



Choice Of
Global OEM's of the world ;
For Many Years...



For **Many** Years, we serve;
Global OEM's & TIER1's
with **many models**



SCHAEFFLER

CONTITECH®

TCG UNITECH
AUTOMOTIVE COMPONENTS

JOPP

MANN+
HUMMEL

Thermostats



Water & Oil Pumps



Aluminium High Pressure Die Casting Parts



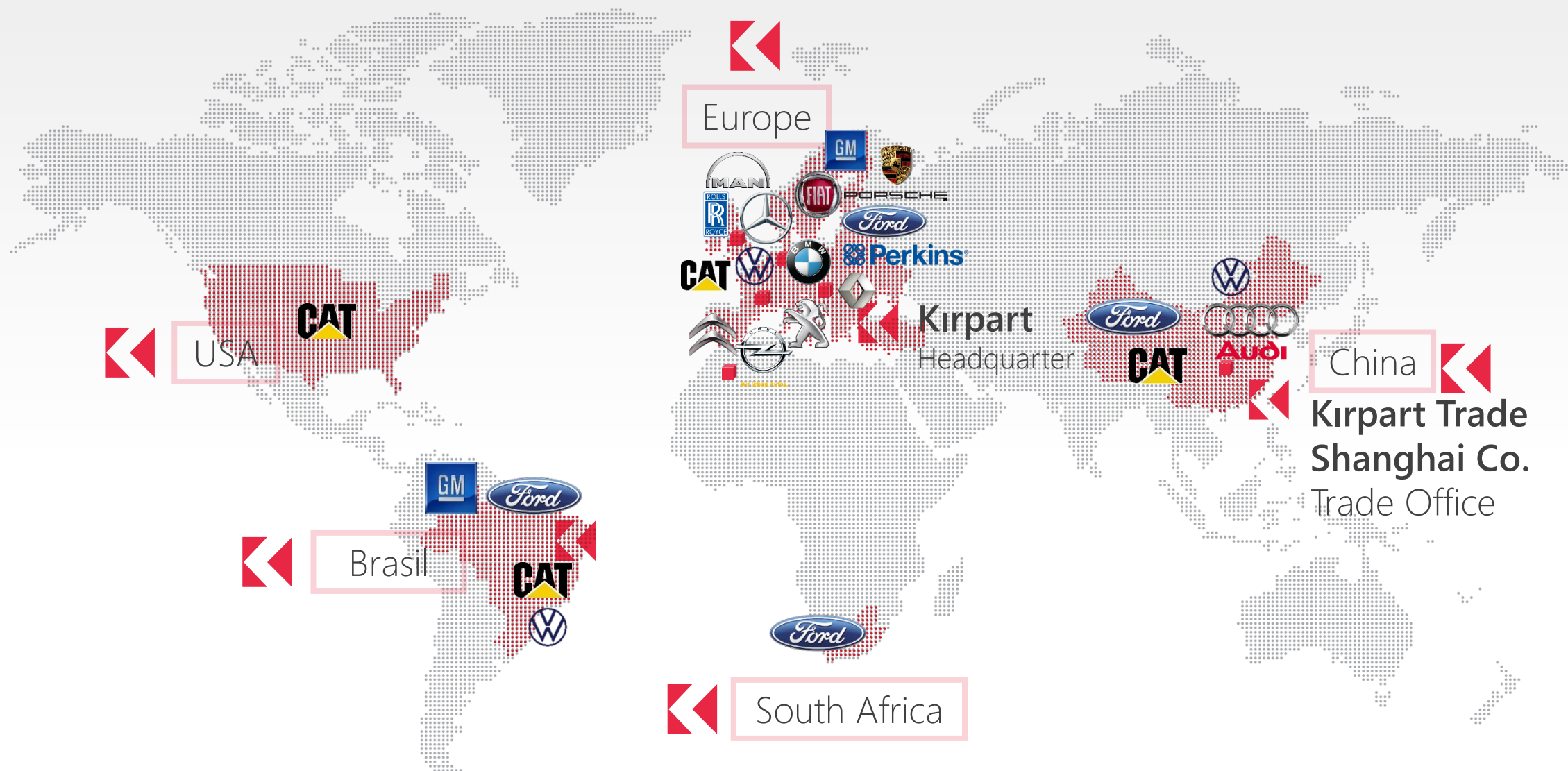
Electrification



Kirpart in the World

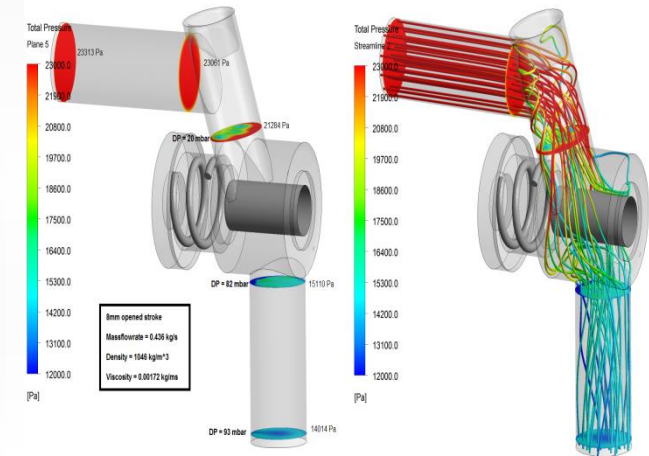
