Data Sheet

INSPITAL

Oxygen Production System

Description

Inspital Oxygen Generators are new generation stations that allows on-site production of oxygen. This helps hospitals to supply oxygen from their own automated system independently. These systems are generally combined with cylinder systems for instant back up.

Classification

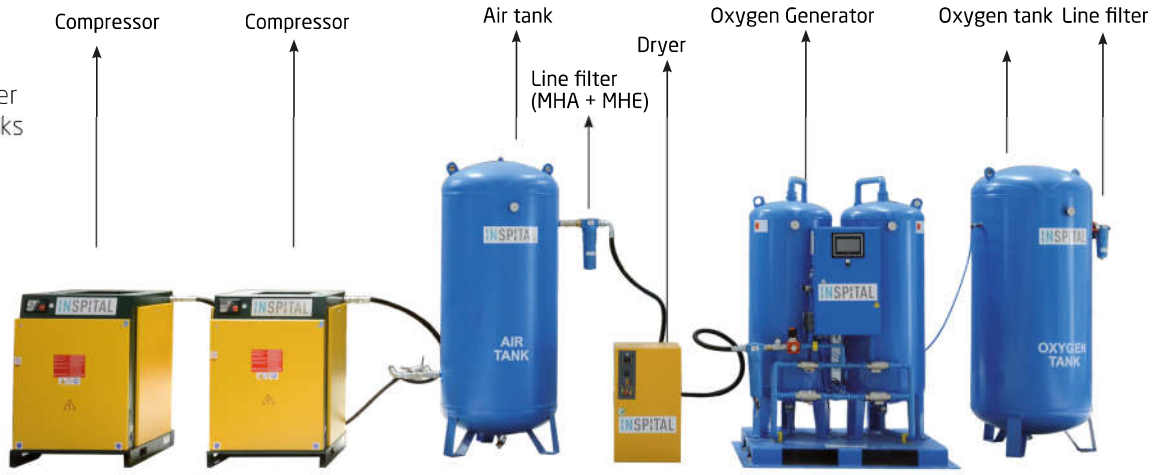
Inspital Oxygen Production Systems are designed and manufactured in compliance with HTM 02-01, HTM 2022, MDD 93/42/EEC, EN 13485 standards.

Features

- Inspital Oxygen Generators deliver oxygen in a purity up to 95% at flow rate from 3 to 100 m3/h. Station delivers constant purity rate independent from the consumption.
- Oxygen purity level and outlet pressure indicator
- Easy handling from Touch screen
- Automatic operation
- Reducing operation cost
- Return investment in less than 1 year
- Optional oxygen analyzer
- At the room temperature dryers of the system

Standart Equipment

- Air Compressors
- Dryers
- O2 generator
- Active Carbon Tower
- Air and oxygen Tanks
- Filters



Model No	O2 Generator Capacity	Bed Number	Compressor Capacity (m^3/h)	Compressor Type	Air Tank Capacity	Tank - Capacity	Dryer Capacity
GZ81.01	3 m^3/h	50-100	7,5 kw/(0,92 m^3/h)	Screw Type	500 L	500 L	CAD 30
GZ81.02	6 m^3/h		11 kw/(1,40 m^3/h)	Screw Type	500 L	500 L	CAD 52
GZ81.03	9 m^3/h		22 kw/(3,2 m^3/h)	Screw Type	1000 L	1000 L	CAD 61
GZ81.04	12 m^3/h	100-150	22 kw/(3,2 m^3/h)	Screw Type	1000 L	1000 L	CAD 61
GZ81.05	15 m^3/h		30 kw/(4,4 m^3/h)	Screw Type	1000 L	1000 L	CAD 110
GZ81.06	18 m^3/h		30 kw/(4,4 m^3/h)	Screw Type	1000 L	1000 L	CAD 110
GZ81.07	20 m^3/h		30 kw/(4,4 m^3/h)	Screw Type	1000 L	1000 L	CAD 110
GZ81.08	25 m^3/h	150-200	30 kw/(4,4 m^3/h)	Screw Type	1000 L	1000 L	CAD 110
GZ81.09	30 m^3/h		45 kw/(6,2 m^3/h)	Screw Type	1000 L	1000 L	CAD 170
GZ81.10	40 m^3/h		55 kw/(9,2 m^3/h)	Screw Type	2000 L	1500 L	CAD 200
GZ81.11	50 m^3/h	200-250	75 kw/(10,6 m^3/h)	Screw Type	2000 L	1500 L	CAD 250

