



鼎鑫集团
DING XIN GROUP



四川绵阳市鼎鑫集团公司

Mianyang Sichuan Dingxin Group

www.mydingxin.cn

一、公司介绍

Company introduction

二、产品介绍

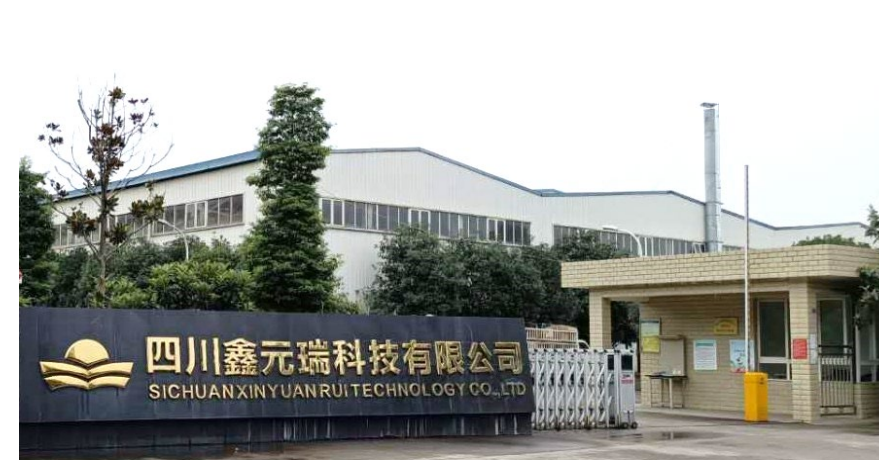
Product introduction

三、保障能力

Capacity

四、联系方式

Contact information



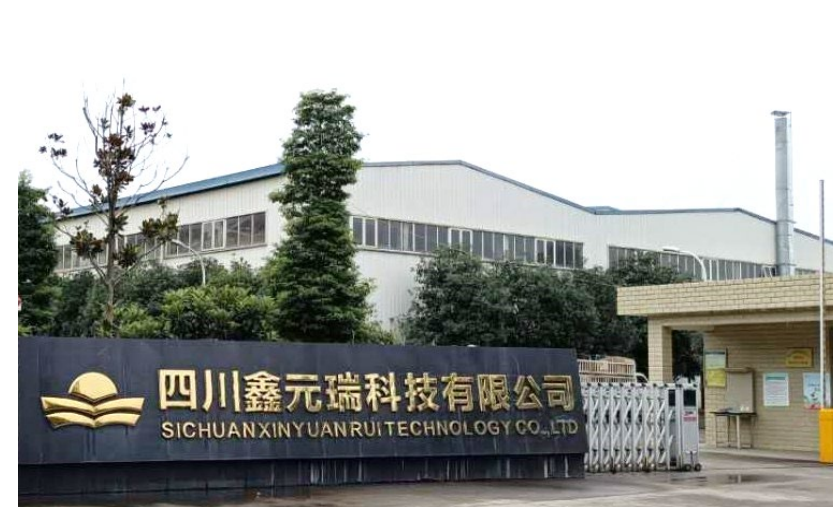
四川绵阳鼎鑫集团始创于1988年，经过30多年的发展，集团旗下拥有六家子公司及实验室，率先通过了IATF16949国际质量管理体系认证，被评为“国家高新技术企业”、“省级技术中心”称号，形成了以汽车及发动机核心零部件制造为支撑，智能制造系统集成为核心，激光/电子控制为重点的多元化产业体系。

鼎鑫集团是国内最早研发生产丰田4Y发动机零部件企业，遵循“诚信为本、质量第一、求实创新、服务客户、共赢发展”的经营管理宗旨，为客户提供增值的产品及技术服务。

Founded in 1988, Mianyang Dingxin Group owns six subsidiaries and laboratories and has passed the IATF16949 International Quality Management System certification for the first time, it has been awarded the title of “National high-tech enterprise” and “Provincial Technology Center”, which forms the core of intelligent manufacturing system integration and is supported by the manufacturing of automobile and engine core components, laser/electronic control as the focus of diversified industrial system. Dingxin group is the earliest R & D and production of Toyota 4Y engine parts enterprises, following the “Integrity-based, quality first, realistic and innovative, customer service, win-win development” business management purposes, provide value-added products and technical services to customers.



\$63.56 million	\$ 3.5million	430人
注册资金 Registered Capital	总资产 Total assets	员工 Staff



1

国家行业匠心企业
State Industry Enterprise Ingenuity

2

国家级高新技术企业
State-level high-tech enterprises

3

国家创新研发中心企业
State Innovation Research and
Development Center Enterprise

4

国家军民融合先进企业
State advanced enterprise for
military-civilian integration

5

国家军工二级保密资格企业
State military-industrial
Grade II confidential enterprise

6

国家质量先锋企业
National Quality Pioneer Enterprise

7

国家“强基工程”战略企业
National “Strong Foundation Project”
strategic enterprise

8

四川省知识产权示范企业
Intellectual Property Demonstration
Enterprise of Sichuan Province

9

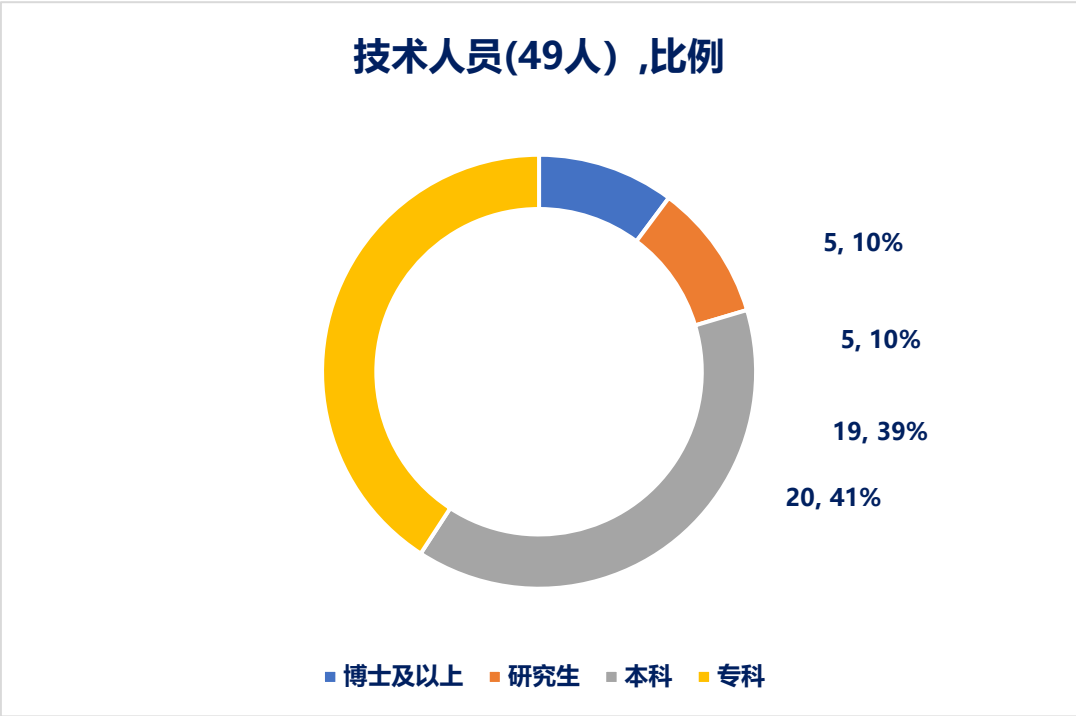
四川省企业技术中心
Sichuan Enterprise Technology Center

技术保障/Technical support

公司现有研发、技术人员49人，占总人数的12%，其中本科以上学历占到了70%。

The group now has 49 R & D and technical personnel, accounting for 12% of the total, of which 70% are bachelor degree or above.

产权类别Category	数量Quantity
发明专利 Patent for invention	13
软件著作权 Software copyright	10
实用新型 Patent for utility model	69



终端客户 Terminal customer

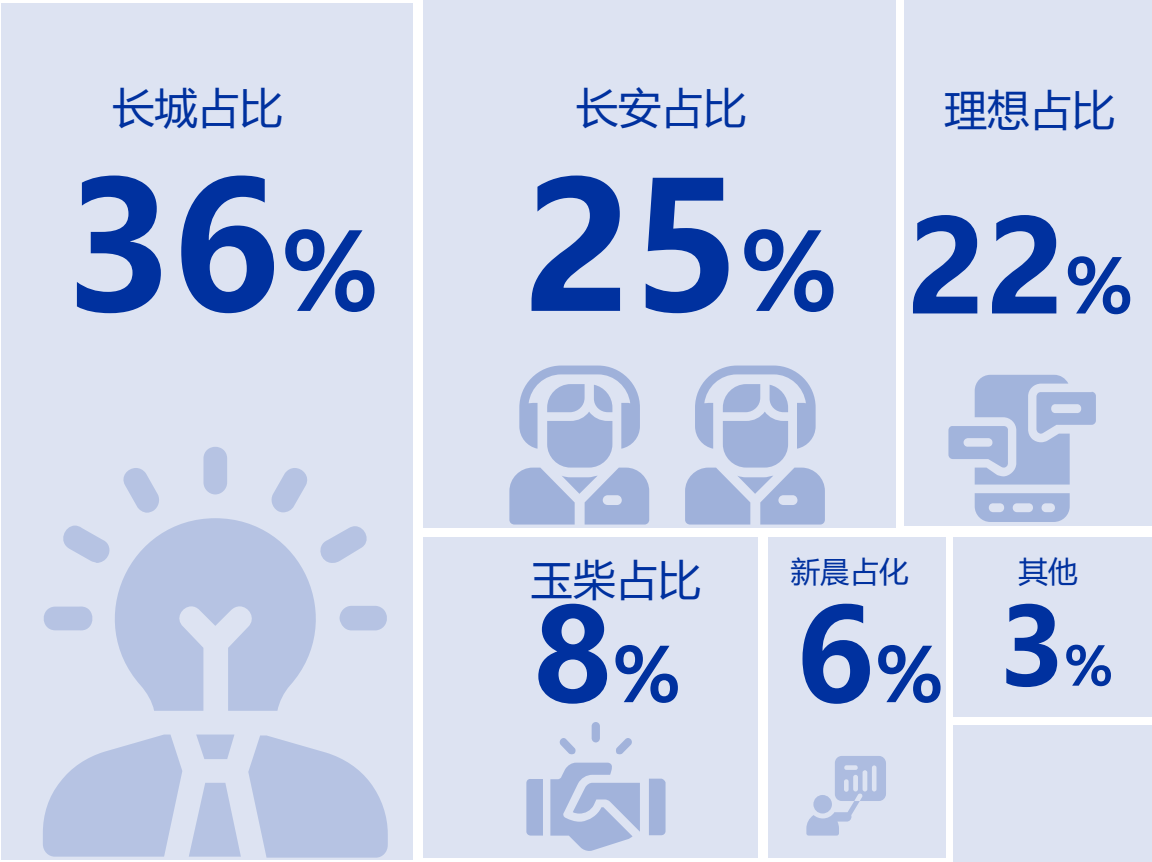


销售额为
4.53亿元

近4年
大幅度增长

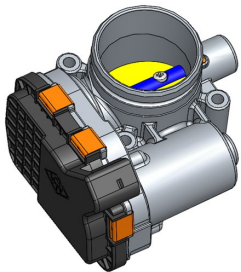
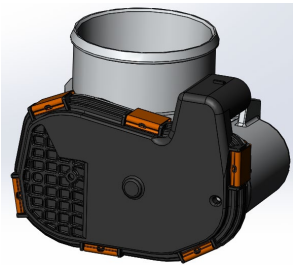
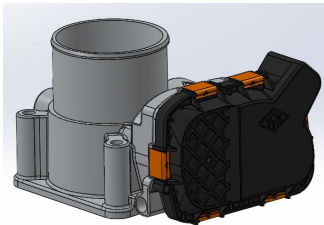


2024总销售额占比
其中长城占比最多36%



1、电子节气门控制阀总成 ETC

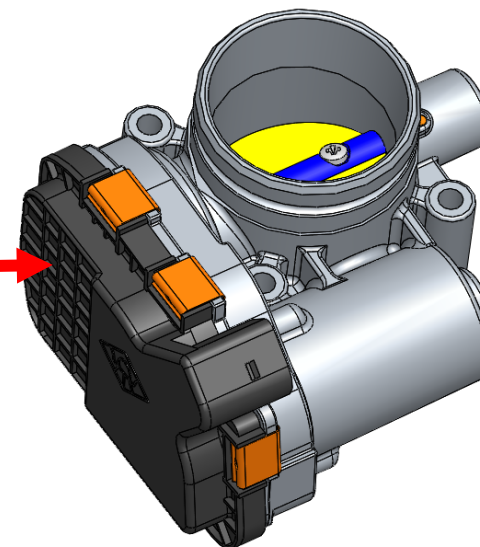
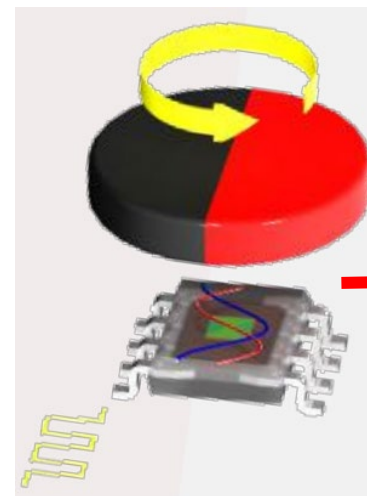
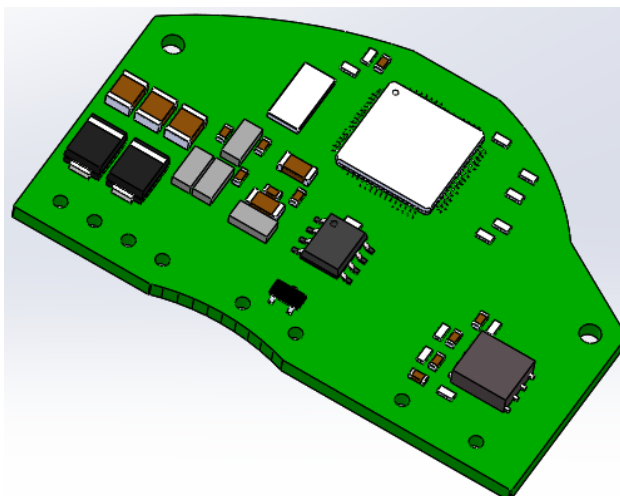
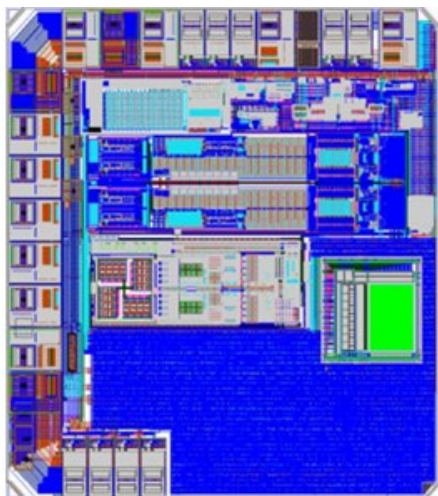
产品简介/Product description

类型 Type	 汽油机电子节气门 Gasoline ETC	 柴油机电子节气门 Diesel ETC	 气体机电子节气门 Gas ETC	 智能型电子节气门 Intelligent ETC	 摩托车电子节气门 Motorcycles ETC
响应时间 Response time	≤90ms	≤90ms	≤90ms	≤90ms	≤90ms
喉口直径 Diameter	Φ32~Φ68mm	Φ46~Φ92mm	Φ44~Φ80mm	Φ32~Φ92mm	Φ22~Φ46mm
最小泄漏量 Minimum leakage	0.7g/s @ 60kPa	1.0g/s @ 60kPa	1.0g/s @ 60kPa	0.7g/s @ 60kPa	0.4g/s @ 60kPa
耐久性 Durability	10 million times	10 million times	10 million times	10 million times	10 million times

技术方案/Technical Solutions

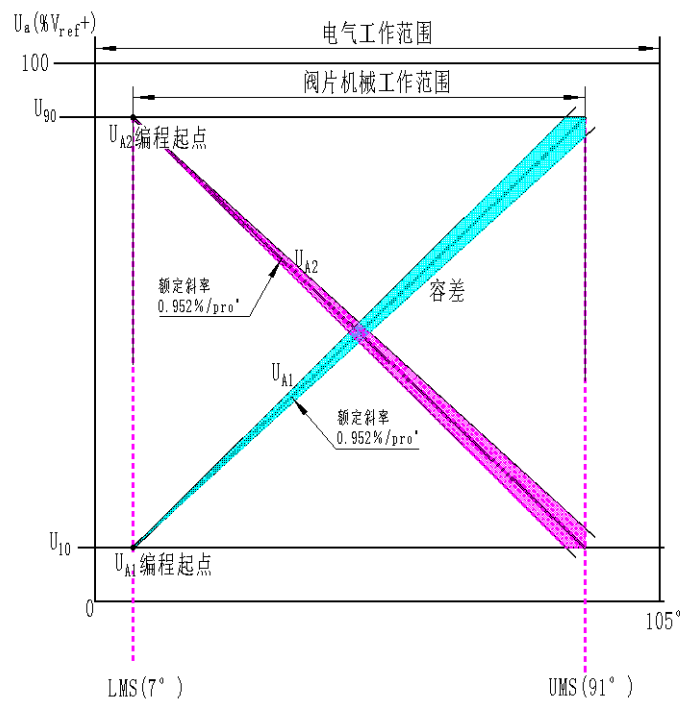
公司与国际领先的汽车电子产品供应商建立了良好的合作，采用AMR异性磁阻技术作用于非接触式感应传感器作为电子节气门体信号采集机构，彻底解决了以往接触式传感器长期运行磨损后带来的信号滞后以及传输失真等弊端。

The company has established a good cooperation with the international leading automotive electronic products suppliers, using the AMR technology to act on the non-contact induction sensor as the electronic throttle body signal acquisition body, the defects of signal lag and transmission distortion caused by long-term running and wearing of the contact sensor are completely solved.

