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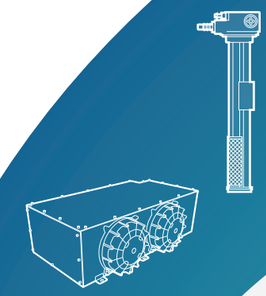
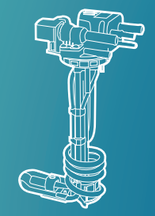
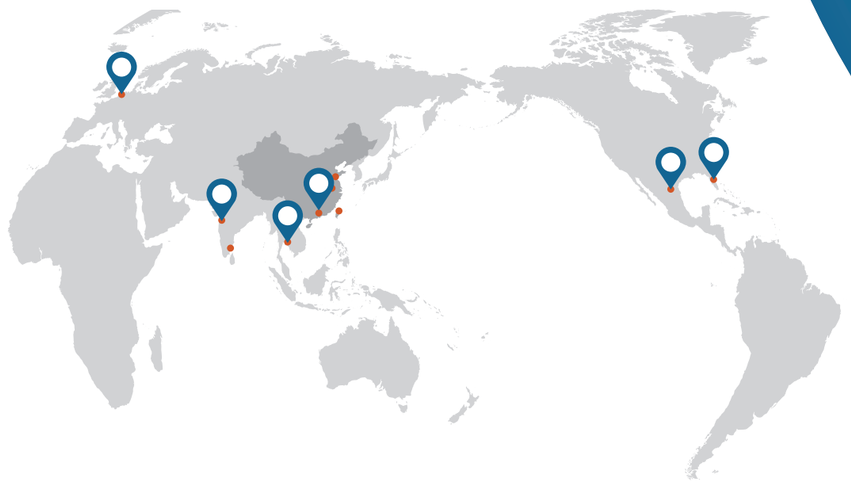
KUS

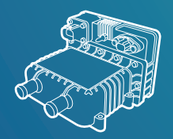
Sensing Quality, Gauging Success.

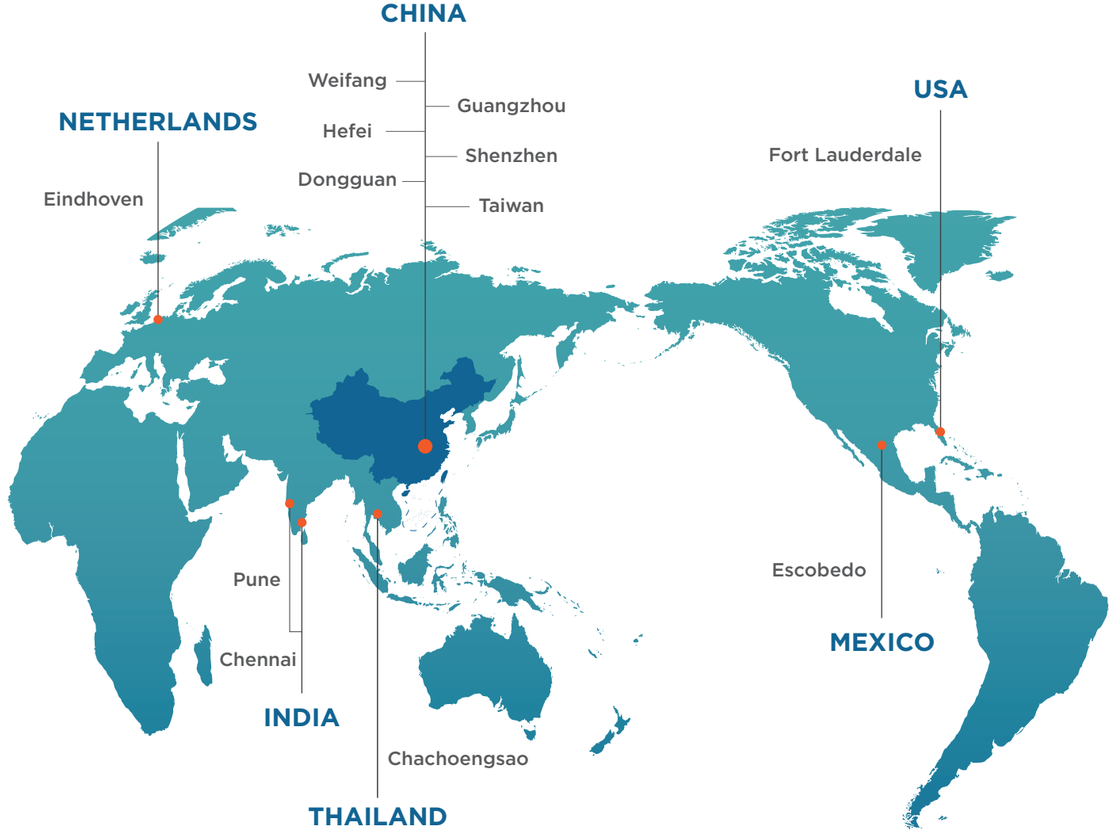


THE GLOBAL SUPPLIER OF SENSORS AND INTEGRATION SOLUTIONS









KUS is a global automotive parts and assembly supplier integrating R&D, production, sales and service and integrated solutions.

KUS products are mainly divided into traditional fuel-related products and new energy vehicle products. Traditional fuel-related products include: AdBlue quality sensors, liquid level sensors, AdBlue tank assemblies, gauges and generator sensors, etc.; new energy vehicle products include thermal management system products, wiring harness wiring harness, controller products, energy storage temperature control products, etc. The products are widely used in commercial vehicles, passenger vehicles, off-road machinery, energy storage and other industries and fields, and are committed to providing SCR exhaust after-treatment system solutions and new energy thermal management system solution for the transportation industry and industrial customers.

KUS is based in China and has a global presence. It has production bases or subsidiaries in China, the United States, Mexico, Netherlands, India and Thailand. It has more than 5,000 employees worldwide and can provide professional products and high-quality services to customers around the world.

KUS Americas

KUS Mexico

KUS Europe

KUS India

KUS Thailand

KUS Weifang

KUS Hefei

KUS Shenzhen

KUS Taiwan

KUS Automation

Milestones


2004

Established a company in Dongguan and became an integrated enterprise of production, marketing and research.

Reed switch single-tube fuel sensor, multi-function fuel sensor, and AdBlue level sensor entered mass production.


2008

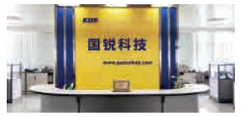
KUS AdBlue tank assembly products were put on the market and moved from the old factory to the new factory.

2010

"KUS" brand was launched on the market, and AdBlue injection system accessories products were launched on the market.

2016

A new factory in India and a subsidiary in European have been established to provide customers with efficient localized services.



2015

KUS Automation was established to ensure the automation equipment needs within the group and also provide customized automation equipment services for industry customers.

2013

AdBlue quality sensor and high-precision liquid level sensor are put on the market.


2017

KUS Hefei Factory and Zhenggang Company was established; the AdBlue tank integration solution was put into the market; became a reputation doubled enterprise.


2019

Establish a factory in Mexico, expand the global market, and provide PTC, VCU and other new energy products.

2020

Establish a factory in Weifang, Shandong Province and expand the second factory in India.



2025

The construction of the fourth phase of the headquarters factory in Dongguan, the completion and formal production of the first phase of the production base in Chachoengsao Province, Thailand, and the establishment of the European factory all mark a crucial step forward in the global layout.At the same time, we will also expand in areas such as AI data center thermal management, energy storage, and battery packs.


2023

The third phase factory of the Dongguan headquarters has been successfully completed and put into operation. Products such as wiring harnesses and battery management system units have been gradually launched onto the market.


2022

Established KUS Americas, Shenzhen Branch, KUS Smart Energy, accelerated the layout in the new energy field, and independently developed and manufactured cooling board products.

CONTENTS

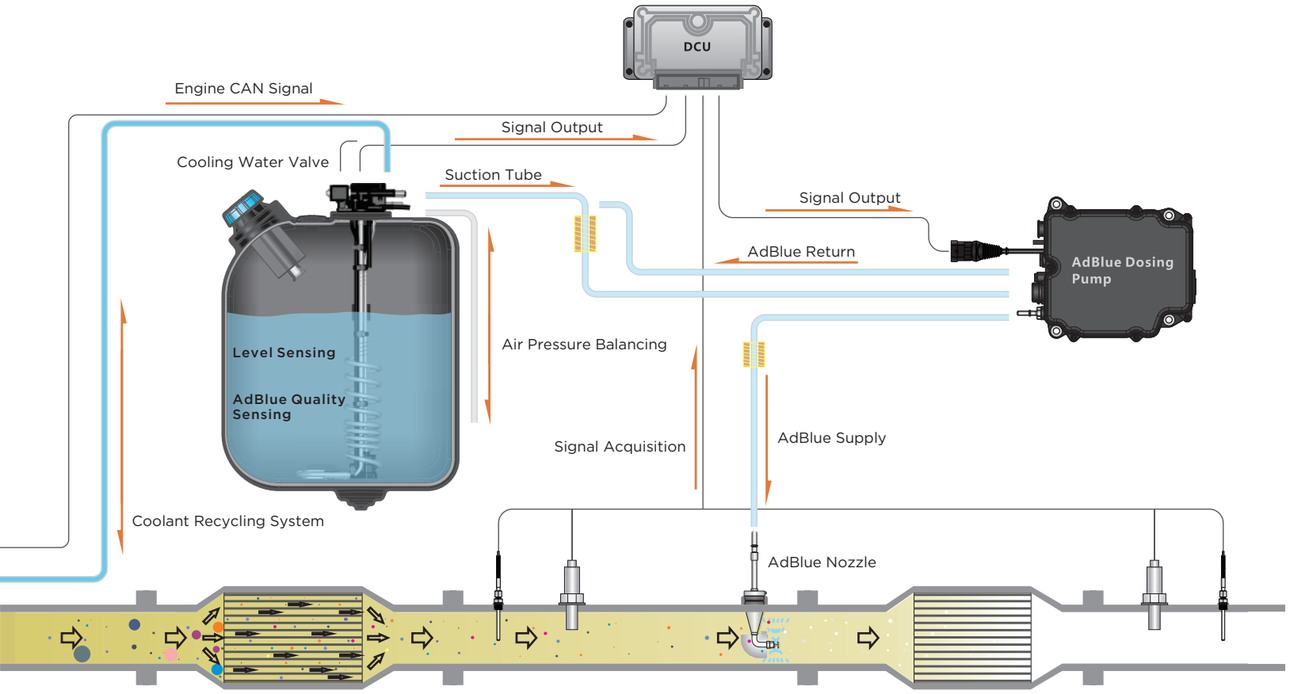
KUS

CHAPTER

SCR And Fuel System Application

SCR System Application

SCR (Selective Catalytic Reduction) exhaust treatment system is adopted worldwide to reduce air pollution and emissions from vehicles. The principle of the SCR system is to use the ammonia gas decomposed from the vehicle's urea aqueous solution to react with nitrogen oxides NOx to generate non-polluting nitrogen (N2) and water (H2O).

