

PRODUCT MANUAL

北京智同精密传动科技股份有限公司

Beijing Chietom Precision Transmission Technology Co., Ltd.

智同科技·传动中国力量

企业简介

北京智同精密传动科技股份有限公司

Beijing Chietom Precision Transmission Technology Co., Ltd.

北京智同精密传动科技股份有限公司（以下简称“智同科技”）成立于2015年，是国家高新技术企业、国家级专精特新“小巨人”企业。下设两个子公司：河北智昆精密传动科技有限公司和北京智同工大智能传动技术研究院有限公司。

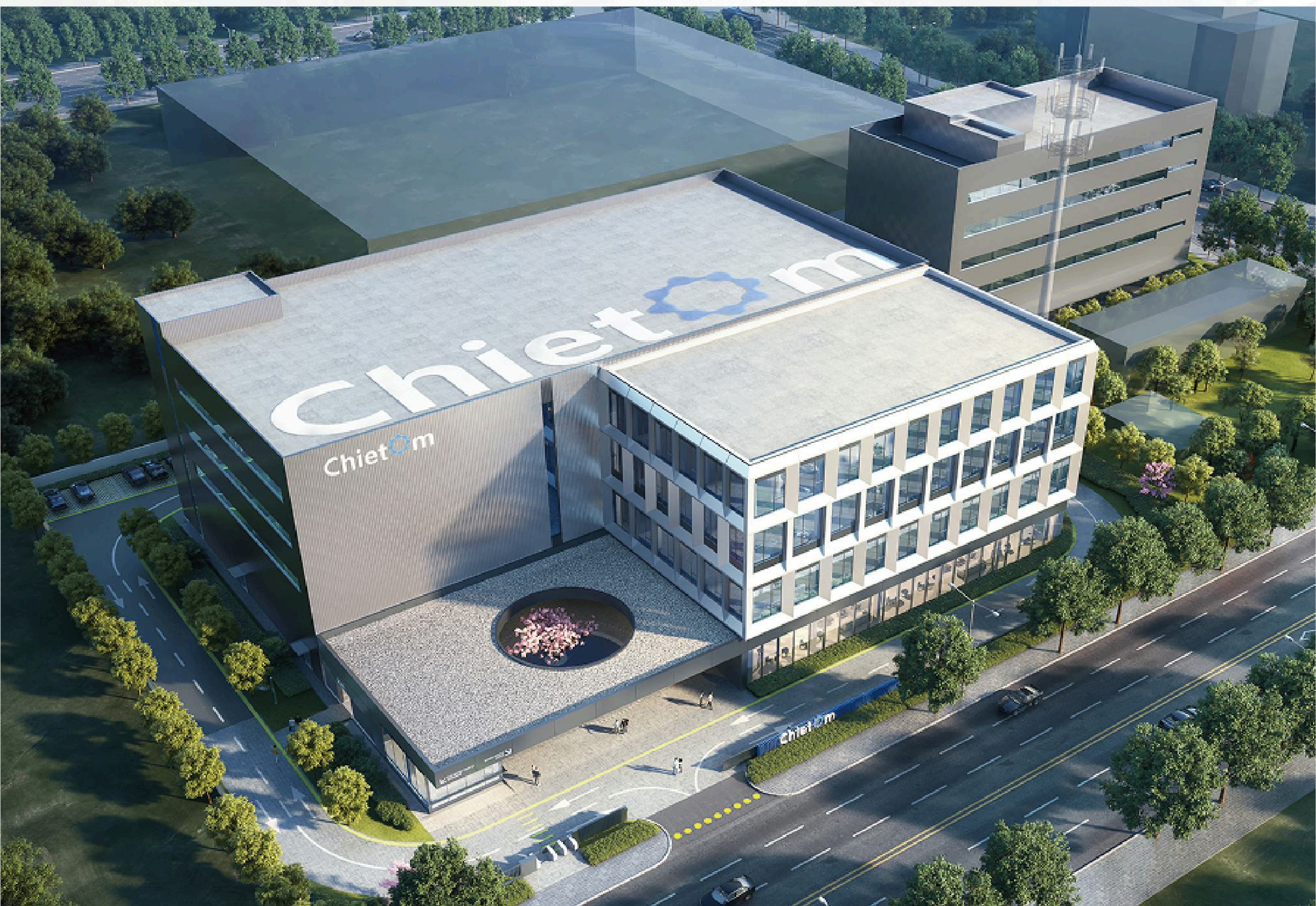
智同科技自主、正向研发的工业机器人用高精密摆线减速机，广泛应用于各类工业机器人、精密机床、工程装备等领域。公司以强大的定制开发能力不断拓展产品应用边界，逐步实现精密传动全场景客户覆盖。

智同科技致力于面向全球机器人及其他制造企业提供标准化减速机产品，并提供高精密减速机研发、定制与升级服务，是一家在精密传动领域具备自主创新能力、精密加工能力、定制服务及快速反应能力的高科技企业。公司秉承“天道酬勤，业道酬精”的企业精神，为顾客提供优质、快捷、专业的精密减速机产品和服务，引领国内减速机行业发展，打造成为全球领先的机器人传动系统解决方案服务商。

Beijing Chietom Precision Transmission Technology Co., Ltd. (Chietom) founded in 2015, is a national high-tech enterprise and a national specialized new "little giant" enterprise. It has two subsidiaries: Hebei Zhikun Precision Transmission Technology Co., Ltd. and Beijing Chietom-BJUT Intelligent Transmission Technology Research Institute Co., Ltd.

The independent-researched and forward-developed products have been applied in industrial robots, high-precision machine tools, construction machinery, etc. With strong customization capabilities, Chietom keeps expanding product application boundaries and trying to achieve a full-scene coverage of precision transmission step by step.

Chietom is specialized in developing and manufacturing precision reducers applied in robot joints. With its expertise in precision transmission technology, Chietom is committed to providing reliable products with high accuracy, high stiffness, strong bearing capability to global industry robot manufacturers. Adhering to the spirit of "God rewards diligence and innovation, and business rewards higher quality and reliability", Chietom will dedicate to providing excellent products and outstanding services to our customers around the world, and become a globally leading robot transmission system solution service.



河北智昆精密传动科技有限公司

Hebei Zhikun Precision Transmission Technology Co., Ltd.

河北智昆精密传动科技有限公司（以下简称“智昆科技”）位于石家庄高新技术产业开发区，是北京智同精密传动科技股份有限公司的子公司（以下简称“智同科技”），是国家高新技术企业、国家科技型中小企业、河北省“专精特新”中小企业。现拥有现代化厂房5.5万平米，办公楼6000平米，员工450余人，已通过ISO9001及职业健康与环境认证。

智昆科技自主研发、生产的减速机产品广泛应用于工业机器人、精密机床、风力发电、工程机械、通用机械等领域，部分高端行星减速机产品已逐步实现国产替代。

智昆科技秉承“天道酬勤，业道酬精”的企业精神，将壮大民族高端装备制造产业作为光荣使命，助力中国智能制造，力争成为有社会责任感的“中国制造2025”示范性企业。

Hebei Zhikun Precision Transmission Technology Co., Ltd. (Zhikun) is located in Shijiazhuang High-tech Industrial Development Zone. It is a wholly-owned subsidiary of Beijing Chietom Precision Transmission Technology Co., Ltd. (Chietom). Zhikun is a national high-tech enterprise and also a specialized, fined, peculiar, and innovative enterprise. Chietom now has 55000 square meters of modern factory buildings, 6000 square meters of office buildings, and more than 450 employees, and has passed ISO9001 and occupational health and environment certification.

The independently researched and produced products have been widely applied in industrial robots, high-precision machine tools, wind power generation, construction machinery, general machinery, etc. Our high-end planetary reducer products have gradually achieved domestic substitution.

Adhering to the spirit of "God rewards diligence and innovation, and business rewards higher quality and reliability", Zhikun will take the expansion of the national high-end equipment manufacturing industry as a glorious mission, assist with the intelligent manufacturing of China, and strive to become a representative enterprise in "Made in China 2025".

北京智同工大智能传动技术研究院有限公司

Beijing Chietom-BJUT Intelligent Transmission Technology Research Institute Co., Ltd.

北京智同工大智能传动技术研究院有限公司（以下简称“研究院”）是由智同科技与北工大科技园共同设立，专门从事机械传动理论研究的企业研发中心。研究院汇聚国内机械传动行业专家、高校教授、博士、硕士等高资历、高学历人才，以高精、高速齿轮传动为基础对象，开展啮合原理、齿轮修形技术及机械动力学的深入研究。同时以市场为导向，重点布局精密装备、工业机器人、电动汽车、高铁、船舶、航空器等领域，解决社会关注的、国计民生的重大疑难技术问题，服务于我国国防、企业或科研机构等，为提升我国智能制造水平贡献力量。

研究院建立的机构设计理论、齿轮啮合理论、机械强度与力学三个研究室全面支撑机械传动的理论研究，是科研项目培育的坚实基础。聚集专业技术人才，统筹技术创新资源，促进齿轮智能制造技术的研发和产业化，并形成示范，是研究院的核心价值体现。力争通过持续研发投入，将研究院建成国内机械传动行业的权威理论研究机构，承担更具国家使命感的研发任务。

Beijing Chietom-BJUT Intelligent Transmission Technology Research Institute Co., Ltd. (Chietom Institute), jointly established by Chietom and BJUT Science & Technology Park, is an R & D center specialized in mechanical transmission theory research. Chietom-BJUT Institute research team consists of experts, professors, doctors, and masters from both industries and academia. Taking precision gear transmission as research object, Chietom-BJUT Institute has made great achievements in gear meshing theory, tooth modification and mechanical dynamics. Taking the market as guidance, Chietom-BJUT’s products have been applied to high-precision machine tools, industrial robots, electric vehicles, high-speed rails, ships and aircrafts, etc. Chietom-BJUT Institute is committed to solving difficult problems that are of social concern to national enterprises and scientific research institutions.

Chietom-BJUT Institute has three research laboratories, focusing on Mechanical Design Research, Gear Meshing Theory Research, and Mechanical Strength and Mechanics Research. Chietom-BJUT Institute will continuously collect technical talents to carry out technical innovation and promote gear R & D and industrialization of gear intelligent manufacturing technology, and form demonstration. We strive to construct the institute into an authoritative theoretical research institution in the domestic mechanical transmission industry and undertake research and development tasks with a sense of national mission through continuous investment in research and development.

