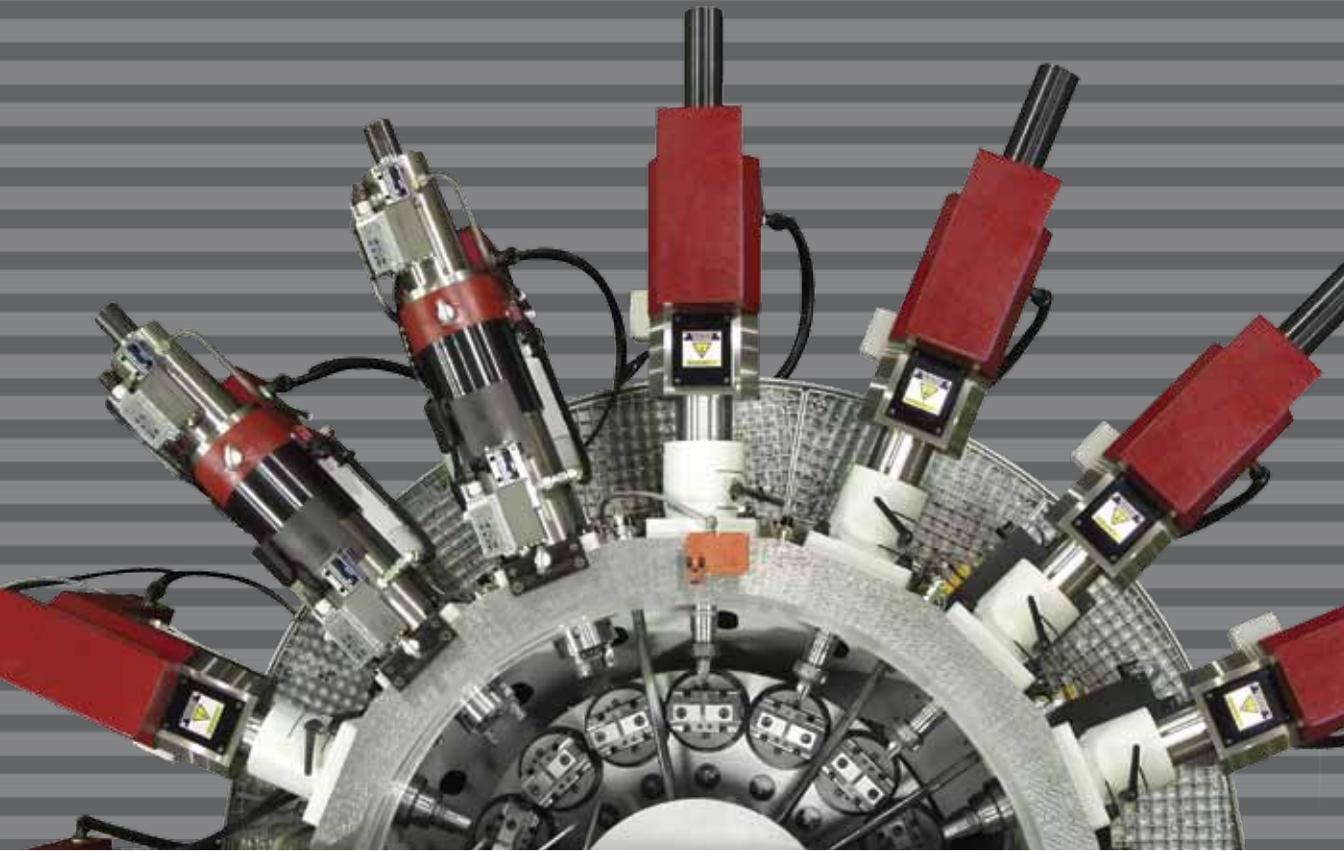


EPIC R/T HS INDEXING CHUCK

Featuring
EMC TECHNOLOGY *Embedded Motion Control*



HYDROMAT[®]

Significant advantages and features of the EPIC R/T line:

- Embedded Motion Control (EMC) providing full CNC programming capabilities
- Supports Lean Manufacturing principles
- Quick, easy changeovers – typically 1-3 hours
- Competitive manufacturing at small, medium and large production quantities
- Easy, centralized programming
- EMC Technology – simplifies components and wiring, reducing potential failures and troubleshooting
- Integrated modem connections provide fast problem solving



Power of Productivity

The EPIC R/T HS Indexing Chuck machine combines precision chucks with the indexing accuracy and reliability of the Hirth ring.

Available in 12 or 16 station models, the HS is fully integrated into the Hydromat program, so the same modular components used with Hydromat's popular EPIC R/T models are compatible with the EPIC R/T HS.

This system is ideal for the mid to high-volume, precision production of irregular-shaped castings or forgings and is designed with the flexibility to easily accommodate families of parts.

The EPIC R/T HS machine utilizes hydraulically-actuated, self-centering two- or three-jaw chucks, or custom clamp fixtures, to provide the highest accuracy and part clamping rigidity. This type chuck indexing provides precise part positioning for complex multi-axis machining that requires one chucking to maintain overall part quality and statistical capability.

