TB SERIES 2026.08

微信公众号
WeChat public account

官方网站
Website

服务热线：400-080-2622
Service hotline

www.cn-tanabe.com

喷油螺杆空压机
Oil-Injected Screw Compressor



TA系列螺杆式空压机
TA Series Screw Air Compressor
7.5~850kW



至美系列螺杆式空压机
Tech Master Series Screw Air Compressor
7.5~75kW



激光切割机专用空压机
Laser Cutting Air Compressor
11~37kW

无油空压机
Oil-Free Compressor



TN系列干式无油螺杆空压机
TN Series Dry Oil-Free Screw Air Compressor
37~630kW



TH系列离心式空压机
TH Series Centrifugal Air Compressor
100~15000kW



TW系列水润滑无油空压机
TW Series Water-Lubricated Air Compressor
11~470kW



TC系列磁悬浮空压机
TC Series Maglev Air Compressor
75~400kW

真空泵
Vacuum Pump



TB系列微油螺杆真空泵
TB Series Oil-Injected Screw Vacuum Pump
5.5~110kW



TBV系列旋片真空泵
TBV Series Rotary Vane Vacuum Pump
0.75~7.5kW



TBD系列无油真空泵
TBD Series Oil-Free Vacuum Pump
1.5~75kW

定制产品
Customized Products



二氧化碳专用压缩机
CO_2 Compressor



无油氮气增压机
Dry Oil-free N_2 Booster



干式无油空气增压机
Dry Oil-free Air Booster



TS系列中高压螺杆增压机
TS Series Medium/High Pressure Booster

运营中心
Operations Center

深圳田边精机有限公司
SHENZHEN TECBELL PRECISION MACHINERY CO.,LTD

地址：深圳市宝安区新桥街道中心路 102 号时代中心 A 座 12 层
Address: 12th Floor, Tower A, Times Center Building, No.102 Central Road, Xinqiao Street, Bao'an District, Shenzhen

制造中心
Manufacturing Center

田边（福建）智能装备有限公司
TECBELL (FUJIAN) INTELLIGENT EQUIPMENT CO.,LTD

地址：福建省武平县武平工业园区环城南路98号
Address: No.98, Huancheng South Road, Wuping Industrial Park, Wuping County, Fujian Province

田边精機 TECBELL



TB系列 TB SERIES

微油螺杆真空泵
Micro-Oil Screw Vacuum Pump

关于我们 ABOUT US

田边精机于2006年3月在深圳前海创立，并于2007年相继注册运营“田边”“TECBELL”品牌。公司立足国际化视野，是集空气压缩机系统及真空负压系统产品研发、制造、销售、服务为一体的大型国际化公司。

Tecbell Precision Machinery was founded in March 2006 in Qianhai, Shenzhen. In 2007, the company officially registered and launched the “TECBELL” brands. With a global perspective, Tecbell has developed into a large-scale international enterprise integrating R&D, manufacturing, sales, and service of compressed air systems and vacuum systems.

企业产品 Enterprise Products

田边精机产品线涵盖永磁变频单双级螺杆式空压机、干式无油螺杆空压机、离心式空压机、水润滑无油空压机、螺杆真空泵、旋片真空泵、无油真空泵、磁悬浮空压机、磁悬浮鼓风机、激光切割机专用空压机、中高压螺杆增压机等系列节能产品。

Tecbell offers a comprehensive portfolio of energy-efficient solutions, covering permanent magnet variable frequency screw air compressors (single-stage and two-stage), oil-free and centrifugal compressors, advanced vacuum systems, and magnetic levitation (maglev) compressors and blowers. Our products also include specialized solutions for laser cutting applications, as well as medium- and high-pressure screw booster compressors.

生产基地 Production Base

田边精机在福建武平县兴建生产基地，成立田边(福建)智能装备有限公司，集自主研发、制造、销售、服务为一体;为进一步满足市场需求，田边再次投资建造一座占地面积40000㎡的现代化压缩机制造中心。

Tecbell is establishing a production base in Wuping County, Fujian Province, through the newly founded Tecbell (Fujian) Intelligent Equipment Co., Ltd. This integrated facility encompasses independent R&D, manufacturing, sales, and after-sale service. To further meet market demands, Tecbell is investing in construction of a modern compressor manufacturing center covering over 40,000 square meters.



