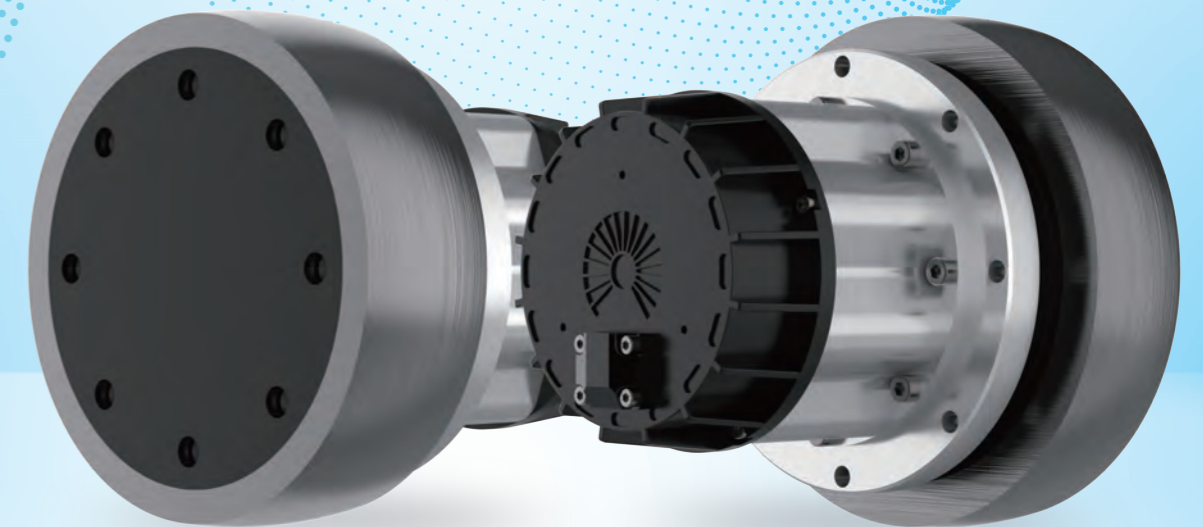


VEICHI

RB100 Series Integrated Servo Wheel



VEICHI

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Official Website

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Stock Code: 688698

About Us



VEICHI Electric (stock code: 688698) has always been dedicated to the field of electrical drive and industrial control since its establishment, and now it is a high-tech enterprise engaged in R&D, production, and sales of industrial automation products in one. With R&D and production bases in Suzhou, Shenzhen and Xi'an, and a wholly-owned subsidiary in India, VEICHI now is capable of conducting its business to many countries and regions with competitive, safe and reliable products and services to customers all over the world.

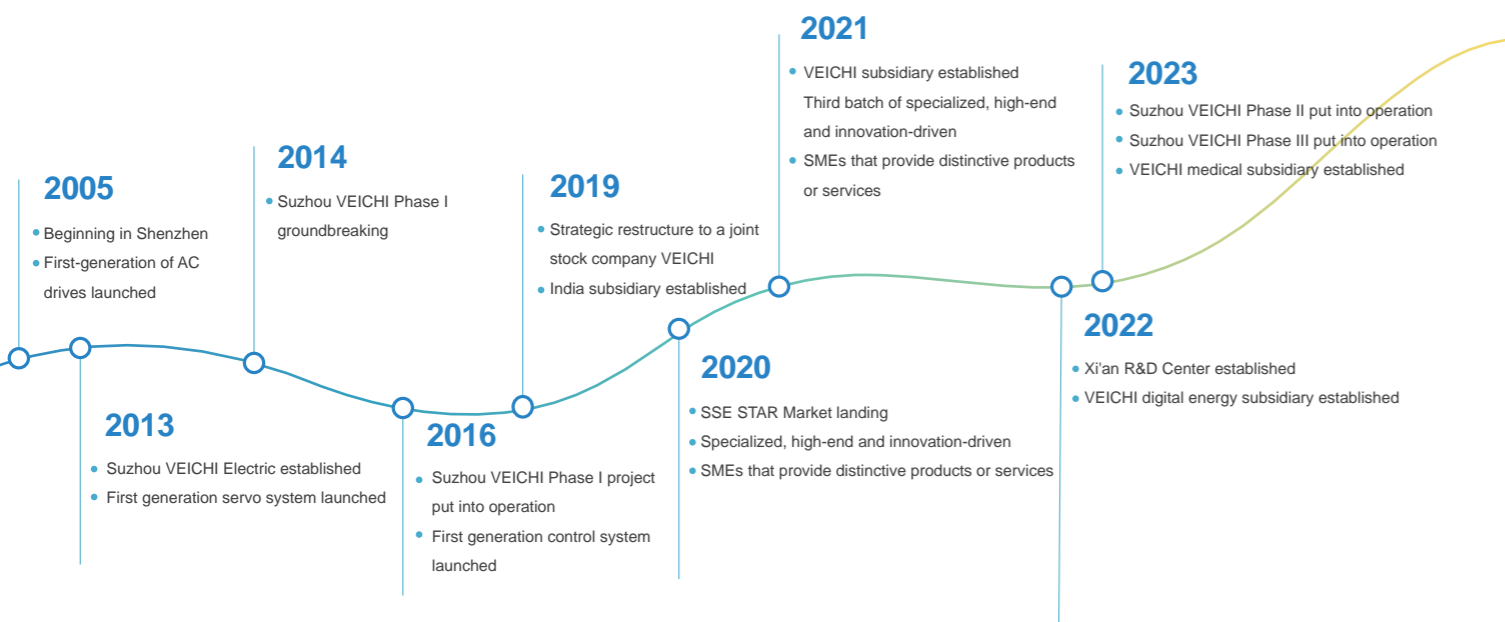
The company boasts an extensive portfolio of products, encompassing AC drives, servo systems, and control systems. These products have been extensively deployed across various sectors such as heavy industry, light industry, and high-end equipment. With numerous mature application cases, they offer scenario-based solutions designed to facilitate the digital and intelligent transformation and upgrading of the manufacturing industry. Moreover, the company is in lockstep with the zeitgeist, expanding its reach into burgeoning fields like robotics, new energy, and healthcare. It has developed a suite of innovative products, including hollow cup motors, frameless motors, photovoltaic energy storage inverters, and surgical power systems. These cutting-edge offerings significantly enhance the prosperity and advancement of the industries they serve.

