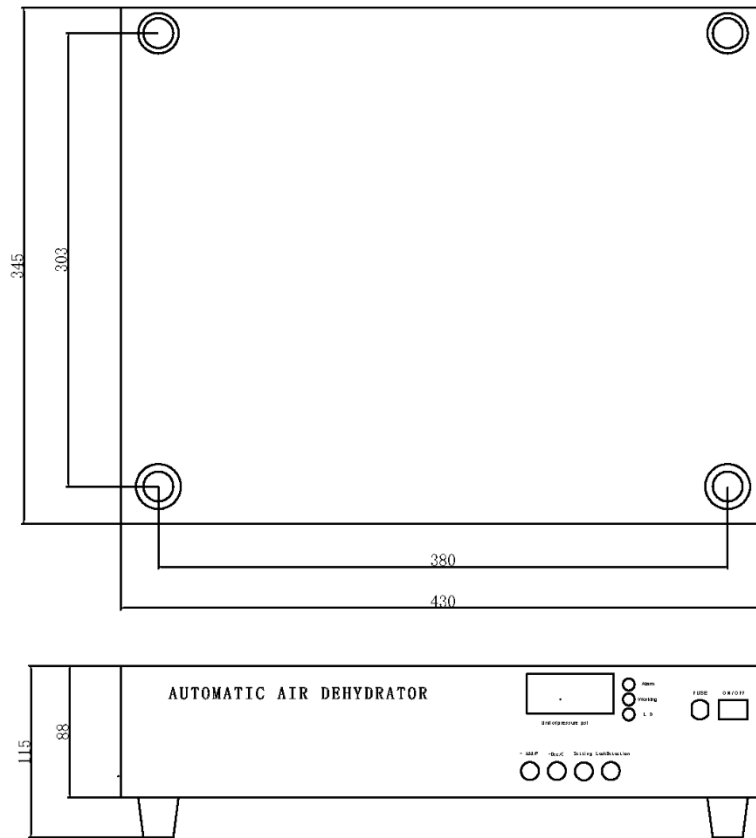
Place the dehydrator on a solid, level surface. Allow at least 2" clearance at the top for proper heat dissipation. Allow sufficient space at the rear for power cord and gas line connections.

3.4.2 Rack Installation

The Dehydrator can be installed in a standard 19" rack using the brackets provided. See the following steps for rack installation and dimensions.

Step1：Remove the three screws on each side of the dehydrator.

Step2：The handles have been attached to the brackets, install the brackets on both sides with the three screws.

Step3：Fix the dehydrator to the 19in rack with four cabinet screws.
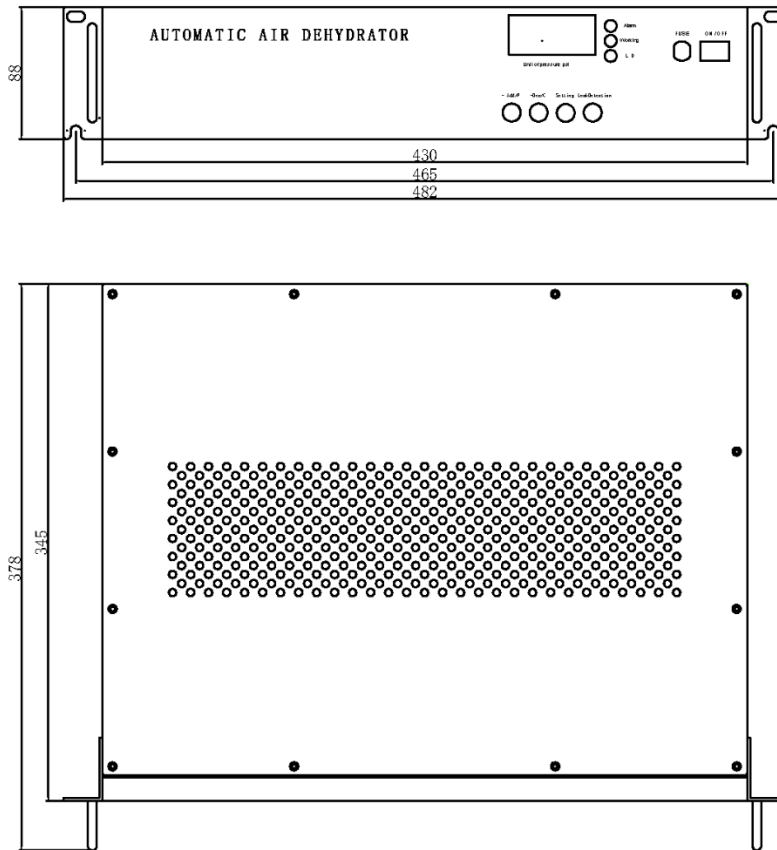
3.5 Installation Mode of KD70 Series

