

The image features a central green graphic of a motor's internal stator with the company name 'Fulling Motor' and website 'www.fullingmotor.com' overlaid. To the left is a close-up of a silver motor's output shaft with a keyway. To the right is a black motor housing with a vertical shaft protruding from the top. The background is a light, neutral color.

# *Fulling*

[www.fullingmotor.com](http://www.fullingmotor.com)

# *Motor*

# About us

Changzhou Fulling Motor Co. Ltd. is an ISO9001 professional manufacturer.

As a joint venture of Germany-Swiss-China, Changzhou Fulling Motor Co., Ltd was established in year 2001. We are a professional motor manufacturer in Changzhou city, China. Production capacity exceeds more than 6 millions motors per year. Our Company offers three major series of products: Hybrid stepper motors, DC brushless motors, Gear motor and the motor driver.

Changzhou Fulling Motor Co., Ltd also has several joint venture companies who specialized in the production of AC Servo motor, PM stepper motors, and DC gear motors. We sell nearly 7 million motors from our joint venture partners to customers Worldwide every year. We export our motors to more than 30 countries such as Italy, Germany, United States.

20 years experience behind our stepper & DC Brushless motors . Working together, growing together!

# 2001

Established

# 2004

ISO9001 certified

# 2008

IATF16949  
(TS16949)

# 2015

Move to current building



# Future planning

June, 2024

Plant area : 45000 m<sup>2</sup>

Production capacity :  
150 million motors/Y







# Company Philosophy

## Our Vision

Become a world-class manufacturer of control motors and a provider of system integration solutions.

## Our Mission

Create value for customers and provide the best industry solution.

## Our Values

Responsibility, Integrity and Win-win.

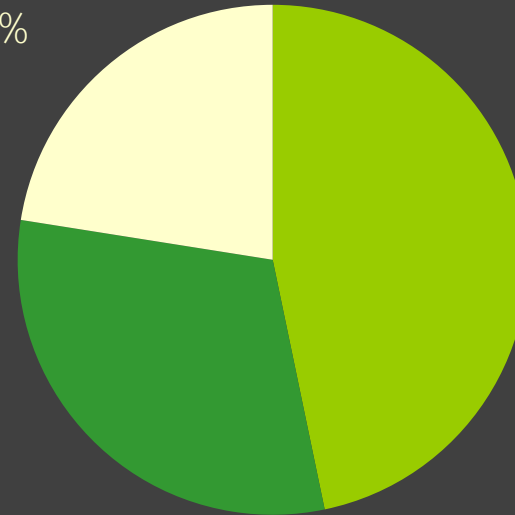
# Fulling Organization

Board of Directors / Share Holders



Nanotec GmbH  
30.77%

Delta Line SA  
22.5%



FULLING China  
46.73%

Board of Directors

General MGR

VICE GM

Management  
Represent

Sales

Finance

Admin.

Human Res.

