

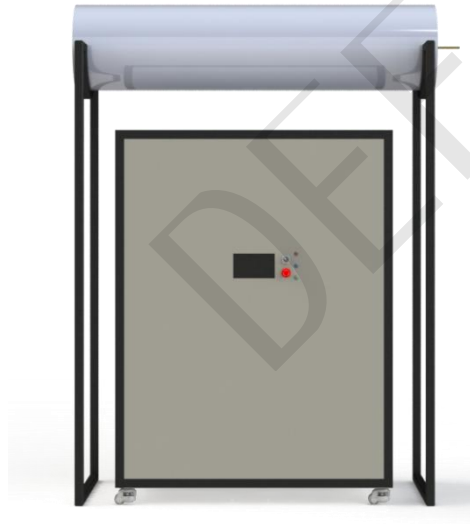
## 超纯气体超低温提纯机组

设备主要用于惰性气体或其他单一气体进行高纯度提纯。利用不同杂质气体的液化温度分层提纯技术。特别是部分惰性气体的提纯。

本设备提纯高纯气体主要应用于电子、新能源、芯片等行业；

设备采用原装进口压缩机、自复叠制冷技术，制冷能力强，温度低（ $\leq -155^{\circ}\text{C}$ ），制冷单元采用本公司自行研发的单元，制冷快，节能环保；气体流道采用真空密闭式换热结构，提高换热效率，降低热损，承压高，换热快，温度低。

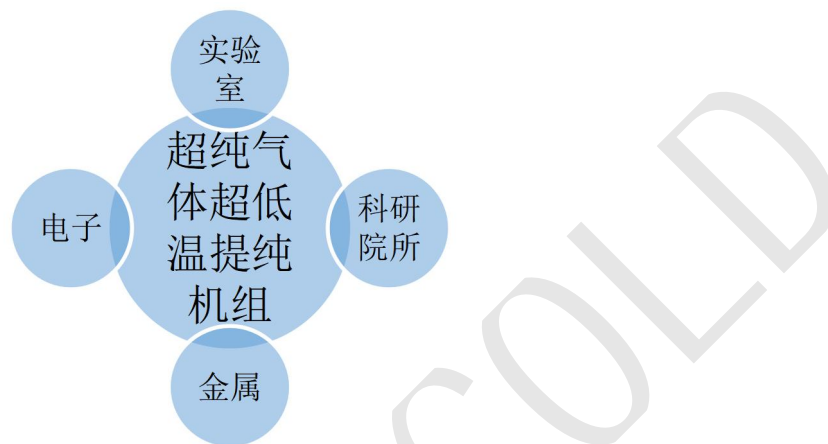
特殊需求请咨询本公司。本公司接受定制需求；



## 设备特点

- 1: 采用自复叠制冷技或多级复叠制冷技术;
- 2: 自复叠采用本公司自主研发制冷单元, 制冷剂无泄漏, 延长设备使用年限;
- 3: 采用原装进口压缩机, 具有运行平稳, 噪音低, 功率小, 能耗低, 寿命长。
- 4: 自行研发设计高效油过滤器, 分离效果达到 99.9%以上, 提高制冷效率;
- 5: 超低温, 降温稳定迅速;
- 6: 可连续长时间制冷输出, 满足试验要求。
- 7: 西门子 PLC+HMI/Deepcold 专业开发的控制系统, 全方位自动监控控制设备运行; 保障设备运行可靠性, 运行状态一目了然;
- 8: 具有温度、时间显示与设定功能, 提供曲线记录数据保存等功能;
- 9: 气体装置采用真空绝热结构, 能耗损失小, 保温效果极佳;
- 10: 气体装置可与设备主提分体安装, 亦可置于设备主体内, 具体咨询 Deepcold 工程技术部;
- 11: 气体加热可选择热氟回收加热或电热或常温气体反吹扫结构, 具体咨询 Deepcold 工程技术部;

