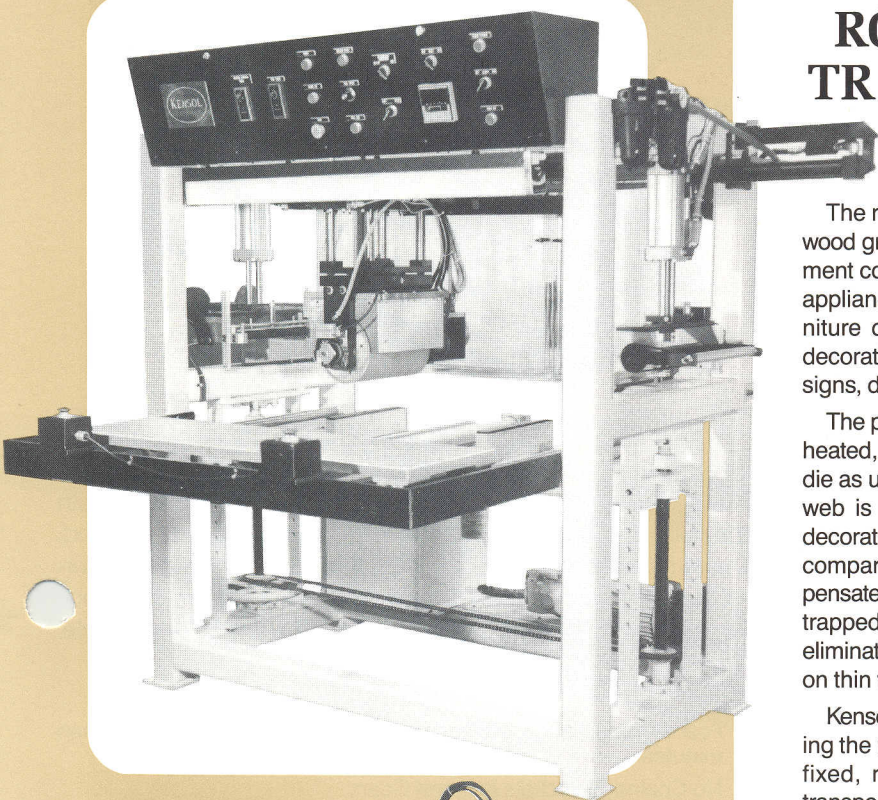


# KENSOL 400

## KENSOL 400 SERIES ROLL-ON LEAF & HEAT TRANSFER DECORATING EQUIPMENT

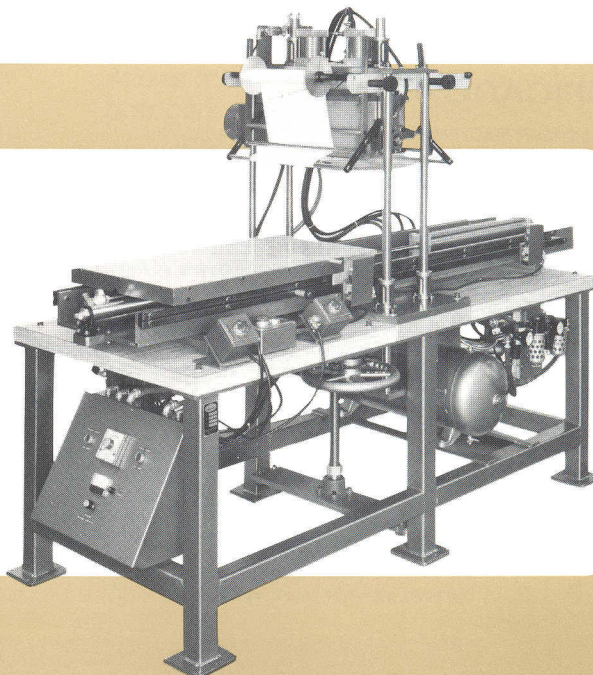
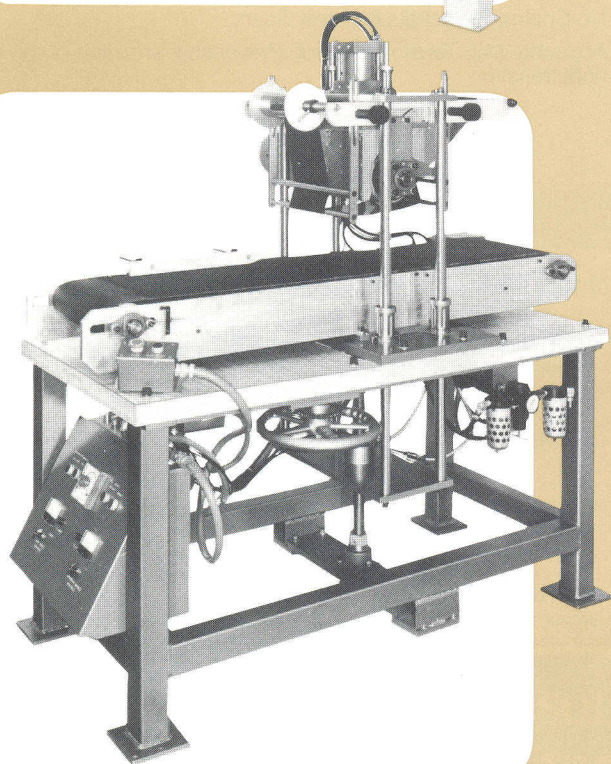


