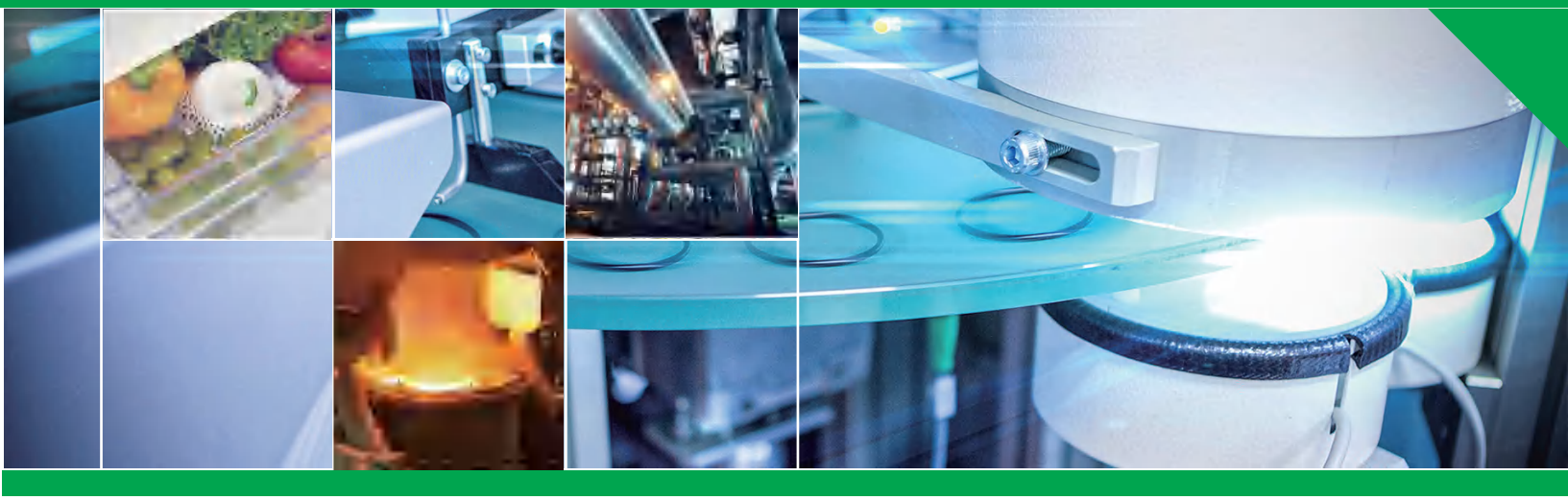
DENAIR®

PSA-N_2&O_2

Gas Generator

Nitrogen Purity 95% - 99.999%, Gas delivery 10 - 4000Nm3/h
Oxygen Purity 90% - 93%, Gas delivery 5 - 250Nm3/h



