Applications & Solutions
Very Close Focus

Close focus requirements can be met with customized lenses. We have so many types already created, that quite often a custom request is easily available. Most of these custom requests are incorporated at no extra cost since this is one of our core capabilities.

Fiberscopes are very sensitive to the focus of the tip lenses. The focus of the image at the tip of the scope cannot be changed once the scope is built, and it is not changed by refocusing the video or eyelenses. Rigid scopes use a more traditional relay system where the image from the tip lenses is passed through a series of focal points along the length of the probe. Since the image at the rear end of the scope is positioned due to the entire optical system, a refocus of the rear lenses will change the working distance at the tip of the scope. (See our page about tip focus semi-rigid fiberscopes. These incorporate the ability to change object distances with the versatility of a fiber scope.)

In a very close focus (0-3mm) application, the depth of focus is usually reduced so that controlling position of the probe becomes more important. Illumination can sometimes be difficult because a certain amount of space is required for the lighting to cross into the inspection area. Mirror tubes are sometimes used in close focus side viewing applications because the airspace between the tip of the scope, the mirror and the object allows the illumination to cross over into the target area.

Zibra product part numbers for probes include the focus distance. We always take focus requirements into account when building scopes. See our page covering the part number descriptions for information on how to specify your focus requirement. Do not hesitate to e-mail or call if you have either special requirements or need to discuss the options for your particular needs. The close focus scopes do require extra thought in specification and usage.

Datasheet: MultiScope and MultiVision compatible probes