



# General assembly precautions

10/04

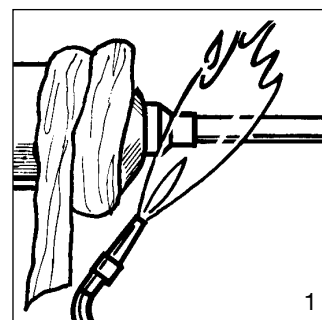
Installing a component on a refrigerating circuit requires precautions; some are specific to each component and in such a case, they are indicated in the “Recommendations” chapter of the concerned component’s technical documentation; others are common to all CARLY components and are expressed hereinafter.

## → COMPONENT INSTALLATION

- Check that the component and its packaging actually bear the references corresponding to the model selected;
- The components and the piping used must be totally clean, dry and sealed at ends, before their use; to that purpose, check that the components’ blanking plugs are always properly in place and remove them at the last moment only, just before installing them on the circuit;
- In order to prevent internal condensation phenomena, the components must be at a temperature higher than or equal to the ambient temperature, before being installed;
- When installing components containing replaceable elements: **BDCY, BCY, ACY, BBCY, BACY, HCYBF**, provide for the necessary room for their mounting and removal; this dimension is specified in the technical features table for the components concerned;
- The CARLY flanged components: **BDCY, BCY, ACY, BBCY, BACY, HCYBF, TURBOIL-F®, TURBOIL-RF®, FILTRY, VCYLS, VCYR**, contain removable parts (core holders, filtering elements, gaskets, etc...) that must imperatively be removed before soldering or brazing the connection piping;
- Most components have a specific mounting direction that must be complied with, taking into account the refrigerant flow direction indicated by the word “IN” engraved on the component's intake cover plate, and/or by an arrow printed on the tag;
- After each installation or replacement of a component, this component’s air-tightness and mounting on the circuit should be imperatively checked;
- Perform all recommended operations according to the art and to the intervention to perform: circuit rinsing, draining, air tightening, depressurisation, refrigerant load, etc...;
- The persons responsible for commissioning of CARLY components must ensure that these components will never be exposed to vibration stresses that could cause resonance. Such situation would definitely cause breakage that would be harmful for the installation.  
This monitoring must apply most particularly to “on-board” installations.

## → ASSEMBLY OF COMPONENTS WITH CONNECTIONS TO BRAZE

- Rigorously clean the internal and external fitting surfaces;
- Make sure that the chosen filler metal is suited to the materials and refrigerants used;
- For brazing of connections, use a wide-flame blowpipe; it should be adjusted so as to ensure quick and uniform heating of the connections and be oriented exclusively toward them; abnormal heating of the components’ paint can generate the formation of toxic fumes and cause severe lesions: brazing of components must only be performed in perfectly ventilated rooms.
- The component’s body must imperatively be cooled during brazing: with a humid cloth (sketch No.1), or with **CARLYCOOL** calories discharger (refer to chapter 95).



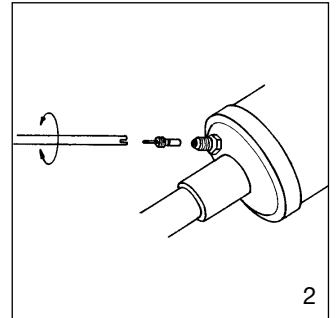


# General assembly precautions

## → ASSEMBLY OF COMPONENTS WITH CONNECTIONS TO BRAZE

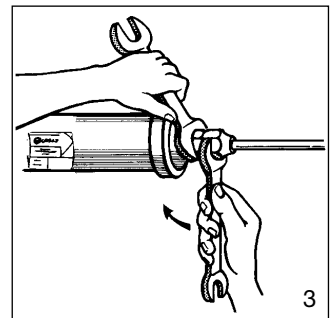
10/04

- Some CARLY components contain “Schrader” type access valves. In the case of brazed components, be careful to remove the internal mechanism of these valves before brazing, in order to preserve the built-in gasket (sketch No. 2)
- During brazing, use an inert protection gas inside the component (nitrogen for instance) in order to prevent the formation of copper oxide particles that are going to contaminate the circuit; the protection gas flow must preferably follow the direction of the product flow, in order to not damage sensitive internal elements (DCYs’ felt-glass filtrating medium, for instance);
- Eliminate by brushing the residues of brazing fluxes and the possible dirt present outside the heated surfaces;
- After cleaning, protect the heated surfaces of the steel connections, with paint or other types of anticorrosive protection (cold galvanizing for instance);
- Non compliance with these prescriptions can lead to irreparable damage to the components’ internal elements.