The roll on technique is used extensively to apply roll leaf (i.e. wood grain, brushed chrome, bright metallics, argent silvers, pigment colors) and multicolor heat transfers onto broad areas (i.e. appliance and automotive parts, audio and video cabinets, furniture components). This technique is also used to apply a decorative coating to raised areas on molded plastic parts (i.e. signs, displays, toys, cosmetic packaging).

The part being decorated is brought into contact with a rotating, heated, seamless silicone rubber roller rather than a flat silicone die as used in vertical hot stamping. The roll leaf or heat transfer web is positioned between the roller and the surface being decorated. Since the roller makes "line" contact and can "flex", comparatively little pressure is required, and the roller will compensate for surface variations and imperfections. Voids caused by trapped air, common when vertically stamping broad areas, are eliminated since the roller squeezes air out as it rotates. Warpage on thin walled parts is also kept to a minimum.

Kensol 400 Series of Roll-On Machines are manufactured utilizing the moving bed principle, which transports the part across a fixed, rotating roller or the moving head technique which transports the rotating roller across a stationary part. The moving head (MH) technique is recommended on more "difficult" applications for reasons that will be explained later in this brochure.

Kensol manufactures two moving part systems: 1. The 400C transports parts on an endless belt conveyor, and 2. The 400R uses a reciprocating bed to carry the parts.

