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FreyGen ALF

IVFtech
for the next generation

FreyGen ALF 4 and 6 chamber incubators

The FreyGen ALF IV and VI incubators are designed to protect IVF samples and to ensure optimal growth conditions by providing:

- Stable, clean, and turbulence-free atmosphere
- Constant and uniform temperature control – including quick recovery times
- Stable and accurate control of gas levels (CO₂ and O₂) – including quick recovery times
- Constant alarm monitoring of critical parameters



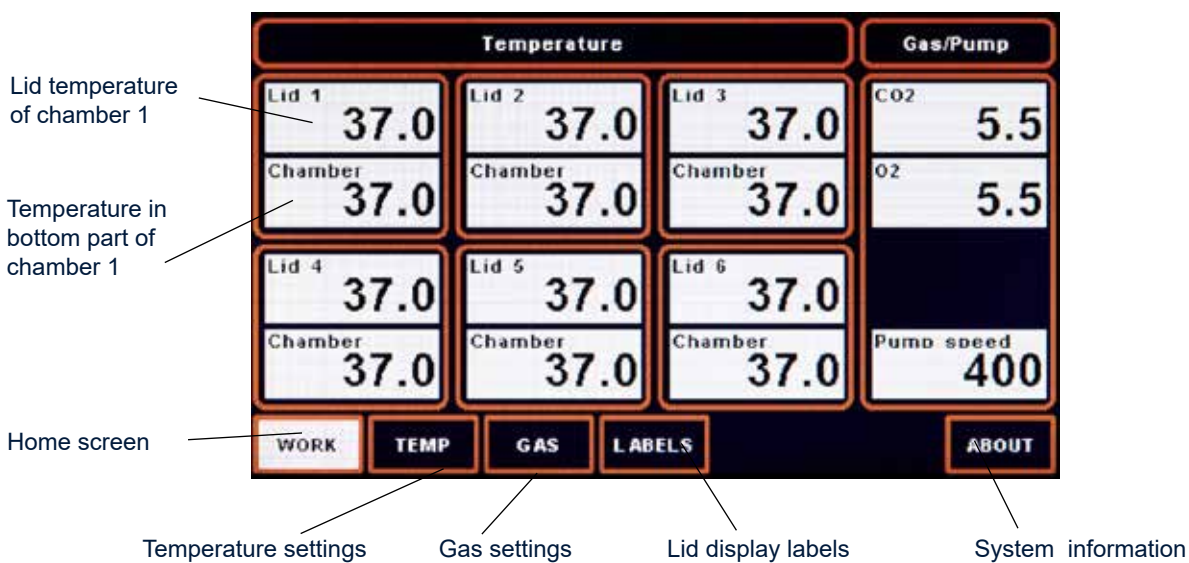
The FreyGen ALF key features include:

- Stable and safe embryo environment
- Alarm feature – including possibility of external alarm monitoring
- Datalogging feature
- Built-in mixing chamber with CO₂ and O₂ sensors that constantly ensures an optimal gas mixture with CO₂ and N₂ input gas – no need for premix gas
- Low gas consumption
- Dedicated gas sampling ports for each chamber
- Clean environment ensured by HEPA & VOC filtered air stream
- Very easy to replace the HEPA & VOC filter
- Easy and intuitive touch screen user interface
- Individual target settings for temperature and gas control
- Easy offset adjustment (calibration) for temperature and gas levels
- Individually heated chambers – individually heated bottom and top pads for maximum temperature stability
- The digital lid displays both lid and chamber temperature and can display patients details
- Each chamber can accommodate 4 (60mm) Dishes or 8 (38mm) Mini Dishes. The trays/inserts can accommodate all major dish brands.
- Medical grade sealing of each chamber protects the samples
- Effortless cleaning due to advanced surface treatment of chambers – this ensures a spotless working environment
- Low steady state power consumption
- Preparation for external pH monitoring (optional)
- Removeable trays/inserts for transportation and ease of cleaning.
- Removable lids for ease of cleaning
- Chambers are independently gas supplied to avoid contamination between chambers
- Easy locking system



Easy and intuitive touch screen user interface

The incubator is controlled from the touch screen on the front of the incubator. The touch screen is easy and intuitive to use. From the touch screen, you can constantly observe the currently measured temperatures and gas levels.

