

Microbulk Provides that Elusive Competitive Edge

By Brad Kuvin

After a number of years of cynicism regarding the effectiveness of Microbulk programs, Scott Chenoweth, President of TWSCO, an industrial gas and welding-supply distributor headquartered in Houston, TX, purchased his first Microbulk truck in 2004. Over the next 18 months he went on to purchase a truck (all Chart Orca units) for each of the primary products — oxygen, nitrogen and argon — as well as a newer and smaller Chart PT-1000 pump-less 1000-gallon truck.

Says Chenoweth: “Our commitment to Microbulk is the best decision we’ve made for our business in the last 20 years. It has changed our focus and given us a competitive edge. It’s opened new markets, helped us grow our business over the last few years, and it’s where we expect our growth to continue. Our outside sales force, able to bring something new to the market, has been invigorated. And, it’s forced us to be more contractually oriented with our customers: 98 percent of our Microbulk business falls under 3- to 5-yr. contracts, and we’ve been able to bring other products under those same agreements.”

Bill Kelly, Chart Vice President of Sales, concurs. “Many distributors offering Microbulk services use their Microbulk business as a means of getting their feet in the doors of the prospects to discuss the benefits their current supply mode does not provide,” he says. “Once they obtain the business, they turn their focus on the other opportunities, such as hard goods, spec gas and other industrial cylinders.”

“I’ve asked Microbulk users how long it takes them to become the

sole supplier of all products into those Microbulk accounts,” continues Kelly, “and have been told that within 90 days to 6 months they typically have all the business once a Microbulk concept has been embraced by the end user.”

TWSCO’s experience epitomizes a trend that started as a trickle 3-4 years ago, says Scott Boyd, Taylor-Wharton Vice President of Sales and Marketing, and one that has become almost routine. That is, says Boyd, a move by some major gas suppliers to shy away from small bulk deliveries and allow distributors, newly equipped with Microbulk equipment in an array of sizes, to add these types of deliveries to their routes. Major gas producers now often find it too expensive to supply tanks with less than a 1500-gallon capacity.

“A huge help to distributors taking on larger Microbulk programs,” says Boyd, “is the dual-hose system, where you equip the truck with a small-diameter hose that allows efficient filling of the traditional smaller Microbulk tanks, and a larger diameter hose for larger Microbulk tanks as well as small bulk tanks.”

Jim Payne, Operations Manager for Acme Cryogenics, elaborates. “Distributors who have small bulk programs are now experiencing the need to fill up to 3000-gallon stationary vessels with their delivery vehicles. A vehicle capable of delivering 30 gallons per minute with a 1-inch hose takes far too long to fill these larger vessels. Here’s where a second larger hose, capable of moving 80 to 120 gallons per minute, helps by allowing a much faster fill.”

It’s critical that distributors have the tools they need to keep up with their customers as they grow from cylinder to Microbulk to small



Microbulk was developed nearly 20 years ago to help major gas suppliers make deliveries into tight areas, make smaller drops in densely populated places, and eliminate cylinder handling. Pictured here are Taylor-Wharton’s newest Express III cryogenic microbulk delivery system truck and Acme’s CryoMaxx Liquid Microbulk delivery vehicle.

bulk. Says Tim Neeser, Chart's Director of New Product Development and Marketing: "As customer needs grow from Microbulk to bulk, distributors are looking for larger containers to maintain their customers' business. In addition, there are accounts that use enough gas to warrant a small bulk tank, but the installation won't allow it. These trends have fueled the sale of our larger 1500- and 2000-liter Perma-Cyls."

SUPPLIERS BIG AND SMALL SEE THE BENEFITS

Developed nearly 20 years ago to help major gas suppliers make deliveries into tight areas, make smaller drops in densely populated places, and eliminate cylinder handling, Microbulk initially caught on in the food and beverage industry for delivering CO₂. Users quickly turned their sites on nitrogen, argon, and oxygen applications for Microbulk — healthcare, food packaging and laboratories for example. And while it's true that distributors are making a lot of hay with Microbulk programs, the major gas suppliers remain active customers.

"Major suppliers such as Airgas and Praxair continue to build their fleets of Microbulk vehicles and expand their customer bases," says Frank Hartzell, Acme Cryogenics' Vice President and COO. "And, Air Products recently entered the Microbulk market in a substantial way with the purchase of several of our liquid-delivery vehicles."

