IATF16949认证

Passed the IATF16949 Certification

征和链系统技术领导者

Choho,Chain Transmission Technology Leader

青岛征和工业股份有限公司

地址：中国青岛平度市香港路112号

销售热线：0532-83303777；技术支持：0532-83303777

QINGDAO CHOHO INDUSTRIAL CO.LTD.

Add: No.112 Hongkong Road,Pingdu, Qingdao City, 266700 China.

Tel/ Fax: +86-532-83303777

http://www.chohogroup.com

征和官网　征和官方公众号　征和官方抖音

图册所列测试数据均来自公司实验室

The test data listed in the manuals are from the laboratory of Choho

CHOHO

征和自行车链条

CHOHO BICYCLE CHAIN

产品手册 Product manuals

行业首家A股上市公司

证券代码 003033

The first A-share listed company in the chain drive industry. Stock code 003033

关于征和

ABOUT US

青岛征和工业股份有限公司是国内链传动行业的领军企业，中国机械通用零部件协会链传动分会理事长单位，同时也是中国链传动行业首家A股上市公司，证券代码：003033。

凭借行业领先的研发技术、产品质量及服务水平，征和工业积累了丰富优质的客户资源。公司为雅迪、爱玛、台铃、捷安特、美利达、凤凰、富仕达等众多知名厂家提供原装配套产品。商标已在60多个国家完成注册，产品远销欧美、东南亚、南美、非洲等数十个国家和地区，服务售后市场客户超2000家。

征和以“为全球自行车行业提供与车同寿命高品质的链条”为己任，每年销售3000多万条高品质的自行车辆链条，为全球客户提供优质的产品及系统解决方案。

Qingdao CHOHO Industry Co., Ltd. is a leading enterprise in the domestic chain drive industry, the chairman enterprise of the chain drive Branch of China Machinery General Parts Association, and the first A-share listed company in China's chain drive industry, stock code: 003033.

With industry-leading R & D technology, product quality and service level, CHOHO Industry has accumulated rich and high-quality customer resources. The company provides original supporting products for many well-known manufacturers such as SUNRA, YADEA, TAILG, BYVIN, GIANT, MERIDA, PHOENIX, etc. The trademark has been registered in more than 60 countries, the products are exported to Europe, America, Southeast Asia, South America, Africa and other dozens of countries and regions, and CHOHO serves more than 2000 customers in the after-sale market.

With the mission of "providing high-quality bicycle chains with the same life span for the global bicycle industry", CHOHO sells more than 30 million high-quality bicycle chains every year, providing high-quality products and system solutions to global customers.

征和总部 Headquater

征和青岛中心 Qingdao Center

征和上海中心 Shanghai Center

征和链传动工厂 Chain Drive Factory

征和发动机链系统工厂
Engine Chain System Factory

征和工业自动化部件(自行车链系统)工厂
Industrial Automation Parts (Bicycle chain system) Factory

征和泰国工厂 Factory in Tailand

关于征和自行车链

ABOUT CHOHO BICYCLE CHAINS

征和工业自动化部件（自行车链系统）工厂创立于2021年，依托雄厚的技术实力与产品优势，不断做大做强，积极开拓市场，获得了良好的口碑与关注。目前与雅迪、爱玛等国内外知名的电动自行车主机厂建立了联系，实现了批量供货。征和拥有完善、先进的自行车链系统生产设备及强大的自行车链系统研发团队，始终坚持自主研发的道路，不断创新、改进设计方案和工艺流程，力求为客户提供更加可靠、性价比更优的产品！

经过近两年的迭代研发，征和自行车链条产品现已包括电动车链条（C410/C408）、单速（1C）、7速（Z7）、9速（X9）、10速（X10）、11速（X11），可以满足通勤、竞技、越野、骑行爱好者等不同客户群体的使用需求，为客户提供更加高效及轻量化的自行车链系统解决方案，为客户创造价值，让客户“骑”乐无穷！

The Department of CHOHO Bicycle Chain was founded in 2021. Relying on strong technical strength and product advantages, it keeps growing bigger and stronger, actively expands the market, and obtains good reputation and attention. At present, with SUNRA, YADEA and other well-known electric bicycle manufacturers at home and abroad to establish a relationship. The first order has been supplied. CHOHO has perfect bicycle chain production equipment and a strong bicycle chain research and development team, always adhere to the road of independent research & develop- ment, constantly innovate and improve the design scheme and technological process, and strive to provide customers with more reliable products!

