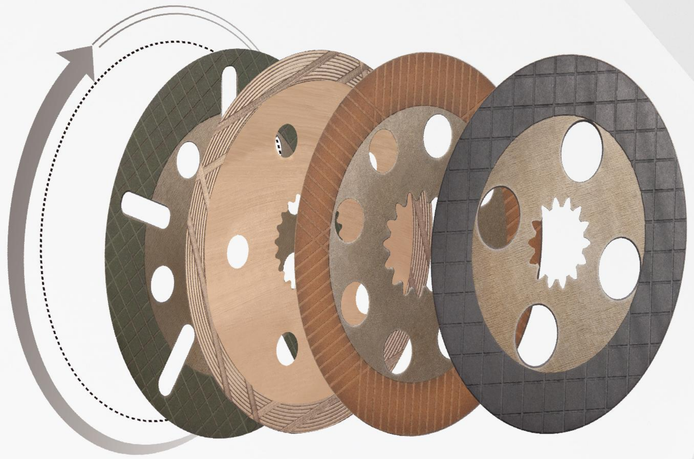
GB/T 19001-2008
ISO 9001:2008

国家高新技术企业

HANGZHOU XIAOSHAN HONGQI FRICTION MATERIAL CO., LTD.

安全红旗 品质红旗 环保红旗 和谐红旗



萧 XIAO MO 摩 杭州萧山红旗摩擦材料有限公司

HANGZHOU XIAOSHAN HONGQI FRICTION MATERIAL CO.,LTD.

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ADD: DAOQIAO INDUSTRY ZONE,HESHANG TOWN, XIAOSHAN DISTRICT,HANGZHOU,ZHEJIANG, CHINA

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* Any manufacturer's name,logo,picture,part number or description shown in this brochure is for reference purpose only,which does not imply any of the part listed is the product of these manufacturers unless specially specified

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萧 XIAO MO 摩 杭州萧山红旗摩擦材料有限公司

HangZhou XiaoShan HongQi Friction Material CO.,LTD.

HONGQI FRICTION MATERIAL



ABOUT US

公司简介

杭州萧山红旗摩擦材料有限公司成立于2001年，位于杭州市萧山区河上镇，总投资额6亿人民币，总占地约8万平方米，年产各种摩擦片3500万片，年产值达4亿元人民币。红旗摩擦拥有铜基、纸基、碳基、橡胶、喷钼材质摩擦片和对偶钢片的研发和生产能力，是中国摩擦材料行业中的领军企业，是国际市场上唯一与欧美同行竞争的中国企业。“萧摩”牌摩擦材料遵循低碳经济设计理念，定位国内外中高端市场，服务于工程机械、农业机械、汽车工业、煤矿机械、船舶工业以及特种车辆等传动及制动领域。

公司先后被评为工信部专精特新“小巨人”企业、浙江省科技型中小企业、浙江省AAA级“守合同重信用”企业、浙江省成长型中小企业、杭州市十大产业重点企业等荣誉称号。建有浙江省高新技术研发中心、省级企业研究院、浙江省博士后工作站等研发机构，拥有500余台套摩擦材料行业精良的加工和检测设备，致力于打造世界一流的摩擦材料制造中心。





Hangzhou Xiaoshan Hongqi Friction Material Co., LTD. was established in 2001, located in Heshang Town Xiaoshan District, Hangzhou City .

HONGQI, Occupying a total area of 80000 square meters, has a total invested capital of about 600 million RMB. 35 million pieces product capacity yearly, output value is 400 million RMB.

Hongqi has R&D and production capacity for copper-based, paper-based, carbon-based, rubber, Molybdenum of friction discs and steel plate . Hongqi is the leader in Chinese local friction material industry. Hongqi is the only Chinese brand in the international market to compete with other famous friction material manufacturers in Europe and USA. XIAOMO, known as Hongqi's brand, follow the low-carbon design concept, positioned at domestic and abroad in the high-end market, serving construction , agricultural , automobile, mining , shipping and special vehicles transmission and brake application.

Hongqi has been rated as the "little giant" enterprise from the Industry and Information Technology Ministry, Zhejiang small and medium-sized enterprises of science and technology, Zhejiang AAA Credit-Worthy enterprises, Zhejiang growing small and medium-sized enterprises, Hangzhou Top 10 Industrial Key Enterprises, Hongqi has established research and development institutions such as Zhejiang High tech Research and Development Center, Zhejiang provincial enterprise research institute, Zhejiang Postdoctoral Workstation, , and has more than 500 sets of sophisticated processing and testing equipment , Hongqi is committed to building a world first-class friction material manufacturing center in China.



