

# ATEQ

Measurement Solutions,  
Global Leader.

ateq.com



## LEAK TESTING FOR HYDROGEN VEHICLES

ATEQ offers many leak, flow and battery testing instruments for quality testing components on hydrogen vehicles. Whether you produce hydrogen vehicles, buses, bikes, or planes, we can test your components at every step of production to make sure your customers are getting safe, reliable products.

*"To be a passionate global leader of innovative measurement solutions by providing premium testing equipment and unsurpassed services to our valued customers and partners."*



ateq.com



ATEQ strives  
for a clean future

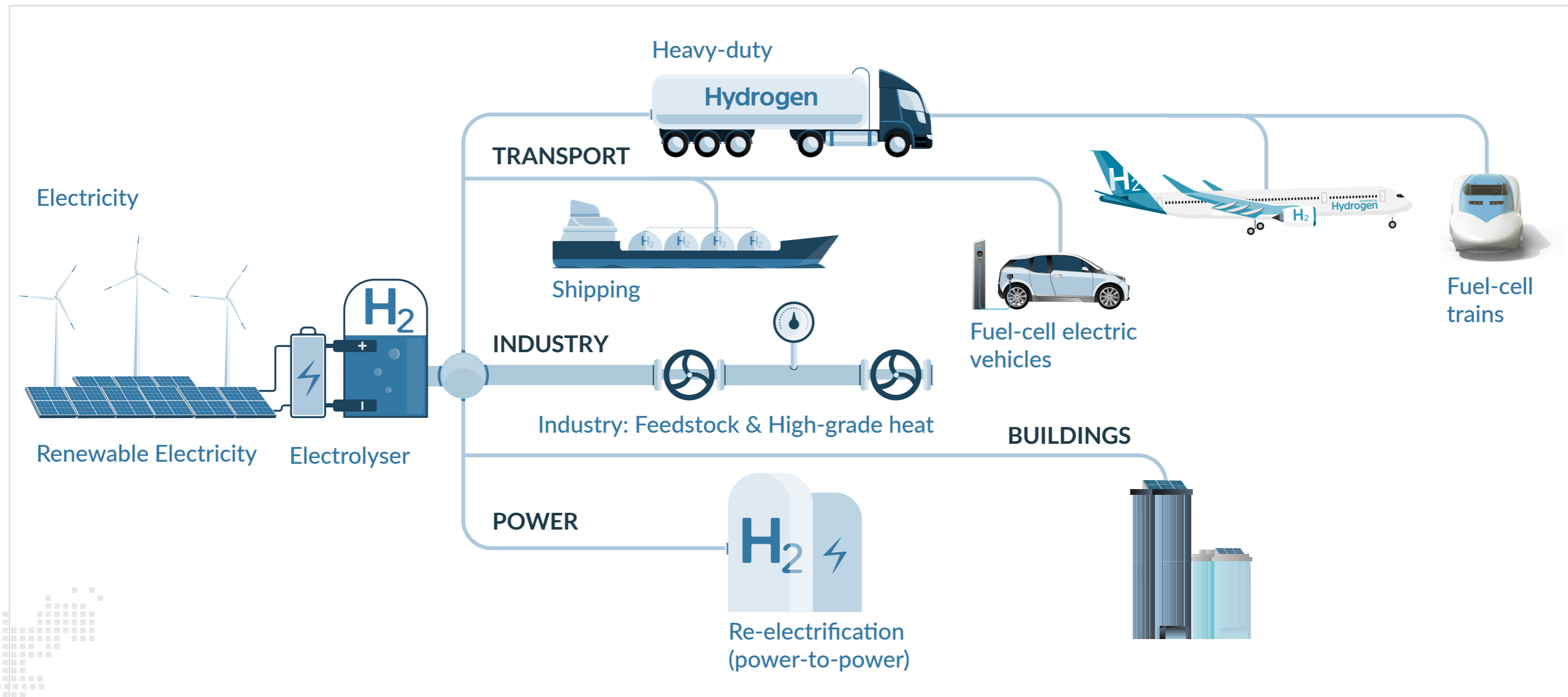
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## HYDROGEN PATHWAY

ATEQ provides companies leak testing solutions to address hydrogen application production challenges.

