

MY2024-2025

SR SUNTOUR - HESC

E-BIKE System



REFINED SIMPLICITY™

REFINEMENT

E-BIKE System

A person wearing a helmet and a light-colored shirt is riding a bicycle through a curved concrete tunnel. The tunnel has a smooth, light-colored wall and a paved floor. The background is slightly blurred, suggesting motion. A blue arrow-shaped graphic points from the bottom right towards the center of the image.

**POWER
DYNAMIC
EASY HANDLING.**

INTRODUCTION

HESC Technology



COMPONENTS & KEY FEATURES



KEY FEATURES

HESC Technology



ACTIVE TORQUE SENSOR TECHNOLOGIE

Integration of torque, rotational speed and speed measurements that provides a natural and dynamic ride experience.



TOP DRIVE

Low-friction design with pure freedom with 100% freewheeling design. An unlimited experience even without electrical assistance beyond the assistance speed.



QUICK SERVICE PRODUCT

Simple construction enables easy and fast service which ensures continuous performance and a long service life.

KEY FEATURES

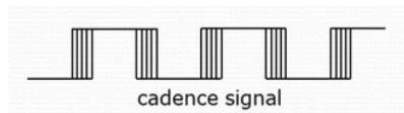
HESC Technology

Sensor mechanism

"Precise connection between the rider and the bike"

Precise measurement of pedaling force and cadence from the HESC ATS sensor system enables very smooth support when pedaling.

Multiple sensors around the axle making accurate measure and calculation possible of the power input and cadence from the rider. Hence, enables the smooth response from motor.



Result:

Creating a ride that is natural, intuitive and dynamic!

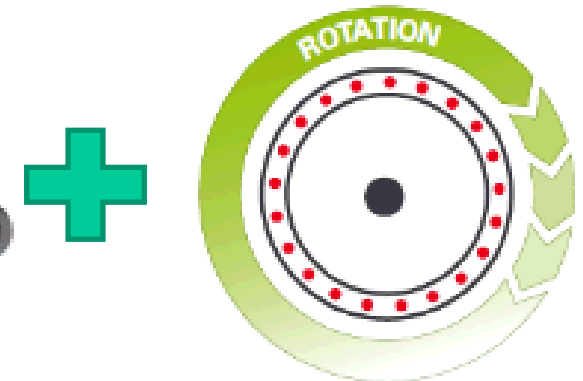
TORQUE SENSOR

Measuring the pedaling force



ROTATIONAL SENSOR (RPM)

Measuring the pedaling rotation by the sensors in the chainwheel unit and prevents against sudden starts



KEY FEATURES

ATS SENSOR SYSTEM

Models: **ATS-38T-PBDG-240**

crank arm: Aluminum
center ring: 42T
chainguard: Single/ Double/ none
compatible BB: Square type
length: 175mm

Models: **ATS-38T-PBDG-240**

crank arm: Aluminum
center ring: 38T
chainguard: Single/ Double/ none
compatible BB: Square type
length: 175mm