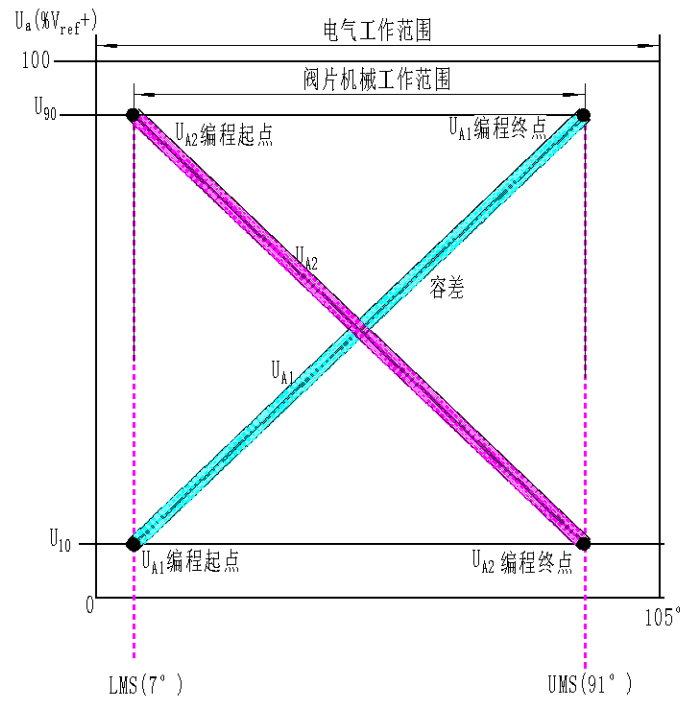


编程方式/Programming style

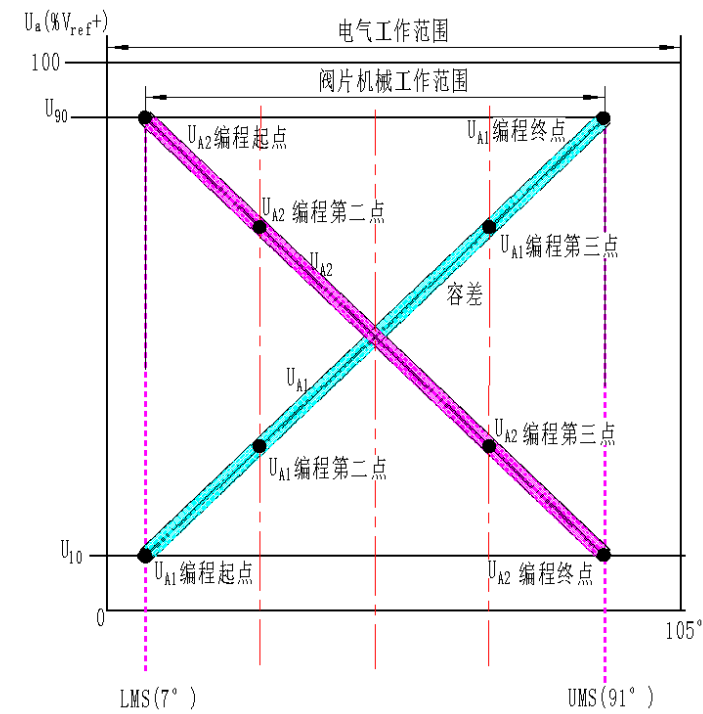
一点+斜率编程 One-point slope programming



两点编程 Two-point programming

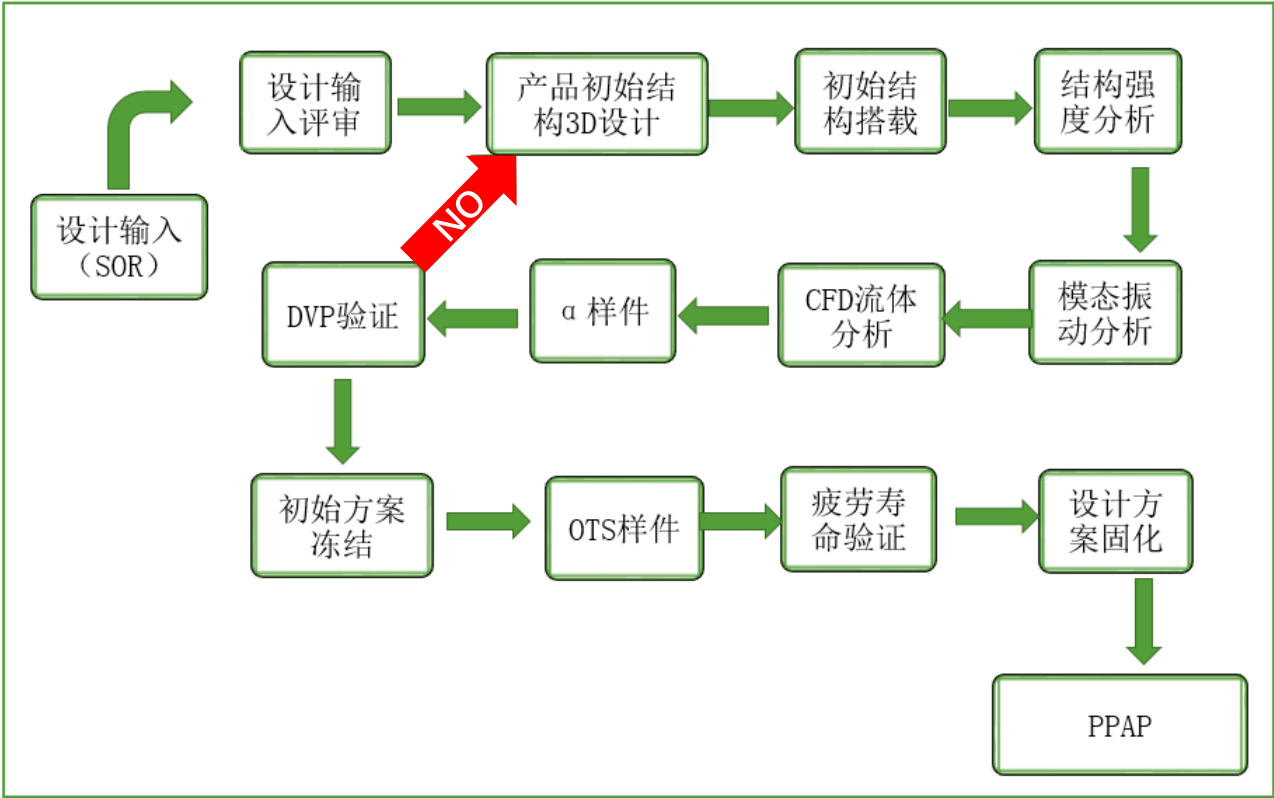


四点编程 Four-point programming

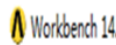
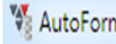
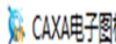


研发流程及工具/R & D process and tools

研发流程
R&D process



研发工具
R&D tools

名称	图标	用途
UG8.0	 NX 8.0	产品设计、模具设计 Product design, mold design
GT7.4	 GTise v7.4.0	背压分析、传递损失分析 Analysis of back pressure and transmission loss
STAR-CCM+	 STAR-CCM+ 9.06.009-R8 用于 Windows 64	背压分析、流场分析 Back pressure analysis and flow field analysis
Workbench14.0	 Workbench 14.0	流场分析、热变形分析 Flow field analysis, thermal deformation analysis
Hypermesh10.0	 HyperMesh	强度分析 Strength Analysis
Autoform4.5	 AutoForm	模具分析 Mold Analysis
CAXA2013	 CAXA电子图板	二维设计 2D design

产品CAE分析与仿真
Product CAE analysis and simulation

产品试验
Product testing

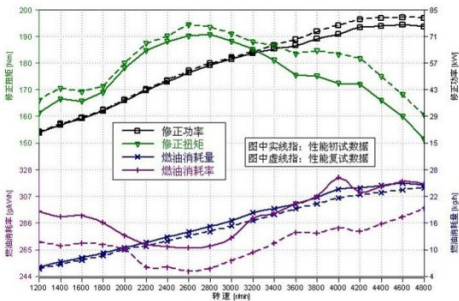
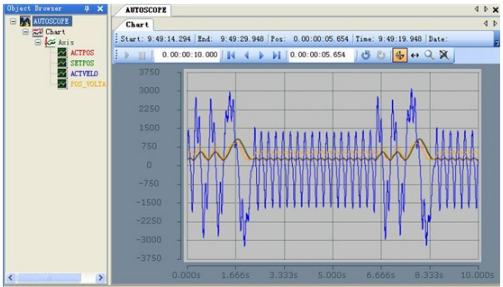
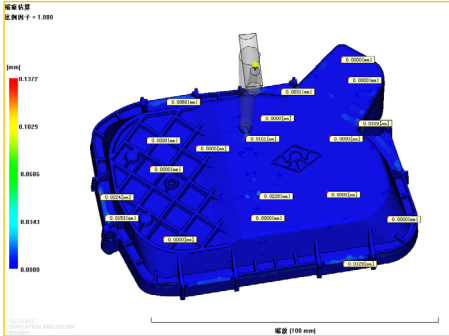
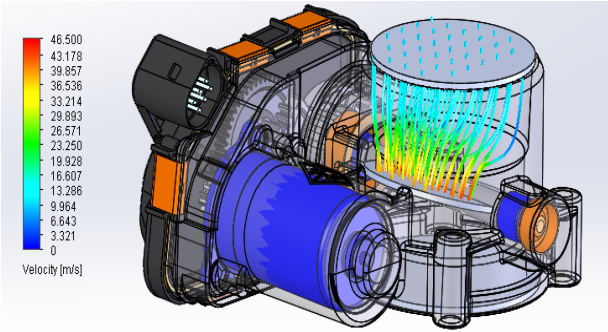
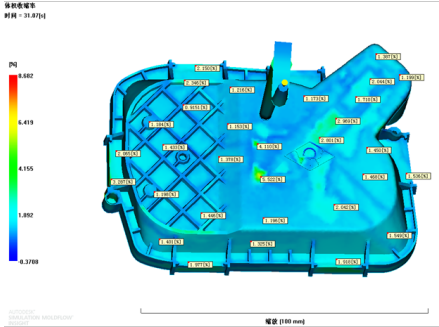
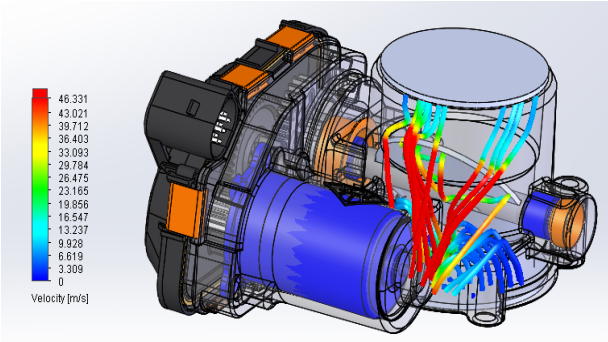


图 F1-总功率特性曲线对比



检测报告					
报告编号: F 2013030401					
共 44 页 第 11 页					
序号	图号	名称	供应商	检测结论	专项验证原因
1.	V19-1006030	紧链器组件	绵阳鼎鑫工模具有限公司	继续验证	非专项验证件
2.		链条限位器组件	绵阳鼎鑫工模具有限公司	继续验证	非专项验证件
3.		连杆瓦	(整机已恢复,待查供应商名称)	合格	非专项验证件
4.		正时链条	湖州双狮链传动有限公司	合格供方,设计变更,由非光亮链条改为光亮链条	1)
5.		进排气歧管垫组件	益阳西流气缸垫有限公司	合格供方,因出口市场需要,使用无石棉材料	3)
6.		(铸铁)排气门导管	成都天回气门导管有限公司	合格供方,材料变更	4)
7.		节气门体总成	绵阳鼎鑫工模具有限责任公司	合格	V22 原供方,商务技术协议均齐全,国产化验证

题目: P11 MC 节气门阀体总成搭载耐久

试验担当: [Redacted]

1.目的

验证四川田奥节气门阀体总成耐久性能

2.试验来源

2.1试验计划书编号: SVJH-2017-364;

2.2试验时间: 2017年12月03日至2018年01月25日。

3.试验对象

3.1试验车辆

序号	车型	VIN	ENG	T/M
5#	Y56S	LJMTGUC33H0310013	ZD25 006382	4WD 6MT

3.2试验部件

3.2.1零件名称: 节气门阀体总成

3.2.2生产厂家:

3.2.3零件变更情况: 节气门阀体总成原为大陆电子提供,现验证部件为四川田奥提供,此耐久仅为节气门阀体总成耐久性验证,非整车耐久验证。

4.试验方法

15000km道路耐久试验,包括12000km试验场内道路和3000km保康山区公路。

5.试验数据

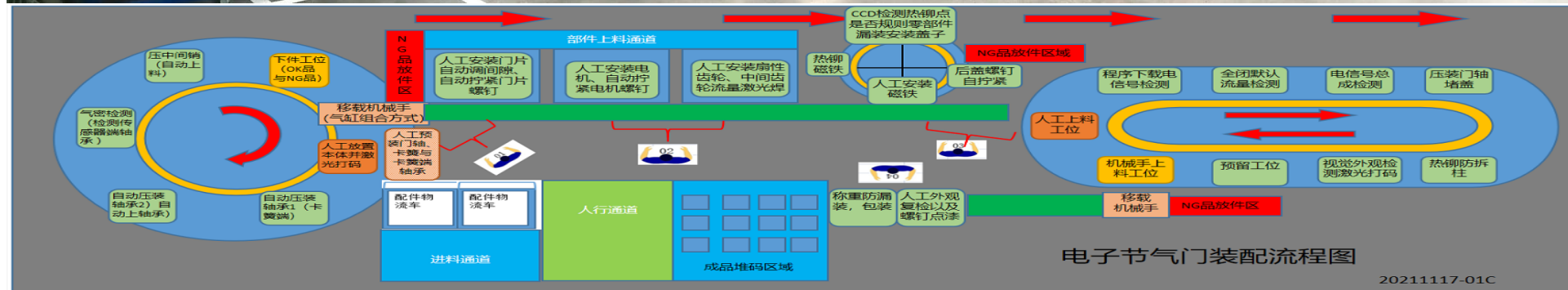
车辆	试验里程(km)	行驶时间(h)	平均车速(km/h)
5#	15000	412.7	36.4