Production

R/D

Purchase

Production plant

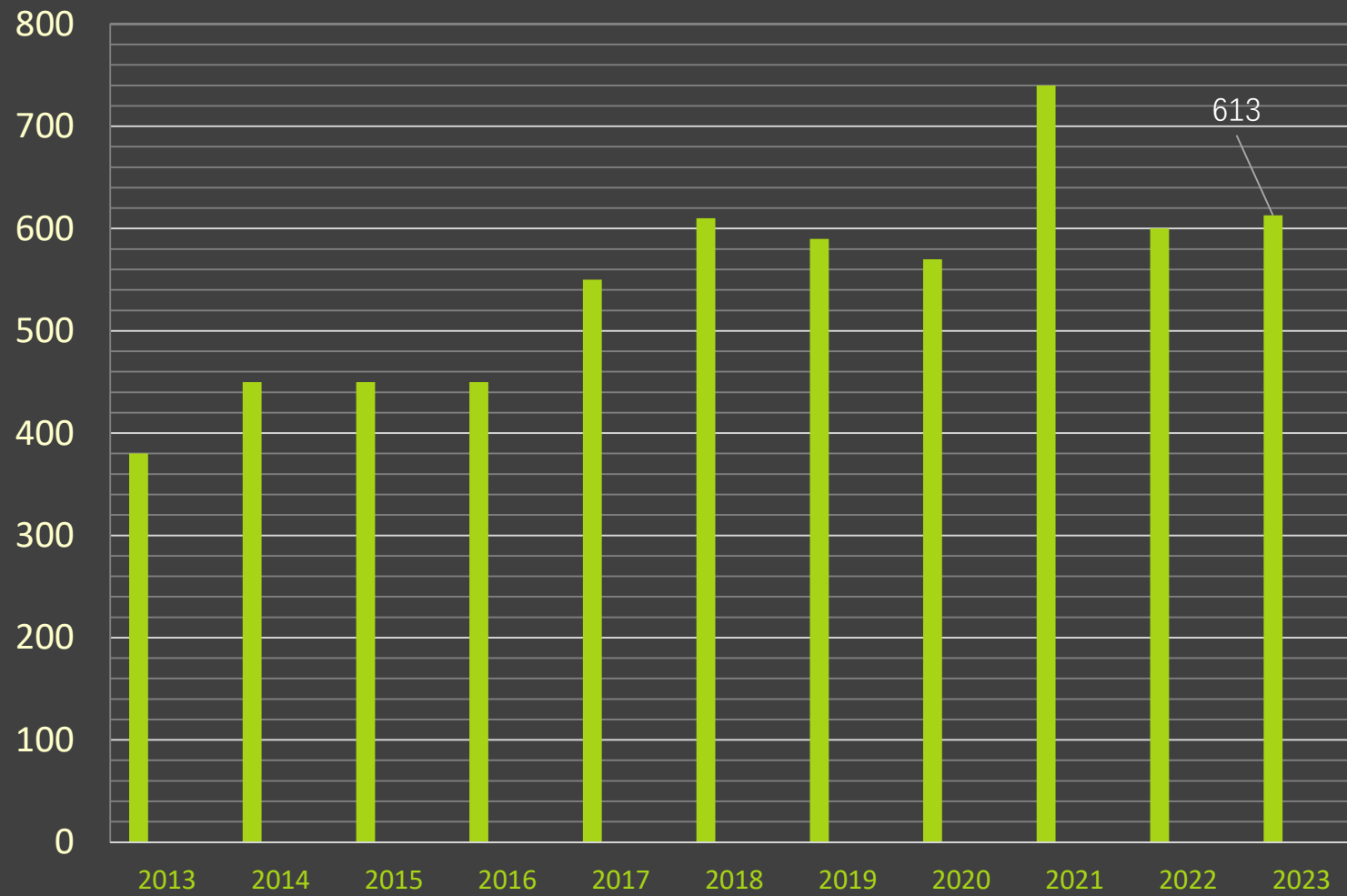
Material Logistic

Device

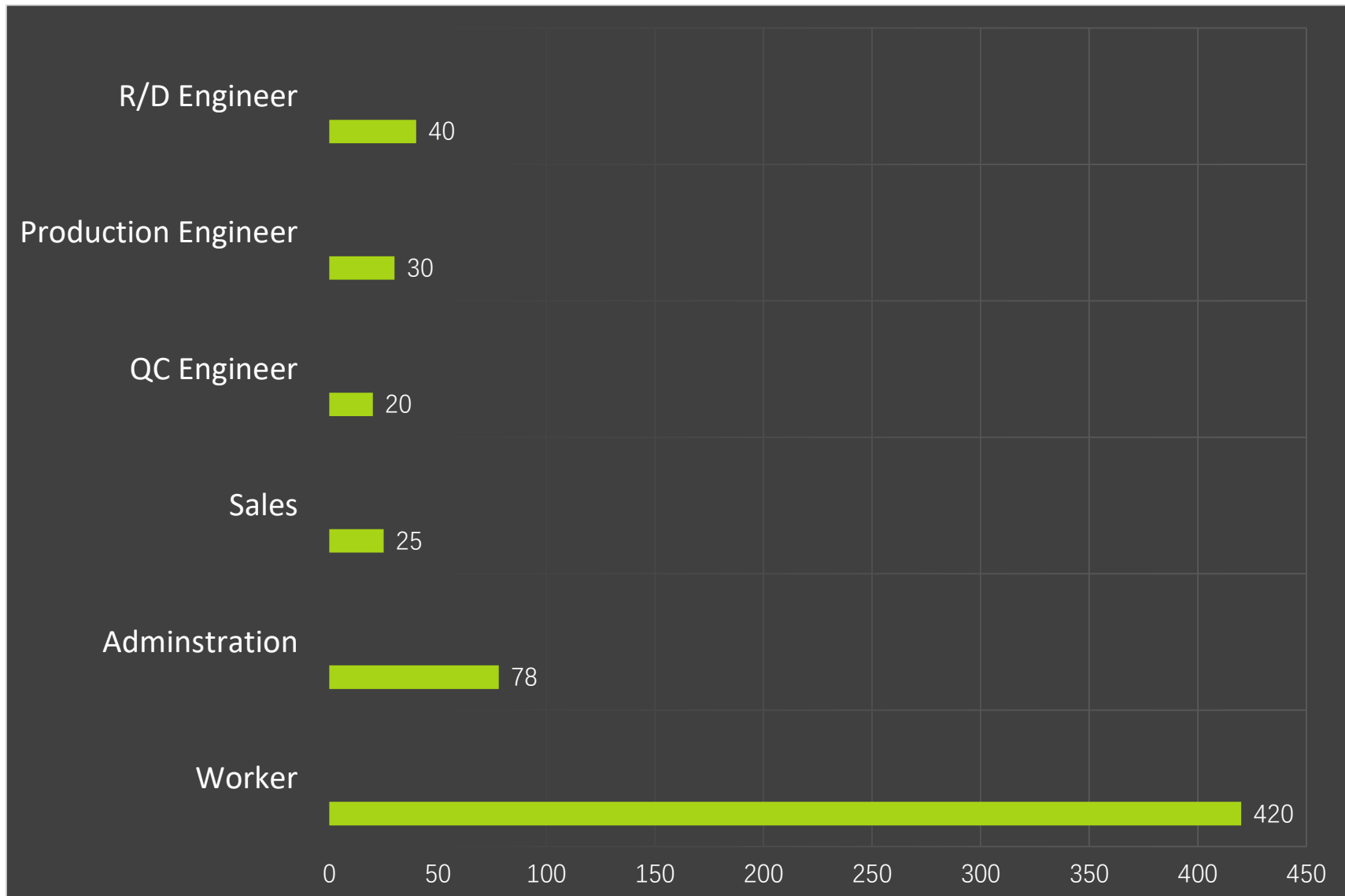
Production Plan

QC

# Employees

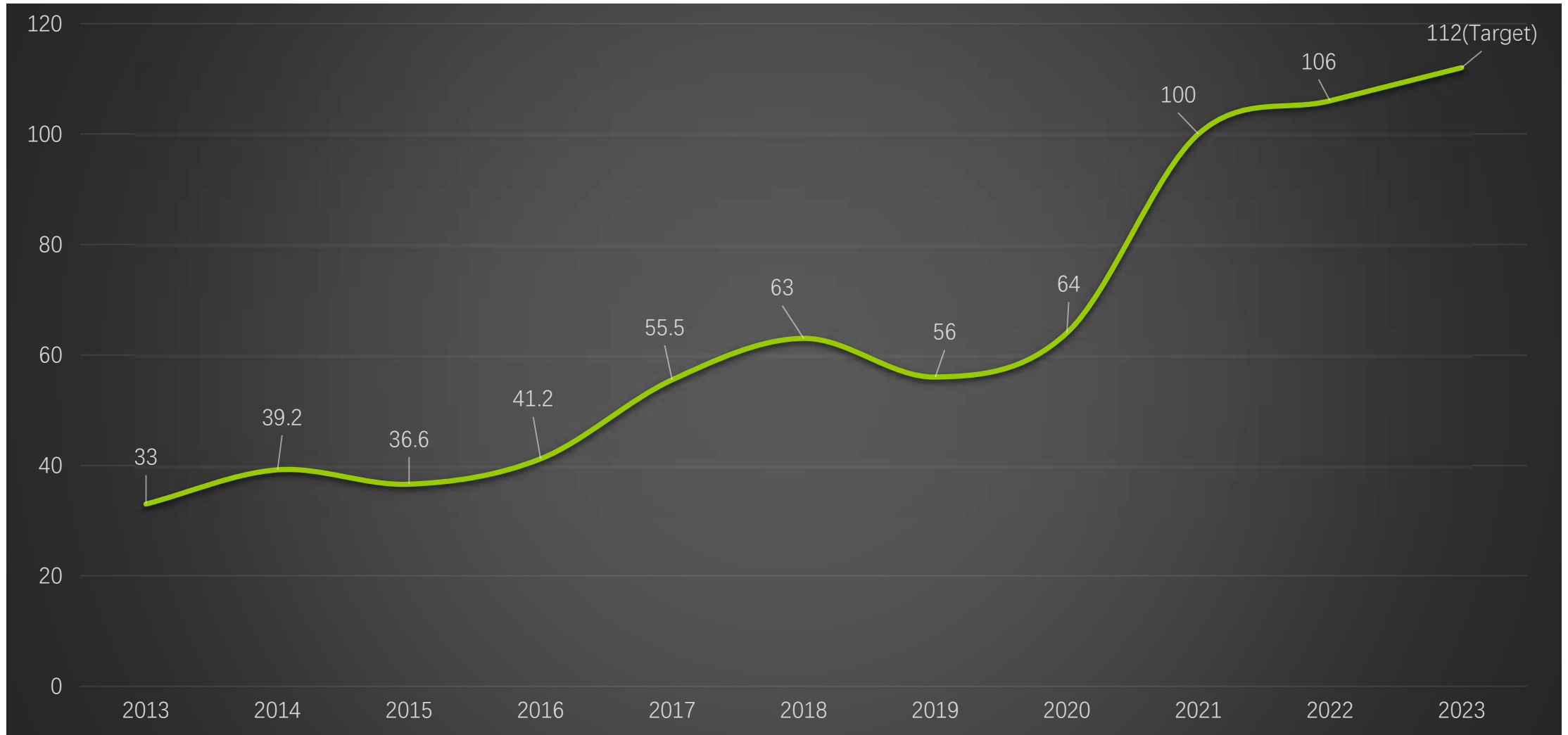




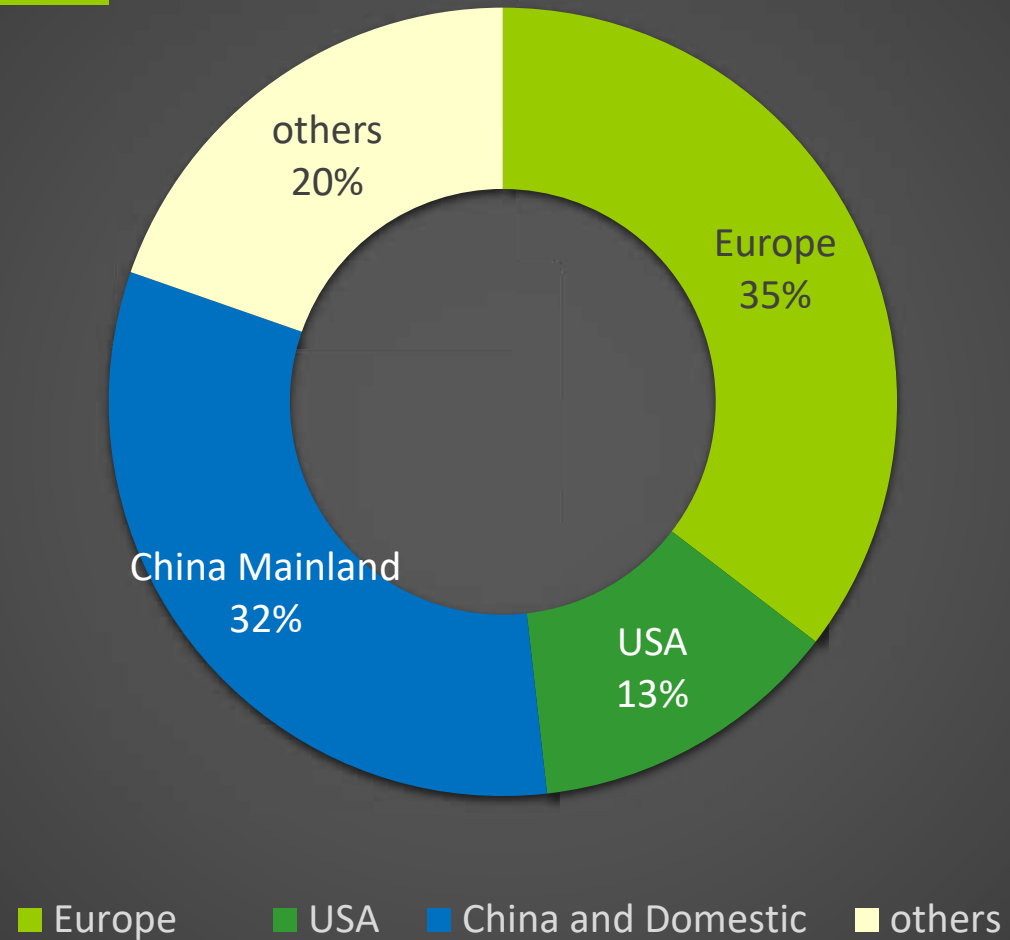


