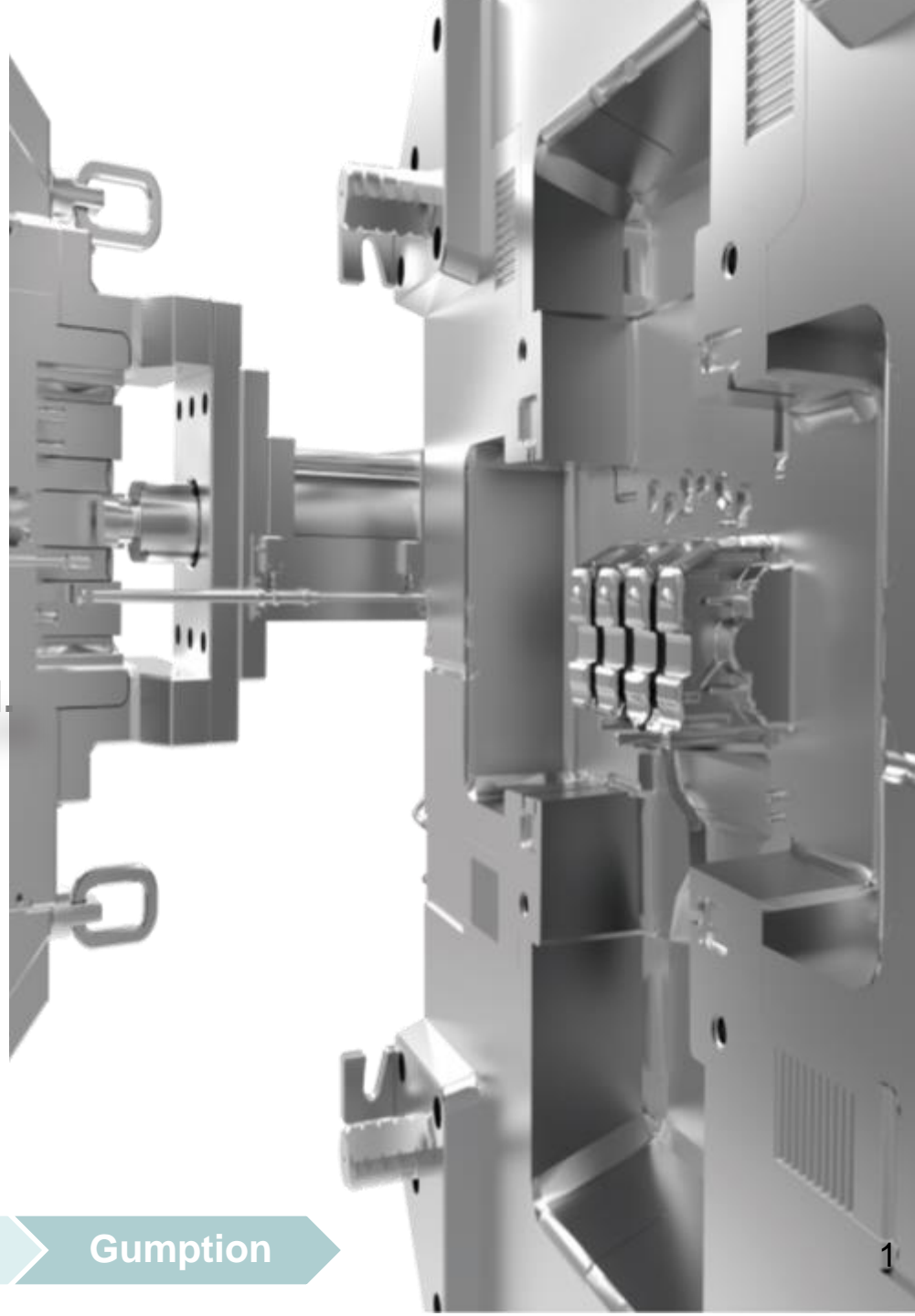


AILITE®

Ningbo Elite Mold Manufacture Co., Ltd.

**Begin with customer's requirement
End with customer's satisfaction**



Innovation

Win-Win

Harmony

Gumption

1



Company Profile

2



R & D
Manufacture & Quality Ability

3



Product & Market Development Vision

Overall Review



- Family ownership company
- Registered Capital 3.47million USD, Total 10000m²
- Chinese HPDC GB standard constitutor
- Annual mold production ability: 160 pcs
- Lead time: 55-160 days for T1
- Business: Magnesium & aluminum die casting dies, matched Trimming mold, Prototype mold, Hand pattern, 3D printed & Small batch Production
- Casting die: focus on below 16000 Ton dies



Milestone

- Nominated by Audi NEV as die casting Training Center
- Obtain 7000T DCM Rear Door Frame project

2023

2024

- Obtain 7200T DCM Rear Floor Giga mold project

2022

- Enlarge factory & Invest Equipment for below 16000T DCM' Project

2021

- Obtain 4400T DCM EV Driving Motor Housing project

2017

- Begin strategic cooperation with Chuangyuan for MES, to build integrated intelligent management mode within 3 – 5 years

2016

- Formally selected by AUDI & VW in Germany, as the only die-casting die company in China entering into their supply system

2018

- Award as Top 10 of Chinese HPDC manufacturer
- Achieve the first Shock Tower project, formally enter the field of Auto Structural Part: mold specification: 2360*1780*1340 mm 39.2T

2015

- New factory set up in Beilun mold industry

2013

- Audited by SGM and succeed entering into their supplier list

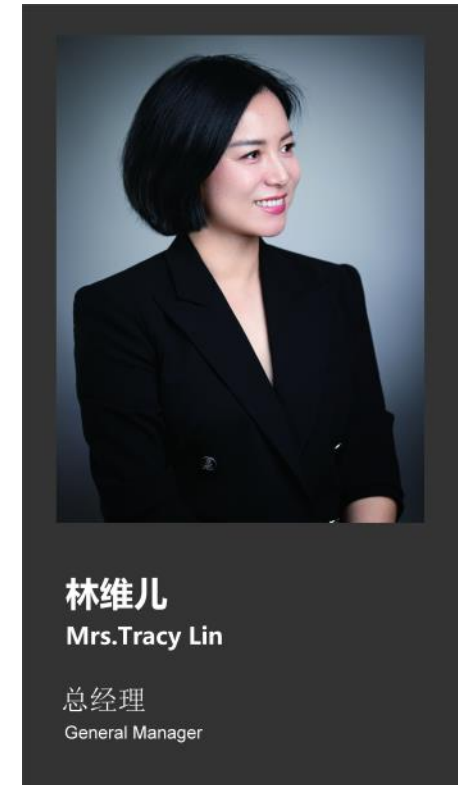
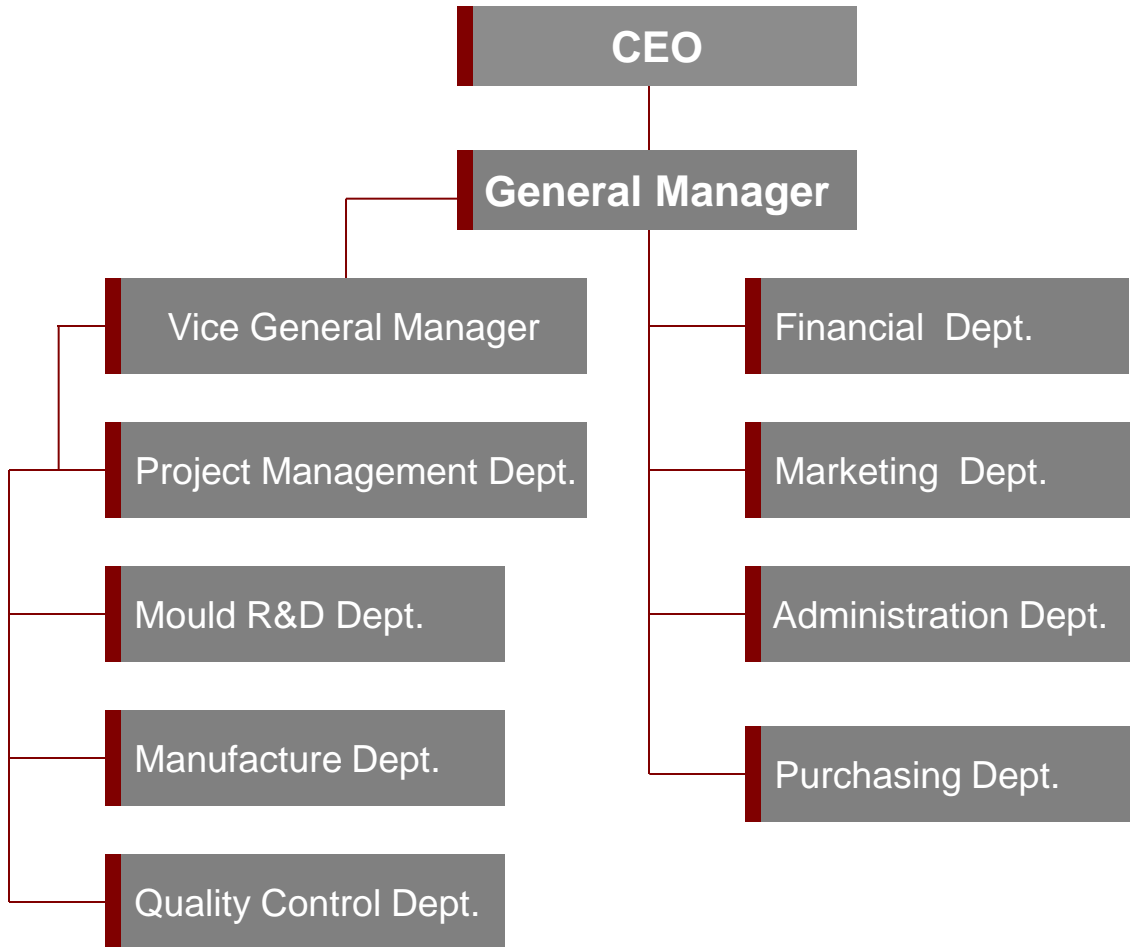
2003

- Rename as Ningbo

1984

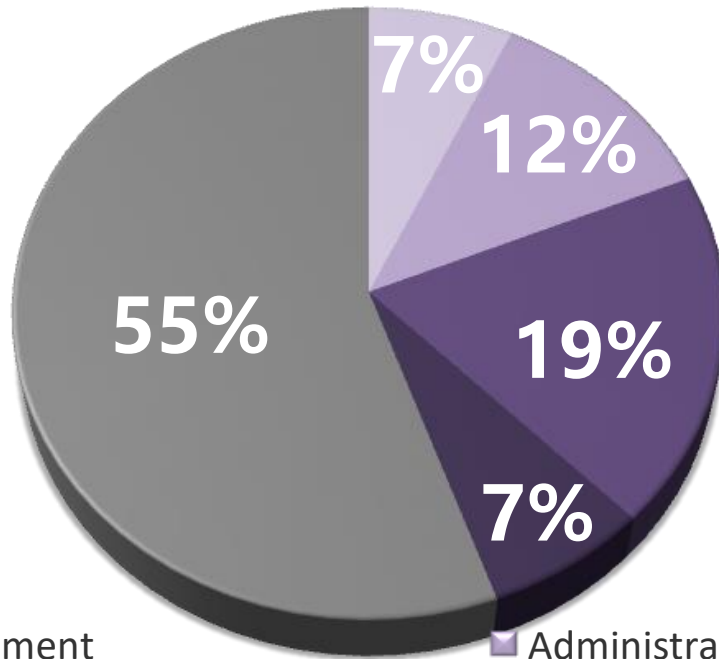
- Chengmen mold Founded
 - Private Company

