

Independent CO₂ and O₂ Monitoring

by IKS International



XILTRIX

REGISTRATION | MONITORING | ALARM SYSTEM

IKS International has recognized the importance of independent CO₂ and O₂ monitoring many years ago. For more than two decades IKS International has been researching and developing a system that can independently monitor the CO₂ and O₂ concentration, not by measuring inside the incubator, but by transporting a gas sample to a centralized substation. Here the gas sample is analyzed by an accurate CO₂ or O₂ sensor.

This research has resulted in a very sophisticated system that is capable of monitoring 16 separate CO₂ or triple gas incubators simultaneously with 20 minutes intervals. Furthermore it is possible to automatically calibrate the substation's sensor using outside air for a zero value and a calibration bottle with pre-mix gas as a span value. This way it allow XiltriX to detect the drift of the CO₂ and O₂ sensor and automatically adjust the measurements of the devices accordingly.

The system works trough a vacuum pump together with a specially designed manifold system. Every 20 minutes a sample is taken automatically out of every CO₂ or triple gas incubator and sent through the infrared CO₂ and O₂ sensor. The sensor is calibrated automatically using a week program which is user adjustable.

The sample is dried by a humidity trap which operates using demi water. The water is protected from algae growth by using copper sulfate.

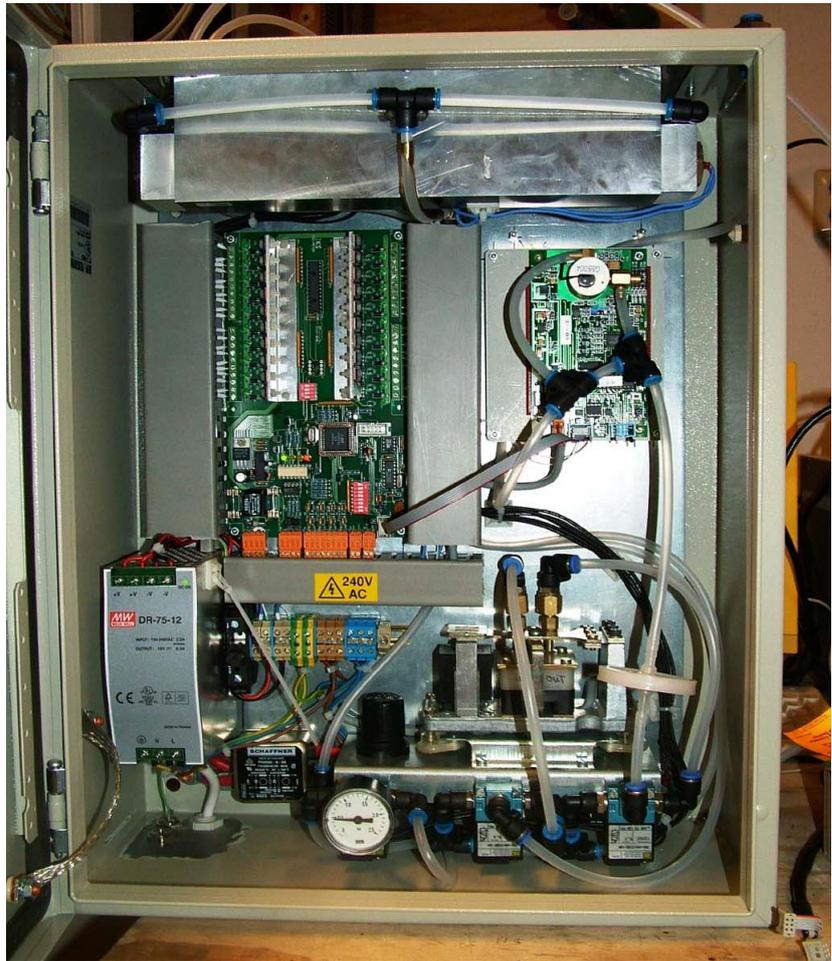


Fig. 1: The CO₂ substation.



Fig. 2: The humidity trap.



Fig. 3: The specialized valve operated manifold system.

After the sample has been measured the value is sent to the XiltriX® software and is treated like any other measuring value. In the software it is possible to set day or week evaluation programs. These programs allow the user to work comfortably during the day and to tighten the alarming during night time.

