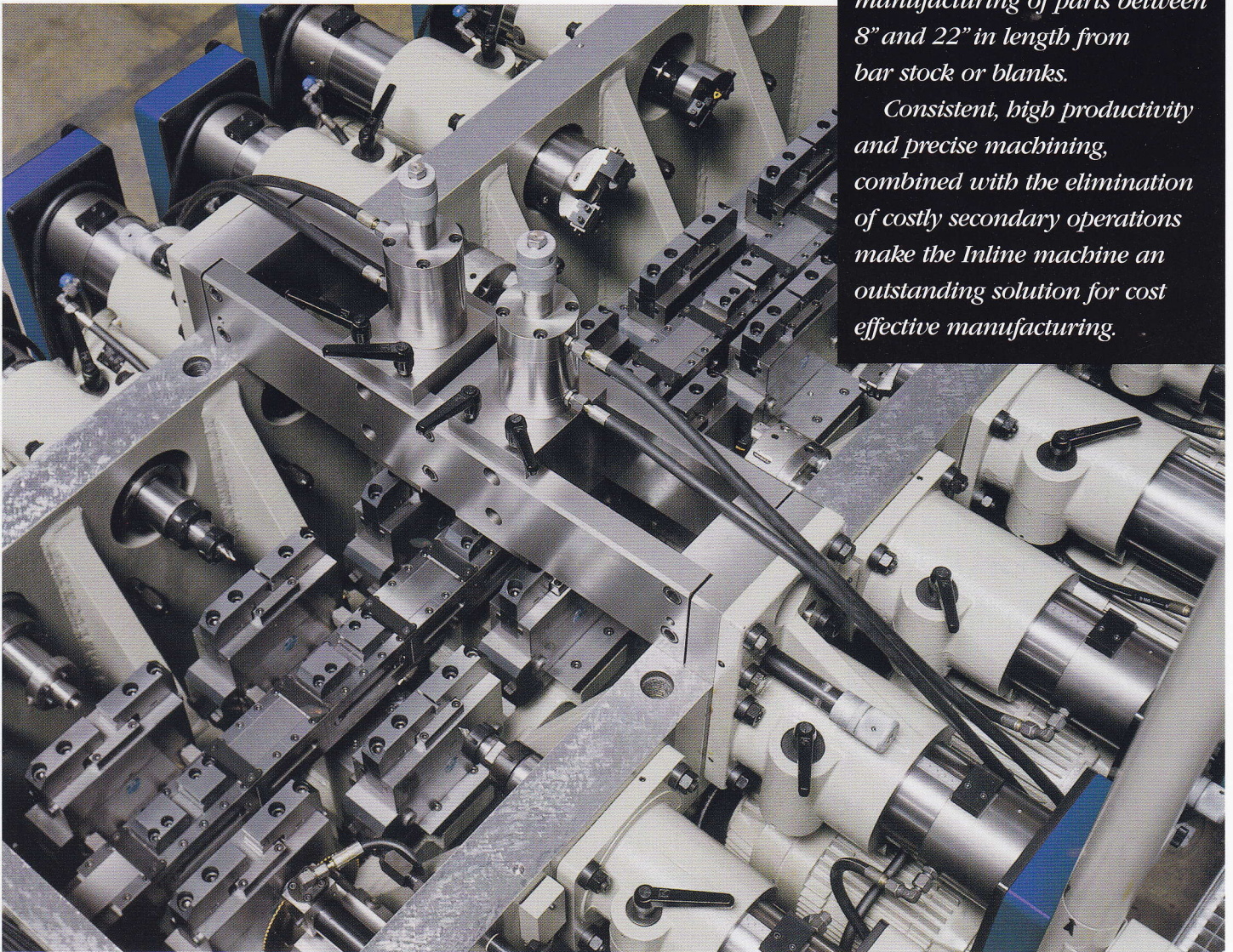


INLINE STANDARD-8 TRANSFER



The Inline Standard-8 transfer machine is a modular system consisting of up to 16 horizontal and 7 vertical tool-spindle units rigidly mounted on a precision cast iron frame. This modular machine has the capability of providing tremendous versatility and flexibility in a turnkey machining system.

With 1" capacity the Inline machine is well suited for the manufacturing of parts between 8" and 22" in length from bar stock or blanks.

Consistent, high productivity and precise machining, combined with the elimination of costly secondary operations make the Inline machine an outstanding solution for cost effective manufacturing.



Committed to Excellence

Hydromat® Inc.
precision transfer machines

Inline Standard-8

ACCURACY & FLEXIBILITY

The major elements of the Inline Standard-8 machine are: the basic machine--including a walking beam transfer system, rigidly mounted modular toolspindle units--electrical cabinet, hydraulic power supply, automatic loading system or barfeeder, and the chip conveyor/coolant filtration system. These major components are fully integrated to provide the highest system performance and production efficiency. ■

The Inline machine is equipped with 8 double chucks and transport arms for moving the part from station to station. The chuck jaws are hydraulically actuated and self-centering in order to provide rigid, accurate workholding. The toolspindle units at each station can be aligned to each chuck separately, creating a fixed position relation-

ship between each toolspindle unit and chuck to ensure the highest locational accuracy and repeatability. At each machining position, independently controlled toolspindle units perform many types of operations, (i.e., drilling, cross drilling, boring, turning, milling, external and internal recessing, threading, tapping, broaching, etc.). ■

