

RITSUHA

**ENGINEERED
WITH EXCELLENCE**



ELECTRICAL & LIGHT PARTS



**VIBRATION
RESISTANT**



**HIGH GRADE
RAW MATERIAL**



**ERROR FREE
OPERATION**

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RITSUKA

www.ritsukaparts.com

About the company

Eastman Auto and Power Ltd is the company behind the brand –“Ritsuka”.

We are one of the top manufacturers and exporters. We engineer a massive capacity of approx. 10 lakh units of different motorcycle and automotive products every month and at the same time; master a wide range of around 100-120 different models.

The promise of quality and an unmatched product mix defines us. we can proudly say that we are one of the finest companies in the automotive industry to provide complete value to our customers.

We also strive to assure our customers that the in-house quality control team constantly monitors every aspect of business, from production to our valued customers. Our expert team ensures that each product supplied is of the highest standards. Each product is tested in our specialized testing centers to ensure that our product suits market conditions. With a focus on value in each phase, we lay emphasis on product quality, packaging as well as distribution.

We also manufacture motorcycle complete units, automotive batteries, tyres and tubes.

Know more about us and our business at

www.eastmanautogroup.com

Ritsuka - Our Brand

Our brand redefines premium for masses when it comes to motorcycle spare parts. Ritsuka is all about precision based engineering and consummate craftsmanship inspired by the Japanese philosophy of "Monozukuri". With the aim to delight a worldwide customer base. The brand is focused on offering premium quality experience and highly durable spare parts to masses. To this end, we strive for continuous innovation and thus, introduce the world of motorcycle spare parts to a new paradigm of excellence. Every part adheres to a design language reflecting superior form, function, ruggedness and value for everyone.

Ritsuka is precision

Innovation is only a beginning. What really makes Ritsuka spare parts extraordinary is an obsession with precision and the pursuit of perfection.

Ritsuka is quality

When it comes to quality, we believe in perfection. Ritsuka spare parts promise durability, longevity and top-notch quality.

Ritsuka is focused engineering

Engineering may be just another word for the world, but for us it is the world. The foundation for everything we do under our brand - Ritsuka is in-depth knowledge, at every stage.

Explore Ritsuka at www.ritsukaparts.com

CDI

Product

We use the most modern technology coupled with almost a decade of hard work and dedication. We are superior in quality with our high-end technology that we use for manufacturing.

Features:

- Transistors are replaced by MOSFET to increase the efficiency
- Precise circuit for error free operation
- Philips IC for best programming life
- High capacity capacitor for low RPM usage
- Heat proof and fire proof PA66 Nylon plug

Raw Material

All our products have ISO 9001 certification that augments our reliability factor further. Our modernized and streamlined production process help us to achieve unparalleled quality that in turn make us the most sought-after brand in spare parts industry.

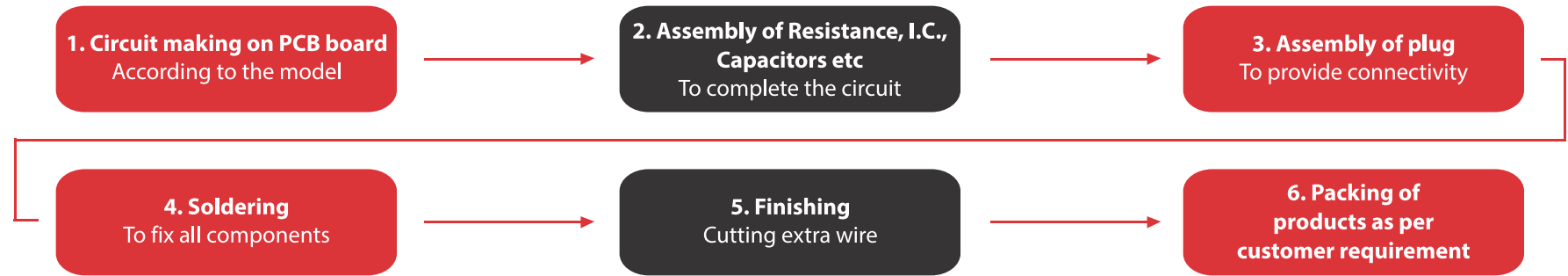
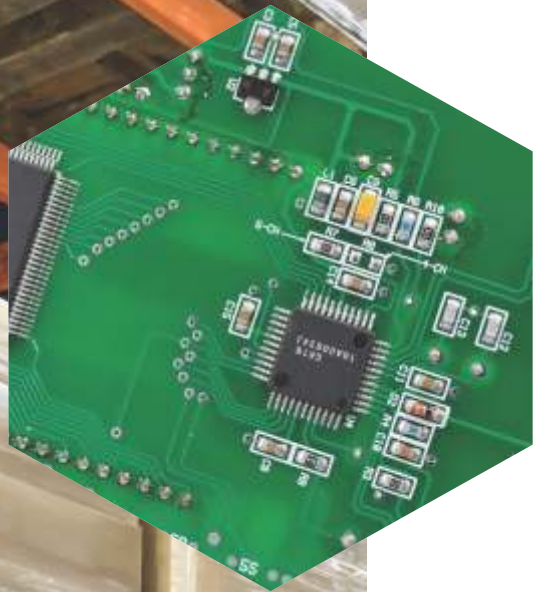
S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	BOP	Outer Shell	Fresh ABS	Recycle ABS	Better strength in running of motorcycle
		Sealant	Quartz with Resin	Sand and Resin	Good heat absorption capacity
		Plug	Pa66	ABS	Heat proof, fire proof and also life of plus is better than ABS
		PCB Board	Double Panel	Single Panel	Proper assembly of electronic component
		Mosfet/Transistors	MOSFET	Transistors	High power and reduced chances of fusing
		Resistance	Taiwanese Diode	Product	Can work from -40°C to 105°C. Chinese product gets shorted out in high heat
		Transformer	Taiwanese	Product	Made by copper, Chinese products are iron made
		Capacitors	400V155J	400V105J	Generates enough power to run at low RPM
		I.C.	Philips	Chinese Product	Error free programming

Manufacturing

We believe in controlling manufacturing effectively. We have a manufacturing capacity of 200 thousand units of CDI's a month. Not just mere quality, we manufacture this product for a wide range of models and our product compliments top global brands of motorcycles.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing as per GB standard	Circuit Diagram	In-house by computerized machine	Outsourced	Better controlling of design and circuit
		Assembly of Resistance	In-house in controlled environment	In-house with normal environment	Increased life of small parts
		Assembly of I.C.	In-house in controlled environment	In-house with normal atmosphere	
		Assemble the rest product	In-house in controlled environment	In-house with normal atmosphere	Circuit board doesn't get heated up thereby reducing chances of small components to fuse.
		Soldering	In-house with temperature control machine	In-house without temperature control machine	
		Cutting extra wire	By pneumatic machine	By hand operation	Precise cutting
		Sealing	Quartz with Resin by automatic machine	Sand with Resin by hand	Precise filling of resin to give long life to CDI





Testing

Each of our carefully manufactured product is further tested on international standards. We are passionate about creating the spare parts in the most brilliant way possible and our 100% quality inspection of products during production ensures quality product.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Incoming Quality Inspection	100% inspection of incoming raw material	No testing	This ensures that incoming parts are within tolerance limit
		In-process	100% quality check at testing machine for short circuit	No quality check, since it requires extra manpower/extra cost	This ensures error free circuit
		In-process	100% quality check of semi finish goods	Checked only on sample basis	100% assurance of quality goods
		In-process	Check the program of I.C.	No quality check, since it requires extra manpower extra cost	Defect free product
		100% Final Quality Inspection	10 Days continuous run of every CDI	No quality check, since it requires extra manpower extra cost	Defect free product



Short circuit test: This test is performed to check the correct assembly of component circuit.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Short Circuit Test	To ensure the correct assembly of components	No testing	1. Ensure error free circuit. 2. Long life of components

I.C. programming testing: This test is performed to check the programming of I.C.

