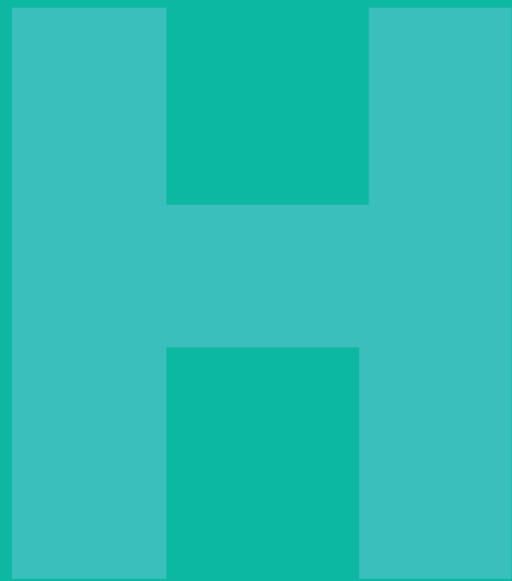


# itemAir

System of self-production of Medical Air



Hospital systems

# itemoxygen®



### Hospital Systems

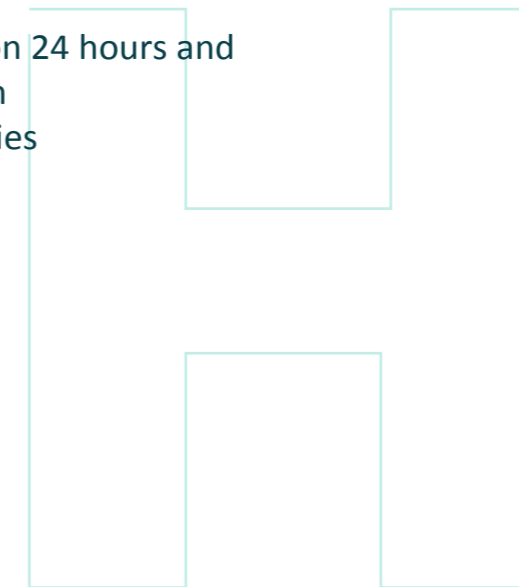
Item Oxygen offers Technical Design Studies, Clinical Engineering and Technical Management through skilled professionals, whose goal is to offer a consultation and analysis service, always being attentive to the needs of the end client whilst respecting the National and European norms.

For many years Item Oxygen has been supporting private and public health facilities with the design, risk analysis, construction and management of medical gas plants and for vacuum and scavenging of anaesthetic gas.

### System of self-production of Medical Air

Item Air's system meets all the hospital needs born by European Pharmacopoeia for the self-production of medical air.  
item Oxygen's system consists of:

- Design, implementation, installation and maintenance of the system of self-production of medical air.
- Maintenance of the system using highly qualified persons
- Availability service 24hours on 24 hours and remote-control of the system
- Hospital staff training activities



Hospital systems



### Something new in medicine: medical air

Medical air is considered as a new pharmacological therapy in the treatment of different diseases, both in long term treatments and emergency ones.

### item Air: medical air directly from the source

The installation of a stand-alone system, able to produce medical air of a high level quality and to meet all standard requirements of European Pharmacopoeia.

The Maintenance of the system, specifically programmed to keep and control constantly qualitative features required by European Pharmacopoeia.

Training and information activities are supplied for staff involved in working with medical air and management of technological systems.

The availability of technical staff is provided 24hours on 24 hours in case of anomaly in the working of the systems and in emergency situations. The system provides also remote sensing and control of alarm signals coming from production system up to the connection with the medical air papeline system. Item Oxygen's System of self-production of Medical Air can be installed in dedicated areas made available by the structure, in this cases, Item Oxygen supplies specific storage boxes

## ITEM OXYGEN SET A NEW MEDICAL STANDARD

### A whole range of available benefits

item Air system allows a full control of the plant, a full integration of the building management system and the maximum compliance to the monitoring system's requirements and medical alarms set out by ISO 7396-1.

Medical air system realized by Item Oxygen is suitable for the continuous functioning and with the frequent start-up/arrests and give a support for different pressure levels, included pressure level of 11 bar, offering a high level of medical air quality useful for a wide range of applications.

### Application using surgical air

- Surgical instruments ( drilling tools, boring tools, sawing tools, dissecting tools, tapping tools and screwing tools)
- Operation of ceiling powered tools
- Medical devices testing
- Torque motors and high speed

### Application using medical air

- Mechanical ventilation and anesthesia
- Medicine administration using a nebulizer
- Testing and drying of medical devices

## CLINICAL CERTIFICATION

Today, the rules governing the medical sector are much more rigid than in past. item Air Plant is pre-certified in compliance with International regulations, including the Pharmacopoeia, and quality standards such as ISO 13485. The pre-certification simplify the organization and inspection by inspection bodies, allowing hospital's save time and money.

The plant for medical air complies with the following regulations:

- Medical Devices Directive DDM 93/42/CCE
- EN ISO 7396-1 and ISO 14971
- Technical british memorandum on health HTM 02-01 and HTM 2002

Furthermore the system was designed and built in accordance with ISO 9001, ISO 14001 standards and in compliance with the Quality management system ISAO 13485:2003.