CT-CRV

CT-CRV 系列机器人关节减速机

CT-CRV series robotic joint reducer

● **应用场景：**

主要应用于工业机器人、数控机床、变位机、非标自动化等行业。

● **Application scenarios:**

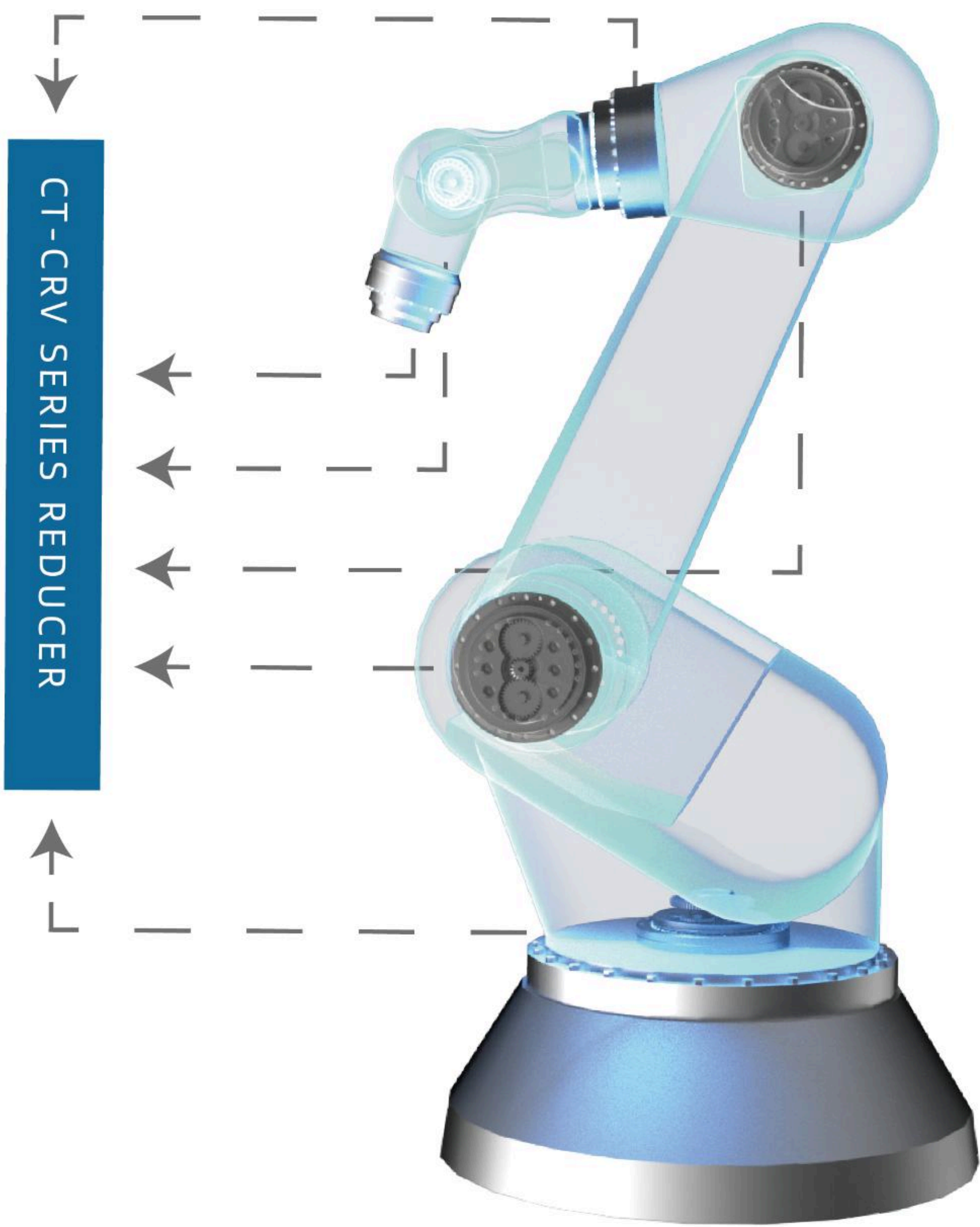
Mainly used in industrial robots, CNC machine tools, deflection machine, non-standard automation etc.

● **主要特点：**

CT-CRV系列减速机分为E、C、P三个系列，E系列为实心，C系列为空心，P系列是E系列的升级版。
大减速比；扭转刚度大，大负载，耐冲击；
高精度和小间隙回差，齿隙1弧分，空程1弧分；传动效率高；
传递同样转矩与功率时的体积小，轴向尺寸小。

● **Main features :**

The CT-CRV series reducers are divided into three series: E, C, and P.
The E series is non through, the C series is through, and the P series is an upgraded version of the E series.
Large speed ratio; large torsional rigidity, heavy load, impact resistance;
High accuracy and small backlash, backlash of 1 arc.min, lost motion of 1 arc.min;
High transmission efficiency; when transmitting the same torque and power, the volume is small and the axial size is small.



● **可提供型号 Available Models:**

E 系列 E series: 20E、40E、80E、110E、140E、160E、320E3、450E、1500E

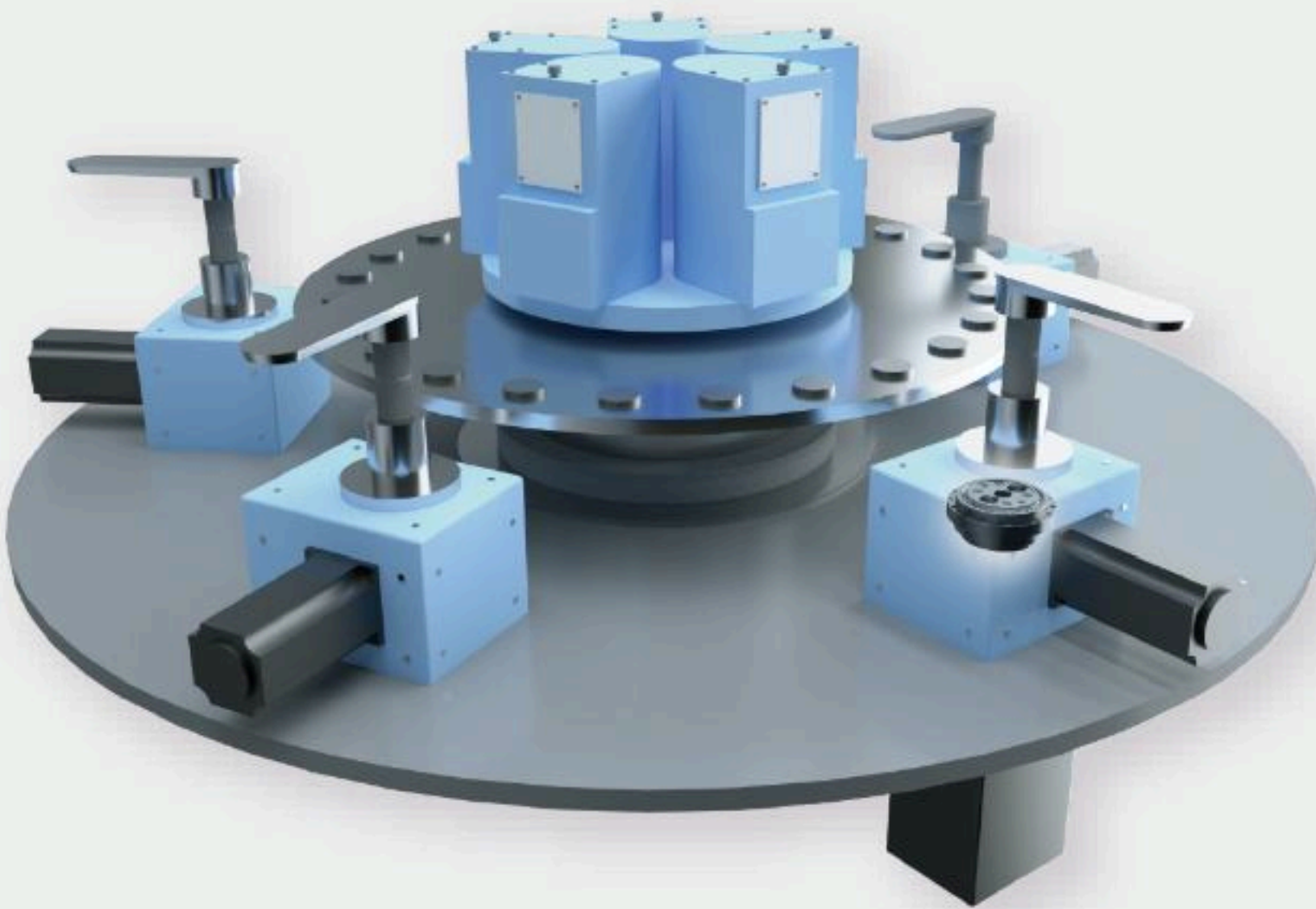
C 系列 C series: 10C、27C、50C、100C、120C、200C、320CA、400C、700C、900C、1200C