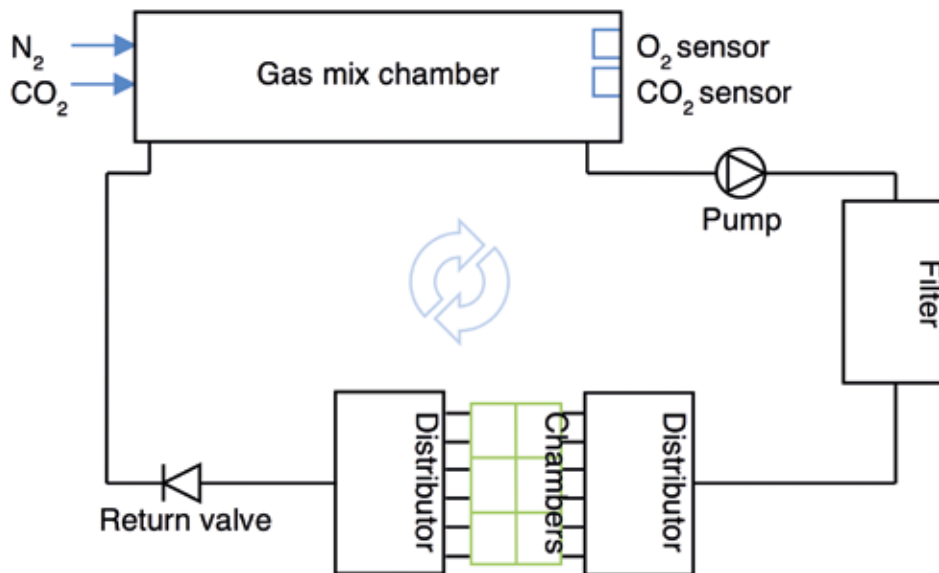


From the touch screen, you can also easily control the following parameters:

- Target temperature settings can be individually adjusted for the top and bottom of each chamber
- The CO₂ and O₂ gas levels can be adjusted
- The offset for gas and temperatures can be adjusted
- You can enter patients details in each lid display
- You can gain information about your specific incubator, e.g. serial number
- You can enable/disable and acknowledge specific alarms

The incubator uses CO₂ and N₂ gas. The design of the FreyGen ALF ensures an extremely stable and uniform gas distribution. The system furthermore has a quick recovery time. This is ensured by the implementation of:

- A closed loop gas system (illustrated below for a 6-chamber incubator)
- A carefully designed mixing chamber with CO₂ and O₂ sensors
- An internal pump and fan
- Automatic shutdown of the pump when a lid is opened



The FreyGen ALF uses a high efficiency HEPA & VOC filter that is tested and manufactured according to cGMP and ISO 9001/13485. This ensures the purity of the gas in the incubator loop system. The HEPA & VOC filter is placed directly behind the front cover. The filter is thus very easy to replace

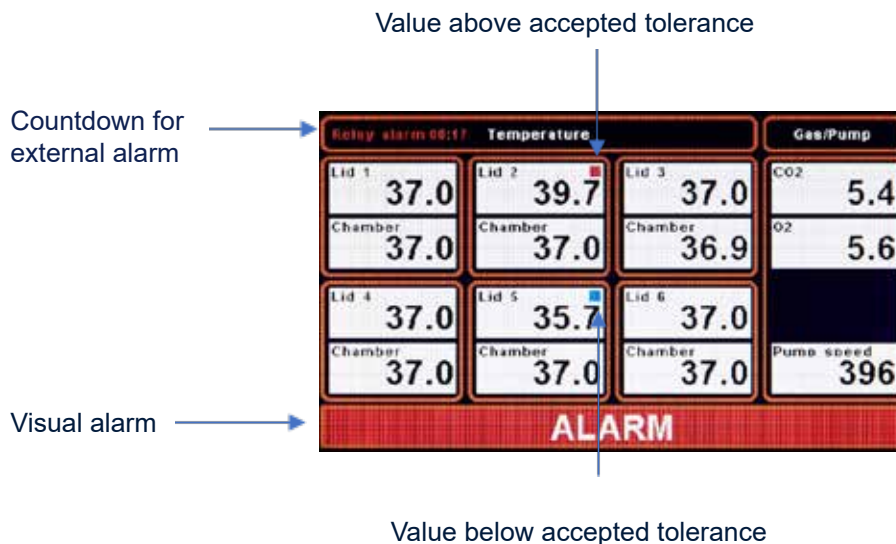


Constant alarm monitoring

The built-in sensors constantly monitor the state of the incubator. If any of the key parameters exceeds the accepted tolerances, a visual and acoustic alarm is turned on. The alarm is triggered by the following events:

- One or more temperature levels exceeds the accepted tolerance
- One or both gas level exceeds the accepted tolerances
- The pump speed exceeds the accepted tolerances
- A lid has been open for more than 10 seconds

The visual alarm is shown in the lower part of the touch screen interface. The alarms can be disabled and/or acknowledged on the touch screen interface.



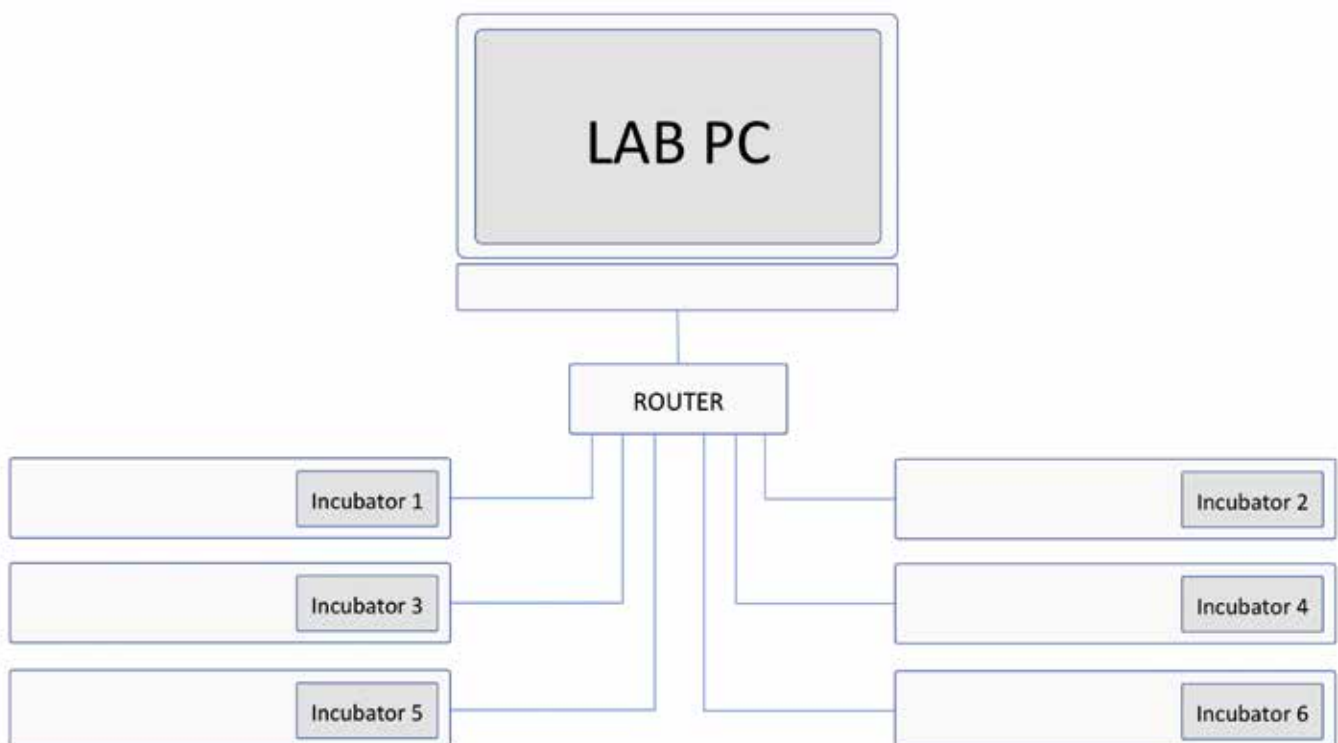
For additional safety, the incubator can also be connected directly to an external alarm monitoring system of the relay type. This allows the user to gain constant information about the state of the incubator. The external alarm system will also warn the user in case of a power cut to the incubator.