2006
成立
Established

40000㎡
现代化压缩机制造中心
Modern Compressor Manufacturing Center

20+
国内办事处
Domestic Offices Across China

100+国家 countries
核心业务遍布全球
Core Business Presence in Worldwide

技术创新核心
Technological Innovation Core

创新无油泵设计
Oil pump-free innovation

田边自主研发设计的真空泵主机技术，主机靠负压自润滑；无需单独油泵强制喷油，没有油泵能耗和故障风险。

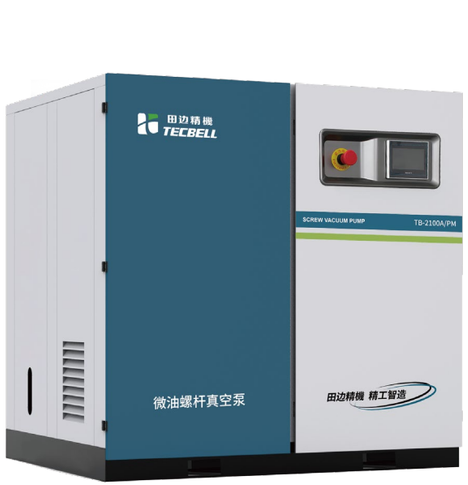
Independently developed and deigned vacuum pump core by Tecbell, featuring a self-lubricating mechanism driven by negative pressure.

No separate oil pump for forced injection, eliminating both the energy consumption and failure risk associated with oil pumps.

恒压控制
Constant pressure control

田边创新设计的永磁变频智能控制系统技术搭配进气阀容调功能，任意工况始终处于最佳性能，压力更平稳；在所有运行压力下都能保持超高的控油雾能力，减少对环境的影响。

Tecbell's innovative permanent magnet variable frequency intelligent control system, combined with an intake valve modulation function, ensures optimal performance under all working conditions with more stable pressure. It also maintains excellent oil mist control across all operating pressures, reducing environmental impact.





更高的稳定性
Higher stability

田边创新设计的补气系统技术，真空泵在高真空度下气量衰减更小，运行更稳定。

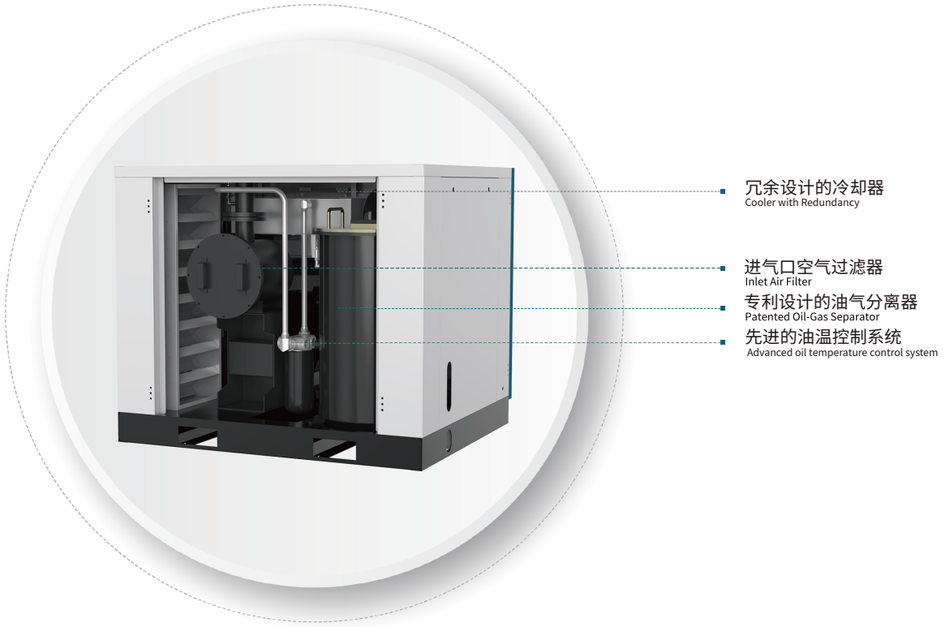
Tecbell's innovative aeration system design enables lower gas attenuation and more stable operation at high vacuum levels.