## 应用行业图谱：



## 型号定义：

DC/GP ① - ② ③ / ④ / ⑤ / ⑥ / ⑦ / ⑧ / ⑨ / ⑩ / ⑪ / ⑫

## 型号说明：

备注：①~③为基础型号，④~⑪为扩展型号；

例如：DC/GP1-120/10/20/W/3/S/H/V/D/C

DC/GP	1	2	3	4	5	6	7	8	9	10	11	说明		
蒂珀克												蒂珀克®超低温气体提纯机组;		
制冷原理	1											单机自覆叠		
	2											双级覆叠		
	3											三级覆叠		
	4											单机双级覆叠		
使用温度 (°C)	120											120~-120°C; 依此类推;		
有效容积 (L)		30										30表示30L; 依此类推;		
机组名义功率 (HP):			03									03表示3P; 依此类推;		
冷凝方式						W						水冷		
						F							风冷	
系统电压 (V)						2						系统电压220V		
						3							系统电压380V	
压缩机形式								S				半封闭压缩机		
								T						全封闭压缩机
加热模式								E				电热模式		
								F						热氟模式
								N						无加热模式
装置保温模式								V				真空绝热型		
								F						聚氨酯发泡保温
进出口方向										S		同侧进出口		
										D				
系统安装方式											S	外置式		
											C	组合安装(内置式)		
DC/GP	1	2	3	4	5	6	7	8	9	10	11	说明		

# Ultra-Pure Gas Ultralow Temperature Purification Unit

This equipment is mainly applicable to high-purity purification for inert gases or other pure gas. It applies the liquefaction temperature layered purification technology of different foreign gases, especially the purification for partial inert gases.

This equipment is capable of purifying the high-purity gases, and mainly applicable to electronics, new energy, chip etc.;

This equipment applies the original imported compressor and auto-cascade refrigerating technology with a strong refrigerating capacity and low temperature ( $\cong -155^{\circ}\text{C}$ ). Refrigerating unit applies the independently developed unit of our company with a rapid refrigeration, energy saving and environmental protection; Gas channel applies vacuum closed heat exchange structure to improve heat exchange efficiency and reduce heat waste with a high pressure-bearing, rapid heat exchange and low temperature.

Please consult our company for any special demand. We are willing to accept any of your customized requirement.

## Equipment Feature:

- 1: Using ARC technology or multi-level overlapping refrigeration technology;
- 2: The self-overlapping adopts the company's own refrigeration unit and refrigerant without leakage to extend the

useful life of equipment;

3: Adopting the original imported compressor with features of a smooth operation, low noise, low power, low energy consumption and long life.

4: High-efficiency oil filter of independent research and development can realize a separation effect over 99.9%, enhancing the refrigerating efficiency;

5: Ultra-low temperature and stable and rapid cooling;

6: Having continuously long time cooling output to meet the test & produce requirements.

7: Controlling system professionally developed by Siemens PLC+HMI or Deepcold can realize an all-around automatic monitoring and controlling of equipment operation; Ensure a reliable operation of equipment and a transparent operation status;

8: It has functions of temperature, time display and setting, providing curve, recording and saving data;

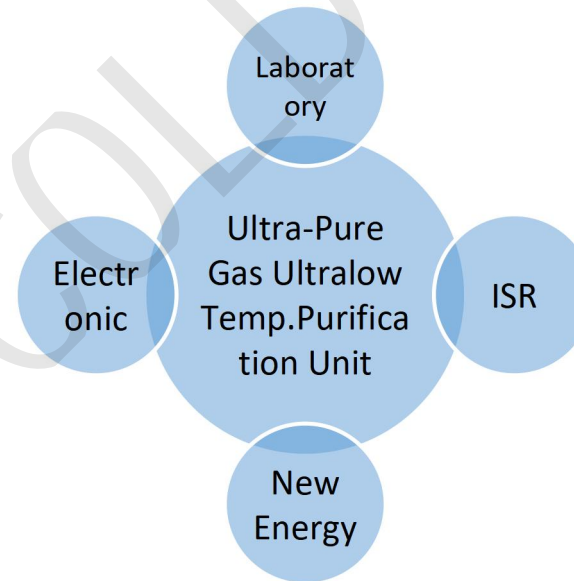
9: Gas device applies the vacuum insulation structure with a low energy consumption and excellent heat insulation effect;

10: Gas device supports both separated installation and inner installation with principle machine. Please consult with

Deepcold's Technical Engineering Department for details;

11: Gas heating supports both hot fluorine recovery heating and electrical or normal temperature gas reverse blowing structure. Please consult with Deepcold's Technical Engineering Department for details;

### Applicable Industry Guide:



### Model Definition:

DC/GP ① - ② ③ / ④ / ⑤ / ⑥ / ⑦ / ⑧ / ⑨ / ⑩ / ⑪ / ⑫

Model Definition:

DC/GP:Deepcold<sup>®</sup>Ultra-Pure Gas Ultralow Temperature Purification Unit

Remarks: ① ~ ③ are basic models, ④ ~ ⑪ are expanding model;

For example: DC/GP1-120/10/20/W/3/S/H/V/D/C

DC/GP	1	2	3	4	5	6	7	8	9	10	11	Remarks
Deepcold												Deepcold®Ultra-Pure Gas Ultralow Temperature Purification Unit
Ref. Prin.	1											ARC
	2											Double-Stage Cascade
	3											Three-Stage Cascade
	4											Single-Machine Double-Stage Cascade
Temp. (°C) :	120											For example:120~-120°C; and so on;
Eff. Cap. (L)		30										For example:30~30L;08~8L;and so on;
Unit Nom. Power(HP):				03								For example: 03 indicates 3HP; 15 indicates 15HP, and so on;
Condensation Mode												Water Cooling
												Forced-air Cooling
System Voltage (V)										2		220Vac
										3		380Vac
Compressor Mode											S	Semi-Hermetic Compressor
											T	Total-Hermetic Compressor
Heating Function											E	Mode of Electric
											F	Mode of Hot Fluorine
											N	No heating Control Mode
Heat Insulation mode of Refrigerating Device											V	Vacuum Insulation
											F	Polyurethane Foam Insulation
Air Inlet/Outlet Direction											S	Same-side air inlet/outlet
											D	Different-side air inlet/outlet
System Installation Mode											S	Separated Installation
											C	Combined Installation
DC/GP	1	2	3	4	5	6	7	8	9	10	11	Remarks



## 配置说明： Configuration Table

型号规格model	DC/GP1-100/07	DC/GP1-120/07	DC/GP1-120/10	DC/GP1-135/10	DC/GP1-135/15
温度 (°C) Temp.	-115°C ≤ T ≤ -100°C	-130°C ≤ T ≤ -120°C		-145°C ≤ T ≤ -135°C	
储液容积 (L) Reservoir volume	15	15	20	25	28
压缩机名义功率 (HP) Compressor power	7	7	10	10	15
压缩机品牌	富士豪/比泽尔 Frascold/Bitzer				
冷凝方式 Condensation Mode	水冷 Water Cooling				
制冷剂 Ref.	DC/GP1制冷剂均为DEEPCOLD环保混合型制冷剂 DC/GP1 refrigerants are all DEEPCOLD environment-friendly compound refrigerants				
回温装置 Rewarming Device	热氟回温、电热回温均可 Both hot fluorine rewarming and electric rewarming are available				
回温加热功率 (KW) Rewarming Power	1.5 (220V)		2.5 (220V)		3.0 (220V)
控制方式 Control system	Deepcold自开发系统+5寸/7寸/10寸HMI (选配) ; Deepcold independently developed system +5 inch/7 inch/10 inch HMI.				
数据记录 Data record	温度实时曲线记录、温度历史曲线记录、报警记录、设备运行状态记录; 选配项目: 远程控制、配方设置; Optional :Temperature historical curve record, parameter setting, alarm record, equipment operation state record; Remote control, formula setting;				
安全防护 afety Protection	相序错相断相保护、压缩机内保护、过载保护; 压力保护, 过热保护装置、冷凝温度保护、传感器故障保护等多种安全保障功能; Configured with various safety protection functions e.g. phase sequence, phase dislocation, open-phase protection, electric leakage protection, compressor inner protection, overload protection, overheat protection device, sensor failure protection etc.; Configured with various safety protection functions e.g.				
总功率 (KW) Total Power	8.5 (380V)	8.5 (380V)	12 (380V)	12 (380V)	16 (380V)
框架 Framework	标准: 冷轧板钣金喷塑; 选配: SUS304钣金 Standard: Cold-Rolled Sheet Metal Plate Spraying Plastics; Optional: SUS304 Metal Plate				
外形尺寸 (MM) (L*W*H) External Dimension	700*850*1300	700*850*1300	850*900*1500	850*900*1500	950*1100*1550
其他选配	尺寸仅供参考, 尺寸大小与制冷机组及容器布置方式有关; Dimension shall be for reference only, dimension is relating to arrangement form of refrigerating unit; 其他按照客户需求定制配置; Other customized configuration as per customers' demand;				