



OGEN Series

Generating Plant
of Oxygen





Since 1985 in the market, with over 1000 hospitals served and a presence in more than 20 countries, Valmig is a reference in the Industry, Commerce, and Technical Advisory in Equipment for Medicinal Gases Solutions, Oxygen Plants, and an extensive portfolio in the sector, delivering to our clients the best quality and experience.

Our portfolio, which has been built over the years, consists of Equipment and Services for Medicinal Air, Medicinal Vacuum, Equipment for Gas Control, and our main line includes equipment and solutions for the production of hospital oxygen and compressed air.



CERTIFICATIONS



AFE ANVISA certificate of good manufacturing practices for hospital medical equipment.



Productive process certification for norms: NBR 12.188:2016 - Centralized supply systems for medical devices and vacuum for use in healthcare services. NBR 13.587:2017 - oxygen concentrator system for use in centralized medical oxygen system.



Panel fabrication certification of UL control and automation UL.



Productive process certification for norms: ISO 7396-1:2016 - Medical gas pipeline systems - Pipelines for compressed medical gases and vacuum.



Productive process for pressure storage certified for norms: ASME VII - Pressure Vessels - DIV:2019



Productive process certified for norms: NFPA99:2018 - Health Care Facilities Code.



NFPA 1901:2016 Standard for Automotive Fire Apparatus



O-GEN SERIES

PSA - Generating Plant of Oxygen

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O-GEN SERIES

Generating Plant of Oxygen

O-GEN series oxygen generators are intended for the highly efficient preparation of high quality oxygen. This device must only be used for the purposes for which it was specifically designed.

The complete oxygen generator system includes: Lubricated screw compressor, refrigerated air dryer, air reservoir, O-GEN O2 generator, oxygen tank, filters and pressure regulators, piping and pneumatic valves.