Qualification Certificate

资质证书

杭州萧山红旗摩擦材料有限公司































Enterprise Advantages

我们的优势

安全红旗 品质红旗
环保红旗 和谐红旗

Safety XIAOMO, Quality XIAOMO
Environmental XIAOMO, Harmony XIAOMO



WHY CHOOSE US?

01 尖端设备 Cutting-edge equipment

- 经过二十多年的稳健发展，红旗实力雄厚，设备先进，生产功能齐，引进先进高端的ZF摩擦试验台位和精冲设备等；
  After more than 20 years of steady development, Hongqi has strong strength, advanced equipment, and complete production functions. It has introduced advanced and high-end ZF friction test benches and precision punching equipment;

02 制造能力 manufacturing capacity

- 我司拥有自己的加工中心，雄厚的模具开发制造能力，产品规格齐全，大尺寸的摩擦片直径可达1.2米；
  Hongqi has own procession center, good mold development and manufacturing capacity. We have complete product range with different specifications. The friction discs diameter can reach 1.2 meters.

03 市场竞争 market competition

- 拥有国际尖端研发测试设备，如德国ZF GLPⅡ试验台和美国SAE No.2摩擦磨损试验机，实现创新驱动发展。
  With international cutting-edge research and development test equipment, such as Germany ZF GLPⅡ test bench and American SAE No.2 friction wear test machine, Hongqi achieves the innovation-driven development.

04 全面品控 Quality control capacity

- 工艺先进，过程控制和成品检测能力卓越，拥有各类检测设备五十余台，有效实现全面品控。
  Hongqi has advanced technology, excellent process control and finished product test ability. With more than 50 sets of all kinds of testing equipment, Hongqi can effectively achieve comprehensive quality control.

05 生产实力 production capacity

- 丰富的行业管理经验、成熟的生产工艺技术、稳定的国内外客源，拥有较强的市场竞争优势，在全球行业内享有较高的知名度。
  Rich industry management experience, mature production process technology, stable domestic and foreign customer sources, strong market competitive advantage, and high visibility in the global industry.

R&D Equipment

研发设备

ZP GLPII 大尺寸摩擦片试验机

ZP GLP II -LARGE SIZE FRICTION DISC TEST BENCH

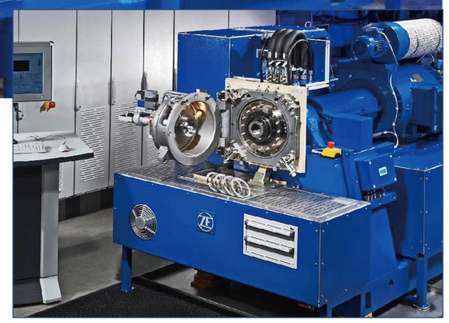
测试组件：
摩擦片和ATF油
应用：
研发、质量控制

技术资料/特点
输入功率 : 314kW
电机惯性量 : 1.5kgm²
输入转速: 1~3000rpm
惯性量模拟范围 : 0.5~100kgm²
制动扭矩 : max.5000Nm
驱动力 : 0.5~50kN
油流量 : 0.5~35l/min
油温 : 40~140℃
总油量 : min.5Liter
摩擦片直径 : max.450mm

Test Components:
Friction discs and ATF-oils
Use:
Resrarch and development,quality control

Technical Data / Features:
- Input power : 314kW
- Motor inertia : 1.5kg㎡
- Input speed : 1~3000rpm
- Inertia simulation range : 0.5~100kg㎡
- Brake torque : max.5000Nm
- Actuation force : 0.5~50kN
- Oil flow : 0.5~35l/min
- Oil temperature : 40~140℃
- Total oil volume : min.5Liter
- Friction disc diameter : max.450mm







ZF GK系列测试台架 GK III

ZF GK Test Bench GK III

被测件单元
制动器和离合器用摩擦片，变矩器离合器，ATF油
用途
研发，开发，品质控制
特点
FVA组织的标准测试台架
通过使用标准化试验和试验零件（摩擦盘、油）验证不同试验台之间的可比性
在欧洲，美国和亚洲地区不同客户的常规性使用
测试标准
FVA 626 / II: Friction disc clutch
FVA 626 / III: Converter lockup clutch
测试应用：
换挡
启动步骤
连续滑行动作、打颤行为
换挡平顺度、磨合磨损
耐久、负载能力，负载限定

Test Units
- Friction discs clutches and brakes, converter clutches, ATF oils

Use
- Research, development, quality control

Features
- Standard test bench of FVA-group
- Verified comparability between different test benches by use of standardized tests and test parts (friction discs, oils)
- Common use by in Europe, USA and Asia.

