

引领中国 气体纯化技术的发展

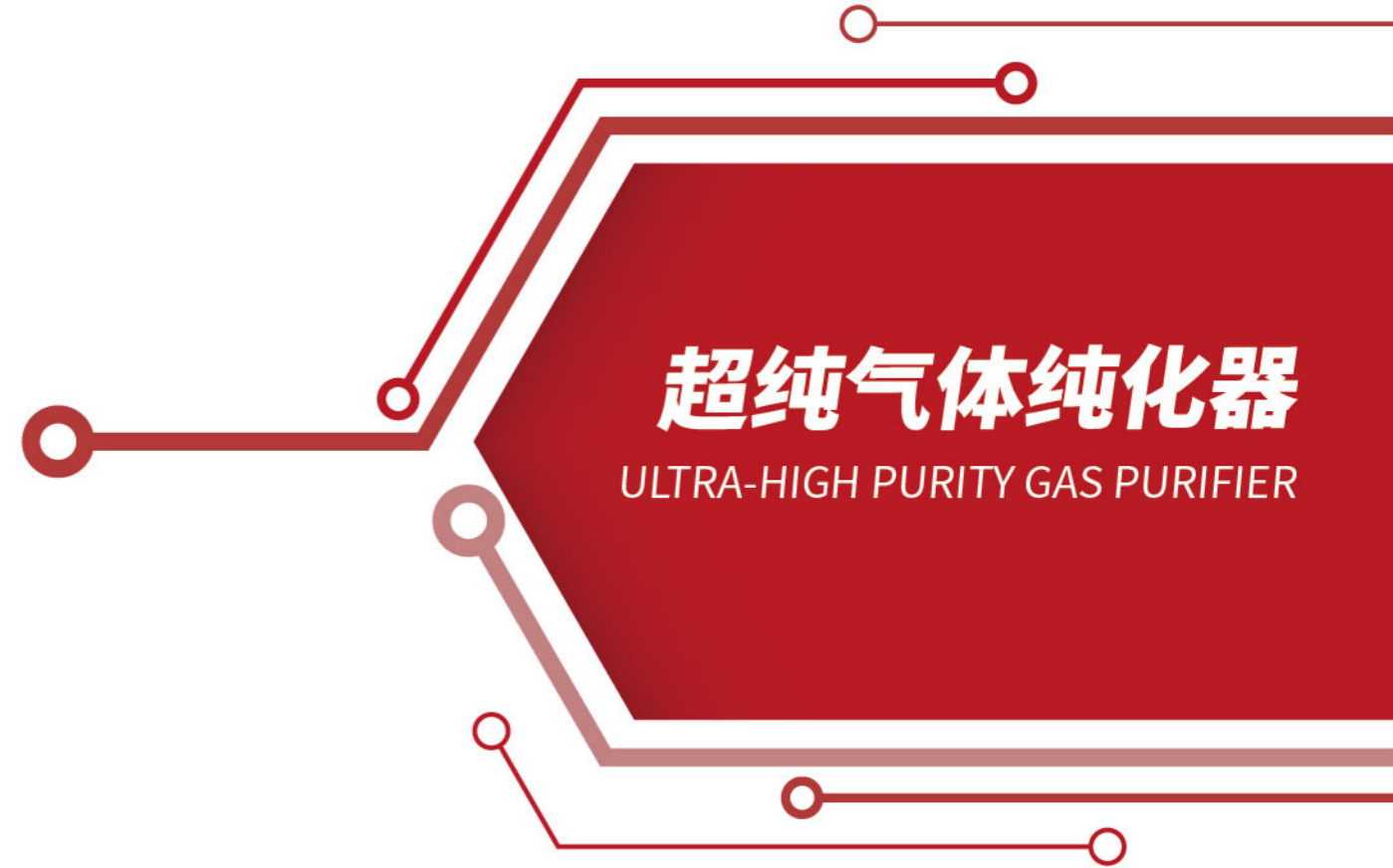
LEADING THE TECHNOLOGY DEVELOPMENT
OF CHINA'S GAS PURIFICATION



HPC

High Purity Chemical

加氢催化剂
HYDROGENATION CATALYST



超纯气体纯化器

ULTRA-HIGH PURITY GAS PURIFIER

PRODUCT LINE



POU
PURIFIER



XCDA
PURIFIER



CO₂
PURIFIER



NH₃
PURIFIER



H₂/Ar/He
PURIFIER



O₂
PURIFIER



N₂
PURIFIER

超纯气体现场供应及管理
ULTRA-PURE GAS ON-SITE SUPPLY
AND MANAGEMENT

大连华邦化学有限公司
DaLian High Purity Chemical co.,Ltd

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大连华邦化学有限公司
DaLian High Purity Chemical co.,Ltd

