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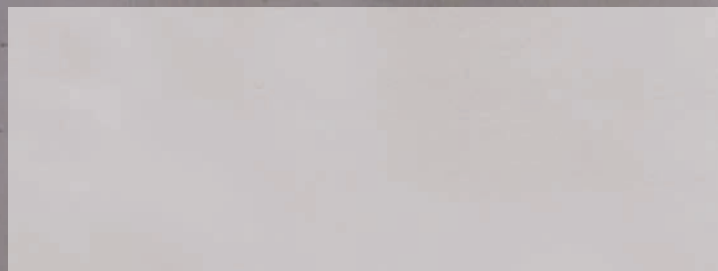
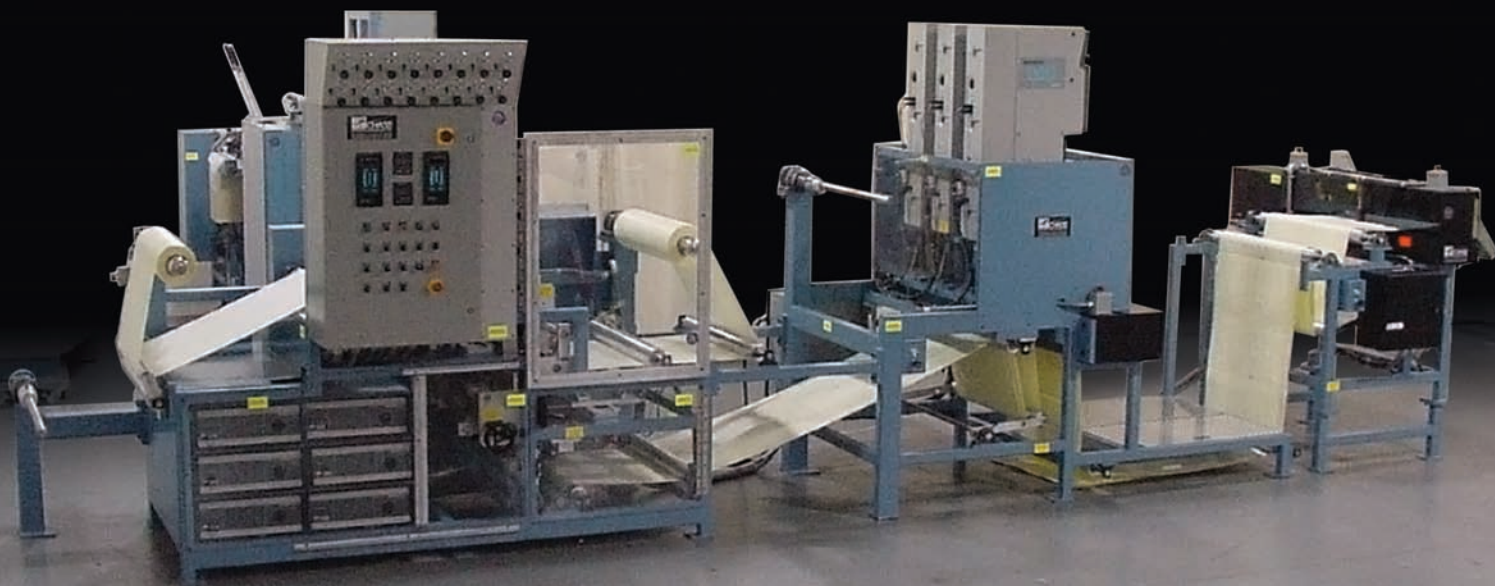
# FILTRATION NEWS