Organization



No. of Employees

Employees 128



Management 9



QC 9



Administrator/ Market/Finance 15



Manufacturer 71



Designer 24

Management

Designer

Manufacturer

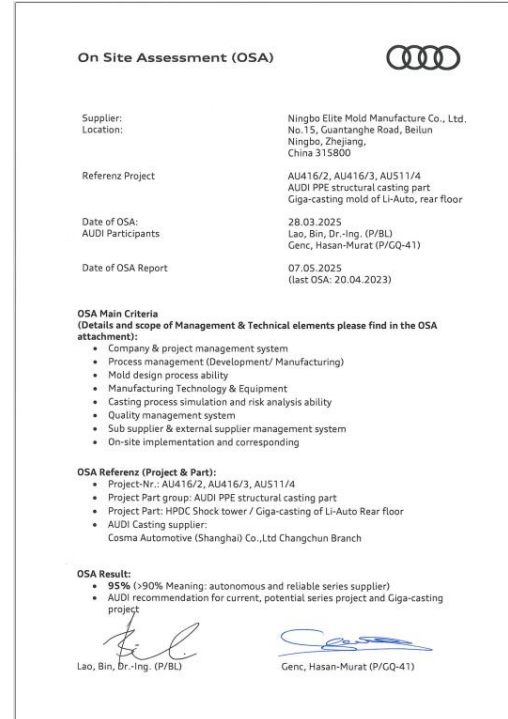
Administrator/ Market/ Finance

QC

Our Honor



Approval letter from German Audi



Audi OSA High Scored 95% Report

Our Honor



SGS ISO 9001 : 2015

Marketing Competence

Our Strengths

- Experienced team for Die-casting dies
- Tailor made solutions for global customers
- Cutting edge technology installed at ELITE
- Serving satisfied customers over 40 years
- Continuous improving company management

Your Benefits

- Safety: Guarantee all the safety during the mold produced
- Quality: Our experience leading the excellent quality
 - 97% dimension qualification; 90% FTQ
- Cost: High quality ensuring long lifetime
- Service: Available for our customers with 24 / 7
- Delivery: Over 97% delivery on-time rate

1



Company Profile

2



R & D

Manufacture & Quality Ability

3



Product & Market Development Vision

Technical Team



Technical Team:

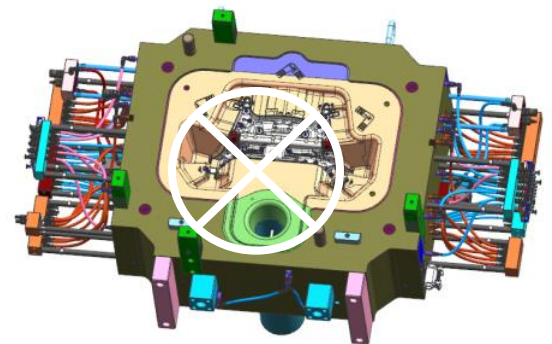
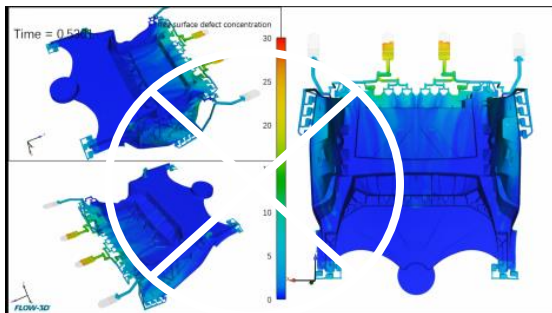
- 6 mold design experts & engineers
- 17 mold design engineer assistants
- 1 mold flow engineer
- 24 engineers until now

Soft-ware Resource:

- CAD/ FEM:UG / Pro-e/ CATIA
- CAE: FLOW 3D
- CAM: Power-mill

Technical strength:

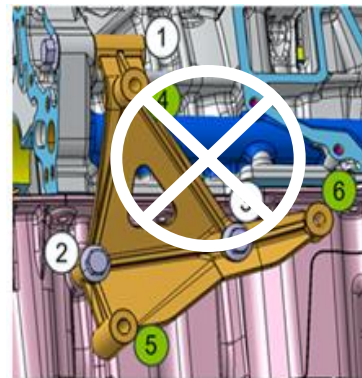
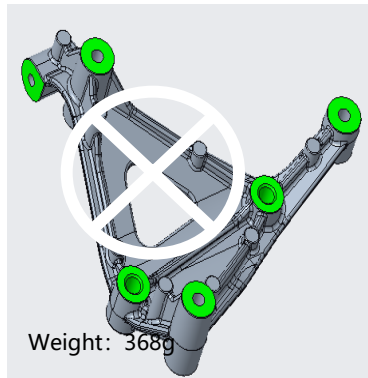
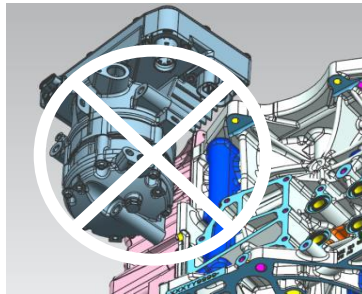
- Design for manufacture Report (DFM)
- Die concept building and optimizing
- Risk Analysis
- Product & Process Optimization
- Validation
- Increase Robustness
- Cost Reduction
- Serial Production Mold Advise
- Increase Mold life
- Technical support for trial, service after sales



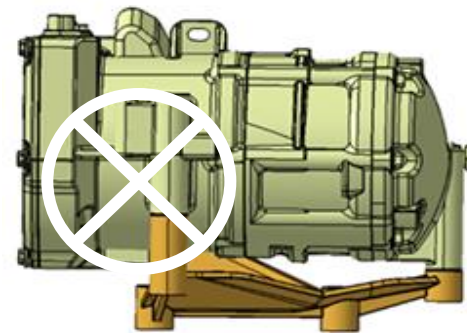
Technical Advantage

Prototype Part Design

- Function & Requirement input
- 3D design
- Assembly simulation



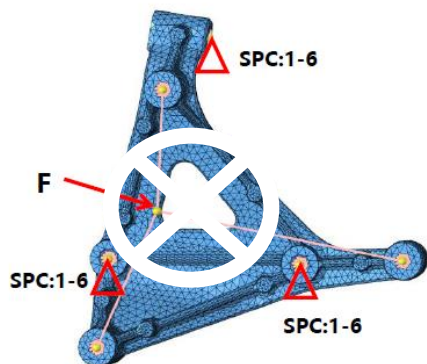
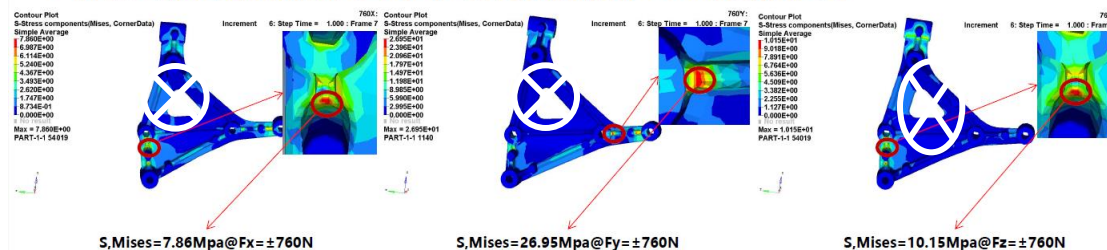
Function	The weight of the air compressor is 7.6kg, and the air compressor bracket needs to bear the vibration from the ground/engine and the air compressor itself, including the impact load under the condition of rapid acceleration and rapid deceleration.
Material	DIN EN 1706 AISi9Cu3(Fe)
Process	HPDC
Weight	≤400g



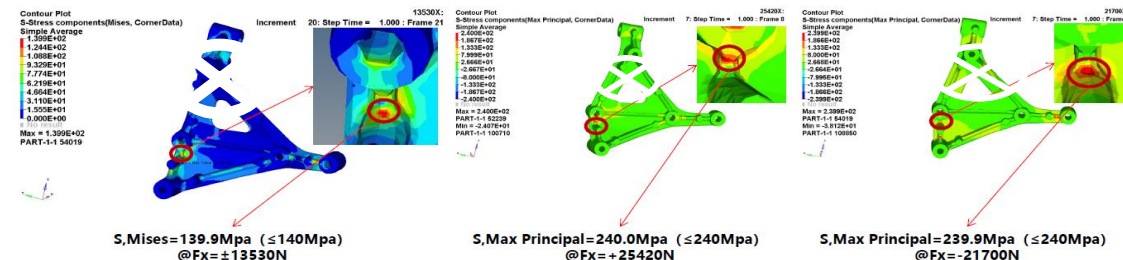
Simulation & CAE

- X/Y/Z Loading 760N, Max stress
- X/Y/Z Yield/ultimate breaking load in 6 directions

计算空调压缩机质心位置X/Y/Z方向分别加载760N的最大应力



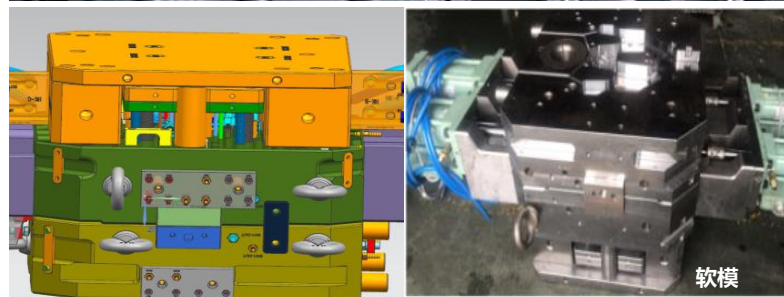
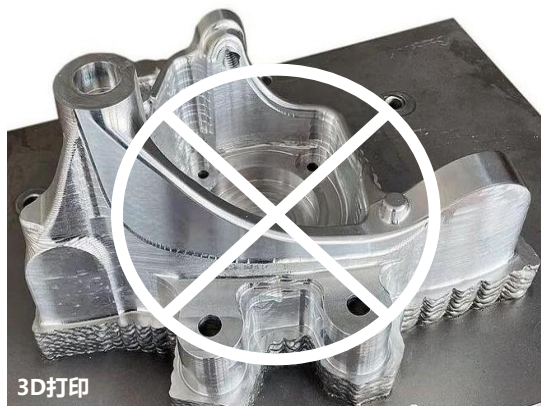
计算空调压缩机质心位置±X方向屈服、断裂的极限载荷



Technical Advantage

Prototype Part Production

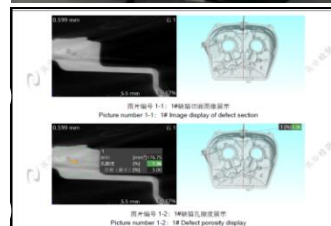
- 3D Print
- CNC Prototype
- Assembly Simulation



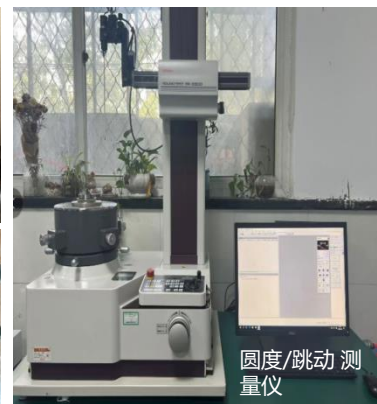
Technical Advantage

Inspection & Testing

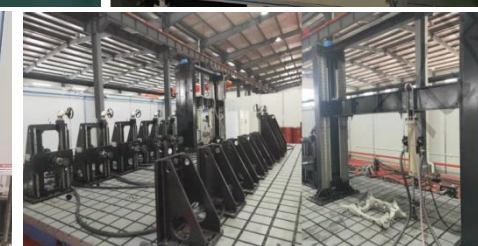
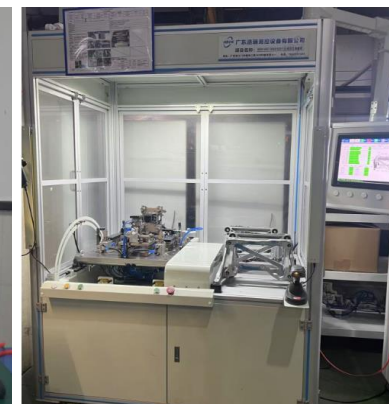
- Corrosion Resistance
- Roundness Measuring Instrument
- Online Testing
- CT
- Vibration Endurance Test
- Bench Test



