



HARD DISK INDUSTRY

ULTRASONIC CLEANING SYSTEM

■ The Situation

The largest manufacturer of hard disk read/write heads approached Owens Design to support the introduction of their revolutionary new product - the GMR head. The GMR head required precision cleaning, much tighter process control, and was very sensitive to ESD damage. The manufacturer's current cleaning technologies were not sufficient and they needed to develop the next generation cleaning processes.

■ The Challenge

GMR technology is much more sensitive to contamination than the prior state of the art and requires that all fixturing coming in contact with the heads be ultraclean. This required introducing a much tighter cleaning process for the head carriers including ultrasonics, heated fluids, and agitation during the soaking cycles. Throughput requirements dictated an automated solution. Worldwide installations required universal power and European regulatory approvals.

■ The Solution

Utilizing a nine tank system and automated transfer, the ultrasonic cleaning system fully implemented the cleaning process with much tighter process control. Ultrasonics were incorporated into three tanks, heated baths into two tanks, and a final single sided overflow with quick dump. Queuing was accomplished by output onto a conveyor. All regulatory requirements including CE were met from the initial unit on.



Specialized Clean Line for GMR Head Production



Close Up Showing Tank Oscillation