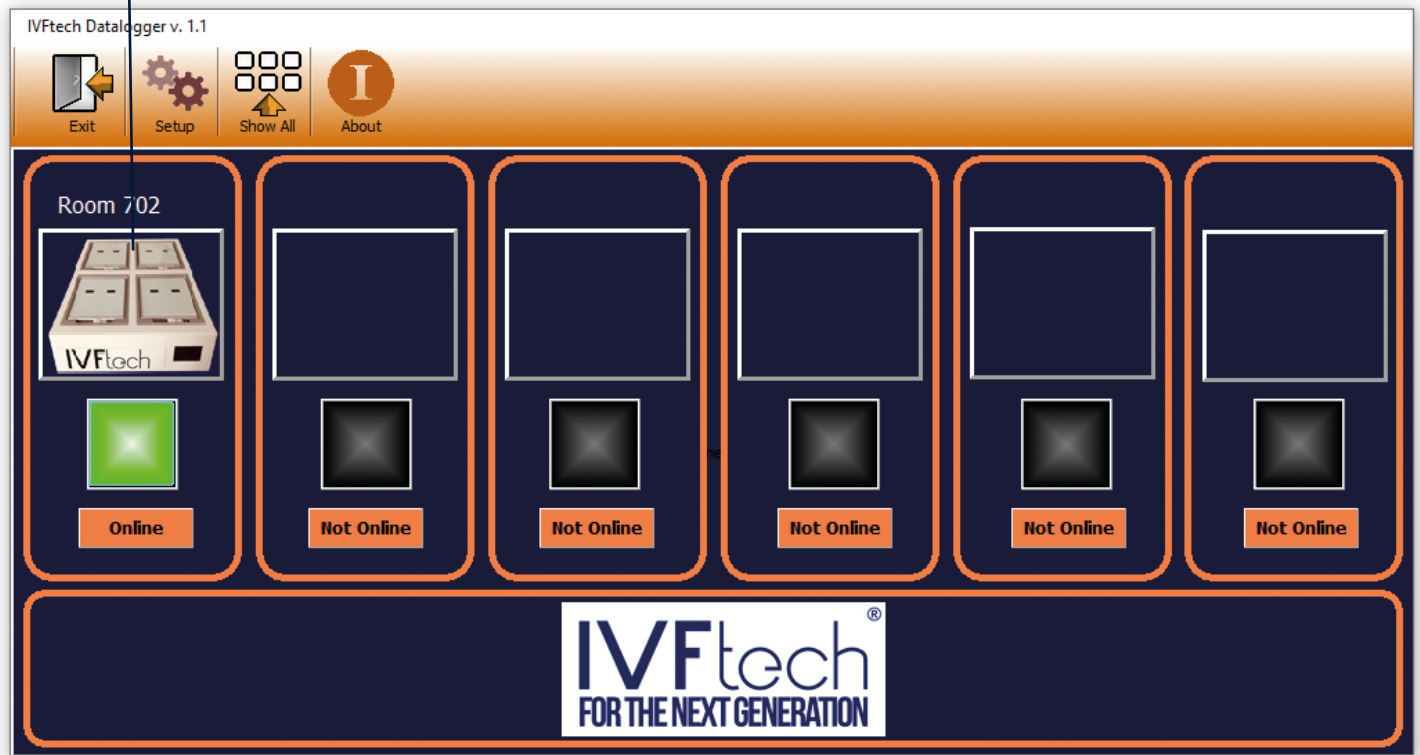


A dedicated Data logging system has been developed for the latest generation of our FreyGen ALF incubator.

The system has following advantages:

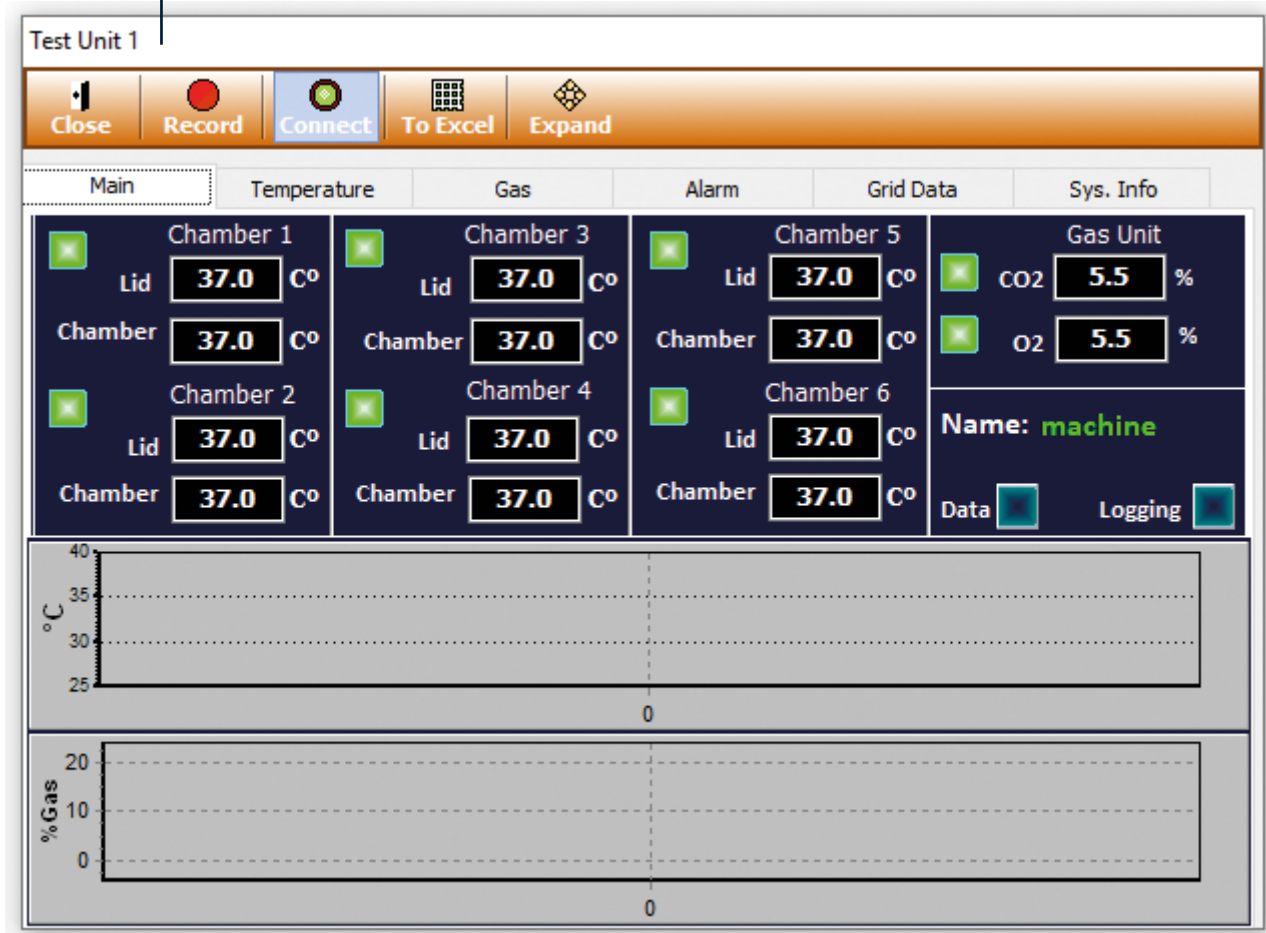
- Datalogging on a dedicated PC with Windows 10Pro
- Safe data collection in a closed Ethernet environment
- Possibility for emails when events happen in the laboratory
- IVFtech developed application for collection of data
- One PC can connect up to 6 incubators
- Support for 4 - 6 chambers
- Standard router used to connect devices





Overview Screen

- Green: All parameters are OK
- Yellow: One or more are out of specified limits
- Red: The machine has lost its connection to the logger SW

