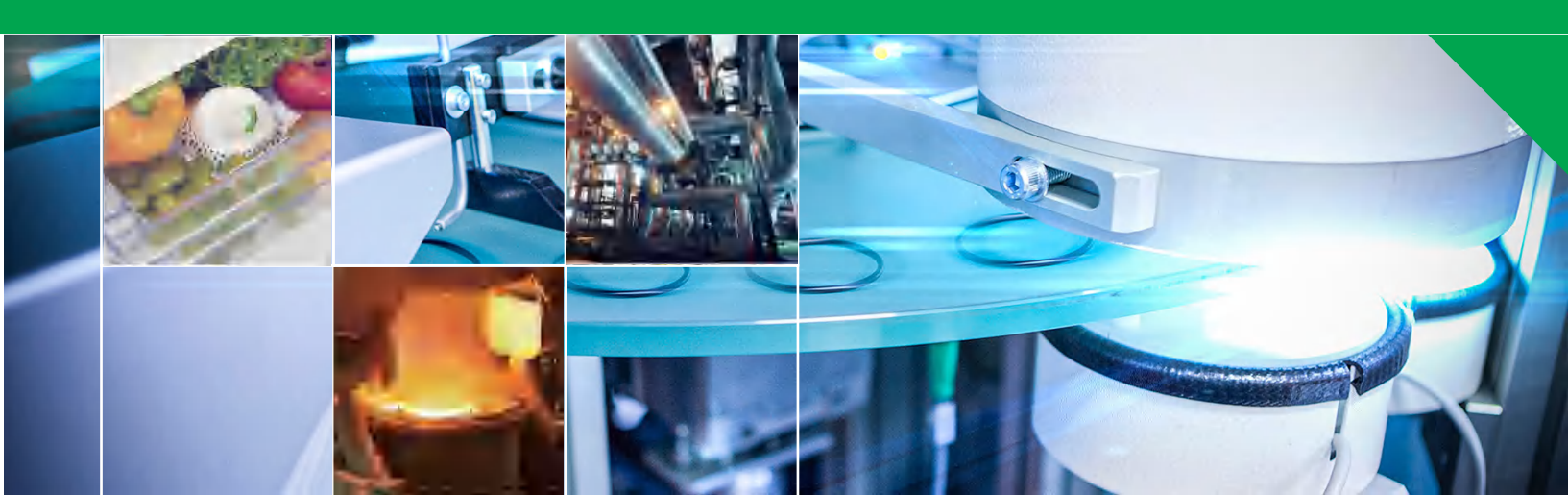


PSA-N₂&O₂

Gas Generator

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



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01 PSA NITROGEN GENERATOR
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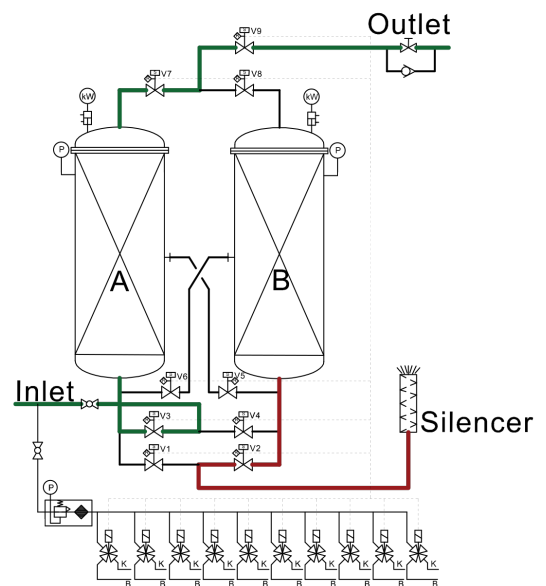
PSA NITROGEN GENERATOR



