



作为一家行业领先的压缩空气系统制造商,富诺尔全国的服务网络,无时无刻的为您提供空气系统服务。

As an industry-leading manufacturer of compressed air systems, Fu promise air nationwide service network provides system services at all times.



**24Serv:4001-888-077**



[www.fupromiseair.cn](http://www.fupromiseair.cn)

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## F系列空压机

高效能、高可靠性、高度智能化、易维护、省电节能

High efficiency, high reliability, high intelligence, easy maintenance, power saving and energy saving

用更少电，产高品质气  
节能降耗 高效用气

## Using less electricity to produce high-quality gas

Energy saving, consumption reduction, efficient gas consumption



## Quality 品质



### 我们稳定的品质开始

品质是压缩机最核心和基本的要求，在第二代 FL 系列产品的开发过程中，我们采用了先进的主机，为您提供品质的保证。通过优化主机的结构，新型主机可实现高达 12% 的效率提升，最大限度降低了运行成本。此外，改善的主机系统还能提供优秀的排气量，更小的比功率意味着更低的设备投资成本和能耗，降低您的总提成本。

Quality is the core and basic requirement for an air compressor. In the development of the second generation FL Series products, we have adopted the advanced airend as the quality assurance. By optimizing the host structure, the new type can achieve efficiency improvement up to 12% and minimize the operation costs. Meanwhile, the improved airend system can also provide proper displacement. The smaller specific power means the less equipment investment and energy consumption, which can reduce the overall cost.



### 我们与科技同步

一台优异的压缩机在供气的同时还可提供必要的运行参数，以实时监控机组的运行状态。因此，每台 FL 系列压缩机都配备西门子智能控制器，可监测关键运行点，并调整系统参数，从而延长正常运转时间，降低能耗。无论您身在何处，都可以实时了解空压机运行状况并及时采取必要的措施。

An excellent compressor can provide the necessary parameters while supplying air so as to monitor the units operation status in real-time. Therefore, each FL Series compressor equipped Siemens intelligent controller can monitor the key operation point and adjust the system parameter, which can extend the runtime and reduce energy consumption. Wherever you are, it is easy for you to know the real-time operation status of compressors and take the necessary measures in time.



### 更真实的能源消耗

零服务系数的西门子驱动电机，很好的保证了压缩机在运行过程中真实的能源数据，并且在压缩机运行过程中电机不会超过额定功率运转。

The zero-service Siemens drive motor can guarantee the real energy data of compressors during its operation, and also can prevent the motor running over the rated power.

# Innovate 创 新



智能适应控制可以根据不同温度、负荷等条件智能调整压缩机适应性运行。

Intelligent adaptive controller can adjust the compressor adaptive operation intelligently according to the conditions change such as temperature and loading.

使用与空气亲和力更强的冷却油，每单位冷却油可以包容更多的压缩空气，提高压缩效率。

Using cooling oil having stronger affinity with air can make per unit of cooling oil containing much compressed air to enhance compression efficiency.

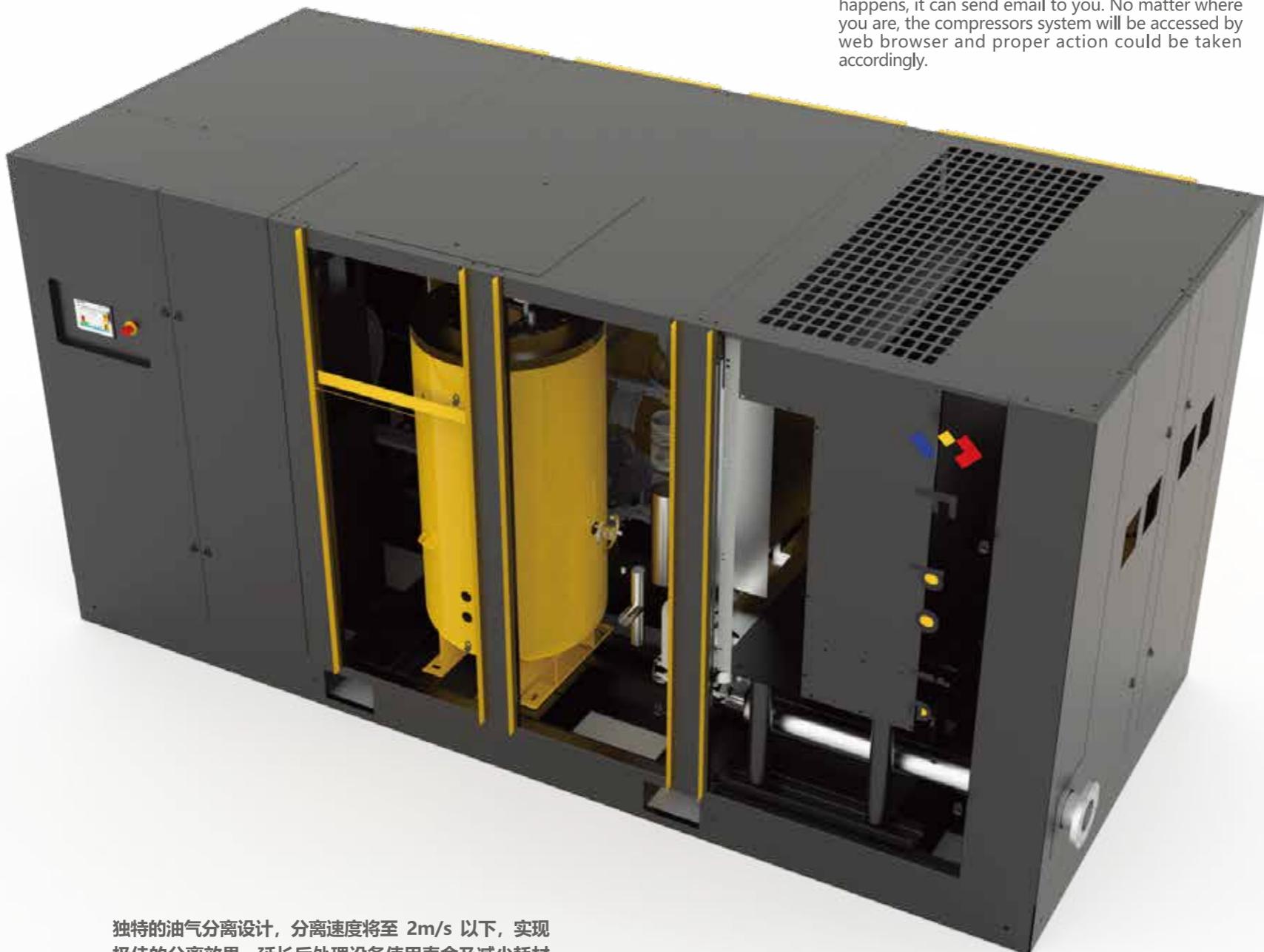
优选的西门子零服务系数电机，避免了压缩机超负荷运行，极大的降低了昂贵的能源成本

The optimized zero-service Siemens motor can not only prevent overload operation but also reduce the expensive energy costs significantly.



全套原装的唐纳森过滤系统，所有的设计都为更低的阻力及更好的过滤效果

The design using full original Donaldson filter system is to achieve lower resistance and better filter effects.

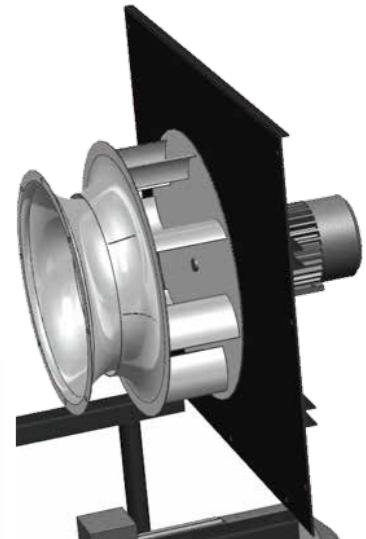


独特的油气分离设计，分离速度将至 2m/s 以下，实现极佳的分离效果，延长后处理设备使用寿命及减少耗材消耗

With the unique oil-air separation design, the separation speed could be down to less than 2m/s, so as to achieve excellent separation effect and extend the working time of post-treated equipment and reduce consumption of energy.

西门子智能控制器能够监控并调整系统参数，有运行事件发生时它能向您发邮件，无论您身处何地都能利用 web 浏览器访问压缩机系统，从而采取对应的措施。

Siemens intelligent controller can monitor and adjust the system parameter. When sort of running incident happens, it can send email to you. No matter where you are, the compressors system will be accessed by web browser and proper action could be taken accordingly.



