

Nidec

Powerful, Intelligent
Nidec eBIKE SYSTEM

ITOCHU

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Nidec

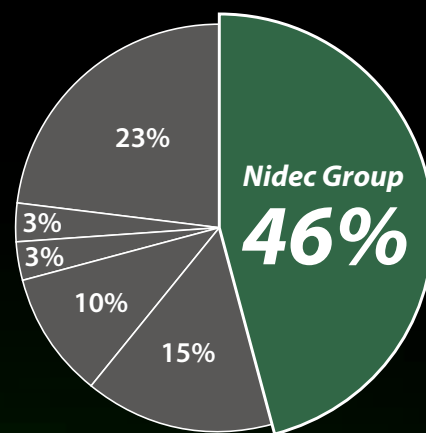
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The world's No.1 comprehensive motor manufacturer from Japan introduces eBike system

Having 40 years of experience in developing and manufacturing brushless DC motors, Nidec achieved No. 1 position in the global market. We bring this accumulated know-how to eBike system. Nidec has been successfully providing eBike system in Japan since 2012. Now introducing eBike system to the world-wide market.



Nidec, No.1

*Market share in 2012 (refer to Nidec homepage)

Efficient high power motor and optimized design give a 25 % longer riding distance (EPAB-001 system)

*Result of internal comparison with a conventional designed 36V system



- Max 95 Nm, 700 W motor system
- Total motor unit's efficiency is max 83 % (using high efficient motor (max 90 %) with minimum number of gears)
- Optimized 48 V system

Quad sensor and control technologies experienced in the Japanese market provide a natural riding feeling in any road conditions

- High precision **both side torque sensor**
- High resolution **cadence sensor**
- **Triaxial angle sensor**
- **Speed sensor**

Triaxial angle sensor can detect both: bicycle riding uphill and falling over



- Detects uphill riding and adds power
- Detects bicycle falling over and limits some functions for safety

Zero speed start is possible even on an uphill slope



High response **quad sensor** and **carbon filled durable motor gear** make it possible to ride uphill easily even from zero speed

Customizable software and hardware

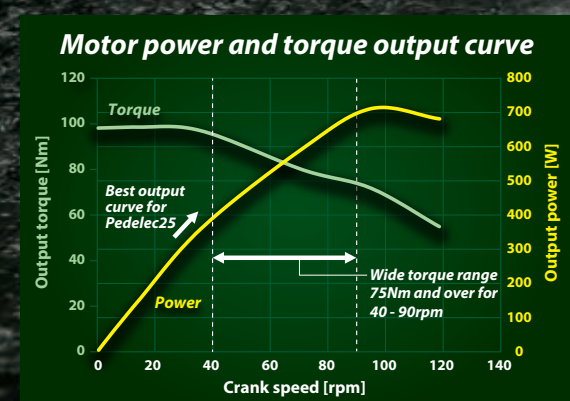
- We customize software according to your brand philosophy
- Outer housing of a motor unit can be adjusted to perfectly match your bicycle design

Pedelec25 (EPAB-001)

*Push your limits
by making the most of your muscle power
and eBike's outstanding performance.
For those, who appreciate
sports spirit.*

Best fit for e-MTB

- High power motor
(max 95 Nm, 700 W)
- Angle sensor
- Superior power and
torque performance



Motor unit

Intelligent heart of eBike system

Size (D x W x H)	225 x 92 x 148 mm
Weight	Approx 3.5 kg
Max speed	25 km/h or 20 mph
Power	DC 48 V / 250 W or 350 W (rated), 700 W (max)
Torque	95 Nm (max)
Sensor	Torque, cadence, angle, speed
Other functions	Brake cut off, walk assist



Battery

Bringing in high safety standards, developed for the automotive industry:

- Resistant to shock and vibration due to a special internal structure
- Superior fire protection is ensured by catch fire inhibitor

Size (D x W x H)	346 x 102 x 92 mm
Weight	Approx 3.2 kg
Capacity	407 Wh (min 380 Wh)