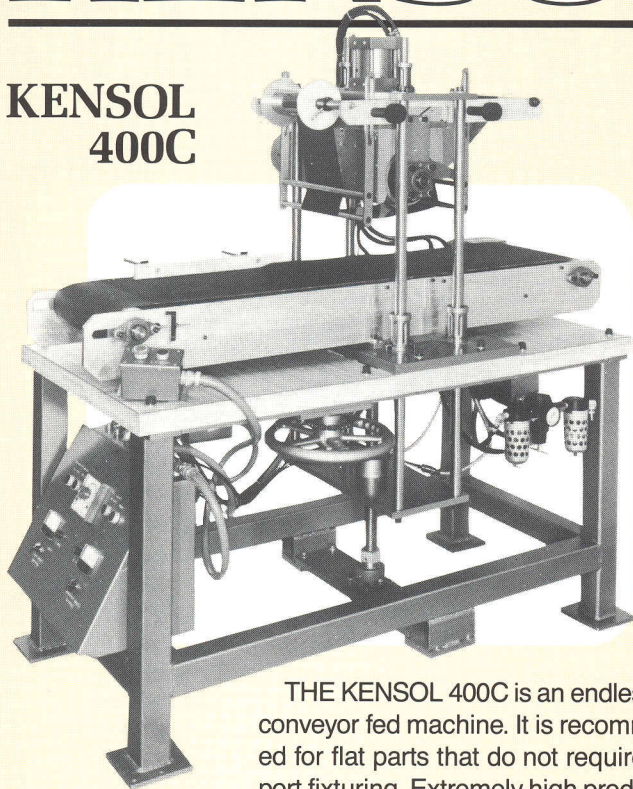




# KENSOL

## MOVING PART ROLL-ON MACHINE

### KENSOL 400C

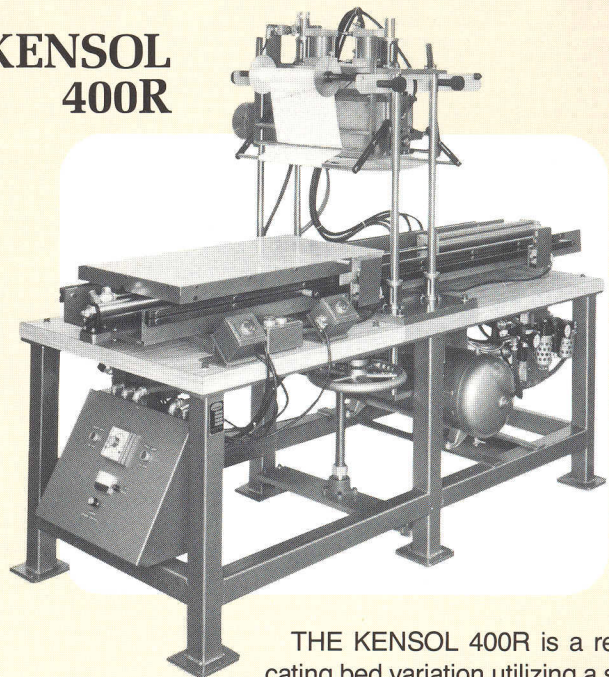


THE KENSOL 400C is an endless belt conveyor fed machine. It is recommended for flat parts that do not require support fixturing. Extremely high production can be obtained since the conveyor will operate up to 30 feet per minute. Conveyor is driven by an adjustable speed servo drive system with tachometer for synchronization to roller speed.

### FEATURES

- 12" Arbor Capacity Standard. 18" and 24" units also available.
- Adjustable Speed Servo Roller Drive System.
- Solid State Proportioning Heat Controller.
- Roller Protection Cooling System. Prevents roller damage should roller stop rotating for any reason.
- Disposable Shell Type Rollers. Unique end cap roller mounting system permits use of rollers of any width.

### KENSOL 400R



THE KENSOL 400R is a reciprocating bed variation utilizing a shuttle table, which carries the part beneath the roller and returns the part after the decorating is completed. This is recommended for use with larger parts that require internal support (radio and speaker housings, etc.). With multiple tooling, several small parts can be decorated with one press cycle.

- Fast Roller Change. Rollers can be changed in less than fifteen minutes.
- No Chains, Sprockets or Bevel Gears.
- Accurate Web Tension Control. Preventing wrinkling of roll leaf or heat transfer.

## SPECIFICATIONS

### FOR 400C and 400R MACHINES

|                         |  |
|-------------------------|--|
| ROLLER SIZE             | 6" diameter, length is optional (up to 24") depending upon the machine and size required for your job.                 |
| ROLLER DRIVE            | Velocity control Servo system, adjustable with meter to indicate speed.  |
| DAYLIGHT                | 16" standard (will decorate items up to 7" high). Longer head rods available for higher items.                         |
| HEAD STROKE             | 1½"  |
| HEAT SYSTEM             | Ceramic type heater hood; 5,400 watts on 12" machine; 6,500 watts on 18" machine and 10,000 watts on 24" machine.      |
| HEAT CONTROL            | Fenwal solid state proportioning with foolproof roller surface heat probe.   |
| FOIL ADVANCE            | Separate motor drive synchronized with roller speed.   |
| AIR REQUIREMENTS        | 5 CFM @ 100 PSI. Air controlling unit consisting of filter, lubricator, pressure reducing valve and gauge is included. |
| ELECTRICAL REQUIREMENTS | 220 Volts, 25 Amps AC on 12" machine<br>220 Volts, 30 Amps AC on 18" machine<br>220 Volts, 45 Amps on 24" machine      |