### HYDROGEN PRODUCTION AND USES





Leak/ Flow Detection

We test, You produce.



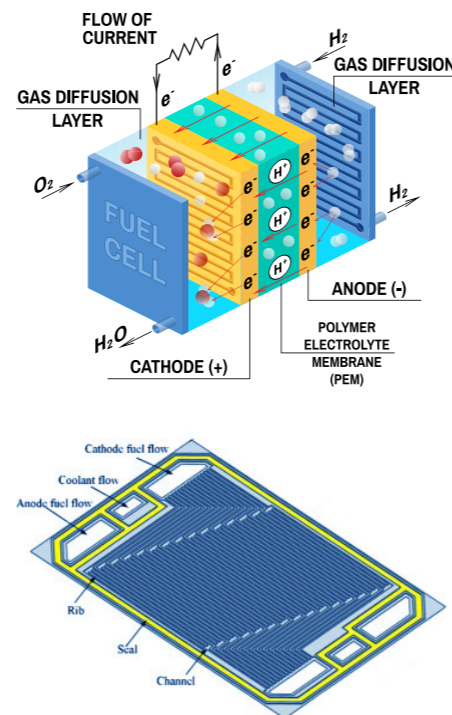
## FUEL CELL BIPOLAR PLATES

ATEQ can provide leak and flow testing solutions for your fuel cell components.

### BIPOLAR PLATES

A Bipolar plate is a multi-functional component within the PEM fuel cell stack. It connects and separates the individual fuel cell in series to form a fuel cell stack with required voltage, aids uniform distribution of  $H_2$  and oxygen over the whole active surface area of the membrane-electrode assemblies (MEA), conducts electrical current from the anode of one cell to the cathode of the next, facilitates water management within the cell, supports thin membrane and electrodes and clamping forces for the stack assembly, among other things.

ATEQ is the leader for leak testing the 3 main circuits :  $O_2$ ,  $H_2$ , and the cooling circuit.