P 系列 P series: 15P、25P、42P、60P、80P、100P、100PQ、125P、160P、320P、380P、500P、550P、700P

应用场景



5轴加工中心
5-axis machining center



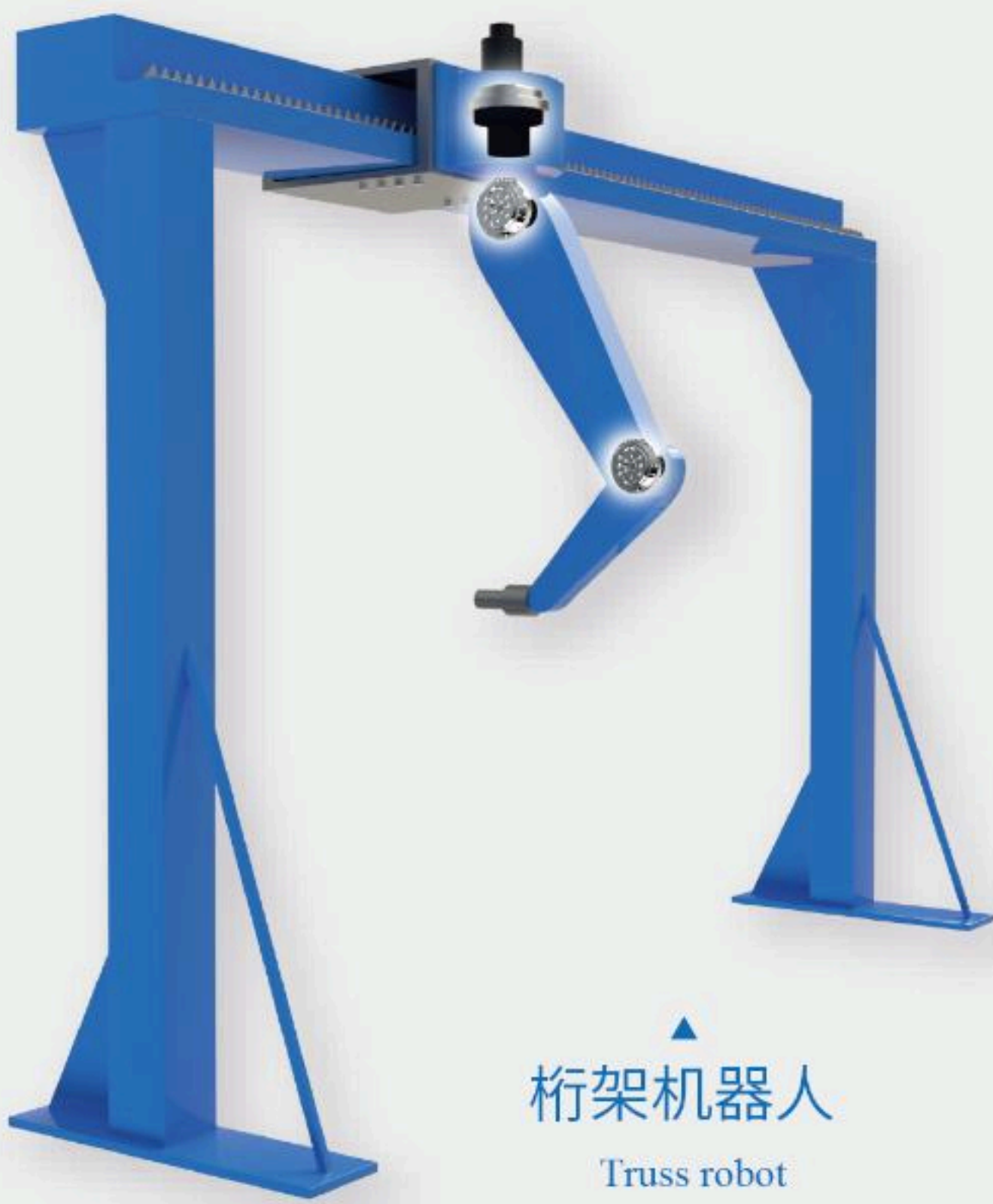
分度台
Circular dividing table



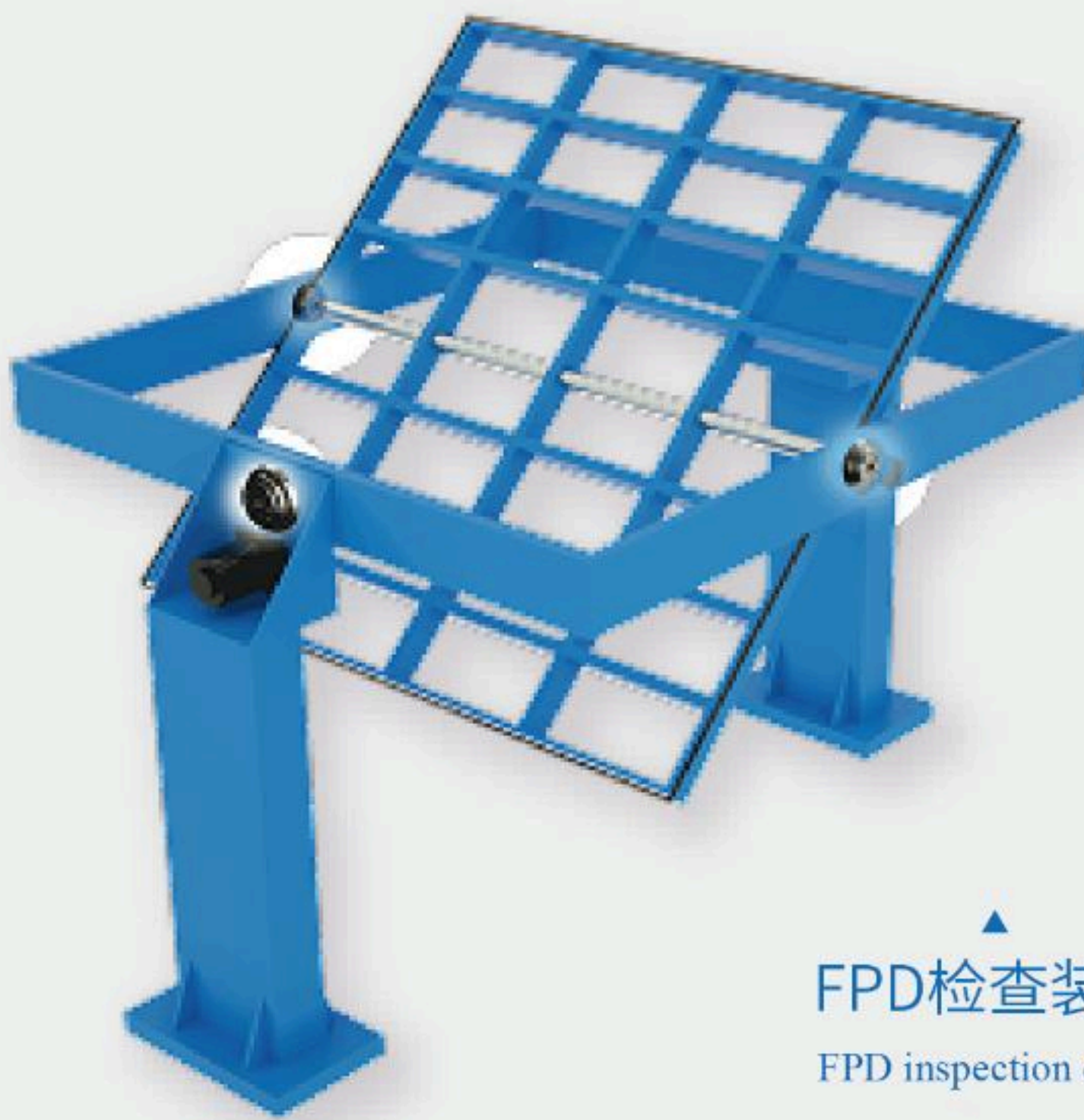
变位机
Positioner



医疗CT机
Medical CT machine



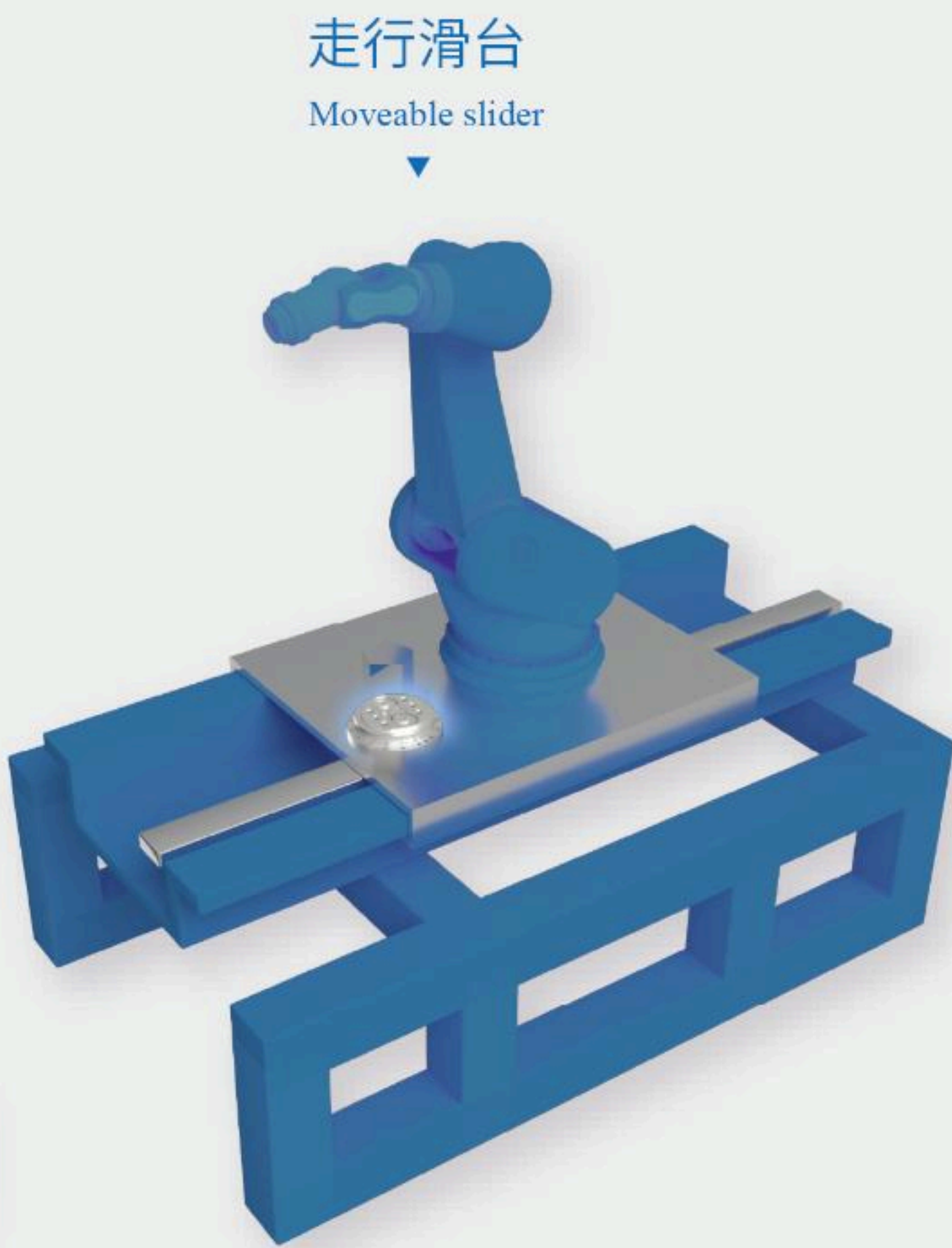
桁架机器人
Truss robot



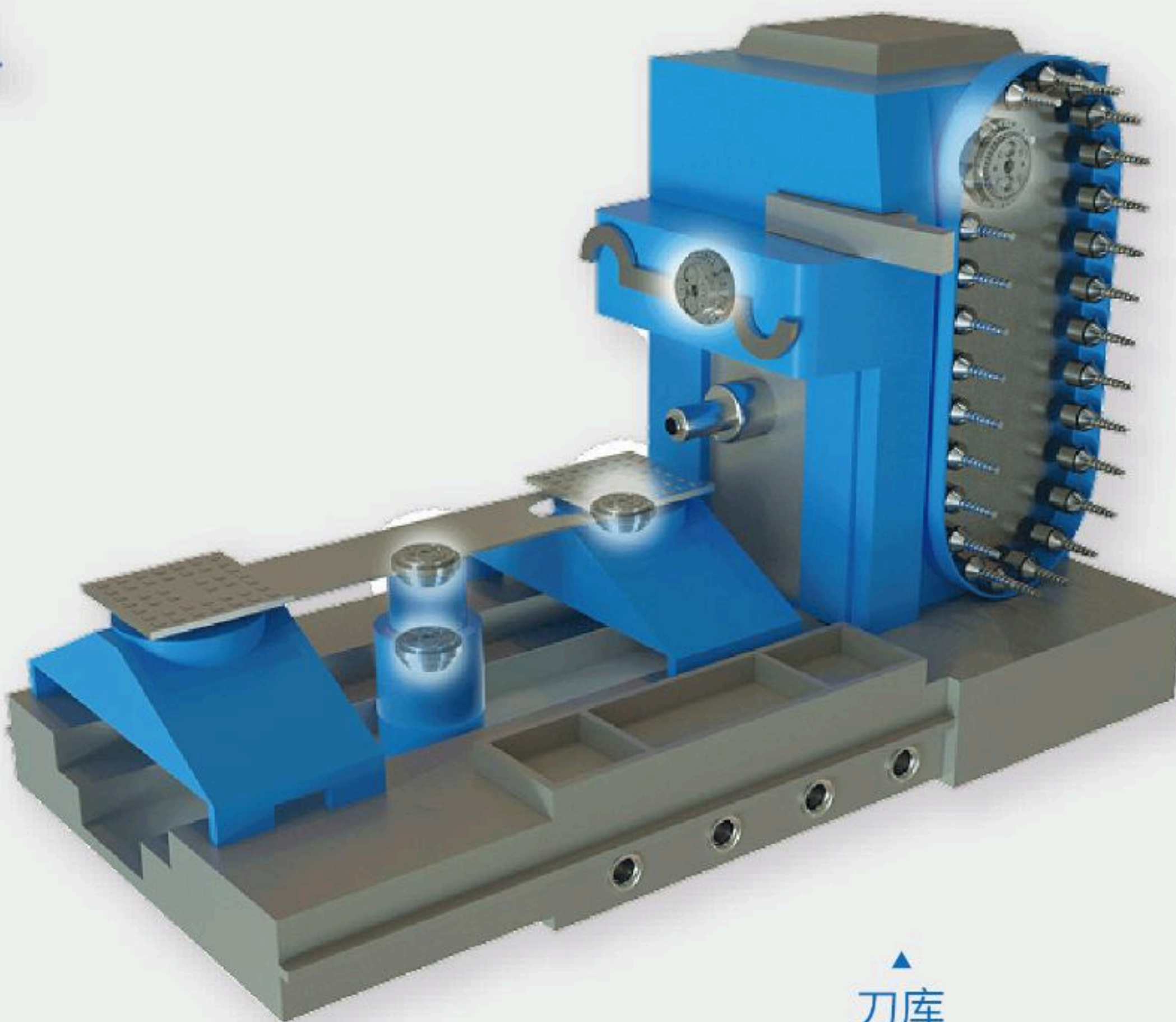
FPD检查装置
