



申牌万向轮
SHENPAI Caster®



移动机器人用轮

AGV/AMR CASTERS

产品彩页 **V4.0**
Product Brochure



申牌的价值观

为客户创造价值
竭力提升产品与服务
止于至善的热情

Value of SHENPAI

SHare value with customer
ENdeavor to improve
PAassion to perfection

概述 Overview

- i 1** 公司简介 Brief Introduction 4
- i 2** 我们的优势 SHENPAI's Advantage 5-11
- i 3** 项目案例 Project Cases 12 -14

产品目录 Product Index

一般脚轮 (General Caster)

- 90A 中型脚轮 (Medium Duty Caster) 15
- 40B 重型脚轮 (Heavy Duty Caster) 16
- 42B 超重型脚轮 (Extra heavy Duty Caster) 17

AGV/AMR 脚轮
AGV/AMR Caster

双偏心轮 (Double Eccentric Caster) 18

减震从动轮 (Shock-Absorbing Caster)

- 45 前置减震轮 (Front Shock Absorber Caster) 19
- 45 后置减震轮 (Rear Shock Absorber Caster) 20-21

越障脚轮 (Obstacle-Climbing Caster) 22

自平衡脚轮 (Self-Balancing Caster) 23

一般驱动轮 (General Driving Wheel) 24-25

驱动轮 (组)
Driving Wheel (Set)

麦克纳母轮 (Mecanum Wheel Set) 26

全向轮 (奥姆轮) (Omni Wheel Set) 27

i 1 公司简介 BRIEF INTRODUCTION

江苏申牌万向轮有限公司，成立于 1993 年，专注于脚轮，单轮的生产。公司位于江苏江阴，拥有厂房 40000 m² 和各类生产、测试设备 500 多台。约 200 位经验丰富的员工配合 60 多套机械臂、机器人，每年生产的脚轮及单轮达 2000 万只。

申牌系江苏省著名商标，公司获得高新技术企业，专精特新企业，我们的成品销售至全国 200 家经销商及 40 多个国家和地区。我们的项目脚轮供应至 科朗叉车，GE 医疗，海康机器人、库卡机器人，远景能源 等众多行业领军企业。作为中国移动机器人产业联盟的重要成员，申牌一直紧跟产业发展趋势，持续投入研发。多年的行业深耕以及管理创新使得申牌在 AGV /AMR 细分领域具有突出的竞争优势。

全面的产品库，全面的生产工艺，全面的工程师团队是我们品牌的坚实基础。现代化的企业管理，ERP+WMS+MES+PLM 模块的“1+N”的模式使我们在持续进化。

从脚轮的生产者到品牌的创建者，从标准的建立者到客户的引导者，申牌将继续努力。

Jiangsu SHENPAI Casters Co., Ltd., established in 1993, is dedicated to the production of casters and wheels. The company is located in Jiangyin, Jiangsu Province, with a factory area of approximately 40,000 m². It employs around 200 experienced workers, supported by over 60 fully automated production lines and robotic arms, producing up to 20 million casters and wheels annually.

The "SHENPAI" is a well-known trademark in Jiangsu Province. The company has been recognized as a High-Tech Enterprise, a Specialized, Refined, Distinctive, and Innovative (SRDI) Enterprise. Our products are sold to 200 domestic distributors and exported to 40 countries and regions. Our project casters are supplied to many industry-leading enterprises, including Crown Equipment, GE Healthcare, Hikvision Robotics, KUKA Robotics, Envision Energy, etc. As a member of the China Mobile Robot Industry Alliance (CMR), SHENPAI has consistently kept pace with the industry's development trends and maintained continuous investment in R&D. Decades of in-depth industry experience and management innovation have enabled SHENPAI to gain prominent competitive advantages in the AGV/AMR niche market.

A comprehensive product portfolio, full-range manufacturing capabilities, and a skilled engineering team form the solid foundation of our brand. Modern enterprise management, supported by an "1+N" model integrating ERP, WMS, MES, and PLM modules, enables us to evolve continuously.

From being a caster manufacturer to a brand creator, from setting industry standards to guiding our customers, SHENPAI will continue to strive for excellence.



i 2 我们的优势 SHENPAI'S ADVANTAGE

丰富的快速定制经验 Extensive Experience in Customization

定制 AGV 脚轮？找我们就对了。 Customized AGV Casters ? No problem.

AGV 的脚轮需求通常是高度定制化的，如果您需要的脚轮产品有特殊规格及应用，不必犹豫，申牌有足够的实力和从业经验，满足所有定制要求。公司有完善的定制流程体系，可根据客户需求，有效快速设计制作定制化产品。1 站式服务，24 小时出定制方案。

AGV Caster requirements are usually highly customized, If you need casters with special specifications and application, please do not hesitate to choose SHENPAI. SHENPAI has sufficient strength and experience to meet all customized requirements. One-stop service, 24-hour customized program.

1 站式服务

Stop Service for Customization and R&D support.

全生产工艺，全流程把控，全方面测试。

The whole production process, the whole process control, all aspects of testing.

有效快速定制管控流程体系 Effective and rapid customization of the control process system



200+ ↑ 大小定制项目每年 Customized cases per year

产品开发定制，项目定制，标准产品改型定制。

Product development, project customization, standard product modification.



全面的脚轮零部件库 Comprehensive AGV Caster Component

25000+ 脚轮部件

我们的脚轮零部件库是项目客户的百宝箱，响应速度快，开发成本低。

25000+ Caster components

Our caster parts library is a treasure trove for project customers, with fast response times and low development costs.



一站式脚轮生产全工艺 End-to-end Production Process

1 站式脚轮生产全工艺

冲压，电焊，精加工，注塑，浇注，硫化，装配，全生产工艺是质量管理和成本控制的基础。

1 plant: Comprehensive manufacturing processes for caster

Stamping, welding, precision machining, injection molding, casting, vulcanization, assembly, the foundation of quality management and cost control in the entire production.



全面的测试和评估能力 Comprehensive Testing and Evaluation Capabilities

申牌的实验室拥有全面的测试设备，其中最重要的负重行走测试多达12个测试工位。我们的拥有全职的测试工程师和电气工程师，能快速响应客户的产品评估需求。

申牌的技术团队每年为200多个项目进行评估与验证，为每年数千个生产任务进行监管与记录。

SHENPAI's laboratory has comprehensive testing equipment, with up to 12 testing stations for the most important load walking test. We have full-time testing engineers and electrical engineers who can quickly respond to customers' product evaluation needs.

The technical team of SHENPAI evaluates and verifies over 200 projects annually, and supervises and records thousands of production tasks each year.



盐雾试验 / 刹车空载制动测试 / 刹车疲劳试验 / 高低温试验 / 行走测试 / 回转测试 / 拉力试验 / 磨损测试 / 影像测量 /


 每款新产品都经过 **48** 项可靠性测试
 48 reliable tests before new product launch.