CT Inspection



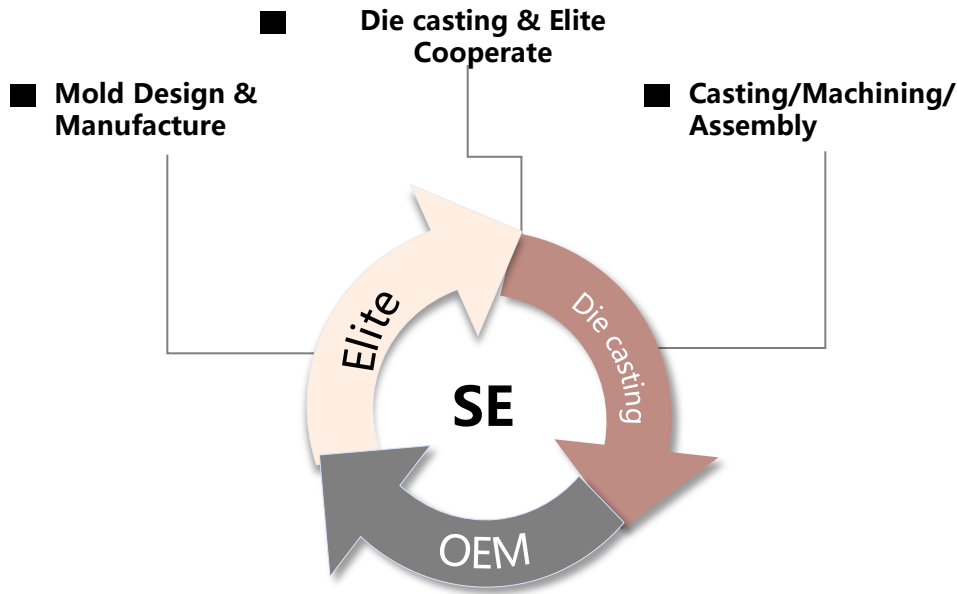
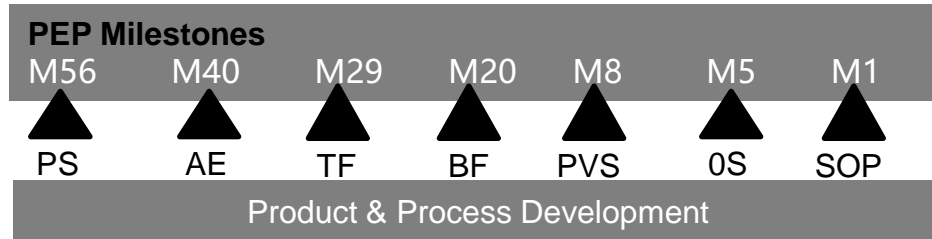
Vibration Endurance Test



Bench test area
(Limit, fatigue, impact)

Technical Advantage

SE (Simultaneous Engineering)



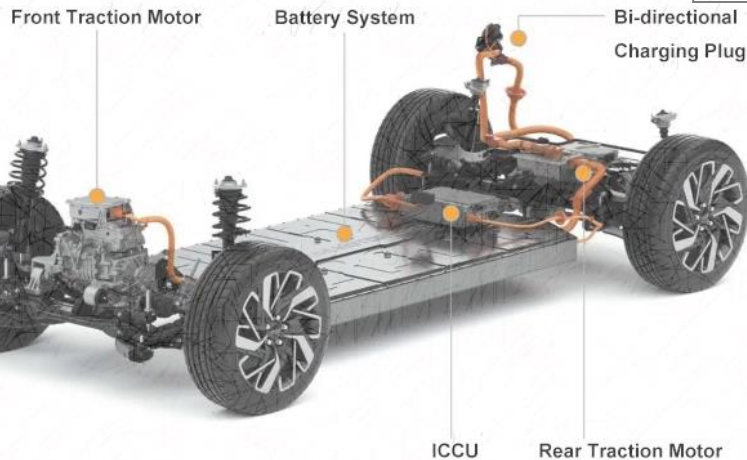
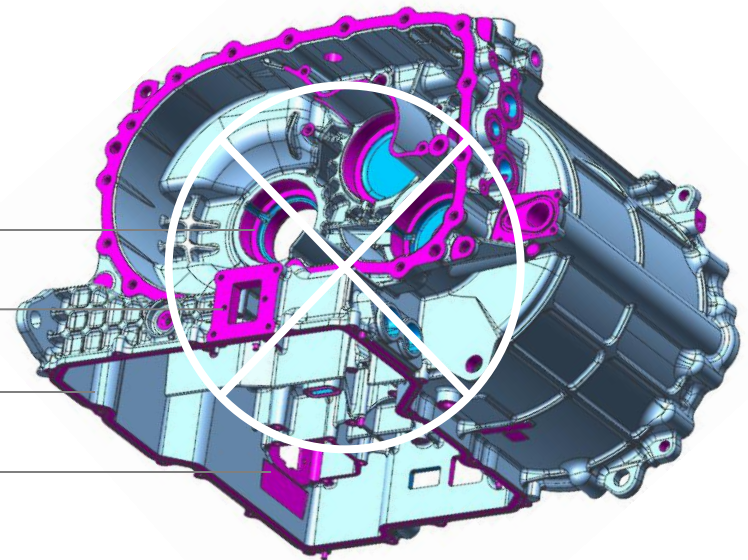
- **Mold development ability and experience**
Mold suppliers assess the DFM of part, and give advise for better casting
- **Part optimization in the early stage**
To avoid part production failures before drawing frozen
- **Reducing part design risks and manufacturing costs.**
Lower the cost and risk in batch production

Technical Advantage

Project SE case

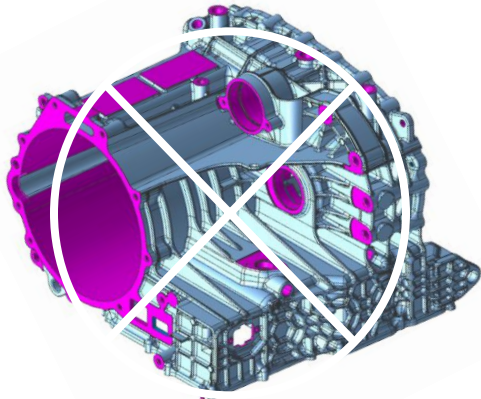
Part Analysis

- Product Functional Analysis
- Product Key Area Identification
- Wall Thickness & Draft Angel Analysis
- Manufacturability



Technical Optimized Case

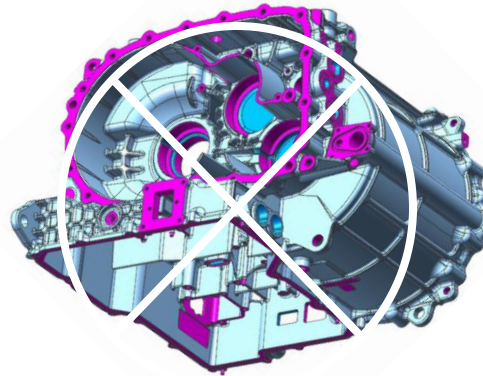
Original



Weight: 18.3kgs

- Wall thickness unevenness
- Hard to meet the pressure testing requirement for local area
- High requirement for porosity
- Long time for post machining

Optimized



Weight: 15.6kgs

- Wall thickness optimized
- Remove non-functional area for post machining

- **Weight: 15%** ↓
- **Manufacturability** ↑
- **Risk Function** ↓
- **Cost** ↓
- **Machining Time** ↓

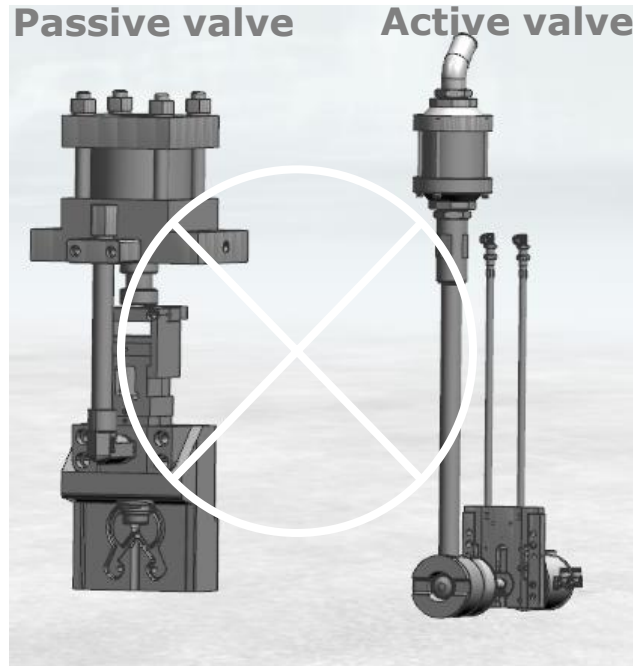
Technical Advantage



3D Print Technique

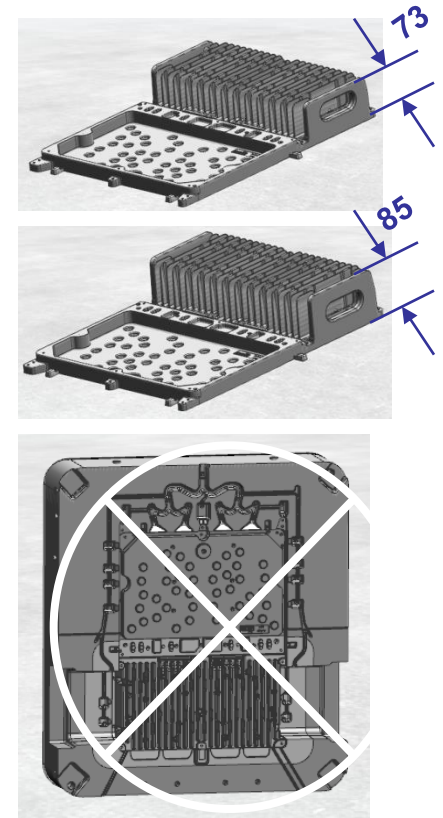
Design and make irregular cooling lines according requirement

- Solve regular cooling line design limited
- Solve burnt stick, shrinkage of local thick wall thickness surface
- Solve shrinkage porosity caused by insufficient cooling



Vacuum Technique

- Optimize scrap rate
- Improve mold lifetime
- Optimize production cycle time
- Optimize producing stability



Mold Frame Share Technique

- Achieve different parts with the same mold frame according to exchange local components

Equipment

Equipment	Brand+ Size	Qua.
High-speed CNC	DMG-HSC75Linear (GEM.)	1
High-speed CNC	DMG-HSC105Linear	1
High-speed CNC	Makino-V77 (JAP.)	2
High-speed CNC	HaiTian X:3000,Y:2000,Z:1000 Loading 15T	3
High-speed 5 axis CNC	DMGP210 2100*2100*1250	1
Horizontal 4 axis machining center	TOSHIBA BTD-200QH(Japan)	2
CNC	Taiwan TV116B/TV158B	3
CNC	Haitian-HTM-1500G	2
CNC	Taiwan AR-3124/3924	3
CNC	Taiwan AR-6336	1
CNC	Beijing Carver 600G SMA	2
Low speed-EDW	Taiwan 1065S	1
Low speed-EDW	Taiwan HP860SS-HS	1
Low speed-EDW	Taiwan GX640L+	1



