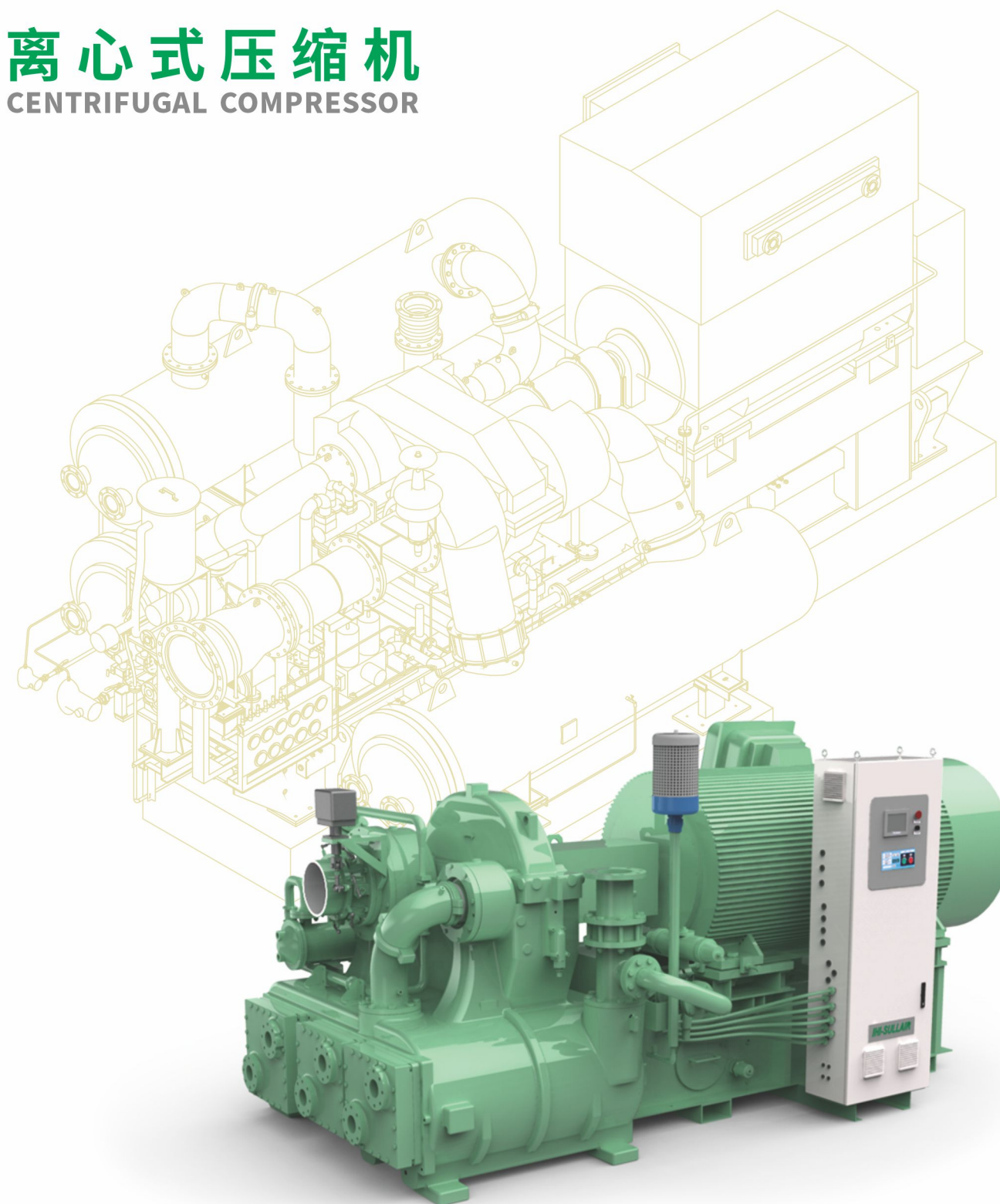




离心式压缩机

CENTRIFUGAL COMPRESSOR



2024年3月设计印制

IHI寿力压缩技术(苏州)有限公司
IHI-SULLAIR COMPRESSION TECHNOLOGY (SUZHOU) CO., LTD.



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IHI寿力压缩技术(苏州)有限公司

公司简介 ▶ Overview

IHI寿力压缩技术(苏州)有限公司由IHI回转机械工程公司 and 美国寿力公司共同投资建立, 总部位于江苏省苏州市, 是一家专业的离心压缩机设备及服务供应商。

我们以全面的产品线, 致力于离心压缩机及配套设备系统的研发、生产和销售。公司产品涵盖T系列通用型标准机和f系列工程机, 广泛应用于化工、能源、空分、汽车、电子、纺织、生物医药等行业。

凭借传承自母公司IHI集团于空气动力开发领域的百余年技术沉淀, 我们向全球客户提供专业的气体解决方案及高质高效的售后服务。

作为一家业界领先企业, 我们期待着与客户建立持久的合作伙伴关系, 并持续提供优质的产品和服务。

IHI-Sullair Compression Technology (Suzhou) Co., Ltd., a company jointly invested and established by Ishikawajima-Harima Heavy Industry (IHI) and Sullair USA, headquartered in Suzhou City, Jiangsu Province, is a professional supplier of centrifugal compressors and services.

