

Strategic Business

Having started out with the revolutionarily innovative hydraulic static pile driver, Sunward has expanded and defined its area of expertise from piling machinery to building foundation equipment. Professor He Qinghua, the Chief Expert of Sunward, has then proposed the concept of "underground engineering equipment" in the industry which adheres to the concept of "pilot innovation". It has also been made clear that "underground engineering equipment" covers two branches, namely, "building foundation equipment" and "underground space equipment". Building foundation equipment focuses on construction of various building foundation works, and underground space equipment on development and construction of underground space. After 17 years of accumulation and development, Sunward has established its special support system which fully responds to the requirements for underground equipment, including multiple varieties, small-batch production and putting emphasis on construction method and plan in order to solve the technological coupling difficulties in engineering, construction method and equipment. Sunward has developed nearly one hundred models of series of products in a creative manner. With world's leading overall technological level and complete product series, Sunward can provide complete solutions to construction of various underground works.

Building Foundation Equipment »

At present, Sunward's building foundation equipment, products and technologies have comprehensively covered construction of foundation pile, foundation pit support and foundation treatment, and are able to complete over seventy construction technologies such as drilling, wall protection, static pressure, pile planting, mixing, percussion and grabbing, rotary expansion, dynamic compaction, injection and vibroflotation, realizing capacities of Sunward's equipment to go to mountain (rock), underground (soil) and in sea (water). Where,

Hydraulic static pile driver: with 15 patents, the Second Prize of State Science and Technology Progress, and a full range of products from 60t to 1200t, hold a safe lead in market share and amount at home and abroad. Variants such as tube-sinking cast-in-situ pile driver, leading hole pile driver and sheet pile driver are very popular with market.

Rotary drilling rig: with over 20 patents in overall structure and part assembly, a full range of products from 40kN•m to 680kN•m, and maximum drilling diameter of 3.5m and maximum drilling depth of 130m, listed as national important equipment and first-class brand in China. There are over 20 types of variants for realization of multiple purposes.

Hydraulic multi-function rig with dual power heads: with 15 patents, be able to systematically solve the difficulties in underground engineering construction under complex geological conditions. Sunward is the only manufacturer in China.

High-performance hydraulic crawler pile frame: cover a full range of products with height from 24m to 60m and be able to be equipped with over ten types of tools such as hydraulic hammer and multi-drill to realize multi-method construction. Sunward is the only full-range product manufacturer in China.

The products have been sold to dozens of countries and regions around the world, and dominated after market ordeal especially in high-end markets such as Singapore, Macao, South Korea and Malaysia.





Construction of Wenzhou Feiyun River Cross-sea Bridge



Construction in Singapore



Construction in Shenzhen



Reconstruction of Sportsground of Xiamen University



Construction of Xiamen Metro



Construction of Asiana Airlines Maintenance Workshop in Yeongjong Island, South Korea



Construction at Hyundai Construction Site in Seoul, South Korea



Construction of Jinan Metro



Construction at Samsung Construction Site in Bac Ninh, Vietnam



Construction of Guangzhou Huixing Business Center



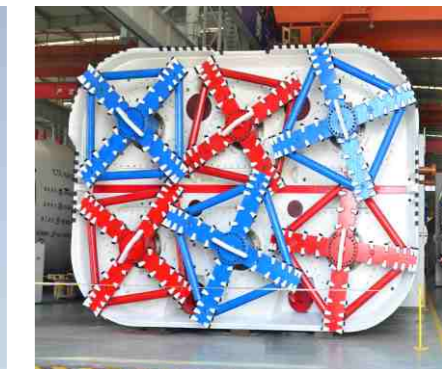
Foundation Construction of Singapore T27 Project



Construction of Three Axis Mixing Pile in Shanghai



Earth Pressure Balance Shield



Rectangular Shield



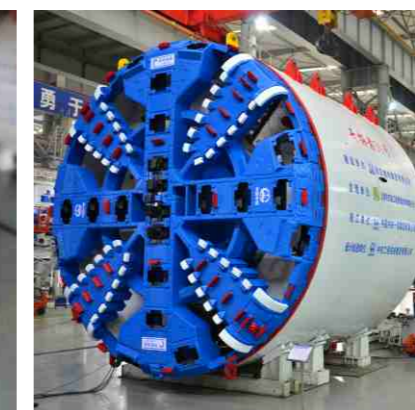
Hippocrepiform Shield

Underground Space Equipment »

