

WWCP系列



广州协义自动化科技有限公司
GUANGZHOU XIEYI AUTOMATION TECHNOLOGY CO.,LTD

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Guangzhou Xieyi Automation Technology Co.,Ltd



协义超低温真空

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Technology技术支持：13611410135



专业水汽捕集泵制造商
PROFESSIONAL POLYCOLDCRYOPUMP MANUFACTURER





急人所需，成人所愿；
修炼自我，超越期望。
—— 仇礼丙

以卓越的设备产品和技术服务
成为客户信赖的伙伴。
—— 张锦铭

公司简介 Company

广州协义自动化科技有限公司成立于2011年3月1日，为自然人控股的有限责任公司。我们是专注于真空镀膜超低温水汽捕集泵的研发、生产、销售、服务为一体的技术型公司。自主研制的WVCP系列水汽捕集泵，拥有自主知识产权，设备相关参数与性能处于国际领先水平，同时通过ISO9001、CE等体系认证。公司拥有一批资深超低温水汽捕集泵工程技术研发团队，与高效的技术服务团队，确保能为客户提供最佳的解决方案、专业的技术服务、可靠的优质产品，协助我们的客户改善产品质量、提高生产效率及市场竞争力，使我们与客户携手共进，共谋长远发展。

Guangzhou xieyi automation technology Co., LTD., established on March 1, 2011, is a limited liability enterprise controlled by natural persons. We are a technical company specializing in the research, development, production, sales and service of water vapor cryopump technology. The WVCP series water vapor cryopumps, with independent intellectual property rights, equipment related parameters and performance at the international leading level, and the enterprise has gotten ISO9001, CE and other quality certification. We have senior engineering and technical research and development team, and efficient technical service team, to ensure to provide customers with the best solution, professional technical service, reliable quality products, to help our customers improve product quality, improve production efficiency and market competitiveness, make us hand in hand with customers and seek long-term development, in the future.

企业文化 Enterprise Culture

愿景：让真空镀膜和深冷技术给人们的生活带来更多精彩！

经营理念：以卓越的设备性能和技术服务与客户建立良好的协作关系。

品质：专业极致 工匠精神。

满意：站在客户的角度思考问题，满足并超出客户预期的要求。

只有为客户创造价值，企业才有存在的价值，期盼客户发展壮大，我们的价值才得以充分体现。

只有让员工满意，才能为客户提供满意的服务，通过我们的激励和您的支持，所有员工将全力以赴，执行以上政策。

Vision: Let vacuum coating and deep cold technology bring people more splendiness.

Business philosophy: Establish good collaboration relationship with customers with excellent equipment performance and technical services.

Quality: professional acme & artisan spirit.

Customer satisfaction: Watch from the perspective of our customers, Meet and exceed customer expectations. Only when we create larger value for our customers, the enterprise can then have the value of survival, and we hope that our customers will grow better and better, and then our value will be fully reflected.

Only satisfied employees can provide satisfactory service, through our encouragement and your support, all employees will spare no efforts to implement the above policies.

产品介绍 Product Introduction

- 超低的能量消耗
- 低的运营及维修成本
- 冷阱冷却至-135℃
- 提升产量50%至100%
- 最大负载550-6000W
- 缩短抽真空时间25%-90%
- 理论抽速47040-882000升/秒
- 制冷量超过其它同排气量压缩机的机型
- 3分钟内冷阱即可达到理想的抽汽速度
- 可靠性、稳定性高，显著提升镀膜沉积质量
- Ultra-low energy consumption
- Lower operating and maintenance cost
- Cold trap cooled to -135℃
- Improve yield 50% to 100%
- Maximum load 500-6000 W
- Shorten the vacuum time by 25% - 25%
- Theory of pumping speed of 47040-882000 liters per second
- Refrigerating capacity more than other models machine with same displacement compressor
- Cold trap can reach the ideal extraction speed within 3 minutes
- High reliability, stability, significantly improving the quality of coating deposition

WVCP系列 水汽捕集泵

- 大抽速大制冷量
- 独到的防油堵设计，彻底解决深冷油堵难题
- 负载接头采用独有防松技术杜绝泄漏
- 环保不可燃的制冷剂
- 与进口设备兼容

防油堵装置 Oil plug-proof device

- 专利设计的防油堵加热装置，彻底解决深冷油堵故障难题。
- Which is our patent design with oil heating device & pipeline, thoroughly solve the cryogenic oil plugging failure problem.

防松装置 Locking device

- 特殊的parker接头防松装置，彻底解决因为接头松脱导致冷媒泄漏问题。
- Special Parker joint locking device, thoroughly solve because joint loose cause refrigerant leakage problems.

WVCP series water vapor cryopump

- Bigger pumping speed & bigger refrigerating capacity
- Original patent of oil block-proofing design, the thorough settlement of cryogenic oil plugging problem
- Loading pipe joint use unique locking design to eliminate leakage
- Environmental protection, with no flammable gas
- Compatible with imported equipment

水汽捕泵介绍 Introduction Of Water Vapor Cryopump

WVCP系列水汽捕集泵的优势：

WVCP系列水汽捕集泵在高真空系统中利用Meissner捕集原理可有效的将多至95%的残余水蒸汽捕集冷凝在真空室内冷阱的表面，从而使系统快速获得所需要的工艺真空条件，保证了膜材分子自由程和精准的光学厚度，显著提高镀膜沉积质量和生产效率。

Advantages of WVCP series of water vapor cryopump:

WVCP series of water vapor cryopump, by using the theory of Meissner, can effectively capture up to 95% of the residual water vapor, which are condensed on the surface of cold trap in the high vacuum system, and help to make the system get fast process vacuum condition, ensure the membrane material of molecular free path and precision optical thickness, significantly improve the coating quality and production efficiency.

能力与提升

- 能冷却到-98℃至-135℃
- 最大负载：550-6000W
- 理论抽速47040-882000升/秒
- 制冷量超过其它同排气量压缩机的机型
- 提升产量50%至100%
- 可靠性、稳定性高，提升镀膜质量

节能与环保

- 制冷能效比高，节约用电
- 低的运营及维护成本
- 绿色环保冷媒，可适合于POLYCOLD所有型号

创新与服务

- 与所有镀膜机控制兼容，可直接与国内外所有镀膜机配套安装
- 15分钟快速恢复平衡压力
- 模块化制造
- 独到的防油堵设计，彻底解决深冷油堵难题
- 负载接头采用独有防松技术，杜绝泄漏
- 超长保质期，超短服务响应时间



产品尺寸:
Product size:

单位unit: mm

型号 Model	长度 Length	宽度 Width	高度 Height
WVCP550	650	600	1500
WVCP2600	830	810	1780
WVCP3000	830	810	1780
WVCP3600	830	810	1780
WVCP4200	830	810	1780
WVCP6000	980	880	1780

通过认证:
Authentication:



WVCP系列采用低温混合制冷剂，同型号通用，具有以下性能：

- 1、绿色环保HFC混合制冷剂，不含CFCs/HCFCs；
- 2、系统无油堵，运行性能稳定；
- 3、高能效比；
- 4、适用冷却水温度范围宽；
- 5、蒸发潜热大，制冷除霜迅速；
- 6、压缩机的运行工况好，输气系数大，吸排气温度低；
- 7、制冷剂运行自协调功能强；
- 8、化学性能稳定，无毒，不可燃。