With a comprehensive product line, we are committed to the research and development, production and sales of centrifugal compressors and supporting equipment systems. Our product lineup covers standardized machines (known for T-series) and engineered custom-made machines (f-series) which are widely used in chemical, energy, air separation, automobile, electronics, textile, biomedicine and other industries.

With more than 120 years of expertise in the field of aerodynamic development inherited from our parent company IHI Group, we provide professional solutions and services to customers worldwide.

We, as a leading company, are looking forward to forging lasting partnerships with customers who value the expertise and high standards we bring to the table.

资质证书 ▶ Certification

从2008年开始, 公司先后取得了ISO9001、ISO14001和ISO45001系列质量、环境、职业健康安全管理体系认证证书, 并于2015年被授予江苏省高新技术企业。2020年江苏省大型离心压缩机工程技术研究中心落户IHI寿力, 体现着IHI寿力的高超质量和技术创新。

Since 2008, IHI-Sullair has successively obtained ISO9001, ISO14001, and ISO45001 series of quality, environment & occupational health and safety management system certificates. In 2015, IHI-Sullair was recognized as a high-tech enterprise in Jiangsu Province. In 2020, Jiangsu Province Large Centrifugal Compressor Engineering Technology Research Center settled in IHI-Sullair, reflecting our high quality and technological innovation.



社会责任 Social Responsibility

IHI寿力作为IHI集团的子公司, 致力于可持续发展, 旨在对社会和环境产生积极影响, 同时创造经济价值。我们的可持续发展努力侧重于应对全球挑战, 如通过减少二氧化碳排放以实现碳中和来减轻环境负担, 以及通过尊重人权和劳动力多样性来促进社会可持续性。

IHI-Sullair, a group of IHI is dedicated to sustainability, aiming to positively impact society and the environment while generating economic value. Our sustainability efforts focus on addressing global challenges such as reducing the burden on the environment by aiming to reduce CO₂ emissions to realize carbon neutrality, and promoting social sustainability through respect for human rights and workforce diversity.

可持续发展目标



IHI寿力离心压缩机通过了权威认证机构TUV的压缩空气无油0级认证(ISO8573-1, ISO8573-2, ISO8573-5), 这意味着我们可以产出最高清洁度的压缩空气。在努力提高产品性能的同时, 我们正在提供有助于节能的解决方案, 这些解决方案将优化我们客户的运营, 有助于降低运营成本, 并每年减少数以吨计的二氧化碳排放。

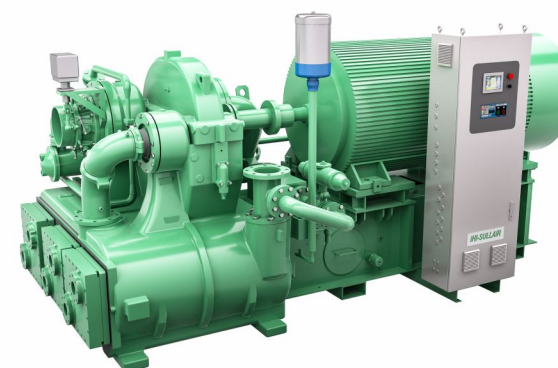
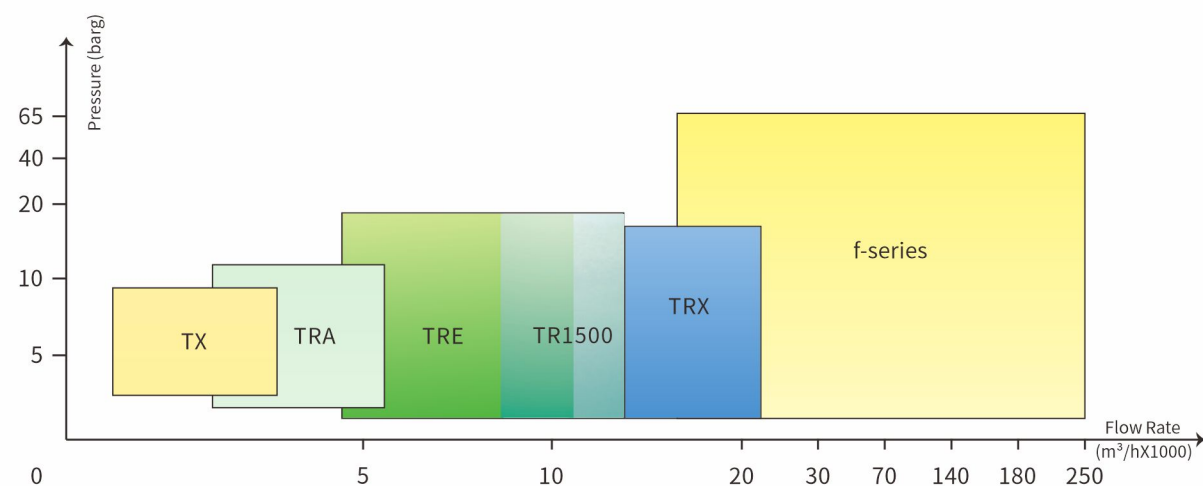
IHI-Sullair's turbo compressor has passed the Class 0 certification of oil-free compressed air by the authoritative certification body TUV (ISO8573-1, ISO8573-2, ISO8573-5), the highest level of cleanliness for compressed air. While striving to improve the performance of our products, we are providing solutions that contributes to energy saving that will optimize our customers' operations, contributing to low operating expense and reducing tons of CO₂ annually.