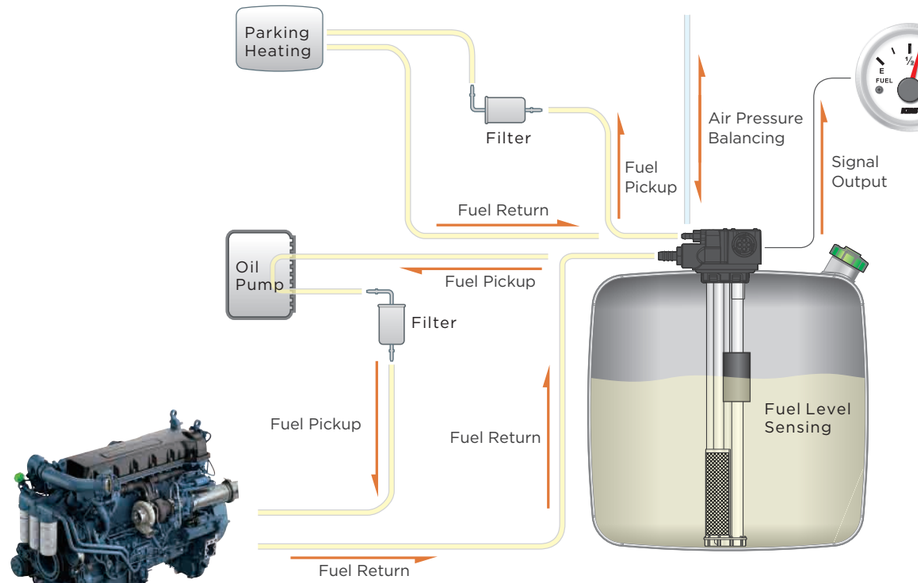


CHAPTER

SCR and Fuel System Application

Fuel System Application

KUS has a variety of oil and water level detection solutions, which can quickly provide customers with customized solutions. KUS also provides various engine speed and pressure sensors, which can work with similar instruments.



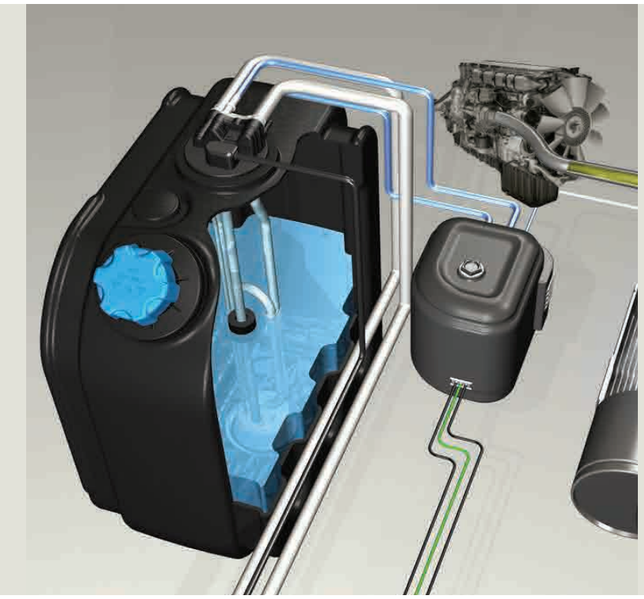
CHAPTER

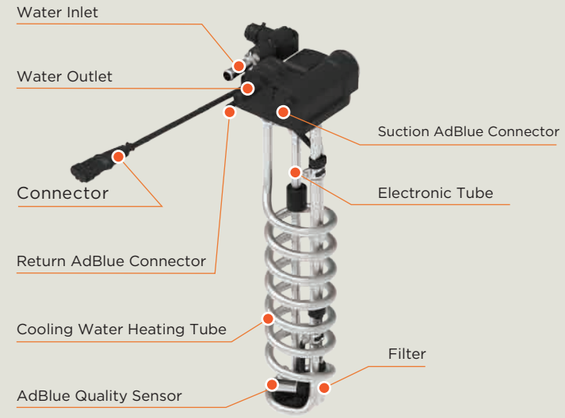
AdBlue Quality Sensor

The AdBlue sensor of KUS is widely used in the SCR system of various road vehicles and non-road machinery.

The AdBlue quality sensor can accurately monitor the concentration and quality of the Adblue solution, and alert the user if the AdBlue concentration with deviation or any contaminated fluids in the tank. To ensure the vehicle emissions can comply with emission laws and regulations.

KUS AdBlue sensor provides multiple functional integrated solutions: AdBlue concentration detection, liquid level measurement, cooling water circulation heating, temperature measurement, suction/return AdBlue, AdBlue filtration, cooling water solenoid valve control (optional), etc. The company can also customize AdBlue sensors according to customer requirements, which are suitable for working environments under various climate conditions around the world.





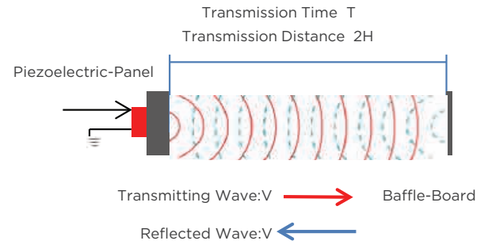
- Measuring Principle: Ultrasonic

Advantages:

- Signal output with high precision
- Stable and continuous output signal
- Resistant to environmental variations
- Integrated key features
- Selectable length subject to users' application
- Options of different electronic connectors
- Custom design formation optimized for different tank design

CHAPTER

AdBlue Quality Sensor



Principle of Ultrasonic Wave

Ultrasonic wave in different medium , different concentration of liquid has different propagation speed; By using ultrasonic wave to travel a fixed distance in the liquid and comparing the difference of the time, the difference value of the concentration of the liquid can be obtained.

Signal: CAN(SAE J1939)
Accuracy: ±2%(25%-36%AdBlue)
±3%(＜25%AdBlue,＞36%AdBlue)
Resolution: 0.25%AdBlue


CS9ET


CS8MT


CS9AT


CS9CT

AdBlue Quality Sensor with Valve

- Sensor head with a valve integrated, which can reduce the SCR pipeline connection, lower the leakage risk and also save costs.
- Reduce the installation space of the cooling water valve with simple layout.
- The water valve maintenance is easier and more convenient.

Spiral Shape AdBlue Quality Sensors

AdBlue solution will be frozen at temperature below -11°C. It will affect the operation of the SCR system. Hence, we recommend the spiral shape AdBlue sensor for cold region operation. The spiral design could provide better heating efficiency to thaw frozen AdBlue solution, and allow the SCR system to work normally within specific time after engine cold start.

Assembly with AdBlue tank: bayonet, screw fixed; Toothed bayonet installation, head can be equipped with air pipe ventilation (optional).

L-shape AdBlue Quality Sensors

The L-shape AdBlue Quality Sensors is suitable for large-volume or L-shaped boxes, which can effectively increase the heating area of the AdBlue solution. It can be heated quickly and can thaw AdBlue in a short time, the heating is balanced, so that the vehicle can be used for a long time in cold areas. Stable and normal work.
A variety of mounting methods including bayonet, SAE screw pattern with air vent or non-vented respectively.

AdBlue Quality Sensors without Heating Function

In warm area, SCR system does not require heating function, the AdBlue sensors only have the features of level indication and integrated suction/return for AdBlue. CNAAT sensor solution, the connector is integrated with a plastic head, which is a low-cost product among non-heating AdBlue quality sensors. A variety of mounting methods including bayonet with air vent or non-vented respectively.

AdBlue Quality Sensors (Large Bayonet)

The large bayonet structure of the AdBlue sensor is currently a common way to install sensors in AdBlue tanks, and it is also a standard installation method. It has the characteristics of easy disassembly and assembly and strong interchangeability, and is widely used in AdBlue tank assemblies with large capacity and loose structural space.

CHAPTER

AdBlue Quality Sensor

TL2CT

EL3CT

CN8CT

CNAAT

CSBET

CL9FT

CHAPTER

AdBlue Quality Sensor

RD7CT

RDAAT

RS9AT

Non-road AdBlue Quality Sensors

The non-road AdBlue quality sensor uses the principle of electromagnetic induction to detect AdBlue level. It is widely used in SCR systems of well-known trucks at home and abroad. The output signal has high accuracy, stability and continuity. The product structure is simple and reliable. Only the float is a moving part. It is wear-resistant, has a long service life and has good heating effect.

