

HOLANG

模块式氮气发生器

Modular Nitrogen Generator



昊朗（苏州）能源科技有限公司
Holang Tech (Suzhou) Co.,Ltd

CE ISO9001: 2015

企业简介

COMPANY PROFILE

昊朗（苏州）能源科技有限公司(简称Holang)，成立于2017年，是一家专注于工业气体前沿技术创新和服务的创新性科技企业。我们注重科技研发，为客户提供更全面、便捷、贴心的服务。Holang 持续不断地追求创新，并不断完善服务模式，与国内外各科研院所广泛开展产品开发、设计和科学研究的技术合作，致力于为客户创造更高价值。

我们的产品涵盖模块式氮气发生器、氧气发生器、氢气发生器及各类气体分离和纯化设备。

Holang Tech (Suzhou) Co.,LTD (referred to as Holang) , established in 2017, is an innovative technology company specializing in industrial gas frontier technology innovation and services. We focus on technological research and development to provide customers with comprehensive, convenient, and considerate services. Holang continuously pursues innovation and constantly improves service mode. We extensively collaborate with domestic and foreign research institutes in product development, design, and scientific research, aiming to create greater value for our customers.

Our products include modular nitrogen generators, oxygen generators, hydrogen generator, as well as various gas separation equipment and gas purifiers.



企业文化

CORPORATE CULTURE



公司使命
Corporate mission

专业创造价值
智造改变世界

Profession create value, intelligent
manufacturing changes the world



企业愿景
Corporate vision

成为国际一流的
系统设备服务商

To be an international first-class
system equipment service provider



核心价值观
Core values

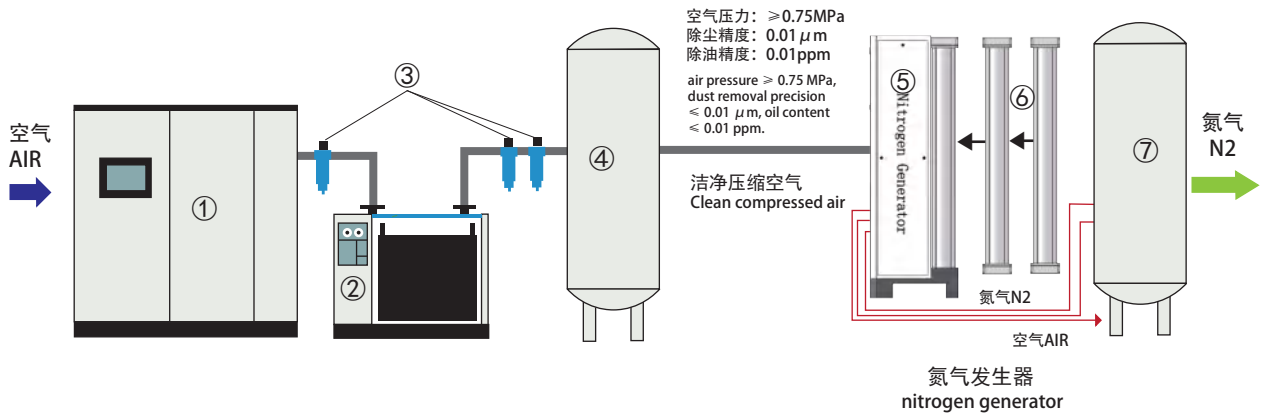
诚信专业、求实创新
合作共赢、追求卓越

Integrity professional, realistic and
innovative, Win-win cooperation,
pursuit of excellence



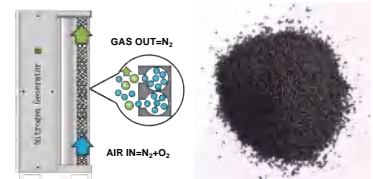
氮气发生器系统流程

NITROGEN GENERATOR SYSTEM FLOW



①空压机Air compressor ②干燥机Dryer ③HC/HT/HA三级过滤器Three-stage filter ④空气储罐（干罐） Air storage tank（Dry tank）⑤模块式氮气发生器Modular Nitrogen generator ⑥扩容组件Expansion modular ⑦氮气储罐（选配） Nitrogen storage tank（optional built-in）