FPD inspection device



并联机器人
Parallel robot



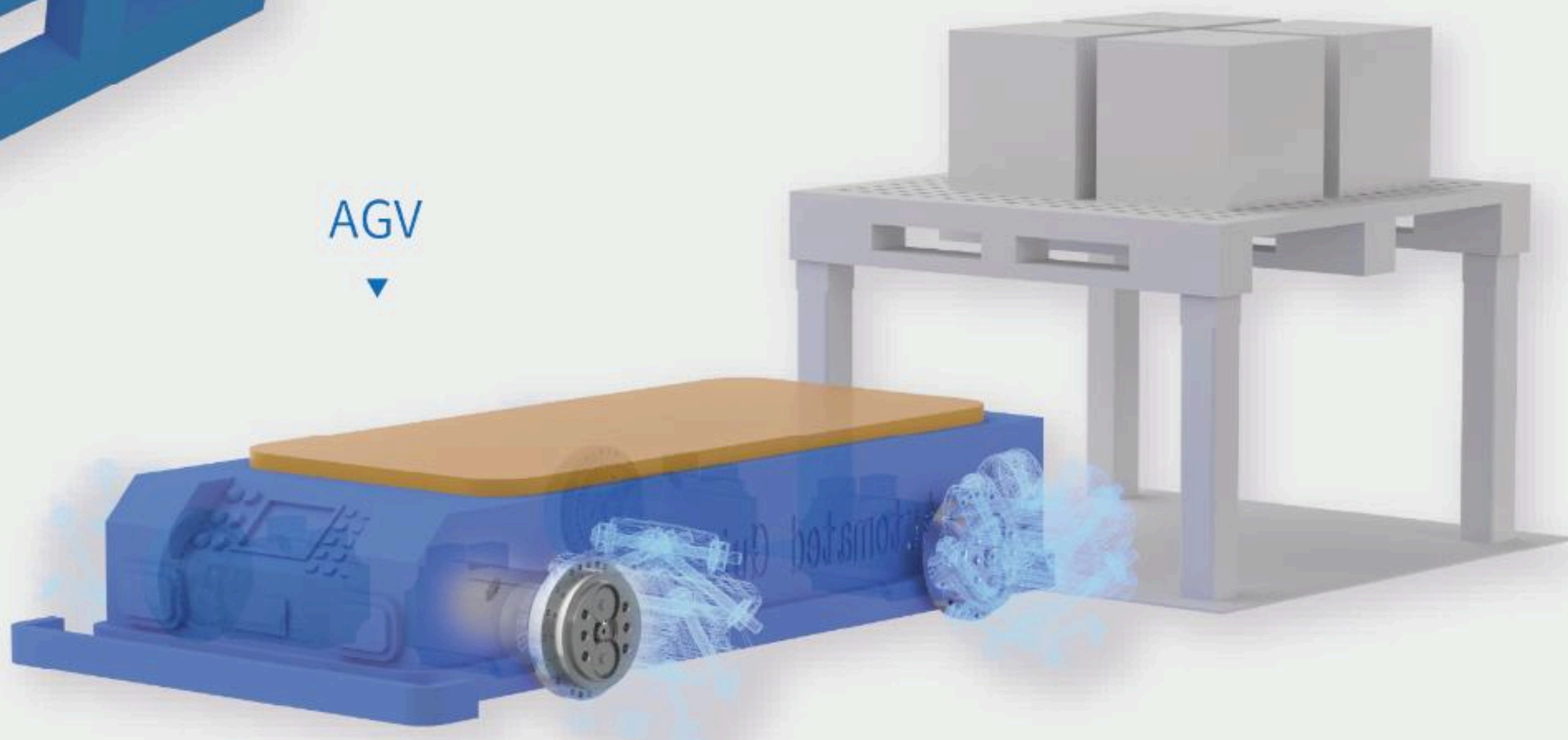
走行滑台
Moveable slider



刀库
Tool library



弯管机
Pipe bending machine,
Bending machine



AGV



SCARA机器人
SCARA robot

半导体机器人
Semiconductor robot



抓取、放置机器人
Grab and place robot

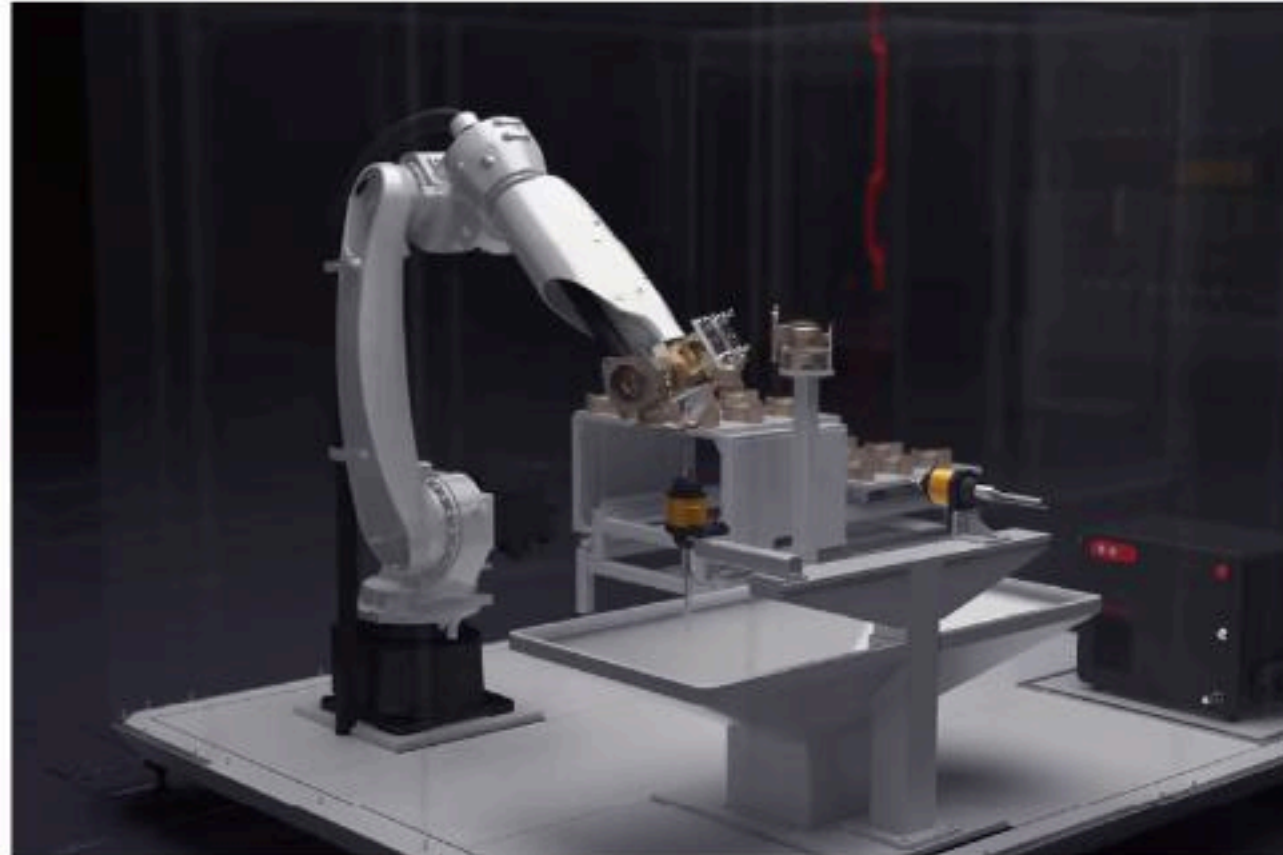
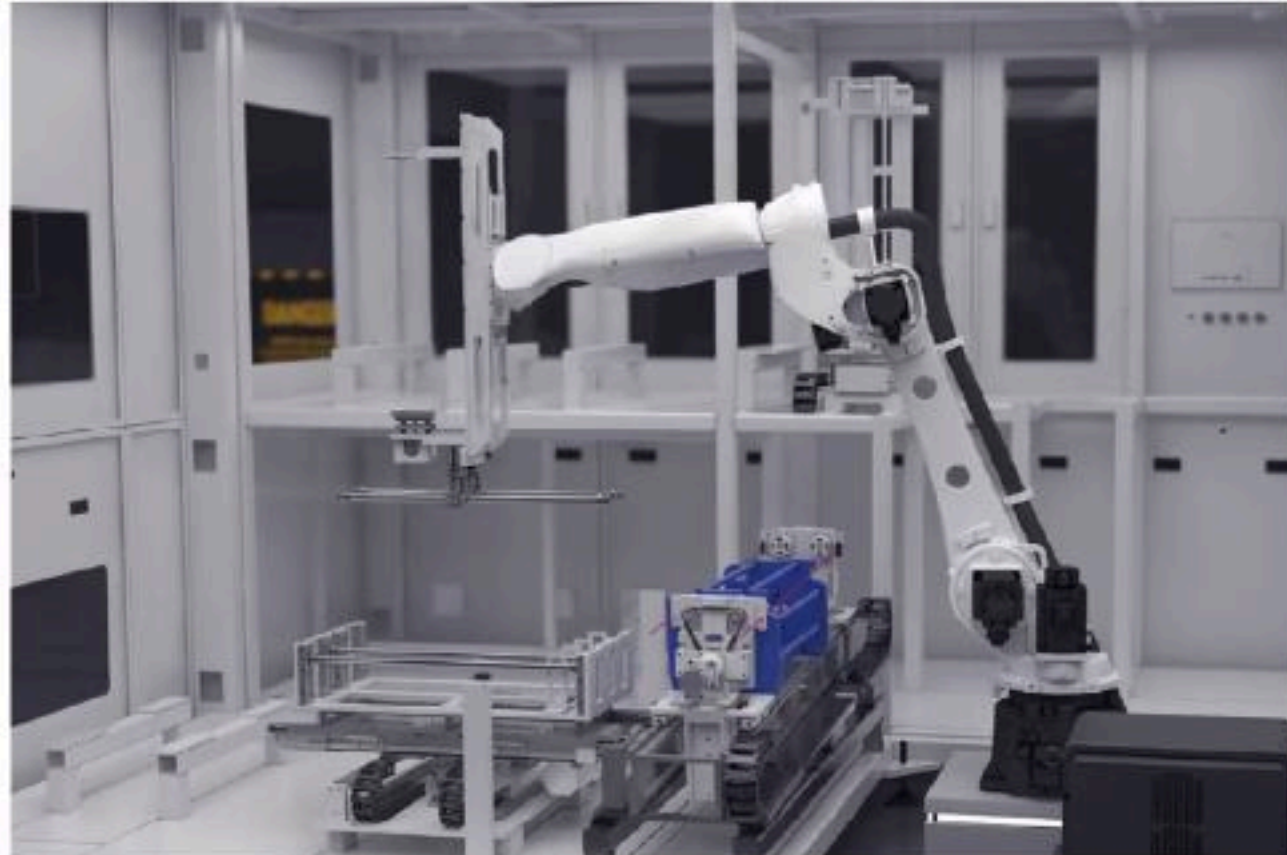
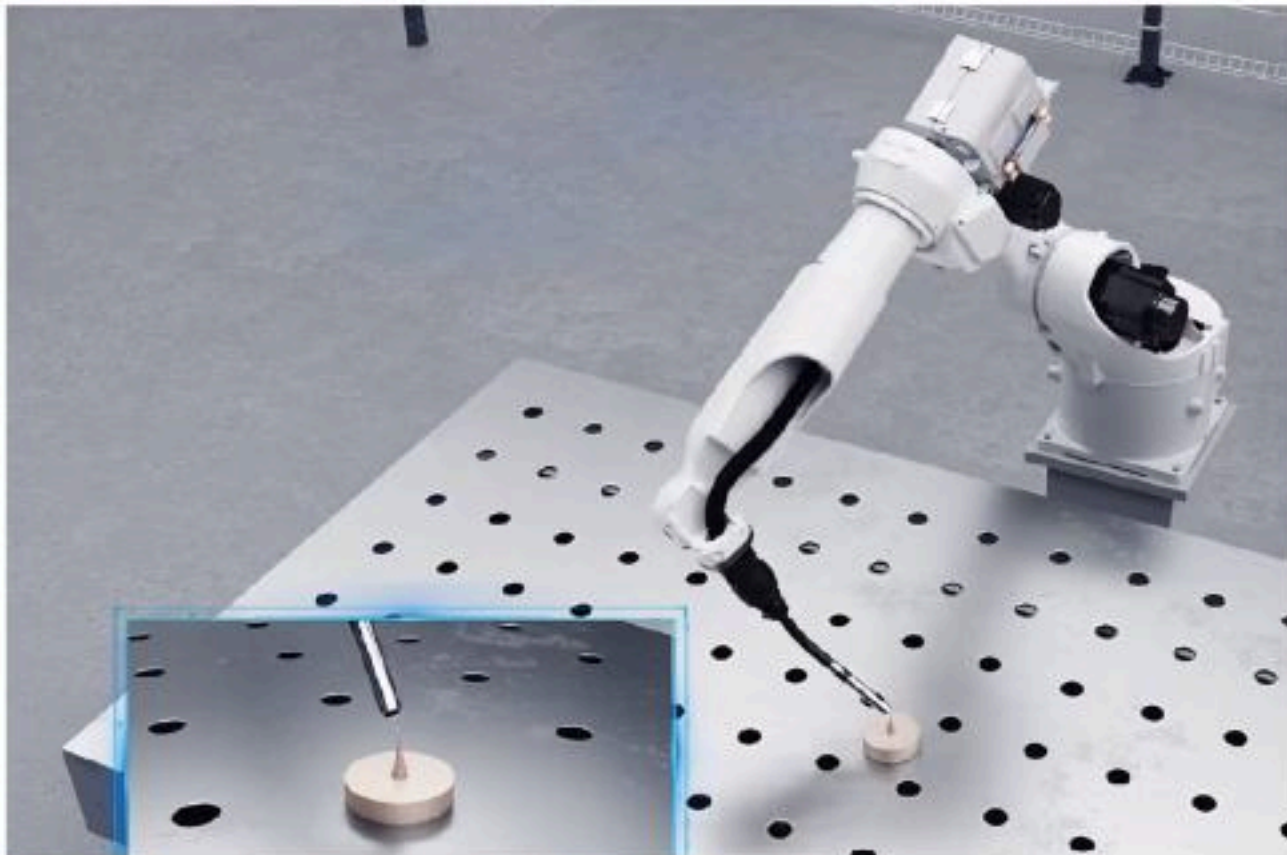