The KD70/72 Series is specifically designed for tabletop placement only.

Place the dehydrator on a solid, level surface. Allow at least 2" clearance at the top for proper heat dissipation. Allow sufficient space at the rear for power cord and gas line connections.

3.6 Connect to the Power Supply

After installing the dehydrator, leave the power switch on the unit in the OFF position. Connect the dehydrator to the appropriate power source using the power cord provided.

3.7 Change the Dehydrator Configuration

Switch the power to the ON position to turn on the dehydrator. When the dehydrator is operating, the digital display window on the front panel will show "P XX" where "XX" represents the current system pressure value.

The Dehydrator is pre-programmed with the following configurations as shown in the table below. If no configuration changes are required, skip the following steps and proceed directly to Section 3.8.

Parameter	KD20/22/24 Default Setting	KD70/72/74 Default Setting
Low-Pressure Limit	3 psi	3 psi
High-Pressure Limit	5 psi	5 psi
Push Button Tone	Off	Off
Unit ID	245	245

3.7.1 High-Pressure Limit

When the display shows "P XX", press and hold the "Set" button for 5 seconds to enter the high-pressure limit setting interface. The display will change to "H XX" where XX is the current high-

pressure limit setting. Press the "+Add" or "-Ded/Q" button on the front panel to increase or decrease the value. The adjustable range of the high-pressure limit is between 0.4 and 7 psi for the KD series.
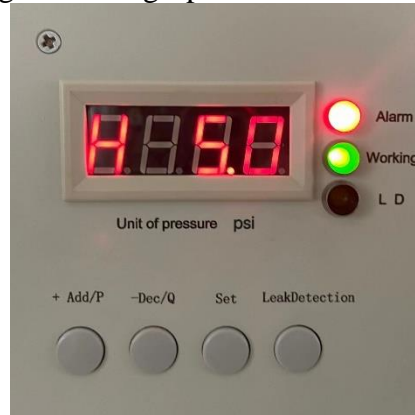

3.7.2 Low-Pressure Limit

At the "H XX" interface, press the "Set" button once to enter the low-pressure limit setting interface. The display will change to "L XX" where XX is the current low-pressure limit setting. Press the "+Add/P" or "-Ded/Q" button to change the setting. The adjustable range for the low-pressure limit is between 0.2 and 6.8 psi for KD series. And the low-pressure limit setting must be lower than the high-pressure limit.


3.7.3 Push Button Tone on/off

The push button tone provides a sound indicating that a push button operation is being performed. At the "L XX" interface, press the "Set" button again to enter the push button tone setting interface. The display will show the current setting. The default setting is "off". Press the "+Add/P" or "-Ded/Q" button to change the tone setting.
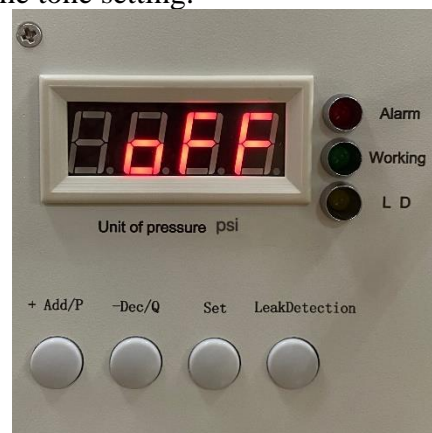
3.7.4 Unit ID

From the push button tone setting interface, press the "Set" button to enter the Unit ID setting interface. The display will show "IXXX" where XXX is the current unit ID number. Press the "+Add/P" or "-Ded/Q" button to change the ID. The default ID is 245 and the adjustable ID range is 1 to 254.

