

M-Tech

엠텍

엠텍은 자동차 부품 전문기업으로

기능성 부품의 구조 설계 및 전기전자(PCBA)

설계 능력 보유로 초기부터 해외부품 개발 및 공급을 시작으로 안정된 품질
능력 보유 및 APQP Process의 충분한 이해력으로 고객 만족의 실현을 통해
양사의 공동 이익을 추구하는 가치 실현을 창출해 나가고 있습니다.



M-Tech

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M-Tech

기업 개요



회사명	엠텍 (M-Tech)	
대표자	백영순	
설립일	2009. 05. 12	
사업장	인천시 남동구 함박외로347번길 35	
직원현황	75 명(관리자 23명, 생산직 52명)	
주 생산품	<p>[자동차 전장품 개발 및 제조]</p> <ul style="list-style-type: none"> • Group Sensor/Bar Heater(DFF) • Water Level Sensor (DFF) • PTC Heater (DFF, HVAC) • Actuator (HVAC, HLLD) • Thermo Switch (DFF) 	<ul style="list-style-type: none"> • Vacuum Switch (DFF) • Fuel Pressure / Temp. sensor • Solenoid Valve (AIM) • Accumulator Pre-Heater (EV) • Condenser Pre-Heater (EV)
인증서	<ul style="list-style-type: none"> • IATF 16949 : 2016 Certificate • HMC/KMC SQ Certificate 엠텍 (M-Tech) 	
영업담당자	<p>[배청호 상무 / Marketing & Sales]</p> <p>Tel : +82-(0)32-822-1224</p> <p>Fax : +82-(0)32-822-1226</p>	

Organization 조직도



Team Name	계	임원	부장	차장	과장	대리	사원	생산
대표	1	1						
경영·기획	4							
관리부문	3	3		1	1			
품질경영	4	4		1		2		
생산관리	4	4	1		2			41
영업관리	4	4		2	1	1		
구매 & 자재	3	3	2	1				
R&D	3	3	1			1		
Total	23	6	4	5	4	4		41

Business History

사업 연혁

2009'	2012'	2013'
<p>2009.05 · 엠텍 설립</p>	<p>2012.06 · ISO / TS16949 : 2002 및 ISO 9001 2008 품질 인증</p>	<p>2013.06 · 중소기업 수출 인증기업 선정</p> <p>2013.07 · 기술연구소 설립</p> <p>2013.08 · INNOBIZ SQ 인증</p> <p>2013.11 · HKMC SQ 인증</p>
2014'	2017'	2018'
<p>2014.12 · 산업자원부장관 기업인상 수상</p> <p>2014.12 · 300만불 수출탑 수상</p>	<p>2017.10 · 비전기업으로 선정</p> <p>2017.10 · 대통령 표창장 수상</p> <p>2017.12 · 500만불 수출탑 수상</p>	<p>2018.07 · IATF 16949 : 2016 품질 인증</p>
2019'	2020'	2022'
<p>2019.05 · HKMC SQ 인증 (전기조립-안전부품)</p> <p>2019.07 · 인천시장 표창장 수상</p>	<p>2020.02 · 중소벤처기업부장관 표창장 수상</p>	<p>2022.05 · 엠텍 제 2공장 설립</p>

