

GREELOY GA-81 SERIES

GA-81 | GA-81X | GA-81Y | GA-81XY

Oil-Free Dental Air Compressor - Reference User Guide

Purpose. This guide consolidates publicly available product data for the GreeLOY GA-81 family and adds practical installation, routine maintenance and troubleshooting guidance for normal compressor operation. It is a reference document and does not replace the product nameplate, supplier documentation, local electrical rules, pressure-vessel requirements, or an official manufacturer service manual.

1. Series Overview

Model	Primary configuration	Power	Air flow	Tank	Published noise
GA-81	Standard oil-free compressor	800 W	155 L/min @ 0 bar	40 L	Approx. 52-53 dB(A)
GA-81X	Compressor with noise-reduction cabinet / enclosure	800 W	155 L/min @ 0 bar	40 L	Published values vary by source*
GA-81Y	Compressor with air dryer / filtration configuration	800 W	155 L/min @ 0 bar	40 L	Approx. 52-53 dB(A)
GA-81XY	Noise-reduction cabinet + air dryer configuration	800 W	155 L/min @ 0 bar	40 L	Approx. 42 dB(A)

*GA-81X noise figures conflict across public listings. Use the value on the actual product label / current supplier specification for customer-facing claims.

Common platform specifications

Rated power	800 W (1 hp)
Supply	110-240 V AC, 50/60 Hz (market configuration may vary)
Motor speed	Approx. 1400/1750 rpm
Maximum pressure	8 bar (115 psi)
Restart pressure	5 bar (72 psi)
Tank capacity	40 L (10.58 gal)
Compression	Oil-free piston type
Nominal free-air flow	155 L/min at 0 bar (5.5 cfm)
Typical GA-81 size	Approx. 410 x 410 x 650 mm
Typical GA-81 weight	Approx. 28 kg

2. Before Installation

- **Confirm the model and supply voltage.** Check the model plate before connecting power. Do not rely only on an online listing.
- **Use a dry, ventilated location.** Leave clearance around the motor, cooling surfaces and cabinet ventilation openings. Keep the compressor away from heat sources, flammable vapors, heavy dust and direct water spray.
- **Install on a firm, level surface.** The unit should not rock or transmit excessive vibration to surrounding structures.
- **Check the receiver and fittings.** Inspect the tank, drain valve, pressure gauge, hoses, fittings and electrical cord for shipping damage before use.
- **Match air demand.** Confirm that the connected dental unit(s) do not require more air flow than the compressor can provide at working pressure.
- **For Y / XY models.** Verify that the dryer, filters, drains and tubing are connected in the correct flow direction and are not damaged or obstructed.

3. Basic Operation

1. Close the receiver drain valve and confirm all air connections are secure.
2. Connect the compressor to the correct grounded power supply.
3. Switch the unit on. Allow pressure to build while observing the pressure gauge.
4. Check for abnormal noise, excessive vibration, air leakage or overheating.
5. Set downstream working pressure with the appropriate regulator, if fitted. Do not exceed the rated pressure of connected equipment.
6. After use, switch off when appropriate. Drain condensate from the receiver according to the maintenance schedule and local operating conditions.

4. Routine Maintenance

Oil-free does not mean maintenance-free. The compressor does not require compressor-oil changes, but the receiver, filters, dryer, air connections and electrical/mechanical components still require routine inspection.

Interval	Maintenance item	Action
Before / during use	General inspection	Check for unusual sound, vibration, smell, heat, damaged cable, damaged hose, loose fittings and visible air leaks.
Daily or as moisture requires	Receiver condensate	With the unit switched off and receiver pressure safely reduced, drain accumulated condensate. Frequency depends strongly on humidity and duty cycle.
Weekly	Air connections	Check tubing, quick connectors, regulator and fittings for leakage or damage.
Weekly	Ventilation / cabinet	Keep cooling openings and cabinet vents unobstructed. Remove external dust without introducing moisture into electrical parts.
Monthly	Intake filter	Inspect the air-intake filter. Clean or replace it if restricted, damaged or heavily contaminated. Follow the filter supplier instructions.
Monthly	Mounting / vibration isolators	Check rubber feet, fasteners and supports. Tighten loose hardware only after power is disconnected and pressure is released.
Monthly	Safety / pressure controls	Observe normal cut-in and cut-out behavior. If pressure control is abnormal, stop using the unit and have the pressure switch / safety components checked by qualified service personnel.
As indicated by condition	Dryer / filter system (Y, XY)	Drain or service the moisture separator / dryer and replace filter elements or desiccant according to the actual dryer design and supplier instructions.
Periodically	Receiver condition	Inspect for corrosion, damage or persistent water accumulation. Follow local pressure-vessel inspection requirements. Do not repair, weld or modify the receiver.