- Multiple functions integrated into one
- Liquid level detection and alarm
- Cooling water circulation heating
- Suction and return of AdBlue solution
- Test AdBlue concentration
- Temperature detection
- AdBlue filtration

Technical Parameters

Product Number	RD7CT	RDAAT	RS9AT
length Range	285-600mm	285-600mm	285-900mm
	Length range can be customized according to customer requirements		
Main Material	Nylon, rubber, stainless steel		
Installation Method	Clamp type, easy to install and remove		
Connector	Optional Amp, delphi, Tyco or other brands		
Output Information	Resistance signal, voltage signal		
Rated Power	125mW		
Accuracy Range	10-40mm		
Operating Temperature	-40°C-85°C		
Protection Level	IP67		

PTC+Cooling Water Heating (Euro-7/China-7 Electric Heating Product)

1. AdBlue level measurement
2. AdBlue temperature measurement
3. AdBlue pick up & return
4. AdBlue filtering
5. Heating and thawing AdBlue (PTC electric heating + engine cooling water mixed heating)
6. Detection of AdBlue concentration (ultrasonic detection)

Sensor length: L=300-750 mm (can be matched according to customer tank)

Installation method: E-ring ø125mm, Size bayonet

Electronic Specifications: Voltage: 24~48 V, electric current 16~32A , power 600~1500W

Conventional Water Heating + Cabinet Integrated PTC Heating (Euro-7/China-7 Electric Heating Product)

1. AdBlue storage
2. AdBlue level measurement
3. AdBlue temperature measurement
4. AdBlue pick up & return
5. AdBlue filtering
6. Heating and thawing AdBlue (PTC water and electricity mixed heating)
7. Detection of AdBlue concentration (ultrasonic detection)

Box size: 20L~100L

Installation method: bracket, chassis fixed

Electronic Specifications: Voltage: 24~48 V, electric current 16~32A, power 600~1500W

CHAPTER

AdBlue Quality Sensor

CHAPTER

Liquid Level Sensor

SAFT

KPDL

KAD

SAPK

KPDW-Wired

KPDW-Wireles

Multi-Tube Fuel Sensor

Multi-tube fuel sensors are mainly used in trucks and buses. In addition to measuring oil level, they are equipped with engine inlet/outlet, parking heating system inlet/outlet, and air valves to balance the pressure inside and outside the tank and prevent oil leakage from rolling over.

- Structural selection: aluminum alloy base assembly metal joints/plastic head injection molding integrated molding/piping integrated molding.
- Main material: Aluminum alloy ADC12 or PA66+GF30.
- Installation: Bayonet twisted for easy assembly.
- Signal output: Resistance, voltage, current or CAN-BUS signal.

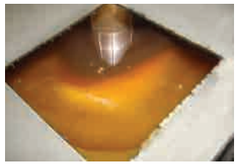
Multi-Tube High Precision Capacitive Fuel Sensor – Wireless/Wired

In addition to the characteristics of above mentioned Multi-Tube Fuel Sensor, this series of capacitance sensor functions are:

- it can link to vehicle by wireless or wired.
- high accuracy of 2% and high resolution of ⩽1mm.

Heating Fuel Sensors

KUS fuel heating sensor adopts PTC heating or engine coolant circulation heating, which has high heating efficiency and can automatically control temperature; the combustion efficiency can be effectively improved, and the pollution of exhaust emissions can be reduced at the same time.



High Precision Sensors

The sensors combine Multi-functions, including measuring liquid level, suction/return pipes for engine and vehicle heating system, balancing the pressure of the tank and the atmosphere, temperature alarm, etc.

- Main material: High quality aluminum alloy
- Resolution: 0.1mm
- Accuracy: 2mm
- Measuring principle: AMR, Capacitance
- Signal output: Resistance, Voltage, CAN, SENT, RS-232, RS-485.

The Capacitance Level Sensor (CLS), is used to continuously detect fuel level by measuring the capacitance variations as the level changes, it has the characteristics of high precision, strong stability and long service life.

- Sensor length range is 300mm~1500mm and can be customized.
- Installation: SAE standard 5 holes flange, other installation methods are available.

CHAPTER

Liquid Level Sensor

SPEHH

SAH

KAB

SADR

CLS2

CLS4

CHAPTER

Liquid Level Sensor

TN

PS5D PS5 S5 S3

Sensors Of Stainless Steel Type

TN series are mainly used for light trucks, construction machines, yachts, etc. Besides measuring the level, an additional suction/return pipe or air ventilation for engine can be customized.

- Main material: Stainless steel
- Installation: SAE standard 5 holes flange or 6 holes flange, bayonet twisted is also available.
- Signal output: Resistance, voltage, current or CAN-BUS signal.

Single-tube Sensor Types

S5 & S3 series are widely used in various fuel, water or chemical tanks. With a simple yet reliable structure, starting from 4 inches, every half inch is a standard length.

- Main material: SS 316 & SS 304
- Installation: SAE standard 5 holes, BSP or NPT thread.

PS5 & PS5D sensors are widely used in fuel tanks, water tanks and other liquid tanks. The sensor has the characteristics of light weight and strong vibration resistance.

Fuel Tank Caps

KUS fuel tank caps have the function of balancing the air pressure between the interior and exterior of the tank. The cap can be made out of engineering plastic or metal. The cap can be equipped with a key and lock ventilation and without ventilation based on customer preference.

Methanol Quality Sensor

The methanol quality sensor uses components resistant to M100 methanol and features functions such as engine liquid intake and return, liquid level detection, concentration detection, impurity filtration, and anti-static properties.

- The intake and return pipelines utilize a one-piece bent pipe structure to reduce leakage.
- Fixed components are made of high-strength materials, offering pressure and vibration resistance.
- The filter body is one-piece molded with uniform mesh distribution, making it resistant to deformation under pressure and durable.
- The rationally designed filter structure increases the filtration area and minimizes pressure loss in the intake circuit.
- The filter and float are detachable for easy maintenance.

Liquid Ammonia Sensor

The liquid ammonia sensor is a multifunctional product that integrates liquid level, temperature, heating, and pressure sensors. It is used in automotive liquid ammonia tanks and features high output signal accuracy, stability, and continuity.

CHAPTER

Liquid Level Sensor

CHAPTER

Tank Assembly

121.12L (32 Gallons)

80L (21 Gallons)

55L (14.5 Gallons)

45L (12 Gallons)

35L (9.3 Gallons)

22L (5.8 Gallons)

20L (5.3 Gallons)

16L (4.2 Gallons)

12L (3.1 Gallons)

10L (2.6 Gallons)

AdBlue Tank Assemblies

The AdBlue tank is made of engineering plastic PE, which has high product strength and corrosion resistance to alkaline liquid. According to various vehicle mounting requirements, we offer different shape and cubage tanks for options.

- Rich experience in R&D and design of AdBlue tank assembly.
- Perfect AdBlue tank testing capability.
- Fast delivery and sufficient production capacity.
- Meet ISO 22241 standard automatic/manual/limit/filling control requirements.

We supply 3L~500L AdBlue tanks. Tank size and shape can be customized.

KUS AdBlue tank functions include: AdBlue storage, pressure balance, manual and automatic refilling control, refilling nozzle control.
Sensors are matched with different tanks to serve in various application and severe environments.

Extended Filling Type AdBlue Tank

- Tanks designs for integrating AdBlue supply modules are available upon request.
- Also we can integrate AdBule pump to meet customers requires.
- These tanks are widely applied to light duty vehicles, SUVs and pickup trucks.

CHAPTER
Tank Assembly

AdBlue Tank Assemblies

Integrated Solenoid Valve

With Bracket

Project

MOV: DC24V(⩽20.4V)/ DC12V(⩽10.2V)
MOPD: ⩾2.5Bar
Voltage: DC24V/ DC12V
Power: 11.5W(DC12V)/ 13W(DC12V)
Main material: Copper/stainless steel
Flow: 15L/min(±10%), Pressure difference 1Bar
Maximum particle size allowed in the fluid: 200μm
Work pressure: 0~5Bar
Internal and external leakage: ⩽2cc/min air, Test pressureAT 7Bar ±5%
Ambient temperature: -40~85°C
Fluid temperature: -40~90°C

Integrated AdBlue Sensor and Filter

CHAPTER
Tank Assembly

Filler Cap

Extended Filler Neck

Electronically Controlled Nozzle

Integrated Pump

Inlet Adapter

Vent Valve

Drain Screw

AdBlue Nozzle

CHAPTER
Tank Assembly

Concentration detection

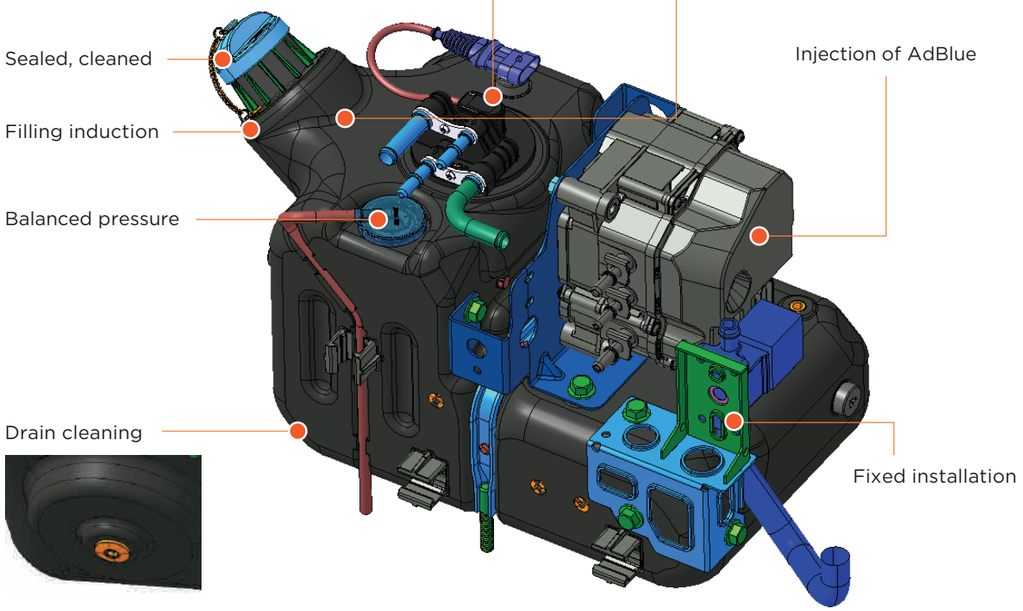
Heating and thawing

Temperature detection

Absorption and return of urea solution

Level detection

Balance the air pressure inside and outside the urea tank (optional)



KUS AdBlue tank can realize the integration of complex and diverse insert design in various molding processes.

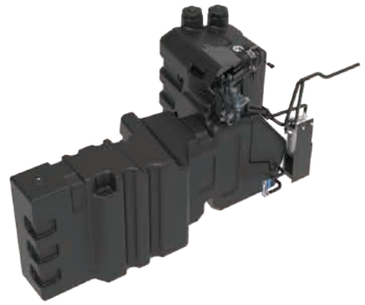
AdBlue Tank Parameters		
Storage Medium	AdBlue	Corrosive, low temperature crystallization
Material	PE	High strength and corrosion resistance
Colour	Black	Prevent algae growth and AdBlue decomposition
Craftsmanship	Blow molding/ Rotational molding	Blow molding production capacity is high; Rotational molding is complex in shape.

