Major Technological Gains with MicroPower Machines at Tessy Plastics

Company pushes the limits of micro-molding technology with the help of five WITTMANN BATTENFELD MicroPower machines, automation and auxiliaries

Tessy Plastics, headquartered in Elbridge, NY, is a privately held global contract manufacturer with ISO 13485 certified FDA/GMP compliant facilities in New York, Virginia, and Shanghai, China. The company specializes in high speed, multi-shot and thin-wall injection molding, micro molding, integrating molding with assembly, and a variety of added value technologies.

Tessy views itself as an engineering company that also injection molds and assembles parts. Over 60 engineers manage in-house R&D, prototyping, product design, tool design, and automation development utilizing the latest software and equipment. The company employs over 900 people and runs 225 molding machines at its 3 locations.

At a recent visit to the company’s headquarters in scenic Elbridge, NY, Stafford Frearson, Tessy Project Engineer, provided a first-hand look at how Tessy is utilizing Wittmann Battenfeld’s MicroPower machines and automation to produce highly technical surgical parts.

Meeting the Challenges of Molding Micro Parts

Tessy has five MicroPower machines at its facility in Elbridge; all in use producing surgical parts. The WITTMANN BATTENFELD machines include integrated Scara robots and inspection systems with cameras; Tessy also uses Wittmann dryers, feeders, and temperature control units on their micro-molding applications. All of the machines run in Class 10,000 and Class 100,000 clean room environments.

One of the parts being produced is a laproscopic staple for minimally invasive surgery; two of the WITTMANN BATTENFELD MicroPower machines are tied together to one piece of automation for this particular application. Another MicroPower is used to mold an insulator for a printed circuit board; the machine molds contacts into the insulator, which is then soldered onto the PCB. Ethicon Endosurgery, a division of Johnson & Johnson, is the customer for both devices.

There are many challenges to molding micro parts,” said Stafford Frearson. "Micro parts and molds are highly specialized processes, and not everyone can do it." Successfully molding such tiny parts is not easy – some of the parts produced at Tessy are as small as 0.120” x 0.063” x 0.038”, and weighing only 0.004 grams. (The part shown in the attached photo of the cartridge with staple is 0.0120” x 0.040” x 0.075”, weight 0.004 grams).

A Better Way

Frearson described some of the history behind successfully producing the cartridge parts for Ethicon, which required a fair amount of research and development. "When we bid for and won the cartridge business, we looked at new ways to successfully produce these tiny parts," he said. "We started out producing the parts on a conventional molding machine with a 16-cavity hot runner system, molding 64 parts per shot. This worked, but not as well as we liked; the material we use for these parts, a thermoplastic polyetherimide (PEI), requires very high temperatures to process (720° F), and it was a challenge producing consistent parts with the hot runner. Trying to maintain consistent heat and balance in the system without burning the material was difficult to do.”

Considering the material is expensive (averaging $20.00/lb), and the parts required all virgin material, Tessy needed to reduce waste and improve shot-to-shot consistency, so they set out to find a new way to produce the parts. They decided to purchase one MicroPower machine from WITTMANN BATTENFELD for test purposes, and equipped it with a mold built in-house.

"When we first went looking for a Micromolding machine, we couldn’t find one that could successfully run this material," said Frearson. "We approached WITTMANN BATTENFELD and they were working on redesigning their MicroPower machine for overall better form, fit (continued)
and function. We liked the fact that after purchasing BATTENFELD in 2007, Dr. Wittmann was committed to rebuilding the company and creating better machinery, so we decided to give the redesigned MicroPower a try."

The results were impressive; Tessy saw improvements in all key areas including faster cycles, less material usage, less scrap, and higher quality parts. When Tessy had the opportunity to redesign the cartridge line, they purchased two more MicroPowers and created a new automated micro-molding line.

The new cartridge parts are molded on smaller molds with 5 cavities, producing 20 parts per shot, but Tessy has seen almost 20% less material waste than when they were molding with the 16-cavity hot runner. That translates into savings of almost $1 million/year. Add to that the faster cycle times and better shot-to-shot consistency, which results in fewer rejected parts, and Tessy has realized significant overall cost savings.