On long-term and persistent R&D and innovation, VEICHI has success-

fully cultivated a series of patented technologies with independent intellectual property rights, and has mastered the core technologies of motor control such as vector control of PMSM, high-frequency pulse injection control, field-weakening control for higher speed, scalar V/F control and vector control etc, and of silicon carbide application, motor parameter tuning and identification, motor control and protection, and motor speed tracking and start-up control. As of June 30, 2024, a total of 221 patents have been granted, including 51 patents for inventions.

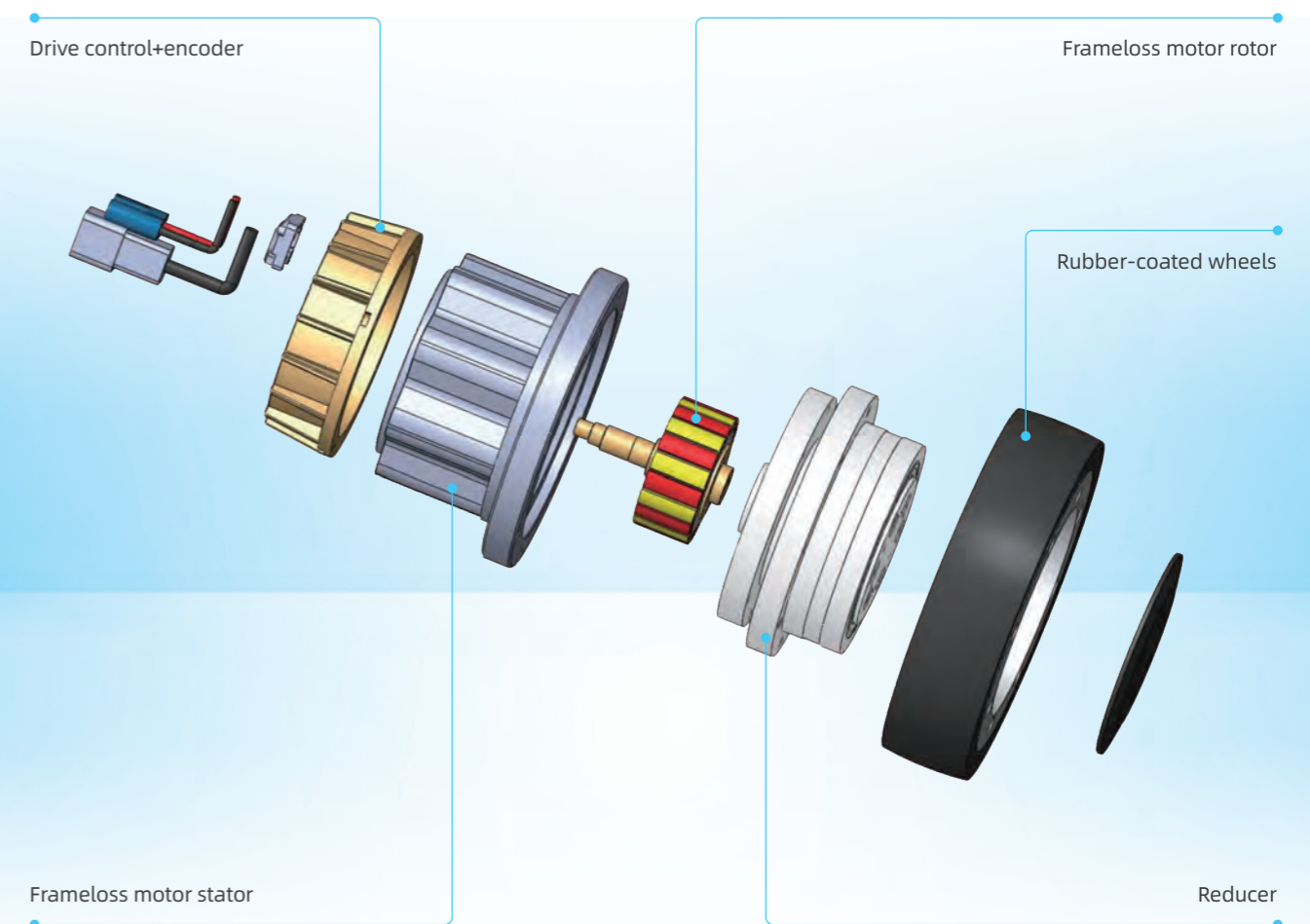
Over the course of 19 years, the company has steadily progressed, earning numerous accolades and certifications from national and authoritative bodies. It has been recognized in the third batch of specialized, high-end and innovation-driven SMEs that provide distinctive products or services, and titles of "high-tech enterprise", "Jiangsu Provincial Engineering Technology Research Center", "Jiangsu Provincial Enterprise Technology Center", and "Jiangsu Industrial Internet Development Demonstration Enterprise (Benchmarking Factory Category)".