Tooling warehouse

Equipment

Equipment	Brand+ Size	Qua.
EDW	Dongqing DK77100/DK7750/DK7780	6
EDW	BaQi X:1500, Y:1000,Z:1000 Loading 7.5T	1
Double Head EDM	Shanghai HanBa X:2000, Y:1200,Z:1200 Loading 12T	1
EDM	DEAHAN 900CNC/700CNC	2
EDM	Shanghai TE100/HE100/HE130	3
EDM	Beilun D7140/GXD7150	3
EDM	Beilun BL7165	1
GRIND	Taiwan KGS-250AH/510AH/715AH	4
GRIND	Guilin M7163*12-GM	1
Radial Drill	Shengyang Z3080*25/Z3050*16/2Q3040*12	5
Sawing Machine	Zhejiang GD4240/65	1
Milling Machine	Guilin GL-800C	1
Large Spot Machine	ShunXing SX1000YC X:4200, Y:3500,Z:4000 Loading 220T	1
Spot Machine	Shunxing 200JM/500JM	2
Lathe	Baoji CS615-013	1
6 Axis Gun Driller	HuanQiu X:2300, Y:1500,Z:1600 Loading 20T	1
Gun Drill	Shenzhen DH-1300-DC (Double Axis)	1
Crane	130T (Max)	1



Spotting Machine

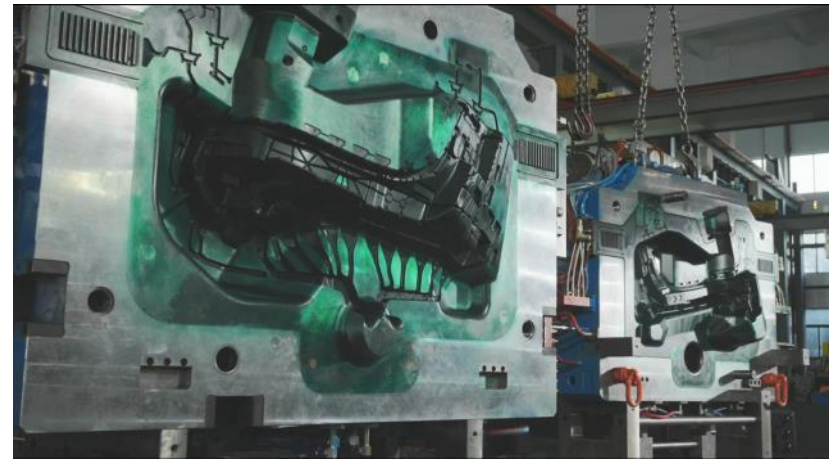
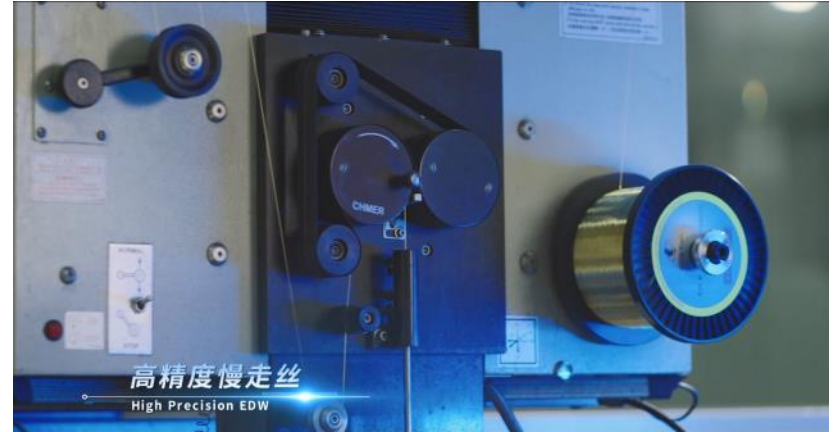
Quality-Testing Equipment:

Equipment	Brand	Quant.	Stroke
Large-Scale CMM	ILOT 15.25.15	1	X:2500, Y:2000,Z:1500 Loading 20T
CMM	Hexagon GLOBAL CLASSIC SK9.12.5	1	900*1200*800
CMM	Hexagon Explorer 1021	1	2100*1000*800
Projector	CPJ-3015	1	
3D scanner	Hexagon	1	

Equipment



Equipment



1



Company Profile

2



R & D

Manufacture & Quality Ability

3

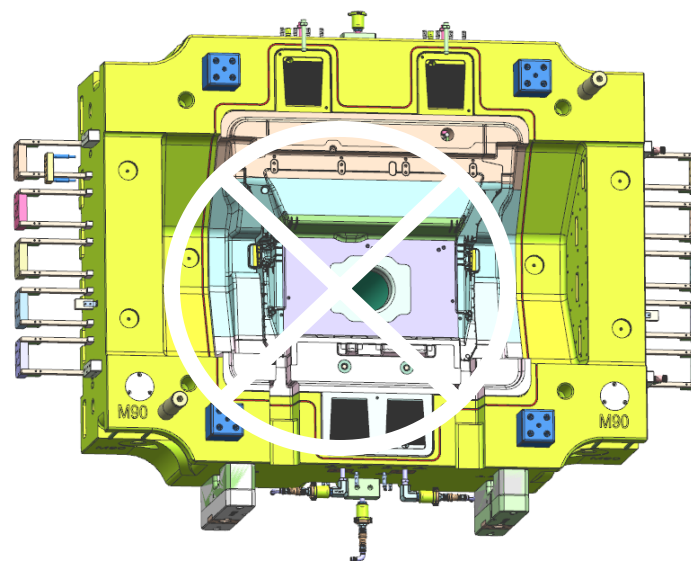
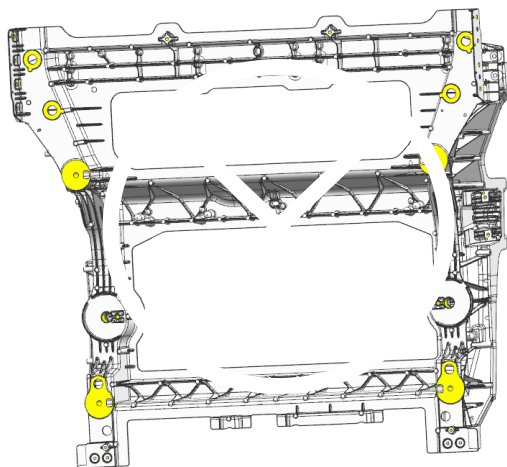


Product & Market Development Vision

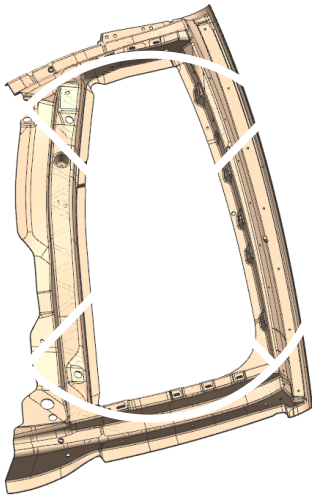
Die Tool Display

Rear Floor Giga Mold

1. Casting machine: 6600T/7200 T
2. Die dimension: 5166*3245*2071mm
3. Die weight: 132000 kg
4. Sample weight: 41.85 kg

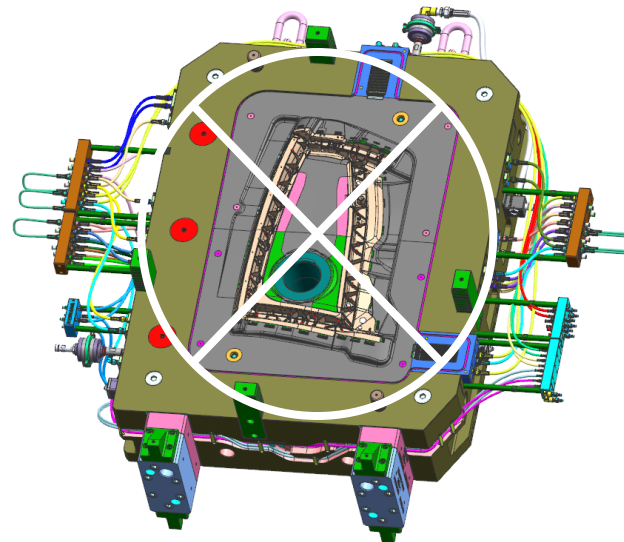


Die Tool Display



Rear Door Frame

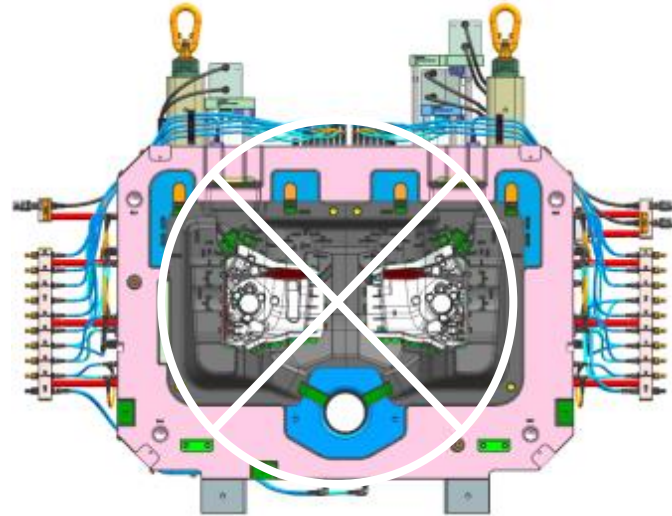
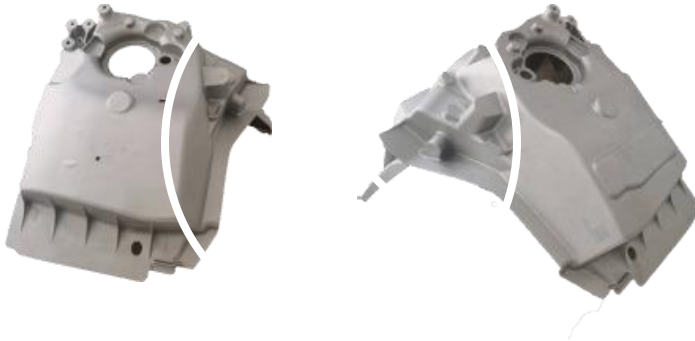
1. Casting machine: 7000 T
2. Die dimension: 1720X2190X1610 mm
3. Die weight: 41000 kg
4. Sample weight: 5.5 kg



Die Tool Display

PPE EQ5L/EQ6L/E6L Shock Tower

1. Casting machine: Buhler 3200T/4400T
2. Die dimension: 2120*1550*1570 mm
3. Die weight: 38100 kg
4. Sample weight: 4.375kg / 4.366kg