 每年累计 **1800** 多次的产品测试
 1800+ different tests will be carried on every year.


 自主研发 **36** 项专用检测设备
 36 test devices are totally invented by SHENPAI

聚氨酯、橡胶材料专家 Experts in PU and Rubber Materials

聚氨酯材料高耐磨又具备缓冲作用，是出色的 AGV 脚轮及单轮用料。而浇注型聚氨酯由于性能更为出色又有着灵活的生产方式，是非标定制的理想选择。申牌有着二十多年的浇注聚氨酯生产经验，目前为 AGV/AMR 脚轮和单轮适配的聚氨酯配方达到 9 个系列：

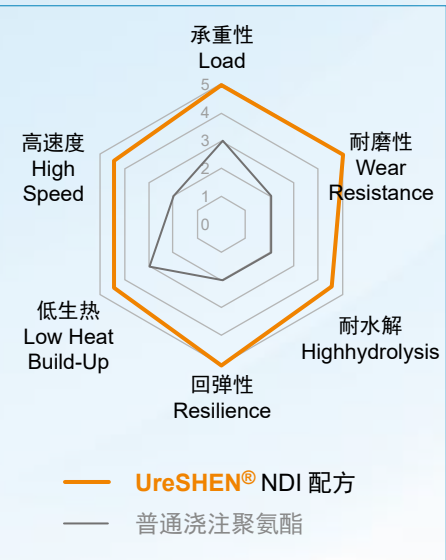
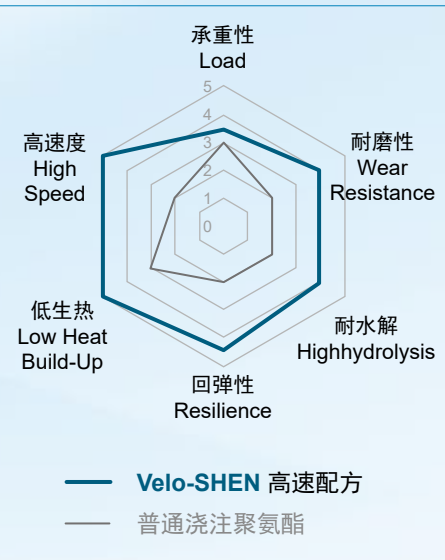
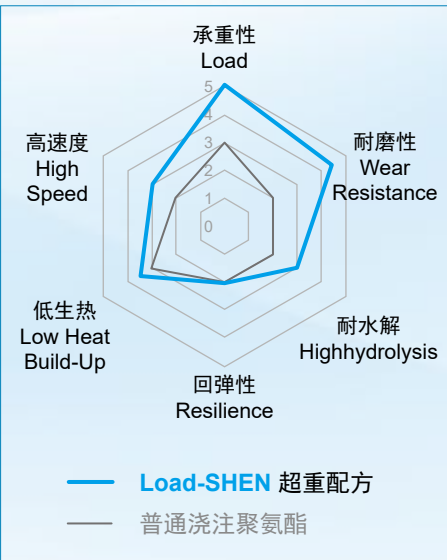
Polyurethane (PU) material boasts high wear resistance and excellent cushioning performance, making it an outstanding choice for AGV casters and wheels. Among its variants, cast polyurethane (CPU) stands out for its superior properties and flexible production methods, making it the ideal solution for non-standard customization. With over two decades of CPU production expertise, SHENPAI has developed 9 specialized PU formulations tailored for AGV/AMR Caster & Wheel products:

浇注 PU 类材料分类 Usual formulas Casting PU Materials

配方	特点	高负载	高耐磨	耐水解	高回弹	低生热	高速度	静音	低阻力	适用案例
普通型	普通聚氨酯	★★★	★★	★★	★★	★★★★	★★	★★★★	★★★★	普通脚轮
Dura-SHEN	普通升级款	★★★★☆	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★	工业脚轮升级载重款
Tough-SHEN	载重系列	★★★★	★★★★☆	★★★★★	★★★★☆	★★★★☆	★★★★☆	★★★★	★★★★	重型搬运设备
Long-SHEN	高耐久系列	★★★★☆	★★★★	★★★★	★★★★	★★★★☆	★★★★	★★★★	★★★★	AGV 配套轮，叉车承重轮
Soft-SHEN	静音系列	★★★★	★★★★	★★★★☆	★★★★★	★★★★	★★★★☆	★★★★★	★★★★★	回弹要求高的场景以及软地面
Power-SHEN	驱动系列	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★★☆	★★★★	★★★★	★★★★	麦克纳姆，AGV，机器人底盘
Smooth-SHEN	低阻力系列	★★★★	★★★★	★★★★☆	★★★★★	★★★★	★★★★☆	★★★★	★★★★★	启动力小的 PU 轮
Load-SHEN	高载系列	★★★★★	★★★★☆	★★★★	★★	★★★★☆	★★★★	★★★★	★★★★	超高载重低速硬质 PU 轮
Velo-SHEN	高速系列	★★★★☆	★★★★	★★★★	★★★★☆	★★★★★	★★★★★	★★★★☆	★★★★	速度要求较高的 PU 轮
UreSHEN®	UreSHEN® NDI 系列	★★★★★	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★☆	★★★★☆	★★★★	高耐磨，高回弹，耐酸碱的全能型配方

UreSHEN®：顶级性能聚氨酯 NDI 体系的代表工业化产品。

UreSHEN®：A top-tier industrial PU product based on the NDI (naphthalene diisocyanate) system, representing the pinnacle of cast polyurethane performance.



橡胶材料作为减震效果出色，抓地力可靠的材料，也是很多 AGV 项目不可或缺的选择。申牌在工业脚轮橡胶配方的基础上，细分了 6 个主要配方：

Rubber material, with its superior shock absorption and reliable grip, is also an indispensable option for many AGV (automated guided vehicle) projects. Building on its industrial caster rubber formulation expertise, SHENPAI has refined 6 major rubber formulations to meet diverse application needs.

