item*Vacuum*

Medical vacuum system

Hospital systems

itemoxygen®

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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.

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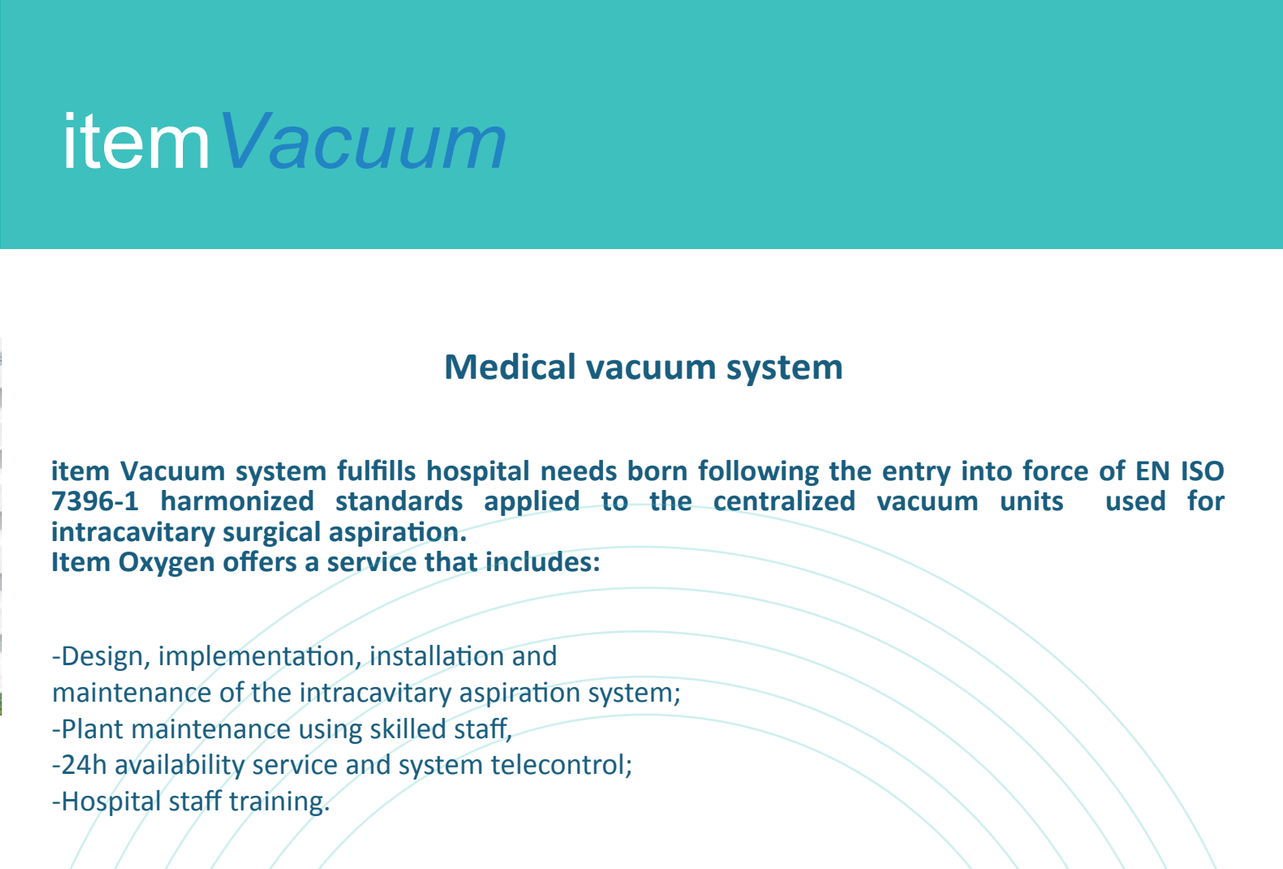
item*Vacuum*

Medical vacuum system

item Vacuum system fulfills hospital needs born following the entry into force of EN ISO 7396-1 harmonized standards applied to the centralized vacuum units used for intracavitary surgical aspiration.
Item Oxygen offers a service that includes:

-Design, implementation, installation and maintenance of the intracavitary aspiration system;
-Plant maintenance using skilled staff,
-24h availability service and system telecontrol;
-Hospital staff training.



