



## Quick Inert Polymere

inerting set for small containers

Equipments included	Type	Other Information
1 case		Dim : 440 x 300 x 120 (mm)
1 Cap Quick Inert	Polymère	D maxi 70 mm H165mm
1 DYNAREG NF C	N <sub>2</sub> –from 1,5 to 100 l/min	SAP Code : xxxxxx
1 O <sub>2</sub> Analyzer	Oxygen Analyzer Electrochemical O <sub>2</sub> sensor	Model G1690
1 Flexible Hose+trigger	Spiral Flexible Hose	Diam 4x6mm Length 4m

## Warning

To preserve the quality of our product throughout its use in the best safety conditions, We recommend that you should read this user manual carefully and strictly follow the advice that contains.

Failure to follow instructions, or modification of the product may cause serious accidents or personal injury.

AIR LIQUIDE cannot be held responsible for any unapproved uses and incorrect handling.

Air Liquide reserves the right to make, without notice, any modifications deemed necessary to the specifications described below.

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# 1 General Informations

## 1.1 Safety

First of all, it is essential to read and follow the instructions described in the documents attached with the equipment.

Other technical files available :

- DYNAREG Food Air Liquide: User manual OP111
- Analyzer G1690 : Quickstart manual

Never use the equipment supplied for an application or a gas, other than that for which they are intended.

Before fitting flexible, to avoid any risk of falling , make sure that :

- The gas cylinders are fixed, on a flat floor
- Located in a ventilated location (protection against anoxia risks).

Never disconnect the flexible hose if :

- The cylinder valve is open.
- The flexible hose is under pressure.

Never tighten or loosen a fitting under pressure.

Always close or open valves slowly.

*We therefore decline all responsibility in the event of damage caused by a failure to comply with the information provided in this manual and by anything not referred to in it.*

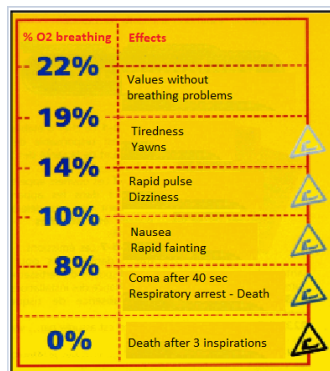
## 1.2 Conformity

Air Liquide certifies that this equipment has been manufactured, tested and inspected, according to the best practices of Air Liquide Design.

### 1.3 Anoxia

The use of inert gases such as nitrogen or argon requires precautions for use. An excess of gas in the ambient atmosphere of a closed room decreases the oxygen content and creates a risk of suffocation for operators.

The oxygen content for a breathable air must remain between 19 and 21%



It is therefore recommended to use equipment using inert gases in ventilated rooms (air renewal).

The installation of a fixed O<sub>2</sub> ambient detection or a portable ambient O<sub>2</sub> detector is strongly recommended for the protection of operators.

### 1.4 Warranty

The Warranty period for this equipment supplied by Air Liquide is one year, for parts and labor, excluding packaging and transport.

Excluded from warranty : spares parts, consumable parts, (seals, O<sub>2</sub> cell ... )

The warranties do not apply to damages resulting from bad use or arbitrary repairs, the use of parts not supplied by Air Liquide or not correct application of this user manual instructions.

For more information, refer to the general conditions of sale for Air Liquide products.

## 2 Characteristics and using rules

### 2.1 Use of equipments supplied

The DYNAREG :

To connect the hose to the Dynareg, it is necessary to remove the original outlet fitting

- Connected to the gas cylinder, the DYNAREG allows the gas stored under 200 bar to be released to a relative pressure of 3 bar.
- The flow rate can be adjusted from 1,5 to 100 l/min
- Before disconnecting the DYNAREG from the gas cylinder, be sure that the cylinder valve is closed and depressurize the flexible hose with the injection trigger.

Flexible hose and injection trigger :

- Once connected to the outlet of the DYNAREG (connection  $\frac{1}{8}$ " M), the flexible hose allows the transfer of the gas to the Quick Inert via the injection trigger (connection  $\frac{1}{4}$ " M).

Oxygen Analyzer:

- Screwed on the Quick Inert, the O<sub>2</sub> cell (Connection M16x100), allows the measurement of the O<sub>2</sub> content in the container during the gas injection. This O<sub>2</sub> cell is connected to the display unit (G1690) by an electrical cable.
- The display unit (G1690) is powered by 3 Alkalines batteries, It allows the display of the residual O<sub>2</sub> content in the headspace of the container. It allows, as well, the calibration of the O<sub>2</sub> cell when a drift of the O<sub>2</sub> content is observed under air measurement.

The Quick Inert cap :

- The Quick Inert allows injecting an inert gas into the headspace of a container. Its conical shape allows it to adapt to various neck diameters (from 20 to 70 mm).
- Gas injection is done through an orifice located at the end of the cone (diameter 4 mm), the internal atmosphere is purged and evacuated through the interior of the Quick inert, passing in front of the O<sub>2</sub> cell, for the measurement of the residual O<sub>2</sub> content. The gas flow rate must be adapted to the volume of the head space, to avoid projection of liquid product during injection.
- To avoid any projections it is also necessary to ensure that the extremity of the cone doesn't touch the liquid product.

