

## What is HID/XENON Light?

The HID/XENON bulb is a micro discharge bulb filled with a mixture of noble gases including xenon. The bulb has no filament as is the case with a halogen lamp. The light is created by striking an arc between 2 electrodes via a starter and electronic ballast.



The HID Xenon lighting system is more economic, stable and brighter than conventional halogen lighting.

## What is the difference between HID and XENON lights?

HID and Xenon refer to the same thing. Xenon is the gas used in HID technology bulbs. These terms are synonymous and are often used in place of one another.

## What are the advantages of HID/XENON Lighting systems?

### LOW POWER CONSUMPTION

The xenon bulb provides three times the amount of light of a halogen bulb, while only consuming half the power (wattage). Lower power consumption is particularly important given the limited output resources on a motorcycle system and allows the saved power resources to be used for other functions. Moreover, it is environmentally friendly, as less power means less fuel consumption.

### 3 TIMES BRIGHTER

The clear white light produced by the Xenon bulb is similar to daylight. Research has shown that this enables drivers to concentrate better as they are provided with a superior overall view of the roadway.



The particular light colour of HID systems reflect the road markings and signs far better than conventional halogen lighting and delivers a marked contribution to road safety in the event of limited visibility due to weather conditions.

## **DRAMATICALLY INCREASE YOUR VISIBILITY TO OTHER ROAD USERS.**

It is a fact that a 60 year old requires up to 11 times the amount of light to perform the same functions as a 20 year old. Allied to an increasing life expectancy statistically one is at more risk than ever before. Installing HID lights will address this problem.

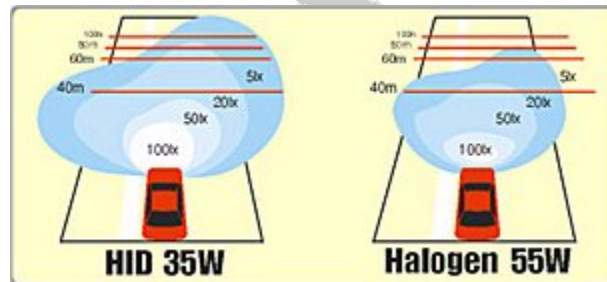
## **EXTREMELY LONG LIFE**

The life expectancy of the HID/XENON lamp is 3000 hours which in most instances exceeds the life of the vehicle. There are no filaments that can blow leaving you vulnerable when you can least afford to be.

Halogen bulbs have a life expectancy of 350 hours and produce their light by an electric current which flows through a filament. The filament loses its initial brightness after a few months and becomes brittle after repeated usage eventually failing (blowing)

## **Doesn't the use of HID/XENON lamps cause more irritation amongst other drivers?**

The International regulations governing light distribution and intensity on the road are very strict. HID/XENON light falls well within these standards. Technically speaking HID/XENON lighting is less irritating than halogen lamps as the light darkness transition border is much more clearly defined. Less light is reflected into the eyes of oncoming drivers as the increased light output is used to give more homogeneous light distribution.



## **How does HID lighting compare to Halogen lighting?**

HID light is best described as a bright-white, and is similar to natural daylight. It offers greater visibility on the road, especially at night. HID headlights are the safest headlights currently available and are now becoming standard equipment on top of the range vehicles.

In off-road use, the superior contrast and light intensity of HID/Xenon lights is far superior to normal Halogen lighting. Most rally drivers use a full complement Xenon lights.

## **How about those so called "Xenon Blue Bulbs" which cost less than R150?**

The "Xenon blue bulbs" on the market today are a cheap imitation of the HID technology.

"Xenon blue bulb" systems typically use Halogen gas or a Halogen/Xenon-mixed gas that does not emit the brightness and intensity of a true HID bulb since they use the conventional filament to emit light.

"Xenon blue bulbs" typically generate slightly brighter light than conventional halogen bulbs because they are forced to operate at higher watts. This can be detrimental not only to the limited capacity of a bike's output system (through the additional current burden) but also to the wiring.

"Xenon blue bulbs" also operate at much higher temperature (a negative impact on the actual headlamp enclosure) and have a much shorter life than conventional halogen bulbs.