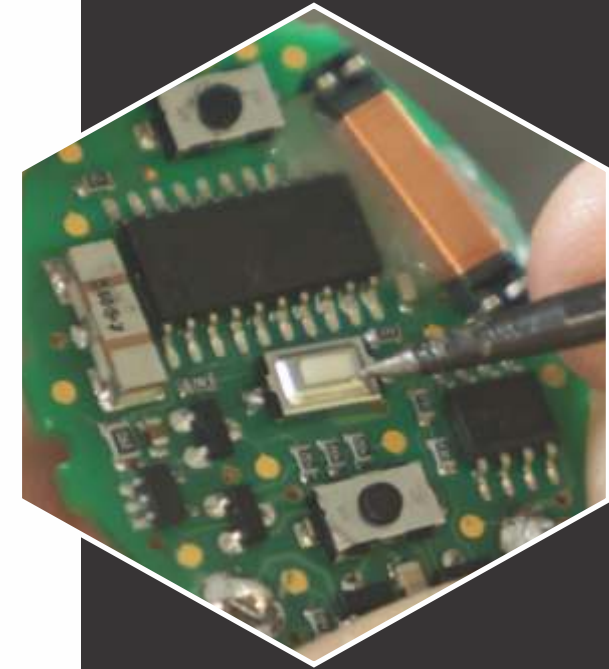
S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	I.C. Programming Testing	To check the programming of I.C.	No testing	Programming of I.C. is ensured

Pre dispatch inspection: This test is performed to check the performance of CDI.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Pre Dispatch Inspection	To check the performance of CDI	On Sampling basis	1. Error free product 2. Defect free product for final inspection

Final running testing: This test is performed to check the life of CDI.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Final running testing	To check the life of CDI	No Testing	Long life of product



Relay



Product

We use the most modern technology coupled with almost a decade of hard work and dedication. We are superior in quality with our high-end technology that we use for manufacturing.

Features:

- Precise winding for steady current flow to starter motor
- Rust free outer shell
- Heat proof and fire proof PA66 Nylon plug

Raw Material

Our product has ISO 9001 certification that augments our reliability factor further. Our modernized and streamlined production process help us to achieve unparalleled quality that in turn make us the most sought-after brand in spare parts industry.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	BOP	Outer Shell	Plated Iron	Normal Iron	High dispersion
		Cover and plug	Pa66 Nylon	Normal plastic and ABS	Heat proof, fire proof and also life of plus is better than ABS
		Connector	Copper Bolt	Iron Bolt	Rust free life and lenient flow of electricity

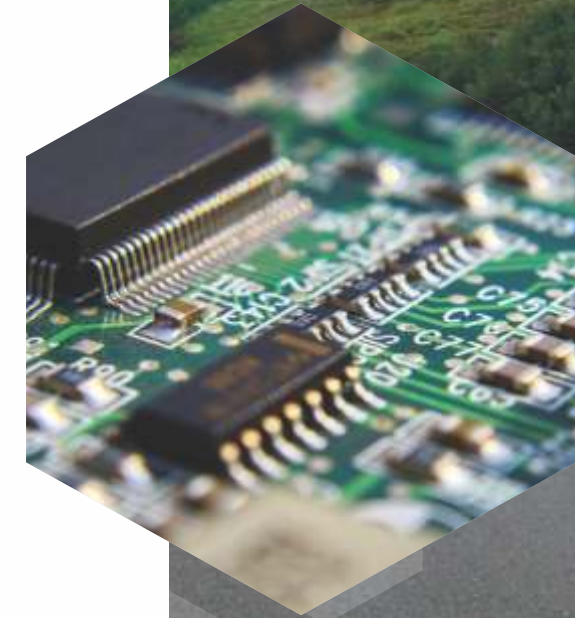
S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Raw Material	Copper	Chinese	Chinese	High dispersion
		Wire	Fixed Chinese vendor	Any local vendor	Same standard quality in every lot
		Outer Shell	Fixed Chinese vendor	Any local vendor	



Manufacturing

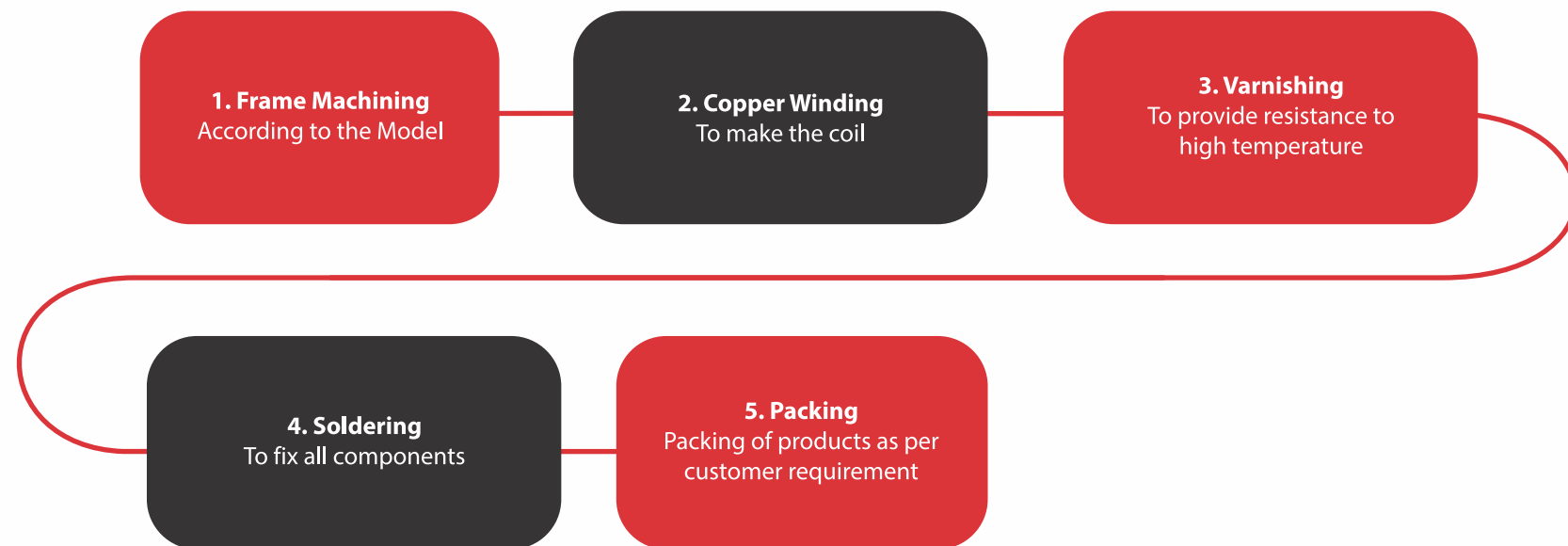
We believe in controlling manufacturing effectively. we manufacture this product for a wide range of models and our product compliments top global brands of motorcycles.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing as per GB standard	Frame Machining	CNC machining to maintain correct co-centricity and outer	Lathe machining to maintain correct co- centricity and outer	CNC machine has less variation as compare to Lathe
		Copper winding	Electrical programmed machine	Manual hand operation	Machine maintains same winding in every piece, which ensure correct current generation
		Varnishing	Electrical programmed machine	NA	Provides safety at high temperatures
		Soldering	Hand made	Hand Made	-
		Assembly in Shell	Pneumatic Machine	Hand Made	Proper locking of component





Manufacturing a Relay



Testing

Each of our carefully manufactured relay is further tested on international standards. We are passionate about creating the spare parts in the most brilliant way possible and our 100% quality inspection of products during production ensures quality product.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing standard	Incoming Quality Inspection	100% inspection of incoming raw material	No testing	Precise filling of resin to give long life to relay
		In-process	100% inspection check at testing machine for short circuit	No quality check, since it requires extra manpower/extra cost	Error free circuit is ensured
		100% Final Quality Inception	100% on/off testing at testing bench	Checked only on sample basis	Defect free product

Short circuit test: This test is performed to check the correct assembly of component circuit.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Short Circuit Test	To ensure the correct assembly of components	No testing	1) Error free circuit is ensured 2) Long life of components



Regulator



Product

We produce the quality regulators as per industry standards.