ATS 42T-DGB-PB-240



ATS-38T-PBDG-240



KEY FEATURES

R250HP-SPM148

Model: R250HP-SPM148

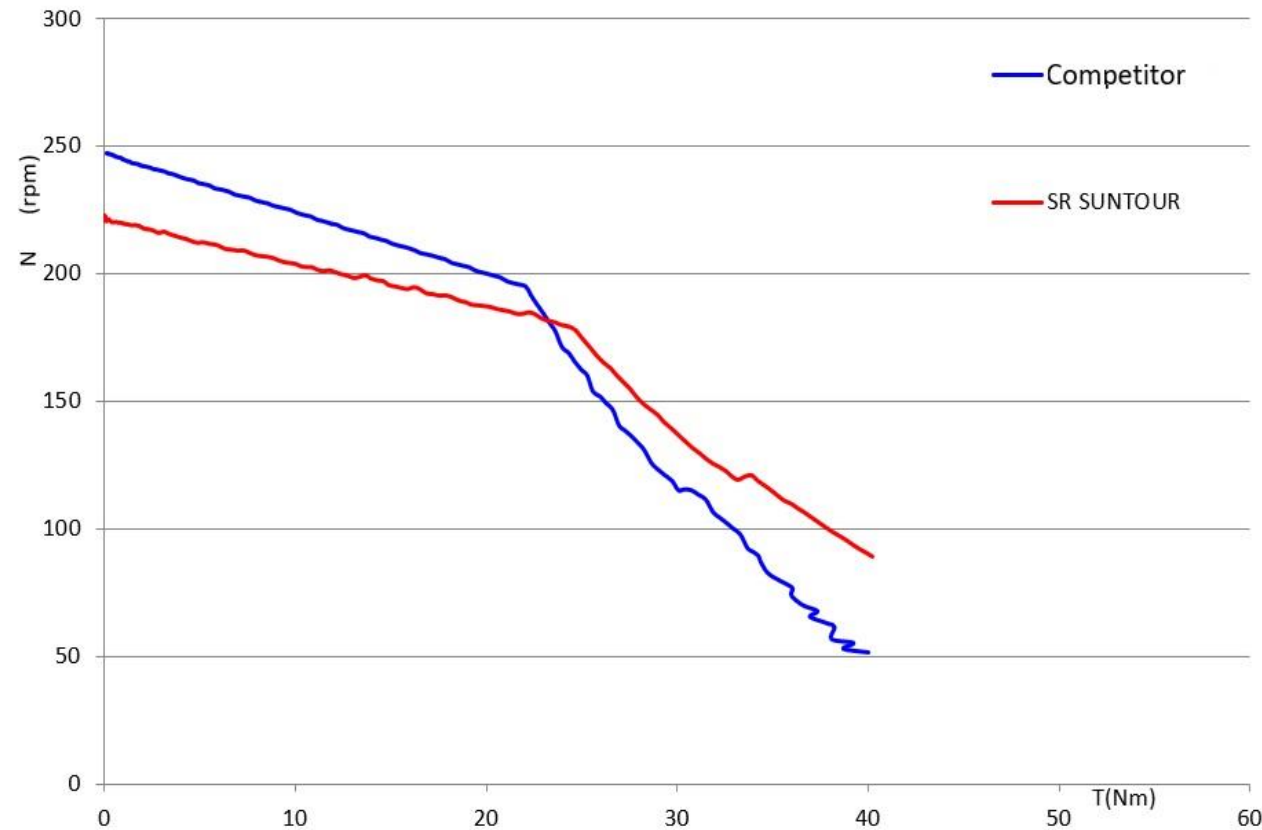
- Compact design (flange dia.: 120mm only)
- Solid axle for better power transmission
- Nominal power: 250W
- Max. power: 400W
- Max. torque: 60Nm
- Rated voltage: 36V
- Efficiency: Max. 87%
- Water / Dust resistance: IP56
(reliable dust & water protection)
- Improved gear design
- Freewheel mechanism for comfortable and natural ride with or without motor assistance.
- Compatible with Shimano cassette: 11S~9S



PERFORMANCE

R250HP-SPM148

T-N Characteristics



Torque comparison

ATS cadence + torque sensor system allows for active full-power assistance even at lower RPM or cadence where up-hill climb with weight can be most challenging.

Note:

T: Torque

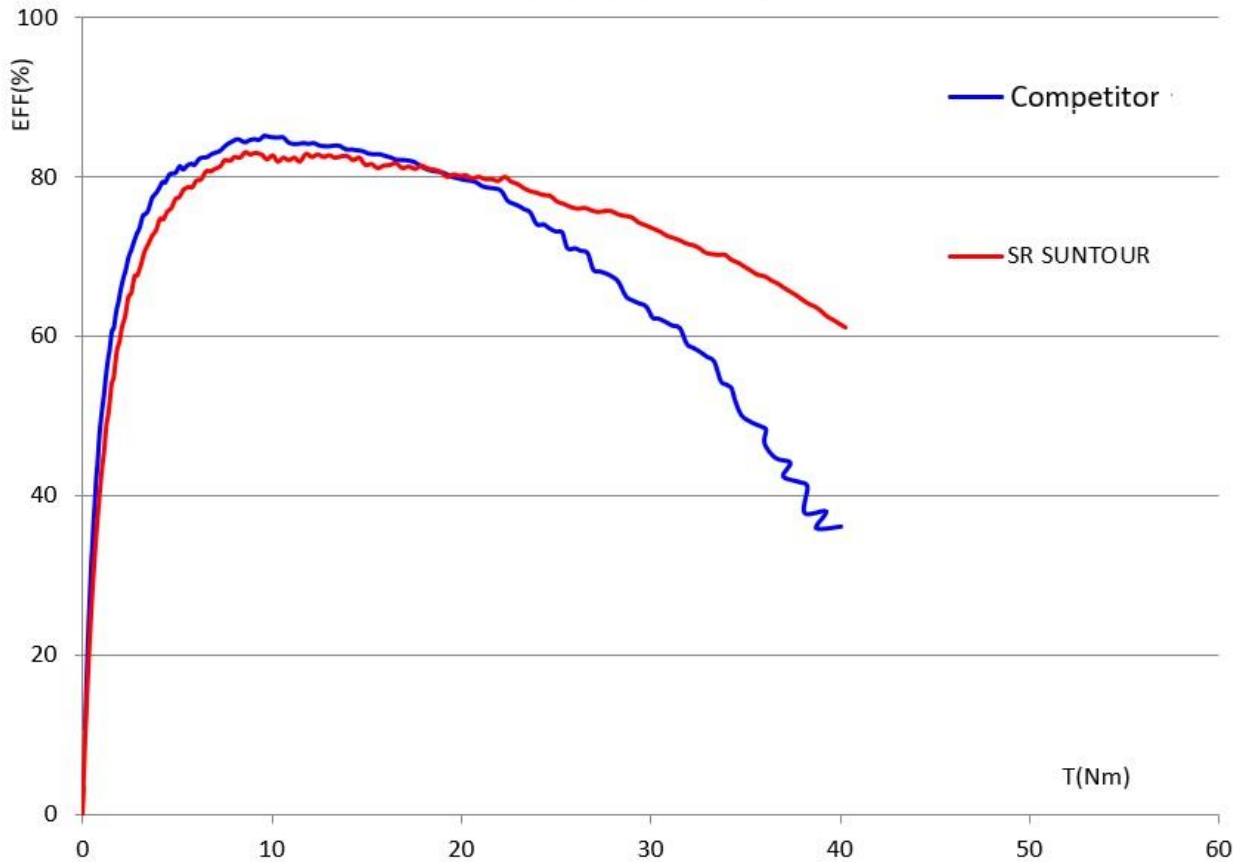
N: Rotation of motor

Current limited at 17A

PERFORMANCE

R250HP-SPM148

T-EFF Characteristics



Efficiency comparison

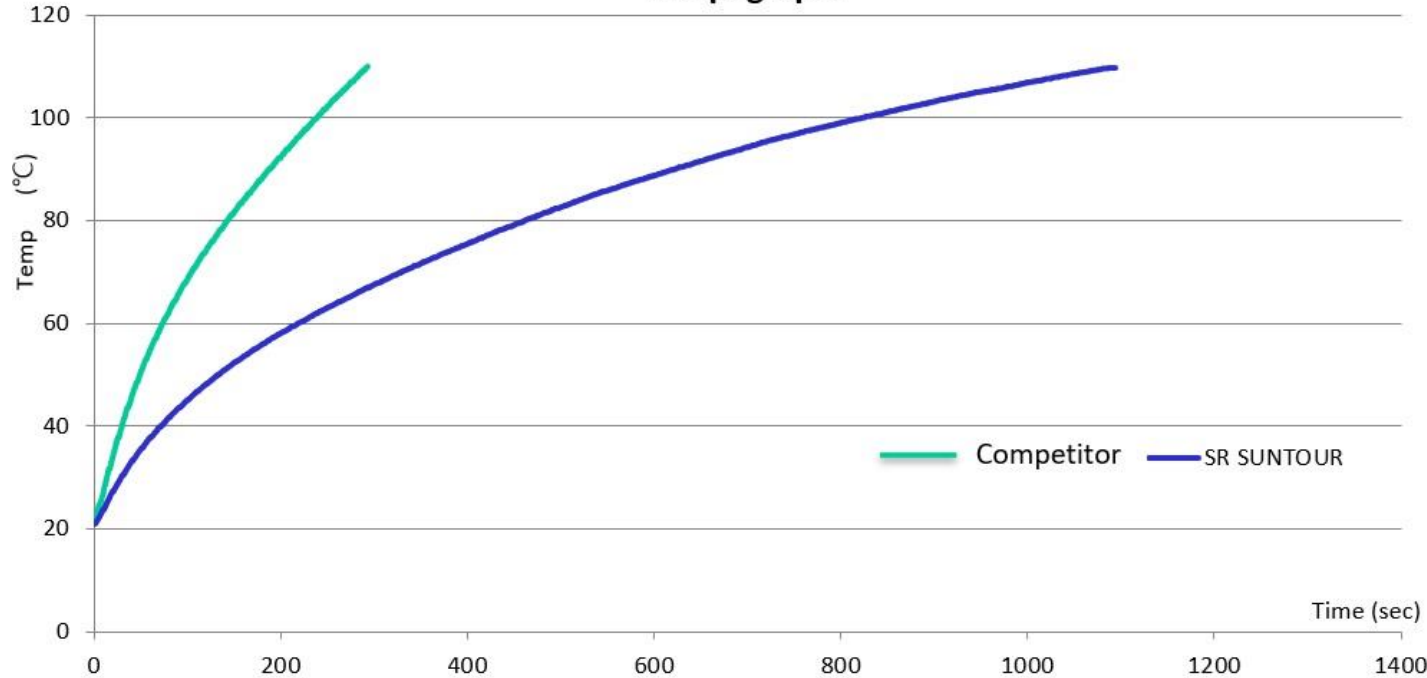
As the graph shows, the SPM148 motor at 60Nm of torque is most efficient as output is peaking at mid to high range. Meaning, steeper the hill climb, the more efficient and stable the motor becomes as designed.