CHAPTER
Tank Assembly

Fuel Tank Assemblies

With the gradual improvement of the country's performance requirements for motor vehicles, the fuel tank of motor vehicles is developing from iron fuel tank to plastic fuel tank. KUS fuel tank is made of PE material, high safety and reliability, long service life, shape design freedom, can provide a complete set of integrated solutions such as tank, sensor, bracket.

90L



260L

Product Advantage

Light weight, integrated shape, seamless connection
Strong plasticity: suitable for special shapes
High safety: excellent impact and strength resistance
Excellent corrosion resistance

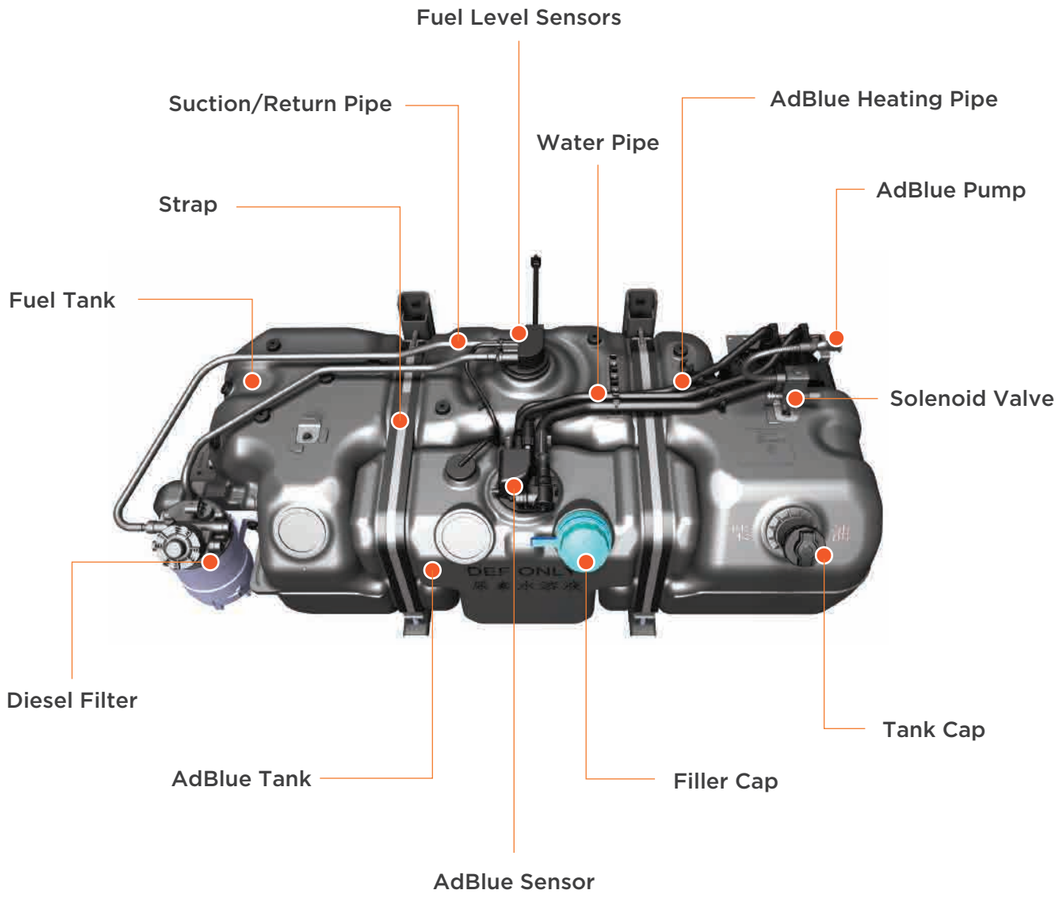
Cabinet Parameters		
Storage medium	Diesel oil	Permeability, low temperature waxing
Material	PE	High strength, permeation resistance
Colour	Black	Good UV resistance
Craftsmanship	Blow molding/ Rotational molding	High blow molding capacity; complex rotational molding shapes; can produce boxes larger than 300L
Operating temperature	Ambient temperature: -40°C ~ +85°C, peak temperature: 90°C	

CHAPTER

Tank Assembly

Tank Integrated Solutions

With the continuous development of automobile lightweight, integrated cabinets emerge as the times require. Based on highly vertically integrated production and R&D capabilities, KUS provides customers with mature AdBlue tank and fuel tank integration solutions, integrating fuel tanks, fuel sensors, diesel filters, AdBlue tanks, AdBlue sensors, AdBlue pumps and other accessories to meet light Quantified demand, flexible matching of various platform models of customers.



CHAPTER

Tank Assembly

The AdBlue tank is inlaid behind the tank

Product Advantage

Urea tank tank integration lightweight, highly integrated;
Modular assembly, improve vehicle production efficiency;
Body space layout neat and beautiful;
Reduce supplier management costs for customers.

Cabinet Parameters		
Storage medium	AdBlue	Corrosive, low temperature crystallization
Material	PE	High strength and corrosion resistance
Colour	Black	Prevent algae growth and AdBlue decomposition
Craftsmanship	Blow molding/ Rotational molding	Blow molding production capacity is high; Rotational molding is complex in shape.
Size	Size and shape can be customized according to customer needs	

Expansion Tank

Expansion tanks are primarily used in traditional gasoline vehicles, pure electric vehicles, hybrid vehicles, fuel cell vehicles, energy storage, and AI liquid cooling systems.

Their main functions include storing coolant or deionized water, providing coolant filling and replenishment for thermal management systems, regulating system pressure, dissipating coolant heat, and monitoring coolant levels. The overall structure consists of a tank body, a level sensor, and a pressure relief valve. Expansion tank assemblies of different shapes and volumes can be customized according to vehicle installation requirements and customer needs.

- Meets the requirements for automatic refueling of the entire vehicle system, with flexible customization of the fluid replenishment port and degassing interface.
- Dual-chamber and multi-chamber integrated solutions simplify vehicle installation and layout.
- Integrated sensors provide convenient plug-in ports.

9+1.5 Liters

CHAPTER

Tank Assembly

1.7 Liters

2+1 Liters

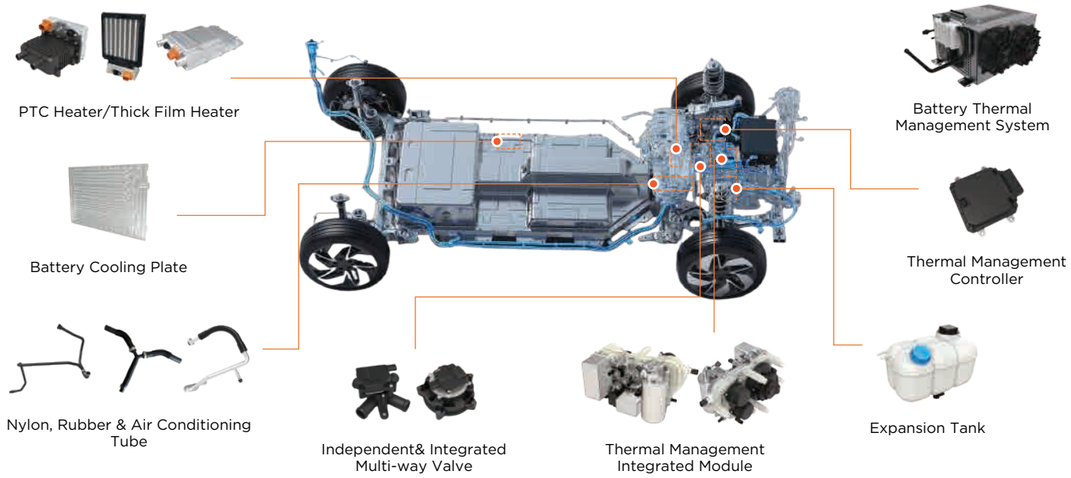
3.5+2.5 Liters

8 Liters

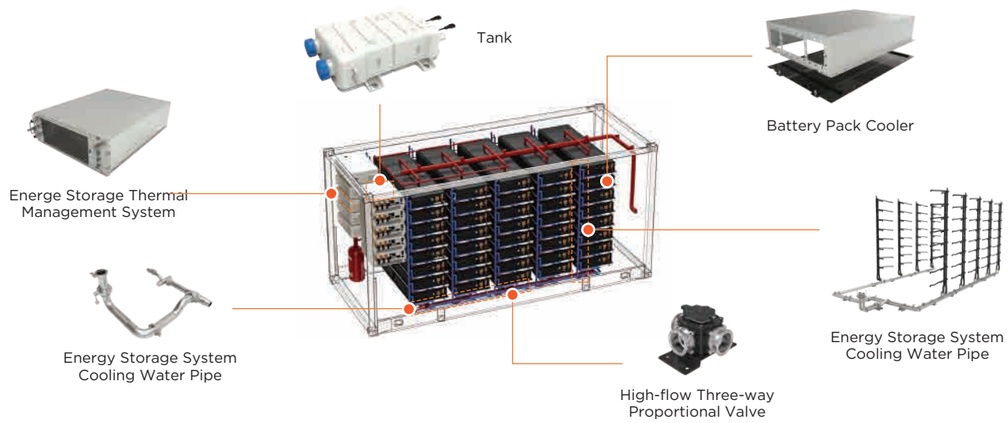
CHAPTER

Thermal Management System Application

The onboard thermal management system is a system that, from the perspective of system integration, coordinates the relationship between heat, engine, and the entire vehicle, and uses comprehensive methods to control and optimize heat transfer. It can automatically adjust the cooling intensity according to driving conditions and environmental conditions to ensure that the cooled object works within the optimal temperature range, thereby optimizing the environmental performance and energy-saving effect of the entire vehicle, while improving the safety and driving comfort of the vehicle operation.



Energy storage thermal management system is a system that converts electrical energy into thermal energy and efficiently stores and manages it. Its core task is to effectively control and manage thermal energy during the energy storage process, ensuring that the battery remains within a reasonable temperature range under various operating conditions.



