



### **BLENDING & POWDER PROCESSING SOLUTIONS**

## HEBELER PROCESS SOLUTIONS LLC hebelerprocess.com

# MORE THAN A CENTURY OF PROCESS KNOWLEDGE & EXPERIENCE

Hebeler Process Solutions, LLC, a division of Hebeler Holdings, LLC, specializes in innovative, technology-driven solutions for the food, chemical, pharmaceutical, waste treatment, bio-energy industries. One of only a handful of companies worldwide to offer product research and testing, as well as the design, engineering and manufacturing of complex one-of-a-kind and first-of-a-kind process equipment and systems all from a single source. Hebeler Process Solutions is very proud of our strong brand heritage: Buflovak PK Evaporation, Distillation and Separation Solutions; Buflovak PK Thermal Drying & Solidification Solutions; and Buflovak PK Blending & Powder Processing Solutions

#### **HISTORY**

Our story is unique and blends a rich history of leadership and innovation from three companies - Buflovak, PK Process and Hebeler LLC.

Buflovak has its origins from the merger of two small manufacturing companies in Buffalo, New York USA over 100 years ago. In 1902 the David Bell Engineering Works and The Buffalo Foundry Company merged and created the Buffalo Foundry and Machine Company. The company evolved into a specialist in the design and manufacture of double drum dryers, vacuum dryers, evaporators, vacuum pumps, condensers, and receivers. Several years after the merger, the "Buflovak" trade name was coined to encompass the company's vacuum process equipment and was an abbreviation for "Buffalo Vacuum Equipment".

From 1902 the company prospered and went on to pioneer new technologies, patented proprietary equipment and developed pioneering fabrication of high alloy materials. In 1945 the company was acquired by the Blaw Knox Corporation and renamed Blaw Knox Food and Chemical Equipment Division. The "Buflovak" trade name was expanded to encompass a variety of equipment including drum and rotary flakers and dryers, and modular evaporators.

In 2004 the company name was changed to Buflovak, LLC to leverage the name recognition and reputation Buflovak enjoys with our customers.

The Patterson Kelley Company originated in 1880 as a heat transfer equipment manufacturer in Brooklyn, NY. Patterson Kelley Process Equipment division began in 1949 with the development and introduction to the market of the Twin Shell Dry Blending System. Over the next 25 years additional innovations were introduced, including a

variety of blenders, dryers and granulators that operated in both batch and continuous modes. In 1974, the Patterson family sold the business to the Harsco Corporation.

In 2010, Buflovak purchased the Patterson Kelley Process Equipment division from Harsco Corporation to expand Buflovak's process equipment line to incorporate blending and drying of powders. In 2011, the company was re-branded to Buflovak PK to reflect the integration of the two companies into one entity.

In 2016, Hebeler Holdings, LLC acquired Buflovak PK and formed Hebeler Process Solutions, LLC. The Buflovak and PK brands will continue developing their internationally recognized product lines, as well as offering custom process solutions and will offer a new realm of custom manufacturing capabilities.

#### **MANUFACTURING**

The manufacturing arm of Hebeler Holdings, Hebeler, LLC specializes in custom engineering and manufacturing, with a focus in the power generation industry. Through Hebeler Process Solutions, the company will continue manufacturing all the Buflovak and PK lines while bringing strong knowledge of compliance and quality to these new industries. All products will be manufactured at the integrated Tonawanda, New York facility and at the J. Oskam Steel, LTD facility located in Port Colborne, Ontario.

Our unique capabilities allow us to design and manufacture the most economical and efficient equipment and systems possible. Inhouse design and engineering competencies eliminate costly communication errors and delays, while allowing our team to react quickly when design changes are necessary.

With a global customer base, our welders are qualified for pressure vessel code work in the USA, Canada, European Union, Russian Federation, China, South Korea, India and other countries around the world. certifications and numerous country code compliance qualifications for manufacturing, including:

Canada - CSA, CRN | Russia - GOST |

Uzbekistan - GOST-U | Algeria - DEPM

Australia | Brazil | European Union - PED, CE, ATEX, IECEx | United States - ASME | UL

Registration with Intertek and ISO 9001:2008

Hebeler Process Solutions has the capabilities to engineer, fabricate and deliver custom modular processing system. From blueprint to final delivery, our team works closely with customers to assure that projects are completed to specification and on time. Whether the need is for small or large equipment; whether the materials used are carbon steel, stainless steel, exotic alloys or nonferrous; the results will be quality-assured equipment that will perform at or better than specification.

### PILOT PLANT & LABORATORY TESTING

The Pilot Plant & Lab allows customers to thoroughly evaluate all aspects of a proposed process and equipment prior to the commitment to a full-scale installation. This fully equipped test facility has conducted more than 21,000 product and process tests. New products for the pharmaceutical, food, chemical, and environmental industries as well as existing products can be tested with absolute confidentiality in the 975 sq. m (10,500 sq. ft) Pilot facility.

Hebeler Process Solutions focuses on contributing to the success of our customers. In-house development of new product offerings and upgrades keeps us abreast of the changing conditions of the industries we serve. Close interactions and collaboration with customers plays an important role in understanding of the changes and new directions their industries are undergoing, and is key in the development of new products and services.

