

Results

AMT Machine Systems has focused on increased customer productivity since its inception. However, we quickly came to appreciate the axiom that "you can't improve what you don't measure". Customers measure results with a series of tools created by AMT. Documented results show net production increases averaging over 40%. Some have even doubled their productivity!

And while doubling their net production, these same customers experienced increased tool life, doubled and tripled their Cpk measurements, cut scrap by 80%, and most importantly gained the crucial buy-in and acceptance from their employees in our very successful Departmental Upgrade Program (contact AMT for information on this valuable program).

AMT has transformed from a supplier of CNC controls into a provider of solutions that help our customers remain globally competitive. In today's world, it is not enough to just provide a great product; we must seamlessly integrate our products at customer sites and ensure the highest return on investment for our customers.

AMT Machine Systems, Ltd.



AMT Machine Systems, Ltd. (AMT) is the leading supplier of CNC upgrades for Brown and Sharpe screw machines. AMT was created in 1996 specifically to service this market segment, and to continuously improve and expand its product line. Our market dominance is due to superior product features and functionality, along with outstanding service and support, and, most importantly, the results that our customers achieve. AMT's customers experience immediate results: their first job is up and running within hours of installation. Payback time is measured in months, not years.

AMT employs highly qualified engineers for product development and customer support, complemented by former screw machine shop owners and managers that have the real-world screw machine knowledge to guide our product development process. Our product line is based on patented ServoCam® technology (US Patent No. 5,808,893). AMT currently has over six hundred (600) systems installed in the USA and Canada.

Trust AMT to provide state-of-the-art upgrades for your Brown and Sharpe screw machines.



AMT's UltraTurn™ DL System Provides Total CNC Control

An UltraTurn™ DL CNC turning machine cuts parts faster than a cam automatic. And it sets up in minutes. The UltraTurn™ DL machine is a CNC screw machine at about half the cost of new iron. Built on the highly evolved platform of any Brown & Sharpe #2 or #3 Ultramatic and mated with a state-of-the-art CyberNet™ CNC control system, the UltraTurn™ system is the ultimate in productivity.



Features and Benefits

- ServoCam® Designer Software _____ *Design or modify part cycles in minutes*
- CyberNet™ CNC Control _____ *Easily control 3 tools in the cut simultaneously*
- Servo Driven Spindle _____ *Timing-belt drive for fast spindle indexing and high torque*
- Constant Surface Speed _____ *Minimize time spent in cuts with superior finishes*
- C-Axis Spindle _____ *Cross drill, cross tap or turret mill in 3600 positions*
- 15" Flat Panel HMI _____ *Background editing with color touch screen*
- Numeric Tool Adjustment _____ *Adjust tool offsets to .0001 without a hammer*
- Torque-Limiter Coupling _____ *Prevents damage to ball screw*
- No Cams/Trip Dogs to Change or Time _____ *Reduces setup time and required skills*
- Servo Driven Axes _____ *No gears or cams to change, infinitely variable speeds & feeds*



How Does it Work?

UltraTurn™ DL

Specifications

UltraTurn™ DL

The System

The UltraTurn™ DL system builds on AMT Machine System's patented and proven ServoCam® turret-slide upgrade, already installed on over 500 Brownies. Customers report dramatic quality improvements using the turret-slide upgrade, with Cpk's three to five times better than conventional cam-operated machines.

The CyberNet™ CNC control system has one master controller and as many intelligent servomotors as needed. Installing an optional axis is as simple as adding another intelligent servomotor.

Cross Slides

Brushless servomotors actuate the cross-slides through the robust and proven Brown & Sharpe CNC Turning Machine drive-mechanism design. The cross-slide drives provide up to 4,000 pounds of tool force, as is necessary to bump-roll large-diameter threads. Any combination of one front and one rear slide can be overlapped, except for the two vertical slides. Our customers have doubled their Cpk measurements, while significantly improving surface finishes from the cross slides.