After nearly two years of research and development iterations, CHOHO bicycle chain products now include ordinary electric bicycle chain (C410/C408), one speed (S1), 7 speed (Z7), 9 speed (X9), 10 speed (X10) and 11 speed (X11), which can meet the needs of different customers and provide customers with more efficient bicycle transmission solutions. Create value for customers!

相关荣誉

PART OF THE HONOR

◇国家技术创新示范企业	National Technological Innovation Demonstration Enterprise
◇国家制造业单项冠军示范企业	National Champion Demonstration Enterprise of Manufacturing Industry
◇国家工信部专精特新小巨人企业	National Ministry of Industry and Information Technology Special New Small Giant Enterprises
◇国家高新技术企业	National High-tech Enterprises
◇“征和”中国驰名商标	"CHOHO" China Famous Trademark
◇国家认定企业技术中心	Enterprise Technology Center Recognized by the State
◇山东省工程研究中心	Shandong Engineering Research Center
◇首届青岛市市长质量奖	The First Qingdao Mayor Quality Award
◇CMCA 链传动分会理事长单位	CMCA Chain Drive Branch President Enterprise

相关认证

PART OF THE CERTIFICATION

1999 年，通过法国 BVQI ISO9002 质量管理体系认证	1999, passed the French BVQI ISO9002 Certification
2003 年，通过挪威 DNV ISO9001 质量体系认证	2003, passed the Norwegian DNV ISO9001 Certification
2007 年，通过 TS16949 质量管理体系认证	2007, passed the TS16949 Certification
2009-2018 年，通过德国 TUV 莱茵 TS16949:2009 质量管理体系认证	2009-2018, passed TUV Rhein TS16949:2009 Certification
2015-2018 年，通过青岛世通 ISO9001 质量管理体系认证	2015-2018, passed the ISO9001 Certification of Qingdao Stone
2018 年，通过德国 TUV 莱茵 IATF16949:2016 质量管理体系认证	2018, passed TUV Rhein IATF16949:2016 Certification
2021 年，通过德国 TUV 莱茵 ISO9001:2015 质量管理体系认证	2021, passed TUV Rhein ISO9001:2015 Certification
2022 年，通过 ISO14001:2015 环境管理体系认证	2022, passed ISO14001:2015 Environmental Certification
2022 年，通过 ISO45001:2018 职业健康安全管理体系认证	2022, passed ISO45001:2018 Health and Safety Certification

高效的生产技术

征和从全球引进高端链系统生产和检测设备，保证了产品的高品质。同时，从产品的研发到生产，征和也非常关注工艺的优化。作为全球链系统的供应商，我们拥有优秀员工队伍、先进技术和生产制造设备，确保了全球范围内批量生产的经济性、高品质和准时供货。高效的生产方式是精密产品大批量生产的前提。生产的高效率要归功于征和的专有技术，征和公司在冷成形技术、锻造技术、加工和装配技术等方面均处于行业的一流水平。高质量和高性价比的产品是我们对客户的承诺和回馈。

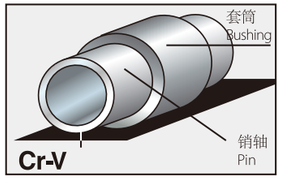
截至目前，征和拥有主要生产设备2700多台套，高精尖设备600多台套，包括：高精度冲床、高端切轴机、卷管机、滚筒抛丸机、渗碳网带炉、等温网带炉、数控车床、链条自动环节机、激光切割机、慢走丝、真空上油线等。拥有各类试验设备100多台套，包括：耐磨试验机、高低频疲劳试验机、三坐标测量仪、粗糙度轮廓仪、自动影像仪、光谱分析仪、维氏硬度计、金相显微镜等。凭借着国家级产品实验室、链系统自动生产组装线，软硬件设施设备和强大的研发队伍，征和具备了强大的高端链条产品研发及试验能力。

Choho imports high-end chain production and testing equipment to ensure the high quality of the products. Meanwhile, from development to production, choho is very concerned about the process optimization. As a global supplier, CHOHO has excellent staff, advanced technology and production equipment to make sure the efficiency, high quality and in-time delivery of mass production globally.