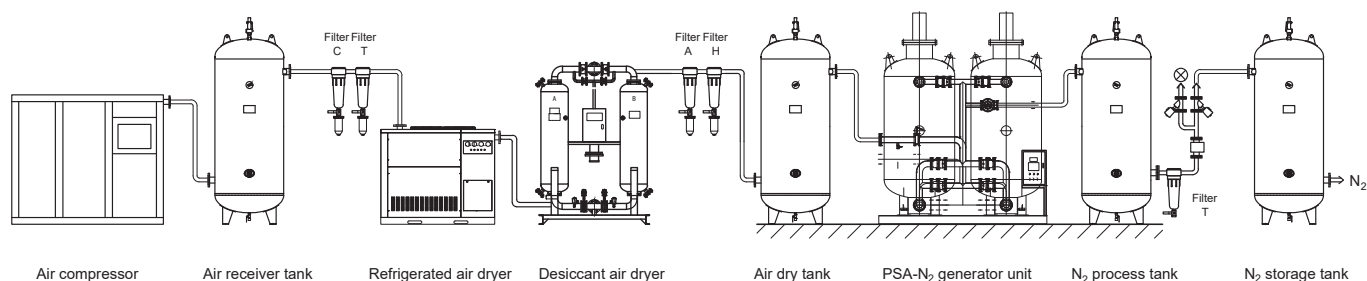
Working Principle

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 B for 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, air receiver tank, air purification system, air dry 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

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.

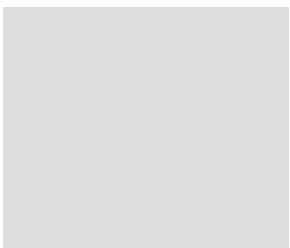
Pneumatic valve



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

Technical parameters for NP 95%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD95-30	0.90	30	20	15	1350*650*1950	500
DAFD95-40	1.20	40	25	25	1350*650*1950	500
DAFD95-50	1.50	50	25	25	1350*700*1900	600
DAFD95-60	1.80	60	25	25	1350*700*2100	650
DAFD95-80	2.40	80	25	25	1450*700*2050	700
DAFD95-100	3.00	100	25	25	1550*750*2200	900
DAFD95-120	3.60	120	32	25	1550*750*2200	900
DAFD95-150	4.50	150	32	25	1600*800*2250	1050
DAFD95-180	5.40	180	40	40	1650*800*2250	1200
DAFD95-200	6.00	200	40	40	1650*800*2350	1250
DAFD95-250	7.50	250	40	40	1700*900*2450	1500
DAFD95-300	9.00	300	50	40	1760*1000*2550	1700
DAFD95-350	10.50	350	50	40	1850*1150*2600	2000
DAFD95-400	12.00	400	50	50	1850*1150*2850	2150
DAFD95-450	13.50	450	65	50	1900*1200*2800	2250
DAFD95-500	15.00	500	65	50	2100*1400*2760	2350
DAFD95-550	16.50	550	65	50	2100*1400*2860	2500
DAFD95-600	18.00	600	65	50	2100*1400*3010	2600
DAFD95-650	19.50	650	65	65	2300*1400*2730	2850
DAFD95-700	21.00	700	80	65	2300*1400*3980	3000
DAFD95-750	22.50	750	80	65	2300*1400*3130	3200
DAFD95-800	24.00	800	80	65	2500*1600*2900	3500
DAFD95-850	25.50	850	80	65	2500*1600*3000	3750
DAFD95-900	27.00	900	80	65	2500*1600*3000	3750
DAFD95-950	28.50	950	80	65	2500*1600*3100	3900
DAFD95-1000	30.00	1000	80	65	2500*1600*3200	4100
DAFD95-1200	36.00	1200	100	80	2550*1620*3350	5050
DAFD95-1500	45.00	1500	100	80	2880*1830*3500	6400
DAFD95-1800	54.00	1800	125	100	3000*2080*3600	7200
DAFD95-2000	60.00	2000	125	100	3300*2150*3600	8100
DAFD95-2500	75.00	2500	125	100	3500*2200*3750	9900
DAFD95-3000	90.00	3000	150	125	3900*2400*4050	12400
DAFD95-4000	120.00	4000	150	150	3930*2450*4500	15500