增加 15% 的冷却器污垢系数，即使在污浊物较多的环境也能最大限度的保证合适的排气温度

When the fouling coefficient of cooler is up 15%, it can ensure the proper exhaust temperature maximumly even though in the environment with much dirt.

改善的软连接，在压缩机运转过程中，有效的消除振动带来的漏油及空气泄露

During operation of the compressor, the improved soft connection can effectively eliminate the leakage of air and oil caused by vibration.

高达 450pa 的离心式风机，负压吸风，保证了机组的散热及优秀的噪音等级

The centrifugal fan up to 450pa, with negative pressure suction, ensure the compressor's heat dissipation and excellent noise level.

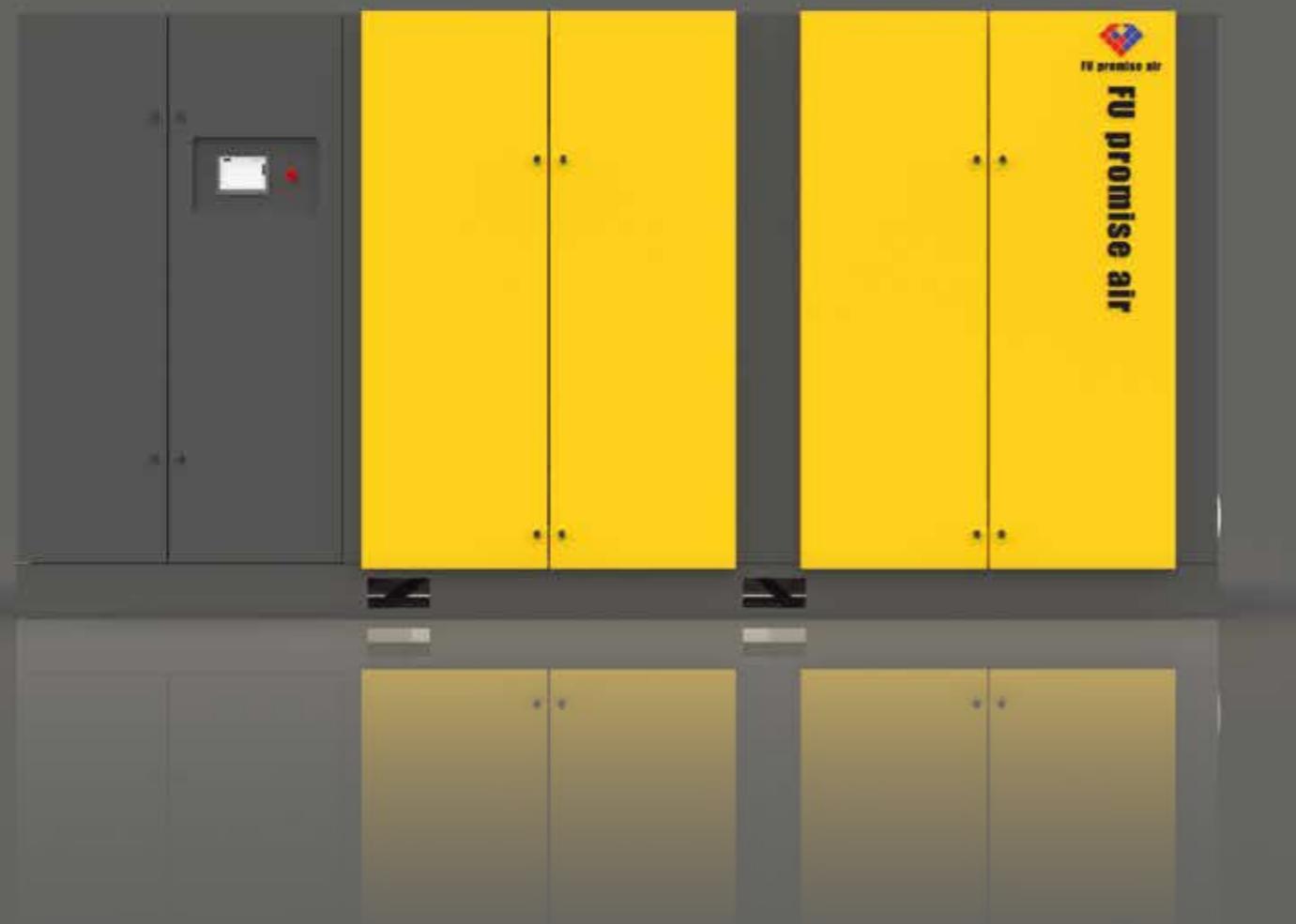


## 卓越的性能

高效驱动,节省能耗

### Superior performance

Efficient driving and energy saving



## 卓越的性能 Excellent Performance



稳定、高效的主机是压缩机的核心部件,流量优化的转子保证了持续的输出。

Stable and efficient airend is the core component of compressor, and the flow optimized rotor ensures continuous output.



西门子智能PLC适时调整压缩机的运转状态,让您的机组在最经济的状态下运行。

Siemens intelligent PLC adjusts the running state of the compressor in time to let your compressor run under the most economical state.



高品质的西门子电机为空压机提供了稳定的驱动保障,零服务系数和连续负载运转是西门子鲜明的产品特点。

High-quality Siemens motor provides stable driving guarantee for the air compressor, and the zero service coefficient and the continuous load operation are the distinctive product characteristics of Siemens.



西门子变频器优秀的特性包括:矢量控制、ECO模式、流量计算、宽电压设计和低温设计。

The excellent features of Siemens inverters include: vector control, ECO mode, flow calculation, wide voltage design and low temperature design.



## 耐久和高效的运行 Durable and efficient operation

两级压缩旋转螺杆式压缩机不仅以其智能的组件布局而著称，而且还具有许多创新的细节。无论在各个行业，我们的两级压缩压缩机都能不懈地耐久和高效的运行。证明即使在极端条件下，富诺尔两级压缩空压机也能稳定运转。

Two-stage compression rotary screw compressor is not only known for its intelligent component layout, but also with many innovative details. Regardless of industry, our two-stage compression compressors work tirelessly and efficiently. It has been proven that even under extreme conditions, two-stage compressed air compressors from FU promise air can operate stably.



### 长期效率 Long-term efficiency

只需在需要的任何地方都可以使用压缩空气，因此富诺尔两级旋转螺杆压缩机可以持久耐用并确保多年的可靠性能，富诺尔空气压缩机可提供耐用性和压缩空气可用性，甚至可以满足苛刻的要求。

Compressed air simply has to be available where and whenever it is needed.FU promise air two stage rotary screw compressors are therefore built to last and to ensure many years of dependable performance.FU promise air compressors deliver the durability and compressed air availability to meet even the toughest of demands.

### 效率为标准 Efficiency as standard

在涉及资产投资(例如压缩机或完整的压缩空气供应系统)的所有系统总成本中，空气质量与专业知识必不可少。只有将能效与服务/维护之间的完美相互作用结合在一起，并通过查看以下内容，才能保证最低的压缩空气成本和最大的可用性。压缩空气供应系统整体。

Quality and expertise really count when it comes to those all-important total system costs for asset investments such as compressors or complete compressed air supply systems. Lowest possible compressed air costs and maximum availability can be guaranteed only through a combination of perfect interplay between energy efficiency and service / maintenance, and by viewing the compressed air supply system as a whole.



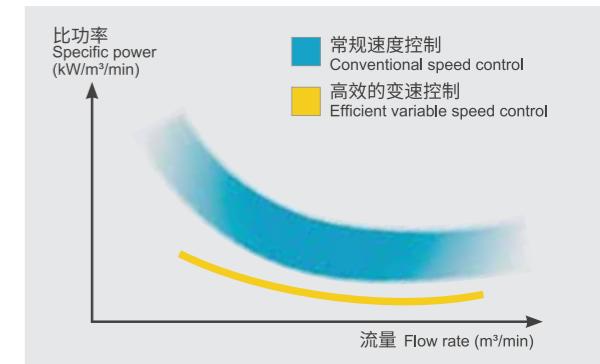
# 变频调速压缩机

## Compressor with variable speed drive

### 优化的比功率 Optimised specific power

变频调速压缩机是压缩机站中加载率最高的设备，因此在变转速使用的过程中，保持很好的效率是极为重要的。

The variable speed rotary screw compressor is the most heavily loaded piece of equipment in a compressor station. Therefore, in the process of variable speed, it is extremely important to maintain good efficiency.