HOLANG氮气发生器系统有空压机、压缩空气后处理系统以及氮气发生器几部分组成。氮气发生器的工作原理是以洁净空气为原料，优质碳分子筛为吸附剂，在一定的压力下，加压吸附，减压再生。两组吸附塔交替工作，得到所需纯度的氮气。



Holang nitrogen generator system consists of an air compressor, a compressed air after-treatment system, and the nitrogen generator itself. The working principle of the modular nitrogen generator is to use clean air as the feedstock and high-quality carbon molecular sieve as the adsorbent. Under certain pressure, it undergoes pressure adsorption and depressurization regeneration. Two sets of adsorption towers work alternately to produce the desired purity of nitrogen gas.

氮气发生器工作流程:

Working process of the nitrogen generator:

空压机: 压缩空气。

Air compressor: compressed air

压缩空气后处理系统: 干燥过滤稳压，处理前端气体得到洁净压缩空气，供氮气发生器使用。处理后合格的洁净空气应满足，空气压力 $\geq 0.75\text{MPa}$ ，除尘精度 $\leq 0.01\mu\text{m}$ ，含油 $\leq 0.01\text{ppm}$ 。

Compressed air after-treatment system: drying, filtering, and stabilizing the compressed air to obtain clean compressed air for use in the nitrogen generator. The treated clean air should meet the following criteria: air pressure $\geq 0.75\text{MPa}$, dust removal precision $\leq 0.01\mu\text{m}$, oil content $\leq 0.01\text{ppm}$.

制氮: 通过氮气发生器将氮气与其他气体分离，得到所需纯度的氮气。

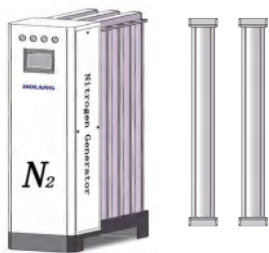
Nitrogen production: Separating nitrogen gas from other gases using a nitrogen generator to obtain the required purity of nitrogen gas.

再生循环: 所谓再生，即将氮气发生器的吸附塔内气体排至大气从而使压力迅速降低至常压，分子筛吸附的氧气、二氧化碳和水分从分子筛内被释放出来，分子筛重新恢复吸附能力的过程。

Regeneration cycle: Regeneration refers to releasing the gas inside the adsorption tower to the atmosphere, rapidly reducing the pressure to atmospheric pressure, and releasing the oxygen, carbon dioxide, and water previously adsorbed by the molecular sieve. This process restores the adsorption capacity of the molecular sieve.

HOLANG模块式氮气发生器

HOLANG MODULAR NITROGEN GENERATOR



模块式氮气发生器是HOLANG自主研发的全新一代产品，选用PSA技术，结合膜分离制氮装置的特性，由A、B两组装有高效碳分子筛的吸附桶和控制系统组成，吸附桶选用航空精工铝合金材质，使得氮气更洁净，其模块化的结构设计，机器更紧凑、更灵活、更便捷。

The modular nitrogen generator is A new generation of products independently developed by HOLANG. It adopts PSA technology and combines the characteristics of membrane separation nitrogen production device. It is composed of adsorption barrels and control systems with high-efficiency carbon molecular sieve assembled by A and B. The adsorption barrels are made of aerospace precision aluminum alloy to make nitrogen cleaner. The machine is more compact, flexible and convenient.

模块式氮气发生器的特点

THE FEATURES OF MODULAR NITROGEN GENERATOR

○ 设计灵巧 SMART

- 1) 模块化设计，结构紧凑，占地更小，安装更便捷；
Modular design, compact structure, smaller footprint, and easier installation.
- 2) 标准吸附模块，选用航空精工铝合金材质，一体成型，减少加工周期，造型美观且耐腐蚀；
Standard adsorption module, the selection of aviation precision aluminum alloy material, integrated molding, reduce processing cycle, beautiful shape and corrosion resistance;
- 3) 可拓展性设计，设备可按需扩充，只需要增加CMS模块即可轻松扩展；
Expandable design, the system can be expanded as needed by adding CMS modules for easy scalability.
- 4) 触摸屏运动智能控制操作面板，自动化程度高，操作简单；
Touchscreen motion intelligent control panel, with high automation level and simple operation.