NOx净化设备
NOX PURIFICATION EQUIPMENT

COMPANY INTRODUCTION

大连华邦化学有限公司由中科院多位气体纯化专家与归国学者联合成立的高新技术企业, 2019年认定为省瞪羚企业, 2022年被评为“国家专精特新小巨人企业”。团队掌握催化剂、吸附剂、Getter等核心技术, 专注于纯化技术20年。主要产品体系: 超纯气体纯化器的研制生产、加氢催化剂、NOx净化装置, 以及超纯气体现场供应及管理;

华邦化学拥有以化物所专家与海归博士为带头人的科研团队, 组建“ppb级高纯气体纯化器研发团队”。成功研制了HPC-9N系列纯化器, 并且产品已成功应用于国内多条12英寸产线(大连、北京、上海、武汉、合肥等), 以及数十条6~8英寸、TFT、LED、IGBT等产线, 并可为客户提供超纯气体现场供应及管理、维保服务。

Dalian high purity Chemical Co., Ltd. is a high-tech enterprise jointly established by a number of gas purification experts from the Chinese Academy of Sciences and returned scholars. In 2019, it was identified as a provincial Dengling enterprise, and in 2022, it was named as the "national special, fine and special new little giant enterprise". Our team has mastered core technologies such as catalyst, adsorbent and Getter, and has focused on purification technology for 20 years. Main product system: development and production of ultra-pure gas purifier, hydrogenation catalyst, NOx purification device, and ultra-pure gas on-site supply and management; Huabang Chemical has a scientific research team led by experts from Chemical Institute and doctor returnees, and has set up a "Research and development team of ppb high purity gas purifier". HPC-9N series purifiers have been successfully developed, and the products have been successfully used in many domestic 12-inch production lines (Dalian, Beijing, Shanghai, Wuhan, Hefei, etc.), and dozens of 6-8 inch, TFT, LED, IGBT production lines, and can be used

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OUR concept

信誉 / REPUTATION

商德唯信, 利末义本。坚守信誉为华邦根本理念。
Business ethics only faith, the end of righteousness. Adhere to the credibility of the fundamental concept of Huabang.

品质 / QUALITY

精益求精, 追求卓越, 注重品质为华邦首要理念。
Strive for excellence, the pursuit of excellence, pay attention to quality for the primary concept of Huabang.

开拓 / DEVELOP

致力于高纯化学领域, 开拓进取为华邦发展理念。
Committed to the field of high purity chemistry, pioneering and enterprising for the development of Huabang concept.

共进 / MUTUAL PROGRESS

与员工同成长, 与伙伴共进步, 为华邦回馈理念。
Grow together with employees, progress together with partners, feedback concept for Huabang.

IDENTITY SOLUTION



1 加氢催化剂

HYDROGENATION CATALYST

用于轻烃中选择性加氢脱炔烃及二烯烃、油品加氢。活性高、选择性好、还原态出厂、使用方便。

应用领域: 石油化工、煤化工领域烃类精制。

SEO SOLUTION



2 超纯气体纯化器

ULTRA-PURE GAS PURIFIER

6-9N氮气、氢气、氧气、氩气、氦气纯化器等。全自动运行、抗波动能力强、抗意外能力强。

应用领域: 电子、钢铁、气体、石化领域气体提纯。

WEBSITE SOLUTION



3 超纯气体现场供应及管理

ULTRA-PURE GAS ON-SITE SUPPLY AND MANAGEMENT

华邦化学可针对半导体等电子、化工用户对气体的高纯度需求, 在客户现场投资建设由气体制备、存储、纯化、检测、监控系统组成的超纯气体站, 为用户集中供应6-9N纯度的N₂、H₂、O₂、Ar、He等大宗气体, 供气量可从1-10000Nm³/h。