The numbers 0 and 255 are reserved ID numbers and should not be used.
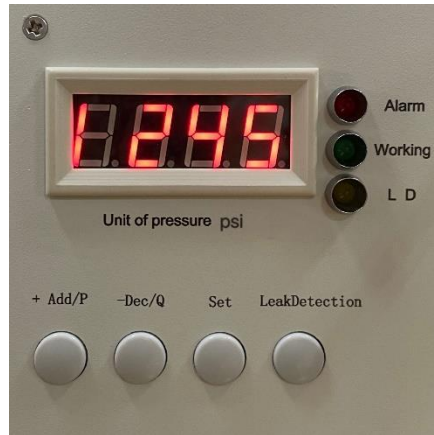
3.7.5 Save Settings

At the Unit ID setting interface, press "Set" again to save and apply the new configurations to the dryer. The display will then return to the "P XX" interface.

Configuration is not lost or changed when the dehydrator is turned off.

3.8 Connect the Dehydrator to the Tubing and the System

Check the configuration of the dryer and make sure the settings are correct. Turn off the unit and begin connecting the tubing.

3.8.1 Connect the Tubing with the Dehydrator

The KD20 dehydrator has two gas outlet ports and can be connected to two gas lines. The KD70 has four gas outlet ports. Optional gas distribution manifold can be ordered if more outlets are needed. Eash outlet port is sealed by an insert. Follow the instructions below to connect the tubing.

[Caution] Retain removed inserts for future use. Do not remove inserts from unused ports.
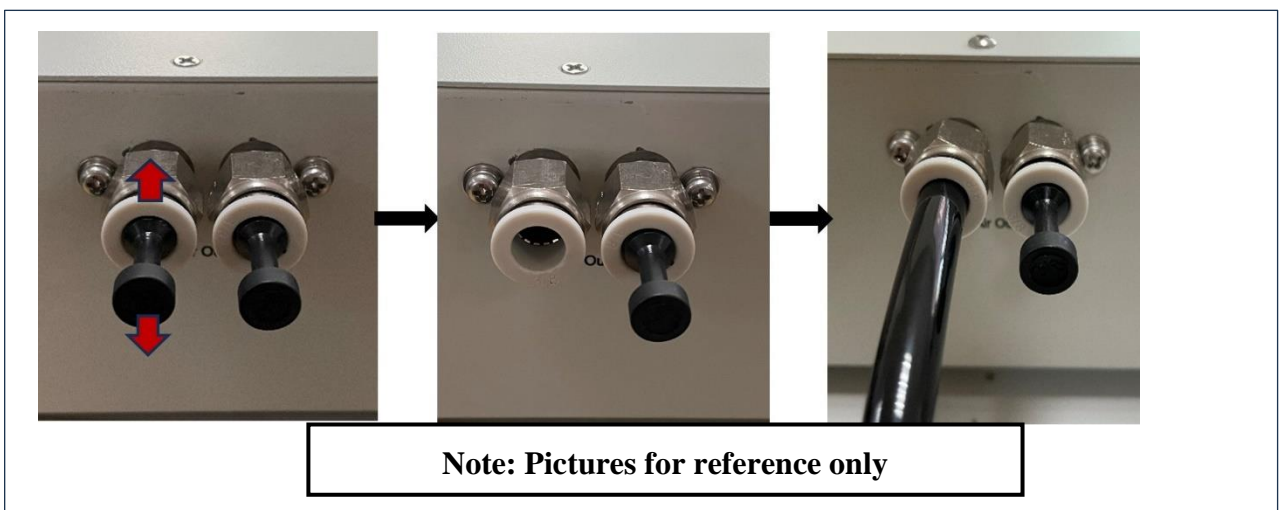
Note: Pictures for reference only