注：CFCs被《蒙特利尔议定书》列为一类受控物质，已禁用；
HCFCs被《蒙特利尔议定书》规定中国2030年完全禁用。

专利介绍

Patent introduction

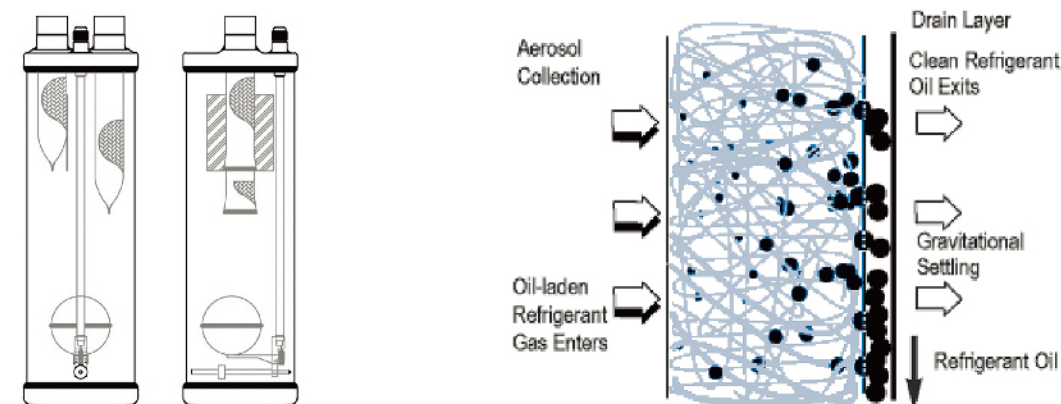
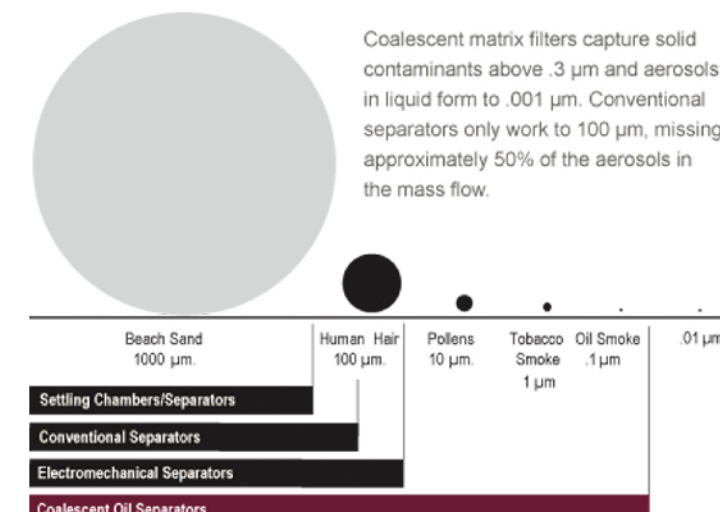


Illustration #4: Coalescent Oil Separator Filtration Level



防油堵装置 Oil Plug-proof Device



专利设计的防油堵加热装置，彻底解决深冷油堵故障难题。

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Special Parker joint locking device, thoroughly solve because joint loose cause refrigerant leakage problems.

科技改变生活

专业水汽捕集泵设备 专业资质认证 专利技术保障



电加热的除霜冷阱专利



快速恢复平衡压发明专利



深冷机监控系统专利



高新技术企业证书



快速恢复平衡压专利



防油堵加热专利



系统防油堵专利



CE认证



ISO9001认证



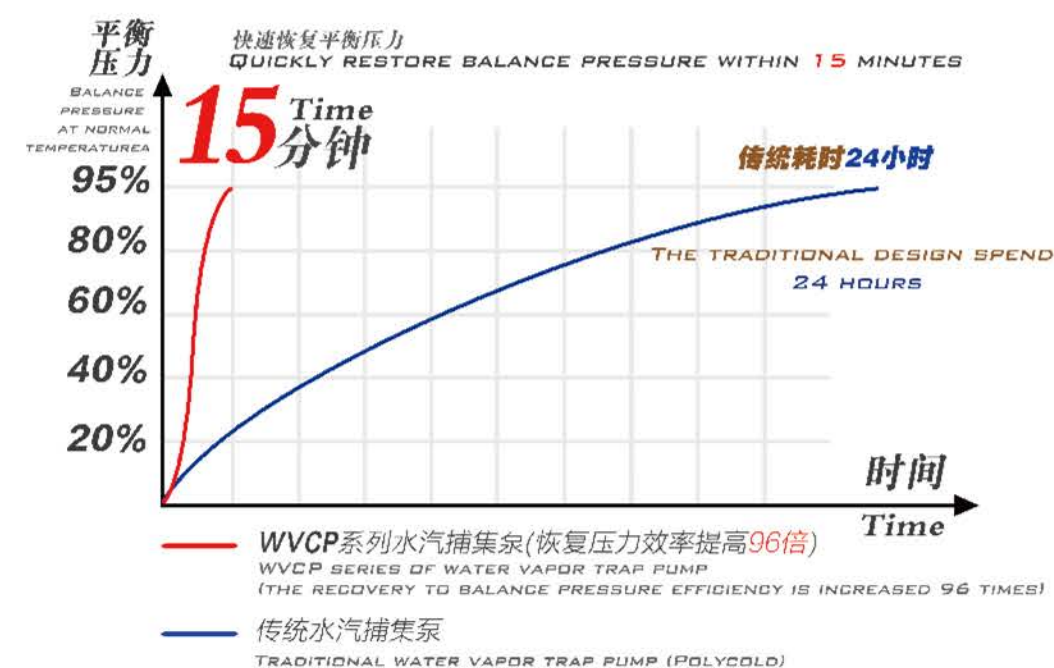
特有的快速恢复平衡压力介绍
Unique fast recovery
balance pressure is introduced

WVCP系列水汽捕集泵（恢复压力效率提高96倍）

WVCP series of water vapor trap pump (the recovery to balance pressure efficiency is increased 96 times)

传统水汽捕集泵用时24小时以上

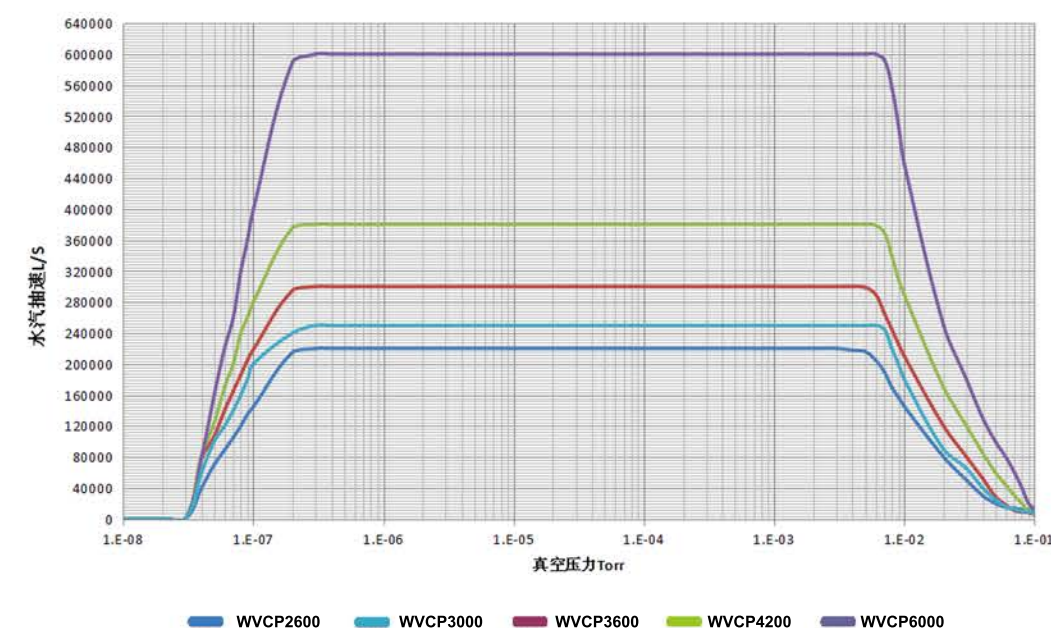
Traditional water vapor trap pump (Polycold) spend 24 hours



