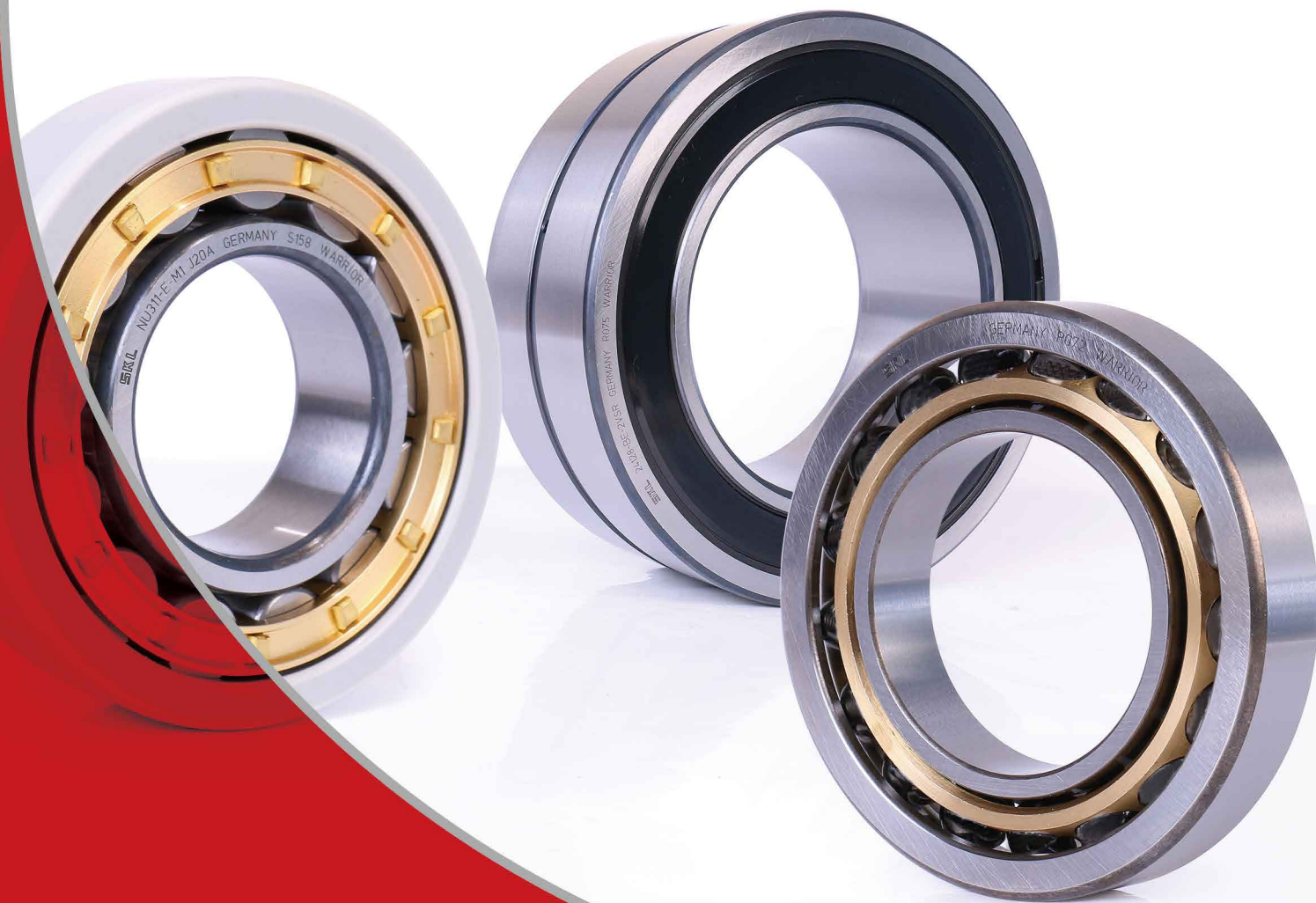


# SKL工程机械解决方案

SKL ENGINEERING MACHINERY SOLUTIONS



## 涵盖领域

### Covered Area

工程机械是装备工业的重要组成部分。土石方施工工程、路面建设与养护、流动式起重装卸作业和各种建筑工程所需的综合性机械化施工工程所必需的机械装备，均称为工程机械。它主要用于工程建设、交通运输建设，能源工业建设和生产、矿山等原材料工业建设和生产、农林水利建设、工业与民用建筑、城市建设、环境保护等领域。

Construction machinery is an important part of the equipment industry. The mechanical equipment necessary for the construction of earth and stone works, pavement construction and maintenance, mobile lifting and unloading operations and various mechanized construction projects required for various construction projects are called construction machinery. It is mainly used in engineering construction, transportation construction, energy industry construction and production, mining and other raw material industry construction and production, agriculture and forestry water conservancy construction, industrial and civil construction, urban construction, environmental protection and other fields.

