

Instruction Manual

Straight grinder

Angle grinder

MSG-3BSPlus
MSG-24BSPlus
MSG-32BSPlus

MAG-121Plus
MAG-122Plus

MAG-123Plus
MAG-093Plus

Thank you for purchasing UHT's air micro grinder.
Wrong use of the product may cause severe injury or fatal accidents.
Be sure to read this manual carefully before using the product.
This manual contains instructions on how to use UHT's air micro grinder.
Keep this manual with the product for future reference.

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Specifications and package subject to change without notice for modification.
Please note, therefore, that description in this manual may be different from the actual product.

Symbols for Safe Use

The symbols below alert you to risk in using the product and give precautions.
Be sure to observe all the precautions for safe use.

	WARNING Failure to observe the precautions may result in serious risk to your health, and may lead to death in some cases.
	CAUTION Failure to observe the precautions may result in risk to your health, and may lead to accidents, injury, or blindness. It may result in damage to the product.

1. Safety Precautions

WARNING

- Using the grinder involves danger; give the highest priority to safety.
- Do not touch the rotating tip of the grinder.
- Do not use cotton work gloves.
(Use leather gloves if it is necessary.)
- Do not attempt to alter the grinder and the tool.
- Do not leave the grinder rotating.
- Do not exceed the maximum numbers of rotations of the tool.
- Do not use the damaged, cracked, warped, or fallen tool.
- Confirm that the valve is off before starting the grinder.
- Never use the grinder near inflammable gases, liquids, or substances.

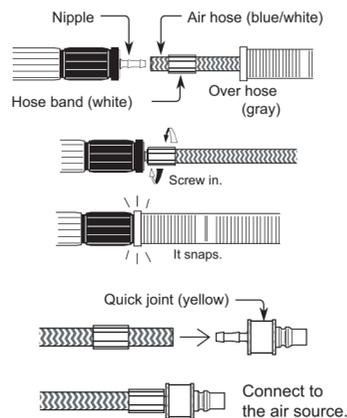
CAUTION

- Be sure to use the 3-piece set (air filter, air regulator, lubricator) to keep removing dust and moisture from the supply air and supplying oil. (Recommended oil supply: 2 drops/min)
- This grinder involves vibration; do not use it continuously to prevent tendovaginitis and vibration white finger.
- Wear protective glasses, hat, and mask when using the grinder.
- Do not use the grinder exceeding the specified air pressure.
- Be sure to make a trial run before operation.
- Stop using the grinder if you notice abnormal noise or heat.
- Be sure to cut off the primary air supply and remove residual air before disconnecting the quick joint from the air pressure source.
- Use the tool manufactured by UHT or designated by UHT, and follow the appropriate instructions for use.

3. Assembling

Connecting the Air Hose

Insert the air hose (blue/white) to the nipple on the grinder body.
After inserting, use the hose band to clamp it.
The hose band is threaded; screw it for clamping.
After clamping, connect the over hose to the grinder.
On the opposite side of the air hose, attach the quick joint in the same manner.



POINT!

Pass the air hose through the hose band beforehand.
Pass the over hose through the air hose beforehand in the same manner.

4. Operation Procedure

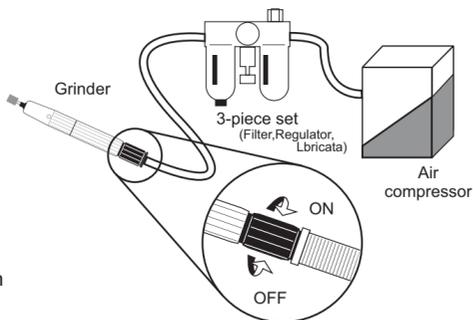
ON/OFF

CAUTION

In connecting air, be sure to use the 3-piece set (sold separately) to remove dust and moisture from the supply air and to lubricate. Industrial multipurpose oil with viscosity of ISO VG32 is recommended.
If you do not use 3-piece set, it may result in extremely shortened service life, performance degradation, and heat.
Repair costs for malfunction of the grinder caused by failure to use the 3-piece set will be charged even during the warranty period.

To use the grinder, connect it to the air pressure source for the specified air pressure and flow volume.
Turn the control valve counterclockwise.
The valve opens fully by 2 turns. Adjust the flow volume by this valve to some extent to control the rotation speed of the grinder.
Adjust the air pressure by the air regulator included in the 3-piece set.

To stop using the grinder, turn the control valve clockwise fully and check that the grinder stops rotating.
Be sure to disconnect the grinder from the air pressure source after use. Keep it with preventing dust or chip from getting in from the quick joint.



6. Troubleshooting

If the problem cannot be resolved by the actions below, contact the dealer or manufacturer.

Symptom	Cause	Countermeasure
Axis runout	Dust in the collet	Detach the collet nut and remove dust.
	Tool runout	Replace the tool.
	Damage or end of life of bearing	Send it to repair.
Insufficient rotation speed/ torque No rotation	Low air pressure/flow volume	Check the air piping and add an air compressor.
	Insufficient lubricant	Increase the supply oil amount (2 drops/min recommended).
	Damage or end of life of blade	Send it to repair.
	Air compressor failure	Check or repair the air compressor.
	Broken air hose	Replace the air hose.
	Poor connection of air hose	Disconnect the air hose from nipple and reconnect it.
Abnormal noise	Rotation speed is too high	Decrease air supply pressure by the regulator.
	Gear noise of pinion	The noise will be weaker by running-in.
Grinder becomes hot	Insufficient lubricant	Increase the supply oil amount (2 drops/min recommended).
	Too high air pressure	Decrease air supply pressure by the regulator.

