FV-C SERIES

LABORATORY REFRIGERATORS

Temperature Range from +2 °C to +15 °C

FV10C1A

FV15C1A

FV20C1A

FV25C1A

FV30C1A

FV45C1A

FV52C1A

FV70C1A

FV140C2A

INTENDED USE

The appliance is designed for the preservation of laboratories and medical products, at a set temperature, for which continuous monitoring and warning are required whether sudden alterations of temperature occur.

In particular:
– Medicines
– Laboratory samples
– Thermo-sensitive chemical reactants (not inflammable)

CONSTRUCTIVE FEATURES

EXTERNAL

External structure made of hot galvanised steel non-corrosive and non-toxic, coated with white PVC.

INTERNAL

Internal structure made of polished stainless steel AISI 304, with rounded edges for easy cleaning.

INSULATION

Insulation thickness of 60 mm, for optimum preservation of the product and energy savings. Isolation achieved by injecting high density polyurethane foam (ecological), CFC-free.

DOOR

Solid door with automatic closing by spring return, with a key lock and magnetic seal on all four sides to ensure a perfect hermetical sealing. Single-door models are equipped with hinges for door opening on right side (possibility to indicate left side when ordering). The opening for single-door models is from left to right, while the FV140C2A model has the opening from the centre.

REFRIGERANT GAS

R290 - Ecological refrigerant gas CFC-free.

POWER SUPPLY

Single phase 230 V – 50 Hz / (*) Single phase 230 V – 60 Hz available on request.

TABLE 1	FV10C1A	FV15C1A	FV20C1A	FV25C1A	FV30C1A	FV45C1A	FV52C1A	FV70C1A	FV140C2A
Gross Volume (L)	100	150	200	250	300	450	520	700	1400
Temperature Range (°C) Minimum/Maximum	+2 / +15	+2 / +15	+2 / +15	+2 / +15	+2 / +15	+2 / +15	+2 / +15	+2 / +15	+2 / +15
Default Set Temperature (°C)	+4	+4	+4	+4	+4	+4	+4	+4	+4
Dimensions LxDxH (cm)	60x60x86	60x60x136	60x60x156	60x60x176	60x60x196	70x80x184	70x80x204	70x80x199	140x80x199
Self-closing doors	1	1	1	1	1	1	1	1	2
Insulation thickness (mm)	60	60	60	60	60	60	60	60	60
Supply Voltage (V) (*)	230	230	230	230	230	230	230	230	230
Power Consumption (W)	245	245	245	360	360	336	336	260	490
Net Weight (Kg)	73	76	85	93	104	121	129	137	164
Refrigerant GAS	R290	R290	R290	R290	R290	R290	R290	R290	R290

STANDARD EQUIPMENT

Depending on the specific model, the internal chamber space is made up of anti-tip smooth shelves in stainless steel AISI 304 (mounted on rails and adjustable for height), or completely removable drawers in polished stainless steel AISI304 with the front in Perspex.

All of the units have four unidirectional wheels (six for FV140C2A) and two adjustable feet, locks with key for each single door, a detachable power cord with Schuko plug (british plug on request), a fuse (10 A).

The electronic control panel is specifically designed to be user-friendly and indicate alarm conditions in an easy and intuitive way.

Equipment settings and switching off are only allowed by means of password.

A RFI filter is implemented on the electric circuit to reduce the electromagnetic interference that each electronic device tends to emit.

The standard equipment is then completed by a potential-free contact for remote alarms and a data-logger with USB port for data downloading (USB pen drive is not included).

TABLE 2	FV10C1A	FV15C1A	FV20C1A	FV25C1A	FV30C1A	FV45C1A	FV52C1A	FV70C1A	FV140C2A
Number of default shelves (max)(*)	2 (2)	2 (3)	3 (4)	4 (5)	5 (6)	3 (4)	4 (5)	4 (6)	4+4 (7+7)
Number of default drawers (max)(*)	0 (2)	0 (3)	0 (4)	0 (5)	0 (6)	0 (4)	0 (5)	0 (6)	0+0 (7+7)
Defrosting with evaporation of condensate water	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC	AUTOMATIC
Vaporisation	VENTILATED	VENTILATED	VENTILATED	VENTILATED	VENTILATED	VENTILATED	VENTILATED	VENTILATED	VENTILATED
Lock with key	1	1	1	1	1	1	1	1	2
Data-logger	✓	✓	✓	✓	✓	✓	✓	✓	✓
Potential-free contact for remote alarms	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB port for data download	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wheels and locking position system	4 wheels 2 feets	4 wheels 2 feets	4 wheels 2 feets	4 wheels 2 feets	4 wheels 2 feets	4 wheels 2 feets	4 wheels 2 feets	4 wheels 2 feets	6 wheels 2 feets

(*) - The reported data are to be considered for a configuration exclusively arranged with drawers or shelves.

FUNCTIONAL CHARACTERISTICS

CONTROL SYSTEM

Digital control panel with mono-chromatic LCD display (57 x 24 mm) and soft-touch user interface. Temperature display for continuous monitoring. Microprocessor temperature control via PT1000 sensor.
Available languages: ITALIAN, ENGLISH, FRENCH and SPANISH.
Seven audible and visual alarms:
– High temperature with an adjustable threshold
– Low temperature with an adjustable threshold
– Open door
– Condenser cleaning
– Probes defective
– Power failure
– Backup battery error
Internal memory capacity: 4 MB – up to 46.000 data record downloadable by USB key.
The last 20 alarms recorded can be seen on the LCD display.
The control functions are determined by the available password level in order to prevent unauthorized settings of the unit (3 password levels - user / technical support / factory).

COOLING CIRCUIT

Silent hermetic closed circuit compressor with thermal protection and a condenser system cooling fins, equipped with a fan motor with a spiral fan (suitable for tropical climates). The evaporator is ventilated with forced air.
The ventilated evaporator is with cooling fins and equipped with a motor with a spiral fan.The forced air circulation system, inside the refrigerated cabinet, keeps temperature uniform. When the door is opened the fan motor will automatically stop to prevent the cold from escaping and excessive condensation inside the refrigerator.

DEFROST

Completely automatic with evaporation of condensate defrost cycle.

ILLUMINATION

Made by vertical LED with high energy saving for the correct illumination of the entire positive compartment height. Activated automatically by opening the door or manually by means of a dedicated key on the control panel.

AVAILABLE OPTIONS

– Smooth shelves made of stainless steel AISI304 for easy cleaning of surfaces
– Completely removable drawers made of polished stainless steel AISI304 with the front side made in Perspex
– Dividers made of Perspex to improve the management of the samples stored inside the drawers
– Kit with four castors and two front brakes kit to improve the movements of the unit
– Chart recorder with weekly temperature recording system (supplied with di 52 discs and 1 pen)
– Pass through hole of Ø25 mm for the introduction of external probes to be used as validation references
– GSM module for reporting of date, time, temperature and alarm type via SMS (up to a maximum of 3 phone numbers)
– LAN port for remote monitoring of the unit
– 12 V backup battery for temperature visualization and alarms acquisition up to 48h without power connection
– Safety thermostat +2°C DIN58345 compliance for the refrigerator
– Schuko socket inside the positive compartment for connection of electronic instrumentation