Human  
Resource

# Sales in Million USD

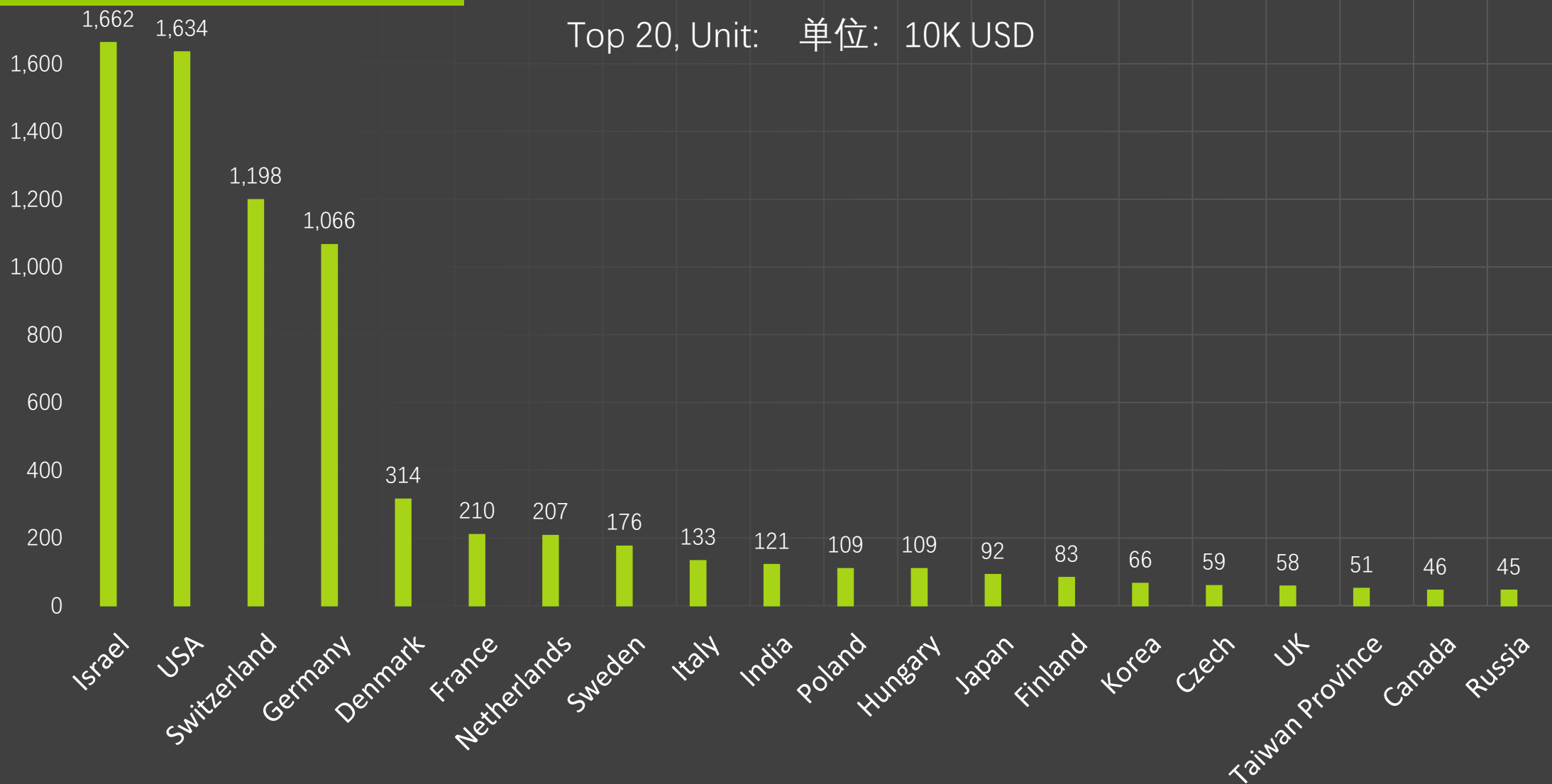


# Markets

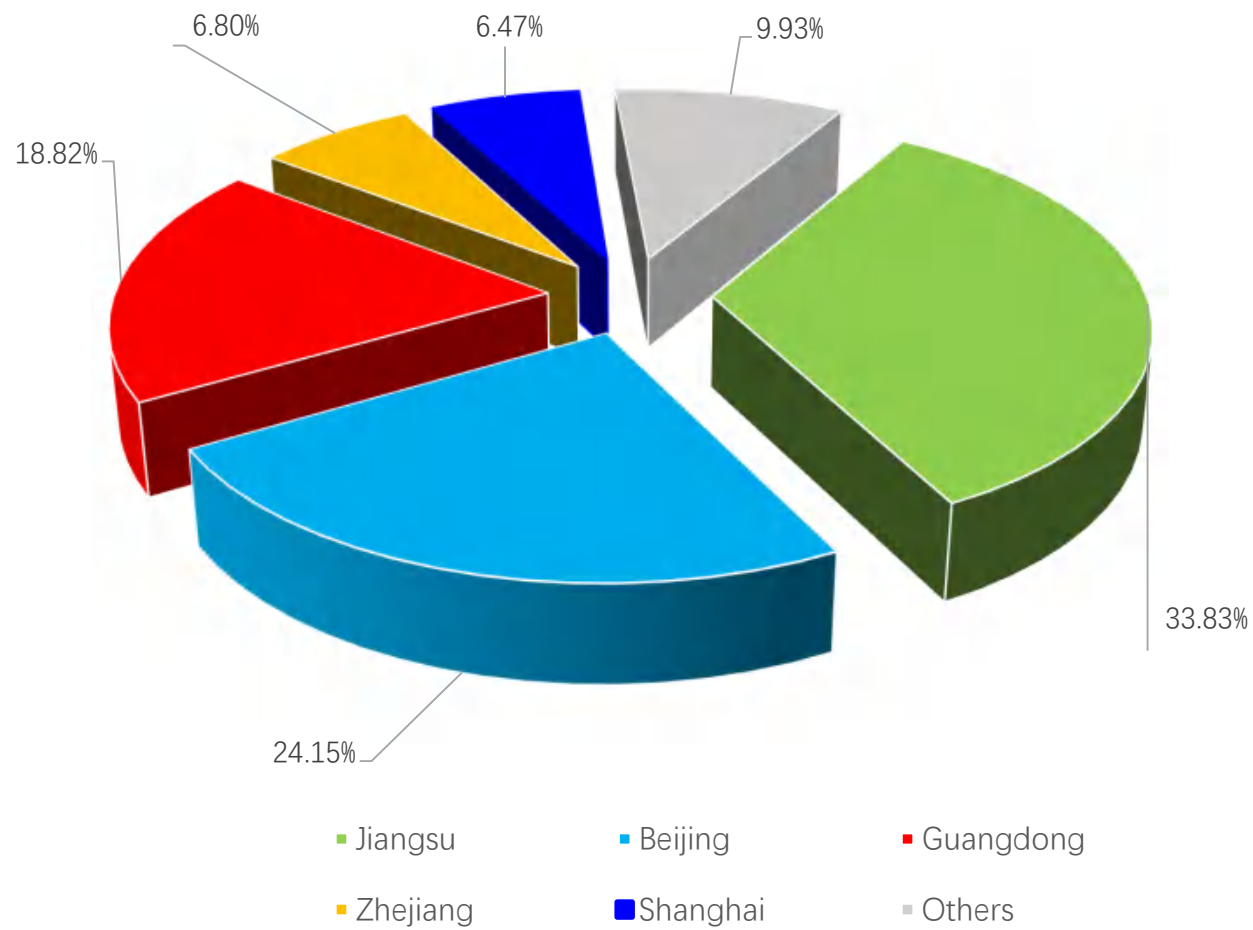


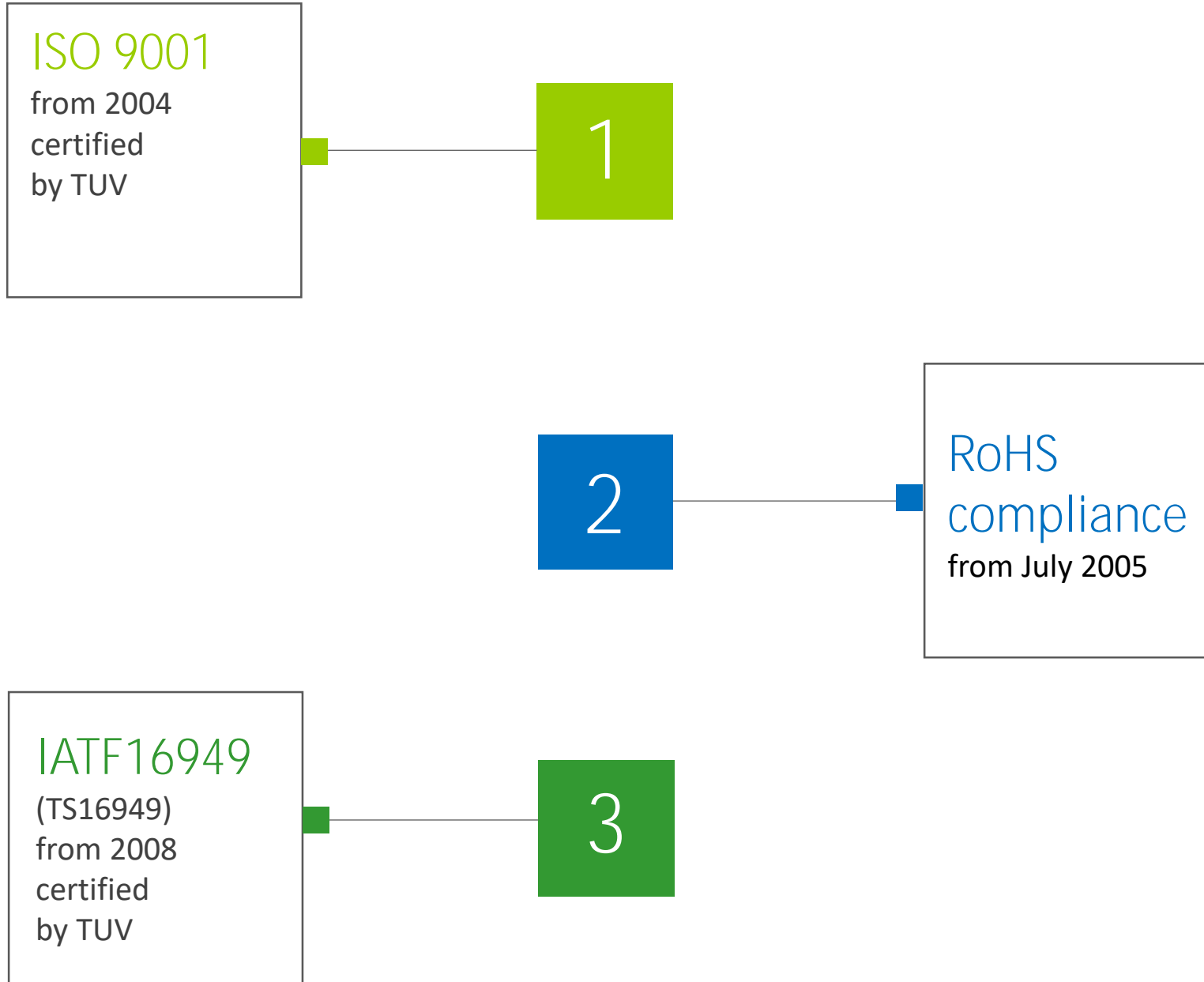
# International

Top 20, Unit: 单位: 10K USD



# Domestic











UL Product iQ™



## NDMM2.E300294 - INCOMPLETE ROTATING MACHINES AND ROTATING MACHINE PARTS - COMPONENT

### Incomplete Rotating Machines and Rotating Machine Parts - Component

See General Information for Incomplete Rotating Machines and Rotating Machine Parts - Component

