

AKIMist® “E”

Portable Dry Fog Humidifier Set

Instruction Manual



Thank you for purchasing our AKIMist® “E”
Portable Dry Fog Humidifier Set.

Before use, please read this manual carefully
and follow the instructions to ensure optimal
performance.

Keep this manual handy for quick reference.

Contents

| | |
|----------------------------|------|
| 1. Safety precautions | P.1 |
| 2. Features | P.2 |
| 3. Checking the delivery | P.2 |
| 4. Structure | P.3 |
| 5. Caution before assembly | P.4 |
| 6. Assembly | P.5 |
| 7. Operation | P.10 |
| 8. Maintenance | P.13 |
| 9. Troubleshooting | P.14 |
| 10. Specifications | P.15 |



“The Fog Engineers”

H. IKEUCHI & CO., LTD.

1. Safety Precautions

⚠ Warnings

If the product is used without observing the information given under this symbol, death or serious injury may result.

⚠ Cautions

If the product is used without observing the information given under this symbol, personal injury, physical, and/or property damage may result.

⚠ Warnings

- Air pressure to the water tank must be 0.2 MPa or lower.

Higher air pressure may cause water leak from the humidifier or the water tank to burst.



- Let the compressed air out of the water tank before pouring water into the tank.

Otherwise, the cap of the water tank may be blown off.

- Use only clean water. Never pour liquid other than water into the tank.

The use of liquid other than water could corrode, damage or break the water tank, and damage the tube and nozzles.

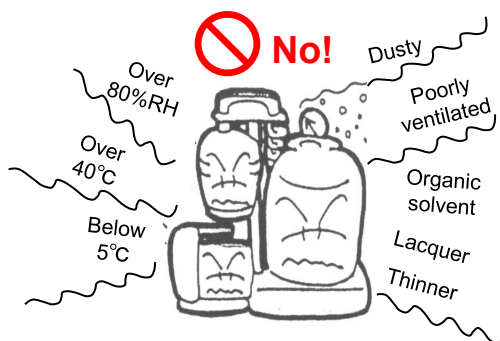


⚠ Cautions

- Close air and water valves before disassembling AKIMist® "E" and the nozzles.

Otherwise, the nozzle could be broken and water leaks could occur.

- Use at temperature of 5–40 deg C, with humidity less than 80% RH. Avoid location where it is exposed to dust or chemical atmosphere such as organic solvent, acidic, and alkaline.



2. Features

- Produces large volumes of Dry Fog with simple operation.
- Light weight, compact and easy to move.
- Easy assembly.

3. Checking the Delivery

Before starting installation, please verify that all the parts listed below are included in your delivery.