应用领域: 半导体、石化行业超纯气体供应。

CONSULTANT



4 NOx净化设备

NOX PURIFICATION EQUIPMENT

半导体行业尾气NOx脱除装置, 脱除深度小于3mg/m³。NOx脱除深度高, 使用温度低, 全自动运行, 控制精确。

应用领域: VOC燃烧炉尾气NOx脱除, 锅炉尾气NOx脱除, 制程废气NOx脱除等。



纯化事业部

PURIFICATION DIVISION

大连华邦化学有限公司 (HPC) 超纯技术团队从20世纪60年代在国内率先从事超纯气体分析和制备领域的研究, 拥有催化剂、吸附剂、Getter等气体纯化材料的核心技术及研发能力, 掌握核心工艺, 并将之应用纯化器生产中。华邦继承了前辈们数十年技术积累, 并不断开拓创新。所开发的9N (>99.999999%) 纯化器, 可良好的满足6-12寸半导体芯片、LED、激光器件的生产需求。目前HPC产品已广泛应用于电子、气体、冶金、化工等行业, 并树立了良好的行业口碑。为客户创造了可观的经济及社会效益。华邦人坚守信誉和品质, 以开发世界一流纯化器为己任, 不断开拓, 与伙伴共进。

The ultra-pure technical team of Dalian high purity Chemical Co., LTD. (HPC) has been engaged in the research of ultra-pure gas analysis and preparation in China since the 1960s, and has the core technology and R&D ability of catalyst, adsorbent, Getter and other gas purification materials, master the core process, and apply it to the production of purifiers. Huabang has inherited decades of technology accumulation and continuous innovation. The developed 9N (>99.999999%) purifier can meet the production requirements of 8-12 inch semiconductor chips, LED and laser devices. At present, HPC products have been widely used in electronics, gas, metallurgy, chemical and other industries, and set up a good industry reputation. For customers to create considerable economic and social benefits. Huabang PEOPLE adhere to the credibility and quality, to develop the world's first-class PURifier as their own responsibility, constantly explore, and partners.

洁净施工
确保产品品质

Clean construction
Ensure product quality

设备
出厂前激活

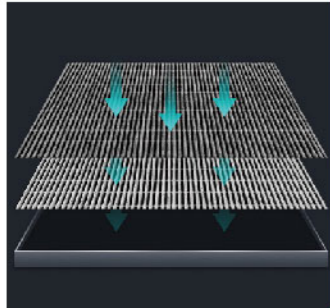
Activation device
before delivery

每台设备
出厂前测试
确保产气指标

Each device is tested
before delivery to ensure
gas production indicator

9N气体纯化器优势

9N GAS PURIFIER
ADVANTAGE



采用催化，吸附、Getter等技术联用，保证气体纯化指标。

Combining technologies such as catalysis, adsorption and Getter to ensure gas purification indicators.

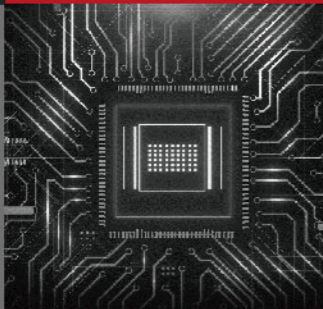


拥有自主知识产权核心催化剂，稳定性强，脱除深度高。

Core catalyst With independent intellectual property rights, which has strong stability and high removal depth.

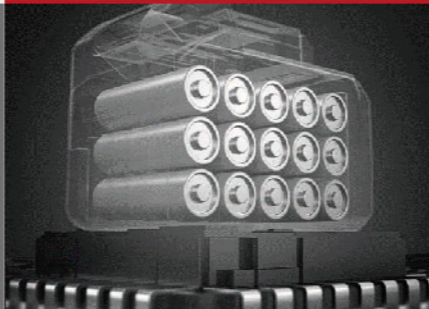
稳定性强，全自动运行维护量少。

Strong stability, fully automatic operation and less maintenance.



