KSTK

NITROGEN SERIES

KSTK

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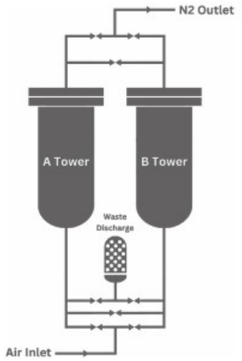
Pressure Swing Adsorption Technology

Pressure Swing Adsorption (PSA) is a gas separation technology. Its principle is based on the difference in the adsorption properties of different gas molecules by an adsorbent (such as carbon molecular sieve), which allows the separation of gas mixtures. This technology uses air as the raw material and employs highly efficient, highly selective adsorbents to selectively adsorb oxygen from the air, thereby achieving nitrogen-oxygen separation.



BENEFITS

Sustainability
- Air as raw material, unlimited supply for a sustainable production

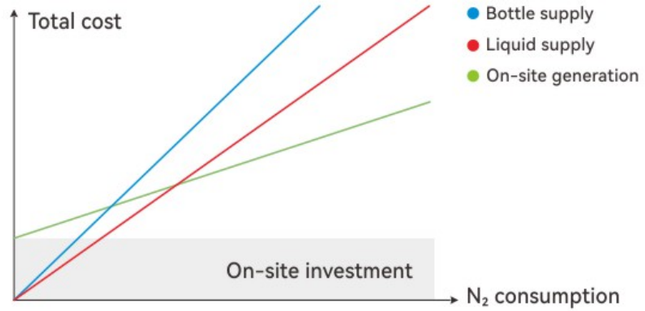
Reliability
- Proven technology, dependable safety
- Fast production, highly efficient
- 24/7 automatic operation

Convenience
- Plug & play design
- Easy operation
- Adjustable output
- Hassle-free maintenance

Economical
- Low operating costs
- Long-lasting equipment
- Short payback period
- Outstanding economic benefits

Gas Generator vs. Traditional Gas Supply

- No rental fee
- No transportation fee
- No storage fee
- No need to wait
- Eliminates safety hazards in handling pressurized cylinders or liquid nitrogen





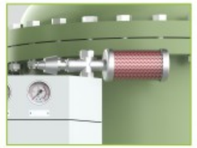

APPLICATIONS

Applications	Nitrogen Purity
Fire Prevention	95%
Explosion Prevention	95~99%
Chemical Blanketing	95~99%
Injection Molding	99~99.5%
Food Processing	99~99.9%
Electronics	99.95~99.995%
Laser Cutting	99.95~99.995%
Pharmarceutical	99.95~99.999%

Note: Above data is for reference only

Intelligent Alarm System

- Combines sound and flashing warnings to promptly alert of equipment abnormalities, ensuring operational safety.



Automatic Venting System

- Automatically vents unqualified nitrogen and, once purity is met, automatically opens the nitrogen outlet valve, providing pure nitrogen with no user intervention required.

Reliable Valves

- Made from premium 304 stainless steel
- Resistant to high pressure and corrosion
- Ensuring 2,000,000 cycles of stable operation

Energy-Saving Modes

- Two distinct standby modes allow the system to automatically enter standby when gas consumption ceases, optimizing energy efficiency and reducing operational costs.

High-Efficiency Nitrogen Output

- Nitrogen to air ratio is 5-15% better than our competitors
- Delivering efficient nitrogen production

High-Quality Molecular Sieves

- Customize ordered molecular sieves with excellent adsorption performance, ensuring high nitrogen output.

Multi-Function PLC

- User-friendly interface
- Standard 485 and Ethernet connectivity
- Multi-status/language display
- Remote start/stop control

Modular Valve Manifold Design

- Patent modular valve manifold design for high efficiency and stability, reducing leakage risk, and minimizing maintenance time.