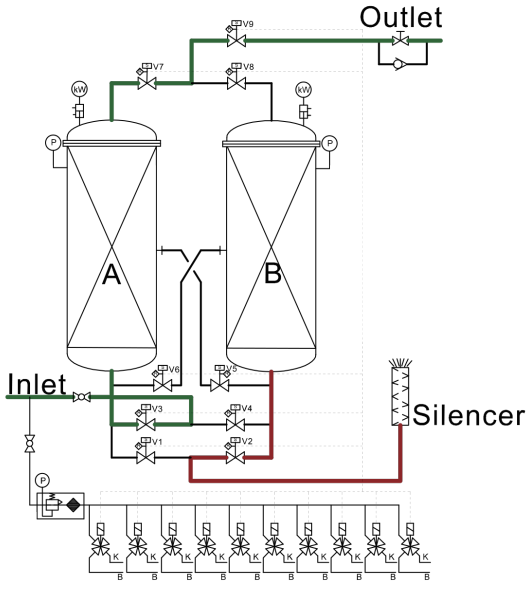
CONTENTS

PSA NITROGEN GENERATOR

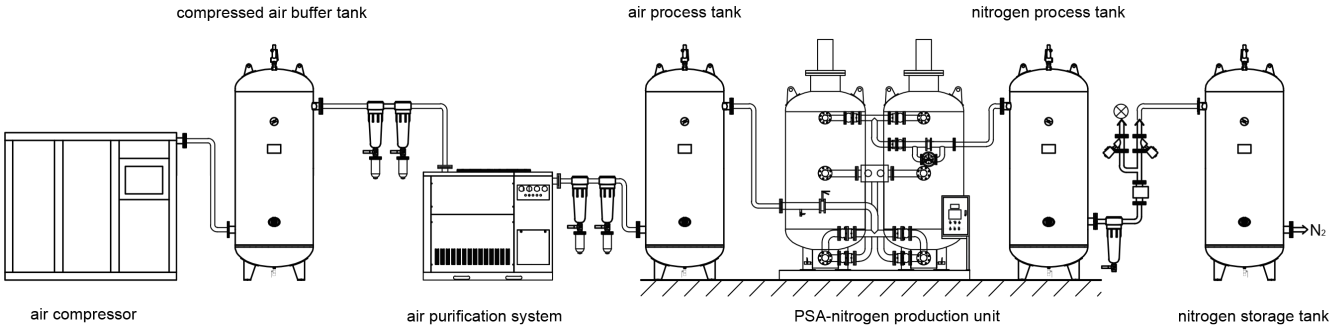
Working Principle

The nitrogen generator consists of two main adsorption towers. When clean compressed air enters the inlet of Tower A and flows towards the outlet through carbon molecular sieves, O2, CO2, and H2O are adsorbed by them, while the nitrogen product flows out from the outlet of the adsorption tower. After a period of time, the carbon molecular sieves in Tower A become saturated with adsorbed gases. At this point, Tower A automatically stops adsorption, and compressed air flows into Tower Bfor oxygen adsorption and nitrogen production, while Tower A's molecular sieves undergo regeneration.

The regeneration of the molecular sieves is achieved by rapidly reducing the adsorption tower to atmospheric pressure to remove the adsorbed O2, CO2, and H2O. The two towers alternate between adsorption and regeneration, completing the oxygen-nitrogen separation and continuously outputting nitrogen gas.



System Flow



Generally speaking, a nitrogen production equipment based on pressure swing adsorption consists of several main components: air compressor, compressed air buffer tank, air purification system, air process tank, nitrogen generation unit, nitrogen process tank, electrical control system, and nitrogen storage tank.

It can also be used in conjunction with a liquid nitrogen system, which is commonly used to compensate for peak demand.

Optional Features

Online monitoring

Automatic drain

Online display

Non-conformity alarm

Real-time printing

Automatic on/off switch

Remote monitoring

Paperless data recording

Unique Technological

Compression technology

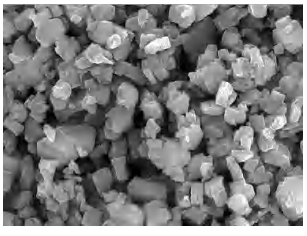
Based on a large amount of test data accumulated over many years of production, Denair adopts a dual compression structure of coconut pad compression and cylinder compression.
It avoids the shortcomings of short stroke, unstable force and inability to measure the amount of sinking when using coconut pad alone for compression. It also avoids the shortcomings of small force area and loose sealing when using cylinder alone for compression.

Pneumatic valve

Pneumatic valves are suitable for a variety of media including water, steam, and weakly corrosive gases and liquids. Their features include:
1. Integral structure of piston and valve core, double-acting form;
2. Good wear resistance and sealing performance;
3. Large flow area, low pressure loss, consistent performance in both forward and reverse flow;
4. Compact structure, easy installation and maintenance.

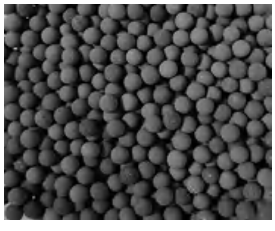
Electrical control components

1. PLCs are generally of Siemens brand, has high reliability and strong anti-interference ability;
2. HMIs are generally of Siemens brands, High resolution and 64,000 color shades help improve process visualization. The display's brightness is adjustable to 100% for flexibility;
3. Pneumatic components such as solenoid valves, pressure reducing filters, and pressure reducing valves are generally of Taiwan Airtac brand, with low power, lightweight appearance.