5. Maintenance Notes for GA-81Y / GA-81XY Dryer Versions

- **Monitor air dryness.** A noticeable increase in downstream moisture can indicate saturated filter media, ineffective dryer operation, high ambient humidity, excessive duty cycle, or a blocked drain.
- **Service by component type.** Public listings identify a dryer / filtration configuration but do not consistently specify one universal dryer service interval. Use the instructions for the dryer assembly actually installed on the unit.
- **Do not bypass filtration or drainage components** merely to restore flow. A blocked filter should be serviced or replaced with a compatible component.
- **After service, leak-test the system** at normal operating pressure before reconnecting sensitive dental equipment.

6. Troubleshooting

Symptom	Possible causes	Recommended checks / action
Compressor does not start	No power; incorrect supply; switch / protection device open; pressure already above cut-in; electrical fault	Check supply, plug, breaker and model voltage. Allow the unit to cool if thermal protection may have operated. If electrical controls or wiring are suspected, disconnect power and use qualified service personnel.
Motor starts but pressure builds slowly	Air leak; open drain valve; restricted intake filter; excessive downstream demand; worn compressor components	Close drain valve. Listen / test for leaks at hoses and fittings. Inspect intake filter. Disconnect downstream equipment briefly to determine whether demand is excessive. Service the compressor head if output remains low.
Cannot reach normal cut-out pressure	Large leak; excessive air consumption; faulty pressure control; compressor wear	Check leaks and connected equipment demand. If pressure continues rising abnormally or pressure switch operation is uncertain, switch off and have pressure-control components inspected.
Starts and stops too frequently	Air leak; small effective reserve due to high demand; pressure-switch issue; check-valve leakage	Check system leaks and dental-unit demand. Observe pressure decay with downstream valves closed. Service check valve / pressure switch if cycling remains abnormal.
Excessive noise or vibration	Unit not level; loose mounting; cabinet contact; damaged vibration isolator; internal mechanical wear	Switch off, disconnect power and release pressure. Check surface, feet, fasteners and cabinet panels. Do not continue operation with metallic knocking or rapidly increasing vibration.
Compressor becomes unusually hot	Blocked ventilation; high ambient temperature; excessive duty cycle; restricted intake; electrical/mechanical fault	Improve ventilation, clean external vents and inspect intake filter. Reduce continuous demand. Stop operation if overheating persists.
Air leak after compressor stops	Loose fitting; leaking hose; drain not closed; non-return/check valve leakage	Inspect external fittings first. Use a suitable leak-detection solution where appropriate. Service internal valves only after isolation and depressurization.
Water in air line / moisture increases	Receiver not drained; high humidity; saturated/failed dryer or filter; drainage problem	Drain receiver safely. Inspect separator / dryer / filter. Replace or regenerate service media only as specified for the installed dryer system.
Pressure gauge reading abnormal	Gauge fault; blocked connection; pressure-control fault	Stop use if actual pressure cannot be confirmed. Replace / verify the gauge with a suitable rated component; have control system checked if needed.
Safety valve vents repeatedly	Pressure-control malfunction, obstruction or incorrect adjustment	Switch off immediately. Do not plug, cap or adjust the safety valve to stop venting. Have the pressure switch and safety valve inspected by qualified service personnel.

7. Safety and Service Boundaries

- **Disconnect electrical power and depressurize the receiver** before removing covers, loosening fittings or performing mechanical service.
- **Do not modify the pressure receiver, safety valve or pressure switch** beyond manufacturer-approved procedures.
- **Do not operate a damaged or corroded receiver.** Pressure-vessel inspection and replacement requirements vary by jurisdiction.
- **Electrical repairs, motor repairs and pressure-control repairs** should be performed by qualified personnel using components with the correct electrical and pressure ratings.
- **For dental use, confirm downstream air-quality requirements** for the specific treatment equipment and local regulations. An oil-free compressor alone does not establish a universal medical-air quality classification.

8. Quick Service Record

Date	Operating hours / condition	Work performed	Parts replaced	Technician / initials

9. Source and Specification Notes

Public manufacturer-linked and distributor sources consistently identify the GA-81 platform as an 800 W, 40 L, oil-free piston compressor with 155 L/min free-air flow at 0 bar, maximum pressure of 8 bar and restart pressure around 5 bar. GA-81Y is listed with a dryer; GA-81XY is listed with both a noise-reduction enclosure and dryer. Public data for enclosure dimensions, weight and especially GA-81X noise level are not fully consistent, so this guide avoids presenting disputed values as definitive.

Reference sources: Shanghai Greeloy Industry Co., Ltd. manufacturer storefront/product listings; Greeloy GA-81/GA-81X/GA-81XY product/manual records indexed by NBCHAO/NBCLab; and established dental-equipment distributor listings used only to cross-check configuration details. Always prioritize the current product nameplate and current supplier documentation for the unit being installed.