Efficient production mode is the precondition of mass production for precision products. High production efficiency comes from unique proprietary technology. CHOHO group is in the leading position of this industry from cold forming technology, forging, machining and assemlying etc.High quality and cost-effective product is our commitment and feedback to the customers.

Up to now, CHOHO has more than 2700 sets of main production equipments, more than 600 sets of highly sophisticated and advanced equipments, including: high precision punch, high-end shaft cutting machine, pipe winding machine, roller shot blasting machine, carburizing net belt furnace, isothermal net belt furnace, CNC lathe, chain automatic link machine, laser cutting machine, low speed wire cut , vacuum oiling line, etc. We have more than 100 sets of various testing equipments, including: wear tester, high and low frequency fatigue tester, coordinate measuring instrument, roughness profiler, automatic imaging instrument, spectrum analyzer, Vickers hardness tester, metallographic microscope, etc. With the domestic advanced product laboratory and chain production and assembly line, CHOHO has a strong ability of high-end chain product development and testing.

销轴渗金属
Cr-V PIN

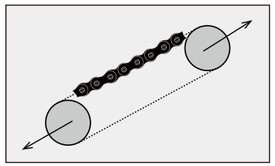


征和自主研发升级的Cr-V（铬钒共渗）工艺可以使销轴具有耐磨损、抗腐蚀、抗氧化、抗疲劳、耐高温等优势，提高了链条的强度，使其可以承载较大的载荷，有效的延长链条的使用寿命。
The Cr-V technology can make the pin have the advantages of abrasion resistance, corrosion resistance, oxidation resistance, fatigue resistance, high temperature resistance and so on.

热处理技术
Heat Treatment Technology

征和研发升级的网带炉热处理渗碳工艺，材料品质超高稳定性，保证了链条卓越的力学性能。
Developed and upgraded mesh belt furnace heat treatment carburizing process, material quality ultra-high stability, to ensure the excellent mechanical properties of the chain.

强力预拉
Strong Pre-tensioning

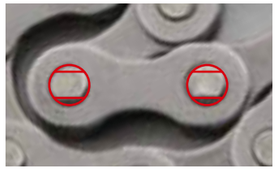


强力预拉是对装配好的整条链条施加约 2/3Q(Q 为链条的极限拉伸载荷 ）预拉载荷，使链板孔边缘产生残余压应力。当链条工作受到拉力作用后，残余压应力抵消掉部分拉应力，使得链板的最大应力下降，从而提高链板的疲劳强度。
The chain is strongly pre-tensioned before sell, which can reduce the initial elongation and improve anti-fatigue strength.

真空上油
Vacuum Oiling

利用真空泵对上油容器抽出空气，使链条零件内部空气被抽出，形成负压，使各零件缝隙中充满耐磨油脂。该项技术使链条上油均匀充分，润滑良好，提高链条耐磨性能，寿命延长30%以上。
The vacuum pump is used to extract air from the oil container, so that the air inside the chain parts is extracted, forming negative pressure, so that the cracks in the parts are filled with wear-resistant grease.

多种铆头方式
Variety of Riveting Methods



征和自行车链条配备接头、PPO、环铆、环接等接头方式，不仅兼顾了强度，更能适应顾客的不同需求。
CHOHO bicycle chain is equipped with joint, PPO, ring riveting, ring joint and other joint modes. It not only takes into account the strength, but also adapts to the different needs of customers.