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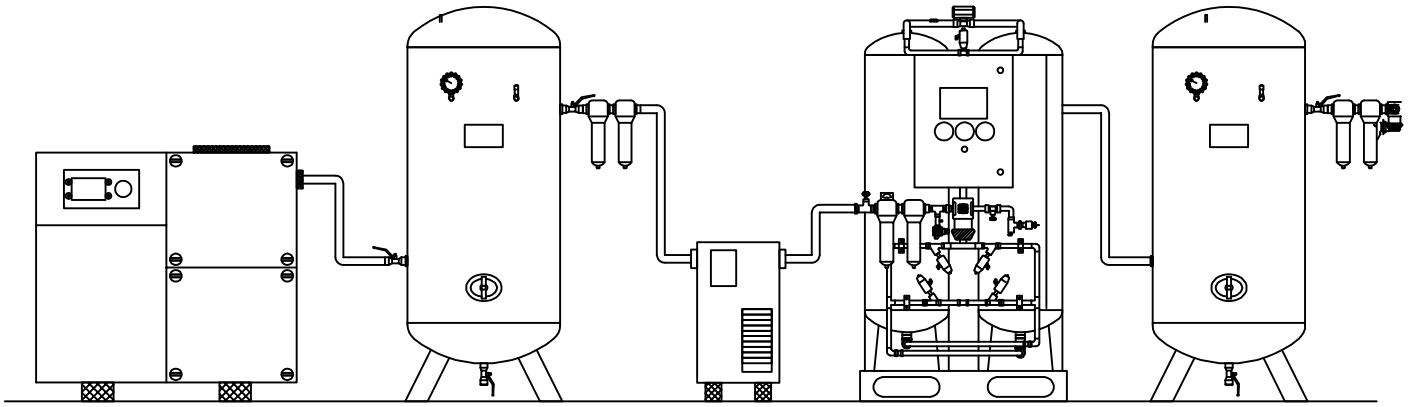
Technical Drawing of Oxygen Production System



Air Compressors

Description

Inspital's Air compressors could be use safely with high operation performance for providing compressed air to the hospital's determined rooms. Main operation of the air compressors is to make the normal pressure atmospheric air into the high pressured air, which is cooled and cleaned from dust and oil for of vital patient as well as to vantilate the ICU patient. The compressors are generally oil type or oil free type. Inspital offers customers high capacity, screw-type and soundless compressors. According to the design capacity of the hospital, two or three equal compressor is used to have continous medical air supply.

Classification

Inspital Medical Air Plants are designed and manufactured in compliance with HTM 02-01, HTM 2022, MDD 93/42/EEC, EN ISO 7396-1 standards.

Features

- Highly efficient IE3 type of motor
- Easy tensioning system
- Up to 30% more energy saving than normal compressors
- Compact Design
- Highly reliable electronic control directs the working time of the compressors, so the longer life span is gained by electronic control system.
- Oil injected screw compressors with variable speed drive 11-75 kW.
- Air-oil seperator high efficient works in the air compressors
- Quiet and efficient cooling axial system for cooling air and oil.
- Wide Range of compressors are available according to customer needs.
- Inspital can serve up wide range of compressors in power wise and also different type of compressors are available too according to customer needs.
- According to capacity of the system , wide range of compressors are available for service
- Oil-free compressors are can also be in line with the Inspital's Oxygen production system, which can be organized according to customer's request.

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Nominal Power	Pressure range	Free Air Delivery			Dimensions			Weight	Noise
		7bar(g)	10bar(g)	12bar(g)	Length	Width	Height		
[kW]	[bar]	[m³/min]			[mm]	[mm]	[mm]	[kg]	[db(A)]
11	7-12	1,87	1,73	1,36	1.030	850	1.380	365	68 +/-2
15	7-12	2,30	2,00	1,68	1.030	850	1.380	365	68+/-2
18	7-12	2,78	2,30	1,99	1.170	980	1.460	500	70+/-2
22	7-12	3,47	3,08	2,90	1.300	850	1.210	480	65+/-2
30	7-12	5,61	5,39	3,40	1.530	970	1.350	780	65+/-2
37	7-12	6,22	5,49	4,59	1.530	970	1.350	760	65+/-2

- Performance datas are taken according to ISO 1217 environmental conditions.

