

When molecules matter

Applied Cryo Technologies reacted to increased medical demand with a new product: the LOX Featherweight Cryogenic Transport Trailer

By Adam Van de Mortel, Sales Engineering Manager at Applied Cryogenic Technologies

Headquartered in Houston, Texas, Applied Cryo Technologies (ACT) is a melting pot of talented folks from all over the country with a grassroots theme and success on the horizon. There is a strong sense of patriotism, veteran support, and the spirit of putting a man on the moon present in day-to-day operations, which brings forth unusual intensity and the pride reflected in equipment being manufactured.

Touring the facility, you'd be surprised to find such a diverse and talented crew hustling to raise the bar at every level, in a constant flow with precision and purpose. Worth noting however, is the selfless devotion

these tireless craftsmen give to their purpose, rain or shine, that has helped the community through a pandemic with all hands on deck.

Within the medical industry, increased oxygen use for patients has added pressure to the supply

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chain, while quarantine efforts have caused fluctuating staff levels at the same time, affecting both equipment manufacturing and distribution capability. Liquid oxygen demand for the medical industry prompted ACT that it was time for a change. When molecules matter, ACT stands to deliver with improved logistics technology.

Being a premier manufacturer of highly engineered mobile equipment for cryogenic fluid and gas distribution, ACT understands pressure (and obviously heat, if you've ever spent a summer in Houston). Wielding a business continuity plan and some swift maneuvering, ACT



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remains functioning at a high-level during times of crisis. While the number one priority is attending to the personal safety and well-being of ACT employees and their families, ongoing business practices and procedures have remained securely in place. The past year has been a rollercoaster for many industries, but with the Covid-19 pandemic straining the medical system worldwide, the need for critical infrastructure supporting oxygen supply has never been greater.

ACT's core business is mobile cryogenic equipment, and with over 1,000 trailers manufactured since 2012, this business model led to a vast array of trailer designs that cover almost every geographical region in North America. It also led to ACT being the preferred equipment supplier to the industrial gas industry. The innovative trailer design approach has changed the landscape regarding cryogenic distribution equipment in North America. While ACT has developed and unveiled a wide portfolio of new products and solutions to meet ever-changing needs for cryogenic fluid distribution, bunkering and fueling, power generation, and virtual pipeline applications, their unique selling proposition is to design and manufacture the lightest (lowest tare weight), most robust and reliable transport trailers on the market, allowing their customers to haul more product.

Optimized trailers provide more dollars in a customer's pocket for each load delivered, which is significant when factored over the long life of the transport.

As a complete solution provider, ACT's leaders believe that it cannot truly serve the industrial gas market without offering a full gamut of products and services that help support, expand, and add value to customers and the services that they



can offer. Every trailer model that ACT has developed fits one of two criteria - it's an improvement to what the industry has offered up to that point or it's a design that didn't exist. This business model requires innovation to be a constant continual objective.

Examples of recent new designs.:

- LNG B-train. 18,000-gallon combined payload. Optimized for all Canadian provinces – record payload.
- 6-Axle Aluminum liquid nitrogen trailer optimized for Michigan. 127,000 MG/VW, 80,000 LB payload. – record payload

Tim Lowrey, Vice-President at ACT, said, "Anyone can point out a problem, but we need to be intentional, creative and courageous in our search for solutions that solve challenges related to Covid-19, or any other challenge that comes our way in the future. We are truly blessed to be supporting our customers in their support of the medical industry during this challenging time."

Witnessing the strain on medical oxygen supply and being the experts, ACT felt called to action to push the boundary of what was possible, with

a little determination, and a little less steel. The ACT LOX Featherweight trailer is another record-breaking design in payload capability, providing more molecules per delivery than ever before.

Bob Ernull, President and CEO at ACT, said, "We are pleased to announce this new product line. ACT's LOX Featherweight cryogenic transport trailers offer best-in-class value resulting in improved ROI's for our industrial gas customers. ACT backs this new product line with an unmatched warranty. These products were engineered for the highest level of trouble-free performance and unsurpassed product longevity."

When molecules matter, the nation calls its people to action, to deliver technology that can support growing demand with limited resources. This increase in medical oxygen demand and the need for improvement of its logistics have driven the opportunity for a next generation transport trailer for cryogenic liquid oxygen (LOX) service.

Applied Cryo Technologies has risen to the challenge and introduced the LOX Featherweight Cryogenic Transport Trailer to deliver another ▶



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▶ product with record payload capability for transporting LOX in North America. This is ACT's Gen-III LOX design, a vacuum-insulated, cryogenic semi-trailer designed and optimized specifically for LOX transportation over US highways (80,000 MGWV) and is the lightest ever built. The appropriately named "LOX Featherweight" is ACT's latest new product launch and will be available for deliveries starting in early third quarter of 2021.



"The LOX Featherweight... will be unrivaled as the lightest liquid oxygen transport in the history of cryogenic manufacturing"

ACT has recognized opportunities like these and continued to provide better and more versatile products across the board for transportation as well as mobile storage and relocatable solutions. When the nation calls, we are there to answer.

Bringing new technology to the space is what we do. ACT is the industry leader in mobile cryogenic trailer design because we listen to our customers and deliver on their needs and expectations. Our custom design approach centered on maximizing payload has paved the way for next-

generation standards in cryogenic transport technology. This design approach is at the heart of ACT's business model.

The LOX Featherweight will haul liquid oxygen payloads up to 49,500 lbs (597,960 SCF), and will be unrivaled as the lightest liquid oxygen transport in the history of cryogenic manufacturing. Product versatility, innovative engineering, and superior quality is what drives ACT's success.

ACT is a complete turn-key systems provider of technology, equipment and services for the transportation, storage, and distribution of liquefied hydrogen, natural gas, oxygen, argon, nitrogen, and other cryogenic gases. [gW](#)

ABOUT THE AUTHOR

Adam Van de Mortel is the Sales Engineering Manager at Applied Cryogenic Technologies in Houston. ACT designs and manufactures cryogenic transport trailers and other cryogenic transportation, storage, and vaporization equipment.