*) 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 97%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD97-30	0.98	30	20	15	1350*650*1950	500
DAFD97-40	1.30	40	25	25	1350*700*1900	600
DAFD97-50	1.63	50	25	25	1350*700*2100	650
DAFD97-60	1.95	60	25	25	1450*700*2050	700
DAFD97-80	2.60	80	25	25	1550*750*2200	900
DAFD97-100	3.25	100	25	25	1550*750*2300	930
DAFD97-120	3.90	120	32	25	1600*800*2250	1050
DAFD97-150	4.88	150	32	25	1650*800*2250	1200
DAFD97-180	5.85	180	40	40	1700*900*2300	1400
DAFD97-200	6.50	200	40	40	1700*900*2450	1500
DAFD97-250	8.13	250	40	40	1760*1000*2650	1750
DAFD97-300	9.75	300	50	40	1850*1150*2750	2100
DAFD97-350	11.38	350	50	40	1900*1200*2800	2250
DAFD97-400	13.00	400	65	50	2100*1400*2860	2500
DAFD97-450	14.63	450	65	50	2100*1400*3010	2600
DAFD97-500	16.25	500	65	50	2300*1400*2730	2850
DAFD97-550	17.88	550	65	50	2300*1400*3980	3000
DAFD97-600	19.50	600	65	50	2300*1400*3130	3200
DAFD97-650	21.13	650	80	65	2500*1600*2900	3500
DAFD97-700	22.75	700	80	65	2500*1600*3000	3750
DAFD97-750	24.38	750	80	65	2500*1600*3100	3900
DAFD97-800	26.00	800	80	65	2500*1600*3200	4100
DAFD97-850	27.63	850	80	65	2550*1620*3150	4700
DAFD97-900	29.25	900	80	65	2550*1620*3250	4900
DAFD97-950	30.88	950	80	65	2550*1620*3350	5050
DAFD97-1000	32.50	1000	100	65	2880*1830*3300	5900
DAFD97-1200	39.00	1200	100	80	3050*2080*3300	6600
DAFD97-1500	48.75	1500	100	80	3300*2150*3500	7800
DAFD97-1800	58.50	1800	125	100	3500*2200*3650	9500
DAFD97-2000	65.00	2000	125	100	3500*2200*3850	10200
DAFD97-2500	81.25	2500	125	100	3900*2400*4150	12700
DAFD97-3000	97.50	3000	150	125	3930*2450*4400	15000
DAFD97-4000	130.00	4000	150	150	4270*2700*4900	19200

*)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 98%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD98-20	0.72	20	20	15	1350*650*1900	500
DAFD98-30	1.08	30	20	15	1350*700*1900	600
DAFD98-40	1.43	40	25	25	1350*700*2100	650
DAFD98-50	1.79	50	25	25	1450*700*2050	700
DAFD98-60	2.15	60	25	25	1450*700*2200	750
DAFD98-80	2.87	80	25	25	1550*750*2200	900
DAFD98-100	3.58	100	32	25	1600*800*2250	1050
DAFD98-120	4.30	120	32	25	1650*800*2250	1200
DAFD98-150	5.38	150	40	25	1650*800*2450	1300
DAFD98-180	6.45	180	40	40	1700*900*2550	1600
DAFD98-200	7.17	200	40	40	1760*1000*2550	1700
DAFD98-250	8.96	250	50	40	1850*1150*2750	2100
DAFD98-300	10.75	300	50	40	1900*1200*2800	2250
DAFD98-350	12.54	350	50	40	2100*1400*2860	2500
DAFD98-400	14.33	400	65	50	2100*1400*3010	2600
DAFD98-450	16.13	450	65	50	2300*1400*3980	3000
DAFD98-500	17.92	500	65	50	2300*1400*3130	3200
DAFD98-550	19.71	550	65	50	2500*1600*2900	3500
DAFD98-600	21.50	600	80	50	2500*1600*3000	3750
DAFD98-650	23.29	650	80	65	2500*1600*3100	3900
DAFD98-700	25.08	700	80	65	2500*1600*3200	4100
DAFD98-750	26.88	750	80	65	2550*1620*3150	4700
DAFD98-800	28.67	800	80	65	2550*1620*3250	4900
DAFD98-850	30.46	850	80	65	2550*1620*3350	5050
DAFD98-900	32.25	900	100	65	2880*1830*3300	5900
DAFD98-950	34.04	950	100	65	2880*1830*3300	5900
DAFD98-1000	35.83	1000	100	65	2880*1830*3400	6150
DAFD98-1200	43.00	1200	100	80	3050*2080*3500	7000
DAFD98-1500	53.75	1500	125	80	3300*2150*3700	8400
DAFD98-1800	64.50	1800	125	100	3500*2200*3850	10200
DAFD98-2000	71.67	2000	125	100	3900*2400*3950	11700
DAFD98-2500	89.58	2500	150	100	3900*2400*4450	13900
DAFD98-3000	107.50	3000	150	125	3930*2450*4700	16500
DAFD98-4000	143.30	4000	150	150	4550*2800*5000	23000

*) The data are based on an air pressure of 0.8 MPa, 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 KPa and 20°C, measured in Nm³/h.

Specifications are subject to change without notice.