外部代号 External Code	分类 Classification	硬度 Hardness	高负载 High Load	弹性 Elasticity	耐老化性 Aging Resistance	耐臭氧性 Ozone Resistance	使用温度范围 Temperature Range Used	特性 Characteristics
NR01	普通配方 Ordinary Formula	75±3	★★★★	★★★★★	★★★★	★★★★	★★★★☆	普通天然胶配方，广泛应用于工业脚轮 Ordinary natural rubber formula, widely used in industrial casters
NR04	高弹高耐磨 High Elasticity And Wear Resistance	65±3	★★★★★	★★★★★	★★★★	★★★★	★★★★☆	高回弹，高耐磨的配方 High rebound, high wear-resistant formula
NR03	高载重 High Load	85±3	★★★★★	★★★★	★★★★	★★★★	★★★★	高负载，潮湿地面抓地力优秀 High load, excellent grip on wet ground
NR10	耐低温配方 Low Temperature Formula	70±3	★★★★★	★★★★★	★★★★☆	★★★★☆	★★★★★	耐低温、耐磨、环保 Low temperature resistance; wear resistance; environmental protection
NR17	无痕配方 Undetectable Formula	75±3	★★★★★	★★★★★	★★★★☆	★★★★☆	★★★★☆	耐磨环保，地面不易留痕 Wear-resistant and environmentally friendly, the ground is not easy to leave traces
SR01	耐候性橡胶 Weather-Resistant Rubber	75±3	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	耐温：-60 ~ +200℃，耐湿热气候 Temperature resistance: -60~200℃, resistant to humid and hot climate
FR01	耐高温橡胶 High Temperature Resistant Rubber	75±3	★★★★	★★★★	★★★★★	★★★★★	★★★★★	耐高温最高至 250℃，耐臭氧性，耐酸碱 Withstands high temperatures up to 250℃, resistant to ozone, resistant to acids and alkalis

我们的合规性

申牌作为一个负责任的企业，我们始终将合法合规经营作为核心准则：



产品合规性

所有产品严格符合欧盟 RoHS 指令环保要求，涉及欧盟市场的产品均满足 REACH 法规标准。针对特殊需求，我们可提供无卤素（Halogen-Free）、防静电（ESD）、无尘洁净（Cleanroom）等定制化解决方案，确保全面匹配客户严苛的技术规范。



知识产权保护

我们坚持自主创新，所有研发产品均拥有自主知识产权及专利保护，并建立完善的专利管理体系。同时坚决抵制任何形式的抄袭行为，保留对第三方侵权行为依法追责的法律权利。



企业运营合规

在安全生产、环境保护、员工权益保障等关键领域，我们 100% 严格执行中国及业务所在国的法律法规，包括《安全生产法》《环境保护法》《劳动法》等，全员缴纳社会保险，定期开展合规审计，确保企业运营全链条合法合规。

As a responsible corporation, SHENPAI uphold legal compliance as our core principle:



Product Compliance

All products strictly conform to EU RoHS directives, with REACH regulation compliance for EU-market items. Customized solutions (Halogen-Free/ESD/Cleanroom) are available to meet specific technical requirements.



Intellectual Property Protection

We maintain an in-house patent management system for all R&D innovations with full IP protection. While firmly opposing plagiarism, we reserve the right to take legal actions against any third-party infringements.



Operational Compliance

We 100% comply with China and local regulations including Work Safety Law, Environmental Protection Law, and Labor Law, with full social insurance coverage and regular compliance audits across the entire operation chain.

i 3 项目案例 PROJECT CASES

欧盟标准重载 AGV，苛刻的测试条件

EU Standard Heavy-Duty AGV Caster with Strict Conditions

项目要求:

- 载重 1.5T 的脚轮，且总高 ≤170mm
- 20000 次越障 5mm
- 符合 REACH 环境标准

我们的方案:

申牌以 40B 系列重载脚轮为蓝本，配以极低的主架设计，**Long-SHEN** 高耐久聚氨酯配方，以优异的寿命测试结果赢得客户的信赖。

Project Requirements:

- Capacity ≥1.5T while Total Height ≤170mm
- 20,000 obstacle-crossing cycles over 5mm-high obstacles
- Compliance with REACH environmental regulations

Our Solution:

Taking the 40B series heavy-duty caster as the blueprint, we integrated an ultra-low-profile main frame and **Long-SHEN** high-durability polyurethane formula. The outstanding life test results earned the customer's trust.



高品质 AGV 脚轮，达到降本目标

项目要求:

- 客户要求降本 20% 以上，月交付量 5000 套
- 进口原材料因关税限制，须完成国产替代
- 全面的质量保障，累计 100000 只交付 0 脱胶

我们的方案:

放弃一体式铸件，采用冲压折弯件进行降本；全新的“精冲”工艺，完成了精度和成本的最优组合；脚轮高度差稳定在 ±0.5mm。



High-Quality AGV Casters Achieving Cost Reduction Targets

Project Requirements:

- The customer requested a **20%+ cost reduction** while maintaining a monthly delivery volume of 5,000 sets.
- Imported raw materials were subject to tariff restrictions, necessitating complete domestic substitution.
- Stringent quality assurance: **zero debonding** in 100,000 units delivered cumulatively.

Our Solution:

Abandoned the traditional one-piece casting design and adopted **stamped and bent components** to achieve cost efficiency. Developed a proprietary **precision stamping** process to strike the optimal balance between precision and cost. Ensured consistent height deviation of the casters within **±0.5mm** for reliable performance.



超高越障的 AGV 脚轮

项目要求:

- 85mm 的脚轮通过 30mm 高的障碍
- 20000 次全速过障, 无任何卡阻
- 出口欧美的高端 AGV 品牌, 必须拥有自主知识产权

我们的方案:

摒弃现有过渡轮式结构, 采用翻转式设计, 完成了这个“不可能”的项目。全新自主设计的脚轮, 客户的需求是我们创新的源泉。越障成功测试通过轮径的 35%, 远超市场 15% 的极限高度。

Ultra-high Obstacle Clearance AGV Caster

Project Requirements:

- A $\varnothing$ 85mm caster must pass over a 30mm-high obstacle.
- Complete 20,000 full-speed obstacle crossings without any jamming.
- Designed for high-end AGV brands targeting European and American markets, with independent intellectual property rights.

Our Solution:

Abandoning the conventional transitional wheel structure, we adopted a flip-type design to accomplish this "impossible" project. The fully independently developed caster uses customer needs as the source of innovation. The obstacle clearance success rate exceeds 35% of the wheel diameter—far surpassing the market limit of 15%—demonstrating superior performance.



AGV / AMR 脚轮

AGV / AMR Caster

90A 中型脚轮

90A Medium Duty Caster

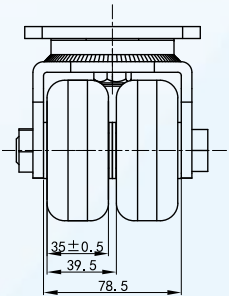
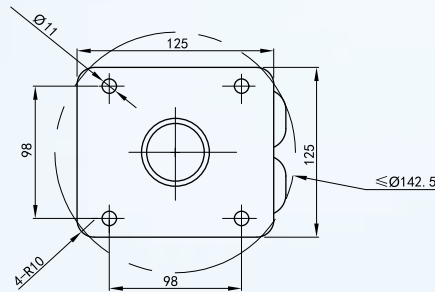
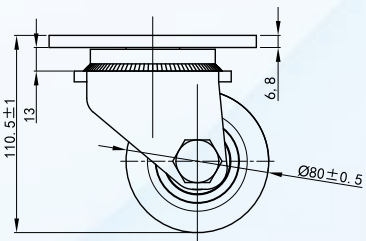


