

CELEBRATING 25 YEARS—AND 20,000 BLENDERS



The timing couldn't be better for this first issue of an electronic newsletter for our sales representatives.

This year Maguire Products celebrates its 25th anniversary. And as this issue goes online, we have just sold our 20,000th Weigh Scale Blender—a good way to celebrate.

Customers buy our blenders and other systems because they are precise, reliable, and easy to use. But that's not the whole story. They also buy them because of you, our sales representative. We can produce the world's finest blenders—and I firmly believe we do!—but selling them always comes down to having an expert on the spot who knows our products and customers, and provides support long after the sale.

Over the years we have tried to help you do the best job you can by advertising extensively, exhibiting at trade shows around the world, providing literature in diverse languages, and developing a website packed with information and interactive features. This newsletter is another resource. You will find articles on the competitive advantages of our products, success stories from one part of the world that may inspire customers elsewhere, information on new sales tools, and tips on troubleshooting.

When I formed this company in 1977, it was after years of working on the processing plant floor. I made up my mind that there had to be a way to build equipment that was simpler, more reliable, more serviceable, and easier to use. That is still our message today, and this "e-newsletter" is one more way to help you deliver it to customers.

Steve Maguire
President

MAGUIRE SOLUTIONS

Advances in Simplicity and Control for Plastics Processors

Blenders Enter the Era of Computerized Networks

by Chris Crittenden, Sales Manager, Maguire Europe

Maguire has developed two distinct alternatives that make it easy to integrate Weigh Scale Blenders into plant-wide networks. They address concerns expressed by our customers, who often tell us they would like to obtain the benefits of computer-controlled networks but are discouraged by the conflicting claims, incompatible software, and jargon from equipment companies promoting their networking capabilities. To cut through the confusion, Maguire has designed software solutions that are user-friendly and widely applicable, and it has created tools to help customers understand how the software works.

The two families of software function at different levels of plant-wide integration:

- **BLENDER-BASED NETWORK.** Maguire's Gravimetric Gateway® (G2) Software is an off-the-shelf software package that allows data to be sent to and received from multiple Weigh Scale Blenders linked to form a plant-wide computerized network. Setup involves: 1) simple cabling to each blender from a Maguire G2 signal amplifier that plugs into a standard PC; 2) installing G2 Server software on that PC to

serve as an interface between blenders and network and to store databases; and 3) installing G2 Client software on the computers of plant personnel who are to have access to the network. The software is available in many languages besides English.

Tracking material consumption by weight for each blender, the G2 system makes possible centralized plant-wide or even multi-plant monitoring and control, along with rapid two-way communications between the blenders and any PC loaded with Client software. The benefits, in terms of raw material management, quality assurance, and job documentation, are detailed in a bulletin that I have prepared to support distributors. Here is how I would summarize them: G2 is a cost-effective system enabling customers to maximize their blender investment by making the most effective use of the extensive *Cont. on next page*

Total factory automation. Maguire Fieldbus Interface™ (MFI™) adapter contains software that enables Weigh Scale Blenders to communicate directly with all other equipment in a plant. This enables factory managers to take full advantage of the wealth of data generated by blenders.



SHORT RUNS



OUR 20,000th BLENDER IS SHIPPED. The milestone blender went to Milacron Inc., which supplied the unit to its customer Sarn-

motive in Mexico. In an announcement distributed to the worldwide press, Maguire cited the "revolution in plastics raw material management" following introduction of the Maguire® blender in 1989. "Suddenly any processor could confidently blend in colors and additives that previously had to be pre-compounded," said Steve Maguire, "or add regrind without the risk of erratic melt behavior caused by poor mixing. It was like a **declaration of independence for processors.**" Even for today's most advanced installations, he pointed out, processors still specify Maguire blenders for their simplicity, accuracy, and low cost.

AGENT NETWORK EXPANDS.

Maguire Europe has named four new distributors: **Büchler GesmbH** (Austria and Hungary); **Moretec Plastic Machinery B.V.** (Netherlands); **Plastic Machinery Equipment nv (PME)**, Belgium; and **Tera d.o.o. Tolmin** (Slovenia). From Maguire Asia comes news of the appointment of **Yudo-Suns Co.** (South Korea), **Shonan Trading Corp.** (Japan), and **Itochu Sanki Corp.** (Japan).