Matt Willsey is the Senior Technician at Tessy in charge of running the MicroPower machines. He mentioned WITTMANN BATTENFELD’s Web Services for the B6 control system on the machines as being invaluable. “We are able to contact WITTMANN BATTENFELD anytime we have a question or an issue, and they respond immediately,” he said. "On a couple occasions they have connected remotely through their web services and taken control of the machine so they can see exactly what's going on, and recommend solutions." On applications as critical as these, that kind of service is essential, he said.

Growth in Medical

Tessy Plastics continues to grow, as is evidenced by their recent purchase of a 112,000 square foot plant in nearby Skaneateles, NY. The plant, a former Honeywell factory, will be devoted to Tessy’s medical molding business. "We have started the move there this month, but it will be a 2-year process," said Eric Fearing, Tessy’s VP of Engineering and China Operations. "All of the machines and equipment going there will support the same products."

The move includes 25 molding machines, 10 automation cells, toolmaking operations, and more all for the same product line. This includes the two WITTMANN BATTENFELD MicroPower machines, automation and auxiliaries. When complete, the Skaneateles plant will be a state-of-the-art medical molding facility with Class 10,000 and Class 100,000 clean rooms.

"We needed more space for the molding and assembly work for the cartridge devices for Ethicon Endosurgery," said Eric Fearing. About 100 medical production workers will staff the operation. There are up to 60 different components in the surgical device.

A Wealth of WITTMANN BATTENFELD Machinery and Equipment

Besides the 5 MicroPower machines, Tessy Plastics employs an impressive array of other WITTMANN BATTENFELD products including over 25 WITTMANN robots, numerous dryers, granulators and temperature control systems. They also use WITTMANN BATTENFELD’s M7.3 central material handling system, which includes the largest Codemax RFID coupling station in the U.S.A. The material handling system supplies a wide variety of material to the molding machines at rates up to 30,000 lbs/hr. The RFID system ensures that the correct materials and amounts are getting to the correct presses.

"WITTMANN BATTENFELD is proud to partner with Tessy Plastics," said Sonny Mornault, WITTMANN BATTENFELD’s Vice President of Sales. "We know they are one of the leading custom molders in the U.S.A. and we look forward to continuing to help them improve their efficiency and productivity, to produce the highest quality parts."

WITTMANN BATTENFELD Displays Demonstration Truck at Entrance of NPE 2015

North American Road Show to Commence Soon

When walking into the NPE 2015 show West Hall for the first time, visitors were surprised to see a truck parked at the entrance marked "Innovations Roadshow", with machines and equipment running inside. WITTMANN BATTENFELD again made a splash at the trade show by thinking outside the box. In addition to their huge booth (W2743) they had a truck custom built to house various controls and equipment for demonstration purposes, and they purchased booth space and parked the truck directly at the entrance outside of the convention center.

The truck was open to all show visitors and housed demonstrations of numerous WITTMANN BATTENFELD controls and auxiliary equipment including:

• M7.3 Central Material Handling
• TEMPRO plus D200 TCU
• G14 Blender
• B6P IMM
• Aton F30 Dryer

Also in the truck were some of WITTMANN BATTENFELD’s latest robotics and auxiliary equipment, including:

• B206 Central Vacuum Loader
• W822 Robot
• Cross sectioned G14 Blender Components (weigh bin, hoppers)
WITTMANN BATTENFELD generates nearly 1600 leads and books over $11 million in orders over the course of a supremely successful NPE show

WITTMANN BATTENFELD’s booth viewed from above at NPE 2015. The company showed an entire molding plant in operation at its booth, including six operating molding machine workcells with robots and auxiliary equipment.

Additionally, there was a large screen TV mounted inside of the truck showing various videos and presentations related to WITTMANN BATTENFELD equipment.

“We decided to bring the truck to NPE to allow customers who were walking by on their way into the show the chance to see various products and controls benefits we can offer,” says Sonny Morneault, Vice President of Sales at WITTMANN BATTENFELD. “We showed off some really interesting demonstrations, including an operations robot, our W822, communicating with a B6P IMM controller, our TechConnect option for remote customer service, and even program training.”

North American Road Show
After the NPE 2015 show ended, the road show truck made the trip to the new PCE (Plastics Center for Excellence) Tech Center at the University of North Carolina (UNC) Charlotte, where WITTMANN BATTENFELD recently donated a complete work cell. Once it is done there, the truck will move west to Texas and commence a North American road show tour.

