

Refrigerant Charging Unit

ICOGD

020AH1000

Operating Manual



CE

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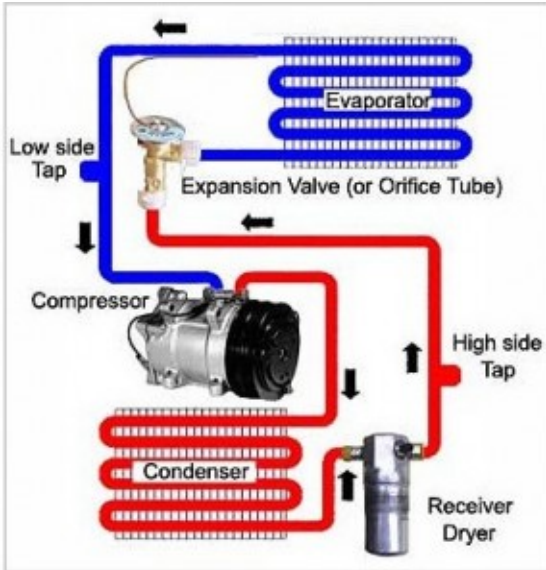
Technical Specifications

Model	ICOGD 020AH1000
Refrigerant type.....	R134a, R1234yf, R22, R404A, R407C
Power supply	220 V \pm 10% / 50Hz
Display	2x16 character LCD
Scale resolution	\pm 5 gr
Vacuum pump	3 m ³ /h (optional 6 m ³ /h & 7.6 m ³ /h)
Operating range.....	8°C to 49°C
Low pressure gauge.....	15 bar
High pressure gauge	30 bar
Hose length.....	180 cm (optional 250 cm & 300 cm)
Dimensions	45 cm x 21 cm x 49 cm
Weight	14 kg

Safety

- Read this manual carefully and understand all the procedures outlines in this manual before operating the unit. Failure to follow these procedures could result in personal injury or property damage.
- Allow only qualified personnel to operate this unit. The operator must have basic knowledge of air conditioning and refrigeration systems, including potential hazards associated with the handling of refrigerants and systems under high pressure.
- Always wear safety goggles and appropriate protective clothing. Avoid contact of liquid refrigerant with the eyes and prolonged skin exposure.
- Pressurized tank contains liquid refrigerant.
- Never fill the refrigerant tank to more than 80% of its maximum capacity.
- Hoses may contain refrigerant under pressure.
- Make sure to use a properly grounded AC outlet.
- Do not operate the unit with a damaged cord or plug. Extension cords should not be used unless absolutely necessary.
- Disconnect unit from power supply before removing any protective cover.
- Do not expose the unit to wet environment.
- Only use the correct refrigerants.
- Avoid breathing in refrigerant vapors. Use only in well ventilated areas.
- The unit must be transported in a vertical position.
- The refrigerant scale must be fixed in place before transport.

A/C System



COMPRESSOR: Pumps out refrigerant vapor under high pressure and high heat to the condenser.

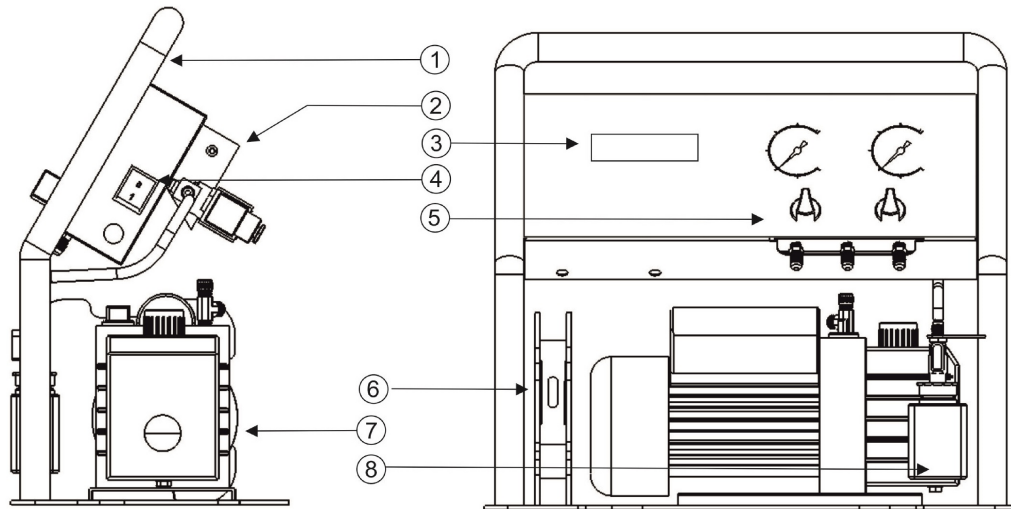
CONDENSER: Takes the heated high pressure refrigerant vapor from the compressor and cools it, changing it to liquid state.