### ADDITIONAL SPECIFICATIONS FOR 400C

|               |  |
|---------------|--|
| CONVEYOR SIZE | 14" wide x 5' long — 12" machine<br>20" wide x 5' long — 18" machine<br>28" wide x 7' long — 24" machine                                     |
| DIMENSIONS    | 65" long x 34" wide x 62" high — 12" machine<br>65" long x 40" wide x 62" high — 18" machine<br>90" long x 48" wide x 62" high — 24" machine |
| TOTAL WEIGHT  | 1,150 pounds net — 12" machine<br>1,225 pounds net — 18" machine<br>1,275 pounds net — 24" machine   |

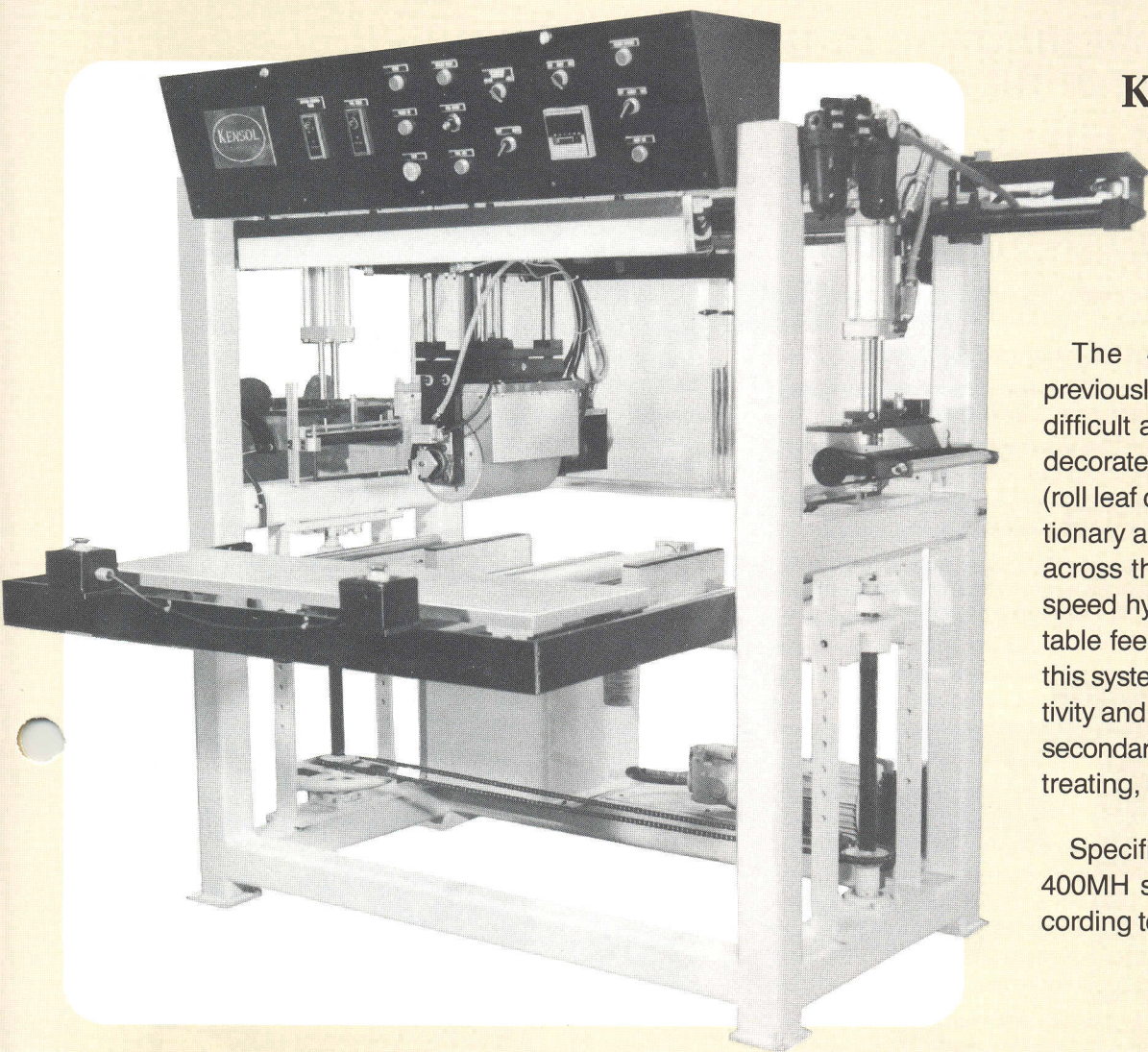
### ADDITIONAL SPECIFICATIONS FOR 400R

|              |   |
|--------------|---|
| WORK TABLE   | 14" wide x 30" long with 40" stroke — 12" machine<br>20" wide x 36" long with 48" stroke — 18" machine<br>26" wide x 42" long with 60" stroke — 24" machine |
| DIMENSIONS   | 84" long x 34" wide x 62" high — 12" machine<br>104" long x 40" wide x 62" high — 18" machine<br>144" long x 48" wide x 62" high — 24" machine              |
| TOTAL WEIGHT | 1,100 pounds net — 12" machine<br>1,200 pounds net — 18" machine<br>1,300 pounds net — 24" machine  |



# KENSOL

## MOVING HEAD ROLL-ON MACHINE



### KENSOL 400MH WITH POWER SLIDING FEED TABLE

The 400MH, as mentioned previously, is recommended for more difficult applications. The part to be decorated and the decorating web (roll leaf or heat transfer) remain stationary as the heated roller is driven across the part, utilizing a constant speed hydraulic drive system. Turntable feeds are readily adaptable to this system which increases productivity and permits the incorporation of secondary processes such as corona treating, cleaning, assembling, etc.

Specifications are variable on the 400MH since each unit is built according to customer requirements.

### FEATURES

- Greatly reduces the possibility of foil wrinkling.
- Ideal for applying multi-color heat transfers in tight registration.
- Reduces foil "fringing" (ragged edges).
- Roller will follow part contours.
- Allows for foil stripping delay to insure proper post curing and greater adhesion.
- Eliminates foil preheating prior to decorating cycle.
- Reduces foil waste between impressions.