### 恒定的压力 Consistent pressure

可以根据压力在控制范围内调节体积流量，以适应实际的压缩空气需求。结果，工作压力精确地保持在±0.1 bar之内。这样可以降低最大压力，从而节省能源和金钱。

The volumetric flow rate can be adjusted within the control range according to pressure to suit actual compressed air demand. As a result, operating pressure is precisely maintained to within ±0.1 bar. This allows maximum pressure to be reduced which saves both energy and money.



# 富诺尔智能压缩机管理

## FU Promise Air Intelligent Compressor Management

### 智慧能源空压站节能升级场景解决方案

#### Smart Energy Air Compressor Station Energy Saving Upgrade Scenario Solution

打破行业硬件思维，基于用户需求和行业发展趋势，为用能单位提供集“物联设备+云平台+生态服务”于一体的智慧能源空压站节能升级场景解决方案。

Breaking the industry's hardware thinking, based on user needs and industry development trends, provide energy consuming units with a smart energy air compression station energy-saving upgrade scenario solution that integrates "Internet of Things devices+cloud platform+ecological services".

### 实时能耗监测 Real-time energy consumption monitoring

实时能耗数据一目了然，Real-time energy consumption data at a glance,  
有效率的能源管理 Efficient energy management

### 工业4.0 Industry 4.0

实时通讯和数据交换，充分 Real-time communication and data exchange  
利用了最新的数字信息技术，Using the latest digital information technology,  
并通过西门子智能PLC实现 And realized by Siemens intelligent PLC  
数据与网络的无缝对接 Seamless connection between data and network

### 优秀的能源管理 Excellent energy management

在保证机组运行效率的状况 Conditions to ensure unit operating efficiency  
下，实时优化机组运行状态，Optimize the operating status of the unit in real time,  
以实现更低的能耗 For lower energy consumption

### 完美的控制逻辑 Perfect control logic

西门子集成式可编程控制器增强 Siemens integrated programmable controller  
空压机运行的稳定性精确控制各  
组件精细动作，例如，进气、排  
气、分离、过滤等  
enhancements. The stability of air compressor  
operation is precisely controlled fine movement of  
components, such as air intake, exhaust air,  
separation, filtration, etc.

### 精确到三位数的压力控制 Three-digit pressure control

与生产实际使用压力更接近，Closer to the actual pressure of production,  
节省昂贵的用气成本 Save on expensive gas costs

### 适应更苛刻的环境 Adapt to more demanding environments

电压：19.2V ~ 28.8V DC Voltage: 19.2V ~ 28.8V DC  
温度：-20°C ~ 60°C Temperature: -20 °C ~ 60 °C  
湿度：90% (无冷凝) Humidity: 90% (non-condensing)  
耐冲击性：15g / 11ms Impact resistance: 15g / 11ms

### SD卡 SD card

无忧更新 Worry-free update, Insert SD card,  
插入SD卡，自动实现程序 implement program automatically  
下载及更新，告别繁琐 Download and update,  
say goodbye to tedious

### 以太网接口 Ethernet interface

1xRJ45，最大通讯速率 1xRJ45, maximum communication  
100Mbits/s USB 2.0 rate 100Mbits / s USB 2.0 host,  
host，支持U盘、鼠标、  
键盘、Hub support U disk, mouse,  
Keyboard, Hub

### 远程诊断功能 Remote diagnostic function

在无法提供现场服务或紧急 In the event of inability to provide field  
的条件下远程诊断，确保机 service or emergency remote diagnostics  
组恢复运行。under conditions the group resumes operation.

### 高兼容性 High compatibility

隔离串口 (RS422/485自 Isolated serial port (RS422 / 485  
适应切换)，可连接西门子、三菱、施耐德、欧姆  
龙以及台达部分系列PLCs  
Adapt to switch), can be connected to  
Siemens, Mitsubishi, Schneider, Ohm  
Dragon and some Delta PLCs





### 双级压缩机组节能效果更显著

- \*低压缩比低泄露设计,保证压缩过程高效率
- \*降低各级转子的冲击负荷以及机组各部件热负荷
- \*相比单级压缩,相同输入功率产生更多压缩空气
- \*有效延长主机寿命,在全负载情况下,压缩效率相比单级压缩提高15%

### More significant energy-saving effect of two-stage compressor unit

- \*Low compression ratio and low leakage design ensure high efficiency of the compression process
- \*Reduce the impact load of rotors at all levels and the thermal load of various components of the unit
- \*Compared to single stage compression, the same input power produces more compressed air
- \*Effectively prolongs the life of the host, improving the compression efficiency by 15% compared to single stage compression under full load

# System Cost Control

## 系统成本控制

知道您实际的空气需求和运行条件后，我们会帮您考虑所有相关参数。包括所需压力，输送量，空气质量，系统性能和能耗。无论您使用哪种压缩空气，您可以肯定的是，富诺尔经验丰富的项目工程师将为您提供一个系统。该系统以最高效率运行。并满足您所有特定的压缩空气需求。我们的专业知识，加上对压缩空气产品范围的详细了解，使富诺尔的工程师能够利用各种可能的方式将能耗成本降至最低。

After learning the customer's actual air demand and operation conditions, we will consider all relevant parameters for you including required pressure, delivery capacity, air quality, system performance and energy consumption. Whatever compressed air you use, it is sure that FU promise air's experienced engineers will provide you a complete air system, which runs at the maximum efficiency and meet your specific compressed air demand. Our expertise combining the understanding of range of compressed air product enables our engineers to minimize the cost of energy by all possible means.

### 01 Actual demanding of compressed air 实际的压缩空气需求

设计压缩空气的第一步是确定实际的空气需求。富诺尔工程师通过执行以下操作详细了解压缩空气的使用全面的空气需求分析。

The first step to design a compressed air system is to determine the actual air demand. By performing the following operations, the FU promise air's engineers can understand the customer's specific air usage and comprehensive demand analysis.

### 02 Inspection power consumption 检查功耗

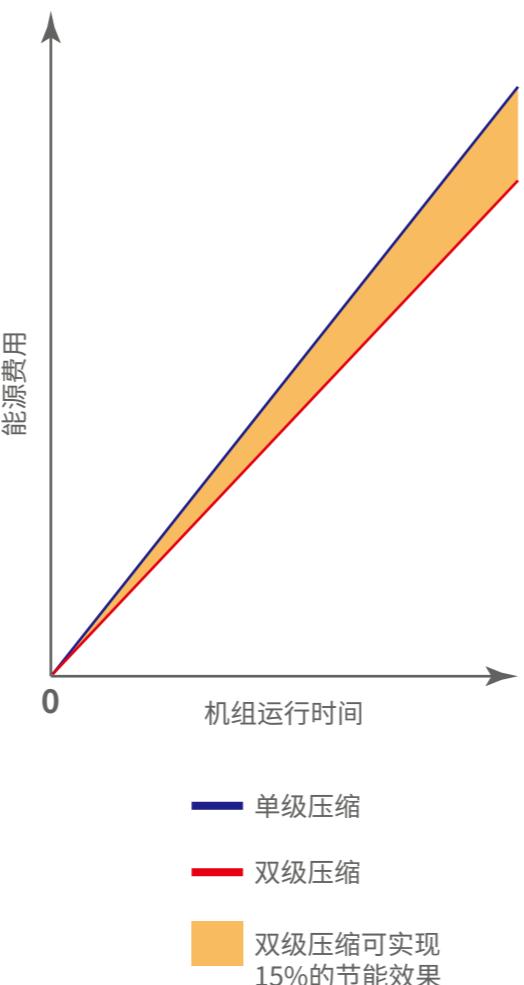
精确的数据显示每个模拟系统的实际功耗和能效。这些信息为实现能源优化的压缩空气系统的下一步奠定了基础。

The accurate data will indicate the actual power consumption and energy efficiency of each analog system. Those information are the basis for the next step to achieve a compressed air system with energy optimized.

### 03 Compared Specific Power Requirement 比较特定的功率要求

只有将实际功耗与输送的空气量进行比较，才能计算出特定的功率需求。然后，这些信息可以真实显示各种系统的能效。

Only by comparing the actual power consumption with the air capacity delivered, the specific power required can be calculated. And then, these information can truly indicate the energy efficiency of various systems.