Test Standards
- FVA 626 / II: Friction disc clutch
  FVA 626 / III: Converter lockup clutch

Test Applications
- Shiftings
- Start procedures
- Continuous slip behavior
- Shudder behavior, shift Smoothness
- Run-in and wear behavior, endurance
- Load capacity, load limits

R&D Equipment



LINK试验机
LINK TEST BENCH



格林SAE No.2摩擦试验机
GREEN SAE NO.2 FRICTION TEST



- 格林SAE 2# 摩擦磨损性能试验机是美国工程师协会认证的标准试验台架。
- SAE 2# 试验机能测定湿式摩擦片的摩擦性能,为摩擦片的研发生产提供有效的帮助。

The GREEN SAE 2 # friction and wear tester is a standard test bench certified by the American Society of Engineers.

SAE 2 # test can measure the friction performance of wet friction plate, providing effective help for the R&D and production of friction plate.

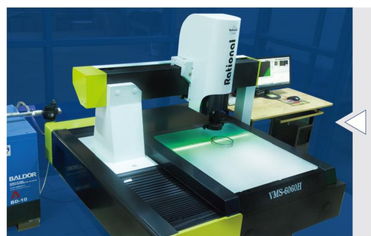
为了确保一流的品质，公司建立了全套的质量控制系统。包括原料的检验，定期的设备维护和保养，生产过程中的检验，所有的生产和检验记录予以存档，严格的产品检验制度、完善的检测手段，确保产品符合国际标准。
公司引进先进的检测设备，从而保证了产品的质量，赢得广大客户的信赖。

In order to ensure the best quality, HONGQI has established complete quality control system,Including raw material inspection, regular maintenance of the equipment and the product inspection of production process.
All production and inspection records shall be archived. Strict inspection system, perfect testing methods, guarantees the products quality reach the international standard of friction material.

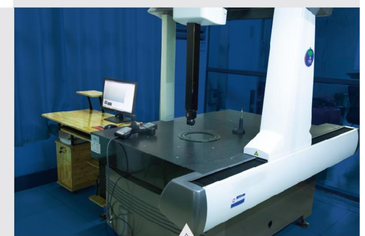
研发设备
R&D EQUIPMENT



1 摩擦磨损性能试验机
Friction and wear performance tester



2 影像仪
Image measuring instrument



3 光谱仪
spectrum analyzer



4 三坐标
CMM

PRODUCTION PROCESS

芯板成型
Core plate forming

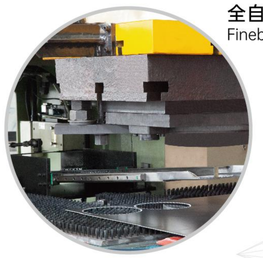
01

芯板成型
Core plate forming

- 激光切割 Laser cutting
- 自动冲床 Auto press
- 插齿 Gear shaping

法因图尔精冲机
FEINTOOL fineblanking press





全自动精冲机
Fineblanking press





德国通快激光切割机
Laser cutting machine





插齿
Gear shaping

铜基摩擦片生产流程线 Production line of bronze friction discs

钢片生产流程线 Production line of steel discs

纸基摩擦片生产流程线 Production line of paper friction discs

主要生产流程
Main production process

1. 钟罩炉热平整
Hot flatten





芯板整形
Core plate shaping

02

2. 瑞士HRC校平机
Swiss HRC flatten machine



3. 祥生去毛刺机
Deburring machine



4. 自动磨床
Automatic grinding machine



PRODUCTION PROCESS

自动一体造纸生产线

Automatic and integrated papermaking line











铜基摩擦片生产流程线 Production line of bronze friction discs

钢片生产流程线 Production line of steel discs

纸基摩擦片生产流程线 Production line of paper friction discs

主要生产流程

Main production process



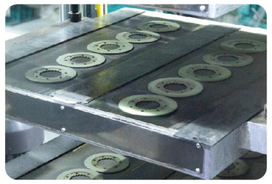
1. 半自动涂胶生产线
Semi-automatic gluing production line

