

»Synthetic air supply by WITT – hygienic, safe, cost-effective!«

[RENÉ MARTIN: SALES & PROJECT MANAGER – WITT]

The certified MED-MG
for medical applications.



MED-MG

Synthetic air mixing system
for medical applications

- 1 GASCONTROL 50**
 - Central control unit
 - Intuitive operation via touchscreen
 - Log for 3000 data records
- 2 Double oxygen analyser**
 - Paramagnetic measuring cell
- 3 Double gas flow monitoring**
 - Safe supply of the oxygen analysis
- 4 Lockable door**
 - Protection of settings
- 5 Gas inlets**
 - Connections for oxygen and nitrogen supply
- 6 Alarm module**
 - Inlet pressure control
 - Monitoring of control unit
- 7 Gauges for inlet pressures, receiver pressure, etc.**
- 8 USB and Ethernet interfaces**
 - Comfortable data administration and analysis



FUNCTIONS

Medical applications, in particular, require high purity air. WITT gas mixing systems offer a solution for reliable production of “synthetic air”, a mixture of oxygen and nitrogen with a similar composition to the atmosphere. The gas mixing systems work oil- and fat-free and use pure gases from liquefied gas storage systems. Contrary to a compressor, an extensive and high maintenance processing, cleaning and drying of the air, is not necessary. With this solution, hospitals can achieve the highest air purity level for the protection of their patients and at the same time realise a very cost-effective central gas supply.

Synthetic air mixers by WITT offer highest supply safety for central gas supply systems in hospitals. For decades, these systems have been used in many medical installations all over the world. The product generation MED-MG offers easy operation via touchscreen, low investment and maintenance costs, easy integration into existing systems and a low energy demand.

Of course, the gas mixing systems meet highest quality and safety standards regarding construction, material and manufacture. Modern WITT gas mixing technology is the heart of the systems. The redundant design of all safety relevant components ensures full functionality at any time even in the case of possible interferences. Using two independent gas analysers guarantees the correct combination of oxygen and nitrogen. Pressure inlet control, gas flow monitors, pressure equalising system, solenoid valves as well as the continuous self control of the systems are additional safety features. If an error should occur, the system automatically switches to a parallel supply unit.

An integrated data log continuously records all results and alerts. Via Ethernet interface, the mixer can be connected to networks and other systems.

WITT synthetic air mixers are certified as medical devices and CE marked according to European Directive 93/42/EEC (added by Directive 2007/47/EC). They have been designed according to DIN ISO 7396-1.

BENEFITS

- Easy operation via touchscreen
- Low costs for energy and maintenance
- Flexible synthetic air withdrawal from zero to maximum flow capacity (247 Nm³/h – 8,722 scfh)
- Highest supply guarantee by redundant design of all relevant safety components
- High process safety by self monitoring of analysers with additional monitoring via an independent control unit
- Independent of pressure fluctuations in the gas supply by integrated pressure equalising system (BAM tested dome pressure regulators)
- Gas supply safety by inlet pressure monitoring
- Permanent availability by instant adjustment to fluctuating withdrawal
- In case of failure, automatic switch to a parallel system
- Integrated data log for full documentation
- Easy integration via USB or Ethernet connection
- Different models and outputs available

Optional:

- Uninterrupted power supply (UPS)
- Heater
- Fully automatic calibration



Certified and approved as medical device class IIb
CE marked according to Directive 93/42/EEC



▶ GASCONTROL 50

The GASCONTROL 50 works with a powerful processor and is the electronic control center of the MED-MG. The 4.3" colour TFT touchscreen allows intuitive operation – of course password protected. The user always has an overview on the current status of the mixing system and gets informed in case of an alarm. All parameters can be set quickly and comfortably, e.g. individual limits or calibration functions.

Active



SAFETY FEATURES

The MED-MG is equipped with special parallel working control components to ensure highest supply safety. If one of those components detects a discrepancy and triggers an alarm, the solenoid valves at the gas mixer outlet and the receiver outlet close and the synthetic air supply gets interrupted. In this case, the systems send a signal which can activate a parallel supply system.

Parallel control systems with self monitoring | The mixing system works with 2 parallel control units and one independent alarm module. A continuous monitoring ensures the error-free operation of the three safety components. The control units and the alarm module are monitored by each other (handshake concept).

Paramagnetic oxygen analyser | The oxygen concentration in the synthetic air is continuously monitored by two independent analysers. The analysers consist of a control unit, a paramagnetic measuring cell and a flow guard. If the minimum or maximum threshold limit is exceeded or the gas flow is too low, an alarm is triggered.

Gas flow monitoring | The sample gas flow is continuously monitored. In case the flow falls short of the pre-defined threshold, an alarm is triggered.