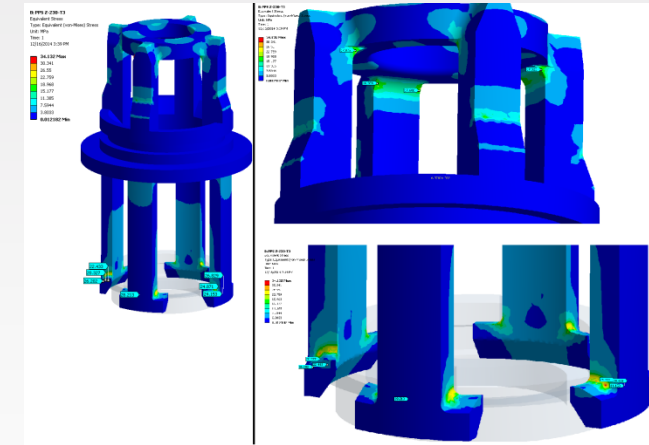


Which Continents? Which Brands?



Experienced and qualified engineering team,

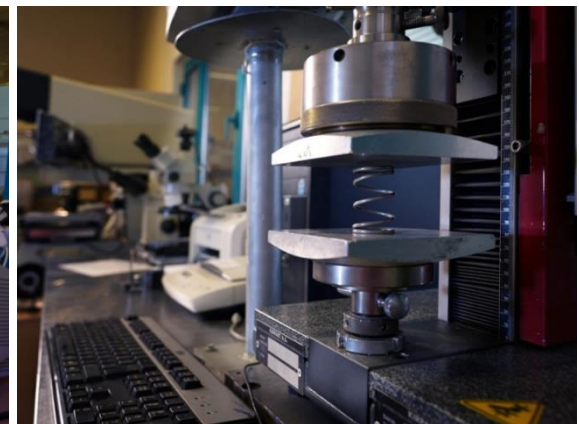
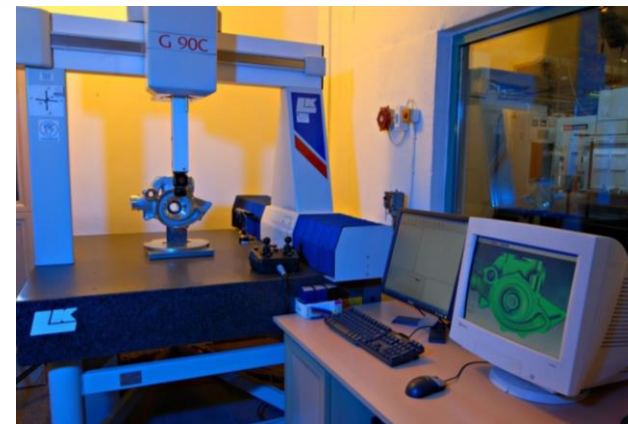
- ▶ Design and Development Study
- ▶ Prototyping from soft tools and production tools
- ▶ Validation of Design and product
 - CATIA V5
 - Pro-Engineering
 - Computational Fluid Dynamics (CFD)
 - ANSYS Mechanical Solver