纸基加工 03

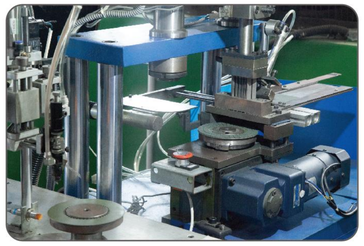
Paper processing

2. 硫化压机
Vulcanizing presses

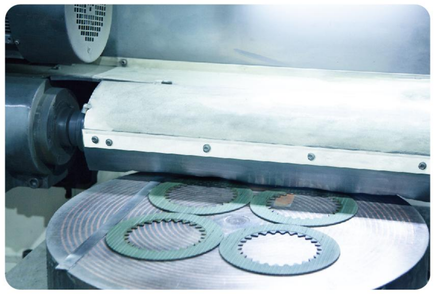




3. 自动贴片机
Automatic sticker machine



4. 开槽机
Slotting Machine



PRODUCTION PROCESS

萧 XIAO MO 摩

铜基片加工
Copper substrate processing

04

1. 半自动喷洒生产线
Semi-automatic copper-based spraying line



2. 烧结
Copper powder sintering





铜基摩擦片生产流程线 Production line of bronze friction discs

钢片生产流程线 Production line of steel discs

纸基摩擦片生产流程线 Production line of paper friction discs

主要生产流程
Main production process

3. 开槽机
Slotting Machine

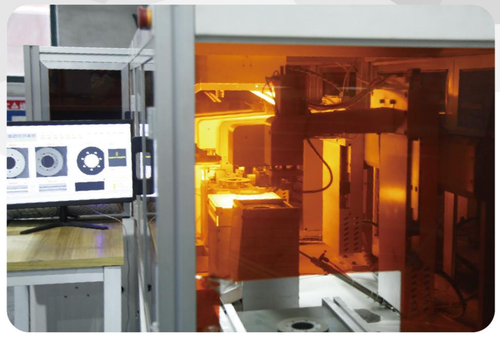






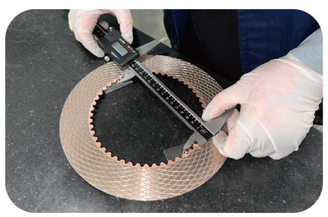


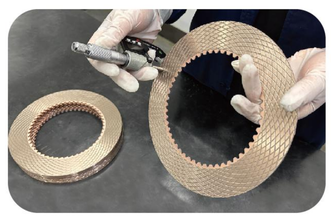
4. 德国韦伯拉毛机
Deburring mahcine



05

质检
Quality inspection





MATERIAL INTRODUCTION

● 材料介绍

HQP-001 纸基材料
HQP-001 paper-based material

■ HQP-001是一种油冷纸基摩擦材料，具有较高的能量容量和动态摩擦系数，应用于湿式制动器。

HQP-001 is a graphite reinforced non-asbestos fiber friction material. It is an oil-cooled paper-based friction material with high energy capacity and dynamic friction coefficient for wet brake applications.