SUMMIT: 'SUPPLIER OF THE YEAR.'

Longtime UK distributor Summit Systems has received the 2002 Plastics Industry Award in the ancillary machinery category. "I was very encouraged that our customers rated us so very highly," said Managing director Mike Jordan, who founded the company in 1990. The awards competition was organized by **PLASTICS & RUBBER WEEKLY**, which said Summit "scored particularly highly for **quality of service/support and machine reliability**, two areas on which it prides itself."



Blenders *Cont. from previous page*
data that blenders can generate.

Maguire provides extensive resources for customers to learn about the G2 system, starting with a brand-new brochure called *Gravimetric Gateway Networking Software*. A new G2 section of the Maguire website, accessed at www.maguire.com/g2/index.htm, includes such interactive features as a demonstration run of the software and a trial run (called "G2 Lite") that customers can download free of charge to implement on one of their own Weigh Scale Blenders. By making it easy for customers to become familiar with G2 software and see how simple it is to use, G2 Lite is a great sales tool.

● **TOTAL FACTORY AUTOMATION.** The Maguire Fieldbus Interface™ (MFI™) system centers on a software-loaded adapter or computer network card that, when installed in a Maguire blender, permits the blender to communicate *in the same language* directly with other types of equipment in a plant-wide network with centralized PLC-style

computer control. A system that connects machine controllers is called a bus, and one that permits high-level data exchange among diverse machines is a *fieldbus*. The MFI card translates between the Maguire Local Area Network™ (MLAN™) software language onboard the blender controller and the fieldbus language used in a specific plant or PLC-type system.

The MFI is unique in enabling blenders to interface between simple local controllers (for example, those on the control panel of an extruder or injection molding machine) and plant-wide systems via the fieldbus protocols most

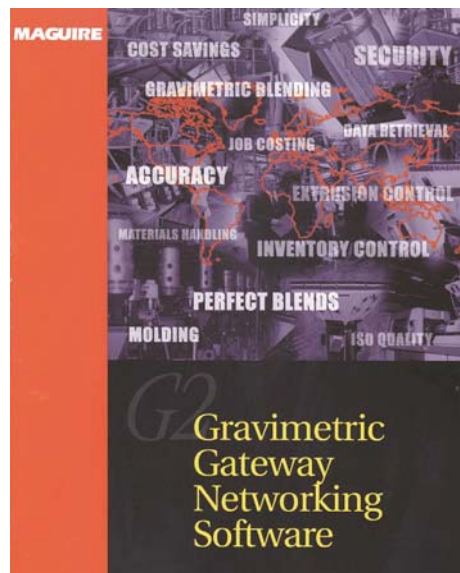
'By making it easy for customers to become familiar with G2 software, G2 Lite is a great sales tool.'

widely used in factory automation: Profibus DP, DeviceNet, Modbus, and the increasingly popular Industrial Ethernet using TCP/IP. For competing blenders, communication is often restricted to the proprietary

software of their manufacturers or limited to a single fieldbus protocol.

I have prepared a three-page bulletin on the MFI system for sales people. A manual on the system is available to customers who e-mail info@maguire-europe.com.

The fact that we provide advanced data-communications software solutions may surprise people who think of Maguire as a builder of equipment, but a high-precision blender like ours is a gold mine of data that processors can use to control inventory, ensure consistency, eliminate waste, and account for every pound or kilogram that moves through the system. We have often said that the Weigh Scale Blender is the gateway to the plastics process. By integrating valuable data from individual blenders, our communications systems are gateways to factory automation.



New G2 software brochure explains benefits of using Gravimetric Gateway® software to build plant-wide or even inter-plant networks of Weigh Scale Blenders.



Just by Cutting Scrap, LPD™ Dryer Paid for Itself in Less than Three Months

Give a sales person the opportunity to explain what makes the Maguire® LPD™ vacuum dryer different from a dehumidifying dryer, and chances are the customer will appreciate its potential



Griffiths

for saving energy, shortening cold startups, and speeding material changes. More difficult to anticipate is how the dryer lowers reject rates.