O-GEN SERIES
PSA - GENERATING PLANT OF OXYGEN

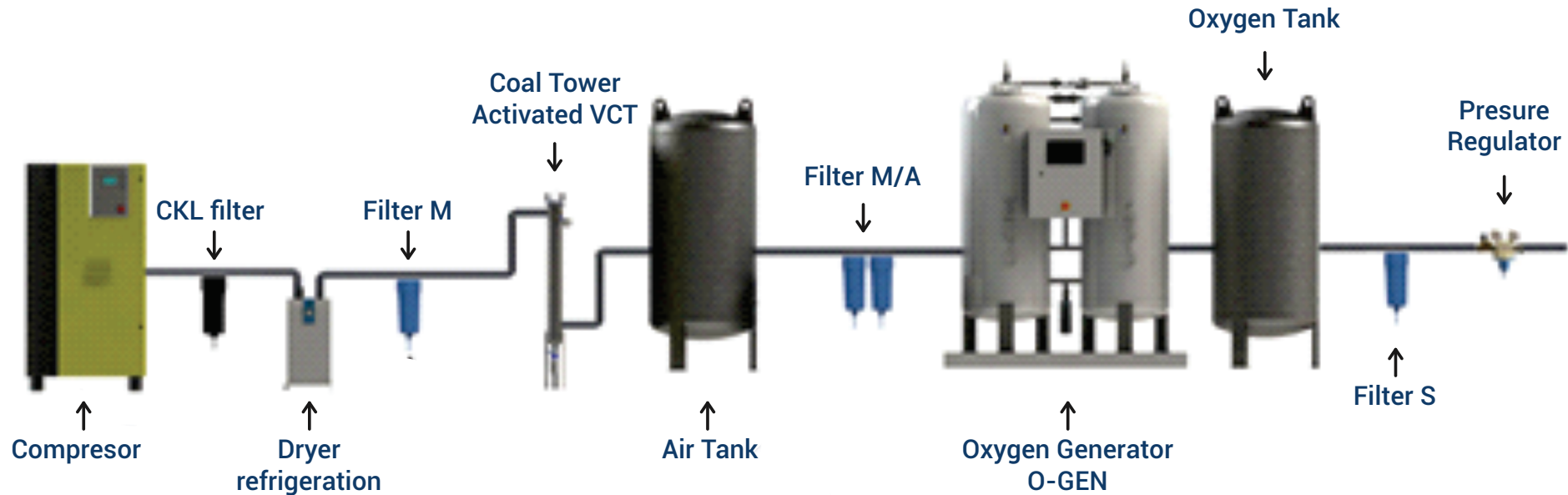


O-GEN - CONTAINER



O-GEN SEM CONTAINER

Flowchart O-GEN SKID



PROCESS O-GEN SKID

- Capture of ambient air
- Compression
- Separation of water and oil by cyclone (CKL Filter)
- Condensate Separation (Cooling Dryer)
- Pre-filter (M) to eliminate contaminants (0.1 Micron)
- VCT activated carbon tower for retention of hydrocarbons in the air
- Air storage tank
- Pre-filter (M) to eliminate contaminants (0.1 Micron)
- Activated Carbon Filter (A) to eliminate oil vapor, odors and liquid contaminants
- In the Oxygen Generator, the air is subjected to a zeolite molecular sieve under low pressure for a period sufficient for adsorption of monoxide and dioxide of carbon, water vapor and practically all the nitrogen present in the air
- Ultra fine filter (S) to eliminate contaminants (0.01 Micron)
- Pressure regulation of separated and concentrated oxygen at a purity of 95% \pm 2%.

AIR QUALITY STANDARDS X VALMIG SYSTEM

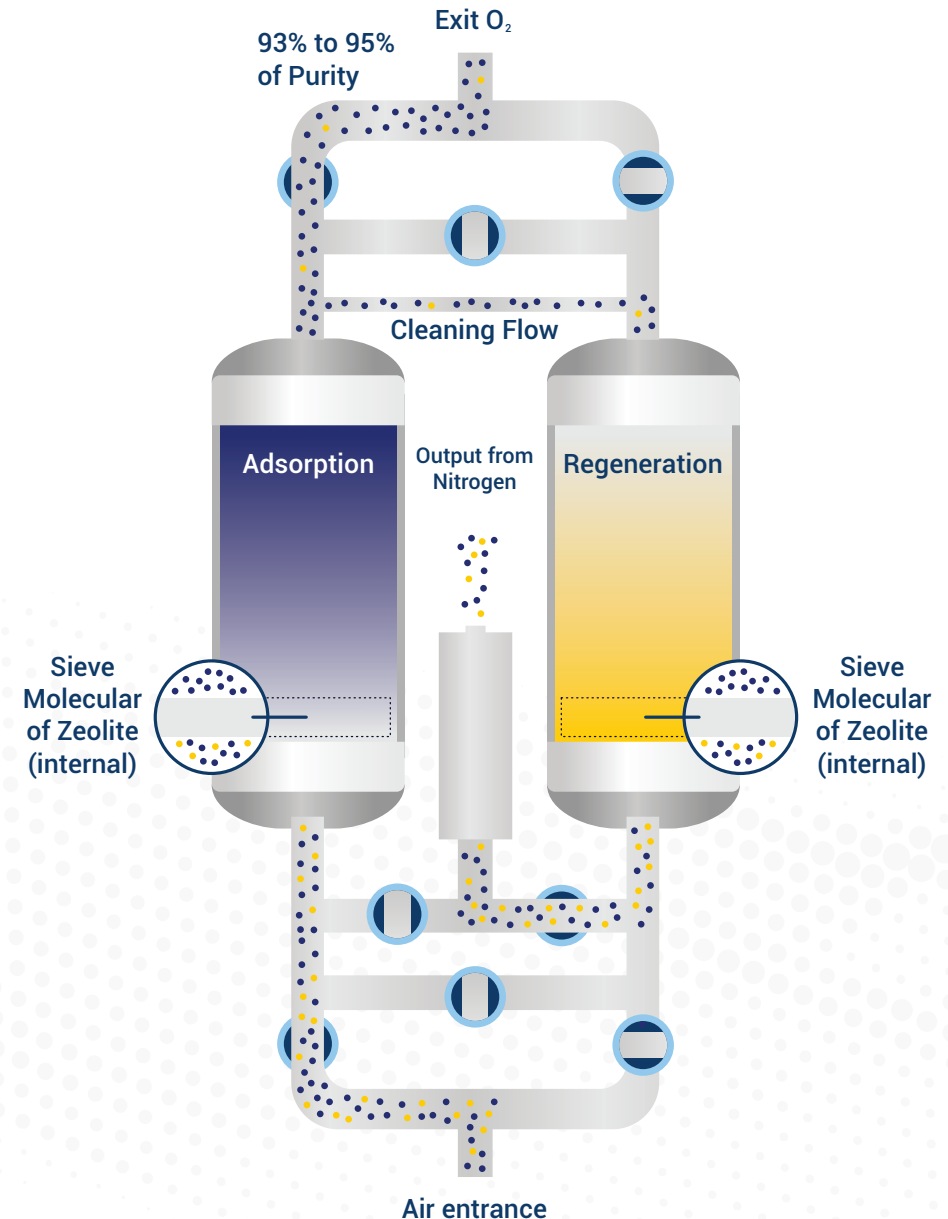
PERFORMANCE OXYGEN GENERATOR	ABNTNBR 12.188 & NBR 13.587	GENERATOR OF VALMIG OXYGEN
Concentration of oxygen	93%	93% a 95%
Monoxide of carbon	< 5 ppm	< 5 ppm
Dioxide of carbon	< 300 ppm	< 300 ppm
Point of Dew	< 67 ppm	< 67 ppm