Sunward has accumulated products and technologies for many years in hydraulic rock drilling equipment and cantilever excavator for underground tunnel and mine workings construction. Especially after the establishment of the joint venture enterprise, China Railway Sunward Equipment Co., Ltd., with Railway Engineering Equipment Group Co., Ltd. and China Railway No.5 Engineering Group Co., Ltd., Sunward has the most complete product series and technologies in various underground construction activities such as shield method, TBM, drill and blast method, support and pipe jacking under various geological conditions. Such high-end large products as series of shield machine, TBM, multi-arm drill jumbo and wet shotcreting machine are widely applied to developing construction, including metro, tunnel, utility tunnel, national defense engineering, civil air defense engineering, underground expressway, underground garage, etc.



Hard-rock TBM



Slurry Shield



Double-shield TBM



Wet Shotcreting Machine



Excavator »

Sunward is praised as "the leader of Chinese national excavator brands", ranking among the top 20 excavator enterprises in the world. The excavator products cover a full range (mini, small, medium and large) from 0.8t to 90t. With attractive appearance, excellent performance, comfortable operation and convenient maintenance, excavators of Sunward are substantially at the international advanced level and are exported in batches to Europe, North America and other developed countries and regions.

Mini excavator: Sunward's mini excavator is the "name card" of Sunward. With perfect workmanship, beautiful appearance and sense of art, it can be called "the world's most fashionable excavator". It is suitable for small-scale products such as urban renovation and construction of irrigation and water conservancy works, as well as construction in narrow areas.





Medium and large excavator: Through years of basic research, industrial test and principle and device innovation, a number of patents have been formed and a series of hydraulic hybrid excavator with distinct Sunward features has been launched. After large-scale use, it has been verified as "the world's most fuel-efficient excavator" and has made a breakthrough contribution to the technological progress of the industry.





Rock Drilling Equipment »

Sunward is the pioneering enterprise of advanced rock drilling machine in China. The energy-efficient products developed and produced by Sunward, such as integrated down-the-hole drill rig, hydraulic rock drill, hydraulic open-pit drill carriage, cutting drill rig and augered pile rig, fill the domestic gap and are sold to Southeast Asia, Europe, Africa and other regions.

Down-the-hole drill rig: It is China's first rock drilling and blasting equipment integrating drilling, air supply and power system, including arm type, tower type, internal combustion type, electric-driven type and other types. It is energy-efficient and applicable to various conditions, and has been used for drilling and blasting at a temperature condition as high as 42°C in Africa and as low as -35°C in Russia, and an altitude as high as 5300m in Tibet and as low as 50m below the sea level.

Hydraulic open-pit drill carriage: It is a kind of advanced complicated mining device integrating mechanics, electronics, hydraulics and pneumatics, equipped with the hydraulic rock drill rig and the self-adaptive rock drill control system developed independently by Sunward. It is efficient and of low power consumption and applied to small- and medium-sized open mines, open pits and various open rock drilling works.

Underground hydraulic drill jumbo: Provided with three modes (manual hydraulic control, computer-guided control and computer-based automatic control), it is suitable for high-efficient and highly precise excavation of various sizes of underground space such as mine workings and traffic tunnel.

Cutting drill rig: It is suitable for blasting and drilling of soft rock. Its efficiency is as high as dozens of times the efficiency of traditional manual operation with a hand hammer drill.

Augered pile rig: As a unique product of Sunward, it is the product of secondary development by using the excavator platform, and is widely used in pile construction in solar panel supports, billboards, isolation net and simple houses.



Hoisting machinery »

Featuring cranes with highlighted differentiation, Sunward focuses on two categories of products (i.e., crawler crane with telescopic crawler cranes and rough terrain wheeled crane) with leading performance in China, in addition to developing other featured products like crawler crane with truss booms.

Characterized by “telescopic crawler crane” of an all-terrain crane and “crawler” of a crawler crane with truss booms, the crawler crane with telescopic crawler cranes is used in lifting operations with soft ground and short-distance movement, etc. The lifting load ranges from 5t to 75t. SWTC75 is currently the largest telescopic crawler crane in China.