Yet this improvement can be big.

Case in point: headlamp lenses injection molded by Automotive Lighting UK of Cannock, England. The company compared the LPD dryer with a dehumidifying dryer on actual production lines. “We knew there would be significant power savings, and this was con-

firmed by savings of £370 per month,” says Michael Griffiths, molding engineer. “but more exciting is the vast reduction in reject parts. Clear polycarbonate lenses are notoriously difficult to mold free of contaminants and splash marks, but with the LPD dryer we reduced scrap figures by 30%, resulting in an average increase of 5.4% in saleable product.”

This increased output amounts to £2,400 per month in terms of the manufacturing cost per lens, according to Mike Jordan, managing director of Summit Systems Ltd., Maguire’s distributor in the UK. “Of all the savings in Automotive Lighting’s comparison, scrap reduction was the greatest,” says Jordan. “It alone could pay back the investment cost of the LPD dryer in less than three months.”

In addition to reducing scrap and power consumption, the LPD dryer



LPD™ dryer tested at Automotive Lighting UK showed potential for substantial cost savings over conventional dehumidifying dryer.

saved £1,680 per month as a result of increased processing machine uptime after Monday-morning cold startups. Total monthly savings came to £4,450 (US\$ 6,341)—see table.

LESS HEAT HISTORY. One of the reasons why the LPD dryer cuts scrap rates is the same as why it uses less energy and increases processing machine uptime: Compared with hot dehumidified air, vacuum takes less time to dry resin properly, enabling a dryer with three small indexing canisters to keep pace with the throughput of the processing machine. Resin still must be heated, but batches are smaller than with dehumidifying dryers and heat cycles are shorter. The result: less heat history for the resin.

How much less? To supply Automotive Lighting’s 70 kg/hr. molding line, the LPD dryer took just 30 minutes to dry each 18 kg resin batch—as against four hours for each 240 kg batch in a dehumidifying dryer!

MORE EFFICIENT DRYING. Also important for reducing rejects is drying efficiency. “Splay is commonly caused by residual moisture in the part,” said Mike Jordan of Summit Systems. “In the tests at Automotive Lighting UK, the greater efficiency and uniformity of the LPD vacuum dryer in comparison with a dehumidifying dryer yielded far fewer problems with splay.”



Side-by-Side Test Results: Maguire® LPD™ Resin Dryer Saved Nearly £4,500 (US \$6,400) per Month at Automotive Lighting UK				
Advantages of LPD™ dryer	Operational Requirements ^a		Cost factor, £ (US \$)	Monthly savings, ^b £ (US \$)
	Dehumidifying dryer	Maguire® LPD™ dryer		
More Uptime after Cold Startup: first-batch drying time, hr./week	4.5	0.5	100/hr. ^c (142.50)	1,680 (2,394)
Lower Energy Cost: power consumption, kWh	13.5	1.65	0.065/kWh (0.093)	370 (527)
Lower Reject Rate: avg. number rejects per 100 parts	7.1	5.0	1/part (1,425)	2,400 (3,420)
Total Monthly Cost Savings			4,450 (6,341)	

a. Figures are based on side-by-side testing of dryers on injection molding machines processing polycarbonate automotive headlamp lenses at throughput of 70 kg/hr. (155 lb./hr.).
 b. Assumes three eight-hour shifts per day at 5 days per week for four weeks, for a total of 480 working hours.
 c. Average operating cost per machine hour.

SALES TALK

'BIGGEST CUSTOMER IN CHINA'—

HERE'S WHY. In the fast-growing Chinese market for Maguire® equipment, Tianjin Yihsin Packing Plastic



Co., Ltd. is the biggest customer for dis-

tributor C. Melchers, says Shanghai-based product manager Marshall Guo. "Thanks to the batch-to-batch consistency assured by Maguire blenders, Tianjin Yihsin tells us they obtain **greater uniformity of density and color** for their foam sheet products," Guo reports. "In addition, they've **reduced color and additive consumption by up to 13%.**" Based in Tianjin city, Tianjin Yihsin manufactures foam and solid polystyrene disposable containers and utensils. A customer since 1999, they operate 30 Maguire blenders and Clear-Vu™ loading systems.