启动省力
Easy To Roll

不留痕
Non-Marking

转动轻便
Easy To Swivel

高耐磨
Wear-resistance



产品图片	Product image									
轮片材料	Material	铝芯聚氨酯			铁芯聚氨酯			铁芯聚氨酯		
硬度	Wheel-tread Hardness	85A			95A			95A		
尺寸	Inch	2"	2.5"	3"	2.5"	3"	4"	2.5"	3"	4"
型号	Model	90A36-2040	90A37-2041	90A38-2042	90A07-1893	90A02-1829	90A05-1894	90A06-1893	90A01-1829	90A04-1894
轮径	Wheel Diameter	50mm	65mm	75mm	65mm	80mm	100mm	65mm	80mm	100mm
轮宽	Tire Width	23mm	22mm	22mm	35mm	35mm	35mm	35mm	35mm	35mm
载重	Capacity	100kg	150kg	250kg	300kg	400kg	500kg	300kg	400kg	500kg
偏心距	Offset distance	20mm	20mm	20mm	25mm	25mm	25mm	25mm	25mm	25mm
底板尺寸	Top Plate Size	65×65mm			125×125mm			M20×32		
安装尺寸	Mounting Dimensions	50×50mm			98×98mm			-		
安装孔径	Mounting Hole Diameter	5.5mm			11mm			-		
安装高度	Mounting Height	75mm	86.5mm	96.5mm	96mm	110.5mm	132mm	95mm	109.5mm	131mm
旋转半径	Rotation Radius	55mm	60mm	65mm	65mm	71mm	80mm	65mm	71mm	80mm

AGV / AMR 脚轮
AGV / AMR Caster

40B 重型脚轮
40B Heavy Duty Caster

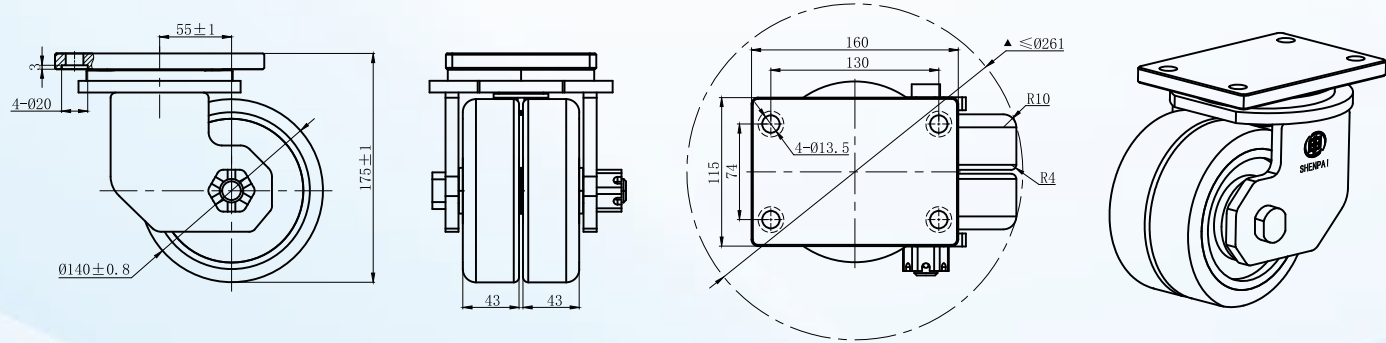


抗冲击
Impact Resistance

不留痕
Non-Marking

低噪音
Low Noise

高回弹
High Resilience



产品图片	Product image							
轮片材料	Material	铁芯聚氨酯			铁芯聚氨酯			
硬度	Wheel-tread Hardness	95A			95A			
尺寸	Inch	3"	4"	5"	6"	8"	10"	12"
型号	Model	40B26-3029	40B29-3030	40B32-3031	40B01-3032	40B03-3033	40B05-3034	40B19-3035
轮径	Wheel Diameter	75mm	100mm	125mm	150mm	200mm	250mm	300mm
轮宽	Tire Width	43mm	43mm	43mm	64mm	64mm	80mm	80mm
载重	Capacity	600kg	800kg	1000kg	1800kg	2200kg	3000kg	3500kg
偏心距	Offset distance	50mm	60mm	60mm	60mm	60mm	75mm	75mm
底板尺寸	Top Plate Size	160×115mm	160×115mm	160×115mm	160×115mm	160×115mm	160×115mm	160×115mm
安装尺寸	Mounting Dimensions	134-126 ×86-62mm	134-126 ×86-62mm	134-126 ×86-62mm	134-126 ×86-62mm	134-126 ×86-62mm	134-126 ×86-62mm	134-126 ×86-62mm
安装孔径	Mounting Hole Diameter	14.5	14.5	14.5	14.5	14.5	14.5	14.5
安装高度	Mounting Height	125mm	150mm	175mm	205mm	255mm	350mm	405mm
旋转半径	Rotation Radius	97mm	117mm	129mm	152mm	176mm	218mm	242mm