## 能源审计 系统评估 Energy audit, System assessment

### 强效节能 Significant energy-savings

富诺尔气量需求分析和富诺尔节能系统是先进的专有工具，它们为出色的压缩空气供应效率和可靠性提供了基础，以实现能源审核之间的可比性，从而提高压缩空气系统的效率。

FU promise Air Demand Analysis and the Energy Saving System are advanced, proprietary tools that provide the basis for excellent compressed air supply efficiency and reliability to achieve comparability between energy audits, thereby increasing the efficiency of compressed air systems.

### 专享方案 极致效率

#### Individual solutions,maximum efficiency

规划任何压缩空气系统的第一步是确定实际的空气需求量，以便尽可能地满足您的压缩空气需求。细致的需求分析、规划、实施和专家建议，从长远来看都能带来显著的节约。这尤其适用于车间和工业应用中的压缩空气系统。只有通过经验丰富的压缩系统供应商提供的特定应用建议，才能实现可靠和高效的空气系统运行。因此，富诺尔已经开发出了新的压缩空气供应系统的有效工具和优化现有的压缩空气供应系统：利用执行详细的空气需求分析系统收集信息，并使用专门开发的富诺尔节能系统，富诺尔的项目工程师能够保证个性化的定制。

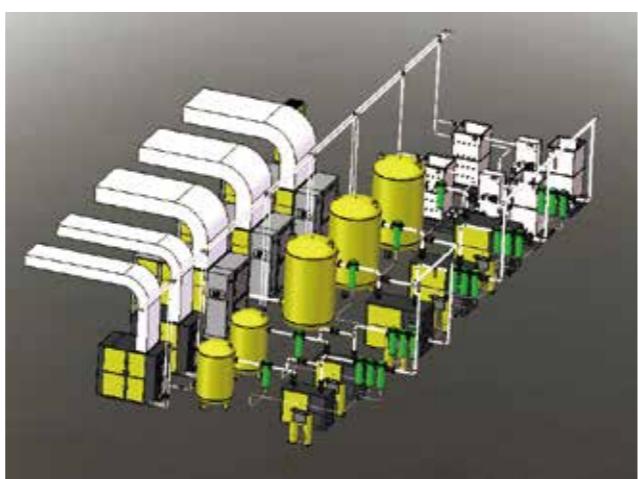
When planning any compressed air system, the first step is to determine actual compressed air demand so as to meet the customer's individual air demand as best as possible. The detailed demand analysis, planning, implementation and expert advice, all lead to significant savings in the long term. This particularly applies to compressed air system in workshop and industrial application. Reliable and efficient air system operation is achieved only through the specific application advice offered by an experienced compressed air system provider. Therefore, Funol has developed a new highly effective tools for planning new compressed air system and optimizing the existing ones. With information gathered from carrying out a detailed air demand analysis and using the specially developed FU promise Energy Saving System, the project engineers from Funol enable customized design.

### 节能减耗

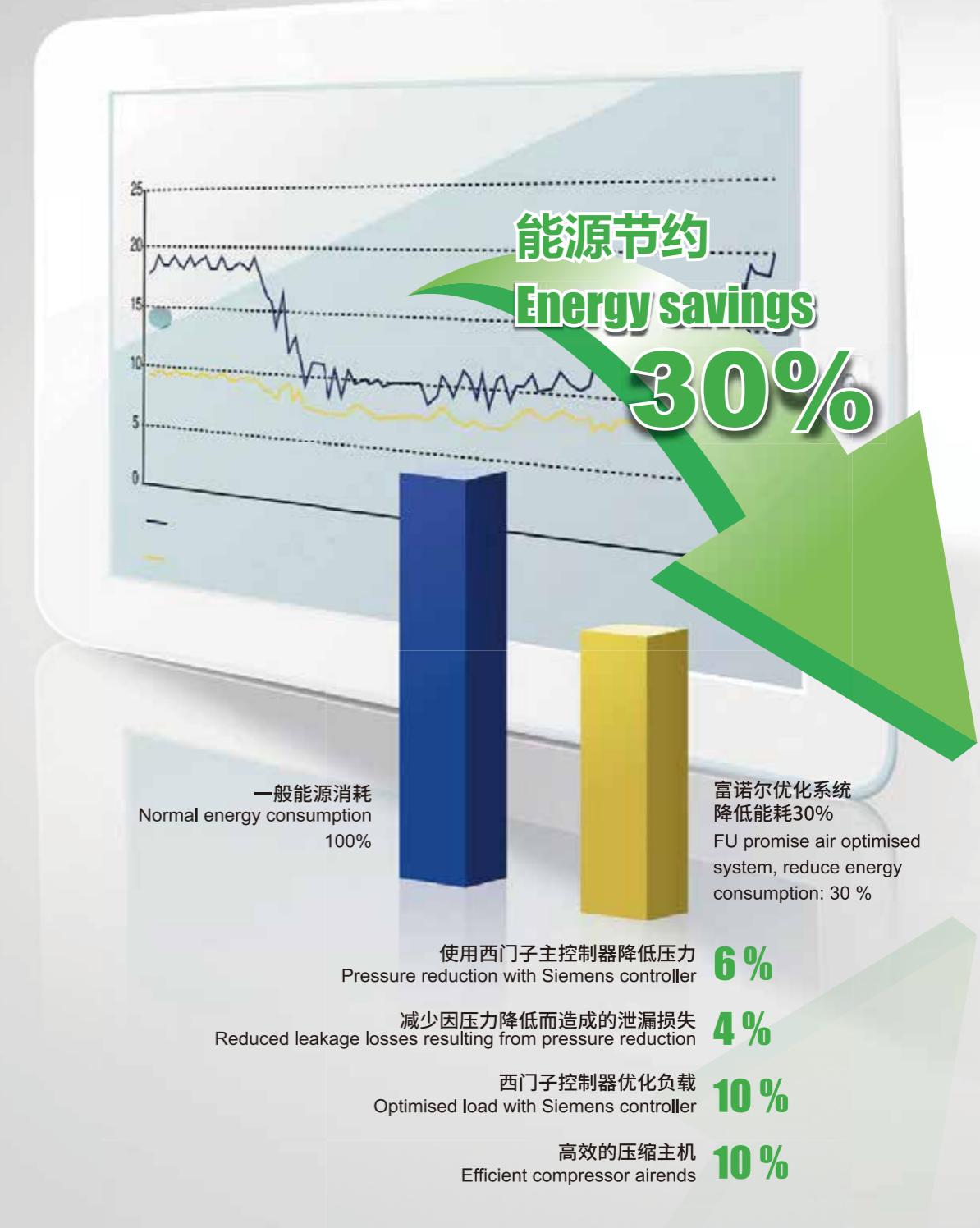
#### Save energy and money

压缩空气是当今生产和服务业最通用的能源之一。使用空气需求分析系统和富诺尔节能系统，富诺尔的专家能够规划和设计一个特别定制的系统，以满足所有的压缩空气需求，并将您的空气成本保持在绝对最低水平。

Compressed air is one of the most versatile sources of energy available for manufacture and service industry. Using FU promise Air Demand Analysis and the Energy Saving System, FU promise air's experts are able to plan and design a specially customized system to meet all compressed air demandings and keep you air cost at an absolute minimum level.



## 显著降低能耗 Significantly reduce energy costs



# Requirements Analysis

## 需求分析

现代压缩空气装置通常是高度复杂的系统。如果在系统规划，扩展和现代化的所有阶段都适当考虑了这一方面，他们就能在性能的最高峰上运行。富诺尔结合压缩空气组件，客户咨询和建议等熟悉的元素以及压缩空气工程信息技术为客户提供系统服务。

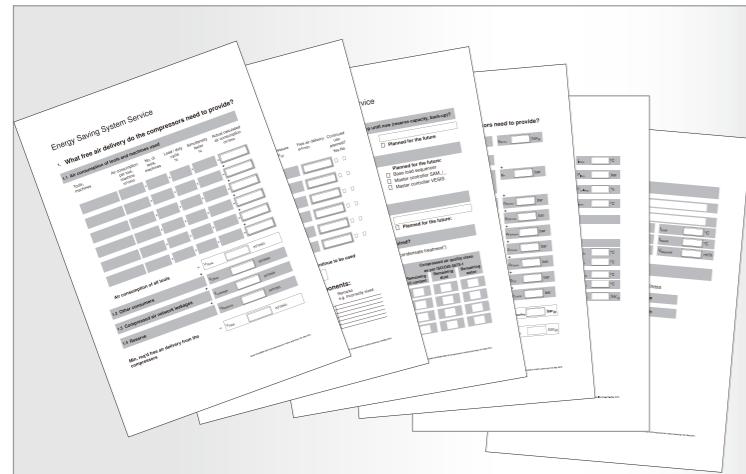
压缩空气的应用超出了人们的想象。但是，有效利用压缩空气的共同前提是空气本身的可靠生产和处理。空气系统必须能够经济有效地以需要的数量和质量产出。

换句话说：压缩机，空气处理设备和管道的工作必须正确选择，确定尺寸和控制。此外，必须有足够的通风和处理冷凝水的方法，如果可能的话，还应有一种回收压缩机产生的废热的方法。

Modern compressed air equipment is usually a highly complex system. It will run on peak performance if these factors are properly considered in all phases of system planning, expansion and modernization. FU promise air provides system service to customers by combining compressor units, customers' consultation and compressed air engineering & information technology.