Technical parameters for NP 99%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD29-20	0.82	20	20	15	1350*650*1950	500
DAFD29-30	1.23	30	25	15	1350*700*2100	650
DAFD29-40	1.63	40	25	25	1450*700*2050	700
DAFD29-50	2.04	50	25	25	1450*700*2200	750
DAFD29-60	2.45	60	25	25	1550*750*2200	900
DAFD29-80	3.27	80	25	25	1600*800*2250	1050
DAFD29-100	4.08	100	32	25	1650*800*2250	1200
DAFD29-120	4.90	120	32	25	1700*900*2300	1400
DAFD29-150	6.13	150	40	25	1700*900*2550	1600
DAFD29-180	7.35	180	40	40	1850*1150*2600	2000
DAFD29-200	8.17	200	40	40	1850*1150*2750	2100
DAFD29-250	10.21	250	50	40	1900*1200*2800	2250
DAFD29-300	12.25	300	50	40	2100*1400*2860	2500
DAFD29-350	14.29	350	65	40	2300*1400*2730	2850
DAFD29-400	16.33	400	65	50	2300*1400*3130	3200
DAFD29-450	18.38	450	65	50	2500*1600*2900	3500
DAFD29-500	20.42	500	65	50	2500*1600*3100	3900
DAFD29-550	22.46	550	80	50	2500*1600*3200	4100
DAFD29-600	24.50	600	80	50	2550*1620*3150	4700
DAFD29-650	26.54	650	80	65	2550*1620*3250	4900
DAFD29-700	28.58	700	80	65	2550*1620*3350	5050
DAFD29-750	30.63	750	80	65	2880*1830*3300	5900
DAFD29-800	32.67	800	100	65	2880*1830*3400	6150
DAFD29-850	34.71	850	100	65	3050*2080*3300	6600
DAFD29-900	36.75	900	100	65	3050*2080*3400	6800
DAFD29-950	38.79	950	100	65	3050*2080*3500	7000
DAFD29-1000	40.83	1000	100	65	3000*2080*3600	7200
DAFD29-1200	49.00	1200	100	80	3300*2150*3700	8400
DAFD29-1500	61.25	1500	125	80	3500*2200*3950	10500
DAFD29-1800	73.50	1800	125	100	3900*2400*4250	13000
DAFD29-2000	81.67	2000	125	100	3900*2400*4450	13900
DAFD29-2500	102.08	2500	150	100	3930*2450*4700	16500
DAFD29-3000	122.50	3000	150	125	4270*2700*5100	21200

*) The data are based on an air pressure of 0.8 MPa, 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 KPa and 20°C, measured in Nm³/h.

Specifications are subject to change without notice.

Technical parameters for NP 99.5%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD295-20	0.87	20	20	15	1350*700*1900	600
DAFD295-30	1.30	30	25	15	1450*700*2050	700
DAFD295-40	1.73	40	25	25	1450*700*2200	750
DAFD295-50	2.17	50	25	25	1550*750*2200	900
DAFD295-60	2.60	60	25	25	1550*750*2300	930
DAFD295-80	3.47	80	25	25	1600*800*2450	1120
DAFD295-100	4.33	100	32	25	1650*800*2450	1300
DAFD295-120	5.20	120	32	25	1700*900*2450	1500
DAFD295-150	6.50	150	40	25	1760*1000*2650	1750
DAFD295-180	7.80	180	40	40	1850*1150*2750	2100
DAFD295-200	8.67	200	40	40	1900*1200*2800	2250
DAFD295-250	10.83	250	50	40	2100*1400*2860	2500
DAFD295-300	13.00	300	50	40	2300*1400*2730	2850
DAFD295-350	15.17	350	65	40	2300*1400*3130	3200
DAFD295-400	17.33	400	65	50	2500*1600*2900	3500
DAFD295-450	19.50	450	65	50	2500*1600*3100	3900
DAFD295-500	21.67	500	65	50	2550*1620*3150	4700
DAFD295-550	23.83	550	80	50	2550*1620*3250	4900
DAFD295-600	26.00	600	80	50	2550*1620*3350	5050
DAFD295-650	28.17	650	80	65	2880*1830*3300	5900
DAFD295-700	30.33	700	80	65	2880*1830*3500	6400
DAFD295-750	32.50	750	100	65	3050*2080*3400	6800
DAFD295-800	34.67	800	100	65	3050*2080*3500	7000
DAFD295-850	36.83	850	100	65	3000*2080*3600	7200
DAFD295-900	39.00	900	100	65	3300*2150*3500	7800
DAFD295-950	41.17	950	100	65	3300*2150*3600	8100
DAFD295-1000	43.33	1000	100	65	3300*2150*3700	8400
DAFD295-1200	52.00	1200	125	80	3500*2200*3850	10200
DAFD295-1500	65.00	1500	125	80	3900*2400*4150	12700
DAFD295-1800	80.17	1800	125	100	3930*2450*4300	14500
DAFD295-2000	86.67	2000	125	100	3930*2450*4600	16000
DAFD295-2500	108.33	2500	150	100	4270*2700*5000	20200

