



Global Provider of Motor Solution

Global leading motor company with varied and deep technological powers through rich filed experiences.



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Sales		Automobile Motor	Refrigerator Fan Motor
Organization		Refrigerator Fan Motor	Automobile Motor
Customer		Ansung Factory	Motor Parts
		Nanjing Factory	
		Yantai Factory	

INTRODUCTION

The logo consists of the letters 'C', '&', and 'M' in a bold, white, sans-serif font. The letters are closely spaced, with the ampersand acting as a connector between the 'C' and the 'M'. The logo is centered within a solid dark blue horizontal band that spans the width of the slide.

C&M

CORE

MOTOR



COMPONENT

MODULE

Customer Delight Thru Quality & Technology

Network



■ Yantai, China

- Address : 38#, Andeli Road, Muping Zone, Yantai, China
- Area : 2,800 m²



■ Nanjing, China

- Address : Nanjing Qixia Economic Development Zone, Xiaxing Road, Shugang Avenue, Qixia District, Nanjing, China
- Area : 2,300 m²



■ C&M / MD TECH, Korea

- Address : 259-1, An-dong, Gimhae-City, Gyeongsangnam-do, Korea
- Area : 21,674 m²



■ Ansong, Korea

- Address : 124-18 Jungridong Ansong, Gyeonggi-do, Korea
- Area : 4,200 m²

History

- 2016.10** | Established China company in Yantai
- 2012.02** | Established Ansung Factory
- 2010.05** | Acquisition MD Tech. as a subsidiary
- 2009.10** | Obtained the certificate of SQ (HYUNDAI-KIA Motors)
- 2009.01** | Obtained the certificate of ISO/TS16949
- 2007.10** | Established China company in Nanjing
- 2007.08** | Started Production of Automobile Motor (ABS Armature)
- 2007.04** | Registered the Research & Development Center
- 2006.09** | Separated from the LG Electronics



Production Capacity



Unit : Thousand pcs

Factory	Item	Capacity	Application	
C&M / MD Tech Korea	Induction Motor	2,000	Air Con & Laundry	
	Universal Motor	1,500	Vacuum Cleaner & AC. Blower	
	Recipro Compressor Motor	3,500	Refrigerator	
	Rotary Compressor Motor	1,000	Air Conditioner	
	BLDC Motor	3,000	Air Conditioner & Ref. Fan	
	Automobile Motor (Included SUB Assy)	4,000	Automobile	Total : 15,000
Ansung, Korea	ABS Rotor	3,000	ABS Motor	
	EPS Rotor	1,200	EPS Motor	
	Core Assy	6,000		Total : 10,500
China	DD Stator Core	3,200	Washing Machine DD Motor	
	Case Assy	6,000	Refrigerator Fan Motor	
	Stator Assy	1,000	Universal Motor	
	Rotor Assy	800	EPS Motor	
	Stator Sub Assy	2,000	EPS Motor	Total : 13,000