6.试验结论

6.1经过15000km道路耐久试验,节气门阀体总成原为大陆电子提供,现验证部件为四川田奥提供,此耐久仅为节气门阀体总成耐久性验证,非整车耐久验证。

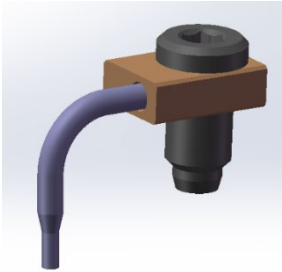
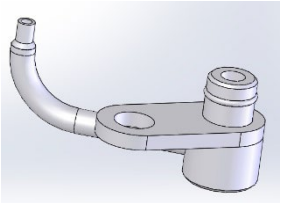
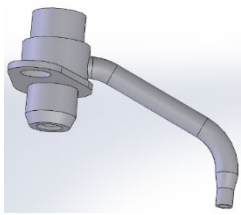
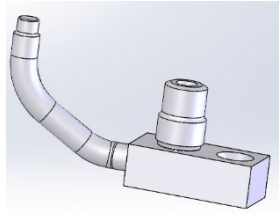
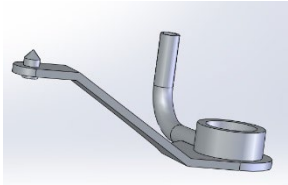
电子节气门控制阀总成/ETC

全自动生产线/ Fully automatic production line
产能: 80万套/年 Capacity: 800 thousand/year



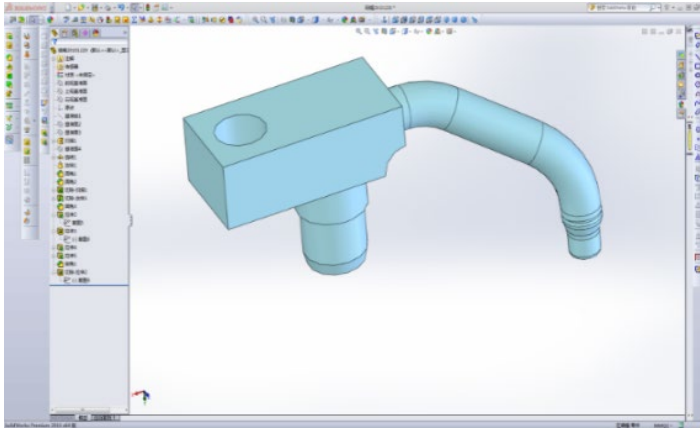
2、活塞冷却喷油器总成 PCJ

产品简介/Product description

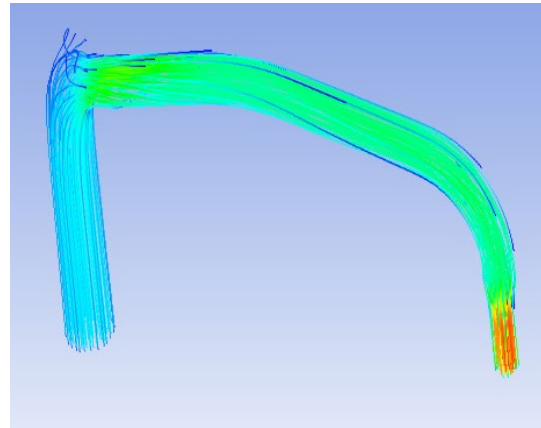
类型/Type	 汽油机活塞冷却喷油器 Gasoline PCJ	 汽油机活塞冷却喷油器 Gasoline PCJ	 汽油机活塞冷却喷油器 Gasoline PCJ	 柴油机活塞冷却喷油器 Diesel PCJ	 柴油机活塞冷却喷油器 Diesel PCJ
发动机排量Engine displacement	1.5T	2.0L	2.6L	2.2L	2.5
开启压力 Turn on the pressure	2.5±0.3bar	2±0.2bar	2±0.2bar	1.4±0.2bar	1.4±0.2bar
喷油量 Fuel injection volume	1.9L/min @ 0.4Mpa	1.8L/min @ 0.3Mpa	2.1L/min @ 0.3Mpa	2.2L/min @ 0.3Mpa	2.6L/min @ 0.3Mpa
耐久性 Durability	10 million times	10 million times	10 million times	10 million times	10 million times

产品CAE分析/Product CAE analysis

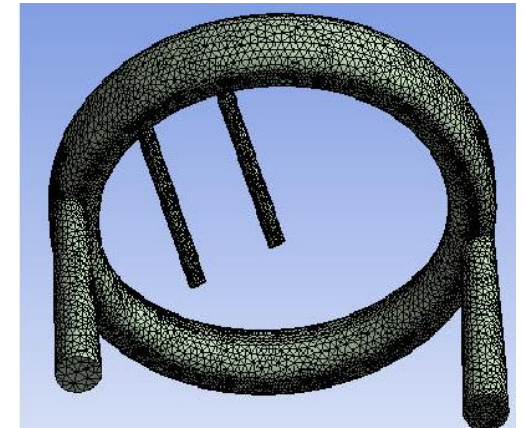
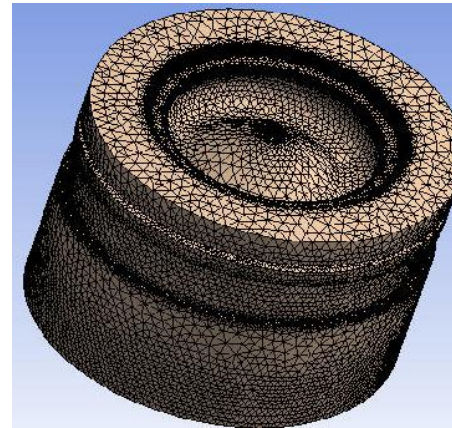
产品结构设计
Product structure design



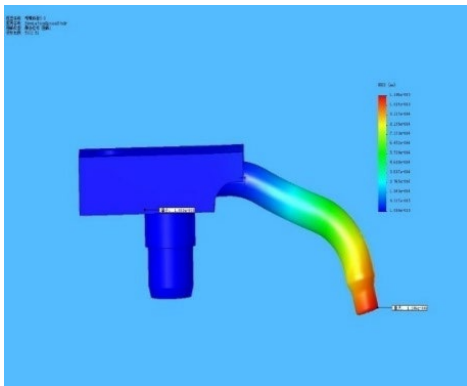
CFD流场分析
CFD flow field analysis



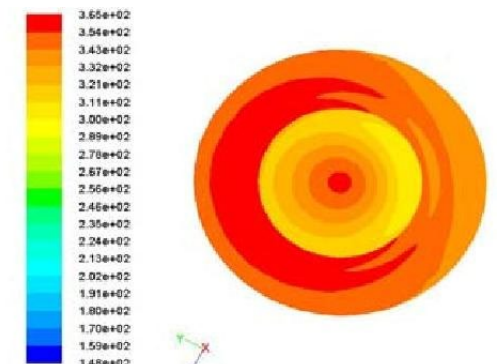
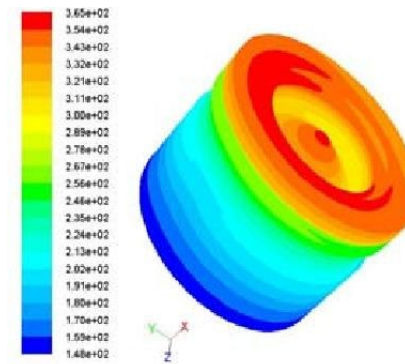
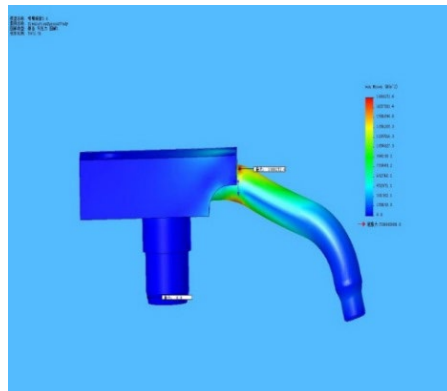
活塞头部温度场分析
Piston head temperature cloud



喷嘴模态分析
Modal analysis of nozzle

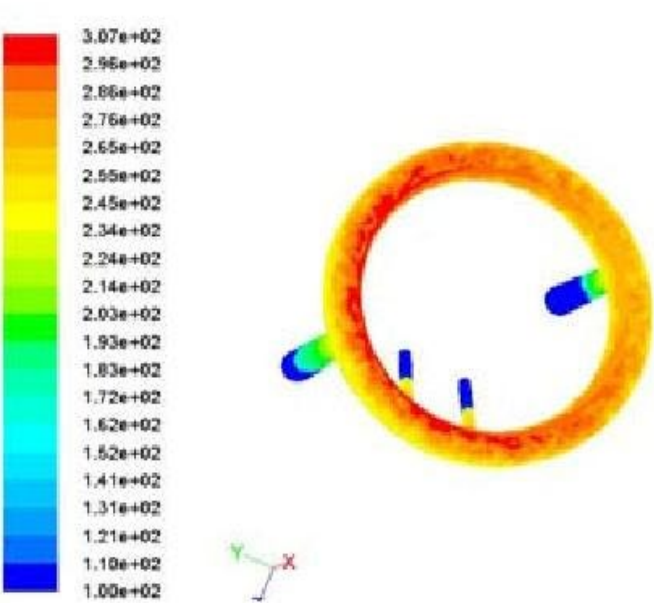


结构强度分析
Structural strength analysis

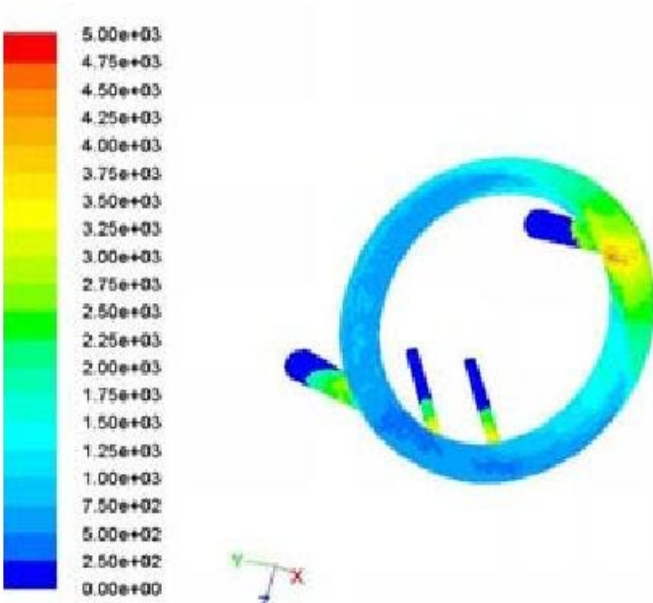


冷却流场模拟分析/Simulation and analysis of cooling flow field

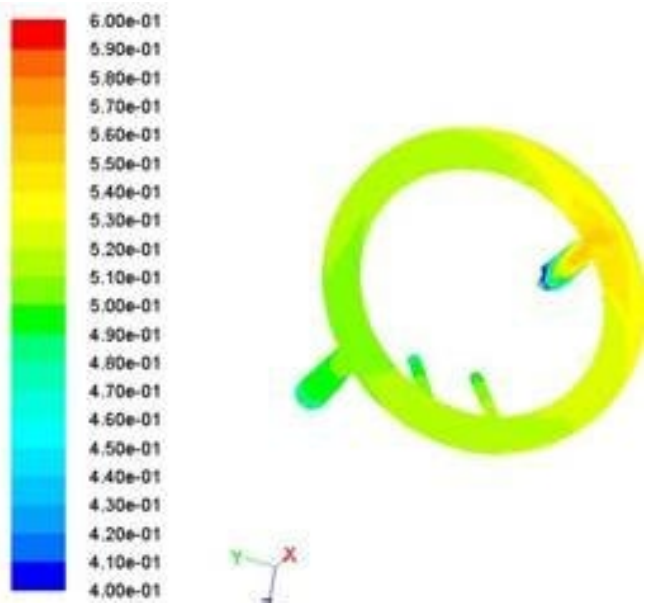
利用FLUENT 软件计算出油道温度云图、壁面换热云图和冷却油分布云图（喷油速度33m/s） /Fluent software is used to calculate the oil duct temperature cloud, wall heat transfer cloud and cooling oil distribution cloud (injection speed 33M/s)



油道温度云图
Oil duct temperature cloud
(单位: °C)



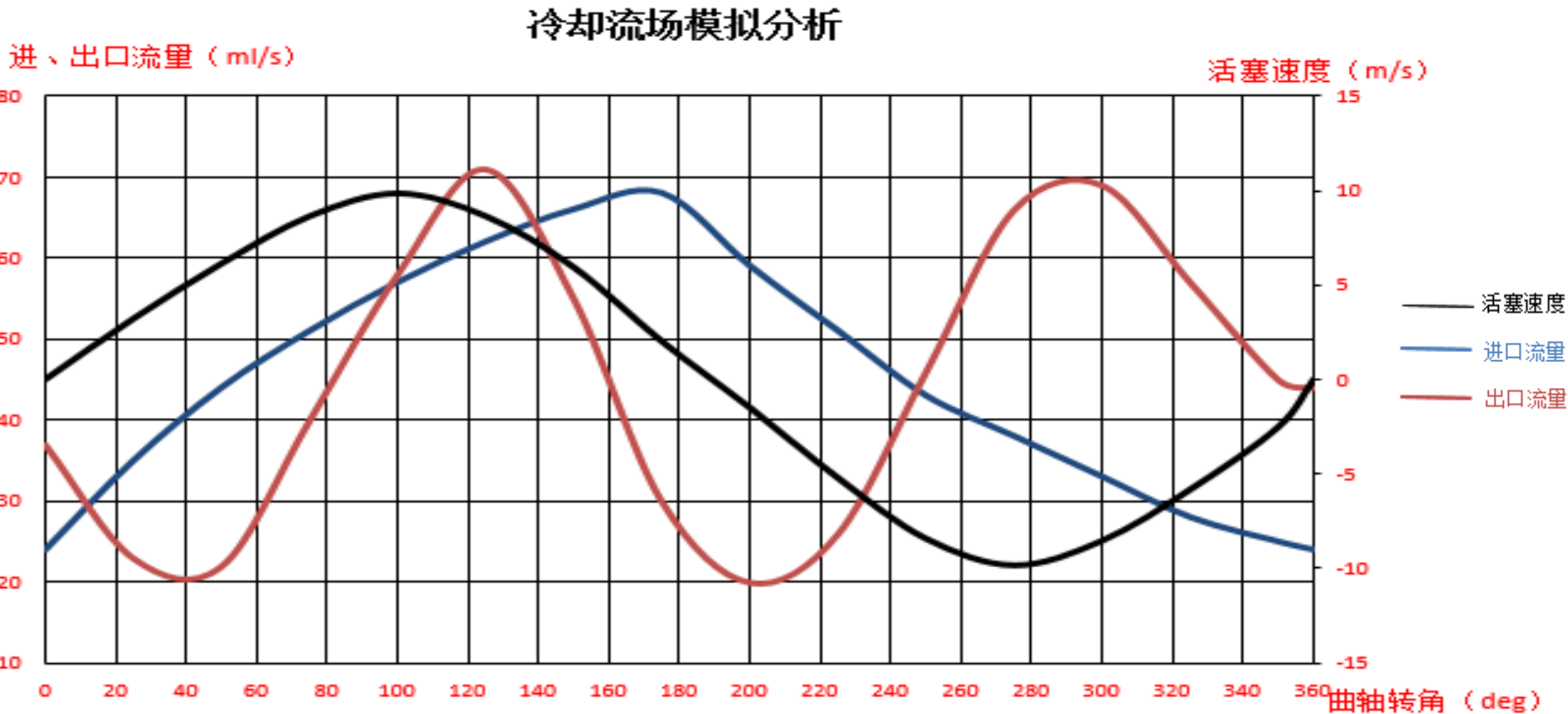
壁面换热云图
Wall heat transfer cloud
(单位: W/m²·°C)