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Standard vacuum station

Vacuum pumps technology using oiled-pallets

No-consumable pallets

Maximum quietness

Maximum firmness

Vacuum supply until -99,95 kPa

Simplified maintenance

Maximum Reliability

ISO 7396-1 Standard points out in 60KPa absolute value (-40kPa relative value) as the minimum value to be supplied to end-users, in order to ensure this value, the station need to generate a greater vacuum quantity to compensate for resistors and for circuit leakage. Without further regulatory indications, vacuum average generated by the station is, by convention, referred to 35kPa in absolute value, as indicated in the national French regulations FD S 90-155.
It results essential to know the actual flow achievable for vacuum pumps in order to calculate the design flow rate. It is necessary so to turn the intake flow into open air and at ambient pressure, into the volume that occupies under vacuum, applying the following corrective factors:

Vuoto *- 10kPa*	*-20kPa*	*-30kPa*	*-40kPa*	*-50kPa*	*-60kPa*	*-65kPa*	*-70kPa*	*-80kPa*	*-90kPa*
Fattore 1,11	1,25	1,42	1,66	2	2,5	2,85	3,3	5	10

Example: 10m3/h ambient withdrawn, turn into 28,5 m3/h (10x2,85) at vacuum value of -65kPa
During the process of vacuum sources selection, it is important to take into account that the design flow rate is considered as the maximum requirement, that has been adjusted by consumption of coincidence factors, established by the Health administration.

VERTICAL

VPK 10 . 300- 3V
VPK 15 . 300- 3V
VPK 25 . 500- 3V
VPK 50 . 500- 3V
VPK 75 . 500- 3V
VPK 100 . 1000- 3V
VPK 150 . 1000- 3V

COMPACT

VPK 25 . 500- 3C
VPK 50 . 500- 3C
VPK 75 . 500- 3C
VPK 100 . 1000- 3C
VPK 150 . 1000- 3C
VPK 202 . 1000- 3C
VPK 303 . 1000- 3C

ORIZZONTAL

VPK 202 . 1000- 3H
VPK 303 . 1000- 3H
VPK 400 . 2000- 3H
VPK 500 . 2000- 3H
VPK 700 . 2000- 3H
VPK 900 . 2000-3H

MULTIPLE

VPK 404 . 2000- 3S
VPK 606 . 2000- 3S
VPK 909 . 2000- 3S

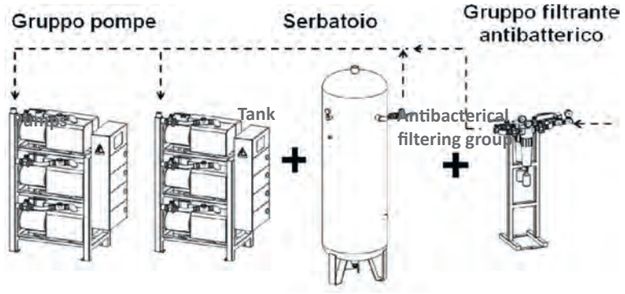
ESSENTIAL COMPOSITION:
- Vacuum pumps on chassis;
- Control panel;
- Container.

ON REQUEST:
- Antibacterial filtering group on chassis;
- Other combinations can be supplied on

WHY TO INSTALL A MULTIPLE STATION?

ISO 7396-1 standard introduced a new concept of station, composed by at least from 3 vacuum sources, each of them consists of one or more vacuum pumps. In case of greater design flow rates, this concept allows you to achieve an operating mode more flexible and cheap thanks to the consumption sectioning on more pumps, obtaining so a greater energy and maintenance saving.

New compatible composition



Control panel

Our panel fulfills all the general security requirements ensuring continuous supply also in the condition of single failure (loss of electrical supply, failure of the control equipment, ecc), working with separate supply and redundant security, in addition the operating logic manages pumps in automatic and rotating mode.

The strategy of the cells panel designed by Item Oxygen allows you to:

- Perform maintenance in safety, always leaving the center active;
- Ensure continuity of use in the situation of a single failure;
- Exclude from the operation of up to two sources.

