



Electronic Video Microscope



Case Study Application #115



Mine Safety Appliances Company

MSA is the largest company in the world dedicated solely to producing a complete range of equipment and systems for worker and plant protection. With headquarters located in Pittsburgh, Pennsylvania, operations extend around the world. These vast resources include 28 International affiliates that help protect lives in more than 120 countries, on all continents around the globe. The Instrument Division in Cranberry, Pennsylvania, manufactures sophisticated handheld gas detectors and permanently mounted instruments that continuously monitor workplace environments for toxic and combustible gases (www.msanet.com).

speckFINDER Application

At MSA, the speckFINDER is used in the production of electronic instrumentation that includes printed circuit board assembly and sensor manufacturing for personal protective equipment, thermal imaging, communications (wireless and hardwire), and gas detection devices both portable and permanent. Specifically, the speckFINDER is used for inspecting and reworking extremely small microelectronics.

Key Benefits of Using the speckFINDER at MSA

Previously, this facility was using optical systems that ranged in magnification power from 10X to 40X. The introduction of the speckFINDER provided a number of advantages over these magnification devices. First, the 9-inch working distance provided by the speckFINDER is twice that of the other equipment and allows ample room for operators to maneuver their tools. The speckFINDER's magnification power and range are described as superior. The operators like the ability to adjust the sharpness and brightness in order to reduce glare on the electronic components. The speckFINDER was found to be the best option to reduce eyestrain and it allows more freedom of movement at the workstation. Its position can be easily changed to accommodate user preferences, in contrast to the previous magnification method where components had to be viewed straight-on through the eyepiece. The technicians maintain that the speckFINDER is easy to use because its operation is simple and straight-forward and the on-screen menu is user-friendly. Finally, they like the ability to connect an external monitor to the speckFINDER.