Customer History

고객 연혁



2009'	2011'	2012'
<p>2009.05</p> <ul style="list-style-type: none"> · 엠텍 설립 	<p>2011.07</p> <ul style="list-style-type: none"> · Mahle Korea (GM Korea) Solenoid Valve 양산 공급 <p>2011.11</p> <ul style="list-style-type: none"> · Mahle Austria (Renault) Water Sensor & BAR Heater 양산 공급 · Delphi India (SsangYong & Mahindra) PTC Heater 양산 공급 	<p>2012.03</p> <ul style="list-style-type: none"> · Mahle China (GM Uzbekistan & GM India) Solenoid Valve 양산 공급
2013'	2014'	2015'
<p>2013.02</p> <ul style="list-style-type: none"> · Mahle India (Honda UK/India) Water Level Sensor 양산 공급 	<p>2014.04</p> <ul style="list-style-type: none"> · Mahle Austria (NISSAN Europe) Water Sensor 양산 공급 <p>2014.09</p> <ul style="list-style-type: none"> · Mahle Korea (HKMC) Water Sensor 양산 공급 <p>2014.12</p> <ul style="list-style-type: none"> · UFI Korea (HKMC Europe / KR) Water Sensor 양산 공급 	<p>2015.03</p> <ul style="list-style-type: none"> · Mahle Korea (GM Korea) Water Sensor, Heater Ass'y, Thermo Switch 양산 공급 <p>2015.11</p> <ul style="list-style-type: none"> · UFI Korea to (HKMC Korea / Europe) 연료 필터 모듈 (Heating + Water Sensing) 부품 공급
2016'	2017'	2018'
<p>2016.10</p> <ul style="list-style-type: none"> · Mahle Korea (HKMC Korea) 연료 필터 DH 모듈 (Heating + Water Sensing) 부품 공급 	<p>2017.06</p> <ul style="list-style-type: none"> · Mann-Hummel (HKMC Korea) 연료 필터 OS 모듈 (Heating + Water Sensing + 압력센서) 부품 공급 	<p>2018.01</p> <ul style="list-style-type: none"> · Mahle Korea (HKMC Korea) 연료 필터 TM 모듈 (Heating + Water Sensing + 압력센서) 부품 공급
2019'	2021'	2022'
<p>2019.01</p> <ul style="list-style-type: none"> · Mahle India (HMC / KMC) K3 Water Sensor 양산 공급 	<p>2021.03</p> <ul style="list-style-type: none"> · Mahle Europe (Nissan) Solenoid Valve 양산 공급 <p>2021.04</p> <ul style="list-style-type: none"> · SOGEFI France (BMW) PTC Heater Ass'y 부품 공급 · SOGEFI France (FORD) 연료필터 TM 모듈 (Heating + Water Sensing + NTC) 부품 공급 	<p>2022.02</p> <ul style="list-style-type: none"> · Woory Industrial Company Ltd. Actuator & PTC Heater & Control Switch 양산 공급

Certification 인증서



IATF16949 : 2016



HKMC Supplier Quality (SQ)



Affiliated Research Institute



Visionary Enterprise



Specific Approved Exporter



Specific Approved Exporter



Specific Approved Exporter



Inno - BIZ

Citation

표창장



Minister of Industry & Energy
[2014 .12 .19]



Incheon Mayor Award
[2017 .07 .03]



Presidential
[2017 .11 .03]



Incheon Mayor Award
[2019 .12 .23]



Ministry of SMEs and Startups
[2020 .03 .05]