Features:

- Transistors are replaced by MOSFET to increase the efficiency
- Precise circuit for error free operation
- Philips IC for best programming life
- High capacity capacitor for low RPM usage
- Heat proof and fire proof PA66 Nylon plug
- Circuit board with heat sink for heat desipation.
- Thick aluminum fins for better cooling

Raw Material

Our Regulator are manufactured of high grade components

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	BOP	Outer Shell	Aluminum with fins	Aluminum with thin Fins	High Heat dispersion capacity
		Sealant	Quartz with resin	Sand and Resin	Good Heat absorbsion capacity
		Plug	Pa66	ABS	Heat proof, fire proof and also life of plug is better than ABS
		PCB Board	Double panel with heat sink	Single Panel	Proper assembly of electronic component, with heat sink
		Mosfet/ Transistors	Mosfet	Transistors	High power capacity and reduced chances of fusing
		Resistance	Taiwanese diode	Chinese product	Can work from -40°C to 105°C, Chinese product gets shorted out at high heat
		Transformer	Taiwanese	Chinese product	Made up of pure copper whereas Chinese products are made of Iron
		Capacitors	400V155J	400V105J	Generates enough power to run at low RPM
		I.C.	Philips	Chinese Product	Error free programming

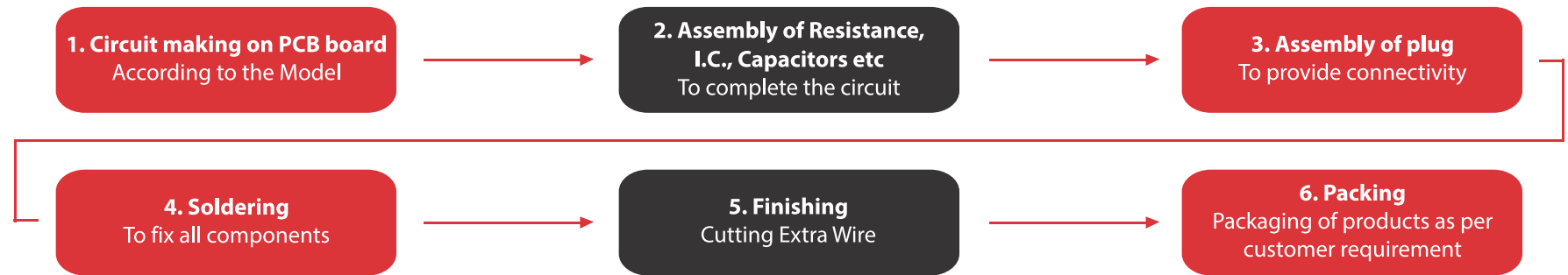
Manufacturing

All our product manufacturing is done as per GB standards. Here's a comparison of our product from the Chinese product.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing as per GB standard	Circuit Diagram	In-house by computerized machine	Outsourced	Better control of design and circuit
		Assembly of Resistance	In-house in controlled	In-house with normal atmosphere	Increased life of small parts
		Assembly of Resistance	In-house in environment	In-house with normal atmosphere	
		Assembly of product	In-house in environment	In-house with normal atmosphere	Circuit board doesn't get heated up, reducing chances of small components to fuse.
		Soldering	In-house with temperature control machine	In-house with temperature control machine	
		Cutting extra wire	By pneumatic machine	By hand operation	Precise cutting
		Sealing	Quartz with Resin by automatic machine	Sand with Resin by hand	Precise filling of resin to give long life to relay



REGULATOR



Testing

Each of our carefully manufactured product is further tested on international standards. We are passionate about creating the spare parts in the most brilliant way possible and our 100% quality inspection of products during production ensures quality product.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Incoming Quality Inspection	100% inspection of incoming raw material	No testing	This ensures that incoming parts are within tolerance limit
		In-process	100% quality check at testing machine for short circuit	No quality check, since it requires extra manpower/extra cost	This ensures error free circuit
		In-process	100% quality check of semi finish goods	Checked only on sample basis	100% assurance of quality goods
		In-process	Check the voltage of transformer	No quality check, since it requires extra manpower extra cost	Defect free product
		100% Final Quality Inspection	100% quality check at test bench	No quality check, since it requires extra manpower extra cost	Defect free product



Short circuit test: This test is performed to check the correct assembly of component circuit.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Short Circuit Test	To ensure the correct assembly of components	No testing	1. Error free circuit ensured 2. Long life of components

I.C. programming testing: This test is performed to check the programming of I.C.

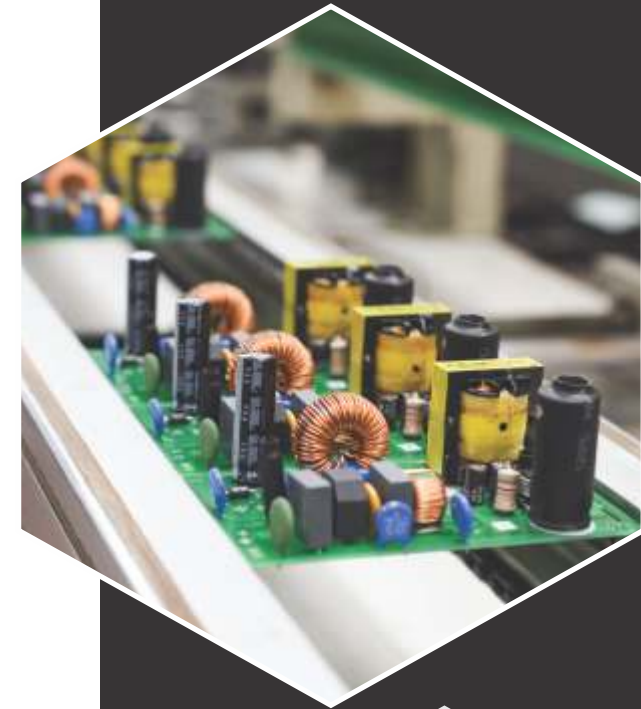
S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	I.C. Programming Testing	To check the performance of Regulator	On Sampling basis	Programming of I.C. is ensured

Pre dispatch inspection: This test is performed to check the performance of Regulator.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Pre-Dispatch Inspection	To check the performance of Regulator	On sampling basis	1. Error free product 2. Defect free product for final inspection

Final running testing: This test is performed to check the life of Regulator.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Final running testing	To check the life of regulator	Sample Basis	Long life service product



Flasher

Product

We manufacture high performance motorcycle flasher that offer optimum quality and are best suited to meet customer demands. We invest in high-level equipment's enabling us to have control on manufacturing processes, which assures good quality.

Features:

- Precise circuit for error free operation
- Philips IC for best programming life
- High capacity capacitor for energy restoration.
- Heat proof and fire proof PA66 Nylon plug

Raw Material

Our flashers are manufactured of high grade components

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	BOP	Outer Shell	Fresh ABS	Recycle ABS	Better Strength in running of motorcycle
		Sealant	Quartz with Resin	Sand and Resin	Good Heat absorbsion capacity
		Plug	Pa66	ABS	Heat proof, fire proof and also life of plug is better than ABS
		PCB Board	Double Panel	Single Panel	Proper assembly of electronic component
		Resistance	Taiwanese Diode	Chinese product	Can work from -40°C to 105°C. Chinese product gets shorted out at high heat
		Capacitor	400V155J	400V105J	Generates enough power to run at low RPM
		I.C.	Philips	Chinese product	Error free programming required in case of LED

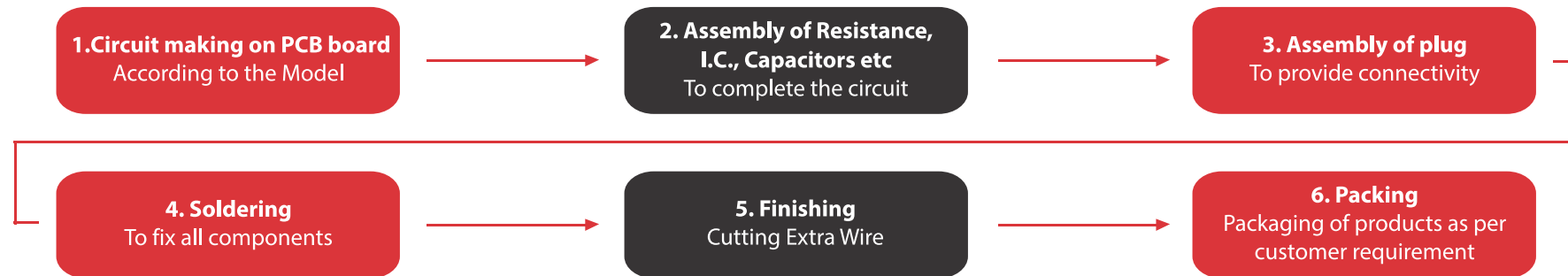
Manufacturing

Our streamlined production processes and adequate production lead time allows us to deliver unmatched quality along with a strong hold over the timely delivery, leading to utmost customer satisfaction at every given point. We believe in transparency in our approach and hence we have a Warehouse web portal for customers to check the status of the goods.



