

# SIMPLEX C

## EVACUATION & REFRIGERANT CHARGING EQUIPMENT



**GALILEO TP PROCESS EQUIPMENT S.r.l.**

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# Introduction

The machine **SIMPLEX C** has been designed to be used in any kind of assembly lines of cooling units (refrigerators, deep freezers, air conditioners etc...) **performing evacuation, leak test and refrigerant charge**. This system was born to meet the needs of small/medium production where the essential topics are:

1. Maximum flexibility /high performances
2. Easy handling/movable and low cost usage.

The **SIMPLEX C** can work with all kinds of CFC, HCFC, HFC and non flammable blends.

## Technical features

### Embedded control system

PC board GALILEO TP SGP32 V2 with microprocessor RISC 32 bit Freescale ColdFire® 5372L

### User interface

**LCD 4,8"** monochromatic • Display LCD 4.8" (320x240) with keyboard 29keys

e.g. screenshot:



### Vacuum line

The **SIMPLEX C** is equipped with a D12 m3/h double stage rotary vacuum pump, capable to reach a final vacuum of 1 x 10<sup>-2</sup> Pa (1 x 10<sup>-4</sup> mbar) with solenoid valves and Pirani sensor.

### Metering device

The **SIMPLEX C** uses the **GDC TECHNOLOGY**, the uncontested **Galileo Dosing Cylinder** metering device granting you the most accurate dose, the best reliability and the highest safety standards. The volumetric dosing cylinder it's a double effect one with a temperature sensor to measure the density of the gas injected.

### **Filler gun "C16"**

Manual filler gun multifunction with special polymer material body and ergonomic handle, with buttons for START and EXIT. The gun is equipped with a injection solenoid valve closed by the quick coupler in order to minimize any eventual leakages.



## **Main programmable process phases**

- ✓ Pre-evacuation
- ✓ Rise vacuum test
- ✓ Compression
- ✓ Refrigerant filling

## **Software features**

Two different privileged login levels with password:

- 1) Operator: working cycle access;
- 2) Maintenance/production/quality managers: diagnostics and programming access

### **Refrigerants programming**

You can set new refrigerants with a density in a range of 0-50 °C.

### **Language programming**

You can set your own language, the program includes: Italian, English, Chinese, Spanish, Portuguese and Russian. Others upon request.

### **Serial Communication**

You can choose the communication speed of the serial ports COM1 and COM2;

### Display calibration values

All calibrations parameters can be displayed

## Serial ports and interfaces

- ✓ COM1: serial port RS232 for barcode
- ✓ COM2: serial port RS232 for printer
- ✓ COM3: serial port RS485
- ✓ **Ethernet interface for software GEDA\* (Galileo Equipment Data Acquisition) and/or data report to the PC.**

## GEDA management software

\*The **SIMPLEX C** comes with a complete integration with the **GEDA** system for data acquisition and statistics, remote programming as well as external supervision of the line:

- Cycle reports sent directly from the machine to your computer (always updated) in real time;
- Possibility to program the machine from the computer and vice versa;
- Working cycle start inhibition;
- Search by bar code reader, date and time or by model of machine;
- Production/maintenance/quality queries (alarm, cycles, failed pieces, passed pieces etc...);
- Possibility to print all information and report displayed;
- Possibility to export the cycle report to other programs like Office Excel;
- SQL interface;

## Available models and accessories

Models	No. Injectors	No. Dosing systems
SIMPLEX C	1	1
SIMPLEX B (WITH CHARGING TANK ON BOARD OF MAX DIMENSION DIAM.320MM X H 780 MM)	1	1

Upgrade accessories list:

- Hand-held bar code laser reader (cable or wireless)
- Kit 3/8" connection
- 5 meters injector hose
- Light tower
- Kit interface I/O for process line
- Mini printer and much more

# Data sheets

No. filling injectors	<b>1</b>
Length filling hose	<b>3,5 m (others upon request)</b>
No. Programmable cycles	<b>10 (more upon request)</b>
Connections	<b>¼" Hansen™ female quick coupler,</b>
No. Dosing systems	<b>1</b>
Metering device	<b>Double effect dosing cylinder</b>
No. Programmable bar codes	<b>1000 (more upon request)</b>
Units of measurement:	
Weight	<b>g, oz</b>
Vacuum	<b>Pa, µHg, mbar</b>
Pression	<b>kPa, psi, bar</b>
Temperature	<b>°C, °F</b>
Vacuum pump	<b>Double stage, 12 m<sup>3</sup>/h (others upon request)</b>
Final vacuum	<b>&lt;1x10<sup>-2</sup> Pa (1x10<sup>-4</sup> mbar)</b>
Dimensions (HxLxW)	<b>1350x600x570 mm</b>
Weight	<b>100 kg</b>
Working temperature	<b>1 ÷ +49 °C</b>
Electric power supply	<b>Δ 200 ÷ 230 / Y 380 ÷ 415 V    50 Hz 3 Ph</b> <b>Δ 200 ÷ 230 / Y 460 V         60 Hz 3 Ph</b> <b>(others upon request)</b>
Power consumption	<b>550 W</b>
Compressed air	<b>500 ÷ 700 kPa (5÷7 bar)</b> <b>The air must be filtered and dehumidified 20µ</b>
Noise level	<b>&lt; 70 dB (A)</b>
Refrigerants	<b>CFC, HCFC, HFC, non flammable blends</b>
Refrigerants supply pressures	<b>1000 ÷ 2000 kPa (10 ÷ 20 bar)</b> <b>max 2500 kPa (25 bar) with compressed air max 5 bar</b>
Programmable dose	<b>5.0 ÷ 99999.9 g</b>
Accuracy (<200 g)	<b>±1.0 g (@ 20 bar refrigerant e 6 bar compressed air )</b>
Accuracy (>200 g)	<b>±0.5 % (@ 20 bar refrigerant e 6 bar compressed air )</b>
Maximum charging speed	<b>Up to 25 g/s</b>

*\*data subject to change*

***Built in compliance with the Machinery Directive 2006/42/EC, Low Voltage Directive 2006/42/EC, Directive on Electromagnetic Compatibility 2004/108/EC.***