Intellectual Property

기술 특허



PATENT .
디젤연료필터용 히팅장치



PATENT .
모듈화된연료필터장치



PATENT .
모듈화된 PCB 기판 구조

Certification 인증서



Design Registration .
연료필터용 가열기-B



Design Registration .
필터 가열기용 회로기판-A



Design Registration .
필터 가열기용 회로기판-B



Design Registration .
연료필터용 발열체



Design Registration .
연료펌프용 헤드-A



Design Registration .
연료펌프용 헤드-B



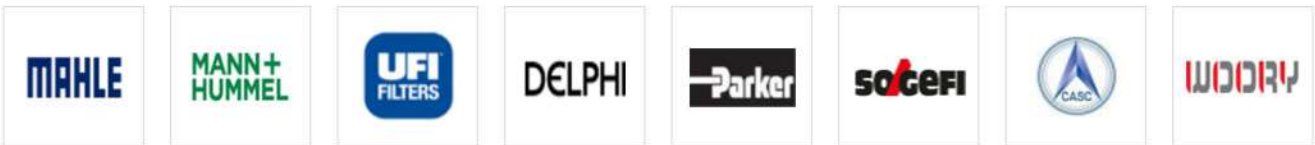
Design Registration .
연료필터용 가열기-A

Customers

고객사



CUSTOMER



OEM Experience



Export Area

Korea, China, India, Morocco, Thailand

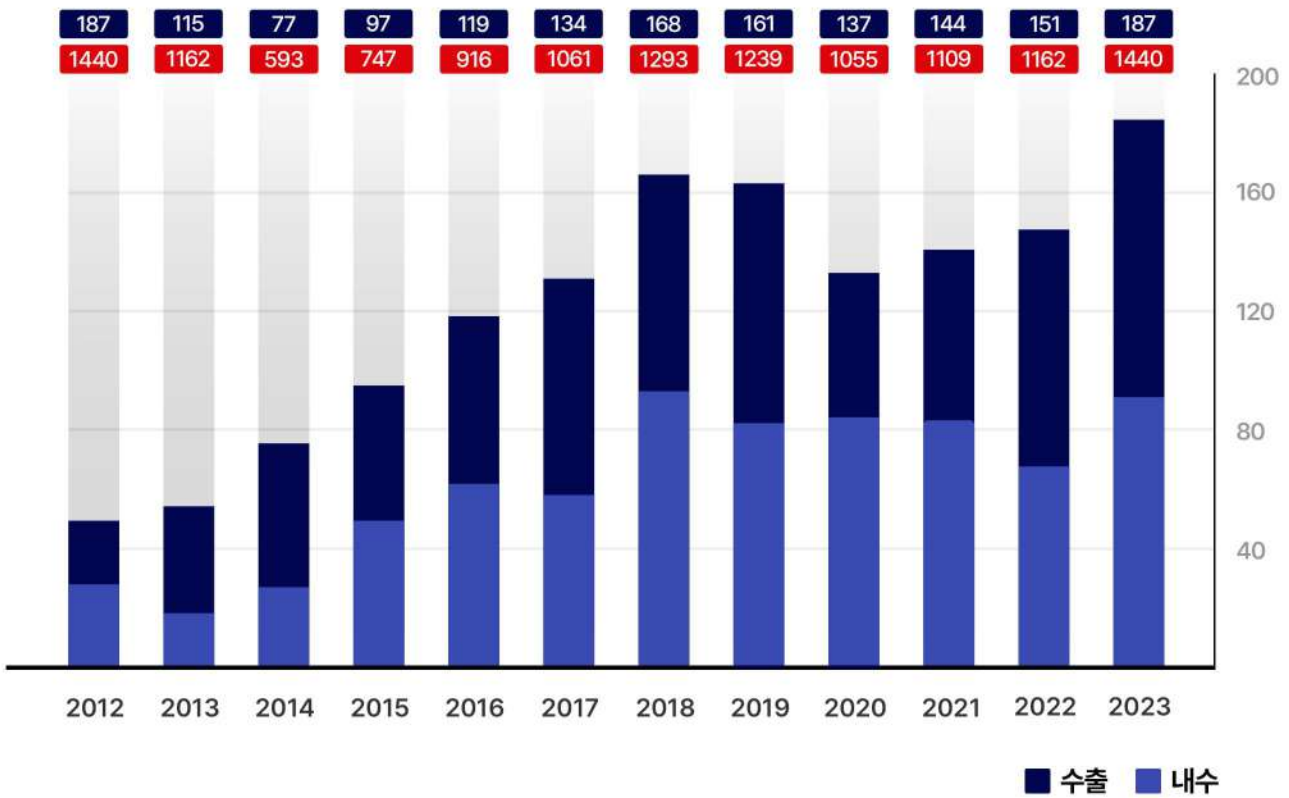
Business Performance

사업 성과

년도별 매출액

1,299 KRW / 1 Euro

[단위: 억원]
[단위: 백만 유로]