*) 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 99.9%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD39-10	0.53	10	20	15	1350*650*1950	500
DAFD39-20	1.06	20	25	15	1350*700*2100	650
DAFD39-30	1.59	30	25	15	1450*700*2200	750
DAFD39-40	2.12	40	25	25	1550*750*2200	900
DAFD39-50	2.65	50	25	25	1600*800*2250	1050
DAFD39-60	3.18	60	25	25	1650*800*2250	1200
DAFD39-80	4.24	80	32	25	1700*900*2450	1500
DAFD39-100	5.30	100	32	25	1760*1000*2550	1700
DAFD39-120	6.36	120	40	25	1850*1150*2750	2100
DAFD39-150	7.95	150	40	25	1900*1200*2800	2250
DAFD39-180	9.54	180	50	40	2100*1400*2860	2500
DAFD39-200	10.60	200	50	40	2300*1400*2730	2850
DAFD39-250	13.25	250	50	40	2300*1400*3130	3200
DAFD39-300	15.90	300	65	40	2500*1600*3100	3900
DAFD39-350	18.55	350	65	40	2550*1620*3150	4700
DAFD39-400	21.20	400	80	50	2550*1620*3350	5050
DAFD39-450	23.85	450	80	50	2880*1830*3300	5900
DAFD39-500	26.50	500	80	50	2880*1830*3500	6400
DAFD39-550	29.15	550	80	50	3050*2080*3400	6800
DAFD39-600	31.80	600	100	50	3000*2080*3600	7200
DAFD39-650	34.45	650	100	65	3300*2150*3500	7800
DAFD39-700	37.10	700	100	65	3300*2150*3700	8400
DAFD39-750	39.75	750	100	65	3300*2150*3800	8700
DAFD39-800	42.40	800	100	65	3500*2200*3650	9500
DAFD39-850	45.05	850	100	65	3500*2200*3750	9900
DAFD39-900	47.70	900	100	65	3500*2200*3950	10500
DAFD39-950	50.35	950	100	65	3900*2400*3950	11700
DAFD39-1000	53.00	1000	125	65	3900*2400*4050	12400
DAFD39-1200	63.60	1200	125	80	3900*2400*4450	13900
DAFD39-1500	79.50	1500	125	80	3930*2450*4700	16500
DAFD39-1800	95.40	1800	150	100	4270*2700*5000	20200
DAFD39-2000	106.00	2000	150	100	4550*2800*5100	23500

*) 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 99.95%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD395-10	0.58	10	20	15	1350*650*1950	500
DAFD395-20	1.15	20	25	15	1450*700*2050	700
DAFD395-30	1.73	30	25	15	1550*750*2200	900
DAFD395-40	2.30	40	25	25	1550*750*2300	930
DAFD395-50	2.88	50	25	25	1600*800*2450	1120
DAFD395-60	3.45	60	25	25	1650*800*2350	1250
DAFD395-80	4.24	80	32	25	1700*900*2550	1600
DAFD395-100	4.60	100	32	25	1850*1150*2600	2000
DAFD395-120	5.75	120	40	25	1850*1150*2850	2150
DAFD395-150	6.90	150	50	25	2100*1400*2760	2350
DAFD395-180	8.63	180	50	40	2100*1400*3010	2600
DAFD395-200	10.35	200	50	40	2300*1400*3980	3000
DAFD395-250	11.50	250	65	40	2500*1600*2900	3500
DAFD395-300	14.38	300	65	40	2500*1600*3200	4100
DAFD395-350	17.25	350	80	40	2550*1620*3250	4900
DAFD395-400	20.13	400	80	50	2880*1830*3300	5900
DAFD395-450	23.00	450	80	50	2880*1830*3500	6400
DAFD395-500	25.88	500	80	50	3050*2080*3400	6800
DAFD395-550	28.75	550	100	50	3000*2080*3600	7200
DAFD395-600	31.63	600	100	50	3300*2150*3500	7800
DAFD395-650	34.50	650	100	65	3300*2150*3700	8400
DAFD395-700	37.38	700	100	65	3500*2200*3650	9500
DAFD395-750	40.25	750	100	65	3500*2200*3750	9900
DAFD395-800	43.13	800	100	65	3500*2200*3850	10200
DAFD395-850	46.00	850	125	65	3900*2400*3950	11700
DAFD395-900	48.88	900	125	65	3900*2400*4050	12400
DAFD395-950	51.75	950	125	65	3900*2400*4150	12700
DAFD395-1000	54.63	1000	125	65	3900*2400*4250	13000
DAFD395-1200	69.00	1200	125	80	3930*2450*4400	15000
DAFD395-1500	86.25	1500	150	80	4270*2700*4700	18200
DAFD395-1800	103.50	1800	150	100	4550*2800*5000	23000
DAFD395-2000	115.00	2000	150	100	4550*2800*5300	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.

