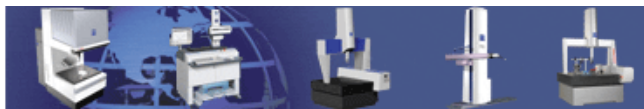




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Quality 101: Video Microscopes in the Workplace

By GeGe Mix

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Video images are an important part of communications today in business. Much of today's information comes from observing images on a screen, so using a video microscope to magnify and observe small objects is a natural progression.

Various forms of video microscopes have been in use for a number of years in highly technical and specialized fields such as metrology and surgery. With recent advancements in electronics, combined with cost reductions, more affordable video microscopes are now available for use on a much broader scale in industrial and laboratory settings.

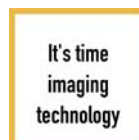
Several factors contribute to the role of video microscopes in the workplace. As instruments and equipment become more compact, parts become smaller and more tightly integrated. The production, assembly and repair of these smaller parts are improved with visual magnification that results in faster, more accurate and efficient assembly and operations.

Smaller parts and changing manufacturing processes have increased the need for quality inspection to reduce defects and ensure error-free procedures. Video microscopes are ideal for quality control because they can magnify defects and use video capture software to document and e-mail images or video clips to suppliers, colleagues and customers. Early and frequent communication helps reduce errors that can be more costly to fix later in the production cycle.



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Source: Dazor Manufacturing Corp. Inc.



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Employee productivity

Training of new employees in assembly or inspection tasks is easy with a video microscope. Demonstrations of procedures and inspection techniques can be made to group members who view the monitor simultaneously. Everyone sees the same image and observes the live action. Questions can be answered by on-the-spot demonstrations. Trainees master techniques quickly because the instructor can show and explain procedures as everyone views what the instructor is referencing. Quicker training of employees means that they can contribute to productivity in less time.

With the recent emphasis on lead-free soldering, more companies are turning to video microscopes to help employees learn to identify and inspect the characteristics that distinguish lead-free boards. Video microscopes help workers learn to quickly spot problems like tin whiskers and solder joint changes that are more likely to occur with the new alloys used in the solder paste.

The productivity of an aging workforce improves when correct task lighting and magnification are available in the workplace. Video microscopes offer a user-friendly way to provide magnified viewing for older employees, particularly if they have been using a stereo-microscope. Traditional microscopes can cause physical fatigue in the neck, shoulders and back, developed from holding the head in an exact position to keep the eyes aligned in the precise path of the microscope optics.

Visual fatigue can result from the eye muscles performing precise coordination of movements held in the exact position for long periods. Mental fatigue develops from the brain working constantly to integrate and combine information from two separate visual paths to product the "stereo" image.

More companies are evaluating the ergonomic benefits of video microscopes—not just for older workers, but for all workers. Younger workers are familiar with video communications, and generally that is their preferred method of exchanging information. All workers appreciate the physical benefits of video microscopes. Fewer physical problems for workers means better worker concentration and productivity, fewer missed work days and lower workers' compensation claims for musculoskeletal disorders and other work-related problems.

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Much of today's information comes from observing images on a screen, so using a video microscope to magnify and observe small objects is a natural progression. Source: Dazor Manufacturing Corp. Inc.



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