“We’re perhaps even more excited to get the truck on the road after NPE,” says Morneault. “Our customers are busy people, and many have not had the ability to get to our facility in Connecticut for training and process demonstrations. This gives us the opportunity to go directly to them and be able to show off what our equipment can do right in their parking lot.”

Interested in a Visit to Your Plant?
WITTMANN BATTENFELD is in the process of scheduling plant visits around the USA for its road show truck. The detailed schedule for the road show will be released at a future date. If you’re interested in a visit to your plant, please contact Crystal Gagnon, Marketing Communications at (860) 496-9603 x 250 or crystal.gagnon@wittmann-group.com.

WITTMANN BATTENFELD’s “The Winning Combination” Pays Off Big at NPE 2015

Even with the potentially disastrous theft of one of their trucks, resulting in damage to some of its machinery and the resulting last minute scramble to put the booth together, WITTMANN BATTENFELD had their most successful NPE in recent memory. With their impressive lineup of 6 molding machine workcells, their complete line of material handling and auxiliary units, various demonstrations of their connectivity capabilities, and an eye catching, show stopping pit crew display run by their robots, WITTMANN BATTENFELD was able to grab the attention of almost everyone at the show, which led to almost 1600 leads and over $11 million worth of orders.

The booth tied together numerous themes that highlighted WITTMANN BATTENFELD’s “One Stop Shop” mentality. One was “The Internet of Things,” showcasing their industry leading connectivity through various mobile apps, their TechConnect module, and their new WITTMANN 4.0 integration technology. The other, in connection to the race car theme, was “Great People and Great Product! This Is The Winning Combination.” This theme was highlighted throughout the booth as a continuation of their One Stop Shop mantra. Not only can WITTMANN BATTENFELD provide a company with all of the high quality products it needs, they have the people and the technology to connect them together and get a plant operating to its full potential.

Over $11 Million in Orders Booked
WITTMANN BATTENFELD equipment that was sold directly off of the show floor included:

- A large tonnage, MacroPower 650/8800 B6P molding machine was purchased by Hansen Plastics

(continued)
A W843 pro robot
A MicroPower 15/10 molding machine was purchased by Octex

Injection Works purchased (2) G34 Blenders, (8) Net Loaders and (4) TEMPRO plus D285 temperature control units

- A MicroPower 15/10 molding machine
- A W843 pro robot

One of the six molding machine workcells on display was an EcoPower 180 Two Shot Electric molding machine with a W821 robot, DRYMAX Aton 2 dryer, TEMPRO plus TCU and MAS 2 granulator. This molding cell showed 2-component molding of an automotive fuel range and inline thermography for even temperature distribution in the mold.

One of the operating workcells at NPE featured an EcoPower 240/1330 with a 240 ton clamping force, molding an automotive bezel. This cell highlighted WITTMANN BATTENFELD’s VARIOMOULD and CELLMOULD technologies, which help to produce parts with high-quality surface through variothermic technology and lightweight parts with high rigidity and without sink marks, respectively.

Another major injection molder purchased SEVEN turnkey workcells, including:
- (6) 2-shot MacroPower molding machines
- (1) 2-shot Hydraulic Machine (HM) molding machine
- (7) W8 series robots
- (28) TEMPRO temperature control units

“We put a lot of time and effort into this show and it really paid off for us,” says David Preusse, President of WITTMANN BATTENFELD. “The SPI did a great job of getting people to Orlando, and our team did a great job of designing our booth and promoting what we have to offer. We are proud of what we accomplished this show and look forward to continuing the progress that was made there over the next three years so that NPE 2018 will be even more impressive.”

Other equipment that was ordered includes:
- Mann + Hummel USA, Inc. purchased a MacroPower 850 ton 2-shot molding machine
- Ensinger-Putnam Precision Molding also purchased three turnkey workcells, including:
  - An EcoPower 55/350, EcoPower 110/350, and an EcoPower 180/750
  - (6) TEMPRO Basic C200 temperature control units
  - (3) DRYMAX E30/70 dryers
  - (6) FEEDMAX S3 integral loaders
  - (3) Conventional Granulators – MAS2
  - (2) W818 Servo robots and (1) W808 servo robot
- Phifer Inc. purchased a McWeight Extrusion throughput control

A huge selection of WITTMANN BATTENFELD material handling equipment was on display at the NPE2015 booth.