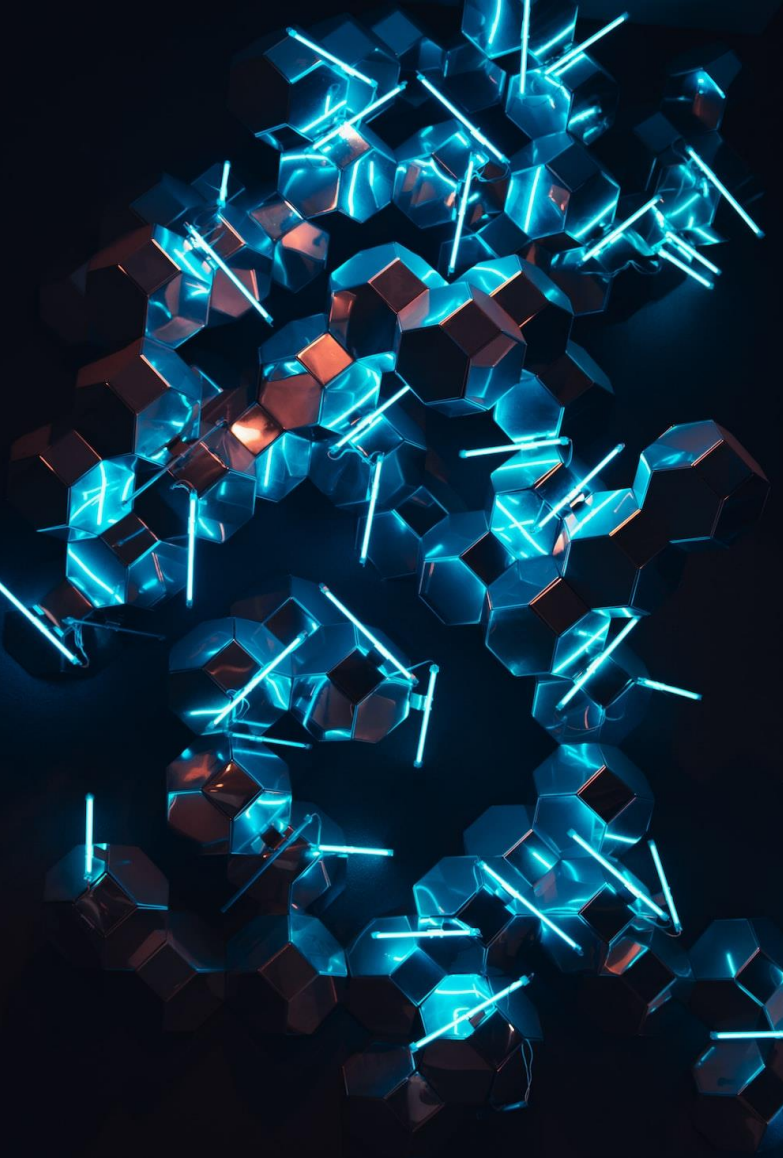


Laboratories

Dedicated laboratories for different divisions all equipped with state of art technology.

- ▶ Spectrometer
- ▶ 3D Measuring Equipment
- ▶ X Ray Instrument
- ▶ Profile Measurement
- ▶ Density Analysing Machine





Electrification in Kirpart

Provides;

products with higher efficiency (pumps and thermostats)
a much longer service life without performance losses.

With electronic components, it is possible to use the
combustion engines/electric motors/batteries in the optimum
temperature range all the time without a response delay and
noise.

HARDWARE in E-KIRPART

Prototyping

Validation

Additive
Manufacturing

Mechanical Testing

Power&Skills

Electronical Testing

SOFTWARE in E-KIRPART

Mechanics

Electronics

Simulation

Simulation

Design

Design



3D Printer



M 290-Metal 3D printer

- ▶ Materials: Aluminium, Cobalt Chrome, Maraging Steel, Nickel Alloy, Stainless Steel, Titanium and Inconel., H13.
- ▶ Selective Laser Melting Technology.
- ▶ CAD integration
- ▶ 250 x 250 x 325 mm
- ▶ 400 W laser

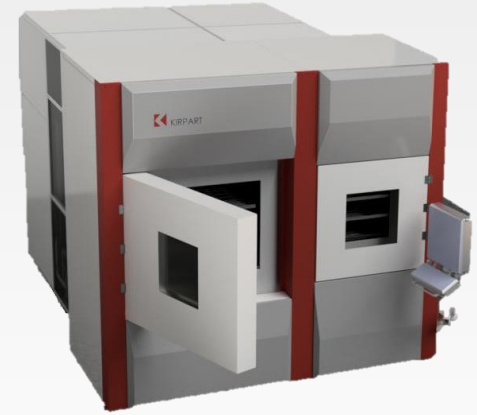


EOS Formiga P110 Velocis Plastic 3D printer

- ▶ Materials : Alumide, PA11, PA 12, PA12 Glass Filled, PrimePart, PA11 Carbon Fiber Filled
- ▶ Selective Laser Sintering
- ▶ CAD integration
- ▶ 200 x 250 x 330 mm
- ▶ 30W laser