HQP-011A 纸基材料
HQP-011A paper-based material

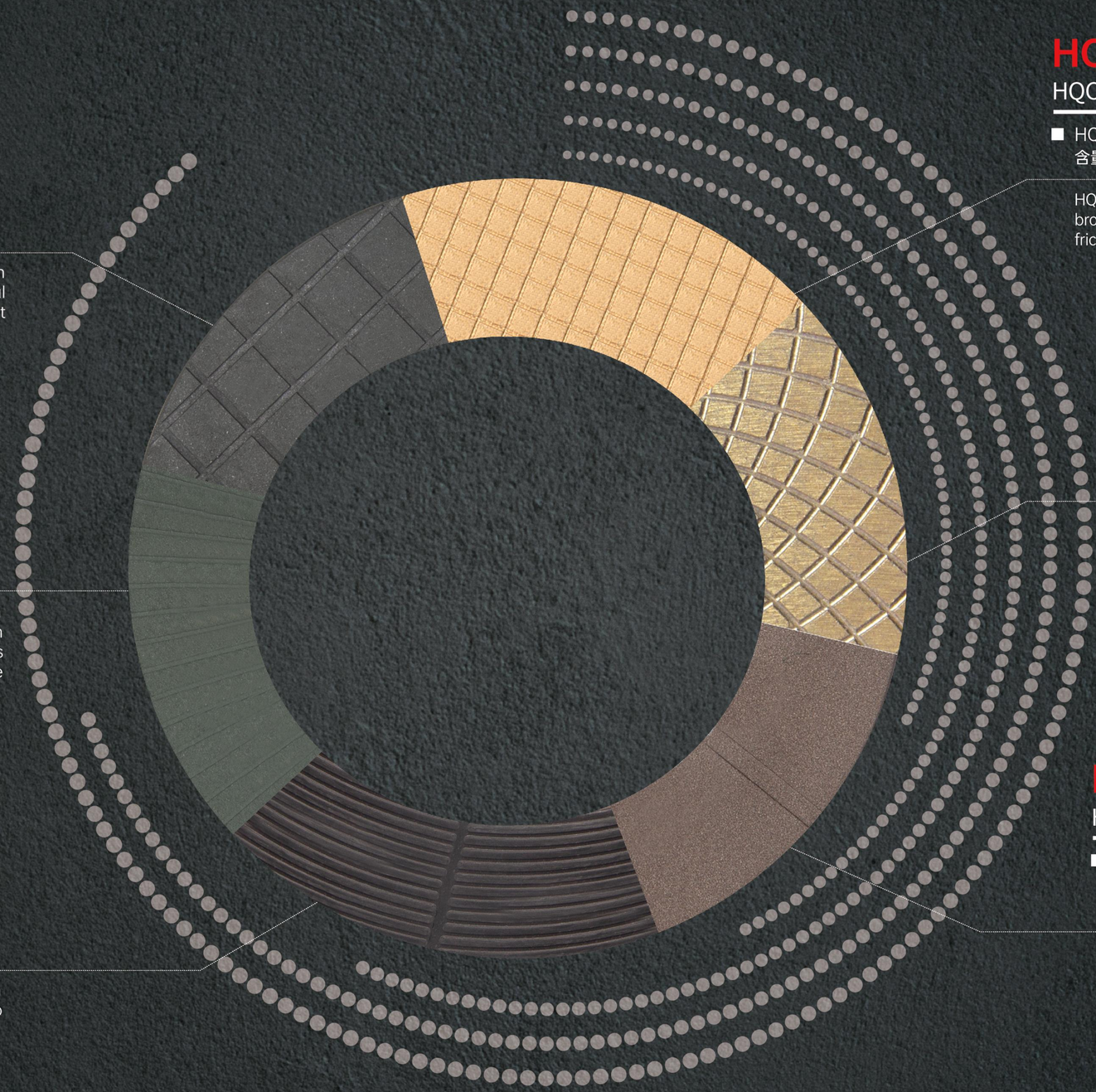
■ HQP-011A是一种石墨增强的非石棉纤维摩擦材料。这是一种油冷纸基摩擦材料，具有较高的能量容量和动态摩擦系数。应用于换挡传动变速器、PTO离合器、变矩器、湿式制动器。

HQP-011A is a graphite reinforced non-asbestos fiber friction material. It is an oil-cooled paper-based friction material with high energy capacity and dynamic friction coefficient. It is used in shift transmission transmissions, PTO clutches, torque converters, and wet brakes.

HQE-001 橡胶材料
HQE-001 rubber material

■ HQE-001是一种用于油中工作的橡胶摩擦材料。这是一种有机弹性体，特别设计用于分离静态制动器。

HQE-001 is a rubber friction material used for working in oil. This is an organic elastomer, specifically designed to separate the static brakes.



HQC-002 铜基喷洒材料
HQC-002 copper-based spraying material

■ HQC-002 是一种以黄铜/青铜为基体的烧结摩擦材料，碳含量高，适用于湿式摩擦。它是专门为特种车辆设计的。

HQC-002 is a sintered friction material based on brass / bronze, with high carbon content and is suitable for wet friction. It is designed specifically for special vehicles.

HQC-007 铜基烧结材料
HQC-007 copper-based sintering material

■ HQC-007是一种适用油中运行的黄铜/青铜基烧结摩擦材料。特别设计应用于高面压的传动装置和变速箱离合器中。

HQC-007 is a brass/bronze-based sintered friction material suitable for operation in oil. It is specially designed for applications in high surface pressure transmissions and transmission clutches.

HQM-001 钼基材料
HQM-001 molybdenum-based material

■ HQM-001是一种涂层防腐材料。这种摩擦材料在湿式工况下具有稳定的动静态摩擦系数和极低磨损率。它能承受高压。

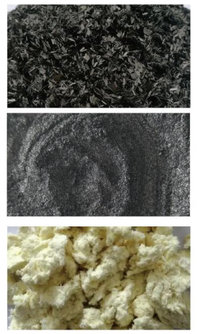
HQM-001 is a coated anti-corrosion material. This friction material has stable dynamic and static friction coefficient and very low wear rate under wet working condition. It can withstand high pressure.

