SUNSTAR ENGINEERING, INC.

Business outline

1) Motorcycle Group
   Sprockets and disk brakes etc. for motorcycles, Electric Power-Assistance Unit
2) Chemical Group
   Adhesive and sealants for architecture
   Adhesive and sealants for automobile production
   Adhesive for electronic materials

Motto: Strive always to enhance the health and well-being of people everywhere

Company history

July 1954 : Established as Far East Chemical
1959 : Trade name changed to Sunstar Chemical Industrial.
1982 : Trade name changed to Sunstar Engineering, Inc.

Corporate outline

Date of foundation	: 1954
Capital	: ¥ 1.5 billion
President	: Hiroshi Awatani
Sales	: ¥ 24 billion
Head Quarters	: 3-1 Asahi-machi, Takatsuki, Osaka 569-1195, Japan
TEL	: +81-72-681-0351
FAX	: +81-72-681-0363
Factories	: Shiga Factory, Yamanashi Factory
Main production	: Adhesives, Sealants, Metal parts
Person in charge	: Terumi Yoshidome

Features of 'S02'

Can be installed in any position you like with an extra bracket.

Before installation

Before installation

Electric Power-Assisted Bicycle

To the origin of bike!

'S02' New mechanism developed

Highly efficient Power Assistance Unit suitable for any frame is now available.

Assistance Unit 'S02' enables powerful assistance without changing a bike's original design, while its compact and lightweight design minimizes the extra weight on the bike.
'You can safely ride this electric power-assisted bicycle, which is almost the same as a regular bike in the city.'
S02 is an assistance unit for bicycles which was developed with due consideration for their original design.

1. Magnet-sensing type noncontact pedal sensor

By utilizing the contact pedal sensor of the strain gauge type mechanism in the current assistance unit, 'S01', a noncontact pedal sensor was newly developed with ring-shape magnet and hole element in use replacing the strain gauge. (patent pending)

2. Integrated sensor and drive mechanism

Integration of sensor and drive realized a lightweight unit.

3. All-new axial-gap type brushless motor

Features a newly developed high-output and highly efficient brushless motor.

Features of 'S02'

1.5 times longer Riding Distance*1(than our conventional company products)

Integration of an all-new brushless motor, new gear train and new control system realized high efficiency.
The riding distance was prolonged despite the small battery.
*1 Riding Distance (Our internal data)
(Current S01: 26km Vs. New S02: 40km. However, it varies depending on riding condition, road status, weather etc.)

Mode switch which balances power and battery efficiency.

3-mode switch of Normal, Eco and Turbo realizes the combination of power and battery efficiency.

Lightweight Unit (2.9 kg: 1.5 kg lighter than the current unit)

Sensor and drive have been integrated by adopting an all-new brushless motor and chassis of Long Fiber Reinforced Thermoplastics. Optimal design of the unit merged all function yet decreased the weight of the unit. The Increase in weight of the bicycle was minimized so that you can easily ride it in the same way as a regular bicycle.

Compact but high power lithium-ion battery loaded

Equipped with a high performance lithium-ion battery which produces a large amount of electric power even at low temperature, which enables powerful assistance on cold winter mornings. Select one of 2 battery types that best suits the bike type.

Attachable to any bicycle

The unit is to be mounted with the bottom bracket as the center, which enables attachment to any kind of bicycle like a part in a short time (approximately 10 minutes). The variation of electric power-assisted bicycles can easily be expanded. Can be mounted to bikes of almost any design. It does not change the basic design of a bicycle.

*2 Bottom bracket: The part through which the pedal crank axis is inserted.

Changeable Basic Assist Functions

Basic functions such as degree of assistance can be changed. Suppliers (companies) can manufacture their original electric power assisted bicycles.