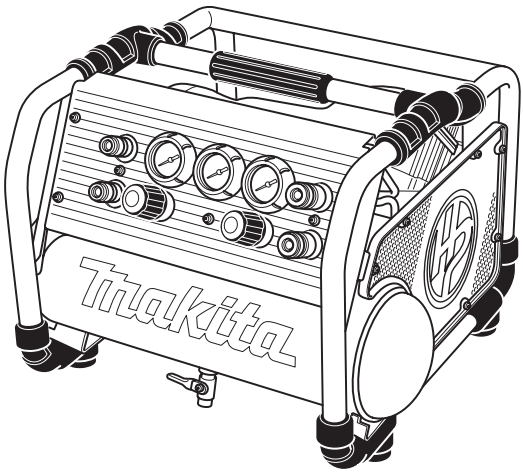
Air Compressor
Instruction Manual

Compresseur d'air
Manuel d'instructions

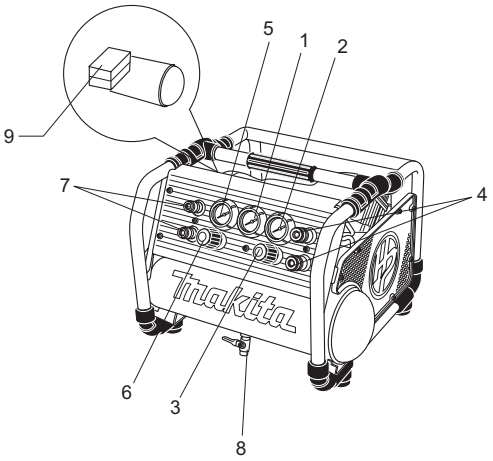
Compresor de aire
Manual de instrucciones

AC310H



Explanation of general view

1. Air Tank pressure gauge
2. Regulated presusre gauge “HP”
3. Air regulator “HP”
4. Quick couplers “HP” (Air outlet)
5. Regulated Pressure gauge “RP”
6. Air regulator “RP”
7. Quick coupler “RP” (Air outlet)
8. Drain valve
9. Pressure Switch



SPECIFICATIONS

Model	AC310H
MAX Output Power	1500 W
SCFM @ 40 PSIG	3.7
SCFM @ 90 PSIG	3.6
SCFM @ 300 PSIG	2.7
Cut-In Pressure	330 PSIG (2.3 MPa)
Cut-Out Pressure	400 PSIG (2.8 MPa)
Bore x Stroke x Qty	62 mm x 31 mm x 1, 145 mm x 10 mm x 1
Voltage -Single Phase	120 V AC
Hz	60 Hz
Motor RPM	1700 min^{-1}
Lubrication	Oil-Less
Tank Size	1.6 gal (6.2 L)
Weight	36 kg (79.4 lb)
Dimensions (L x H x W)	18-3/4” x 14-3/4” x 20" (476 x 375 x 507 mm)
Outlet Max Pressure “HP“ (Exclusively for High Pressure Pneumatic Use)	375 PSIG (2.6 MPa)
Outlet Max Pressure “RP“ (Exclusively for Regular Pressure Pneumatic Use)	130 PSIG (0.9 MPa)
CSA/US Listed	Yes

- Due to our continuing programme of research and development, the specifications herein are subject to change without notice.
- Note: Specifications may differ from country to country.

Minimum Circuit Requirement: 15 AMPS

* A circuit breaker is preferred. Use only a fuse or circuit breaker that is the same rating as the branch circuit the air compressor is operated on. If the air compressor is connected to a circuit protected by fuses, use time delay fuses.

IMPORTANT

Read the Safety Guidelines and ALL instructions carefully before operating.
www.makitatools.com
www.makita.ca

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS.

⚠WARNING

IMPROPER OPERATION OR MAINTENANCE OF THIS PRODUCT COULD RESULT IN SERIOUS INJURY AND PROPERTY DAMAGE.

READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT.

⚠WARNING

Risk of Unsafe Operation

WHAT CAN HAPPEN

Unsafe operation of your air compressor could lead to serious injury to you or others.

HOW TO PREVENT IT

- Review and understand all instructions and warnings in this manual.
- Become familiar with the operation and controls of the air compressor.
- Keep operating area clear of all persons, pets, and obstacles.
- Keep children away from the air compressor at all times.
- Do not operate the product when fatigued or under the influence of alcohol or drugs. Stay alert at all times.
- Never defeat the safety features of this product.
- Equip area of operation with a fire extinguisher.
- Do not operate machine with missing, broken, or unauthorized parts.