S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing as per GB standard	Circuit Diagram	In-house by computerized machine	Outsourced	Better control of design and circuit
		Assembly of Resistance	In-house in controlled environment	In-house with normal environment	Increased life of small parts
		Assembly of I.C.	In-house in controlled environment	In-house with normal atmosphere	
		Assembly of the rest product	In-house in controlled environment	In-house with normal atmosphere	
		Soldering	In-house with temperature control	In-house without temperature control machine	Circuit board doesn't get heated up, reducing chances of small components to fuse.
		Cutting extra wire	By pneumatic machine	By hand operation	Precise cutting
		Sealing	Quartz with Resin by automatic machine	Sand with Resin by hand	Precise filling of resin to give long life to flasher





Testing

Each of our carefully manufactured product is further tested on international standards. We are passionate about creating the spare parts in the most brilliant way possible and our 100% quality inspection of products during production ensures quality product.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Incoming Quality Inspection	100% inspection of incoming raw material	No testing	This ensures that incoming parts are within tolerance limit
		In-process	100% quality check at testing machine for short circuit	No quality check, since it requires extra manpower/extra cost	This ensures error free circuit
		In-process	100% quality check of semi finish goods	Checked only on sample basis	100% assurance of quality goods
		In-process	Check the program of I.C.	No quality check, since it requires extra manpower extra cost	Defect free product
		100% Final Quality Inspection	100% on/off testing at testing bench	Checked only on sample basis	Defect free product



Short circuit test: This test is performed to check the correct assembly of component circuit.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Short Circuit Test	To ensure the correct assembly of components	No testing	1. Error free circuit ensured 2. Long life of components

I.C. programming testing: This test is performed to check the programming of I.C.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	I.C. Programming Testing	To check the programming of I.C.	No testing	Programming of I.C. is ensured

Pre dispatch inspection: This test is performed to check the performance of Flasher.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Pre-Dispatch Inspection	To check the performance of Regulator	On Sampling basis	1. Error free product 2. Defect free product for final inspection

Final running testing: This test is performed to check the Life of Flasher.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Final running testing	To check the life of Regulator	No testing	Long life service product



Stator

Product

We produce high performance motorcycle stators that offer optimum quality and are best suited to meet customer demands.

Features:

- Frame are made by silicon steel for high magnetic flux generation.
- Copper winding wire are as per OEM std. for high current generation.
- Nylon PA66 lamination for safety in high rotation.
- 0.75 MM fresh PVC wire to provide fire proof and short proof operation.

Raw Material

We use silicon steel for high magnetic flux generation, copper winding wires for high current generation and nylon PA66 lamination for safety in high rotation. Our streamlined production processes and adequate production lead time allows us to deliver unmatched quality along with a strong hold over the timely delivery, leading to utmost customer satisfaction at every given point.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	BOP	Frame	Magnetic Iron	Normal Iron	High magnetic flux generation
		Winding	0.8 MM Copper	0.75 MM Copper	Better current generation
		Lamination	Nylon PA66	NA	Provide safety in high speed rotation
		Wiring	0.75 MM wire	Non Std	Safety at high temperature and high current flow
		Wire covering	Fresh PVC	Recycled PVC	Safety at high temperature and high current flow

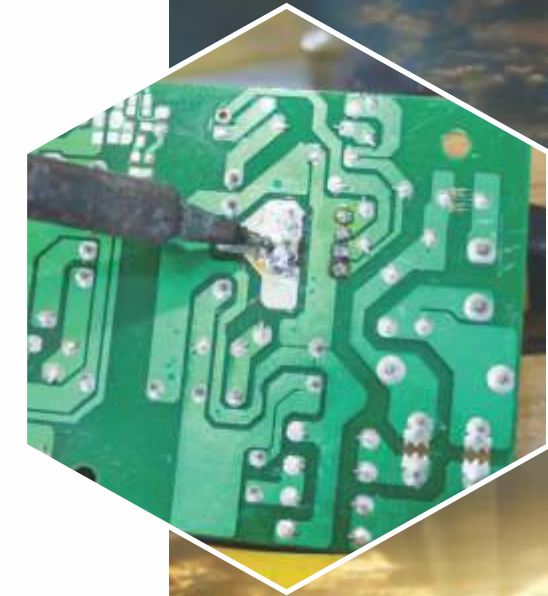
S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Raw material	Copper	Chinese	Chinese	-
		Sealant	Fixed Chinese vendor	Any local vendor	Same standard quality in every lot
		Wire	Fixed Chinese vendor	Any local vendor	
		Sheet Metal	Fixed Chinese vendor	Any local vendor	



Manufacturing

We believe in controlling manufacturing effectively. we manufacture this product for a wide range of models and our product compliments top global brands of motorcycles.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing as per GB standard	Frame Machining	CNC machining to maintain correct co-centricity and outer	Lathe machining to maintain correct co- centricity and outer	CNC machine has less variation as compare to Lathe
		Copper winding	Electrical programmed machine	Manual hand operation	Machine maintains same winding in every piece, which ensure correct current generation
		Varnishing	Electrical programmed machine	NA	Provides safety at high temperatures
		Soldering	Hand made	Hand Made	-





Testing

Each of our carefully manufactured stator is further tested on international standards. We are passionate about creating the spare parts in the most brilliant way possible and our 100% quality inspection of products during production ensures quality product.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Incoming Quality Inspection	100% inspection of incoming raw material	No testing	This ensures that incoming parts are within tolerance limit
		In-process	100% quality check of metal frame to check the dimension and shape	No quality check, since it requires extra manpower/extra cost	
		In-process	100% quality check of winding by testing Machine to check the required round of copper wire	No quality check, since it requires extra manpower/extra cost	
		In-process	100% testing of current generation at test bench	Check only at sample basis	Defect free product
		Final inspection	40-50 hours continuous running	Not done, as it requires time	Defect free product



Short winding test: This test is performed to check the short winding.

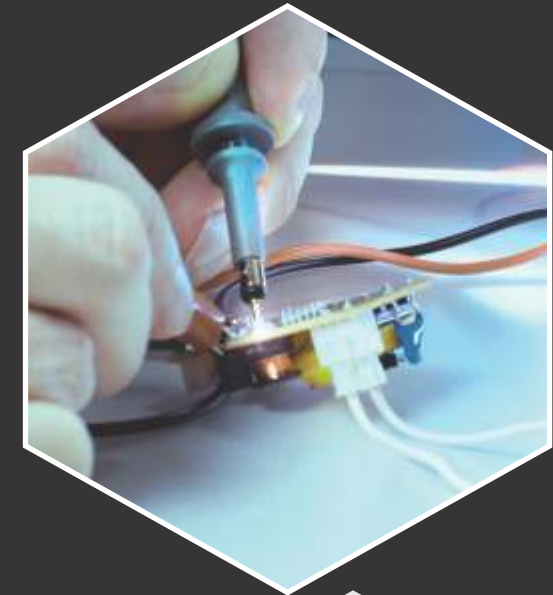
S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Short Circuit Test	To ensure Short Winding	No testing	Provides safety at high temperatures

Lamination testing: This test is performed to check the Lamination.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Lamination Testing	To check the Lamination	No testing	Safety is ensured at high temperature and current flow

Final performance running testing: This test is performed to check the life of stator.

S.No.	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Final running testing	To check the performance life of Stator	Sample Basis	Quality product



Bulb

Product

We manufacture a wide range of halogen and normal bulbs for top brands of motorcycles. Perfect illumination is especially important at distance usually between 70~100 meters in front of a vehicle.