Sales



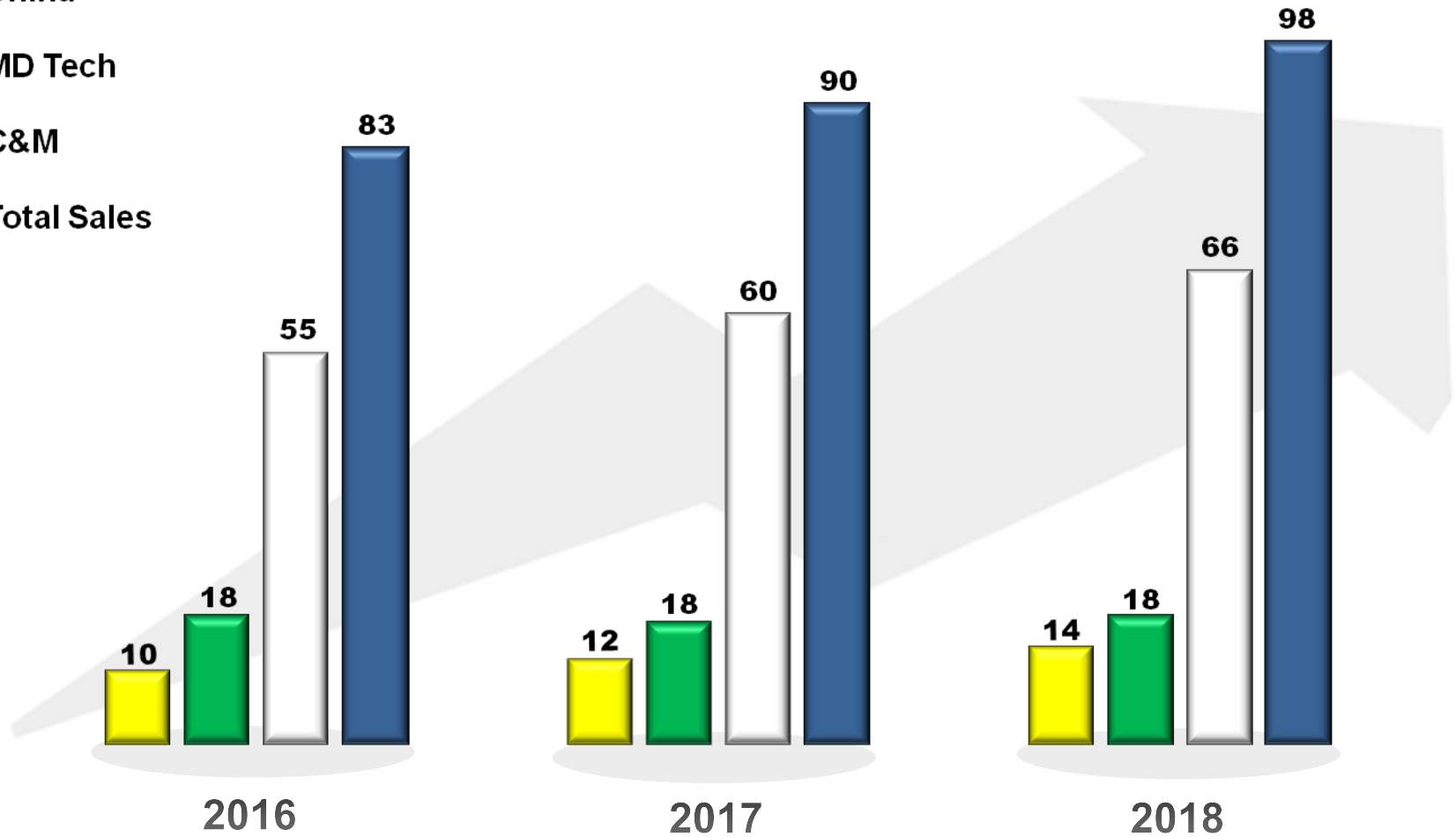
Unit : Million dollar

■ China

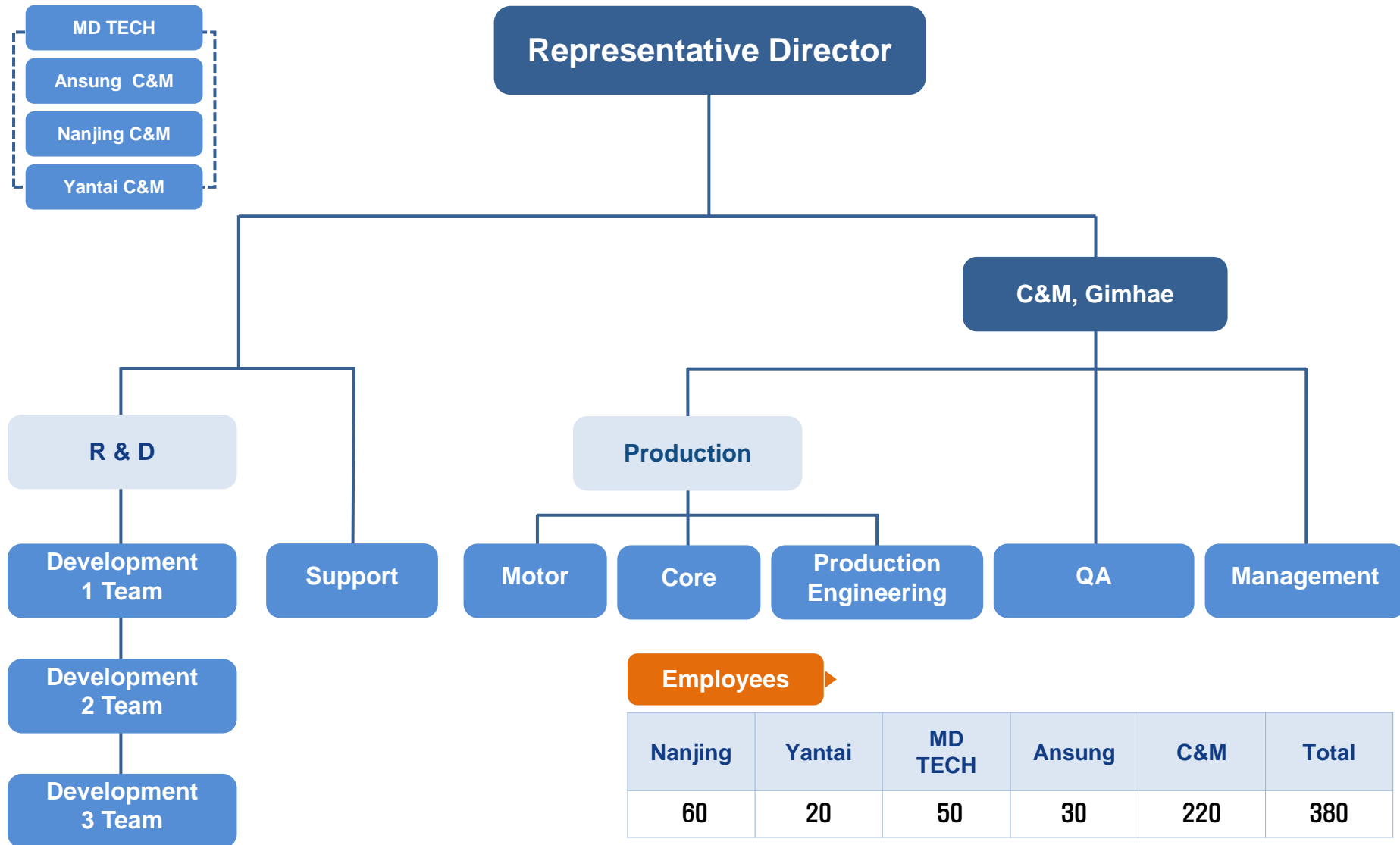
■ MD Tech

■ C&M

■ Total Sales



Organization



Customer

Home Appliance



■ LG Electronics



■ DAYOU



Automobile



■ LG Electronics



■ Motonic



■ GMB Korea



■ Hanon Systems



■ LG Innotek



■ Hyo Seong Electric



■ S&T Motiv

Customer Satisfaction

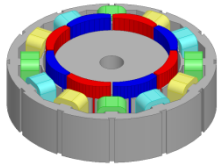
The logo consists of the letters 'C', '&', and 'M' in a bold, white, sans-serif font. The letters are closely spaced and centered within a dark blue horizontal band that spans the width of the slide.

