



FSA
FULL SPEED AHEAD

FSA E-BIKE MOTOR

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#ALWAYSAHEAD

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E-BIKE MILESTONES & E-BIKE MARKET:

2009: The presence of FSA in the e-bike world begins in 2009, the year in which we take the opportunity to work with Bosch, which is preparing to introduce the first generation of e-bike system to the most important customers in the bike business.

2010: Since the birth of the Bosch first generation e-bike system, FSA was already an official partner, developing dedicated cranks, chain rings and fixtures, following Bosch's input and customizing the offer on needs of the most influential European customers.

2013: At the official introduction of Bosch's second generation, FSA presents a brand new range of dedicated products, expanded to cover the growing and emerging uses: Commuting, Trekking, Performance.

2014: The Haibike brand (Accell Group) implements a surprising strategy, doubling the range, introducing different models with Yamaha motor system. FSA is the official partner of Haibike to give life to drivetrains dedicated to the new engine and the needs of the brand. A partnership that in the following years proved to be very important for FSA in the booming E-PERFORMANCE segment.

BROSE (Brose Antriebstechnik) German leader in automotive mechatronics, enters the bike business and FSA is the official partner for cranks, spiders, chain rings. The partnership allows BROSE and FSA to gain immediately some important customers in Europe, starting projects with ZEG, BULLS, SCOTT, ROTWILD.

2015: Thanks to a common, important, customers portfolio, FSA and Yamaha are starting an official cooperation. This cooperation will allow FSA to become the official supplier of motor spiders for PW and PW-X motors.

2016: New player on the market, FAZUA from Munich, Germany, is looking for a partnership to start business with four "A Level" customers. With rare reactivity, FSA creates a dedicated range for this new, game-changing motor. Only a few months later the lightest E-MTB in world is presented by FOCUS, with FSA's hollow carbon cranks and ultralight DM chain ring. Again, a few months later, the first E-ROAD bikes with Fazua's motors are hitting the market: CUBE, FOCUS, FANTIC, PINARELLO, BIANCHI, all equipped with FSA components.

2017: FSA's e-bike catalogs counts now 8 motor systems (BOSCH 2nd and 3rd Gen, Yamaha PW and PW-X, BROSE, NIDEC, FAZUA, POLINI) all covered with dedicated components (cranks, spiders, chain rings, fixtures, chain guards). More than 630.000 "FSA e-bike kits" are sold in 1 year in Europe.

2018: The growing E-ROAD market brings a new challenge to FSA: dedicated E-ROAD wheelsets with EBIKEOTION rear hub motor. A new line of 4 VISION wheelsets models is developed and released to the most influential customers. The first orders are in just a few days after the launch and the mass production is starting in just 3 month later at record speed. FSA's growth in the e-bike segment seems unstoppable and the company is now looking with interest for the next big step ahead.

2019: FSA launch his first **E-BIKE MOTOR**.

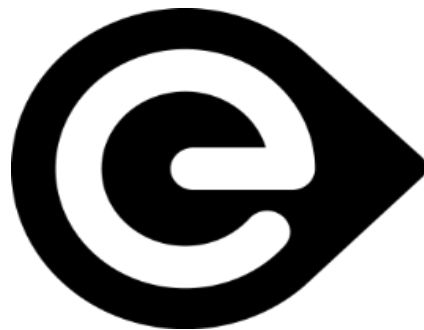
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LOGO

Pushing innovation, design and quality, FSA is the leading product choice for e-bike in cranksets, spiders, sprockets and other transmission parts.

From working closely with the best motor brands, to providing good support, service and quality product, making the right spec choice for e-bike has never been easier.

To identify products created and engineered specifically for e-bike, look for our logo.





E-BIKE SYSTEM

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OVERVIEW

Developed specifically for:

- Impeccable style E-Road
- Lightweight E-Gravel
- The most stylish E-Commuter



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OVERVIEW



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TECHNICAL PERFORMANCE SPECIFICATION

POWER

Rated Voltage (V)	23-36
Rated Power (W)	200-250
Max Rotational Speed (rpm)	320
Rated Efficiency (%)	>79%
Magnet Poles	20
Reduction Ratio	1:6.4
Output (Nm)	43.01