O-GEN SKID GENERATING PLANT OF OXYGEN

PSA Technology

Valmig's OGEN Series oxygen generators extract available oxygen in ambient air from other gases by applying Pressure Exchange Adsorption (PSA) technology. During the PSA process, clean, compressed ambient air is drawn into a bed of molecular sieve, which allows oxygen to separate from other gases. The sieve releases the adsorbed gases to the atmosphere when the outlet valve is closed and the bed pressure returns to ambient pressure.

Thereafter, the bed will be purged with oxygen before fresh compressed air enters for a new production cycle. To ensure a constant flow of product, Vitare oxygen generators use two beds of molecular sieve, which alternate between the adsorption and regeneration phases.



Compressor

LUBRICATED SCREW

Lubricated screw-type compressors provide excellent efficiency and reliability. In addition to having an internal energy saving system and integrated controller.

- Power: 3 - 100 hp.
- Pressure: 10 bar.
- Flow: 12 - 440 m³/h.
- Easy maintenance.
- Exceptionally Silent.
- IE3 and IE4 engines with Premium Efficiency performance provide additional energy savings.
- Integrated refrigeration dryer for high quality compressed air.

Activated Charcoal Tower

VCT

Valmig activated carbon towers are filtering systems for Compressed Air. Activated carbon has the capacity to retain hydrocarbons that are in Ar. VCT towers meet flow ranges from 400 to 1000 M3/h. Manufactured in accordance with the NR13 standard, they have an electronic drain, safety valve and pressure gauge.

Maximum working pressure: 10 BAR

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Air / Oxygen Reservoir

Our projects follow the NR-13 standard from the Ministry of Labor and the ASME VIII standard (Code for Boilers and Pressure Vessels).

All reservoirs are made-to-measure and accompanied by an NR-13 chart, which contains certificates of the raw materials and inputs used, calculation memory, welders qualification sheets (RQS) and welding procedures (EPS / RQPS) according to ASME IX.