AGV / AMR 脚轮
AGV / AMR Caster

42B 超重型脚轮
42B Extra heavy Duty Caster

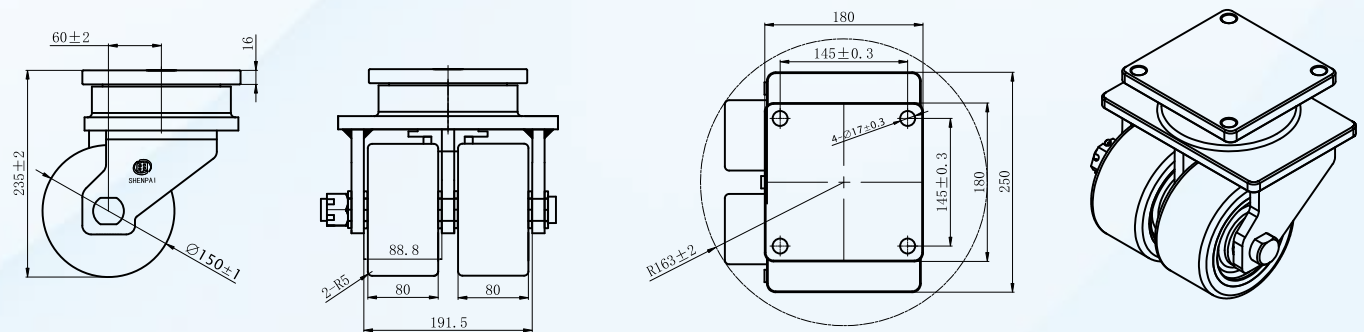


启动省力
Easy To Roll

不留痕
Non-Marking

抗冲击
Impact Resistance

高载重
High Capacity



产品图片	Product image						
轮片材料	Material	铁芯聚氨酯					
硬度	Wheel-tread Hardness	95A					
尺寸	Inch	6"	8"	10"	12"	14"	16"
型号	Model	42B01-3036	42B04-3037	42B07-3038	42B10-3039	42B13-3040	42B16-3041
轮径	Wheel Diameter	150mm	200mm	250mm	300mm	350mm	400mm
轮宽	Tire Width	80mm	80mm	100mm	100mm	100mm	110mm
载重	Capacity	2500	3500	4500	6000	7000	8000
偏心距	Offset distance	60mm	60.5mm	75mm	75mm	116mm	130mm
底板尺寸	Top Plate Size	180×180mm	180×180mm	210×210mm	210×210mm	320×320mm	320×320mm
安装尺寸	Mounting Dimensions	145×145mm	145×145mm	170×170mm	170×170mm	270×270mm	270×270mm
安装孔径	Mounting Hole Diameter	17	17	22	22	26	26
安装高度	Mounting Height	235mm	288mm	358mm	407.5mm	475mm	520mm
旋转半径	Rotation Radius	163mm	188mm	229mm	251mm	313mm	350mm

AGV / AMR 脚轮
AGV / AMR Caster

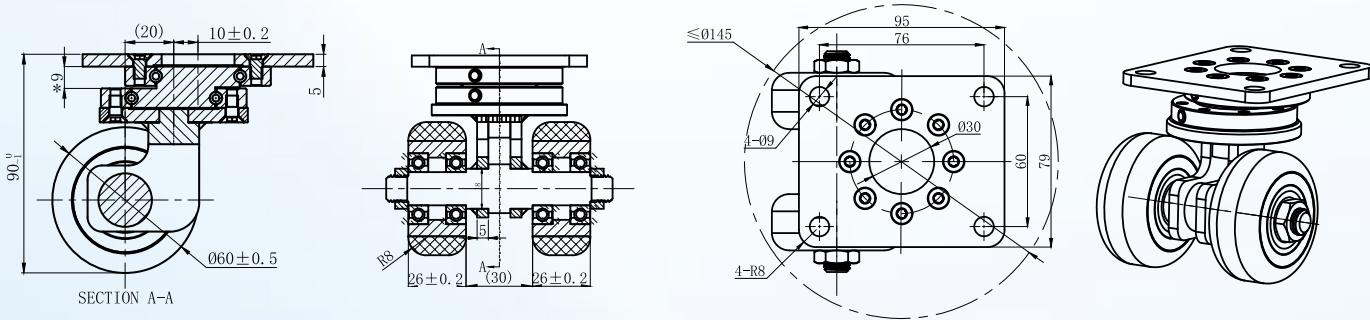
90B 双偏心轮
90B Double Eccentric Caster



转弯半径小
Small Turning Radius

车辆摆动小
Min Vehicle Sway

定位精度高
Precise Positioning



产品图片	Product image												
轮片材料	Material	钢芯聚氨酯			铝芯聚氨酯			铁芯聚氨酯			铁芯聚氨酯		
硬度	Wheel-tread Hardness	95A			95A			95A			95A		
尺寸	Inch	2"	3"	4"	3"	4"	5"	5"	6"	8"	6"	8"	10"
型号	Model	90B01-2035	90B02-2036	90B03-2037	90B04-2046	90B05-2047	90B06-2048	90B07-1863	90B08-1867	90B09-1862	90B10-3032	90B11-3033	90B12-3034
轮径	Wheel Diameter	50mm	75mm	100mm	75mm	100mm	125mm	125mm	150mm	200mm	150mm	200mm	250mm
轮宽	Tire Width	21mm	21mm	21mm	30mm	30mm	30mm	50mm	50mm	50mm	64mm	64mm	80mm
载重	Capacity	100kg	150kg	200kg	350kg	400kg	500kg	600kg	800kg	1000kg	1800kg	2200kg	3000kg
偏心距	Offset distance	10+10	15+10	20+10	15+10	20+10	25+15	35+15	40+15	47+15	60+20	60+20	75+25
底板尺寸	Top Plate Size	75 × 55mm	75 × 55mm	75 × 55mm	135 × 110mm	135 × 110mm	135 × 110mm	140 × 110mm	140 × 110mm	140 × 110mm	160 × 115mm	160 × 115mm	160 × 115mm
安装尺寸	Mounting Dimensions	56 × 36mm	56 × 36mm	56 × 36mm	105 × 77.5mm	105 × 77.5mm	105 × 77.5mm	110 × 83-67mm	110 × 83-67mm	110 × 83-67mm	134-126 × 86-62mm	134-126 × 86-62mm	134-126 × 86-62mm
安装孔径	Mounting Hole Diameter	8.5	8.5	8.5	10.5	10.5	10.5	13	13	13	14.5	14.5	14.5
安装高度	Mounting Height	65mm	97mm	125mm	130mm	153.5mm	180mm	205mm	218mm	281mm	255mm	350mm	405mm
旋转半径	Rotation Radius	50mm	75mm	100mm	85mm	98mm	110mm	103mm	115mm	158mm	196mm	238mm	267mm