C&M

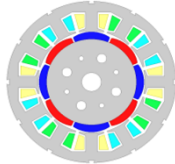
Electrical Design

▶ Motor Design with FEM program

3D Analysis

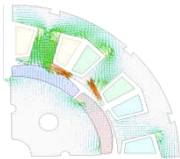
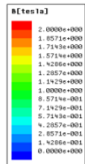


2D Analysis

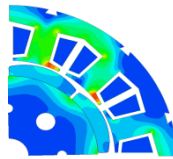


- Optimization design using FEM analysis

Flux Density



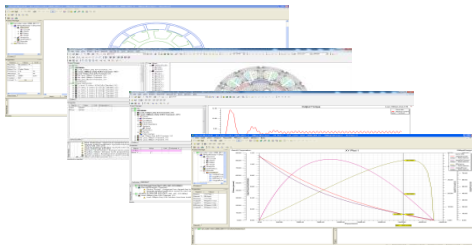
[B_Vector Analysis]



[Mag_B Analysis]

- Analyze & Improve flux density

Analysis Results

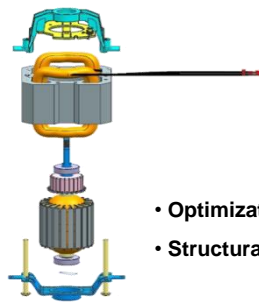


- Reduction of development period using FEM analysis
- Optimization design about target spec.