型号及参数列表

MODEL AND PARAMETER LIST

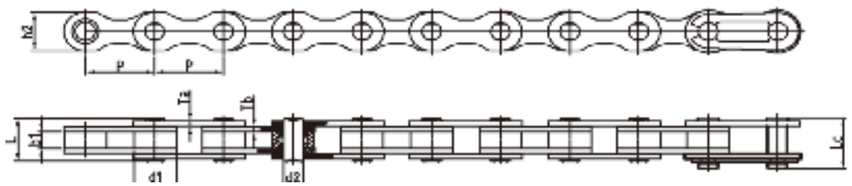
速别 Speeds	型号 Model	材料 Material	表面处理 Surface Treatment	防锈性能 Rust-proof	轻量化 Light Weight	接头形式 Joint Form	最小抗拉强度 Ultimate tensile strength(min)	节距 Pitch	滚子直径 Roller Diameter	销轴直径 Pin Diameter	销轴长度 Pin Length	内节内宽 Width Between Inner Plates	内链板高度 Inner Plate Depth	链板厚度 Plate Thickness
							Q_{min}	P	$d1_{max}$	$d2_{max}$	L_{max}/Lc_{max}	$b1_{min}$	$h2_{max}$	Ta_{max}/Tb_{max}
							kN	mm	mm	mm	mm	mm	mm	mm
单速	C410	碳素钢	DacroMat、Geomet、氧化发黄、氧化发蓝电极电镀处理等	中性盐雾NSS测试防腐蚀性能≥9级	☐	接头、PPO、环铆、环接等接头形式	8.04	12.70	7.75	3.64	8.60/10.20	3.40	7.95	1.00/1.00
单速	C408	碳素钢	DacroMat、Geomet、氧化发黄、氧化发蓝电极电镀处理等	中性盐雾NSS测试防腐蚀性能≥9级	☑	接头、PPO、环铆、环接等接头形式	7.35	12.70	7.75	3.64	7.92/9.86	3.40	7.95	0.85/0.85
单速	1C	碳素钢	DacroMat、Geomet、氧化发黄、氧化发蓝电极电镀处理等	中性盐雾NSS测试防腐蚀性能≥9级	☐	接头、PPO、环铆、环接等接头形式	8.33	12.70	7.75	3.64	8.45/10.20	3.40	8.55	1.00/1.00
7速	Z7	碳素钢	DacroMat、Geomet、氧化发黄、氧化发蓝电极电镀处理等	中性盐雾NSS测试防腐蚀性能≥9级	☐	接头、PPO、环铆、环接等接头形式	8.33	12.70	7.72	3.64	7.35/10.20	2.40	8.45	1.00/1.07
9速	X9	内链板S35C 外链板S50C 销轴S62A	氧化发黄、氧化发蓝电极电镀、滚亮等	中性盐雾NSS测试防腐蚀性能≥9级	☑	配备PPO、快扣接头等连接方式	9.80	12.70	7.70	3.63	6.50	2.21	7.95	0.89/0.97
10速	X10	内链板S35C 外链板S50C 销轴S62A	氧化发黄、氧化发蓝电极电镀、滚亮等	中性盐雾NSS测试防腐蚀性能≥9级	☑	配备PPO、快扣接头等连接方式	9.50	12.70	7.70	3.64	6.13	2.24	8.45	0.84/0.81
11速	X11	内链板S35C 外链板S50C 销轴S62A	氧化发黄、氧化发蓝电极电镀、滚亮等	中性盐雾NSS测试防腐蚀性能≥9级	☑	配备PPO、快扣接头等连接方式	9.80	12.70	7.65	3.62	5.90	2.23	7.95	0.87/0.78

1 SPEED 单速常规型
NORMAL TYPE

C410

C410链条适用于电动车/自行车/童车，是使用最为广泛的一款自行车链条。

C410 CHAIN is the most widely used bicycle chain for electric vehicles /bicycles/baby carriages.