水汽压强表
Water vapor pressure divider

在水汽捕集效率90%以上的情况下冷阱温度对应的水汽压强 The water vapor pressure corresponding to the cold trap temperature, when the water vapor trapping efficiency is higher than 90%.					
Torr	mbar	℃	Torr	mbar	℃
5*10 ⁻¹	6.7*10 ⁻¹	-25.4	5*10 ⁻⁵	6.7*10 ⁻⁵	-104.9
2*10 ⁻¹	2.7*10 ⁻¹	-34.4	2*10 ⁻⁵	2.7*10 ⁻⁵	-109.1
1*10 ⁻¹	1.3*10 ⁻¹	-40.8	1*10 ⁻⁵	1.3*10 ⁻⁵	-112.2
5*10 ⁻²	6.7*10 ⁻²	-46.8	5*10 ⁻⁶	6.7*10 ⁻⁶	-115.1
2*10 ⁻²	2.7*10 ⁻²	-54.3	2*10 ⁻⁶	2.7*10 ⁻⁶	-118.1
1*10 ⁻²	1.3*10 ⁻²	-59.7	1*10 ⁻⁶	1.3*10 ⁻⁶	-121.5
5*10 ⁻³	6.7*10 ⁻³	-64.8	5*10 ⁻⁷	6.7*10 ⁻⁷	-124.1
2*10 ⁻³	2.7*10 ⁻³	-71.2	2*10 ⁻⁷	2.7*10 ⁻⁷	-127.5
1*10 ⁻³	1.3*10 ⁻³	-75.8	1*10 ⁻⁷	1.3*10 ⁻⁷	-129.9
5*10 ⁻⁴	6.7*10 ⁻⁴	-80.1	5*10 ⁻⁸	6.7*10 ⁻⁸	-132.2
2*10 ⁻⁴	2.7*10 ⁻⁴	-85.6	2*10 ⁻⁸	2.7*10 ⁻⁸	-135.2
1*10 ⁻⁴	1.3*10 ⁻⁴	-89.6	1*10 ⁻⁸	1.3*10 ⁻⁸	-137.3
5*10 ⁻⁵	6.7*10 ⁻⁵	-93.4	5*10 ⁻⁹	6.7*10 ⁻⁹	-139.5
2*10 ⁻⁵	2.7*10 ⁻⁵	-98.2	2*10 ⁻⁹	2.7*10 ⁻⁹	-142.1
1*10 ⁻⁵	1.3*10 ⁻⁵	-101.6	1*10 ⁻⁹	1.3*10 ⁻⁹	-144.1

WVCP系列水汽捕集泵抽气速度与水汽分压表



WVCP550 系列

1、最大制冷量是在冷阱平均温度-100℃、冷凝温度在24℃、电源频率50HZ时测量，水温高的情况下会降低最大制冷功率。

The maximum refrigerating capacity is measured at the cold trap average temperature -100℃ and condensing temperature at 24℃ and power frequency 50Hz. The maximum cooling power will be reduced when the water temperature is high.

2、理想最大抽速是抽除温度为293K时的理论值。

Ideally, the maximum pumping speed is the theoretical value at the temperature of 293K

3、除霜时间是在最大冷阱面积及除霜终止温度20℃时测量，若冷阱面积或除霜终止温度减小则除霜时间也会缩短。

The defrost time is measured in the maximum cold trap area and the frost termination temperature of 20℃. If the cold trap area or the frost termination temperature decreases, the defrost time will also be shortened

4、若需更大抽速可由厂家定制特殊冷阱结构方式。

If you need more speed, you can customize order the special cold trap structure by the manufacturer.

5、冷阱使用大直径管件会导致冷捕集水汽效率降低。

The use of large diameter pipe in a cold trap can reduce the efficiency of water vapor capturing.



WVCP2600 系列

1、最大制冷量是在冷阱平均温度-98℃、冷凝温度在24℃、电源频率50HZ时测量，水温高的情况下会降低最大制冷功率。

The maximum refrigerating capacity is measured at the cold trap average temperature -98℃ and condensing temperature at 24℃ and power frequency 50Hz. The maximum cooling power will be reduced when the water temperature is high.

2、理想最大抽速是抽除温度为293K时的理论值。

Ideally, the maximum pumping speed is the theoretical value at the temperature of 293K

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The use of large diameter pipe in a cold trap can reduce the efficiency of water vapor capturing.



设备型号 Equipment model	WVCP550-S-H	WVCP550-D-H
最大制冷量 Maximum cooling capacity (W)	550	550
管式冷阱理论最大抽速 The theory maximum pumping speed of tubular cold trap (l/s)	47040	47040
板式冷阱理论最大抽速 The theory maximum speed of plate cold trap (l/s)	/	/
极限真空度 Final vacuum (mbar)	2*10 ⁻⁸	2*10 ⁻⁸
最大冷阱面积除霜时间 Defrost time of maximum cold trap area (min)	<3	<3
除霜温度可调范围 Adjustable range of defrost temperature (℃)	※ -20~30	※ -20~30
压力控制方式 Pressure control mode	数字传感器+机械开关式 Digital sensor + Mechanical	数字传感器+机械开关式 Digital sensor + Mechanical
※ 快速恢复平衡压力功能 Quick restore balance pressure function (QRBP)	有 YES	有 YES
※ 防油堵功能 Oil blocking proof function (OBP)	有 YES	有 YES
※ 4G远程网络监控	有 YES	有 YES
※ 冷媒属性 Cold media properties	环保 Pro-environment	环保 Pro-environment
最大管式冷阱表面积 Maximum surface area of tubular cold trap (m ²)	0.32	0.32
最大板式冷阱表面积 Maximum surface area of plate cold trap (m ²)	/	/
单路冷阱管规格 Specification of single cold trap	Φ12.7mm*8m	/
双路冷阱管规格 Specification of Double cold traps	/	/
冷媒管接口 Gas interface	12.7铜管焊口(标配) Copper welded junction	12.7铜管焊口(标配) Copper welded junction
	ParkerCPI/VCR (选配)	ParkerCPI/VCR (选配)
冷却水流量 Cooling water flow (l/min at 24℃)	10	10
冷却水报警温度 Cooling water alarm temperature (℃)	38	38
是否可使用冷却水塔 Can you use water cooling tower?	是YES	是YES
冷却水接口 Cooling water connector (l/s)	G3/4	G3/4
最大负荷功率 Maximum load power (KW)	/	/
压缩机名义功率 Compressor nominal power (HP)	5	5
电源 Power supply (50Hz)	380-400VAC 3P(H) (标配)	380-400VAC 3P(H) (标配)
	200-230VAC 3P(L) (选配)	200-230VAC 3P(L) (选配)
重量 Weight (kg)	150	150