Structure Design

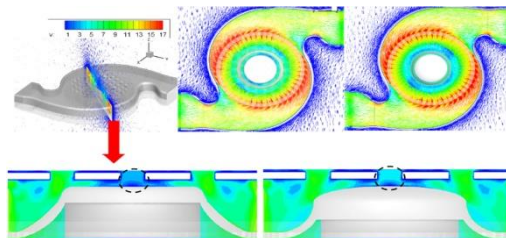
▶ 3D structural Design & Analysis

3D Structure Design

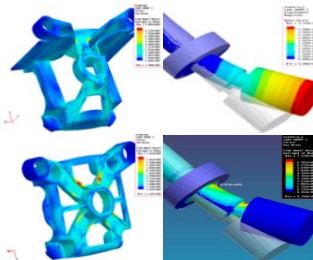


- Optimization structural design
- Structural analysis using CAE [AUTOCAD, UG NX]

3D Structure Analysis



- Mechanism design using numerical analysis



- 3D design by UG NX

Test & Performance

▶ Motor Performance, Noise Analysis

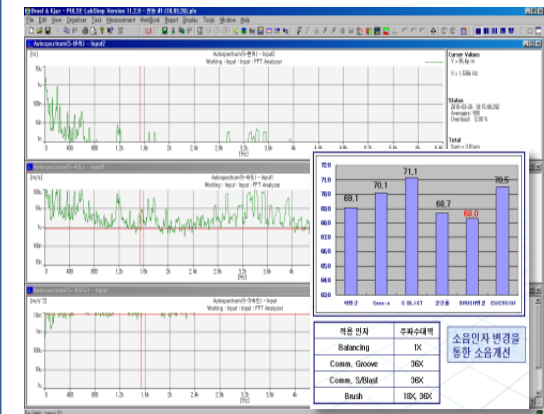
performance test



Noise Test Room



Test Results & Analysis



- Improvement based on acoustic noise & vibration analysis

Production

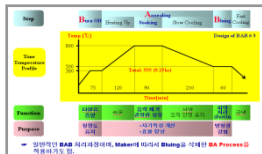
Lamination

Many kinds of Lamination process



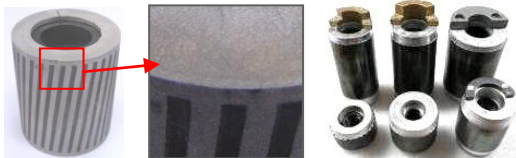
- High efficiency, Segment, Spiral core
- Rotational stacking method

Heat Treatment



- BAB, BB Heat treatment

High density Rotor Die-casting



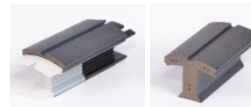
- Centrifugal casting for Rotor
(10% improvement of Aluminum Stuffing density)

Stator Winding

Concentrated Winding

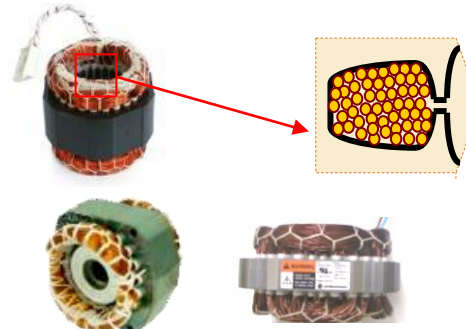


- Cu, Al. wire apply



- Segment core & Assembly technology
- High Density Winding

Distributed Winding



- Cu, Al. wire apply
- Close Core Teeth Open (2.1mm → 1.3mm)
- High Density Winding

Motor Assembly

Assembly Automation



- Assembly line automation

Many kinds of Clamping method



- Toggle Lock, Riveting, screwing etc.