抗意外能力强，短时间断水、断电不影响产气指标。

Strong anti-accident ability, short-term water and power outage does not affect the gas production index.



填料容量大，抗波动能力强。原料杂质少量波动无影响。

Large packing capacity is and strong anti-fluctuation ability. Small fluctuations in raw material impurities has no effect.

再生周期长，可实现不间断产气，在线维修。

The regeneration cycle is long, which can realize uninterrupted gas production and online

NO. 26-28, HAOSHAN PARK, INTELLIGENT ASSEMBLY INDUSTRIAL PARK, HIGH-TECH ZONE, DALIAN CITY, LIAONING PROVINCE

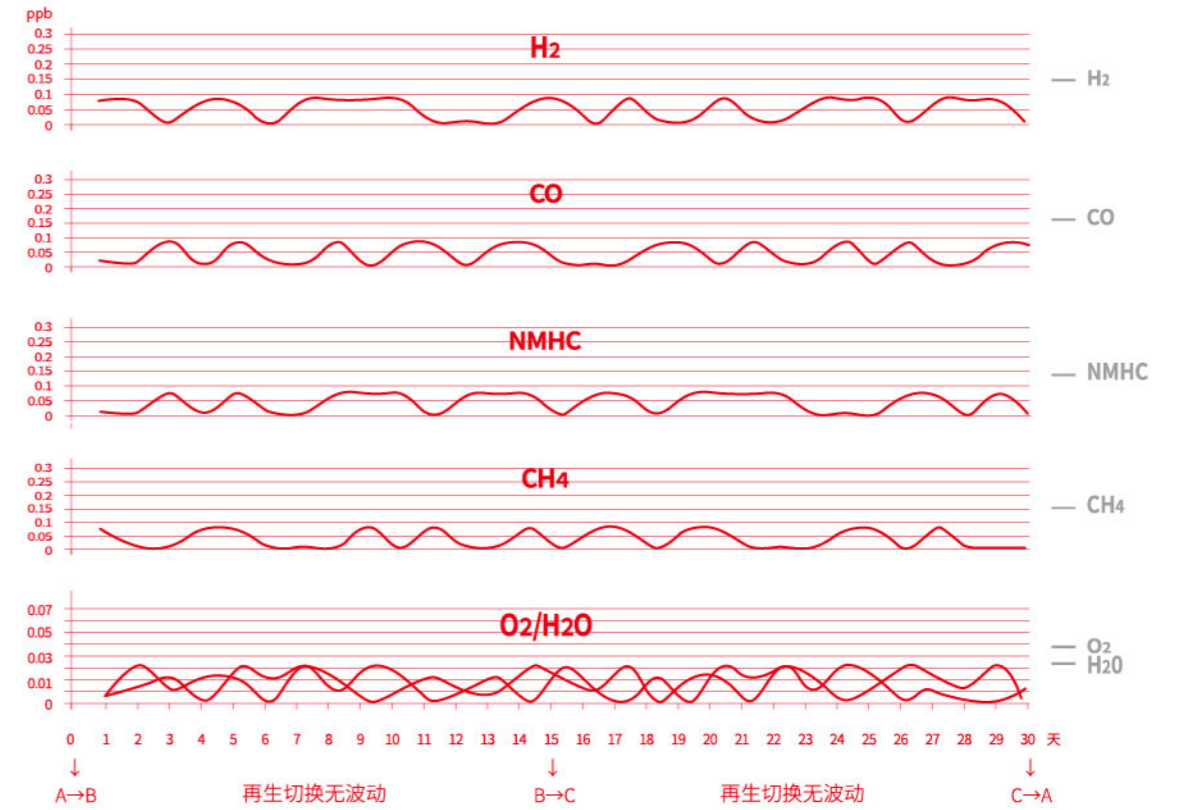
www.hpcdl.cn
400-115-8088

9N气体纯化器指标曲线

9N GAS PURIFIER
INDEX CURVE

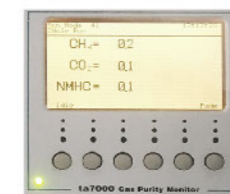
持续在线检测数据

Continuously testing data online



现场实测产气指标

FIELD MEASURED GAS PRODUCTION INDEX



PN系列 氮气纯化器

PN SERIES
NITROGEN PURIFIER

TYPICAL APPLICATION

- 典型应用
- 半导体、LED、激光、太阳能光伏行业
- 光纤行业
- 气体行业
- 冷轧行业
- 化工行业

PRODUCT INTRODUCTION

- PN系列独立气体纯化系统通过现场原位再生和吸附工序,以高可靠性、低成本及高性能,深度脱除N₂中的杂质,满足客户现场需求。
- PN series independent gas purification systems can effectively remove impurities in N₂ through on-site regeneration and adsorption processes with high reliability, low cost and high performance to meet customers' on-site requirements.

PROCESS INTRODUCTION

- 工艺介绍
- 气体通过吸附工序,深度脱除气体中的O₂、H₂O、CO₂、CO、H₂等杂质。
- 吸附柱吸附饱和后可加热再生、反复使用。
- 多柱交替吸附、再生、可实现对气体的连续纯化。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS	N ₂	
工艺 CRAFTS	ADSORPTION	
杂质 IMPURITY	INLET	OUTLET
	ppm	ppb
O ₂	<3	<1
H ₂ O	<3	<1
CO ₂	<1	<1
CO	<1	<1
H ₂	<1	<1
NMHC	<1	<1
CH ₄	—	—