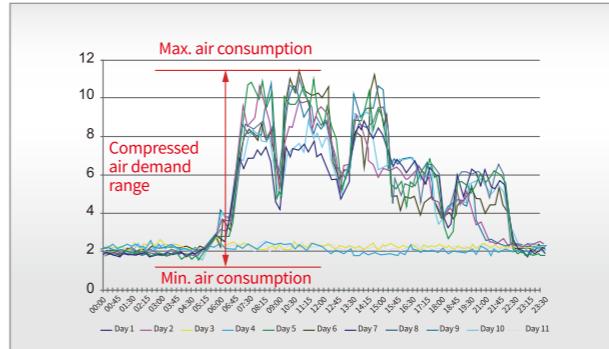
The applications of compressed air is beyond human's imagination. The same precondition of using compressed air efficiently, however, is reliable production and treatment of air itself. The air system must be able to produce economically and effectively under the required quality and quantity.

In other words, compressor, air-treatment machine and piping work must be properly selected with determined size and control. In addition, there must be sufficient ventilation and proper treatment of condensate, and if possible, a method to collect waste heat created by compressor.



## 与您共建节能压缩站

### The path to an energy-saving compressed air station



### 空气需求分析

#### Air Demand Analysis

计算机辅助的“气量需求分析”允许收集有关压缩空气系统性能的有意义和准确的数据。根据得到的空气消耗曲线，富诺尔节能系统可以帮助确定单个空气应用的最佳系统解决方案。

The computer-aided Air Demand Analysis System allows meaningful and accurate data to be gathered regarding compressed air system performance. Based on the resulting air consumption profiles, FU promise's Energy Saving System can then help determine the best system solution for the individual air application.

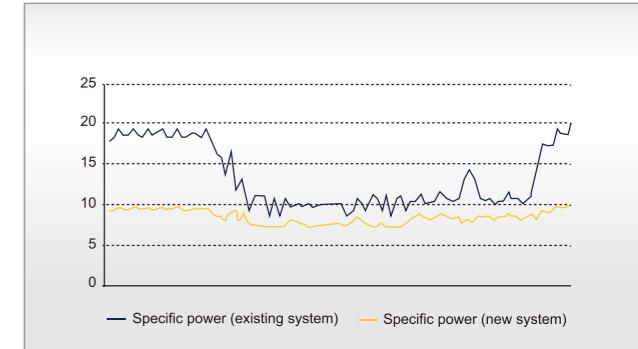


### 您的专属解决方案

#### A solution that meets your individual needs

根据空气需求分析系统的统计和富诺尔节能系统的评估，富诺尔的工程师根据具体情况决定压缩空气系统的类型和布局。让富诺尔设计一个单独的压缩空气系统，以满足您精确的压缩空气需求。

With the ADA air demand profile and the FESS evaluation in mind, FU promise's engineers decide on the type and layout of the compressed air system on a case-by-case basis. Let FU promise design a compressed air system that is individually suited to meet your exact compressed air needs.



### 富诺尔节能系统

#### FU promise Energy Saving System

富诺尔节能系统对采集的数据进行处理，以便设计和定制最先进的压缩空气系统，以满足客户的压缩空气需求。

FU promise air energy Saving System processes the data acquired by Air Demand Analysis System so that a state-of-the-art compressed air system can be designed and individually tailored to meet the customer's compressed air needs.



### 节能减耗

#### Reduce energy costs

电力可占压缩空气生产总成本的90%。尽管如此，许多压缩空气系统隐藏着30%或更多的节能潜力。这些节省可以通过优化压缩机工程技术和先进的基于PC的控制系统之间的相互作用来实现。

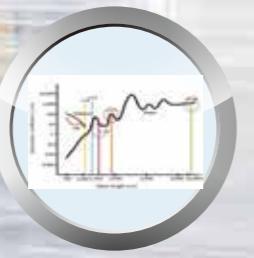
Electrical power can account for up to 90% of the total costs for compressed air production. Nevertheless, many compressed air systems hide a significant energy savings potential of 30 percent or more. These savings can be realised through optimised interplay between the compressor engineering technology and advanced, PC-based control systems.

# 全新空气压缩系统

New compressed air system



陈旧的空气压缩系统  
带来高昂的能源损耗  
Old compressed air system  
High energy consumption



新老空气压缩系统  
气量需求分析曲线对比  
Profil comparison  
Old compressed air system  
New compressed air system