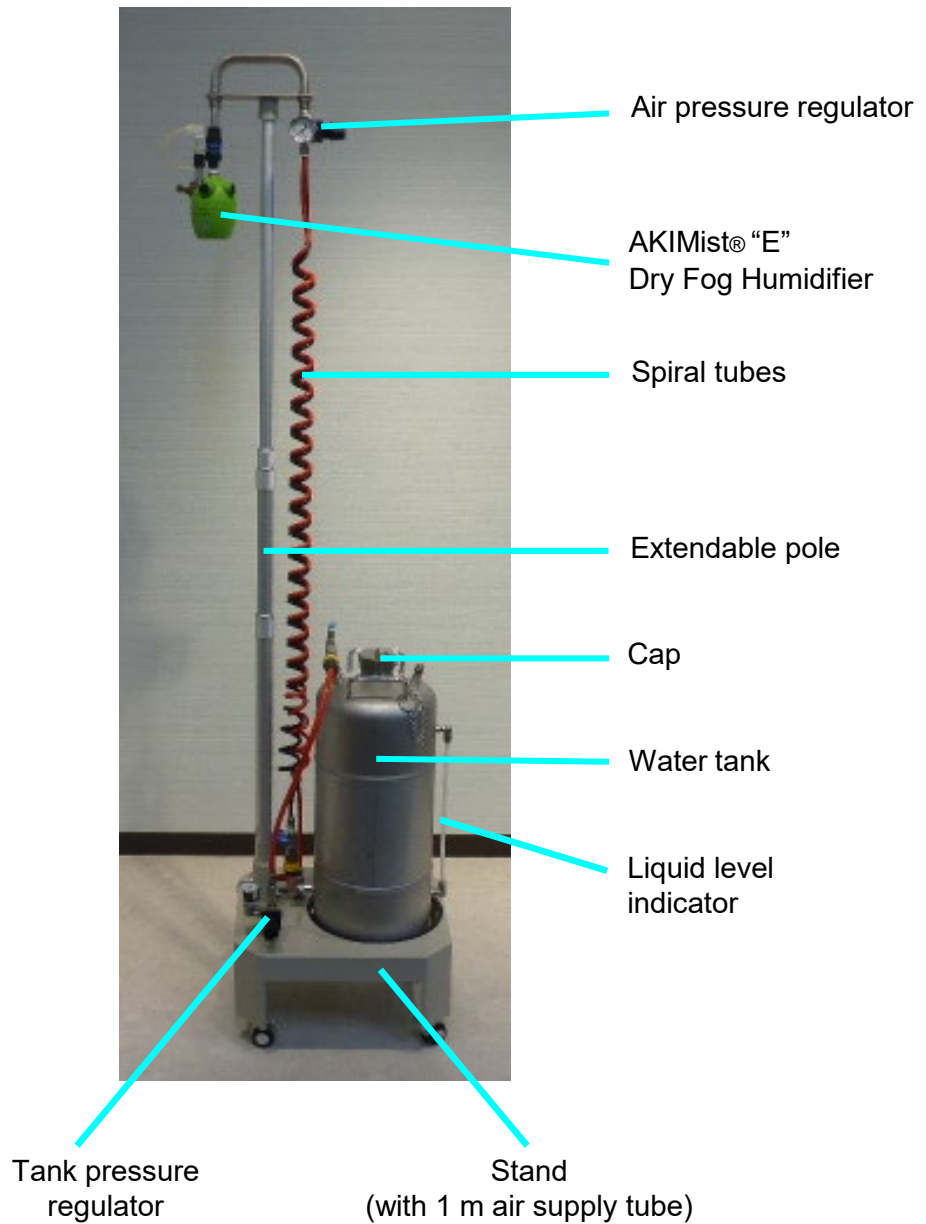
If any item is missing, please contact us or your local supplier.

| | | |
|---|--|---|
|  <p style="text-align: center;">AKIMist® "E" Dry Fog Humidifier</p> |  <p style="text-align: center;">Water tank</p> |  <p style="text-align: center;">Extendable pole</p>  <p style="text-align: center;">Stand</p> |
|  <p style="text-align: center;">Spiral tubes</p>  <p style="text-align: center;">AKIMist® "E" mounting unit</p> |  <p style="text-align: center;">Nozzle cleaning kit</p>  <p style="text-align: center;">Sealing tape, Hexagon wrench, Fastening screws (2), Plastic coupler plug</p> |  <p style="text-align: center;">AKIMist® "E" manual</p> |

Note: The actual appearance and shape of the parts may differ from the presented images..

4. Structure

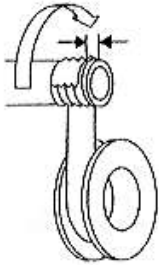
AKIMist® "E" Portable Dry Fog Humidifier Set is to be assembled as shown below.



*Appearance and shape of parts shown in above photo may differ from the actual ones.

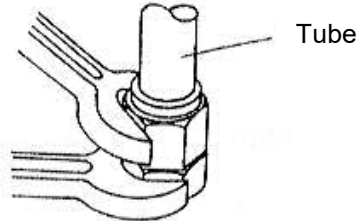
5. Caution Before Assembly

★ Apply sealing tape to each thread.