大事记时间线 Timeline



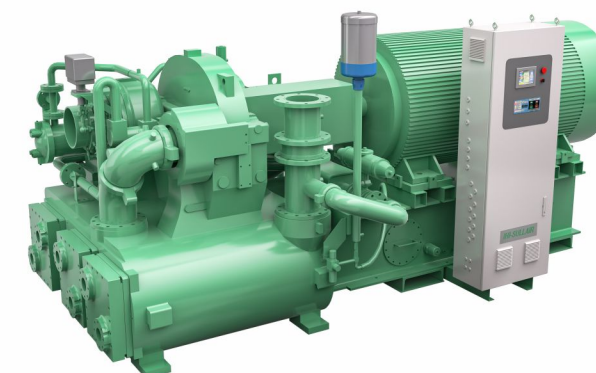
产品系列 ▶ Product Line

压力/流量图谱/Pressure/Flow Schematic



TRE

气量 Flow rate (m³/h): 3500-12000
压力 Pressure (barg): 2-16
功率 Shaft power (kw): 355-1250



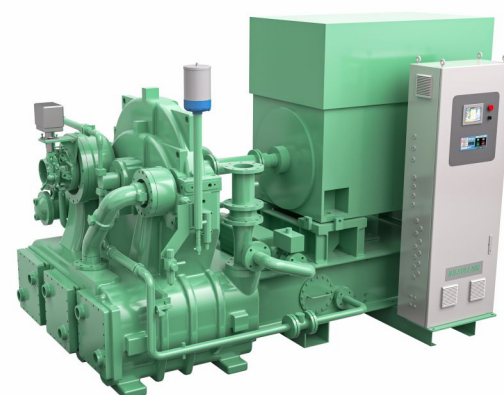
TR1500

气量 Flow rate (m³/h): 5500-15000
压力 Pressure (barg): 2-15
功率 Shaft power (kw): 710-1400



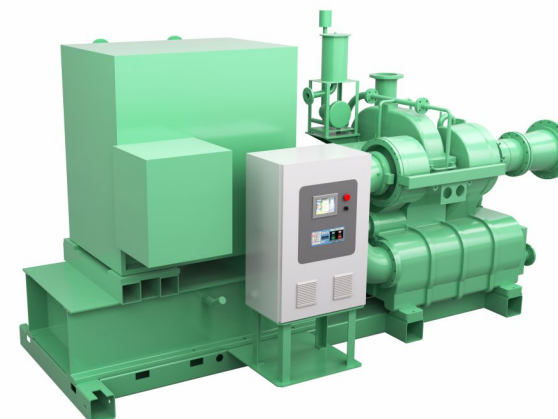
Tx

气量 Flow rate (m³/h): 1500-4500
压力 Pressure (barg): 4-9
功率 Shaft power (kw): 150-425



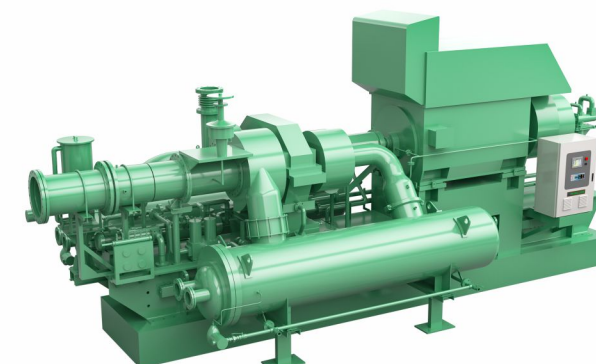
TRA

气量 Flow rate (m³/h): 2500-7200
压力 Pressure (barg): 2-11
功率 Shaft power (kw): 200-650



TRX

气量 Flow rate (m³/h): 9000-24000
压力 Pressure (barg): 2-11
功率 Shaft power (kw): 1000-2000



f-series

气量 Flow rate (m³/h): 14000-250000
压力 Pressure (barg): 1.5-65
功率 Shaft power (kw): 1000-20000

产品结构 ▶ Compressor Structure

进口导叶(IGV)/Inlet Guide Vane(IGV)

根据消耗量控制空气供应量,同时保持压力恒定。

Use to control the air supply amount in accordance with consumption amount while keeping pressure constant.



