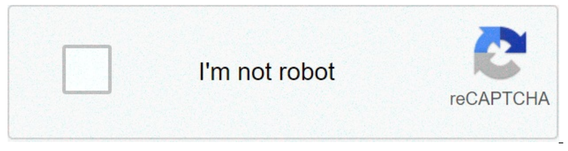

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Borescope and endoscope diff

If you are looking to buy an inspection camera, borescope or endoscope, then the question of borescope vs endoscope is one that must be answered! It can be difficult to know which type of inspection camera you need and which is better for your needs. This article will answer these questions and many more so that when it comes time to make a purchase, you'll have all the information necessary. What is a borescope and how does it work The borescope is a flexible tube with an eyepiece at one end that allows one person to see inside inaccessible areas such as pipes or other small spaces where traditional tools cannot fit. The borescope uses fiber optic cable technology to allow viewing without contact with its surroundings. This also means no dust particles entering the device. Borescopes are used to gather data or inspect objects, taking advantage of the borescope's ability to see into otherwise inaccessible areas such as pipes. A borescope is inserted into a borehole and advanced through various dimensions of an object being inspected. The borehole may also be drilled by the borescope for sampling purposes or inspection from inside a pipe with limited access without releasing its contents. A borescope can provide high-resolution video images which offer views that would not be possible using human eyes alone because it does not have any physical contact with its surroundings when in use. What is an endoscope and how does it work? An endoscope is a flexible, tube-like instrument that can be inserted into the body for visual inspection or surgery. The borescope and endoscopes are known as "inspection cameras." Endoscopy has been around since 1854 when it was invented by Hermann von Helmholtz to visualize the interior of his father's stomach during an autopsy. As opposed to a borescope, an endoscope is often used as a medical device. The use of endoscopy in medicine has grown tremendously over the last 20 years and is now considered to be one of the most important diagnostic tools for identifying diseases, including cancer. For example, because an endoscope can provide images from all angles (360°). It allows doctors to identify abnormalities such as polyps or tumors that might not show up on other types of imaging procedures like X-rays or CT scans. Endoscopes are widely used in: gastroenterology where they're inserted into the patient's mouth and down their throat; ophthalmology when examining inside eyes, ears, nose and sinuses; urology when inspecting urinary tract/bladder via endoscope camera. The difference between borescope vs endoscope One of the most common questions we're asked is what's the difference between borescope and endoscope. The answer is: borescopes are typically used to inspect surfaces, while an endoscope can be inserted into a human body for diagnostic purposes. Borescopes are mainly used in industrial applications such as when inspecting inaccessible areas like jet engines or car brakes, often uses in plumbing. They also have some medical applications where access might otherwise be difficult – for example on delicate eye tissue during surgery; inside bleeding gums that need treatment by dental specialists; around damaged teeth before extracting them from patients (avoiding damage), etc. Endoscopy enables doctors to get a closer examination of internal organs without having to make any incisions/cuts onto the patient's skin. Endoscopies are mainly used in medical applications such as gastroenterology, urology, and gynecology. They can also be used to examine the inside of blood vessels with a technique called angiography (a type of X-ray). A borescope or endoscope is an instrument that enables a person to view things that would otherwise not be visible using normal senses. It's made up of two parts: an optical system at one end for viewing and a cable/wire connecting it to another device like a computer monitor (or TV), DVD recorder, etc., on the other end. Uses for the endoscope vs borescope One of the main differences between borescope and endoscope is their use. A borescope or a fiber optic endoscope can be used in many ways, which are: Observing hard to reach places inside machinery such as engines; this is called "borescoping" As an inspection device for pipes, wires (Fiberscopes), etc.; it's called "endoscopy" In dentistry to examine teeth that cannot be seen with visible light when someone has a mouth full of dental work on one or both sides of his/her arch (called intraoral); this is called "dentiscopy." Unlike other scopes, this type of borescope does not have batteries because power comes from the light source. A borescope is inserted into a bore of the pipe, for example, to inspect the inside surface and can be used on other similar things such as an oil or gas line. Endoscopes are often much larger than borescopes because they need to have room for all sorts of interchangeable attachments (such as lenses, monitors) whereas borescopes only require one lens which means that there's more space available internally. This makes borescopes ideal for use when you want to access hard-to-reach spaces but don't really know what will be found at the end – this way it doesn't matter if the attachment isn't there yet when needed. Endoscopy requires a dedicated channel through which it travels to the end destination which means borescopes are better for when you don't want to drill a hole or cut out a section of the wall. How to choose which one to buy based on your needs Borescope: borescopes are cheaper, require less space, and can be used in smaller