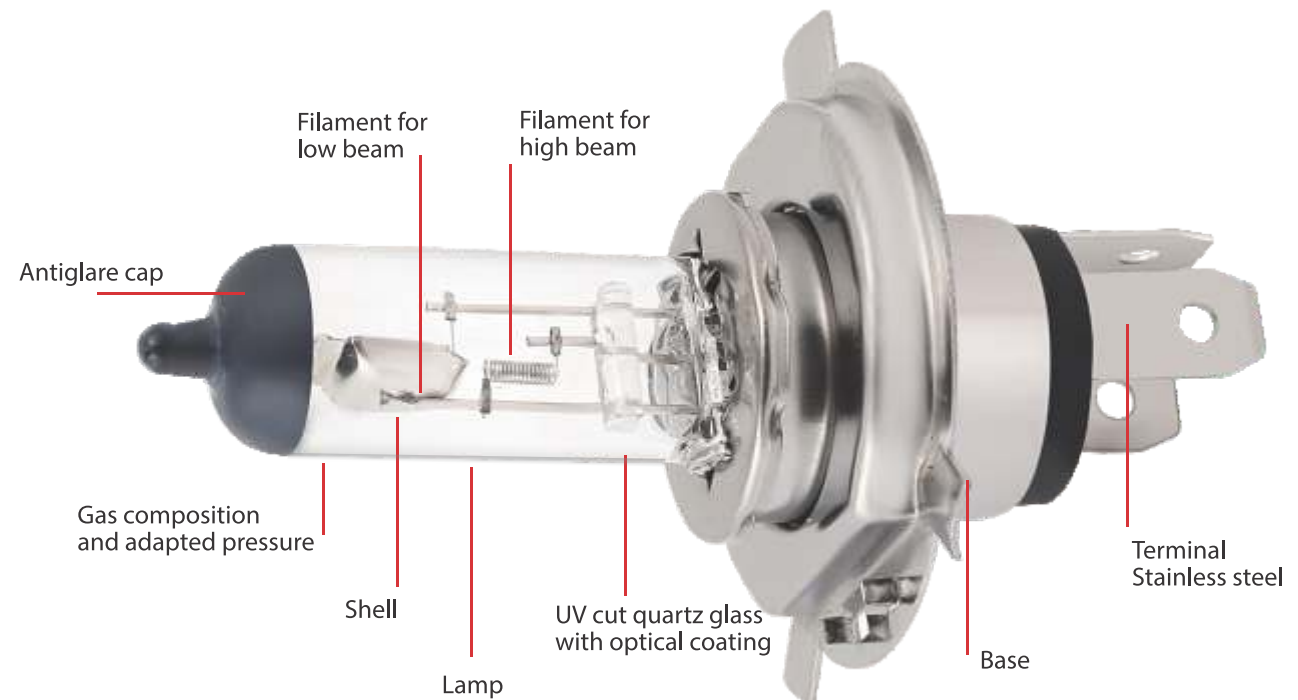
With our product illumination range is up to 45 meters which gives more reaction time to the rider. Our halogen bulbs boost visibility with more bright light. This helps recognize any possible obstacles and hindrances earlier as compared to other products available in the market.

Features:

- High quality and durability
- Manufactured in a way to give excellent light output and long life
- High luminous flux
- Luminous flux constant throughout the life of the lamp
- Original spare parts
- Up to triple the lifetime (compared to standard lamps)
- No irritating color effects
- Optimized filament design
- Homologated CCT
- Vibration resistant



Halogen Bulb-Main Components



Raw Material

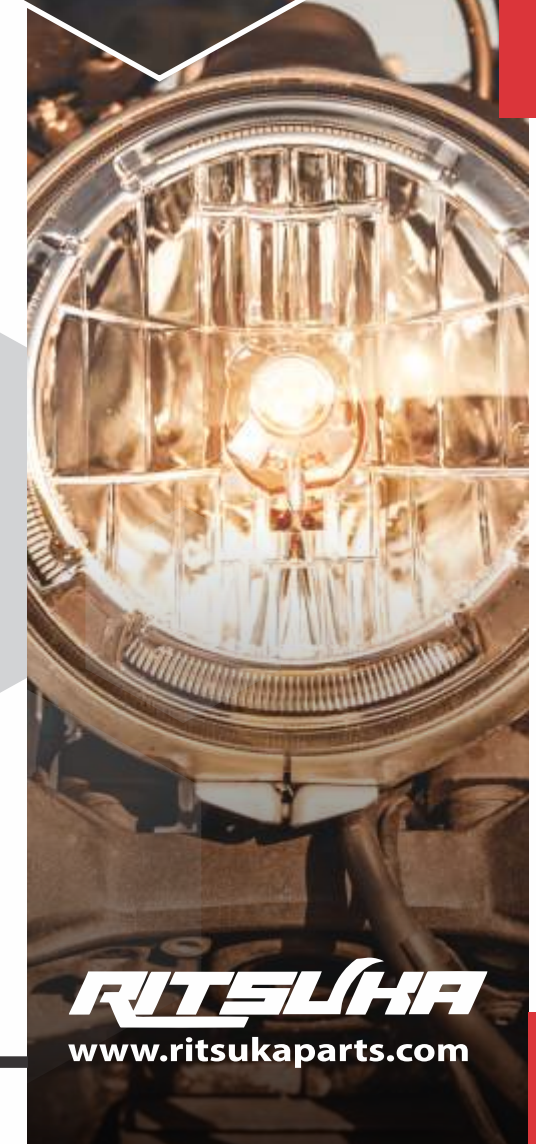
We owe our superiority to the SGS approved factories where products derive their perfection using innumerable quality parameters. We use minimum BOP (Bought out Parts) to have a complete control of quality.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Bought Out Parts (Base BOP)	Glass	Outsourced	Outsourced	These parts requires large infrastructure. All OEMs buy these parts from an outsourced factory.
		Inside Gas	Outsourced	Outsourced	
		Lead in wire	Outsourced	Outsourced	
		Base	Outsourced	Outsourced	
		Filament	In-house	Outsourced	Quality standardisation ensured

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Raw material	Glass	Quartz	Normal quality glass	Better lumen depreciation
		Filament	Turngsten	Substandard tungsten	High longevity and maximum light
		Inside Gas	Xenon	Neon	High longevity and more lumen
		Lead in wire	High grade of Copper	Substandard copper	High grade copper/appropriate length ensured for no leakage
		Base	Steel/Iron	Iron	Material as per customer requirement



BULB



RITSUKA
www.ritsukaparts.com



Range of Bulbs

We offer full range of bulbs under our brand "Ritsuka"



T10



T10



T6.5



T5

Instrument Panel



B35 BA20D



H4 P43T



H6 BA20D



H6 P15D-25-1

Headlight





G18 BA15S



G18 BA15S



T15



S25 BA15S



G18 BA15S



G18 BA15S



S25 BAY15D



S25 BA15S

Brake/Tail light

Indicator

License Plate



T11



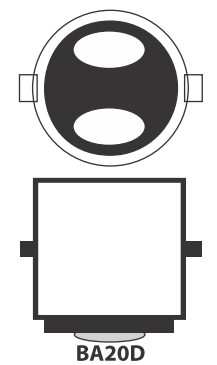
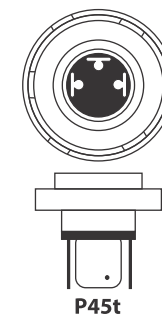
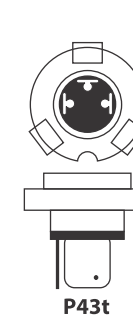
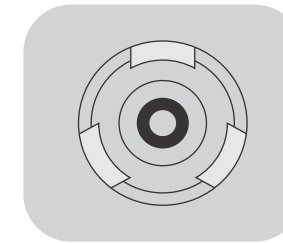
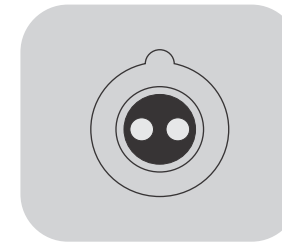
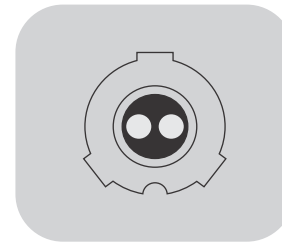
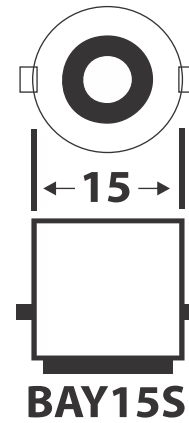
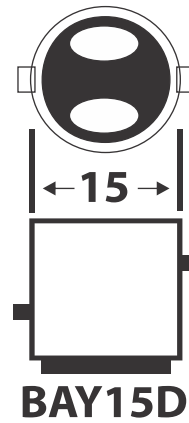