Moving forward, steadfast in its commitment to the business philosophy of "guided by market demand and driven by technological innovation", VEICHI will fortify its research in key core technologies and enhance product iteration to expand relentlessly across the spectrum of high-performance and quality applications. This strategic focus will enable us to make significant contributions to the evolution of electrical drive and industrial control systems, ensuring that our efforts are directed towards propelling the industry forward with determination and vigor.



RB100 Series Integrated Servo Wheel

The RB100 series integrated servo wheel represents the pinnacle of innovation, seamlessly integrating a drive system, an encoder, a frameless motor, a reducer, and rubber-coated wheels into a single, highly advanced unit. Our proprietary core technology, developed through independent research, positions the performance and reliability of this system at the forefront of the international stage. It is characterized by easy installation, simple wiring, stability and reliability. And its wide models are sufficient for applications in AGV/AMR, intelligent warehousing, robotics and more.



Product Features



High integration

Integrated various core technologies for lower comprehensive cost of supply chain, R&D, production and assembly of users by more than 50%.



Compact structure

Compact and lightweight, at least 30% reduction in installation space compared to traditional layout for smaller vehicles.



Heavy load

Steel + aluminum alloy structure with the output power margin design allowing more than 5% higher rated load capacity than the like products, thus a wider range of applications.



Flexible compatibility

2-4 types of rubber-coated wheels compatible for different vehicle models of the same specification.

Naming Rules

Helical gear reducer:
Long life, low noise, high load capacity

RB100 - G 25 22 - 200 K60 - Q 1 C □

Product Series

RB100: Integrated servo wheel

Voltage Level

E: 24V F: 36V
G: 48V J: 60V
I: 72V

Wheel Rated Torque

Value is the rated torque
e.g. 25 means the rated torque on the wheel is 25N.m, so as the other values.

Wheel Rated Speed

Value × 10 is the rated speed
e.g. 22 means the rated speed on the wheel is 220rpm, so as the other values.

Wheel Diameter

Value is the wheel diameter
e.g. 200 means the wheel diameter is 200mm, so as the other values.

Outlet Method

Empty: 200mm cable with pair connector
Others: Customized (Mark up to customization)

Communicatio

C: CANopen
E: EtherCAT

Brake

1: Without brake
2: With brake

Encoder Type

Q: 17-bit single-turn magnetic encoder
R: 17-bit multi-turn magnetic encoder

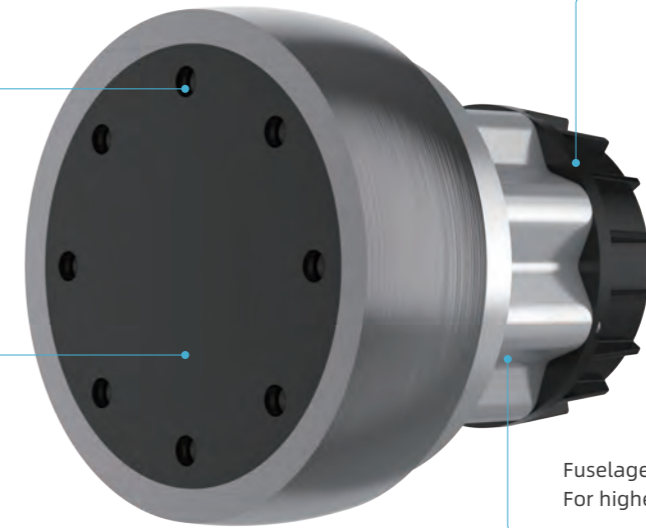
Wheel Width

Value is the wheel width
e.g.K60 means the width of the rubber coated wheel is 60mm, so as the other values

Composition

Convenient replacement and maintenance of rubber-coated wheels

Standard 17bit serial magnetic encoder for high accuracy and strong anti-interference capability.