Wrap sealing tape 2-3 times around the threads along the thread lines while keeping the tape taut, leaving 1-2 thread ridges free of tape for easy screwing into a pipe.

★ Tighten the screw firmly with a spanner.

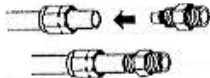


★ Tube joint

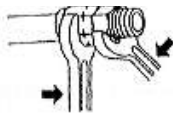
1. Unscrew the nut from the joint, and slide it on the tube. (Ensure the direction of the nut.)



2. Insert the joint into the tube completely.



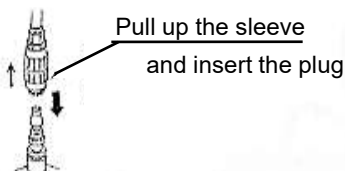
3. Tighten the nut firmly with a spanner.



★ How to connect Quick Couplers

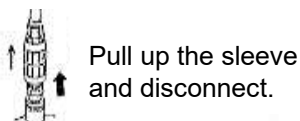
<How to connect the air coupler>

Pull up the sleeve and insert the plug.
Then let the sleeve down.



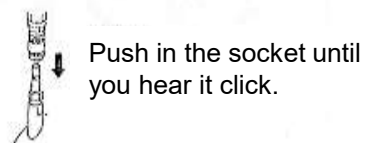
<How to disconnect>

Pull up the sleeve and detach the socket from the plug.



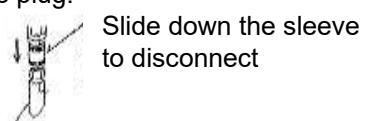
<How to connect the water coupler for AKIMist®>

Insert the plug into the socket firmly until it clicks.



<How to disconnect>

Push down the sleeve of the socket and detach the plug.



6. Assembly



Scan for assembly guide.
Refer to manual for details.

Assemble AKIMist® “E” Portable Dry Fog Humidifier Set as follows.

The actual appearance and shape of the parts may differ from the presented images.

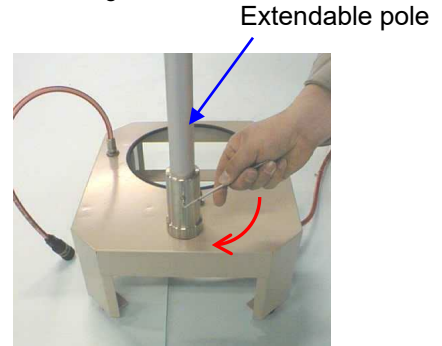
- 1) Insert the extendable pole into the socket of the stand and tighten the fastening screw with the enclosed hexagon wrench.



Cautions

Screw in the fastening screw until the tip of the screw reaches the pole. Then, tighten it by 1/8 turn only.

Over-tightening can damage the pole.



- 2) Set the AKIMist® “E” mounting unit on the pole and tighten the fastening screw with the enclosed hexagon wrench.



Cautions

Screw in the fastening screw until the tip of the screw reaches the pole. Then, tighten it by 1/8 turn only.

Over-tightening can damage the pole.



- 3) Attach the spiral tubes on the AKIMist® “E” mounting unit as follows.

- ① Remove the fitting cap from AKIMist® “E” mounting unit. Slip the fitting cap on the end of the black spiral tube.
- ② Insert the black tube all the way into the fitting of the mounting unit.
- ③ Ensure that the black tube is fully inserted into the fitting, then tighten the fitting cap firmly. Tighten it by hand first, then with a spanner.

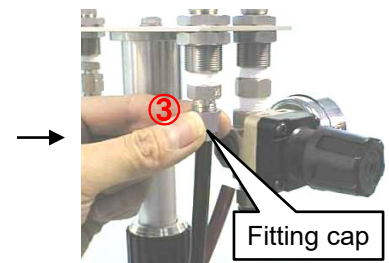


Cautions

Tube inserting is very tight. Be careful not to get injured when inserting the tube. If soapy water is applied to the black tube, it will be slippery and easy to insert. Ensure that the hose does not come off.