高效率:

- 1.进口空气在与叶轮相同的旋转方向上预旋转。
- 2.与蝶阀相比,在部分负载下,节省更多能源。
- 3.进口导叶采用封闭式设计,无气体泄漏。

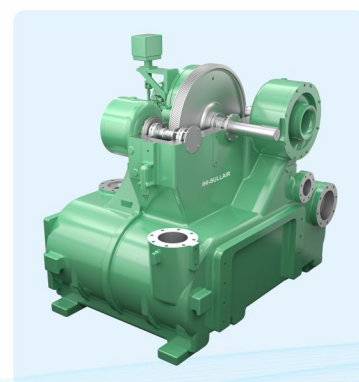
Enhance Efficiency:

1. Inlet air causes pre-rotation in the same rotating direction as the impeller.
2. Save up to energy under partial load comparing with butterfly valve.
3. Enclosed type of IGV is applied for no leakage of air and process gas.

齿轮箱/Gear Box (一体式齿轮箱和空气冷却器)/(One-Piece Gear Case and Air Coolers)

设计坚固紧凑:

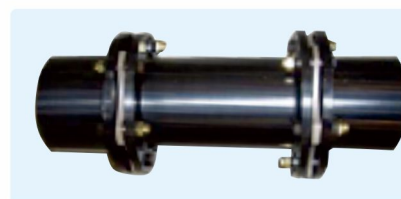
齿轮箱和空气冷却器是一体式铸造的。
Robust and compact design since gear box and air coolers are casted together.



联轴器/Coupling

通过安全盖进行便捷维护。

干式不锈钢盘式联轴器设计,免于维护。
Easy access for maintenance through safety cover.
Dry stainless steel disc coupling,
Making it maintenance-free.



导流器蜗壳/Inlet Scroll



导流器蜗壳内壁用环氧树脂涂层进行了特殊处理,以防止腐蚀。

Special coatings are used on the inner walls of the intake volute and pipeline to effectively prevent corrosion.

冷却器/Coolers

清洁快速简单,维护成本低。

Low maintenance cost since of quick and simple cleaning.

中冷器和后冷器为带外翅片设计的管内水冷器,易于接近冷却器管束,不会干扰其他部件。

Easy access to cooler tube bundles without disturbance to other components since intercoolers and aftercoolers are water-in-tube with external fins design.

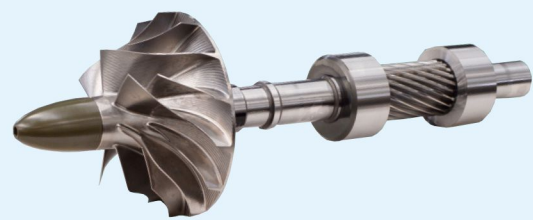


产品结构 ▶ Compressor Structure

高性能转子和叶轮 / High-performance Rotor and Impeller

自1970年以来,充分利用集团自身的专业技术设计,IHI拥有世界顶级的效率和广泛的操作范围。维护成本低,节能:由钛和不锈钢制成,不易因操作而磨损、腐蚀,无需定期更换。

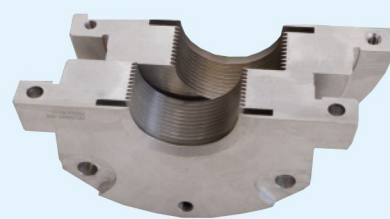
World's top-level efficiency and wide operating range designed by IHI Japan with full use of IHI knowhow since 1970. Low maintenance costs and Energy saving: No wear and corrosion from operation since it is made from titanium and stainless steel. No periodic replacement is needed.



迷宫式密封(轴封) / Labyrinth Seal (Shaft Seal)

用于密封气体和油,防止泄漏,保证高效,与小齿轮轴无接触操作,不易磨损,不需要定期更换。通过喷射器或风机使齿轮箱产生轻微负压来防止漏油。

Used for sealing the gas and oil, preventing leakage and maintaining energy efficiency. No contact with the pinion shaft. No wear and tears from operation. No periodic replacement is needed. Preventing oil leakage by making the gearbox slightly negative pressure by ejector or fan.



可倾瓦轴承 / Tilting Pad Journal Bearing

实现高速稳定运行,当轴承负载和温度从加载状态变为卸载状态时,可自动调整轴瓦倾斜度。

High-speed and stable operation is realized. Pad tilt is automatically adjusted when bearing load and temperature changes from loading to unloading conditions.



大齿轮轴承 / Bull Gear Bearing

轴颈轴承和推力轴承的组合设计,实现最大的可靠性。
Combination of journal and thrust bearings for maximum reliability.

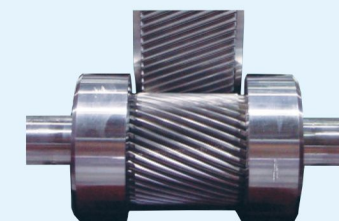


推力环 / Thrust Collars

叶轮产生的轴向推力,通过止推环传递到大齿轮。
增强叶轮旋转的稳定性,提高机械效率,减少潜在的摩擦损耗。

The axial thrust force generated by the impeller is transmitted through the thrust collars to bull gear.

Enhance the stability of the impeller rotation, improving mechanical efficiency and reducing potential frictional losses.