Technical parameters for NP 99.99%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD49-10	0.69	10	25	15	1350*700*1900	600
DAFD49-20	1.37	20	25	15	1450*700*2200	750
DAFD49-30	2.06	30	25	15	1550*750*2300	930
DAFD49-40	2.75	40	25	25	1650*800*2250	1200
DAFD49-50	3.43	50	25	25	1650*800*2450	1300
DAFD49-60	4.12	60	32	25	1700*900*2550	1600
DAFD49-80	5.49	80	40	25	1850*1150*2600	2000
DAFD49-100	6.87	100	40	25	1900*1200*2800	2250
DAFD49-120	8.24	120	50	25	2100*1400*2860	2500
DAFD49-150	10.30	150	50	25	2300*1400*2980	3000
DAFD49-180	12.36	180	65	40	2500*1600*2900	3500
DAFD49-200	13.73	200	65	40	2500*1600*3000	3750
DAFD49-250	17.17	250	65	40	2550*1620*3150	4700
DAFD49-300	20.60	300	80	40	2880*1830*3300	5900
DAFD49-350	24.03	350	80	40	2880*1830*3500	6400
DAFD49-400	27.47	400	80	50	3000*2080*3600	7200
DAFD49-450	30.90	450	100	50	3300*2150*3600	8100
DAFD49-500	34.33	500	100	50	3300*2150*3800	8700
DAFD49-550	37.77	550	100	50	3500*2200*3650	9500
DAFD49-600	41.20	600	100	50	3500*2200*3850	10200
DAFD49-650	44.63	650	100	65	3900*2400*3950	11700
DAFD49-700	48.07	700	100	65	3900*2400*4050	12400
DAFD49-750	51.50	750	125	65	3900*2400*4250	13000
DAFD49-800	54.93	800	125	65	3900*2400*4350	13500
DAFD49-850	58.37	850	125	65	3930*2450*4300	14500
DAFD49-900	61.80	900	125	65	3930*2450*4400	15000
DAFD49-950	65.23	950	125	65	3930*2450*4500	15500
DAFD49-1000	68.67	1000	125	65	3930*2450*4700	16500
DAFD49-1200	82.40	1200	150	80	4270*2700*4900	19200
DAFD49-1500	103.00	1500	150	80	4550*2800*5300	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.

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Technical parameters for NP 99.995%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD495-10	0.69	10	25	15	1350*700*1900	600
DAFD495-20	1.37	20	25	15	1450*700*2200	750
DAFD495-30	2.06	30	25	15	1550*750*2300	930
DAFD495-40	2.75	40	25	25	1650*800*2250	1200
DAFD495-50	3.43	50	25	25	1650*800*2450	1300
DAFD495-60	4.12	60	32	25	1700*900*2550	1600
DAFD495-80	5.49	80	40	25	1850*1150*2600	2000
DAFD495-100	6.87	100	40	25	1900*1200*2800	2250
DAFD495-120	8.24	120	50	25	2100*1400*2860	2500
DAFD495-150	10.30	150	50	25	2300*1400*2980	3000
DAFD495-180	12.36	180	50	40	2500*1600*2900	3500
DAFD495-200	13.73	200	65	40	2500*1600*3000	3750
DAFD495-250	17.17	250	65	40	2550*1620*3150	4700
DAFD495-300	20.60	300	80	40	2880*1830*3300	5900
DAFD495-350	24.03	350	80	40	2880*1830*3500	6400
DAFD495-400	27.47	400	80	50	3000*2080*3600	7200
DAFD495-450	30.90	450	100	50	3300*2150*3600	8100
DAFD495-500	34.33	500	100	50	3300*2150*3800	8700
DAFD495-550	37.77	550	100	50	3500*2200*3650	9500
DAFD495-600	41.20	600	100	50	3500*2200*3850	10200
DAFD495-650	44.63	650	125	65	3900*2400*3950	11700
DAFD495-700	48.07	700	125	65	3900*2400*4050	12400
DAFD495-750	51.50	750	125	65	3900*2400*4250	13000
DAFD495-800	54.93	800	125	65	3900*2400*4350	13500
DAFD495-850	58.37	850	125	65	3930*2450*4300	14500
DAFD495-900	61.80	900	125	65	3930*2450*4400	15000
DAFD495-950	65.23	950	125	65	3930*2450*4500	15500
DAFD495-1000	68.67	1000	125	65	3930*2450*4700	16500
DAFD495-1200	82.40	1200	150	80	4270*2700*4900	19200