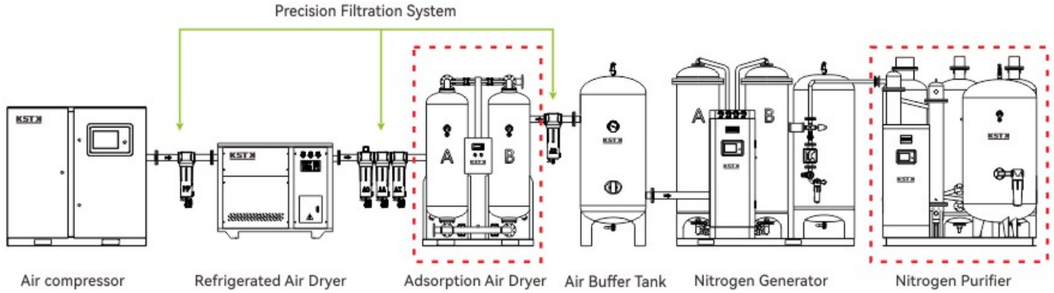
Unit Model Definition

Example: KNA-10SA

KSTK K NA – 10 S A

- KSTK
- Flow Rates
- Purity
  - A: 99%
  - A+: 99.5%
  - B: 99.9%
  - B+: 99.95%
  - C: 99.99%
  - C+: 99.995%
  - D: 99.999%
  - E: 99.9999%
  - X: User specified purity
- Gas Models
  - NA-Nitrogen Generator
  - NC-Nitrogen Purifier
- Unit Structure
  - S-Standard Units (Multi-Bed Design)
  - M-Modular Units

Standard Installation Flowchart



Air compressor | Refrigerated Air Dryer | Adsorption Air Dryer | Air Buffer Tank | Nitrogen Generator | Nitrogen Purifier

Note: The red dashed box indicates optional equipment

Quad-Tower Nitrogen Generator

Why settle for two when one does it all?

Our quad-tower system integrates two sets of adsorption vessels into a single unit, replacing the traditional dual-tower setup. This design significantly simplifies the system structure, reduces footprint and installation costs, and greatly minimizes operational and maintenance complexity. The integrated system not only enhances operational efficiency and stability but also eliminates potential issues arising from multi-device coordination, making it a more economical and efficient all-in-one solution.

Combined Nitrogen Generator

One skid solves it all!

Our combined nitrogen generator integrates a refrigerated air dryer, a precision filtration system, an air buffer tank, a nitrogen buffer tank, and a dual-tower nitrogen generator into a single skid-mounted unit. Users simply need to connect the air inlet to an air compressor and the nitrogen outlet to the nitrogen application. This design greatly optimizes the user experience by eliminating the need for installation and commissioning, saving both space and time, while providing a more efficient and convenient gas supply solution.

Technical Specification

Nitrogen Purity	95~99.999%
Nitrogen Flowrate	1~3000Nm³/hr
Nitrogen Dew Point	-60~-30℃
Nitrogen Pressure	6~8Bar
Air Inlet Pressure	8 ~ 10Bar
Air Inlet Temperature	20~35℃
Voltage/Frequency	220V/50~60Hz

Note: Specific requirements can be made upon request

Product Specification

KNA-SA

Purity: 99%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-10SA	22.5	10	15	15	KRD-015F	Combined
KNA-30SA	67.5	30	20	15	KRD-026F	Combined
KNA-60SA	135	60	25	25	KRD-039F	Combined
KNA-100SA	225	100	32	25	KRD-070F	Standard
KNA-150SA	337.5	150	40	25	KRD-085F	Standard
KNA-300SA	675	300	50	40	KRD-140F	Standard
KNA-600SA	1350	600	65	50	KRD-290F	Standard
KNA-1000SA	2250	1000	100	65	KRD-460F	Standard

KNA-SA+

Purity: 99.5%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-10SA+	27	10	15	15	KRD-015F	Combined
KNA-30SA+	81	30	20	15	KRD-026F	Combined
KNA-60SA+	162	60	25	20	KRD-039F	Combined
KNA-100SA+	270	100	32	25	KRD-070F	Standard
KNA-150SA+	405	150	40	32	KRD-108F	Standard
KNA-300SA+	810	300	50	40	KRD-220F	Standard
KNA-600SA+	1620	600	65	50	KRD-365F	Standard
KNA-1000SA+	2700	1000	100	65	KRD-550F	Standard

KNA-SB

Purity: 99.9%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-10SB	33	10	15	15	KRD-015F	Combined
KNA-30SB	99	30	20	15	KRD-026F	Combined
KNA-60SB	198	60	32	20	KRD-070F	Standard
KNA-100SB	330	100	40	25	KRD-085F	Standard
KNA-150SB	495	150	40	32	KRD-140F	Standard
KNA-300SB	990	300	50	40	KRD-250F	Standard
KNA-600SB	1980	600	80	50	KRD-420F	Standard
KNA-1000SB	3300	1000	100	65	KRD-700F	Standard