Slip the fitting cap on the black tube and insert the tube fully into the fitting.



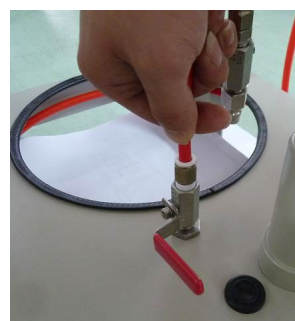
Tighten the cap by hand first, then tighten it with a spanner.

Continue to the next page↓

- ④ Insert the red spiral tube fully into the joint under the air pressure regulator.



- ⑤ Insert the other end of the red spiral tube into the joint at the base of the pole on the stand.



- 4) Open the lid of water tank and fill the tank with water.
Replace the cap and tighten it firmly.



- 5) Set the water tank on the stand.

Continue to the next page↓

6) Connect the blue valve at the end of black spiral tube to the joint on the water tank.



It's easier if you pull down the ring of female coupler before connecting.



7) Connect the female coupler of the air tube from the stand to the upper part of the water tank.



Continue to the next page↓

8) Install AKIMist® "E" to the mounting unit as below.

(Protective caps are placed on the air and water inlets of the AKIMist® "E".
Remove them before installation.)

1. Push the each plug for air and water into the each socket until it clicks.



2. Ensure that the couplers are connected properly.
Check that there is no space between the socket and sleeve as seen below.



Good: No space

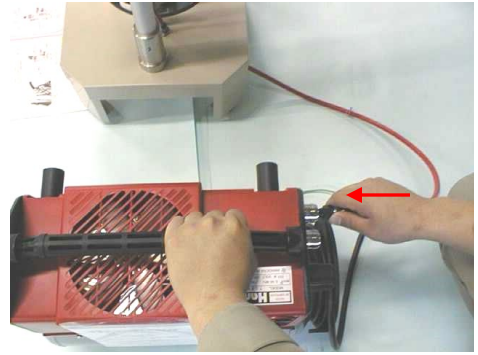


**Bad: There is a space
→ Not firmly connected**

Continue to the next page↓

9) Connect the air tube from the base of stand to an air piping or an oil-free compressor you prepared.

R1/4 fitting (1 /4" male, taper pipe threaded) is attached to this tube.
A separate coupler plug (plastic) is also provided for coupler connecting.
If air leaks, change the fitting to the one suitable for your piping or compressor connection.



(Compressor shown in the picture is NOT included in this unit.)

10) Adjust the height of the extendable pole as desired.



Tighten

Loosen

- Assembly is complete.-

7. Operation

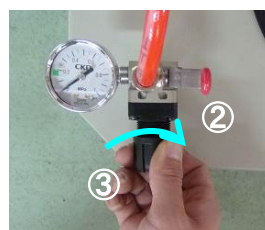
1. Starting operation

The actual appearance and shape of the parts may differ from the presented images.

Please remove the protective caps from the nozzles before use.

- 1) Turn on the air compressor.
- 2) Adjust the tank pressure regulator to set the pressure to 0.1 MPa as follows.

- ① Close the blue valve.
- ② Open the red valve.
- ③ Pull the control knob and turn it slowly clockwise until the pressure is increased to 0.1 MPa. Then push the knob down.

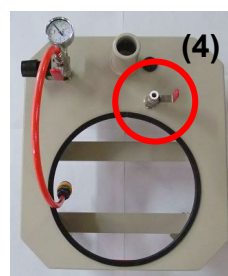


If the tank pressure becomes too high

1. Turn the control knob slowly counterclockwise.
2. Slowly open the blue valve and let air out of the tank.
3. Wait until the pressure is down to approx. 0.1 MPa, then close the blue valve and adjust the pressure using the pressure regulator.

