Vacuum, gas tracer and pressurization units & Leak detectors

iAmiata

Vacuum | Pressurization | Step Pressurization | Strength Test + | Leak test + | Barcode +

Vacuum, tracer gas (N2 or He) mixtures and pressurization unit

iAmiata is a bench station for mixing Helium and Nitrogen gases and creation of test leaks with rising vacuum, pressure decay and point to point micro leaks detections.

iAmiata has been designed specifically to perform pressure tests and leak tests of refrigerating units with the use of inert gas or tracer gases such as helium or nitrogen/hydrogen, according to the ISO 10156 Standard; before the charging of the test gas it is possible to perform a vacuum cycle so to get a first cleaning of the unit and to make a preliminary sealing test.

iAmiata is ideal for the tracing of leaks from components and refrigerating units, on production lines for any kind of appliance, wherever a pressure test or/and a trace gas leak test is required.

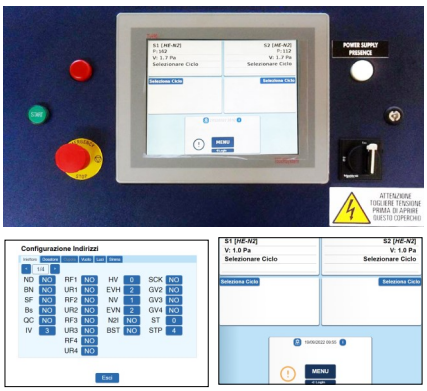
iAmiata can be easily interfaced with the Inficon and Pfeiffer Leak detectors, with complete control of the main functionalities, configuration and report of the leak test over the relevant copper circuits.

iAmiata for pressure stress test

iAmiata connected to leak detector

iAmiata

Touch screen machine Controller



Connections

Functional Characteristics:

- High versatility and portability thanks to compact design
- Maximum test pressure 55 bar
- Digital gauges for pressure and vacuum measurement
- Integrated pneumatic vacuum pump (5,2 m^3/h capacity)
- Setting of working cycle parameters, monitoring and printing test reports by connecting to an external PC
- Bar code reader (optional)
- Microprocessor controlled
- Up to 1000 programmable working cycles
- Reporting of the sub cycle in progress
- Built in agreement to the European Machinery Directive, Safety standards CE marked

iAmiata General Technical Characteristics	
Tracer gas/mixtures	He or N2 / He & N2 blend
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Pressure Sensor resolution	1 kPa
Connection to the unit to be tested	¼" Hansen F (ISO 7241B), ¼" SAE at request
Vacuum pump capacity	Integrated pneumatic depressor 5,2 m^3/h; DN16KF flange for connection to ext. vacuum pump
Programmable work cycles	Up to 1000
Safety valve security setting	63 bar, configurable at request
Control unit	TS690
Working temperature	from 5 °C to 45° C
PC Connection	LAN
Compressed air supply	6 ÷ 7 bar not lubricated
Power Supply	400 V @ 50 Hz – 3ph + GND
Power Consumption	0,7 kW
Dimensions (L x W x H) **	850 x 560 x 1400mm
Weight	~150 kg

* The provided unit could not exactly match the one described here

* * IAmiata TT has a different dimension

Optional features and devices
DCA (Data Collector Application over TCP/IP protocol)
Available up to 4 Mixture pressurization Systems and 2 Vacuum Pumps
Automatic working cycle selection performed by bar code reader
On-Board printer
Obstructed vacuum group test and/or capillary test
iAmiata UNO -1 Special configuration without Vacuum Pump

* FT software department develops customized software on request

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Vacuuming

The iAmiata machine generally is equipped with the vacuum pump that allows vacuuming to be performed on a unit under test.

Through vacuuming unwanted air and gases are extracted from the circuit being processed, it also allows any moisture present to evaporate and be extracted as gas by the vacuum pump.

Vacuuming generally is preparatory to beginning processing on a unit under test, but it can also be omitted depending on the state of the circuit under test.

iAmiata Uno TT (Table top unit) Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 2
Vacuum/Pressurization System	1 Injection System
Flowmeter	1
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request
Dimension	560 x 420 x 300 mm

iAmiata Uno Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 2
Vacuum/Pressurization System	1 Injection System
Flowmeter	1
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

Pressurization

Pressurization is the function that allows a circuit to be loaded with a drawn mixture at a certain user-configurable pressure. Then the machine automatically assesses the presence of leaks through the pressure drop test, and following this, if properly configured, leak detection can be carried out through an Inficon P3000 and P3000XL leak-detector.

the pressure input from the capillary, then it is possible to say that the capillary is not obstructed and place the test OK.

This function can only be enabled by the user if the Hardware is equipped with the corresponding pressure and control valve. Please contact FT technical department for more information.

iAmiata Due Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 2
Vacuum/Pressurization System	2 Injection System
Flowmeter	2
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

iAmiata Quattro Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 4
Vacuum/Pressurization System	4 Injection System
Flowmeter	4
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

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Stress Test in iAmiata ST1

The Stress Test function belongs only to the iAmiata ST machine.

The purpose is to test the tightness of the high circuit, low circuit and the separation valve by loading nitrogen simultaneously on both sides of the circuit.

The high and low circuits are pressurized at different pressures, and this difference must always be monitored and controlled so that a safety differential cannot be exceeded.

Then the machine automatically assesses the presence of leaks through the pressure drop test, and to follow, if properly configured, a pressurization phase and leak detection can be carried out through a leak detector from the Inficon P3000 and P3000XL family.

iAmiata ST1 Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 2
Vacuum/Pressurization System 1 Injection System Strength-Test	1 Injection System
Flowmeter	2 (1 for High P and 1 for Low P)
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

iAmiata ST2 Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 4
Vacuum/Pressurization System 2 Injection System Strength-Test	2 Injection System
Flowmeter	4 (2 for High P and 2 for Low P)
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

Capillary monitoring in iAmiata CBT

The capillary check function allows, prior to the pressurization stage, to tell whether the capillary is clogged. Two pressure sensors must be present in the machine to perform this test.

The circuit is pressurized only on the capillary side; then the sensor on the low-pressure circuit is monitored. If the pressure readout has the same value as the pressure input from the capillary, then it is possible to say that the capillary is not obstructed and place the test OK.

This function can only be enabled by the user if the Hardware is equipped with the corresponding pressure and control valve. Please contact FT technical department for more information.

iAmiata Uno CBT1 Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 2
Vacuum/Pressurization System 1 Injection system with capillary obstruction test	1 Injection System
Flowmeter	1
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

iAmiata CBT2 Technical Characteristics	
Tracer gas/mixtures	2
Injectors	Min 4
Vacuum/Pressurization System 1 Injection system with capillary obstruction test	2 Injection System
Flowmeter	2
Injector Length	3,5 m, Different length is available on request
Maximum Test pressure	55 bar
Safety valve security setting	63 bar, configurable at request

* FT software department develops customized software on request