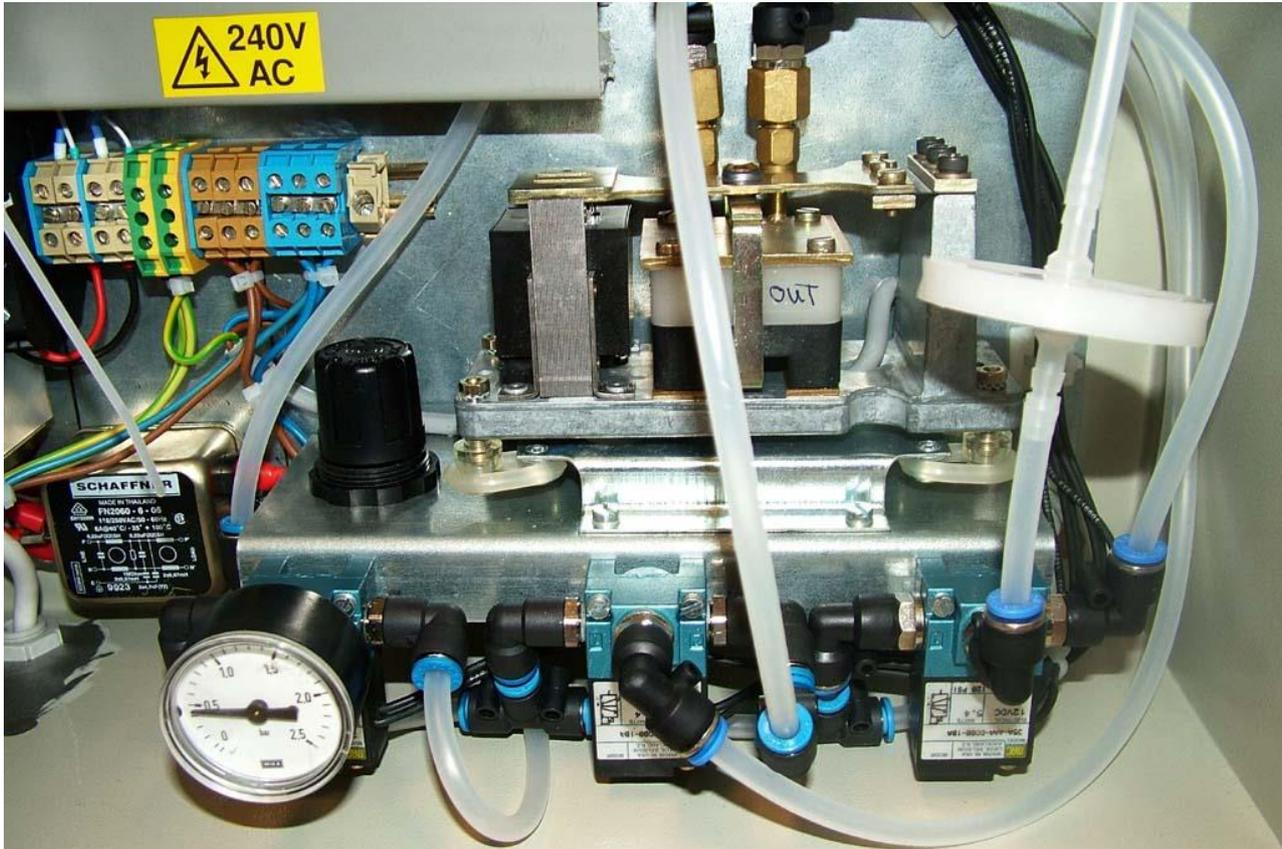
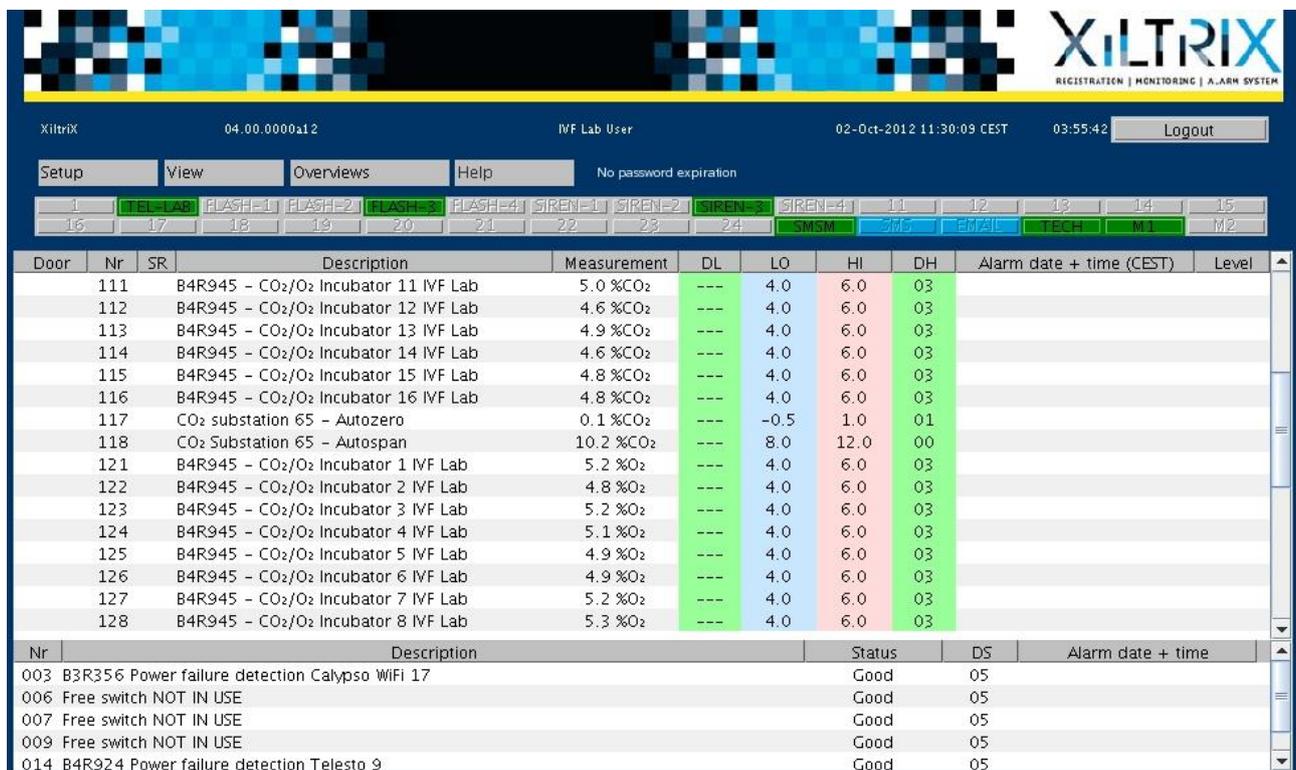