The HID system actually runs cooler (heat/temperature) than Halogen, and the power draw from the alternator is reduced by 40% - ideal for those who like to use extra accessories.

### **What is Lumen (lm)?**

The international unit (SI) of luminous flux (quantity of lights). For example, a dinner candle produces about 12 lumens and a standard 60-watt incandescent bulb produces 830 lumens. The higher the number is, the brighter the light is.

### **What is Kelvin (K)?**

A basic unit of thermodynamic temperature (colour temperature) used to measure the whiteness of the light output. As the colour temperature (Kelvin) increases, the colour of the light moves from yellow to white to blue-white.

When over 5000K the light begins to turn to blue.

### **Kelvin(K) ratings as applied to HID**

Many people believe the misconception that colour temperature (Kelvin) is a rating of the brightness (Lumen) of the bulb. This belief is completely false. The reality of the matter is that the higher the K value of the bulb the less bright it becomes e.g. 4100 K lamps are approximately 20% brighter (measured in Lumens not degrees K) than the 6000 K.

Degrees K = ONLY COLOUR

Lumen = BRIGHTNESS

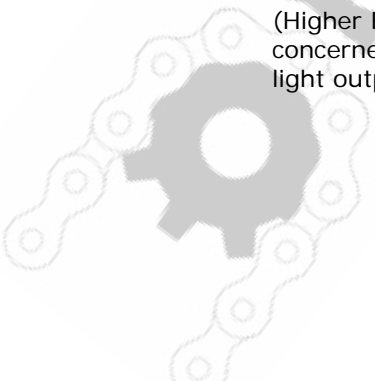
It is generally accepted that the best Kelvin rating for optimal human night vision is between 3800 K and 5500 K.

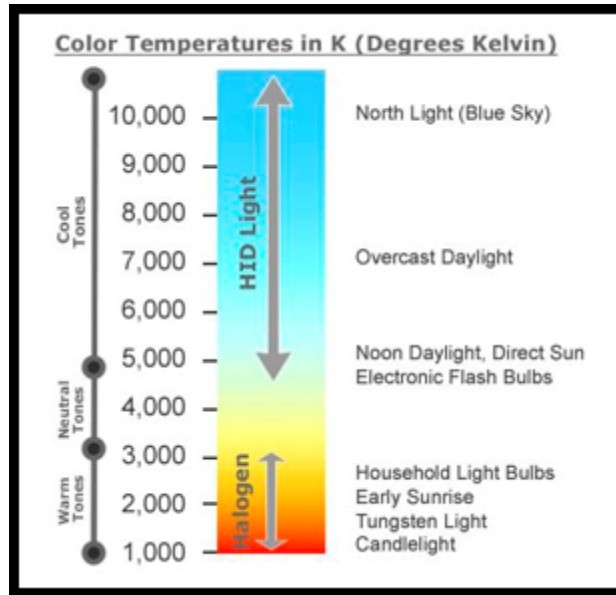
Anything over 5750 K and human vision and depth perception is significantly reduced.

Anything over 6000 K and the actual lighting output/power reduces exponentially.

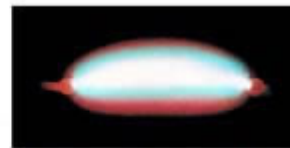
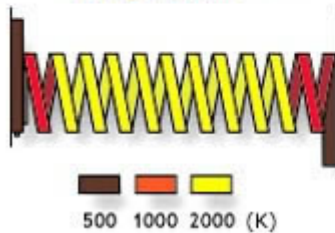
All our 35 W HID kits run at 4300 K (3675 lumen) which is considered the optimal balance for whiteness and brightness.

(Higher K kits such as 6000K etc. have been manufactured for individuals that are more concerned about the actual colour output of their lights as opposed to the actual useable light output they produce)

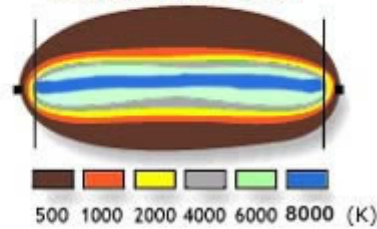




Luminance of Halogen Bulb using Filament



Luminance of HID Bulb using Gas-Discharge Arc



### Can all vehicles be converted to Xenon/HID lighting?

Almost all vehicles can be converted or upgraded. If you have further questions, please contact us and we will promptly answer your question

### How hard is it to install a Xenon/HID conversion kit?

Anyone with basic mechanical and electrical skills should be able to install it. You replace the factory bulbs with the HID bulbs, connect the HID ballast into the bulbs and connect the ballast power wires. Then mount the ballast and that's it!