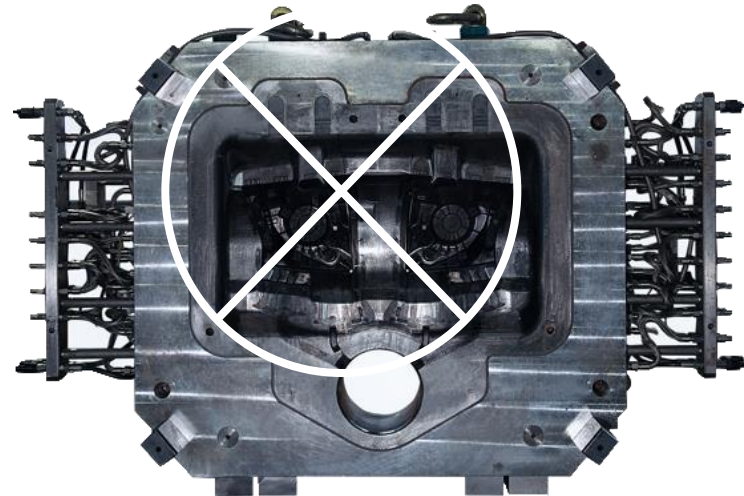
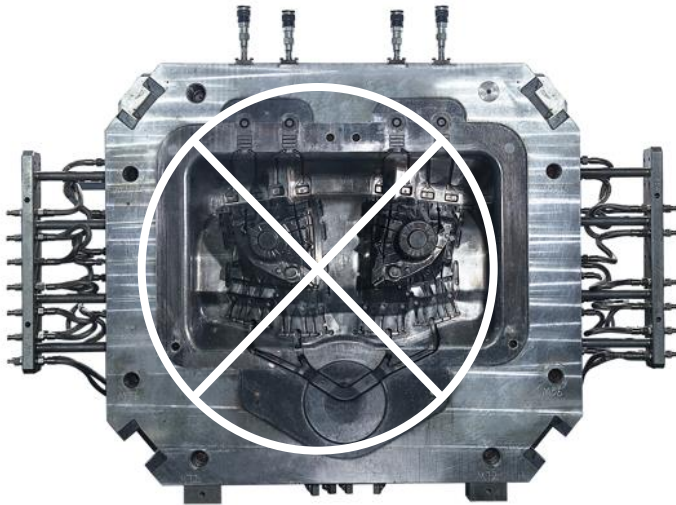


Die Tool Display



Shock Tower

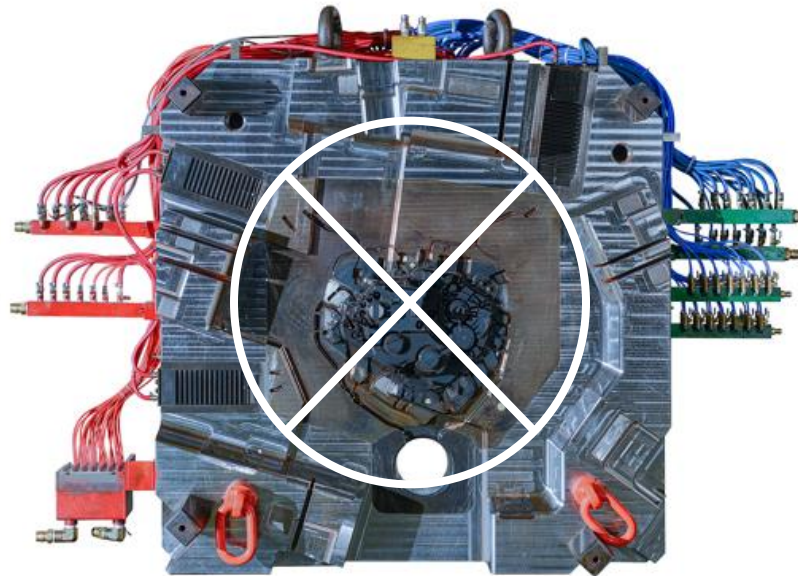
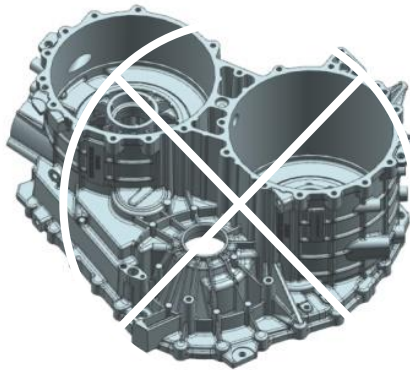
1. Casting machine: 3200T-4200 T
2. Die dimension: 1900X1755X1490 mm
3. Die weight: 36000 kg
4. Sample weight: 4.02 kg



Die Tool Display

Driving Motor Housing

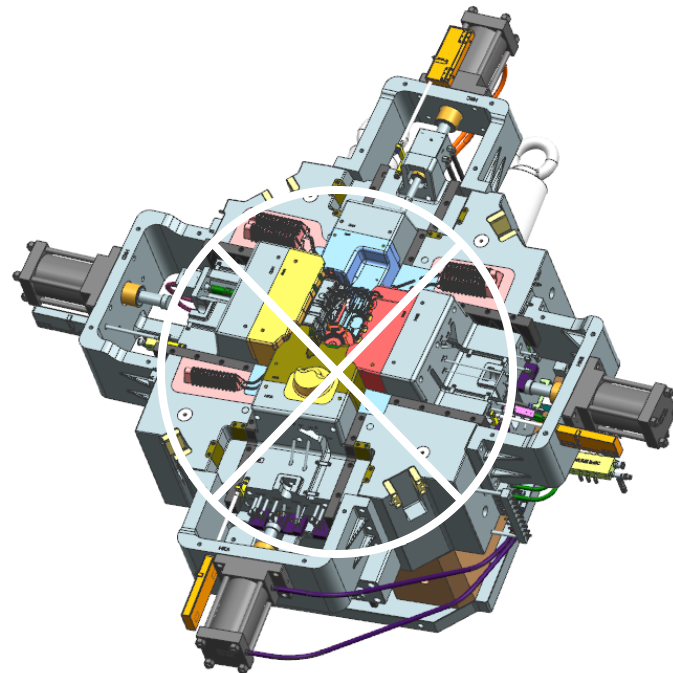
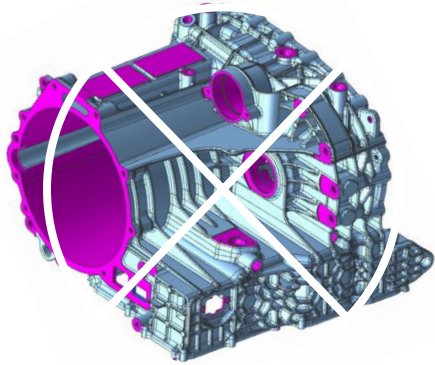
1. Casting machine: 4000 T
2. Die dimension: 1800x1960x1730 mm
3. Die weight: 43700 kg
4. Sample weight: 19.7 kg



Die Tool Display

3 in 1 Front Motor Housing

1. Casting machine: 2700/3000 T
2. Die dimension: 1700*1830*1695mm
3. Die weight: 37000 kg
4. Sample weight: 15.6 kg

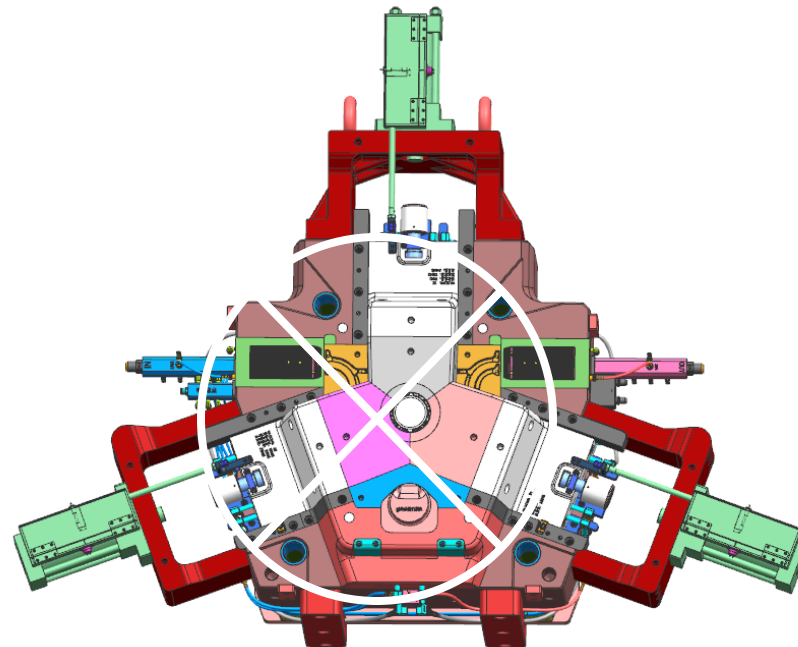
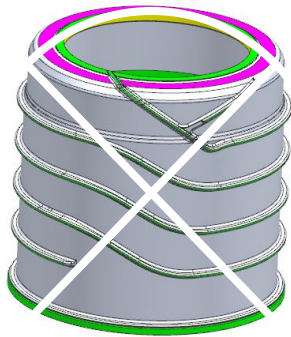


Die Tool Display

Water Jacket

Casting machine: 800/1250 T

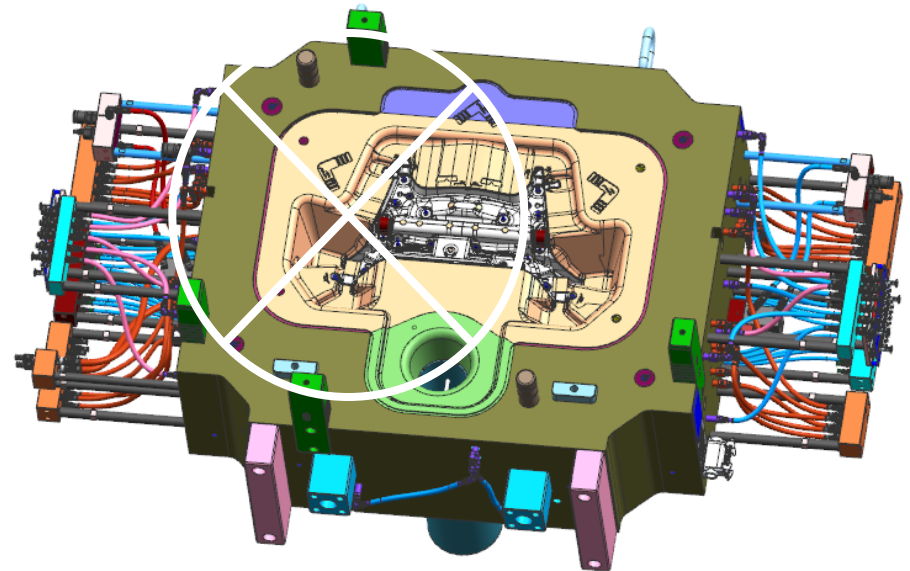
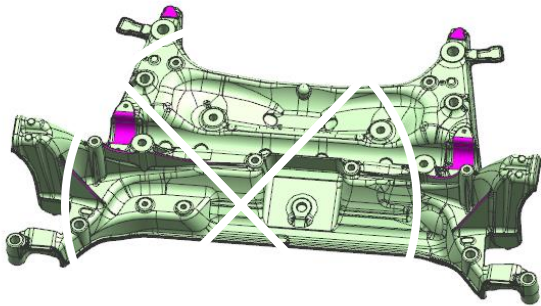
1. Die dimension: 2380*1850*940mm
2. Die weight: 7400 kg
3. Sample weight: 3 kg



Die Tool Display

Sub-frame

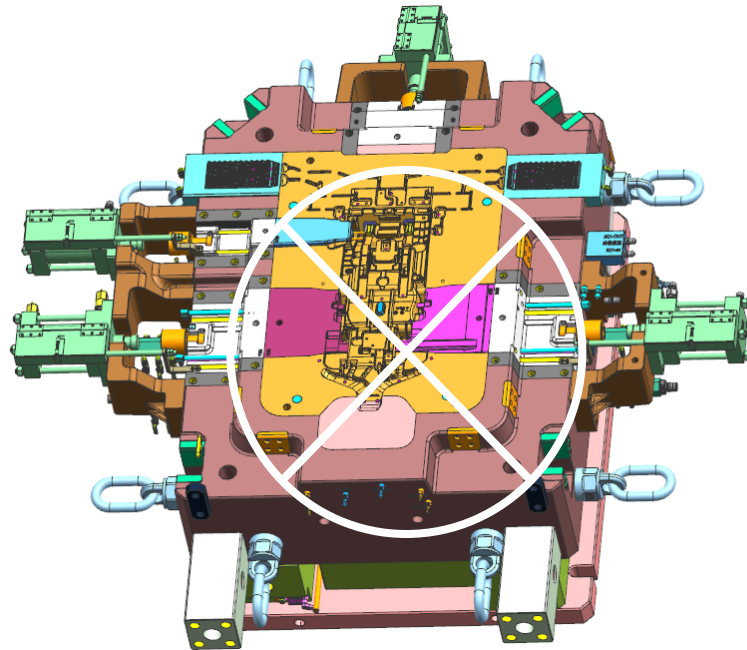
1. Casting machine: 2200 T
2. Die dimension: 1790*1520*1515mm
3. Die weight: 28000 kg
4. Sample weight: 9.2 kg