MATERIAL INTRODUCTION

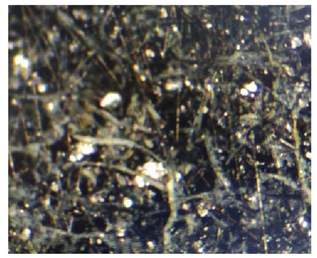
HQP系列湿式摩擦材的独自研发

Independent research and development of HQP series wet friction materials

原材料
Raw material



摩擦材的开发 · 试作
Development and Trial Production of Friction Materials



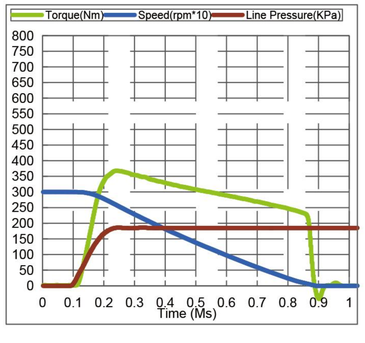
试验条件
Test conditions

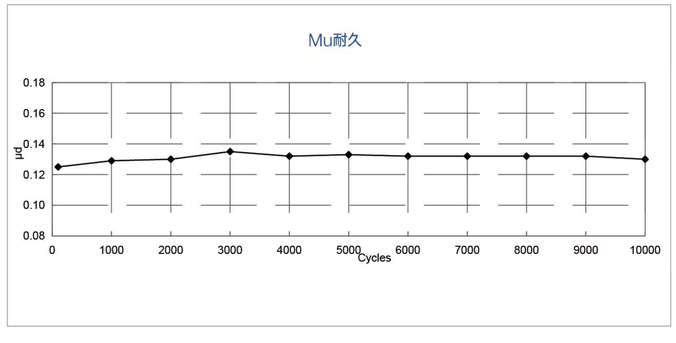
Test Equipment 试验设备	Greening SAE No.2
Test Procedure 试验项目	Durability
Piston area 活塞面积	435cm^2
Material code 材料代号	HQP-011A
Test samples 试验样品	Friction plate 摩擦片
Friction Surface 摩擦面积	7118.8mm^2
Number of Friction Surfaces 摩擦副数	6
Friction Diameter 摩擦面有效半径	52.3mm

Cycles 循环数		100000
Inlet Temp 温度	° C	115
Stop Time 停止时间	second	0.5
Engage Speed 转速	RPM	3000
Inertia 惯性量	Kg·m^2	0.416

性能评价
Performance evaluation

Mu特性





根据客户工况信息以及要求，能从摩擦材料的开发 · 评价 · 量产提供一系列评价和解决方案。

材料应用

MATERIAL APPLICATION

类型	车型	应用部位	铜基材料 HQC-001	HQC-002	HQC-013	HQC-017	HQC-019	纸基材料 HQP-001	HQP-001B	HQP-010	HQP-011	HQP-018	HQP-011B	HQP-019
建筑机械	铺路机	变速器	○					○			○		○	
	压路机	变速器		○				○						
	旋挖钻机	变速器					○	○						
	装载机	驻车制动器		○	○			○			○			
	平地机	变速器												
	挖载机	变速器		○			○			○				
	挖掘机	湿式制动器			○			○		○		○		
农业林业	拖拉机	驻车制动器			○			○		○				
	收割机	差速制动器			○				○					
采矿装备	井下铲运机	变速箱						○					○	
	刚性绞车	方向盘制动器		○										
物料搬运装备	叉车	变速箱											○	
	集装箱推高机	湿式制动器	○		○			○	○					○
	汽车吊	缓行器	○								○			
	履带吊	湿式制动器							○					○
船舶	远洋船	变速箱	○		○									
工业装备	牵引机	减速箱			○					○				
	跨车	变速箱	○						○				○	○
	底盘车	湿式制动器							○		○			○
乘用车	AT	分动器								○				
	CVT	变速箱											○	

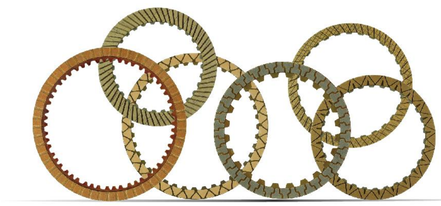
结论：经过长期市场验证，材料具有良好摩擦特性，耐久性以及良好的机械强度，因此广泛应用于工程机械变速箱的离合器、湿式制动器以及乘用车变速箱。