- 3) Open the blue valve at the foot of the spiral tube.

- 4) Open the red valve (as circled in red in the picture) on the stand.



- 5) Set the air pressure to 0.2–0.5 MPa (for the nozzle type 03C), or 0.3–0.35 MPa (for 03B), adjusting the air pressure regulator on the AKIMist® “E” mounting unit.

Pull the control knob and slowly turn it clockwise until air pressure is increased to the desired pressure. Then, push in the knob.



Confirm that AKIMist® “E” properly sprays.

2. During operation

When you need to change the spray volume

Adjust the air pressure by turning the control knob of the air pressure regulator on the AKIMist® “E” mounting unit. See the table below.

| Air pressure (MPa) | Spray volume (L/hr) | | | | | | | |
|-----------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|
| | AE-1 | | AE-2 | | AE-3 | | AE-4 | |
| | (03C) | (03B) | (03C) | (03B) | (03C) | (03B) | (03C) | (03B) |
| 0.2 | 1.3 | — | 2.6 | — | 3.9 | — | 5.2 | — |
| 0.3 | 2.4 | 3.3 | 4.8 | 6.6 | 7.2 | 9.9 | 9.6 | 13.2 |
| 0.5 | 3.6 | — | 7.2 | — | 10.8 | — | 14.4 | — |

Note:

- ◆ Operating air pressure range is 0.2–0.5 MPa (29–73 psi) for 03C nozzle type.
- ◆ Operating air pressure range is 0.3–0.35 MPa (44–51 psi) for 03B nozzle type. Spray volume of 03B is the same when air pressure is 0.3 MPa or 0.35 MPa.
- ◆ Use within the operating range. When the air pressure is out of the above range, coarse atomization and/or water dripping from the nozzle orifice will be caused.

•To start/stop spraying temporarily

Open or close the blue valve at the foot of the spiral tube and the red valve on the stand as below.

To start the spray, open the blue valve first, then the red valve on the stand.

To stop the spray, close the blue valve first, then the red valve on the stand.

•Be careful of the water level in the water tank.

Check the water level using the liquid level indicator and refill the tank if you do not see the water. (For refilling the tank, see Page 12.)

•Be careful not to twist/rotate AKIMist® “E”.

Do not twist or rotate AKIMist® “E”.

Twisting can loosen the connection of liquid nipple.



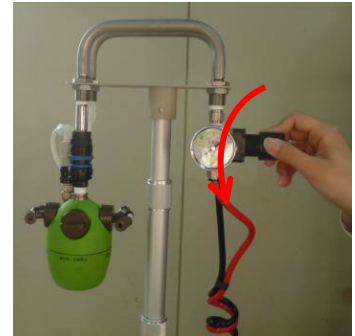
Don't twist or rotate!

3. Stopping operation and water refill to the tank

The actual appearance and shape of the parts may differ from the presented images.

☆ indicates procedures only for stopping operations.
△ indicates procedures only for liquid refilling.
No mark indicates common procedures to both.

- 1) Close the red valve on the stand.
- 2) Pull the control knob of air pressure regulator on the AKIMist® “E” mounting unit and slowly turn it counterclockwise until the air pressure is back to 0 MPa.
- 3) Close the blue valve at the foot of the spiral tube.
- ☆ 4) Remove the lower body of AKIMist® “E” and throw away the water inside.
- 5) Turn off the compressor.



- 6) Let the compressed air out of the water tank as below.

- ① Close the red valve.
- ② Open the blue valve.

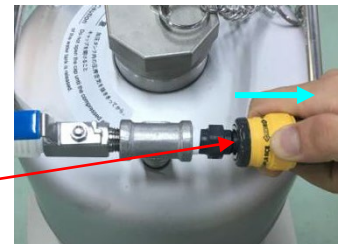
Confirm the pressure indicator shows 0.

- ☆ ③ Pull the control knob and slowly turn it counterclockwise to the end. Then push in the knob.