Die Tool Display

Rear Board

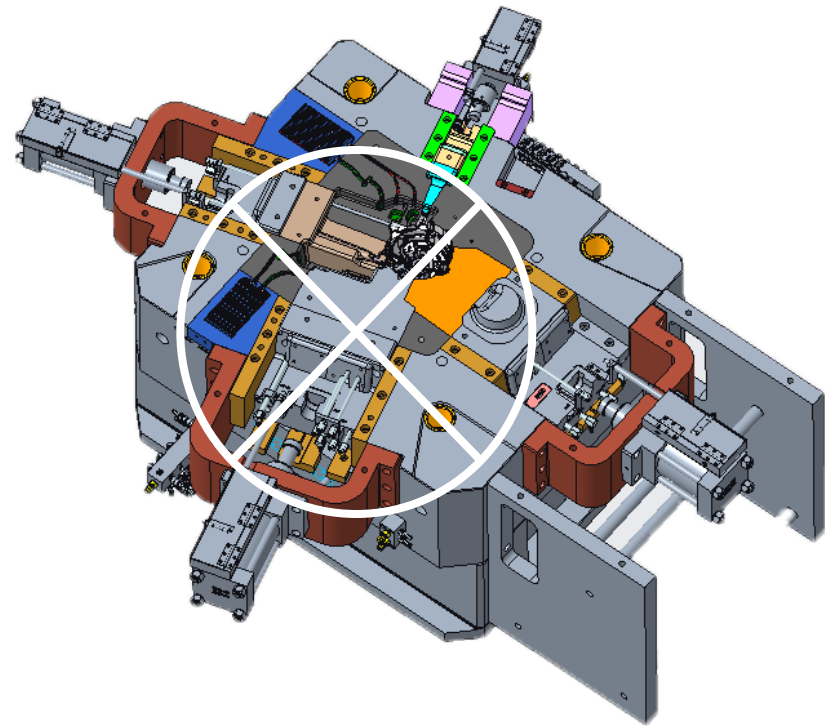
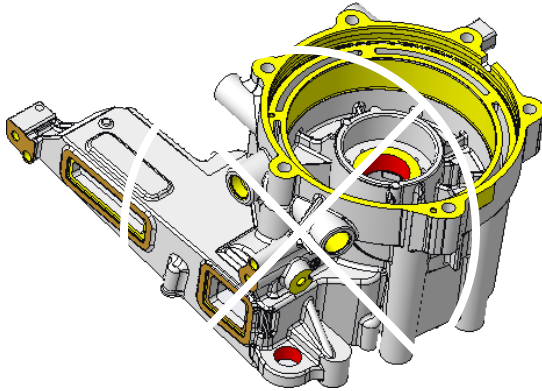
1. Casting machine: 2500T/3000T
2. Die dimension: 1724*2070*1085mm
3. Die weight: 16000 kg
4. Sample weight: 2.4 kg



Die Tool Display

Rear Cover

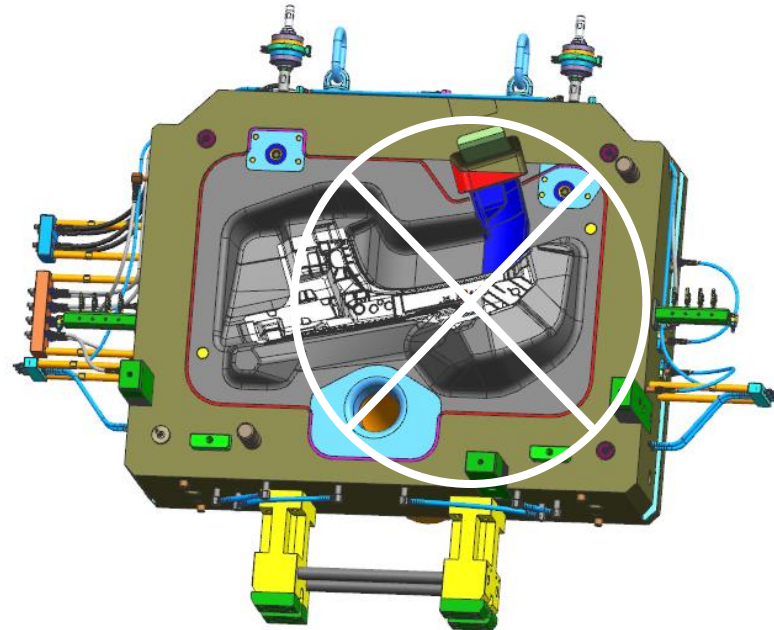
1. Casting machine: 1100T/1650 T
2. Die dimension: 2060*2370*1120mm
3. Die weight: 10400 kg
4. Sample weight: 4.47 kg



Die Tool Display

D-pillar

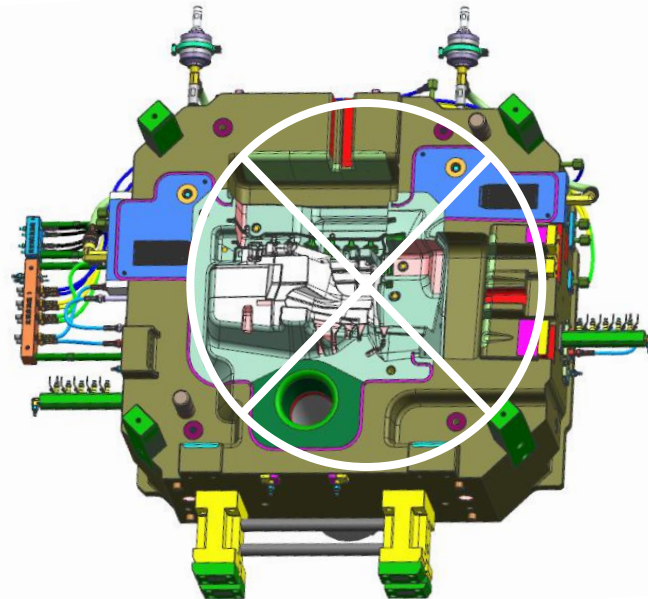
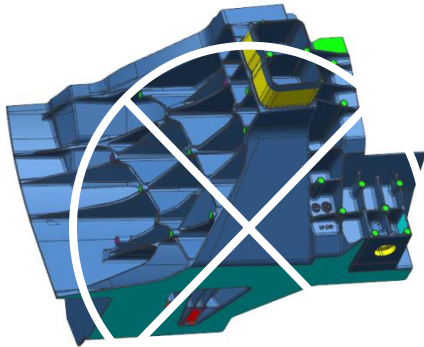
1. Casting machine: 2500T
2. Die dimension: 1960*1500*1430mm
3. Die weight: 32000 kg
4. Sample weight: 5.4 kg



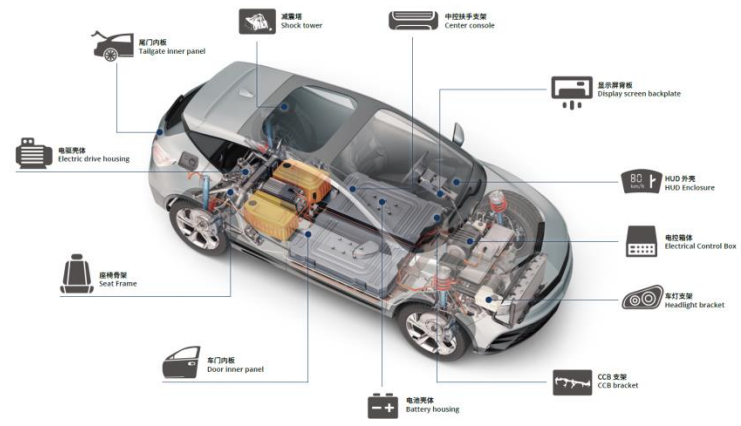
Die Tool Display

Front Longitudinal End:

1. Casting machine: 2500T
2. Die dimension: 1680*1530*1500mm
3. Die weight: 30000 kg
4. Sample weight: 11 kg

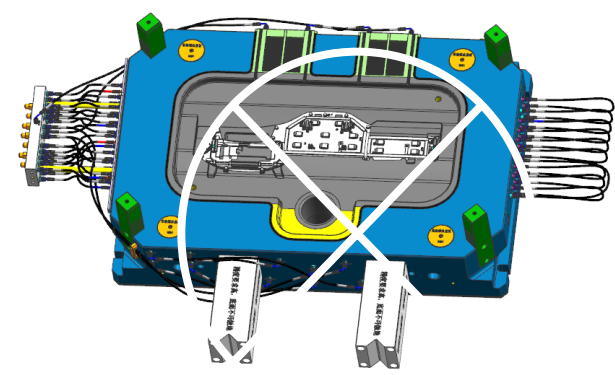
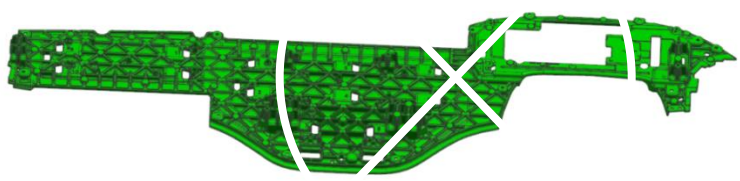


Die Tool Display



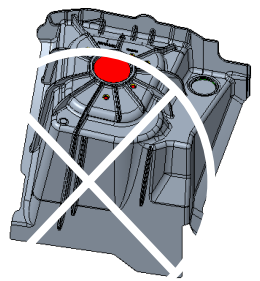
Panel Bracket

1. Casting machine: 3000T
2. Die dimension: 1980*1290*1073mm
3. Die weight: 21000 kg
4. Sample weight: 2 kg / AZ91D
5. Cost reduction & Weight reduction



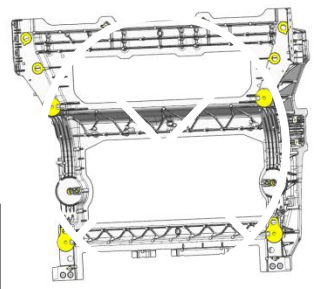
Alloy	Casting	Code	Mechanical property			Cost		
			Tensile strength/Mpa	Yield strength/Mpa	Elongation /%	Mold life	Material density	Reuse rate
Magnesium Aluminium	HPDC	AZ91D	230	160	3	200K	1.7	>60%
		ADC12	228	130	1.4	100K	2.8	≈50%

Structural Parts



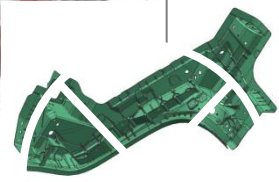
Right front wheel cover

Dimension: 437*324*400
Weight: 3.84 Kg
Material: AlSi10MnMg
Model: E00103725
DCM: Buhler2200T



