

LIQUID LINE



TM

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Liquid Line Editor:

Eric Sant

Vice President of Marketing

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Liquid Handling Equipment, Inc.

2311 Executive Street
Charlotte, North Carolina 28208

Mailing Address:

P.O. Box 668525
Charlotte, NC 28266-8525

Phone:

704-399-8700 • 800-872-8414

Fax: 704-393-2412

Website:

www.liquidhandlingequip.com

Email: lhe@liquidhandlingequip.com



**Liquid Handling Equipment's
After-Hours Emergency Phone Number
980-402-8079**

What's New at Liquid Handling Equipment, Inc.

Promotion

Liquid Handling Equipment is pleased to announce the promotion of *Andy Diggs* to the position of Vice President Administration. Andy started with the company in August of 1996, holding various positions within both the inside sales and the administration groups. Over the past 10 years, he very successfully served as Liquid Handling's General Manager. We are excited to have Andy join our management team, knowing his experience and in-depth knowledge of the company will be valuable assets. Congratulations Andy, we look forward to your continued contributions to the Liquid Handling team.



Sales Award

Liquid Handling Equipment, Inc. was presented with a gratifying award from Bendel Tank and Heat Exchanger for surpassing four million dollars in sales in 2021.

Representing Bendel in the Southeast for the past 33 years, Liquid Handling is extremely proud of the success we have enjoyed in partnership with the company. Bendel specializes in the design and shop fabrication of Pressure Vessels, Reactors, Shell & Tube Heat Exchangers, and Storage Tanks. Its custom fabricated products are built to nationally-recognized standards that include ASME, API, TEMA, and UL, with construction materials available in Stainless Steel, Carbon Steel and Nickel Alloy.



EBARA Fluid Handling
an EBARA International Corporation company

Sales Award

Ebara presented Liquid Handling Equipment with eight \$100 Home Depot gift cards for winning a 2021 sales contest. We achieved the most EVMU Pump sales in 2021 of all the Ebara Industrial Distributors in the United States. EVMU pumps are vertical multistage pumps used for water transfer in high-head applications, such as boiler feed. Liquid Handling is very proud to have represented Ebara for over 30 years in the industrial markets and very happy for the acknowledgement and the generous gift cards!



Liquid Handling Inside Sales Team with Their Gift Cards



Technical Spotlight on: **Achieving Flow-Rate Flexibility in Filter Systems**

by Jay Bernsley of Strainrite

The
STRAINRITE
Companies | World Class
Filtration

A flexible filter system is engineered to accommodate a range of process parameters. It can be used for an application in which there are unknowns in order to handle a range of possible conditions. For example, every component in a filter-pump skid must be selected to handle and effectively work in conjunction with each other for the required range of conditions.

Liquid Handling Equipment is the Master Distributor in the Southeast for the Strainrite Companies. Based in Auburn, ME, Strainrite manufactures top-quality filter cartridges, filter bags, and filter housings.

What follows are strategies employed by Liquid Handling in partnership with Strainrite for achieving flow-rate flexibility in a filter system.

1. Select a filter housing with excess capacity.

There is usually no penalty for employing an oversized filter. In fact, extra surface area can often provide the non-linear, disproportionate benefit of longer filter life, consequently reducing filter expenditures. Often providing flexibility is as simple as “the next size up” that will accommodate a customer’s future growth. Sometimes with the purchase of an accessory item, many types of larger filter housings will accept a shorter filter, allowing the same housing to be used for a larger filter in the future.

2. Use a bag filter housing that will accept a range of filters.

Strainrite’s bag-filter housings can accept a range of filters with a choice of micron ratings, layering within the filter and surface areas. For example, surface area can be increased 1.7-fold by going from a simple felt-bag filter to an Added-Area “AA bag”, with the simple addition of an “AA insert”. With Strainrite’s Madd-MAXX range of pleated filters that can fit in the same bag-filter housing, a 3-fold increase can be achieved and up to a 10-fold increase in surface area that will accommodate many process-condition changes or variables.

3. Employ duplex filter housings. Duplex filter housings can be used in parallel, as well as offer the convenience of bypassing one housing using only one filter at a time. This not only makes changing out filters an easy task, it also allows for future growth.

There are many other strategies for handling variables, other than just flow. The road to designing an optimally-flexible filter system begins with gathering all the information and considering all the rigorously-defined requirements. Strainrite and Liquid Handling will then select, recommend and engineer a filter assembly for achieving flow-rate flexibility and a later adaptation to changing flow rates in the future.



***Please contact your local Liquid Handling Equipment representative
to discuss a Strainrite filter assembly that will not only meet your current needs
but also evolve and grow to meet your future needs.***



Spotlight on:

Bendel Tank & Heat Exchanger

Bendel specializes in the design and shop fabrication of Pressure Vessels, Reactors, Shell & Tube Heat Exchangers, and Storage Tanks. Its custom-fabricated products are built to nationally recognized standards that include ASME, API, TEMA, and UL with available construction materials in Stainless Steel, Carbon Steel and Nickel Alloy materials of construction.

All of the company's products are custom-designed and fabricated by Bendel in its Charlotte, NC facility. To name a few, Bendel serves the Chemical, Petrochemical, Pulp & Paper, Textile, Paint, Water/Wastewater Treatment, and Pharmaceutical markets.

Custom Fabricated Reactors

Bendel is an industry leader in the custom design and fabrication of reactors for chemical and petrochemical manufacturing, food & beverage, textiles, paint, and other process manufacturers.

Built to exact specifications, all of Bendel's reactors are fabricated in strict accordance with ASME (Section VIII, Division 1) and receive rigorous inspection by In-house Quality Control, as well as an authorized third-party inspector. Reactors can be built to diameters up to 120 inches and weights of up to 200 tons or more.