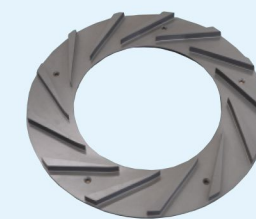


扩散器 / Diffuser

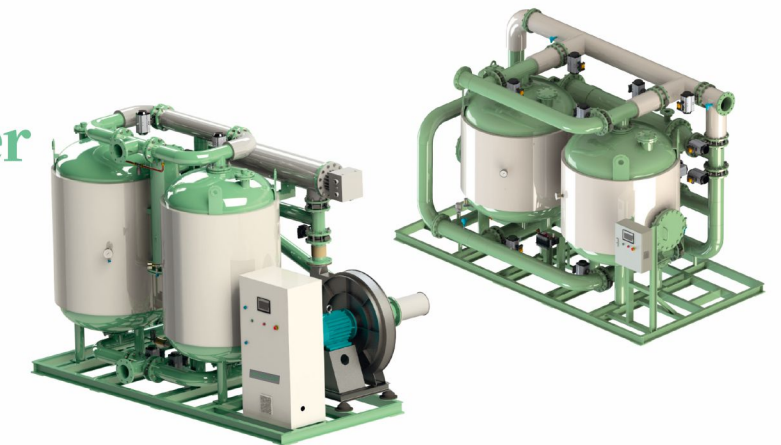
叶轮旋转产生的空气速度能量,通过扩散器有效地转换为压力能量。通过与叶轮的配合实现高效率,最大限度地减少湍流。

Speed energy of air generated from rotation of the impeller is efficiently converted into pressure energy by diffuser.

High efficiency achieved through coordination with the impeller, and minimize turbulence to the greatest extent possible.



后处理干燥机 ▶ After Treatment Dryer



在现代工业生产过程以及应用系统中,对于压缩空气质量要求越来越高。

消除压缩空气系统中的水份,获得更加清洁、干燥的压缩空气应用于生产过程,是大量客户的现实需求。

IHI寿力公司是专业的离心压缩机制造商,为此IHI寿力公司专门开发了配套使用于离心压缩机的吸附式压缩空气干燥器,通过合理的合处理,可获得达到ISO8573标准的优质压缩空气。

IHI寿力公司还可以为用户定制完整的、具有成本效益和节能效益的压缩空气处理解决方案,以适应不同的行业和生产工艺。

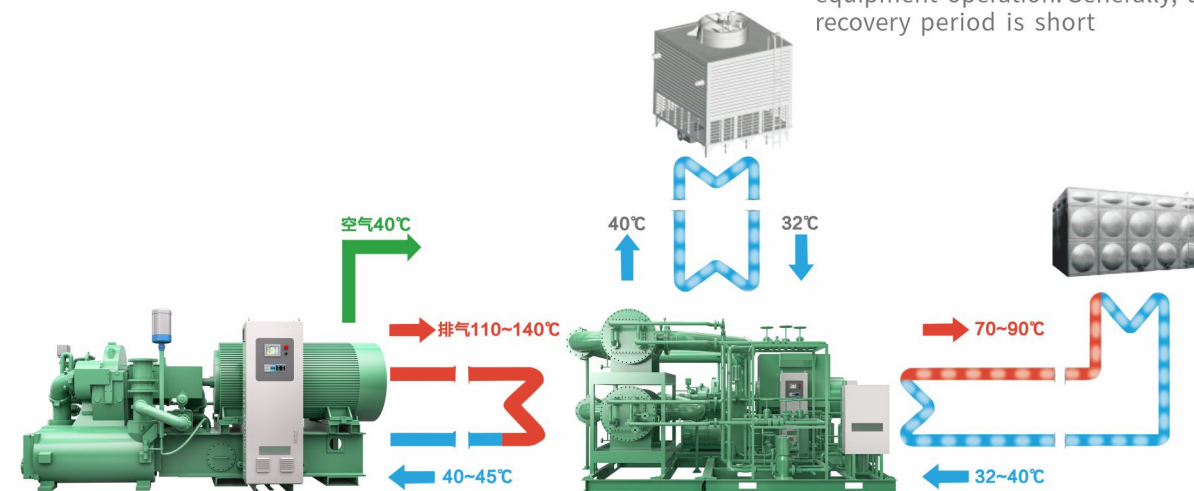
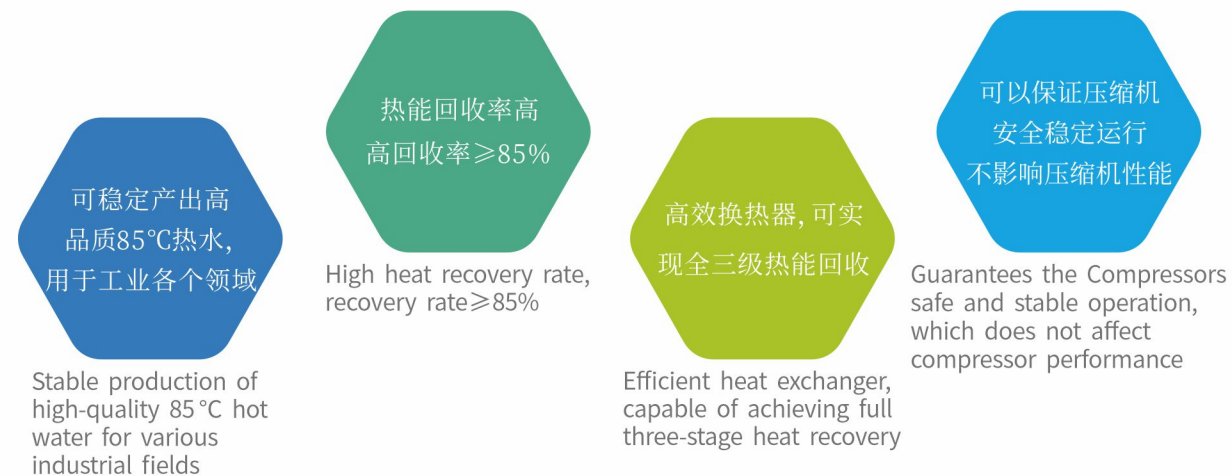
In modern industrial production processes and application systems, there is an increasing demand for compressed air quality. Eliminating moisture in compressed air systems and obtaining cleaner and drier compressed air for production processes is a practical requirement for a large number of customers. IHI-Sullair is a professional manufacturer of centrifugal compressors. Therefore, IHI-Sullair has specially developed adsorption compressed air dryers for use in centrifugal compressors. Through reasonable combination processing, high-quality compressed air that meets the ISO8573 standard can be obtained. IHI-Sullair can also customize complete, cost-effective, and energy-saving compressed air treatment solutions for users to adapt to different industries and production processes.