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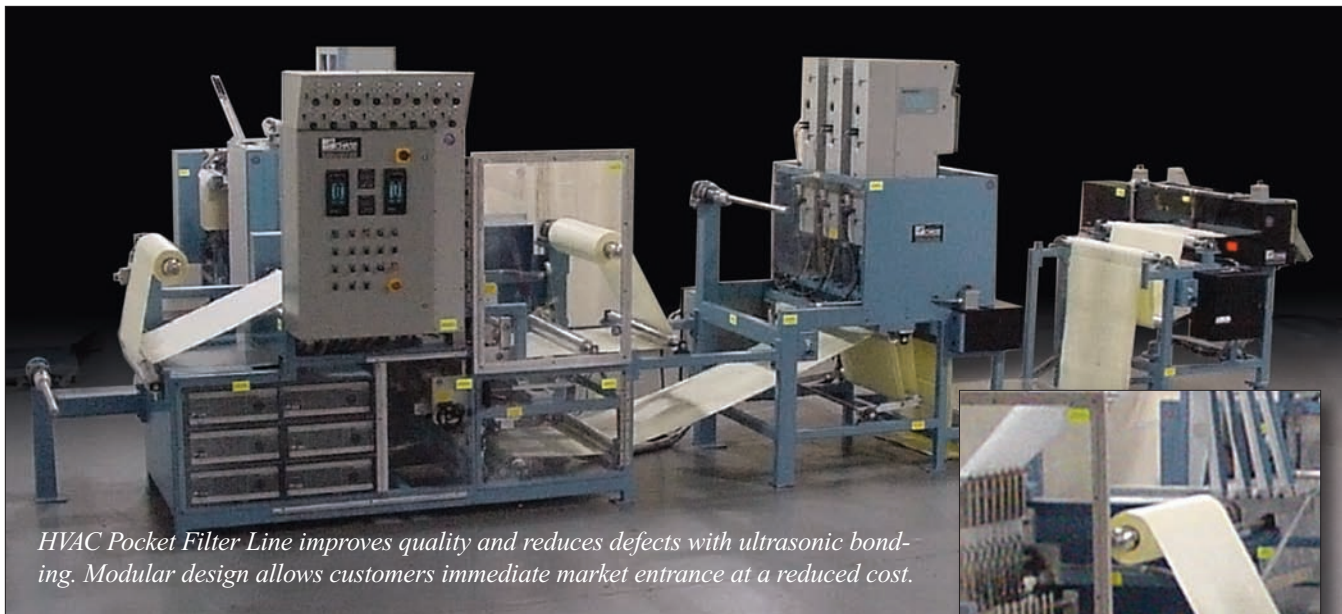
*Chase Machine & Engineering:*

## **The Value of Specialty Manufacturing Equipment in a Competitive Market**



## Cover Story | Chase Machine & Engineering

# The Value of Specialty Manufacturing Equipment in a Competitive Market



*HVAC Pocket Filter Line improves quality and reduces defects with ultrasonic bonding. Modular design allows customers immediate market entrance at a reduced cost.*

Every equipment supplier has special capabilities and Chase Machine & Engineering Inc. is no exception. Equipment is traditionally of a commodity nature or specially designed to accommodate particular manufacturing needs. Specialty equipment suppliers such as Chase Machine are often asked to suggest better concepts to enable lower processing costs or the manufacture of products with unique capabilities. Experience and knowledge of the industry and customer manufacturing processes are important aspects in bringing such concepts to reality.

### DIFFERENTIATION IS THE KEY

Without question, product differentiation is the most important offering a company can provide to its customers. Chase Machine differentiates itself in a number of ways beyond simply offering competitive pricing. They include:

- All products are made in Chase Machine's manufacturing plant in the United States.

- In-house engineering capabilities employing state-of-the-art 3-D solid modeling software, combined with web handling and pick and place automation expertise, sets the company apart in most cases.
- Filtration product design concepts, which allow customers to successfully sell against competition – that's what 56 years of business experience and talented employees can provide.
- Custom engineered equipment and manufacturing processes that permit customers to gain market share through manufacturing efficiency and low-cost production.
- Vertical integration, including electrical panel building and PLC programming, machining, welding fabrication, painting and final machine assembly ensures full control from both a quality and delivery standpoint.
- Process filtration equipment made right the first time.
- Reliable and superior processes on the shop floor – as only an operation manager and the CFO can truly



appreciate, sometimes “good enough” is not good enough.