DIMENSION

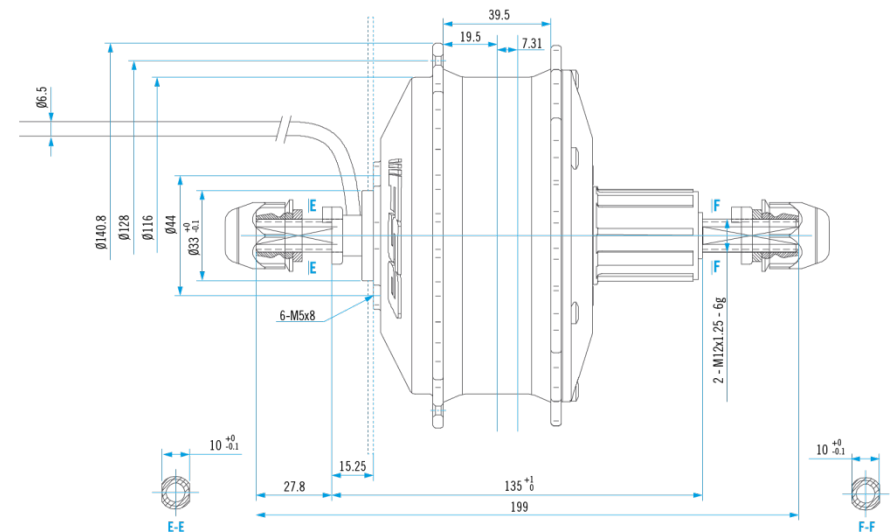
Weight (Kg)	2.4
OLD(mm)	135
Wire Form	Shaft end outlet
Spoke Size	12G/13G
Freewheel	Steel cassette
Max Outside Diameter	Φ140.8

SENSOR

Built-in Torque Sensor	The output voltage: 0.2V-2.5V
Built-in Speed Sensor	Included
Hall Sensor	Optional

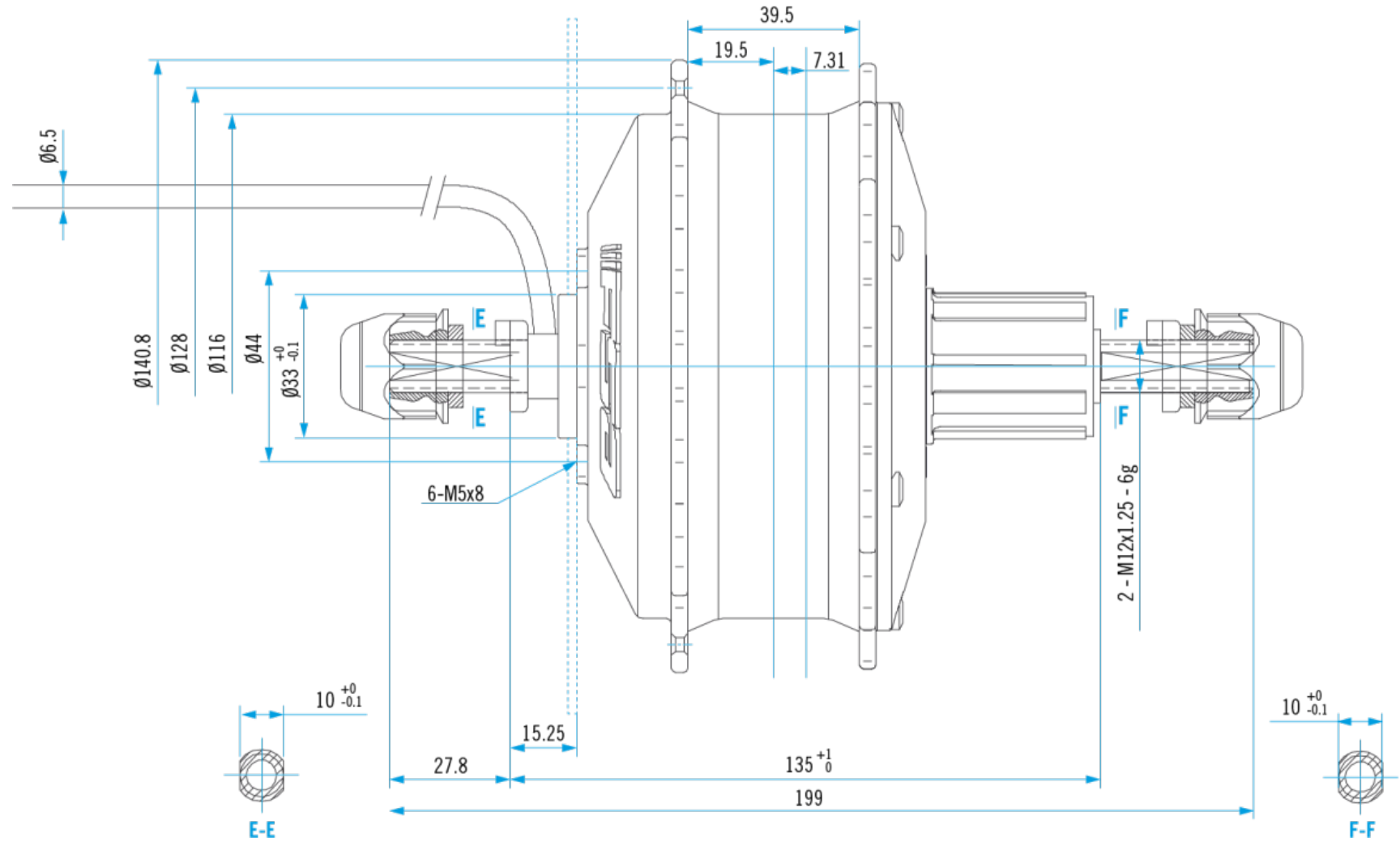
OTHER

Power levels	5
Surface Treatment	Black FSA logo
Noise Grade(dB)	<55
Salt Spary Test Standard(h)	96
Ingress Protection	IP65
Certification	ce, rohs



