NAKANISHI

エアーラインキット / Air Line Kit

AL-C1204

取 扱 説 明 書 / OPERATION MANUAL

日本語：P1 - P7 / English：P9 - P15

OM-K0653 002

Thank you for purchasing the "AL-C1204" Air Line Kit. This Air Line Kit will supply clean and dry cooling air to the motor and spindle. THIS AIR LINE KIT IS NOT A SUBSTITUTE FOR AN AIR DRYER.
Read this and all the associated component Operation Manuals carefully before use. Always keep this Operation Manual in a place where a user can referred to for reference at any time.

1. CAUTIONS FOR HANDLING AND OPERATION

■ Read these warnings and cautions carefully and only use in the manner intended.
■ These warnings and cautions are intended to avoid potential hazards that could result in personal injury to the operator or damage to the device. These are classified as follows in accordance with the seriousness of the risk.

Class	Degree of Risk
⚠ WARNING	**A safety hazard could result in bodily injury or damage to the device if the safety instructions are not properly followed.**
⚠ CAUTION	**A hazard that could result in light or moderate bodily injury or damage to the device if the safety instructions are not followed.**

⚠ WARNING

① Handling
Connection to the Air Line Kit should be performed by a person with experience with compressed air and air compressors.

② Air Pressure
Compressed air is required. Do not exceed an air pressure of 1.0MPa (145psi) at primary side and 0.85MPa (123.3psi) at secondary side of the Air Line Kit.

③ Use of Clean Air
Do not use compressed air contaminated with chemicals, oil compounds, organic solvents, salinity or corrosive gasses in order to avoid damage to the device.

④ Connection of connection hose and supply air hose
Connect the input connection hose and supply air hose securely to avoid accidental disconnection during use. Input air pressure should never exceed 1.0MPa (145psi). Pressure exceeding 1.0MPa (145psi) may cause the connection hose and supply air hose to rupture.

⑤ Inlet and Outlet Connections
Do not hit, impact or cause shock to the Inlet or Outlet Connector Connections. Never put undo stress or load on the Inlet or Outlet Connector Connections. Any damage to these components can cause air leakage and the inability of the inlet or outlet quick disconnect to adequately secure the connection hose and supply air hose.

⑥ Mounting the Air Line Kit
When installing the Air Line Kit, securely install the Air Line Kit by mounting it on a flat, level surface. If the Air Line Kit is dropped, damage to the Air Line Kit and injury to the operator is possible.

⑦ Air Regulator Bowl
- **The bowl is made of a polycarbonate.**
  Do not use the Air Line Kit in conditions where chemicals or organic solvents are present in the atmosphere.
- **Do not remove the bowl guard. Using the Air Line Kit without the bowl guard may cause injury to the operator should the bowl burst.**
- **When removing the bowl from the regulator, remove all pressure from the Input and Output sides of the Air Line Kit.**

⚠ CAUTION

① Use of dry air
Using compressed air containing excessive moisture could result in malfunction or failure of the spindle and motor. If excessive moisture or condensation are found in Air Filter Bowl, it will be necessary to install a dryer and larger Air Filter on the primary side of the Air Line Kit to prevent and remove excessive moisture.

② Draining
Be sure to drain moisture and condensation from Air Filter Bowl regularly to avoid moisture being carried to the spindle and motor.

③ Installation Location
Place this Air Line Kit on a flat and level surface.
If mounting on a wall, check if the wall is flat, and securely mount the Air Line Kit in a horizontal direction.

④ Handling
When removing the Bowl for cleaning, carefully remove them as not to cause damage to them.

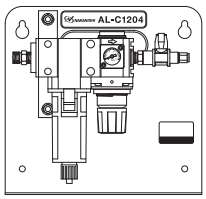
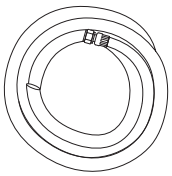
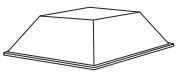
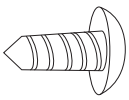
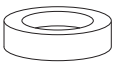
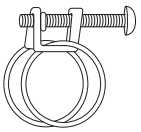
⚠ CAUTIONS for STORAGE, INSTALLATION and OPERATION

① Do not use the Air Line Kit where corrosive gasses, chemicals, seawater, water, oils or steam exist.
② Do not place in direct sunlight.
③ Do not use where the Air Line Kit is subject to vibration or repetitive shock.
④ Do not use where a heat source or radiated heat exist.
⑤ To conform to "STORAGE, INSTALLATION and OPERATION" (Refer to " 6. SPECIFICATIONS ").