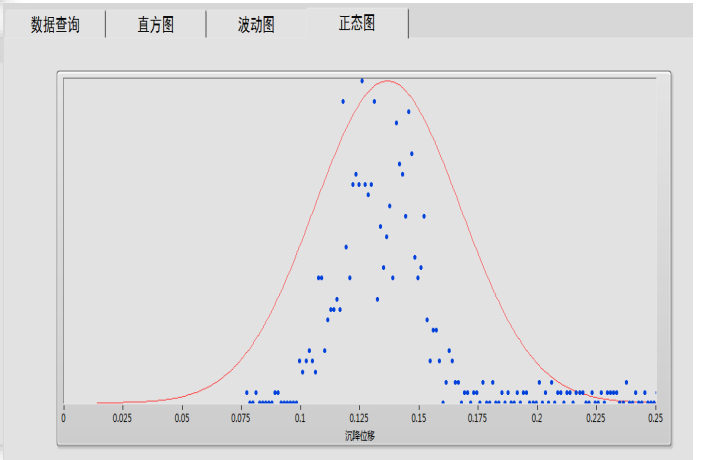
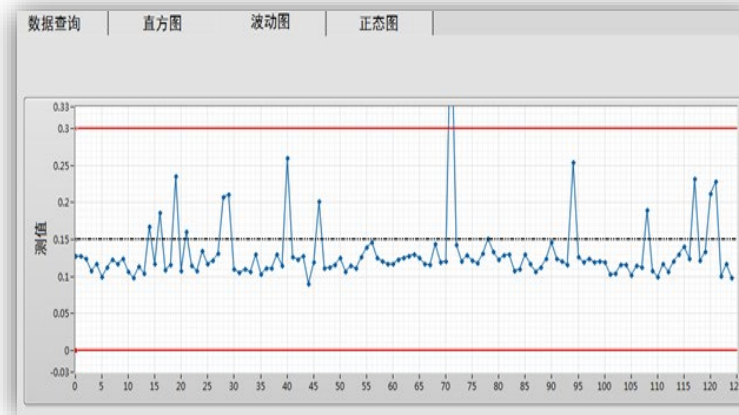
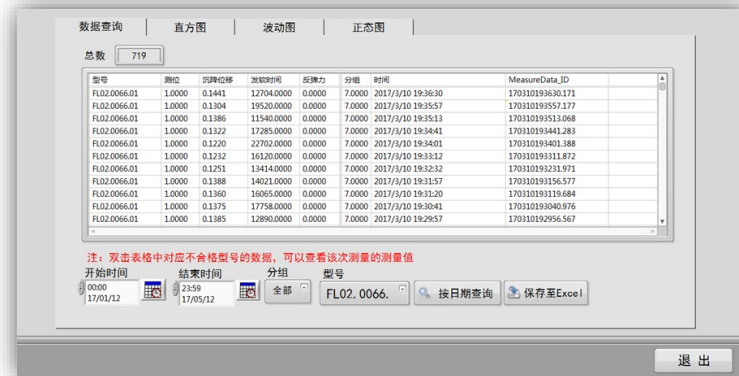
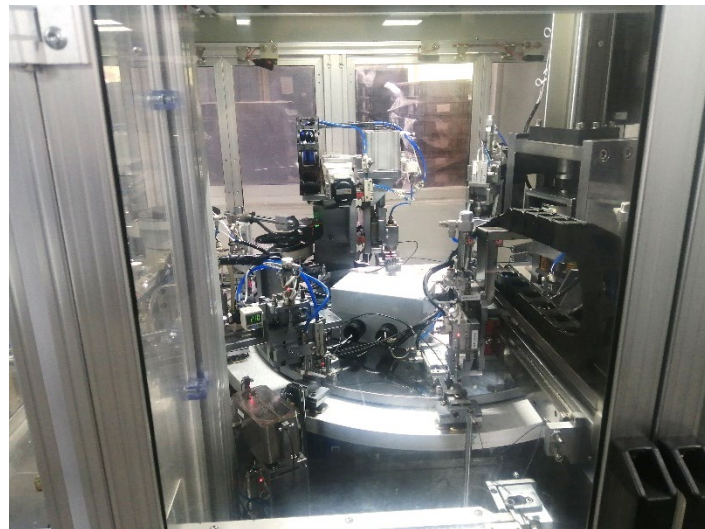
冷却油的分布云图
The distribution of
cooling oil cloud map
(单位: 1)

冷却流场模拟分析/Simulation and analysis of cooling flow field

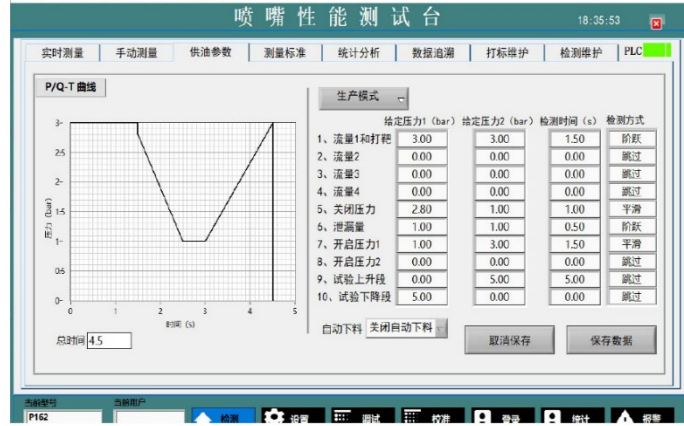
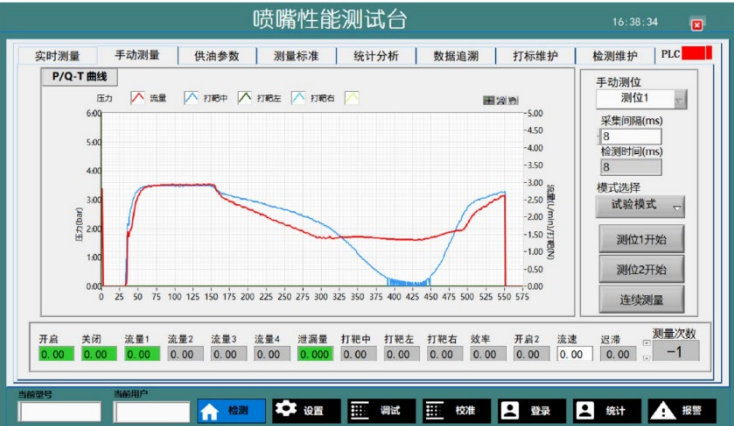
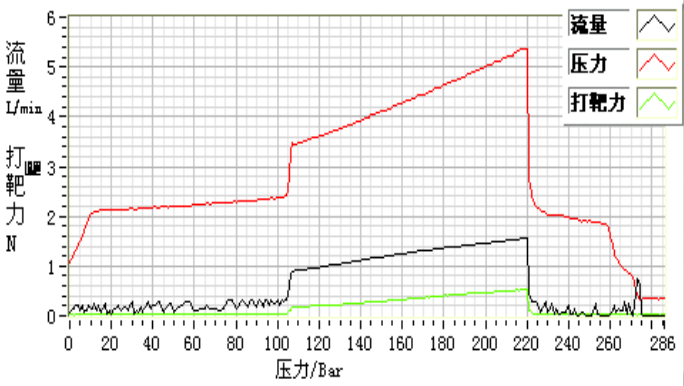
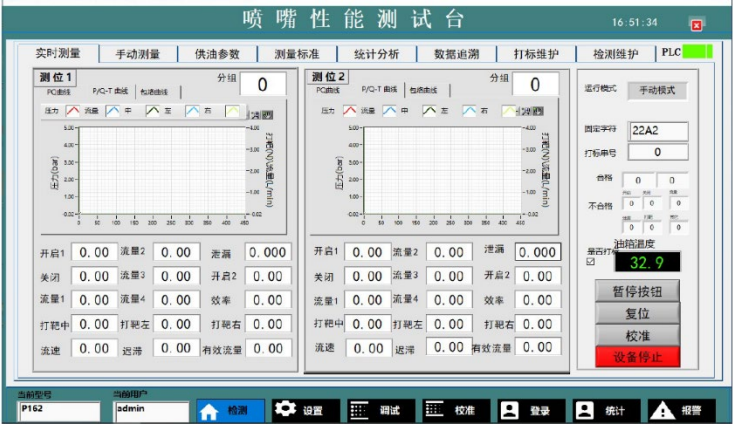
分析活塞从压缩上止点（活塞速度为0）开始的运动过程与冷却喷嘴流量关系 /The relationship between the piston motion from the compression top dead center (the piston velocity is 0) and the flow rate of the cooling nozzle is analyzed



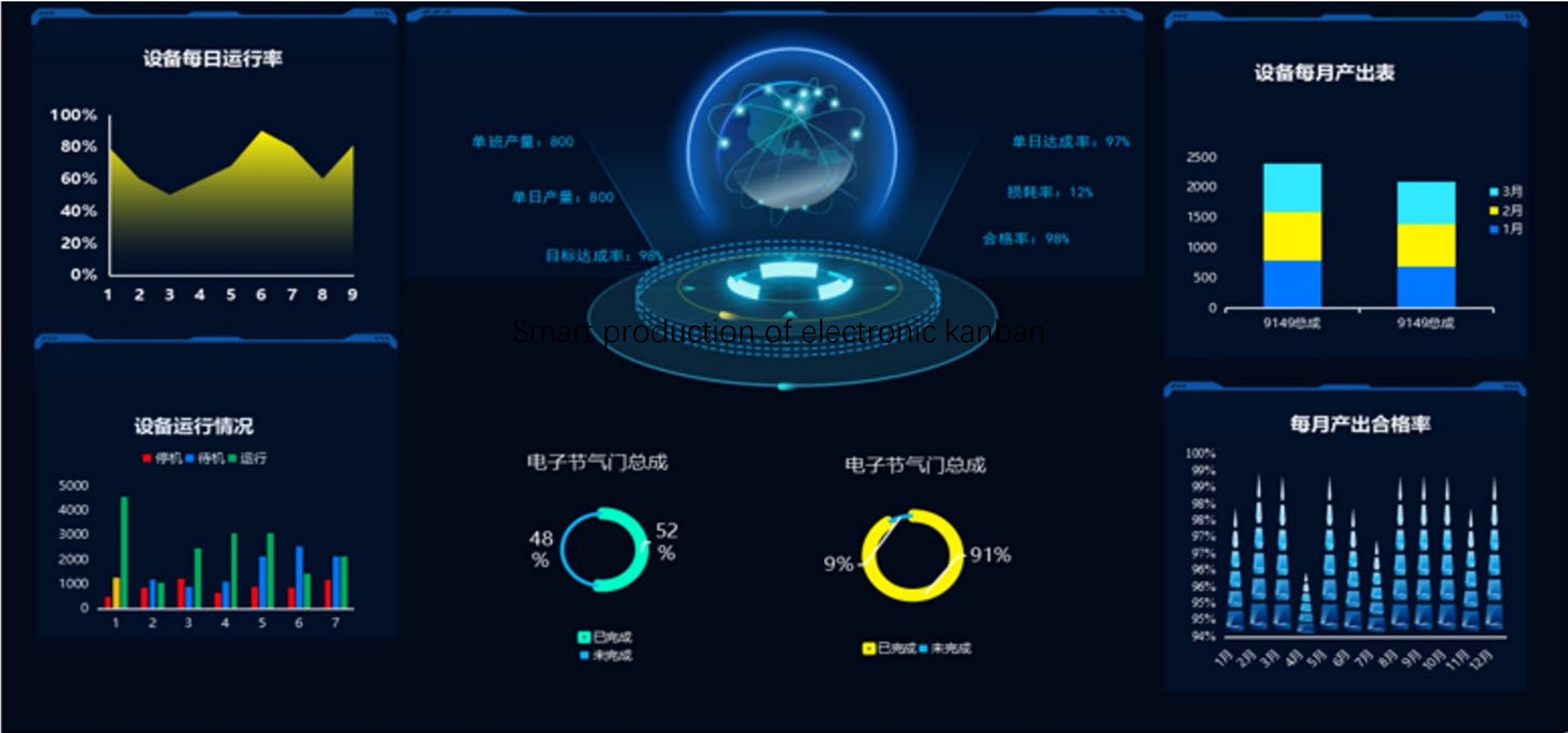
全自动装配和追溯/Fully automatic assembly and traceability