PTC Coolant Water Heater

PTC Coolant Water heater is mainly used in pure electric, hybrid and fuel cell vehicles. Through PTC heating chip, the cooling water is heated to improve the performance of the battery module of electric vehicles, provide warm air for the whole vehicle cab air conditioning of new energy vehicles, and cold start heating for the hydrogen fuel cell module.Its overall structure is composed of radiator (including PTC heating package), main control panel, high voltage connector, low voltage connector and upper shell, etc., which can ensure the safe and stable operation of the vehicle PTC water heater, and the power change will not cause interference to the body system due to the sudden increase and decrease.

- The control and heating body are integrated, and the system takes up little space.
- The power control adopts PWM stepless adjustment, and the system has strong applicability.
- It has built-in voltage, current, and temperature acquisition, overvoltage, overcurrent, and overtemperature protection, and functional safety ASIL-A, making it safer.

Hydrogen Fuel Cell Vehicle

Electric Vehicle

Hybrid Electric Vehicle

Vehicle Air Conditioning System

CHAPTER

Heater

350V 5kW

600V/800V 7kW

600V/800V 10kW-15kW

600V/800V 24kW

CHAPTER

Heater

High Voltage Integrated Air Heater

High Voltage Split Air Heater

PTC Air Heater

The PTC air heater is a positive temperature coefficient heater which consists of specialized heating discs built from advanced ceramic materials. In fuel cell, electric, and hybrid vehicle air conditioning systems, the PTC air heater replaces a traditional fuel vehicle heater core and is installed in the HVAC assembly. The air heater is powered and controlled by the vehicle. The function of the air heater is to blow warm air through the air ducts to heat the cabin and defrost or defog windows.

Features of high voltage integrated air heater:

- Integrated control and heating body, the system takes up little space.
- The power control adopts PWM stepless adjustment for higher comfort.
- It has built-in voltage, current, and temperature collection, as well as overvoltage, overcurrent, and overtemperature protection, making it safer.

Features of high voltage split air heater:

- The control and heating bodies are separated, making the installation arrangement more flexible.
- The development cycle is short and the manufacturing process is simple.
- PWM control and I/O control are optional.

Thick Film Heater

● Application Scenario:Thick film heaters is primarily used in the air conditioning systems and battery thermal management systems of battery electric vehicles (BEVs), hybrid electric vehicles (HEVs), and hydrogen fuel cell vehicles.

● Features and Advantage:Thick film heating is a heating method based on thick film circuit technology. It offers stable resistance values, precise temperature control, fast heating response, and high thermal efficiency. Characterized by rapid temperature rise, its compact structure facilitates easy installation and integration.

Integrated Compressor and Thick Film Heater

● Application Scenario: Thick film heaters are primarily used in the air conditioning systems and battery thermal management systems of battery electric vehicles (BEVs), hybrid electric vehicles (HEVs), and hydrogen fuel cell vehicles.

● Features and Advantage:The integration of heaters and compressors is a critical combination in industrial heating systems. We offer a variety of heater solutions to meet different integration requirements.

CHAPTER

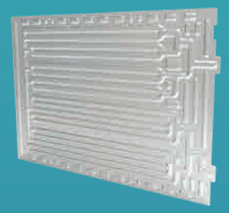
Heater

600V/10kW

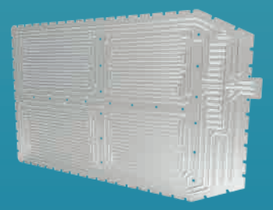
600V/8kW

CHAPTER

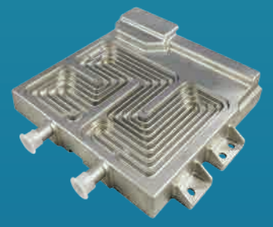
Cold Plate



Energy Storage Liquid Cooling Plate



Power Battery Liquid Cooling Plate



Flattened Ultra-Thin Heat Pipe

Altra-Thin Vapor Chamber

Battery Cooling Plate & Energy Storage Cooling Plate

Cooling Plate is mainly used in battery packs for new energy vehicles and energy storage systems. It uses internal circulating liquid to exchange heat with the power/energy storage battery so that it is always maintained in a suitable operating temperature range, thus extending the battery life and work efficiency.

● Uniform temperature design to improve the battery life.

● Provides liquid cooling for direct cooling system solutions.

● Low flow resistance design, reduces the energy consumption of the liquid cooling system.

● High strength and corrosion resistant materials improve product life, and reduce the wall thickness and weight of products.

Domain Control Cooling Plate

Vehicle domain controller will generate excess heat during operation, and as the function integration becomes higher and higher, the power consumption and heat generation will gradually increase, so effective active cooling is required. The domain control Cooler can be used for the cooling of the vehicle domain controller, and the cooling medium is provided through the liquid cooling circuit inside the vehicle to absorb the heat of the vehicle domain controller to ensure the reliable and efficient operation of the system.

Vapor Chamber

The function and working principle of the vapor chamber are the same as those of the heat pipe. The fluid enclosed in the plate-shaped cavity undergoes conduction, evaporation, convection, solidification, and reflux to complete the heat transfer cycle, achieving the functions of rapid temperature uniformity, rapid heat conduction, and heat diffusion.

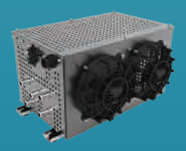
Automotive Battery Thermal Management System

Automotive battery thermal management system is one of the important components of the thermal management system of new energy vehicles. It is used to meet the continuous cooling and heating needs of the battery pack, allowing the lithium battery pack to work in a suitable temperature range, extending the battery life and improving battery safety. Automotive Thermal Management System is mainly composed of a compressor, ECU, PTC heater, fan, water pump, condenser, plate heat exchanger, expansion valve, pipeline, etc. It can be customized according to customer needs with different dimensions and cooling/heating power range of 3KW~15KW.

11kW

3kW

5kW



7kW

9kW

Domain Controller Cold Air Exchanger

Application Scenarios

Construction Machinery

Agricultural Machinery

Commercial Vehecles

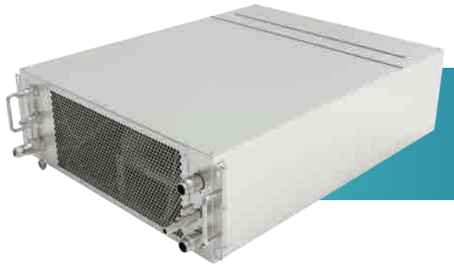
Electric Vehicles

Technical Parameters		
Basic Information	Applicable Fields	Construction Machinery, Agricultural Machinery, Truck, Autonomous Charging Vehicle
	Operating Temperature (°C)	-30~+55
Unit Performance Parameters	Rated Cooling Capacity (kW)	3~11kW@(water inlet 40°C&15L/min~60L/min, ambient temperature 40°C)
	Rated Heating Capacity (kW)	3~15kW@(inlet water -20°C&15L/min)
	Noise Level dB(A)	73~85dB
	IP Protection Rating	IP55(High-pressure component with IP67 rating)
Electrical Information	High voltage range (V)	250~950V
	Low voltage range (V)	9V~32V
	Communication method	CAN2.0
	Baud rate (Kbps)	250/500
	Control precision	±1°C
Refrigerant System	Refrigerant	R134a
	Compressor type	Horizontal scroll
	Condenser type	Microchannel heat exchanger
	Evaporator type	Plate heat exchanger
	Fan type	Axial flow fan
	Refrigeration system sealing	Refrigerant leakage < 20g/year
Water System	Coolant	50% Ethylene glycol
	Type of pipe fitting	Quick couplings or clamps
	Pump head	3kW: 15L/min@100Kpa, 5~9kW: 30L/min@190Kpa 11kW: 60L/min@200Kpa

CHAPTER
Battery Thermal Management System

Energy Storage Battery Thermal Management System

Energy storage battery thermal management system is mainly used in outdoor energy storage, industrial and commercial energy storage, container energy storage and other scenarios to meet the continuous cooling and heating needs of the battery pack, so that the lithium battery pack can work in a suitable temperature range, extend the battery life and improve battery safety. Energy Storage Thermal Management System is mainly composed of a compressor, ECU, PTC heater, fan, water pump, condenser, plate heat exchanger, expansion valve, pipeline, etc. KUS's current main product series include vertical 5KW, 8KW, and horizontal 5KW.



Horizontal 5kW

Vertical 5kW

Vertical 8kW

Application Scenarios

Outdoor Energy Storage

Industrial And Commercial Energy Storage Cabinet

Container Energy Storage

CHAPTER
Battery Thermal Management System

Technical Parameters		
Application Scenarios	Applicable Fields	Commercial and Industrial Energy Storage Cabinet
	Installation Method	Plug-in frame
	Operating Temperature Range (°C)	-30~+55
Unit Performance Parameters	Nominal Cooling Capacity (kW)	5-8kW@W18/L45-L50
	Electric Heating Capacity (kW)	2
	Noise Level dB(A)	73～75
	IP Protection Rating	IP55
	Corrosion Resistance Rating	C3
	Equipment Lifespan (years)	10
Electrical Information	Input Voltage Range(V,Hz)	220V±15%, 50/60±3
	Communication Method	RS485/CAN
	Display Screen	Touch Screen (Optional)
	Control Accuracy	±1°C
Refrigerant System	Refrigerant	R134A/R410A
	Type of compressor	AC frequency conversion
	Type of condenser	Microchannel heat exchanger
	Type of evaporator	Plate heat exchanger
	Type of fan	EC Centrifugal/Axial Flow Fan
	Refrigeration system sealing	Refrigerant leak rate < 10g/year
Water System	Chilled wate	50% Ethylene glycol
	Pipe diameter	SAE18/NW22
	Pipe type	Quick connector
	(L/min) Water flow rate (L/min)	45@100KPa, 50@100KPa

Thermal Management Integrated Module

The thermal management integrated module integrates battery temperature control, cabin HVAC, and electric drive system cooling to achieve efficient thermal energy distribution and waste heat recovery. The module consists of core components such as plate heat exchangers, electronic expansion valves, multi-way valves, electronic water pumps, and sensors. This design precisely regulates the operating temperatures of various systems, extends battery life, significantly reduces air conditioning energy consumption, and improves winter driving range, while simultaneously ensuring passenger comfort and overall vehicle energy efficiency.