2. BASIC PACKAGE

When opening the package, check if it includes all items listed in " Table. 1 Packing List Contents ".
In the event of any shortage, please contact either NAKANISHI (see the " 4. CONTACT US " section) or your local dealer.

Table. 1 Packing List Contents

AL - C1204 • • 1pc. 	Connection Hose (2m) • • 1pc. 	Rubber Pads • • 4pcs. 
Mounting Screws (Cross-Recessed Truss Tapping Screw : M6 x 20) • • 4pcs. 	Washers • • 4pcs. 	Hose Band • • 1pc. 
CKD Instruction Manual • • 1set 	Operation Manual • • 1set 	

3. WARRANTY

We provide a limited warranty for our products. We will repair or replace the products if the cause of failure is due to the following manufactures defects. Please contact us or your local distributor for details.

① Defect in manufacturing.
② Any shortage of components in the package.
③ Where damaged components are found when initially opening the package.
(This shall not apply if the damage was caused by the negligence of a customer)

4. CONTACT US

For your safety and convenience when purchasing our products, we welcome your questions.
If you have any questions about operation, maintenance and repair of the product, please contact us.

Contact Us

● For U.S. Market

Company Name	: NSK America Corp. Industrial Div.
Business Hours	: 8:00 to 17:00 (CST) (closed Saturday, Sunday and Public Holidays)
U.S. Toll Free No.	: +1 800 585 4675
Telephone No.	: +1 847 843 7664
Fax No.	: +1 847 843 7622
Website	: www.nskamericacorp.com

● For Other Markets

Company Name	: NAKANISHI INC.
Business Hours	: 8:00 to 17:00 (JST) (closed Saturday, Sunday and Public Holidays)
Telephone No.	: +81 289 64 3520
e-mail	: webmaster-ie@nsk-nakanishi.co.jp

5. FEATURES

① This Air Line Kit is designed to supply clean and dry cooling and purging air to CONTROLLER and Motor / Spindle.
② The Air Filter traps small amounts of water and impure substances from the input air supply. This Air Line Kit is not intended to be used or replace an Air Dryer.
③ Provides stable air flow and proper air pressure to the tool by using an adjustable Regulator.
④ Air pressure can be easily adjusted.
⑤ This Air Line Kit is wall mountable.

6. SPECIFICATIONS

Model		AL - C1204	
Primary Air Pressure		Less than 1.0MPa (145psi)	
Secondary Air Pressure		Less than 0.85MPa (123.3psi)	
Maximum Operation Pressure		1.0MPa (145psi)	
Maximum Peak Pressure		Less than 1.5MPa (217.6psi)	
Maximum Peak Pressure at Hose Connection		Less than 1.0MPa (145psi)	
Filtration of the Air Filter		0.3μm	
Maximum Air Volume Allowed		310Nℓ / min	Primary Side Air Pressure : 0.7MPa (101.5psi) Air Pressure Drop : 0.01MPa (1.5psi)
Drain Reservoir Capacity		80cm^3	
Safe Pressure Regulator Operating Range		0.05 - 0.85MPa (7.3 - 123.3psi)	
Pressure Relief		Automatic Relief Valve	
Dimensions		W230 mm × D120 mm × H220 mm	
Weight		1.9Kg	
Operation Environment	Temperature	5 - 40°C	
	Humidity	MAX. 85%	
	Atmospheric pressure	700 - 1,060 hPa	
Transpotation and Storage Environment	Temperature	-10 - 60°C	
	Humidity	10 - 80%	
	Atmospheric pressure	500 - 1,060 hPa	