○ 安全可靠 SECURE

- 1) 现场制氮，能有效避免高压气瓶、低压液氮储罐等安全隐患；
On-site nitrogen generation avoids safety hazards associated with high-pressure gas cylinders and low-pressure liquid nitrogen storage tanks;
- 2) 精湛的装配技术和优选品牌配件，确保卓越的氮气品质和设备的长期稳定运行；
First-class assembly technology and selected brand accessories to ensure excellent nitrogen quality and long-term stable operation of equipment;
- 3) 对进出气压力、流量、纯度进行闭环监控，设置异常报警功能，同时配有机械安全阀，确保使用安全。
Closed-loop monitoring of air intake pressure, nitrogen outlet pressure, flow rate, and purity, with abnormal alarm function settings, along with mechanical safety valves to ensure safe usage.

○ 经济高效 ECONOMIC

- 1) 设备配备节能模式可按需调节设置氮气的纯度和流量，节约能耗，降低运营成本；
The equipment is equipped with an energy-saving mode that allows the purity and flow rate of nitrogen to be adjusted according to demand, saving energy and reducing operating costs.
- 2) 低气耗高产气量，为您提供理想的生产效率和经济方案。
With low gas consumption and high gas production, we provide you with an ideal production efficiency and cost-effective solution.

○ 轻松维护 MAINTAIN

- 1) 独立模组，抽取方便，便于更换，更换后不影响设备性能，无需更换设备，维护成本降低；
Independent modules, easy extraction and replacement without affecting equipment performance, thus reducing maintenance costs without the need to replace the entire unit.
- 2) 最大限度采用易拆卸连接技术，后期故障检修轻而易举。
Maximum use of easy-to-disassemble connection technology for effortless troubleshooting and maintenance in the later stage.

HOLANG专业团队帮您设计最合适的气体解决方案！

HOLANG's professional team to help you design the most suitable gas solution!

氮气发生器NPL

NITROGEN GENERATOR NPL SERIES

NPL选型表

NPL Model Selection



型号 Model	氮气产量Nitrogen production (Nm³/hr)						进气口 Inlet	出气口 Outlet	尺寸Size (mm) (L x W x H)	重量Weight (kg)	氮气缓冲罐 (选配) Nitrogen buffer tank (optional)
	95%	99%	99.5%	99.9%	99.99%	99.999%					
NPL01	13.2	10.6	8.6	6.6	3.8	2.2	G1/2	G1/2	579×333×1700	146	50L
NPL02	26.4	21.1	17.1	13.2	7.8	4.4	G1/2	G1/2	741×333×1700	213	50L
NPL03	39.6	31.7	25.7	19.8	11.7	7.2	G1/2	G1/2	903×333×1700	280	100L
NPL04	52.8	42.2	33.8	26.4	15.6	9.9	G1/2	G1/2	1065×333×1700	347	100L
NPL05	66.0	52.8	43.7	33.0	19.8	12.4	G3/4	G1/2	1227×333×1700	418	200L
NPL06	79.2	63.4	53.5	39.6	23.8	15.4	G3/4	G3/4	1389×333×1700	490	200L
NPL07	92.4	73.9	62.4	46.2	27.7	18.0	G3/4	G3/4	1551×333×1700	555	200L
NPL08	105.6	84.5	72.6	52.8	31.9	21.1	G1	G3/4	1713×333×1700	621	200L
NPL09	118.8	95.0	82.6	59.4	36.2	26.7	G1	G3/4	1875×333×1700	688	300L
NPL10	132.0	105.6	91.7	66.0	40.3	29.7	G1	G3/4	2037×333×1700	756	300L
NPL11	145.2	116.2	100.9	72.6	45.4	32.7	G1-1/4	G3/4	2249×333×1700	826	300L
NPL12	158.4	126.7	110.1	79.2	49.1	35.6	G1-1/4	G3/4	2411×333×1700	894	300L
NPL13	171.6	137.3	119.3	85.8	52.8	38.6	G1-1/4	G3/4	2573×333×1700	962	500L
NPL14	184.8	147.8	128.4	92.4	57.3	42.5	G1-1/4	G3/4	2735×333×1700	1030	500L
NPL15	198.0	158.4	137.6	99.0	61.4	45.5	G1-1/4	G3/4	2897×333×1700	1098	500L