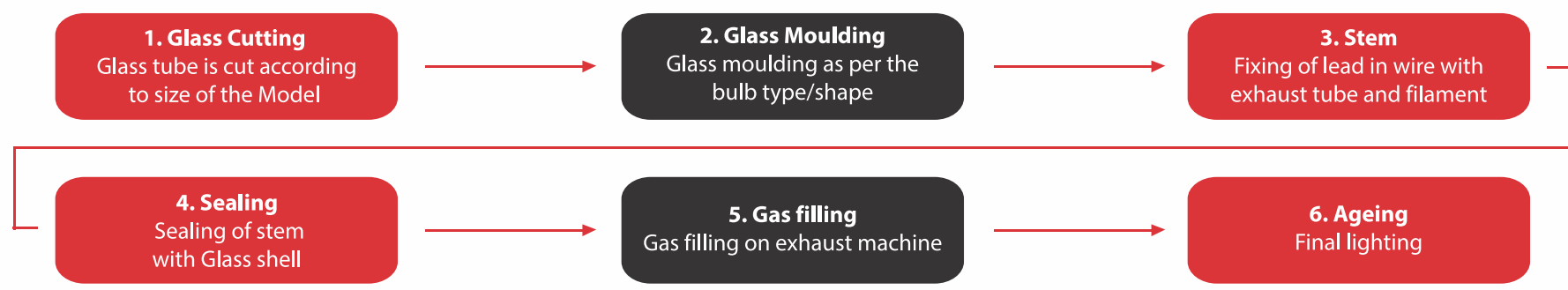
Manufacturing

Our manufacturing facilities are what give us edge over other Chinese products. With fully automated line with minimal manual intervention, we are the top manufacturers of bulbs.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing Process	Glass cutting	In-house	Outsourced	High quality cutting to avoid chip off, This ensures high longevity
		Shell manufacturing	In-house	Outsourced	In-house manufacturing ensures better quality control on produced parts
		Bulb sealing	In-house	Outsourced	
		Glare Coating	In-house automatic coating machine	With or without glare coating	Better quality glare coating ensure proper light focus
		Gas filling	In-house	In-house	In-house manufacturing ensures better quality control on produced parts

Lamps bases





Testing

Each of our carefully manufactured product is tested in our in-house quality lab, which is equipped with international level of testing mechanism like humidity test, life test etc. Apart from in-house checks, we also conduct timely quality tests from an external agency. This leads to zero defect and makes our bulbs fare highest in quality. We conduct 100% inspection of raw materials before processing them on production floor, and same level of rigorous check takes place while production also. Each and every bulb is quality tested by engineers before going for final packaging.

Photometry

Photometric globe is used to check all the electrical parameters of the bulb such as voltage, wattage, current, lumens and colour temperature (CCT)

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing standard	Photometry	Electrical parameter testing	No in - house testing, since photometric globe is an expensive equipment	Parameters like lumen, wattage, voltage and current are checked ensuring a quality product



Photometry test report

Test Detail :		Photometry				Sample type :			Complete Bulb	Production Date :				20.12.2017
Specification :		H4 12V 35/35W P43T				Manufacturer :			Eastman	Date of Test :				20.12.2017
Beam Type :		(High Beam)						(Low Beam)						
Parameter :	Test Volt (V)	Current (A)	Wattage (W)	Lumen (Lm)	Lm/W	Color Temp. (K)	Life (Hrs)	Current (A)	Wattage (W)	Lumen (Lm)	Lm/W	Color Temp. (K)	Life (Hrs)	
Standard :	13.2		33.2~36.8	825 (702~948)			130		33.2~36.8	525 (447~603)			150	
Sample 1	13.2	2.764	36.5	788	21.60	3199	256	2.776	36.6	497	13.56	3137		
Sample 2	13.2	2.749	36.3	775	21.36	3213	278	2.759	36.4	485	13.32	3114		
Sample 3	13.2	2.712	35.8	763	21.31	3253	296	2.766	36.5	495	13.56	3152		
Sample 4	13.2	2.725	36.0	754	20.96	3231	—	2.772	36.6	489	13.36	3151	289	
Sample 5	13.2	2.732	36.1	766	21.24	3212	—	2.773	36.6	484	13.22	3159	302	
Average :	13.2	2.74	36.1	769.2	21.3	3221.6	276.7	2.77	36.6	490.0	13.4	3142.6	295.5	
Conclusion :								Passed						
Checked By :								QA Head :						

Luminous flux Φ

Unit: Lumen [lm]

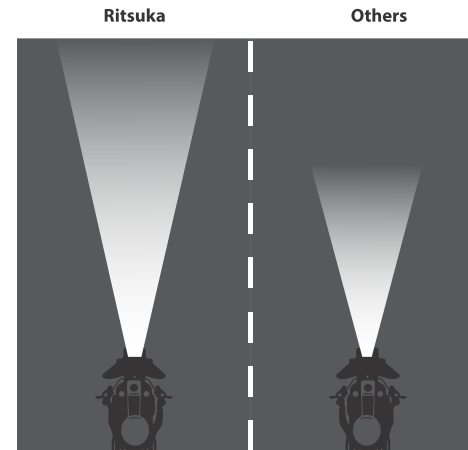
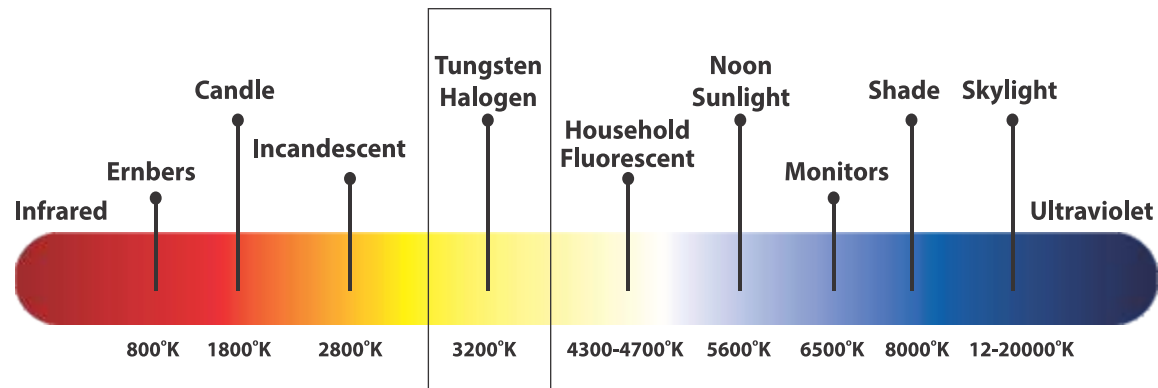
Luminous flux is the term used to represent the quantity of energy of the light emitted per second in all directions.

Light output η

Unit: Lumen per Watt (lm/W)

The amount of light that falls on a surface is measured in lux. One lux is the light that obtained from a light source of one lumen over an area of one square metre.

Colour temperature - This is measured in degrees Kelvin that indicates the colour of a specific type of light source. (Kelvin is indicated by the unit symbol K.) Colour temperatures over 4000K are called cool white colours while lower colour temperatures (2700~3000K) are called warm white colours (yellowish white). The higher the temperature of a light source, the greater the portion of blue and lower the portion of red in the colour spectrum.



Comparison of illuminance on road surface



Life test

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing standard	Life test	In-house testing	No life test rack,since it requires infrastructure to manage	Standard life upto 150 hrs.

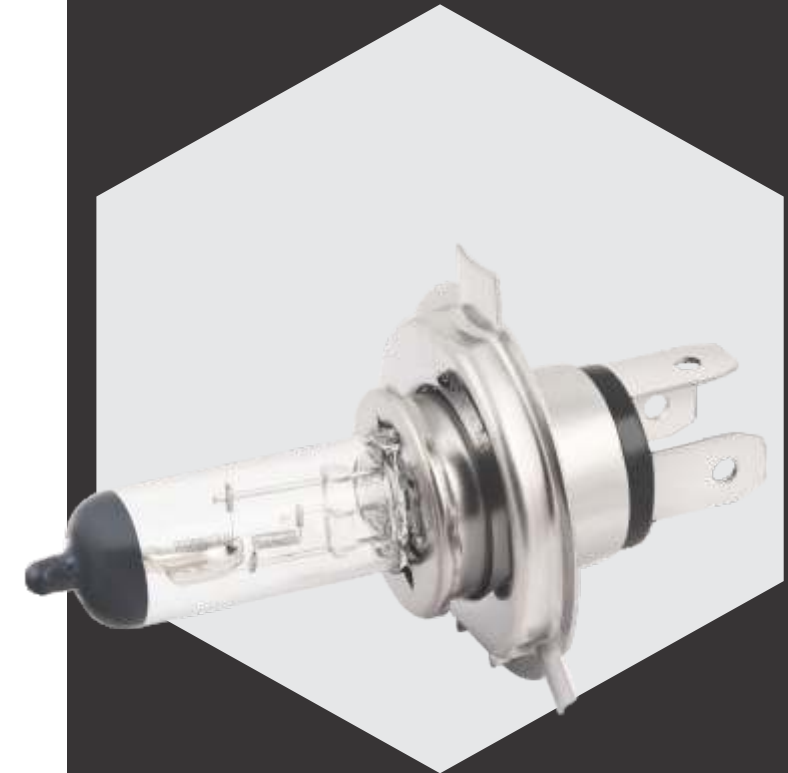
All the bulbs are tested in the life test rack for a long period to check the switching cycle and life expectancy of bulb.