Enhanced protection and aesthetics of the product by the cover

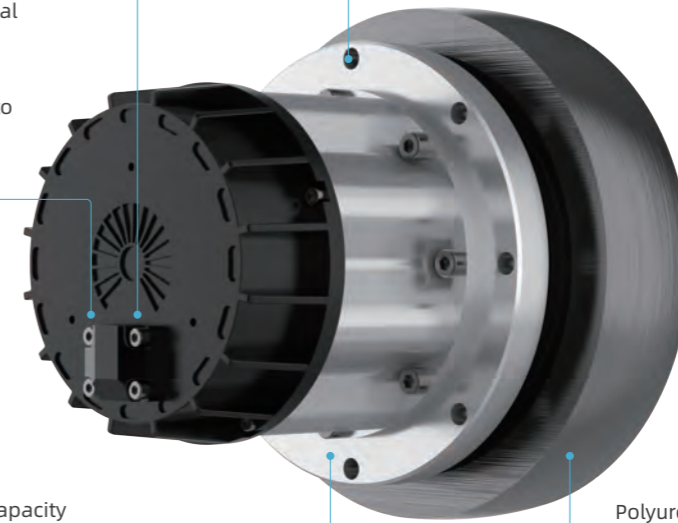
Fuselage with all-steel wave pattern structure For higher strength and better heat dissipation

Signal terminal:
Standard CAN communication and other communication methods optional

Simple and precise installation

Brake release terminal:
Use external 48V power supply to release the brake

Power terminal:
Power input terminal DC+/DC-

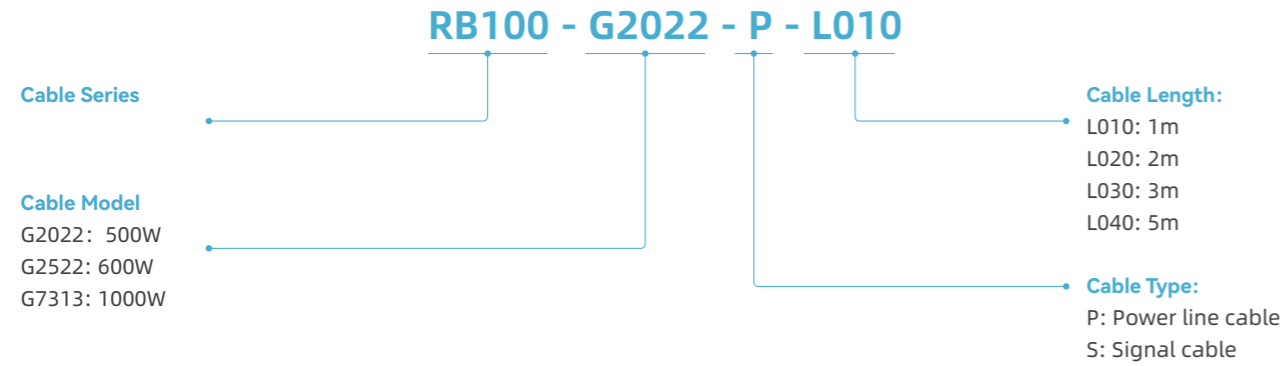


Helical gear reducer:
Long life, low noise, high load capacity

Polyurethane: Wear-resistant and silent

Cables

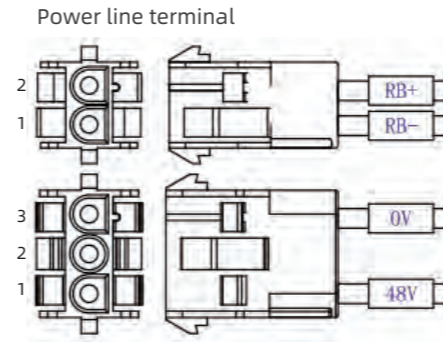
Naming Rules:



Power	Power Line	
	Specification	Diagram
500w	RB100-G2022-P-L***	
600w	RB100-G2522-P-L***	
Power	Signal Line	
	Specification	Diagram
500w	RB100-G2022-S-L***	
600w	RB100-G2522-S-L***	

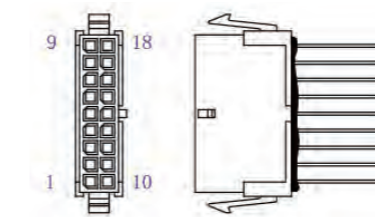
Terminal Definition

500W Terminal :



Power Line			
Pin No.	1	2	
Color	Yellow	Yellow/Green	
Definition	RB+	RB-	
Pin No.	1	2	3
Color	Red	/	Brown
Definition	48v	/	0V

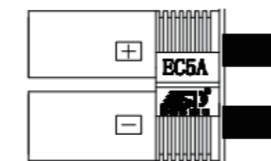
Signal line terminal



Signal Line																	
Pin No.	1	10	11	2	3	12	4	13	5,6	14,15	7	16	17	18	8	9	
Color	Brown	Brown/Black	Red	Red/Black	Orange	Orange/Black	Yellow	Yellow/Black	Green	Green/Black	Blue	Blue/Black	Purple	Purple/Black	Grey	Braided	
Definition	24V	GND	LOCK-	LOCK+	CAN-H	CAN-L	CAN-H	CAN-L	485-A	485-B	OUT	COMO	DI 1	DI 2	COMI	PE	

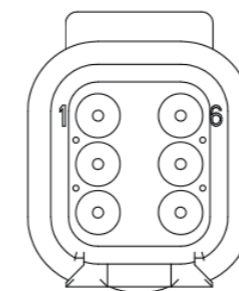
600W/1000W Terminal

Power line terminal



Power Line		
CONN.1	Color	Signal
+	Red	Power +
-	Black	Power -

Signal line terminal



Signal Line		
CONN.1	Color	Signal
1	Red	CAN_H
2	Black	CAN_L
3	Black	PE
4	Green	DC48V+ (external power to release brake)
5	Yellow	0V-
6	/	/

Note:

- The standard servo wheels are made of polyurethane, suitable for smooth and flat indoor condition, epoxy floor paint is the best.
- For outdoors applications, such as concrete floors, rubber tire or crawler type are available for customization.
- Other customizations are available for various mobile vehicles.