压缩空气进气参数 Compressed air intake parameters	
进气质量 Intake air requirement	符合 ISO 8573-1:2010 要求 meet the requirements of ISO 8573-1:2010
进气压力 Intake pressure	0.7-1.0MPa

电源 Power supply	
电制 electric system	220V/50HZ
功率 Power	100W

注NOTE:

- 1) 上述表中流量单位均为Nm³/h, 即标准状态定义为20℃, 1013mbar (a), 相对湿度0%;
The unit of flow in the above table is Nm³/h. That is, the standard state is defined as 20℃, 1013mbar (a), relative humidity 0%;
- 2) 指标参数参考工况: 20-25℃, 工作压力0.7MPa。若工况偏离, 须修正参数, 详情请咨询Holang;
Reference working condition of index parameters: 20-25℃, working pressure 0.7MPa. If the working condition deviates, the parameters must be corrected. Please contact holang for details.

氮气发生器NPS

NITROGEN GENERATOR NPS SERIES



NPS10

技术参数Specification

型号 Model	NPS10
技术原理 Technical principle	PSA
氮气流量 Nitrogen flow rate	10~45L/min
氮气纯度 Nitrogen purity	96~99.999%
氮气压力 Nitrogen pressure	0.6-0.9MPa
环境温度 Ambient temperature	5~40 °C
电 制 Electric system	210~240V, 50/60Hz
最高海拔 Highest altitude	2000m
移动性 Mobility	标配移动轮 Moving wheel as standard
噪音值 Noise level	59 ± 3dB @ 1m
外形尺寸 Size	484x495x753mm (LxWxH)
重 量 Weight	70kg
选配功能 (optional)	①智能云平台, 实现手机在线控制及监测 Smart cloud platform, enabling remote control and monitoring via mobile phone ②维护提醒 Maintenance reminder ③内置空压机 Built-in air compressor
规 范 Norm	ISO9001 : 2015 , CE

氮气发生器一体机NPA

NITROGEN GENERATOR INTEGRATED MACHINE



NPA10

技术参数Specification

型号 Model	NPA10
技术原理 Technical principle	PSA
氮气流量 Nitrogen flow rate	10~45L/min
氮气纯度 Nitrogen purity	96~99.999%
氮气压力 Nitrogen pressure	0.6-0.9MPa
空 压 机 Air compressor	内置 Built-in
环境温度 Ambient temperature	5~40 °C
电 制 Electric system	210~240V, 50/60Hz
最高海拔 Highest altitude	2000m
噪音值 Noise level	59 ± 3dB @ 1m
外形尺寸 Size	787x630x1570mm (LxWxH)
重 量 Weight	198kg
选配功能 (optional)	①智能云平台, 实现手机在线控制及监测 Smart cloud platform, enabling remote control and monitoring via mobile phone ②维护提醒 Maintenance reminder ③配备移动轮 Equipped with moving wheel
规 范 Norm	ISO9001 : 2015 , CE

注NOTE:

以上数据为环境温度为20℃测得, 其他工况请联系Holang;

The above data is measured at an ambient temperature of 20 °C, please contact Holang for other operating conditions;

零部件结构

STRUCTURAL COMPONENTS



工作压力表

Working pressure gauge



大余量碳分子筛吸附塔设计、优选高活性炭分子筛吸附时间久，制氮效率高。

Design of carbon molecular sieve adsorption tower with large excess capacity, and preferentially select high-activity carbon molecular sieves. Long adsorption time and high nitrogen production efficiency.