spaces. Because borescopes don't have an attachment to another endoscope or camera, the borescope also needs a dedicated screen for viewing – this could mean that you need extra equipment like a monitor or laptop which means additional costs when compared with endoscopy. Endoscope: because endoscopies use attachments it requires more time (and money) to set up as there is always preparation involved before being able to start using it but does offer better image quality than Borescope devices. Endoscopic cameras come with everything included so no external screens are needed, unlike borescopes. Conclusion The borescope is a device that allows you to inspect what's just out of reach, but it requires an extra monitor or laptop which means more costs. The endoscope also offers better image quality and doesn't require any additional equipment – the trade-off is the time required for setting up before use (and money spent). Inspection cameras do not all have one specific application: they depend on your needs and budget so make sure you know your requirements when looking at different borescopes vs endoscopies! It's important to know the difference between these two devices in order to make an appropriate choice when selecting one as your inspection tool of choice! Last Updated on May 20, 2021 When looking for a borescope, you might find quite a few endoscopes listed and wonder if you could use one of those instead. What is the difference between these two very similar-looking tools? Though they may look like the same device, there are several important differences between these two useful tools. If you get the wrong one, it might not work for your intended use. Let's break into the differences between endoscopes and borescopes including differences in how they're built, how they're used, and more. They might seem similar, but we want to make sure that you never confuse the two. What is an Endoscope? An endoscope technically is a type of borescope, though not all borescopes are endoscopes. Endoscopes are much more refined and precise versions of borescopes. They perform the same types of tasks, but in a much higher-risk area with no room for error. While borescopes are commonly employed in mechanical objects, endoscopes perform their jobs on living specimens. Whenever a surgeon needs to be able to see inside of the body to get a more detailed glimpse at what's going on, they use an endoscope. In essence, an endoscope is a very tiny camera that's attached to a long, flexible cable. This cable allows you to maneuver the camera inside of the tightest and least forgiving spaces imaginable. Once in these spaces, endoscopes provide enough light to illuminate the area but not blind the camera since inside the human body bright lights won't work as well. Endoscope Overview Applications Endoscopes have a variety of uses inside the medical community. They're often used for diagnosing medical issues by allowing surgeons to get a closer look at what's going on inside the body. They're also used frequently during surgery so that the surgeons can see what they're doing. They have to make very tiny, precise movements and cuts inside of someone's body, and the endoscope is what makes that possible. Most endoscope cameras are 1080HD with extremely advanced optics. Image credit: Roman Zaiets, Shutterstock Most commonly, they're used for endoscopies, the procedure from which the endoscope takes its name. Here, they'll send the endoscope through your mouth and into your digestive tract for examination. They can also insert it through your other end, which is called a colonoscopy. Field of View Endoscopes tend to have a smaller field of view than borescopes so they can get a very detailed look at a small part of the body. Generally, the field of view on an endoscope is just 90 degrees. Maneuverability Endoscopes have to navigate the maze of microscopic passages that exist inside the body. To do this, they need excellent maneuverability. For this reason, endoscopes are generally extremely flexible. Some of the best endoscopes feature a mechanical head that can be turned and controlled by the surgeon. This helps to maneuver the endoscope into even harder-to-reach areas since you have the ability to manipulate the tip of the endoscope to help navigate turns and other obstacles. Lights Endoscopes don't need very bright lights. Inside the body, low levels of light work best, or the camera will get washed out and the surgeons won't be able to see anything. As such, the lights equipped on endoscopes are generally rather mild, nowhere near as strong as the bright light settings on borescopes. Image credit: Roman Zaiets, Shutterstock Price Medical grade equipment is never cheap and the endoscope is one of the higher-end, more pricey pieces of medical gear. These precise tools can be radically expensive and generally cost many times what a borescope does. What is a Borescope? When workers in many different professions need to see the inside of something narrow and hard to reach, they enlist the help of a borescope. This tool allows you to see inside of a small, poorly lit place that you could normally never reach. Today, most borescopes are cameras with high-definition capabilities so you can see the inside of whatever you're working on with absolute clarity and detail. They also have lights built-in so that they can illuminate any dark spaces, providing you an unfettered view of your work. But borescopes aren't just a modern invention. They've been used for quite a while! As far back as World War II, they were used for examining the insides of large guns. Of course, these were very different borescopes than what you most commonly see