PERFORMANCE

R250HP-SPM148

Temperature comparison

Temp. graphs



SPM148 motor is designed to be highly efficient and durable. In fact, 3x more efficient in thermal dispersion vs competition over time.

Not only that, SPM148 consumes 9% less electricity vs competition per same torque setting, extending the range and battery life.

Testing shows, not only is SPM148 more powerful, but excel in efficiency and durability.

Motor	Motor 80°C	Voltage	Current	Input	Torque	Number of revolutions	Output	Loss Power	Efficiency
	Temp. rise								
	Time								
	(sec)	(V)	(A)	(W)	(Nm)	(rpm)	(W)	(W)	(%)
Competitor	248	38.06	12.96	493.3	25.02	114.9	301.0	192.2	61.0
SR SUNTOUR	827	36.83	11.77	433.5	25.43	115.0	306.2	127.3	70.6
Difference	579	1.23	1.19	59.8	0.41	0.1	5.2	65.0	9.6

Note:
Heat Data based on the 25Nm setting at 115rpm from 27.5" wheel with the bike speed of 15km/h.

SPECIFICATION

HESC System

MOTOR

EBHM23-SPM148-10-20M

- Max. speed: 25km/h
- Max. torque: 50Nm
- Max. assist: 250%
- Available for 26"-29" and 20"-24"



CRANK SENSOR

Active Torque Sensor (ATS)

- Measuring pedaling torque & cadence
- No calibration required
- Available in 38T and 42T Chainwheel sizes.



ATS-38T-PBDG-240



ATS 42T-DGB-PB-240

CONTROLLER UNIT

SRS200-CAN

- Compact size
- Efficient heat sink design



DISPLAY & COUNTROLS

EBDA20

- OLED compact
- For km/h or km

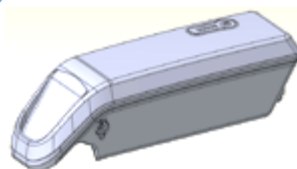


OLED701-KMH-CAN
OLED701-MPH-CAN

BATTERY UNIT

EBBA20

- Li-ion battery
- BMS built-in
- 310Wh, 410Wh



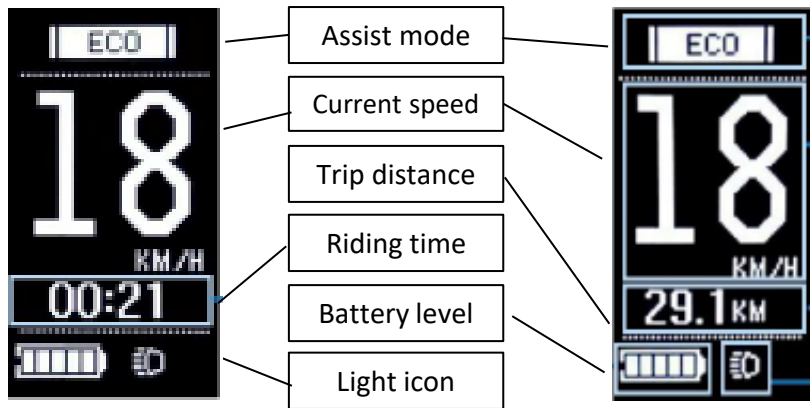
SRS800-3609CANPHDT15
3612CANPHDT15

DISPLAY & CONTROLS

OLED701

EBDS20-OLED700-MPHCAN500 (for mph/mile)