Logistics System



- Just In Time Supply system

Quality Assurance

C&M

Parts Quality

Supplier Evaluation / Management



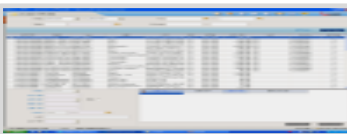
Part Inspection



Securing part Reliability



Historical data management for parts



Process Quality

CTQ Management



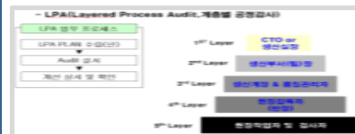
Sequential & Time Check



Total Inspection



Process Audit



Outgoing Quality

Production Outgoing Test



ELT / Life test



Quality Meeting



Historical Data Management for Production

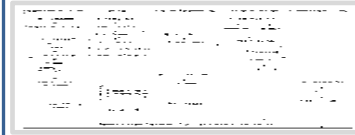


Customer Satisfaction

Operate SVC Man System



Operate Systematic Response System



Collecting Customer Opinion



Activity for Quality Innovation



ERP
system

Quality
management



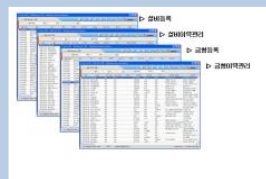
Materials
management



Production
management



Facility
maintenance



Quality Assurance

Environmental Test

Heat shock Tester



Constant Temp. Equipment



Polishing Machine



Fume HOOD



Saltwater atomizing Tester



Dust Filtering Set



Measuring

Universal Testing M/C



Toolmaker's Microscope



XRF Analyzer



Surface Roughness measuring



3D Measuring M/C



Hardness Tester (Vickers)