DRIER FILTER: Removes moisture from the refrigerant which can damage and block the air conditioning system if allowed to circulate.

EXPANSION VALVE: Removes pressure from the liquid refrigerant, allowing it to expand and revert back to gas.

EVAPORATOR: Takes the cold low pressure refrigerant from the expansion valve and vaporizes it, absorbs heat from the air in the passenger compartment.

Components



1	Metal Case	5	Manifold
2	Block	6	Scale
3	LCD Display	7	Vacuum Pump
4	Power Switch	8	New Oil Bottle

Control Panel



ENTER

enter value / confirm



ESC

tank info / interrupt



UP

previous / increase value



DOWN

next / decrease value

Setup

Unpack the unit and accessories. The package contains:

- ICOGD unit and electronic scale
- Low-side and high-side services hoses and quick-action coupler valves
- Oil filler cap
- Operating manual and warranty

Before the first use:

1. Place the unit on a level surface.
2. Put the refrigerant tank on the scale.
3. Remove aluminum foil from the vacuum pump and install oil filler cap.
4. Connect the refrigerant hose to the refrigerant tank.
5. Connect service hoses to the service ports located below pressure gauges.
6. Connect quick-action coupler valves to the service hoses (DO NOT OVERTIGHTEN).
7. Plug the power cable into a grounded power outlet.
8. Turn on the power switch.

WARNING: Scale is calibrated at the factory, re-calibration is not necessary.

Operations

Vacuum

The purpose of this operation is to remove ambient air, water vapor and other non condensable gases contained in the A/C system. Recommended minimum time is 25 minutes.

WARNING: Discharge refrigerant from A/C system by other means before starting vacuum operation.

1. Ensure service hoses are connected and coupler valves are open.
2. The LCD will display VACUUM TIME.
3. Press ENTER to modify vacuum time.
4. Use UP & DOWN buttons to set the desired time.
5. Bypass vacuum operation by setting time to zero.
6. Press ENTER again to confirm.
7. Press DOWN to proceed.

Leak Control

The purpose of this operation is to see if the vacuum level is deteriorating.

WARNING: Vacuum operation is required prior to Leak Control.

WARNING: Monitor low-side pressure gauge during the operation. Any rise in the vacuum indicates a leak in the vehicle A/C system.

1. The LCD will display LEAK CONTROL TIME.
2. Press ENTER to modify leak control time.
3. Use UP & DOWN buttons to set the desired time.
4. Bypass leak control operation by setting time to zero.
5. Press ENTER again to confirm.
6. Press DOWN to proceed.

Charge Refrigerant

Charge vehicle A/C system with refrigerant.

1. The LCD will display REFRIGERANT AMOUNT.
2. Press ENTER to modify refrigerant amount.
3. Use UP & DOWN buttons to set the desired amount.
4. Bypass charge refrigerant operation by setting amount to zero.
5. Press ENTER again to confirm.
6. Press DOWN to proceed.

Add New Oil

Add new oil to the vehicle A/C system.

WARNING: Vacuum operation is required prior to Add New Oil.

WARNING: Open oil valve when you see the warning on the LCD. Add the desired amount by watching cursors then CLOSE OIL INJECTION VALVE. After closing the oil valve, press ENTER to proceed.

1. The LCD will display ADD OIL.
2. Press ENTER to modify.
3. Use UP & DOWN buttons to select YES or NO.
4. Bypass oil injection by selecting NO.
5. Press ENTER again to confirm.
6. Press DOWN to proceed.

Start Process

1. Press ENTER to start selected operations.

WARNING: When completed, the LCD will display PROCESS COMPLETE.

Maintenance

Vacuum Pump Oil Change

In order to maintain pump efficiency, vacuum pump oil must be changed regularly. Contaminated oil might lead to irreversible damage to mechanical components of the vacuum pump. Change vacuum pump oil under the following conditions:

- *Every 30 working hours or when filter drier is replaced*
 - *When the color of the oil becomes dark or cloudy*
1. Obtain an empty container to collect the used oil.
 2. Disconnect the unit from the electrical supply.
 3. Unscrew the oil filler cap.
 4. Unscrew the drain plug.
 5. Allow the oil to drain out.
 6. Close the drain plug.
 7. Pour in new vacuum pump oil through the fill hole until mid level.
 8. Replace oil filler cap.
 9. Turn on the power switch.
 10. Press ESC for 5 seconds (until service menu shows up).
 11. Erase warning by selecting VACUUM OIL CHANGE.