7. PARTS NAME

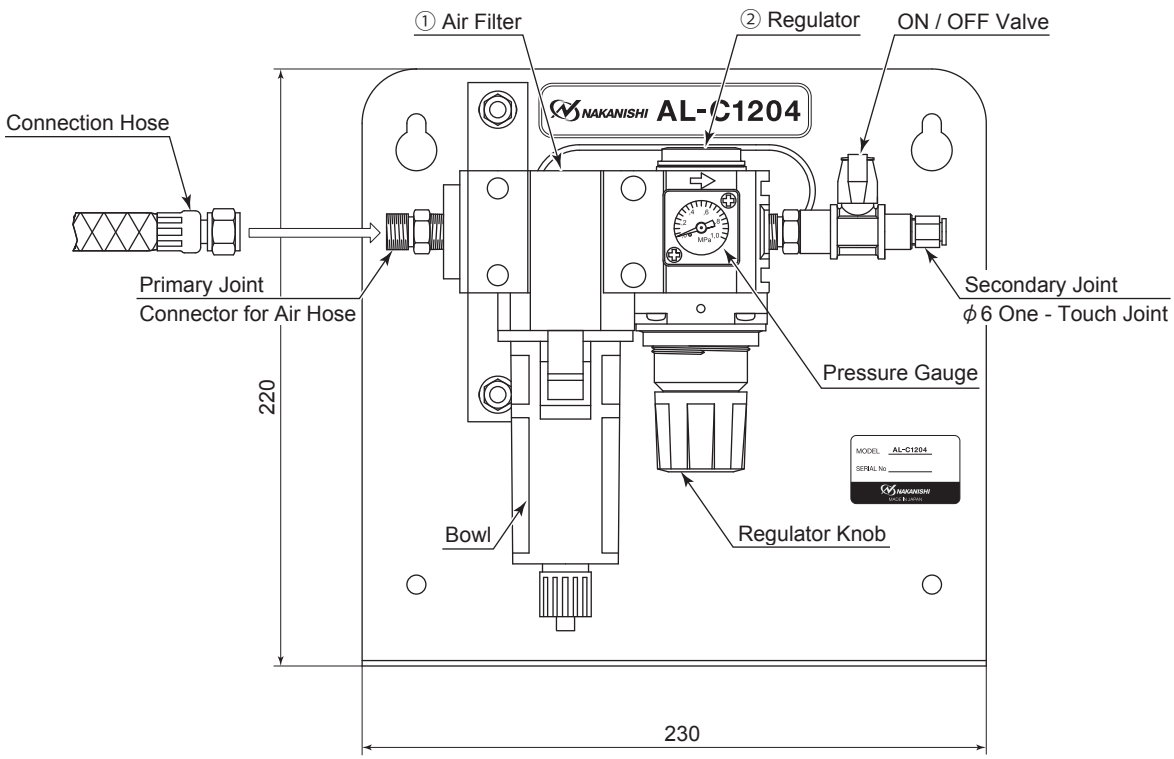


Fig. 1

If the Air Filter or Regulator are damaged, all components are replacable by the end-user.
(Refer to Table 2 and Table 3).

Table 2

	Name	Model	Manufacturer
①	Air Filter	M2000 - 8 - W - S	CKD
②	Regulator	R2000 - 8 - W	

Table 3. Air Filter Replacing Optional

Name	Model	Manufacturer
Air Filter Bowl Assy (Polycarbonate Bowl with Manual Cock)	F2000 - W - BOWL	CKD
Air Filter Consumable Part Kit (The set of the O-Ring, Mantle and Bowl O-Ring.)	M2000 - KIT - S	

8. OPERATION

8 - 1 Air Filter (Fig. 2)

The water, dirt and debris are separated from the compressed air.
The separated debris is collected in the Bowl.

8 - 2 Draining (Fig. 2)

Opening and closing the Drain Valve.
(DO NOT allow liquids and / or debris to exceed the Upper Limit as shown in Fig. 2.)

O direction ： Draining.
S direction ： Stop Draining.

＜ To divert the drain to another location ＞
Connect a hose with a ϕ 6mm I.D. (Not included / provided by the end-user.) to the Drain Output Port and divert to another location.

