

# SmartFuel® hydrogen solutions for material handling



## Choosing a hydrogen supplier

Selecting your hydrogen supplier is an important part of having fuel cell lifts and shouldn't be an afterthought. You can't afford downtime. You need safe, reliable, uninterrupted supply, whether your hydrogen is delivered or generated on-site. But, it's not just the gas. You need a supplier who puts safety first and offers the latest fueling station technology, designed for simple, cost-effective installation and operation. A supplier with innovative hydrogen dispensers and the ability to train your operators on how to fill your forklifts quickly, safely and efficiently. You want a supplier with experience, who is committed to the future of hydrogen and is in it for the long haul. A supplier who will continue to innovate to bring you the newest technologies and grow with you. When it's time to select a supplier, here are some things to consider.

### Does the supplier make the product I am receiving?

There are many suppliers who have limited production capabilities and rely on the purchase of hydrogen from other producers or buy it on the open market. This may be fine unless their supplier runs out of hydrogen or can't get it to you because they aren't making it themselves. Air Products is the world's largest producer of hydrogen, and, with our production and transfill facilities located in every region of the country, you can be assured we've got you covered.

### Does the supplier have the technical know-how and experience to help insure successful start-up and operations?

When it comes to high pressure supply for material handling applications, some suppliers may simply buy equipment off the market and either install it themselves or contract someone to install it. At Air Products, we build the entire system from our own and others' equipment, install it and maintain it from tank to compression to high pressure storage and dispensing. With more than 50 years of hydrogen experience, we are able to help educate you about the flexible options for hydrogen supply and fueling and how they may benefit your operation.

## Your Hydrogen Supplier Checklist

Does the supplier...

- ☐ Make their own hydrogen?
- ☐ Have reliable back-up supply?
- ☐ Supply you with their back-up plan?
- ☐ Have a solid plan/communication system in the event of bad weather?
- ☐ Know how to pick the best equipment for you?
- ☐ Install the equipment on time?
- ☐ Stay within your budget?
- ☐ Train your staff for safety?
- ☐ Aid you in permitting?

## What if I have special circumstances at my site? How can a supplier help?

Each customer's requirements are different. Although two customers may both need hydrogen, those requirements may vary in volume, pressure, or dispensing location.

At Air Products, we have built and maintained dozens of fueling stations around the world, and each has been designed to meet our customers' needs. But, it doesn't stop there. We have developed proprietary technologies to enhance our ability to serve our customers. For instance, our CHC-7000 dual-phase hydrogen compressor was developed specifically for the material handling market. The CHC-7000 has high compression capacity (25-250kgs per hour) which enables you to fuel essentially all of your forklifts back-to-back. In addition, these high capacity pumps enable the expansion of your operations without the need for additional compression capital investment.

## I need a reliable supply of hydrogen. What can a supplier do to help insure that?

If you don't have a reliable supply of hydrogen, you can't operate. We install redundant systems of critical components in all of our fueling stations. Dual compression and dispensing at each customer location is recommended to insure that, in the event of an equipment failure, fueling capabilities are not affected. We maintain a broad inventory of spare parts nationally, regionally and at your site so a repair can be made quickly. A sophisticated telemetry system is used to monitor your site remotely by our national Equipment Support Team. This enables us to proactively dispatch technicians to your site in order to make repairs before problems impact your fueling capabilities. Also, we provide an innovative back-up supply chain that can be utilized should there be disruptions to your normal method of supply. Our fleet of mobile fuelers, tube trailers, and dual-phase hydrogen trailers can deliver both liquid and high pressure gaseous hydrogen.

## When you need hydrogen, you need the professionals.

When you're ready to choose your supplier, look to Air Products. With more than 50 years of hydrogen experience, we're at the forefront of hydrogen energy technology development. Air Products has been involved in over 160 hydrogen fueling stations worldwide. The company has an extensive patent portfolio in hydrogen dispensing technology. To date, we have 64 dispensers in the field fueling more than 2500 material handling lifts in 21 different facilities with more projects in development.



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