CAD

MATERIAL材料

原材料升级，内外链片全部采用优质碳素钢

Raw material upgrade, material of both Internal and external chain plate is high quality carbon steel, ensure quality from the source

DESIGN设计

优化力学结构及片型设计，提高链条极限载荷

Optimize the mechanical structure and the sheet shape design, Improve the ultimate load of the chain

PROCESS工艺

网带炉热处理工艺，材料品质超高稳定性，力学性能卓越

Mesh belt furnace heat treatment carburizing process, material quality ultra-high stability, ensure excellent mechanical performance

SURFACE表面处理

达克罗、久美特、氧化发黄/发蓝、电极电镀等多种处理方式

Dacromat/Geomet/oxidation yellow/Oxidation bluing/electrode plating treatment and other processes treatment

JOINT FORM接头方式

配备接头、PPO、环铆、环接等接头形式，满足顾客需求

Equipped with joint/ PPO/ ring riveting/ ring joint and other joint forms, to meet customer needs

ANTIRUST防锈测试

达克罗中性盐雾NSS测试，防锈腐蚀性能达到9级

Dacromat neutral salt spray NSS test over 600H, anti-rust performance up to 9 grade

INDEX 性能指数

防锈 ANTI-CORROSION　耐磨 WEARPROOF

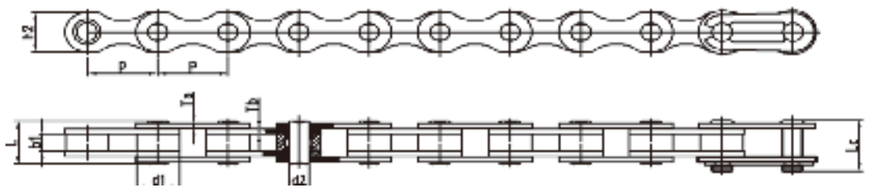
轻量 LIGHTWEIGHT　兼容 COMPATIBLE

1 SPEED 单速轻量型
LIGHTWEIGHT TYPE

C408

C408链条适用于电动车/自行车/童车，是对C410的轻量化升级款。

The C408 chain is suitable for electric vehicles/bicycles/buggies, and is a lightweight upgrade to the C410.



CAD

MATERIAL材料

原材料升级，内外链片全部采用优质碳素钢

Raw material upgrade, material of both Internal and external chain plate is high quality carbon steel, ensure quality from the source

DESIGN设计

内外链片超薄轻量化设计，比市面同款C410重量轻11%

Inner and outer chain plate ultra-thin lightweight design, compared with the same model C410 in the market, the weight is 11% lighter

PROCESS工艺

网带炉热处理工艺，材料品质超高稳定性，力学性能卓越

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Equipped with joint/ PPO/ ring riveting/ ring joint and other joint forms, to meet customer needs

ANTIRUST防锈测试

达克罗中性盐雾NSS测试，防锈腐蚀性能达到9级

Dacromat neutral salt spray NSS test over 600H, anti-rust performance up to 9 grade

INDEX 性能指数

防锈 ANTI-CORROSION　耐磨 WEARPROOF

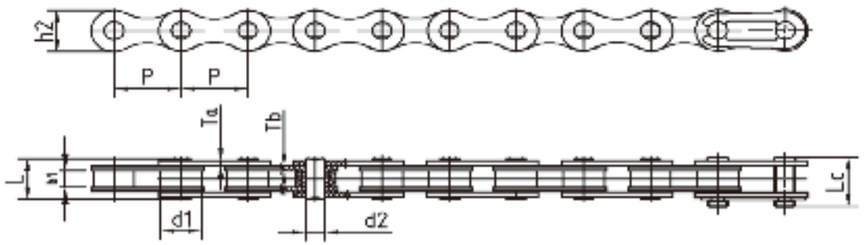
轻量 LIGHTWEIGHT　兼容 COMPATIBLE

1 SPEED 单速强化型
ENHANCED TYPE

1C

征和1C自行车链条适用于电动车、自行车童车，是C410链条的升级款。

The CHOHO 1C bicycle chain is suitable for electric vehicles/ bicycles/ strollers, it is an upgrade of C410 chain.