Molecular sieve

Deoxidizer



Catalyst

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Technical parameters for NP 95%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD95-30	1.1	30	20	15	1300*700*1450	600
DAFD95-40	1.5	40	20	15	1300*700*1450	600
DAFD95-50	1.8	50	20	25	1300*700*1650	650
DAFD95-60	2.2	60	20	25	1300*700*1850	700
DAFD95-80	2.9	80	20	25	1500*750*2000	800
DAFD95-100	3.7	100	20	25	1500*800*1950	900
DAFD95-120	4.4	120	25	25	1600*800*1920	1100
DAFD95-150	5.5	150	25	32	1700*800*2100	1300
DAFD95-180	6.6	180	25	32	1700*800*2350	1400
DAFD95-200	7.3	200	32	32	1700*900*2350	1600
DAFD95-250	9.2	250	32	40	1800*1000*2600	1800
DAFD95-300	11.0	300	32	40	1900*1150*2600	2100
DAFD95-350	12.8	350	40	40	1900*1150*2750	2150
DAFD95-400	14.7	400	40	50	2000*1200*2800	2300
DAFD95-450	16.5	450	50	50	2100*1300*2900	2400
DAFD95-500	18.3	500	50	50	2100*1300*3150	2600
DAFD95-550	20.2	550	50	50	2300*1450*3000	2850
DAFD95-600	22.0	600	50	65	2300*1450*3150	3000
DAFD95-650	23.8	650	50	65	2300*1450*3300	3200
DAFD95-700	25.7	700	65	65	2300*1450*3300	3300
DAFD95-750	27.5	750	65	65	2400*1600*3000	3500
DAFD95-800	29.3	800	65	65	2400*1600*3100	3650
DAFD95-850	31.2	850	65	65	2400*1600*3200	3800
DAFD95-900	33.0	900	65	65	2400*1600*3300	4000
DAFD95-950	34.8	950	65	65	2600*1600*3200	4500
DAFD95-1000	36.7	1000	65	100	2600*1600*3200	4700
DAFD95-1200	44.0	1200	80	100	2850*1800*3350	5400
DAFD95-1500	55.0	1500	80	100	3000*2000*3400	6500
DAFD95-1800	66.0	1800	100	100	3300*2000*3550	7700
DAFD95-2000	73.3	2000	100	100	3600*2200*3650	8500
DAFD95-2500	91.7	2500	100	125	3600*2200*4050	9700
DAFD95-3000	110.0	3000	125	125	3650*2300*4200	11500
DAFD95-4000	146.7	4000	125	150	4000*2500*4950	17500

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.

Specifications are subject to change without notice.

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Technical parameters for NP 97%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD97-30	1.2	30	20	15	1300*700*1450	600
DAFD97-40	1.6	40	20	15	1300*700*1450	600
DAFD97-50	2.0	50	20	25	1300*700*1850	700
DAFD97-60	2.4	60	20	25	1500*750*1700	750
DAFD97-80	3.2	80	20	25	1500*800*1950	900
DAFD97-100	4.0	100	20	25	1600*800*1920	1100
DAFD97-120	4.8	120	25	25	1600*800*2120	1150
DAFD97-150	6.1	150	25	32	1700*800*2100	1300
DAFD97-180	7.3	180	32	32	1700*900*2350	1600
DAFD97-200	8.1	200	32	32	1700*900*2600	1700
DAFD97-250	10.1	250	32	40	1800*1000*2600	1900
DAFD97-300	12.1	300	40	40	1900*1150*2750	2150
DAFD97-350	14.1	350	40	40	2000*1200*2800	2300
DAFD97-400	16.1	400	50	50	2100*1300*3000	2500
DAFD97-450	18.2	450	50	50	2100*1300*3150	2600
DAFD97-500	20.2	500	50	50	2300*1450*3000	2850
DAFD97-550	22.2	550	50	50	2300*1450*3150	3000
DAFD97-600	24.2	600	65	65	2300*1450*3300	3200
DAFD97-650	26.2	650	65	65	2400*1600*3000	3500
DAFD97-700	28.2	700	65	65	2400*1600*3100	3650
DAFD97-750	30.3	750	65	65	2400*1600*3300	4000
DAFD97-800	32.3	800	65	65	2600*1600*3200	4700
DAFD97-850	34.3	850	65	65	2600*1600*3200	4700
DAFD97-900	36.3	900	65	65	2600*1600*3300	4850
DAFD97-950	38.3	950	65	65	2600*1600*3400	5000
DAFD97-1000	40.3	1000	80	100	2600*1600*3400	5000
DAFD97-1200	48.4	1200	80	100	2850*1800*3550	5900
DAFD97-1500	60.5	1500	80	100	3300*2000*3450	7400
DAFD97-1800	72.6	1800	100	100	3600*2200*3750	8800
DAFD97-2000	80.7	2000	100	100	3600*2200*3950	9400
DAFD97-2500	100.8	2500	125	125	3650*2300*4100	11000
DAFD97-3000	121.0	3000	125	125	4000*2500*4550	15500
DAFD97-4000	161.3	4000	150	150	4200*2700*5000	21000

