

Shuttle System Turns Heads at Miller

When Miller Fluid Heads installed a new pallet shuttle system, productivity from their vertical machining centre increased so much they ordered two more !

Based in Sydney is Miller Fluid Heads, a company established over 50 years ago when it was awarded the world's first patent for film camera fluid heads. Since shipping its first order to Hollywood in 1958 Miller has been an innovative technology leader with its range of tripods and pan and tilt heads that are now used by cinematographers, news and event videographers for electronic news gathering at the worlds leading networks in over 65 countries.

But world leading product development is not the only innovation at Millers manufacturing facility in Artarmon where a modern, well equipped machine shop produces the precision components for the company's products.

Looking to increase the throughput of parts processed on their vertical machining centres, Miller's production manager Mr. Darren Burns considered several options including a horizontal machining centre and a twin pallet vertical machining centre. According to Mr Burns "This blew our budget for the upgrade to production as it would only give us one option to increase throughput. However, when we considered the price of a pallet shuttle system we determined we could significantly increase production over our three existing machines".

Finally, the company decided to purchase and trial a Siegel model 1015SRP shuttle system manufactured in the USA by Macro Tool & Machine Co and distributed by Romheld Australia.

The shuttle system is a simple manual machine that mechanizes pallet changing and transfer while providing a convenient workstation where work-pieces are loaded and finished parts unloaded while the machine is running. Two pallets (254mm x 381mm each) can be accommodated, one inside the CNC machine being processed, while the other is being set-up (unload finished parts/load new workpieces) at the workstation. Workpiece clamping is all manual and the load/unload sequence is completed within the machine cycle time so that none of the available machining time is lost. This is especially significant when multiple parts are being processed.

Measuring just 635mm in depth the free-standing shuttle unit is mounted directly in front of the machine table and can be installed within two hours via four floor bolts. It has a unique built-in safety interlock which prevents pallet movement from the receiver unless during pallet changeover.

The shuttle system requires no power as pallets can smoothly shuttle back and forth on sealed bearings. On the table of the vertical machine is a corresponding low-profile receiver which is also fitted with rollers to accept and locate the incoming pallet. Miller's machine is fitted with a receiver that has optional power clamping (pneumatic) of the pallet to further reduce non-cutting time.

Pallets are fitted with workholding jigs and fixtures for the various parts processed through the machines so that changeover to a new part simply means changing over one of the low-cost pallets and selecting the appropriate NC program. No other set-up is required, making it ideal for shops needing the flexibility of quick changeover to accommodate just-in-time requirements, small run jobs and batches.

Miller's experience with the first pallet shuttle system has been astonishing, reducing overall cycle times by 30% on most jobs. A recent production run of 1500 parts, processed 24 parts at a time and with 5 tool changes (mill, drill, tap and thread mill) would previously run for 2.5 minutes per cycle but with the shuttle system it takes only 1.3 minutes per cycle.

In another example (see photo) a batch of 380 large diecast parts each requiring three operations to complete is processed with 6 parts per fixture to produce 2 completed parts per cycle. In this case there are 11 tool changes and cycle time has been reduced from 11.5 minutes previously to 8.5 minutes with the shuttle system

Mr Burns said that the major time saving is the ability to load/unload parts external to the machine work area which significantly reduces non-cutting time. “The results were so good that we decided to order a further two units less than 6 months after the first unit was installed” he said.

Supporting Photos;

MILLER022 *The pallet system at Millers processes multiple parts in various configurations.*

For more information regarding this article, contact;
Contact:

Vince West
Manager – Business Development
Romheld Australia Pty Ltd
Ph: 1800 465 348
info@romheldaustralia.com.au
www.romheldaustralia.com.au