## 典型机械

### Typical Machinery

#### I. 挖掘机

挖掘机，又称挖掘机械，又称挖土机，是用铲斗挖掘高于或低于承机面的物料，并装入运输车辆或卸至堆料场的土方机械。挖掘机挖掘的物料主要是土壤、煤、泥沙以及经过预松后的土壤和岩石。挖掘机作为工程建设中最主要的工程机械机型，是广泛用于矿山开采以及城乡建设的专用机械设备。

#### I. Excavator

Excavators, also known as excavating machines, are also known as excavators. They are used to excavate materials above or below the surface of the carrier and are loaded into the earth moving machinery of the transport vehicle or unloaded to the stockyard. The materials excavated by the excavator are mainly soil, coal, sediment and pre-pulled soil and rock. As the most important engineering machinery model in engineering construction, excavators are special machinery and equipment widely used in mining and urban and rural construction.



#### II. 压路机

压路机又称压土机，是一种修路的设备。压路机在工程机械中属于道路设备的范畴，广泛用于高等级公路、铁路、机场跑道、大坝、体育场等大型工程项目的填方压实作业，可以碾压沙性、半粘性及粘性土壤、路基稳定土及沥青混凝土路面层。压路机以机械本身的重力作用，适用于各种压实作业，使被碾压层产生永久变形而密实。

#### II. Road Roller

The road roller, also known as the compactor, is a road repairing device. The road roller belongs to the category of road equipment in construction machinery. It is widely used in the filling and compacting of large-scale projects such as high-grade roads, railways, airport runways, dams and stadiums. It can crush sand, semi-stick and sticky soil. Subgrade stabilized soil and asphalt concrete pavement layer. The roller is applied by the gravity of the machine itself, and is suitable for various compaction operations, so that the pressed layer is permanently deformed and compacted.



#### III. 轮式装载机

轮式装载机主要功能是对松散物料进行铲装及短距离运输作业。它是工程机械中发展最快、产销量及市场需求最大的机种之一。我们平时看到最多的是轮式装载机，与它相对的是履带式的装载机。与履带式的相比，它具有机动性能好，不破坏路面，操作方便等优点。因此轮式装载机得到广泛的应用。

#### III. Wheel loaders

The main function of the wheel loader is to carry out shovel loading and short-distance transportation of loose materials. It is one of the fastest growing models in construction machinery, with the largest production and sales volume and market demand. What we usually see most is the wheel loader, which is the crawler loader. Compared with the crawler type, it has the advantages of good maneuverability, no damage to the road surface, and convenient operation. Therefore, wheel loaders are widely used.



#### IV. 自卸卡车

自卸货车是载货汽车的一种，载货部位具有自动倾卸装置的载货汽车。又称翻斗车。由汽车底盘、液压举升机构、货厢和取力装置等部件组成。自卸货车的车厢分后向倾翻和侧向倾翻两种，通过操纵系统控制活塞杆运动，后向倾翻较普遍，推动活塞杆使车厢倾翻，少数双向倾翻。

#### IV. Dump truck

A self-unloading truck is a type of truck that has a dump truck with an automatic dumping device. Also known as the dump truck. It consists of a car chassis, a hydraulic lifting mechanism, a cargo compartment and a power take-off device. The compartment of the dump truck is tilted backwards and laterally tilted. The piston rod movement is controlled by the operating system, and the backward tilting is more common. The piston rod is pushed to tilt the carriage, and a few are tilted in two directions.



## SKL提供的解决方案

### Solutions SKL offers

#### I. 可靠性解决方案

SKL超长寿命滚动轴承采用高级镀铬轴承钢以最大限度减少腐蚀的风险，通过在滚子或套圈滚道上涂镀一种耐磨碳涂层，使公司轴承产品的理论使用寿命延长至少6倍以上，耐磨碳涂层通过物理蒸汽沉淀工艺加工在轴承上，涂层厚度范围为1~3微米，具体取决于轴承尺寸。该解决方案极大提高了工程机械的可靠性。

#### I. Reliability solution

SKL's ultra-long-life rolling bearings use advanced carbon-chromium bearing steels, to minimize the risk of corrosion by extending the theoretical service life of the company's bearing products by at least 6 times by coating a wear-resistant carbon coating on the roller or ferrule raceway. The wear resistant carbon coating is processed on the bearing by a physical vapor deposition process, and the coating thickness ranges from 1 to 3 microns, depending on the bearing size. This solution greatly improves the reliability of construction machinery.



