



CS Quad Series™ Thermoformers



Full Open Clamshell Oven



Hinged Rail System



Dual Index System



Patented Roller Screw 3rd Motion

Brown's Quad Series™ Sets a Higher Benchmark in Productivity and Product Consistency

Quad Series™ Thermoformers are the pinnacle of the Brown Machine product line for technology and performance. This series comes fully equipped with a variety of premium features to deliver high performance capabilities and production. The cornerstone of this line is Brown's *Quad Series™* forming station that provides thermoformers more precise and consistent parts than ever thought possible. The reason? Up to 260 tons of holding force and 180 tons of coining force, with virtually zero deflection across the entire mold area.

This innovative patented form station design combines continuous thermoforming technology with stamping (coining) technology to produce highly detailed parts at high speed with greater consistency. The system is also available with Brown's patented roller screw third motion technology that improves material distribution, reduces starting gauges, and provides a greater process window. Add all of these benefits together and you get better parts, faster, with less scrap.

The *Quad Series™* frame, toggles, platens and drive assemblies can withstand tremendous force without deflection. Each platen is driven by a servo motor and has four mechanical toggle assemblies that are corner-guided by four linear bearings. The toggles are strategically positioned on a honeycomb platen design to eliminate deflection and guarantee consistent material distribution across the complete mold area, up to 64" x 64". Symmetrical drive loads throughout the toggle linkages and drive system eliminate all over hung loads.



Equipped with Smart Control, Brown's integrated intelligence control software monitors system performance. It warns of out-of-range operations, automatically makes critical machine adjustments and relays preventative maintenance needs; you are in control of your process.

Quad Series™ High Performance Features

Fully equipped with standard features:

- High Performance Four Toggle Form Station
- User Friendly controls with Independent Power Source
- Rigid Chain Rails with Motorized Auto "V" System
- Multiple Zone Top & Bottom Panel Heater Oven Banks
- High Capacity Servo Valves for Vacuum & Blow Flow
- High Volume Vacuum & Air Reservoirs
- Quick Tool Change Systems

Options include:

- Form Station Stroke & Tonnage
- Roller Screw Third Motion (Patented)
- Roller Infeed System
- Sheet Edge Pre-Heaters
- Hinged Rails
- Dual Index Motors
- Oven Cooling Plates
- C-Style or Full Open Clamshell Ovens
- International Voltages
- UL, CE, CSA, & HSE Approvals

Specifications	Model CS-4042	Model CS-5454	Model CS-6464
Maximum Mold Size	40" wide x 42 long" (1016mm x 1067mm)	54" wide x 54" long (1372mm x 1372mm)	64" wide x 64" long (1626mm x 1626mm)
Maximum Depth of Draw	7", 10", 12" depth of draw products		
Holding Force	100 tons to 150 tons	100 tons to 180 tons	180 tons
Maximum Holding Force	150 tons or 260 tons		260 tons
Maximum Coining Force	100 tons or 150 tons	100 tons to 180 tons	180 tons
Note: Final form station ratings based on product depth, third motion options, non-third motions options, forming pressure, and coining force requirements.			

Custom sizes available (for example, 40" x 50", 50" x 60") upon request

Additional Form Station Features

Beyond unsurpassed guiding, coining, and holding capabilities, additional features include:

- Extended platen depth for additional tool support
- Center-actuated compound toggles
- Needle bearings
- Crank arms are strategically positioned for optimum power
- Positive alignment of dual crank arms eliminate slip
- Minimal sheetline requirements
- Third motion, and non-Third motion tool capabilities

Quad Series™ Benefits

- Ensures precise and consistent products across the entire mold area
- Virtually eliminates variation on flat flanges and lip configurations
- Increases the process window for better material distribution
- Maintains consistent product dimensions for integration with automated downstream applications like lip rolling, printing, heat sealing, and many more.

Leadership Through Innovation, Quality and Service

Serving the thermoforming industry since 1952, Brown Machine has earned a reputation for providing the most innovative, durable and dependable plastics equipment in the industry. With engineering and manufacturing capabilities in Beaverton, Michigan, Brown provides equipment, tooling and services to produce a wide range of thermoformed products in the following markets:

- Disposable Cup
- Food Packaging
- Housing
- Point-of-Purchase Packaging
- Material Handling
- Horticultural
- Automotive
- Lid and Plate
- Recreational Equipment
- Appliance

Today our equipment is producing products from a wide range of materials including:

- Polystyrene
- Polyethylene
- PVC
- Composites
- Polypropylene
- EPS Foam
- TPO
- Acrylic
- APET
- ABS
- Barrier Materials

Globally, Brown Machine totally supports its growing capital equipment business with a full complement of:

- Retrofit Kits
- Service: 24-7
- Remanufacturing
- Parts: 24-7

Continuous Thermoformers

Cut Sheet Thermoformers

Horizontal & Vertical Trim Presses

Lip Rolling Systems

Machines for Custom Applications

Tooling, Parts & Service



Global Leader in Thermoforming Solutions

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A global leader of thermoforming technologies since 1952, Brown Machine LLC engineers and builds a complete standard line of continuous & cut-sheet thermoforming equipment as well as related tooling & peripheral equipment.

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