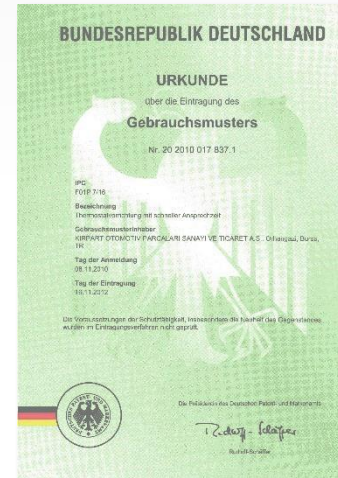
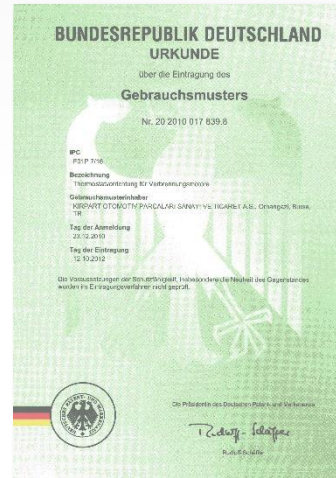
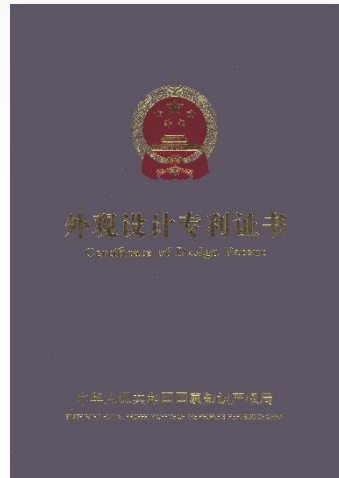
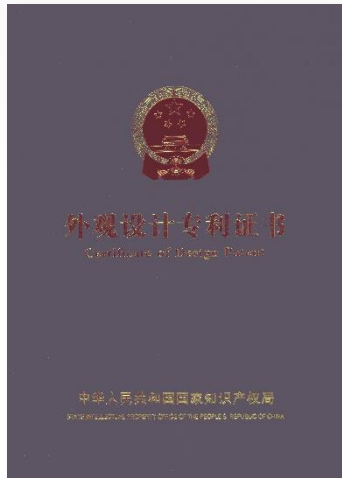
Dedicated laboratories for different divisions all equipped with state of art technology.

- ▶ EMC Test System with Chamber
- ▶ Endurance Test Equipment
- ▶ Performance Test Equipment
- ▶ Vibration Test Equipment