Specifications

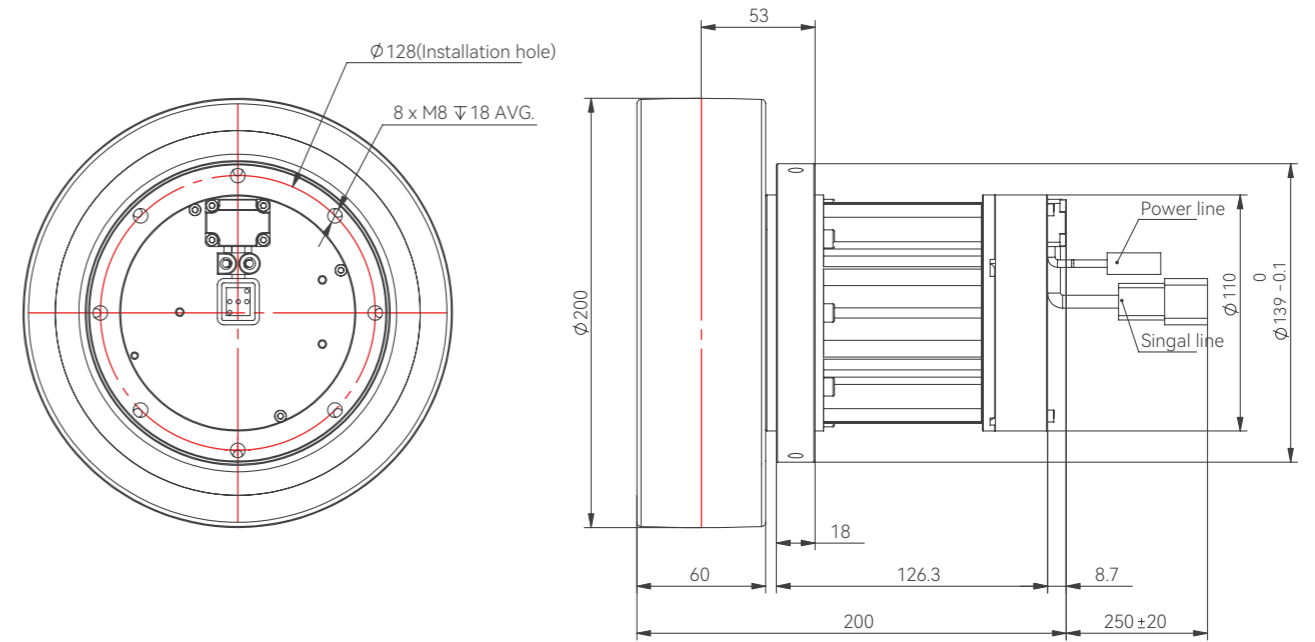
	Model	RB100-G7313--200K60-Q*C
Electrical Parameters	Rated voltage	48V
	Rated power	1000W
	Rated current	35A
	Peak current	105A
	Motor rated speed	2000rpm
	Motor peak speed	3000rpm
	Motor rated current	4.8N.m
	Pole number	20
	Undervoltage threshold	DC 18V
	Overvoltage threshold	DC 82V
	Dynamic braking	DC 72V(Adjustable)
Brake Parameters (Optional)	Holding torque	3N.m
	Start voltage	24V
	Holding voltage	12V
	Power consumption	8.5W
Reducer	Reduction ratio	16:1
	Reducer tooth shape	Helical
Wheel Parameters	Rated torque	73N.m
	Max. torque	219N.m
	Rated speed	125rpm
	Max.speed	188rpm
	Rated line speed	1.31m/s
	Rated peak speed	1.96m/s
	Wheel material	Black polyurethane (standard)
	Wheel hardness	Shore 85±3 (standard)
Other Parameters	Encoder	17-Bit single-turn magnetic encoder(standard)
	Noise	≤75db
	Weight (with brake)	10.5kg
	Weight (without brake)	10kg
	IP	IP54
Environment Parameters	Operating temperature	-5°C~55°C(Derate to use between 55°C~60°C)
	Storage temperature	-20°C~85°C
	Working humidity	< 95%RH (No freezing and condensation)
	Storage humidity	< 95%RH (No freezing and condensation)