### Excellent reliability and energy efficiency

item Air plant is composed by medical compressors and dryers specifically designed and ensures a continuous medical air supply in critical situations. Each compressor/dryer is subject to full control quality and is tested deeply before the delivery.

In reference with the redundancy, medical air plant, in compliance with ISO 7396-1 AND HTM 02-01 STANDARD, is composed at least by 2 standby compressors and a backup purifier.

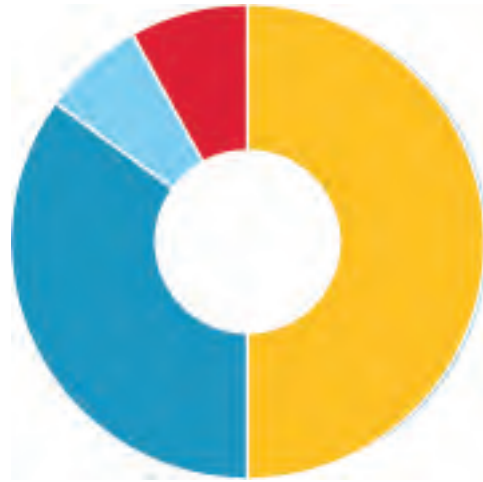
The medical air plant is compliant with HTM 2022 standard and is composed at least by 1 stand by compressor.

### Maximum piuruty

item Air Plant is designed in order to supply certified medical air also in particular situations in which inlet air would contain high pollutant concentrations.

The multistage filtration system ensures maximum patient safety even in worst cases of pollution but that in so many cases they are real.

## CHARACTERISTICS AND BENEFITS



### Reducing energy costs

Our range of MED compressors represents the perfect solution for the medical air demand requested by hospitals whose trend is variable. By output pressure's monitoring, the air flow rate is adjusted according to requests. The high r.p.m. reduction ratio and the new energy-saving cycle fan ensure further energy saving until 35%.

- Energy
- Investment
- Energy savings with VSD technology
- Maintenance

### Cost saving

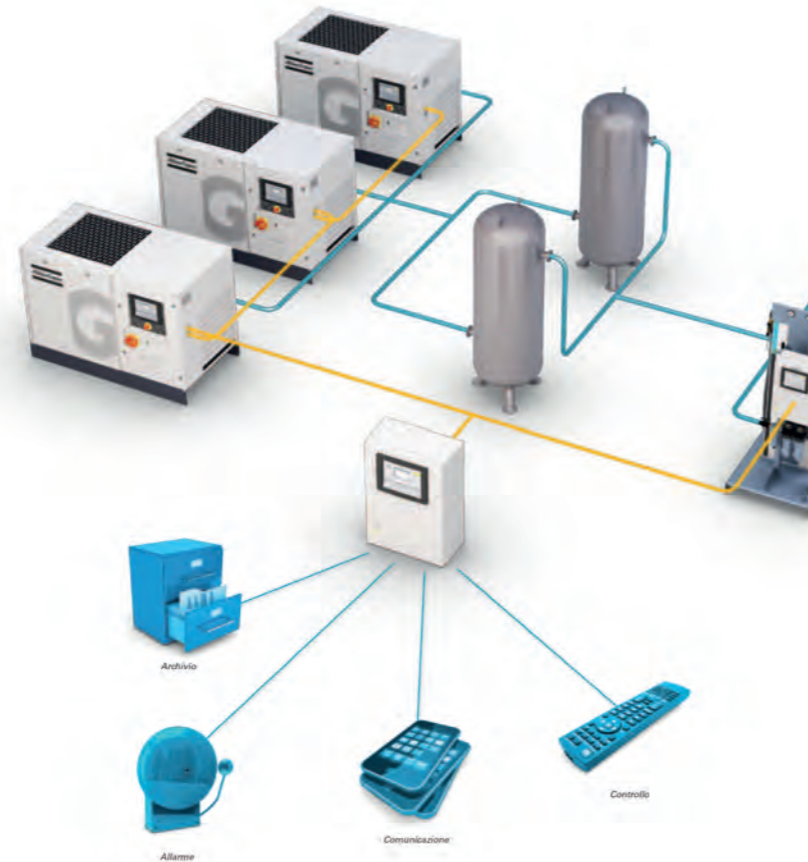
- Reduction of operating and installation costs
- Technology able to ensure an energy-saving until 35%
- Purifier Active/Passive mode, with an operating time reduction of 50%

### User-friendly centralised controller

- High definition color display of 5,7 inches with browsing icons and LED markers;
- Display using a simple Ethernet connection (Internet)
- Higher reliability: new multilingual user interface and a long-lasting keyboard
- Graphic indication of the maintenance plan

### Ready for use

- Compact and modular design.
- Simple start and maintenance



### Advanced monitoring and alarm system

- Full compliance to the ISO 7396-1 standard, chapter 6 "Monitoring and alarm systems". The centralized controller ES-MEDICAL supports all the mandatory monitoring/alarm functions according to ISO7396-1 standard;
- Full integration with the building management systems and with external systems;
- Remote monitoring functions and connectivity;
- Different gas sensors are available as options: CO, CO2.