Patents

	Turkey	Global
a. Utility Patent	2 pcs	10 pcs
b. Patent	6 pcs	9 pcs

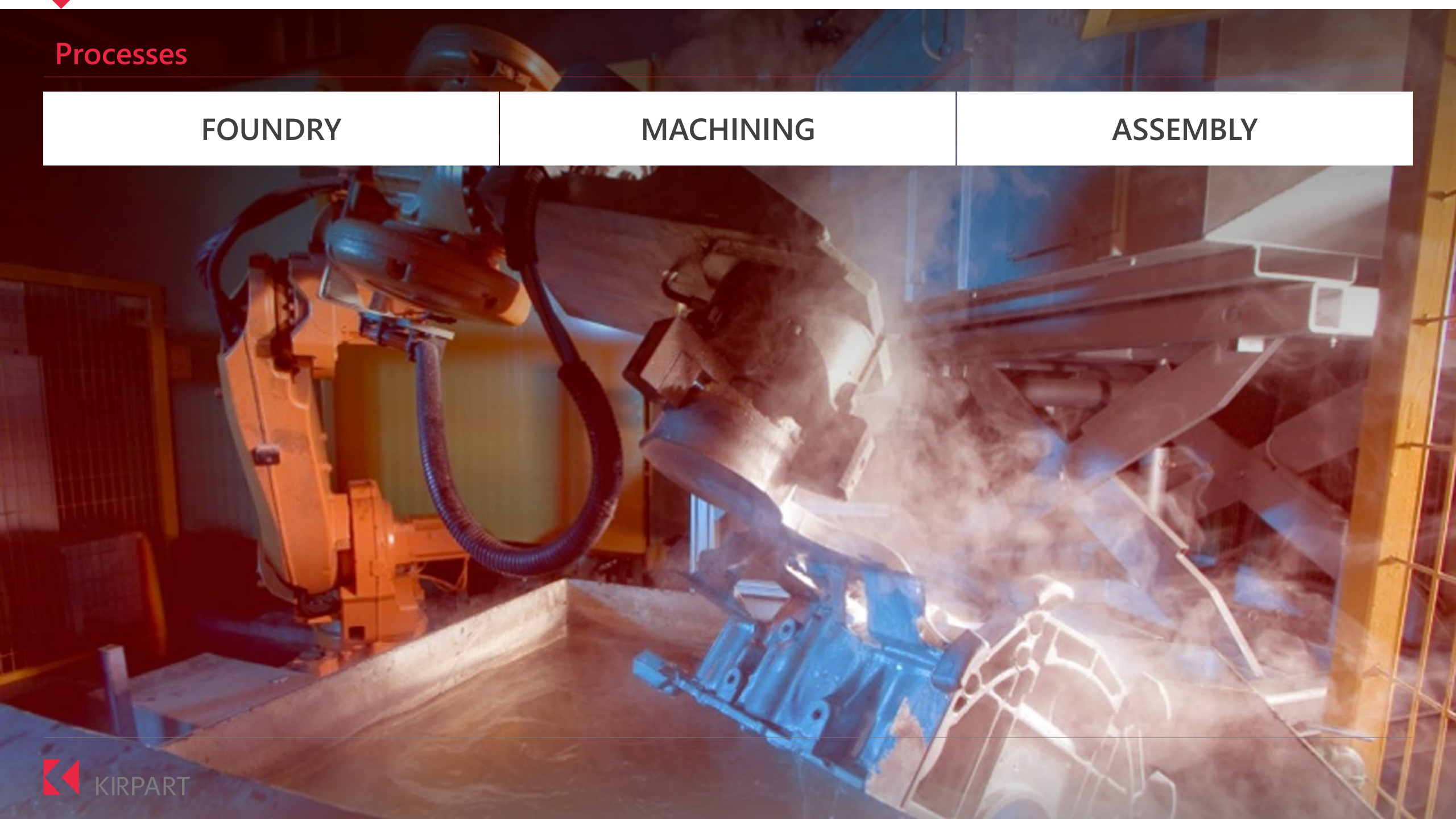


Processes

FOUNDRY

MACHINING

ASSEMBLY



Processes

FOUNDRY		MACHINING	ASSEMBLY		
<p>Each casting machine is equipped with its own holding furnace, automatic pouring, automatic die lubrication, die heating-cooling device and able to cast the parts weight from 50 gr. to 20 kg.</p> <p>Melting Furnaces</p> <ul style="list-style-type: none">▶ Shaft 2,0 Ton / Hr▶ Shaft 2,0 Ton / Hr▶ Shaft 1,0 Ton / Hr▶ Crucible 0,25 Ton / Hr			Press (Ton)	Pcs	Brand
			400	1	Metal Press
			550	2	Metal Press
			550	1	Era Press
			750	2	Colosio
			1000	1	Colosio
			1100	1	Metal Press
			1100	2	Era Press
			1600	1	Idra
			1900	5	Idra
			Total	16	

Processes

FOUNDRY

All parts which processed in casting are machined in-house by using the latest machining technology

MACHINING

Machine

Horizontal Machining Centes- 4 Axis

Vertical Machining Center

CNC Turning Center

CNC Turning Center with C axis

5 Axis Machining Center

ASSEMBLY

Pcs

Brand

2

Makino A51

11

Makino A51nx

6

Makino A61nx

3

MoriSeiki

3

Mazak HCN-5000

1

Brother

1

Mazak Multiplex

4

Takisawa

3

Goodway

1

DMG CLX 350

3

Grob G525

2

Grob G327

Total Machine

40

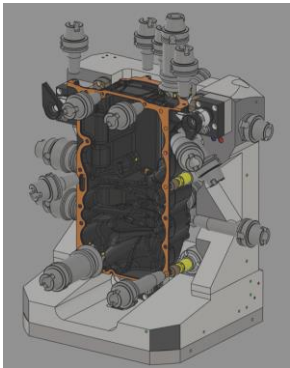
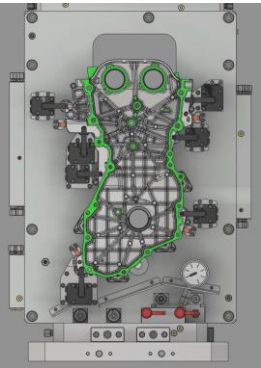
Processes

Machining

Each machining fixture designed with Kirpart's supplier.

Produced with Kirpart's design confirmation and process approval done in house.

Operation flow, tooling details, design improvements are done by Kirpart with quality and cost in consideration.



Test and Assembly

Dedicated production lines include in-cell test-assembly machines custom tailored to specific parts, contracted and their design approved by Kirpart.

Controls, measurements, poke-yokes are included when deemed critical.