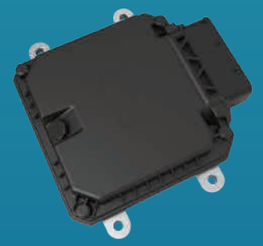
Thermal Management Unit

Thermal Management Unit (TMU) has functions such as air conditioning management, heat pump management, battery thermal management, waste heat recovery management, fault diagnosis, predictive thermal management, sensor collection, network communication, etc., and can cover mainstream topologies on the market and control/drive requirements. Through precise control and comprehensive optimization and matching of each circuit, energy efficiency optimization and experience improvement can be brought to customers.

- Resource interface type configuration is flexible. The PWM output interface has output configuration control and fault feedback functions. Through the interface, it can meet different usage requirements.
- It has network security functions and meets the network information security requirements of the OEM.
- Real-time monitoring of sensor status; real-time diagnosis of system faults and other functions.
- Flexible and convenient bottom software and application layer integration method.

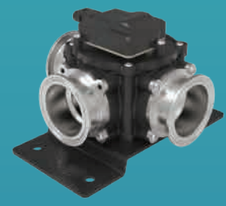
CHAPTER

Integrated Module



CHAPTER

Water Valve



Large-Size Water Valve

Primarily used in thermal management systems for energy storage and hydrogen fuel cell vehicles. It can also be adapted for standalone use by replacing the housing. Commonly applied for energy coupling and distribution between different systems.

Three/Four-Way Water Valve

Primarily used in thermal management systems for vehicles (electric, hybrid, and range-extended electric vehicles). Commonly applied for energy coupling and distribution among battery systems, electric drive/electronic control units, and cabin heating systems.

Five-Way Water Valve

Primarily used in thermal management integrated modules for vehicles (electric/hybrid/extended-range electric vehicles). It can also be used independently by replacing the housing, and is commonly employed for energy coupling and distribution among batteries, electric drive/control systems.

Seven-Way Water Valve

Primarily used in thermal management integrated modules for vehicles (battery electric vehicles). It can also be used independently by replacing the housing, and is commonly employed for energy coupling and distribution among batteries, electric drive/control systems, and heating systems.

Energy Storage Cabinet

1. Peak-valley arbitrage: Charging at low electricity prices and discharging at high prices to directly reduce electricity costs.

2. Emergency support: As a backup power source during grid failures, ensuring the continuity of production.

3. Integrated photovoltaic, energy storage and charging: Combining photovoltaic, energy storage and charging stations to achieve energy optimization.

4. Demand-side management: Smoothening the charging load curve to reduce the impact on the grid.

5. Relieving grid pressure: Discharging during peak charging times to avoid transformer overload.

6. Improving efficiency: Implementing intelligent energy scheduling and peak shaving and valley filling within the station.

7. Green shore power: Providing clean electricity for ships berthed at ports, replacing high-pollution auxiliary engines with power generation.

8. Energy supply: In areas not covered by the grid, forming an independent power supply system in combination with renewable energy.

9. Precise irrigation: Combined with intelligent irrigation systems, achieving water conservation and emission reduction.

10. Energy synergy: Integrating various clean energy sources to achieve optimized energy configuration and near-zero carbon emissions in the park.

Battery Pack

Energy storage battery packs are energy "power banks" and are widely used in grid peak shaving, new energy power plants, and energy storage in homes and industrial and commercial settings to meet the balance of power supply and demand.
The power battery pack is the "heart" of new energy vehicles. It not only provides driving energy for the vehicle, but also undertakes multiple important functions such as battery management, protection and thermal control to ensure the safe, reliable and efficient operation of the power battery system.

CHAPTER

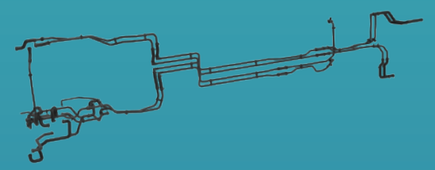
Power Supply

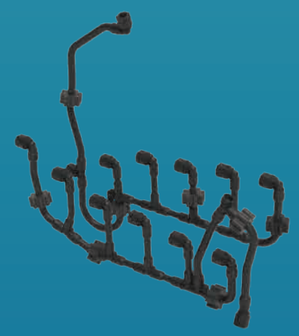
261kWh
Energy Storage Cabinet

418kWh
Energy Storage Cabinet

CHAPTER

Pipeline





Motor & Battery Pack Coolant Water Pipe

Motor & Battery pack coolant water pipe is used for the thermal management system of hybrid vehicle or electric vehicle, carrying the channel for conveying automotive coolant. Through the flow of coolant on the pipeline, the engine is provided with temperature rise or temperature drop, so that the battery pack can quickly warm up in the cold environment. At the same time, it also takes away the waste heat and provides the circulation function of the cooling system.

Lightweight

Compared with metal pipes and rubber hoses, the weight is reduced

Efficient Production

Straight tube extrusion, thermoplastic molding, quick-fit coupling

Good Performance

Good mechanical properties, chemical resistance and hydrolysis resistance

Cooling Water Connector

These high-performance plastic pipe fittings are designed specifically for cooling water systems. They are made of PA66+GF30% glass fiber composite material and are integrally molded through precision injection molding. They are lightweight, high-pressure resistant, and corrosion resistant, and can replace traditional metal pipe fittings. They are widely used in cooling water circulation systems in automobiles, industrial equipment, data centers, and new energy fields.

Energy Storage System Cooling Water Pipe

The energy storage system cooling water pipe provides a liquid cooling channel for the energy storage system (industrial and commercial energy storage, data center, etc.), transports the cooling liquid through the cooling water pipe and quickly transfers heat to the battery pack and data center server to balance system performance.

Air Conditioning Aluminum Pipe

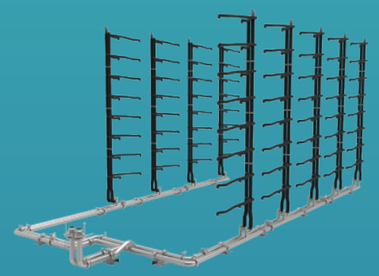
It is mainly used in the environmental control of the passenger cabin, the thermal management of the battery pack, and the cooling of the motor and electronic control systems, meeting the requirements of refrigeration, heating, and heat exchange. They possess excellent high-pressure bearing capacity, outstanding barrier performance, and remarkable high-temperature resistance and thermal stability properties

Rubber Pipe

It can be applied to power battery cooling/heating systems, motor drive and electronic control systems, heat pump air conditioning and vehicle thermal management integration, charging pile/liquid-cooled charging gun connection, and other scenarios. It features precise temperature control, high-voltage insulation, lightweight and drag reduction, excellent chemical stability and quiet performance.

CHAPTER

Pipeline



CHAPTER

Pipeline

AdBlue/Fuel Filling Pipe

The AdBlue/fuel filling pipe is used for vehicle AdBlue tanks and fuel tanks to transmit fluids (AdBlue or fuel), extend the position of the filling port of the AdBlue tank or fuel tank to a convenient place for filling, and have a ventilation function during filling.

AdBlue Heating Pipe

The AdBlue heating pipe is used for transmission and heating AdBlue in diesel vehicles. It has the characteristics of good process performance, good electric safety performance and strong barrier performance.

Engine Intake/Return Oil Pipe

Engine intake/return oil pipe are used in the automotive fuel system to transfer fuel from the tank to the engine to provide power to the vehicle; Products have good extreme temperature resistance, aging resistance, corrosion resistance, fuel penetration resistance and so on.

Pipe Connector

Pipe Connectors are parts used to connect pipelines. They have the characteristics of convenient installation, superior performance, and long service life. They can be widely used in automotive fuel systems, SCR systems, power systems, cooling systems, and air-conditioning systems.

CHAPTER

Gauge

KMB-70GE Multi-Functional Gauge

KMB-70GE is a square multi-functional LCD gauge specially developed for pure electric outboard motor applications. The instrument integrates battery power, speed, rotation speed, rudder angle, balance and other functions, is compatible with NMEA2000 and J1939 protocols, and supports multiple style switching.

- Two display styles for option, compatible with single or dual engine.
- Simple operation, support Chinese/English language switching.
- Compatible with NMEA2000 and J1939 protocols.
- Self-defined alarm to ensure safe driving.
- Background brightness adjustment: 10%-100%
- Protection level: IP67

KMB-1025GE Multi-Functional Gauge

KMB-1025GE is a multi-functional gauge with monitoring function specially developed for pure electric outboard motor applications. The screen can intuitively display parameters such as battery, motor, speed, etc. in digital and graphical form, as well as various alarm icons. The instrument uses a capacitive touch screen of the same size, which is convenient for users to call up video monitoring and set parameters.

- Various styles can be switched arbitrarily
- SOC+Free RTOS+MCU, high-speed and reliable operation
- OBD firmware upgrade, reduce maintenance cost
- Universal USB interface for soc firmware upgrade
- Compatible with J1939 and NMEA 2000 protocols
- Cameras can be switched freely, and support FHD, HD, D1 resolution

CHAPTER

Gauge

KMG Multi-Functional Gauges

- Compatible with NMEA2000 and J1939 protocols
- Protection level: IP67
- Fast running speed, low power consumption, high main frequency

KMB Multi-Functional Gauge

KMB is an advanced TFT controller with data integration. The TFT gauge panel is compatible with NMEA2000 and J1939 protocols. KMB can display information obtained from the network in real time, including engine output signal, fluid level and speed. KUS can provide customized specifications to meet different customer needs.

Sea Q Series

- Applicable to truck, bus, engineering machinery, generator set, etc fields.
- Bezel material: Stainless steel bezel.
- With reverse polarity connection protection and double layers anti-fog lens.
- Connecting way: 6.3*0.8mm terminal strip, can be connected quickly.
- Light: Red and yellow for your option.
- Display accuracy: <3°
- Protection grade: Surface IP67

CHAPTER

Gauge

Forklift Battery Gauge

The forklift battery gauge is a battery status monitoring instrument designed specifically for electric forklifts. Its core functions are accurate display of remaining battery power, tiered early warning, power outage memory, and prevention of false alarms.

Hourly Meter

The hour meter is a cumulative working time measuring instrument designed specifically for engineering equipment such as excavators, loaders, and bulldozers. Its core features are accurate timing, power-off memory, and excellent durability. It is used for maintenance, leasing, and cost accounting.

