

# Medical Oxygen Generator PSA- O2

The No.1 oxygen source for central oxygen supply system of hospitals  
The most safe, reliable, convenient and energy-saving oxygen supply method.

Operating room



Health care



Hyperbaric oxygen chamber



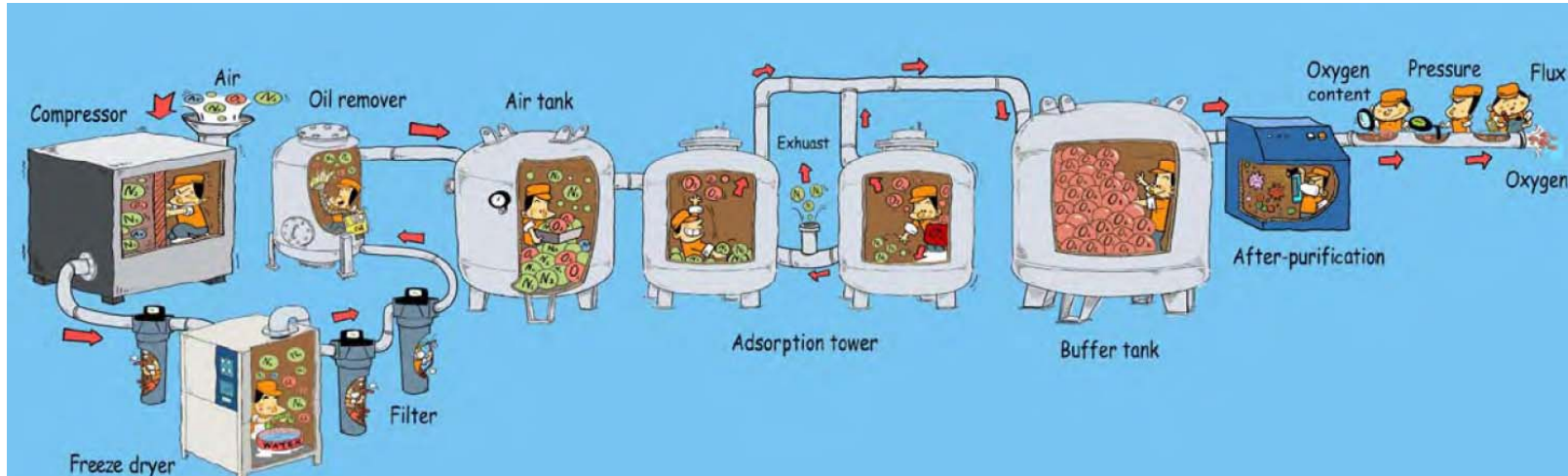
## Introduction:

This medical oxygen generator takes air as raw material. Being compressed by air compressor, air enters into freeze drying and multilevel filters to have its most water and impurities like dust particle removed, then flows into air tank to buffer and balance pressure before going to adsorber through switch valve, which has completed its molecular sieve regeneration and is under working state. In adsorber, gases like nitrogen and carbon dioxide are adsorbed by molecular sieve while oxygen gas enriches at the top of absorber and flows into oxygen buffer tank. After being filtrated by odor & dust removing filter and degerming filter, qualified medical oxygen gas is obtained.



The oxygen production of medical oxygen generator is a physical adsorption process, which has no chemical reaction and causes no pollution to environment. It is the idea oxygen supply method in modernization management of practical medical treatment system.

## Working Principle:



- Pressure swing adsorption (PSA), is a kind of advanced air separation technology that possesses an irreplaceable position on site gas supply field in today's world.
- Medical oxygen generator is a kind of equipment that adopts pressure swing adsorption principle to produce oxygen gas by taking zeolite molecular adsorbent.
- Under certain pressure, oxygen & nitrogen separation is realized by making use of diffusion adsorption of zeolite molecular sieve to nitrogen is much more than it is to oxygen, pressurizing to adsorb and depressurizing to desorb, so as to obtain clinic oxygen that is in accordance with medical standard.

## Equipment Composition and function:



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- Compressed Air Source: Air compressor provides compressed air source which is in accordance with the requirement of each technical specification for equipments.
- Air Cleaning System: Composed of freeze dryer, filters and air tank. Its function is to remove water, oil and other impurities from the former compressed air and provide clean air raw material for the later equipments so as to maintain the original activity of adsorbent and ensure the long time reliable running of shipment.
- Oxygen Purification /Nitrogen Separation system: (the core part of PSA oxygen generation system) composed of adsorption towers, oxygen buffer tank, valve and piping etc. Oxygen/Nitrogen separation is realized by the adsorption principles of pressurizing to adsorb and normal pressure to desorb so as to obtain oxygen that is in accordance with the requirement of design.
- Oxygen Purification & Testing Control System: Composed of oxygen purification device, purity testing device and control system. By the treatment of dust-removing, degerming, purification and pressure stabilization control, the stable output of clinic oxygen that is in accordance with medical standard is guaranteed.
- Oxygen buffer tank: The produced oxygen gas is firstly stored in oxygen buffer tank whose oxygen storage pressure is  $\geq 0.5$  MPa.
- Spare oxygen supply system: Composed of bus bar, cylinders, oxygen booster and accessorial instruments, optional as per customer's requirement.