#### **CUSTOMER SUPPORT & SERVICE**

All Hebeler Process Solutions brands offer sales support and customer service as well as Field Service. We service all types of PK equipment including processors, dryers, and blenders as well as Buflovak rotating and vacuum thermal equipment and installations.

Our team can identify and correct the source of mechanical problems and can instruct the customer's personnel in the correct operating procedures and preventative maintenance of all equipment.

## PATTERSON KELLEY (PK) BLENDING & POWDER PROCESS SOLUTIONS



#### **PK POWDER PROCESSING**

PK is the original developer of the V-blending technology and of blending with intensifier bars. From development to production, the process knowledge and experience at PK makes us the world-leader in process equipment design and manufacturing. Capabilities include:

- Powder Processing Solutions for Multiple Industries
- $\bullet\,$  Using PAT implementation for QbD in Pharmaceutical processing
- Single Pot Processing of granulations, from laboratory scale to 3000 liter batch sizes
- Continuous Powder Blending and Granulation
- High Efficiency Drying of Powders
- · Solid-stating of Nylon and PET
- P-K Laboratory Services provide process guarantees.
   The PK Process operating group provides international and domestic sales support, design and engineering services, and process development.

#### **TUMBLE BLENDING**

PK offers all varieties of vessel shapes including the Twin Shell®, Cross-Flow®, Double-Cone, Slant Cone, Quad Cone, and Bins. These systems promote quick charging and discharging, easy cleaning and low energy operation. All vessel geometries are available in our wash down, sanitary design or pipe frame design.

#### INTENSIFIER BLENDING

For more intimate blending applications, PK offers several intensifier bar designs. They include pin, high speed, ultra-high speed, liquid-solids and minimum attrition intensifier bars. The bars are newly designed to allow 30% under-loading of the working volume which allows greater batch variability.

#### MULTIPLE VESSEL BLENDING SYSTEM (M.V.P.)

The multi-functional M.V.P. solves some of the major issues facing sanitary powder processing today such as containment and flexible production. The M.V.P. is a major space saver, since a single system provides capabilities equivalent to that of several conventional fixed station blender systems. It can accommodate vessels of varying capacities and geometries, including bins. The smaller sizes are portable.

#### **VACUUM TUMBLE DRYERS (VTDS)**

PK VTDs are ideal for fast, uniform drying of heat sensitive powders and offer shorter drying cycles as compared to static methods. A gentle tumbling action allows low attrition processing of fragile materials. The systems include the vessel, controls, vacuum package and heating/cooling packages.

#### SOLIDS PROCESSORS

The PK Solids Processor handles solids-solids and liquid-solids blending, coating, agglomerating, vacuum drying, heating and cooling. Our packaged system provides low operational costs as compared to alternate methods. The Solids Processor is a true single pot system where operations are completed without removing materials from the equipment.

#### **SOLID STATE POLYMERIZATION AND DRYING**

PK's Tubular Vacuum Dryers (TVDs) can process PET, nylon, and other polymers in pellet form more rapidly than conventional vacuum dryers because of the increased heat transfer surface area (typically between 3 and 7 times larger than similar sized traditional systems). The tubular design guarantees the same process time from the smallest to the largest units.

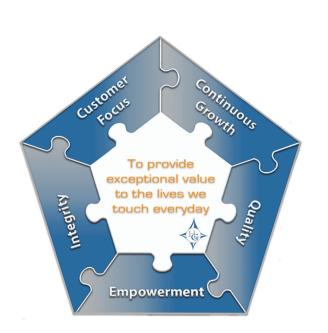
#### **CONTINUOUS POWDER PROCESSING SYSTEMS**

Many of our batch unit operations can be transferred to continuous processing with no degradation in product uniformity. PK has a wide range of sizes to satisfy process requirements from 5 kg per hour to several thousand metric tons per hour.



### **HEBELER CULTURE**

At Hebeler, we foster a principle-based culture that embodies our values of Customer Focus, Quality, Integrity, Empowerment and Continuous Growth.



#### VISION

To provide exceptional value to our customers and employees

#### QUALITY

Our customers expect and deserve the highest quality products and services available. This is why we are dedicated to continually improving our quality programs. Currently, Hebeler is ISO 9001:2008 certified, utilizes Lean Six Sigma practices and is working to maintain and improve our maturity level.

We utilize Hoshin Kanri, a planning tool used to help focus the organization's efforts on projects which directly impact its vision. Hoshin Kanri encourages intra-company communication, ensures that every employee is aware what the goals are for the company for the upcoming year, and how they help us reach our goals. This allows us to effectively plan and communicate our quality programs to the entire company, which elevates our overall quality level as a whole.

At Hebeler, the quality program is integrated throughout the entire organization, from our processes and procedures used by our employees, to the products and services delivered to our customers. Our quality can be seen from the inside out, and the result is top of the line products and ongoing field service. Our customers easily recognize our dedication to upholding our high standards for quality.

We create a workplace where ENTHUSIASM and PURPOSE come together • we encourage CREATIVITY and INNOVATION • we believe HONESTY, INTEGRITY, and RESPECT are the only option • we live SAFETY because we matter • we believe LEADERS are in SERVICE to their teams • we believe every VOICE should be and needs to be heard • we are PROFESSIONAL, we are COMPASSIONATE, we are ENGAGED • at our core we are FRIENDS, we are FAMILY, we are



#### **LOCATIONS**

HEBELER CORPORATE HEADQUARTERS

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