CT-HYP

CT-HYP系列 准双齿轮传动关节模组

CT-HYP series hypoid gear drive joint unit

- **应用场景：**
主要用于弧焊机器人；打磨机器人；搬运机器人等。
- **Application scenarios:**
Mainly used for Arc welding robot; Grinding robot; Handling robot.
- **可提供型号：**
HYP-10、HYP-15、HYP-25、HYP-35.
- **Available models:**
HYP-10、HYP-15、HYP-25、HYP-35.



- **主要特点：**
性能卓越：高刚性，强抗冲击，精度保持性好，寿命长。
设计优良：中空孔径大(57mm)，整体小型化，总效率提升。
拓展性强：可加延长件拓展臂展，满足不同需求。
交付便捷：模块式4/5/6轴整体交付，直接与机械臂第三关节相连，安装便捷高效。

智同科技自主研发4/5/6 轴准双齿轮传动关节模组，公司专注机器人齿轮传动领域，为本体客户提供优质传动解决方案。

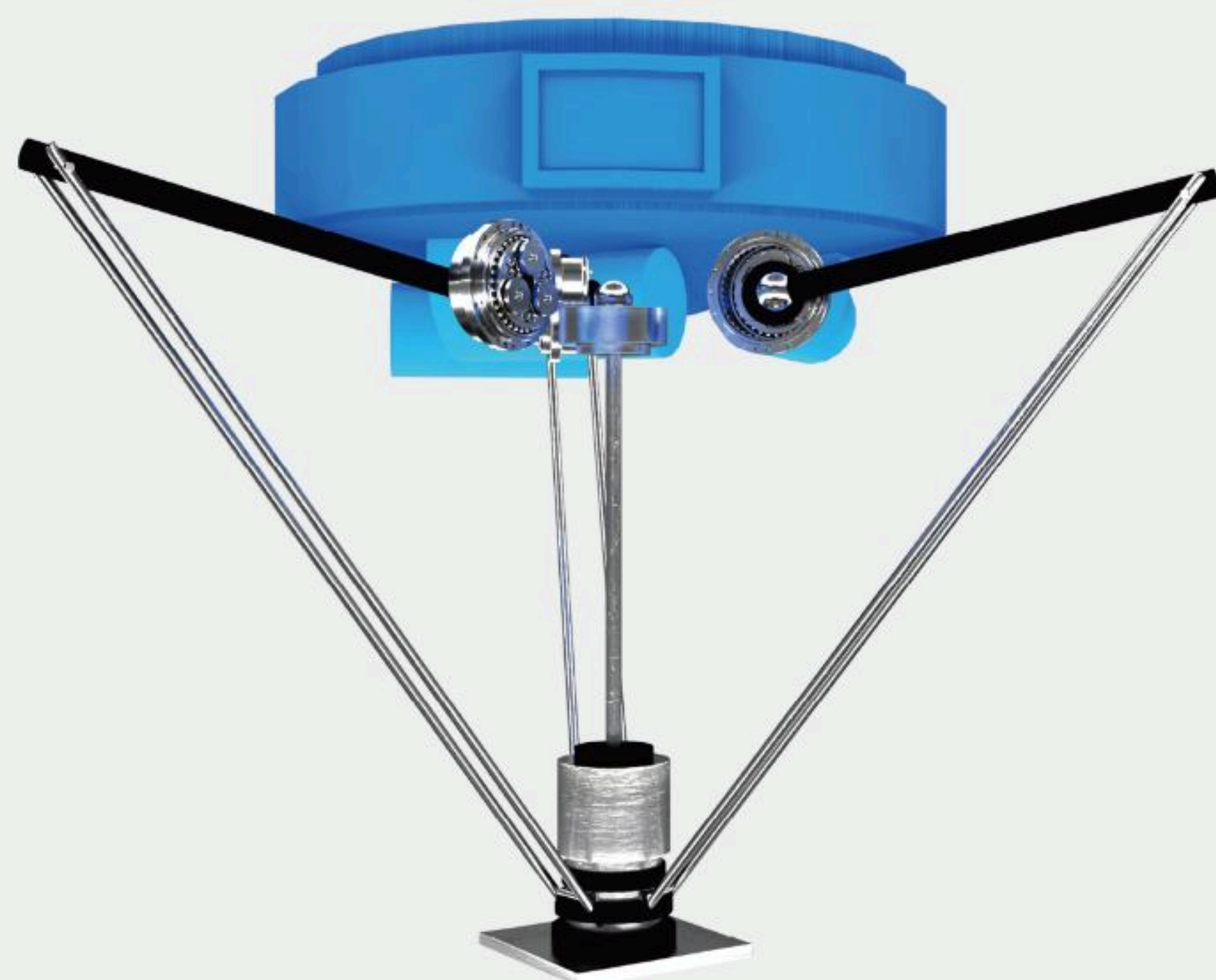
- **Main features :**
Outstanding performance: high rigidity, better impact resistance, good precision maintainability, and long service life.
Excellent design: large hollow aperture (57mm), miniaturized overall design, and improved total efficiency.
Strong expandability: the arm span can be extended by adding extension parts to meet various requirements.
Convenient delivery: 4/5/6-axis is delivered as a whole in a modular manner, which can be directly connected to the third joint of the mechanical arm, making installation convenient and efficient.

Chietom independently developed the 4/5/6-axis hypoid gear drive joint unit. The company focuses on the field of robot gear transmission and provides high-quality transmission solutions for robot body customers.

CT-CRD

CT-CRD-EL 法兰一体式减速机

CT-CRD-EL series flange integrated reducer



- **应用场景：**

开发的各种不同型号EL系列减速机，可满足载荷较大并联机器人的使用要求。

- **Application scenarios:**

The different types of EL series reducers developed can meet the use requirements of parallel robot with large load.

- **主要特点：**

输入轴与联轴器一体设计，安装方便；润滑脂已封入；
耐冲击、高刚性、高精度、传递误差小于1弧分；传动比 20~40 之间。

- **Main features :**

The input shaft and the coupling are designed integrally, which is convenient for installation; The lubricating grease has been sealed; Impact resistant, high rigidity, high-precision, transmission error less than 1 arcmin; Speed ratio between 20~40.

- **可提供型号 Available models:**

EL 系列 EL series: 20EL、40EL



CT-CRD-E & CT-CRD-C 系列法兰一体式减速机

CT-CRD-E & CT-CRD-C series flange integrated reducer

- **应用场景：**

应用于机械加工中心送料装置、自动换刀装置、高精度转台、非标自动化等需要精确定位的场景。

- **Application scenarios:**

It is mainly used for feeding device of machining center, automatic tool change device, high-precision rotary table, non-standard automation and other scenes requiring accurate positioning.

- **主要特点：**

CT-CRD系列减速机分为E、C、EL三个系列，E系列为实心，C系列为空心；
输入轴与联轴器一体设计，安装方便；
润滑脂已封入；
高精度，传递误差小于1弧分；
耐过载，最高可承受额定转矩的5倍；
良好的加减速性能，额定转矩的2.5倍。

- **Main features :**

CT-CRD series reducer is divided into three series: E series, C series and EL series.
E series is solid while C series is hollow;
The input shaft and the coupling are designed integrally, which is convenient for installation;
The lubricating grease has been sealed;
High-precision, transmission error less than 1 arcmin;
Overload resistance, max. 5 times of rated torque;
Good acceleration and deceleration performance, 2.5 times of rated torque.