Water Temperature Gauge

The water temperature gauge displays the engine coolant temperature in real time, preventing overheating, cylinder scoring, and head gasket failure by monitoring engine operating temperature. When the temperature approaches or exceeds the red line, it alerts the driver to immediately reduce load/stop the engine for inspection. The pointer remains stable, without skipping or drifting.

CHAPTER

Gauge

Oil Pressure Gauge

The oil pressure gauge visually reflects the working status of the engine lubrication system. It provides warnings for abnormal pressure, alerting the driver when the pressure is too low to prevent serious malfunctions such as cylinder scoring and bearing failure. The gauge remains stable and does not jump even when the engine vibrates or the oil pressure fluctuates; it accurately displays pressure under idling, heavy load, cold engine, and hot engine conditions.

Oil Level Gauge

The fuel level gauge displays the remaining fuel in the tank in real time, providing a clear view of how much fuel is left and preventing the engine from stalling due to low fuel. A low fuel warning function is optional, reminding you to refuel promptly. The fuel level gauge needle is stable, without drifting or shaking.

Odometer

The odometer displays real-time speed for easy control and driving safety. It records the total distance traveled, useful for maintenance, leasing, depreciation, and resale valuation. The instrument panel receives pulse signals from the vehicle speed sensor, ensuring stable and accurate readings without fluctuations.

Construction Machinery Multifunctional Instrument

The forklift battery gauge is a battery status monitoring instrument designed specifically for electric forklifts. Its core functions are accurate display of remaining battery power, tiered early warning, power outage memory, and prevention of false alarms.

Construction Machinery Multifunctional Instrument

- Pointer display: Oil level, oil temperature
- Alarm functions: Voltage, high-speed travel, oil pressure, seat belt, anti-theft
- LCD display: Cumulative hours, real-time time
- Button functions: Display switching and time adjustment
- Waterproof rating: IP67

Construction Machinery Multifunctional Instrument

- Display: Speed, pump pressure, oil level, coolant temperature, total engine operating time, etc.
- Alarms: Preheating indicator, charging abnormality warning, low oil pressure warning, system warnings, and other machine malfunction alarms.
- Control: Integrated pump controller, 2-level adjustable, controls excavator high-speed and low-speed travel. Operating mode (P/E) switching.

CHAPTER

Gauge

CHAPTER

Gauge

Construction Machinery Multifunctional Instrument

- Display: Oil level, oil pressure, coolant temperature, voltage, speed, and hourly meter
- Status Indicators: Engine preheating, fuel water content, engine malfunction
- Alarms: Fault display
- Protection Rating: IP67 waterproof

Construction Machinery Multifunctional Instrument

- Display: Motor speed, vehicle speed, power, battery level, remaining range, cumulative mileage, Vehicle fault information, integrated tire pressure data and status, etc.
- Alarms: Vehicle-grade alarms for low battery, motor fault, battery fault, vehicle fault, etc., as well as vehicle driving status indicators.
- Intelligent Connectivity: Vehicle driving data is reported to the VCU.

Construction Machinery Multifunctional Instrument

- Display: RPM, speed, coolant temperature, oil level, voltage, gear position, turn signals, high beam, position lights
- Alarms: Engine malfunction, ABS malfunction, low oil pressure, high coolant temperature
- Smart Connectivity: Automatic backlight adjustment, Bluetooth phone/music control

Temperature Sensor

Temperature sensors are used to measure the temperature of cooling water, pipelines, battery packs, charging equipment, etc. of new energy vehicles. They can also measure the temperature of high-voltage wiring harnesses, engine oil, excavator hydraulic oil, generators, etc. The temperature sensor has fast response time, high measurement accuracy, good stability and high degree of customization. Over-temperature alarm switches can be added according to customer needs.

Pressure Sensor (Ceramic)

The sensor utilize the piezoelectric effect to measure the medium pressure and convert it into a linear resistance output, and it has the advantages of high reliability and high measurement accuracy. It is widely used in engine systems. Main Material: Stainless steel Protection rank: IP67

Pressure Sensor (Mechanical)

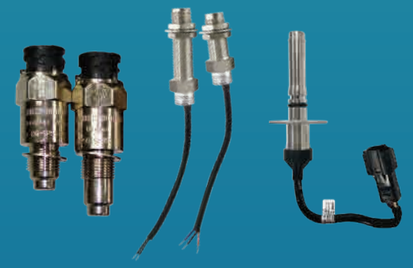
The pressure sensor mainly measures the pressure of water, oil, gas, refrigerant and other media. It is widely used in engine management systems, new energy vehicle waterway systems, transmission systems and safety systems. The product has high reliability, high measurement accuracy, and adopts strict process control to ensure excellent quality.

CHAPTER

Miniature Sensor

CHAPTER

Miniature Sensor



Temperature and Humidity/ Temperature and Humidity Pressure Sensor

The temperature and humidity sensor detects the humidity and temperature of the air through a digital temperature and humidity chip, and then outputs it through D/A or I2C, which is collected and converted by the MCU into CAN communication output.
The temperature and humidity pressure sensor detects the humidity and temperature of the air through a digital temperature and humidity chip, and then outputs it through D/A or I2C; the pressure chip converts the mechanical deformation caused by the input pressure on the pressure sensitive body into a voltage signal output. Finally, the MCU collects humidity, temperature, and pressure physical quantity signals and converts them into CAN communication output.

Tacho Sensor

The tacho sensor is used to measure gear roatation speed and transmit this information to the engine control unit (ECU) or the vehicle's electronic control system to ensure that the engine is operating under normal operating conditions. Its shape, material and threaded interface can be made according to customer requirements.

Measuring principle: Holzer , Magnetoelectric

Water Level Switch

The water level switch is used in the water tank or cooling water tank of the generator, engine, mainly to measure the engine cooling water level. The water level switch has a low liquid level alarm function. When the liquid level is lower than the preset position, the alarm is issued and the switch signal is provided to the external device after a delay of 10 seconds; the delay alarm is to prevent the liquid level from shaking and causing false alarm and alarm. Duration 0~25s (factory setting).

Liquid Level Switch

It is used in engine cooling systems and is mainly installed in the cooling expansion tank. It monitors the coolant level in the expansion tank in real time to prevent the coolant level from being too low and affecting the normal operation of the engine cooling system. When the coolant level is too low, it outputs a switch/resistance signal.

Proximity Switch

It is used in commercial vehicles, buses, and other vehicle models to detect the opening/closing status of the hatch, output switch signals to the vehicle's MCU, realize real-time monitoring of the hatch status, and is installed in the rear hatch (new energy/fuel vehicles), side hatch, charging hatch, and other parts.

Engine Hood Detection Switch

It is used in the engine hood of commercial vehicles such as light trucks and heavy trucks to monitor the opening/closing status of the engine hood and output switch signals to the vehicle MCU to ensure that the engine hood is in normal condition.

Leak Detection Sensor

It can monitor the presence of leaks in various liquid media such as coolant and electrolyte in real time, and will play an alarm role when a leak occurs. It can prevent the battery temperature and AI server temperature from being too high, which may cause fault alarms or fires. It is applied to the battery system of new energy vehicles and the liquid cooling system of AI servers.

CHAPTER

Miniature Sensor

CHAPTER

Miniature Sensor

Hydrogen Leakage Sensor

The hydrogen leakage sensor is a key safety component for monitoring hydrogen leakage in hydrogen fuel cell engines, hydrogen storage tanks and gas supply pipeline systems. Its principle is to detect hydrogen concentration by utilizing the characteristics of hydrogen's thermal conductivity changing with concentration. It has a fast response speed to hydrogen concentration changes and can provide real-time and accurate concentration monitoring results.

Conductivity Sensor

Fuel cell engines have high requirements on the conductivity of coolant. This is because impurities will continue to increase during the circulation process of the coolant, causing its conductivity to continue to increase and the insulation performance of the system to decrease. To ensure safety, a conductivity sensor is required to monitor the conductivity of the coolant, and the conductivity is measured using the resistance measurement method based on the principle of electrolytic conduction.

Current Sensor

The current sensor is a current measuring device based on the principle of magnetic induction. It has the characteristics of high precision, wide range and fast response, and supports battery charge and discharge current detection and motor current detection. It has overcurrent and anti-reverse connection functions and can be used for current monitoring of battery packs and DC/DC converters of pure electric, hydrogen fuel vehicles, hybrid and other new energy vehicles.

High Voltage Wiring Harness Assembly

The high-voltage wire harness is a key component for transmitting high-voltage electric energy in new energy vehicles. It connects the power battery, drive motor, vehicle charger (OBC), DC/DC converter, high-voltage distribution box, and electric remote control of the electric vehicle. PTC and other high-voltage components. Can provide high-voltage wire harness assemblies packaged and supplied according to customer customized connector requirements.

Product Features

Current up to 750A @25°C
Voltage class up to 1000V
Wire adaptation range 2.5mm2 - 150mm2
Meet 360°EMI
IP67 (assembled) – IP2X (unassembled

Low Voltage Wiring Harness Assembly

Product Features

Up to 200+ loops
Waterproof IP67 IP69X
Oil-proof
Engine, gearbox piercing parts
Vibration resistance

CHAPTER

Wiring Harness Assembly

Powertrain Wire Harness

Gearbox Cylinder Line

CHAPTER

Motorcycle Part

KUS provides motorcycle manufacturers with products such as fuel tanks, water tanks, controllers, liquid cooling plates, digital instruments, integrated pump sensors, level/water level/temperature/pressure sensors, and wiring harnesses. KUS has extensive experience in the design of casing molding processes and offers various simulation analyses to simulate various application scenarios such as motorcycle fuel tank filling, impact, and vibration, assisting customers in optimizing product design solutions.

Liquid Level/Water Level Sensor

Integrated Pump

Plastic Oil Tank

Water Tank

Temperature Sensor

Controller

Pressure Level Sensor

Digital instrument

Liquid Cooling Plate

Pipe

Wire Harness

Air Duct

Automotive air ducts are made up of pipes and vents used for heating, air conditioning and ventilation in your vehicle. The air duct can send hot and cold air to the required areas respectively to adjust the temperature inside the car, and control the air in and out, flow direction and speed in the vehicle, improving the air quality and the comfort of the car. The air duct has tight connections and no leakage. It is made of HDPE and PP material, which has high wear resistance and corrosion resistance, and low maintenance costs.