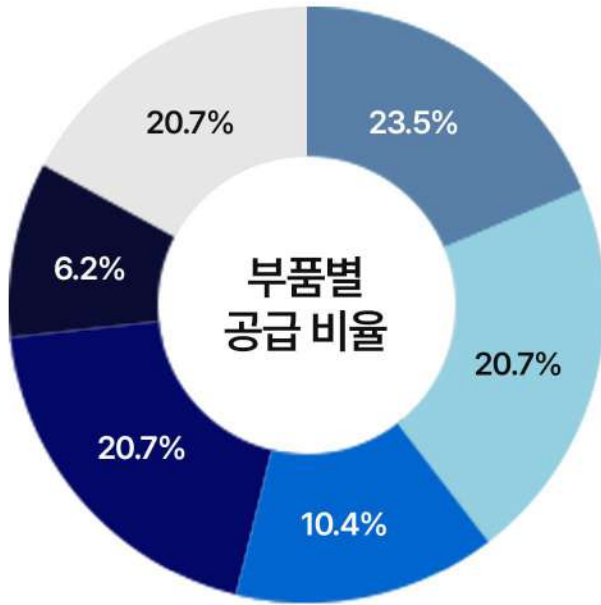


년도	수출	내수
2012	18.32	27.80
2013	36.90	18.32
2014	49.63	27.01
2015	48.47	48.99
2016	56.26	63.28
2017	74.72	59.25

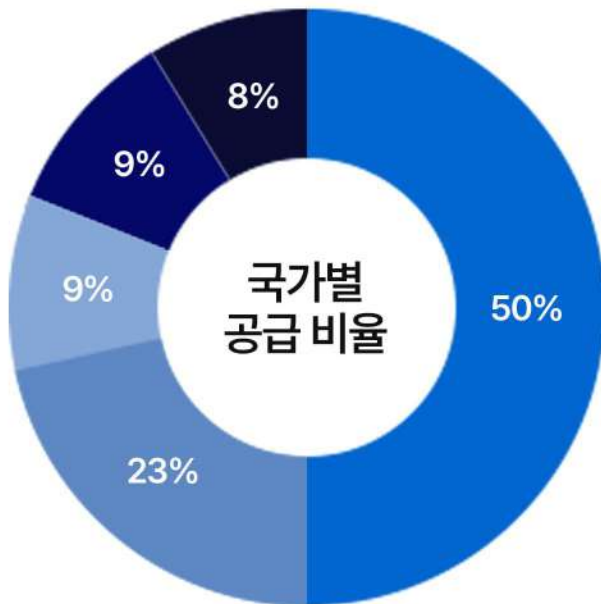
년도	수출	내수
2018	75.37	92.26
2019	79.52	81.47
2020	52.50	84.85
2021	62.11	82.25
2022	82.25	68.58
2023	94.75	92.26

Business Performance

사업 성과



- Actuator (50%)
- PTC Heater (20.7%)
- Water Level Sensor (10.4%)
- Switch & Sensor (20.7%)
- Solenoid Valve (6.2%)
- Group Sensor (20.7%)



- Korea (50%)
- Europe (23%)
- China (9%)
- India (9%)
- Africa (8%)

* Analysis are based on turnover based method of Year 2023.

II 생산품

Product



Products Overview

생산품

Fuel Filtration System (연료필터시스템)