KNA-SB+ Purity: 99.95%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-10SB+	37	10	15	15	KRD-015F	Combined
KNA-30SB+	111	30	20	15	KRD-039F	Combined
KNA-60SB+	222	60	25	20	KRD-070F	Standard
KNA-100SB+	370	100	40	25	KRD-108F	Standard
KNA-150SB+	555	150	50	32	KRD-140F	Standard
KNA-300SB+	1110	300	65	40	KRD-250F	Standard
KNA-600SB+	2220	600	80	50	KRD-460F	Standard
KNA-1000SB+	3700	1000	100	65	KRD-800W	Standard

KNA-SC Purity: 99.99%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-5SC	21	5	15	15	KRD-015F	Combined
KNA-10SC	42	10	15	15	KRD-015F	Combined
KNA-30SC	126	30	25	15	KRD-039F	Combined
KNA-60SC	252	60	32	20	KRD-070F	Standard
KNA-100SC	420	100	40	20	KRD-108F	Standard
KNA-150SC	630	150	50	25	KRD-170F	Standard
KNA-300SC	1260	300	65	40	KRD-290F	Standard
KNA-600SC	2520	600	100	50	KRD-550F	Standard

KNA-SC+ Purity: 99.995%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-5SC+	23	5	15	15	KRD-015F	Combined
KNA-10SC+	46	10	15	15	KRD-026F	Combined
KNA-30SC+	138	30	25	15	KRD-039F	Combined
KNA-60SC+	276	60	32	20	KRD-070F	Standard
KNA-100SC+	460	100	40	20	KRD-108F	Standard
KNA-300SC+	1380	300	65	40	KRD-326F	Standard
KNA-500SC+	2300	500	100	50	KRD-500F	Standard
KNA-600SC+	2760	600	100	50	KRD-600F	Standard

KNA-SD Purity: 99.999%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Unit Structure
	Air Consumption	N_2 Output	Inlet	Outlet		
KNA-5SD	26	5	15	15	KRD-015F	Combined
KNA-10SD	52	10	15	15	KRD-026F	Combined
KNA-20SD	104	20	20	15	KRD-039F	Combined
KNA-30SD	156	30	25	15	KRD-039F	Combined
KNA-60SD	312	60	40	20	KRD-085F	Standard
KNA-100SD	520	100	50	20	KRD-140F	Standard
KNA-200SD	1040	200	65	40	KRD-250F	Standard
KNA-300SD	1560	300	65	40	KRD-365F	Standard

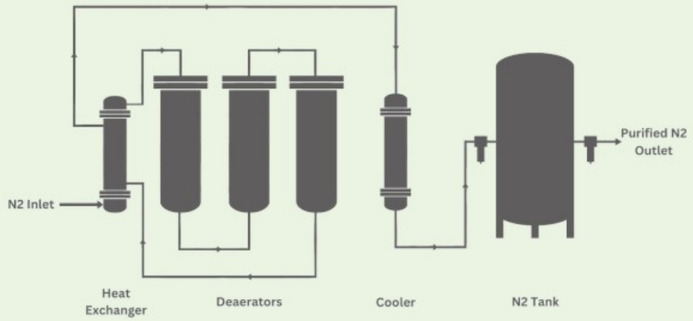
Note: Customized Unit Acceptable
Technical specifications subject to change without notice

Nitrogen Purifier

Nitrogen Purification Principle

At a specific temperature, residual oxygen in the feed nitrogen reacts with the carbon-supported catalyst to form carbon dioxide. This is followed by pressure swing adsorption (PSA) technology to remove carbon dioxide and moisture. After further treatment with an efficient filtration system, high-purity nitrogen with a purity exceeding 99.999% is obtained.