#### CHANGZHOU FULLING MOTOR CO LTD

E300294

69 KUNLUN RD

CHANGZHOU, JIANGSU 213022 CHINA

**Incomplete Motor Parts**, Model(s) FL42BL5H04-24V-30113A-IP54-02, FL86BL5105-48V-30570A-02


**Motor parts (Class B), use on GP**, Model(s) FL86BL5105-48V-30570A, FL86BL571-1-10P, FL86BL571-2-10P, FL86BL571-3-10P, FL86BL571-4-10P, FL86BL598-1-10P, FL86BL598-2-10P

**Motor parts (Class F), use on GP**, Model(s) FL80SV93-60V-3000

**Motors (Class B)**, Model(s) 23HS0414-01, 23HS0414-02, 23HS2415, 23HS2415-01, 23HS3414, 23HS3414-01, 23HS3401, 23HS5401-02, 23S31-0650-80000-13, FL42STH33-4004B, FL42STH42-5004B, FL57STH115-6504B, FL57STH115-6504B-02, FL57STH41-5604B-01, FL57STH41-5604B-02, FL57STH56-5604B, FL57STH56-5604B-01, FL57STH76-6504A, FL57STH76-6504B, FL57STH76-6504B-01, FL86STH145-6504B-H, FL86STH118-JAT-2003B, FL86STH118-JAT-2004B, FL86STH156-JAT-2003B, FL86STH156-JAT-2004B, FL86STH80-JAT-2003B, FL86STH80-JAT-2004B

**Motors (Class F)**, Model(s) FL863P127-4003B, FL863P127-4003B-01, FL863P97-4003B, FL863P97-4003B-01, FL86STH118-7004B, FL86STH118-7004B-01, FL86STH156-7004B, FL86STH156-7004B-01, FL86STH80-7004B, FL86STH80-7004B-01

**Stepper Motor**, Model(s) PMX2320-J10-5HS-02

Marking: Company name, catalog designation and the Recognized Component Mark,  on the smallest unit container in which the product is packaged.

Last Updated on 2019-08-29

Part of products are UL certified for USA market

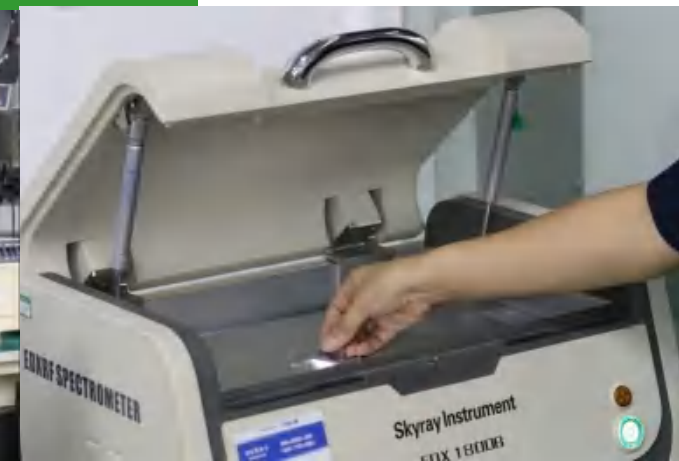
# Certification



# Quality Control Equipments

## Testing devices

- RoHS tester
- Bearing tester
- Copper wire tester
- Magnet tester
- Temperature & humidity tester
- Shock & Vibration tester
- Noise tester
- Hardness tester





# Quality Control Equipments



## Testing Device

- 3D tester (Zeiss)
- Speed-torque tester (Magtrol)



# Quality Control

- Production final test
  - Insulation resistance
  - Dielectric strength
  - Resistance /phase
  - Inductance /phase
  - Holding torque
  - Direction testing
- Running test
  - Max. running frequency at no load
  - Smooth running
  - Noise and vibration
- Appearance testing
  - Output shaft
  - Lead wires
  - Mounting dimension ( flange, screw holes)
- Quality control additional test
  - Frequency vs torque curve
  - No load temperature rising
  - Detent torque





# Production



## ■ Fulling Motor

HB Stepping Motor:

300'000pcs/month

Dc Brushless Motor:

250'000pcs/month

## ■ Partner Company

PM Stepper motor:

500'000pcs/month

DC Motor & Gearbox

50'000 pcs/month

# Product line



4 Stators  
Winding  
Machine



CNC  
Turning  
Center



Automatic  
Lathe



CNC  
Tapping  
Center



# Product line



Automatic Honing Robot

Automatic Assembly Line

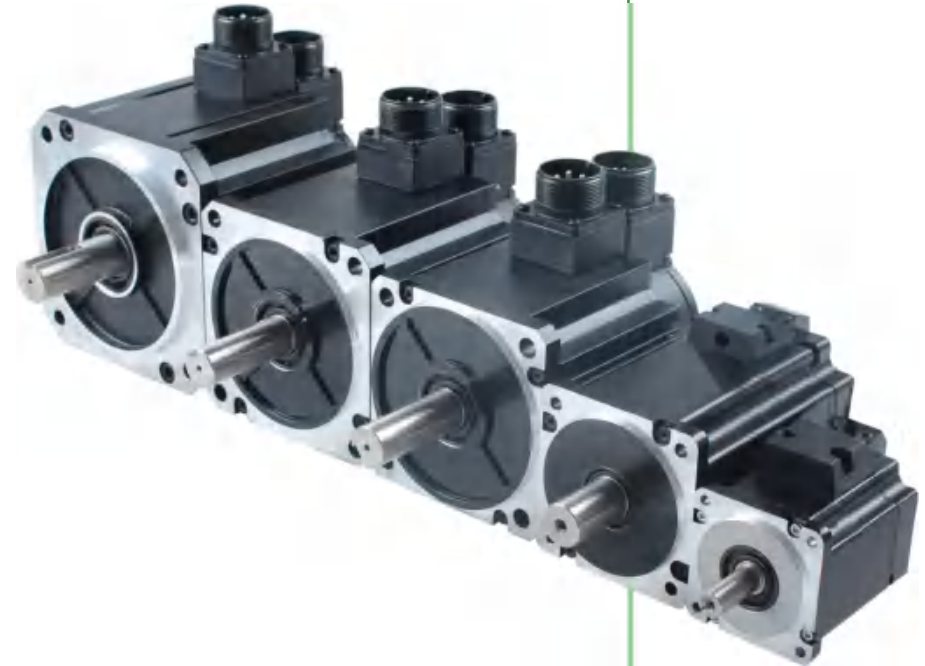




# Product line

## Servo Motor

- 38 mm rated power 50-100W
- 60 mm rated power 200-400W
- 80 mm rated power 750-1000W
- 100 mm rated power 1000-1500W
- 110 mm rated power 1500-2000W
- 130 mm rated power 2000-3000W



# Accessories of Servo motor

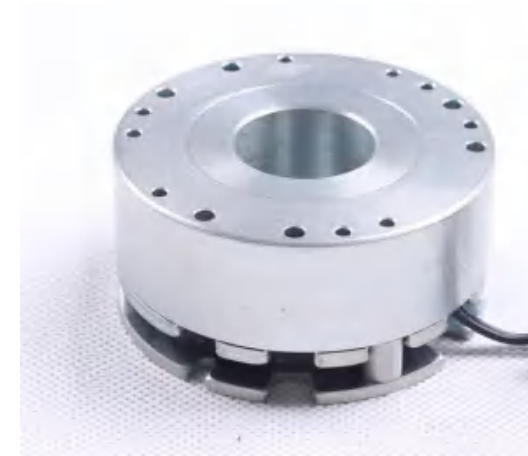
- Encoder option:

Optical encoder, Magnet Encoder

Incremental or absolute encoders



- Brake



# Accessories of Servo motor

- Precision Planetary gearbox
- multiple gear ratio
- Backlash < 30Arc



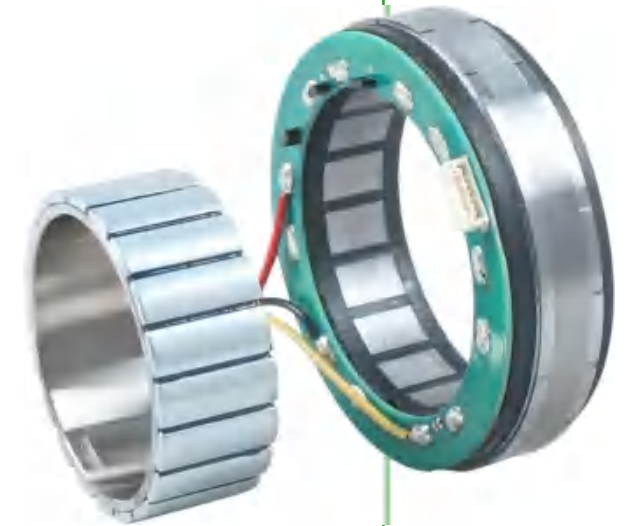


# Product line

## Frameless Motor

- 50 mm rated power 151-183W
- 70 mm rated power 250-366W
- 85 mm rated power 440-732W
- 115 mm rated power 570-620W

Application: Robotics



# Product line

## BLDC motors

22 mm	length 45 – 70 mm
28 mm	length 26mm – 38mm – 77mm
32 mm	Outer-Rotor motor
33 mm	length 38mm – 80 mm
36 mm	length 57mm
42 mm	length 41mm - 61mm – 100mm
45 mm	Outer-Rotor motor
57 mm	length 54mm - 74mm - 94mm – 115mm
80mm	length 105mm
86 mm	length 58mm - 71mm - 98mm – 125mm



# Product line

## Out Rotor BLDC Motor

- 20 mm length 14mm
- 32 mm length 16-18mm
- 45 mm length 18-27mm
- 60 mm length 38-42mm
- 90 mm length 27-41.5mm
- Compacted size, high torque



# Product line

## Slotless BLDC Motor

- 14 mm length 36mm
- 16 mm length 41mm
- 19 mm length 59mm
- 22 mm length 60mm
- 24 mm length 59.5mm
- 28 mm length 62mm
- 30 mm length 65mm
- 40 mm length 80mm
- Max speed: 50000RPM



# Product line

## Economical BLDC Motor

- 24 mm length 30mm
- 28 mm length 38-48mm
- 36 mm length 30-65mm
- 38 mm length 58mm
- 42 mm length 60-66mm
- 48 mm length 68mm
- 80 mm length 55-85mm

Option: Integrated driver



# Product line

## Ultra flat Stepper NEW

- 20 mm step angle  $1,8^{\circ}$
- 28 mm step angle  $1,8^{\circ}$
- 35 mm step angle  $1,8^{\circ}$
- 39 mm step angle  $0,9^{\circ} - 1,8^{\circ}$
- 42 mm step angle  $0,9^{\circ} - 1,8^{\circ}$
- 57 mm step angle  $0,9^{\circ} - 1,8^{\circ}$
- 60 mm step angle  $1,8^{\circ}$
- 86 mm step angle  $1,8^{\circ}$
- 110mm step angle  $1,8^{\circ}$
- 3 Phase Stepper size 42,57,86, 110 mm



Holding torque from 17,5 mNm to 30 Nm



# Product line

## Linear Actuator

- 20 mm force 46N
- 28 mm force 50-210N
- 35 mm force 70-350N
- 42 mm force 152-369N
- 56 mm force 500-1200N



## Stepper Motor with Integrated Driver

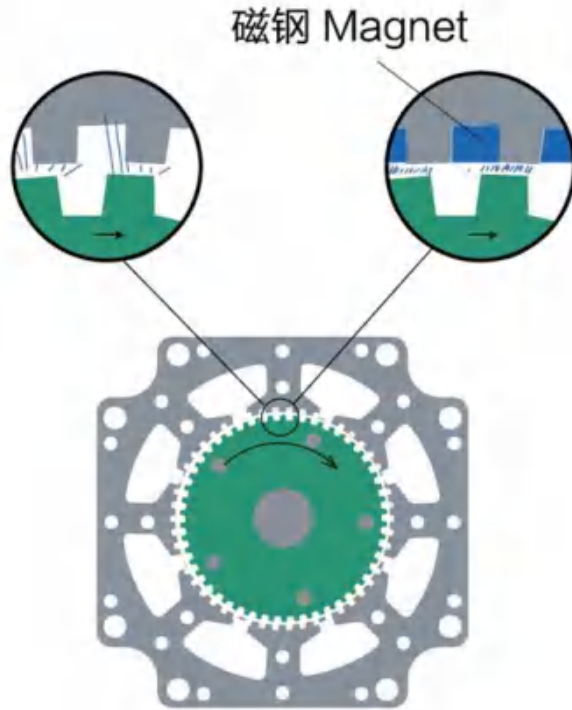
- |                         |                          |
|-------------------------|--------------------------|
| • 20 mm inner hole: 3mm | • 42 mm inner hole: 8mm  |
| • 28 mm inner hole: 5mm | • 57 mm inner hole: 12mm |
| • 35 mm inner hole: 8mm | • 86 mm inner hole: 16mm |



# Product line

## Enhanced Torque Stepper Motor

- 57STEN
- 60STEN
- Torque boost 30%~40%



## Waterproof Stepper Motor

- 42 mm
- 57 mm
- 60 mm
- 86 mm
- IP65



# Product line

## Motor driver

12V~75V , 0.1A~6A

Open loop and close loop

Communication interface :