### OUR RECOMMENDED PRODUCTS

#### F620

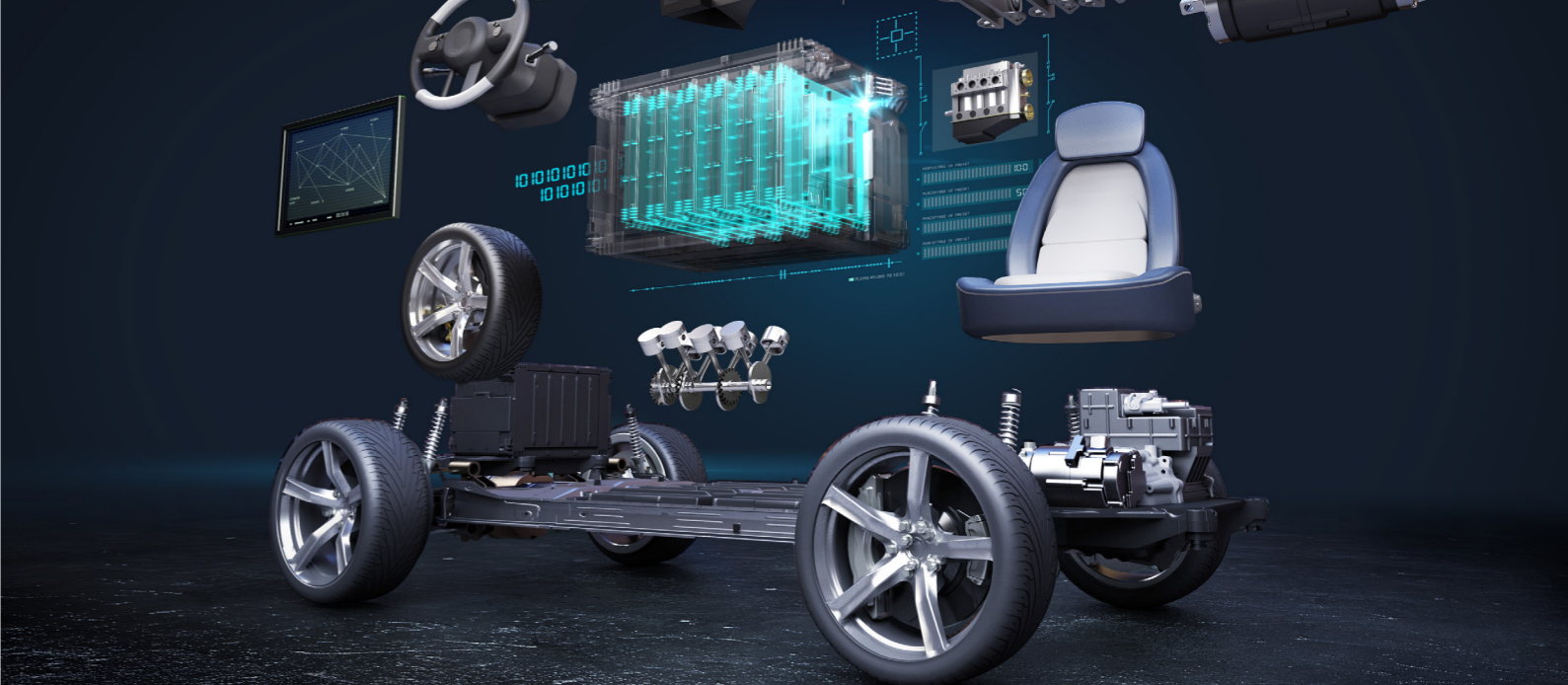


By far the most popular technology, differential pressure decay uses a reference volume to test your part. This helps compensate for any ambient pressure or temperature variations as they occur on both parts simultaneously. Only a leak on the test part will result in a movement of our transducer's membrane.

#### H5800



The H5800, a newcomer in the ATEQ range of leak detectors, is one of the finest tracer gas and hydrogen leak detectors on the market today. Works well for parts that are hot, flexible or have testing specifications that are too small to test with air.



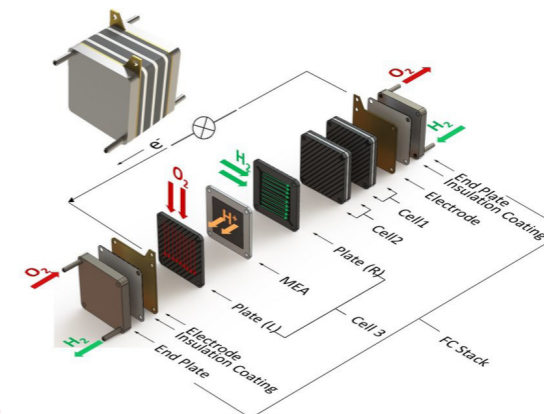
## FUEL CELL STACK

ATEQ can provide leak and flow testing solutions for fuel cell stacks in e-vehicles.



### STACK

A single fuel cell consists of a membrane electrode assembly (MEA) and two flow-field plates delivering about 0.5 and 1V voltage (too low for most applications). Just like batteries, individual cells are stacked to achieve a higher voltage and power. This assembly of cells is called a fuel cell stack, or just a stack. ATEQ is the leader for leak testing the 3 mains circuits :  $O_2$ ,  $H_2$ , and the cooling circuit.



### OUR RECOMMENDED PRODUCTS

#### F620



By far the most popular technology, differential pressure decay uses a reference volume to test your part. This helps compensate for any ambient pressure or temperature variations as they occur on both parts simultaneously. Only a leak on the test part will result in a movement of our transducer's membrane.

The second advantage of this method is that the accuracy does not drop with the test pressure as the transducer is measuring pressure differences between the two circuits, as opposed to the traditional pressure decay technology that measures pressure drops against the atmosphere.





Leak/Flow Detection  
We test, You produce.



## HYDROGEN TANK

ATEQ can provide leak and flow testing solutions for your hydrogen fuel tank components.

- ✓ Tank
- ✓ Valves
- ✓ Tubing

### — H<sub>2</sub> TANK

A hydrogen tank (also called a cartridge or canister) is used for hydrogen storage.



### OUR RECOMMENDED PRODUCTS

#### H520



The H520, a newcomer in the ATEQ range of leak detectors, is one of the finest gas tracer and hydrogen leak detectors on the market today. The most cost effective solution when you desire to identify leaks in gr/year or ppm, equipped with all features for easy integration.