Vibration and shock test

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing standard	Vibration test	Vibration resistant	No testing	Better longevity

Bulbs are tested on random basis to check the filament strength and vibration resistance of the filament. This test ensures the life expectancy of the bulb.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing standard	Incoming Quality Inspection	100% inspection of incoming parts	No testing	This ensures that incoming parts are within tolerance limit as per acceptance quality limit (AQL)
		In-process	100% check at different processes	No quality check, since it requires extra manpower/extra cost	
		Final inspection	All the bulbs are checked before dispatch to ensure good quality	No quality check, since it requires extra manpower/extra cost	Defect free product



Light Parts



Product

We manufacture around 100 thousand units of lights and light parts in a month and each one under stringent quality control. We also churn a wide range of these spare parts for most of the top brands of motorcycle across the globe. Our lights are produced as per the drawing and tolerance limit thereby eliminating all the fitment issues. Our adequate production lead time ensures timely deliveries.

Features:

- Long beam distance
- High durability
- Compact and Lightweight
- Optimized reflector design
- High luminous flux
- Luminous flux constant throughout the life of the lamp
- Water resistant
- Regulated output
- High density discharge

Raw Material

Our lights and light parts are manufactured of high grade raw material of ABS (PA-709) - Acrylonitrile Butadiene Styrene (ABS).

ABS combines the strength and rigidity of acrylonitrile and styrene polymers with the toughness of polybutadiene rubber. While the cost of producing ABS is roughly twice the cost of producing polystyrene, it is considered superior for its hardness, gloss, toughness and electrical insulation properties. ABS also has a strong resistance to corrosive chemicals and /or physical impacts. It is very easy to machine, light-weight and has a low melting temperature making it particularly simple to use in injection moulding processes. Also metal coating has excellent adhesion to ABS.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Child Parts	Connector	In-house	Outsourced	Better quality control over inhouse produced parts
		Wire	Outsourced	Outsourced	-
		Bulb	In-house	Outsourced	Better quality control over in house produced parts
2	Raw material	Outer body	ABS/PP	Recycled PP (80/20)	1. Excellent impact strength 2. Strong adhesion to powder coating.
		Lens	PC/Glass	Glass	1. Light material 2. Better Transparency

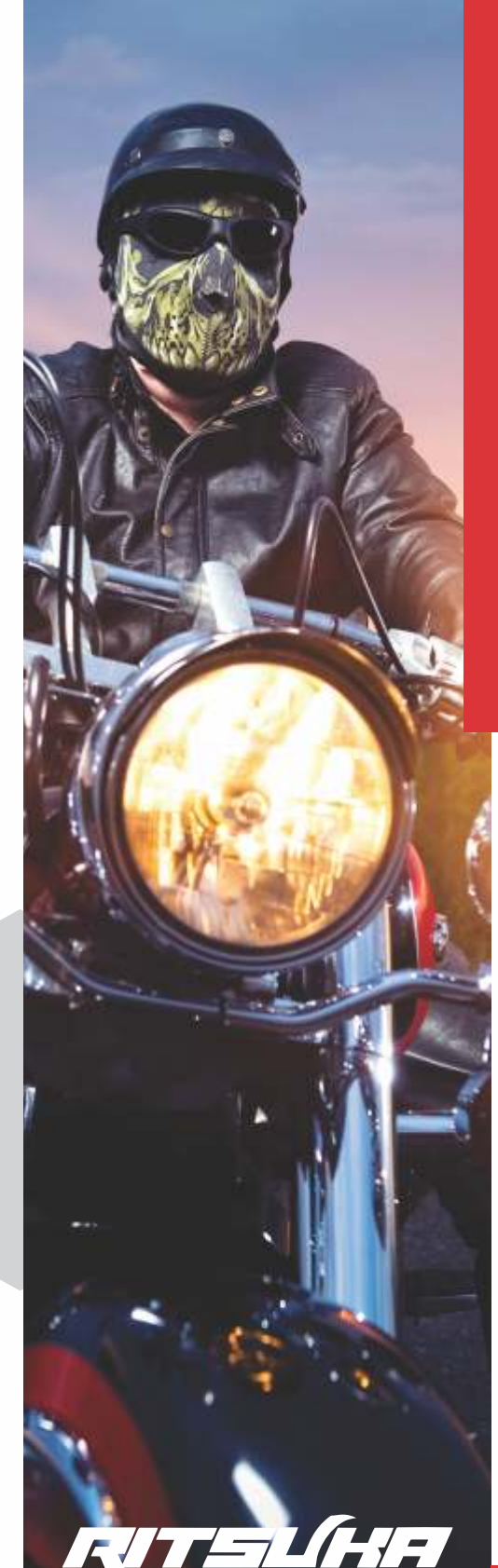


Polypropylene (PP)

We also utilize another very beneficial raw material of Polypropylene (PP). Polypropylene is a very useful plastic for injection molding. Polypropylene is easy to mold despite its semi-crystalline nature, and it flows very well because of its low melt viscosity. This property significantly enhances the rate at which you can fill up a mold with the material. Shrinkage in polypropylene is about 1-2% but can vary based on a number of factors, including holding pressure, holding time, melt temperature, mold wall thickness, mold temperature, and the percentage and type of additives.

Polycarbonate (PC)

Polycarbonate (PC) plastics are a naturally transparent amorphous thermoplastic. Although they are made commercially available in variety of colors, the raw material allows for the internal transmission of light nearly in the same capacity as glass. Polycarbonate is an incredibly useful plastic for applications requiring transparency and high impact resistance. It is lighter alternative to glass and a natural UV filter, so it is often used in light diffuser and lens for light parts . Polycarbonate also has a very good heat resistance and can be combined with flame retardant materials without significant material degradation. Polycarbonate plastics are engineering plastics in the sense that they are typically used for more capable, robust materials such as an impact resistant glass like surfaces.

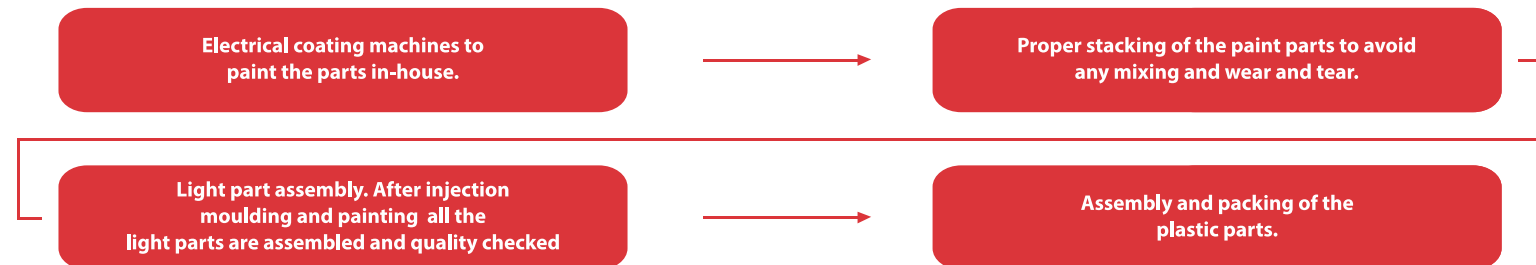




Manufacturing

Our standardized machinery and excellent technical expertise help us to manufacture high quality spare parts. Our factory has its own in-house mould shop to rectify and develop new moulds. After the processes of injection moulding and painting, all the light parts are assembled and quality checked further.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Manufacturing Process	Injection moulding	In-house automatic machine	Outsource	In-house manufacturing ensures better quality control on produced parts
		Painting	In-house automatic machine	Manual coating	In-house manufacturing ensures better
		Assembly	In-house	In-house	In-house manufacturing ensures better quality control on produced parts