- Test pressure: 240 psi - 500 psi
- Internal and External Painting
- Data book
- Volume: 250 L, 350 L, 500 L, 890 L 1000 L, 1500 L
- Material = ASTMA-36
- Working Pressure = 7.5 bar
- Accessories = Safety Valve, Pressure Gauge, Drain



CONTROL PANEL

The Control Panel was developed with the most modern control system – PLC, with built-in HMI, where all the operating instructions are located, being the central processing.

It receives signals from external and internal devices, processes the data and returns a response that enables or disables something in the system, in addition to signaling the instantaneous situation of the equipment through audiovisual and in the HMI itself. The oxygen content is measured by the analyzer through an oxygen sensor of the zirconia oxide type.

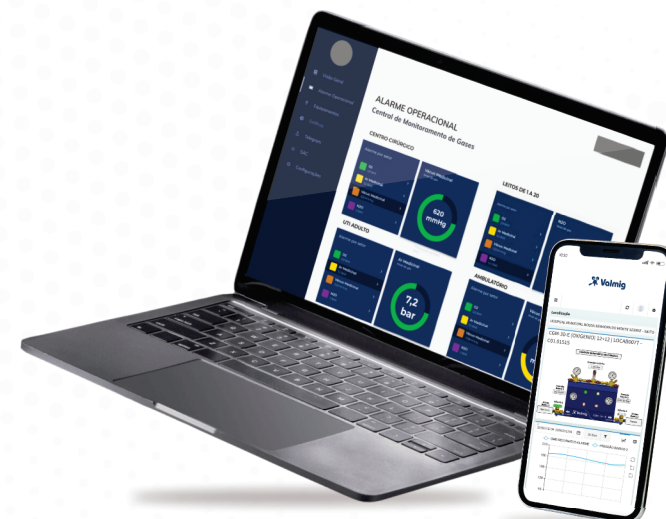
- Manufactured in accordance with Standard Nr10
- 4.3" color touch screen default on all devices
- Emergency button
- Surge protection system
- Electronic control system of maintenance
- UL certification
- Control options that can be added:
 - Dew point sensor
 - Flowmeter
 - Purity control valve
 - Mass flow meter with totalizer (05 to 100 Kg/H)
 - Humidity and Temperature Transmitter (5% to 95% U.R. | -10°C to 60°C)

TELEMETRY COMMUNICATION PORT

On the Valmig telemetry portal, customers are guaranteed that their equipment will be monitored 24 hours a day, thus ensuring more safety and convenience. With accurate readings, the Valmig Equipment that composes this type of technology presents multiple equipment data, such as: connectivity status, alarms and sending commands. The telemetry system centralizes data and allows the manager to access information from anywhere, reducing costs of processes and operations by applying the system to the maintenance of equipment remotely.



O-GEN SERIES PSA - GENERATING PLAN OF OXYGEN



OGEN's Accessories

EXTRA SENSORS AND CONTROLS

- Mass flow meter with totalizer (5 Kh/H up to 100 Kg/H)
- Humidity and temperature transmitter (-10 C to 60 C / 5% to 95% R.U.)

FILLING SYSTEM AND RESERVATION CENTERS

- 1 Booster System from 5m³/h to 100 m³/h with a capacity of filling from 5 to 50 cylinders for filling.

The VALMIG Oil-Free Oxygen compressor is an oil-free, air-cooled model. Stability, Convenience and no pollution to the environment. The compressor frame is closed and sealed ensuring that there are no leaks; more secure and reliable.

This equipment has a manifold of 5 to 50 cylinders of 10m³ and an outlet pressure of 150 to 200 Bar.

- 2 10-cylinder filling manifold including: High pressure manifold brass, flexible hoses, CGA fittings, ball valve, valve safety valve, pressure switches and a 4" pressure gauge.
- 3 20-cylinder filling manifold including: High pressure manifold brass, flexible hoses, CGA fittings, individual shut-off valve, valve safety valve, pressure switches and a 4" pressure gauge.
- 4 30-cylinder filling manifold including: High pressure manifold brass, flexible hoses, CGA fittings, individual shut-off valve, valve safety valve, pressure switches and a 4" pressure gauge.