'POWERFUL SALES TOOL' A

MOUSE-CLICK AWAY.

"Anywhere on earth, at any time of day or night, our sales representatives can access a wealth of information simply by visiting www.maguire.com," says Maguire vice president Pat Smith. "And if they encourage customers to log on as well, the website becomes a powerful sales tool." The colorful site provides a complete, illustrated product catalog, including a [BLENDER SELECTION GUIDE](#) in English, Chinese, French, German, Hebrew, Italian, Japanese, Polish, Portuguese, and Spanish; technical advice; background on Maguire Products; extensive sales contact information; reports on new developments at Maguire; and many valuable downloads, including manuals, brochures, drawings, and software updates. One download lets customers do trial runs of Gravimetric Gateway™ software in their own plants to see the benefits of networking blenders.

TIPS ON TROUBLESHOOTING

by Joel Schwartz, Technical Services Manager

BLENDER WILL NOT RUN AT ALL If the blender is in **alarm mode** (indicating that it has attempted to start a batch) but no letter or number appears on the left side of the controller display, then the problem is one of "weigh bin out of tare" and the solution is to do a zero calibration. Appearance of a letter or number, on the other hand, means that a hopper is out of material. If the blender is **not in alarm mode**, possible causes of the problem are: 1) sensor is defective or non-functional (even though the LED may work); 2) controller may not read the sensor (the HLD light will be on); 3) controller may be in Program mode (P appears on display); or 4) batch feature may be set and waiting for a signal (press Alarm Silence). A future "Tips on Troubleshooting" will deal with alarms.

COLOR PROBLEMS When colors are too light or too dark or show swirling patterns, blender-based causes typically are of two types: 1. **Inaccuracy.** Accuracy usually turns out to be within acceptable range, but since it is measurable, this is where to start troubleshooting. Have the customer print out and fax to our service department the Parameter list and about three pages of the cycle-by-cycle record. (The blender requires a standard parallel printer, and many new, very inexpensive printers only appear to be parallel; the Oki-Data dot matrix printer is sure to be usable.) 2. **Inadequate mixing.** This is a common cause of color problems when the customer does not use regrind (a blend with regrind usually needs less mixing). Most mix problems can be solved by reducing batch size by 30%, though this slows the blender by the same percentage. Another measure is to increase level sensor sensitivity. Although timed mixing normally yields the best results, blends with liquid or powder colorants may require continuous mixing. If none of these steps solves the color problem, then the cause is likely to be in the processing machine or in the colorant itself.

TROUBLE WITH AIR MOTORS The first pneumatic mix motors supplied on 100 Series blenders had problems that can now be solved by using a kit designated as **Part No. kit-030b**. When running properly, the air motor makes a 270-degree rotation and then returns, and the mix blade moves smoothly, without hesitation or banging and throwing material. The original configuration, a small motor with no spool valve, did not supply enough air. We added a spool valve. A new problem arose because the air was not filtered and plants with poor air quality had trouble. We responded by producing a larger air motor with no spool valve. Both blender and motor now run well at 60 psi.

NOTE TO SALES REPRESENTATIVES: The most important thing reps in the U.S. and Canada can do to solve technical problems is to have customers contact Maguire's Service Department in Aston, PA, as soon as possible. This is also true for English-speaking customers elsewhere, but otherwise reps **outside the U.S. and Canada** usually take the first steps to solve problems. We hope the tips given here are particularly helpful to them.—Joel Schwartz, Technical Services Manager. joel@maguire.com

MAGUIRE ON THE MOVE

Customers can see the latest in Maguire technology at the trade shows listed here. Invite your customers to visit Maguire, Maguire Europe, or Maguire Asia at:



CHINAPLAS

Shanghai
June 25-29



PLASTICS ENCOUNTER
Indianapolis (USA)
Sept. 17-19



INTERPLAS

Birmingham (UK)
Sept. 20-Oct. 4



FAKUMA
Friedrichshafen (Ger.)
Oct. 15-19

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