#### H6000



ATEQ H6000 Hydrogen Portable Leak Tester - Hydrogen Leak Detector H6000 Hydrogen Portable Leak Tester - The Hydrogen Portable Leak Tester is one of the finest gas tracer and hydrogen leak detectors on the market today. This gas is less expensive than Helium gas. Furthermore, it's a volatile, non-toxic and non-poisonous gas without any environmental impact. The H6000 is equipped with all features for easy integration in industrial processes and laboratories.



Leak/Flow Detection  
We test, You produce.

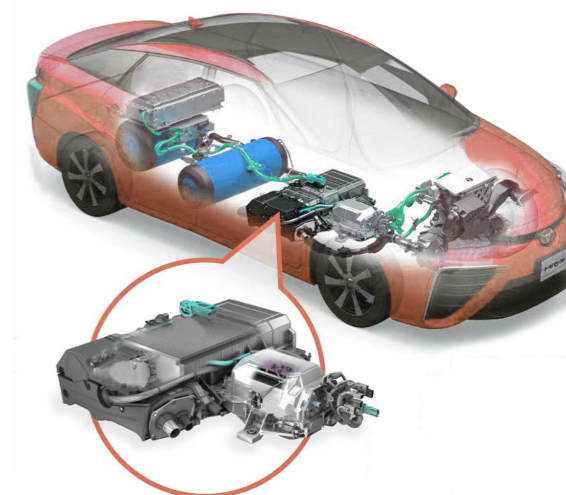


## TESTING DURING FINAL ASSEMBLY OF VEHICLE

Besides leak testing the components with our standard line of leak testers, ATEQ also offers testers for final vehicle assembly and the aftermarket.

### — FINAL ASSEMBLY CAR

Even if all the individual piece are leak tested during the production of the car, it's also important to the test the final assembly car.