设备型号 Equipment model	WVCP2600-S-H	WVCP2600-D-H
最大制冷量 Maximum cooling capacity (W)	2600	2600
管式冷阱理论最大抽速 The theory maximum pumping speed of tubular cold trap (l/s)	220500	220500
板式冷阱理论最大抽速 The theory maximum speed of plate cold trap (l/s)	294000	294000
极限真空度 Final vacuum (mbar)	2*10 ⁻⁸	2*10 ⁻⁸
最大冷阱面积除霜时间 Defrost time of maximum cold trap area (min)	<3	<3
除霜温度可调范围 Adjustable range of defrost temperature (℃)	※ -20~30	※ -20~30
压力控制方式 Pressure control mode	数字传感器+机械开关式 Digital sensor + Mechanical	数字传感器+机械开关式 Digital sensor + Mechanical
※ 快速恢复平衡压力功能 Quick restore balance pressure function (QRBP)	有 YES	有 YES
※ 防油堵功能 Oil blocking proof function (OBP)	有 YES	有 YES
※ 4G远程网络监控	有 YES	有 YES
※ 冷媒属性 Cold media properties	环保 Pro-environment	环保 Pro-environment
最大管式冷阱表面积 Maximum surface area of tubular cold trap (m ²)	1.5	1.5
最大板式冷阱表面积 Maximum surface area of plate cold trap (m ²)	2	2
单路冷阱管规格 Specification of single cold trap	Φ16mm*30m	/
双路冷阱管规格 Specification of Double cold traps	/	2-Φ16mm*15m
冷媒管接口 Gas interface	12.7铜管焊口(标配) Copper welded junction	12.7铜管焊口(标配) Copper welded junction
	ParkerCPI/VCR (选配)	ParkerCPI/VCR (选配)
冷却水流量 Cooling water flow (l/min at 24℃)	20	20
冷却水报警温度 Cooling water alarm temperature (℃)	38	38
是否可使用冷却水塔 Can you use water cooling tower?	是YES	是YES
冷却水接口 Cooling water connector (l/s)	G3/4	G3/4
最大负荷功率 Maximum load power (KW)	12.8	12.8
压缩机名义功率 Compressor nominal power (HP)	7.5	7.5
电源 Power supply (50Hz)	380-400VAC 3P(H) (标配)	380-400VAC 3P(H) (标配)
	200-230VAC 3P(L) (选配)	200-230VAC 3P(L) (选配)
重量 Weight (kg)	460	460

WVCP3000 系列

- 1、最大制冷量是在冷阱平均温度-100℃、冷凝温度在24℃、电源频率50Hz时测量，水温高的情况下会降低最大制冷功率。
The maximum refrigerating capacity is measured at the cold trap average temperature -100℃ and condensing temperature at 24℃ and power frequency 50Hz. The maximum cooling power will be reduced when the water temperature is high.
- 2、理想最大抽速是抽除温度为293K时的理论值。
Ideally, the maximum pumping speed is the theoretical value at the temperature of 293K
- 3、除霜时间是在最大冷阱面积及除霜终止温度20℃时测量，若冷阱面积或除霜终止温度减小则除霜时间也会缩短。
The defrost time is measured in the maximum cold trap area and the frost termination temperature of 20℃. If the cold trap area or the frost termination temperature decreases, the defrost time will also be shortened
- 4、若需更大抽速可由厂家定制特殊冷阱结构方式。
If you need more speed, you can customize order the special cold trap structure by the manufacturer.
- 5、冷阱使用大直径管件会导致冷捕集水汽效率降低。
The use of large diameter pipe in a cold trap can reduce the efficiency of water vapor capturing.



WVCP3600 系列

- 1、最大制冷量是在冷阱平均温度-100℃、冷凝温度在24℃、电源频率50Hz时测量，水温高的情况下会降低最大制冷功率。
The maximum refrigerating capacity is measured at the cold trap average temperature -100℃ and condensing temperature at 24℃ and power frequency 50Hz. The maximum cooling power will be reduced when the water temperature is high.
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Ideally, the maximum pumping speed is the theoretical value at the temperature of 293K
- 3、除霜时间是在最大冷阱面积及除霜终止温度20℃时测量，若冷阱面积或除霜终止温度减小则除霜时间也会缩短。
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If you need more speed, you can customize order the special cold trap structure by the manufacturer.
- 5、冷阱使用大直径管件会导致冷捕集水汽效率降低。
The use of large diameter pipe in a cold trap can reduce the efficiency of water vapor capturing.



设备型号 Equipment model	WVCP3000-S-H	WVCP3000-D-H
最大制冷量 Maximum cooling capacity (W)	3000	3000
管式冷阱理论最大抽速 The theory maximum pumping speed of tubular cold trap (l/s)	249900	249900
板式冷阱理论最大抽速 The theory maximum speed of plate cold trap (l/s)	352800	352800
极限真空度Final vacuum (mbar)	2*10 ⁻⁸	2*10 ⁻⁸
最大冷阱面积除霜时间 Defrost time of maximum cold trap area (min)	<4	<4
除霜温度可调范围 Adjustable range of defrost temperature (℃)	※ -20~30	※ -20~30
压力控制方式 Pressure control mode	数字传感器+机械开关式 Digital sensor + Mechanical	数字传感器+机械开关式 Digital sensor + Mechanical
※ 快速恢复平衡压力功能 Quick restore balance pressure function(QRBP)	有 YES	有 YES
※ 防油堵功能 Oil blocking proof function(OBP)	有 YES	有 YES
※ 4G远程网络监控	有 YES	有 YES
※ 冷媒属性 Cold media properties	环保 Pro-environment	环保 Pro-environment
最大管式冷阱表面积 Maximum surface area of tubular cold trap (m²)	1.7	1.7
最大板式冷阱表面积 Maximum surface area of plate cold trap (m²)	2.4	2.4
单路冷阱管规格 Specification of single cold trap	Φ16mm*34m	/
双路冷阱管规格 Specification of Double cold traps	/	2-Φ16mm*17m
冷媒管接口 Gas interface	12.7铜管焊口(标配) Copper welded junction	12.7铜管焊口(标配) Copper welded junction
	ParkerCPI/VCR (选配)	ParkerCPI/VCR (选配)
冷却水流量 Cooling water flow (l/min at 24℃)	28	28
冷却水报警温度 Cooling water alarm temperature (℃)	38	38
是否可使用冷却水塔 Can you use water cooling tower?	是YES	是YES
冷却水接口 Cooling water connector (l/s)	G3/4	G3/4
最大负荷功率 Maximum load power (KW)	16.5	16.5
压缩机名义功率 Compressor nominal power (HP)	10	10
电源 Power supply (50Hz)	380-400VAC 3P(H) (标配)	380-400VAC 3P(H) (标配)
	200-230VAC 3P(L) (选配)	200-230VAC 3P(L) (选配)
重量 Weight (kg)	480	480