WITTMANN BATTENFELD’s robot man made another appearance at NPE2015!

WITTMANN BATTENFELD’s entire team at NPE2015
Watch Our Pit Crew Robots from NPE2015!

Go to YouTube (https://www.youtube.com/watch?v=nnAvmfHpH39c) to see video of our WITTMANN BATTENFELD Pit Crew Robots at NPE2015! Our team of robots changed tires, replaced engines, and fueled up the race car with ease and precision – contact us to see how they can help you improve part removal and part handling on your molding operations!

Did you know?

Wittmann Battenfeld is on YouTube!

For all official WITTMANN BATTENFELD videos, including footage from trade shows, demonstrations of the EcoPower, MicroPower, and MacroPower molding machines and more, go to: http://www.youtube.com/user/WittmannUSA

Here is a schedule of upcoming training seminars, including NEW IMM classes:

May 2015

Robot Flex Training
May 4-7 Torrington, CT (Class Full)
May 18-21 South Elgin, IL (Class Full)

Advanced Programming
May 19-20 Torrington, CT

June 2015

Robot Flex Training
June 1-4 Torrington, CT
June 8-11 Big Rapids, MI
June 22-25 South Elgin, IL

Maintenance 7&8 Series
June 16-17 Torrington, CT

July 2015

Robot Flex Training
July 13-16 Torrington, CT
July 20-23 South Elgin, IL

Advanced Programming
July 28-29 Torrington, CT

IMM Training
Plastics Technology
May 11 Torrington, CT

Setter Seminar
May 12-14 Torrington, CT

IMM Training
Plastics Technology
June 15 South Elgin, IL

Setter Seminar
June 16-18 South Elgin, IL

IMM Training
Basic Training
July 1-2 Torrington, CT

Click here for more info on robot training

Click here for more info on IMM training

Two NEW Locations for Training!

Polymers Center of Excellence (PCE)
Charlotte, NC
Quarterly Classes start
May 18th

West Coast Tech Center
Corona, CA
Quarterly Classes coming Summer 2015

Keep checking website for future dates!
**Sonny Morneault,**
Vice President of Sales

Sonny Morneault was recently promoted to the position of Vice President of Sales. In this position, he will be responsible for all US Sales and Marketing. An employee since 2007, Morneault most recently served as National Sales Manager for the company.

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**Brent Strawbridge,**
National Key Account Manager

Brent is a 22-year plastics equipment industry veteran, most recently serving as VP Sales for Trexel and Director of Automation and Regional Sales Manager at Engel Machinery. Prior to joining Engel, Brent was with WITTMANN USA, serving in Regional Sales and Service Manager positions from 1994-2000.

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**Christian Glueck,**
Manager Tech Center / Trainer – Injection Molding Machines

Christian started his career with WITTMANN BATTENFELD at the Tech Center in Kottingbrunn, Austria in 1985. After 25 years doing customer training for Injection Molding Machines in Austria, he has recently relocated to our USA Headquarters where he will manage the Tech Center and molding machine training.

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**Nicholas Dixey,**
Field Service Technician Material Handling & Auxiliaries

Nicholas has recently joined WITTMANN BATTENFELD as a Field Service Technician for Material Handling & Auxiliaries, working in our US Headquarters. He was in the US Navy for 6 years and served two tours of duty in both Operation Southern Watch and Operation Iraqi Freedom. Following his navy career, Nick served in various industries as a field service technician and manufacturing assembler.

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**Richard Whitney,**
Inside Technical Sales Robot Division

Richard joined WITTMANN BATTENFELD’s US Headquarters in January of 2015, bringing with him over 15 years of experience in industrial sales. Richard gained his experience as an Inside Sales Representative and Manager. He received his BS in Business Administration from New Hampshire College.

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**Candace Ash,**
Inside Technical Sales Coordinator Robots

Candace joined WITTMANN BATTENFELD’s US Headquarters in January 2015 as Inside Technical Sales Coordinator for the Robot Division. She comes with 11 years of successful customer service and data-entry experience.

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**Upcoming Events**

**June 9-10, 2015**
Hilton Philadelphia Ave
Philadelphia, PA

**June 23-24, 2015**
Hilton Philadelphia Ave
Philadelphia, PA