Cleaning

NETTOGAZ GC+

Non-contractual photo

PRESENTATION

NETTOGAZ GC+ is designed for the internal cleaning of refrigeration and air conditioning systems with a small volume (for industrial applications see Facilisolv®)

Developed by Climalife, it eliminates calamines, impurities (water or solid particles) present in systems before or after an incident. Its excellent cleaning power makes it particularly effective on all common refrigeration lubricants.

The properties of **GC+** allow for simple use.

CHARACTERISTICS

Appearance	Colourless liquid
Boiling point at 1.013 bar absolute pressure	+ 20 °C
Liquid density at +20°C	1.27 kg/dm^3
Vapour pressure absolute at +20°C	0.11 bar
Kauri Butanol Index	> 80
ODP	None
Flash point	None

USE

The refrigeration circuit must be perfectly clean inside to avoid system failure or damage.

Impurities in the circuit, whether water, solder residues or solid contaminants such as scale or oxides, can cause the installation to malfunction.

There are many causes of contamination.
Among the most common are :

- electrical motor "burn-out" in hermetically or semi hermetically sealed units.
- moisture in the circuits.
- oil degradation.
- acid formation.
- build-up of oxides around soldered and brazed parts, if performed without using neutral gas.

Cleaning is necessary :

- in some cases before putting a new installation into service,
- following pollution or damage that has contaminated the circuit of an installation in service.

COMPATIBILITY OF GC+ WITH MATERIALS AND ELASTOMERS

GC+ does not attack most metals and alloys currently used in the industry.

Metals	Plastics	Elastomers
Steel Copper Aluminium Iron Stainless steel Bronze Zinc	Epoxy resins Polyethylene Polyester PTFE	Butyl rubber* Natural rubber* Polysulphide Nylon EPDM PE chlorosulphone Buna-S*

*slight swelling

Compatibility after a one-hour exposure period at boiling temperature.

Butyl rubber is recommended for extended exposure > 1 month.

Exception: swelling of PTFE and silicone rubber.

NETTOGAZ GC+ USE

NETTOGAZ GC+ is filled in aluminium cylinders pressurized with anhydrous nitrogen and a 30-litre recovery barrel is provided to collect and store the contaminated product after use.

A set of **reusable** accessories for recovering GC+ is supplied as a compulsory item with the 1st order. It consists of :

- two special plugs: one Ø ¾" and one Ø 2" with dip tube to control filling of the recovery drum,
- a 25 m ring of flexible PVC hose Ø 10 X 14 to be cut to the desired length for the junctions,
- two clamps for Ø 10 x 14 flexible PVC hose.

This first set can be ordered separately at a later date.

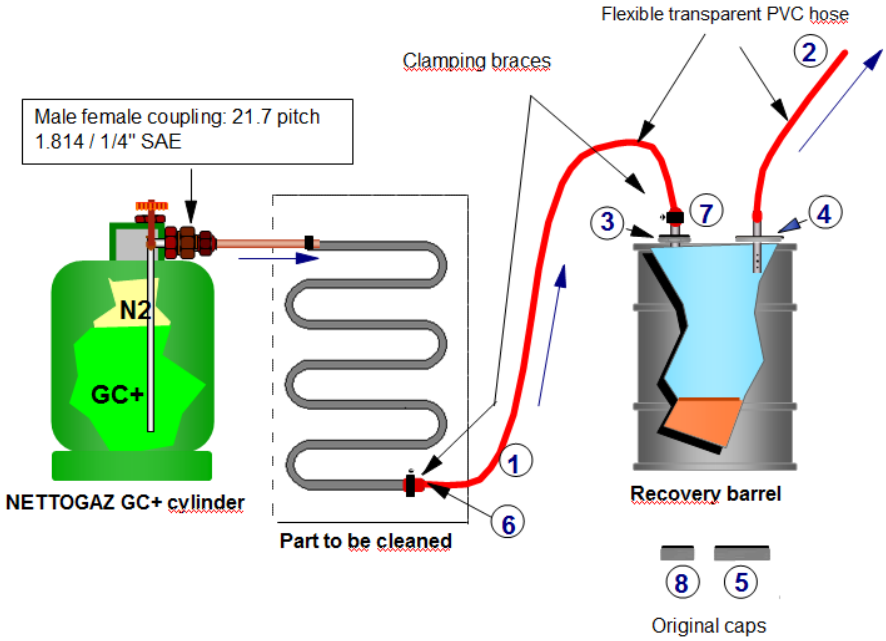
In the event of water contamination in the circuit, flushing with nitrogen is recommended before cleaning with NETTOGAZ GC+.