设备型号 Equipment model	WVCP3600-S-H	WVCP3600-D-H
最大制冷量 Maximum cooling capacity (W)	3600	3600
管式冷阱理论最大抽速 The theory maximum pumping speed of tubular cold trap (l/s)	294000	294000
板式冷阱理论最大抽速 The theory maximum speed of plate cold trap (l/s)	441000	441000
极限真空度Final vacuum (mbar)	2*10 ⁻⁸	2*10 ⁻⁸
最大冷阱面积除霜时间 Defrost time of maximum cold trap area (min)	<4	<4
除霜温度可调范围 Adjustable range of defrost temperature (℃)	※ -20~30	※ -20~30
压力控制方式 Pressure control mode	数字传感器+机械开关式 Digital sensor + Mechanical	数字传感器+机械开关式 Digital sensor + Mechanical
※ 快速恢复平衡压力功能 Quick restore balance pressure function(QRBP)	有 YES	有 YES
※ 防油堵功能Oil blocking proof function(OBP)	有 YES	有 YES
※ 4G远程网络监控	有 YES	有 YES
※ 冷媒属性 Cold media properties	环保 Pro-environment	环保 Pro-environment
最大管式冷阱表面积 Maximum surface area of tubular cold trap (m²)	2	2
最大板式冷阱表面积 Maximum surface area of plate cold trap (m²)	3	3
单路冷阱管规格 Specification of single cold trap	Φ16mm*40m	/
双路冷阱管规格 Specification of Double cold traps	/	2-Φ16mm*20m
冷媒管接口 Gas interface	12.7铜管焊口(标配) Copper welded junction	12.7铜管焊口(标配) Copper welded junction
	ParkerCPI/VCR (选配)	ParkerCPI/VCR (选配)
冷却水流量 Cooling water flow (l/min at 24℃)	28	28
冷却水报警温度 Cooling water alarm temperature (℃)	38	38
是否可使用冷却水塔 Can you use water cooling tower?	是YES	是YES
冷却水接口 Cooling water connector (l/s)	G3/4	G3/4
最大负荷功率 Maximum load power (KW)	16.5	16.5
压缩机名义功率 Compressor nominal power (HP)	10	10
电源 Power supply (50Hz)	380-400VAC 3P(H) (标配)	380-400VAC 3P(H) (标配)
	200-230VAC 3P(L) (选配)	200-230VAC 3P(L) (选配)
重量Weight (kg)	500	500

WVCP4200 系列

1、最大制冷量是在冷阱平均温度-98℃、冷凝温度在24℃、电源频率50Hz时测量，水温高的情况下会降低最大制冷功率。

The maximum refrigerating capacity is measured at the cold trap average temperature -98℃ and condensing temperature at 24℃ and power frequency 50Hz. The maximum cooling power will be reduced when the water temperature is high.

2、理想最大抽速是抽除温度为293K时的理论值。

Ideally, the maximum pumping speed is the theoretical value at the temperature of 293K

3、除霜时间是在最大冷阱面积及除霜终止温度20℃时测量，若冷阱面积或除霜终止温度减小则除霜时间也会缩短。

The defrost time is measured in the maximum cold trap area and the frost termination temperature of 20℃. If the cold trap area or the frost termination temperature decreases, the defrost time will also be shortened

4、若需更大抽速可由厂家定制特殊冷阱结构方式。

If you need more speed, you can customize order the special cold trap structure by the manufacturer.

5、冷阱使用大直径管件会导致冷捕集水汽效率降低。

The use of large diameter pipe in a cold trap can reduce the efficiency of water vapor capturing.



WVCP6000 系列

1、最大制冷量是在冷阱平均温度-98℃、冷凝温度在24℃、电源频率50Hz时测量，水温高的情况下会降低最大制冷功率。

The maximum refrigerating capacity is measured at the cold trap average temperature -98℃ and condensing temperature at 24℃ and power frequency 50Hz. The maximum cooling power will be reduced when the water temperature is high.

2、理想最大抽速是抽除温度为293K时的理论值。

Ideally, the maximum pumping speed is the theoretical value at the temperature of 293K

3、除霜时间是在最大冷阱面积及除霜终止温度20℃时测量，若冷阱面积或除霜终止温度减小则除霜时间也会缩短。

The defrost time is measured in the maximum cold trap area and the frost termination temperature of 20℃. If the cold trap area or the frost termination temperature decreases, the defrost time will also be shortened

4、若需更大抽速可由厂家定制特殊冷阱结构方式。

If you need more speed, you can customize order the special cold trap structure by the manufacturer.

5、冷阱使用大直径管件会导致冷捕集水汽效率降低。

The use of large diameter pipe in a cold trap can reduce the efficiency of water vapor capturing.



设备型号 Equipment model	WVCP4200-S-H	WVCP4200-D-H
最大制冷量 Maximum cooling capacity (W)	4200	4200
管式冷阱理论最大抽速 The theory maximum pumping speed of tubular cold trap (l/s)	367500	367500
板式冷阱理论最大抽速 The theory maximum speed of plate cold trap (l/s)	529200	529200
极限真空度 Final vacuum (mbar)	2*10 ⁻⁸	2*10 ⁻⁸
最大冷阱面积除霜时间 Defrost time of maximum cold trap area (min)	<5	<5
除霜温度可调范围 Adjustable range of defrost temperature (℃)	※ -20~30	※ -20~30
压力控制方式 Pressure control mode	数字传感器+机械开关式 Digital sensor + Mechanical	数字传感器+机械开关式 Digital sensor + Mechanical
※ 快速恢复平衡压力功能 Quick restore balance pressure function (QRBP)	有 YES	有 YES
※ 防油堵功能 Oil blocking proof function (OBP)	有 YES	有 YES
※ 4G远程网络监控	有 YES	有 YES
※ 冷媒属性 Cold media properties	环保 Pro-environment	环保 Pro-environment
最大管式冷阱表面积 Maximum surface area of tubular cold trap (m ²)	2.5	2.5
最大板式冷阱表面积 Maximum surface area of plate cold trap (m ²)	3.6	3.6
单路冷阱管规格 Specification of single cold trap	Φ16mm*50m	/
双路冷阱管规格 Specification of Double cold traps	/	2-Φ16mm*25m
冷媒管接口 Gas interface	12.7铜管焊口 (标配) Copper welded junction	12.7铜管焊口 (标配) Copper welded junction
	ParkerCPI/VCR (选配)	ParkerCPI/VCR (选配)
冷却水流量 Cooling water flow (l/min at 24℃)	28	28
冷却水报警温度 Cooling water alarm temperature (℃)	38	38
是否可使用冷却水塔 Can you use water cooling tower?	是 YES	是 YES
冷却水接口 Cooling water connector (l/s)	G3/4	G3/4
最大负荷功率 Maximum load power (KW)	16.5	16.5
压缩机名义功率 Compressor nominal power (HP)	10	10
电源 Power supply (50Hz)	380-400VAC 3P(H) (标配)	380-400VAC 3P(H) (标配)
	200-230VAC 3P(L) (选配)	200-230VAC 3P(L) (选配)
重量 Weight (kg)	515	515