- **可提供型号 Available models:**

E 系列 E series: 20E、40E、80E、110E、160E、320E3

C 系列 C series: 10C、27C、50C、100C、200C



CNC Machine Tools



CT-CHR-6E

CT-CHR 系列摆线减速机模组

CT-CHR series cycloid reducer joint unit

● 应用场景：

主要用于仿生或仿真拟人机器人；行走机器人；人体外骨骼和医疗康复机械。

● Application scenarios:

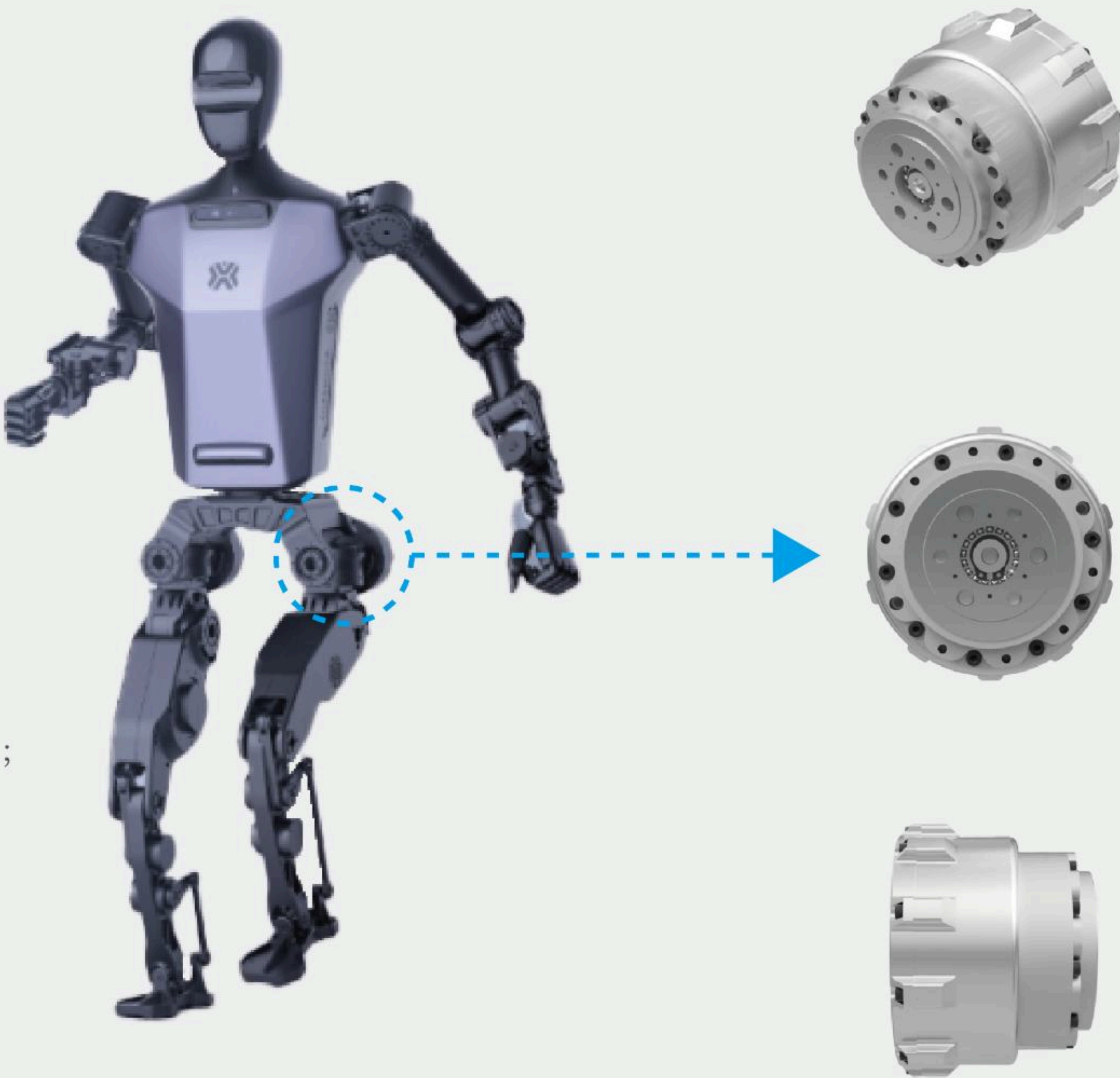
Mainly used for bionic or simulating humanoid robots; Walking robot; Human exoskeleton and medical rehabilitation machinery.

● 主要特点：

- 摆线针轮行星传动；
- 高精度；传递误差小于1.5弧分；
- 减速机与电机高度集成；
- 结构紧凑、体积小；
- 高刚性、高输出转矩；
- 传动比15~40。

● Main features :

- Cycloid-pin gear planetary transmission;
- High accuracy; The transmission error is less than 1.5 arcmin;
- The reducer is highly integrated with the motor;
- Compact structure and small volume;
- High rigidity, high output torque;
- Speed ratio 15~40.



CT-CHR-40C

CT-CHR 系列摆线减速机模组

CT-CHR series cycloid reducer joint unit

● 应用场景：

该产品为单级减速摆线行星齿轮传动减速机，主要用于大负载协作机器人、工业六轴机器人及工业自动化等领域。

● Application Scenarios:

This product is the single-stage reduction cycloidal planetary gear transmission reducer, mainly used in the fields of heavy-duty collaborative robots, industrial six-axis robots, and industrial automation, etc.



行星系列减速机

行星类减速机系列

Planetary reducer series

● 应用场景：

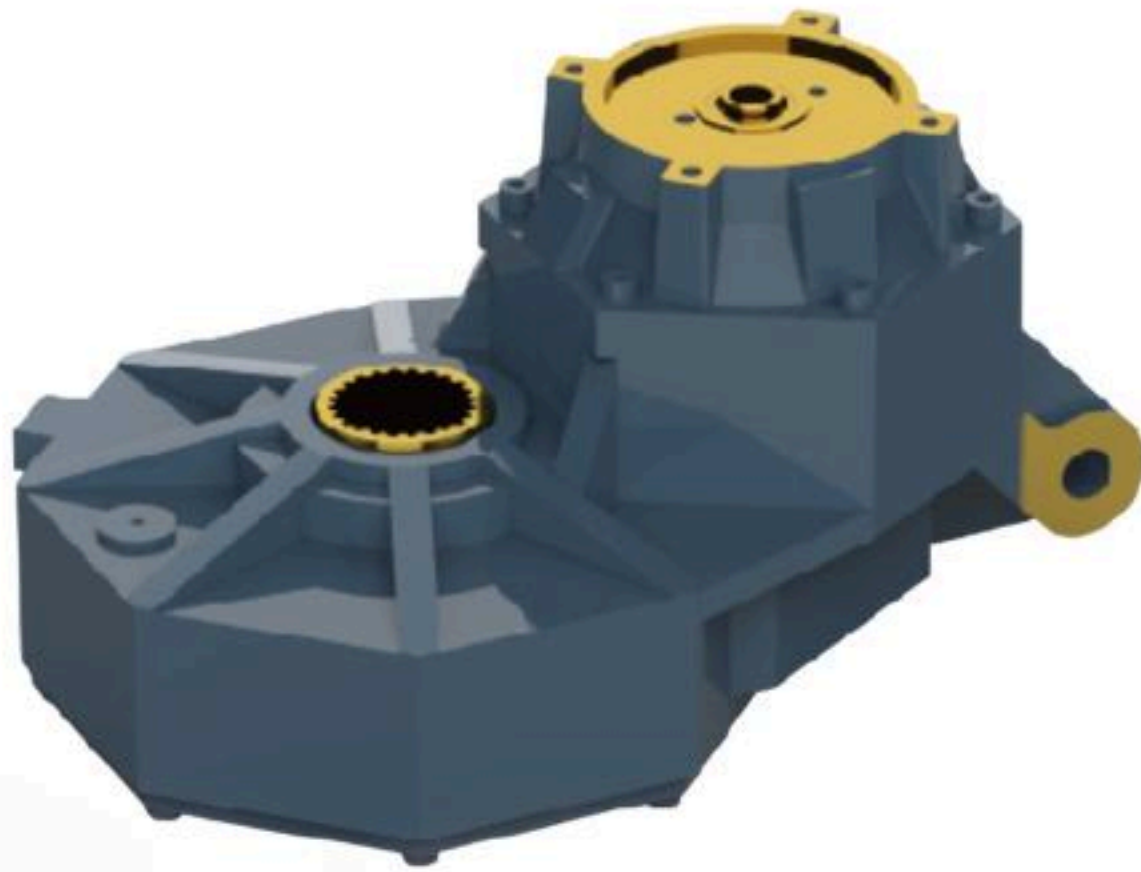
主要应用于建筑机械、工程机械、船用机械、矿用设备等领域。

● Application scenarios:

Mainly used for construction machinery, engineering machinery, marine machinery, mining equipment and other fields.



塔机回转减速机
Reducer for tower crane rotation



塔机行走用减速机
Reducer for tower crane travel



塔机变幅用减速机
Reducer for tower crane variable amplitude



钻孔用液压制动减速机
Hydraulic brake reducer for drilling



多轴钻动力头用减速机
Reducer for power head of multi axis drill



凝土搅拌车用减速机
Reducer for concrete mixer truck



船舶升降平台用减速机
Reducer for ship lifting platform



皮带涨紧装置用减速机
Reducer for belt tensioning device

平行轴齿轮箱类系列

Parallel axis gearbox series

● 应用场景：

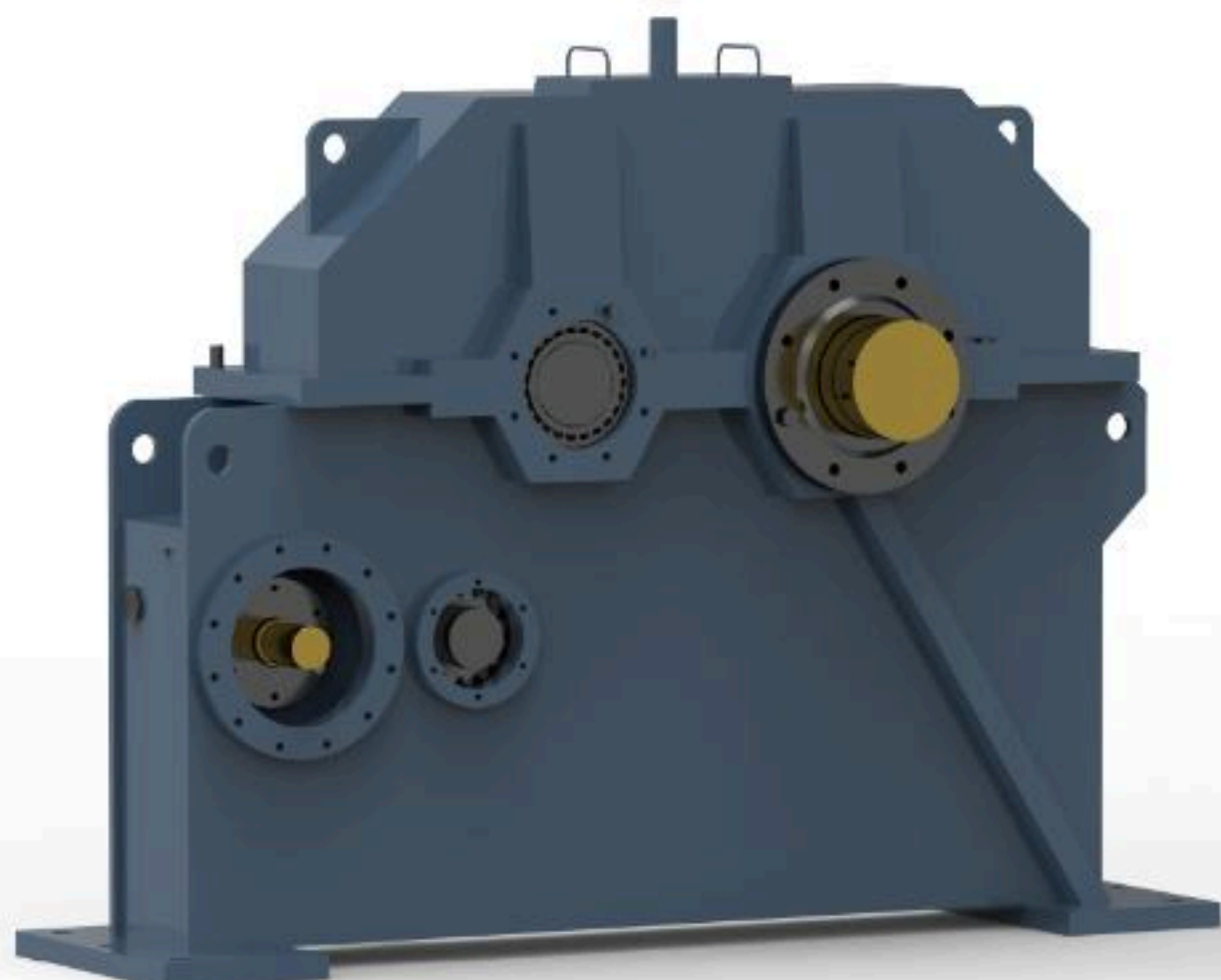
主要应用于工程机械、矿山设备和船舶设备类。

● Application scenarios:

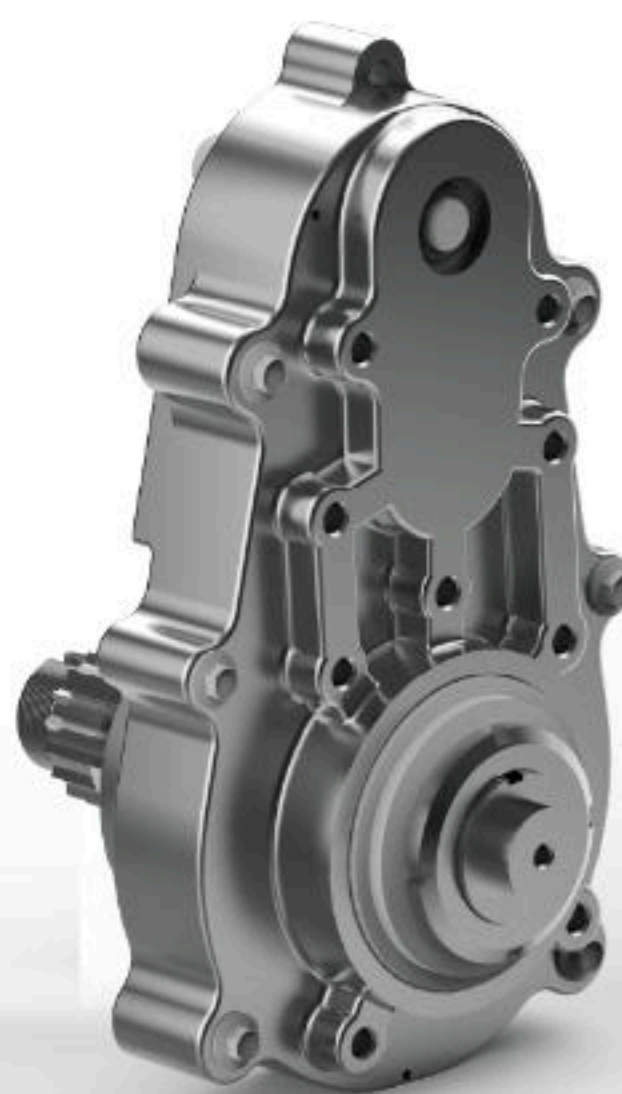
This type of reducer is mainly used in construction machinery, mining equipment, and ship equipment.