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

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Technical parameters for NP 98%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD98-30	1.4	30	20	15	1300*700*1450	600
DAFD98-40	1.8	40	20	15	1300*700*1850	700
DAFD98-50	2.3	50	20	25	1500*750*1850	780
DAFD98-60	2.8	60	20	25	1500*750*2000	800
DAFD98-80	3.7	80	20	25	1600*800*1920	1100
DAFD98-100	4.6	100	25	25	1700*800*2100	1300
DAFD98-120	5.5	120	25	25	1700*800*2350	1400
DAFD98-150	6.9	150	32	32	1700*900*2500	1680
DAFD98-180	8.3	180	32	32	1800*1000*2600	1800
DAFD98-200	9.2	200	32	32	1800*1000*2600	1900
DAFD98-250	11.5	250	40	40	2000*1200*2650	2250
DAFD98-300	13.8	300	50	40	2100*1300*2900	2400
DAFD98-350	16.0	350	50	40	2100*1300*3150	2600
DAFD98-400	18.3	400	50	50	2300*1450*3000	2850
DAFD98-450	20.6	450	50	50	2300*1450*3300	3200
DAFD98-500	22.9	500	65	50	2400*1600*3000	3500
DAFD98-550	25.2	550	65	50	2400*1600*3100	3650
DAFD98-600	27.5	600	65	65	2400*1600*3200	3800
DAFD98-650	29.8	650	65	65	2600*1600*3200	4700
DAFD98-700	32.1	700	65	65	2600*1600*3300	4850
DAFD98-750	34.4	750	65	65	2600*1600*3400	5000
DAFD98-800	36.7	800	80	65	2850*1800*3350	5400
DAFD98-850	39.0	850	80	65	2850*1800*3450	5650
DAFD98-900	41.3	900	80	65	2850*1800*3550	5900
DAFD98-950	43.5	950	80	65	2850*1800*3550	5900
DAFD98-1000	45.8	1000	80	100	3000*2000*3400	6500
DAFD98-1200	55.0	1200	100	100	3300*2000*3450	7400
DAFD98-1500	68.8	1500	100	100	3600*2200*3850	9100
DAFD98-1800	82.5	1800	125	100	3650*2300*3900	10000
DAFD98-2000	91.7	2000	125	100	3650*2300*4100	11000
DAFD98-2500	114.6	2500	125	125	4000*2500*4650	16000
DAFD98-3000	137.5	3000	150	125	4200*2700*4700	18000
DAFD98-4000	183.3	4000	150	150	4400*2800*5200	25900

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

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Technical parameters for NP 99%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD29-20	1.0	20	20	15	1300*700*1450	600
DAFD29-30	1.5	30	20	15	1300*700*1850	700
DAFD29-40	2.1	40	20	15	1500*750*1850	780
DAFD29-50	2.6	50	20	25	1500*800*1950	900
DAFD29-60	3.1	60	20	25	1500*800*2100	950
DAFD29-80	4.1	80	25	25	1700*800*2100	1300
DAFD29-100	5.1	100	25	25	1700*800*2350	1400
DAFD29-120	6.2	120	32	25	1700*900*2500	1680
DAFD29-150	7.7	150	32	32	1800*1000*2600	1850
DAFD29-180	9.2	180	32	32	1900*1150*2750	2150
DAFD29-200	10.3	200	40	32	2000*1200*2650	2250
DAFD29-250	12.8	250	50	40	2100*1300*2900	2400
DAFD29-300	15.4	300	50	40	2100*1300*3150	2600
DAFD29-350	18.0	350	50	40	2300*1450*3150	3000
DAFD29-400	20.5	400	65	50	2400*1600*3000	3500
DAFD29-450	23.1	450	65	50	2400*1600*3200	3800
DAFD29-500	25.7	500	65	50	2400*1600*3300	4000
DAFD29-550	28.2	550	65	50	2600*1600*3200	4700
DAFD29-600	30.8	600	65	65	2600*1600*3400	5000
DAFD29-650	33.4	650	80	65	2850*1800*3350	5400
DAFD29-700	35.9	700	80	65	2850*1800*3450	5650
DAFD29-750	38.5	750	80	65	2850*1800*3550	5900
DAFD29-800	41.1	800	80	65	3000*2000*3400	6500
DAFD29-850	43.6	850	80	65	3000*2000*3500	6800
DAFD29-900	46.2	900	100	65	3000*2000*3600	7100
DAFD29-950	48.8	950	100	65	3300*2000*3450	7400
DAFD29-1000	51.3	1000	100	100	3300*2000*3550	7700
DAFD29-1200	61.6	1200	100	100	3600*2200*3750	8800
DAFD29-1500	77.0	1500	125	100	3650*2300*4000	10500
DAFD29-1800	92.4	1800	125	100	3650*2300*4400	12500
DAFD29-2000	102.7	2000	125	100	4000*2500*4650	16000
DAFD29-2500	128.3	2500	150	125	4200*2700*4800	19000
DAFD29-3000	154.0	3000	150	125	4400*2800*5000	24500