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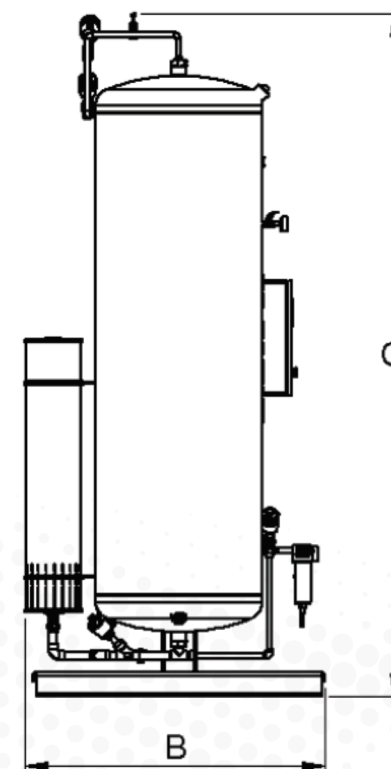
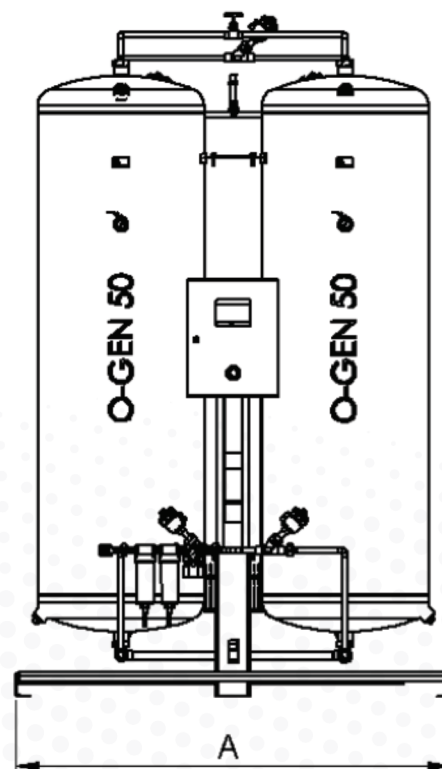
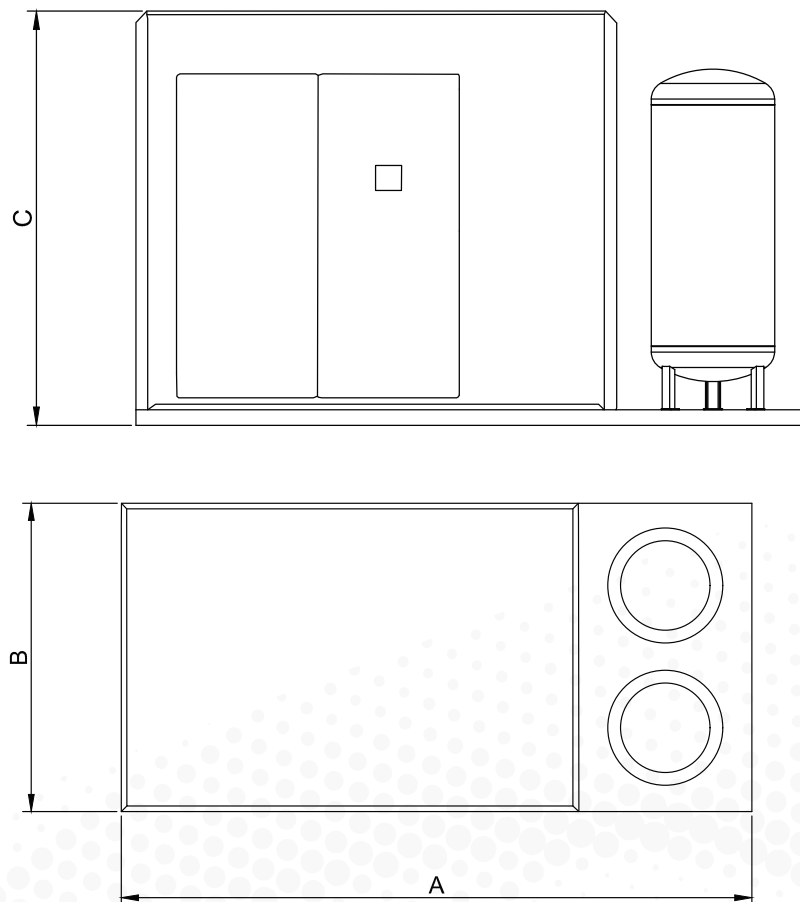