检测/Automatic performance testing



智慧生产电子看板/Smart production of electronic kanban



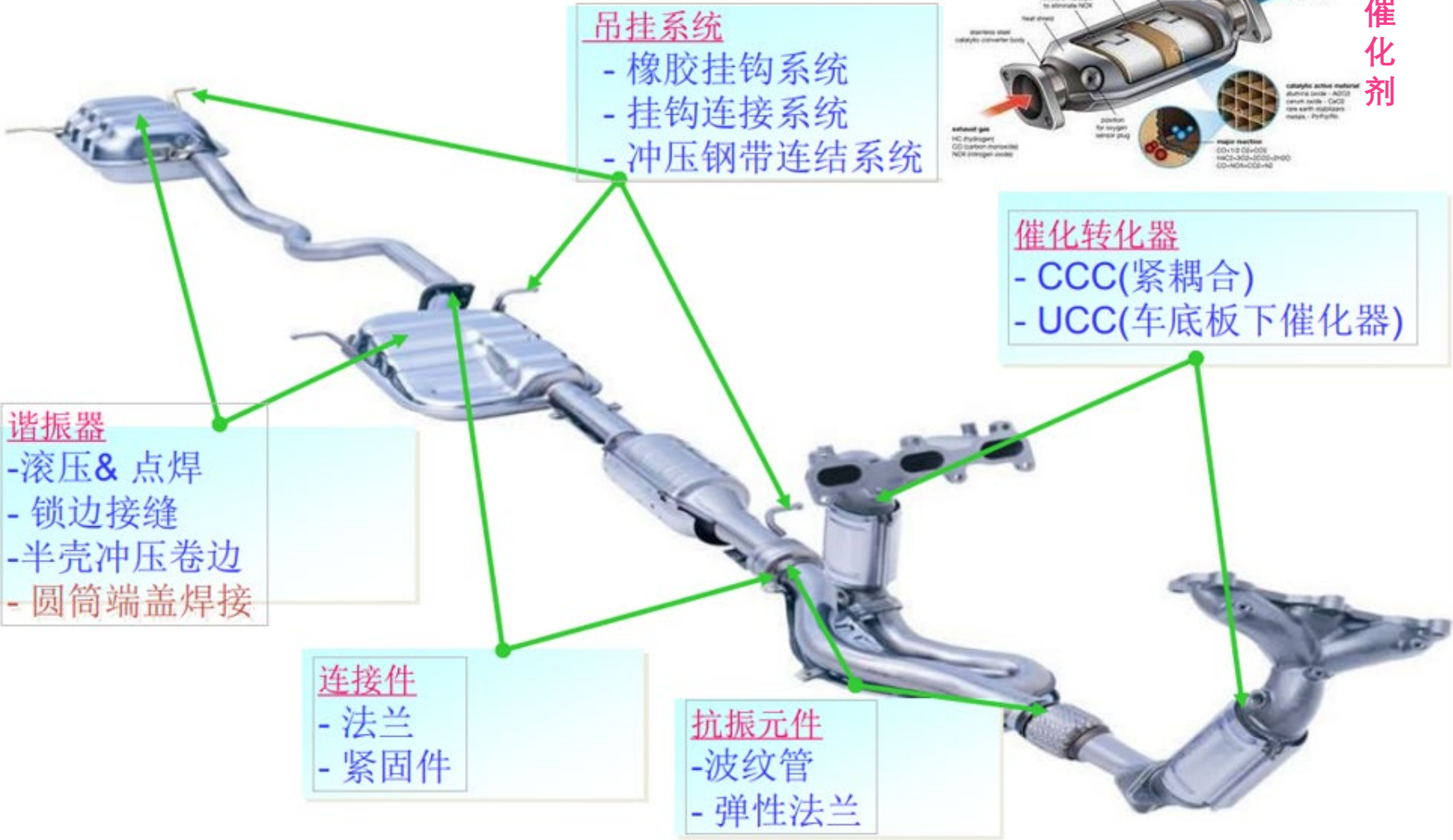
3、排气系统

Exhaust system

催化剂模块
Catalyst module

催化器模块
Catalyst module

消声器模块
Catalyst module



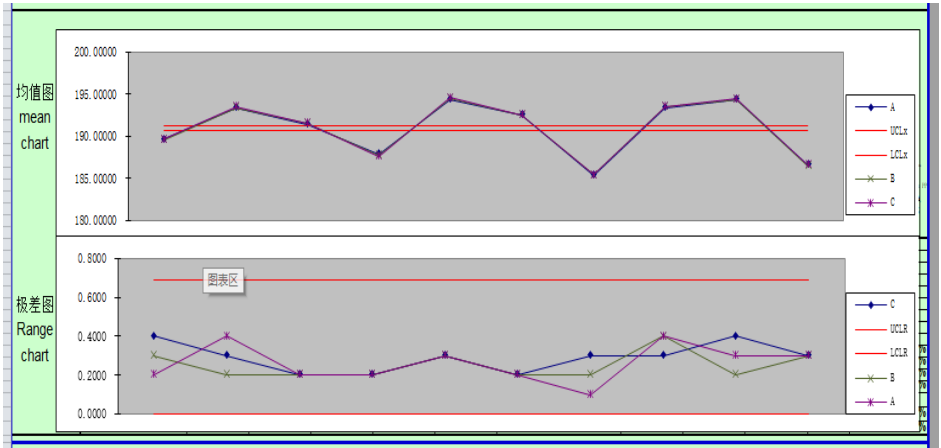
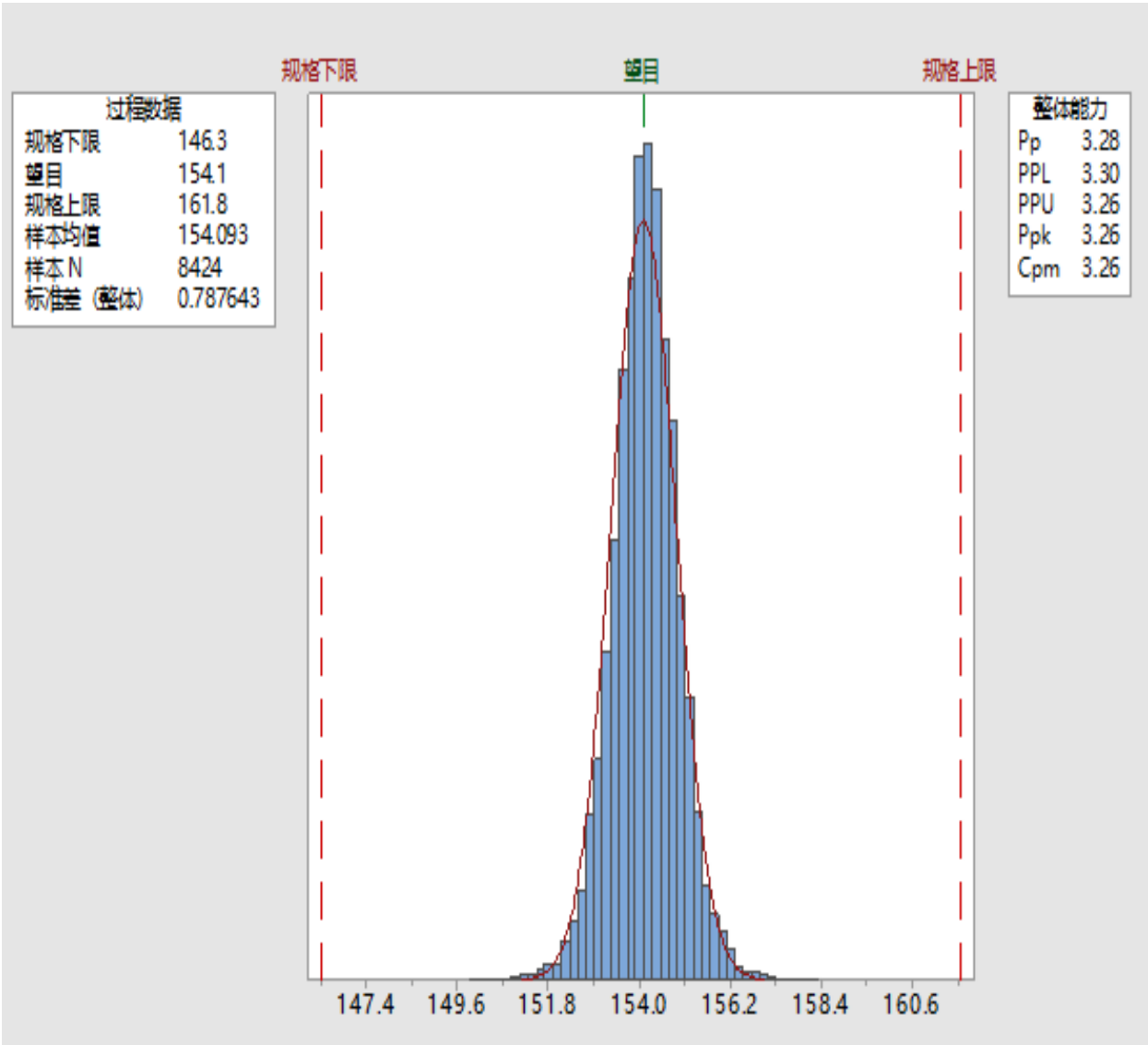
国六技术路线/CN VI Technology Route

汽车类型 Car type	排放标准 Emission standard	净化措施 Purification measures	主要技术路线及所用蜂窝陶瓷载体 Main technical routes and honeycomb ceramic carriers used
柴油车 Diesel vehicle	国一至国三 CN I-CN III	发动机内净化技术 Engine internal purification technology	降低燃烧室的面容比、改进点火系统、采用燃油喷射技术、引入废气再循环、改善燃料供给等 Reduce the face to volume ratio of the combustion chamber, improve the ignition system, adopt fuel injection technology, introduce exhaust gas recirculation, improve fuel supply, etc
	国四至国五 CN IV-CN V	通过加装尾气后处理系统的机外净化技术 External purification technology through the installation of tail gas post-treatment system	SCR
	国六 CN VI		DOC DPF SCR ASC
汽油车 Gasoline vehicle	国一至国五 CN I-CN V	通过加装尾气后处理系统的机外净化技术 External purification technology through the installation of tail gas post-treatment system	TWC
	国六 CN VI		TWC GPF
气体燃料车 Gas fuel vehicle	国六 CN VI	通过加装尾气后处理系统的机外净化技术 External purification technology through the installation of tail gas post-treatment system	CNG

技术水平/ Technical level

	我司水平 Our company's leve	国际先进水平 International advanced level	国内先进水平 Domestic advanced level
涂覆效率 Coating efficiency	5~6 s/time	5~6 s/time	8~9 s/time
涂覆精度控制 Coating accuracy control	± 2~3%	± 2~3%	± 3~5%
贵金属精度控制 Precious Metal Precision Control	± 2~3%	± 2~3%	± 3~5%
TWC产品合格率 TWC product qualification rate	> 99.5%	> 99%	> 97%
TWC产品不合格率控制 Control of TWC product failure rate	< 500ppm	< 1000ppm	< 3000ppm
生产一致性 conformity of production	> 1.67	> 1.67	> 1.33

过程控制/Process control



重复性和再现性Repeatability and Reproducibility(R&R)

$$R \& R = \sqrt{EV^2 + AV^2}$$

$$= 0.157709$$

零件数量
Part QTY

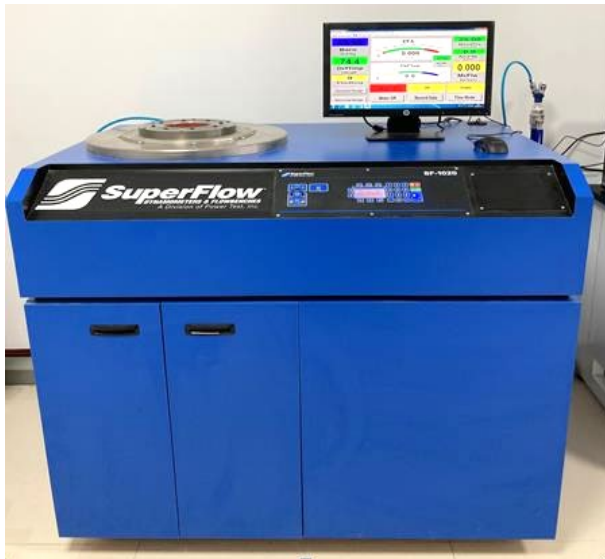
3	0.5231
4	0.4467
5	0.4043

$$\%R \& R = 100 \times (R \& R / TV)$$

$$= 5.51\%$$

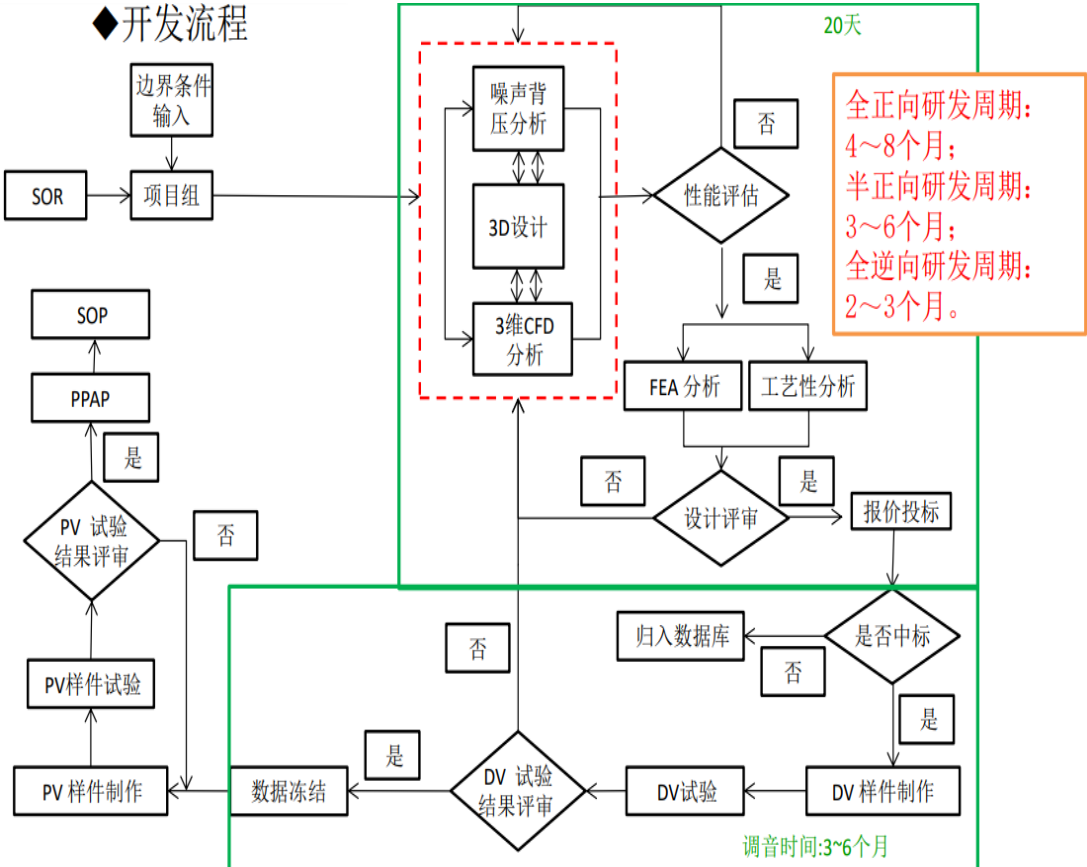
判定标准Decide Criterion	判定Decide
1) 0%<%R&R<10%: 量测系统状况良好Excellent; 10%≤%R&R≤30%: 量测系统状况可以接收, 但需改进Accepted but need improvement; 30%<%R&R<100%: 量测系统必须改进Rejected and must be improved。	良好Excellent
2) 数据分级数NDC经四舍五入取整后, 必须大于或等于5 The NDC is truncated to the integer and ought to be greater than or equal to 5。	

研发设备/R&D equipment



研发流程及工具/R&D process and tools

研发流程/R&D process

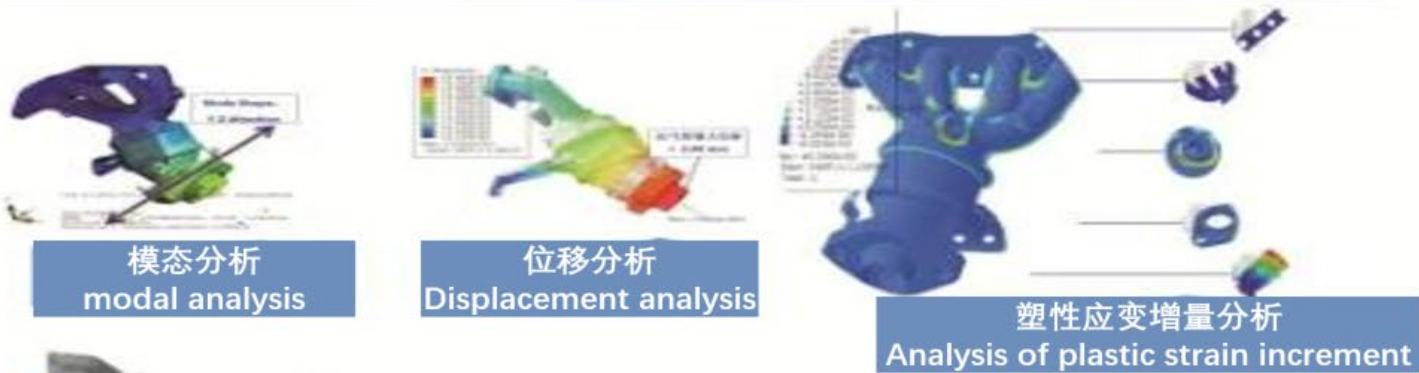


研发工具/ R&D tools

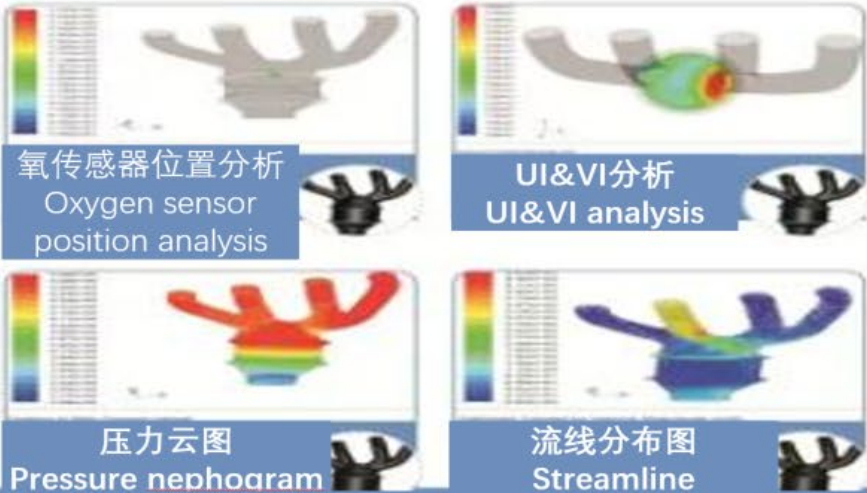
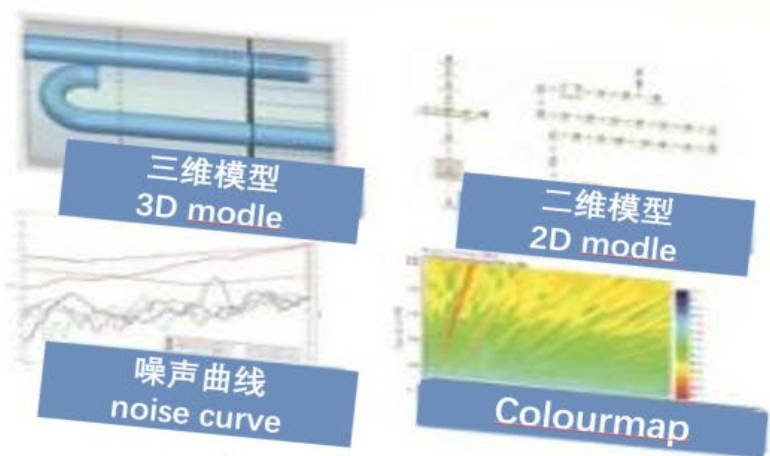
名称 Name	图标 Icon	用途 Use to
UG8.0	 NX 8.0	产品设计、模具设计 Product design, mold design
GT7.4	 GTise v7.4.0	背压分析、传递损失分析 Analysis of back pressure and transmission loss
STAR-CCM+	 STAR-CCM+ 9.06.009-R8 用于 Windows 64	背压分析、流场分析 Back pressure analysis and flow field analysis
Workbench14.0	 Workbench 14.0	流场分析、热变形分析 Flow field analysis, thermal deformation analysis
Hypermesh10.0	 HyperMesh	强度分析 Strength Analysis
Autoform4.5	 AutoForm	模具分析 Mold Analysis
CAXA2013	 CAXA电子图板	二维设计 2D design