Step 1, Depress the release ring: using your thumb and forefinger, gently depress the white plastic ring of the gas outlet towards the unit. This will disengage the locking mechanism holding the insert in place.
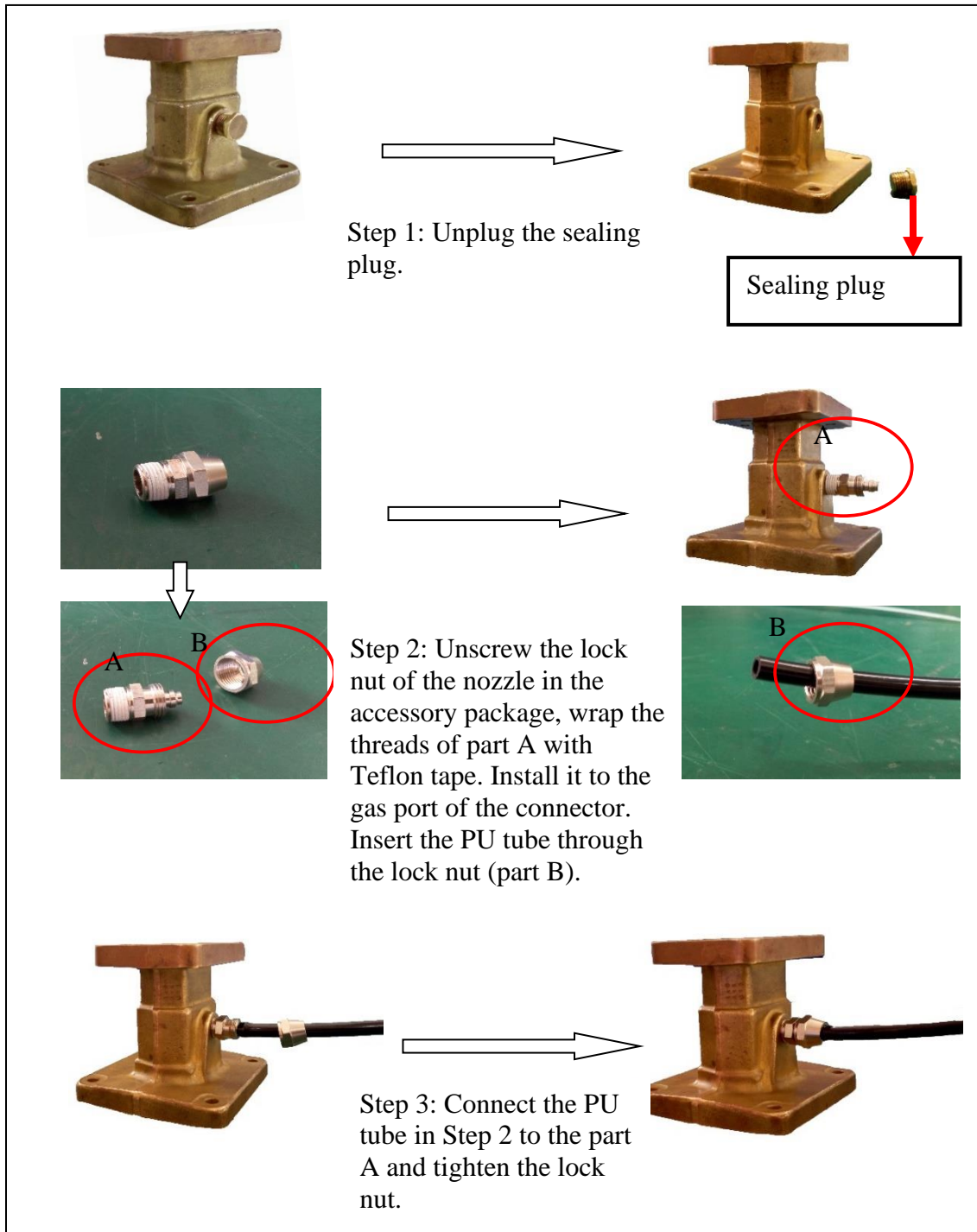
Step 2, Pull the insert out: while holding the release ring, pull the black insert away from the gas port with a firm, straight motion.