Process Flow Diagram



Technical Specification

Purified Nitrogen Purity	99.999~99.9999%
Purified Nitrogen Flow Rate	50~1000Nm³/hr
Purified Nitrogen Dew Point	-60~-30℃
Purified Nitrogen Pressure	5~8Bar
Standard Nitrogen Pressure	6~9Bar
Inlet Temperature	20 ~ 35℃
Voltage/Frequency	380V/50~60Hz

Note: Specific requirements can be made upon request

Product Specification

KNC-SE **Purity: 99.9999%**

Model	Standard N_2 to Purified N_2 Ratio (Nm^3/hr)		Catalyst Consumption Rate (kg)
	N_2 Consumption Rate	Purified N_2 Output	
KNC-50SE	55	50	18
KNC-100SE	110	100	38
KNC-150SE	165	150	54
KNC-200SE	220	200	72
KNC-300SE	330	300	108
KNC-400SE	440	400	144
KNC-500SE	550	500	180
KNC-800SE	880	800	304
KNC-1000SE	1100	1000	380

Note: Customized Unit Acceptable
Technical specifications subject to change without notice

Modular Gas Generator

Distinctive Features

Ultimate Flexibility

Our modular design allows for the addition of multiple aluminum module sets, enabling flexible and convenient adjustments to meet specific gas production needs (up to 7 sets per unit).

Multi Bank Integration

For customers with higher nitrogen demands, our modular equipment supports parallel operation without the need for additional standalone units. The multi-bank design allows up to three units to be controlled seamlessly by a single PLC (One Master Unit), offering enhanced scalability and efficiency.

Modular Nitrogen Generator

New Gas Supply Solution, Fresh Gas Use Experience!

Unlike traditional multi-tower nitrogen generators, the new modular nitrogen generator features high-quality aluminum extrusion profile components, offering a more compact design and superior performance. Its innovative system architecture significantly simplifies the equipment structure, reducing both footprint and installation costs. The flexible design allows the unit to be easily placed anywhere in the production facility, providing you with an efficient and hassle-free nitrogen generation experience.

Combined Modular Nitrogen Generator

One unit solves it all!

Our combined modular nitrogen generator cleverly integrates the refrigerated dryer, precision filtration system, air buffer tank, nitrogen buffer tank, and modular nitrogen generator into a single unit, fulfilling multiple functions with just one device. Users only need to connect the air inlet to the air compressor and the nitrogen outlet to the gas application for immediate nitrogen supply, no complex installation or commissioning required. The compact, all-in-one design saves space, boosts efficiency, and provides you with an efficient, convenient gas supply solution!

Technical Specification

Nitrogen Purity	95~99.999%
Nitrogen Flowrate	1~220Nm³/hr
Nitrogen Dew Point	-60~-30℃
Nitrogen Pressure	6~8Bar
Air Inlet Pressure	8~10Bar
Air Inlet Temperature	20 ~ 35℃
Voltage/Frequency	220V/50~60Hz

Note: Specific requirements can be made upon request

Product Specification

KNA-MA

Purity: 99%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-12MA	26.4	12	15	15	KRD-015F	100	Combined	750*1100*1788
KNA-25MA	55	25	15	15	KRD-026F	200	Combined	750*1300*1788
KNA-38MA	83.6	38	15	15	KRD-026F	400	Standard	750*1100*1788
KNA-51MA	112.2	51	20	15	KRD-039F	600	Standard	750*1100*1788
KNA-77MA	169.4	77	25	20	KRD-070F	600	Standard	750*1100*1788
KNA-128MA	281.6	128	32	25	KRD-070F	1000	Standard	750*1400*1788
KNA-154MA	338.8	154	40	25	KRD-085F	1500	Standard	750*1550*1788
KNA-180MA	396	180	40	40	KRD-108F	1500	Standard	750*1750*1788

KNA-MA+

Purity: 99.5%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-11MA+	29.7	11	15	15	KRD-015F	100	Combined	750*1100*1788
KNA-22MA+	59.4	22	15	15	KRD-026F	200	Combined	750*1300*1788
KNA-33MA+	89.1	33	15	15	KRD-026F	300	Standard	750*1100*1788
KNA-44MA+	118.8	44	20	15	KRD-039F	400	Standard	750*1100*1788
KNA-66MA+	178.2	66	25	20	KRD-070F	600	Standard	750*1100*1788
KNA-110MA+	297	110	32	20	KRD-070F	1000	Standard	750*1400*1788
KNA-132MA+	356.4	132	40	25	KRD-085F	1500	Standard	750*1550*1788
KNA-154MA+	415.8	154	40	25	KRD-108F	1500	Standard	750*1750*1788