	Model	RB100-G2522-175K60-Q*C	RB100-G2522-200K60-Q*C
Electrical Parameters	Rated voltage	48V	
	Rated power	600W	
	Rated current	20A	
	Peak current	60A	
	Motor rated speed	2000rpm	
	Motor peak speed	3000rpm	
	Motor rated current	2.9N.m	
	Pole number	20	
	Undervoltage threshold	DC 18V	
	Overvoltage threshold	DC 82V	
	Dynamic braking	DC 72V(Adjustable)	
Brake Parameters (Optional)	Holding torque	3N.m	
	Start voltage	24V	
	Holding voltage	12V	
	Power consumption	4.5W	
Reducer	Reduction ratio	9:1	
	Reducer tooth shape	Helical	
Wheel Parameters	Rated torque	26.1N.m	
	Max. torque	70N.m	
	Rated speed	220rpm	220rpm
	Max.speed	330rpm	330rpm
	Rated line speed	2.04m/s	2.33m/s
	Rated peak speed	3.05m/s	3.49m/s
	Wheel material	Black polyurethane (standard)	
	Wheel hardness	Shore 85±3 (standard)	
Other Parameters	Encoder	17-Bit single-turn magnetic encoder(standard)	
	Noise	≤ 65db	
	Weight (with brake)	7.5kg	8.5kg
	Weight (without brake)	7kg	8kg
	IP	IP54	
Environment Parameters	Operating temperature	-5°C~55°C(Derate to use between 55°C~60°C)	
	Storage temperature	-20°C ~85°C	
	Working humidity	< 95%RH (No freezing and condensation)	
	Storage humidity	< 95%RH (No freezing and condensation)	

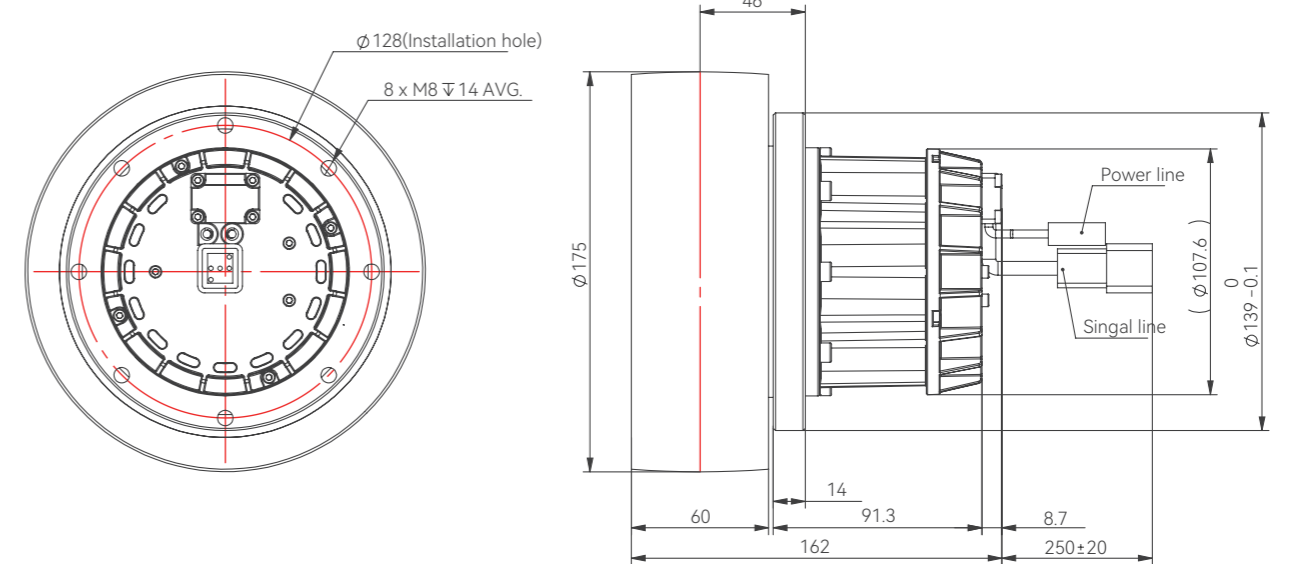
	Model	RB100-G2022-165K40-Q*C
Electrical Parameters	Rated voltage	48V
	Rated power	500w
	Rated current	17.2A
	Peak current	51.6A
	Motor rated speed	2000rpm
	Motor peak speed	3000rpm
	Motor rated current	2.4N.m
	Pole number	20
	Undervoltage threshold	DC 18v
	Overvoltage threshold	DC 82v
	Dynamic braking	DC 72V(Adjustable)
	Brake Parameters (Optional)	Holding torque
Start voltage		24V
Holding voltage		12V
Power consumption		4.5W
Reducer	Reduction ratio	9:1
	Reducer tooth shape	Helical
Wheel Parameters	Rated torque	21.6N.m
	Max. torque	64.8N.m
	Rated speed	220rpm
	Max.speed	330rpm
	Rated line speed	1.92m/s
	Rated peak speed	2.88m/s
	Wheel material	Black polyurethane (standard)
Other Parameters	Encoder	17-Bit single-turn magnetic encoder(standard)
	Noise	≤65db
Environment Parameters	Weight (with brake)	
	Weight (without brake)	
	Protection level	IP54
	Operating temperature	-5°C~55°C(Derate to use between 55°C~60°C)
	Storage temperature	-20°C~85°C
	Working humidity	< 95%RH (No freezing and condensation)
	Storage humidity	< 95%RH (No freezing and condensation)

