

Hankison HNG Series Nitrogen Generators



Hankison – A Trusted Leader in Industrial Air Treatment

Hankison specializes in providing compressed air drying, filtration and purification solutions for global markets. Through continuous technological innovation, we deliver stable, reliable high-quality compressed air to support efficient and reliable operations for a wide range of industrial production and processing enterprises.

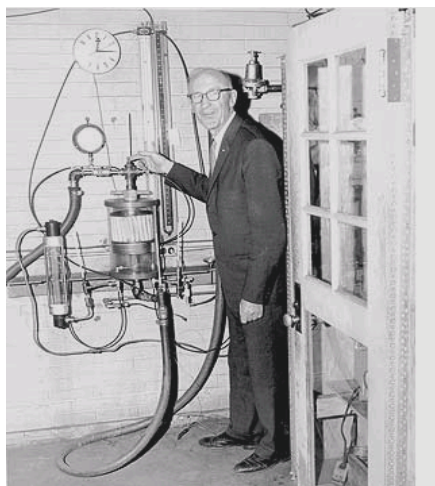
Our air treatment products are easy to install and efficiently remove moisture and contaminants to ensure clean, dry compressed air. The product portfolio ranges from compact units to large-scale industrial systems, fully meeting customers' diverse requirements in capacity, operating pressure, flow rate, dew point and other key parameters.

Featuring advanced energy-saving management technologies, our products effectively reduce customers' operating costs while delivering significant environmental benefits. With a well-established global distribution network, Hankison ensures rapid market response to meet stringent delivery requirements.

We continuously optimize lead times, and our professional application engineering team provides full-process technical support to efficiently drive urgent project execution, helping customers meet tight project schedules with confidence.

Milestones

- 1940s: L.E. Hankison invented the Condensifilter condensing filter and was awarded a patent in 1943, laying the technical foundation for modern refrigerated air dryers.
- 1950s: Launched the first commercial refrigerated air dryer, establishing the industry's technical standard and pioneering the compressed air after-treatment sector.
- 1960s: Achieved mass production of the E-Series refrigerated dryers, setting industry benchmarks with standardized production and achieving worldwide market presence.
- 1970s–1990s: Continued technological iteration and built a complete solution portfolio covering refrigerated drying, desiccant drying and precision filtration, establishing its position as an international leading brand.
- 2000s: Accelerated global layout; joined SPX Corporation in 2003; entered China and established integrated local R&D, manufacturing and sales operations.
- 2010s: Focused on energy efficiency and intelligent development, launched high-efficiency energy-saving products, and transformed from an equipment supplier to a system-level solution provider.
- 2023–Present: Integrated into the Industrial Technologies & Services division of Ingersoll Rand. Leveraging synergy from the global platform while maintaining independent brand operation, Hankison has embarked on a new journey of development.



1940s: Mr. Hankison invented refrigerated filters



1950s: Invented refrigerated dryers



1960s: Achieved assembly-line production of refrigerated dryers

HNG Series Nitrogen Generators

In modern industrial production, nitrogen, as an important inert protective gas, is widely used in fields such as chemical processing, electronics, food preservation, pharmaceuticals, and metal treatment. The Hankison HNG Series nitrogen generators utilize advanced Pressure Swing Adsorption (PSA) technology combined with a precise intelligent control system to provide an efficient, cost-effective, and reliable on-site nitrogen generation solution.



Working Principle

This product is based on proven Pressure Swing Adsorption (PSA) technology.

■ Compressed Air Pretreatment

Ambient air is compressed by an air compressor and then passes through a high-efficiency filtration system to remove oil, moisture, dust, and other impurities, ensuring that clean and dry air enters the main unit.