Step 3, Push the tube in: insert the 3/8" tube into the gas port until it cannot go in any further. Make sure the tube is securely locked in place by the locking mechanism.

3.8.2   Connect the Tubing to the System

Connect the other end of the tubing to the site distribution system or to the inlets to be pressurized. Different products and systems may use different connection methods. Two gas inlet/pipe adapters are supplied with the KD20 and four adaptors with the KD70. The nozzle has a G 1/8 thread and is compatible with tubing with an outer diameter of 3/8" or 9 mm.

Refer to the following instructions when using these adapters to connect the tubing to the connector.

[Caution] Please wrap the threads of the gas adapter with Teflon tape before screwing it into the port. After connecting, please check the air tightness strictly.

Step 1: Unplug the sealing plug.

Sealing plug

A

B

A

B

Step 2: Unscrew the lock nut of the nozzle in the accessory package, wrap the threads of part A with Teflon tape. Install it to the gas port of the connector. Insert the PU tube through the lock nut (part B).

Step 3: Connect the PU tube in Step 2 to the part A and tighten the lock nut.

After connecting the tubing, make sure that the air path of the tubing between the dehydrator and the feeder system is unobstructed. Do not bend the tubing.

3.9 System Purging

It is important to properly purge the site distribution system prior to completing the dehydrator installation. Failure to do so may result in moisture being present in the system after the dehydrator is installed. This moisture will remain in the system until it is purged from the system by normal operation of the dehydrator.

If the purge is left to the dehydrator's normal operation, the process may take days, weeks, or longer depending on the dehydrator's installed options, system size, moisture levels, and other variables. Humidity alarms may occur until the moisture is purged from the system.

Use the following steps to purge the system.

3.9.1   If the System Has a Remote Exhaust Vent

Open the exhaust vent, start the dehydrator, and allow it to run for at least one hour. Close the exhaust port and complete the purge.

3.9.2   If the System Doesn't Have a Remote Exhaust Vent

Start the dehydrator and allow it to run until it stops when the high-pressure limit is reached. Wait 15 minutes to allow the dry air to mix with the humid air in the feeder. Disconnect the dehydrator hose and allow the air to escape. Reconnect the tubing and repeat these steps ten times to complete purging.

3.10   Leak Detection

After purging, re-connect the dehydrator to the system. The next step involves checking the airtightness of the feeder system using the leak detection function. Follow these steps for the leakage test:

- Press the "Leak Detection" button and observe the pressure value on the front panel.
- The dehydrator will halt inflation and the "L D" yellow indicator will illuminate.
- Monitor the change in pressure value to assess the airtightness of the system. Quick drops imply the need for better sealing.
- If the pressure value remains stable, the feeder system is airtight.
- Press the "Leak Detection" button again to end the test, the yellow indicator goes off, and the dehydrator resumes normal operation.

[Caution]

Address any leaks promptly to prevent alarms, excess running and system performance decline due to humidity.

Use this function solely for testing purposes. Remember to exit using the "Leak Detection" button and restore the dehydrator operation. The "L D" indicator will turn off.

3.11   Completion of the Installation

After completing the previous steps, the installation process is now finished. Verify that the dehydrator is functioning normally by ensuring that the alarm indicator is not illuminated, and that the dehydrator stops inflating once the high-pressure limit is reached. Please refer to Section 6 if the dehydrator is the model with the network management capability.