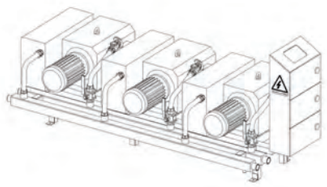
The feature called stop delay, always applied in our panels, is a key factor in security, to protect vacuum pumps and their electric motors because:

- Reduces the number of starts, so avoiding the damage and overheating of the electric motors;
- Promotes the expulsion of moisture and condensation preventing oil pollution.

In conjunction with this, it is also available, as an option, the device able to stabilize and limit the maximum vacuum, thus avoiding the bothersome condensation phenomena caused by evaporation vacuum of liquid present in the intake circuit, at the beginning of the contamination in the oil vacuum pumps.

The programmable logic controller PLC manages both analogue signals and digital ones, but to ensure a greater precision in the detection of the vacuum degree and to prevent tampering by calibration protocol, it is used a transducer pressure joined to a emergency vacuum switch.

On request it is possible to install the traditional electromechanical vacuum switches.

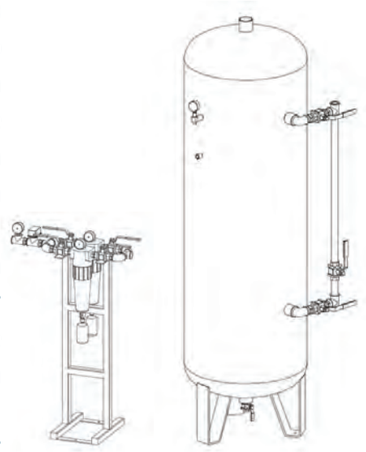


Antibacterical filtering group

The filtering unit is composed of two filters MV series (Medical Vacuum) connected in by-pass to operate alternatively, so that one of the two filters can only be serviced without interrupting the vacuum line. Each of the two filters must have adequate filtering capacity to ensure maximum design flow rate. The shape of the filter is designed to obtain a centrifugal effect siphon for collecting drainable liquids on the bottom by a tap connected to a glass bulb.

The special multilayer cartridge consists of a first outer layer with pre-filtering function that acts as a protection of the successive inner layers of microfibers for bacterial detention. A differential pressure gauge mounted on the filter head indicates the level of clogging while a vacuum switch sends an alarm in case of insufficient vacuum.

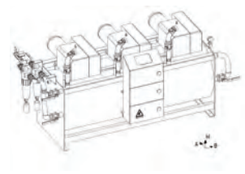
The filter unit can be supplied on demand, coupled with a chassis for floor-fixing.



COMPACT

Thanks to very small dimensions offered by new pumps V-VC, up to the VC 150 model, there is a range of groups called COMPACT, designed to be all-inclusive, easy to transport and that can be placed in tight spaces, reducing installation costs.

Modelli	A	B	H
VPK 25. 500-3C VPK 50. 500-3C VPK 75. 500-3C	900	2100	1100
VPK 100.1000-3C VPK 150.1000-3C	1100	2500	1400
VPK 202.1000-3C VPK 303.1000-3C	1100	2900	1500



Modelli	H(mm)	A	B
VPK 10 – 1	1510	1500	750
VPK 15 – 1	1510	1500	750
VPK 25 – 1	1510	1500	750
VPK 50 – 1	1510	1500	750
VPK 75 – 1	1510	1500	750
VPK 100 – 1	1510	1500	750
VPK 150 – 1	1510	1500	900
VPK 202 – 1	1510	1500	900
VPK 303 – 1	1510	1500	900

ADDITIONAL MODULES/ SUPPLEMENT THIRD PUMP

In order to meet the needs of adaptation to the new law, by the time we entered the "Additional Module" that has to be aggregated to old vacuum units with two pumps, waiting to install new vacuum units with three pumps in strict compliance with the law.

NB: the module can be supplied on demand combined with the panel used for the three pumps management.

OTHER SOLUTIONS ON DEMAND

Combination:

- 1 pump coupled with the container
- 2 pumps coupled with the container
- 4 or more pumps in different combinations
- Selected units

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peso max 4.500 kg