Dimensions

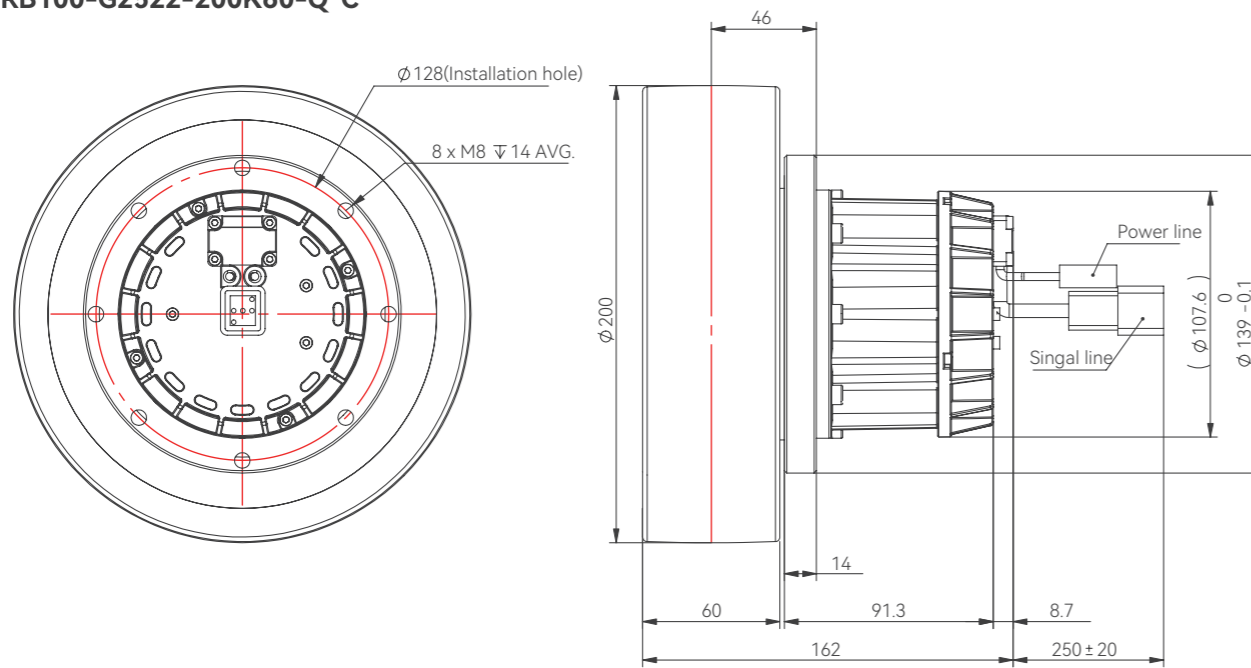
RB100-G7313--200K60-Q*C



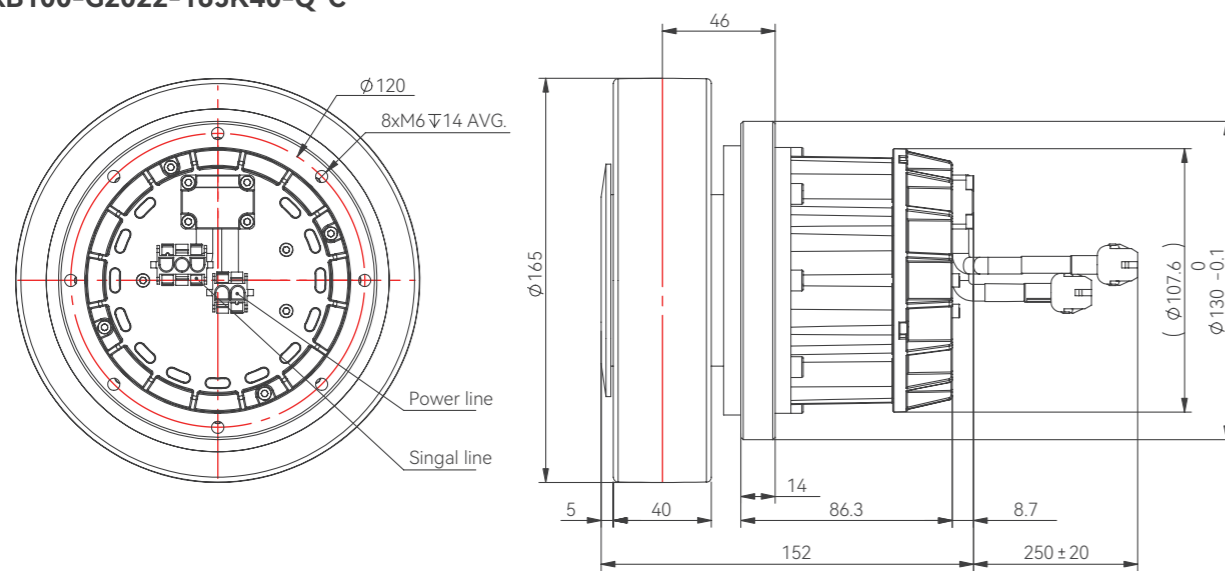
RB100-G2522-175K60-Q*C



RB100-G2522-200K60-Q*C



RB100-G2022-165K40-Q*C



Integrated in
Mobile Robots



Research and Production

R&D and Technology Platform

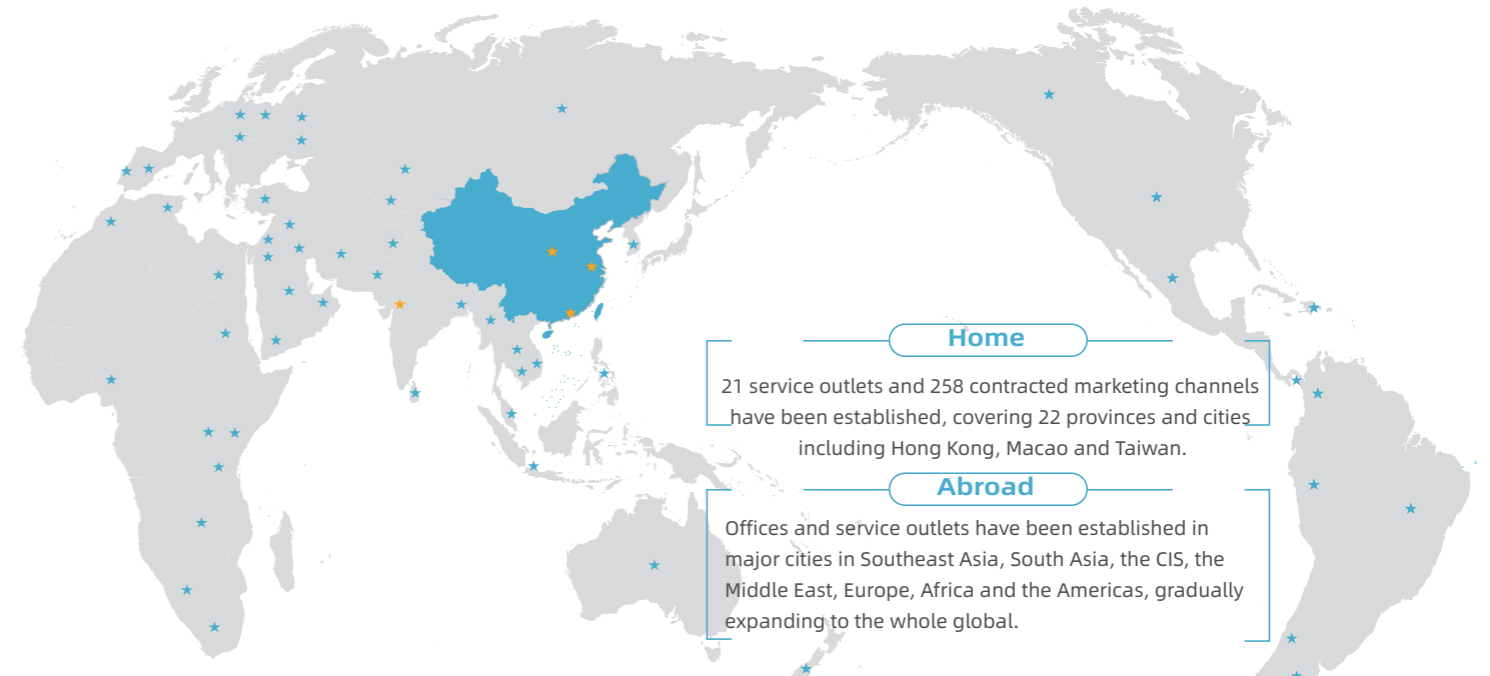
- Consolidating a dynamic force of top-tier professionals and technical experts in domestic industrial control, our R&D team represents 37.16% of our workforce, with 74.62% of our technical staff boasting bachelor's degrees or higher.
- Guided by philosophy of "Innovate with technology and strive for excellence," VEICHI is deeply customer-centric by providing stable and reliable products and technologies designed to the evolving needs of our clients.
- Investing 10% of our revenue into R&D, VEICHI has crafted advanced labs for EMC, safety, reliability, and performance testing to ensure product quality.
- In-depth cooperation with many famous universities and research institutions in China has been established and "Jiangsu Postdoctoral Innovation Practice Base" and "Jiangsu Postgraduate Workstation" are set up successively.

Intelligent Automation

- Digitally driven from inception to production, VEICHI boasts an annual capacity of 914,600 units with streamlined efficiency.
- 5 imported SMT placement lines, 5 automated coating lines, 4 DIP test lines, a robotic arm-equipped automated line, and 12 production lines are equipped with the latest intelligent manufacturing tools.
- All of the product checks are carried out automatically by the management mode of 3 (tri-inspection system)+ 1 (proportional inspection) during the whole process for standard performance.
- Three major production management system WMS, MES and ERP together ensure that the unique code of each product is traceable in the system to manage product quality.



Service and Support



01 Pre-sales

Technology promotion, site survey and energy efficiency assessment

02 In-sales

Customization, design consultation, installation and commissioning, and site training

03 Post-sales

Regular return visits, timely maintenance and repair and user training

