

OXYGEN GENERATOR – O-GEN (PSA Oxygen generator)



DESCRIPTION

The O-GEN series oxygen generators extract the available oxygen in the ambient air from the other gases by applying the Pressure Swing Adsorption (PSA) technology. During the PSA process compressed, cleaned ambient air is led to a molecular sieve bed, which allows the oxygen to pass through as a product gas, but adsorbs 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. Subsequently the bed will be purged with oxygen before fresh compressed air will enter for a new production cycle. In order to guarantee a constant product flow, O-GEN oxygen generators use modules of two molecular sieve beds, which alternatively switch between the adsorption and the regeneration phase. Under normal operating conditions and with correct maintenance the molecular sieve beds will have an almost indefinite lifetime.

APPLICATIONS

- Aquaculture
- Feed Gas for Ozone Generators
- Glass blowing
- Leaching
- Aquaculture
- NO_x Reduction for Fuel Burners
- Oxygen Lancing
- Welding, Brazing
- Wellness

TECHNICAL SPECIFICATIONS

Operating pressure	5 – 6 barg
Operating temperature (Feed air)	15°C to 50°C
Oxygen Dew point (at atmospheric pressure)	-60°C
Voltage, Frequency	110–230 V / 50–60 Hz
Power consumption	<60W
Sound level	80dB(A)
Compressed air quality (inlet)	Class 1.4.1 acc. to ISO 8573-1 (0,1um ; 3°C ; <0,01mg/m3/h)
Filters (inlet + outlet)	Included

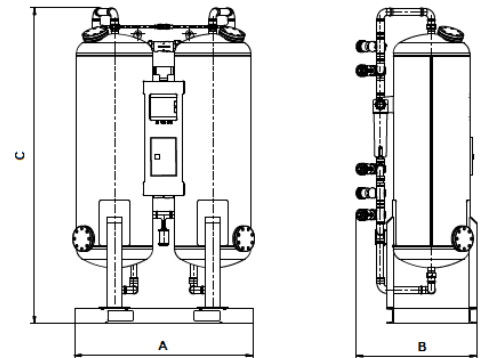
MATERIALS

Columns, construction, support	Carbon Steel
Column inner protection	/
Column and construction protection	Epoxy powder painted
Valves	Brass, aluminium
Fitting, screws, plugs	INOX, brass, steel (zinc coated)
Outside protection	Epoxy powder painted
Adsorbent	Molecular sieve 13X

SIZES

Model	Connection [inch]		Length A [mm]	Width B [mm]	Height C [mm]	Mass [kg]	Volume* [l]
	IN	OUT					
O-GEN 1	½"	½"	1093	550	1734	160	23
O-GEN 2	½"	½"	1070	550	1641	205	36
O-GEN 3	½"	½"	1079	550	1760	255	63
O-GEN 4	½"	½"	1132	550	1913	335	72
O-GEN 5	½"	½"	1297	760	2048	585	105
O-GEN 6	½"	½"	950	720	2005	500	127
O-GEN 8	½"	½"	1453	760	2055	725	176
O-GEN 10	1"	½"	1450	760	2102	845	225
O-GEN 13	2"	½"	1688	860	2184	1170	280
O-GEN 16	2"	½"	1250	850	2380	1310	312
O-GEN 20	2"	½"	1800	910	2210	1450	400
O-GEN 23	2"	½"	1848	1010	2267	1675	480
O-GEN 29	2"	½"	1550	1030	2520	1950	566
O-GEN 35	2"	1"	2060	1160	2378	2260	750
O-GEN 44	2"	1"	2293	1325	2396	2800	970
O-GEN 50	2"	1"	2605	1425	2500	3850	1210
O-GEN 57	2"	1"	2605	1425	2560	3890	1250
O-GEN 64	2"	1"	2815	1625	2510	4550	1450
O-GEN 75	2"	1"	2815	1625	2605	4600	1540
O-GEN 84	2"	1"	3070	1675	2535	6500	1910
O-GEN 100	DN65	DN40	3100	1690	2885	6850	2140