PARTICLES	—	≤1pcs/m ³ (@0.003μm)
标准流量 STANDARD FLOW RATE	10 ~ 50000 Nm ³ /h	



PN NITROGEN PURIFIER
PN 氮气纯化器

PNO系列 氮气纯化器

PNO SERIES
NITROGEN PURIFIER

TYPICAL APPLICATION

- 典型应用
- 半导体、LED、激光、太阳能光伏行业
- 光纤行业
- 气体行业

PRODUCT INTRODUCTION

- PNO系列独立气体纯化系统通过现场原位再生和催化&吸附联用工序,以高可靠性、低成本及高性能,深度脱除N₂中的杂质,满足客户现场需求。
- PNO series independent gas purification systems can effectively remove impurities in N₂ through in-site regeneration and catalytic adsorption processes to meet customers' on-site requirements with high reliability, low cost and high performance.

PROCESS INTRODUCTION

- 工艺介绍
- 气体首先通过高温催化氧化工序,将气体中的CH₄、CO、H₂等,还原性杂质与O₂反应转化为H₂O和CO₂。
- 气体通过多柱吸附工序深度脱除气体中的O₂、H₂O、CO₂等杂质。
- 吸附柱吸附饱和后可通氢加热再生,反复使用。多柱交替吸附、再生、可实现对气体的连续纯化。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS	N ₂	
工艺 CRAFTS	CATALYTIC+ADSORPTION	
杂质 IMPURITY	INLET	OUTLET
	ppm	ppb
O ₂	<3	<1
H ₂ O	<3	<1
CO ₂	<1	<1
CO	<1	<1
H ₂	<1	<1
NMHC	<1	<1
CH ₄	<0.5	<1
PARTICLES	—	≤1pcs/m ³ (@0.003μm)
标准流量 STANDARD FLOW RATE	10~20000Nm ³ /h	



PNO NITROGEN PURIFIER
PNO 氮气纯化器

PH7/PH-L系列 氢气纯化器

PH7/PH-L SERIES
HYDROGEN PURIFIER

TYPICAL APPLICATION

- 典型应用
- 半导体、LED、激光、太阳能光伏行业
- 气体行业

PRODUCT INTRODUCTION

- PH7/PH-L系列独立气体纯化系统通过现场原位再生吸附工艺、GETTER工艺、低温技术,以高可靠性、低成本及高性能,深度脱除H₂中的杂质,满足客户现场需求。
- The PH7/PH-L series of independent gas purification systems deeply remove impurities from H₂ with high reliability, low cost, and high performance through in-situ regeneration and adsorption & GETTER cryogenic technology, meeting the on-site needs of customers.