Fuel PTC Heater



Thermo Switch



Vacuum Switch



Water Level Sensor



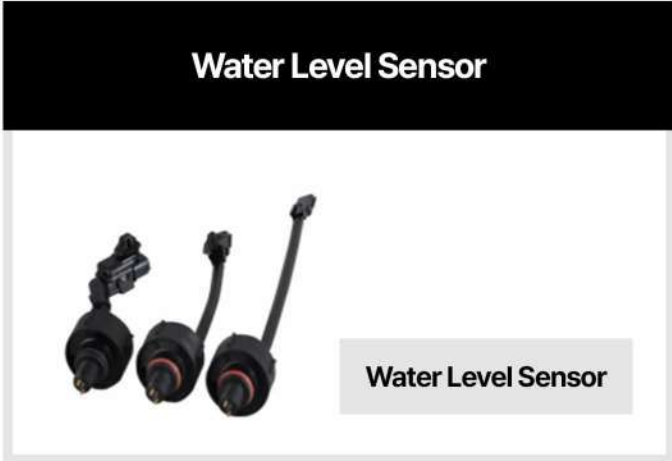
WIF Sensor

적용 OEM

Renault, Nissan, Honda, BMW, HMC, KMC, SMC, TATA, DIO

Products Process

양산공정



LINE VIEW



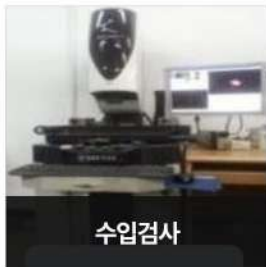
Products Process

양산공정

PTC HEATER



PTC Heater



수입검사



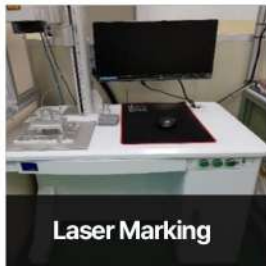
Silicon oil



Pin 압입기



Bolt 체결



Laser Marking



성능검사



기밀검사



LINE VIEW



Products Overview

생산품

HVAC PTC (Relay & Electrical)



HVAC PTC HEATER

Actuator (HVAC & HLLD)



Actuator

적용 OEM

HMC, KMC

Products Process

양산공정



LINE VIEW



Products Process

양산공정



LINE VIEW



Products Overview

생산품

Fuel Filtration System (연료필터시스템)



Combined with Heating + Water sensing function



Group Sensor / Bar Heater

Combined with Heating + W/Sensing+FPS



Group Sensor

Combined with Heating + W/Sensing+NTC



Group Sensor



MEMS Type



Pressure Sensor



Temp. Sensor

적용 OEM

HMC, KMC, FORD, DIO

Products Process

양산공정



Group Sensor



PTC Heater



LINE VIEW



Products Overview

생산품

Air Intake Manifold
(공기흡기다기관)



Vacuum Solenoid Valve



V(G)IS Valve



Actuator+Sol. Valve



Vacuum Actuator



AIM Parts

적용 OEM

HMC, KMC, SGM, SGMW, GM UZ, GM IN, GM KR

Products Process

양산공정

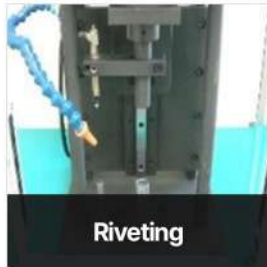
Solenoid Valve



Solenoid Valve



수입검사



Riveting



Curling



Caulking



유량검사



작동검사



2차 기밀검사



자동화 기밀검사

LINE VIEW



Products Process

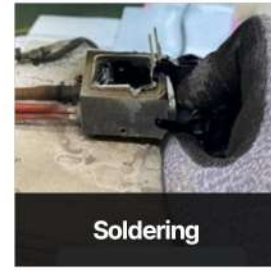
양산공정



**Solenoid Valve
(Bobbin Ass'y)**



Bobbin Ass'y



LINE VIEW



III 제품특성




Product characteristics



Products Overview

제품 특성





Fuel Filtration System_PTC Heater

Products	Performance	Vehicle	Carmaker
Divided Heater 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 13.5V/24V • Heating Value : 260W/360W • Product Structure : PTC Heater 	TL, FO, AM, KM, QLE, UM, UMA, Delphi	
Combined Heater 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 13.5V/24V • Heating Value : 260W/360W • Product Structure : - PTC Heater - Bimetal 	TQ, HR A2, PU, G2, SLE, W- ENG	
BAR Heater 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 13.5V • Heating Value : 260W • Product Structure : - PTC Heater - Water sensor 	IG, YG, CD, PD, KL-485	
	 <ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 13.5V • Heating Value : 260W • Product Structure : - PTC Heater - Water sensor - Pressure sensor 	DH, YB, NB, OS, CK,IK	
High Heat Heater 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 12V • Heating Value : 360W • Product Structure : PTC Heate 	MINI	