设备型号 Equipment model	WVCP6000-S-H	WVCP6000-D-H
最大制冷量 Maximum cooling capacity (W)	6000	6000
管式冷阱理论最大抽速 The theory maximum pumping speed of tubular cold trap (l/s)	588000	588000
板式冷阱理论最大抽速 The theory maximum speed of plate cold trap (l/s)	882000	882000
极限真空度 Final vacuum (mbar)	2*10 ⁻⁸	2*10 ⁻⁸
最大冷阱面积除霜时间 Defrost time of maximum cold trap area (min)	<5	<5
除霜温度可调范围 Adjustable range of defrost temperature (℃)	-20~30	-20~30
压力控制方式 Pressure control mode	数字传感器+机械开关式 Digital sensor + Mechanical	数字传感器+机械开关式 Digital sensor + Mechanical
※ 快速恢复平衡压力功能 Quick restore balance pressure function (QRBP)	有 YES	有 YES
※ 防油堵功能 Oil blocking proof function (OBP)	有 YES	有 YES
※ 4G远程网络监控	有 YES	有 YES
※ 冷媒属性 Cold media properties	环保 Pro-environment	环保 Pro-environment
最大管式冷阱表面积 Maximum surface area of tubular cold trap (m ²)	4	4
最大板式冷阱表面积 Maximum surface area of plate cold trap (m ²)	6	6
单路冷阱管规格 Specification of single cold trap	Φ16mm*80m	/
双路冷阱管规格 Specification of Double cold traps	/	2-Φ16mm*40m
冷媒管接口 Gas interface	12.7铜管焊口 (标配) Copper welded junction	12.7铜管焊口 (标配) Copper welded junction
	ParkerCPI/VCR (选配)	ParkerCPI/VCR (选配)
冷却水流量 Cooling water flow (l/min at 24℃)	48	48
冷却水报警温度 Cooling water alarm temperature (℃)	38	38
是否可使用冷却水塔 Can you use water cooling tower?	是 YES	是 YES
冷却水接口 Cooling water connector (l/s)	G1"	G1"
最大负荷功率 Maximum load power (KW)	25.3	25.3
压缩机名义功率 Compressor nominal power (HP)	20	20
电源 Power supply (50Hz)	380-400VAC 3P(H) (标配)	380-400VAC 3P(H) (标配)
	200-230VAC 3P(L) (选配)	200-230VAC 3P(L) (选配)
重量 Weight (kg)	655	655

连接管 介绍 Connecting Pipe

连接管

- 标准连接管路长度为2.44米，保温管外径92mm，外套尼龙防护编织管防止损伤保温管。
- 连接管两端采用CPI或VCR接头与冷阱和捕集泵连接，可选配是否安装测量冷阱进口和出口T型热电偶传感器。

CONNECTING PIPE

- The standard connecting pipe length is 2.44 meters, the outer diameter of the insulated pipe is 92mm, and the outer nylon protecting braided pipe is used to prevent the damage to the heat preservation pipe.
- The two ends of the connecting pipe are connected with the cold trap and the trap pump by CPI or VCR, and whether the cold trap inlet and outlet T thermocouple sensors can be installed are selected.



冷热桥 介绍 Cold Bridges

冷热桥

- 冷热桥主要是深冷管道进入真空腔内的隔离真空和隔热装置，管道的连接采用Parker CPI或Swagelok VCR接头，有1寸和2寸两种规格冷热桥。
- 1寸规格腔体需开孔直径27mm，2寸规格腔体开孔52mm，可以根据您设计的孔径定制过腔冷热桥。

COLD BRIDGES

- Cold bridges is mainly vacuum isolation and heat insulation device of cryogenic pipe into the vacuum chamber, pipeline connections with Parker CPI or Swagelok VCR connector, 1 inch and 2 inch two specifications of cold bridges.
- The 1 inch size cavity hole needs to be 27mm in diameter, 2 inch size cavity hole 52mm, can according to your design customized cavity aperture cold bridges.



冷阱介绍 / Cold Trap

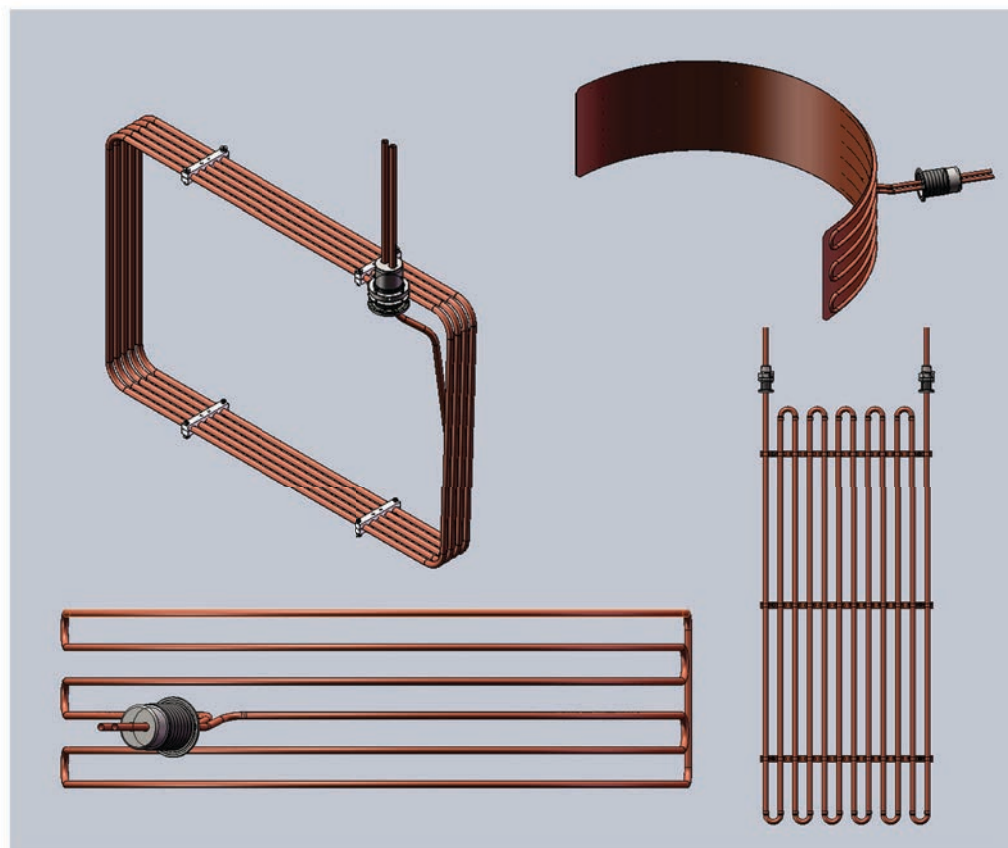
冷阱

- 冷阱盘管是捕集水汽的关键直接部件，它安装在真空腔室内，通过盘管表面的超低温将水汽吸附在管道表面，可以根据您的要求定制任何形状盘管。
- 本公司冷阱和连接管均采用国内顶尖品质的上海飞轮冷挤压铜管，美国哈里斯56%银钎焊条焊接。

Cold Trap

The cold trap coiled pipe is the key component of the water vapor collection. It is installed in the vacuum chamber. The water vapor is absorbed on the surface of the pipe through the ultra-low temperature of the coil surface, and any shape coil can be customized according to your requirement.

The cold trap and the connecting pipe are with domestic top quality Shanghai flywheel cold extrusion tube, the 56% Harris silver brazing welding.