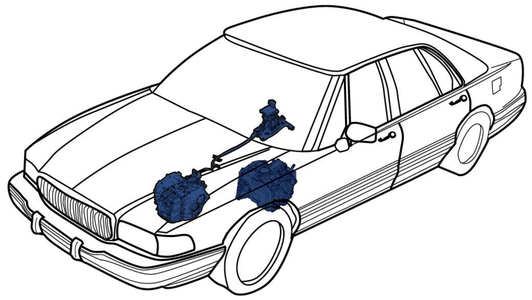
PRODUCT APPLICATION

乘用车
Passenger Cars

■ 应用于AT,DCT,AMT等湿式离合器

Application in wet clutch for AT, DCT,AMT, etc

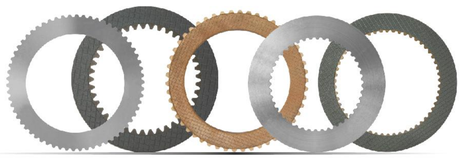


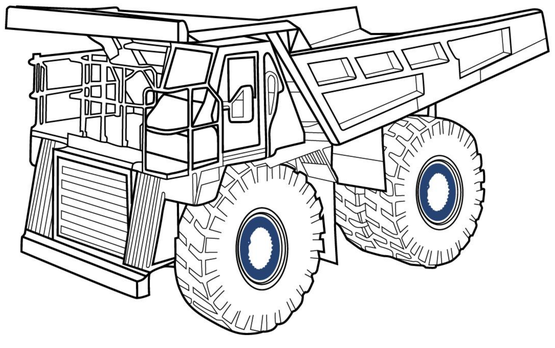


商用车
Commercial Vehicles

■ 应用于车辆变速箱，离合器制动系统

Application in vehicle automobile gearbox, clutch brake system

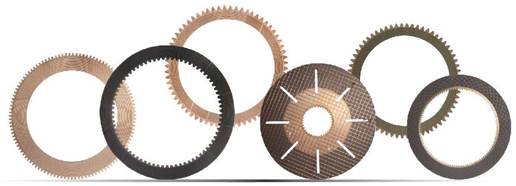


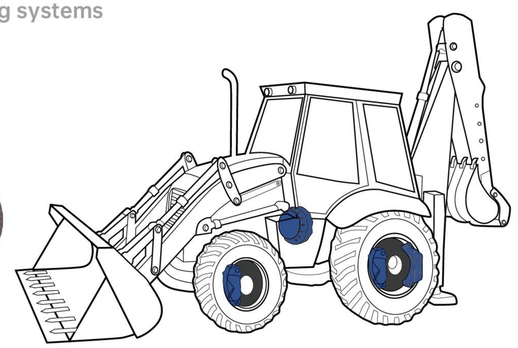


工程机械
Construction Machinery

■ 应用于车桥，变速箱等制动系统

Application in axles, gear box and other braking systems

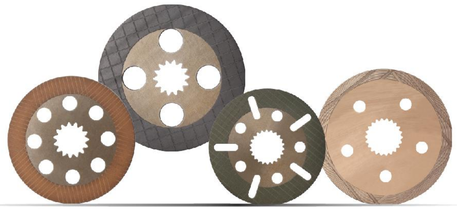


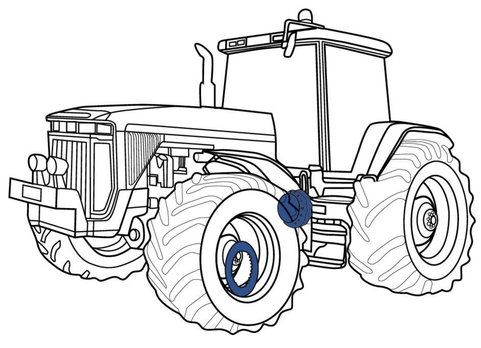


农用机械
Agricultural machinery

■ 应用于转向离合器，轮边制动及变速箱

Applications in steering clutches, wheel-side brakes and gearboxes



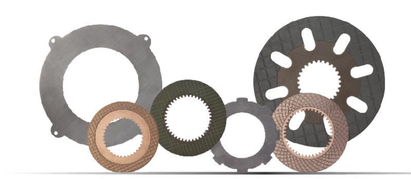