Fender

The primary function of fenders is to protect the tires and braking system from mud or other impurities, making them safer and more efficient. Fenders also help prevent mud, dirt, dust particles and other fluids from being thrown into the air as the tires roll. The part has a curved shape, and is available in a variety of models and sizes.

Storage Box

This front-mounted storage box is designed specifically for water sports vehicles. Made of HDPE (high-density polyethylene) using a one-piece injection molding process, it boasts a robust structure and reliable sealing. The product is tough, impact-resistant, and resistant to seawater corrosion, while also exhibiting excellent anti-aging and weather-resistant properties, allowing for long-term use in outdoor water environments. The box features a well-designed layout, effectively preventing water and moisture damage. It fits snugly against the boat's hull, and its simple, practical design enhances the storage experience.

CHAPTER

Auto Part

CHAPTER

Auto Part

Portable Toolbox

Designed specifically for the installation and maintenance of demanding instruments, this ultra-protective toolbox is made of high-strength engineering plastics. It features a frosted, non-slip handle, an extended service life, and a multi-layered cushioning structure to effectively absorb impacts from drops. Dustproof and splashproof, it handles complex working conditions with ease. Each tool has an independent, secure compartment to prevent wear and tear during transport.

Custom Toolbox

Made of high-strength engineering plastics, this toolbox boasts a durable, distinctive red exterior that combines high visibility with protection. The modular internal design allows for flexible replacement to precisely fit the size and shape of various professional tools. Equipped with a non-slip handle and reliable locking mechanism, it balances portability and safety, suitable for diverse scenarios such as industrial repair, construction, and equipment maintenance.

Mobile Water Tank

Designed for cleaning robots, this intelligent water replenishment system uses intelligent sensing and a stable water supply structure to automatically replenish and continuously supply water to the robot during operation, ensuring even mop moisture and consistent cleaning results. The product features a portable design, is leak-proof, easy to operate, and can be used in various settings such as home, office, and shop.

AdBlue Pump Part

AdBlue pumps are used in the SCR (Selective Catalytic Reduction) system of diesel vehicles to deliver urea from the AdBlue tank to the injection end. They can integrate functional modules such as AdBlue sensors, coolant solenoid valves, DCU control, metering, and air assist, meeting emission standards. We can design and manufactureAdBlue pump parts.

Fuel Cell Part

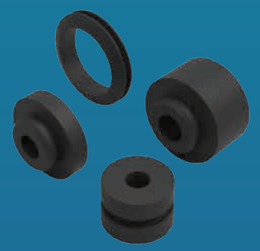
Fuel cell parts are mainly applied to the structural components and filter parts that realize hydrogen, coolant and air channels in fuel cell systems. This type of component is produced from high-performance plastic raw materials through injection molding process, featuring low ion precipitation, ultra-high hydrolysis resistance, dimensional stability, corrosion resistance, flame resistance, etc.

Rubber Shock Absorber Pad

The EPDM shock-absorbing pad is a high-performance isolation component specially designed for water-cooled units, air conditioning outdoor units, and precision equipment. It is made of high-quality EPDM rubber and is produced through scientific formulation and processing. It boasts excellent weather resistance, anti-fatigue properties, and lasting elasticity, which can effectively absorb the vibrations and noises generated during equipment operation, enhance system stability, and extend the service life of the equipment.

CHAPTER

Auto Part



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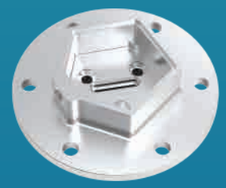


Hydrogen Filter

Hydrogen filter is composed of double sleeve joint, filter element, bottom cover, main body and other components, according to the system requirements to select different specifications of the filter element to filter the system particulate matter, to ensure the cleanliness of hydrogen in the system, and reduce the harm of dust and particles to the fuel cell.The products have high filtration efficiency and stable quality, and can be used in the field of fuel cell systems for passenger cars and commercial vehicles.

Electronically Controlled Nozzle

KUS boasts a professional R&D team and production equipment, along with extensive experience in nozzle design, enabling it to assist customers in developing urea nozzles for various applications.

Mounting Flange

This flange can be used to install corresponding sensors on the oil tank, facilitating quick disassembly, cleaning, and maintenance of the equipment in the later stages of production, significantly improving work efficiency. Made of ADC12 material and using a die-casting process, the flange is both lightweight and strong, while the die-casting process ensures extremely high dimensional accuracy. The mounting hole positions can also be adjusted and modified according to customer requirements.

Fuel Tank Flange

The fuel tank flange is suitable for products with threaded or screw-hole mounting, facilitating quick disassembly and maintenance. It also provides a smooth, flat sealing surface to ensure sealing performance. Available in various materials including ADC12, Q235, AI6061, and stainless steel, customers can choose according to their specific needs; customization is also available upon evaluation.

CHAPTER
Group Culture

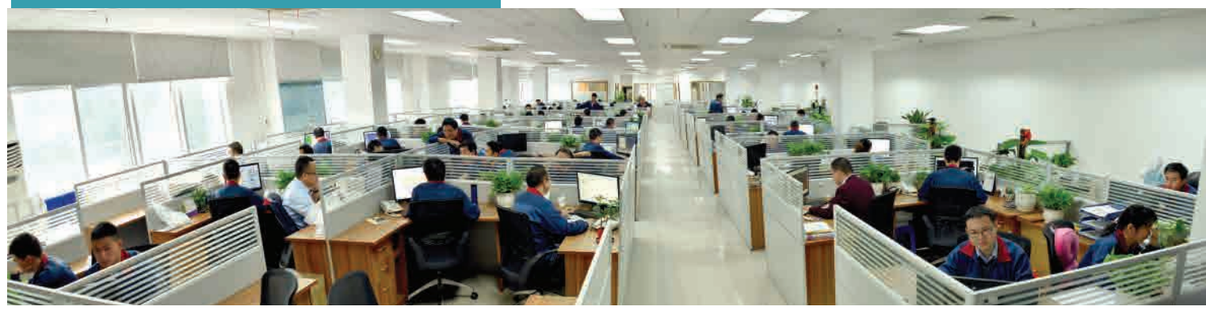
KUS Vision
Make Breathing Cleaner

KUS Mission
Maximize customers' value continuously

KUS Core Values
Integrity, Accountability, Innovation, Team

Talent Concept
An accountability culture where allows good people to be appreciated.

CHAPTER
R & D Capability



Environment Test Laboratory

HIL Bench Laboratory

Vibration Laboratory

Measurement Center

Lifetime Test Laboratory

Thermal Management Laboratory

Physics Laboratory

KUS is constantly pursuing innovation, has over 20 years of experience in the design and manufacture of automotive electronic components, and has obtained more than 500 patents. The strong research and development capabilities have laid the cornerstone of KUS Group's high-tech enterprise.

The R&D team of KUS has accumulated rich experience in metal processing technology, automation equipment research and development, thermal management, mold design, metal stamping, ultrasonic detection, fluid mechanics analysis, signal transmission and other fields; at the same time, the company has established a good technical team construction system , formulate special technical training for R&D personnel every year.

KUS R&D team has nearly 500 people. With the introduction of international cooperation concepts, it conducts product development and testing with the world's leading commercial vehicle and non-road vehicle manufacturers to provide customers with the most optimized product solutions.

In order to ensure product quality, the laboratory of KUS has been authorized by CNAS. The laboratory has an environmental test room, a vibration test room, an electronic test room, an aging test room, a physical test room, a chemical test room and a measurement center, equipped with talents from related majors such as machinery, automation, electronics and materials.

CHAPTER

Manufacturing Capability

Through years of rapid development and the company's continuous investment, Zhengyang has a variety of advanced production processes and equipment: German TüV certified pipelines, injection molding machines, CNC machines, advanced blow molding machines, high-quality brazing wire, automated SMT, high-performance automatic wave soldering, etc. Most of the key components have been self-made, and we have one-stop product manufacturing capabilities from raw material processing to finished product assembly, ensuring that the company's products can meet various flexible needs of customers.

The MES (Manufacturing Execution System) system introduced by KUS guides, initiates, responds and reports production activities by maintaining and utilizing real-time accurate information, which helps KUS to respond quickly to changes, reduce production activities without added value, and improve the efficiency of operations and processes.

Blow Molding

Rotational Molding

TQS Automated Production Line

SMT

CNC Machining

Injection Molding

Pipe Forming

Brazing

Tooling Manufacturing

PTC Auto Assembiy Line

CHAPTER

Company Honor

KUS takes innovation as the cornerstone of its development and has been honored with titles such as "National High-tech Enterprise", "National Intellectual Property Advantage Enterprise", "Top 500 Manufacturing Enterprises in Guangdong Province", and "Single Champion Enterprise in Guangdong Province's Manufacturing Industry". Adhering to the principle of survival through quality, we have passed multiple authoritative industry system certifications such as ISO26262, IATF 16949, ISO14001, CE, PED, and AD 2000, providing a solid guarantee for high-quality development.

ISO26262

CNAS

IATF 16949

ISO 9001

ISO14001

CE

AD 2000

PED

Our Customers

(Some customers, in no particular order)

DAIMLER, VOLVO, PACCAR, DAF, SCANIA, MAN, IVECO, INTERNATIONAL, ISUZU, NISSAN

一汽解放, SINOTRUK 中国重汽, FOTON 福田, JMC, JAC GROUP 江汽集团, CAMC, 大运汽车

Cummins, BOSCH, WEICHAI 潍柴, 玉柴 YUCHAI, 一汽锡柴, Gotion, EVE 亿纬锂能, SUNWODA

长城汽车, 长安汽车, 吉利汽车, SAIC, BAIC 北京汽车, ZXAUTO 中兴汽车, WULING, YUTONG, KING LONG, 庆铃汽车

TATA, Ashok Leyland, Mahindra, HINO, HYUNDAI, KOMATSU, HITACHI, JOHN DEERE, DEUTZ, BORGWARNER

CATERPILLAR, CNH INDUSTRIAL, SANY, XCMG, LiuGong 柳工, LOVOL, 山东临工, LIEBHERR, DOOSAN, TEREX

KUS products are sold to Europe , America, Asia and Australia, etc. By working with our partners through multiple channels and continuously providing customers valuable products and services , KUS is in line with international customer certification requirements.