AGV / AMR 脚轮
AGV / AMR Caster

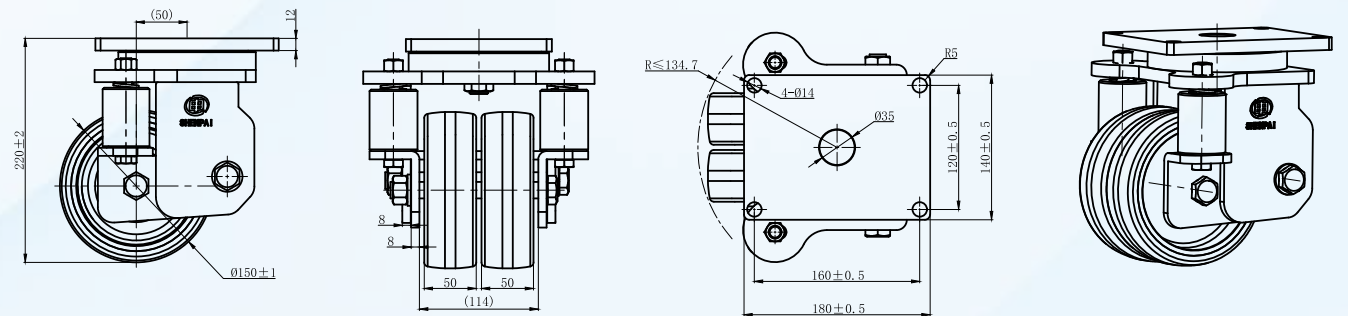
45 前置减震轮
45 Front Shock Absorber Caster



启动省力
Easy To Roll

转动轻便
Easy To Swivel

双重减震
Dual Shock Absorption



产品图片	Product image						
轮片材料	Material	铝芯聚氨酯			铁芯聚氨酯		
硬度	Wheel-tread Hardness	95A			95A		
尺寸	Inch	4"	5"	6"	5"	6"	8"
型号	Model	45F16-1884	45F17-1906	45F18-1907	45F69-0206	45F71-0207	45F73-0208
轮径	Wheel Diameter	101mm	125mm	150mm	125mm	150mm	200mm
轮宽	Tire Width	50mm	50mm	50mm	50mm	50mm	50mm
载重	Capacity	350kg	400kg	450kg	1200kg	1400kg	1700kg
偏心距	Offset distance	29mm	32mm	35mm	50mm	50mm	50mm
底板尺寸	Top Plate Size	140 × 100mm			180 × 140mm		
安装尺寸	Mounting Dimensions	120 × 60mm			160 × 120mm		
安装孔径	Mounting Hole Diameter	9mm	9mm	9mm	14mm	14mm	14mm
安装高度	Mounting Height	171mm	196mm	221mm	195mm	220mm	250mm
旋转半径	Rotation Radius	85mm	100mm	115mm	120mm	150mm	180mm

AGV / AMR 脚轮

45 后置减震轮

AGV / AMR Caster

45 Rear Shock Absorber Caster



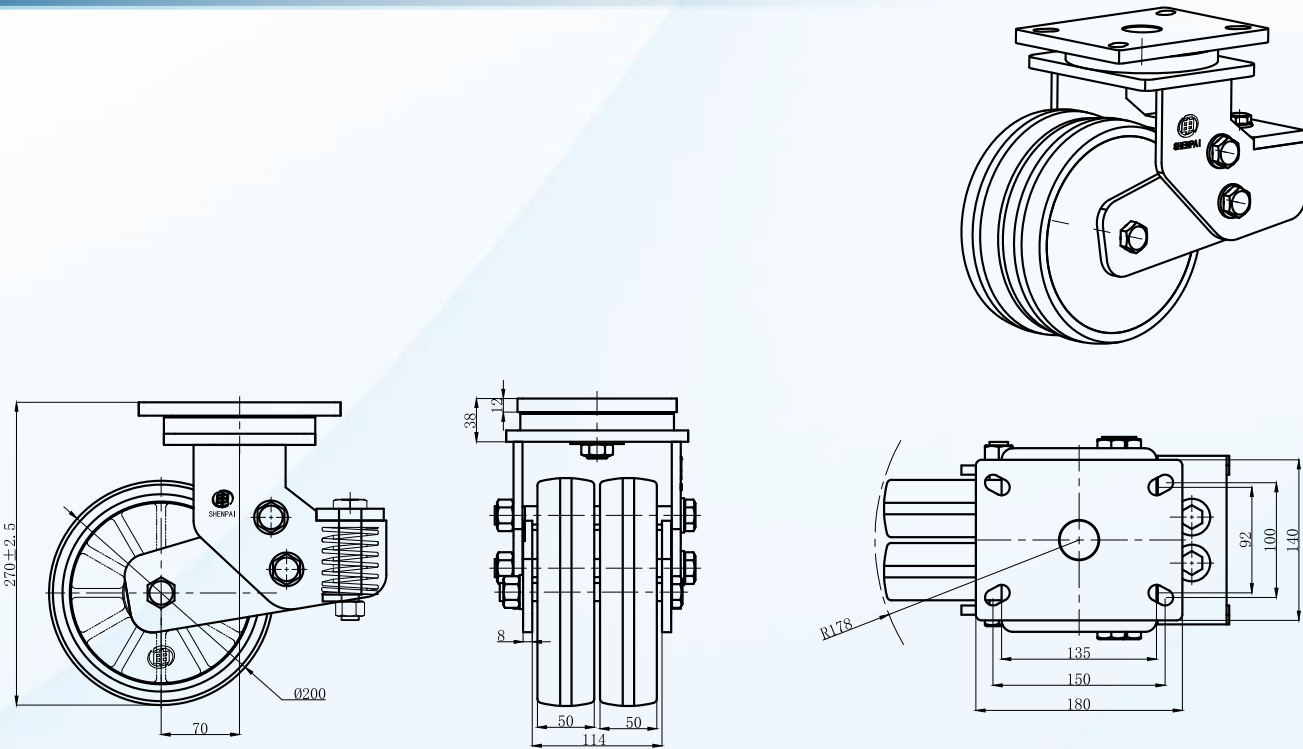
抗冲击
Impact Resistance

不留痕
Non-Marking

高载重
High Capacity

高回弹
High Resilience

弹簧减震缓冲
Spring Shock Absorption Buffer



产品图片	Product image													
轮片材料	Material	铝芯聚氨酯			铁芯聚氨酯		铁芯聚氨酯			铁芯聚氨酯			铁芯聚氨酯	
硬度	Wheel-tread Hardness	95A			95A		95A			95A			95A	
尺寸	Inch	2"	2.5"	3"	8"	10"	5"	6"	8"	5"	6"	8"	8"	10"
型号	Model	45F41-2043	45F42-2044	45F43-2045	45X13-1161	45X14-1162	45F01-0206	45F04-0207	45F07-0208	45F51-0206	45F54-0207	45F58-0208	45X15-1161	45X16-1162
轮径	Wheel Diameter	55mm	65mm	75mm	200mm	250mm	125mm	150mm	200mm	125mm	150mm	200mm	200mm	250mm
轮宽	Tire Width	23mm	23mm	23mm	64mm	80mm	50mm	50mm	50mm	50mm	50mm	50mm	64mm	80mm
载重	Capacity	150kg	180kg	200kg	1000kg	1500kg	600kg	800kg	1000kg	1200kg	1400kg	1700kg	2500kg	3000kg
偏心距	Offset distance	20mm	25mm	25mm	89mm	89mm	60mm	60mm	70mm	60mm	60mm	70mm	89mm	89mm
底板尺寸	Top Plate Size	110×85mm			180×140mm		180×140mm			180×140mm			250×170mm	
安装尺寸	Mounting Dimensions	86×60mm			145×105mm		150-135×100-92mm			150-135×100-92mm			200×123mm	
安装孔径	Mounting Hole Diameter	8.7mm	8.7mm	8.7mm	17mm	17mm	14mm	14mm	14mm	14mm	14mm	14mm	17mm	17mm
安装高度	Mounting Height	96mm	106mm	113mm	330mm	380mm	208mm	220mm	270mm	208mm	220mm	270mm	330mm	380mm
旋转半径	Rotation Radius	60mm	65mm	61.5mm	193mm	217.5mm	125mm	137mm	172mm	133mm	150mm	185mm	203mm	232mm