PROCESS INTRODUCTION

- 工艺介绍
- PH7-H: 通过吸附工序,脱除气体中的O₂、H₂O、CO₂等杂质,通过吸气柱脱除N₂、CH₄。
- PH7-H-A: 通过吸附工序,深度脱除气体中的O₂、H₂O、CO₂、CO等杂质。
- 吸附柱吸附饱和后可加热再生、反复使用。
- PH-L: 通过低温吸附工序,深度脱出气体中的N₂、Ar、O₂、H₂O、CO、CO₂等杂质。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS		N ₂		
型号 MODEL		PH7-H	PH7-H-A	PH-L
工艺 CRAFTS		ADSORPTION+GETTER	ADSORPTION	CRYOSORPTION+PALLADIUM FILM
杂质 IMPURITY	INLET	OUTLET	OUTLET	OUTLET
	ppm	ppb	ppb	ppb
O ₂	<3	<1	<1	<1
H ₂ O	<3	<1	<1	<1
CO ₂	<1	<1	<1	<1
CO	<1	<1	<1	<1
NMHC	<0.5	<1	<1	<1
CH ₄	<0.5	<1	—	<1
N ₂	<1	<1	—	<1
Ar	<1	—	—	<1
PARTICLES	—	≤1pcs/m ³ (@0.003μm)		
标准流量 STANDARD FLOW RATE		10~500Nm ³ /h	10~4000Nm ³ /h	



HPC
High Purity Chemical



PH7/PH-L HYDROGEN PURIFIER
PH7/PH-L 氢气纯化器

PO系列 氧气纯化器

PO SERIES
OXYGEN PURIFIER

TYPICAL APPLICATION

- 典型应用
- 半导体、LED、激光、太阳能光伏行业
- 光纤行业
- 气体行业

PRODUCT INTRODUCTION

- PO系列独立气体纯化系统通过现场原位再生和催化&吸附联用技术,以高可靠性、低成本及高性能,深度脱除O₂中的杂质,满足客户现场需求。
- PO series independent gas purification system through on-site regeneration and catalysis-adsorption combined technology, with high reliability, low cost and high performance, effective removal of impurities in O₂, to meet customer on-site needs.

PROCESS INTRODUCTION

- 工艺介绍
- 气体首先通过高温催化氧化工序,将气体中的CH₄、CO、H₂等,还原性杂质与O₂反应转化为H₂O和CO₂。
- 气体通过多柱吸附工序深度脱除气体中的H₂O、CO₂等杂质。吸附柱吸附饱和后可加热再生,反复使用。
- 多柱交替吸附、再生,可实现对气体的连续纯化。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS		O ₂	
工艺 CRAFTS		CATALYTIC+ ADSORPTION	
杂质 IMPURITY	INLET	OUTLET	
	ppm	ppb	
H ₂ O	<1	<1	
CO ₂	<1	<1	
CO	<1	<1	
H ₂	<1	<1	
NMHC	<1	<1	
CH ₄	<1	<1	
PARTICLES	—	≤1pcs/m ³ (@0.003μm)	
标准流量 STANDARD FLOW RATE		10 ~ 10000Nm ³ /h	



HPC
High Purity Chemical

PO OXYGEN PURIFIER
PO 氧气纯化器

PR/E系列 氩气、氦气纯化器

PR/E SERIES
ARGON, HELIUM PURIFIER

TYPICAL APPLICATION

- 典型应用
- 半导体、LED、激光、太阳能光伏行业
- 气体行业

PRODUCT INTRODUCTION

- PR/E系列独立气体纯化系统通过现场原位再生和先进的技术，以高可靠性、低成本及高性能，深度脱除He、Ar中的杂质，满足客户现场需求。
- PR/E series independent gas purification system can effectively remove impurities in He and Ar with high reliability, low cost and high performance through in-situ regeneration and advanced technology to meet customers' on-site requirements.

