

# MicroBulk Delivery System

**THE MIDDLESEX SOLUTION  
FOR PROCESS GAS APPLICATIONS**



TECHNOLOGY. SAFETY. RESULTS.



# THE MIDDLESEX ADVANTAGE

EVALUATION &  
COST ANALYSIS

DESIGN &  
ENGINEERING

INSTALLATION

DELIVERIES  
& SERVICE

PREVENTATIVE  
MAINTENANCE

Middlesex Gases & Technologies is the premier innovator of MicroBulk and process gas solutions in the New England region. With Middlesex you get unprecedented customer service, reliability and a level of expertise that is unsurpassed in this industry.

Your business is our business, and we know the value of your applications. We go above and beyond to make sure that you get the most out of your gases now and in the future. That means 24/7 emergency delivery, on-site training, and continuous maintenance. We are also equipped to design and install intricate MicroBulk systems, so that your business can enjoy the benefits of MicroBulk no matter what.

**“Middlesex Gases & Technologies has clearly been the leader in providing creative solutions to our specialty gas requirements over the last four years. There has been a considerable cost savings realized from this MicroBulk system, as well as important safety improvements.”**

Thomas Stack  
Associate Director of Lab Services  
Genzyme Corp.



## MICROBULK DELIVERY THE MIDDLESEX WAY

Middlesex Gases & Technologies has emerged as the industry leader in bringing new technology, quality and safety to our customers.

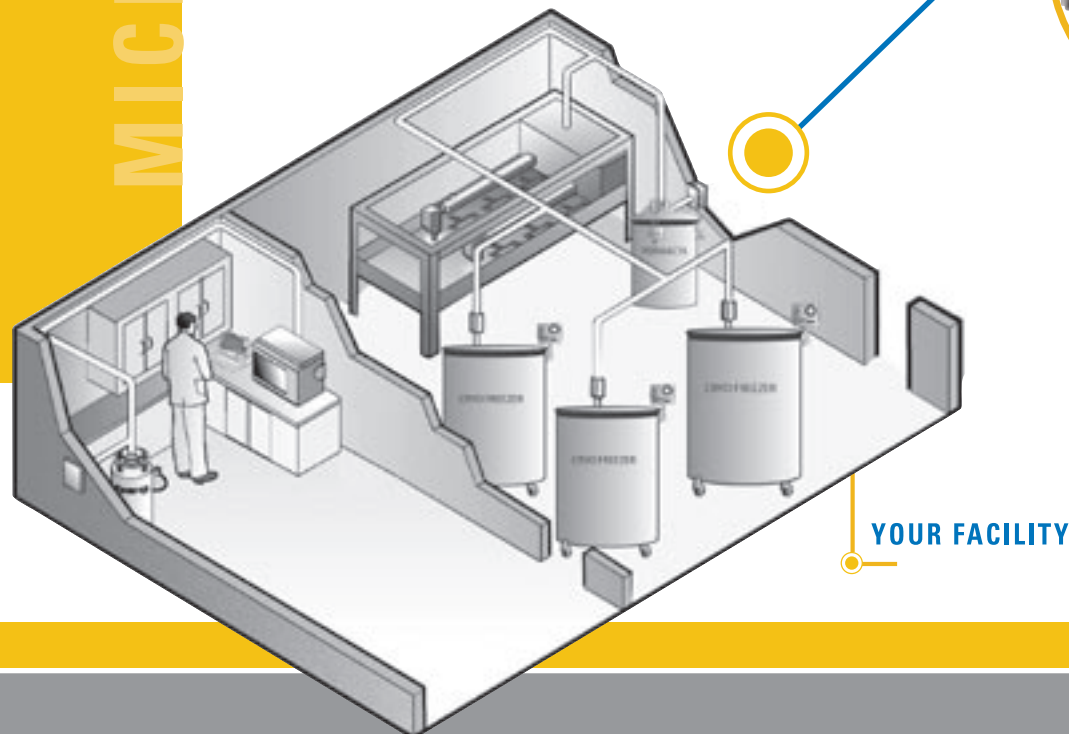
We will manage your MicroBulk gas operation from initial evaluation and design to delivery and maintenance so that your business never skips a beat.

The Middlesex MicroBulk Delivery System features:

- 20% Product and Labor Savings
- 24/7 Emergency Delivery Service
- Two MicroBulk Tanker Trucks for delivery assurance
- Cyl-Tel Telemetry System for automatic refills, delivery & monitoring
- Improved safety and efficiency
- Increased productivity and lab output
- Eliminates storage, handling & monitoring of dewars

Middlesex Gases is a one-stop MicroBulk shopping experience that includes:

- Turnkey installation including design and engineering
- Cost analysis
- Customer safety evaluation
- Intricate system installations
- Reliable gas delivery
- Preventative maintenance programs and constant monitoring



## PERMACYL GAS STORAGE

PermaCyl gas storage vessels are the perfect compromise between inefficient dewars and unsightly, outdoor bulk tanks. These state-of-the-art vessels incur low to no product loss and are much safer than liquid dewars.