AGV / AMR 脚轮
AGV / AMR Caster

90C 越障脚轮
90C Obstacle-Climbing Caster



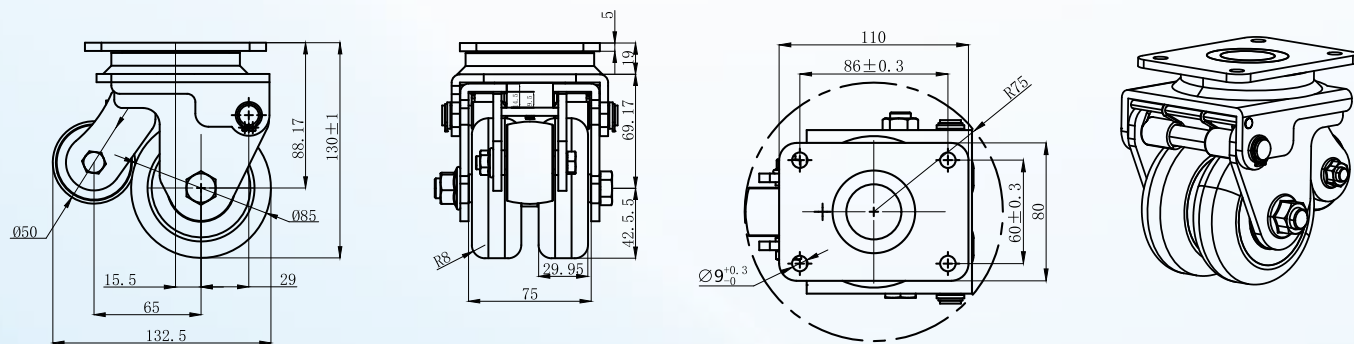
启动省力
Easy To Roll

不留痕
Non-Marking

转动轻便
Easy To Swivel

高耐磨
Wear-resistance

翻转式越障
Flip over obstacle crossing



产品图片	Product image			
轮片材料	Material	铝芯聚氨酯		
硬度	Wheel-tread Hardness	85A		
尺寸	Inch	2.5"	3"	4"
型号	Model	90C02-2038	90C01-2026	90C03-2039
轮径	Wheel Diameter	65	85	100
轮宽	Tire Width	25	30	35
载重	Capacity	110	150	200
偏心距	Offset distance	15.5	15.5	20
底板尺寸	Top Plate Size	110×80	110×80	110×80
安装尺寸	Mounting Dimensions	86×60	86×60	86×60
安装孔径	Mounting Hole Diameter	9	9	9
安装高度	Mounting Height	95	130	150
旋转半径	Rotation Radius	62	75	90

AGV / AMR 脚轮
AGV / AMR Caster

90D 自平衡脚轮
90D Self-Balancing Caster



承载分布均匀
Even Load Distribution

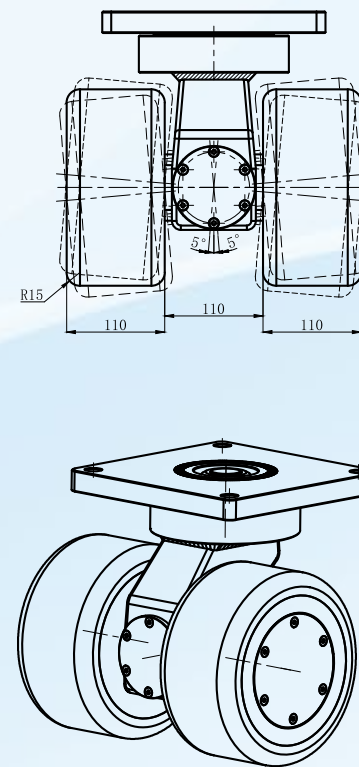
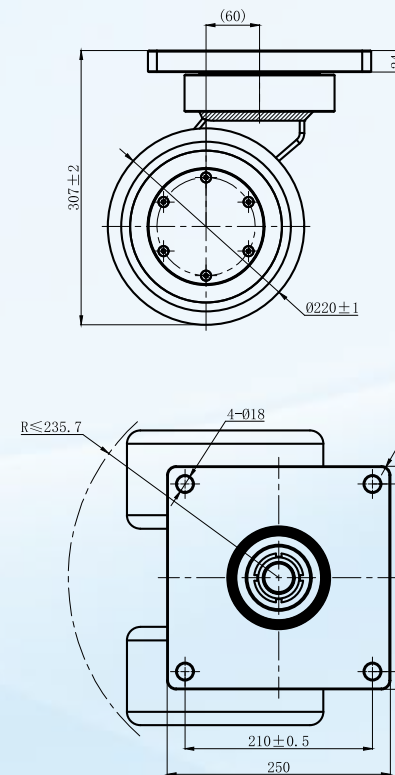
节省车辆设计空间
Save Space in Vehicle Design

产品特点:

轮子可以在其中心轴线上倾斜 $\pm 5^\circ$ ，可以轻松穿越不平整的地面和小障碍，同时也能保持稳定并保护装载的产品。

Product Features:

The wheels can be tilted up and down $\pm 5^\circ$ on their central axis, allowing them to easily traverse uneven surfaces and small obstacles while maintaining stability and the products being carried.



自适应脚轮采用全新研发的倾斜结构，能根据地面的平整度自由倾斜，同时保持稳定，有效减少旋转时的晃动。双轮同时受力设计可最大限度减少磨损，从而延长使用寿命。

The adaptive casters feature a newly developed tilted structure that can freely tilt according to the flatness of the ground while maintaining stability, effectively reducing shaking during rotation. The design where both wheels bear force simultaneously minimizes wear to the maximum extent, thereby extending the service life.

驱动轮 (组)

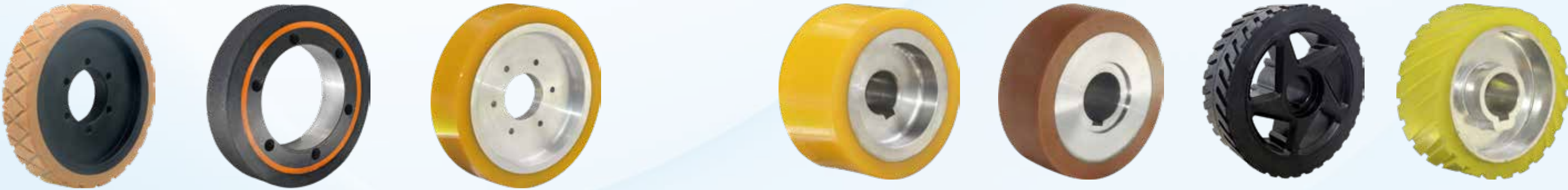
Driving Wheel (Set)

一般驱动轮

General Driving Wheel



免费设计，支持来图加工，胎面花纹可供多样化选择。
Free design, support drawing processing, tread patterns can be diversified.