超低生命周期成本
Ultra-low life cycle cost

田边创新设计的定点控制技术，基于工艺真空水平优化能源使用状态；按照实际所需的真空水平或速度，真空泵提供恰好满足需求的气量，不会产生任何浪费，为客户提供一个超低的生命周期成本。

Tecbell's innovative point control technology optimizes energy usage based on process vacuum levels. According to the actual vacuum level or speed required, the vacuum pump supplies just the right amount of gas to meet demand without any waste, delivering ultra-low life cycle costs for customers.





01 真空泵主机
Vacuum pump airend

●TB系列油润滑螺杆真空泵，采用TECBELL主机研发设计的真空泵主机，靠负压自润滑，低能耗、低故障率。

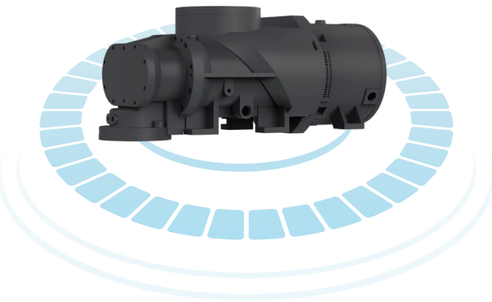
●The TB series oil-lubricated screw vacuum pump is developed and designed by Tecbell. It features self-lubrication via negative pressure, low energy consumption, and a low failure rate.

●大主机设计，配置SKF重载轴承，性能稳定，噪音更低，超一流的可靠性和使用寿命。

● Featuring a large main engine design and equipped with SKF heavy-duty bearings, the unit delivers stable performance, reduced noise, and superior reliability and service life.

● 采用田边最新一代"Y"转子型线，可获得较宽的流量范围。

● Tecbell's latest generation "Y" rotor profile allows for a wide flow range.





02 油气分离器
Oil separator

●专利设计的油气分离器，提高了设备的油气保持能力，不会造成过多压降；超强的油气分离性能，确保真空泵清洁高效。

●The patented oil separator design improves oil and gas retention capacity without causing excessive pressure drop. Its excellent separation performance ensures the vacuum pump operates cleanly and efficiently.

●专利设计的油气分离器，提高了油气分离器油凝聚效率以及超低背压，确保真空泵在使用生命周期内不会出现过滤介质过载。

●The patented oil separator improves oil coalescence efficiency and maintains ultra-low back pressure, ensuring the vacuum pump is not overloaded with filter media throughout its service life.

●采用多油分芯结构，摒弃传统单油分芯体积笨重的缺点，油分芯更换维护更加方便快捷。

● The multi-oil-separator-element design eliminates the bulkiness of traditional single-element separators, allowing for quicker and easier replacement and maintenance.

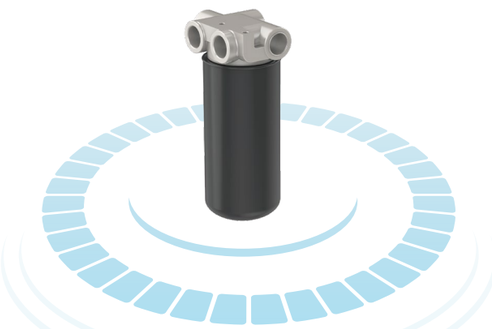
03 先进的油温控制系统
Advanced oil temperature control system

●田边定制设计的温控阀，内部感温，自适应调节，精准控制润滑油油温。

●Tecbell's custom-designed temperature control valve features internal sensing and adaptive adjustment to precisely control the lubricating oil temperature.

●精准的油温控制，通过减少或消除润滑油中的冷凝水，使润滑油的质量保持在良好状态。

●Precise oil temperature control keeps the quality of the lubricant in good condition by reducing or eliminating condensate in the lubricant.



高性能变频器
High-Performance Inverter

变频控制，能耗下降更显著
Variable frequency control, greater energy savings.

田边定制的高性能变频器与创新设计的永磁电机技术相结合的变频控制系统，机组节能效果显著，这使得真空泵的生命周期总成本大幅降低。

The variable frequency control system, combining Tecbell's custom high-performance inverter with an innovatively designed permanent magnet motor technology, achieves significant energy savings for the unit, resulting in a substantial reduction in the vacuum pump's total life cycle cost.

