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
Inlet temperature range (feed air)	10°C up to 55°C
Dew point (at ambient pressure)	<-60°C
Voltage, Frequency	110–230 V / 50–60 Hz
Power consumption	<60W
Sound level	80dB(A)
Protection class (controller)	IP 54
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

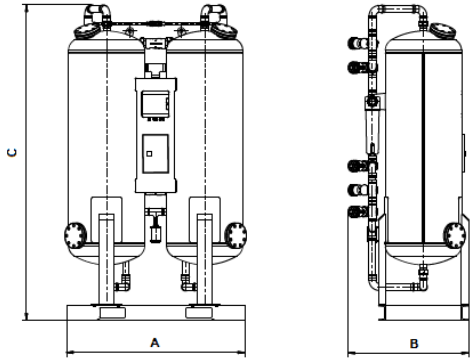
MATERIALS

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

SIZES

Model	Connection [inch]		Length A [mm]	Width B [mm]	Height C [mm]	Mass [kg]	Volume* [l]
	IN	OUT					
O-GEN 1	½''	½''	1126	550	1760	191	23
O-GEN 2	½''	½''	1100	550	1646,6	230	36
O-GEN 3	½''	½''	1102	550	1779	300	63
O-GEN 4	½''	½''	1073	550	1942	330	72
O-GEN 5	½''	½''	1240	760	2068	580	105
O-GEN 6	½''	½''	1370	760	2081	615	127
O-GEN 8	½''	½''	1370	**760**	2092	715	176
O-GEN 10	1''	½''	1446	760	2140	875	225
O-GEN 13	2''	½''	1728	860	2204	1175	280
O-GEN 16	2''	½''	1736	860	2354	1255	312
O-GEN 20	2''	½''	1801	910	2256	1470	400
O-GEN 23	2''	½''	1830	1010	2263	1670	480
O-GEN 29	2''	½''	1916	1010	2314	1955	566
O-GEN 35	2''	1''	2060	1180	2436	2560	750
O-GEN 44	2''	1''	2293	1325	2508	3055	970
O-GEN 50	2''	1''	2603	1425	2539	4130	1210
O-GEN 57	2''	1''	2603	1425	2588	4225	1250
O-GEN 64	2''	1''	2815	1630	2546	4780	1450
O-GEN 75	2''	1''	2815	1630	2675	5020	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 [m3/h]	6	4,8	1,16	1,11	1,06
Feed air consumption [m3/h]			15,1	14,9	14,8
O-GEN 2; O_2 flow [m3/h]	6	4,8	1,80	1,72	1,64
Feed air consumption [m3/h]			23,4	23,2	22,9
O-GEN 3; O_2 flow [m3/h]	6	4,8	3,15	3,01	2,87
Feed air consumption [m3/h]			41,0	40,6	40,2
O-GEN 4; O_2 flow [m3/h]	6	4,8	3,52	3,36	3,20
Feed air consumption [m3/h]			45,8	45,3	44,8
O-GEN 5; O_2 flow [m3/h]	6	4,8	5,28	5,04	4,80
Feed air consumption [m3/h]			68,6	68,0	67,3

O-GEN 6; O_2 flow [m3/h]	6	4,8	6,64	6,34	6,04
Feed air consumption [m3/h]			86,3	85,5	84,6
O-GEN 8; O_2 flow [m3/h]	6	4,8	8,64	8,25	7,86
Feed air consumption [m3/h]			112,3	111,2	110,1
O-GEN 10; O_2 flow [m3/h]	6	4,8	11,04	10,54	10,05
Feed air consumption [m3/h]			143,5	142,1	140,6
O-GEN 13; O_2 flow [m3/h]	6	4,8	13,68	13,06	12,45
Feed air consumption [m3/h]			177,8	176,1	174,3
O-GEN 16; O_2 flow [m3/h]	6	4,8	15,20	14,52	13,83
Feed air consumption [m3/h]			197,6	195,6	193,6
O-GEN 20; O_2 flow [m3/h]	6	4,8	19,84	18,95	18,05
Feed air consumption [m3/h]			257,9	255,3	252,8
O-GEN 23; O_2 flow [m3/h]	6	4,8	23,00	21,97	20,93
Feed air consumption [m3/h]			299,0	296,0	293,0
O-GEN 29; O_2 flow [m3/h]	6	4,8	26,56	25,36	24,17
Feed air consumption [m3/h]			345,3	341,8	338,4
O-GEN 35; O_2 flow [m3/h]	6	4,8	35,52	33,92	32,32
Feed air consumption [m3/h]			461,8	457,1	452,5
O-GEN 44; O_2 flow [m3/h]	6	4,8	45,44	43,40	41,35
Feed air consumption [m3/h]			590,7	584,8	578,9
O-GEN 50; O_2 flow [m3/h]	6	4,8	57,60	55,01	52,42
Feed air consumption [m3/h]			748,8	741,3	733,8
O-GEN 57; O_2 flow [m3/h]	6	4,8	59,60	56,92	54,24
Feed air consumption [m3/h]			774,8	767,1	759,3
O-GEN 64; O_2 flow [m3/h]	6	4,8	68,72	65,63	62,54
Feed air consumption [m3/h]			893,4	884,4	875,5
O-GEN 75; O_2 flow [m3/h]	6	4,8	73,36	70,06	66,76
Feed air consumption [m3/h]			953,7	944,1	934,6
O-GEN 84; O_2 flow [m3/h]	6	4,8	83,52	79,76	76,00
Feed air consumption [m3/h]			1085,8	1074,9	1064,0
O-GEN 100; O_2 flow [m3/h]	6	4,8	101,60	97,03	92,46
Feed air consumption [m3/h]			1320,8	1307,6	1294,4

Refers to 1 bar(a) and 20˚C at 6 bar operating pressure and 30 °C compressed air temperature.
For the sizing at other conditions please contact manufacturer.
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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