AGV 驱动轮 (法兰安装)
AGV Drive Wheel (Hub Fitting)

型号	材质	轮面硬度	轮径	轮宽	中心孔	安装孔数 / 孔径	PCD	承载
Model	Material	Wheel-tread Hardness	Wheel Dia	Tire Width	Center hole	Number of holes / hole diameter	PCD	Capacity
90X-3021	钢芯聚氨酯	73A	130mm	40mm	35mm	6×M5	45	200kg
90X-3022	铝芯聚氨酯	73A	130mm	40mm	42mm	6×M4	52	160kg
90X-3023	钢芯聚氨酯	73A	150mm	40mm	50mm	6×6.5	70	250kg
90X-3024	钢芯聚氨酯	93A	150mm	40mm	50mm	6×6.5	70	280kg
90X-3025	铝芯聚氨酯	83A	180mm	50mm	40mm	6×6.6	65	400kg
90X-3026	钢芯聚氨酯	73A	200mm	40mm	50mm	6×6.5	70	300kg
90X-3027	铝芯聚氨酯	83A	200mm	42mm	115mm	6×M8	133	400kg
90X-3028	铝芯聚氨酯	93A	200mm	50mm	115mm	6×M8	133	500kg

AGV 驱动轮 (键槽安装)
AGV Drive Wheel (Key Way)

型号	材质	轮面硬度	轮径	轮宽	键长	键宽	键孔	承载
Model	Material	Wheel-tread Hardness	Wheel Dia	Tire Width	Key length	Key width	Keyhole	Capacity
90X-3001	钢芯聚氨酯	90A	85mm	60mm	60mm	6mm	25mm	200kg
90X-3002	钢芯聚氨酯	90A	90mm	75mm	75mm	8mm	25mm	200kg
90X-3003	钢芯聚氨酯	90A	160mm	75mm	75mm	16mm	55mm	800kg
90X-3004	钢芯聚氨酯	90A	160mm	80mm	80mm	16mm	50mm	1000kg
90X-3005	钢芯聚氨酯	90A	170mm	55mm	55mm	12mm	40mm	500kg

驱动轮 (组)
Driving Wheel (Set)
麦克纳母轮
Mecanum Wheel Set


任意方向实现平移和原地 360° 旋转, 可展现最大灵活性和自由机动性。采用德国聚氨酯弹性体材料, 硬度邵氏 75-92A, 高回弹, 高耐磨, 大摩擦系数, 精确定位性, 运行平稳, 不跳动, 使用寿命 2 年。

Translation and 360° rotation in any direction can show maximum flexibility and free mobility. German polyurethane elastomer material, hardness Shore 75-92A, high resilience, high wear resistance, large friction coefficient, accurate positioning, stable operation, non beating, service life of 2 years.

主轮体材质: 铝合金
Main wheel material:
 aluminum alloy

小轮材质: 铝芯 PU
Small wheel material:
 aluminum core PU

脚轮小贴士:
【麦克纳母轮】

一种带斜向辊子的特殊车轮, 能让设备实现全方位移动 (如横移、斜移), 无需转向, 常用于 AGV 机器人、物流设备。

发明人: 本特·厄兰·伊隆

专利起始日期: 1975 年 ~1992 年

型号	轮径	轮宽	小轮径	小轮数量	中心孔直径	键槽长度	键槽宽度	负载 ×4
Model	Wheel Dia	Tire Width	Wheel Dia	Number of wheels	Hole diameter	Keyway length	Keyway width	Capacity×4
90X13L-2060	101.6 mm	54mm	22mm	8	15mm	17.3mm	5mm	240kg
90X13R-2060	101.6 mm	54mm	22mm	8	15mm	17.3mm	5mm	240kg
90X14L-2061	152.4 mm	80mm	33mm	8	30mm	33.3mm	8mm	600kg
90X14R-2061	152.4 mm	80mm	33mm	8	30mm	33.3mm	8mm	600kg
90X15L-2062	203.2 mm	103mm	44mm	8	30mm	33.3mm	8mm	1000kg
90X15R-2062	203.2 mm	103mm	44mm	8	30mm	33.3mm	8mm	1000kg
90X16L-2063	228.0 mm	115mm	50.3mm	8	30mm	33.3mm	8mm	1200kg
90X16R-2063	228.0 mm	115mm	50.3mm	8	30mm	33.3mm	8mm	1200kg
90X17L-2064	254.0 mm	128mm	55mm	8	35mm	38.3mm	10mm	1500kg
90X17R-2064	254.0 mm	128mm	55mm	8	35mm	38.3mm	10mm	1500kg
90X18L-2065	280.0 mm	145mm	60mm	8	25mm	28.3mm	8mm	2000kg
90X18R-2065	280.0 mm	145mm	60mm	8	25mm	28.3mm	8mm	2000kg
90X19L-2066	304.8 mm	156mm	66.5mm	8	45mm	48.8mm	14mm	3000kg
90X19R-2066	304.8 mm	156mm	66.5mm	8	45mm	48.8mm	14mm	3000kg
90X20L-2067	406.0 mm	210mm	88mm	8	60mm	64.4mm	18mm	6000kg
90X20R-2067	406.0 mm	210mm	88mm	8	60mm	64.4mm	18mm	6000kg
90X21L-2068	457.0 mm	230mm	99mm	8	25.4mm	29.4mm	8mm	8000kg
90X21R-2068	457.0 mm	230mm	99mm	8	25.4mm	29.4mm	8mm	8000kg
90X22L-2069	508.0 mm	256mm	112mm	8	60mm	64.4mm	18mm	10000kg
90X22R-2069	508.0 mm	256mm	112mm	8	60mm	64.4mm	18mm	10000kg

驱动轮 (组)
Driving Wheel (Set)
全向轮 (奥姆轮)
Omni Wheel Set

脚轮小贴士:
【奥姆轮】

又称全向轮, 轮缘带可自由转动的小辊子, 能实现灵活转向和多方向移动, 结构比麦克纳母轮简单, 多用于小型机器人、玩具车。

专利起始日期: 1974 年 ~1994 年

全向轮采用最新工程聚合物, 搭配聚氨酯滚轮, 确保强度和耐用性。得益于聚氨酯特性, 申牌全向轮可在地面流畅滚动不留痕, 且使用寿命持久。360 度全向移动特性赋予设计者更高灵活性, 可自由设计装配该轮的车辆结构。

The omnidirectional wheel is made of the latest engineering polymer, paired with polyurethane rollers, ensuring strength and durability. Thanks to the characteristics of polyurethane, SHENPAI's omnidirectional wheel can roll smoothly on the ground without leaving marks and has a long service life. The 360-degree omnidirectional movement feature provides designers with greater flexibility, allowing them to freely design the vehicle structure equipped with this wheel.

说明:

由于 AGV 脚轮的定制化程度高, 以上系列化产品仅供参考。如需了解详情, 敬请联系项目经理。

Note:

Due to the high degree of customization of AGV casters, the above serialized products are for reference only. For more details, please contact the project manager.

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