仿真分析能力/Simulation analysis capability

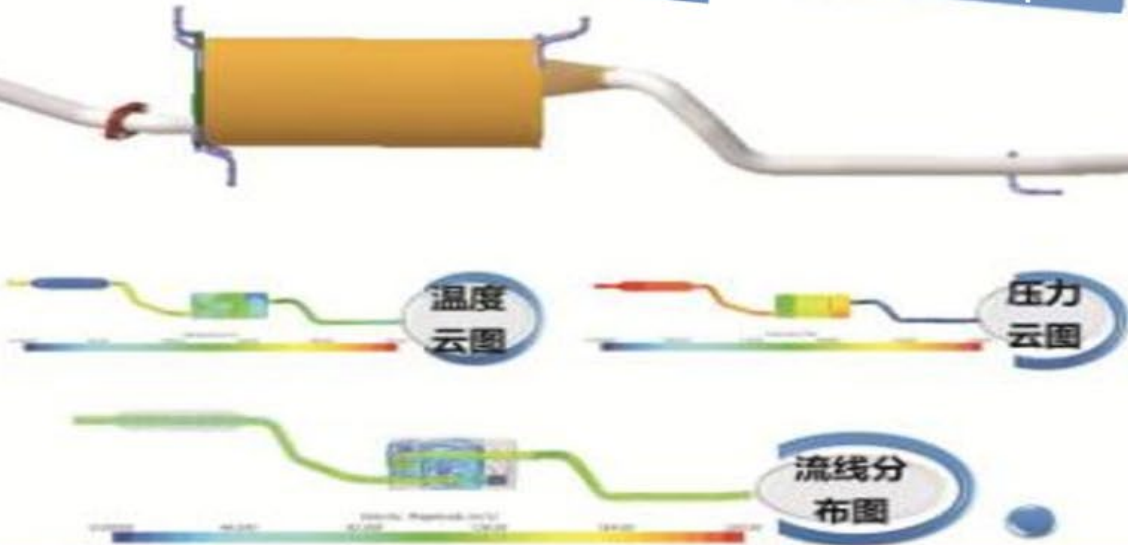
结构分析/structural analysis



噪声分析/Noise analysis



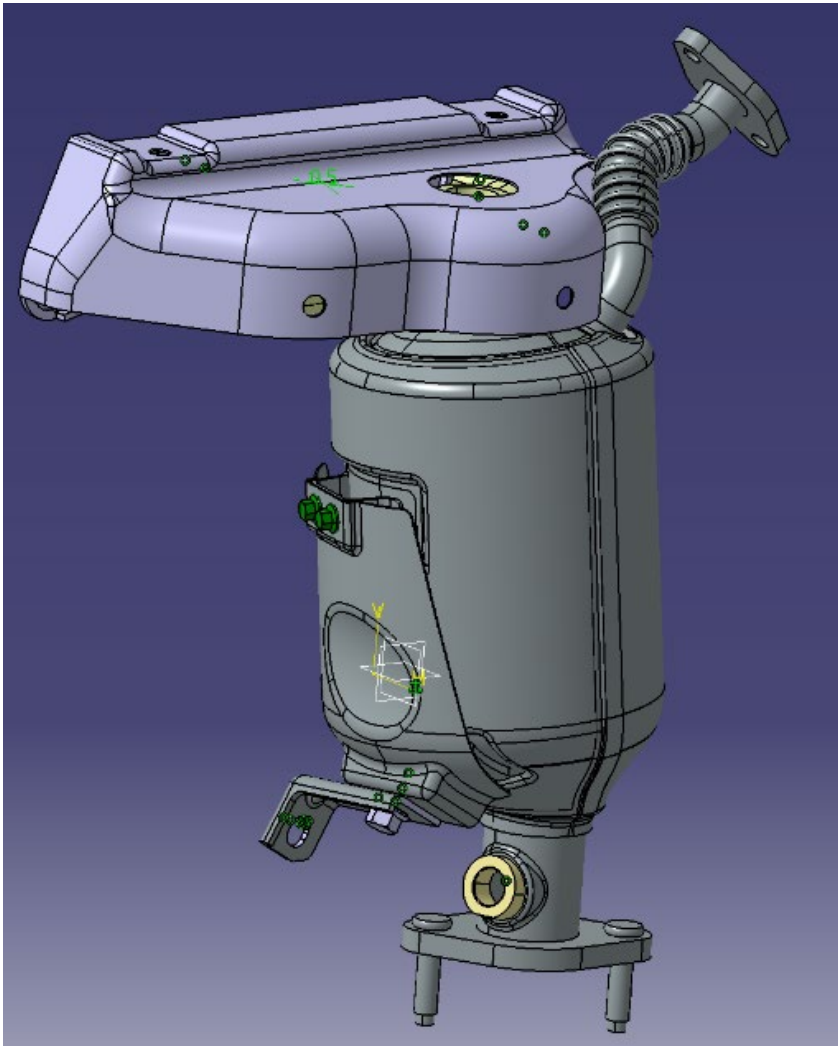
CFD分析
CFD analysis



催化器-消声器/Catalyst-Muffler

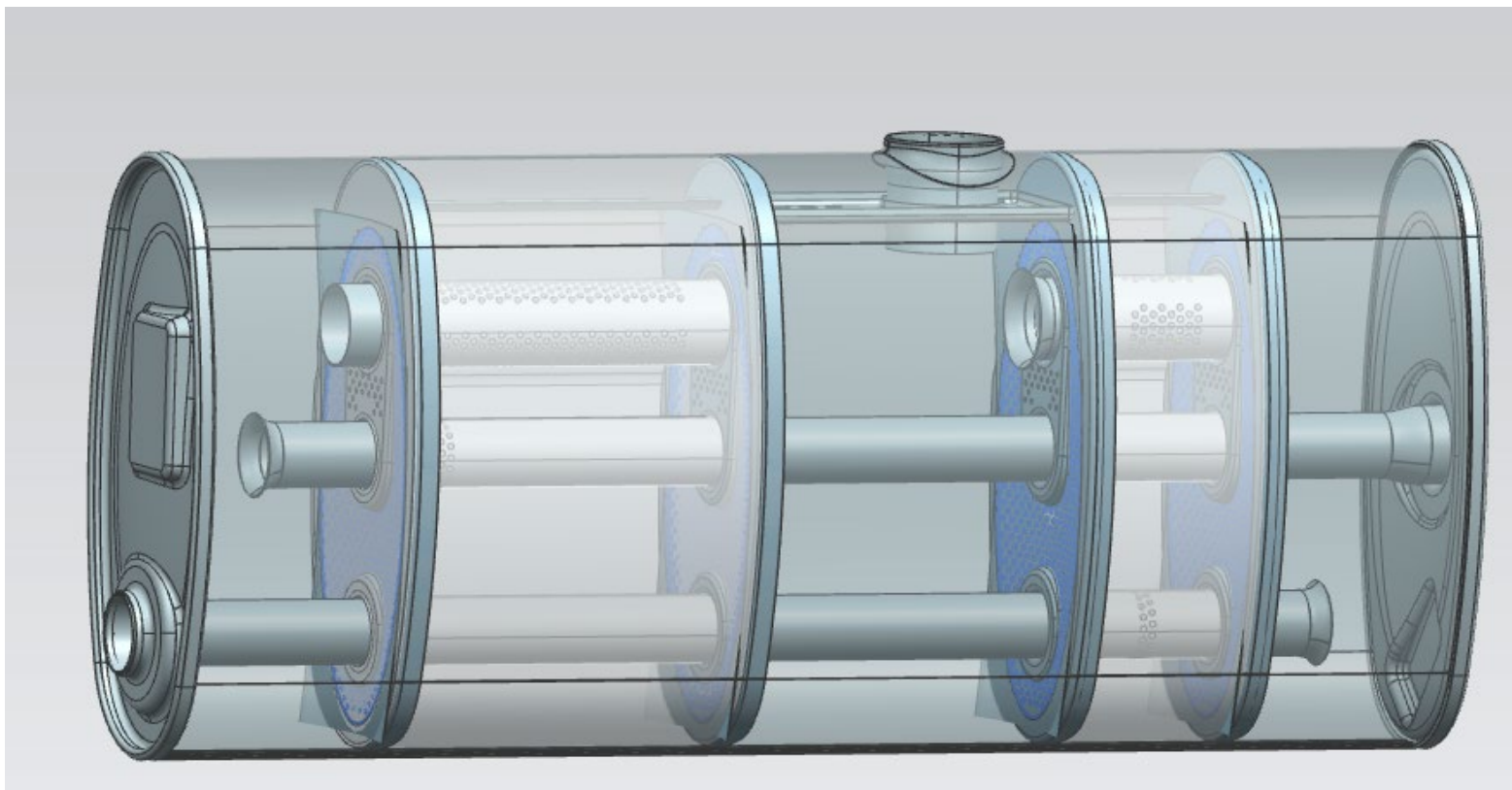
生产设备/Production equipment





序号	名称	B15HE单台数量
1	排气歧管进气法兰	1
2	(排气歧管)隔热罩安装支架 (含凸焊螺母)	4
3	排气歧管隔热罩 (三明治结构)	1
4	排气歧管蚌壳A	1
5	排气歧管蚌壳B	1
6	前氧传感器安装底座	1
7	后氧传感器安装底座	1
8	进气锥端	1
9	EGR法兰	1
10	EGR连接管A (靠EGR法兰侧)	1
11	EGR波纹管	1
12	EGR连接管B (靠催化器侧)	1
13	衬垫	1
14	载体 $\phi 118.4 \times 138$	1
15	筒体	1
16	筒体及进/出气锥端隔热棉A	1
17	筒体及进/出气锥端隔热棉B	1
18	筒体及进/出气锥端隔热板A	1
19	筒体及进/出气锥端隔热板B	1
20	出气锥端	1
21	催化器出气连接管	1
22	催化器出气法兰 (含压铸2-M10X1.25螺栓)	1
23	催化器焊接支架 (含凸焊螺母)	1
24	催化器-气缸体连接支架	1
25	滤清器隔热罩上支架 (含凸焊螺母)	1
26	滤清器隔热罩	1
27	催化器焊接支架-催化器连接支架螺栓 M10X25-10.9达克罗	1
28	滤清器隔热罩上支架安装螺栓 M6X12-8.8达克罗	2

三维数模已经布局完毕，等待CAE分析优化局部强度：
1、 催化剂载体选用 $\phi 118.4 \times 138$ 750/2 1.52L；
2、 配备EGR循环系统。



消声器部分：

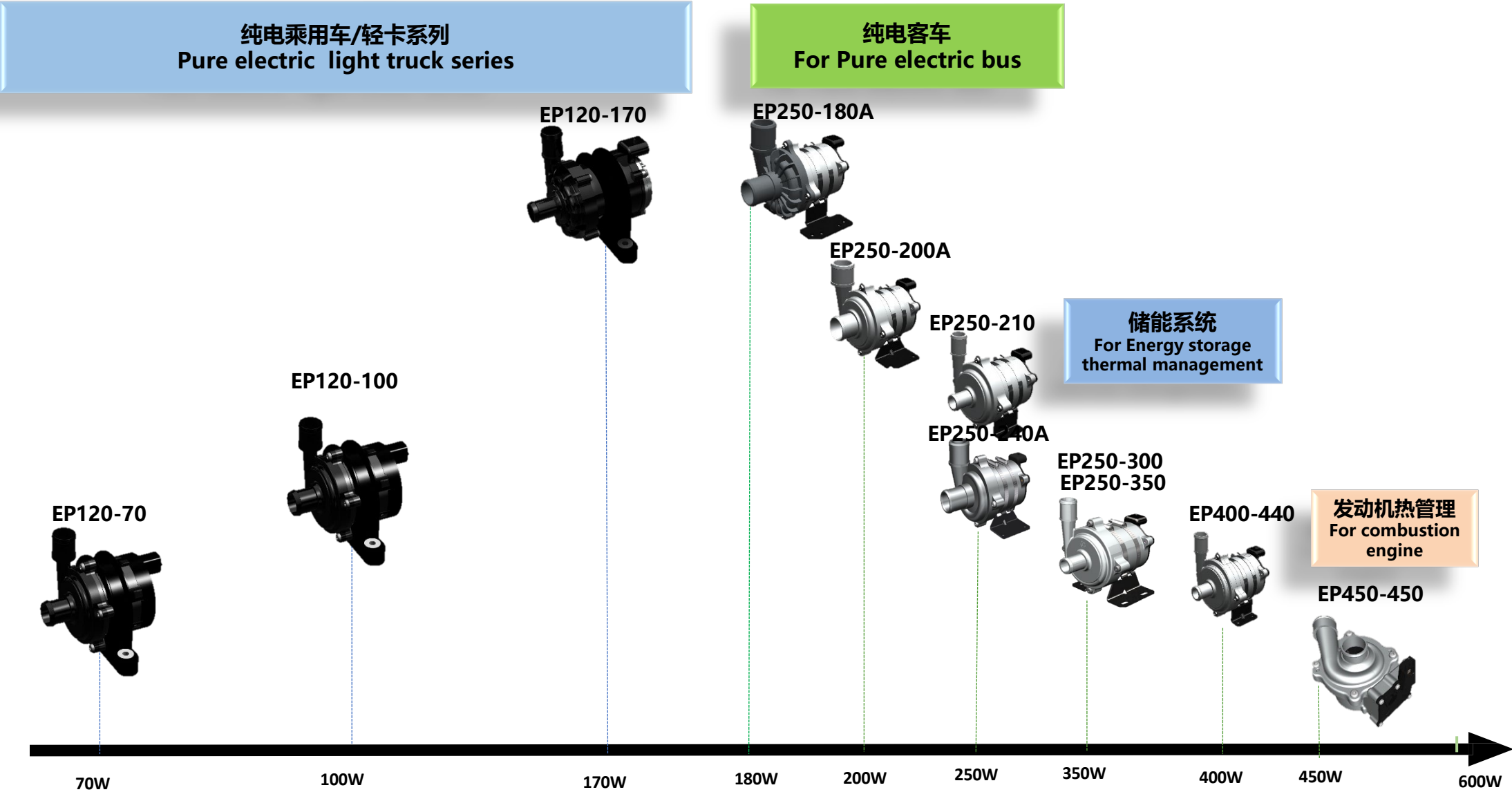
- 1、主消音包可以选用其他主流车型1.5L的结构；
- 2、副消音包根据整车噪音要求，选用旋压结构或者锁缝结构；
- 3、管路根据整车空间设计布局。