Scale Calibration

WARNING: Scale calibration must not be performed unless it is absolutely necessary. If scale is no longer measuring accurately, please call technical service.

1. Storage tank must be empty.
2. Go to main menu.
3. Press ESC for 5 seconds (until service menu shows up).
4. Select SCALE CALIBRATION and press ENTER.
5. Place an empty storage tank on the scale and press ENTER.
6. Wait.
7. LCD will display PLACE TEST WEIGHT.
8. Place test weight on the storage tank.
9. If necessary, use UP & DOWN buttons to change the value to match with the weight used (default is 2000 grams).
10. Press ENTER.
11. Wait.
1. LCD will display COMPLETED.

Scale Zeroing

WARNING: Scale zeroing must not be performed unless it is absolutely necessary. If scale is no longer measuring accurately, please call technical service.

1. Storage tank must be empty.
2. Go to main menu.
3. Press ESC for 5 seconds (until service menu shows up).
4. Select SCALE ZEROING and press ENTER.
5. Place an empty storage tank on the scale and press ENTER.
6. Wait.
7. LCD will display COMPLETED.

Troubleshooting

Problem	Cause	Solution
Unit does not turn on	Power cord not plugged in Power switch off Circuit breaker error No power in AC outlet	Plug in the power cord Turn the power switch on Replace circuit breaker Check power source
Unit does not charge	No refrigerant in tank Tank valve closed Service hose couplers closed Service hose constricted Leak in vehicle AC system Scale calibration error	Fill tank with refrigerant Open valve Open couplers Straighten hose Find and repair leak Re-calibrate scale
Unit cannot pull vacuum	Loose hose connection Leak in vehicle AC system Oil injection valve open Leak in hoses Contaminated vacuum pump oil	Tighten hose connections Find and repair leak Close oil injection valve Find and repair leak Change vacuum pump oil
Weight inaccuracies	Unit moving Storage tank touching the unit	Do not move unit Prevent contact

Warranty

WARRANTY TERMS

1. Warranty period is (...) years and commences on the delivery date of the product.
2. The entire product except the hoses and the adapters is warranted by our company.
3. The warranty certificates without the sales date written by the seller/dealer and stamp and signature are invalid.
4. If the product becomes defective within the warranty period, the time elapsed during repair is added to the warranty period. The repair period of the product is maximum 30 (thirty) working days. This period starts as of the date the defect of the product is notified to the service station, or if a service station is not available, to any one of the product's seller, distributor, agency, representative, importer or manufacturer. If defect of the product is not remedied within 15 working days, the manufacturer and importer must allocate another industrial product with similar functions to the use of the consumer until repair of product is completed. National, legal and religious holidays and weekends are not considered as working days.
5. If the product becomes defective within its warranty period due to faults of material and workmanship or assembly, its repair shall be performed without demanding any charges as a cost of workmanship or replaced part, or by any other means.
6. Even though the consumer uses its right of repair, if;
 - * As of the delivery date of the product to the consumer, within one year, provided that the determined warranty period is valid; the same failure recurs more than twice, or different failures occur more than four times, or total of different failures within the determined warranty period is more than six, and also if these failures prevent benefiting from the

- product continuously;
- * The required maximum repair period is exceeded;
 - * It is determined that the defect cannot be remedied with a report prepared by the service station of the company, and if a service station is not available, by any one of the product's seller, distributor, agency, representative, importer or manufacturer, respectively; the consumer may request the replacement of the product free of charge, or return of the cost or a discount in the cost at the rate of defect.
7. Malfunctions taking place due to the use that is other than the ones stated in the operating manual of the product will not be covered under the scope of the warranty.
 8. The warranty will expire automatically whenever one of the following occurs: failure to perform maintenance; use of non-original spare parts; use of expired filters; use of unsuitable refrigerants and/or lubricants; damage caused by shocks, fires, or other accidental events.
 9. The manufacturer declines any and all responsibility for damage to vehicles on which recovery/recycling and recharging are performed if said damage is the result of unskillful handling by the operator or of failure to observe the basic safety rules set forth in the instruction manual.
 10. This warranty does not cover damage arising during transportation. The product for which repair under guarantee is requested must be shipped to the manufacturer under the customer's exclusive responsibility.
 11. The manufacturer shall not be responsible for any additional costs associated with a product failure including, but not limited to, loss of work time, loss of refrigerant, cross-contamination of refrigerant, and unauthorized shipping and/or labor charges.
 12. For the problems that may arise concerning the certificate of warranty, you may refer to the General Directorate for the Protection of Consumers and Competition of the Ministry of Industry and Trade.