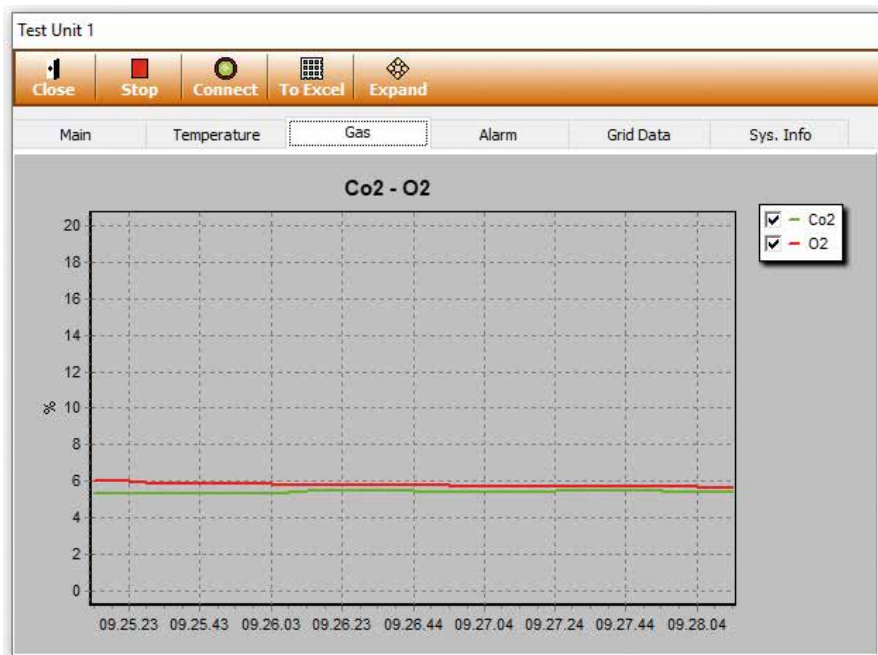


Individual overview

- Temperature of lid + chamber
- CO₂ + O₂ level of machine
- Graphs showing last 4 hours
- Scrollable graphs for history data

Machine data details

- Precise data for up to 4 hours for gas + temperature
- Scrollable graphs with historic data
- Enable and disable of individual data for better overview
- Zoom in/out on data



Room 702

Close Stop Connect To Excel Expand

Main Temperature Gas Alarm Grid Data Sys. Info

Date-Time	Lid 1	Cha 1	Lid 2	Cha 2	Lid 3	Cha 3	Lid 4	Cha 4	Lid 5	Cha 5	Lid 6	Cha 6
04/03/2019-14.30.11	36.5	30.8	36.3	30.8	36.5	30.5	36.4	30.4	36.4	30.6	36.5	30.8
04/03/2019-14.30.20	36.5	30.9	36.4	30.9	36.5	30.6	36.4	30.5	36.4	30.7	36.6	30.9
04/03/2019-14.30.30	36.5	31.0	36.4	30.9	36.5	30.7	36.4	30.5	36.4	30.7	36.6	30.9
04/03/2019-14.30.40	36.6	31.1	36.4	31.0	36.5	30.8	36.5	30.6	36.5	30.8	36.6	30.9
04/03/2019-14.30.50	36.6	31.1	36.4	31.1	36.5	30.9	36.5	30.7	36.5	30.9	36.6	30.9
04/03/2019-14.31.00	36.6	31.2	36.5	31.2	36.6	30.9	36.5	30.8	36.5	31.0	36.7	30.9
04/03/2019-14.31.10	36.6	31.3	36.5	31.2	36.6	31.0	36.5	30.8	36.5	31.0	36.7	31.0
04/03/2019-14.31.20	36.7	31.3	36.5	31.3	36.6	31.1	36.6	30.9	36.5	31.1	36.7	31.0
04/03/2019-14.31.30	36.7	31.4	36.5	31.4	36.6	31.1	36.6	31.0	36.6	31.2	36.7	31.1
04/03/2019-14.31.40	36.7	31.5	36.6	31.5	36.6	31.2	36.6	31.1	36.6	31.3	36.7	31.1
04/03/2019-14.31.50	36.7	31.6	36.6	31.6	36.7	31.3	36.6	31.1	36.6	31.3	36.7	31.1
04/03/2019-14.32.00	36.7	31.7	36.6	31.6	36.7	31.4	36.6	31.2	36.6	31.4	36.8	31.1



IVFtech FreyGen ALF IV-VI	4 chambers	6 chambers	Unit
Dimensions (WxDxH)	560x660x137	830x660x137	mm
Product weight ¹	36.5	57.2	kg
Shipping dimensions (WxDxH)	1050x840x340		mm
Shipping weight	80	100	kg





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