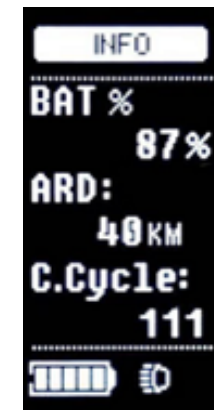
MAIN DASH FEATURES



- OLED 1.3" screen
- 0-4 levels of assistance (Eco, Tour, Sport, Turbo)
- Riding speed, trip distance, average speed, max. speed, total distance, battery level, remaining rideable distance, charging cycles, walk assist, light switch, Error code message



INFO SCREEN



DISPLAY & CONTROLS

OLED701

ASSIST LEVEL MODES



BUTTON OPERATION (Λ)

Λ Short push: **Assist mode up**

Λ Long push (2 seconds): **Light on/off**



TOP BUTTON:
Power on/off

BUTTON OPERATION (V)

V Short push: **Assist mode down**

V Long push (2 seconds): **Walk assist function**

KEY POINTS

For Riders

Dynamic and powerful

Direct propulsion on the wheel for dynamic & direct support from motor without giving any extra stress on chain and rear sprocket.

Intuitive

Thanks to the accurate measurement of pedaling force and cadence as well as the bike speed, the system is able to harmonize human and motor power for smooth and powerful ride. Making anyone feeling like a pro rider on inclines!

Easy to handle

Simple operation and functions enables riders to focus on pedaling and smooth and manageable cadence.

True freewheel

Freewheel mechanism in the hub-motor provides smooth riding even without motor assist. This allows for a natural cruising feel without any rolling friction from the motor, just a like a standard bike.

Control system against over-heating

New design of motor and heat transfer mechanism of the controller, located separately from the motor.

Low maintenance

Direct propulsion preserves crank, chain & cassette from stress and reduces service intervals while saving cost!

KEY POINTS

For Service

No special tools needed

Maintenance and repair made easy with a couple of Allen Hex Keys and Torx driver required for the assembly and disassembly.

No need to dis-assemble spokes even when exchanging the motor

Saving time and money on the repair. Dealer and service friendly!

No calibration needed

Easy and quick change of controller and motor in case of critical malfunction.

Visual display of error detection and diagnosis

Help rider and technician know what is going on to trouble-shoot the issue at hand.

Simplified modular integration design of drive unit for service

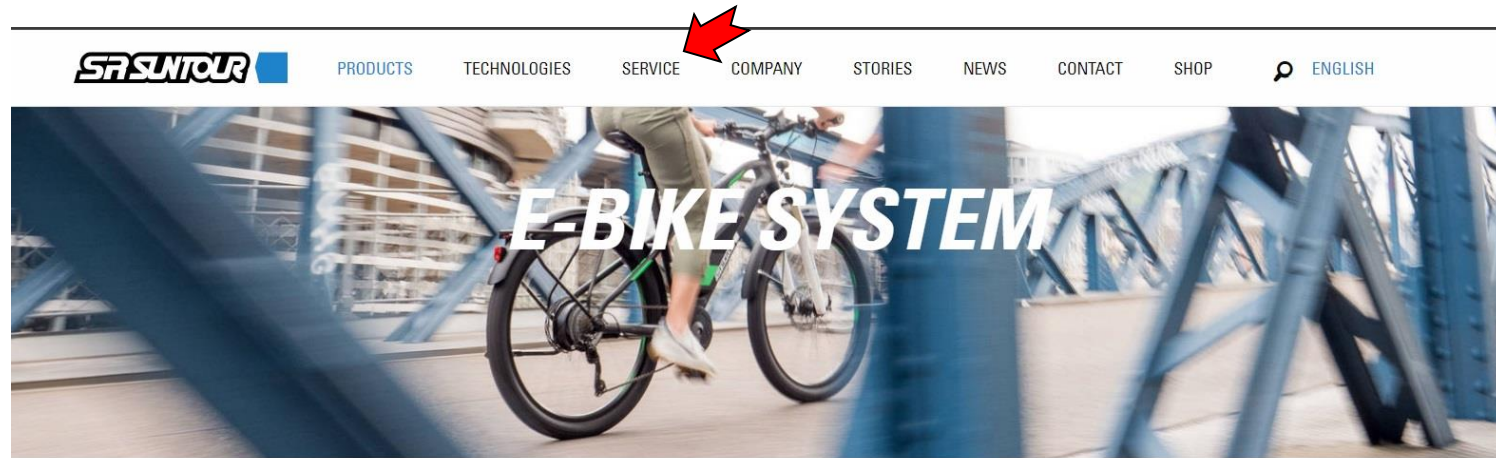
This grants quick and easy access to individual drive unit parts such as controller, sensor and motor, then easy to repair or exchange quickly if necessary.