This kit is a true "plug-and-play" kit with all mating connectors that can only be connected one way, and one way only, thus eliminating the possibility of an installation error.

### What does the Xenon/ HID light system kit include?

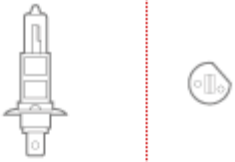
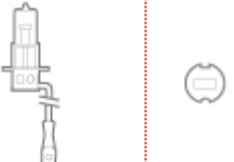
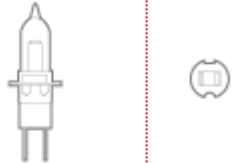
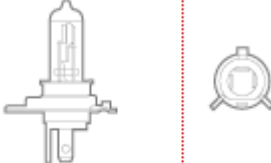
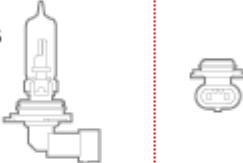

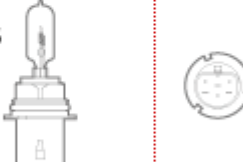

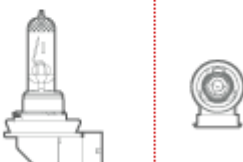
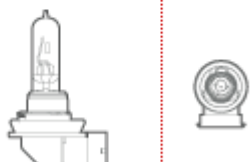
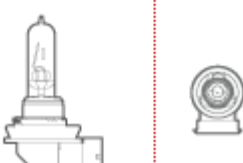
We will supply you with all of the necessary components and hardware to install this system into your vehicle. Each kit includes:

- 1 x direct plug-in XENON H.I.D. lamp
- 1x ballast (transformer / igniter unit)
- all necessary wiring

#### How do I know what bulb base I should order?

This information can easily be found in your owner's manual or on the markings found on the current halogen bulbs you are using. You can also use the following guide:



<b>H1</b> 	<b>H3</b> 
<b>H3</b> 	<b>H4</b> 
<b>9005 or HB3</b> 	<b>9006 or HB4</b> 
<b>9007 or HB5</b> 	<b>H7</b> 
<b>H8</b> 	<b>H9</b> 
<b>H11</b> 	

Simply check how many bulbs are in your headlight enclosure. Some motorcycles have 2 bulbs which would necessitate that each bulb has its own ballast (e.g. BMW GS 1200 has a H7 bulb for the low beam and a H7 bulb for the high beam). In the case of 2 bulb configurations we would recommend that you only convert the low beam due to the efficiency of the HID system. Converting both beams not only doubles your cost but would in our opinion be an overkill.

For headlamps with single bulbs (e.g. BMW GS 650 has a single H4 bulb) our Bi-xenon kits use a single xenon lamp and ballast to produce both the high beam and the low beam. The full light output is used to produce the high beam, while the low beam is formed by moving a shutter between the bulb and the lens, thus blocking off a portion of the light.

### **Can I reverse the HID setup back to my original halogen lighting?**

Yes, all our HID systems are 100% reversible. As no wiring is altered or cut when installing the HID system simply replace you original bulb and reconnect the wiring.

### **Is HID here to stay?**

Automotive lighting will continue to evolve and HID lighting systems will displace the current halogen headlight technology. Although it is currently regarded as a luxury/prestige option it will become more common and expected by informed road users.

### **Why is Xenon lighting more expensive than halogen lighting?**

Xenon lighting is not simply a question of a new type of bulb, but a whole new system consisting of:

- A complex HID Xenon bulb manufactured according to the highest standards of precision.
- A hi-tech HID electrical ballast system specially adapted to the Xenon bulb.

The price is governed by all these components. Generally the price of the HID ballast, which is NOT necessary to a traditional bulb, accounts for 2/3 of the price of the whole Xenon HID lighting system.