⚠WARNING

Risk of Air Tank Bursting

WHAT CAN HAPPEN

The following conditions could lead to a weakening of the tank, and RESULT IN A VIOLENT TANK EXPLOSION RESULTING IN SERIOUS INJURY TO YOU OR OTHERS:

- Failure to properly drain condensed water from the tank, causing rust and thinning of the tank wall.
- Modifications or attempted repairs to the tank.
- Unauthorized modifications to the pressure switch, safety valve, or any other components, which control tank pressure.

HOW TO PREVENT IT

- Drain air tank daily or after each use. If air tank develops a leak, replace it immediately with a new tank or replace the entire compressor.
- Do not drill into, weld or otherwise modify air tank or it will weaken. The tank can rupture or explode. Replace with a new air tank.
- Follow the equipment manufacturers recommendation and never exceed the maximum allowable pressure rating of attachments. Never use the compressor to inflate small low-pressure objects such as children's toys, footballs, basketballs, etc.

⚠WARNING

Risk of Attachments and Accessories Bursting

WHAT CAN HAPPEN

Exceeding the pressure rating of air tools, spray guns, air operated accessories, tires AND other inflatables can cause them to explode or fly apart, and could result in serious injury to you and others.

⚠WARNING

Risk of Electric Shock

WHAT CAN HAPPEN

- Your air compressor is powered by electricity. Like any other electrically powered device, if it is not used properly, it may cause electrical shock.
- Electrical grounding: failure to provide adequate grounding to this product could increase the risk of electric shock.

HOW TO PREVENT IT

- Any electrical wiring or repairs required to this product should be performed by qualified service personnel or a licensed electrician, in accordance with national and local electrical codes.
- Make certain that the electrical circuit to which the compressor is connected provides proper electrical grounding, correct voltage, and adequate fuse protection.
- Never operate the compressor outdoors when it is raining, or in a wet environment.
- Never operate the compressor with guards or covers which are damaged or removed.

⚠WARNING

Risk of Explosion or Fire

WHAT CAN HAPPEN

It is normal for electrical contacts within the motor and pressure switch to spark, whenever the compressor starts or stops. Never operate the compressor in an atmosphere where flammable vapors are present. Doing so can result in serious injury to you or others.

HOW TO PREVENT IT

- Always operate the compressor in a well-ventilated area, free of gasoline or solvent vapors.
- If spraying flammable materials, locate compressor at least 20 feet away from spray area.
- Store flammable materials in a secure location away from compressor.

⚠WARNING

Risk to Breathing

WHAT CAN HAPPEN

- The compressed air from your compressor is not safe for breathing.

The air stream may contain carbon monoxide or other vapors, or particles from the tank or other components.
- Sprayed materials such as paint, paint solvents, paint remover, insecticides, weed killers, etc., contain harmful vapors and poisons.
- Breathing compressor or sprayed materials vapor can result in serious injury.

HOW TO PREVENT IT
- Never inhale air from the compressor, either directly or from a breathing device connected to the compressor. Work in an area equipped with good cross ventilation.
- Read and follow the safety instructions provided on the label or safety data sheet for the material you are spraying.
  Use an approved respirator designed for use with your specific application.

⚠WARNING

Risk from Compressed Air

WHAT CAN HAPPEN
The compressed air stream can cause soft tissue damage, and can propel dirt, chips, loose particles and small objects at high speed, resulting in property damage or personal injury.

HOW TO PREVENT IT
- Always wear approved safety glasses with side shields when using or maintaining the compressor.
- Never point any nozzle or sprayer toward any part of the body or at other people or animals.
- Always turn the compressor off and bleed pressure from the air line before attempting maintenance, attaching tools or accessories.

⚠WARNING

Risk from Moving Parts

WHAT CAN HAPPEN
The compressor cycles automatically when the pressure switch is in the on/auto position. If you attempt repair or maintenance while the compressor is operating or plugged in, you can expose yourself to moving parts. These moving parts can cause serious injury.

HOW TO PREVENT IT
- Always unplug the compressor and release air pressure from the tank and any attachments before attempting any maintenance or repair.
- Never operate the compressor with guards or covers which are damaged or removed.
- Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- Air vents may cover moving parts and should be avoided as well.