- 7) Disconnect the coupler of the air tube from the upper part of the water tank.

Pull the yellow ring of female coupler, then pull out the coupler.



- 8) Confirm that the blue valve at the foot of the spiral tube is closed and disconnect the coupler at the foot of the water tank.

Push down the ring of female coupler, then pull out the coupler.



- ☆ 9) Empty the water tank.

Continue to the next page↓

- △ 10) Open the tank and pour water into the water tank, and replace the cap.
- 11) Connect the couplers removed on step 7) and 8) again to the tank according to Page 7.
- △ 12) Proceed as instructed on Page 10 “Starting operation“ to start the spray.

Confirm that AKIMist® “E” properly sprays.

8. Maintenance

For maintenance of AKIMist® “E” , see the enclosed AKIMist® “E” Instruction Manual.

9. Troubleshooting

If any trouble occurs, immediately turn off the air compressor and check as follows. (Also see the troubleshooting section in the AKIMist® "E" Instruction Manual.)

| Troubles | Probable causes | Solutions |
|--|--|--|
| No spray or spray stops after a short time | Air compressor is not switched on. | Switch it on. (Supply the air) |
| | Air pressure is too low. | Check the air compressor operation. |
| | | Adjust the air pressure with a pressure regulator on the mounting unit (page 10). |
| | There is no or little water in the water tank. | Pour water into the tank. |
| | Air or water leaks at the connection. | Tighten any loose connections. Check the coupler connection. |
| Spray "wheezes" | Nozzle orifice is clogged. | Clean the nozzle. See AKIMist® "E" Instruction Manual. |
| | Tubes for air and water are not correctly connected. | Correctly connect the tubes. |
| Coarse atomization | Air pressure is too low. | Adjust the air pressure with a pressure regulator on the mounting unit (page 10). |
| Water dripping from the nozzle orifice | Dust around the nozzle orifice. | Clean the nozzle. See AKIMist® "E" Instruction Manual. |
| | Air pressure is too low or too high. | Set air pressure at 0.2–0.5 MPa (29–73 psi) for 03C nozzle type. Set the air pressure at 0.3–0.35 MPa (44–51 psi) for 03B nozzle type. |

10. Specifications

| Subject | Specifications | | | | | | | |
|--|--|--|---------|-------|--------------|-------|--------------|-------|
| | AE-1 | | AE-2 | | AE-3 | | AE-4 | |
| | (03C) | (03B) | (03C) | (03B) | (03C) | (03B) | (03C) | (03B) |
| Spray volume* (L/hr) | 1.3–3.6 | 3.3 | 2.6–7.2 | 6.6 | 3.9– 10.8 | 9.9 | 5.2– 14.4 | 13.2 |
| Air consumption* (L/min, Normal) | 22–43 | 29 | 44–86 | 58 | 66–129 | 87 | 88–172 | 116 |
| Weight | Approx. 13 kg (dry weight) | | | | | | | |
| Water tank | Water capacity: 18 liters, Pressure resistance: 0.7 MPa, Pop-off valve: spring type (operates at 0.4 MPa) | | | | | | | |
| Compressed air pressure resistance | 0.7 MPa | | | | | | | |
| Maximum height | Stand with wheels: 2,380 mm (Standard) | | | | | | | |
| | Stand with rubber pads: 2,300 mm (Optional) | | | | | | | |
| Materials | Water tank | Stainless steel 304, Brass, NBR | | | | | | |
| | Humidifier | Body: PP, etc. Nozzles: PPS and plastics, O-ring and packing: FKM | | | | | | |
| | Pole | Aluminum | | | | | | |
| | Spiral tube | Soft nylon | | | | | | |

*Spray volume and air consumption vary depending on the air pressure. Spray volume of 03B type is the same when air pressure is 0.3 MPa or 0.35 MPa.

See AKIMist® "E" Instruction Manual for the humidifier specifications.



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