我们的服务 / Our Services

服务内容

- 1、polycold 设备的单/双路管路改造。
- 2、polycold 设备的制冷量改造。
- 3、polycold 设备的翻新。
- 4、polycold 维修和保养。
- 5、polycold 交换式返厂维修。
- 6、超低温水汽捕集泵的租赁。

Service Items

- 1、Polycold single/double loop reconstruction.
- 2、Polycold refrigerating capacity modification.
- 3、Polycold renovation.
- 4、Polycold repairing and maintenance.
- 5、Polycold switched back to the factory maintenance.
- 6、Machine rental.

维修机型 Repairing Machine Models

服务品牌 Service Brand	型号 Model			
Polycold	PFC-400LT	PFC-550HC	PFC-550LT	PFC-552HC
	PFC-660HC	PFC-670HC	PFC-672HC	PFC-1100HC
	PFC-1100ST	PFC-1102HC	MAXC00L2500L	MAXC00L4000H
Telemark	TVP2000	TVP3500	TVP3600	TVP1800
其它 Others	Vplus	HNE	Samsung	

服务特点

- 1、速度：做到2小时内响应派工。
- 2、专业：拥有多年维修经验。
- 3、服务：提供交换维修服务保障客户生产。
- 4、配件：采用原厂品牌配件。
- 5、回访：每月进行电话回访，数据档案备份。

Service characteristics

- 1、The speed: response & dispatching within 2 hours.
- 2、professional: Many years maintenance experience.
- 3、Service: provide machine exchange service to ensure customer production.
- 4、Accessories: USES the original brand accessories.
- 5、Call-back: monthly call-back, data file backup.

水汽捕集泵冷媒
Gas For Water vapor capture pump

型号 Model	成份component	冷媒RF编号	数量QTY (罐pot)
WVCP/XCseries系列			
WVCP550	HFC	XY-RF-0001	3
WVCP2600/XC2600	HFC	XY-RF-0002	3
WVCP3000/XC3000	HFC	XY-RF-0003	3
WVCP3600/XC3600	HFC	XY-RF-0004	3
WVCP4200/XC4200	HFC	XY-RF-0005	3
WVCP6000	HFC	XY-RF-0006	3
WVCP550 补充罐 Supplement Pot	HFC	XY-RF-0007	1
WVCP2600/XC2600 补充罐 Supplement Pot	HFC	XY-RF-0008	1
WVCP3000/XC3000 补充罐 Supplement Pot	HFC	XY-RF-0009	1
WVCP3600/XC3600 补充罐 Supplement Pot	HFC	XY-RF-0010	1
WVCP4200/XC3600 补充罐 Supplement Pot	HFC	XY-RF-0011	1
WVCP6000 补充罐 Supplement Pot	HFC	XY-RF-0012	1
POLYCOLD Gas 冷媒			
POLYCOLD #0 Series“1”系列			
PFC-550HT/HC	HCFC	XY-RF-1001	1
PGC-660HT/HC	HCFC	XY-RF-1002	2
PFC-670HC	HCFC	XY-RF-1003	2
PFC- 1100HC	HCFC	XY-RF-1004	3
“0” 系列标准补充罐 #0series standtard Supplement Pot	HCFC	XY-RF-1005	1
POLYCOLD #1 Series “1” 系列			
PFC-551HC	HFC	XY-RF-1006	2
PFC-661HC	HFC	XY-RF-1007	2
PFC-1101HC	HFC	XY-RF-1008	3
“1” 系列标准补充罐 #1 series standtard Supplement Pot	HFC	XY-RF-1009	1
POLYCOLD #2 Series “2” 系列			
PFC-552HC	HFC	XY-RF-1010	2
PFC-662&672HC	HFC	XY-RF-1011	2
PFC-1102HC	HFC	XY-RF-1012	3
PFC-552HC 补充罐 Supplement Pot	HFC	XY-RF-1013	1
PFC-662&672HC补充罐 Supplement Pot	HFC	XY-RF-1014	1
PFC-1102HC补充罐 Supplement Pot	HFC	XY-RF-1015	1

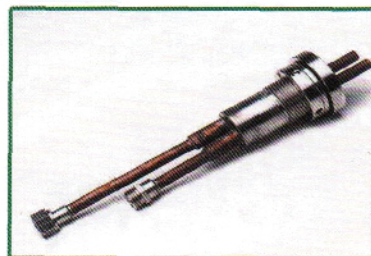
注Note :
"1. 含HCFC成份类物质的冷媒根据《蒙特利尔议定书》到2030年将完全淘汰。
The gas of containing HCFC components will be completely eliminated for the Montreal Protocol by 2030."
"2. 含HFC成份类物质的冷媒为当今世界大多数国家公认的环保制冷剂。
The gas of containing HFC components is recognized as environmental refrigerant in most countries of the world."

水汽捕集泵冷媒
Gas For Water vapor capture pump

型号 Model	成份component	冷媒RF编号	数量QTY (罐pot)
POLYCOLD LT Series “LT” 系列			
PFC-400LT	HCFC	XY-RF-1016	1
PFC-550LT	HCFC	XY-RF-1017	2
PFC-1100LT	HCFC	XY-RF-1018	3
LT系列补充罐 LT Series Supplement Pot	HCFC	XY-RF-1019	1
POLYCOLD MAXCOOL Series系列			
MAXCOOL4000H	HFC	XY-RF-1020	3
MAXCOOL2500L	HFC	XY-RF-1021	3
PFC-4000H补充罐 Supplement Pot	HFC	XY-RF-1022	1
PFC-2500L补充罐 Supplement Pot	HFC	XY-RF-1023	1
TELEMARK Gas冷媒			
TELEMARK TVP Series系列			
TVP2000	HCFC	XY-RF-2001	3
TVP3500	HCFC	XY-RF-2002	3
TVP 系列补充罐 TVP Series Supplement Pot	HCFC	XY-RF-2003	1
韩国VplusM 冷媒Korea VpluseM Gas			
VPLUSM VP Series 系列			
VP-1000C	HCFC	XY-RF-3001	2
VP-1000H	HCFC	XY-RF-3002	2
VP 系列补充罐 VP Series Supplement Pot	HCFC	XY-RF-3003	1
韩国hannam深冷机 冷媒 Korea Hannam Gas			
HNE-1100	HCFC	XY-RF-3005	2
HNE 系列补充罐 HNE Series Supplement Pot	HCFC	XY-RF-3006	1
韩国SAMSUNG深冷机 冷媒 Korea Samsung Gas			
SCP-1100	HCFC	XY-RF-3008	2
SCP-3000	HCFC	XY-RF-3009	3
SAMSUNG 系列补充罐 Samsung Series Supplement Pot	HCFC	XY-RF-3010	1
日海CP系列 RIHAI CP Series Gas			
CP1800	HCFC	XY-RF-4001	3
CP3000	HCFC	XY-RF-4002	3
日海CP系列补充罐 RIHAI CP Series Supplement Pot	HCFC	XY-RF-4003	1

注Note :
"1. 含HCFC成份类物质的冷媒根据《蒙特利尔议定书》到2030年将完全淘汰。
The gas of containing HCFC components will be completely eliminated for the Montreal Protocol by 2030."
"2. 含HFC成份类物质的冷媒为当今世界大多数国家公认的环保制冷剂。
The gas of containing HFC components is recognized as environmental refrigerant in most countries of the world."