When Air Products announced its Microbulk Service in February 2005, and showcased it at PITTCON at the end of that month in Orlando, it targeted 20 markets in the United States and Canada over a two-year period. Its most immediate impact was on the metals industry — argon and nitrogen for furnace heat treating, nitrogen and oxygen for laser-assist gases, and argon and argon blends for weld shielding.

With a current installed base of 11,000 laser-cutting systems and a projected 900 such systems installed each year, according to Chart market research, the metals market appears rich for Microbulk opportunities. One-third of these installations fits the market profile for Microbulk, Neeser says. However, these high-pressure applications require the distributor to have a solution that allows the fabricator/laser user to refill its Microbulk tanks without taking its laser-cutting operations offline. Two tanks do the trick; so does a delivery-assist option. An option that became available from Chart late in 2004 allows the distributor to hook up the customer's supply line directly to the assist cylinder mounted on the Orca delivery unit



A dual-hose configuration is standard on Taylor Wharton's Express Delivery Systems and allows the gas distributor to fill both traditional smaller Microbulk tanks and larger Microbulk tanks as well as small standard bulk tanks from the same Express truck.



A delivery-assist option that became available from Chart late in 2004 allows the distributor to hook up the customer's laser-cutting-system supply line directly to an assist cylinder mounted on the Orca delivery unit while the driver depressurizes and refills the customer's Perma-Cyl.

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Along with impressive growth in laser cutting, high-pressure welding with argon and argon blends has been a consistent target. Neeser identifies the target fabricator/weld shop as one that has from two to 29 workstations and consumes 3375 to 45,000 cubic feet per month of shielding gas.

THE NEXT BIG GROWTH AREA

While nitrogen and argon have dominated Microbulk applications (48 percent and 33 percent of the current market, respectively, according to Neeser, in terms of trucks sold), it's oxygen, with 17 percent of the Microbulk market, that offers the next growth area of service, says Neeser.

"Even though laboratory and biological-freezer applications for nitrogen and argon continue to come along at a steady pace, Neeser says, "future expansions for applications are in the medical market where oxygen is used at the facility in both gas and liquid form. These facilities are nursing homes, surgical-care centers and small hospitals. Many of them use gas piped throughout the facility and portable liquid-oxygen systems for ambulatory care.

"While oxygen typically does not have the margins that some of the other gases offer," Neeser continues, "we see the volumes picking up for oxygen that will offer distributors plenty of opportunities. Expanding markets such as healthcare lead the way."

TECHNOLOGY TUNE-UPS KEEP UP WITH DEMAND

How to grow capacity in terms of tank size without sacrificing the traditional smaller footprint that allows distributors to make deliveries in tight areas — that's one of the challenges being tackled by suppliers. "In certain market areas, Microbulk owners need to transport more product," says Acme Cryogenics' Payne, "however the space required for utilizing a tank mounted on a semi-trailer is not practical. For these situations, we've developed a self-contained trailer system (the Cryomaxx CM-4600). It has a gross water volume capacity of 4600 gal, yet only a 25-foot overall length, combining good maneuverability, plenty of capacity and reduced operating expenses."

Optimizing and balancing delivery capacity with truck size, and then being able to design the new trucks within DoT weight restrictions, has challenged suppliers. For its newer Express III Microbulk trucks, Taylor-Wharton turns to truck builder Cryogenic Vessel Alter-



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natives. "To allow the installation of larger and higher capacity tanks," says Keith Hall, CVA Customer Support Manager, "the truck has to be lighter, yet stiff enough for the job. The market can now order a nitrogen tank as large as 3700 gallons, compared to 3300 gallons not too long ago. And, add a third axle and we can build a system that allows use of a 4200-gallon tank"

And, last but not least, Chart has plans to begin production in 2007 of a new larger pump-less system based on the pulse technology introduced in 2005 with the PT-1000 truck. The new system under final development, the XT2500, utilizes a small 300-liter pod connected directly to the primary storage vessel. Once the driver stops, that pod self-pressurizes and can dispense directly or it can drive a pressure-building circuit to support dispensing at high flow

rates from the primary storage vessel. It will be available with a 2546-gallon gross-capacity main tank (upsized from the 1067-gallon tank on the PT-1000) and with a dispense rate that tops out at 60 gallons per minute.

"As technology improves, equipment options evolve, and more delivery systems are sold, the availability of Microbulk will spread," summarizes Neeser. "It will soon become the gas-supply system of choice for accounts that were traditionally served by high-pressure cylinders, transportable liquid cylinders or small bulk tanks. The engineered Microbulk systems, with integrated delivery equipment, optimized liquid cylinders and telemetry will certainly contribute to this success." □

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