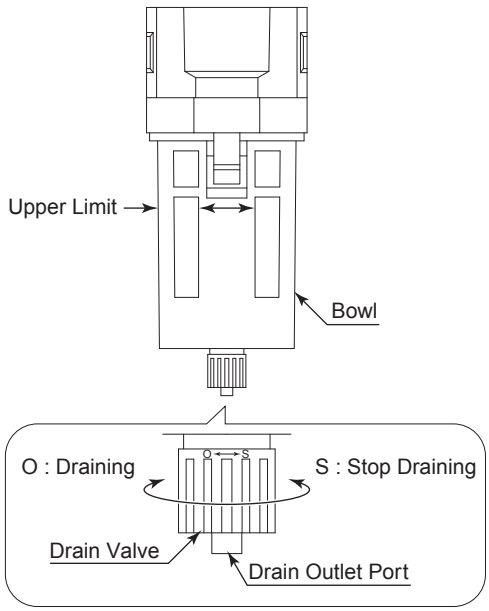


Fig. 2

8 - 3 Regulator (Fig. 3)

＜ Lock and Release of the Regulator Knob ＞
Regulator Knob is equipped with Lock mechanism.

Release ： Pull the Regulator Knob OUT to unlock.
Lock ： Push the Regulator Knob IN to the Lock position.

＜ Adjusting Air Pressure ＞
Turn the Regulator Knob while watching Pressure Gauge increase or decrease.

H direction ： Air pressure is increased.
L direction ： Air pressure is decreased.

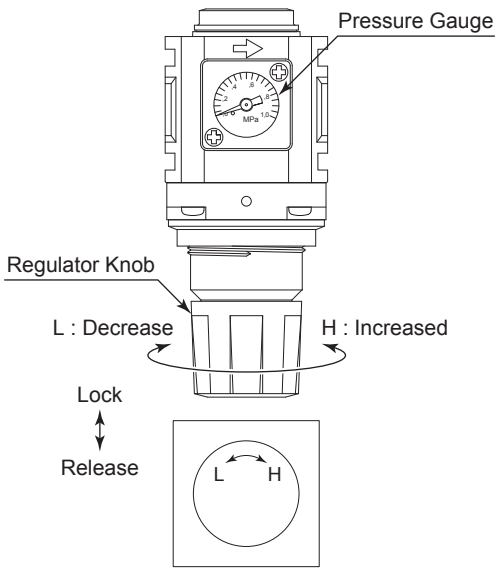


Fig. 3

8 - 4 ON / OFF Valve (Fig. 4)

Turn the ON / OFF Lever located on the valve 90-Degrees to turn the air output ON (Open) or OFF (Close).

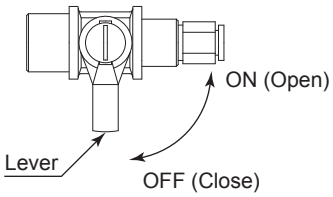


Fig. 4

9. INSTALLATION AND CONNECTION OF THE AIR LINE KIT

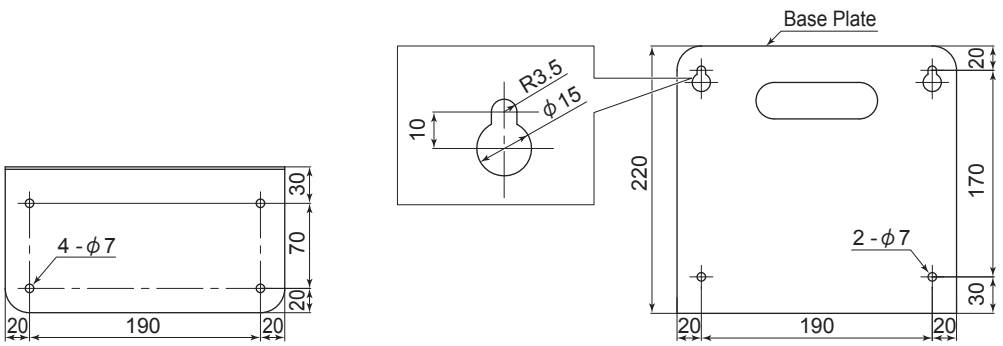
⚠ CAUTION

The Air Line Kit install to the horizontal. If " Rear Mounting ", install the Air Line Kit to the horizontally on a vertical wall.

9 - 1 Installation of the Air Line Kit

(1) Horizontal Installation
When the Air Line Kit is mounted from the bottom in a horizontal position Affix the Rubber Pads (Standard Accessories : 4pcs.) to the bottom of the Air Line Kit.

(2) Rear Mounting or Bottom Mounting
Attach the Air Line Kit by the Mounting Screws (Cross-Recessed Truss Tapping Screw : M6 × 20) (Standard Accessories : 4pcs) or M6 screw (not included / provided by the end-user) (Fig . 5).
* When Rear Mounting, attach using the Washers (Standard Accessories : 4pcs) between mounting surface and rear surface of the Base Plate with on horizontal attitude.