R-485 / CANopen / E-EtherCAT

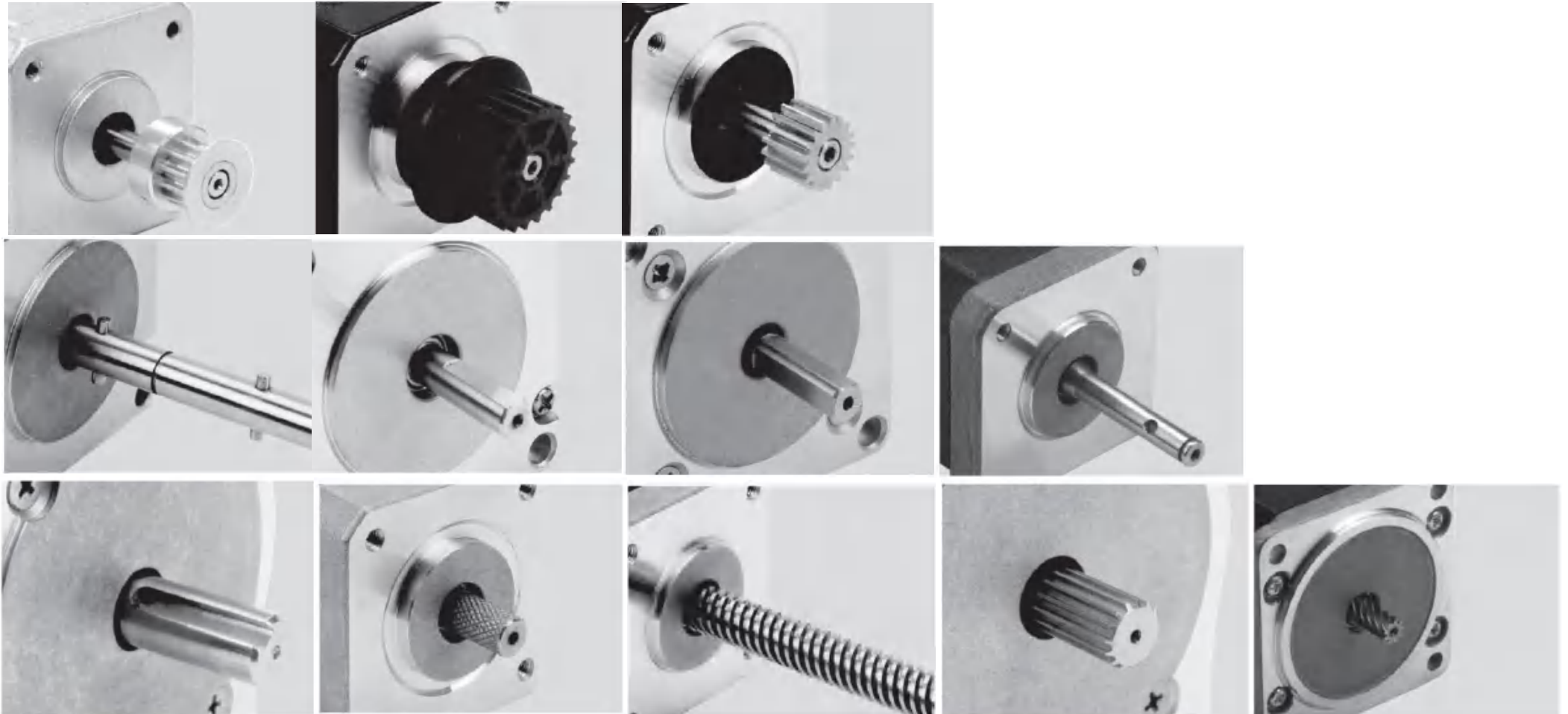


## Motor with Integrated Driver



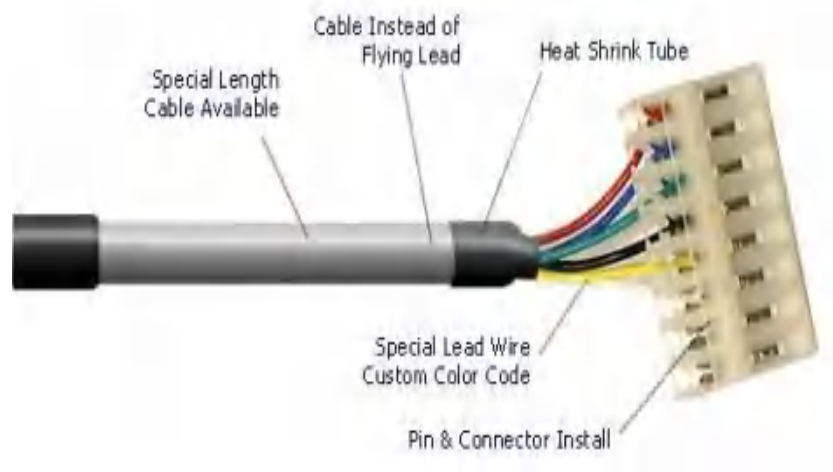
# Product Customization

Shaft ( diameter , double output , hole , flats , screw.....)



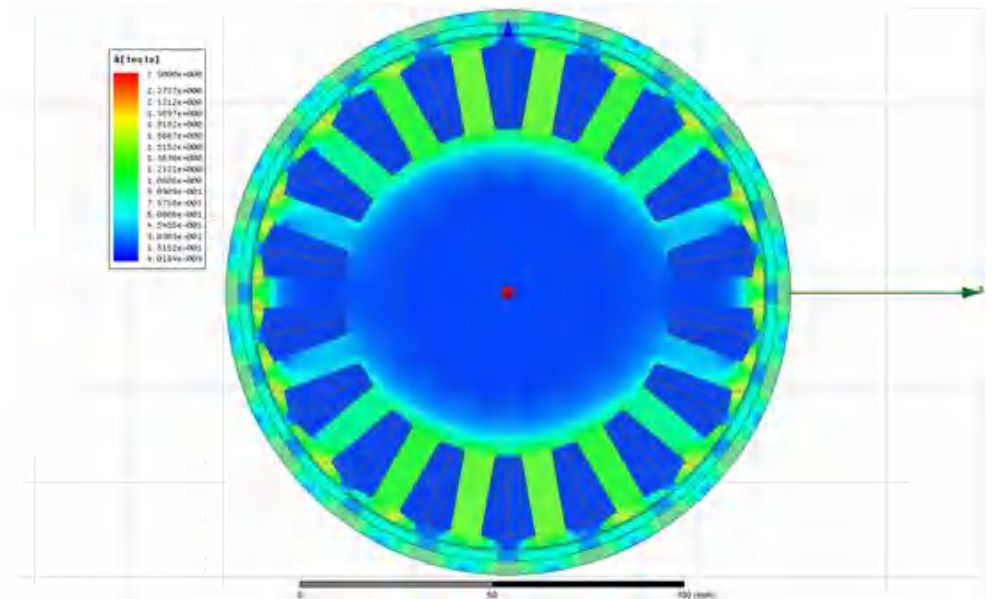
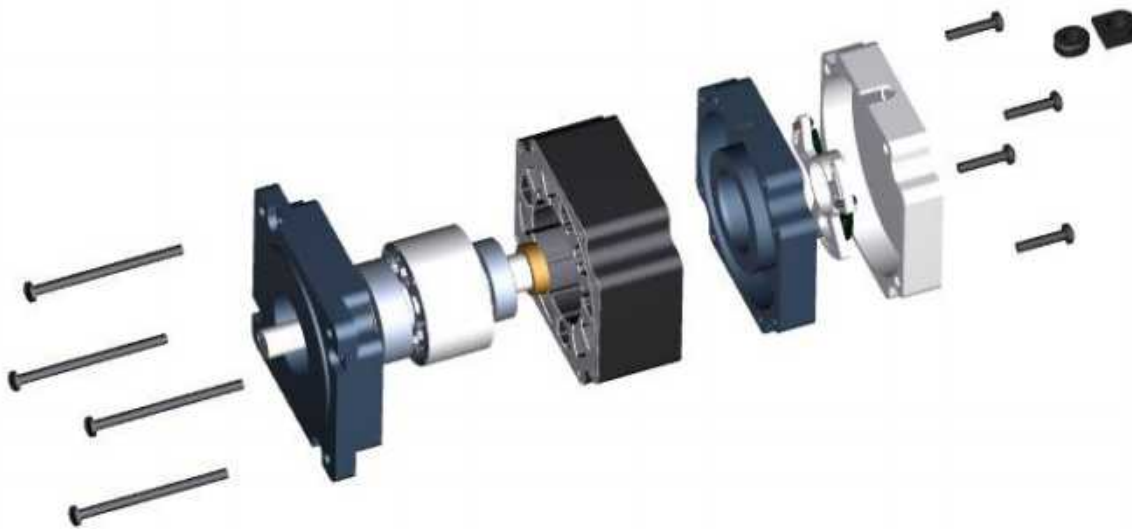
# Product Customization

Cables ( color, tube, Shield cable, length, connector.....)