*) 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 99.999%

Model	Air consumption (m ³ /min)	FND (Nm ³ /h)	Air pipe diameter (mm)	Nitrogen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFD59-10	0.85	10	25	15	1350*700*2100	650
DAFD59-20	1.70	20	25	15	1550*750*2200	900
DAFD59-30	2.55	30	25	15	1650*800*2250	1200
DAFD59-40	3.40	40	32	25	1700*900*2450	1500
DAFD59-50	4.25	50	32	25	1760*1000*2550	1700
DAFD59-60	5.10	60	40	25	1850*1150*2750	2100
DAFD59-80	6.80	80	40	25	1900*1200*2900	2300
DAFD59-100	8.50	100	50	25	2300*1400*2730	2850
DAFD59-120	10.20	120	50	25	2300*1400*3130	3200
DAFD59-150	12.75	150	65	25	2500*1600*3000	3750
DAFD59-180	15.30	180	65	40	2550*1620*3150	4700
DAFD59-200	17.00	200	65	40	2550*1620*3350	5050
DAFD59-250	21.25	250	80	40	2880*1830*3500	6400
DAFD59-300	25.50	300	80	40	3000*2080*3600	7200
DAFD59-350	29.75	350	100	40	3300*2150*3700	8400
DAFD59-400	34.00	400	100	50	3500*2200*3650	9500
DAFD59-450	38.25	450	100	50	3500*2200*3950	10500
DAFD59-500	42.50	500	125	50	3900*2400*4050	12400
DAFD59-550	46.75	550	125	50	3900*2400*4250	13000
DAFD59-600	51.00	600	125	50	3900*2400*4450	13900
DAFD59-650	55.25	650	125	65	3930*2450*4400	15000
DAFD59-700	59.50	700	125	65	3930*2450*4500	15500
DAFD59-750	63.75	750	125	65	3930*2450*4700	16500
DAFD59-800	68.00	800	150	65	4270*2700*4700	17800
DAFD59-850	72.25	850	150	65	4270*2700*4800	18200
DAFD59-900	76.50	900	150	65	4270*2700*5000	20200
DAFD59-950	80.75	950	150	65	4270*2700*5200	22200
DAFD59-1000	85.00	1000	150	65	4550*2800*5100	23500

*) 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.