### EQUIPMENT NEEDS HAVE SHIFTED

The shift from conventional glass and cellulose filtration media to synthetic nonwoven meltblown, spunbond and needlepunch fabrics has opened the door for the introduction of new and exciting assembly methods. Technologies such as ultrasonics, hot air, band sealing, RF and impulse welding are becoming common practices within the industry. Engineers now select media not only based on filtration performance criteria, but also on assembly preference. Needle and threads combined with adhesives are slowly being phased out – why incorporate another component (and expense) into the final product, especially when there are safer and more environmentally friendly alternatives?



*Liquid Filter Bag Machine produces a wide range of products for varying filtration needs, including needle punch and spunbound/meltblown filter media.*



*Single Position Ultrasonic Ring Welder allows maximum operator efficiency with ergonomic engineering practices, and is designed to be safe and operator-friendly.*



*Chase Machine's Materials Application Lab allows customers to test materials and assembly methods.*

## **SYNTHETIC NONWOVENS - GROWTH**

Chase Machine & Engineering has embraced the move from conventional filtration media to synthetic nonwovens. Heat sealing technologies, when incorporated into a continuous process, can reduce labor and maintenance expenses since consumables such as adhesives or sewing supplies are no longer required. While it is understood that some filter requirements call for the use of cellulose and glass fibers that require adhesives and/or sewing, applications that lend themselves to the use of synthetic media have generated exciting new assembly alternatives.

The liquid filter bag market presents an excellent example of multiple technologies combining within the same process to improve manufacturing performance. Employing hot air welding, Chase Machine joined the two edges of a needlepunch fabric to create a tube on a continuous basis. At the same time, the company integrated Ultrasonics to cut and seal the bottom of the filter, freeing the end product of loose fibers and contaminants. The process gave the end user complete control while cutting labor expenses by more than 50% and eliminating the need for ancillary consumables. What's more, the finished bag could be joined to a plastic ring using ultrasonic plunge welders and eliminating the conventional sewing method for attachment.

Ultrasonics is also commonly used in the synthetic HVAC filtration market. Chase Machine was instrumental in this transition with the development of the extended HVAC pocket filter ma-

chine, which was designed, built and patented incorporating ultrasonic technology into the continuous assembly process. Nonwovens manufacturers realized the importance of designing media for use with Ultrasonics. In the early years of development, consistency and uniformity across wide meltblown and spunbond lines was a challenge. The finished product, while suitable for the filtration application, varied in its distribution of fiber. Although this never became an issue when sewing, ultrasonic welding required greater uniformity and consistency.

In the membrane market, nonwovens are chosen for their strength as a support substrate. The synthetic component of the nonwovens affords the end user the ability to splice membranes together or even attach multiple layers to improve filtration characteristics. Ultrasonics, impulse welding, or even simple bar sealing technologies may be incorporated into a process line. Chase Machine's experience with membrane casting and hollow fiber process lines helps customers decide which technology suits their specific application best. Then they substantiate their conclusions in the Chase Materials Applications Lab.

## **CUSTOMER TESTING LAB**


In response to this need, Chase Machine established a Materials Applications Lab, which enables companies to test materials and assembly methods before committing to full production. Working with some of the largest filtration media manufacturers in the world, Chase Machine has run thousands of

feet of media to verify process improvements. Many of these improvements have gone on to benefit the marketplace.

## **MEMBRANE AND HOLLOW FIBERS**

Chase Machine is an important supplier in the rapidly growing area of hollow fibers and flat sheet membranes, building equipment ranging from single fiber lab scale pilot lines, to large-scale production systems. Hollow fibers and flat sheet membranes are highly efficient, offering greater flow rates, and lower differential pressure and energy requirements. Chase works hand in hand with customers to understand the strict design and manufacturing specifications required to make their particular machinery. Like its nonwoven filter manufacturing equipment, Chase Machine's hollow fiber and flat sheet membrane process capabilities rely upon many years of building equipment and processes confidential to each customer.

## **CONCLUSION**

Today's filtration industry is constantly evolving. Ongoing improvements to chemistry and manufacturing processes offer infinite possibilities for new product development. With companies such as Chase Machine offering testing, prototyping and full-scale process solutions, the transition from concept to final product is now faster than ever before. 

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