更稳定
More Stable Operation

高性能重载型变频器，电流等级高，变频器容量大，相比轻载变频器温升小。采用矢量控制技术，保证电机温升小，在较宽的转速范围内可获得合适的转矩，驱动真空泵稳定运行。

A high - performance heavy - duty inverter features a high current rating and large inverter capacity, resulting in a lower temperature rise compared to light - duty inverters. Vector control technology is adopted to ensure a minimal motor temperature rise and obtain the appropriate torque within a wide speed range, enabling stable operation of the vacuum pumps.



更节能
Higher Energy Efficiency

无频繁启动和停机，无频繁加载和卸载，排气压力恒定，压力波动可稳定在±0.01MPa以内，有效提高气源质量，减少气量消耗，优化能效，降低能耗约30%～50%。

No frequent start - stops or load variations, constant exhaust pressure, with pressure fluctuations maintained within ±0.01 MPa. Effectively improves the gas source quality, reduces gas consumption, optimizes energy efficiency, and cuts energy consumption by approximately 30% - 50%.

内置电机节能算法，在运行中实时调节以尽可能降低输出电流，助力设备低碳增效。

Equipped with a built - in motor energy - saving algorithm, it adjusts in real - time during operation to minimize the output current, facilitating low - carbon and high - efficiency operation of the equipment.

更长寿
Longer Service Life

变频启动，无需星三角配置，对电网的电流冲击小，也不需要额外配置其他软启动器，运行更可靠，寿命更长。

Variable - frequency start - up eliminates the need for star - delta configuration, causes minimal current impact on the power grid, and negates the requirement for additional soft starters. Offers more reliable operation and an extended service life.

智能变频控制系统
Intelligent Frequency Conversion Control System

多功能触摸屏
Multifunctional Touchscreen

全彩触控显示屏，丰富的控制功能界面，智能控制，动态显示真空泵的运行状态，实时直观的压力、温度和电流工作曲线，各项参数/记录直观明了。可选配物联网模块，随时随地，掌握真空泵维保情况，远程监控机器运行情况；随时随刻，调配生产运营，数据采集，用于节能管理。

Full-color touchscreen display with a rich control interface, intelligent control, and dynamic visualization of the vacuum pump's operating status. Real-time, intuitive working curves for pressure, temperature, and current are provided, along with clear and straightforward parameters and records. An optional IoT module enables access to vacuum pump maintenance and remote monitoring of machine operation anytime, anywhere. It also allows for production and operation management at any moment, as well as data collection for energy-saving analysis.



<接通电源后默认界面>
<Default Interface After Power-On>



用户参数设置
User Parameter Settings



运行状况监控
Operating Status Monitoring



预警保护
Early Warming Protection



维护保养计划
Maintenance Plan



定时自动开关机
Timed Auto Start/Stop



报警记录查询
Alarm Record Query

多重附加功能
Multiple Additional Functions

- 反相保护功能 Reverse Phase Protection
- 排气超温/超压保护 Exhaust Over-Temperature/Over-Pessure Protection
- 过载保护 Overload Protection
- 维护报警功能 Maintenance Alarm Function
- 智能运行负荷调节 Intelligent Operation Load
- 电机过热保护 Motor Overheat Protection
- 压力和温度PID调节 P&T PID Regulation
- 电机节能算法 Energy Saving Algorithm for Motors
- 上电对地短路 Ground Fault On Power-Up

永磁变频同步电机
Variable-Speed Synchronous Motor



- TB全系列采用高效率永磁变频同步电机，电机效率高达97.8%，超1级能效标准(GB 30253-2024)。
  High-efficiency permanent magnet variable frequency synchronous motor, the motor efficiency up to 97.8%, exceeding Level 1 energy efficiency standard (GB 30253-2024).

- 采用高矫顽力、耐高温38UH永磁体，保障180°C高温不退磁。
  It adopts high coercivity and high temperature resistant 38UH permanent magnets to ensure no demagnetization at high temperatures of 180° C.