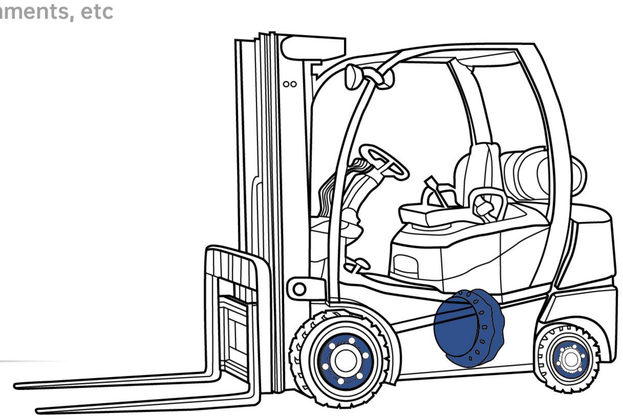
PRODUCT APPLICATION

物料搬运
Material Handling

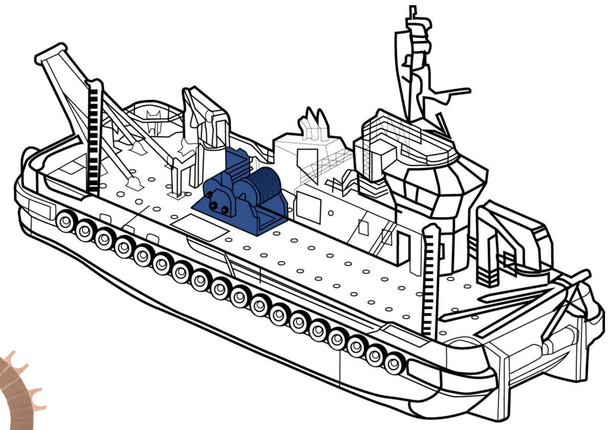
■ **应用于叉车变速箱，车桥制动，船用齿轮箱，卷扬机等环境**

Applications include forklift transmissions, axle brakes, marine gearboxes, winches and other environments, etc



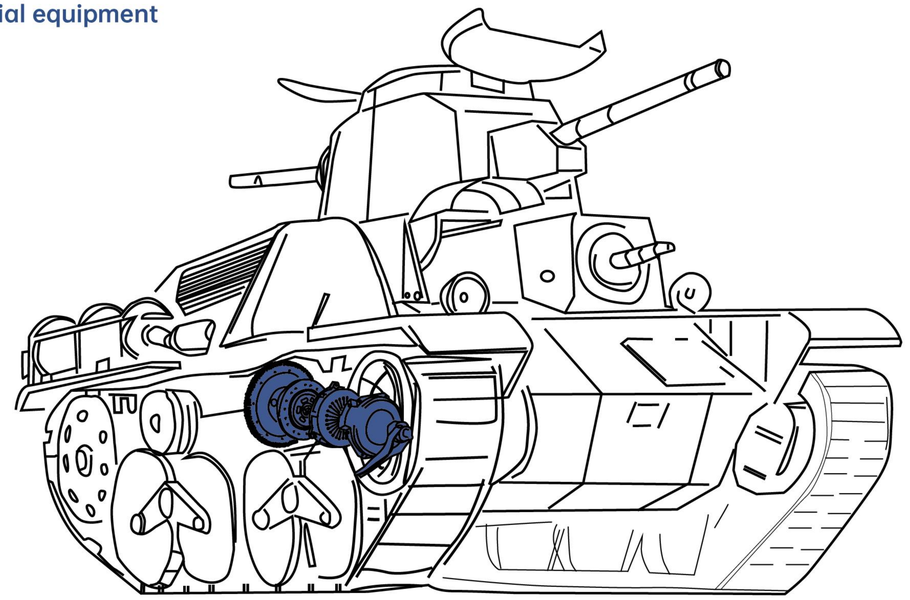


船舶
Ships



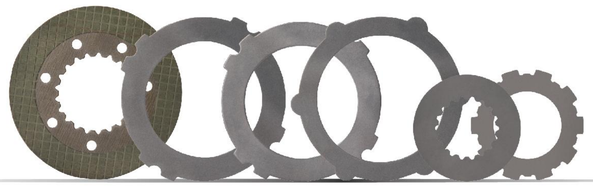


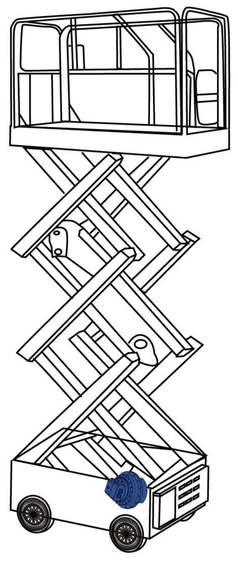
特种设备
Special equipment



■ **应用于登高作业平台，坦克转向离合和制动**

Application in aerial work platforms, tank steering clutch and braking





SALES & NETWORK PARTNERS

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SALES NETWORK



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意大利	都灵	TURIN ITALY
印度	孟买	MUMBAI INDIA
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