Compressed Air Dryer

Description

The atmospheric air occurs stream which is going to be appear and damage the system, but compressed air dryer does seperate the mouisture , which is important the reason of air dryer's importance for Oxygen production system.

Classification

- Compressed Air Dryer in compliance with HTM 02-01 and UNI EN ISO 14001 standards

Features

- Cost of pipeline system of the air is reduced by using dry air
- Reduced energy consumption, thanks to a careful selection of components and management by electronic board
- Low pressure drop by using a heat exchanger made of aluminium with a mixing chamber that allows the air mixing and thus increasing the exchanger yield while reducing the pressure drop at a minimum
- Dew point maintained stable at +3°C
- Wide range of compressed air dryer availability

Capacity*	Connection Size	Voltage**	Refrigerant	Maximum Working Pressure	Maximum Ambient Temperature	Maximum Inlet Temperature	Dimensions (mm)			Weight (Kg)	Noise
m³/h				bar	°C	°C	Length (L)	Width (W)	Height (H)		[db(A)]
110	3/4"	230V/1/50 Hz	R-134a	16	50	60	500	350	450	27	68+/-3
150	1"	230V/1/50 Hz	R-134a	16	50	60	500	370	764	44	68+/-3
186	1"	230V/1/50 Hz	R-134a	16	50	60	500	370	764	44	68+/-3
216	1 ½"	230V/1/50 Hz	R-134a	16	50	60	560	460	789	53	68+/-3
246	1 ½"	230V/1/50 Hz	R-134a	16	50	60	560	460	789	60	68+/-3
324	1 ½"	230V/1/50 Hz	R-134a	16	50	60	560	460	789	65	68+/-3
390	1 ½"	230V/1/50 Hz	R-134a	16	50	60	590	580	899	80	68+/-3

- Performance Measured according to ISO 7183 standard.

Data Sheet

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Compressed Air and Oxygen Tanks

Description
Inspital specially design a compressed air tank which can work as a reciever in air system and according to customer needs different sizes of compressed tanks are available.

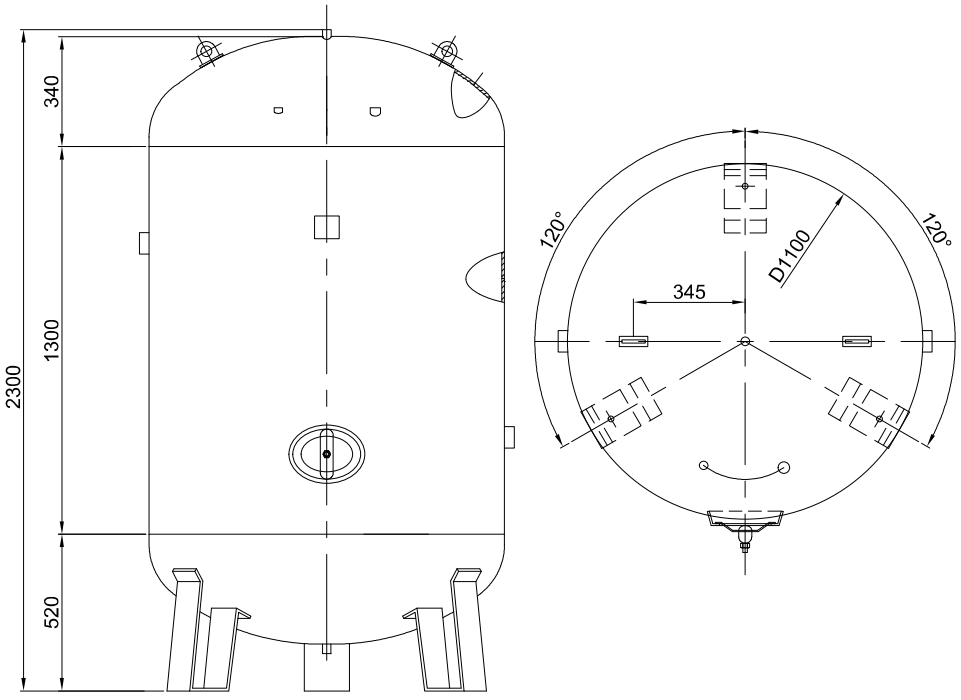
Certifications
- Manufacture and tested according to BS EN 286-1:1998+A2:2005

Features
- Corrosion resistance value of Inspital compressed air tank is 0,5mm
- Pressure test value of the Inspital compressed air and oxygen tanks is 16,5 bar
- Ambient temperature of test is 20˚C.
- The operating pressure of the system is 15 bar
- Min/Max. Working Temperature is -10˚C and +100˚C in oder.
- Wall thickness of the compressed air tanks are direct proportion with the capacities of the tank, which can change between 4mm to 6mm.