■ Carbon Molecular Sieve Separation

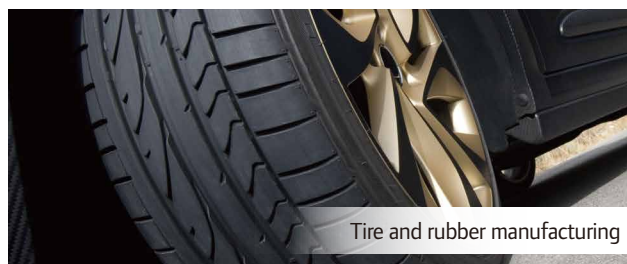
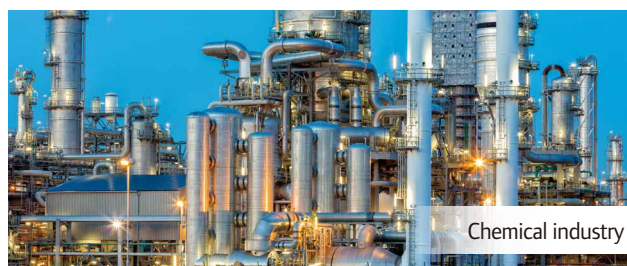
The treated clean compressed air flows into adsorption towers filled with specialized carbon molecular sieves. These sieves feature dynamic selective adsorption characteristics: under pressurized conditions, oxygen, carbon dioxide, and water vapor are preferentially adsorbed, while nitrogen molecules, due to their larger effective molecular diameter, are not readily adsorbed. As a result, nitrogen passes through and is enriched, producing high-purity nitrogen.

■ Dual-Tower Cycling and Regeneration

The system adopts a dual-tower configuration. While one tower performs adsorption to generate nitrogen, the other undergoes rapid depressurization to desorb and discharge the previously adsorbed oxygen and other impurities, thereby regenerating the carbon molecular sieve. The two towers operate alternately, ensuring continuous and stable nitrogen output.



Applications



Product Features

- **Low Operating Cost**

One-time investment with long-term benefits. Compared with externally supplied nitrogen, gas consumption costs can be reduced by up to 50%–80%. The system features low energy consumption and fully automated operation, minimizing manual intervention.

- **Flexible and Adjustable Purity**

Nitrogen purity can be precisely adjusted within a wide range from 95% to 99.999% to meet the stringent requirements of different industries and processes.

- **On-Demand Generation with Stable Supply**

Fully automated control enables immediate nitrogen production upon start-up, with no waiting time. Dependence on third-party suppliers is eliminated, avoiding delivery delays and ensuring uninterrupted production line operation.

- **Safe and Environmentally Friendly**

On-site nitrogen generation eliminates the risks associated with the storage and handling of high-pressure gas cylinders or liquid nitrogen tanks. The entire process relies on physical separation only, with no chemical pollution, making it a green and environmentally friendly solution.

- **Intelligent Control**

Equipped with an advanced PLC touchscreen control system, the unit enables real-time monitoring of key parameters such as purity, flow rate, and pressure. It features fault self-diagnosis and alarm functions, and supports ES load-adaptive energy-saving operation.



Configuration Parameters

- Nitrogen capacity: 5–2000 m³/h (customizable according to requirements)
- Nitrogen purity: 95%–99.999%
- Operating pressure: 0.1–0.75 MPa
- Atmospheric dew point: –60 °C
- Inlet air temperature: ≤35 °C
- Maximum pressure drop: ≤0.15 MPa
- Control system: PLC control with touchscreen human–machine interface (HMI)