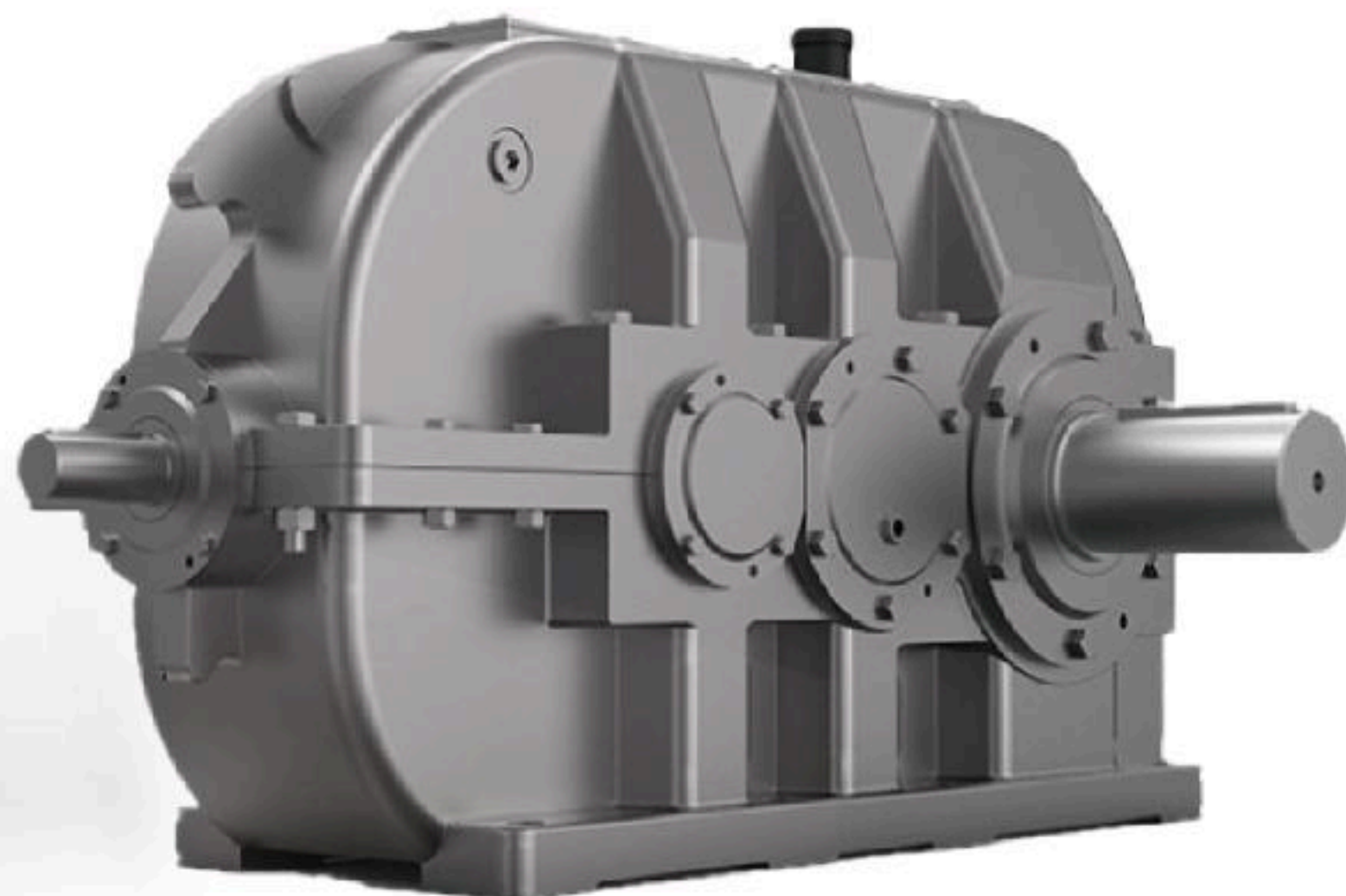
分动箱
Transfer case



锚绞机用减速机
Reducer for anchor winch



高精度平行齿轮减速机
High precision parallel gear reducer

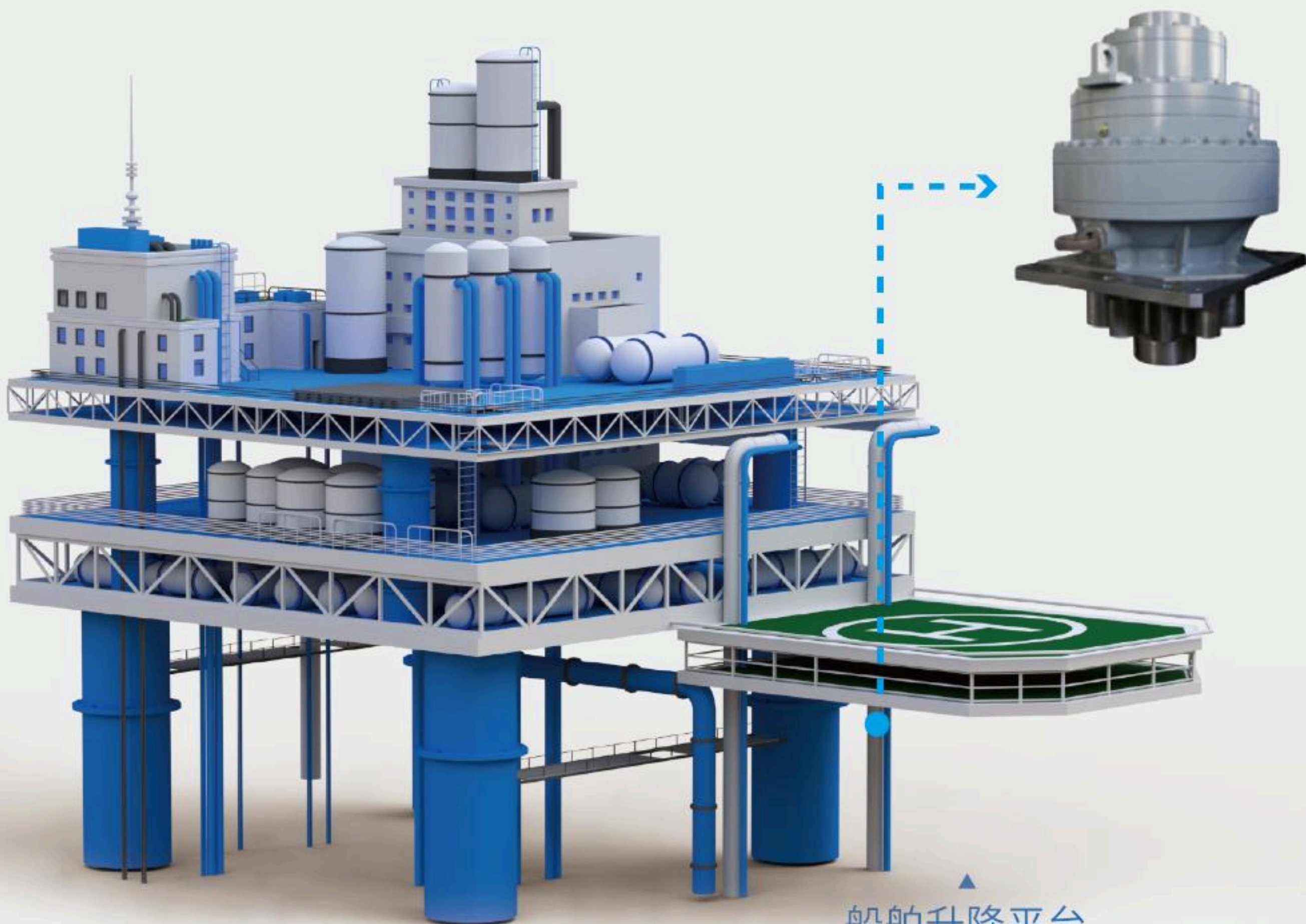


矿山设备用减速机
Reducer for mining equipment

应用场景



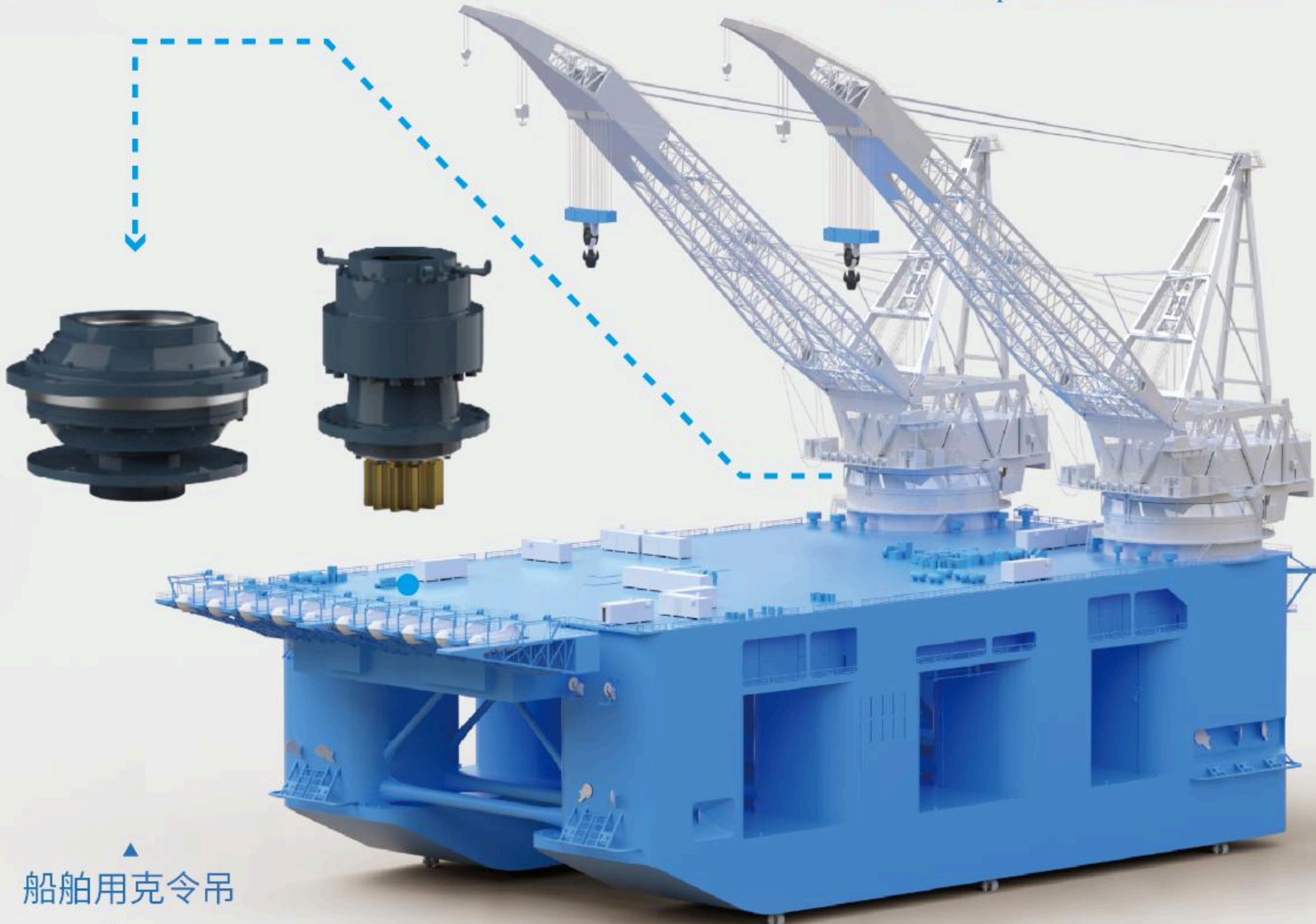
船舶锚绞机
Ship anchor winch



船舶升降平台
Reducer for power head of multi axis drill



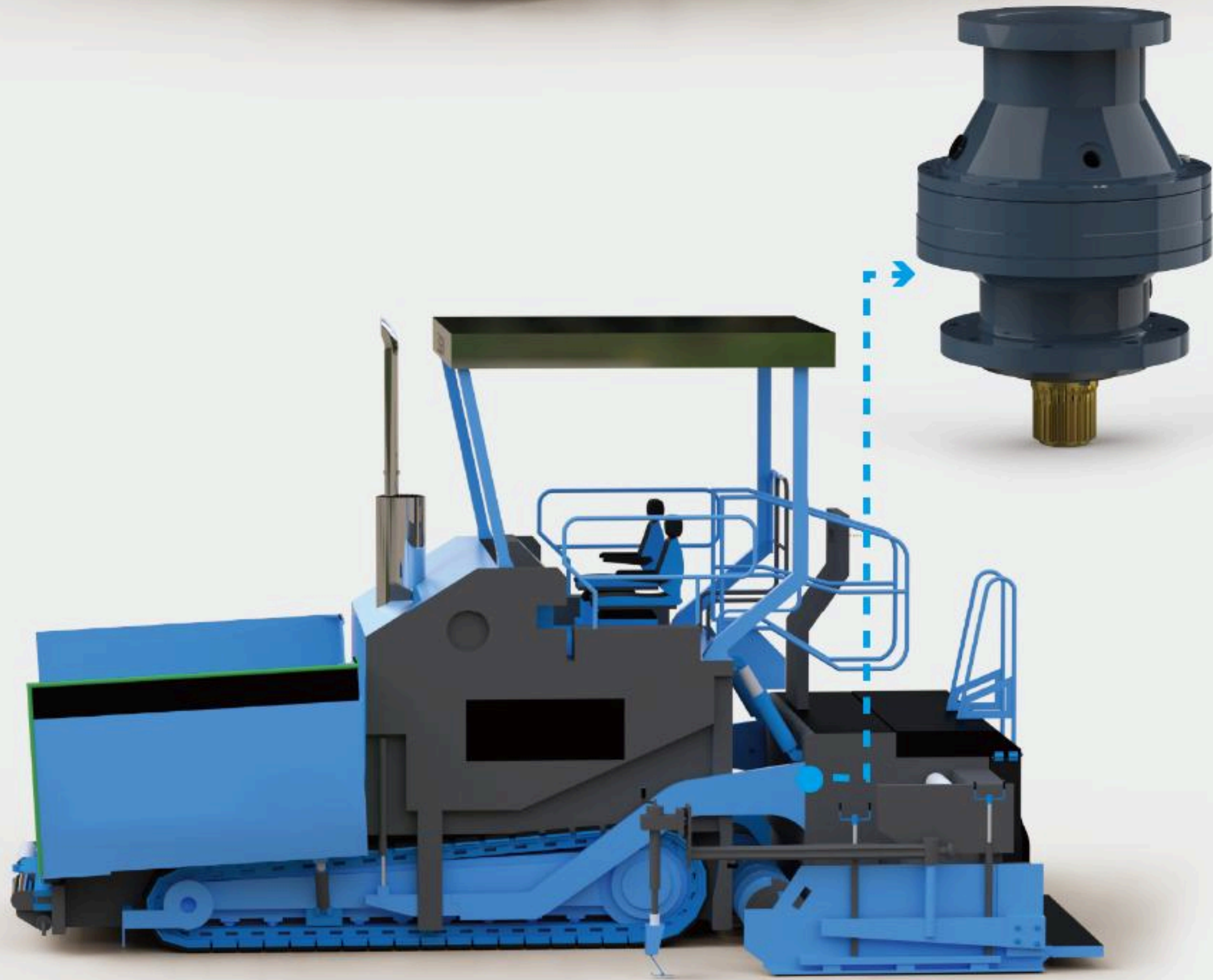
混凝土搅拌车
Concrete mixer truck



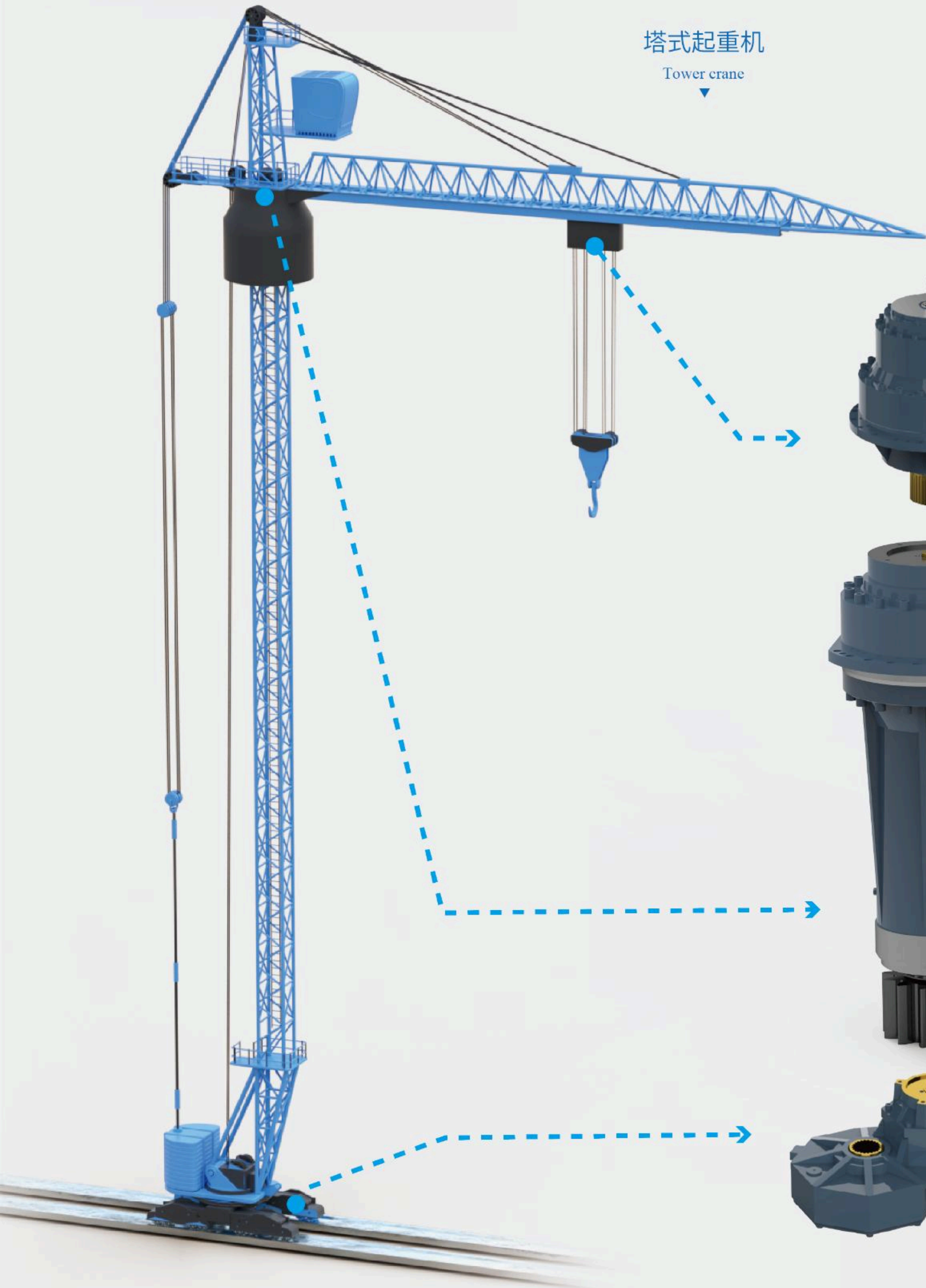
船舶用克令吊
Crane



塔式起重机
Tower crane



摊铺机
Paver



多轴钻
Multi axle

Chietom

— 智 同 科 技 —

北京智同精密传动科技股份有限公司 & 北京智同工大智能传动技术研究院

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