Products Overview

제품 특성






Fuel Filtration System_Group Sensor

Products	Performance	Vehicle	Carmaker
 Group Heater	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 13.5V • Heating Value : 260W • Product Structure : - PTC Heater - Water sensor - Pressure sensor 	TM, TM-PE, MQ4, KA4, N3	 
	 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 13.5V • Heating Value : 260W • Product Structure : - PTC Heater - NTC Thermistor 	F-150

Fuel Filtration System_Water Level Sensor (Harness type)

Products	Performance	Vehicle	Carmaker
 PCB Sensor	<ul style="list-style-type: none"> • Temperature Usage : -40 ~135°C • Voltage Usage : 13.5V • Output Voltage : - 0.5V ↓ (Water) - 10V ↑ (Air) • Self time : 3 ~ 5sec 	KL485, UM, SLG, HG, YG, DH, TM, KL764	     



Fuel Filtration System_Water Level Sensor (Harness type)

Products	Performance	Vehicle	Carmaker
 Resistance Sensor	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 5V • Out put Voltage : - 2.7~4.9V (Water) - 0.24 ~2.7V (Air) 	G2, HCI, TATA, F-150	   



Products Overview

제품 특성



Pressure Sensor

Products	Performance	Vehicle	Carmaker
<p>Pressure Sensor</p>  <p>MEMS Type</p>	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 120°C • Voltage Usage : 5V • Pressure Range : 0 ~ 30psai • Input Method : MEMS Type 	<p>OS, TM, MQ4, KA4, G2</p>	

Temperature Sensor

Products	Performance	Vehicle	Carmaker
<p>Thermo switch</p> 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 150°C • Voltage Usage : 5V • Operation Range : -4 ~ 7°C (on / off) • Product Structure : Bi-metal 	<p>TL, FO, AM, KM QLE, UM, UMA</p>	

Bi-Metal S/W

Products	Performance	Vehicle	Carmaker
<p>Temper Sensor</p> 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 50°C • Voltage Usage : 5V • Measurement Range : -30 ~ 130°C • Product Structure : NTC Thermistor 	<p>G2, F-150</p>	

Products Overview

제품 특성

HVAC System_Actuator

Products	Performance	Vehicle	Carmaker
Actuator 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 150°C • Voltage Usage : 8~9V • Vibration Range : -600±10mmHg • Operation Distance : 30±1mm 	Bergstrom GMT RJ	

HLLD System_Actuator

Products	Performance	Vehicle	Carmaker
Actuator 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 125°C • Voltage Usage : DC12~DC 24V • Driving Torque : 8kgf.cm~15kgf.cm • Operation Noise : 35dBA~40dBA @50cm 	Bergstrom GMT RJ HLLD_Lin	

HVAC System_PTC Heater

Products	Performance	Vehicle	Carmaker
PTC Heater 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 150°C • Voltage Usage : 8~9V • Vibration Range : -600±10mmg • Operation Distance : 30±1mm 	TM LFD C200 CUSW	

Air Intake Manifold

Products	Performance	Vehicle	Carmaker
Vacuum Solenoid Valve 	<ul style="list-style-type: none"> • Temperature Usage : -40 ~ 135°C • Voltage Usage : 12V • Vibration Range : 600 ±10mmHg • Product : Air Intakes 	B15D B15TS B18D B12D	

IV

사업범위

- Injection
 - SMD
-



Injection process

사출공정



구분	TYPE	
1호기	55Ton	Vertical
2호기	55Ton	Vertical
3호기	55Ton	Vertical
4호기	55Ton	Vertical
5호기	80Ton	Vertical
6호기	80Ton	Vertical
7호기	100Ton	Vertical
8호기	120Ton	Horizontal
9호기	130Ton	Horizontal
10호기	150Ton	Horizontal
11호기	150Ton	Horizontal