PROCESS INTRODUCTION

- 工艺介绍
- PR/E-H: 通过吸附工序，脱除气体中的O₂、H₂O、CO₂等杂质，通过吸气柱脱除N₂、CH₄。
- PR/E-G: 气体通过高温状态下的吸气柱，可深度脱除气体中的O₂、H₂O、CO₂、CO、H₂、CH₄、N₂等杂质。吸气柱吸附饱和后，整体更换。
- PR/E-A: 气体通过吸附工序，深度脱除气体中的O₂、H₂O、CO₂、CO、H₂、等杂质。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS	Ar, He			
型号 MODEL	PR/E-H	PR/E-G	PR/E-A	
工艺 CRAFTS	ADSORPTION	GETTER	GETTER	ADSORPTION
杂质 IMPURITY	INLET	OUTLET	OUTLET	OUTLET
	ppm	ppb	ppb	ppb
O ₂	<3	<1	<1	<1
H ₂ O	<3	<1	<1	<1
CO ₂	<1	<1	<1	<1
CO	<1	<1	<1	<1
H ₂	<1	<1	<1	<1
NMHC	<0.5	<1	<1	<1
CH ₄	<0.5	<1	<1	—
N ₂	<2	<1	<1	—
PARTICLES	—	≤1pcs/m ³ (@0.003μm)		
标准流量 STANDARD FLOW RATE		10~600Nm ³ /h	10~4000Nm ³ /h	



PR/E ARGON, HELIUM PURIFIER
PR/E 氩气、氦气纯化器

PNH系列 氨气纯化器

PNH SERIES
AMMONIA PURIFIER

TYPICAL APPLICATION

- 典型应用
- 纯化用于半导体、LED应用的氨气

PRODUCT INTRODUCTION

- PNH系列独立气体纯化系统通过现场原位再生和吸附工序，以高可靠性、低成本及高性能，深度脱除NH₃中的污染杂质，满足客户现场需求。
- PNH SERIES OF independent gas purification systems can effectively remove the impurities in NH₃ with high reliability, low cost and high performance through on-site regeneration and adsorption processes to meet customers' on-site requirements.

PROCESS INTRODUCTION

- 工艺介绍
- PNH: 通过吸附工序，深度脱除工艺气体中的O₂、H₂O、CO₂、NMHC，纯化和再生模式交替进行，提供对工艺气的连续纯化。
- PNH: 通过现场原位再生和先进技术，以高可靠性、低成本及高性能，有效的脱除NH₃中的污染杂质，满足客户现场需求。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS	NH ₃
型号 MODEL	PNH
工艺 CRAFTS	ABSORB
H ₂ O	<1ppb
O ₂	<1ppb
CO ₂	<1ppb
NMHC	<1ppb
PARTICLES	≤1pcs/m ³ (@0.003μm)
标准流量 STANDARD FLOW RATE	10~200Nm ³ /h



PNH AMMONIA PURIFIER
PNH 氨气纯化器

PX 系列 XCDA 纯化器

PX SERIES
XCDA PURIFIER

TYPICAL APPLICATION

- 典型应用
- 纯化用于半导体工艺应用的XCDA

PRODUCT INTRODUCTION

- PX系列独立气体纯化系统通过现场原位再生和吸附工序,以高可靠性、低成本及高性能,深度脱除CDA中的污染杂质,满足客户现场需求。
- The PX series of standalone gas purification systems employ in-situ regeneration and adsorption processes to deeply remove contaminants and impurities from CDA with high reliability, low cost, and high performance, thereby fulfilling the on-site needs of customers.

PROCESS INTRODUCTION

- 工艺介绍
- 采用HPC特有纯化材料,通过吸附工序,深度脱除气体中的H₂O、CO₂、挥发性酸VA、挥发性碱VB、难熔化合物RC、总有机碳TOC等杂质。
- 多个吸附器交替吸附、再生,实现对原料气体的连续纯化。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS	XCDA
型号 MODEL	PX
工艺 CRAFTS	ABSORB
H ₂ O	<0.1ppb
CO ₂	—
挥发性酸VA	<10ppt
挥发性碱VB	<10ppt
难熔化合物RC	<10ppt
总有机碳TOC	<10ppt
PARTICLES	≤1pcs/m ³ (@0.003μm)
标准流量 STANDARD FLOW RATE	10~20000Nm ³ /h



PX XCDA PURIFIER
PX XCDA 纯化器

PC/CO 系列 二氧化碳纯化器

PC/CO SERIES
CARBON DIOXIDE PURIFIER

TYPICAL APPLICATION

- 典型应用
- 纯化用于半导体工艺应用的二氧化碳

PRODUCT INTRODUCTION

- PC/CO系列独立气体纯化系统通过现场原位再生和催化&吸附工序,以高可靠性、低成本及高性能,有效的脱除CO₂中的杂质,满足客户现场需求。
- PC/CO series independent gas purification system can effectively remove CO₂ impurities with high reliability, low cost and high performance through in-situ regeneration and catalysis & adsorption processes to meet customers' on-site requirements.