The indexing chucks are positioned on the rotary table in a satellite arrangement and are indexed hydraulically. Indexing of the satellite chucks is free programmable and can be arranged so that no cycle time is lost. Variable clamping pressure can be provided to critical chucks at certain stations for ideal gripping performance without damaging or distorting the finished part.

A large group of irregular-shaped components, cast or forged, can be loaded by semi-automatic or fully-automatic pick-and-place systems, or bowl feeding, depending upon the specific part requirements. Loading

and unloading takes place on the same station, and typically falls well within the cycle time. Bar stock also can be fed to the machine using a fully automatic bar feeder and cutoff saw.

The HS machine has the rigidity to handle all components within the capacity range of the machine; 4" cube capacity on the 12 station, and 3" cube capacity on the 16 station.



The EPIC R/T machines possess all of the general characteristics of the more conventional Hydromat machines and maintains the integrity, reliability and flexibility of its predecessors. What sets this product line apart is the introduction of an engineering advancement called EMC Technology.

The acronym EMC stands for **Embedded Motion Control**. This new control method was developed by a team of electrical engineers at Hydromat's Corporate Campus in St. Louis. This technology features special plug & play control architecture that is integrated, or embedded, into each toolspindle unit. This allows for fully independent and programmable functionality for each axis motion, thus eliminating the use of conventional Hydromat valves and more complex CNC control components. When a toolspindle is moved from one location on the machine to another, the only change needed is to program the unit's

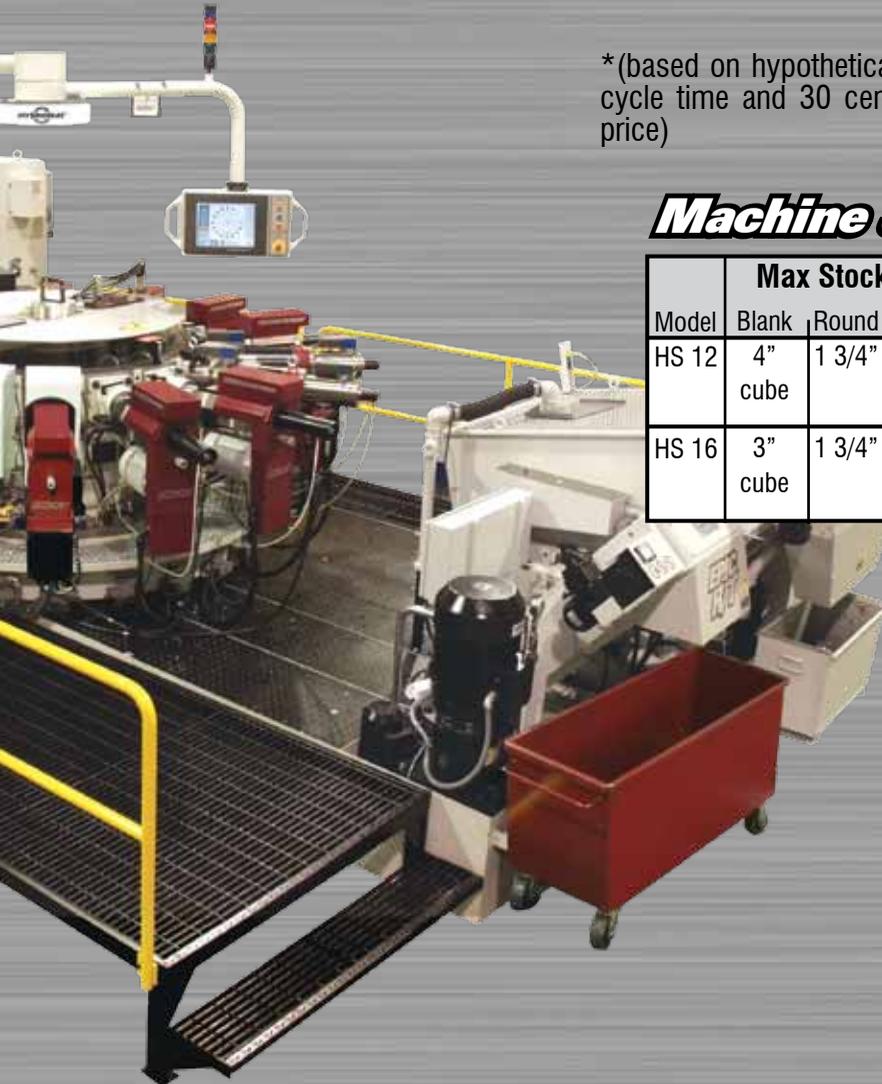
strokes. There is no need to re-configure the machine's CNC when tool units are changed. Programming of the unit can be done off-line and downloaded from a remote location or the units can be programmed at the machine.

Applying CNC technology to the manufacture of precision parts is generally accepted as a premium that one must pay for the advantages over conventional actuation systems.