LINE VIEW



PCB Ass'y process

SMD

Water Sensor PCB Ass'y



FO/VQ Water sensor



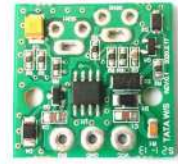
Tle/Qle Water sensor



IG/YG Water sensor



NISAN Water sensor



TATA Water sensor

압력 Sensor PCB Ass'y



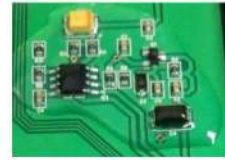
CERAMIC Type



COMBO Type



MEMS Type



Silicon coating Type

Group Sensor PCB Ass'y



DH/YB Group sensor



OS Group sensor



TM/MQ4 Group sensor



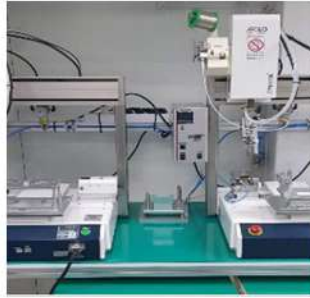
Ford F-150 Group sensor

SMD process

ESD



Auto Soldering 1h



Auto Soldering 1h - 2호, 3호



Auto Soldering 2h



Auto Soldering (선택티브)

구분	TYPE	
납땜	Auto Soldering -1	로봇 1h
납땜	Auto Soldering -2	로봇 1h
납땜	Auto Soldering -3	로봇 1h
납땜	Auto Soldering -4	로봇 2h
납땜	Auto Soldering	선택티브
용착	Laser welding	200W
용착	Laser welding	400W
코팅	Silicon coating	로봇 디스펜서
코팅	Silicon coating	로봇 디스펜서
환경	Thermo-hygrostat	항온, 항습



Laser welding 1호



Laser welding 2호



Silicon coating 1호



Silicon coating 2호



Thermo-hygrostat

LINE VIEW



V

R&D Parts

R&D

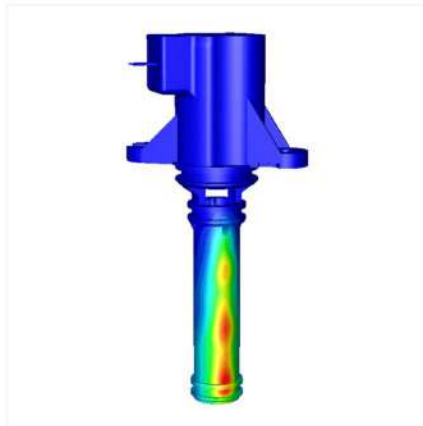
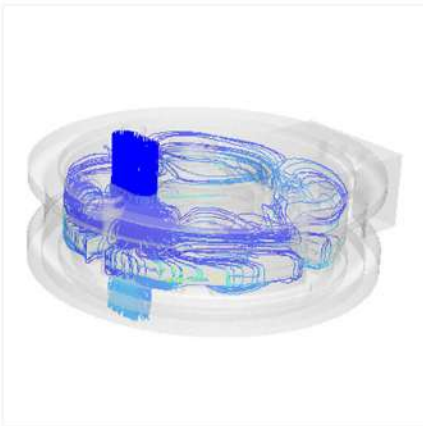
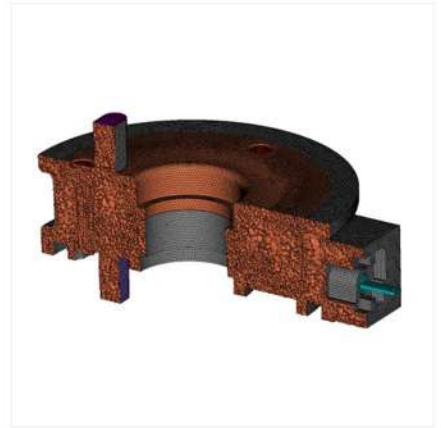
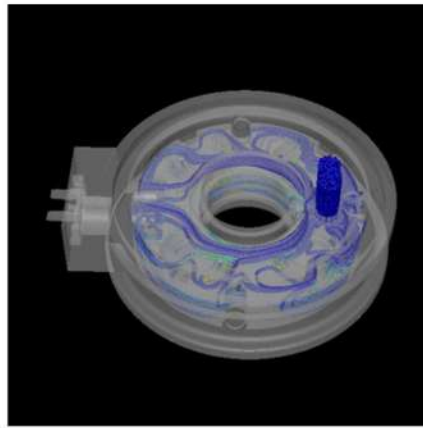
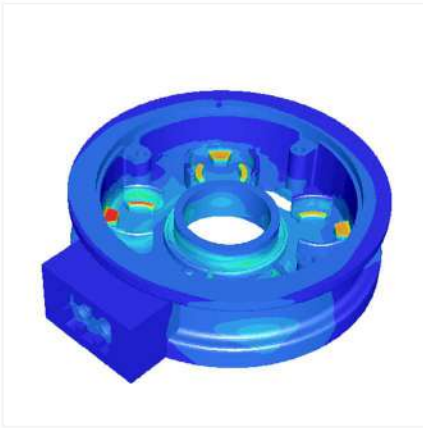