* per column



PERFORMANCE

Model	INLET PRESSURE [barg]	DISCHARGE PRESSURE [barg]	OXYGEN PURITY [%]		
			90	93	95
O-GEN 1; O ₂ flow [Nm ³ /h	7,5	6,1	1,07	1,02	0,97
Feed air consumption [Nm ³ /h]			11,6	11,4	11,3
O-GEN 2; O ₂ flow [Nm ³ /h	7,5	6,1	1,80	1,71	1,63
Feed air consumption [Nm ³ /h]			19,6	19,3	19,0
O-GEN 3; O ₂ flow [Nm ³ /h	7,5	6,1	2,88	2,75	2,62
Feed air consumption [Nm ³ /h]			31,4	30,9	30,4
O-GEN 4; O ₂ flow [Nm ³ /h	7,5	6,1	3,56	3,40	3,24
Feed air consumption [Nm ³ /h]			38,8	38,2	37,6
O-GEN 5; O ₂ flow [Nm ³ /h	7,5	6,1	5,07	4,84	4,61
Feed air consumption [Nm ³ /h]			55,2	54,4	53,6
O-GEN 6; O ₂ flow [Nm ³ /h	7,5	6,1	6,50	6,21	5,92

Feed air consumption [Nm3/h]			70,9	69,8	68,7
O-GEN 8; O ₂ flow [Nm3/h	7,5	6,1	8,11	7,74	7,38
Feed air consumption [Nm3/h]			88,4	87,1	85,7
O-GEN 10; O ₂ flow [Nm3/h	7,5	6,1	10,00	9,55	9,10
Feed air consumption [Nm3/h]			109,0	107,4	105,7
O-GEN 13; O ₂ flow [Nm3/h	7,5	6,1	13,29	12,69	12,09
Feed air consumption [Nm3/h]			144,8	142,7	140,5
O-GEN 16; O ₂ flow [Nm3/h	7,5	6,1	16,00	15,28	14,56
Feed air consumption [Nm3/h]			174,4	171,8	169,2
O-GEN 20; O ₂ flow [Nm3/h	7,5	6,1	19,50	18,62	17,75
Feed air consumption [Nm3/h]			212,6	209,4	206,2
O-GEN 23; O ₂ flow [Nm3/h	7,5	6,1	23,28	22,23	21,19
Feed air consumption [Nm3/h]			253,8	250,0	246,1
O-GEN 29; O ₂ flow [Nm3/h	7,5	6,1	29,00	27,70	26,39
Feed air consumption [Nm3/h]			316,1	311,4	306,6
O-GEN 35; O ₂ flow [Nm3/h	7,5	6,1	35,00	33,43	31,85
Feed air consumption [Nm3/h]			381,5	375,8	370,1
O-GEN 44; O ₂ flow [Nm3/h	7,5	6,1	43,77	41,80	39,83
Feed air consumption [Nm3/h]			477,0	469,9	462,7
O-GEN 50; O ₂ flow [Nm3/h	7,5	6,1	50,00	47,75	45,50
Feed air consumption [Nm3/h]			545,0	536,8	528,7
O-GEN 57; O ₂ flow [Nm3/h	7,5	6,1	57,00	54,44	51,87
Feed air consumption [Nm3/h]			621,3	612,0	602,7
O-GEN 64; O ₂ flow [Nm3/h	7,5	6,1	64,00	61,12	58,24
Feed air consumption [Nm3/h]			697,6	687,1	676,7
O-GEN 75; O ₂ flow [Nm3/h	7,5	6,1	74,92	71,54	68,17
Feed air consumption [Nm3/h]			816,6	804,3	792,1
O-GEN 84; O ₂ flow [Nm3/h	7,5	6,1	84,00	80,22	76,44
Feed air consumption [Nm3/h]			915,6	901,9	888,1
O-GEN 100; O ₂ flow [Nm3/h	7,5	6,1	99,40	94,93	90,46
Feed air consumption [Nm3/h]			1083,5	1067,3	1051,0

Flow rates at standard atmospheric conditions (20 °C / 70 °F, 1013 mbar / 14,7 psi and 60% RH).

Performance +/- 5%.

STANDARD EQUIPMENT

- Set of External Feed Air Filters
- Adsorber Vessel in Carbon Steel
- Long life Pneumatic Valves
- Exhaust Mufflers
- Air and Oxygen flow Regulation
- Control System with SIEMENS PLC
- WebControl
- Pressure Transmitter

OPTIONAL EQUIPMENT

- Oxygen Analyzer with Zirconium-Oxide Sensor
- Electronic Product Flow Meter
- Feed Air / Product Moisture Analyser
- Oxygen Booster with Cylinder Filling System
- Feed Air / Product Temperature Transmitters
- Touch screen or Semi-Graphical Operator Interface
- Sterile Filters

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