⚠WARNING

Risk of Burn

WHAT CAN HAPPEN
Contact with hot parts such as the compressor head or outlet tubes could result in a serious skin burn.

HOW TO PREVENT IT
- Never touch hot components during or immediately after operation of the compressor. Do not reach around protective shrouds or attempt maintenance until unit has been allowed to cool.

GLOSSARY

CFM: Cubic feet per minute.

SCFM: Standard cubic feet per minute; a unit of measure of air delivery.

PSIG: Pounds per square inch gauge; a unit of measure of pressure.

CUT-IN PRESSURE: While the motor is off, air tank pressure drops as you continue to use your accessory or air tool. When the tank pressure drops to a certain level the motor will restart automatically re-started is called “cut-in pressure”.

CUT-OUT PRESSURE: When you turn on your air compressor, it begins to run, air pressure in the air tank begins to build. It builds to a certain pressure before the motor automatically shuts off - protecting your air tank from pressure higher than its design rating. The pressure at which the motor shuts off is called “cut-out pressure”.

DUTY CYCLE

All Makita manufactured air compressors are recommended to be operated on not more than a 50% duty cycle. This means an air compressor that pumps air more than 50% in one hour is considered misuse because the air compressor is undersized for the required air demand.

GENERAL INFORMATION

This air compressor is equipped with an Oil-Less pump designed for durability and no maintenance.

The compressor can be used for properly rated pneumatic nailers and staplers. An air pressure regulator is supplied for these applications.

⚠WARNING

Never use compressor for applications other than to operate a properly rated nailer or stapler. Use of the compressor for other applications could result in property damage and personal injury.

Separate air transformers which combine the functions of air regulation and/or moisture and dirt removal should be used where applicable.

ON-RECEIPT INSPECTION

DAMAGE: Each air compressor outfit is carefully tested and checked before shipment. With improper handling, damage may result in transit and cause problems with compressor operation.

Immediately upon arrival, check equipment for both concealed and visible damages to avoid expenses being incurred to correct such problems. This should be done regardless of any visible signs of damage to the shipping container. If this product was shipped directly to you, report any damages to the carrier and arrange for inspection of goods immediately.

STORAGE

Before you store the air compressor, make sure you do the following:

1. Review the “Maintenance” and “Operating Procedures” sections and perform maintenance as necessary. Be sure to drain water from the air tank.
2. Protect the electrical cord and air hose from damage (such as being stepped on or run over).

Store the air compressor in a clean and dry location.

DESCRIPTION OF OPERATION

DRAIN VALVE: The drain valve is located at the bottom of the air tank and is used to drain condensation at the end of each use.

THERMAL CIRCUIT BREAKER:

The electric motor has a manual reset thermal circuit breaker. If the motor overheats for any reason, the circuit breaker will shut off the motor. Turn pressure switch to the “off” position and wait for unit to cool before pushing the reset button and restarting the compressor.

MOTOR THERMAL OVERLOAD PROTECTOR:

When the current rating of the motor is exceeded the thermo-protector will open and shut off the motor automatically.
The motor must be allowed to cool down before restarting. The compressor will automatically restart after the motor cools down.

ON/AUTO - OFF SWITCH:

Turn this switch to “on” to provide automatic power to the pressure switch and to “off” to remove power when finished using the compressor or when compressor will be left unattended.

AIR INTAKE FILTER:

This filter is designed to clean air coming into the compressor pump. This filter must always be clean and free from obstructions. See “Maintenance”.

AIR COMPRESSOR PUMP:

To compress air, the piston moves up and down in the cylinder. On the down stroke, air is drawn in through the air intake valve. The exhaust valve remains closed.
On the upstroke of the piston, air is compressed. The intake valve closes and compressed air is forced out through the exhaust valve, through the outlet tube, through the check valve and into the air tank. Useable air is not available until the compressor has raised the air tank pressure above that required at the air outlet.

CHECK VALVE:

When the air compressor is operating, the check valve is “open”, allowing compressed air to enter the air tank. When the air compressor reaches “cut-out” pressure, the check valve “closes”, allowing air pressure to remain inside the air tank.

PRESSURE SWITCH UNLOADING VALVE:

The pressure switch unloading valve located on the side of the pressure switch, is designed to automatically release compressed air from the compressor head and the outlet tube when the air compressor reaches “cut-out” pressure.