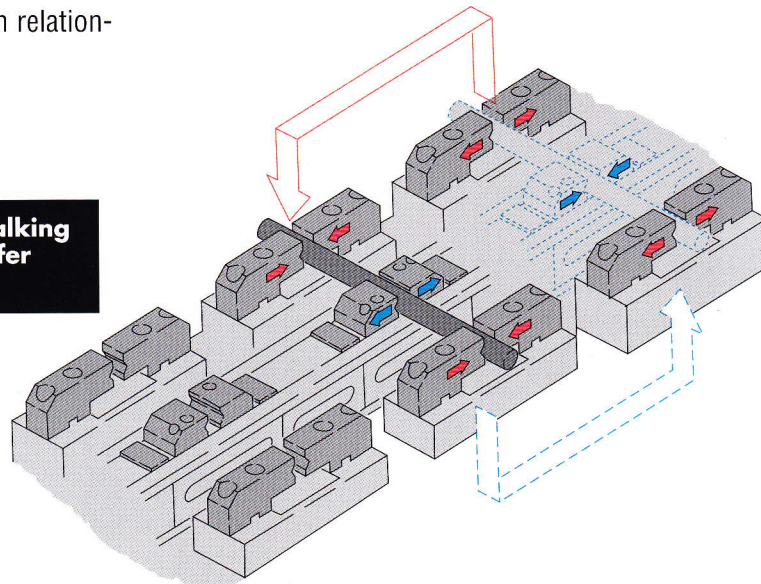
Turning operations such as recessing in the center of the part, or special contours can be generated by a pickup and drive station which supports and revolves the part while a cross slide unit which works from the vertical position, generates the desired OD. The Inline Standard-8 machine can be equipped to load barstock or blanks. When bar fed, a 16 foot bundle barfeeding system with 5000 lbs. capacity is utilized to ensure maximum productivity. ■

MODULAR TOOLSPINDLE UNITS

The machine is hydraulically controlled and has infinitely variable feeds for each toolspindle unit. Each of the independently controlled toolspindle units works simultaneously allowing the longest machining operation to control the cycle time. All toolspindle units are modular and provide maximum interchangeability for retooling. ■



Detail of Walking Beam Transfer Mechanism.



The modular toolhead system provides full flexibility to change machining operations (i.e., from drilling to turning or milling) simply by changing the quick-change toolhead attached to the end of the toolspindle unit. ■

The quick-change system design provides quick, easy tool changing for worn tool replacement or complete job changeovers. ■



Sample parts produced on Hydromat machine.



Overall View of Inline Standard-8 Machine.

ADVANTAGES OVER CONVENTIONAL MACHINING

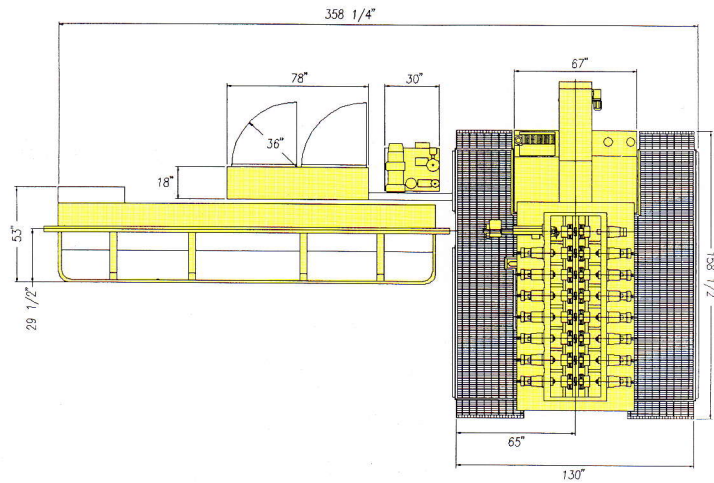
- Eliminates Secondary Operations
- Reduces Work in Process
- No Cams or Limit Switches
- Independent Infinitely Variable Feed Rate Control for Each Station
- Non-Rotating Bar Stock Provides Quiet Vibration-Free Operation
- Enclosed Easily Accessible Tooling Area
- Modular Toolspindle System with Quick-Change Pre-Settable Heads for Easy Changeover
- Coolant and Chips Contained in Tooling Area away from Motors and Controls (Suitable for Water Soluble)
- Extremely Short Bar End and Thin Cutoff Provides Significant Material Savings Compared with Screw Machines and Single Spindle Machines
- All Operating Controls and Machine Adjustments Readily Accessible and Easy to Use
- Precision Part Locating Provides Consistency and Accuracy to Ensure Quality Parts with SPC to 2.0 CpK in some instances
- Easily Adapted Vertical Flanges Provide Flexible Application of Cross Drilling, Milling or other Vertical Machining Requirements

MANY APPLICATIONS

The flexibility of Hydromat Inline machines has been used successfully on applications in a wide variety of industries including:

- Automotive Steering
- Appliances
- Printers & Copiers
- Drive Components
- Automotive Suspensions
- Lawn & Garden Components

TECHNICAL SPECIFICATIONS



TRANSFER MACHINE MODEL INLINE STANDARD-8

Max. Stock Sizes			Max. Piece Length	Min. Piece Length	Max. Stations Horizontal	Max. Stations Vertical	Machine HP	Transfer Time	Weight lbs.	Size Unit
Rnd.	Hex	Sq.								
1"	7/8"	3/4"	22"	8"	16	7	50-70 avg.	3.5 sec.	20,000	46/120 26/80 46/120 36/100 46/120

STANDARD COMPONENTS & MODULAR DESIGN

The Hydromat modular design concept provides total system flexibility and versatility.



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