When it comes to improving profitability, the EPIC R/T Machines with full CNC programmability are able to enhance ROI by reducing changeover times by 300 - 400% (1-3 hours versus 7-9 hours). This reduced changeover time increases overall machine productivity, based on a two-shift operation and 2 changeovers a week, by over 15%. The increased productivity equates to payback or ROI for the Hydromat EPIC R/T Machines being up to 20%* faster due to reduced changeover and greater productivity.

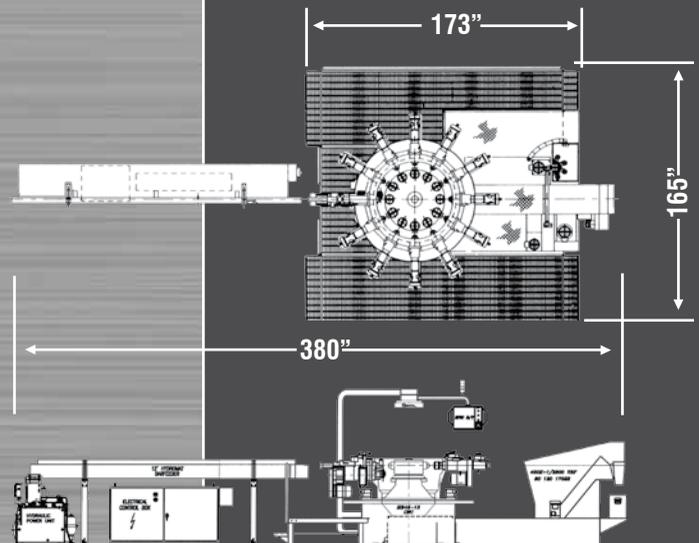
*(based on hypothetical 6.0 second cycle time and 30 cent part selling price)

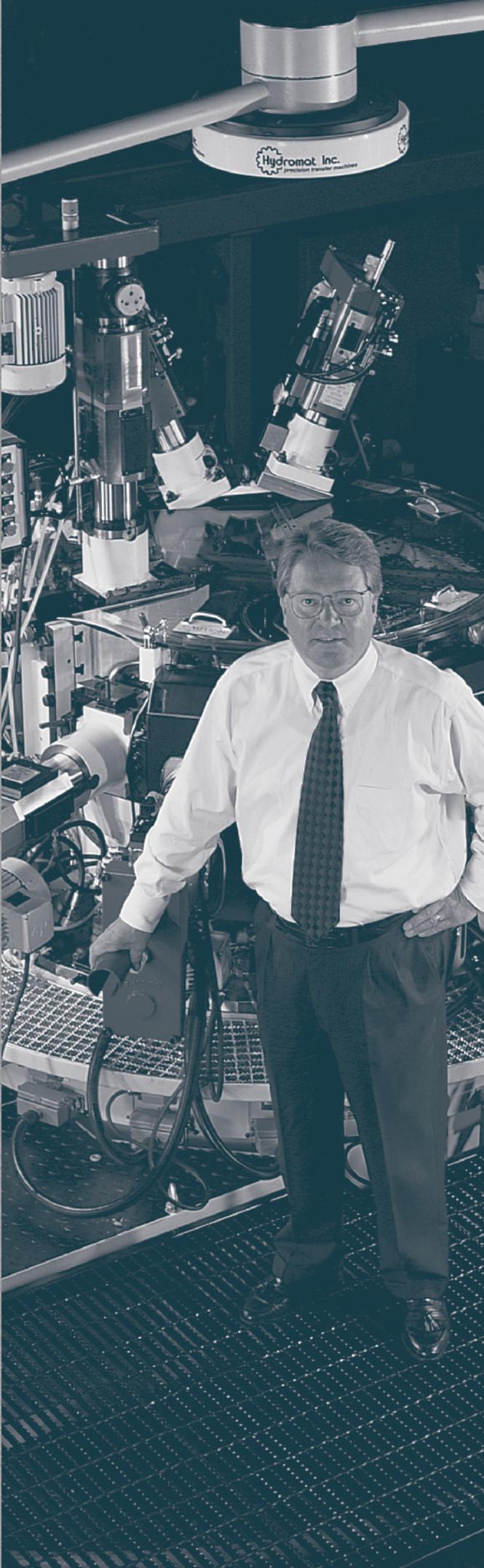
EMC TECHNOLOGY



Machine Specifications

Model	Max Stock Size			Hor. Station	Vert Station	Index Time	Weight LBS	Machine Power	Size Unit
	Blank	Round	Length						
HS 12	4" cube	1 3/4"	8"	12	6	1.2	18,500	53HP (Avg.)	20/80 26/80 35/60
HS 16	3" cube	1 3/4"	8"	16	8	1.0	20,000	66HP (Avg.)	36/100 46/120 50/100





“This was a huge breakthrough. I’m particularly proud of our design group, project engineers, machine technicians...everyone who worked on this project, for their diligence and cooperative effort to bring this concept to reality. This latest EPIC R/T technology will surely open new doors for Hydromat and our customers.”

Bruno Schmitter
President and CEO
Hydromat



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