PRESSURE SWITCH:

The pressure switch automatically starts the motor when the air tank pressure drops to the factory set “cut-in” pressure. It stops the motor when the air tank pressure reaches the factory set “cut-out” pressure.

SAFETY VALVE:

If the pressure switch does not shut off the air compressor at its “cut-out” pressure setting, the safety valve will protect against high pressure by “popping out” at its factory set pressure which is slightly higher than the pressure switch “cut-out” setting.

OUTLET PRESSURE GAUGE:

The outlet pressure gauge indicates the air pressure available at the outlet side of the regulator. This pressure is controlled by the regulator and is always less or equal to the tank pressure. See “Operating Procedures”.

TANK PRESSURE GAUGE:

The tank pressure gauge indicates the air pressure in the tank.

REGULATOR:

The air pressure coming from the air tank is controlled by the regulator knob. Turn the knob clockwise to increase pressure and counter-clockwise to decrease pressure. To avoid minor re-adjustment after making a change in pressure setting, always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, first reduce to some pressure less than desired pressure. Depending on the air requirements of each particular accessory, the outlet regulated air pressure may have to be adjusted while you are operating the accessory.

COMPRESSED AIR OUTLET; “HP” marking
For High Pressure Pneumatic Tool Exclusive Use
Outlet Max Pressure; 375 PSIG (2.6 MPa)

COMPRESSED AIR OUTLET; “RP” marking
For Regular Pressure Pneumatic Tool Use
Outlet Max Pressure; 130 PSIG (0.9 MPa)

INSTALLATION AND BREAK-IN PROCEDURES

LOCATION OF THE AIR COMPRESSOR

Locate the air compressor in a clean, dry and well-ventilated area. The air filter must be kept clear of obstructions, which could reduce air delivery of the air compressor. The air compressor should be located at least 12 inches away from the wall or other obstructions that will interfere with the flow of air. The air compressor head and shroud are designed to allow for proper cooling. If humidity is high, an air filter can be installed on the air outlet adapter to remove excessive moisture. Follow the instructions packaged with the air filter for proper installation.

Place the air compressor on a flat surface so that resting securely on the rubber feet.

LUBRICATION

This air compressor is equipped with an Oil-Less pump designed for durability and no maintenance.

Extension Cords

To avoid voltage drop, power loss, and overheating of the motor, use extra air hose instead of an extension cord. Low voltage can cause damage to the motor.

If an extension cord must be used:

- Use only an approved 3-wire extension cord that has a 3- blade grounding plug and a 3- slot receptacle that will accept the plug on the air compressor.
- Make sure the extension cord is in good condition.

Please see the chart below for the MINIMUM extension cord gauge requirements:

Amp Rating Range (120 V)	Total Length of Cord in Meter					
	10 m 25 ft.	15 m 50 ft.	20 m 75 ft.	30 m 100 ft.	50 m 150 ft.	60 m 200 ft.
0 - 5 A	16	16	16	14	12	12
5 - 8 A	16	16	14	12	10	
8 - 12 A	14	14	12	10		
12 - 15 A	12	12	10	10	Not Recommended	
15 - 20 A	10	10	10			

Piping

Plastic or PVC pipe is not designed for use with compressed air. Regardless of its indicated pressure rating, plastic pipe can burst from air pressure. Use only metal pipe for air distribution lines. If a pipe line is necessary, use pipe that is the same size, or larger than, the air tank outlet. Piping that is too small will restrict the flow of air. If piping is over 100 feet long, use the next larger size. Bury underground lines below the frost line and avoid pockets where condensation can gather and freeze. Apply pressure before underground lines are covered to make sure all pipe joints are free of leaks.

Grounding Instruction

WARNING: Risk of electric shock! In the event of a short circuit, grounding reduces the risk of shock by providing an escape wire for the electric current. This air compressor must be properly grounded.

The air compressor is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be used with an outlet that has been installed and grounded in accordance with all local codes and ordinances. The outlet must have the same configuration as the plug. DO NOT USE AN ADAPTER.

Inspect the plug and cord before each use. Do not use if there are signs of damage.

DANGER:
Improper grounding can result in electrical shock. Do not modify the plug that has been provided. If it does not fit the available outlet, the correct outlet should be installed by a qualified electrician.

OPERATING PROCEDURES

Daily Start-up Checklist

INSTALLING HOSES

⚠WARNING
Risk of unsafe operation. Firmly grasp hose in hand when installing or disconnecting to prevent hose whip. Losing control of the hose may result in personal injury and property damage.

