



e-F@ctory

Case study

Productivity improvement

Collision detection system reduces 79% of machine tool repairing costs!

"Company A" was suffering from the cost of repairing machine tool collisions. By introducing a collision detection system, we succeeded in reducing the annual repair cost by 79%. What is the secret of the reducing costs? Check next page out ! Concerning from the customer

"Company A" uses many machine tools to process a wide variety of mass-produced parts. Due to manual operation and machine collision during prove-out machining, total loss of expensive spindles occurs 12 times per year. Not only the production suspension, but also the high repair cost had a big impact.





With the introduction of the "Collision Detection System GEM CMS", the machine can be stopped automatically in the event of a collision, and damage can be minimized. Collisions requiring spindle replacement have been reduced (12 times / year \rightarrow 2-4 times / year), leading to a significant reduction in repair costs and downtime. In addition, it was visualized by the log function and the cause was clarified.





Introducing this system instead of replacing a spindle!



* Cost-effectiveness shows actual cases and does not guarantee the effectiveness. This device reduces the damage caused by collisions, not eliminates the damage. Repair costs may not be reduced depending on the machine and contents of the collision such as the air spindle. Installation may require modification of the machine tool by the machine tool manufacturer. (Additional cost)

The collision detection sensor is installed on the machine tool spindle unit. When a collision occurs in a machine, a collision detection signal is output to the CNC within 1 msec after the collision is detected to stop the machine and minimize the damage to the machine. In addition, it is possible to switch between three types of output signals (emergency stop, alarm stop by feed hold, warning display) by setting the detection threshold value, and control according to the collision situation.



Artis is the brand name for the monitoring system provided by the Marposs Group MMS GmbH.

Equipment configuration (Example)

Product		Description	Standard price (yen)
1 Piezo strain collision detection sensor			
DA sensor		15m connecting cable for sensor and GEM CMS module	XXX.XXX
2 GEM CMS module (* including GEM CMS VISU software)			
GEM CMS		System body DIN rail mounting in the control panel	XXX.XXX
Operating industrial PC (option)			
IPC4		Touch panel type industrial PC that can be installed on the machine body at all times (with bracket for fixing)	XXX.XXX
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