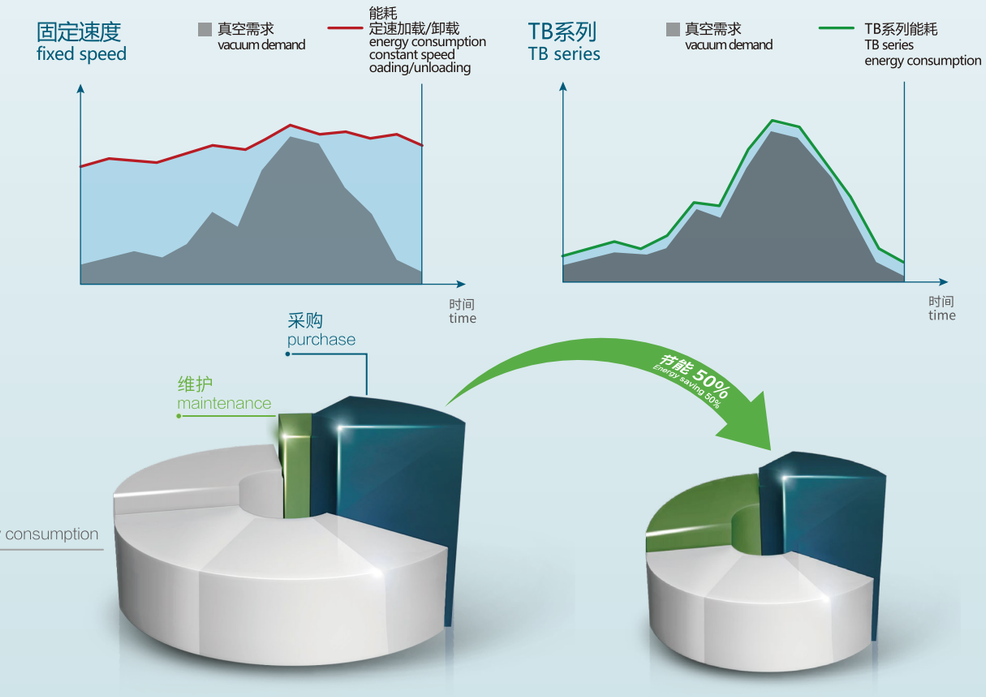
- 全新轴承结构，运行稳定可靠、振动小、噪声低，大幅提高电机的使用寿命。
  The new bearing structure provides stable and reliable operation, small vibration and low noise, which greatly improves the service life of the motor.

- 加大基座号设计，超低温升，确保电机在极端的环境下长时间低转速安全运转；加粗的驱动轴，提高扭转强度。
  The enlarged base design and ultra-low temperature rise ensure that the motor can operate safely at low speed for a long time in extreme environments; the thickened drive shaft improves torsional strength.

- F级绝缘等级，B级温升设计，适应高温工况。
  Class F insulation, Class B temperature rise design, suitable for high temperature working conditions.

平均节能50%的变频技术
Frequency conversion technology with an average energy saving of 50%

在几乎所有的生产环境中，生产工艺随着时间的变化，真空需求并不是一成不变，通常都会在一段时间后产生波动。多个数据和气量图表的研究表明，真空需求会有许多实质性的变化。
田边精机多项核心技术创新加持，真空泵在广泛的气量范围内(25-100%)平均节能50%。
In almost all production environments, the production process changes over time and the vacuum demand is not fixed, usually fluctuating after a period of time. Research on multiple data and gas volume charts indicates that there will be many substantial changes in vacuum demand.
The Vacuum pump saves energy by 50% on average in a wide range of gas volume (25-100%) with the support of many core technology innovations of Tecbell.



与其它技术相比，TB系列是油润滑螺杆真空泵的能效标杆，该系列真空泵的能耗大概能节约50%。
油封旋片泵和定频油润滑螺杆泵等设备机械效率低，投资支出成本高。

Compared to other technologies, the TB series is the benchmark for energy efficiency of oil-lubricated screw vacuum pumps, which can save energy consumption by approximately 50%.

The equipment such as oil-sealed rotary vane pump and fixed frequency oil-lubricated screw pump has low mechanical efficiency and high investment cost.