Commutator Measure



Impulse BDV Tester



MEA Dynamometer



Reliability Test

Dryer Motor ELT



Vacuum Cleaner Motor ELT



Automobile Motor ELT



Pump Motor ELT



Certificates

ISO & INNO-BIZ



Patents



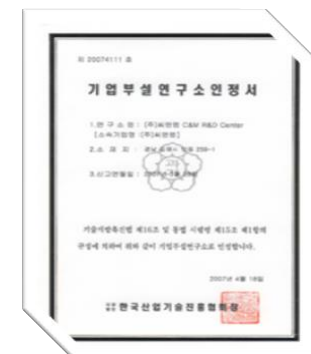
UL & CE & CCC



SQ & Q Gate



Part & Material Company

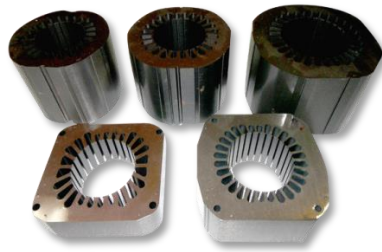


Production Line

C&M

Production Facility

**Core Punching Press
& Heat Treatment**

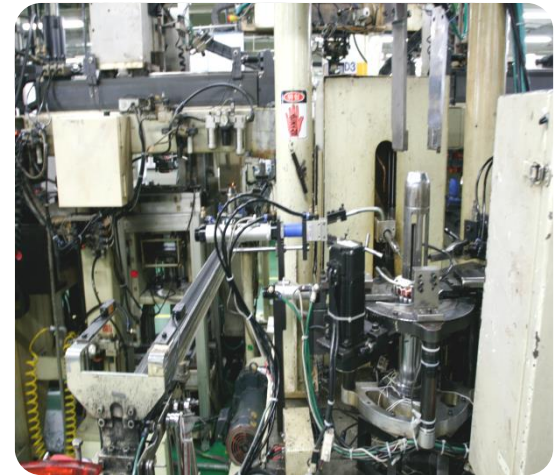


Rotor Die Casting

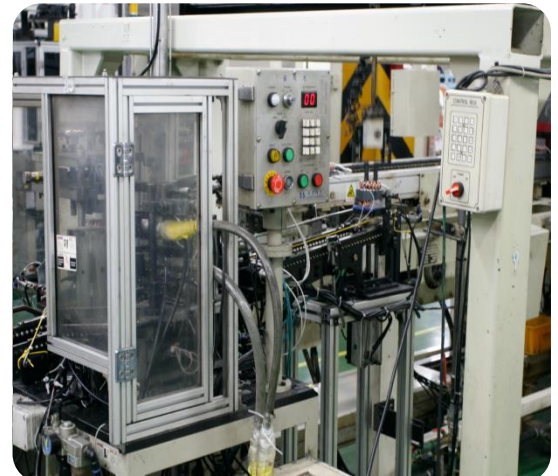


Production Facility

**Air Conditioner
Compressor Motor**



**Refrigerator
Compressor Motor**



Production Facility

Vacuum Cleaner Motor



Blower Motor



Production Facility

**Air Conditioner
Fan Motor**



Automobile Motor



Production Facility

**Refrigerator
BLDC Fan Motor**



Motor Circuit

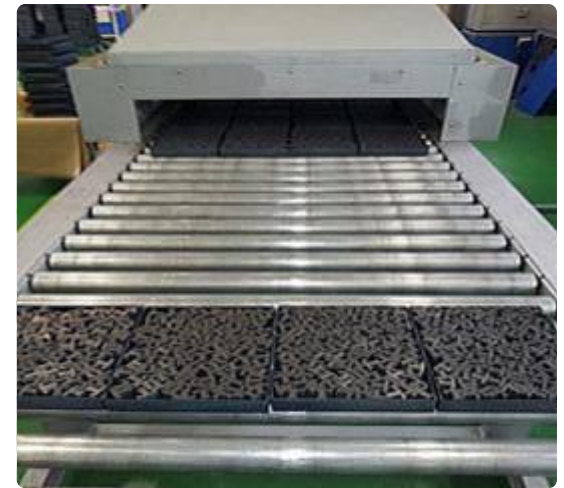


Production Facility (Ansung)

Core Punching Press



Core Heat Treatment



Production Facility (Ansung)

ABS Motor Armature

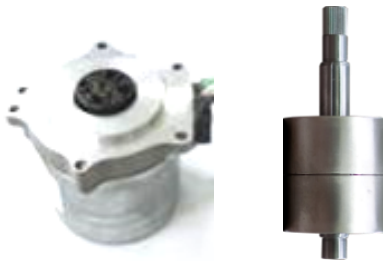


ESC & AHB Motor Armature

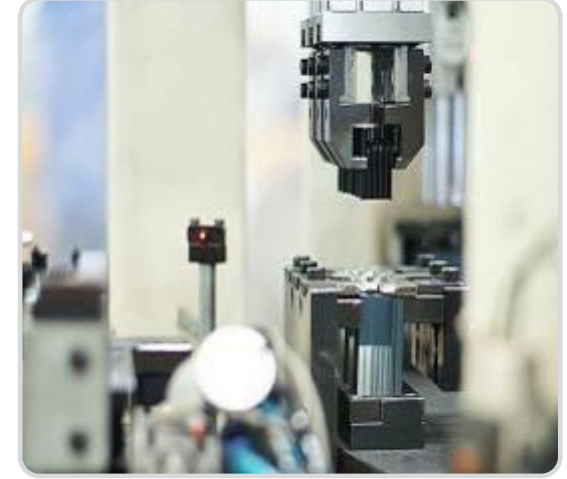


Production Facility (Ansung)

EPS Motor Rotor



EPS Motor Stator



Production Facility (Nanjing)

C&M

DD Core Assy

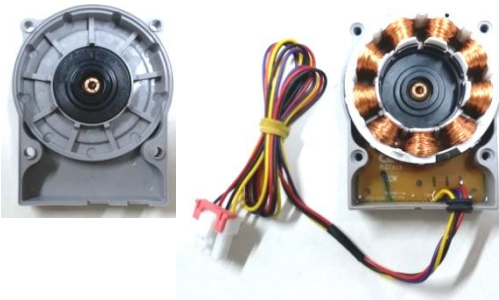


**Blower Motor
Stator Assy**



Production Facility (Nanjing)