### High quality components for a reliable air quality

- We supply a wide range of medical compressors both oiled and oil-free;
- MED dryer supply medical air with pure quality and without compromises.

### Full compliance to ISO 7396-1 standard

- Comprehensive package with medical certification, air quality according to the pharmacopoeia;
- Proven Security and redundancy levels;
- Factory testing as comprehensive package.

### Reliable software

Software components are realized in accordance with the EN62304 medical standard. This will ensure you maximum stability.

### Advanced monitoring

ES-MEDICAL controller offers a single control centralized unit for the whole air plant, ensuring so optimal performances of all compressors and dryers involved. This will also ensure a constant high air flow level, an effective network at energy level and absolutely sure and reliable at minimum costs.

### Excellent connectivity

By using the new Gateway Profibus/Modbus module, it has been possible to access to a wide range of information about the state and monitoring conditions, in order to have the possibility to make



## MED + ADVANCED MEDICAL PURIFIER

itemAir Plant equipped with MED + air purifiers provides extremely clean air. The innovative filtration system Iter MED + is the most advanced solution for medical air, while its small size allows you to make the best use of the available space. The MED + offers unparalleled air purity through 7 stages of active purification. The practice tests performed by an external society guarantee full compliance of MED + to international standards. Obtaining excellent results in these critical scenarios in relation to the ambient air quality, the MED + provides outstanding performance under real conditions.

### Easy and simple management

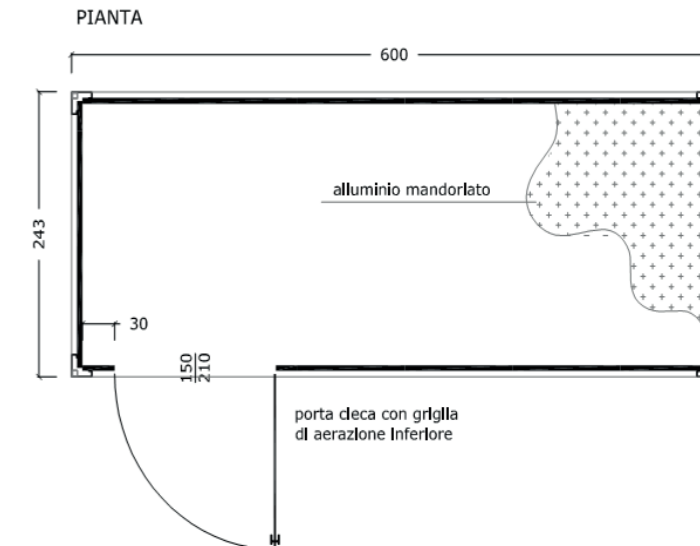
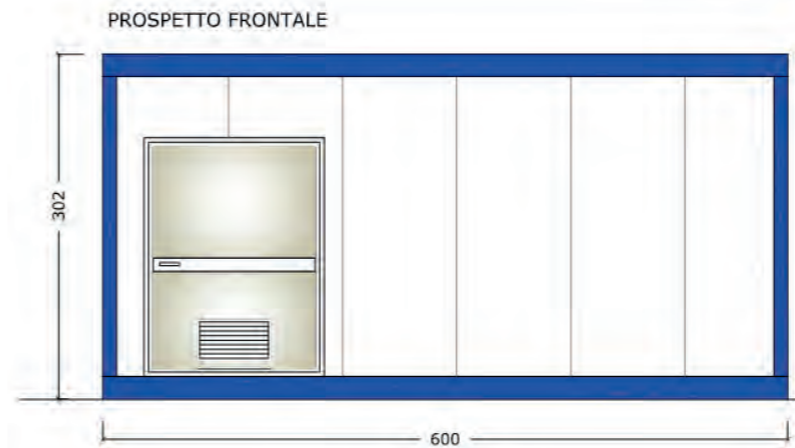
Using its colour display 5,7 inches, the advanced controller Mk5 fitted to the centralized controller ES-MEDICAL offers a simple but powerful tool in order to manage the whole plant, giving the possibility to set the security level required thanks to different evaluation levels available.

### Plant's online monitoring system

Thanks to the ES-medical controller, you can control the whole air network by LAN and obtaining the best performance from your item Air, warning indications and maintenance planning. All alarms and notifications are available also by sms.



Le soluzioni item Air sono disponibili in diverse tipologie standardizzate per semplificare la scelta del sistema più adatto alla struttura ospedaliera. Item è sempre disponibile ad analizzare soluzioni che soddisfino al meglio le esigenze del cliente.



- All item Air plants are put together in storage boxes that includes:**
- 2 MED compressors**
  - 2 MED + filter units**
  - 2 tanks with internal treatment**
  - 1 ES MEDICAL electronic control board**
  - 1 analysis unit made of:**
    - 1 hygrometer for the control of humidity values of produced air
  - 1 safety buffer made of:**
    - power input of the primary distribution network in emergency conditions