# Customized Design

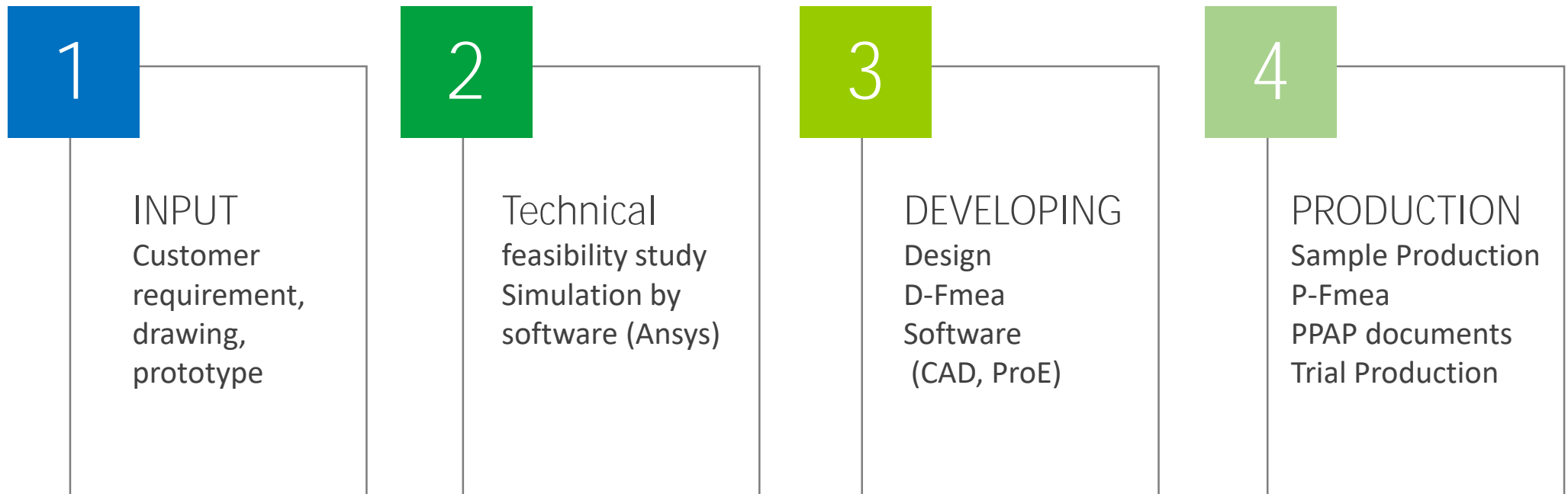
Fulling Motor can develop all kinds of stepping motor, BLDC motor, Ac motor, to match customer demands. Our strong R/D team will be available for any special request.





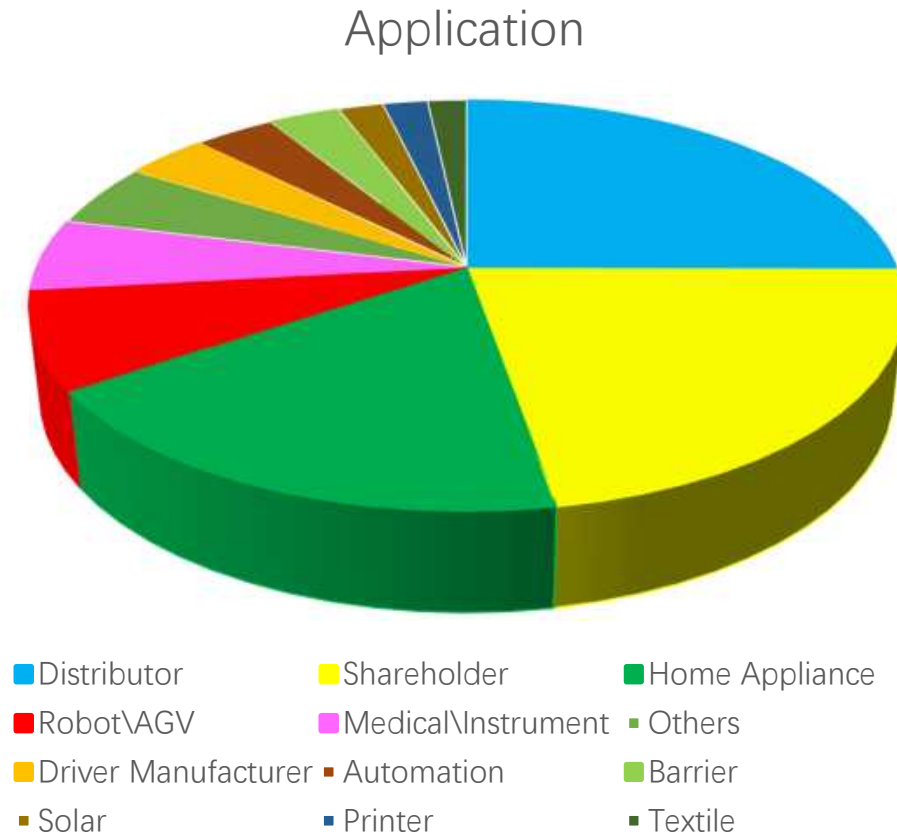
# Product Developing

The developing process is under the management of PTC® Windchill®.



# Market Segments

Applications	
Distributor	25.06%
Shareholder	22.20%
Home Appliance	18.26%
Robot\AGV	7.70%
Medical\Instrument	5.65%
Others	5.01%
Driver Manufacturer	3.67%
Automation	3.58%
Barrier	3.17%
Solar	1.99%
Printer	1.98%
Textile	1.72%



# Market Segments

- peripherals
- office automation
- telecommunication
- reprographic and printing machines
- machine tools
- industrial automation
- machines for wood working
- car instruments and servo controls
- sewing machines
- machines for textile and clothes sectors
- (knitting, shoe)
- machines for farm and food industries
- machines for packing and wrapping and finishing.
- laboratory, measuring, electromedical instruments
- Lighting systems for leisure / music industry



# Customers **and** Applications

- Lawn mower & swimming pool cleaner
- Robotics
- Wheels and blade/brush
- 500'000 motors/y
- 42BL41 Custom
- 57BL70 Custom



# Customers and Applications

- AGV
- Smart logistics
- Driving wheels, lifting, rotating
- 20,000 pcs/year
- 86BLC Custom
- Gearbox, encoder, brake, etc. are optional



# Customers **and** Applications

- Solar
  - 63mm BLDC motor with planetary Gearbox
  - UV Protection
  - UL approval
  - IP 65 waterproof
  - 25 Years Lifetime



# Customers **and** Applications

- Door opening system
- Elevator doors
- Doors actuator
- 200'000 motors/y
- 57BL Custom





# Customers **and** Applications

- GE Medical, Roche
- Ultrasound Imaging
- Biochemistry analyzer
- Diagnostic Workstation
- Breath pump



# Customers **and** Applications

- SMT Machine
- Printer



# Customers **and** Applications

- Auto door, Barrier
- Outer rotor BLDC motor



# Customers **and** Applications

- Robotic arm
- Robot dog
- Frameless motor



# Customers **and** Applications

- Faurecia, Volvo, Alfa Romeo...
- Seat pump
- Door system
- SCR pump

Customized 51mm BLDC motor controls the front lip of Giulia, when speed of the car exceeds 100km/h, it can generate an additional 100kg of downforce





# International sales

## Sales offices

- Austria
- Sweden
- South America
- Benelux
- Finland
- Japan
- France
- Hungary
- Germany
- Italy
- India
- Israel
- Norway
- Poland
- Switzerland
- USA
- Spain
- Australia
- United Kingdom
- Russia
- TAIWAN CHINA



THANK YOU