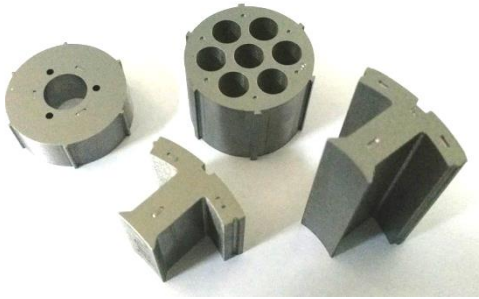
Ref. Fan Motor
Stator & Case Assy



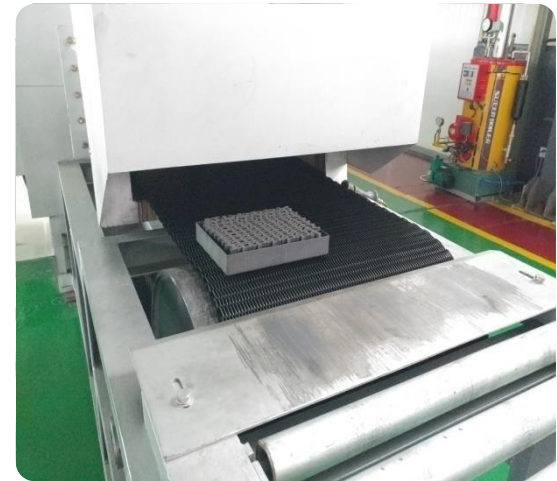
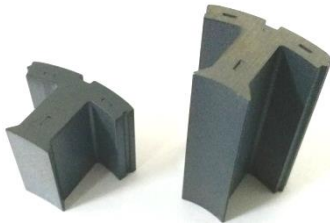
Production Facility (Yantai)

C&M

Core Punching Press



Core Heat Treatment

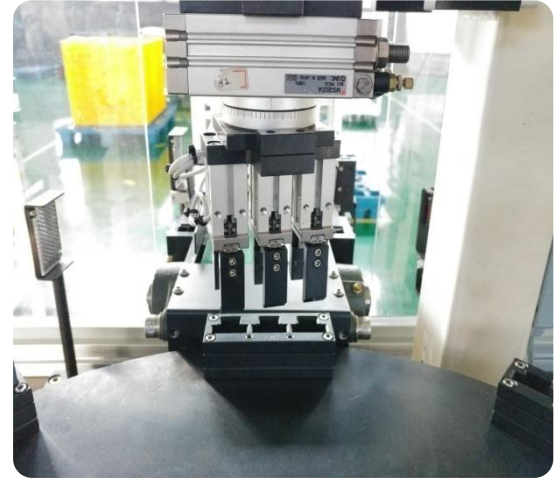


Production Facility (Yantai)

EPS Motor Rotor



EPS Motor Stator



Products





Products of **C&M**



Air-Con. / Washing Machine

C&M

System Air-con



Comp. Motor
(BLDC/Induction)



Fan Motor
(BLDC Motor)

Commercial
Stand & Duct



Fan Motor (BLDC Motor)