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

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Technical parameters for NP 99.5%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD295-20	1.1	20	20	15	1300*700*1450	600
DAFD295-30	1.6	30	20	15	1500*750*1700	750
DAFD295-40	2.1	40	20	15	1500*750*2000	800
DAFD295-50	2.7	50	20	25	1500*800*1950	900
DAFD295-60	3.2	60	25	25	1600*800*1920	1100
DAFD295-80	4.3	80	25	25	1700*800*2250	1350
DAFD295-100	5.3	100	32	25	1700*900*2350	1600
DAFD295-120	6.4	120	32	25	1800*1000*2600	1800
DAFD295-150	8.0	150	40	32	1900*1150*2600	2100
DAFD295-180	9.6	180	40	32	2000*1200*2650	2250
DAFD295-200	10.6	200	40	32	2000*1200*2800	2300
DAFD295-250	13.3	250	50	40	2100*1300*3150	2600
DAFD295-300	16.0	300	50	40	2300*1450*3150	3000
DAFD295-350	18.6	350	65	40	2400*1600*3000	3500
DAFD295-400	21.3	400	65	50	2400*1600*3200	3800
DAFD295-450	23.9	450	65	50	2400*1600*3300	4000
DAFD295-500	26.6	500	65	50	2600*1600*3300	4850
DAFD295-550	29.2	550	65	50	2600*1600*3400	5000
DAFD295-600	31.9	600	80	65	2850*1800*3350	5400
DAFD295-650	34.6	650	80	65	2850*1800*3550	5900
DAFD295-700	37.2	700	80	65	3000*2000*3400	6500
DAFD295-750	39.9	750	80	65	3000*2000*3500	6800
DAFD295-800	42.5	800	100	65	3000*2000*3600	7100
DAFD295-850	45.2	850	100	65	3300*2000*3450	7400
DAFD295-900	47.9	900	100	65	3300*2000*3550	7700
DAFD295-950	50.5	950	100	65	3600*2200*3650	8500
DAFD295-1000	53.2	1000	100	100	3600*2200*3750	8800
DAFD295-1200	63.8	1200	100	100	3650*2300*3900	10000
DAFD295-1500	79.8	1500	125	100	3650*2300*4400	12500
DAFD295-1800	95.7	1800	125	100	4000*2500*4750	16500
DAFD295-2000	106.3	2000	125	100	4200*2700*4700	18000
DAFD295-2500	132.9	2500	150	125	4400*2800*4900	24000