- 采用匹配离心压缩机的技术设计。
- 符合环境保护设计。
- 降低运行维护成本、减少生产过程中不必要的设备故障。
- 满足高品质、清洁、干燥压缩空气的工业生产需求。
- 使用高质量的吸附材料,压缩空气压力露点最低可降至-70℃。

- Design with matching centrifugal compressor technology.
- Compliant with environmental protection design.
- Reduce operating and maintenance costs, minimize unnecessary equipment failures during the production process, and meet the industrial production needs of high-quality, clean, and dry compressed air.
- By using high-quality adsorption materials, the minimum dew point of compressed air pressure can be reduced to -70%.

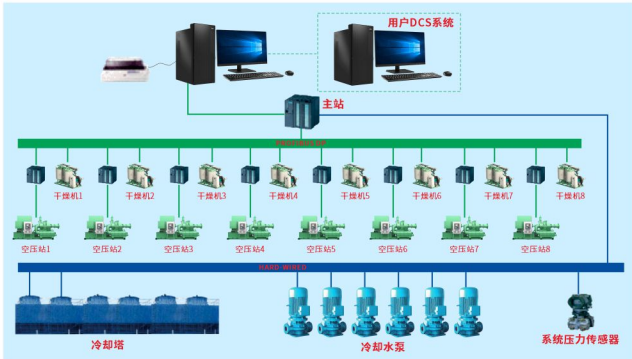
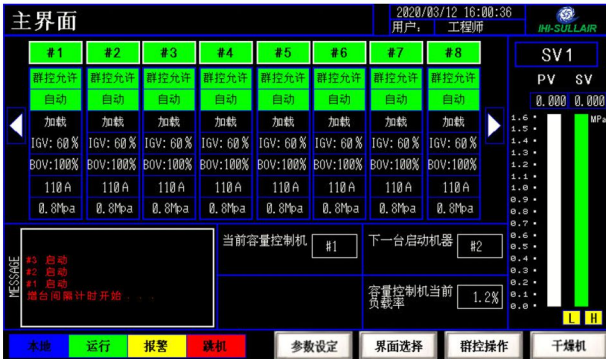
- 最常用的离心压缩机压缩热吸附干燥器和鼓风吸附干燥器。
- 采用稳定成熟的工作流程和多年经验验证的控制软件。
- 可提供露点切换、负荷控制的双重节能控制系统:配置高品质的阀门、控制器等部件,确保设备整体运行稳定可靠。
- 针对极端工况,为用户提供符合实际需求的解决方案和定制设备。
- 设备选型范围广,可为用户定制用于其它气体(氮气、二氧化碳)干燥的吸附式干燥器以及纯化设备,和单机处理能力达到或超过 $600\text{Nm}^3/\text{min}$ 以上的定制设备。采用合理的结构设计和人性化的设计概念,不仅占地面积小而且易于安装、维护和操作,同时也考虑到设备检修的方便性。

- The most commonly used centrifugal compressor compression heat adsorption dryer and blower adsorption dryer.
- Adopting stable and mature workflow and control software validated by years of experience.
- A dual energy-saving control system that can provide dew point switching and load control: equipped with high-quality valves, controllers, and other components to ensure the overall stable and reliable operation of the equipment. Provide users with solutions and customized equipment that meet their actual needs for extreme working conditions.
- The range of equipment selection is wide, and users can customize adsorption dryers and purification equipment for drying other gases (nitrogen, carbon dioxide), as well as customized equipment with a single processing capacity of 600 Nm³/min or more.
- By adopting a reasonable structural design and humanized design concept, it not only occupies a small area but is also easy to install, maintain, and operate, while also considering the convenience of equipment maintenance.