Dryer



Induction Motor

Dishwasher



BLDC / Induction Motor

Vacuum Cleaner / Blower

C&M

**Household
Vacuum Cleaner**



Compact high efficiency motor

**Cordless
Vacuum Cleaner**



BLDC motor

**Industrial
Vacuum Cleaner**



Large wet two-stage motor

Hand Dryer



Small high air volume motor

Leaf Blower



Leaf Blower motor

Refrigerator

Refrigerator

Refrigerator



Refrigeration / Freeze ventilate



Compressor colling



Compressor Motor



Refrigeration / Freeze ventilate



Compressor colling

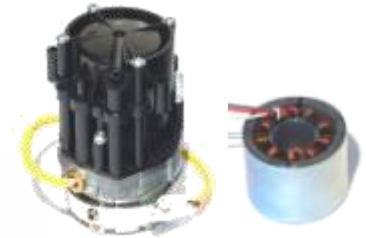


Compressor Motor

Automobile



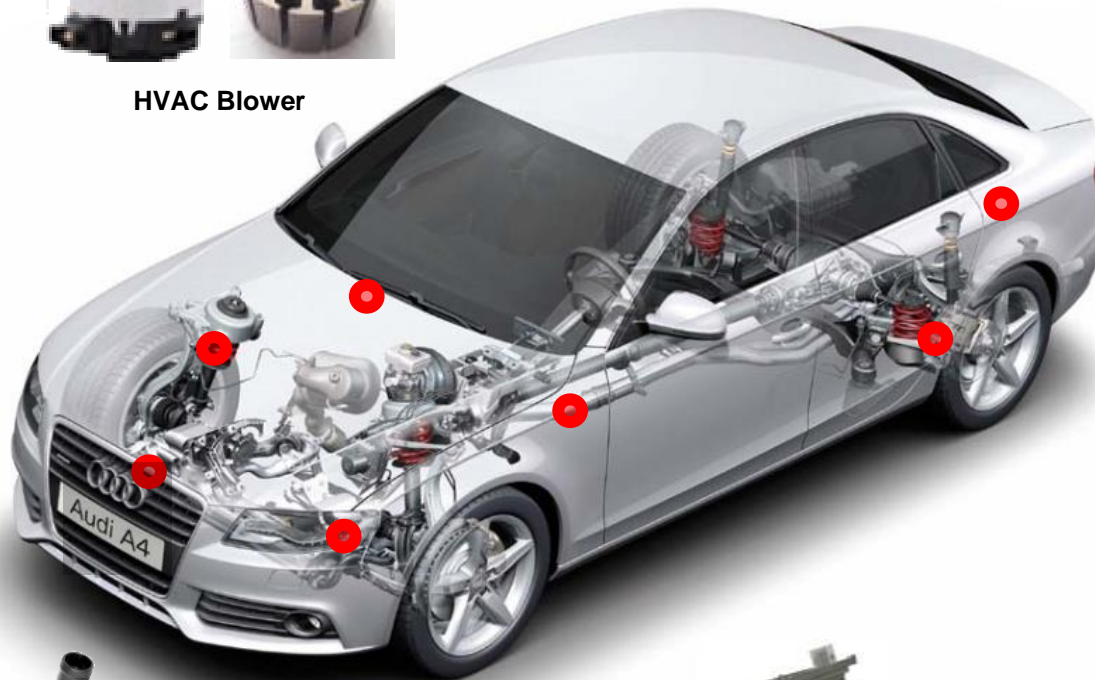
HVAC Blower



LPI Fuel Pump



Air Cleaner



ABS



Electric Water Pump



EPS

Automobile (Gimhae)

LPI Fuel Pump Motor



Air Cleaner Motor



HVAC BI-BLDC Motor Rotor



HVAC Blower Motor Core



EWP BLDC Motor Stator



EWP BLDC Motor Core



EWP BLDC Motor Core



EPS Motor Core



Automobile (Ansung)

ABS Armature



Anti-Lock Brake System Motor

AHB Armature



Active Hydraulic Booster Motor

ESC Armature



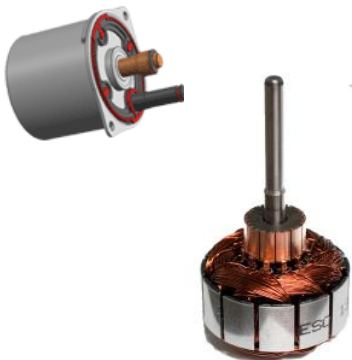
Electronics Stability Control Motor

ABS Armature (580W)



Anti-Lock Brake System Motor

ESC Armature



Electronics Stability Control Motor

EPS Rotor



Electric Power Steering Motor

EPS Core



Electric Power Steering Motor

EPS Core



Electric Power Steering Motor

W/M Motor Stator



**Washing Machine Motor
(Direct Drive)**

Blower Motor Stator



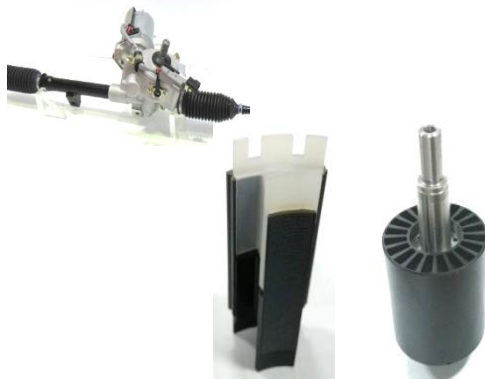
Blower Motor (Universal Motor)

Ref. Fan Motor Stator



Refrigerator Fan Motor (BLDC)

**EPS Stator Core & Rotor
Assy**



**Electrical Power
Steering Motor (630W)**

**EPS Stator Core & Rotor
Assy**



**Electrical Power
Steering Motor (400W)**

**EPS Stator Core & Rotor
Assy**



**Electrical Power
Steering Motor (370W)**

ETC (Motor Parts)

Motor Core



회로 Parts



Thank You



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