PSA OXYGEN GENERATOR

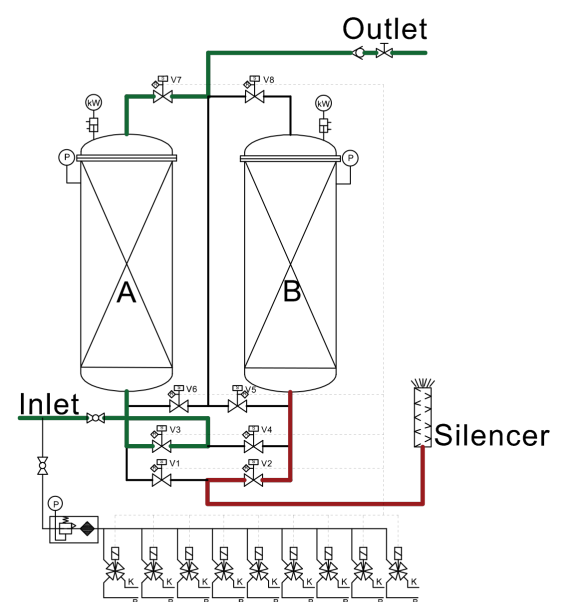


Working Principle

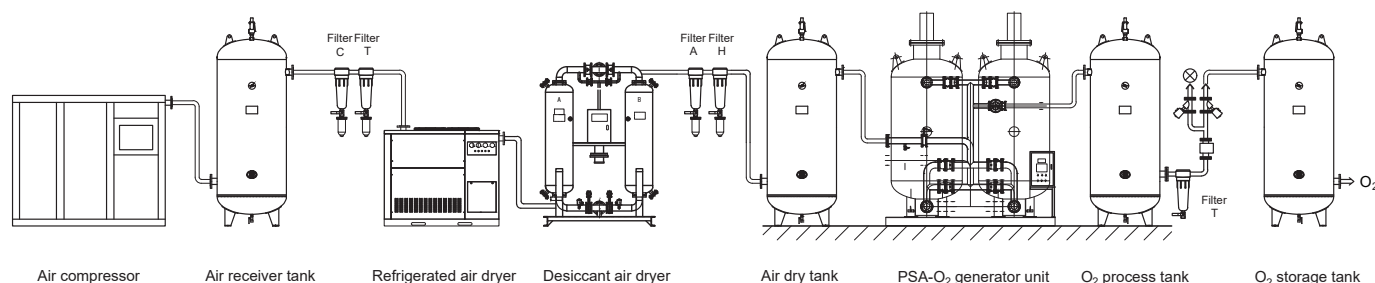
PSA oxygen production employs high-quality oxygen molecular sieves as adsorbents. It operates by pressurized adsorption and atmospheric pressure desorption to separate oxygen and nitrogen in the air and extract oxygen.

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 O_2 and N_2 are non-polar adsorbates, the influence of polar molecules in zeolite molecular sieve induces a force. Since the induction force of N_2 is greater than that of O_2 , the adsorption capacity of zeolite molecular sieve for N_2 is much higher than for O_2 .

When air passes through the zeolite molecular sieve, N_2 is preferentially adsorbed by the zeolite molecular sieve and enriched in its micropores, while O_2 , 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, air receiver tank, air purification system, air dry 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

Technical parameters for OP 90%

Model	Air consumption (m ³ /min)	FOD (Nm ³ /h)	Air pipe diameter (mm)	Oxygen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFY90-5	0.85	5	20	15	1350*700*2100	650
DAFY90-10	1.70	10	20	15	1550*750*2200	900
DAFY90-20	3.40	20	32	15	1700*900*2300	1400
DAFY90-30	5.10	30	40	15	1850*1150*2600	2000
DAFY90-40	6.80	40	40	15	1900*1200*2800	2250
DAFY90-50	8.50	50	50	25	2100*1400*3010	2600
DAFY90-60	10.20	60	50	25	2300*1400*3980	3000
DAFY90-80	13.60	80	65	25	2500*1600*3100	3900
DAFY90-100	17.00	100	65	25	2550*1620*3150	4700
DAFY90-120	20.40	120	80	25	2880*1830*3300	5900
DAFY90-150	25.50	150	80	25	3050*2080*3500	7000
DAFY90-180	30.60	180	100	40	3300*2150*3600	8100
DAFY90-200	34.00	200	100	40	3500*2200*3550	9100
DAFY90-250	42.50	250	125	40	3900*2400*3950	11700

Technical parameters for OP 93%

Model	Air consumption (m ³ /min)	FOD (Nm ³ /h)	Air pipe diameter (mm)	Oxygen pipe diameter (mm)	Dimensions (mm)	Weight (kg)
DAFY93-5	0.97	5	20	15	1350*700*2100	650
DAFY93-10	1.93	10	20	15	1550*750*2300	930
DAFY93-20	3.87	20	32	15	1700*900*2450	1500
DAFY93-30	5.80	30	40	15	1850*1150*2750	2100
DAFY93-40	7.73	40	50	15	2100*1400*2760	2350
DAFY93-50	9.67	50	50	25	2300*1400*2730	2850
DAFY93-60	11.60	60	65	25	2300*1400*3130	3200
DAFY93-80	15.47	80	65	25	2500*1600*3200	4100
DAFY93-100	19.33	100	65	25	2550*1620*3350	5050
DAFY93-120	23.20	120	80	25	2880*1830*3500	6400
DAFY93-150	29.00	150	100	25	3300*2150*3500	7800
DAFY93-180	34.80	180	100	40	3500*2200*3550	9100
DAFY93-200	38.67	200	100	40	3500*2200*3750	9900
DAFY93-250	48.33	250	125	40	3900*2400*4050	12400

*) The data are based on an air pressure of 0.8 MPa, 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 KPa and 20°C, measured in Nm³/h.

Specifications are subject to change without notice.



Denair Energy Saving Technology (Shanghai) Plc.

No. 6767, Tingfeng Rd., Jinshan District,
Shanghai 201502, China
Tel.: +86 21 5722 3896
Fax: +86 21 6040 5929

info@denair.net
www.denair.net

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