GCP 集中控制系统 GCP Control System

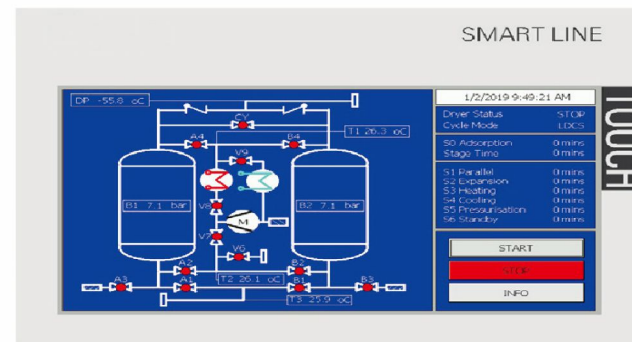
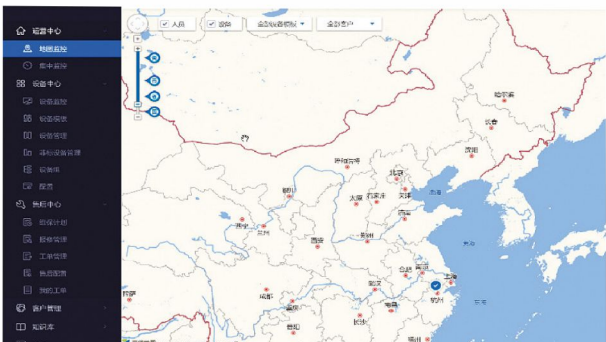
多台压缩机集中控制系统/GCP Control System



多台压缩机同时工作时,集控系统逻辑可自动控制压缩机的启停和进气阀门的开度,按用户的需求调节总气量的大小,采用最高效的供气方案以节约能耗。

GCP control system logic is programmed to automatically control the start and stop of compressors as well as the opening of the suction valves according to users' demand when multiple compressors work at the same time, which can realize the most efficient operation to reduce energy consumption.

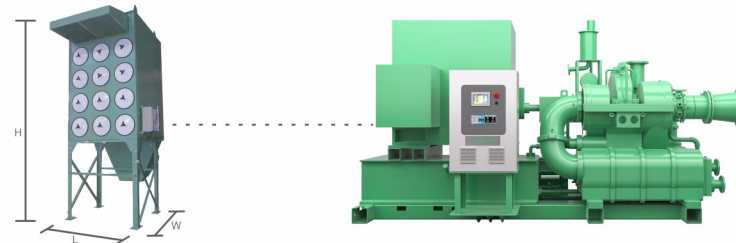
选装物联网模块/Optional IoT Module



可以通过手机及电脑实时查看当下设备运行参数、历史数据、故障报警及维保计划。

Real time viewing of current device parameters, historical data, fault alarms, and maintenance plans can be done through mobile phones and computers.

自洁式过滤器 Self-cleaning Air Filter



项目 Item	单位 Unit	型号Model						
		IAC-4	IAC-6	IAC-8	IAC-12	IAC-16	IAC-18	IAC-24
额定气量	m ³ /min	100	150	200	300	400	450	600
配套压缩机 气量	Nm ³ /min	50	75	100	150	200	225	300
过滤级别	EN779	F8-F9	F8-F9	F8-F9	F8-F9	F8-F9	F8-F9	F8-F9
过滤面积	m ²	88	132	176	264	352	396	528
滤筒数量	只	4	6	8	12	16	18	24
电磁阀数量	只	4	6	4	6	8	9	12
设计压力	Pa	101325 (标准大气压)						
设计温度	°C	-15~40						
电控箱尺寸 (含反吹系统)	mm	400*500						
地脚中心尺寸	mm	1202*990	1236*1005	1310*1005	1310*1005	1310*1005	1310*1550	1310*1550
外形尺寸 (长宽高)	mm	2267*1273*2215	2190*1177*3166	3163*1165*3473	3163*1165*4018	3163*1165*4563	3163*1710*4018	3163*1710*4563
净重	Kg	600	800	1150	1260	1450	1650	2050

◎注:样本选型数据仅供参考,具体以实际项目的工程选型为准。

1.使用IHI寿力空滤,将作为享受IHI寿力离心压缩机全面售后保固基础,对于更小或者更大风量的压缩机,IHI寿力可提供其他系列的IAC,具体项目请联系IHI寿力售后市场部。2.含油工况、湿度大的工况,滤芯需要特殊选型。3.粉尘量大的工况、环境恶劣的工况设备选型需要做优化。4.本过滤器仅处理粉尘,不能用于处理化学气体。

性能特点/Performance

- 新型的设计结构,横装式,侧面安装滤筒,区别于其他的吊装式过滤结构形式。
- 模块化结构设计,方便选型设计。
- 防雨棚结构,可户外安装。
- 对于恶劣工况,设备可设计为单向进风的密闭结构。
- 滤芯性能: A、防潮性能好
B、清灰效果好
C、效率高,效率在F8-F9之间
- 脉冲控制系统,用单片机来实现,性能可靠。

安装要求/Requirements

- 控制电源: 24V。
- 仪表气: 含油<0.1mg/m², 固体颗粒粒径<0.4μm。
- 配1英寸进气管(用户自备)。
- 配油水分分离器、球阀(用户自备)。

- New structure axial fitting, easy assembling than the hoisting type.
- Modularization designing, easy to select.
- With rain roof, outdoor installation is available.
- The equipment can be designed as an enclosure type when in bad operation condition.
- Filter element performance: A、moisture proof B、easy cleaning C、filter efficiency F8-F9
- Controlled by microcomputer system with pulse current signal.