The benefits of PermaCyl are:

- Very low NER/product loss
- Fast, automatic refills with automatic fill termination
- Extended hold time
- Unique auto shut-off feature for remote filling
- Stainless Steel construction
- Cyl-Tel gauge standard on 1000, 1500 and 2000 liter models
- Installation versatility

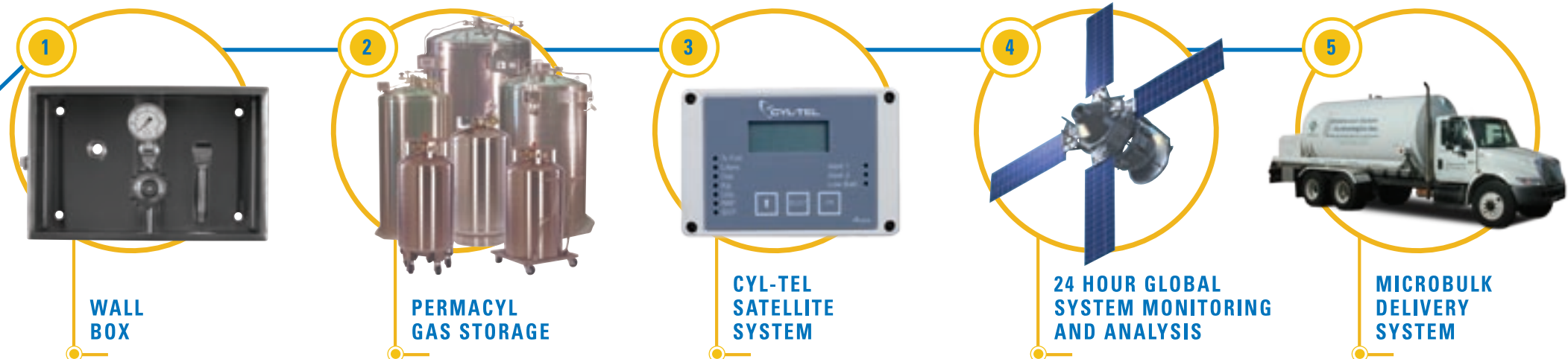
PermaCyl vessels eliminate the worry of product depletion, and improve the safety and efficiency of your lab. Get the most out of your gases and start saving money now by installing PermaCyl vessels in your operation.

## CYL-TEL SATELLITE SYSTEM

Cyl-Tel is a reliable and affordable telemetry solution that allows both Middlesex representatives and your lab technicians to remotely monitor your gas inventory levels. The Cyl-Tel telemetry system sends a signal to Middlesex when your gas supply needs to be replenished. Cyl-Tel also prevents over-ordering and eliminates unnecessary deliveries, saving you time and money.

The Cyl-Tel Satellite Monitoring System provides:

- Reliable wireless satellite technology
- Two-way communication
- Real-time data on-demand
- Actual tank level readings
- Flexible software
- Safety and security



# PERMA-CYL SPECIFICATIONS

<b>P/N</b>	10879864	10923909	11075024	11501804	11195763	12985468
<b>DESCRIPTION</b>	1000 LITER MP PLATE BASE	1000 LITER MP PLATE BASE	1000 LITER MP PLATE BASE	1500 LITER MP PALLET BASE	1500 LITER MP PALLET BASE	2000 LITER MP PALLET BASE
<b>CAPACITY (LITERS)</b>						
GROSS	1056	1056	1056	1550	1550	2000
NET	950	950	950	1455	1455	1945
<b>MAWP</b>						
PSIG	350	350	500	350	500	500
BAR	24.1	24.1	34.5	24.1	34.5	34.5
<b>DESIGN SPEC</b>	ASME	ASME	ASME	ASME	ASME	ASME
<b>STORAGE CAPACITY</b>						
NITROGEN						
SCF	23,370	23,370	23,370	35,550	35,550	47,847
NM <sup>3</sup>	615	615	615	935	935	1,257
<b>THERMAL PERFORMANCE</b> (NER%/DAY)						
N	1%	1%	1%	1%	1%	1%
O <sub>2</sub> - AR	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%
<b>GAS DELIVERY RATE</b>						
SCF/H	960	960	960	1350	1350	2000
NM <sup>3</sup> H	25.5	25.2	25.2	35.4	35.4	52.4
<b>DIMENSIONS</b>						
DIAMETER						
IN	42	42	42	48	48	48
MM	1067	1067	1067	1219	1219	1219
<b>TARE WEIGHT</b>						
LBS	1750	1750	2080	2692	3200	3860
KG794	794	945	1221	1451	1451	1751
<b>HEIGHT</b>						
IN	81	81	81	91	91	117
MM	2058	2058	2058	2311	2311	2970



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