永磁变频螺杆真空泵参数表
Screw vacuum pump parameter table

型号 Model	额定功率 Rated power (kW)	极限真空 Ultimate vacuum mbar(a)	抽气量 Pump capacity m^3/h	外形尺寸 Overall dimensions L×W×H mm	进口尺寸 Inlet size	出口尺寸 Outlet size	重量 Weight kg
TB-450A/PM	5.5	0.4	450	1200×1250×1060	DN65	DN65	750
TB-580A/PM	7.5	0.4	580	1200×1250×1060	DN65	DN65	760
TB-770A/PM	11	0.4	770	1500×1270×1270	DN80	DN65	1050
TB-900A/PM	15	0.4	900	1500×1270×1270	DN80	DN65	1100
TB-1100A/PM	18.5	0.4	1100	1600×1550×1425	DN100	DN80	1700
TB-1300A/PM	22	0.4	1300	1600×1550×1425	DN100	DN80	1750
TB-1800A/PM	30	0.4	1800	1900×1670×1650	DN100	DN100	2050
TB-2100A/PM	37	0.4	2100	1900×1670×1650	DN100	DN100	2070
TB-2800AW/PM	45	0.4	2800	2650×1700×1600	DN200	DN150	2800 2700*
TB-3900AW/PM	55	0.4	3900	2650×1700×1600	DN200	DN150	3000 2800*
TB-4600AW/PM	75	0.4	4600	3450×2300×2100	DN200	DN150	5500 4850*
TB-5400AW/PM	90	0.4	5400	3450×2300×2100	DN200	DN150	5700 5000*
TB-6300AW/PM	110	0.4	6300	3450×2300×2100	DN200	DN150	6000 5500*

备注：带*参数为水冷机组数据。
Note: Parameters marked with * refer to water-cooled unit data.

* 田边精机对产品享有设计变更权，设备资料、规格参数等如有变更，敝公司不做另行通知
* 进、出口法兰标准：HG/T20592-2009（PN16）
* 水冷真空泵，水冷却器进、出口尺寸G1 1/2"
* 详细规格请查阅《技术规格说明书》或咨询销售人员

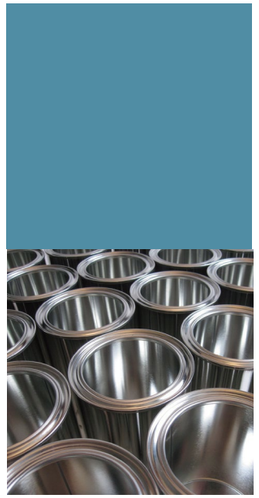
*Tecbell compressor has the right to change the design of the product. If the equipment information, specifications and other parameters are changed, the company will not make prior notice.
*Inlet and outlet flange standard: HG/T20592-2009 (PN16)
*Water cooled vacuum pump, water cooler inlet and outlet size G1 1/2
*For detailed specifications, please refer to the Technical Specifications or consult the sales staff

型号说明
Model Description

TB - 4600 A / PM

- TB：微油螺杆真空泵 Micro oil screw Vacuum pump
- 4600：抽真空速率 Pumping Speed
- A：冷却方式(A-风冷 W-水冷) cooling mode (A-air cooling W-water cooling)
- PM：永磁变频 Permanent magnet machine

应用
Application



移动、夹持、提升、输送应用：
- 吸移夹持（电子元件）
- 信封制造
- 常规包装
- 木工
- 纸张加工
- 香烟制造
- 制罐
- 输送应用（塑料颗粒输送中央真空系统）
- 污水处理（大型市政污水站点）

Moving, clamping, lifting, and conveying applications:
- Suction clamp (electronic components)
- Envelope manufacturing
- Conventional packaging
- Woodworking
- Paper processing
- Cigarette manufacturing
- Canmaking
- Transportation applications
(central vacuum system for plastic particle transportation)
- Sewage treatment (large municipal sewage stations)

清洁环境应用：
- 空间模拟
- 木材层压工艺
- 洁净室
- 电子行业

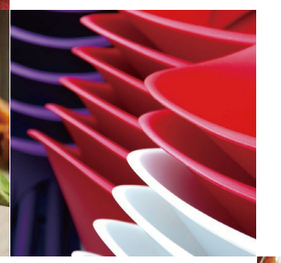
Clean environment applications:
- Space simulation
- Wood lamination process
- Clean room
- Electronics industry