### OUR RECOMMENDED PRODUCTS

#### H520

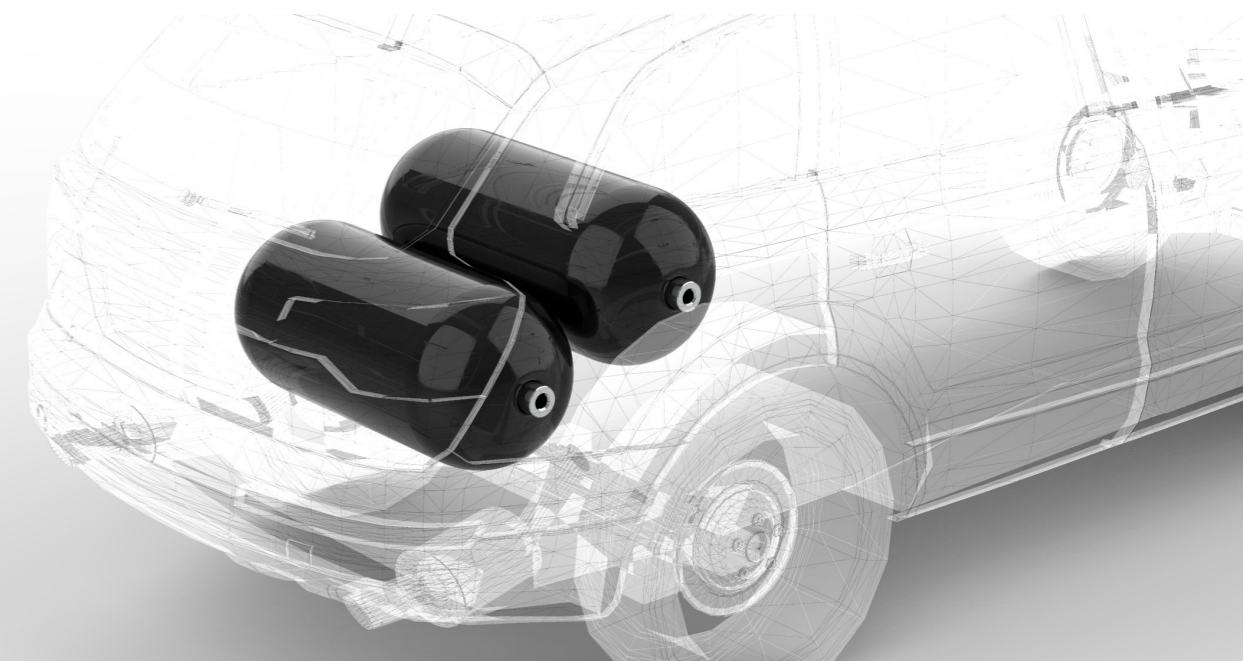
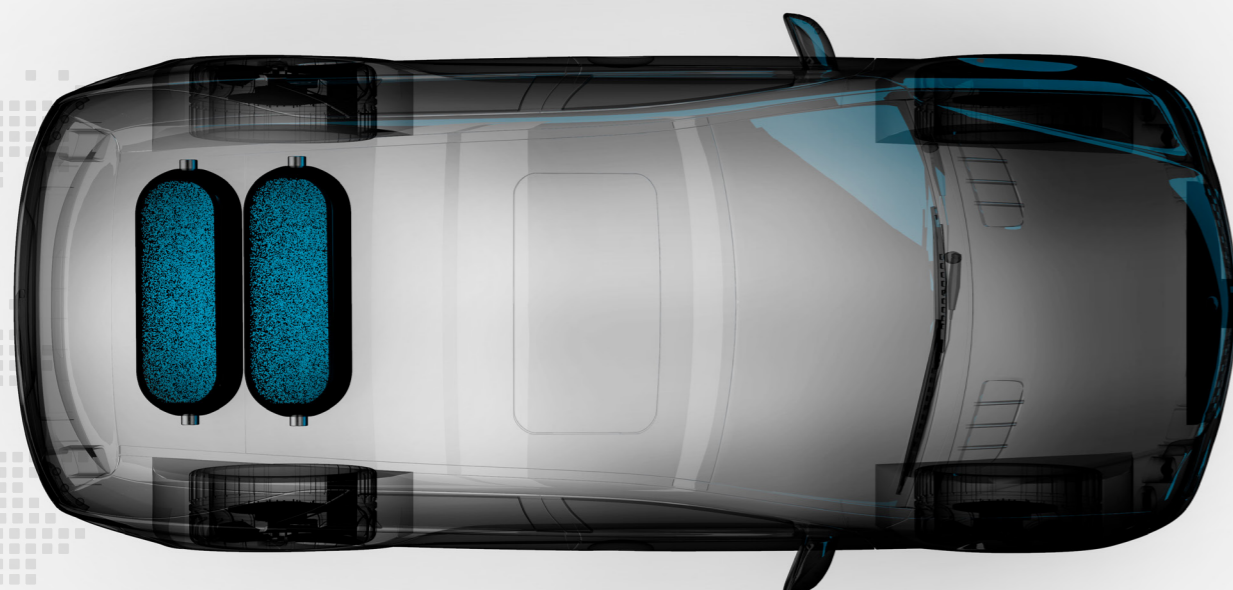


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#### F620



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## EDUCATIONAL LEAK TESTING RESOURCES

ATEQ's Leak Testing Academy is committed to providing educational industrial leak testing information through training courses, white papers, articles, videos and application studies.

### — CALCULATOR

Our Leak Calculator simulates gas and liquid flow across an orifice given its approximate geometry, integrating laminar, turbulent and sonic regime contributions as well as membrane tension blocking. Please contact ATEQ's worldwide support team for a consultation to plan a custom leak testing solution.

### — GLOSSARY

- How does volume relate to a pressure in the leak testing industry?
- What values are typically considered low and high in the leak testing industry?
- How does a differential pressure sensor bend to show if the test or reference part is leaking?
- A question? ATEQ has the answer!

### — WHITE PAPERS

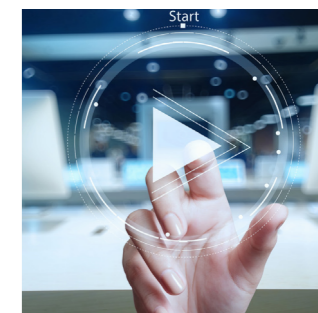
These articles, written by our technical expert, are designed to assist people in their leak & flow testing procedure. For mechanical engineers, quality engineers, management and those whose goal is to detect leaks, avoid unnecessary production cost and anticipate process adjustments for maximum yield...