Material Information
- Compressed air tanks are manufactured from St-37 steel
- Electrostatic paint for having higher corrosion resistance of Inspital compressed air system.

Model No	GZ82.01	GZ82.02	GZ82.03	GZ82.04	GZ82.08
Capacity (L)	300	500	1000	1500	2000
Weight (kg)	130	180	300	400	450
Inlet Diameter	1 1/2"				
Diameter (mm)	480	600	850	1100	1150
Height (mm)	1990	2110	2258	2300	2355

Technical Drawing (1500lt)



- Unit of the dimensions are mm.

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Compressed Air Filter

Description

The atmospheric air is compressed by compressors, which can contain dusts, bacterias and oil (if the compressor is not oil-free), so the to have high quality air , which must be cleaned from those materials and this is the reason of Inspital compressed air filter's importance in the oxygen production system.

Classification

- Compressed Air filter is compiance with HTM 02-01and BS EN ISO 3549:2002

Working principle of the compressed air group

Compressed air filtration's purpose is to prevent dryer from the wet and dirty air and the first filter is particulate filtration where 3 mikron or bigger contaminants are seperated and the second filter is coalesting filter whichseperates the oil-moisture mixtures till 0,1 mikron size solid contaminants and oil permeability is 0,1 mg/m³ (First part of the filter system basically a security for dryer of the system) and after the sensitive particulating dryer cleans the air from solid contaminants till 0,01 mikron size and oil permeability of the filter is 0,01 mg/m³ and air lastly enters to activated carbon to be free from oil and moisture.

Pressure losses of particulate filter, coalesting filter, high sensitive patulate filter and activate carbon filter are 35mbar , 60mbar , 80mbar and 60mbar orderly.

Features

- Maximum dirt, solid particles, micro-organisms and rust particles removal
- Easy installation
- High reliability
- Easy maintenance
- Low pressure drop
- Wide range of options are available
- Flow rates of compressed air filters are starts from 75m³/hour till 400 m³/hour, but according to customer needs the system can be prepared .

Connection diameter is in between 1/2" to 1½".

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Oxygen Generator

Description

Inspital oxygen generator is main part of having pure oxygen from high quality air, the main role of the oxygen generaor is seperating the oxygen from other gasses in the air to supply high quality oxygen for respiration.

Classification

- Inspital Oxygen Generator in compilance with European Pharamacopeia.

Working Principle

Compressors takes normal atmospheric air into too system to be compressed then the compressed air is filtered and dried by filter and dryer to have medical compressed air. High quality oil-free air forced into the first sieve bed filters by piston valves to be seperated from the nitrogen and other gasses.The Zeolite material is the important part of the sieve bed where the actuall air turns into oxygen by removing nitrogen and other gasses after this action the pure oxygen moves to the secondary absorber to be send into the oxygen tanks, When the first sieve bed reaches limit oil free pure air directed into the secondary absorber, where the another sieve bed filter occurs and the oxygen is produced out of medical air by removing nitrogen or other gasses by zeolite material. The first sieve bed was filled by nitrogen and other gasses and those gasses are removed from the system to the air which is directed by piton valves and controlled by control panel. The unique working time is managed by control panel for sieve beds the first sieve bed gets empty from nitrogen and other gasses while secondary sieve bed gets the job done. By the air pressure regulator pressure value of the air is in between 4,0-5,0 bar.

Component lists of the Oxygen Generator

- Gate Valve
- High Sensitive Valve
- Control Panel
- Sieve Bed Filter (Zeolite material)
- Air Pressure Regulator

Features

- Reliable system
- 95+/-2 pure Oxygen production
- Inspital can afford wide range of capacities according to customer needs
- Automatical system with control panel
- Variable operational pressure , which can be decided by customers
- Oxygen generator system made from high quality components
- 24 hours of pure oxygen supply

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Oxygen Generator Technical Drawing