The rough terrain wheeled crane features short-distance traveling with loads, flexible steering in narrow space and off-road driving. With multiple patented technologies, the crane can lift weights of 25-75 tons. It is worth pointing out that SWRT25 has been provided in bulk for Chinese troop.

The crawler crane with truss booms is of many advantages, including multiple combinations of boom lengths, traveling with loads, high working height and large operating radius. The replacement of attachments such as lifting appliances and grab buckets makes possible one crane for multiple purposes. A dynamic compactor retrofit based on this is advanced and reliable.





《 Skid Steer Loader

The skid steer loader is a new generation of small multi-function equipment integrating mechanics, electronics and hydraulics under the independent research and development of Sunward. The machine features compact structure, flexible movement, convenient operation, efficient working, powerful function and simple maintenance.

It is especially applicable to urban infrastructure, construction sites, workshops, warehouses, docks, ship decks, even inside of cabin and other places with narrow space and frequently-changing operation contents. By changing different devices, it realizes the shoveling, carrying, lifting, digging, drilling, crushing, grabbing, scarification, snow blowing, deicing, road sweeping, pavement milling and compaction, etc.

Telescopic Forklift Loader ∨

The telescopic forklift loader is a new generation of multi-function material handling equipment integrating mechanics, electronics and hydraulics. It is equipped with a hydrostatic driver and a powerful power system. With the superior off-road performance and three steering modes which can be switched arbitrarily, it can meet the requirements of various working conditions. The intelligent electronically controlled throttle and the electro-hydraulic proportional control system can make the control more accurate and convenient.



Aerial Work Platform ∨

SWSL series cross-country scissor type aerial work platform is driven by hydraulic motor, with diesel engine and front wheel steering. Characterized by stable operation, simple operation, large bearing capacity, convenient maintenance, complete safety protection function and strong cross-country performance, etc., it is applicable on various complex roads. In addition, it is especially applicable for installation, maintenance and cleaning of high-altitude equipment for construction sites, tunnels, plant buildings, hotels, airports, stations, stadiums and other tall buildings, as well as maintenance of power facilities, overhead pipelines, lifting machinery, etc.



Aviation Equipment »

Sunward Intelligent Equipment Group made a foray into general aviation as early as 2002. In 2016, it successfully acquired Canada's AVMAX, with business subdivided into three parts including aviation manufacturing, aviation operation and aviation operator service. In this way, it preliminarily has a development pattern with a whole-industry chain layout.

With completely independent intellectual property rights, the independently-developed SA60L of Sunward Science and Technologies is China's first all-composite light sport aircraft which is also the first to obtain CAAC Airworthiness Certification and production license certification. Featuring aerobatic flight performance and short take-off and landing distance, it has been widely used in flight training, sports entertainment, aerial survey and remote sensing, etc.

Focusing on industrial applications, covering three series of fixed wing, multi-rotor wing and helicopter, Sunward UAV products are equipped with independently-developed flight controllers with excellent intelligence level and customization ability. They have been widely used in aerial photography and survey, agriculture and forestry plant protection, power line patrol, public security and police, and other fields.



Maintenance Center of AVMAX



Sunward SA160 Five-seater Aircraft



SUM60 Military UAV



山河之歌

Song of Sunward

1=G^F4/4

生机勃勃、亲切的中板

何清华 词

危大芬 曲

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你是亘古的丰碑，你是不老的歌谣，一次次风雨雷电，仍然高昂不屈的头颅；
你是匍伏的巨龙，你是贲张的血脉，一点点积蓄力量，等待腾飞的时刻；

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一道道暗礁险滩，依然不倦地奔流。那是青春，那是生命，那是心中的山河。
一滴滴凝聚细流，汇成大海的蓬勃。那是信念，那是人生，那是壮丽的山河。

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谁在默默地守望守望岁月的轮回，守望岁月的轮回，是您啊山河。
谁在不息地荡涤荡涤浊世的红尘，荡涤浊世的红尘，是您啊山河。

结束句

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山河巨龙，山河血脉，山河！山河！