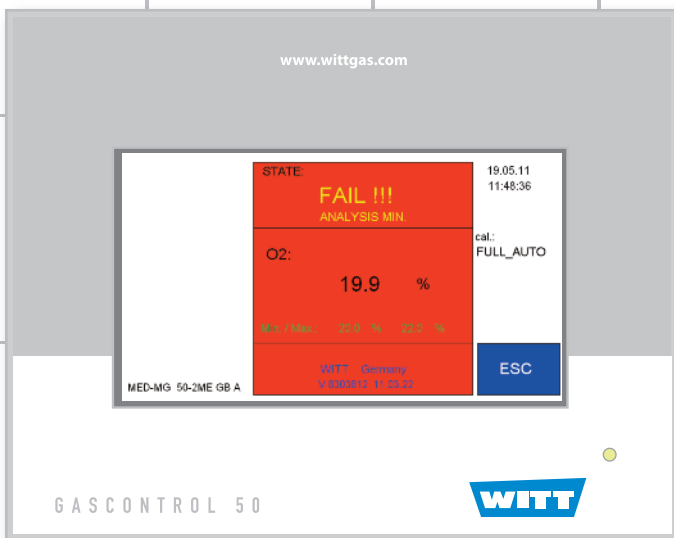
Inlet pressure monitoring | The inlet pressures of oxygen and nitrogen are monitored by pressure indicators. Inlet pressures over or below the threshold limits are displayed on the alarm module and the control units and trigger an alarm.

Pressure equalising system | The gas inlet pressures of nitrogen and oxygen are reduced to the operation pressure by means of an integrated pressure equalising system. In case of a supply pressure drop in the oxygen line, the nitrogen supply pressure will also be automatically reduced. This ensures a constant ratio in the gas mixtures. If the oxygen supply is interrupted, the nitrogen supply is also automatically stopped.

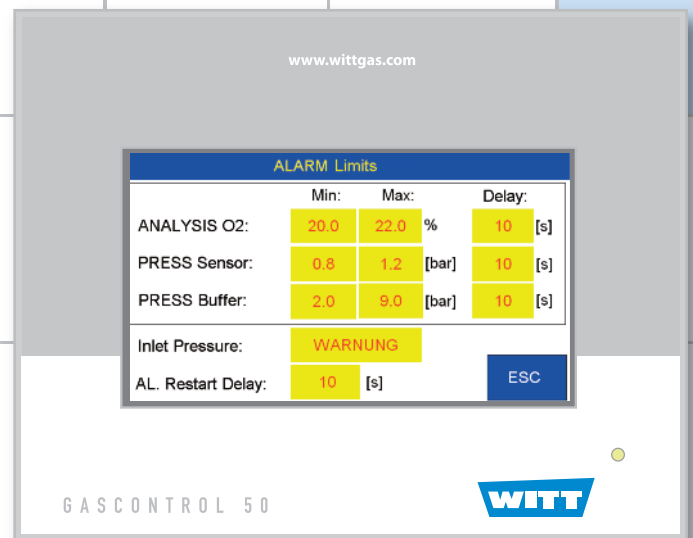
CONCLUSION

Hygienic, safe, cost-effective –
synthetic air supply by
WITT for medical applications