## → ASSEMBLY OF COMPONENTS WITH CONNECTIONS TO FLARE

- Systematically check the condition of the copper piping, in order to ensure good air tightness of the assembly; if copper gaskets are used, check their good positioning and replace them after each product removal;
- Tightening of connections to flare should imperatively be performed with two wrenches, positioned on the six faces of the connections, in order to prevent piping twisting (sketch No. 3);
- Comply with the tightening torque recommended in the “Recommendations” chapter for each component concerned;
- After each assembly, make sure there is no flutter of the piping.



## → USE OF CARLY COMPONENTS

- CARLY components are designed for use with HFCs, HCFCs, CFCs, as well as with their associated oils and additives; these are non hazardous refrigerants from group 2 of the Pressure Equipment Directive 97/23/EC;
- Each CARLY component should be carefully selected, in order to meet the requirements of the installation as specifically as possible. In order to do so, see the selection tables established for each family of CARLY components. The recommendations in these tables have been established for regular installations, without any specific requirements. For all other specific cases, it is imperative that you get in touch with CARLY’s technical services, or your distributor’s technical services;
- The refrigerants used are particularly expandable depending on the temperatures borne by the system. They can therefore generate very important pressure variations that depend on these temperatures and on the surfaces on which these pressures are exerted. Considering the mechanical and refrigerant thermodynamics laws, and in order to prevent all phenomena linked to hydrostatic forces, it is imperative to ensure that no part of the circuit and more specifically no component, particularly a filter drier, can, at any moment, be full of liquid without any safety element (valve, safety valve) to prevent overpressure higher than the maximum working pressure in this part of the installation. This recommendation is particularly applicable for installations using refrigerant sub-refrigerating technology. Non compliance with this regulation can lead to severe material and physical consequences.



# General assembly precautions

## → TREATMENT OF CONTAMINATED CIRCUITS

10/04

- On a highly contaminated circuit, particularly after compressor burnout, there is a risk of physical damage. Do not inhale the acid vapours and avoid direct contact of the contaminated refrigerant with the skin, particularly when replacing filtering and/or drying cores from shells;
- It is formally reminded that implementation of CARLY “intervention” components and more particularly those intended for decontamination of a circuit after compressor burnout, and located on the suction line: **NCY**, **FNCY**, **FACY**, as well as the interchangeable active elements, like **CCY N**, **CCY F**, or **CCY I** cores, must imperatively comply with the operating instructions specific to each component;
- These components must not be left on the circuit more than the exact time required for decontamination. This time of course depends on the level of contamination and pollution of the circuit. It should never exceed a few hours, for all components containing chemical, desiccant agents, acid neutralization agents and wax and varnish binding agents;
- The essential criterion to take into account is the pressure loss caused by the component. It is recommended to check very strictly and replace immediately any component that reaches a level of pressure loss disturbing the installation’s operation, a sign of the component’s saturation.

## → RECURRENT INTERVENTIONS

- Replace systematically synthetic air-tightness gaskets after each intervention that requires the opening of flanged components: **BDCY**, **BCY**, **ACY**, **BBCY**, **BACY**, **HCYBF**, **TURBOIL-F®**, **TURBOIL-RF®**, **FILTRY**, **VCYLS**, **VCYR**;
- Replace systematically air-tightness copper gaskets after each removal of the following products: **DCY-MF**, **VCYL**, **HCYCT**, **HCYCTR**, **HCVI**, **HCVVP**, **KRCY**;
- Regularly check the moisture content of the circuit, monitoring the colour of the sight glass moisture indicator, in order to take appropriate action - replace a filter drier for instance - before it becomes a cause of malfunction of the installation;
- Monitor the pressure losses of dehydrating, acid neutralizing and filtering components generally located on the liquid, suction and oil lines. Their contaminant neutralization capacities are by definition limited in time. The saturation and obstruction time depends on the contaminant types and amounts and depends of course on the capacity of the component selected;
- Systematically blank the used components after replacement, in order to prevent the possible running of refrigerants and refrigerating oils. Elimination of these components must follow the applicable local regulations.