Fig. 4: The small valve bank for the calibration gas.



Door	Nr	SR	Description	Measurement	DL	LO	HI	DH	Alarm date + time (CEST)	Level
111	B4R945	-	CO ₂ /O ₂ Incubator 11 IVF Lab	5.0 %CO ₂	---	4.0	6.0	03		
112	B4R945	-	CO ₂ /O ₂ Incubator 12 IVF Lab	4.6 %CO ₂	---	4.0	6.0	03		
113	B4R945	-	CO ₂ /O ₂ Incubator 13 IVF Lab	4.9 %CO ₂	---	4.0	6.0	03		
114	B4R945	-	CO ₂ /O ₂ Incubator 14 IVF Lab	4.6 %CO ₂	---	4.0	6.0	03		
115	B4R945	-	CO ₂ /O ₂ Incubator 15 IVF Lab	4.8 %CO ₂	---	4.0	6.0	03		
116	B4R945	-	CO ₂ /O ₂ Incubator 16 IVF Lab	4.8 %CO ₂	---	4.0	6.0	03		
117			CO ₂ substation 65 - Autozero	0.1 %CO ₂	---	-0.5	1.0	01		
118			CO ₂ Substation 65 - Autospan	10.2 %CO ₂	---	8.0	12.0	00		
121	B4R945	-	CO ₂ /O ₂ Incubator 1 IVF Lab	5.2 %O ₂	---	4.0	6.0	03		
122	B4R945	-	CO ₂ /O ₂ Incubator 2 IVF Lab	4.8 %O ₂	---	4.0	6.0	03		
123	B4R945	-	CO ₂ /O ₂ Incubator 3 IVF Lab	5.2 %O ₂	---	4.0	6.0	03		
124	B4R945	-	CO ₂ /O ₂ Incubator 4 IVF Lab	5.1 %O ₂	---	4.0	6.0	03		
125	B4R945	-	CO ₂ /O ₂ Incubator 5 IVF Lab	4.9 %O ₂	---	4.0	6.0	03		
126	B4R945	-	CO ₂ /O ₂ Incubator 6 IVF Lab	4.9 %O ₂	---	4.0	6.0	03		
127	B4R945	-	CO ₂ /O ₂ Incubator 7 IVF Lab	5.2 %O ₂	---	4.0	6.0	03		
128	B4R945	-	CO ₂ /O ₂ Incubator 8 IVF Lab	5.3 %O ₂	---	4.0	6.0	03		
Nr	Description			Status	DS	Alarm date + time				
003	B3R356 Power failure detection Calypso WiFi 17			Good	05					
006	Free switch NOT IN USE			Good	05					
007	Free switch NOT IN USE			Good	05					
009	Free switch NOT IN USE			Good	05					
014	B4R924 Power failure detection Telesto 9			Good	05					

Fig. 5: a screenshot of XiltriX® CO₂ and O₂ monitoring.

USP's

Why buy XiltriX® CO₂ and O₂ monitoring?

- Low CO₂ and O₂ monitoring cost per incubator
- Automatic CO₂ and O₂ sensor calibration
- Automatic evaluation programs in XiltriX software
- Compatible with every brand of CO₂ or triple gas incubator
- Combined measurement of CO₂ and O₂ gives more accurate information
- No negative effect on incubator performance due to 20 minute cycle
- Annual calibration costs are just a fraction of calibrating 16 separate sensors
- Automatically sensor failure detection and alarm

This is just a number of reasons why XiltriX® is the leading brand for monitoring CO₂ and O₂ inside CO₂ and triple gas incubators. IKS International has supplied a large number of IVF and hematological research facilities both nationally and internationally.

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