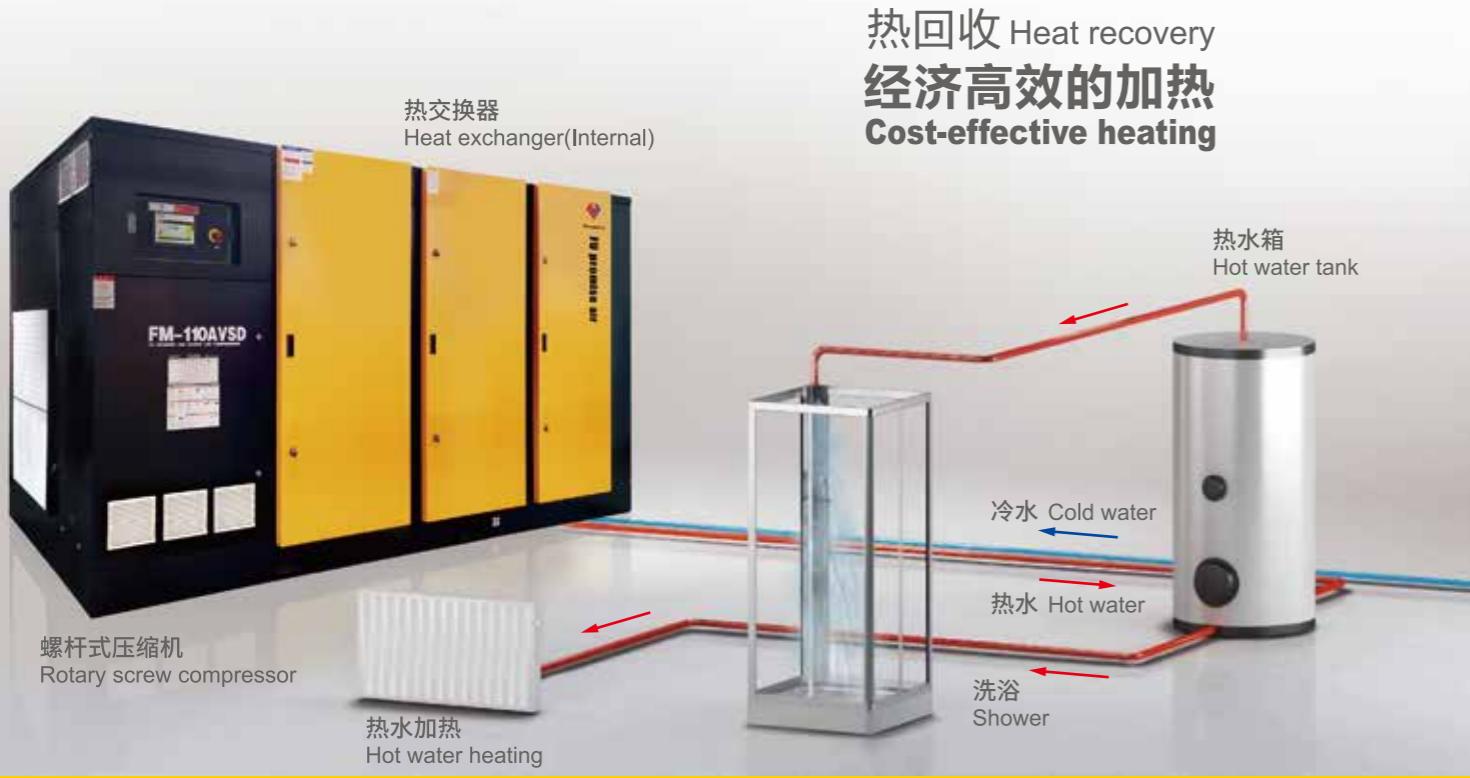
气量需求分析测量设备  
Measuring equipment



收集分析数据  
Analysis of gathered data

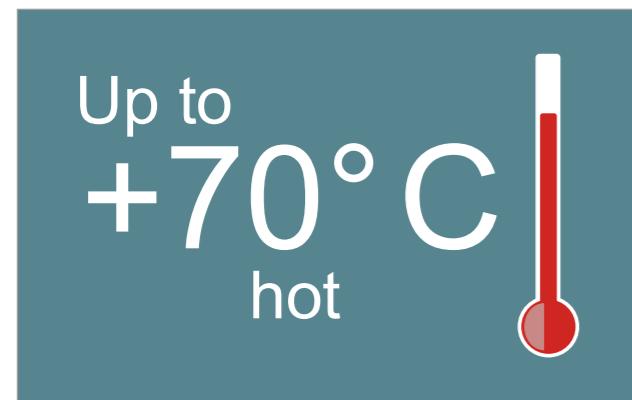


# 环 保 Environmental protection



## 单极参数 Unipolar compressor parameter

| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm    | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|-------------|-------------|----------|
| FL-7.5    | 1.33         | 6            | G3/4"        | 815*550*810 | 61          | 160      |
|           | 1.17         | 7            |              |             |             |          |
|           | 1.15         | 8            |              |             |             |          |
|           | 0.98         | 10           |              |             |             |          |
|           | 0.77         | 12.5         |              |             |             |          |
|           | 0.4-1.37     | 6            |              |             |             |          |
| FL-7.5AFC | 0.36-1.2     | 7            | G3/4"        | 815*550*810 | 61          | 160      |
|           | 0.35-1.18    | 8            |              |             |             |          |
|           | 0.30-1.01    | 10           |              |             |             |          |
|           | 0.24-0.79    | 12.5         |              |             |             |          |



## 工艺，供暖和服务用水 Process, heating and service water

通过热交换器系统，压缩机可重复利用的热量可产生高达70°C的热水。有关更高的温度要求，请联系富诺尔。

Hot water, up to 70 °C, can be produced from reusable compressor heat via heat exchanger systems. Please contact FU promise air regarding higher temperature requirements.

## 洁净的热水 Clean hot water

如果没有其他水回路互连，则专用的换热器可满足对被加热水的纯度的最高要求，例如食品工业中的清洁水。

If no other water circuit is interconnected, special fail-safe heat exchangers meet the highest demands for the purity of the water being warmed, as is the case with cleaning water in the food industry for example.

| 型号       | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm      | 噪音<br>d(BA) | 重量<br>kg |
|----------|--------------|--------------|--------------|---------------|-------------|----------|
| FL-11    | 1.92         | 6            | 1"           | 1225*740*1170 | 61          | 322      |
|          | 1.86         | 7            |              |               |             |          |
|          | 1.52         | 8            |              |               |             |          |
|          | 1.38         | 10           |              |               |             |          |
|          | 1.15         | 12.5         |              |               |             |          |
|          | 0.6-2        | 6            |              |               |             |          |
| FL-11AFC | 0.56-1.87    | 7            | 1"           | 1225*740*1170 | 61          | 322      |
|          | 0.48-1.6     | 8            |              |               |             |          |
|          | 0.41-1.38    | 10           |              |               |             |          |
|          | 0.35-1.3     | 12.5         |              |               |             |          |
|          | 2.4          | 6            |              |               |             |          |
|          | 2.39         | 7            |              |               |             |          |
| FL-15    | 2.3          | 8            | 1"           | 1225*740*1170 | 63          | 355      |
|          | 1.86         | 10           |              |               |             |          |
|          | 1.83         | 12.5         |              |               |             |          |
|          | 0.83-2.76    | 6            |              |               |             |          |
|          | 0.8-2.65     | 7            |              |               |             |          |
|          | 0.72-2.4     | 8            |              |               |             |          |
| FL-15AFC | 0.66-2.2     | 10           | 1"           | 1225*740*1170 | 63          | 355      |
|          | 0.54-1.8     | 12.5         |              |               |             |          |



| 型号       | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm      | 噪音<br>d(BA) | 重量<br>kg |
|----------|--------------|--------------|--------------|---------------|-------------|----------|
| FL-18    | 3.1          | 6            | 1-1/4"       | 1250*773*1200 | 63          | 458      |
|          | 2.92         | 7            |              |               |             |          |
|          | 2.91         | 8            |              |               |             |          |
|          | 2.6          | 10           |              |               |             |          |
|          | 2.3          | 12.5         |              |               |             |          |
| FL-18AFC | 0.94-3.28    | 6            | 1-1/4"       | 1250*773*1200 | 63          | 458      |
|          | 0.92-3.07    | 7            |              |               |             |          |
|          | 0.9-3        | 8            |              |               |             |          |
|          | 0.77-2.65    | 10           |              |               |             |          |
|          | 0.66-2.4     | 12.5         |              |               |             |          |
| FL-22    | 3.8          | 6            | 1-1/4"       | 1250*773*1200 | 63          | 540      |
|          | 3.6          | 7            |              |               |             |          |
|          | 3.55         | 8            |              |               |             |          |
|          | 3.2          | 10           |              |               |             |          |
|          | 2.85         | 12.5         |              |               |             |          |
| FL-22AFC | 1.32-4.4     | 6            | 1-1/4"       | 1250*773*1200 | 63          | 540      |
|          | 1.2-4.0      | 7            |              |               |             |          |
|          | 1.11-3.7     | 8            |              |               |             |          |
|          | 0.93-3.2     | 10           |              |               |             |          |
|          | 0.8-2.8      | 12.5         |              |               |             |          |



| 型号       | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm      | 噪音<br>d(BA) | 重量<br>kg |
|----------|--------------|--------------|--------------|---------------|-------------|----------|
| FL-30    | 5.5          | 6            | 1-1/4"       | 1630*890*1390 | 67          | 635      |
|          | 5.3          | 7            |              |               |             |          |
|          | 5.2          | 8            |              |               |             |          |
|          | 3.53         | 10           |              |               |             |          |
|          | 3.51         | 12.5         |              |               |             |          |
| FL-30AFC | 1.74-5.8     | 6            | 1-1/4"       | 1630*890*1390 | 67          | 635      |
|          | 1.57-5.24    | 7            |              |               |             |          |
|          | 1.53-5.1     | 8            |              |               |             |          |
|          | 1.2-4.4      | 10           |              |               |             |          |
|          | 1.02-4.0     | 12.5         |              |               |             |          |
| FL-37    | 7.02         | 6            | 1-1/4"       | 1630*890*1390 | 67          | 674      |
|          | 6.7          | 7            |              |               |             |          |
|          | 6.2          | 8            |              |               |             |          |
|          | 5.4          | 10           |              |               |             |          |
|          | 4.8          | 12.5         |              |               |             |          |
| FL-37AFC | 2.15-7.15    | 6            | 1-1/4"       | 1630*890*1390 | 67          | 690      |
|          | 1.98-6.8     | 7            |              |               |             |          |
|          | 1.83-6.3     | 8            |              |               |             |          |
|          | 1.65-5.5     | 10           |              |               |             |          |
|          | 1.47-4.9     | 12.5         |              |               |             |          |
| FL-45    | 8.1          | 6            | 1-1/4"       | 1630*890*1390 | 67          | 690      |
|          | 7.8          | 7            |              |               |             |          |
|          | 7.56         | 8            |              |               |             |          |
|          | 6.5          | 10           |              |               |             |          |
|          | 5.8          | 12.5         |              |               |             |          |
| FL-45AFC | 2.45-8.2     | 6            | 1-1/4"       | 1630*890*1390 | 67          | 690      |
|          | 2.44-8.12    | 7            |              |               |             |          |
|          | 2.25-7.5     | 8            |              |               |             |          |
|          | 1.95-6.5     | 10           |              |               |             |          |
|          | 1.75-5.87    | 12.5         |              |               |             |          |



| 型号       | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|----------|--------------|--------------|--------------|----------------|-------------|----------|
| FL-55    | 11.9         | 6            | 2"           | 1900*1040*1900 | 72          | 1535     |
|          | 10.5         | 7            |              |                |             |          |
|          | 9.8          | 8            |              |                |             |          |
|          | 8.9          | 10           |              |                |             |          |
|          | 7.7          | 12.5         |              |                |             |          |
| FL-55AFC | 10.04        | 6            | 2"           | 1900*1040*1900 | 72          | 1535     |
|          | 9.5          | 7            |              |                |             |          |
|          | 8.46         | 8            |              |                |             |          |
|          | 9.62         | 10           |              |                |             |          |
|          | 7.3          | 12.5         |              |                |             |          |

