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For Immediate Release

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## **Brown Machine's B-Series System Provides Customers More Manufacturing Sustainability with Technological Advances in Hot Sheet Technology**

The direct extrusion B-Series Hot Sheet Thermoformer from Brown offers many new advantages over traditional pellet-to-product inline systems. This new Series demonstrates Brown's ongoing commitment to helping customers attain manufacturing sustainability by reducing their carbon footprints while increasing their profits. By locating a sheet extruder closer to the thermoformer, and integrating a roll stack within the B-Line thermoformer, the end result is a significant savings in energy, machinery, and operating costs.

The benefits are numerous:

- Cuts energy costs by 25-35%
- Reduces manpower requirements
- Minimizes scrap
- Reduces raw material costs
- Cuts space and handling
- Maximizes uptime
- Reduces overall system capital costs

One of the major differences is these innovative Brown thermoformers incorporate a roll stack at the entrance

end of the thermoformer. This means the hot sheet material is extruded directly onto a set of conditioning rolls within the machine, eliminating the need for a separate roll stand system like those found in conventional inline systems and thereby reducing substantial costs in both components and energy utilization.

The sheet transfers from the conditioning roll stack system into the thermoformer's sheet transport rails at a higher process temperature, thus maintaining a greater core sheet temperature. Higher core temperature sheet creates forming conditions that provides more precise material distribution in product and also down-gauging of sheet thickness. This also allows the system to utilize a 2-stop oven instead of a 4 or 5-stop oven, the other major distinction a hot sheet thermoformer has over a traditional inline system. The heat requirement is reduced by over one half, saving the customer substantial energy costs.



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The two-stop top and bottom multiple-zoned oven is controlled to optimally profile the heat pattern of the sheet consistent with the material and product being thermoformed.

Coupled with a Brown T-Series Horizontal or V-Series Vertical Trim Press, the formed product is precisely trimmed. These presses are available in flywheel and servo actuated models with a variety of options to meet your specific trim requirements.

The B-Series thermoformers are in production in a range of sizes up to 50" x 60" producing both shallow and deep draw products. Output production of a hot drink lid system produces over 250,000 lids per hour with four rows of pre-punch and four rows of perimeter trim resulting in eight rows of precise trimming every trim cycle. Output production of 16oz drink cups produces over 100,000 cups per hour. Systems are configured to produce product in a wide variety of materials, including HIPS, APET, PLA and Polypropylene.

Brown will coordinate the integration of complete pellet-to-product systems, partnering with sub-contractors who offer high quality, high performance and exceptional customer service for blending, extrusion, sheet gauging with auto die, granulation, temperature control and product handling systems.

The B-Series Hot Sheet line offers thermoformers higher speed, more efficiency, energy savings, reduced manpower, utilization of web scrap, 24/7 production capability, reduced production costs, reduced floor space requirements, lower capital investment cost, and a path to manufacturing sustainability.

Brown Machine LLC, Beaverton, MI, is a global leader of thermoforming technologies, and engineers and manufactures a complete line of continuous and cut-sheet thermoforming equipment and related tooling/peripheral equipment. Brown has designed and developed numerous thermoforming innovations over the last 55 years and has machines operating in over 65 countries worldwide.