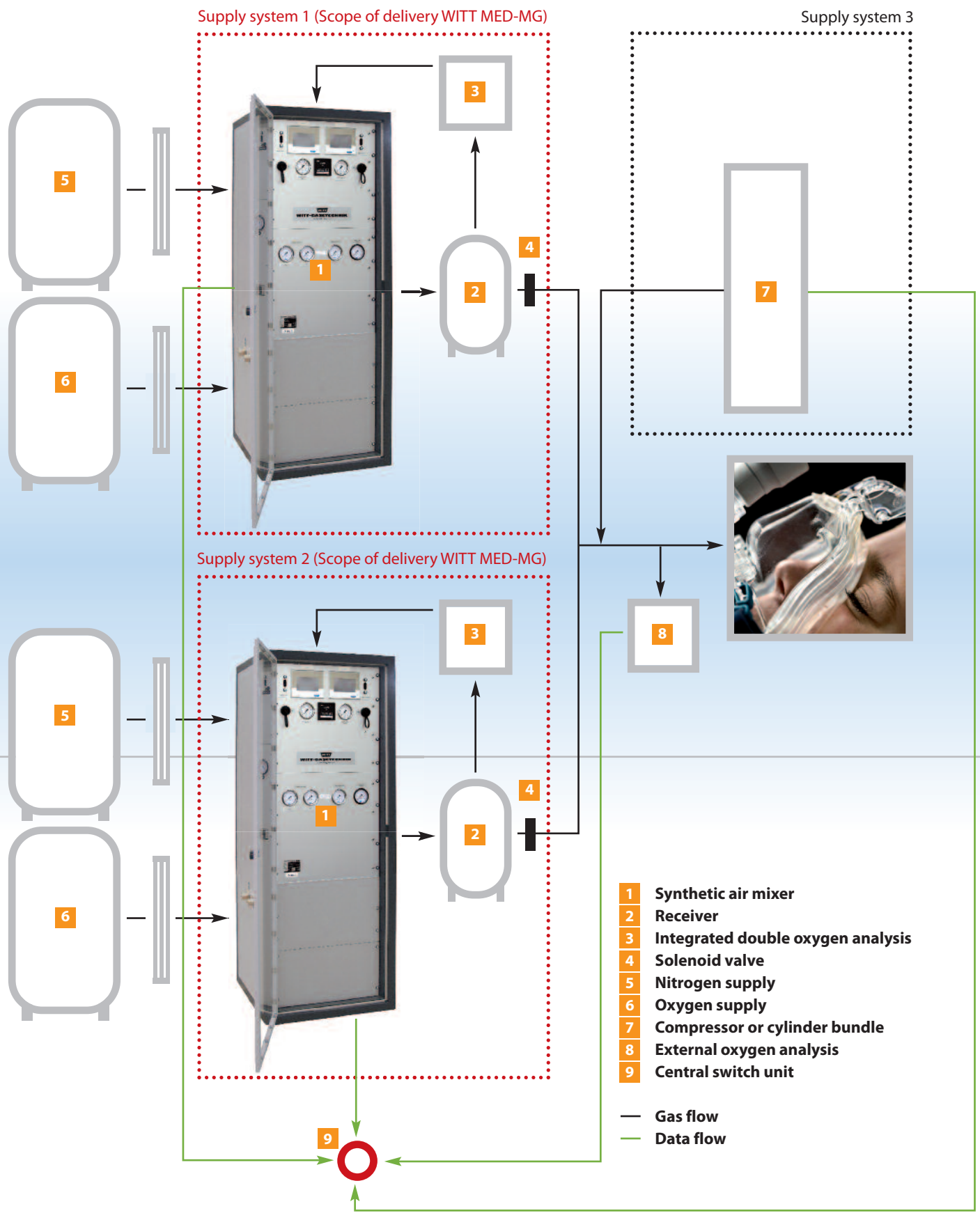
Alarm



Admin



INSTALLATION EXAMPLE REFERRING TO DIN EN ISO 7396-1:2007 CHAPTER 5.5.3



- 1 Synthetic air mixer
- 2 Receiver
- 3 Integrated double oxygen analysis
- 4 Solenoid valve
- 5 Nitrogen supply
- 6 Oxygen supply
- 7 Compressor or cylinder bundle
- 8 External oxygen analysis
- 9 Central switch unit

— Gas flow
 — Data flow



**CERTIFICATO CE DEL SISTEMA
DI GARANZIA DELLA QUALITÀ**
EC Quality Assurance System Certificate

Si certifica che, sulla base dei risultati degli audit effettuati, il Sistema completo di garanzia di Qualità dell'Organizzazione:
We certify that, on the basis of audit carried out, the full Quality Assurance System of the Organization:

Reg. No: MED 29095

WITT Gasetechnik GmbH & Co. KG

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Germany

È conforme ai requisiti applicabili della I is in compliance with the applicable requirements of:

Direttiva 93/42/CEE, Allegato II escluso il pto 4, attuata in Italia con Dlgs. 46 del 1997/02/24
93/42/EEC Directive, Annex II without point 4, transposed in Italy by Dlgs. 46 of 1997/02/24

per le seguenti tipologie di Dispositivi Medici/ for the following Medical Devices:

Miscelatore di aria sintetica medicale / Medical synthetic air mixer

Identificazioni/Identifications: Vedere allegato tecnico al presente Certificato/See technical sheet enclosed to this certificate

Il presente Certificato è soggetto al rispetto del Regolamento CERMET ed è valido solo per le tipologie di dispositivi sopra identificate soggette a sorveglianza.
L'allegato tecnico è parte integrante del presente Certificato.
*This Certificate is subject to CERMET regulations and it is valid only for the above mentioned Medical Devices that are subject to survey.
The technical sheet is an integrating part of this Certificate.*

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▀ **OUR PRODUCT RANGE**

Gas Control Equipment

- Gas mixing systems
- Gas metering systems
- Gas analysers
- Leak detection systems
- Gas pressure vessels
- Engineering of customised systems

Gas Safety Equipment

- Flashback arrestors
- Non-return valves / check valves
- Quick couplers
- Safety relief valves
- Stainless steel devices
- Gas filters
- Pressure regulators
- Outlet points
- Lance holders
- Ball valves
- Automatic hose reels
- Test equipment
- Accessories
- Customised safety equipment

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