Bottom Mounting

Rear Mounting

Fig. 5

9 - 2 Connection of the Air Line Kit

(1) Connect the ϕ6.0mm Air Hose to the Primary Joint.

(2) Connect the ϕ6mm air hose to the Secondary Joint to the Air Input Quick Disconnect on the front of the CONTROLLER.

(3) Insert the ϕ6mm - ϕ4mm Conversion Adaptor into the Air Output Quick Disconnect on the front of the CONTROLLER. Insert the ϕ4mm air hose from the ϕ6mm - ϕ4mm Conversion Adaptor to the 4mm Quick Disconnect on the back of the motor (ϕ6mm - ϕ4mm Conversion adaptor : CONTROLLER's Standard Accessories). (Fig. 6).

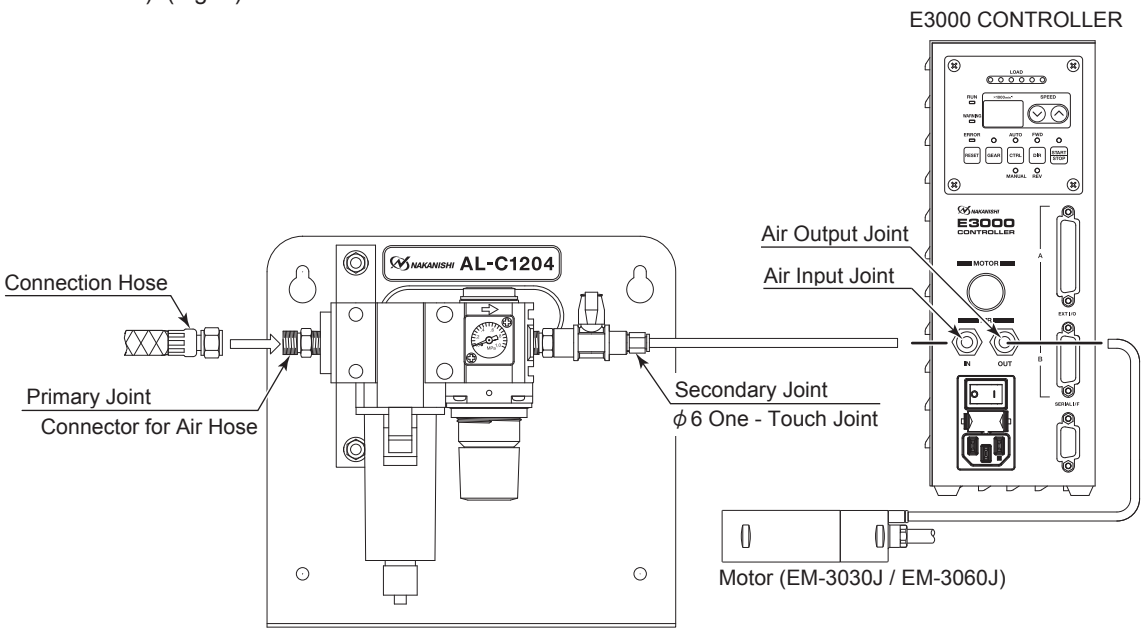


Fig. 6

10. TROUBLESHOOTING

If a problem or concern occur, please check the following items prior to consulting your dealer.

Trouble	Inspection / Corrective Active
Broken connection hose and supply air hose.	Replace the connection hose and supply air hose.
No air flow.	Check the compressor power supply and the air compressor output.
	Check if connection hose and supply air hose is broken, bent or disconnected.
	Check the Regulator and set to the correct air pressure. Check all connection hose and supply air hose connections.
	ON / OFF valve is OFF position. The ON / OFF valve set to ON position.
Air leakage.	Check all threaded joints and re-tighten if necessary.
Low air pressure.	Check the Compressor, Air Circuit, and Regulator.
Water, dirt and debris are collected in the Air Filter.	Drain water, dirt and debris from the Air Filter bowl.

11. DISPOSAL OF THE AIR LINE KIT

When disposal of an Air Line Kit is necessary, follow the instructions from your local government agency for proper disposal of electrical components .

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