CAD

MATERIAL材料

原材料升级，内外链片全部采用优质碳素钢

Raw material upgrade, material of both Internal and external chain plate is high quality carbon steel, ensure quality from the source

DESIGN设计

内链板翻孔与倒角，模具精准冲压设计，链片一次成型

Hole flanging and chamfer of inner plate, The chain plate is formed once to improve the precision and mesh effect of the chain plate

PROCESS工艺

网带炉热处理工艺，材料品质超高稳定性，力学性能卓越

Mesh belt furnace heat treatment carburizing process, material quality ultra-high stability, ensure excellent mechanical performance

SURFACE表面处理

使用新型带式设备，色泽饱满，防锈性能稳定，电极电镀等

Surface treatment using new belt equipment, appearance color full, rust resistance performance is more stable, electrode plating treatment

JOINT FORM接头方式

配备接头、PPO、环铆、环接等接头形式，满足顾客需求

Equipped with joint/ PPO/ ring riveting/ ring joint and other joint forms, to meet customer needs

ANTIRUST防锈测试

达克罗中性盐雾NSS测试，防锈腐蚀性能达到9级

Dacromat neutral salt spray NSS test over 600H, anti-rust performance up to 9 grade

INDEX 性能指数

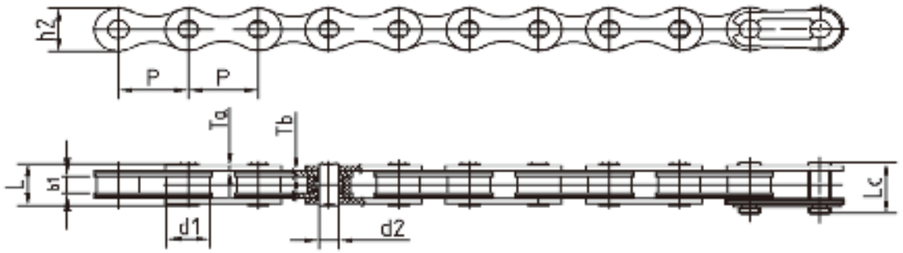
防锈 ANTI-CORROSION　耐磨 WEARPROOF
轻量 LIGHTWEIGHT　兼容 COMPATIBLE

7 SPEED 7速高强型
HIGH STRENGTH TYPE

Z7

征和Z7自行车链条，可完美匹配市面上的6-7速自行车。

The CHOHO Z7 bike chain can perfectly match the 6-7 speed bikes on the market.



CAD

MATERIAL材料

原材料升级，内外链片全部采用优质碳素钢

Raw material upgrade, material of both Internal and external chain plate is high quality carbon steel, ensure quality from the source

DESIGN设计

内外链板倒角增强变速设计，变速顺畅，无顿挫感

Chamfering enhanced variable speed design of inner and outer chain plate, smooth transmission, no sense of frustration

PROCESS工艺

网带炉热处理工艺，材料品质超高稳定性，力学性能卓越

Mesh belt furnace heat treatment carburizing process, material quality ultra-high stability, ensure excellent mechanical performance

SURFACE表面处理

使用新型带式设备，色泽饱满，防锈性能稳定，电极电镀等

Surface treatment using new belt equipment, appearance color full, rust resistance performance is more stable, electrode plating treatment

JOINT FORM接头方式

配备接头、PPO、环铆、环接等接头形式，满足顾客需求

Equipped with joint/ PPO/ ring riveting/ ring joint and other joint forms, to meet customer needs

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INDEX 性能指数

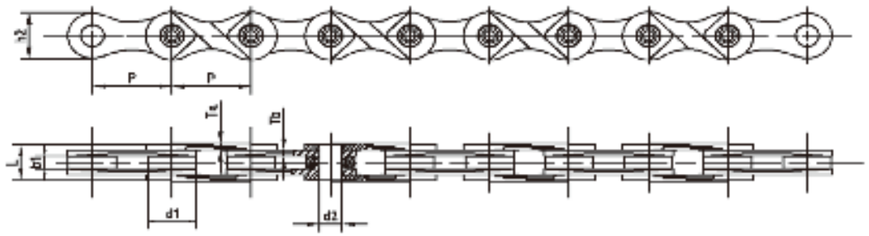
防锈 ANTI-CORROSION　耐磨 WEARPROOF
轻量 LIGHTWEIGHT　兼容 COMPATIBLE

9 SPEED 9速超强型
SUPER STRONG TYPE

X9

征和X9自行车链条，适用于市面上8-9速自行车，完美兼容SHIMANO变速系统。

The CHOHO X9 bike chain is suitable for 8-9 speed bikes on the market and is perfectly compatible with SHIMANO transmission system.