## **2.2 Gases Specifications**

According to the application (Food, Pharma ... )

Nitrogen : ALPHAGAZ / ALIGAL / Industrial

Argon : ALPHAGAZ / ALIGAL / Industrial

Range of operating temperature : 0°C to +40°C

Maximum using pressure : 3 relative bar

Gas flow rate : 1,5 to 100 l/min

## **2.3 Compatibility / Using area**

All equipment supplied are planned to be used with the gases and in the conditions noted in the previous paragraph.

The Quick Inert is in no case intended to pressurize a container. It is strictly forbidden to lock the Quick Inert on the container, obstruct the vent hole and use this equipment with a pressure higher than 3 bar.

The Quick Inert must be handled manually and without fixing it on the container.

The Quick Inert is intended to inert liquid products, not flammable, for any other uses a specific analysis must be performed, in this case contact Air Liquide.

To avoid crossing pollution between two inerting of different products, we recommend to clean the conical cap of the Quick Inert with water and soap after each inerting operation. Never use corrosive or aggressive products to clean the polymer conical cap.

The Quick Inert is not suitable for the safety inerting of flammable products that can generate ATEX area.

## 3 Assembly - Implementation

### 3.1 Assembly

Before the connection to the gas cylinder, it is necessary to assemble all the equipments as in the following description

Connect the flexible hose and the trigger on the conical cap.  
(Connection  $\frac{1}{4}$ " M).

Screw the O<sub>2</sub> cell on the conical cap (Connection M16 x 100).

Do not over tighten, just put the O<sub>2</sub> Cell O-ring in contact with the conical cap. Too much tightening can damage the thread of the O<sub>2</sub> cell.

Connect the O<sub>2</sub> cell to the display unit with the electrical cable.

Put the 2 batteries in the display unit (Alkaline batteries AA).



### 3.2 Commissioning

- Before connecting the DYNAREG to the gas cylinder, make sure that the gas cylinder is properly secured with no falling risks, use a bottle trolley or a fixing rack.
- Connect the DYNAREG to the gas cylinder, never use tools to screw the DYNAREG - Do it manually.
- Before opening the gas cylinder, make sure that the DYNAREG flow is closed and all the Quick Inert equipment are correctly connected.
- Open slowly the valve of the gas cylinder, the pressure indicator on the DYNAREG shows the pressure in the gas cylinder.
- Open slowly the Flow of the DYNAREG, with a low flow of gas. To adjust a low flow of gas pull the trigger.
- Purge the flexible hose with brief actions on the injection trigger. (before putting the conical cap on the container)
- Before inerting operation, put the oxygen display unit ON, the indicator should display an oxygen content close to 21%, (20,9% under air).
- If this value is wrong, proceed to a calibration of the O<sub>2</sub> cell. To do the calibration follow instructions in the " G1690 Quickstart " manual.
- If after a calibration the value is still wrong, the O<sub>2</sub> cell is defective and must be changed . (See spare parts chap. 4-2)
- When the O<sub>2</sub> analyzer is OK, place the conical cap on the container.
- Make the gas injection with the trigger and adjust the flow according to the volume of the headspace. (small headspace = low flow of gas).
- For an extended shutdown of the Quick Inert use, always close the valve of the gas cylinder.

## 4 Maintenance

### 4.1 Maintenance

Quick Inert "Conical cap" : cleaning with soap and water do not use any corrosive products.

Material : Polymère UPX8400 from AXSON Technologie.

O<sub>2</sub> cell : the O<sub>2</sub> cell is a consumable whose lifespan could vary from 12 to 18 months, depending on the conditions of use.

It must be stored in a dry place at ambient temperature.

The Display unit G1690: is powered by 2 alkaline batteries (Type LR6 or AA)  
A charge indicator is visible on the screen of this equipment.

Flexible hose : this equipment needs a periodical visual control, according to the using conditions : (number of cycles of use, environment storage ... ) and it must be changed in case of premature deterioration. The service life of this flexible hose should never exceed 5 years.

Pressure regulator DYNAREG : The service life of this DYNAREG depends on its condition of use, we recommend changing this equipment after 5 years use.

### 4.2 Spare parts - Consumables

Spare parts :

DYNAREG NF C

Ref SAP

xxxxxx

Consumables :

O<sub>2</sub> cell Type I17

Ref SAP

202822

Analyzer batteries

Alkalines

LR6 ou AA

### 4.3 Faults

Equipment	Faults	Actions
Oxygen Analyzer	Analyzer displays incorrect value or no longer calibrates	Change the O <sub>2</sub> cell
	After a calibration the O <sub>2</sub> content must be between 20 and 21%.	Each new O <sub>2</sub> cell must be calibrated before use
	The analyzer does not turn on	Change batteries 2 Alkaline batteries AA ou LR6
DYNAREG	See technical file of DYNAREG	

## 5 Waste treatment

The Air Liquide Equipment must be eliminated or recycled according to the local country regulations.

All the wastes should be treated according to health and environment protection and their recycling regulations.

**Note :**

The O<sub>2</sub> cell must be treated as waste like the alkaline batteries provided with the O<sub>2</sub> analyzer (G1690).

Air Liquide Contact :

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