Toolshop

Custom designed carbide and PCD tools are used to achieve faster machining times and higher accuracy.

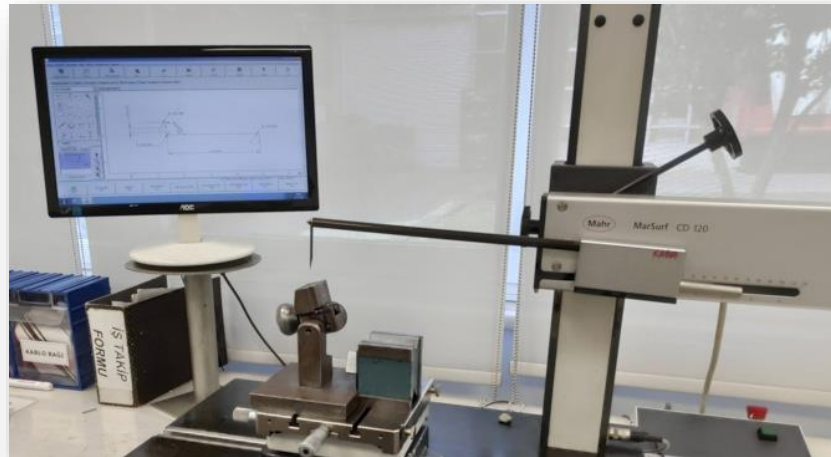
Toolshop houses main tools and spare for each set depending on its criticality.

Equipment	Qty
Zoller, tool setter	2
Haimer shrink machine	1
Kelch shrink machine	1

Machining Laboratories

2 laboratories in different locations support machining lines every working shift.

Equipment	Qty
Zeiss CMM	2
Wenzel CMM	1
Mahr profile measurement	1
Mahr surface roughness	2



FOUNDRY

MACHINING

ASSEMBLY

“in-cell” assembly concept by semi-automatic & automatic unique presses designed by Kirpart.

“in process” or “after production” quality checking tests applied automatically by our machines during assembly.

Thermostat Porfolio

Sleeve type
thermostat
Opening
Temperature: 105°C



Sleeve type
thermostat
Opening
Temperature: 87°C



Intercooler
Thermostat
Opening
Temperature: 65°C



Intercooler
Thermostat
Opening
Temperature: 50°C



Intercooler
Thermostat
Opening
Temperature: 30°C



Intercooler
Thermostat
Opening
Temperature: 30°C



Intercooler
Thermostat
Opening
Temperature: 30°C



Failsafe
thermostat
Opening
Temperature:
105°C



Failsafe
thermostat
Opening
Temperature:
112°C



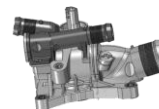
Heavy Duty Engine
Thermostat
Opening Temperature:
84°C



Heavy Duty Engine
Thermostat
Opening Temperature:
70°C



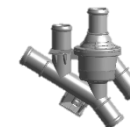
Main Engine
Thermostat
Opening
Temperature: 79°C



Main Engine
Thermostat
Opening Temperature:
78,5°C



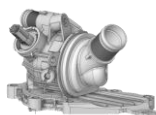
Electrical Engine
Thermostat
Opening Temperature:
15°C



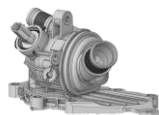
Engine Main
Thermostat
Opening
Temperature: 87°C



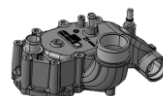
Engine Main
Thermostat
Opening Temperature:
80°C



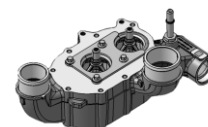
Engine Main
Thermostat
Opening Temperature:
80°C



Engine Main
Thermostat
Opening Temperature:
91°C



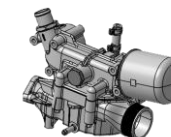
Truck Engine Main
Thermostat
Opening Temperature:
91°C



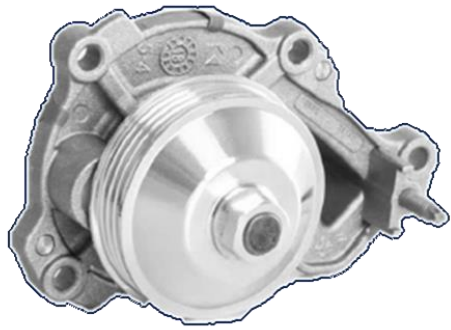
Truck Engine Main
Thermostat
Opening Temperature:
91°C