### **Main technical specification:**

- Oxygen capacity: 1-50 Nm<sup>3</sup>/Hour
- Oxygen pressure:  $\geq 0.5$  Mpa
- Oxygen purity:  $\geq 90\%$
- Dew point  $\leq -43^{\circ}\text{C}$

## Equipment Characteristics



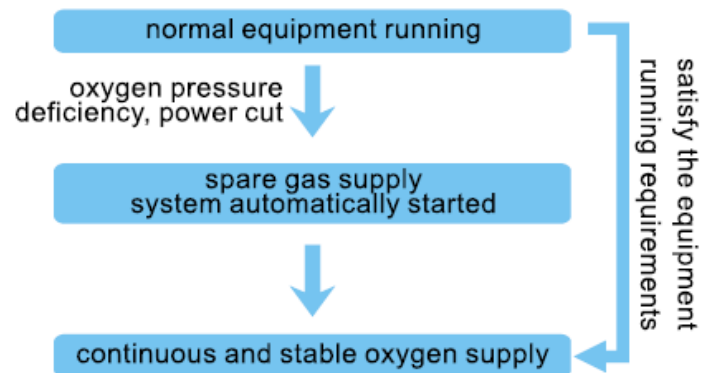
### Equipment Characteristics:

#### a) Simpler and Swifter

All you need to do is just to turn the start/stop button on the operation panel. Medical oxygen gas with design required capacity and purity can be available in 30 minutes at any time.

### b) More Safe and Reliable

1. The output oxygen pressure and purity can be fully controlled.
2. Oxygen supply is continuous and stable
3. Spare oxygen supply system is automatically started in case of oxygen pressure and deficiency or power cut.



### c) More economical and energy-saving.

1. Low oxygen cost, electric power only for equipment running.
2. Low manpower cost, intelligent control of equipment realized.
3. Little daily equipment maintenance and repair.

### d) More suitable for you

Equipment occupies less area. The equipments can be specially design for you against your actual conditions.

## Equipment Specification table:

Oxygen capacity (Nm <sup>3</sup> /h)	Installed power (Kw)	Applicable scope (bottle/month)	External size (M)	Net Weight (KG)	Noise (DB)	Oxygen capacity (Nm <sup>3</sup> /h)	Installed power (Kw)	Applicable scope (bottle/month)	External size (M)	Net Weight (KG)	Noise (DB)
1	5.5	120	6.1 × 1.5 × 2.4	1600	60	26	32.5	3120	13 × 1.75 × 3.25	5400	69
2	5.5	240	6.1 × 1.5 × 2.4	1800	60	27	39.5	3240	13.8 × 1.75 × 3.25	5450	72
3	5.5	360	6.1 × 1.5 × 2.4	2100	60	28	39.5	3360	13.8 × 1.75 × 3.25	5500	72
4	7.7	480	6.3 × 1.7 × 2.6	2300	61	29	39.7	3480	13.85 × 1.9 × 3.25	5550	72
5	7.7	600	6.4 × 1.7 × 2.6	2500	61	30	39.7	3600	14.5 × 1.9 × 3.25	5800	72
6	11.7	720	6.5 × 1.7 × 3.2	3000	62	31	39.7	3720	14.5 × 1.9 × 3.25	5850	72
7	11.9	840	6.7 × 1.7 × 3.2	3500	62	32	39.7	3840	14.5 × 1.9 × 3.25	5900	72
8	11.9	960	6.7 × 1.7 × 3.2	3700	62	33	47.7	3960	15 × 1.9 × 3.25	5950	73
9	16	1080	10.5 × 1.75 × 3.2	3800	64	34	47.7	4080	15 × 1.9 × 3.25	6000	73
10	16	1200	10.5 × 1.75 × 3.2	3850	64	35	47.7	4200	15 × 1.9 × 3.25	6050	73
11	16	1320	10.5 × 1.75 × 3.2	3900	64	36	48	4320	15.5 × 1.9 × 3.25	6300	73
12	16.5	1440	10.5 × 1.75 × 3.2	3950	64	37	48	4440	15.5 × 1.9 × 3.25	6350	73
13	20	1560	11 × 1.75 × 3.2	4000	66	38	48	4560	15.5 × 1.9 × 3.25	6400	73
14	20	1680	11 × 1.75 × 3.2	4100	66	39	48	4680	15.5 × 1.9 × 3.25	6450	73
15	23.5	1800	11 × 1.75 × 3.2	4150	67	40	58	4800	15.5 × 1.9 × 3.25	6500	74
16	23.5	1920	11.5 × 1.75 × 3.2	4200	67	41	58	4920	15.5 × 2.3 × 3.35	7700	74
17	23.5	2040	11.5 × 1.75 × 3.2	4300	67	42	58	5040	15.5 × 2.3 × 3.35	7750	74
18	31.5	2160	12 × 1.75 × 3.2	4500	69	43	58	5160	15.5 × 2.3 × 3.35	7800	74
19	31.5	2280	12.5 × 1.75 × 3.2	4600	69	44	58	5280	15.5 × 2.3 × 3.35	7850	74
20	31.5	2400	12.5 × 1.75 × 3.2	4650	69	45	58	5400	15.5 × 2.3 × 3.35	7850	76
21	31.5	2520	12.5 × 1.75 × 3.2	4900	69	46	59	5520	15.5 × 2.3 × 3.35	7900	76
22	31.5	2640	12.5 × 1.75 × 3.2	5000	69	47	59	5640	15.5 × 2.3 × 3.35	7900	76
23	31.5	2760	12.8 × 1.75 × 3.25	5200	69	48	59	5760	15.5 × 2.3 × 3.35	8050	76
24	32.5	2880	12.9 × 1.75 × 3.25	5300	69	49	79	5880	15.5 × 2.3 × 3.35	8200	78
25	32.5	3000	12.9 × 1.75 × 3.25	5350	69	50	79	6000	15.5 × 2.3 × 3.35	8250	78