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TECHNICAL DRAWING



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BENEFITS

- The motor adopts an **INTEGRATED TORQUE SENSOR**, which has a fast response and good linearity. It has continuous and stable power, and can automatically adjust the speed, large starting torque, great climbing assistance, and strong anti-blocking ability.
- Integrated battery design (250WH).
- External battery as optional (+250WH) for total 500WH.
- 1 on/off button and assistance level selection.
- 5 assistance levels, including GREEN (eco) and RED (boost).
- High efficiency, low power consumption and long mileage with the GREEN mode.
- Superior waterproof performance.
- Long life (bearing life).
- Long maintenance cycle.
- Easy to maintain.
- Easy to install.
- No limit for bike frame geometry, even for a pure road race geometry in size S and XS!
- Low Q-factor.
- Incredibly low friction over 25KMh.
- **Just 2.4 kg.**
- Spare parts available via FSA Service Centers network.
- Specific FSA app for end user.
- Remote diagnostic for dealer.



WH RANGE

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METRON 40 SL DISC

FEATURES

- Full carbon 40mm depth TLR/Clincher rim
- Alloy hubs
- Spokes 21F / 32R
- Optimized 32h rear rim and spoke pattern
- ABS self locking nipples
- Artisan built, entirely by hand

SIZE

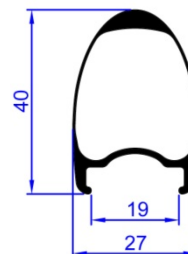
- Shimano 10-11sp freehub
- ISO 6-Bolt Rotor Mount

FINISH

- Color graphics options - grey

WEIGHT

- 3,447 grams



*WARNING: EARLY SAMPLES RELEASED W/O TLR RIM

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TRIMAX 30 DISC

FEATURES

- Alloy 30mm depth TLR/Clincher rim
- Inter spoke milling R06 system
- ABS self-locking nipples
- Spokes 21F / 32R
- Optimized 32h rear rim and spoke pattern
- Artisan built, entirely by hand

SIZE

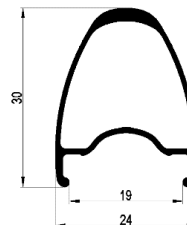
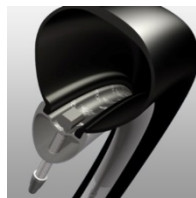
- Shimano 10-11sp freehub
- ISO 6-Bolt Rotor Mount

FINISH

- Rims – bead blasted anodized black
- Front & rear hubs – anodized black
- Color graphics options - grey

WEIGHT

- 3,694 grams
- Front Wh: 845 grams
- Rear Wh: 2,849 grams



*WARNING: EARLY SAMPLES RELEASED W/O TLR RIM

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TEAM 30 DISC

FEATURES

- Alloy 30mm depth TLR/Clincher rim
- CNC machined aluminum hubs
- Spokes 24F / 32R
- Optimized 32h rear rim and spoke pattern
- Artisan built, entirely by hand

SIZE

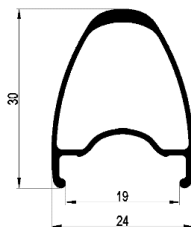
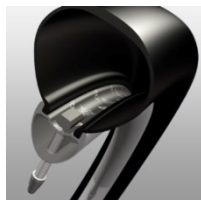
- Shimano 10-11sp freehub
- ISO 6-Bolt Rotor Mount

FINISH

- Rims – bead blasted anodized black
- Front & rear hubs – anodized black
- Color graphics options - grey

WEIGHT

- Total set: 3,694 grams
 - Front Wh: 845 grams
 - Rear Wh: 2,849 grams



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AGX - GRAVEL

FEATURES

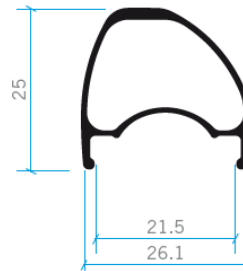
- Asymmetric alloy rim
- 25mm depth
- Tubeless compatible
- Available in 650b (27,5") and 700c (29")
- Artisan built, entirely by hand

SIZE

- Shimano 10-11sp freehub
- ISO 6-Bolt Rotor Mount

FINISH

- Color graphics



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SERVICE CENTER

FSA has:

- 40 authorized service center worldwide
- **17 authorized service center in europe**
- 100% warranty cases managed by using an intranet page
- Faster service: **100% warranty cases solved in 1 week**
- Technical documents and announcements available and update directly online on intranet.



BENEFITS

- Quick analysis of the recurring problems.
- Creation of permanent Database for **DEFECTIVE PRODUCTS**, **DEFECTS CODES AND PARTS**.
- Capability to improve the quality of the components still in production and further product developments.
- Traceability for each kind of products from the introduction into the market to the detected problem.

FULL SPEED AHEAD ASIA

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