SERVICE SUPPORT



>click: **SERVICE**



SELECT BY FEATURES

Model

RESET FILTER



SERVICE SUPPORT

>click: [Consumer Download](#)

The screenshot shows the SR SUNTOUR website's service support section. At the top, there is a navigation bar with the SR SUNTOUR logo and links for PRODUCTS, TECHNOLOGIES, SERVICE, COMPANY, STORIES, NEWS, CONTACT, and SHOP. A search icon and the word 'ENGLISH' are also present. Below the navigation bar, the page is divided into several columns. The first column is titled 'PRODUCT SUPPORT' and lists links for Owners manuals, Exploded Views, Glossary, FAQ, E-BIKE SYSTEM (HESC) SUPPORT, Product Service, Service Request, Warranty, and Safety recall notices. The second column is titled 'TECH VIDEOS' and lists Basic Maintenance and Advanced Maintenance. The third column is titled 'CATALOGUES' and contains a link for 'Consumer Downloads', which is highlighted with a red arrow. The fourth column is titled 'DOWNLOAD AREA' and contains a link for 'B2B Login'. To the right of these columns, there are two video thumbnails. The first is titled 'PRODUCT SUPPORT' and has the subtitle 'All information on SR SUNTOUR products'. The second is titled 'TECH VIDEOS' and has the subtitle 'How to service your SR SUNTOUR Product'.