Model	Rated inlet volumetric flow (m ³ /h)	Nitrogen purity	Electrical parameters	Unit weight (kg)	Dimensions LxWxH (mm)
HNG5-295	5	99.5%	230v/1ph/50hz	88	1100×500×1100
HNG10-295	10			124	1250×550×1300
HNG20-295	20			256	1450×650×1400
HNG30-295	30			277	1550×750×1500
HNG40-295	40			410	1650×800×1500
HNG60-295	60			493	1650×800×2100
HNG80-295	80			677	1850×850×2500
HNG100-295	100			882	1950×900×2350
HNG150-295	150			1177	2050×950×2700
HNG200-295	200			1465	2150×1100×2950
HNG250-295	250			1737	2250×1150×3000
HNG300-295	300			2286	2350×1200×3050
HNG400-295	400			2956	2550×1300×3200
HNG500-295	500			3594	2750×1400×3350
HNG600-295	600			4609	2850×1450×3400
HNG700-295	700			5580	3050×1550×3350
HNG800-295	800			6001	3050×1550×3500
HNG1000-295	1000			7015	3150×1600×3600
HNG1200-295	1200			8896	3350×1700×3650
HNG1500-295	1500			11194	5900×1600×3550
HNG2000-295	2000			14312	6300×1700×3750
HNG5-39	5	99.9%	230v/1ph/50hz	110	1300×550×1150
HNG10-39	10			130	1400×600×1150
HNG20-39	20			277	1500×700×1450
HNG30-39	30			442	1600×750×1500
HNG40-39	40			475	1700×800×1600
HNG60-39	60			719	1900×850×2100
HNG80-39	80			765	1900×800×2250
HNG100-39	100			1074	2000×900×2450
HNG150-39	150			1499	2200×1000×2600
HNG200-39	200			1859	2300×1150×2850
HNG250-39	250			2486	2400×1200×3050
HNG300-39	300			2965	2500×1250×3250
HNG400-39	400			3662	2700×1350×3300
HNG500-39	500			5220	2900×1450×3550
HNG600-39	600			5851	3000×1500×3700
HNG700-39	700			6703	3100×1550×3900
HNG800-39	800			7455	3300×1650×3950
HNG1000-39	1000			10429	5750×1550×3600
HNG1200-39	1200			11702	5950×1600×3750
HNG1500-39	1500			14233	6350×1700×3950
HNG2000-39	2000			19595	7150×1900×3950

Model	Rated inlet volumetric flow (m ³ /h)	Nitrogen purity	Electrical parameters	Unit weight (kg)	Dimensions LxWxH (mm)
HNG5-49	5	99.99%	230v/1ph/50hz	110	1400×620×1280
HNG10-49	10			130	1500×650×1300
HNG20-49	20			275	1700×750×1500
HNG30-49	30			523	1800×800×2150
HNG40-49	40			762	1900×850×2250
HNG60-49	60			1071	2000×900×2450
HNG80-49	80			1326	2100×950×2650
HNG100-49	100			1601	2200×1100×2750
HNG150-49	150			2049	2400×1200×3100
HNG200-49	200			3040	2600×1400×3250
HNG250-49	250			3507	2700×1450×3300
HNG300-49	300			4133	2800×1500×3650
HNG400-49	400			6020	3100×1650×3800
HNG500-49	500			7479	5300×1450×3500
HNG600-49	600			8494	5500×1500×3700
HNG700-49	700			10938	5700×1550×3900
HNG800-49	800			12253	6100×1650×3900
HNG1000-49	1000			16365	8700×1550×3800
HNG1200-49	1200			18061	10350×2100×3800
HNG1500-49	1500			22658	11550×2200×3700
HNG2000-49	2000			33036	19500×1850×3700
HNG5-59	5	99.999%	230v/1ph/50hz	113	1400×650×1300
HNG10-59	10			308	1600×700×1550
HNG20-59	20			556	1800×800×2250
HNG30-59	30			827	1900×850×2350
HNG40-59	40			1151	2000×900×2550
HNG60-59	60			1452	2200×1000×2800
HNG80-59	80			2012	2400×1100×2850
HNG100-59	100			2679	2400×1100×3000
HNG150-59	150			3752	2700×1350×3400
HNG200-59	200			4828	2900×1550×3600
HNG250-59	250			5050	3000×1600×3750
HNG300-59	300			7504	3100×1650×4150



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