Technical Specifications

MODEL	MOUNTING	WEIGHT TOTAL	DIMENSIONS (mm)			OXYGEN PURITY						POWER OF COMPRESSOR	VOLUME OF TANK	CONNECTION OUTPUT
						95%		93%		90%				
			A	B	C	FLOW RATE Nm³/h	AIR CONSUMPTION Nm³/h	FLOW RATE Nm³/h	AIR CONSUMPTION Nm³/h	FLOW RATE Nm³/h	AIR CONSUMPTION Nm³/h			
		Kg										kW	L	NPT
O-GEN 5	SIMPLEX	1393	2600	1500	2200	4,75	52,65	5	58,5	5,07	65	8,5	350	1"
	SIMPLEX CONTAINER	1602												
	DUPLEX	1793	3800	1500	2200									
	DUPLEX CONTAINER	2062												
O-GEN 10	SIMPLEX	1823	2800	1700	2400	9,37	97,2	9,93	108	10	120	12	350	1"
	SIMPLEX CONTAINER	2096												
	DUPLEX	2900	4150	1700	2400									
	DUPLEX CONTAINER	3335												
O-GEN 20	SIMPLEX	2313	3400	2000	2600	18,28	194,4	19,36	216	19,5	240	23	350	1"
	SIMPLEX CONTAINER	2660												
	DUPLEX	3263	4800	2000	2600									
	DUPLEX CONTAINER	3752												
O-GEN 30	SIMPLEX	2893	3500	2100	2700	28,21	267,3	29,56	297	30	330	31	500	1"
	SIMPLEX CONTAINER	3327												
	DUPLEX	4189	5560	2100	2700									
	DUPLEX CONTAINER	4817												
O-GEN 35	SIMPLEX	3588	3700	2300	2800	32,8	364,5	34,43	405	35	450	46	890	1.1/2"
	SIMPLEX CONTAINER	4126												
	DUPLEX	5345	5890	2300	2800									
	DUPLEX CONTAINER	6146												
O-GEN 50	SIMPLEX	3976	3900	2400	2900	46,86	526,5	48,92	585	50	650	76	890	1.1/2"
	SIMPLEX CONTAINER	4572												
	DUPLEX	6090	6260	2400	2900									
	DUPLEX CONTAINER	7003												
O-GEN 75	SIMPLEX	6270	5000	2600	3000	70,21	789,75	73,68	877,5	74,92	975	111	1000	2"
	SIMPLEX CONTAINER	7210												
	DUPLEX	11074	8075	2600	3000									
	DUPLEX CONTAINER	12735												
O-GEN 100	SIMPLEX	8053	6000	3200	3000	93,17	1053	97,77	1170	99,4	1300	152	1000	2"
	SIMPLEX CONTAINER	9261												
	DUPLEX	10779	8360	3200	3000									
	DUPLEX CONTAINER	12395												

Dimensions

O-GEN SERIES



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Equipment Trade and Technical Assistance

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