KNA-MB

Purity: 99.9%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-8MB	25.6	8	15	15	KRD-015F	100	Combined	750*1100*1788
KNA-16MB	51.2	16	15	15	KRD-015F	200	Combined	750*1300*1788
KNA-24MB	76.8	24	15	15	KRD-026F	200	Combined	750*1480*1788
KNA-32MB	102.4	32	20	15	KRD-026F	300	Standard	750*1100*1788
KNA-48MB	153.6	48	25	15	KRD-039F	600	Standard	750*1100*1788
KNA-63MB	201.6	63	25	20	KRD-070F	600	Standard	750*1100*1788
KNA-80MB	256	80	32	20	KRD-070F	1000	Standard	750*1300*1788
KNA-96MB	307.2	96	40	20	KRD-070F	1000	Standard	750*1400*1788

KNA-MB+

Purity: 99.95%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-11MB+	39.6	11	15	15	KRD-015F	100	Combined	750*1300*1788
KNA-20MB+	72	20	15	15	KRD-026F	200	Combined	750*1480*1788
KNA-27MB+	97.2	27	20	15	KRD-026F	300	Standard	750*1100*1788
KNA-41MB+	147.6	41	25	15	KRD-039F	400	Standard	750*1100*1788
KNA-55MB+	198	55	25	20	KRD-070F	600	Standard	750*1300*1788
KNA-69MB+	248.4	69	32	20	KRD-070F	600	Standard	750*1400*1788
KNA-83MB+	298.8	83	32	20	KRD-070F	1000	Standard	750*1550*1788
KNA-95MB+	342	95	40	20	KRD-085F	1000	Standard	750*1750*1788

KNA-MC

Purity: 99.99%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-10MC	42	10	15	15	KRD-015F	100	Combined	750*1300*1788
KNA-15MC	63	15	15	15	KRD-026F	200	Combined	750*1480*1788
KNA-20MC	84	20	20	15	KRD-026F	200	Standard	750*1100*1788
KNA-30MC	126	40	20	15	KRD-039F	300	Standard	750*1100*1788
KNA-40MC	168	40	25	15	KRD-070F	400	Standard	750*1100*1788
KNA-50MC	210	50	25	15	KRD-070F	600	Standard	750*1300*1788
KNA-60MC	252	60	32	20	KRD-070F	600	Standard	750*1400*1788
KNA-70MC	294	70	32	20	KRD-085F	600	Standard	750*1550*1788

KNA-MC+

Purity: 99.995%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-7MC+	31.5	7	15	15	KRD-015F	100	Combined	750*1300*1788
KNA-13MC+	58.5	13	15	15	KRD-026F	200	Combined	750*1480*1788
KNA-18MC+	81	18	20	15	KRD-026F	200	Standard	750*1100*1788
KNA-26MC+	117	26	20	15	KRD-039F	300	Standard	750*1100*1788
KNA-35MC+	157.5	35	25	15	KRD-039F	400	Standard	750*1300*1788
KNA-44MC+	198	44	25	15	KRD-070F	400	Standard	750*1400*1788
KNA-53MC+	238.5	53	25	20	KRD-070F	600	Standard	750*1550*1788
KNA-62MC+	279	62	32	20	KRD-085F	600	Standard	750*1750*1788

KNA-MD

Purity: 99.999%

Model	Air to N_2 Ratio (Nm^3/hr)		Inlet & Outlet Size (DN)		Air Dryer Model	Nitrogen Buffer Tank Size (L)	Unit Structure	Unit Dimension (mm)
	Air Consumption	N_2 Output	Inlet	Outlet				
KNA-6MD	31.2	6	15	15	KRD-015F	50	Combined	750*1300*1788
KNA-10MD	52	10	15	15	KRD-026F	100	Combined	750*1480*1788
KNA-14MD	72.8	14	20	15	KRD-026F	150	Combined	750*1480*1788
KNA-20MD	104	20	20	15	KRD-039F	200	Standard	750*1100*1788
KNA-28MD	145.6	28	25	15	KRD-039F	300	Standard	750*1300*1788
KNA-35MD	182	35	25	15	KRD-070F	400	Standard	750*1400*1788
KNA-42MD	210	42	25	15	KRD-070F	400	Standard	750*1550*1788
KNA-50MD	260	50	32	15	KRD-070F	600	Standard	750*1750*1788

Note: Customized Unit Acceptable

Technical specifications subject to change without notice