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

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Technical parameters for NP 99.9%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD39-10	0.7	10	20	15	1300*700*1450	600
DAFD39-20	1.3	20	20	15	1500*750*1700	750
DAFD39-30	2.0	30	20	15	1500*800*1950	900
DAFD39-40	2.6	40	25	15	1600*800*2120	1150
DAFD39-50	3.3	50	25	25	1700*800*2100	1300
DAFD39-60	4.0	60	25	25	1700*800*2350	1400
DAFD39-80	5.3	80	32	25	1800*1000*2600	1800
DAFD39-100	6.6	100	40	25	1900*1150*2600	2100
DAFD39-120	7.9	120	40	25	2000*1200*2650	2250
DAFD39-150	9.9	150	50	32	2100*1300*3000	2500
DAFD39-180	11.9	180	50	32	2300*1450*3000	2850
DAFD39-200	13.2	200	50	32	2300*1450*3150	3000
DAFD39-250	16.5	250	65	40	2400*1600*3100	3650
DAFD39-300	19.8	300	65	40	2600*1600*3200	4700
DAFD39-350	23.1	350	65	40	2600*1600*3400	5000
DAFD39-400	26.4	400	80	50	2850*1800*3450	5650
DAFD39-450	29.7	450	80	50	3000*2000*3400	6500
DAFD39-500	33.0	500	80	50	3000*2000*3600	7100
DAFD39-550	36.3	550	100	50	3300*2000*3550	7700
DAFD39-600	39.6	600	100	65	3600*2200*3650	8500
DAFD39-650	42.9	650	100	65	3600*2200*3750	8800
DAFD39-700	46.2	700	100	65	3600*2200*3850	9100
DAFD39-750	49.5	750	100	65	3600*2200*4050	9700
DAFD39-800	52.8	800	125	65	3650*2300*3900	10000
DAFD39-850	56.1	850	125	65	3650*2300*4100	11000
DAFD39-900	59.4	900	125	65	3650*2300*4200	11500
DAFD39-950	62.7	950	125	65	3650*2300*4300	12000
DAFD39-1000	66.0	1000	125	100	3650*2300*4400	12500
DAFD39-1200	79.2	1200	125	100	4000*2500*4850	17000
DAFD39-1500	99.0	1500	150	100	4200*2700*5000	21000
DAFD39-1800	118.8	1800	150	100	4400*2800*5200	25900

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

Technical parameters for NP 99.99%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD49-10	0.9	10	20	15	1300*700*1650	650
DAFD49-20	1.8	20	20	15	1500*800*1950	900
DAFD49-30	2.8	30	25	15	1700*800*2100	1300
DAFD49-40	3.7	40	25	15	1700*800*2350	1400
DAFD49-50	4.6	50	32	25	1700*900*2600	1700
DAFD49-60	5.5	60	32	25	1800*1000*2600	1900
DAFD49-80	7.3	80	40	25	2000*1200*2650	2250
DAFD49-100	9.2	100	50	25	2100*1300*3000	2500
DAFD49-120	11.0	120	50	25	2300*1450*3000	2850
DAFD49-150	13.8	150	50	32	2400*1600*3000	3500
DAFD49-180	16.5	180	65	32	2400*1600*3200	3800
DAFD49-200	18.3	200	65	32	2600*1600*3200	4700
DAFD49-250	22.9	250	65	40	2850*1800*3350	5400
DAFD49-300	27.5	300	80	40	3000*2000*3400	6500
DAFD49-350	32.1	350	80	40	3300*2000*3450	7400
DAFD49-400	36.7	400	100	50	3300*2000*3650	8000
DAFD49-450	41.3	450	100	50	3600*2200*3850	9100
DAFD49-500	45.8	500	100	50	3600*2200*4050	9700
DAFD49-550	50.4	550	125	50	3650*2300*4000	10500
DAFD49-600	55.0	600	125	65	3650*2300*4200	11500
DAFD49-650	59.6	650	125	65	3650*2300*4400	12500
DAFD49-700	64.2	700	125	65	4000*2500*4450	15000
DAFD49-750	68.8	750	125	65	4000*2500*4650	16000
DAFD49-800	73.3	800	125	65	4000*2500*4850	17000
DAFD49-850	77.9	850	125	65	4000*2500*4950	17500
DAFD49-900	82.5	900	150	65	4200*2700*4700	18000
DAFD49-950	87.1	950	150	65	4200*2700*4900	20000
DAFD49-1000	91.7	1000	150	100	4200*2700*5000	21000
DAFD49-1200	110.0	1200	150	100	4400*2800*5200	25900

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

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Technical parameters for NP 99.999%