ASME code may apply to the primary vessel only or the entire assembly, including heating and cooling jackets, internal coils, and other pressure-retaining components.

Custom Fabricated Heat Exchangers

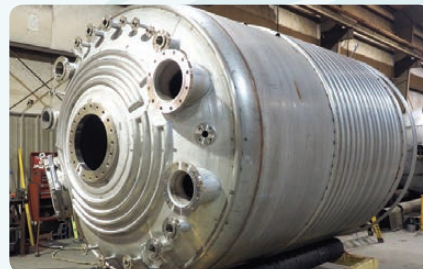
Bendel is an industry leader in the custom design and fabrication of shell and tube heat exchangers, including:

- **Fixed Tubesheet:** Two stationary tubesheets are attached to the shell; a bundle of straight tubes is connected between the tubesheets containing baffles to direct the flow around the tubes in order to generate the required heat transfer. A channel cover assembly is attached to each tubesheet.
- **Floating Tubesheet:** This design is similar to the Fixed Tubesheet design, except that one tubesheet is allowed to move axially within the shell while the other tubesheet is fixed. This configuration allows for the tube bundle to be removed.
- **U-Tube:** Consists of straight-length tubes bent into a U-shape with both ends terminating at the tubesheet. The tube bundle is fitted with supports or flow baffles. The tubesheet/tube bundle is placed in the shell and bolted between the head flange and shell-body flange. A head assembly is required to direct the fluid in and out through tube bundle. This configuration allows for the entire tube bundle to be removed.

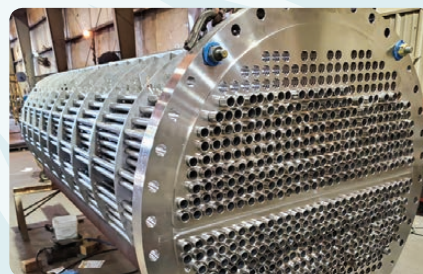
BENDEL
TANK & HEAT EXCHANGER



Reactor



Reactor



Heat Exchanger Tubesheet



Heat Exchanger

Liquid Handling Equipment is ready to work with you in conjunction with Bendel to custom fabricate the ideal reactor and / or heat exchanger to meet your specific needs.

www.bendelcorp.com



A Liquid Handling Equipment Success Story

by Brandon Barber



A manufacturer called Liquid Handling Equipment seeking help with quality issues concerning a commonly manufactured part. An entire shipment container of parts did not pass the final QC check, causing a back charge for the units to be cleaned and undergo a second QC inspection.

Brandon Barber *Outside Sales* What to do? The OEM began by carefully reviewing its manufacturing process. In doing so, the plant realized the issue stemmed from the required cleaning procedure before shipping. Each unit needed to be cleaned followed by applying a residue-like coat on the final product.

Liquid Handling placed a conference call with all parties involved (manufacturing, engineering, and R&D) to understand the challenges and therefore arrive at a satisfactory solution. It was noted that the plant filtered the cleaning process using a five-micron filter bag after previously trying a 10-micron size. A meeting was scheduled to get a first-hand look at the cleaning process. On site, Liquid Handling learned that every week the tank had to be completely drained in order to clean out metal shavings and/or sediment that settled at the bottom. And every week, 12 to 20 pounds of metal shavings were cleaned out of the tanks with the need to eliminate very little from the filter bags.

Liquid Handling recommended a particle analysis to determine the micron ranges of the pesky sediment. Enter Strainrite, one of Liquid Handling's quality process partners. A sample was sent to the Strainrite lab that resulted in the range of sediment particle size from .5-micron to 10-micron, with the largest mean average approximately 0.5 micron.

Once particle size was determined, Liquid Handling in partnership with Strainrite arrived at the best fit for the application - the Strainrite Madd-Maxx 0.5-micron cartridge would provide the perfect fix. After initial use, results showed a clear difference in the unit's appearance. Within one week, feedback from the plant was very positive because only two to three pounds of sediment had to be cleaned out with the rest trapped by the Madd-Maxx filter. Our next recommendation was to change the filters twice a week to completely eliminate the bothersome sediment. The first shipment of units post-Madd-Maxx passed the QC inspection with flying colors!

Liquid Handling Equipment together with Strainrite saved the OEM a substantial amount of money by eliminating back charges. An efficient cleaning process was established, thanks to the MADD-MAXX filter, along with a new QC inspection, all of which led to greatly improved production of the unit.

If you are interested in a world-class filtration system to fit your specific process, give Liquid Handling Equipment a call. In partnership with Strainrite, we will provide the perfect fit!



Meeting Your Process Needs

Liquid Handling Equipment carries a full line of products to meet all of your process needs.

Tanks & Heat Exchangers

- Allen Industries, LLC
- Bendel Tank & Heat Exchanger
- Modern Welding
- Poly Processing Company
- Sharpsville Container

Pumps

- Boerger Pumps
- Crane Pumps - Barnes / Burks / Crown / Deming / Weinman
- DESMI / Rotan
- Ebara
- Flux Pumps
- HMD Kontro / Sundyne
- Iwaki-America
- LC Thomsen
- Price
- Roper
- Rotech
- Walchem
- Watson-Marlow / MasoSine Pump
- Watson-Marlow Sanitary Process Pumps
- Yamada America
- Zoeller Pump Company

Agitators

- MixMor Corporation

Filtration

- Eaton / Hayward MFG
- Harmsco
- Pentair
- Strainrite

Flow & Liquid Level Management

- FLOWLINE
- ICON Process Controls, Ltd.
- Red Seal Measurement

Accessory Equipment

- Blaich Fluid Products
- Dixon
- Garlock Sealing Technologies
- Novaflex
- OPW / Civacon Corp.