Charger

Algorithm, supporting fast charging while protecting lifetime of a battery

Size (D x W x H)	170 x 90 x 45 mm
Weight	Approx 0.6 kg
Output current	Max 2.2 A
Rated input	AC 100-240 V
Charging time	Approx 2 hours (50 % charge), approx 5 hours (100 % charge)



Cycle computer

Several lineups:

Separate type

- 2.4 inch removable LCD display and external handlebar controller (3 keys)
- "Supported modes" (4 levels) and "speed" (km/h or mph)
- "Remaining mileage" and "remaining battery" (5 levels)
- "Cycle computer" and "simple error code"
- USB interface (USB charging, interface of setup and diagnosis software)



Embedded type

- 1.5 inch LCD display with controller buttons (3 keys)
- "Supported modes" (4 levels) and "speed"
- "Remaining battery" (5 levels)
- Bluetooth and USB interface (USB charging, interface of setup and diagnosis software)



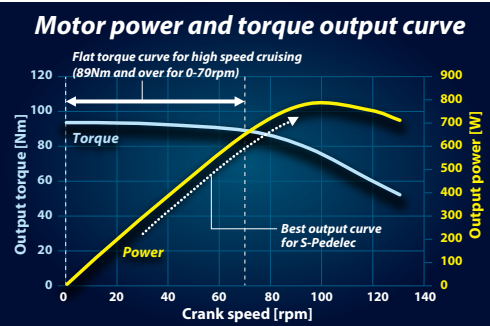
Setup and diagnosis software

Comes with user-friendly setup and diagnosis software

Coming in model year 2018

S-Pedelec Powerful ride

Ride longer distances with the same efforts.
A successful blend of compact size,
longer range and enormous power makes
a bicycle convenient means of transportation
for daily life.



Motor unit

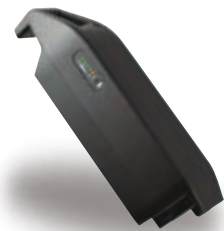


**Mighty S-Pedelec mid-motor,
combining higher power with the small size of EPAB-001**

Size (D x W x H)	225 x 92 x 148 mm
Weight	Approx 3.5 kg
Max speed	45 km/h or 28 mph
Power	DC 48 V, 420 W (rated), 770 W (max)
Torque	90 Nm (max)
Sensor	Torque, cadence, angle, speed
Other functions	Brake cut off, walk assist

*Spec may change

Battery



**Retaining the advantages of EPAB-001,
we plan to further increase battery capacity and add range extender**

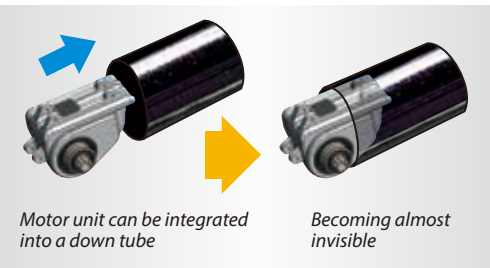
Size (D x W x H)	346 x 102 x 92 mm
Weight	Approx 3.2 kg
Capacity	407 Wh (min 380 Wh)

Coming in model year 2019

e-Small wheel / e-Folding / e-Road

Invisible motor

One motor - several applications: stay stylish within
the city making eBike system invisible or enjoy the best
bicycle geometry with your e-Road, not possible before.



Motor unit



Compact mid-motor for more mobility and new applications

Size (D x W x H)	156 x 90 x 100 mm
Weight	Approx 2.5 kg
Max speed	25 km/h or 20 mph
Power	DC 36 V / 100 W, 350 W (max)
Torque	25 Nm (max)
Sensor	Torque, cadence, angle, speed
Other functions	Brake cut off, walk assist

*Spec may change

Road map

Solutions that will keep
you a step ahead



Constantly working on hardware
and software development to create new possibilities
and bring more mobility to our future.

Company profile and service network