Spindle Details

The rugged spindle is designed to withstand 5,000 lbs of side thrust. A dead length collet is used to ensure accurate feed lengths. The spindle drive provides high acceleration and good low-end torque. Spindle indexing, along with tapping, is very fast and accurate. The UltraTurn™ DL easily taps a 3/4-10 thread in 303 stainless at 140 RPM.

HMI (Human-Machine Interface)

The 15" flat-panel color HMI provides machine control and information at your fingertips. Edit tool feeds and spindle speeds at the machine using the touch screen. Background editing and on-machine programming are supported.

ServoCam® Designer Software

The programming environment is exceptionally user friendly. Programming is menu driven with a graphical user interface. The software minimizes the non-cutting time in the part cycle.

Installation

AMT or our rebuild partners can install the DL system on your machine. Or we can provide a reconditioned Brown and Sharpe #2 or #3 Ultramatic machine, delivered with the ServoCam® UltraTurn™ DL system installed, ready to make parts. System installation must be performed at AMT or a partner rebuild.



Parts that may be difficult or impossible to run on single spindle turning centers are a snap with the UltraTurn™ DL.

Support and Maintenance

All ServoCam® control systems carry a two-year, limited warranty. The system is designed for ease of diagnosis and service. All modules are user replaceable, generally in under an hour.



Drop parts like this stainless fitting complete.

Filling the Gap

AMT Machine Systems optimized the UltraTurn™ DL for maximum productivity running simple to medium-complexity parts. Whether your gap is in production efficiency, labor skill level, lot size, or part complexity, the UltraTurn™ DL can ease your burden. Multi-spindle houses have profitably run dwindling lot sizes on our systems. UltraTurn™ users report 400+% production increases over CNC lathes. You can produce more good parts with less labor than ever before. Call today for detailed results!

TOOL-SLIDE DRIVE SPECIFICATIONS*							
Slide	Servomotor	Rapid Traverse (inches/min)	Max force (lbf)	Repeatability (inches)	Max throw (inches)	Micrometer adjustment range (inches)	Crash protection
Turret slide	1.6 Hp / 1.2 kW brushless AC	360	1900	0.0001	6.8	N/A	Torque-limiter coupling, self-resetting
Front cross slide	1.6 Hp / 1.2 kW brushless AC	360	4000	0.0001	1.7	1.0	Servo-power foldback
Front vertical slide		360	4000	0.0001	2.9	N/A	
Rear cross slide	1.6 Hp / 1.2 kW brushless AC	180	4000	0.0001	1.7	1.0	Servo-power foldback
Rear vertical slide		180	4000	0.0001	2.9	N/A	

SPINDLE-DRIVE SPECIFICATIONS *	
Motor type	10.3 Hp / 7.68kW (continuous) brushless AC servomotor
Peak cutting power	20.1Hp / 15.0 kW
Transmission	PowerGrip® GT2 Timing Belt
Spindle speed control	Infinitely variable, electronically controlled motor speed
Spindle positioning	0.1 degree position resolution

SPINDLE INDEXING TIMES *					
Spindle capacity	Distance Moved (in degrees)				
	15	30	60	90	180
.750"	.16	.13	.16	.18	.21
1.25"	.22	.18	.22	.24	.29
1.625"	.22	.18	.22	.24	.29
2.375"					

Spindle capacity	Max Speed (RPM)	Min Speed (RPM)	Max acceleration (RPM/sec)	Max torque (ft-lbs)
.750"	5940	0	20,100	40
1.25"	4240	0	14,300	56
1.625"	3535	0	10,500	68
2.375"	3090	0		77

TURRET-INDEXER SPECIFICATIONS	
Index time	0.28 seconds
Reset time	0.32 seconds
Actuation	Backshaft / Geneva
Control	Software / pneumatic

OPTIONS
B&S live turret milling and drilling
DNC networked communication
X-Drill for cross drilling applications
X-Tap for cross tapping applications
Safety-interlocked enclosure

Specifications subject to change without notice
 * 480V/277Y +/- 10%, 30A 3-phase supply. Capabilities reduced at lower voltages