4、热管理（系统）部件

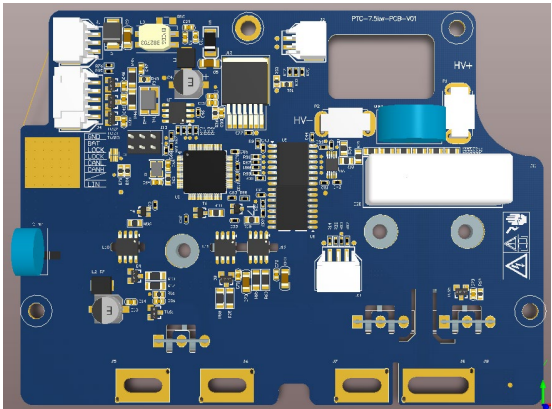
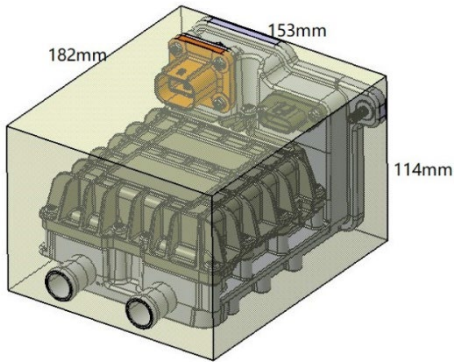
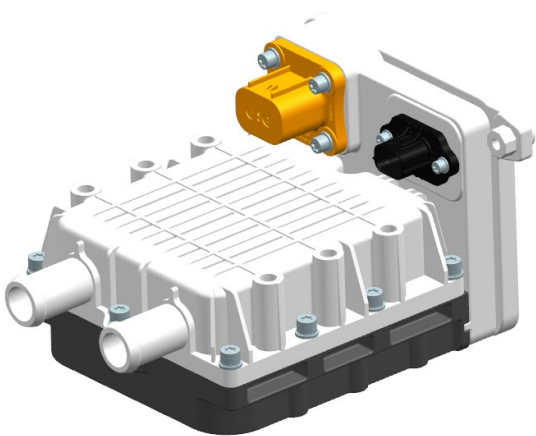
Thermal management (system) components

电子水泵/ EWP:

产品平台化开发，其功率覆盖范围：70W~450W；

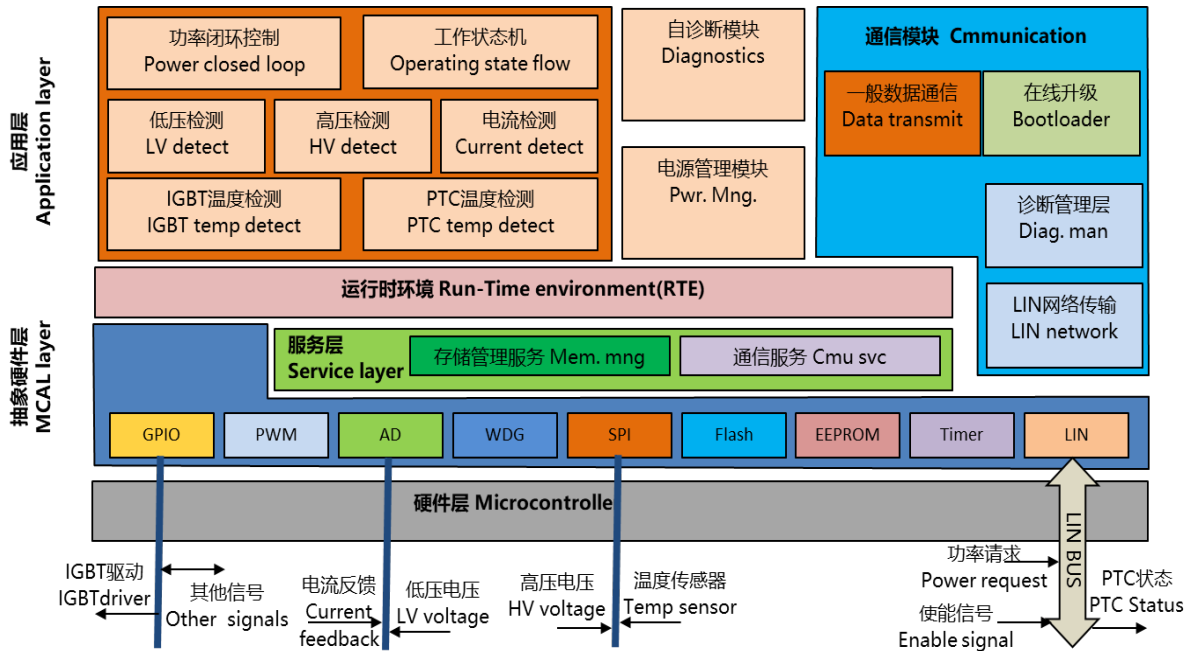


PTC加热器/ PTC:



序号	参数名称	要求指标
序号	参数名称	要求指标
1	功率要求	冷却液流量：10L/min；环境温度：0℃；冷却液进水温度：60℃；功率：≥5400W（预留外形不变，7kW方案）；压力损失：≤6.5 kPa
2	控制方式	CAN
3	控制电压范围	(9~16) V
4	高压端电压范围	(190~510) V（额定电压400V）
5	绝缘电阻	≥120MΩ
6	防水等级	IP67
7	使用环境温度	(-40~105) ℃
8	冲击电流	≤30A
9	最高工作水温	85℃
10	EMC	满足Q/THZ E8-4-2023（详细参见DVP）

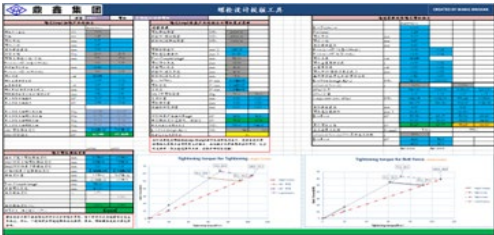
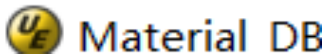
PCBA及控制策略自主设计开发



3D/ 2D

子程/Subroutine

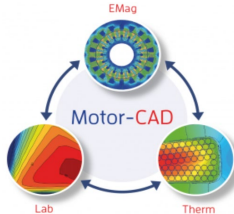
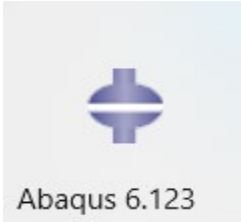
CAE



```
###自定义函数FileExists, 判断指定目录下有没有需要的文件
#返回path是目录, files是在path目录下的文件, name是要判断是否存在的文件的名称
def FileExists(path, name):
    for path, dirs, files in os.walk(path):
        if name in files:
            print('--->YES!')
            break
        else:
            print('--->NO!')
            print('u\n哎呀, 指定目录下无该文件! ')
            print('stop')
            sys.exit()

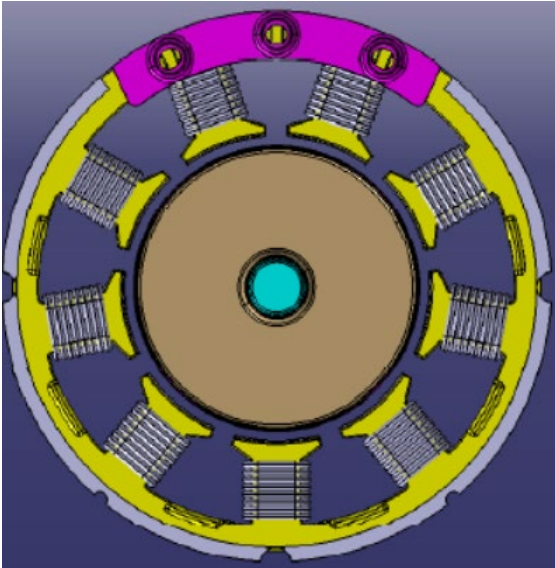
###输出绝对路径
def Folder(location):
    if location.startswith('.'):
        print(os.path.abspath('.') + '\\\\' + location.split('\\\\')[2])
        return('#')
    else:
        print(os.path.abspath('.') + '\\\\' + location)
        return('#')

###自定义函数Name_from_excel, 根据excel设置生成simlab调用的零件名称、set及surface
def Name_from_excel():
    bk = xlrd.open_workbook(excel_dir + excel_file)
    analysis_input = bk.sheet_by_name(sheet_name)
    #>>>>> 开始输入零件名称data文件>>>>>>>>>>
    #判断simlab目录是否存在, 存在则使用, 不存在则创建
    if os.path.isdir(simlab_dir):
        pass
    else:
        os.mkdir(simlab_dir)
    #打开excel文件
    simlab_dir = simlab_dir + simlab_part_name + '.w'
    part_name_list=[]
    #将excel中C列和F列的数据写成词典, C列是键, F列是值, C列表示输入时, F列表示数
```



开发过程实现标准流程化、部分计算/分析过程已实现自动化
The development process has been standardized and some calculation/analysis processes have been automated

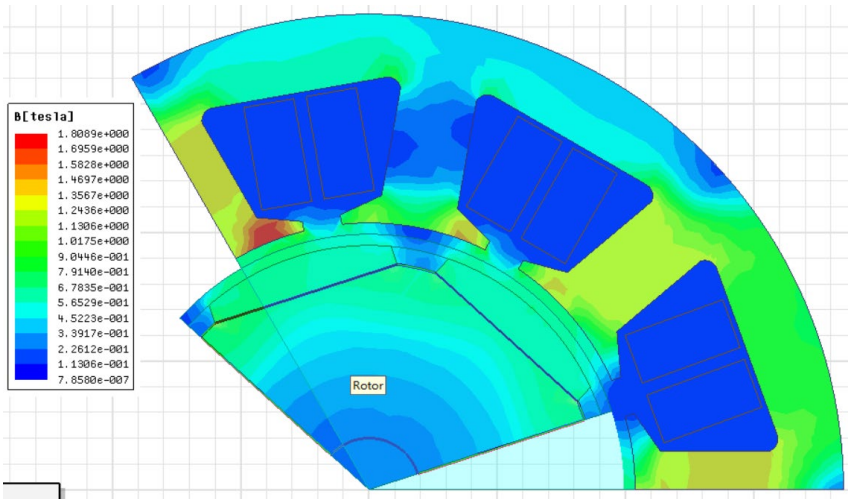
电机设计/Motor design:



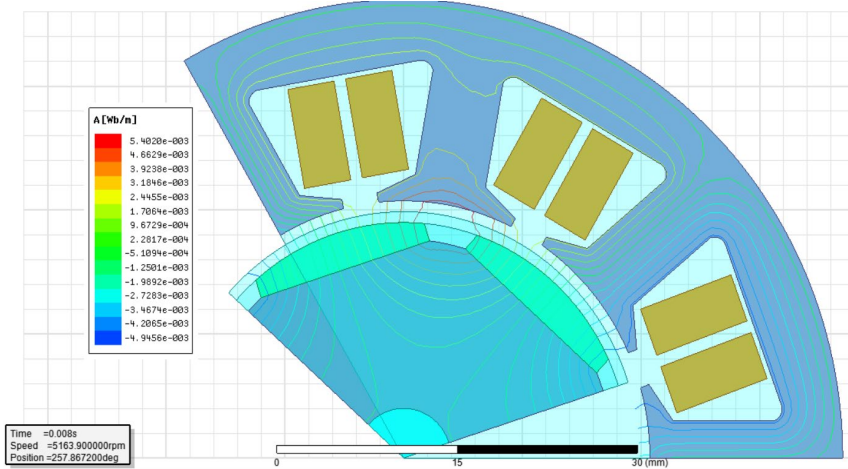
性能目标	电机
额定电压 (V) Rated voltage (V)	24
额定电流 (A) Rated current (A)	≤13.5
额定转速 (rpm) Rated speed (rpm)	5200
输出转矩 (Nm) Output torque (Nm)	0.44
空载转速 (rpm) No-load speed (rpm)	> 6000
电机效率 (%) Motor efficiency (%)	≥85%

- 1、空载转速 (no-load speed) 6280rpm, 空载电流 (no-load current) 0.4A;
- 2、D轴电感 (D-axis inductance) 0.1905mH, Q轴电感 (q axis inductance) 0.2715mH;
- 3、反电动势 (counter electromotive force) 11.6V;
- 4、输出转矩 (Output Torque) 0.44Nm@5300rpm
- 5、转矩常数 (Kt) :0.0302Nm/A

磁密强度分布

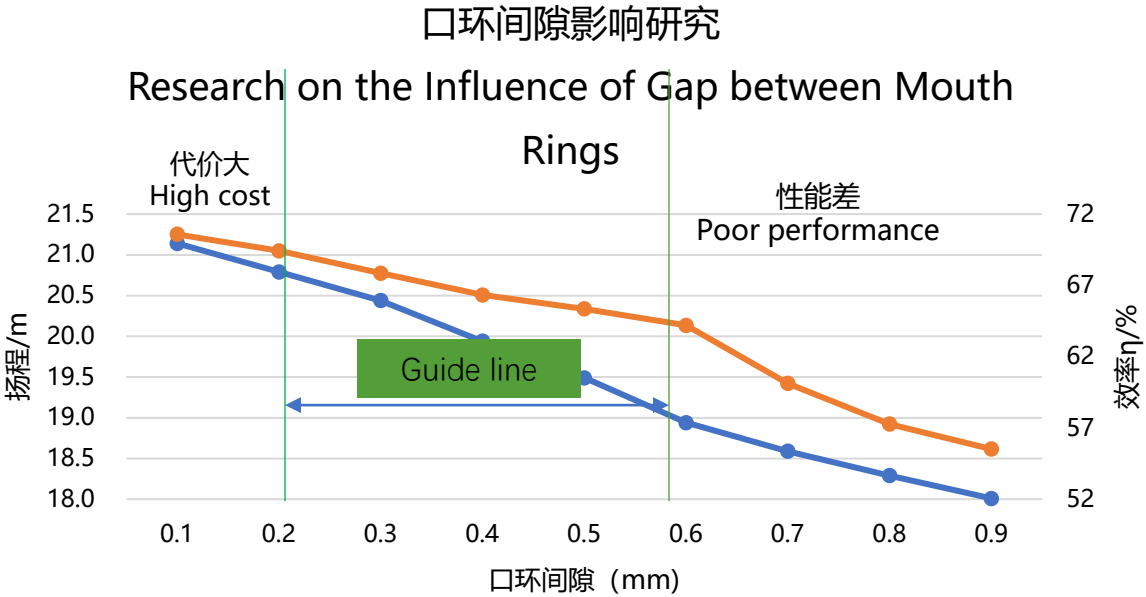
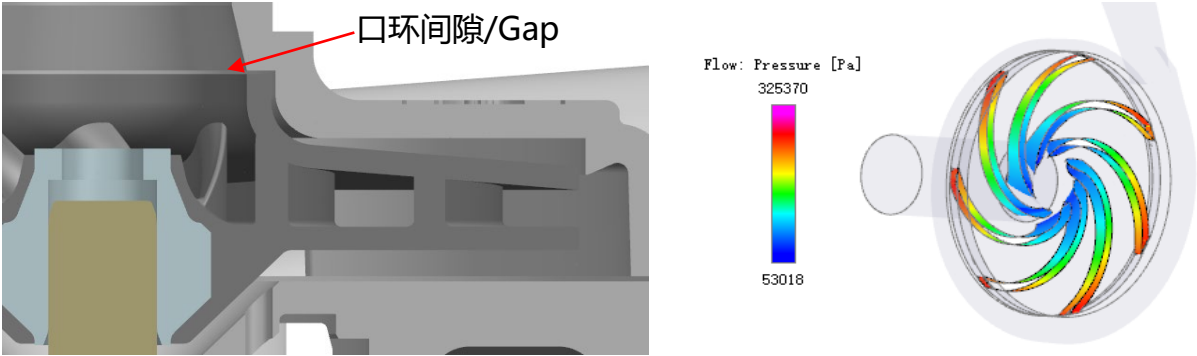


磁感线分布

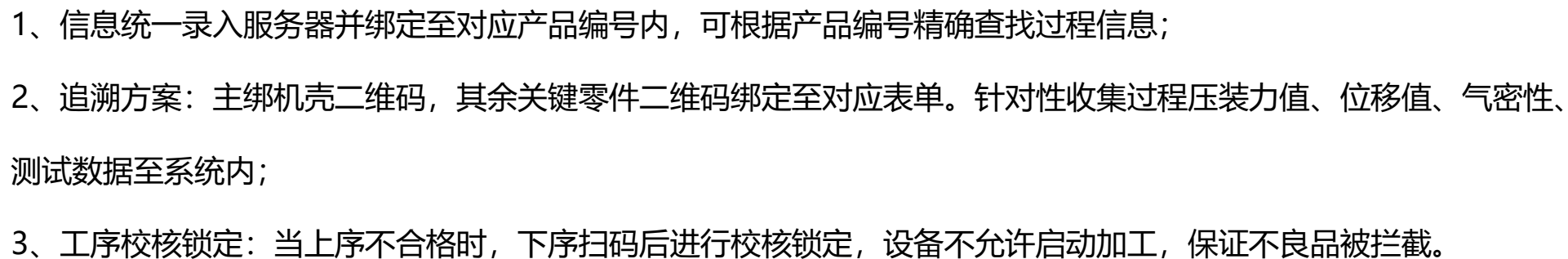


设计研究-不同间隙对性能的影响

口环间隙 (mm)	转速 (rpm)	扬程 (m)	水力效率 (%)
0.1	Con.	21.14	70.58
0.2	Con.	20.79	69.43
0.3	Con.	20.44	67.86
0.4	Con.	19.94	66.33
0.5	Con.	19.49	65.36
0.6	Con.	18.94	64.2
0.7	Con.	18.59	60.13
0.8	Con.	18.29	57.27
0.9	Con.	18.01	55.52