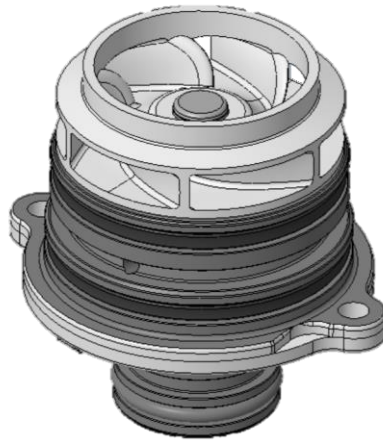
Truck Engine Main
Thermostat
Opening Temperature:
86°C



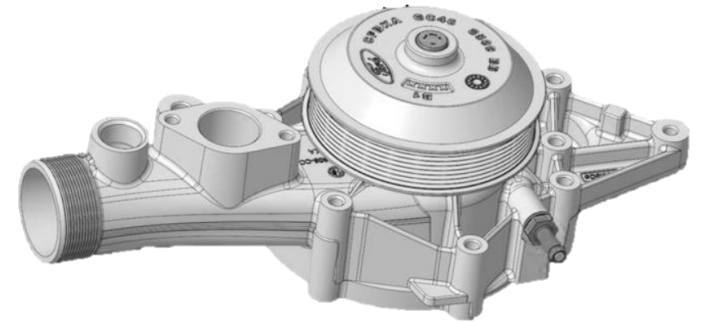
Water Pump Portfolio



Passenger Car WP



Sport Car WP



Commercial and Truck WP



E – WATER PUMP

Advantages of an electrically driven pump, providing the required coolant flow under any circumstances just by receiving signals from the ECU.



E-VALVE

Simultaneously, an actuator driven thermostat can position itself with 0.1 mm of steps before temperature rises in the system and arranges the flow distribution between locations by receiving signals from the ECU.
















FAN MOTOR














PM-BLDC driven fan system is a high efficiency solution to adjust coolant and cabin temperature in all types of vehicles. Higher efficiency products are especially critical to increase the range of battery EV's.

E Product Portfolio

COLD ENVIRONMENT PUMPS +85C (EV SOLUTIONS etc.)

Product	KCP1535	KCP1095	KCP15101	KCP15120	KCP2070A	KCP2070B	KCP3055	KCP25150	KCP35170	KCP50150	KHP8580	KCP80150	KCP150100
Data													
Voltage	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V
Current	2 A	3,2 A	5 A	6 A	4,3 A	4,3 A	5 A	11 A	14 A	20 A	18 A	32 A	41 A
Power output	9 W	16 W	25,5 W	30 W	23,5 W	23,5 W	27,5 W	63 W	100 W	125 W	113 W	201 W	250 W
Flow rate	15 LPM @0,35 bar	10 LPM @0,95 bar	15 LPM @1,01 bar	15 LPM @1,2 bar	20 LPM @0,7 bar	20 LPM @0,7 bar	30 LPM @0,55 bar	25 LPM @1,5 bar	35 LPM @1,7 bar	50 LPM @1,5 bar	85 LPM @0,8 bar	80 LPM @1,5 bar	150 LPM @1 bar
Speed	6000 RPM	5550 RPM	6100 RPM	6500 RPM	5200 RPM	5200 RPM	5000 RPM	6050 RPM	6200 RPM	6100 RPM	6000 RPM	6100 RPM	6000 RPM
Temp. range	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C	-40/+85 °C
Communication	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-mLIN (CAN op.)	PWN-LIN (CAN op.)
Protection	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
Size (WxLxH)	-	-	-	-	89x128x109 mm	89x128x109 mm	-	-	-	-	-	-	-
Notes	-	-	-	24 V availability	-	-	-	24 V availability	24 V availability	24 V availability	24 V availability	24 V – 48 V availability	24 V – 48 V availability

HOT ENVIRONMENT PUMPS +135C (COMBUSTION SOLUTIONS etc.)