机箱号: 311



机箱号: 320

| 型号       | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|----------|--------------|--------------|--------------|----------------|-------------|----------|
| FL-75    | 14           | 6            | 2"           | 2200*1400*1850 | 75          | 1480     |
|          | 13.5         | 7            |              |                |             |          |
|          | 12.8         | 8            |              |                |             |          |
|          | 11.6         | 10           |              |                |             |          |
|          | 10.5         | 12.5         |              |                |             |          |
| FL-75AFC | 4.35-14.5    | 6            | 2"           | 2200*1400*1850 | 75          | 1540     |
|          | 4.2-14       | 7            |              |                |             |          |
|          | 3.75-13      | 8            |              |                |             |          |
|          | 3.3-11.8     | 10           |              |                |             |          |
|          | 2.88-10.8    | 12.5         |              |                |             |          |
| FL-90    | 17.2         | 6            | 2"           | 2200*1400*1850 | 75          | 1490     |
|          | 17           | 7            |              |                |             |          |
|          | 16.8         | 8            |              |                |             |          |
|          | 14.6         | 10           |              |                |             |          |
|          | 12.2         | 12.5         |              |                |             |          |
| FL-90AFC | 5.28-17.6    | 6            | 2"           | 2200*1400*1850 | 75          | 1650     |
|          | 5.1-17       | 7            |              |                |             |          |
|          | 5.07-16.9    | 8            |              |                |             |          |
|          | 4.44-14.8    | 10           |              |                |             |          |
|          | 3.78-12.6    | 12.5         |              |                |             |          |



| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|----------------|-------------|----------|
| FL-110    | 19.68        | 6            | DN80         | 2780*1670*1850 | 78          | 2410     |
|           | 19.58        | 7            |              |                |             |          |
|           | 19.47        | 8            |              |                |             |          |
|           | 14.69        | 10           |              |                |             |          |
|           | 14.56        | 12.5         |              |                |             |          |
| FL-110AFC | 4.35-14.5    | 6            | DN80         | 2780*1670*1850 | 78          | 2410     |
|           | 10.17-22.6   | 7            |              |                |             |          |
|           | 9.00-20.0    | 8            |              |                |             |          |
|           | 8.55-19.0    | 10           |              |                |             |          |
|           | 6.89-15.3    | 12.5         |              |                |             |          |
| FL-132    | 24.8         | 6            | DN80         | 2780*1670*1850 | 78          | 2410     |
|           | 24.7         | 7            |              |                |             |          |
|           | 22.15        | 8            |              |                |             |          |
|           | 19.23        | 10           |              |                |             |          |
|           | 18.86        | 12.5         |              |                |             |          |
| FL-132AFC | 7.56-25.2    | 6            | DN80         | 2780*1670*1850 | 78          | 2410     |
|           | 7.41-24.7    | 7            |              |                |             |          |
|           | 6.65-22.15   | 8            |              |                |             |          |
|           | 6.17-20.56   | 10           |              |                |             |          |
|           | 5.64-18.8    | 12.5         |              |                |             |          |
| FL-160    | 30.2         | 6            | DN80         | 2780*1670*1850 | 78          | 3220     |
|           | 30           | 7            |              |                |             |          |
|           | 27.1         | 8            |              |                |             |          |
|           | 23.6         | 10           |              |                |             |          |
|           | 20           | 12.5         |              |                |             |          |
| FL-160AFC | 9.08-30.26   | 6            | DN80         | 2780*1670*1850 | 78          | 3220     |
|           | 9.05-30.15   | 7            |              |                |             |          |
|           | 7.89-27.5    | 8            |              |                |             |          |
|           | 7.2-24.3     | 10           |              |                |             |          |
|           | 6.06-20.2    | 12.5         |              |                |             |          |
| FL-185    | 30.26        | 6            | DN80         | 2780*1670*1850 | 78          | 3480     |
|           | 31.6         | 7            |              |                |             |          |
|           | 30.1         | 8            |              |                |             |          |
|           | 29.9         | 10           |              |                |             |          |
|           | 24.15        | 12.5         |              |                |             |          |
| FL-185AFC | 10.08-33.6   | 6            | DN80         | 2780*1670*1850 | 78          | 3720     |
|           | 9.6-34.5     | 7            |              |                |             |          |
|           | 9.3-33.1     | 8            |              |                |             |          |
|           | 7.8-30.3     | 10           |              |                |             |          |
|           | 7.44-25.56   | 12.5         |              |                |             |          |



机箱号: 312

| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|----------------|-------------|----------|
| FL-200    | 38.3         | 7            | DN100        | 4600*2100*2270 | 85          | 4130     |
|           | 35.7         | 8            |              |                |             |          |
|           | 32           | 10           |              |                |             |          |
|           | 28.3         | 12.5         |              |                |             |          |
| FL-200AFC | 10.9-38.3    | 7            | DN100        | 4600*2100*2270 | 85          | 4450     |
|           | 10.23-35.7   | 8            |              |                |             |          |
|           | 9.24-32      | 10           |              |                |             |          |
|           | 8.09-28.3    | 12.5         |              |                |             |          |
| FL-250    | 44           | 6            | DN100        | 4600*2100*2270 | 85          | 5020     |
|           | 44           | 7            |              |                |             |          |
|           | 41           | 8            |              |                |             |          |
|           | 37.4         | 10           |              |                |             |          |
| FL-250AFC | 33.5         | 12.5         | DN100        | 4600*2100*2270 | 85          | 5340     |
|           | 17.5-50.1    | 6            |              |                |             |          |
|           | 17.5-50.1    | 7            |              |                |             |          |
|           | 16.8-48.1    | 8            |              |                |             |          |
| FL-315    | 15.1-43.29   | 10           | DN100        | 4600*2100*2400 | 85          | 8160     |
|           | 13.1-37.5    | 12.5         |              |                |             |          |



机箱号: 313

| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|----------------|-------------|----------|
| FL-315    | 60.3         | 6            | DN150        | 4600*2100*2400 | 85          | 8160     |
|           | 59.5         | 7            |              |                |             |          |
|           | 58.1         | 8            |              |                |             |          |
|           | 52.29        | 10           |              |                |             |          |
| FL-315AFC | 45.2         | 12.5         | DN150        | 4600*2100*2400 | 85          | 10200    |
|           | 31.43-69.86  | 6            |              |                |             |          |
|           | 30.1-66.86   | 7            |              |                |             |          |
|           | 28.44-63.2   | 8            |              |                |             |          |
| FL-355    | 50.73-57     | 10           | DN150        | 4600*2100*2400 | 85          | 10200    |
|           | 22.95-51     | 12.5         |              |                |             |          |
|           | 69.86        | 6            |              |                |             |          |
|           | 66.86        | 7            |              |                |             |          |
| FL-355AFC | 63.2         | 8            | DN150        | 4600*2100*2400 | 85          | 10200    |
|           | 57           | 10           |              |                |             |          |
|           | 51           | 12.5         |              |                |             |          |
|           | 31.43-69.86  | 6            |              |                |             |          |
| FL-355AFC | 31.43-69.86  | 7            | DN150        | 4600*2100*2400 | 85          | 10200    |
|           | 28.445-63.2  | 8            |              |                |             |          |
|           | 50.73-57     | 10           |              |                |             |          |
|           | 22.95-51     | 12.5         |              |                |             |          |

