### A Full-Service Equipment Maker for the 21st Century Beverage Plant

#### KHS provides machines, lines, and service for today’s demanding beverage operations.

In the 21st century beverage plant, some things change, while others stay the same. Today’s plants are handling ever more products, materials, shapes, sizes, and configurations. As always, though, plant equipment must be fast, efficient, and reliable. And as always, much of that equipment is made by KHS.

German owned and based in Milwaukee, KHS has been manufacturing equipment in the U.S. for over 30 years. The company is part of the Klöckner Group, a family of American firms that supply packaging equipment, packaging materials, and processing systems to a variety of industries around the world.

KHS is a full-service provider of production equipment and processing systems. Beverage companies can go to KHS for a filler, blender, labeler, or some other machine along the line. Or if they want a whole new line, they can turn the job over to KHS, which will handle everything from concept through qualification.

#### Equipment Types

Known for its high-speed, heavy-duty machinery, KHS supplies most of the equipment used in beverage lines. The equipment falls into the following categories:

* *Filling*. KHS is a leading supplier of carbonated beverage filling systems. These high-speed systems can fill up to 2000 cans and 1250 bottles a minute. More than 500 of the company’s counter-pressure gravity filling machines are installed in North American factories, including the largest breweries and soft drink plants in the world.

To meet demands for new hot-filling equipment, KHS imported German technology and adapted it for the round-the-clock production requirements common in the U.S. KHS’s hot-filling systems feature a special tube that fills containers from the bottom. Bottom-up filling exposes beverages to far less air (which causes spoilage) than top-down filling systems, which run liquid down the inner walls of the container. In addition, bottom-up filling is fast and causes no foaming.

Besides filling from the top, some other hot-filling systems send beverages through a recirculation loop. This means the products are double-cooked, which adversely affects their quality and taste. To prevent the harmful effects of double cooking, KHS hot-filling systems are designed to eliminate the need for recirculation.

Unlike competitors, which build their filling machines in Europe and ship them to the U.S., KHS builds it machines in the U.S. to meet the special needs of American companies. With its U.S. presence, KHS can also provide American customers with fast service and a full range of replacement parts.

* *Process*. In 1988, KHS introduced mass flow metering technology to the beverage industry. Offering great accuracy, mass flow meters eliminate process variability due to changes in temperature and pressure.

Mass flow meters are key components in the company’s blend systems. The CONTIMIX (short for “continuous mixing”) system blends from two to 20 liquid or dry ingredients into a continuous stream of finished product. Featuring unprecedented speed, accuracy, and flexibility, CONTIMIX systems have found a home in more than 50 North American plants.

CONTIMIX technology has been incorporated into PROMIX, a three-stream metering system for batch blending carbonated beverages. PROMIX deaerates, blends, and carbonates beverages before sending them to the filler. Combined with a KHS filling system, PROMIX offers five-minute product changeovers, no-dump product startups, automatic container cutoff, and a recipe queuing feature that automatically makes flavor changeovers.

* *Capping*. Widely used throughout the beverage industry, KHS’s Series 8000 Tru-Torque capping system is the most reliable and accurate capping system on the market. For plastic caps, the system’s application torque range is ±3 in-lb, twice as tight as the range of its closest competitor.

The Series 8000 features a unique combination of servo drive technologies. One servo drive maintains a constant spindle speed despite filler speed variations. This lets manufacturers make product changes on the fly, using the widest variety of cap colors, sizes, and styles on the widest range of bottles.

The 8000’s other servo drive is found in the Orbital Cap Transfer Indexing System, or OCTIS. A servo-driven cap distribution system, the OCTIS removes the mechanical link between the cap transfer system and the capper, allowing cap feed rates to be adjusted for different applications. Such flexibility becomes ever more important as beverage companies continue to introduce novel containers and caps.

Besides the 8000, KHS offers Series 6000 cappers, lower-cost machines that lack the OCTIS. KHS also manufactures high-speed crowners, including a new roll-on device that can be converted from a crowner to a capper.

* *Labeling*. Best known for high-speed labeling machines, KHS manufactures inline and rotary systems that apply paper and plastic labels. KHS labelers can handle all the common application techniques and every type of beverage container.

KHS labelers include a patented gripper star that can grab beverage containers whether they’re round, square, or rectangular. In addition, the labelers offer a leading-edge container-orienting technology. Known as Vario-drive[?], the technology features an independent indexing motor at each container station. These motors allow containers with different shapes, sizes, and configurations to be oriented so that their labels are applied to the right spot at the right time.

* *Conveying*. KHS designs custom conveying systems for all types of containers. Made of stainless steel components, the systems are designed for high speed and reliable operation.

#### Customer Service

In addition to making equipment, KHS gets it up and running at customer sites. Five years ago, the company created a project management services group that handles all matters related to equipment installation. The group offers a comprehensive menu of services, including production-line design, testing and engineering; systems integration; and equipment training and documentation.

When designing a line, the group uses best-in-class vendors for all line components. (This distinguishes KHS from its competitors, which try to force their own equipment on customers even when it’s not the best of its kind.) Before installing the line at the customer’s site, the group assembles and tests it at the KHS facility. This practice makes line installation faster, easier, and less expensive in the field.

During the last five years, all of the turnkey lines installed by the group boasted over 90 percent efficiency. The lines regularly break corporate production and efficiency records, according to customer reports.

#### Keeping Up with the Competition

Does your beverage operation have what it takes to compete in the 21st century? KHS’s project management services group can find out by auditing your line — or your entire facility. Based on its audit, the group makes recommendations on how the customer can improve the line to meet today’s requirements. The group might recommend faster, more efficient machinery. Or it might suggest additional components that allow the line to handle plastic containers as well as glass.

To reduce labor requirements in a plant, the group can redesign the line in ways that allow people to perform more than one task. For example, a filler and a labeler can be repositioned so that a single person can operate both devices.

The group can also help with changeovers. Offering more different products than ever, beverage companies are doing more changeovers than ever on the factory floor. To speed them up, the KHS group offers quick product change technology that boosts equipment uptime. In addition, all KHS equipment includes tool-less quick-change parts designed for easy installation and removal.

Today as always, nothing in a beverage operation is more important than reliable equipment. That’s why KHS prides itself on making heavy-duty machines that can run constantly and rarely break down. When problems do arise, the company’s nationwide network of field service engineers provides prompt service and support.

#### Contact KHS Today

KHS offers beverage manufacturers an unbeatable combination: top-notch system design and fabrication, first-class service and support, and a firm commitment to customer satisfaction. For more information about KHS products and services, please contact the company by phone at (262) 797-7200 or by e-mail at Info@KHS-INC.com. Or visit the company’s web site at http://www.khs-inc.com.