- Control power: 24V.
- Instrument gas: oil content <0.1mg/m², solid particle size <0.4μm.
- 1 inch intake pipe(Customer's scope).
- Water separator, ball valve(Customer's scope).

应用行业 ▶ Applications

化工 / Chemical

化工行业的用户对于压缩机运行的安全性与稳定性有极高的要求,这直接影响到生产流程的安全进行和产品的质量。我们一以贯之的为用户提供持久耐用的高品质设备,确保安全可靠的生产环境,从而满足用户需求。

Due to extremely high requirements of the safety and stability of compressor operation in chemical industry, we consistently provide users with durable and high-quality equipment, ensuring a safe and reliable production environment to meet the needs.

代表客户:中石化、中石油、浙江石化
Representing clients: Sinopec, PetroChina, Zhejiang Petrochemical

汽车 / Automobile

离心压缩机在汽车生产的整体流程中发挥着重要作用,被广泛应用于装配、传动、喷漆等各个生产环节。选择合适的压缩机产品可以有效地提升生产效率,降低生产成本、确保产品品质。

Turbo compressors play an important role in the production processes. We offer the appropriate compressor that can effectively improve production efficiency, reduce production costs, and ensure product quality.

代表客户:比亚迪、一汽集团
Representing clients: BYD, China FAW Group

电子 / Electronics

电子产品的生产中许多工序都需要使用到压缩空气,而空气中含有的油会对电子元器件产生不良影响,导致质量问题。所以整个生产过程必须确保无油。我们坚持为客户提供无油洁净的空气,保证电子产品的质量。

Due to extremely high standards in the production process of electronic industry, quality is what values most. We insist on providing customers with oil-free and clean air to ensure the quality of electronic products.

代表客户:富士康电子、日月光电子
Representative clients: Foxconn Electronics, Advanced Semiconductor Engineering

纺织 / Textile

深耕纺织行业已久,我们的离心压缩机以高品质高效率受到纺织行业客户的广泛认可与好评。无论是用于织布、缝纫、印染等工艺过程,还是为纺织厂的各种设备提供动力,我们的压缩机都能切实满足客户需求。

Our centrifugal compressors are widely recognized and praised by customers also in the textile industry for its high quality and efficiency. Our compressors can effectively meet customers' needs in all sorts of processes.

代表客户:盛虹化纤、大连华阳
Representative clients: Shenghong Chemical Fiber, Dalian Huayang

能源 / Energy

离心压缩机被广泛应用于传统能源及新能源领域。我们的产品持久耐用,在各种恶劣的工作环境下都能保持安全稳定的运行。凭借先进的设计和制造工艺,确保产品的品质和性能达到最佳水平,降低用户的运营成本。

Our product is durable which maintains safe and stable operation in various harsh working environments as well as reducing operating costs.

代表客户:新特能源、晶澳太阳能
Representing clients: Xinte Energy, JingAo Solar Energy

空分 / Air Separation

基于空分用户的个性化需求,我们提供定制的空气、氮气离心压缩机解决方案,并保证气体品质。通过减少降耗、提升效率,满足客户需求,助力实现生产力的提升。

Based on the needs of air separation users, we provide customized solutions for air and nitrogen turbo compressors and ensure gas quality. By reducing consumption, improving efficiency, meeting customer needs, and helping to achieve productivity improvement.

代表客户:液化空气、盈德气体
Representing clients: Air Liquide, Yingde Gas

生物制药 / Biological and Pharmaceutical

生物制药行业的健康和安全标准要求极高,我们提供纯净无油的离心压缩机,确保洁净安全的工作环境,是您的理想选择。我们采用先进的技术进行提供客户定制方案,确保压缩机的品质和性能达到最佳水平。

We use advance technology to provide pure and oil-free turbo compressors to ensure a clean and safe working environment contributing to customer's standards.

代表客户:盛泰药业、华康药业
Representative clients: Shengtai Pharmaceutical, Huakang Pharmaceutical

钢铁 / Steel

离心压缩机在钢铁行业扮演着不可或缺的角色,被广泛应用于各种不同的工艺环节,为生产过程提供了稳定且可靠的动力源。我们的产品经过严格的质量控制和安全测试,以确保在各种工作环境下都能保持安全可靠的运行。

Our centrifugal compressors are widely used in various process steps, providing a stable and reliable power source for the production process.

代表客户:鞍山钢铁、唐山钢铁
Representing clients: Anshan Steel, Tangshan Steel

营销地图 ▶ Sales Network

IHI 寿力全国服务网点分布



及时服务/On Time Service

IHI寿力有专业的服务工程师团队,可以迅速响应客户的需要,为客户提供及时的维护保养、故障排除等服务。

IHI-sullair has a professional team of service engineers, we can quickly respond to customer needs and provide timely maintenance, troubleshooting and other services.



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