Product	KHP1535	KHP1095	KHP15101	KHP15120	KHP2070A	KHP2070B	KHP3055	KHP25150	KHP35170	KHP50150	KHP8580	KHP80150	KHP150100
Data													
Voltage	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V	8-16 V
Current	2 A	3,2 A	5 A	6 A	4,3 A	4,3 A	5 A	11 A	14 A	20 A	18 A	32 A	41 A
Power output	9 W	16 W	25,5 W	30 W	23,5 W	23,5 W	27,5 W	63 W	100 W	125 W	113 W	201 W	250 W
Flow rate	15 LPM @0,35 bar	10 LPM @0,95 bar	15 LPM @1,01 bar	15 LPM @1,2 bar	20 LPM @0,7 bar	20 LPM @0,7 bar	30 LPM @0,55 bar	25 LPM @1,5 bar	35 LPM @1,7 bar	50 LPM @1,5 bar	85 LPM @0,8 bar	80 LPM @1,5 bar	150 LPM @1 bar
Speed	6000 RPM	5550 RPM	6100 RPM	6500 RPM	5200 RPM	5200 RPM	5000 RPM	6050 RPM	6200 RPM	6100 RPM	6000 RPM	6100 RPM	6000 RPM
Temp. range	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C	-40/+135 °C
Communication	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)	PWN-mLIN (CAN op.)	PWN-LIN (CAN op.)
Protection	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
Size (WxLxH)	-	-	-	-	89x128x109 mm	89x128x109 mm	-	-	-	-	-	-	-
Notes	-	-	-	24 V availability	-	-	-	24 V availability	24 V availability	24 V availability	24 V availability	24 V – 48 V availability	24 V – 48 V availability

E Product Portfolio

COOLANT FAN POWER UNITS (COMBUSTION - EV SOLUTIONS etc.)

Product

KF400/12

KF400/24

KF850/12

KF850/24

Data



Voltage

13 V

26 V

13 V

26 V

Current

30 A

15 A

56,4 A

33 A

Power output

400 W

400 W

850 W

850 W

Speed

4500 RPM

4500 RPM

4500 RPM

4500 RPM

Temp. range

-40/+135 °C

-40/+135 °C

-40/+135 °C

-40/+135 °C

Communication

PWN-LIN
(CAN op.)

PWN-LIN
(CAN op.)

PWN-LIN
(CAN op.)

PWN-LIN
(CAN op.)

Protection

IP6K9K

IP6K9K

IP6K9K

IP6K9K

Size (DxH)

110x80 mm

110x80 mm

140x80 mm

140x80 mm

AUTOMOTIVE ACTUATORS (COMBUSTION - EV SOLUTIONS etc.)

Product	KAL1512/12	KAL1512/24
Data		
Voltage	12 V	24 V
Current	2 A	1,2 A
Lift range	12 mm	12 mm
Torque	1,5 Nm	1,5 Nm
Temp. range	-40/+135 °C	-40/+135 °C
Communication	PWN-LIN (CAN op.)	PWN-LIN (CAN op.)
Protection	IP6K9K	IP6K9K
Size (DxH)	97x154 mm	97x154 mm

Kirpart Company Profile

Human Resources

Blue Collars		473
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University Graduated	%19	92
Tech. And Ind.Vocational High Sch Grad	%44	211
Other High school Graduated	%23	112
Woman	%10	47
Man	%90	426
Average Age		37

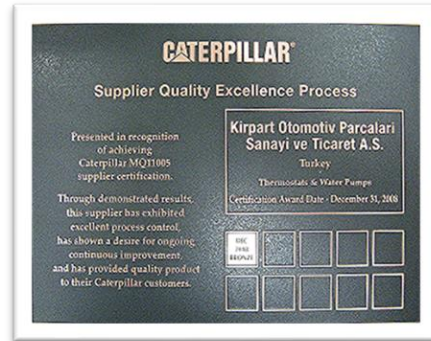
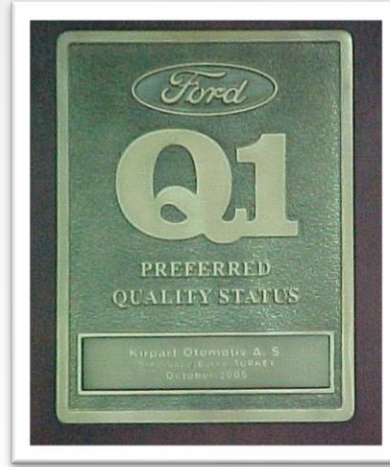
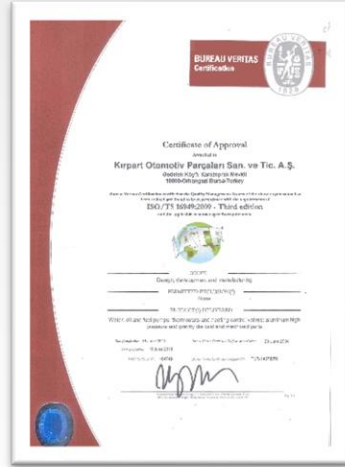
White Collars		131
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Master Degree	%39	51
University Graduated	%52	68
Master Degree in Progress	%2	3
Engineers	%58	77
Woman	%29	38
Man	%71	93
Average Age		35

Total Employees		604
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Certificates



Thank You



KIRPART OTOMOTİV PARÇALARI SANAYİ VE TİC. A.Ş.

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