**KENSOL-OLSENMARK INC.**

THE COMPLETE HOT STAMPING ORGANIZATION FROM EQUIPMENT TO ROLL LEAF



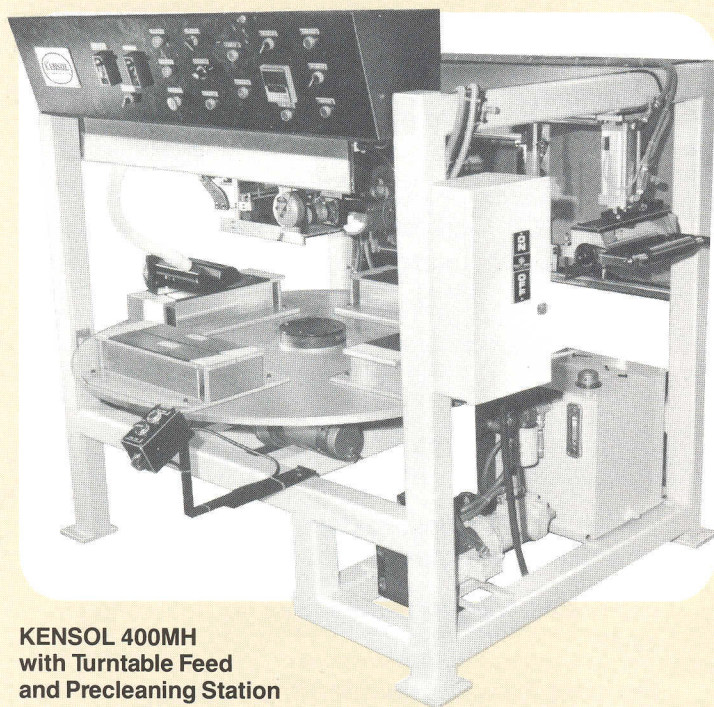
# KENSOL 400MH

## MANY FEATURES ARE STANDARD ON THE KENSOL 400MH TO MAKE IT A STATE OF THE ART ROLL-ON MACHINE

- A pure hydraulic system is used to traverse the head and develop the proper decorating pressure. All hydraulic components are rated 3,000 psi.
- A unique hydraulic valve system maintains a preset decorating pressure and allows the roller head to follow contours.
- The moving head and worktable come mounted within a rigid four-post frame designed to withstand high decorating pressure.
- Oversized linear ball bearings are used to guide the head.
- An 8" diameter silicone roller with ceramic heater hood insures good heat recovery and uniform roller temperature.
- Head travel is standard at 36". The travel is adjusted thru a pair of solid state proximity switches.
- Decorating direction is changeable via a selector switch. This feature allows decorating a broad range of part configurations.
- The foil is advanced with a variable speed motor driven advance system. The moving head concept minimizes foil consumption because it requires less spacing between advances.
- The foil is peeled from the part using a gripper stripper mechanism. The foil is post cured on the part. The cure time is controlled by a solid state timer.
- An industrial programmable controller is used for all machine motions. This also simplifies any troubleshooting that may be necessary.

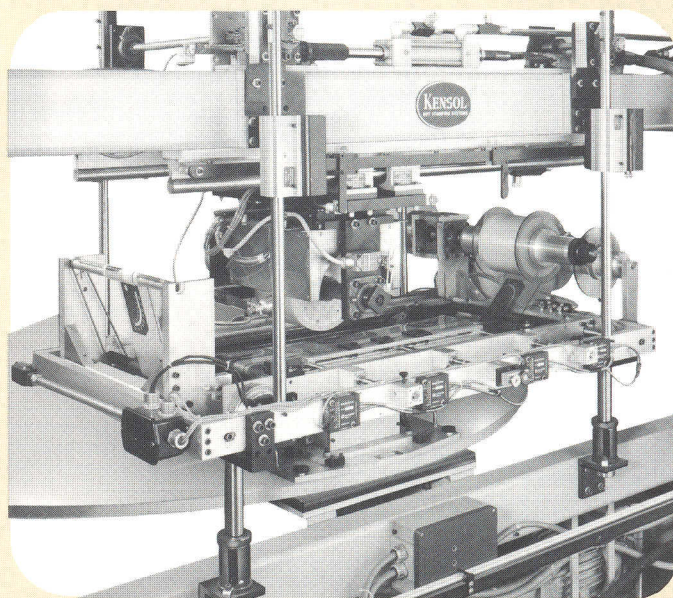
### Several Options are also Available on the KENSOL 400MH

- Hi/Lo temperature alarm system warns the operator if the roller temperature comes out of the process range.
- A pneumatic dancer bar foil tensioning system is available. This is ideally suited for parts with many cutouts or parts where the decorating area varies greatly.
- Pivoting head compensates for an angular variation across the part.
- Heat transfer advancing mechanism. Since the part and foil remain stationary during the decorating cycle, heat transfers can be applied very accurately to large areas.
- Non contact roller temperature sensors.



**KENSOL 400MH  
with Turntable Feed  
and Precleaning Station**

The 400MH shown above is equipped with a mechanical turntable to increase productivity. A cleaning station was added at the customer's request. Other secondary processes such as sonic welding, assembling, corona treating, etc. could also be added.



**Turntable Fed 400MH Tooled with a Precision Transfer  
Advance Unit for Applying Graphics onto Automotive  
Instrument Components**

The 400MH is ideally suited for applying multi-color heat transfers in very tight register onto automotive instrument dials and gauges and appliance parts. Shown above is a close-up of our precision Kensol HP heat transfer advance and registration unit.

Kensol Equipment



Foilmark Roll Leaf

**KENSOL-OLSENMARK INC.**

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