For industrial applications, please contact us.

INSTALLATION CLEANING PROCEDURE

Before starting, check that all plugs and clamping braces are fitted correctly.

USING NETTOGAZ GC+



- Connect the part to be cleaned with the liquid valve of the **NETTOGAZ GC+** cylinder.
- Connect the output of the part to be cleaned to the special plug (3) of the recovery drum with a suitable length of flexible PVC hose (1). Tighten the two extremities of the PVC hose using the clamping braces (5) and (6).
- Connect a length of the PVC hose (2) to the Ø 2" special plug (4) to evacuate any **NETTOGAZ GC+** fumes to outside of the room and into the open air.
- Let the **NETTOGAZ GC+** circulate by activating the circulation through pulsations obtained by quickly alternating opening and shutting the valve of the cylinder so as to create a "water hammer" effect on the fluid.
- The transparent PVC hose (1) allows the flow of the **NETTOGAZ GC+** to be monitored.
- Stop the circulation when the **GC+** is clear as it flows out of the circuit.
- Flush with anhydrous nitrogen without exceeding 10 bars of pressure to recover the **GC+** liquid present in the circuit.
- At the end of the liquid evacuation, reduce nitrogen pressure in order to avoid deformation of the barrel and vacuum pump the circuit. In order to make sure that all the **NETTOGAZ GC+** injected into the installation has been recovered check that the weight of the quantity recovered is equal to the quantity injected.

THE RECOVERY DRUM MUST NEVER BE COMPLETELY FILLED.
The level of liquid must never go over the extremity of the plunging hose on the special plug with a Ø 2" (4).

Cleaning

RECOVERY OF THE GC+ IS OBLIGATORY

The company that returns the **GC+** must complete a waste tracking document. The waste code for GC+ is the 140602 category.

It is obligatory to identify the recovery barrels with the Bristol card label provided that has been perfectly completed and **returned to the Climalife Groupe Dehon**.

QUANTITY OF GC+ TO USE

The approximate quantity of **GC+** can be extrapolated from the quantity contained at 20 °C in 1 linear meter of:

- 1/4' pipe ..... approx 40 g
- 3/8' pipe..... approx 90 g
- 1/2' pipe ..... approx 160 g
- 5/8' pipe..... approx 240 g
- 3/4' pipe.....approx 350 g
- 7/8' pipe.....approx 480 g
- 1 1/8' pipe.....approx 800 g
- 1 3/8' pipe.....approx 1200 g

PRECAUTIONS FOR USE

NETTOGAZ GC+ is non flammable.

Never clean the inside of a compressor with **NETTOGAZ GC+**.
Control components must always be cleaned separately and outside the **GC+** circuit.
It is recommended to clean each element of the refrigerant circuit separately.

Never pressurise the **NETTOGAZ GC+** with compressed air or oxygen.

GC+ vapours are heavier than air.
Ventilate workplaces by providing exhausts in the lower part of the premises and do not use this fluid in basements or cellars without making the necessary arrangements.

NETTOGAZ GC+ pressurised with nitrogen is regulated under the same conditions as refrigerants - Class 2 - Danger code 20.

Type: mixture of solvents pressurised with nitrogen.