鼎鑫集团
DING XIN GROUP





百万级无尘恒温车间



风淋室和静电检测



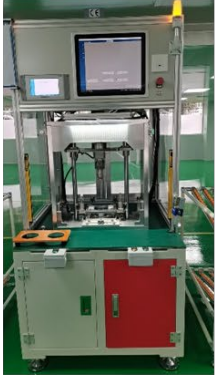
- 1、百万级无尘车间;
- 2、车间全年恒温管理, 规避因温度造成的变量;
- 3、车间配置换鞋室、换衣室、静电检测和风淋室等;
- 4、严格按照6S标准进行执行;
- 5、**工序互相校验, 工装防呆, 关键工序设备100%检测校验, 二维码产品追踪**



100%气密性检测



100%螺钉扭矩反馈



100%压装力监控

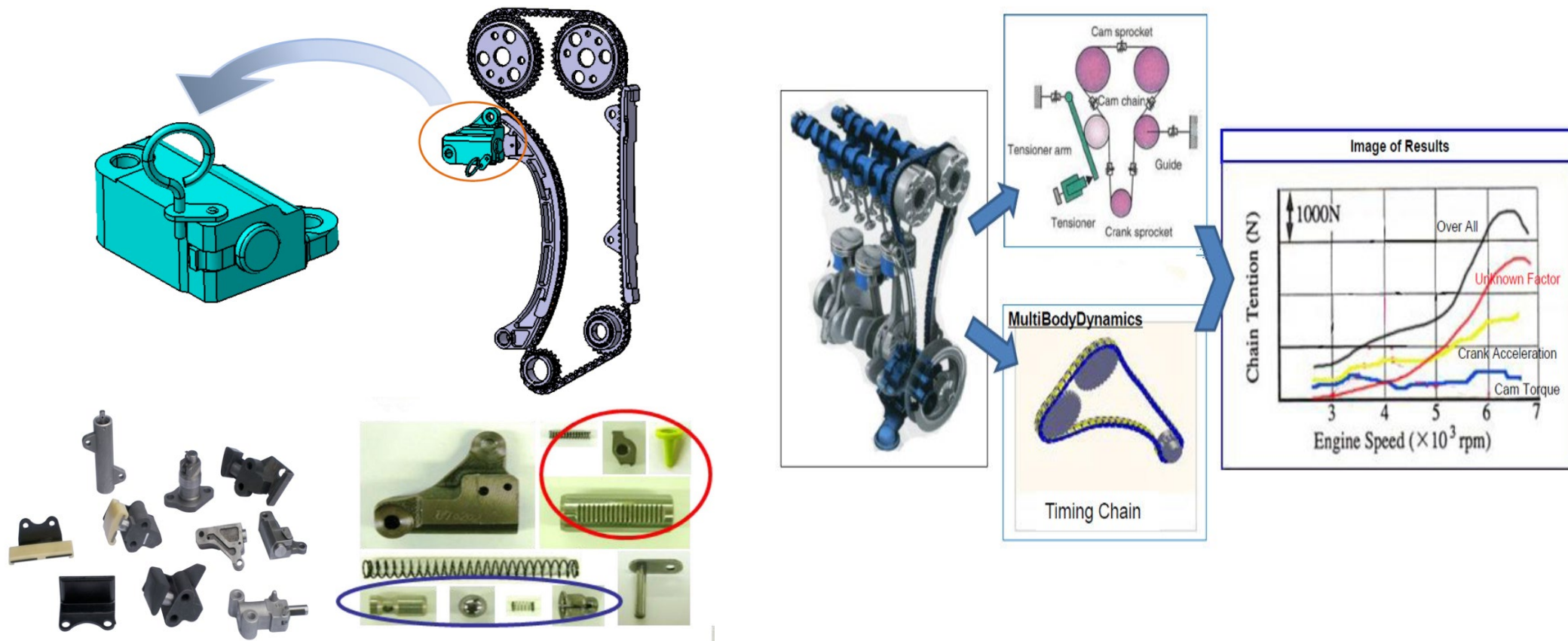


100%性能检测

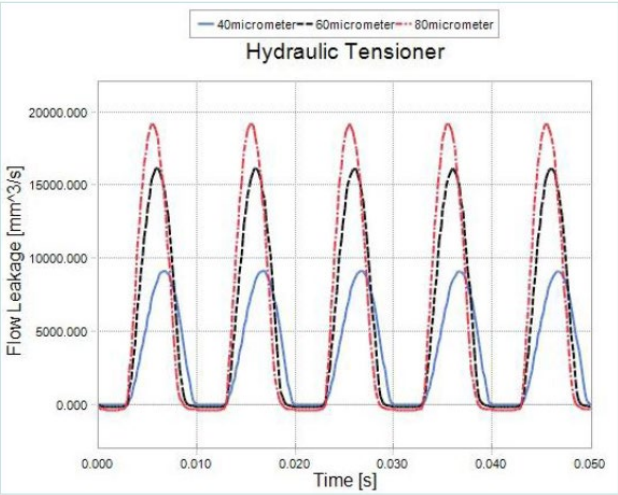
5、链条张紧器 Chain tensioner

我司具备较强的**CAE**分析设计能力，配备有**GT-POWER**、**hypermesh**、**ansys**等仿真软件，能够建立链条传动系统模型，实时模拟发动机工作状态。

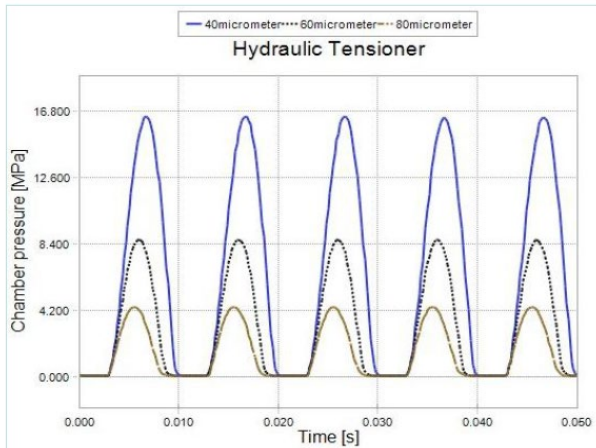
同时，我公司与西南交通大学、西南科技大学等高校建立了长期战略合作关系，在产品开发过程中能够充分利用高校研发、试验资源，积极吸收最新研发成果并在产品设计过程中完成成果转化。



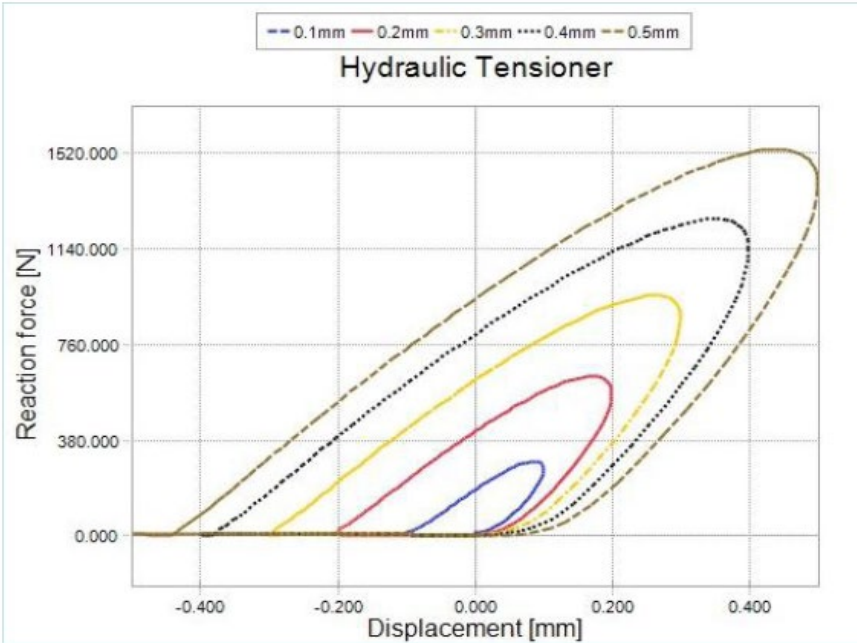
泄露间隙与泄漏量关系



泄露间隙与高压腔压力关系



张紧器特性曲线（滞回曲线）

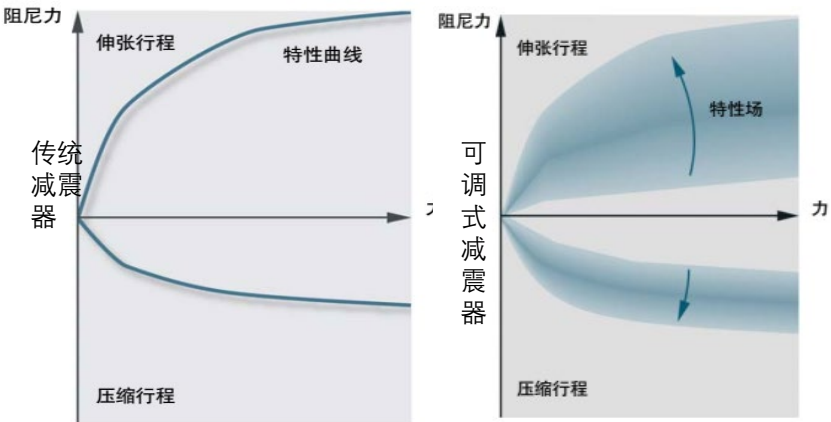


6、挺柱、摇臂 Tappet, rocker arm

7、CDC减振器电磁阀

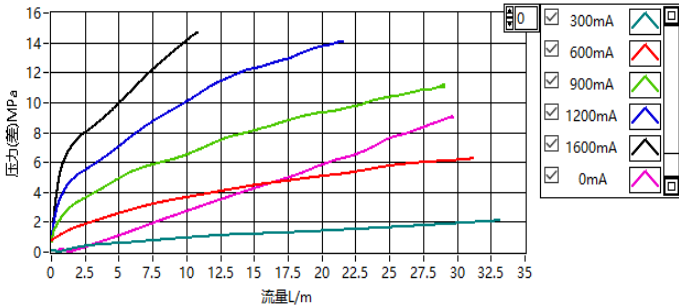
The CDC(Continuous Damping Control)shock absorber solenoid valve

工作原理



传统减震器拥有固定特性，伸张或压缩过程中提供固定阻尼特性曲线，而可调式减震器提供一个特性场，系统根据工况（路面状态、制动、加速、转向、驾驶员意愿等）适时选择场中不同阻尼值，以遏制车身振动、阻止轮胎产生跳动，保持车身稳定。

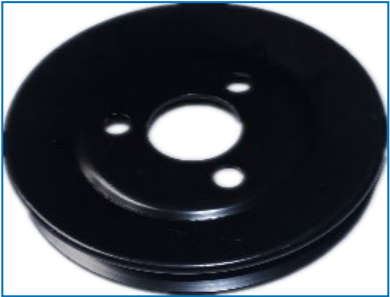
PQ特性曲线	见下图
响应时间	≤25ms
额定电压	12V
电阻	4.8Ω（23℃）
电感	2.59mH（1KHz）
控制信号	PWM
极限压力	20MPa
温度区间	-40~120℃
轮廓尺寸	52×54×38mm
重量	145g



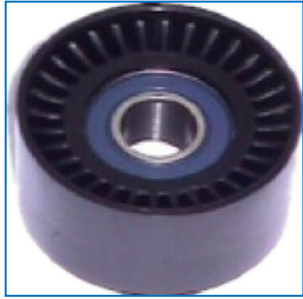
8、其他产品

Other products

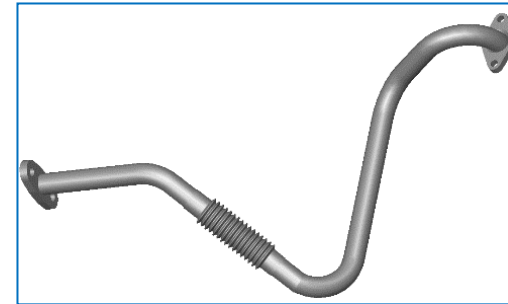
附件传动系统
Accessory
transmission system



正时传动系统
Timing drive
system



金属管
Metal pipe



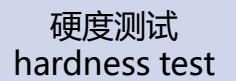
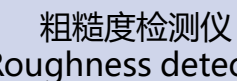
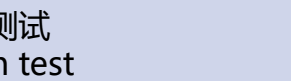
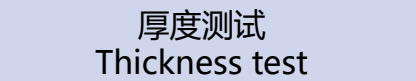
冲压零件
stamping parts



试验 - 检测

Testing and Inspection

检测设备 / General inspection equipment

Product inspection/产品检验	检测设备/Detection equipment				
外观检查 Appearance inspection					
尺寸检验 Dimension inspection					
精密测量 Precision measurement					
机械性能检测 Performance test					
物理性能检测 Physical performance testing					
力学性能 Mechanical testing					
理化分析 Physical and chemical analysis					
金相显微镜 Metallurgical Microscope					

试验设备/ General test equipment



发动机台架
Engine bench



振动测试台
Vibration test bench



冷热冲击试验
Thermal Shock



温湿试验
Temperature and
humidity test



盐雾试验
Salt spray test



淋雨测试
Rain Test



沙尘试验
Sand and dust test



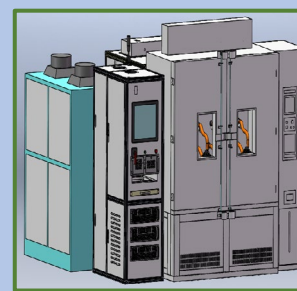
综合性能检测台
Integrated
performance test stand



背压检测台
Back pressure
testing machine



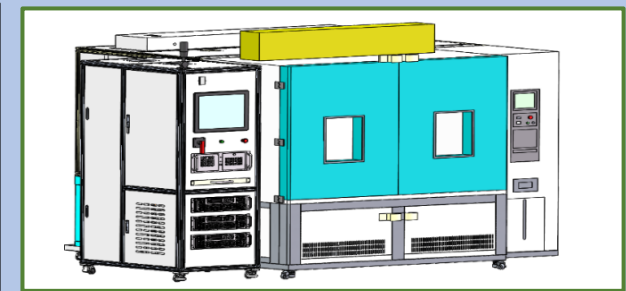
振动试验+三综合试验箱
Vibration test+Three
comprehensive test box



异物耐久测试台
Foreign object
durability test bench



电子水泵综合性能测试台
E-pump comprehensive
performance test bench



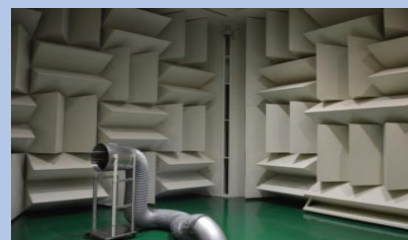
高低温试+启停试验台
High and low temperature test
start stop test bench



气密性测试台
Air tightness test bench



发动机试验台架
Engine test bench



半消声室
semi-anechoic chamber



LMS数据采集系统
LMS data acquisition system



电磁振动台
Electromagnetic vibration table

实验设备 laboratory equipment



微电阻测试仪量程：
10mΩ~100MΩ



接点防水测试仪量程：
2/20/200/2000/4000MΩ



全自动插拔力试验机最大测定高度：150mm



阻燃试验机燃烧气体：
甲烷或煤气



绝缘耐压测试仪测试电压DC：
25~1000V



耐电压测试仪测试范围：
1~1000mV



谢谢

四川绵阳市鼎鑫集团公司
Mianyang Sichuan Dingxin Group