Rear Floor

Dimension: 1356*1569*548
Model: W01-51010050
DCM: 6600T/7200 T



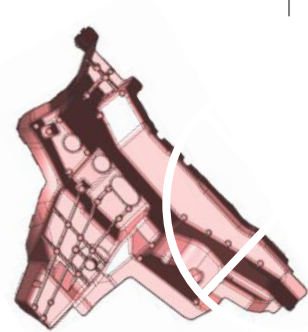
D-pillar

Dimension: 1150*514*470
Weight: 5.4 Kg
Material: C611
Model: 4122536HA1
DCM: Buhler 2500T



Wheel cover

Dimension: 473*412*424
Weight: 4.02 Kg
Material: AlSi7Mg
Model: 84339436
DCM: Idra 3200/ 4200 T



Shock tower

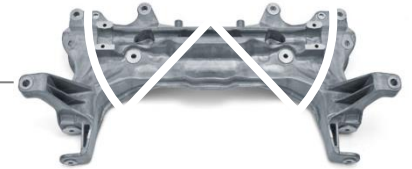
Dimension: 715*560*280
Weight: 2.9 Kg
Material: AlSi10MnMg
Model: A253
DCM: Buhler3800 T

Structural Parts



Cross member

DCM: 3500 T



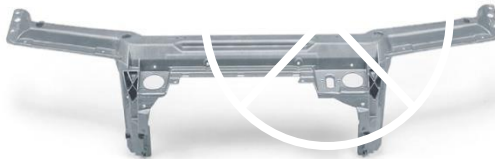
Cross member

DCM: 4500 T



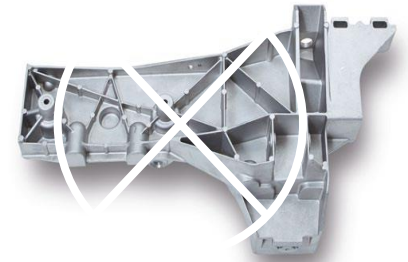
Engine cradle

DCM: 3500 T



Front section frame

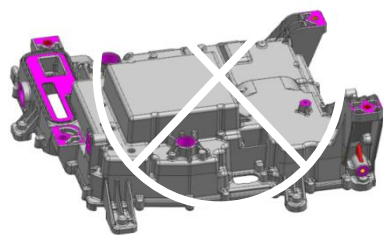
DCM: 2500 T



Frame side rail

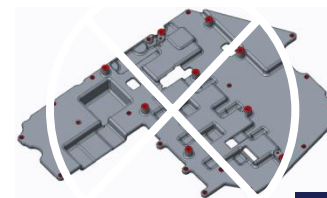
DCM: 1600 T

New Energy Automobile Parts



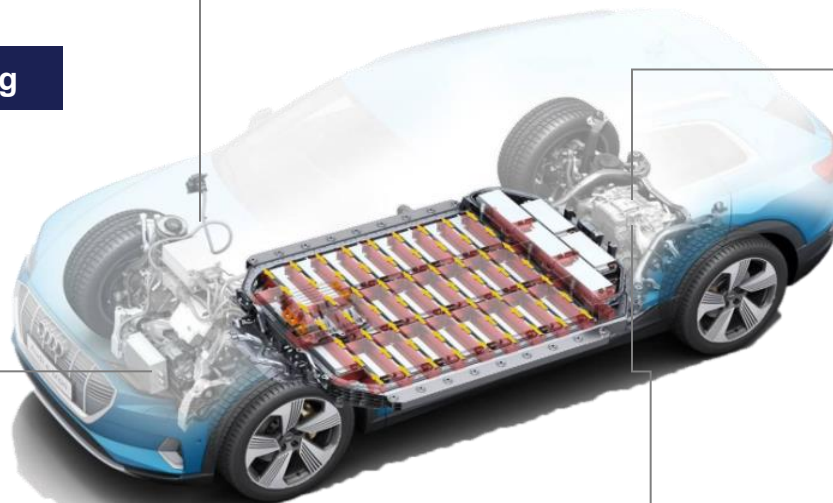
N60 Front Inverter Housing

Dimension: 415X363X138
 Weight: 3 kg
 Material: AlSi12(Fe)
 Model: A5E30034232A
 DCM: LK 1000 T/ 1250 T/ 1600 T



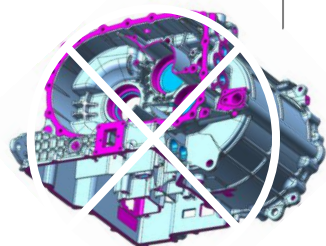
N60 PCB Holder

Dimension: 334X255X30
 Weight: 0.52 kg
 Material: AlSi12(Fe)
 Model: A5E30041379A
 DCM: YIZUMI 500 T/ 800 T



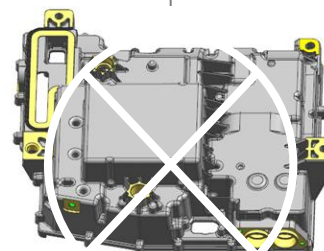
Front Motor Housing

Dimension: 453x432x337
 Weight: 15.6 kg
 Material: ACD12
 Model: 20201569
 DCM: 2700/3000T

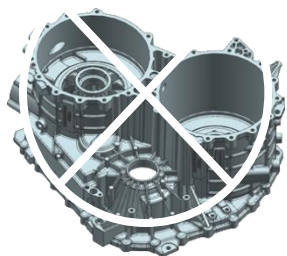


N60 Rear Inverter Housing

Dimension: 341X389X113
 Weight: 2.4 kg
 Material: AlSi12(Fe)
 Model: A5E30040627A
 DCM: LK 1000 T/ 1250 T/ 1600 T

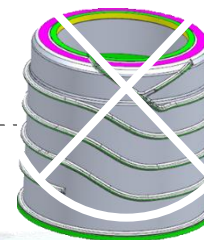


New Energy Automobile Parts



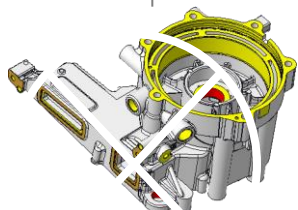
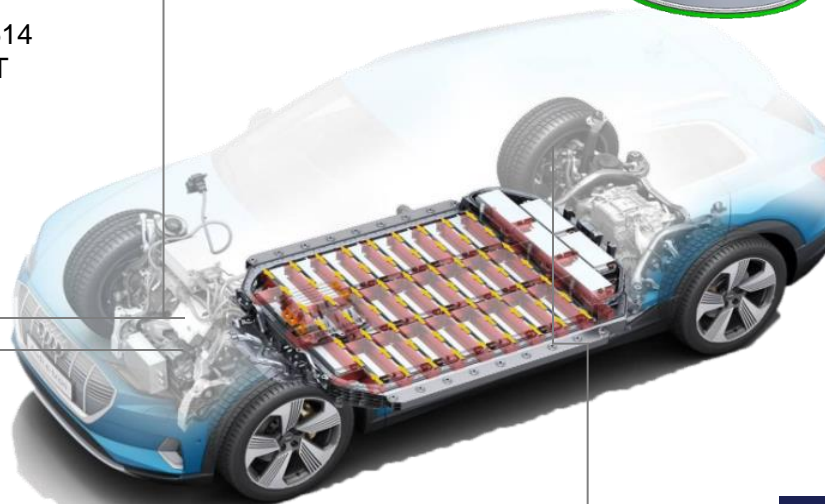
Motor Housing

Dimension: 246*599*481
 Weight: 19.7 Kg
 Material: A360
 Model: 214600514
 DCM: LK 4000 T



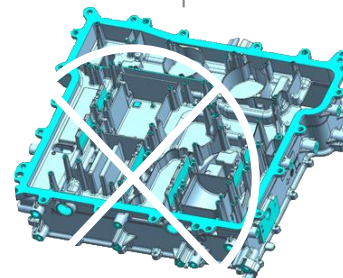
Water Jacket

Dimension: $\phi 246 \times 234$
 Weight: 3 Kg
 Material: AISi10MnMg
 DCM: LK 800 T/ UBE 850 T



Rear End Housing

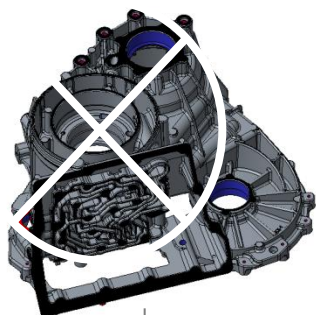
Dimension: 353*295*162
 Weight: 4.47Kg
 Material: AISi12Fe
 Model: F01RD08462
 DCM: UBE 1100 T/ 1650 T



Inverter Housing

Dimension: 390*455*130
 Weight: 5.7 Kg
 Material: A360
 Model: MBN664826
 DCM: IDRA 1600 T

Powertrain Parts



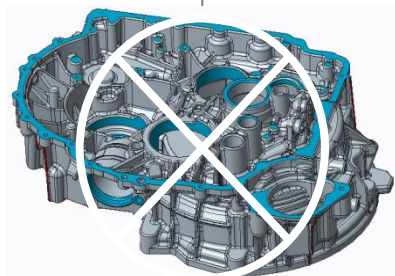
Automatic gearbox housing

Dimension: 450*400*210
 Weight: 8.1 Kg
 Material: AISi9Cu3
 Model: 483636
 DCM: LK 2500 T/ 3000 T



Steering Housing

Dimension: 610*186*177
 Weight: 2.73 Kg
 Material: AISi9Cu3
 Model: ZG-901545-000
 DCM: Toshiba 1250 T



Clutch housing

Dimension: 520*385*194
 Weight: 10.3 Kg
 Material: AISi9Cu3
 Model: TD02002
 DCM: Buhler 2200 T



Oil Sump lower(Crankcase)

Dimension: 422*370*185
 Weight: 5.8 Kg
 Material: ADC12
 Model: 11420-110EL-1
 DCM: 1650 T



Powertrain Parts

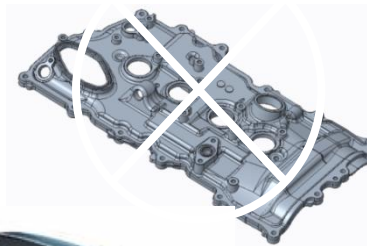
Cylinder block

Dimension: 390*375*234
 Weight: 17.1 Kg (exclude cylinder sleeve)
 Material: ADC12
 Model: P47-2
 DCM: YIZUMI 2500 T



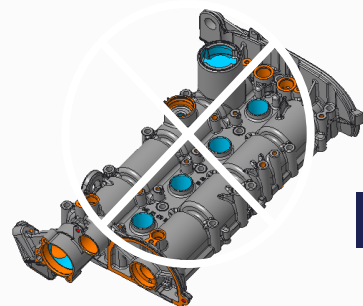
Cylinder head cover

Dimension: 515*270*60
 Weight: 1.62 Kg
 Material: ADC12
 Model: 11211849
 DCM: LK800 T



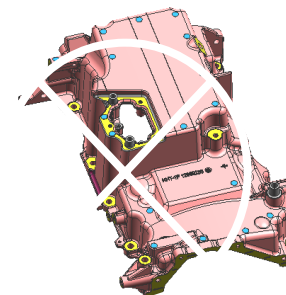
Cylinder head cover

Dimension: 430*265*155
 Weight: 3.3 Kg
 Material: AISi9Cu3
 Model: EA211-1.4TSI
 DCM: IDRA 1600 T