Model	Air consumption (m^3/min)	FND (Nm^3/h)	Air pipe diamater (mm)	Nitrogen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFD59-10	1.1	10	20	15	1300*700*1650	650
DAFD59-20	2.2	20	25	15	1500*800*1950	900
DAFD59-30	3.3	30	32	15	1700*900*2350	1600
DAFD59-40	4.4	40	32	15	1800*1000*2600	1850
DAFD59-50	5.5	50	40	25	1900*1150*2750	2150
DAFD59-60	6.6	60	40	25	2000*1200*2800	2300
DAFD59-80	8.8	80	50	25	2300*1450*3000	2850
DAFD59-100	11.0	100	50	25	2300*1450*3300	3200
DAFD59-120	13.2	120	65	25	2400*1600*3200	3800
DAFD59-150	16.5	150	65	32	2600*1600*3300	4850
DAFD59-180	19.8	180	80	32	2850*1800*3350	5400
DAFD59-200	22.0	200	80	32	2850*1800*3550	5900
DAFD59-250	27.5	250	100	40	3300*2000*3450	7400
DAFD59-300	33.0	300	100	40	3600*2200*3750	8800
DAFD59-350	38.5	350	100	40	3600*2200*4050	9700
DAFD59-400	44.0	400	125	50	3650*2300*4000	10500
DAFD59-450	49.5	450	125	50	3650*2300*4300	12000
DAFD59-500	55.0	500	125	50	4000*2500*4550	15500
DAFD59-550	60.5	550	125	50	4000*2500*4750	16500
DAFD59-600	66.0	600	125	65	4000*2500*4950	17500
DAFD59-650	71.5	650	150	65	4200*2700*4800	19000
DAFD59-700	77.0	700	150	65	4200*2700*5000	21000
DAFD59-750	82.5	750	150	65	4400*2800*4900	24000
DAFD59-800	88.0	800	150	65	4400*2800*5100	25200

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the nitrogen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Nitrogen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
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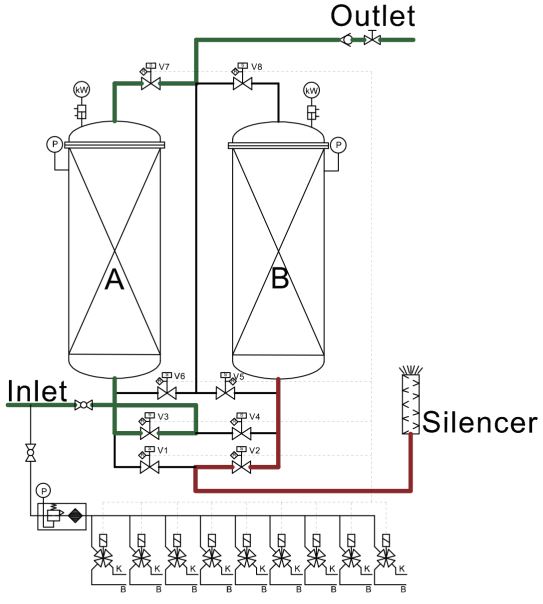
PSA OXYGEN GENERATOR

Working Principle

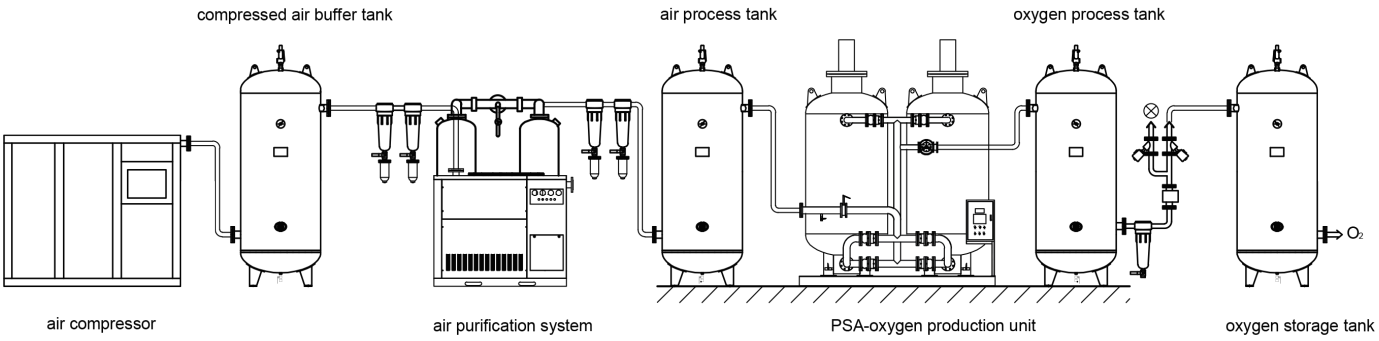
PSA oxygen production employs high-quality oxygen molecular sieves as adsorbents. It operates by pressurized adsorption and atmospheric pressure desorption to separate oxygen and nitrogen in the air and extract oxygen.