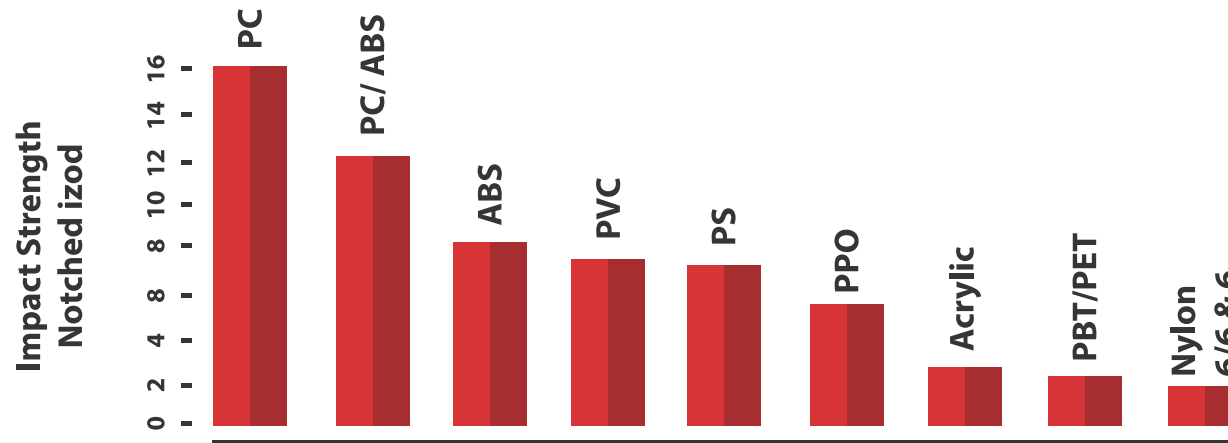
Testing

All our lights and light parts are tested on international standards and 100% quality inspection of each part during production enables us to attain zero defects and utmost precision.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing standard	Incoming Quality Inspection	100% inspection of incoming Parts	No testing	This ensure the incoming parts is within tolerance limit as per acceptance Quality Limit (AQL)
		In-process	100% inspection of incoming Parts	No quality check,since it requires extra manpower /extra cost	This ensure the produced parts is within tolerance limit as per AQL
		Final inspection	All the products are checked before dispatch to ensure good quality	No quality check,since it requires extra manpower /extra cost	Defect free product to customer.



The following diagram shows the relative impact strength of polycarbonate when compared to the impact strength of other commonly used plastics such as a ABS ,PS or nylon.



1. Paint Adhesion Test - A crosshatch pattern is made through the film to the substrate. Detached flakes of coating are removed by brushing with a soft brush. Pressure-sensitive tape is applied over the crosshatch cut. Tape is smoothed into place by using a pencil eraser over the area of the incisions. Tape is removed by pulling it off rapidly back over itself as close to an angle of 180°. Adhesion is assessed on a 0 to 5 scale. [0- Greater than 65% area removed & 5 is 0% area removed]

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Paint adhesion test	In-house testing	No testing	All the test are performed as per GB standard to ensure defect free product

2. Tensile Strength Test - The sample is molded into a dog bone shaped tensile bar which is gripped on both ends using a tensile tester. The tensile tester pulls on the bar at a constant speed until it breaks into two pieces. The force on the bar how much the bar stretches is continuously measured during the test. Tensile strength (stress) is calculated by dividing the maximum load by the original cross sectional area of the test bar stretched by the original length of the bar.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Tensile Strength	In-house testing	No testing	All the test are performed as per GB standard to ensure defect free product

3. Vibration Test : Lights are tested to check the quality of the product on erratic/irregular roads.

S.no	Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
1	Testing Standard	Vibration test	In-house testing	No testing	All the test are performed as per GB standard to ensure defect free product



Instrument Panel



Product

We manufacture wide range of Speedometer and Instrument Panels. We also manufacture critical child parts in-house.

Strengths

- Easy to read pointers and dial plates
- Digital display technology
- Sleek design
- Anti glare display
- Long serviceability
- Waterproof
- Dust proof

Raw Material

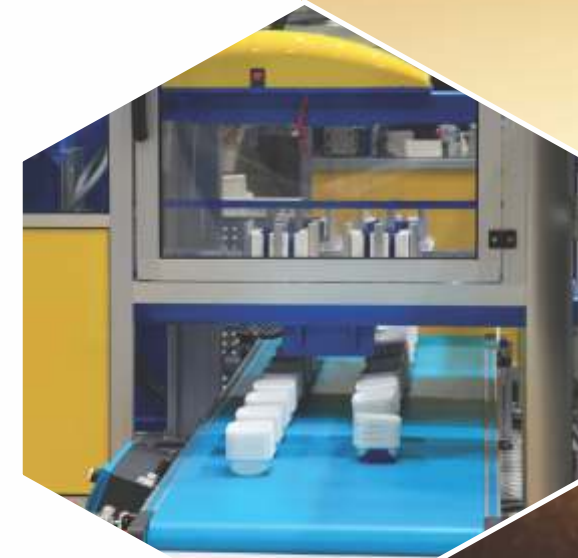
Our instrument panels are manufactured of high grade raw material of fresh polypropylene. PP is very useful plastic for injection molding. Our quality of raw materials provide high rigidity and stability of panels. below is the comparison of our instrument panel with other chinese brand and justifies our superiority in raw materials.

Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
Raw Material	Outer Body	Fresh PP	Recycled PP (80/20)	1. Excellent impact strength 2. Fresh PP is easy to mould and it flows very well due to its low melting viscosity, hence reduces mould defects like air presence 3. Strong adhesion to powder coating
	Lens	PC	Recycled PC (80/20)	1. Light Material 2. Better transparency



Below is the comparison of child parts with other Chinese product:

Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
(BOP Bought out Parts)	Case	In-house	BOP	In-house parts ensures better process control thereby ensuring better quality and delivery.
	SPCB	In-house	BOP	
	LENS	BOP	BOP	
	Magnetic Cup	BOP	BOP	
	Speedometer Bulb	BOP	BOP	
	Needle	BOP	BOP	
	Cable	BOP	BOP	



INSTRUMENT PANEL



RITSUKA
www.ritsukaparts.com



Manufacturing

We have world class advance equipment and production environment. We believe in automation at the maximum and outsourcing at the minimum. This makes us far superior to other chinese brands available in market.

Parameter	Details	Ritsuka	Chinese Product	Ritsuka Advantage
Manufacturing	Injection Moulding	In-house automatic machine	Outsource	Better quality control and less wastage of PP
	Assembly Line	2 Fully Automatic SMT Production Lines	Manual or Semi Automatic Production	1. Fully Automatic SMT Line ensures consistent quality, 2. High Rate of Production and minimizes the QPPM (Quality Parts per Million) QPPM : It is the Number of defective parts produced in 1 Million parts Production
		In-house thru Soldering Robots	In-house with Manual Soldering	Robotic Soldering ensures Zero QPPM , Thus proving improved quality
	Workshop Environment	Dust Proof Static Free Workshop	No Focus on Dust Control	Prevention of dust particles improves the robotic soldering process

Testing

Each of our instrument panels and speedometers are put through many tests and checks to detect any anomalies. Only the perfectly crafted parts find their place in the global market.

Details	Details	At Ritsuka	Chinese Product	Ritsuka Advantage
Testing Standards	Incoming Parts	100% Inspection & Testing	Random / No Testing	Minimal chances of In-house rejection levels, pre-finished /finished product
	Inprocess	Checking at Every Process through various process specific testing Gauges.	Visual Testing	Controlled standard parameters at every process
	Final	100% Checking for Function	Random / No Testing	Zero defect ensured
	Functional	1. Vibration Test 2. Water Spray Test 3. Salt fog Test 4. Temperature Test	No Such Machines	All these tests are performed, resulting in less defective PPM, hence improving the Quality



Vibration Test:

The performance of the speedometer is checked at high frequency and resonant vibration.

Water Spray Test:

In this water is thoroughly sprayed on instrument panel to check any leakage.

Salt Fog Test:

High moisture conditions are created in the testing chamber to check if the water dehumidifies as fog on instrument panel.

Temperature Test:

Each instrument panel is checked at high temperature of around 250°C and low as -80°C to ensure optimum functionality in diverse conditions.





www.ritsukaparts.com

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Support: support@eastmanglobal.com