2. Checking the Package

The package varies by the model.
Contact the dealer or manufacturer for missing or defective components.

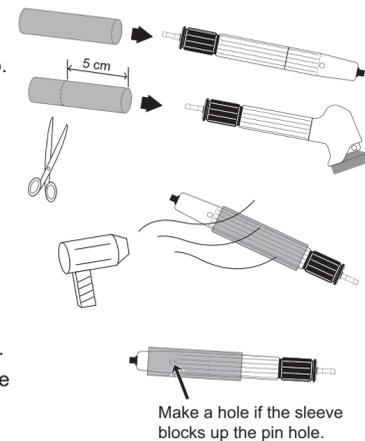
Grinder (including the tool for operation check) 1. MSG-3BSPlus MSG-24BSPlus MSG-32BSPlus	2. MAG-121Plus 3. MAG-122Plus 4. MAG-123Plus 5. MAG-093Plus	6. Pin	9. 1.5 m air hose	12. Quick joint
		7. Wrench (Excluding MAG-122, 123, 093Plus)	10. Over hose	13. Manual (this document)
		8. Rubber sleeve	11. Hose band (2)	
A test bar is included in MSG-24BSPlus/32BSPlus instead of the tool for operation check. It cannot be used as a tool.		The content subject to change without notice for specification change, etc.		

Using the Rubber Sleeve

The attached rubber sleeve is useful in alleviating vibration, heat, and slip.
(It is okay not to use the rubber sleeve.)

For the angle type, cut the sleeve to 5 cm.
For the straight type, use the sleeve without changing its length.

Pass the grinder through the rubber sleeve.
To fix the sleeve at the convenient position, heat the entire sleeve evenly by a dryer or heat gun.
Take care not to get burned or overheat the sleeve, which may damage it.
Note that, in case of the straight grinder, it may be required to make a hole on the sleeve depending on its mounting position.



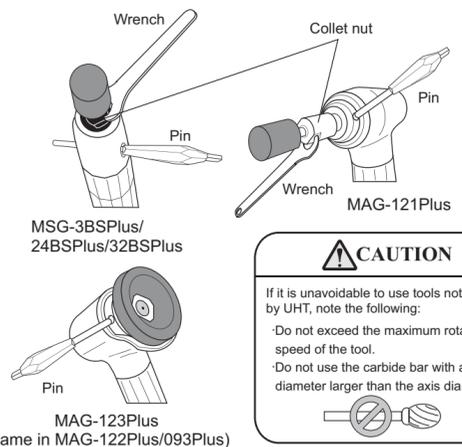
5. Replacing the Tool

MSG-3BSPlus/24BSPlus/32BSPlus, MAG-121Plus

Insert a pin into the pin hole to fix the axis of the grinder.
Loosen the collet nut by the attached wrench.
Remove the tool and replace with a desired tool.
Secure the replaced tool in reverse order to removal.
Check that the tool is secured, and remove the pin.

CAUTION

Do not tighten the nut without a tool inside
In case of MSG-3BSPlus/24BSPlus/32BSPlus or MAG-121Plus, be sure to attach the tool of the applicable size before tightening the collet nut. The collet may bend and the tool cannot be inserted.
(Repair cost will be charged even during the warranty period.)



CAUTION

If it is unavoidable to use tools not made by UHT, note the following:
Do not exceed the maximum rotation speed of the tool.
Do not use the carbide bar with a blade diameter larger than the axis diameter.

MAG-122Plus, MAG-123Plus, MAG-093Plus

Insert a pin into the pin hole to fix the axis of the grinder.
Turn the grinding wheel or rubber disc holder by hand to remove it.
Secure the replaced tool in reverse order to removal.
Check that the tool is secured and remove the pin.

7. Specifications

	MSG-3BSPlus	MSG-24BSPlus	MSG-32BSPlus	MAG-121Plus	MAG-122Plus	MAG-123Plus	MAG-093Plus
Air pressure ^{*NOTE 1}	0.4 MPa - 0.7 MPa						
Air consumption ℓ/min (ANR)	At 0.4 MPa: 130 ℓ At 0.5 MPa: 160 ℓ At 0.6 MPa: 190 ℓ At 0.7 MPa: 210 ℓ						
Rotating speed (rpm)	0.4 MPa	55,000					
	0.5 MPa	60,000					
	0.6 MPa	65,000		52,500	35,000		25,500
	0.7 MPa	70,000					
Tool	3-mm axis	2.381-mm axis (3/32-in axis)	3.175-mm axis (1/8-in axis)	3-mm axis	φ20 M6 P = 0.75		φ30 M7 P = 0.75
Mass (Excluding the tool)	130 g	130 g	130 g	140 g	140 g	175 g	160 g

* NOTE 1: The quick joint cannot be used when the air pressure exceeds 0.6 MPa; the joint may blow up.
Use the hose joint (made of metal) sold separately.

Specifications subject to change without notice.

9. Parts/Separately Sold Parts

1943 Pin and wrench set	1933 Quick joint	1937 Hose joint (Metal)
		Sold separately (PT1/4)
1932 1.5 m air hose With hose band	1934 Over hose	50392040 Rubber sleeve (gray)

* Please note that some products may be supplied with the hose joint, 1937, instead of the quick joint, 1933 in the standard specification.