The adsorbent used in PSA oxygen production is zeolite molecular sieve, which is a polar adsorbent composed of a framework of positively charged cations and negatively charged silicon-aluminum-oxygen. Although O2 and N2 are non-polar adsorbates, the influence of polar molecules in zeolite molecular sieve induces a force. Since the induction force of N2 is greater than that of O2, the adsorption capacity of zeolite molecular sieve for N2 is much higher than for O2.

When air passes through the zeolite molecular sieve, N2 is preferentially adsorbed by the zeolite molecular sieve and enriched in its micropores, while O2, except for a small amount, mostly passes through the zeolite molecular sieve to become product oxygen. As zeolite molecular sieve is a polar substance, the stronger the polarity or the easier the polarization of the molecule, the easier it is to be adsorbed. Therefore, substances in the air such as acids, bases, carbon dioxide, oxides, halogens, etc., which are highly polar molecules, naturally find it difficult to enter the product oxygen through the zeolite molecular sieve.



System Flow



The pressure swing adsorption (PSA) oxygen production equipment consists of several main components: an air compressor, compressed air buffer tank, air purification system, air process tank, oxygen production unit, oxygen process tank, electrical control system, and oxygen storage tank.

Depending on different operating conditions, it can be used in conjunction with a liquid oxygen system. Liquid oxygen is commonly used to compensate for peak demand, while PSA oxygen production is used for regular gas supply.

Product Characteristics

Online monitoring

Online display

Non-conformity alarm

Real-time printing

Paperless data recording

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Technical parameters for OP 90%

Model	Air consumption (m^3/min)	FOD (Nm^3/h)	Air pipe diamater (mm)	Oxygen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFY90-5	0.9	5	20	15	1300*700*1850	700
DAFY90-10	1.9	10	20	15	1500*800*2100	950
DAFY90-20	3.8	20	32	15	1700*900*2500	1680
DAFY90-30	5.7	30	40	15	1900*1150*2600	2100
DAFY90-40	7.6	40	40	15	2000*1200*2800	2300
DAFY90-50	9.5	50	50	25	2100*1300*3150	2600
DAFY90-60	11.3	60	50	25	2300*1450*3150	3000
DAFY90-80	15.1	80	65	25	2400*1600*3200	3800
DAFY90-100	18.9	100	65	25	2600*1600*3300	4850
DAFY90-120	22.7	120	80	25	2850*1800*3350	5400
DAFY90-150	28.4	150	80	32	3000*2000*3500	6800
DAFY90-180	34.0	180	100	32	3300*2000*3550	7700
DAFY90-200	37.8	200	100	32	3600*2200*3650	8500
DAFY90-250	47.3	250	125	40	3650*2300*3900	10000

Technical parameters for OP 93%

Model	Air consumption (m^3/min)	FOD (Nm^3/h)	Air pipe diamater (mm)	Oxygen pipe diamater (mm)	Dimensions (mm)	Weight (kg)
DAFY93-5	1.1	5	20	15	1500*750*1700	750
DAFY93-10	2.2	10	20	15	1600*800*1920	1100
DAFY93-20	4.4	20	32	15	1700*900*2600	1700
DAFY93-30	6.6	30	40	15	1900*1150*2750	2150
DAFY93-40	8.8	40	50	15	2100*1300*2900	2400
DAFY93-50	11.0	50	50	25	2300*1450*3000	2850
DAFY93-60	13.2	60	65	25	2300*1450*3300	3200
DAFY93-80	17.6	80	65	25	2400*1600*3300	4000
DAFY93-100	21.9	100	65	25	2600*1600*3400	5000
DAFY93-120	26.4	120	80	25	2850*1800*3550	5900
DAFY93-150	33.0	150	100	32	3300*2000*3450	7400
DAFY93-180	39.6	180	100	32	3600*2200*3650	8500
DAFY93-200	44.0	200	100	32	3600*2200*3850	9100
DAFY93-250	55.0	250	125	40	3650*2300*4000	10500

*)The data are based on an air pressure of 0.8 MPag, a working environment temperature of 20°C, and an altitude of 0 meters as the design reference.
**) The equipment dimensions and weight in the table refer to the oxygen generator unit, excluding the upstream and downstream process tanks.
***) Air consumption refers to the air volume at the inlet of the air compressor, measured in m3/min.
****) Oxygen output refers to the standard volume at 101.3 KPag and 20°C, measured in Nm3/h.
Specifications are subject to change without notice.

P-DNR202404-08 Specifications are subject to change without prior notice
Never use compressed air as breathing air without prior purification in accordance with local legislation and standards.

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