智能触摸屏

Intelligent touchscreen

智能触摸屏控制系统，操作简单

Intelligent touchscreen control system, simple and straightforward operation.

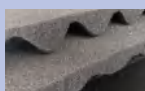


SIEMENS PLC/schneider熔断器
大牌加持，品质保障

SIEMENS PLC/Schneider circuit breaker
Backed by top brands, quality assured



+



大流量消声器+消音棉，
最大化降噪

Muffler + Sound-absorbing cotton,
maximizing noise reduction.



金属管设计，解决胶管易老化问题。易拆卸连接设计，突破传统胶连不易拆卸的弊端

Metal pipe design, addressing the issue of rubber hose aging.
Easy disassembly connection design, overcoming the drawbacks of traditional rubber connections that are not easy to dismantle.

叉车槽设计，便于搬运和移动

Forklift groove design, convenient for handling and mobility.



CKD/SMC阀门，高效可靠

CKD/SMC valves, efficient and reliable.

变压吸附制氮装置NPX PSA Nitrogen Generator NPX

NPX系列制氮装置选用PSA技术，以空气为原料，优质吸附剂，在一定的压力下，吸附剂对氧的吸附能力远大于氮，通过可编程控制程序控制气动阀的启闭，来控制吸附器的交替循环，加压吸附，减压再生，完成氧氮分离，得到所需纯度的氮气。

The NPX series of nitrogen generators use PSA technology, air as raw material, and high-quality adsorbents. Under a certain pressure, the adsorbent's ability to adsorb oxygen is much greater than nitrogen. The open and close of the pneumatic valve is controlled by a programmable control program. The alternate cycle of the adsorber, pressure adsorption, decompression regeneration, complete oxygen and nitrogen separation, to obtain the required purity nitrogen.



NPX

膜分离制氮装置NMX Membrane Separation Nitrogen Generator NMX

NMX系列膜分离氮气发生器采用的是膜分离技术，洁净干燥的压缩空气进入一个或多个膜组件，渗透速率较快的气体组分（如H₂O、H₂、O₂等）优先透过膜壁在低气压渗透侧被富集，而渗透速率相对较慢（如N₂等）的气体组分则在高压滞留侧被富集，从而得到所需纯度的氮气。

The NMX series of membrane nitrogen generators utilize membrane separation technology. Clean and dry compressed air enters one or more membrane modules, where gas components with faster permeation rates (such as H₂O, H₂, O₂, etc.) preferentially permeate through the membrane wall and get enriched on the low-pressure permeate side. Gas components with relatively slower permeation rates (such as N₂, etc.) are enriched on the high-pressure retentate side. This process enables the production of nitrogen gas with the desired purity.



NMX

<< HOLANG提供现场制氮机的专业咨询与技术支持

在实际应用中，不同行业不同工艺对氮气的需求不同，大多数客户不确定他们的“高纯度氮气”的具体要求，昊朗科技专业团队可帮助客户挑选最适合自己的工业气体解决方案，昊朗提供：应用知识、技术支持和系统设计。

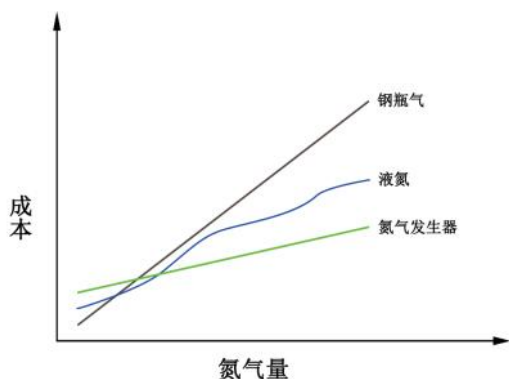
In practical applications, various industries and processes have different requirements for nitrogen gas. Most customers are unsure about the specific requirements for their "high-purity nitrogen". The professional team at Haolang Technology can help customers select the most suitable industrial gas solution. Holang provides application knowledge, technical support, and system design services.