Engineering Capability

R&D 설계능력



Engineering Capability



Design & Development Tool

설계 및 개발



1) Design Tool _ Supplement Status

Design	Engineer	Design tool & Hardware	Usage
Structure Design Engineer(3)	Chief Engineer : 1 persons Senior Engineer : 2 persons Junior Engineer : 1 Persons	Pro-E (Creo 2.0) _ 3Units CATIA _ 1Unit Auto CAD _ 3Units Work Station Level (high effectiveness * PC 6 Units)	3D Modeling Components Design
Parts Quality Analysis (1)		MINITAB	Components Quality Verification
Control System Engineer (1)	Chief Engineer : 1 persons	Electric Characteristic Measurement Calibration Instruction	PCB Design & Development
Verification Engineer	Junior Engineer : (1) persons	Environmental Test Equipment	Parts Verification

2) Test Equipment _ Supplement Status

Category	Test Field	Q'ty
Environmental Test	Temperature, Humidity, Salt,	8Lots
Electric Characteristic Instruments	DC Power Analyzer & Others	8Lots
Calibration Instructions	LXI Data Acquisition & Others	11Lots

3) Management Person

Employee	Staff
Whole Management Member	23persons
Development Staff	4persons

Environmental Chamber & Test Bench

환경시험 장비



Equipment Name	Model	Specification	Maker	Usage
Thermal Shock Chamber	SE-TS-05	-40°C ~ 150°C	SuckSan	
Hot Chamber	OS4-4020H	-40°C ~ 300°C	O-Sung LST	
Cold Chamber	OS1-101T	-60°C ~ 20°C	O-Sung LST	
Hot & Cold Chamber	OS1-110TH	-45°C ~ 150°C 30°C ~ 98°C	O-Sung LST	
Heater Performance Chamber	DPTC	-30°C ~ 120°C DC 0~30V 100A	DUO Tech	
Thermostat Endurance Test Bench		3 parts		Thermostat ON/OFF cycling test
Salt Spray Test Bench				

Electric Characteristic Measurement

전기.전자 특성 계측 장비



Equipment Name	Model	Specification	Maker	Usage
DC Power Analyzer	N6705B	60V/20A/300W 20V/5A/100W	Agilent	Voltage & Current control
DC Power Supply	N5765A	30V/50A/1500W	Agilent	
DC Power Supply	E3634A	0~25V/7A/160W 0~50V/4A/200W	Agilent	
DC POWER SUPPLY	PWS-3005D	0~30V, 0~5A	PROVICE	
DC POWER SUPPLY	K1205D	P1 : 0~12V / 5A P2 : 0~12V / 5A	V POWER	
Digital Storage Oscilloscope	DSO-X 2012A	2ch, 100MHz	Agilent	
Handheld Digital Oscilloscope	U1600	2ch, 100MHz	KEYSIGHT	
Handheld Digital Oscilloscope	34461A	DC 10A / RTD	Agilent	