SERVICE SUPPORT

>click: **E-BIKE SYSTEM (HESC)**



PRODUCTS

TECHNOLOGIES

SERVICE

COMPANY

STORIES

NEWS

CONTACT

SHOP



ENGLISH



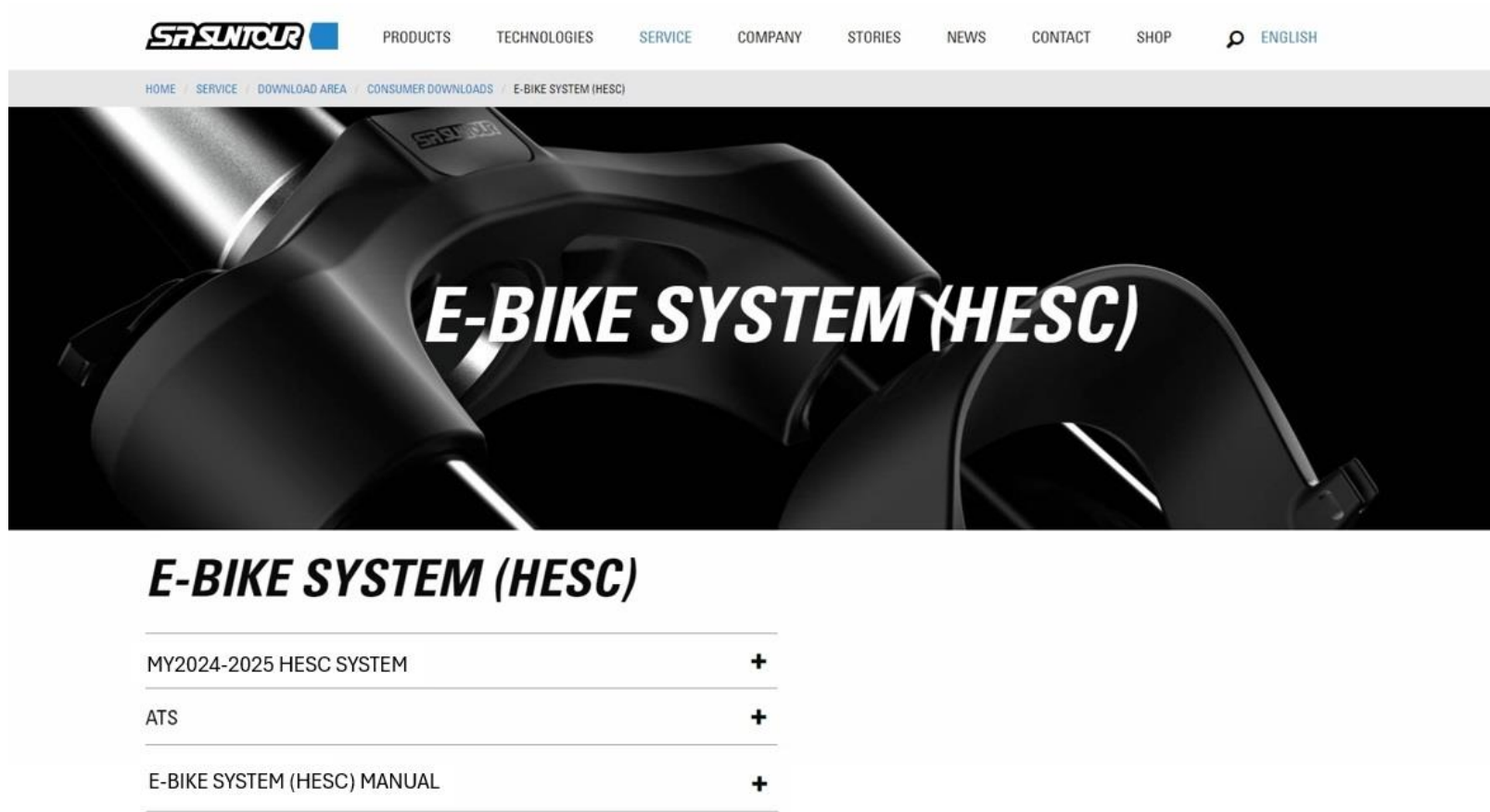
CONSUMER DOWNLOADS

SUSPENSION FORK	+
REAR SHOCK	+
SEATPOST	+
E-BIKE SYSTEM (HESC)	+
GENERAL CATALOGUE	+
WARRANTY	+



SERVICE SUPPORT

>click each of the directory links to access all support materials.



SR SUNTOUR PRODUCTS TECHNOLOGIES SERVICE COMPANY STORIES NEWS CONTACT SHOP ENGLISH

HOME SERVICE DOWNLOAD AREA CONSUMER DOWNLOADS E-BIKE SYSTEM (HESC)

E-BIKE SYSTEM (HESC)

MY2024-2025 HESC SYSTEM	+
ATS	+
E-BIKE SYSTEM (HESC) MANUAL	+

FACTORIES

Company	SR SUNTOUR INC.	SR SUNTOUR (Shen Zhen) INC.	SR SUNTOUR Machinery (Kunshan) Co. LTD	SR SUNTOUR (Vietnam) CO.,LTD
Address	#7 Hsing Yeh Road, Fu Hsing Industrial Zone Chang Hua, Taiwan, R.O.C.	Suibe Industrial Zone, Suibe Road, Gongming Town Guangming District Shen Zhen, China	No.1500 Honghu Road, Penglang, Kunshan, Development Zone, Jiang Su Province, China ZIP 215333	No.17-8, Street 3B, Protrade International Tech Park, An Tay commune, Ben Cat Town, Binh Duong Province Vietnam

Customer support offices for e-system (USA)

Company	SR SUNTOUR MADISON
	Warranty, Service, Sales and Marketing
Address	910 Watson Avenue, Madison, WI 53713, USA

Customer support offices for e-system (Europe)

Company	SR SUNTOUR Düsseldorf GmbH
	Sales, Customer support and technical services
Address	Fichtenstrasse 115, 40233 Düsseldorf, Germany

Nov., 2020: Specifications are subject to change without prior notice.