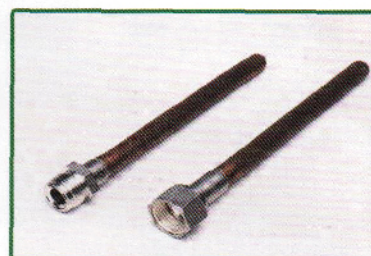
配件



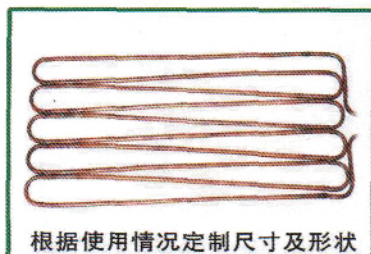
名称 2寸冷热桥
编号 XY-1011



名称 Parker接头焊接组件
编号 XY-1013

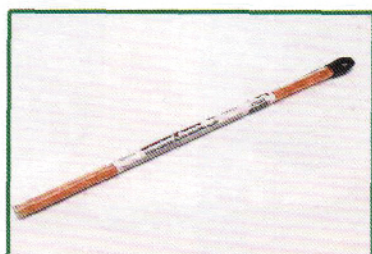


名称 VCR接头焊接组件
编号 XY-1014



根据使用情况定制尺寸及形状

名称 制冷盘管
编号 XY-1016



名称 HARRIS银焊条
编号 XY-2002



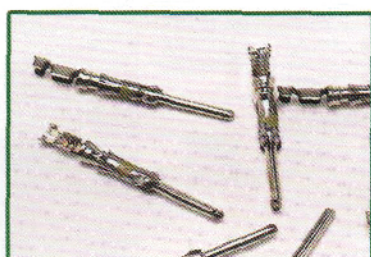
名称 300°F温度开关
编号 XY-5001



名称 远程连接插座
编号 XY-5003



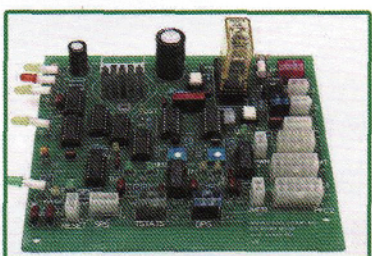
名称 远程连接插头锁头
编号 XY-5004



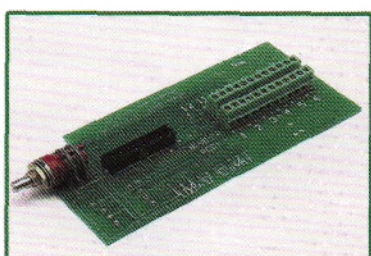
名称 远程连接插件公头
编号 XY-5005



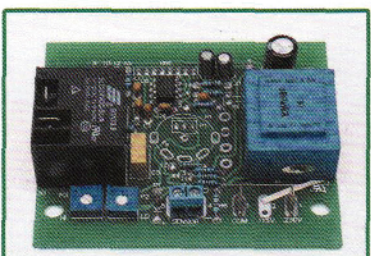
名称 远程连接插件母头
编号 XY-5006



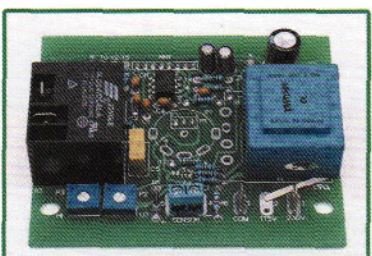
名称 Polycold 控制主板
编号 XY-6000



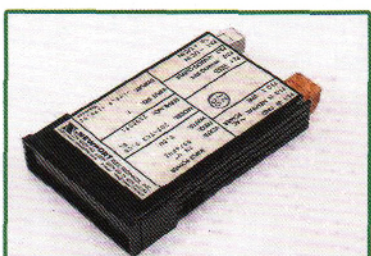
名称 温度选择开关
编号 XY-6001



名称 解冻控制版20℃结束
编号 XY-6003



名称 水温度控制板
编号 XY-6004



名称 Polycold温度显示器
编号 XY-6007

配件



名称 Parker接头O型圈拆除工具
编号 XY-0200



名称 Polycold热电偶
编号 XY-0203



名称 冷媒检漏仪
编号 XY-0204



采购时请提供深冷设备型号

名称 干燥过滤器
编号 XY-0206



采购时请提供深冷设备型号

名称 Polycold压缩机油HCFC
编号 XY-0209



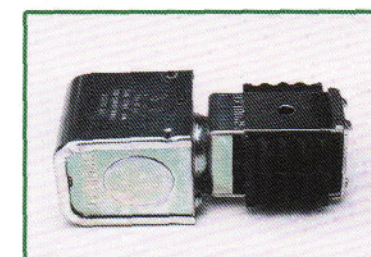
采购时请提供深冷设备型号

名称 Polycold压缩机
编号 XY-0210

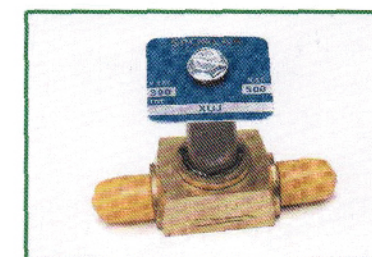


采购时请提供深冷设备型号

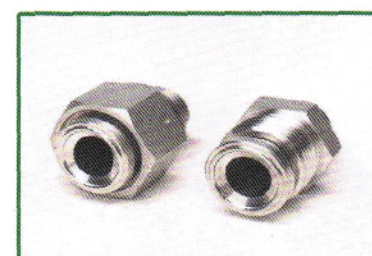
名称 压缩机避震管
编号 XY-0211



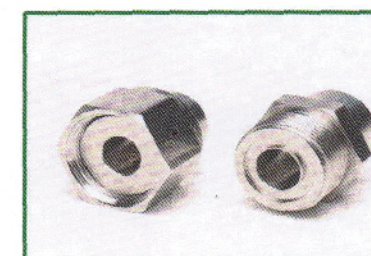
名称 Polycold XUI, B6电磁阀线圈
编号 XY-0911



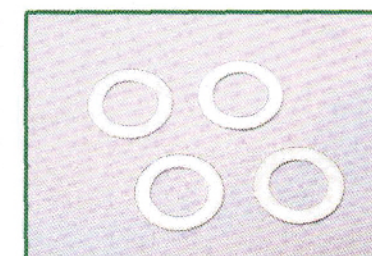
名称 Polycold XUI制冷电磁阀
编号 XY-0912



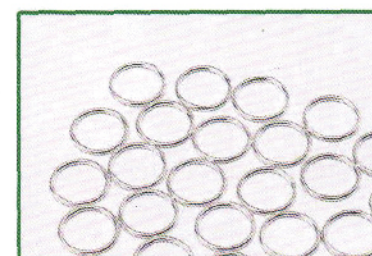
名称 VCR接头
编号 XY-1002



名称 Parker接头
编号 XY-1004



名称 VCR接头平密封圈
编号 XY-1007



名称 Parker O型密封圈
编号 XY-1008



名称 VCR接头堵头
编号 XY-1009



名称 Parker接头堵头
编号 XY-1010

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