## EDUCATIONAL LEAK TESTING RESOURCES

### — VIDEOS

Need Help?  
Check out our video tutorials.  
Our Leak & Flow testing videos are a series of videos explaining how different industrial leak testing methods works and when they should be used.



### — BROCHURES

Here are some resources that can help you determine the best leak detection equipment for your specific application requirements. Choose from the following product files to download information about our leak testing products. These brochures include specifications and other information about ATEQ leak and flow instruments.

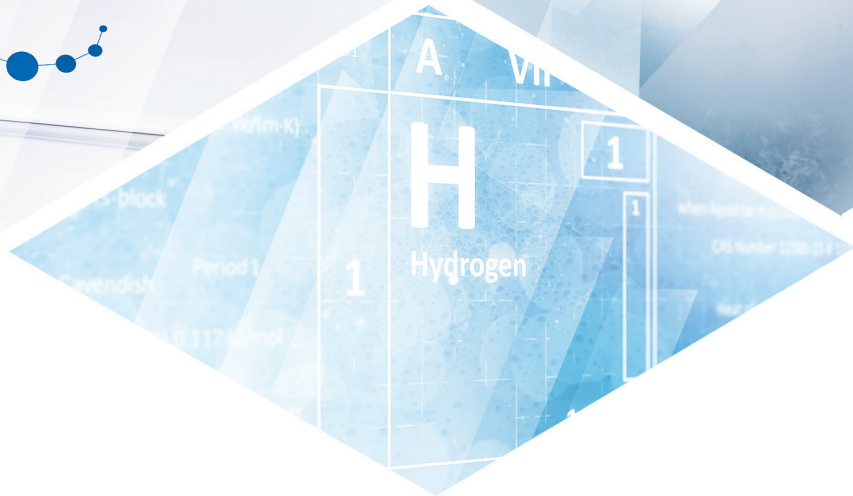
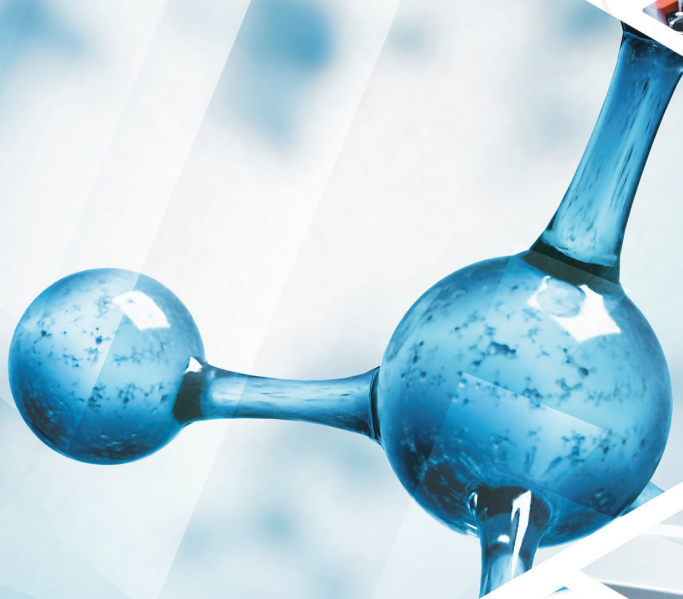


Learn the answers to these questions and more from ATEQ's Leak Testing Academy.  
ATEQ has the answer!

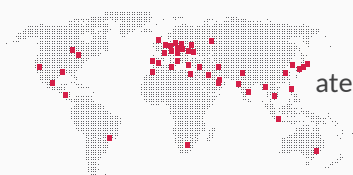
Visit [ateq.com](http://ateq.com) for white papers, videos and more educational content.

**CONTACT YOUR LOCAL ATEQ OFFICE**  
for information about training courses.





ATEQ strives to continuously improve the industrial ecosystem through respect, integrity, security, green technologies and the use of materials and recyclable components.



[ateq.com](http://ateq.com)

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