1. Before attaching air hose or accessories, make sure the pressure switch lever is set to “OFF” and the air regulator or shut-off valve is closed.
2. Attach hose and accessories. Too much air pressure causes a hazardous risk of bursting. Check the manufacturer's maximum pressure rating for air tools and accessories. The regulator outlet pressure must never exceed the maximum pressure rating.
3. Turn the pressure switch lever to “ON/AUTO” and allow tank pressure to build. Motor will stop when tank pressure reaches “cut-out” pressure.
4. Open the regulator by turning it clockwise. Adjust the regulator to the correct pressure setting. Your compressor is ready for use.
5. Always operate the air compressor in well-ventilated areas; free of gasoline or other solvent vapors. Do not operate the compressor near the spray area.

When you are finished:

DISCONNECTING HOSES

⚠WARNING
Risk of unsafe operation. Firmly grasp hose in hand when installing or disconnecting to prevent hose whip. Losing control of the hose may result in personal injury and property damage.

6. Set the pressure switch lever to “OFF”.
7. Using the air tool or accessory, bleed the tank pressure down to zero.
8. Remove the air tool or accessory.

9. Drain water from air tank by opening drain cock valve on bottom of tank. WATER WILL CONDENSE IN THE AIR TANK. IF NOT DRAINED, WATER WILL CORRODE AND WEAKEN THE AIR TANK CAUSING A RISK OF AIR TANK RUPTURE.

Note:
If drain valve is plugged, release all air pressure. The valve can then be removed, cleaned, then reinstalled.

10. After the water has been drained, close the drain valve. The air compressor can now be stored.

⚠WARNING
Drain Air Tank Properly. Improper draining of the air tank can result in corrosion and possible bursting of the tank. Tank bursting could lead to personal injury and property damage.

MAINTENANCE

⚠WARNING:
Never use the air compressor which is operating abnormally.
If the air compressor appears to be operating unusually, making strange noises or vibration, stop using it immediately and arrange for repairs by a Makita authorized service center.

⚠WARNING:
Use only genuine Makita replacement parts. Replacement parts not manufactured by Makita may void your warranty and can lead to malfunction and result in injuries. Genuine Makita parts are available from an authorized dealer.

⚠WARNING:
UNIT CYCLES AUTOMATICALLY WHEN POWER IS ON. WHEN DOING MAINTENANCE, YOU MAY BE EXPOSED TO VOLTAGE SOURCES, COMPRESSED AIR OR MOVING PARTS. PERSONAL INJURIES CAN OCCUR. BEFORE PERFORMING ANY MAINTENANCE OR REPAIR, UNPLUG THE COMPRESSOR AND BLEED OFF ALL AIR PRESSURE.

To ensure efficient operation and longer life of the air compressor unit, a routine maintenance schedule should be prepared and followed. The following routine maintenance schedule is geared to a unit in a normal working environment operating on a daily basis. If necessary, the schedule should be modified to suit the conditions under which your compressor is used. The modifications will depend upon the hours of operation and the working environment. Compressor units in an extremely dirty and/or hostile environment will require a greater frequency of all maintenance checks.

ROUTINE MAINTENANCE SCHEDULE

1. Drain water from the air tank, any moisture separators or transformers.
2. Check for any unusual noise and/or vibration.
3. Manually check all safety valves to make sure they are operating properly.

⚠WARNING: Risk of bursting.
Check Safety Valve. If safety valve does not operate properly over pressurization of the air tank may result in rupture or explosion causing personal injury and property damage.

4. Inspect air filter, replace if necessary.
5. Inspect air lines and fittings for leaks; correct as necessary.
   Each year of operation or if a problem is suspected:
   - Check condition of air compressor pump intake and exhaust valves.
   - Check condition of check valve. Replace if damaged or worn out.
6. Keep all screws, bolts, and covers tightly mounted. Check their conditions periodically.

⚠WARNING
Keep All Screws, Bolts and Covers Properly Tightened. If screws plates or covers become loose personal injury or property damage may occur.

MAKITA LIMITED ONE YEAR WARRANTY

EN0006-1

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase.
Should any trouble develop during this one year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others:
- repairs are required because of normal wear and tear:
- the tool has been abused, misused or improperly maintained:
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY. MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE YEAR TERM OF THIS WARRANTY.
This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.
Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.