成型应用：
- 包装真空成型领域（食品、化妆品、电子设备、医疗器械）
- 热成型塑料组件（汽车、部件、行李、浴缸、白色家电）
- 注塑 EPS/EPP（汽车和航空部件）

Forming applications:
- Packaging vacuum forming field
(food, cosmetics, electronic equipment, medical devices)
- Thermoformed plastic components
(cars, components, luggage, bathtubs, white goods)
- Injection molded EPS/EPP (automotive and aviation components)





保鲜应用：
- 食品包装机中央真空系统（肉类、鱼类、家禽、奶酪）
- 直线式或旋转式大型腔式包装机（大块切肉、奶酪块）
- 旋转式包装机（咖啡、零食）

Preservation applications:
- Central vacuum system of food packaging machine
(meat, fish, poultry, cheese)
- Linear or rotary large cavity packaging machine
(large pieces of meat and cheese)
- Rotary packaging machine (coffee, snacks)

潮湿应用：
- 真空冻干（蔬菜、水果、鲜花和烘焙产品）
- 粘土挤出成型（屋顶砖瓦制造）
- 管道干燥

Wet applications:
- Vacuum freeze-drying
(vegetables, fruits, flowers, and baked products)
- Clay extrusion molding (roof tile manufacturing)
- Pipeline drying



匠心品质 至上服务
Originality Quality Supreme Service

为更好的服务和满足客户需求,田边精机在全国范围内建设专业的售后服务网络,派驻技术工程人员常年为客户开展技术支持到维保后端的全方位服务。
我们的客服售后将认真倾听客户心声,并及时反馈研发部门改进,以期田边精机的压缩机技术开发更上一层楼。
如有任何需求,请随时联系您身边的经销商或田边公司业务、售后部门,我们将及时快速的响应需求!

To better serve and meet customer needs, Tecbell has established a nationwide professional after-sales service network, with certified technical engineers stationed across the country to provide comprehensive end-to-end support, from technical assistance to maintenance and backend services. Our customer service team actively listens to client feedback and promptly relays insights to R&D for continuous improvement, ensuring Tecbell's compressor technologies evolve to achieve higher performance standards.

电话咨询：400-080-2622　　Telephone consultation：400-080-2622



田边精機 精工智造
TECBELL MANUFACTURING

田边纯正备件Tecbell genuine parts



- 田边原厂备件由田边精机厂家质量保证,请使用正品备件,以保障您的设备性能稳定运行,免去后顾之忧!
- 我们有专业的服务工程师根据您的设备制定保养周期计划并及时提供相应的备件,确保您的设备在保养周期内稳定运行。
- 使用不配套的备件会降低压缩机的效率和可靠性,不仅会增加使用成本,而且还可能引起故障,对您的盈利能力产生严重影响。
- Tecbell genuine spare parts are quality - assured by Tecbell precision machine manufacturer. Please use genuine spare parts to ensure the stable operation of your equipment and have no worries!
- We have professional service engineers who will develop maintenance cycle plans according to your equipment and timely provide the corresponding spare parts to ensure the stable operation of your equipment within the maintenance cycle.
- The use of unmatched spare parts will reduce the efficiency and reliability of the air - compressor, which will not only increase the operating costs but also may cause failures, having a serious impact on your profitability.

田边纯正润滑油Tecbell genuine lubricants



- 传统的矿物润滑油使用寿命短,含油润滑液的冷凝水直接排放对环境造成污染。田边精机提供的纯正合成润滑油,使用寿命是普通矿物油的3倍,含油润滑液的冷凝水可生物降解,可直接排放。
- 田边精机润滑油具有高闪点、强热稳定性、耐腐蚀、抗乳化及抗泡性等优点,对设备提供卓越保护,增加机器的可靠性和使用寿命。
- Traditional mineral lubricants have a short service life, and the condensate from oil-laden lubricating fluids. if directly discharged, it can pollute the environment. Tecbell's genuine synthetic lubricating oil offers a service life three times longer than that of conventional mineral oils, while its condensate from oil-laden lubricants is biodegradable and can be safely discharged without environmental harm.
- Tecbell's lubricating oil boasts key advantages such as high flash point, excellent thermal stability, superior corrosion resistance, effective anti-emulsification, and anti-foaming properties. These features deliver outstanding equipment protection, enhance machine reliability, and extend its service life.