## 双极参数 Dual stage compressor parameters

机箱号: 317

| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm      | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|---------------|-------------|----------|
| FM-18A    | 6            | 6            | DN150        | 1250*773*1200 | 85          | 249      |
|           | 5.62         | 8            |              |               |             |          |
| FM-18AVSD | 5.59         | 9.5          | DN150        | 1250*773*1200 | 85          | 249      |
|           | 6            | 6            |              |               |             |          |
| FM-22A    | 5.62         | 8            | DN150        | 1250*773*1200 | 85          | 249      |
|           | 5.59         | 9.5          |              |               |             |          |
| FM-22AVSD | 6            | 6            | DN150        | 1250*773*1200 | 85          | 249      |
|           | 5.62         | 8            |              |               |             |          |
| FM-22AVSD | 5.59         | 9.5          |              |               |             |          |



| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm      | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|---------------|-------------|----------|
| FM-30A    | 6            | 6            | G1-1/4"      | 1630*890*1390 | 69          | 500      |
|           | 5.62         | 8            |              |               |             |          |
|           | 5.59         | 10           |              |               |             |          |
|           | /            | 12.5         |              |               |             |          |
| FM-30AVSD | 2.4-6        | 6            | G1-1/4"      | 1630*890*1390 | 69          | 500      |
|           | 2.25-5.62    | 8            |              |               |             |          |
|           | 2.24-5.59    | 10           |              |               |             |          |
|           | /            | 12.5         |              |               |             |          |
| FM-37A    | 7.67         | 6            | G1-1/4"      | 1630*890*1390 | 69          | 500      |
|           | 6.84         | 8            |              |               |             |          |
|           | 6            | 10           |              |               |             |          |
|           | /            | 12.5         |              |               |             |          |
| FM-30AVSD | 3.07-7.67    | 6            | G1-1/4"      | 1630*890*1390 | 69          | 500      |
|           | 2.74-6.84    | 8            |              |               |             |          |
|           | 2.4-6        | 10           |              |               |             |          |
|           | /            | 12.5         |              |               |             |          |

| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|----------------|-------------|----------|
| FM-55A    | 11.41        | 6            | 2"           | 2200*1400*1850 | 69          | 2350     |
|           | 11.3         | 8            |              |                |             |          |
|           | 11.26        | 10           |              |                |             |          |
|           | /            | 12.5         |              |                |             |          |
| FM-55AVSD | 4.56-11.41   | 6            | 2"           | 2200*1400*1850 | 69          | 2350     |
|           | 4.52-11.3    | 8            |              |                |             |          |
|           | 4.5-11.26    | 10           |              |                |             |          |
|           | /            | 12.5         |              |                |             |          |
| FM-75A    | 15.62        | 6            | 2"           | 2200*1400*1850 | 69          | 2350     |
|           | 15.47        | 8            |              |                |             |          |
|           | 15.2         | 10           |              |                |             |          |
|           | 11.9         | 12.5         |              |                |             |          |
| FM-75AVSD | 6.25-15.62   | 6            | 2"           | 2200*1400*1850 | 69          | 2405     |
|           | 6.19-15.47   | 8            |              |                |             |          |
|           | 6.08-15.2    | 10           |              |                |             |          |
|           | 4.76-11.9    | 12.5         |              |                |             |          |



| 型号        | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|-----------|--------------|--------------|--------------|----------------|-------------|----------|
| FM-45A    | 9.5          | 6            | 2"           | 1900*1040*1695 | 69          | 771      |
|           | 8.25         | 8            |              |                |             |          |
|           | 7.45         | 10           |              |                |             |          |
|           | 6.65         | 12.5         |              |                |             |          |
| FM-45AVSD | 3.8-9.5      | 6            | 2"           | 1900*1040*1695 | 69          | 771      |
|           | 3.3-8.25     | 8            |              |                |             |          |
|           | 2.98-7.45    | 10           |              |                |             |          |
|           | 2.66-6.65    | 12.5         |              |                |             |          |



| 型号         | 流量<br>m³/min | 压力<br>Bar(g) | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|------------|--------------|--------------|--------------|----------------|-------------|----------|
| FM-90A     | 19.23        | 6            | 100          | 2780*1670*1850 | 73          | 2470     |
|            | 19.13        | 8            |              |                |             |          |
|            | -            | 9.5          |              |                |             |          |
|            | 14.97        | 12.5         |              |                |             |          |
| FM-90AVSD  | 7.7-19.23    | 6            | 100          | 2780*1670*1850 | 73          | 2570     |
|            | 7.65-19.13   | 8            |              |                |             |          |
|            | -            | 9.5          |              |                |             |          |
|            | 6-14.97      | 12.5         |              |                |             |          |
| FM-110A    | 24           | 6            | 100          | 2780*1670*1850 | 73          | 3000     |
|            | 22           | 8            |              |                |             |          |
|            | 21.1         | 9.5          |              |                |             |          |
|            | 19           | 12.5         |              |                |             |          |
| FM-110AVSD | 7.2-24       | 6            | 100          | 2780*1670*1850 | 73          | 3100     |
|            | 8.8-22       | 8            |              |                |             |          |
|            | 8.44-21.1    | 9.5          |              |                |             |          |
|            | 7.6-19       | 12.5         |              |                |             |          |
| FM-132A    | 27           | 6            | 100          | 2780*1670*1850 | 73          | 3200     |
|            | 24.8         | 8            |              |                |             |          |
|            | 22.7         | 9.5          |              |                |             |          |
|            | 21           | 12.5         |              |                |             |          |
| FM-132AVSD | 10.8-27      | 6            | 100          | 2780*1670*1850 | 73          | 3300     |
|            | 10-24.8      | 8            |              |                |             |          |
|            | 8.8-22.7     | 9.5          |              |                |             |          |
|            | 8.4-21       | 12.5         |              |                |             |          |
| FM-160A    | 35           | 6            | 100          | 2780*1670*1850 | 73          | 3300     |
|            | 31.9         | 8            |              |                |             |          |
|            | 27           | 9.5          |              |                |             |          |
|            | 24           | 12.5         |              |                |             |          |
| FM-160AVSD | 14-35        | 6            | 100          | 2780*1670*1850 | 73          | 3400     |
|            | 12.76-31.9   | 8            |              |                |             |          |
|            | 10.8-27      | 9.5          |              |                |             |          |
|            | 9.6-24       | 12.5         |              |                |             |          |



| 型号         | 流量<br>m³/min                                | 压力<br>Bar(g)         | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|------------|---|----------------------|--------------|----------------|-------------|----------|
| FM-185A    | 41<br>35<br>31.9<br>26.9                    | 6<br>8<br>10<br>12.5 | 100          | 4200*1950*2100 | 86          | 6800     |
| FM-185AVSD | 16.4-41<br>14-35<br>12.75-31.9<br>10.8-26.9 | 6<br>8<br>10<br>12.5 | 100          | 4200*1950*2100 | 86          | 6900     |
| FM-200A    | 45<br>40.5<br>34.9<br>31.7                  | 6<br>8<br>10<br>12.5 | 100          | 4200*1950*2100 | 88          | 6840     |
| FM-200AVSD | 18-45<br>16.2-40.5<br>14-34.9<br>12.4-31.7  | 6<br>8<br>10<br>12.5 | 100          | 4200*1950*2100 | 88          | 6940     |



| 型号         | 流量<br>m³/min   | 压力<br>Bar(g)                                 | 排气接口<br>BSPT | 尺寸<br>mm         | 噪音<br>d(BA) | 重量<br>kg |
|------------|--|--|--------------|------------------|-------------|----------|
| FM-220A    | 50.84<br>45.46<br>40.2<br>35.5   | 6<br>8<br>10<br>12.5                         | 125          | 4679.5*2100*2270 | 86          | 6950     |
| FM-220AVSD | 20.3-50.84<br>18.2-45.46<br>16-40.2<br>14.2-35.5<br>55<br>50.9<br>44.8<br>40.9 | 6<br>8<br>10<br>12.5<br>6<br>8<br>10<br>12.5 | 125          | 4679.5*2100*2270 | 86          | 7150     |
| FM-250A    | 22-55<br>20.36-50.9<br>18-44.8<br>16.12-40.3                                   | 6<br>8<br>10<br>12.5                         | 125          | 4679.5*2100*2270 | 88          | 7100     |
| FM-250AVSD | 50.9<br>44.8<br>40.9<br>22-55<br>20.36-50.9<br>18-44.8<br>16.12-40.3           | 8<br>10<br>12.5                              | 125          | 4679.5*2100*2270 | 88          | 7200     |

| 型号         | 流量<br>m³/min                          | 压力<br>Bar(g)               | 排气接口<br>BSPT | 尺寸<br>mm       | 噪音<br>d(BA) | 重量<br>kg |
|------------|---------------------------------------|----------------------------|--------------|----------------|-------------|----------|
| FM-315A    | 63<br>62.1<br>54<br>49                | 6<br>8<br>9.5<br>12.5      | 125          | 4820*2300*2580 | 88          | 10200    |
| FM-315AVSD | 25.2-63<br>24.8-62.1<br>21.6-54<br>49 | 6<br>8<br>9.5<br>19.6-12.5 | 125          | 4820*2300*2580 | 88          | 10500    |