#### II. 密封解决方案

在实际应用中，密封件失效会导致很多问题，代价高昂，如非计划停机、生产损失。SKL坚固耐用的密封解决方案有助于抵御工程机械应用中比较常见的严重污染。SKL密封件包括一系列的传统橡胶密封件和创新设计，有助于提高可靠性和性能，降低维护和运营成本。

#### II. Sealing solution

In practical applications, seal failures can cause many problems, such as unplanned downtime and lost production. SKL's rugged sealing solutions help protect against the most serious contaminations in construction machinery applications. SKL seals include a range of traditional rubber seals and innovative designs to help improve reliability and performance, reducing maintenance and operating costs.



#### III. 电流解决方案

为保护设备免受杂散电流损坏，促使电流流向电动轮驱动，轴承必须在高温、冲击、振动和杂散电流下运行。SKL电绝缘轴承能解决这一问题。SKL电绝缘轴承外圈或内圈带有绝缘涂层，为原设备制造商提供以下优势：绝缘性能基本消除了滚动接触中的电蚀风险；内部最优化设计，为终端用户提供了使用寿命更长、寿命周期成本更低的产品。

#### III. Sealing solution

To protect the equipment from stray current damage, the current is caused to flow to the electric wheel. The bearings must operate at high temperatures, shocks, vibrations, and stray currents. SKL electrically insulated bearings can solve this problem. SKL electrically insulated bearings have an insulating coating on the outer or inner ring, which provides the original equipment manufacturer with the following advantages: insulation performance virtually eliminates the risk of electrical corrosion in rolling contact; internal optimized design provides end users with longer life Long, longer life cycle costs.



#### IV. 行星齿轮箱解决方案

SKL为行星齿轮箱提供可靠的行星轴承解决方案 - 无外环圆柱滚子轴承。

该轴承类型可以用紧凑设计整合到行星小齿轮中，具有高载荷能力，有助于提高行星齿轮箱的功能效率，形成具有良好总成本效益的解决方案。圆柱滚子轴承容易安装，将错误安装的风险降到最低，有助于提升生产效率和总体可靠性，优化整个行星系统性能，增加系统寿命。

#### IV. Planetary gearbox solution

SKL offers a reliable planetary bearing solution for planetary gearboxes - without outer ring cylindrical roller bearings. This bearing type can be integrated into the planetary pinions in a compact design with high load capacity, which helps to improve the functional efficiency of the planetary gearbox, resulting in a cost-effective solution. Cylindrical roller bearings are easy to install, minimizing the risk of incorrect installation, helping to increase productivity and overall reliability, optimizing overall planetary system performance and increasing system life.



#### V. 振动解决方案

压路机使用振动滚筒来提高压缩效率，确保滚筒性能和可靠性的解决方案尤其必要。鉴于滚筒振动带来的降低使用寿命、功率和性能的消极影响，找到减少负面影响的解决方案将帮助制造商生产出能在市场中脱颖而出的机器。SKL振动解决方案能提供帮助，抗振动轴承结合了专门用于振动应用场合的滚子轴承：T41A调心滚子轴承、带有内孔涂层的T41D调心滚子轴承。

SKL调心滚子轴承的强力特征确保轴承在路面和市场中都具有更好的性能和可靠性。通过采用表面硬化的保持架和外圈引导式中挡圈、更小的内外径公差和振摆、优化的内部游隙等措施，有效帮助轴承抵抗极端振动的影响。

#### V. Vibration solution

The roller uses a vibrating roller to increase compression efficiency, and a solution to ensure roller performance and reliability is especially necessary. Given the negative impact of reduced vibration, power and performance from drum vibration, finding solutions that reduce negative impacts will help manufacturers produce machines that stand out in the marketplace. SKL vibration solutions can help. anti-vibration bearings combined with roller bearings for vibration applications: T41A spherical roller bearings, T41D spherical roller bearings with bore coating. The powerful features of SKL spherical roller bearings ensure better performance and reliability of the bearings on the road and in the market. By using surface-hardened cages and outer ring-guided intermediate retaining rings, smaller inner and outer diameter tolerances and wobbles, and optimized internal clearance, the bearings are effectively protected against extreme vibration.