CAD

MATERIAL材料

内链板：S35C；外链板：S50C；销轴：S62A

Inner chain plate material: S35C; outer chain plate material: S50C; Pin material: S62A

DESIGN设计

外链板双X桥型外观设计，铬化轴增强耐磨耗

External chain plate double X bridge design, chromated shaft for enhanced wear resistance

PROCESS工艺

网带炉热处理工艺，材料品质超高稳定性，销轴铬化处理

Mesh belt furnace heat treatment carburizing process, material quality ultra-high stability, chromium treatment of pin

SURFACE表面处理

氧化发黄/发蓝色泽饱满，防锈性能稳定，电极电镀，滚亮等

Oxidized yellow/blue color full, rust resistance performance is more stable, electrode plating treatment，roll to bright...

JOINT FORM接头方式

配备PPO、快扣接头等连接方式

CHOHO bicycle chain equipped with PPO/ snap connector connection and so on

ANTIRUST防锈测试

达克罗中性盐雾NSS测试，防锈腐蚀性能达到9级

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INDEX 性能指数

防锈 ANTI-CORROSION　耐磨 WEARPROOF

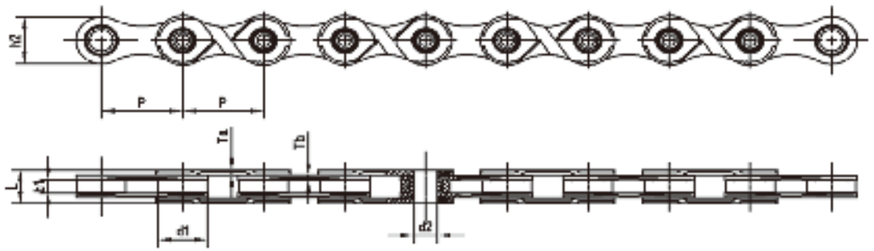
轻量 LIGHTWEIGHT　兼容 COMPATIBLE

10 SPEED 10速至强型
STRONGEST TYPE

X10

征和X10自行车链条适用于市面上10速自行车，完美兼容SHIMANO变速系统。

The CHOHO X10 bike chain is suitable for 10 speed bikes on the market and is perfectly compatible with SHIMANO transmission system



CAD

MATERIAL材料

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DESIGN设计

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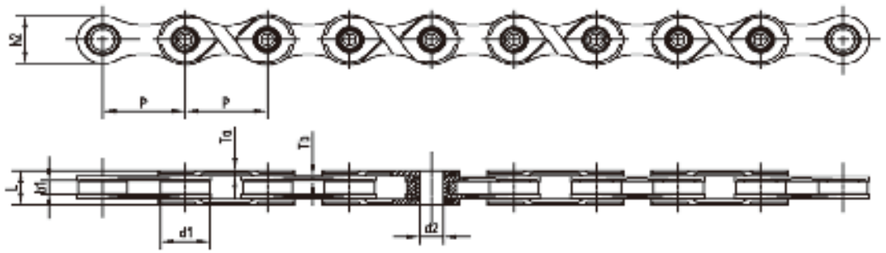
INDEX 性能指数

11 SPEED 11速电助力型
ELECTRIC ASSISTED TYPE

X11

征和X11自行车链条适用于市面上11速自行车，完美兼容SHIMANO变速系统。

The CHOHO X11 bike chain is suitable for 11 speed bikes on the market and is perfectly compatible with SHIMANO transmission system



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MATERIAL材料

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