today. These were rigid borescopes, and there was no camera technology. You'll still see these in use, but they're not as common now as the camera-toting variety. Borescope Overview Applications The borescope is used in a variety of applications in order to see inside of many different items. Mechanics of all types use borescopes to inspect the insides of engines, cylinder heads, and other parts that are difficult to see under normal circumstances. These are used by car mechanics, aviation mechanics, and even aerospace technicians. Image credit: Ronstik, Shutterstock Field of View Borescopes are also used by your local plumber. If they've got a blockage that seems to deter their best efforts at removing it, then they have to get in there and see what's going on. They can't climb into the pipe (and who would want to do that anyway?) so they send a camera in instead. This gives them a good view of what's going on inside your pipes; a place that's hard to reach and would normally get you filthy! But borescopes' usefulness doesn't end there. They're used in gunsmithing for inspecting the insides of guns and barrels. They're also used in law-enforcement forensics departments. And they're used by just about every profession that deals with engines. The field of view refers to how wide of an area you can see when viewing through your borescope. It's expressed in degrees. Most borescopes have a field of view of about 120 degrees. This allows you to inspect a wide area all at once for a complete picture of what you're looking at. Maneuverability Borescopes are pretty maneuverable so they can be fed into difficult to reach areas with relative ease. But they're not nearly as flexible as endoscopes that have to make much more refined movements. Because of this, borescopes aren't as easy to work with, especially when navigating tight spaces. Borescopes generally have lights built-in so that you can illuminate your subject. The light on a borescope is generally very bright with several settings to select between front and side views. This gives you great visibility inside of machinery, plumbing, or anywhere else. Price Borescopes can get pretty pricey, but on the lower side of the spectrum, they're actually quite affordable. Even video borescopes have come down in price so much that they're within the budget of most professionals and hobbyists alike. At the end of the day, endoscopes and borescopes are very similar tools for different purposes. To suit their purposes, each tool has some slight differences that make them better for their intended uses. AspectWhich Has the Advantage? ManeuverabilityEndoscope DiameterEndoscope LightingBorescope Field of ViewBorescope Level of DetailEndoscope PriceBorescope Maneuverability Endoscopes are more maneuverable than borescopes. They have to make their way through tighter spaces and the cost of making a mistake is incredibly high. Sometimes, they even have heads that can be controlled remotely to allow the endoscope to make turns and more. Diameter Endoscopes tend to be thinner than borescopes, which makes sense, given the invasive nature of medicine. Endoscopes need to reach some pretty tight places! Borescopes also tend to be less flexible since they aren't generally used in such difficult places. Image credit: JRJfin, Shutterstock Lighting Borescopes have much brighter lights than endoscopes though. This is to illuminate the inside of machinery, plumbing, or other places where no light can enter. The bright light is needed to get a clear picture of the inside. But the human body doesn't do as well with bright lights; they tend to wash out the camera. So endoscopes employ softer lights that make it easier to see inside the body. Field of View You'll see more of what you're looking at with a borescope. They usually have a very wide field of view; about 120 degrees is normal. This gives you a nice large image of a big area. But endoscopes are more precise. They have a field of view of about 90 degrees, which allows you to see less at once. Level of Detail Endoscopes provide a more detailed view of a smaller area, which is perfect for surgeons. Price One of the most notable differences between these two devices is the price. Because they're made to work with many different professions, borescopes are generally pretty affordable. They can get expensive on the high-end, but some of the more affordable models will fit into the average hobbyists budget. But that's not the case with endoscopes. These are medical-grade tools and the cost reflects that. Even the more affordable ones are rather costly and the high-end ones used in hospitals can be astronomically expensive. Conclusion In the end, the borescope and endoscope are very similar tools that function quite similarly but are used for drastically different purposes. As such, they have notable differences between them to help perform their designated functions. Borescopes are a tool that's used by many professionals. They're versatile and affordable. With a borescope, you can see clearly into spaces that you could normally never reach and that might be too dark to see if you could. You'll find them being used by mechanics, plumbers, and more. Endoscopes are used only by the medical profession. They're a very precise and expensive instrument that's meant for use inside of the body. While borescopes let you see inside machinery, endoscopes do the same inside of the body. They are incredibly precise tools with sky-high price tags. In most cases, you'll probably want to choose the borescope. Only for medical purposes should the endoscope be used; particularly for surgery.

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