PROCESS INTRODUCTION

- 工艺介绍
- PC:采用HPC特有纯化材料,通过吸附工序,深度脱除气体中的O₂、H₂O、H₂、CO、挥发性酸VA、挥发性碱VB、难熔化合物RC、可冷凝有机物Corg、不凝有机物Ncorg等杂质。多个吸附器交替吸附、再生,实现对原料气体的连续纯化。
- PCO:气体首先通过高温催化氧化工序,将气体中的CH₄、H₂、CO、etc.还原性杂质与O₂反应转化为H₂O和CO₂。
- 气体通过多柱吸附工序深度脱除气体中的O₂、H₂O、挥发性酸VA、挥发性碱VB、难熔化合物RC、可冷凝有机物Corg、不凝有机物Ncorg等杂质。

指标表 INDICATOR TABLE

适用气体 APPLICABLE GAS	CO ₂	
	PC	PCO
型号 MODEL	ABSORB	CAT+ABS
工艺 CRAFTS	ABSORB	CAT+ABS
CH ₄	—	<1ppb
O ₂	<1ppb	<1ppb
H ₂ O	<1ppb	<1ppb
H ₂	<1ppb	<1ppb
CO	<1ppb	<1ppb
挥发性酸VA	<0.005ppb	<0.005ppb
挥发性碱VB	<0.5ppb	<0.5ppb
难熔化合物RC	<0.005ppb	<0.005ppb
可冷凝有机物Corg	<0.15ppb	<0.15ppb
不凝有机物Ncorg	<1ppb	<1ppb
PARTICLES	≤1pcs/m ³ (@0.003μm)	
标准流量 STANDARD FLOW RATE	10~500Nm ³ /h	



PC/CO CARBON DIOXIDE PURIFIER
PC/CO 二氧化碳纯化器

PT系列 小型台式纯化器

PT SERIES
SMALL DESKTOP PURIFIER

典型应用 Typical application

- 电子行业生产线及研发过程
- 化工研究
- 分析
- 焊接

PTA 系列吸附 (Adsorption)

N₂、Ar、H₂、He、O₂

PTG 系列吸气 (Getter)

Ar、H₂、He



Q9系列 管式纯化器

Q9 SERIES
POU PURIFIER

典型应用 Typical application

- 电子行业生产线及研发过程
- 化工研究
- 分析
- 焊接

适用气体 Applicable gas

N₂、Ar、H₂、He、O₂、Kr、Ne、CH₄、CDA、XCDA、CO₂、HCl、Cl₂、HBr、AsH₃、PH₃、CF₄、C₂F₆、Xe、C₂H₆、C₃H₈、C₄H₁₀、NH₃、C₂H₄、C₃H₆、C₂H₂、N₂O、D₂、C₂H₇N、C₂H₈N₂、SF₆、CH₃SiH₃、GeH₄、SiH₄、CSiH₆

脱除深度 <1ppb

流量 flow

0.1 ~ 1000 L/min
20 ~ 3000 Nm³/h



部分应用案例

PARTIAL
APPLICATION CASES

PN-20000 氮气纯化器

*应用于新加坡某12寸生产线

产品气指标 <1ppb



PN-3000 氮气纯化器 应用于马来西亚某12寸生产线



PH7-H-50 氢气纯化器 应用于上海某8~12寸生产线



部分应用案例

PARTIAL
APPLICATION CASES

PNO-9000氮气纯化器

*应用于上海某12寸生产线

产品气指标<1ppb (含CH₄)



PO-60 氧气纯化器 应用于广州某12寸生产线



PR-H-200氩气纯化器 应用于武汉某12寸生产线



Global Market Distribution

HPC全球市场分布