现场氮气发生器优势

ADVANTAGES OF ON-SITE NITROGEN GENERATOR

氮气通常可通过购买钢瓶气、液氮或氮气发生器来获取，与直接购买氮气相比，使用氮气发生器制取氮气具有以下优势：

Nitrogen can usually be obtained by purchasing cylinder gas, liquid nitrogen, or a nitrogen generator. Compared with purchasing nitrogen directly, using a nitrogen generator to produce nitrogen has the following advantages:



持续供应、高效经济：氮气发生器提供持续且高效经济的氮气来源，即开即用，避免重复充装和运输成本，无需依赖外部供应商，可降低长期运营成本。

Continuous supply and cost-effectiveness: Nitrogen generators provide a continuous and efficient and economical source of nitrogen, ready to use anytime, and no need to rely on external suppliers, which reduce long-term operating costs by avoiding recharging and shipping costs.

氮气纯度灵活控制：不同应用对氮气的需求不同，氮气发生器具有自动化控制系统，操作简便，通过设定参数可精准控制氮气纯度和产氮量，满足不同工艺需求。

Flexible purity control: Different applications have varying requirements for nitrogen gas. Nitrogen generators come equipped with automated control systems, making operation simple. By setting parameters, the nitrogen purity and production volume can be precisely controlled to meet different process needs.

环保可持续：氮气发生器制取氮气的过程是基于空气中的氮气和氧气的分离，无需额外的能源消耗。相比于运输和存储液氮的方式，氮气发生器更环保、安全、可持续。

Environmentally friendly and sustainable: The process of producing nitrogen with a nitrogen generator is based on the separation of nitrogen and oxygen from the air, requiring no additional energy consumption. Compared to the transportation and storage of liquid nitrogen, nitrogen generators are more environmentally friendly, safe, and sustainable.

昊朗服务

SERVICE

急客之所急, 解客之所困, 全心全意为客户服务

Addressing clients' urgent needs, solving their difficulties, and serving them wholeheartedly



品质保证 Quality Assurance

100%出厂前检测，指标全部合格后方可发出

100% pre-factory inspection is required before delivery, and the product can only be shipped after all the specifications are qualified



售后无忧 Worry Free After Sale

免费上门指导安装，现场调试、培训；

Free on-site guidance and installation, on-site commissioning and training;



客服服务 Customer Service

技术人员在线响应，故障问题快速解决

Technical personnel provide online response, quickly resolving troubleshooting issues

氮气的应用

APPLICATION

氮气是一种无色无味、具有高度化学稳定性的惰性气体，一般不易与其他物质发生反应，且在大气中含量高达78%以上，几乎可以无限量使用，所以氮气被广泛应用于各行各业。氮气的应用包含但不限于：

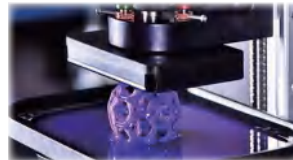
Nitrogen is a colorless, odorless, and highly chemically stable inert gas. It does not easily react with other substances and accounts for over 78% of the Earth's atmosphere, making it virtually limitless in availability. As a result, nitrogen finds wide-ranging applications across various industries. The applications of nitrogen include, but are not limited to:



电子行业
Electronic Industry



激光焊割
Laser Welding And Cutting



3D打印
3D-printing



生物医药
Pharmaceutical Industry



分析实验室
Analytical Laboratory



金属加工
Metallurgic Processing



食品保鲜
Food Preservation



石油化工
Petrochemical Industry

合作伙伴

OUR CUSTOMERS

 kurtz ersa

 HELLER
INDUSTRIES

 THERMAL SYSTEMS


 BTU

 TAMURA

 ETC

 SUNEAST
日东科技

 HB
Technology

 JT 劲拓股份

 UICK

 ZSW

 AST

 億帶億路
億升通渠 聖客成車

 LEADI

 HVT

 PINK



HOLANG

联系方式/Contact

Add: 苏州市吴中区金丝港路51号
No.51 Jinsigang Rd,Suzhou,China

Web: www.holangchina.com

Tel: +86 512-6568 5667

Email: marketing@holangchina.com



产品手册因技术变更有修正的可能，恕不另行通知。
The product manual may be subject to revisions due to technological changes, without prior notice.