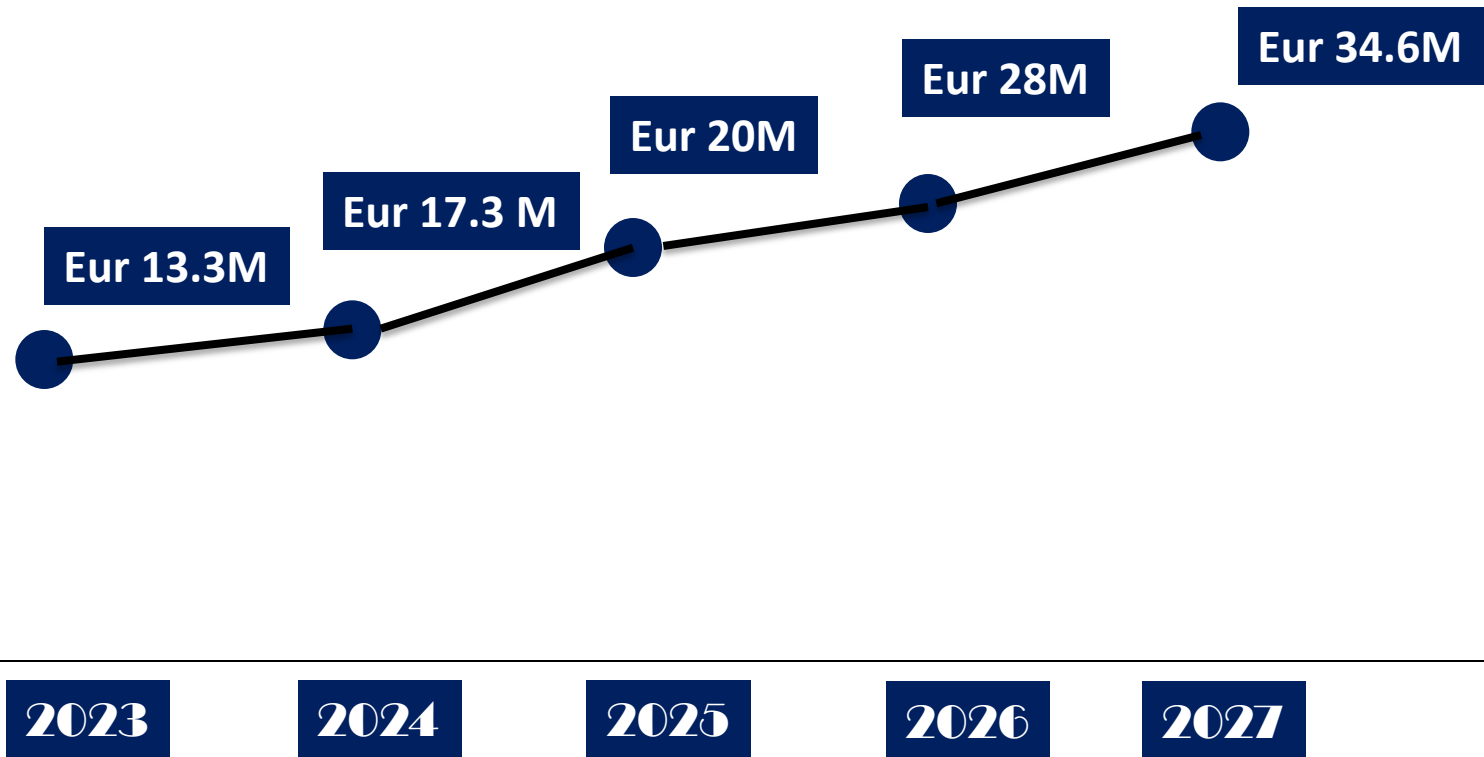
Oil sump

Dimension: 445*330*165
 Weight: 4.5 Kg
 Material: A380
 Model: 12659288
 DCM: LK 1650 T



Sales Turn-over

5 Years Plan



Reliable Suppliers

◆ Die Steel



◆ Die base suppliers



◆ Hydraulic Cylinder



◆ Components



◆ Connectors



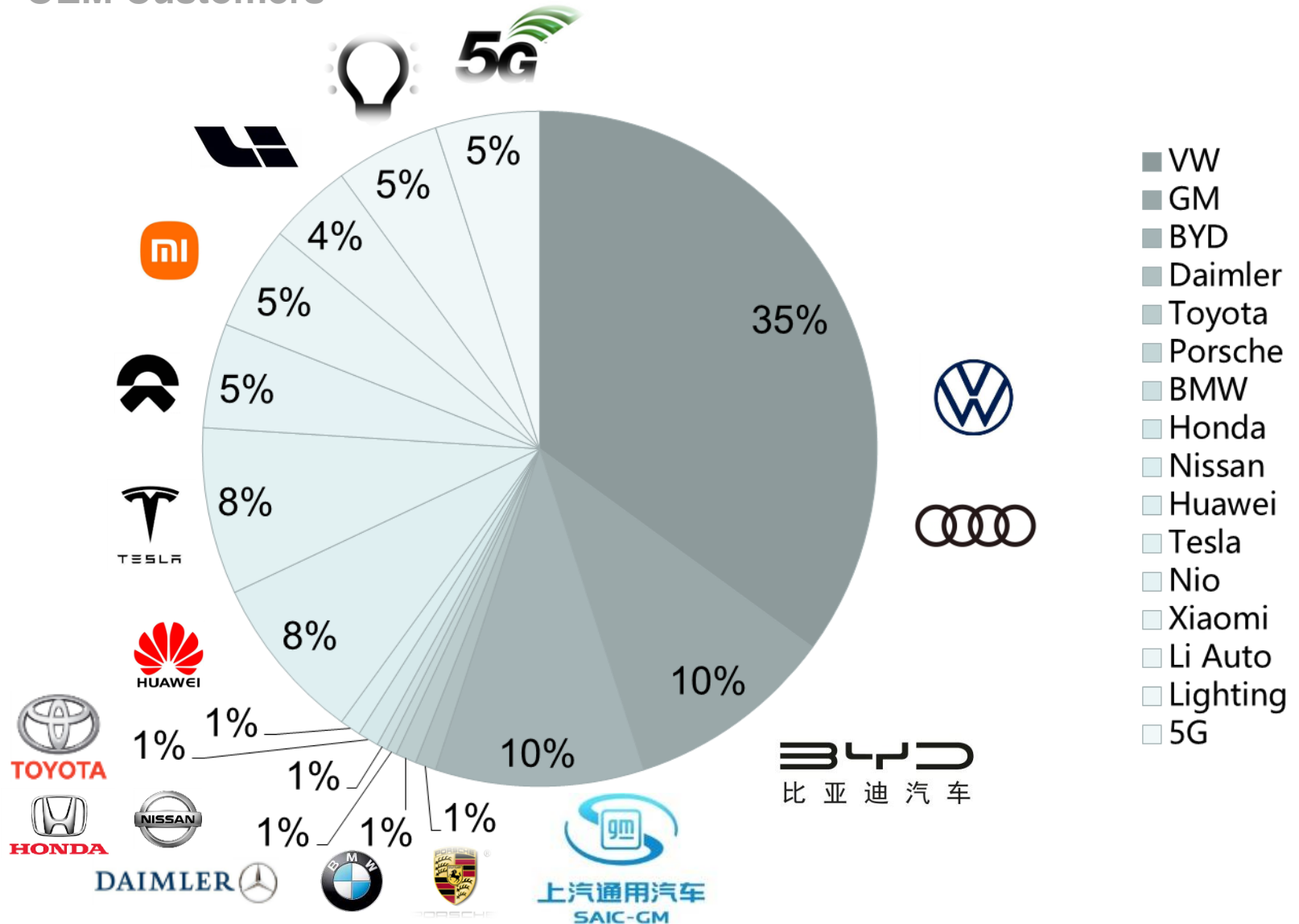
Main Customers

➤ T1 Tier Customers

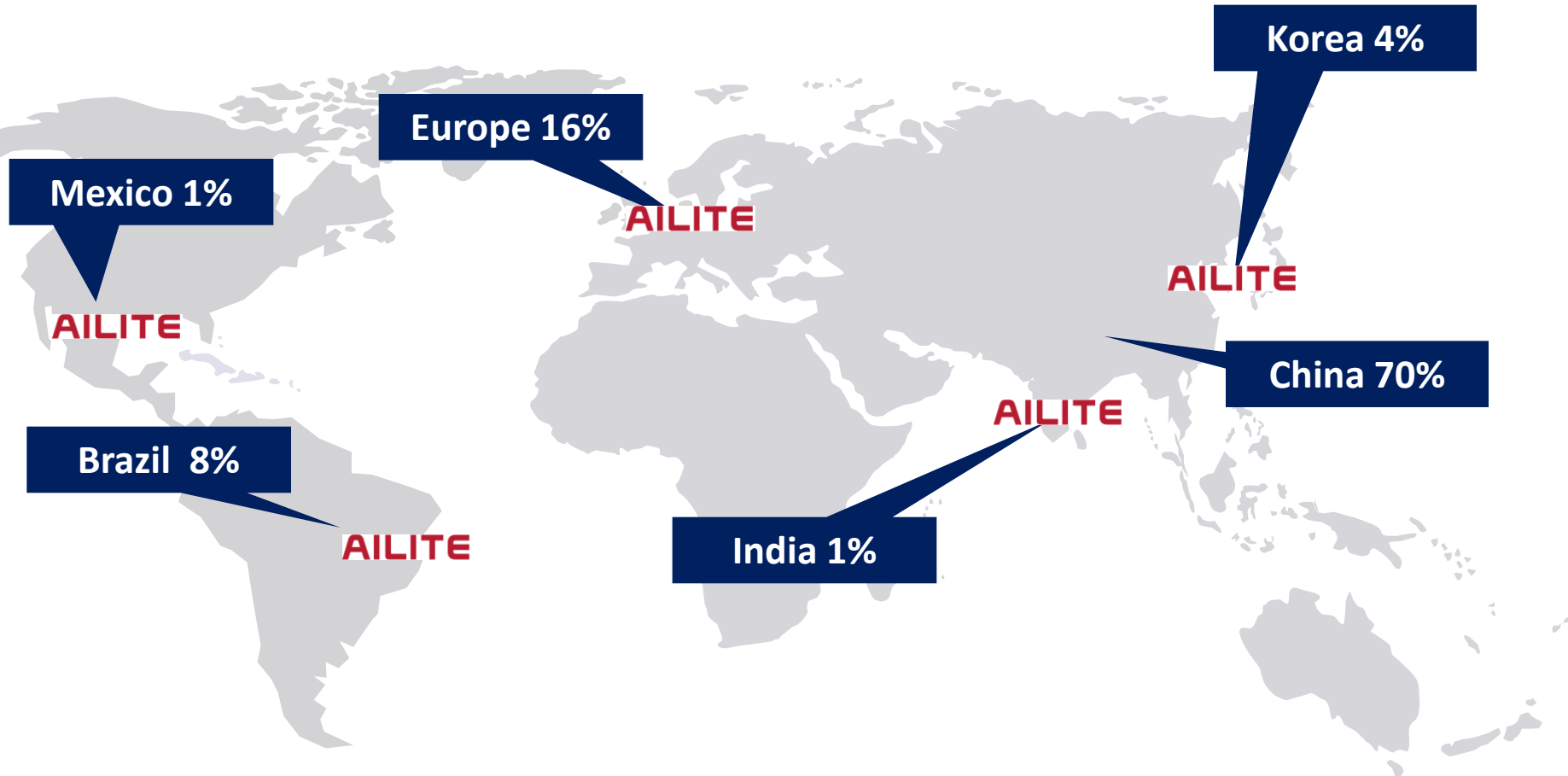


Final Customers

➤ OEM Customers



Worldwide Sales Share



- China 70%
- Oversea 30%

OUR Objective

To be a superior and respectable die-casting mold manufacturer by customers

What we do	Traditional	New energy	Light structure		
How we do	Die casting Mold	Trimming mold	Prototype mold	Hand pattern	Engage OEM & Tier 1's from process
Where we are	For now China, Europe, Korea		For future USA, Japan		
Who we will be	Global	Informationized	Finance independence	Integrated solution	Elite Team

AILITE®

Thank you

Ningbo Elite Mold Manufacture Co., Ltd.



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0086-574-86117138



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