

# Gas Mix Supply System

## We deliver:

- ✓ Accuracy that Stands out from Other Mixers in the Market
- ✓ Industry Standards and Full Compliance
- ✓ Versatile Mixing Capabilities
- ✓ Less Downtime with Automated and Efficient Supply
- ✓ More Competitiveness for our Customers

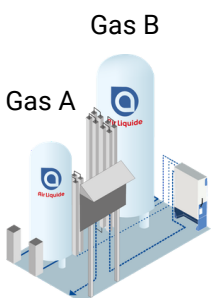
## The Industry Challenge

Industries currently relying on traditional ammonia (NH<sub>3</sub>) crackers and pre-mixed bundles often face limitations regarding productivity and cost-effectiveness. The major challenge is maintaining tight tolerance requirements to ensure consistently accurate gas mixtures, which are critical for achieving optimal process results and overcoming the inefficiencies of conventional supply methods.

## The Gas Mixer Solution

The all in one gas mixer solution consists of gas supply with flow and pressure control, gas mixer(s) with several back up options and gas analysers for quality check and leak detection.

This gas mixer solution offers a more productive and cost effective alternative to pre mixed bundles

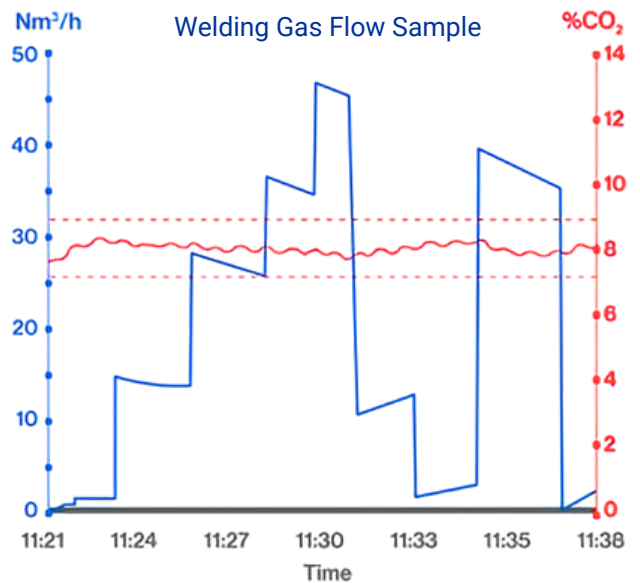


### What Air Liquide offers

- 2-4 components
- 20-500 Nm<sup>3</sup>/hr Flowrate
- 0-100% Mixed Gas Ratios
- 1-6 bars Pressure Difference
- Data Logging & Remote Access
- Enhanced Safety Measures

## Key Benefits

Our systems meet tight tolerance requirements, ensuring your gas mixtures are consistently accurate for optimal process results. Especially during variable gas use in wire bonding and welding.

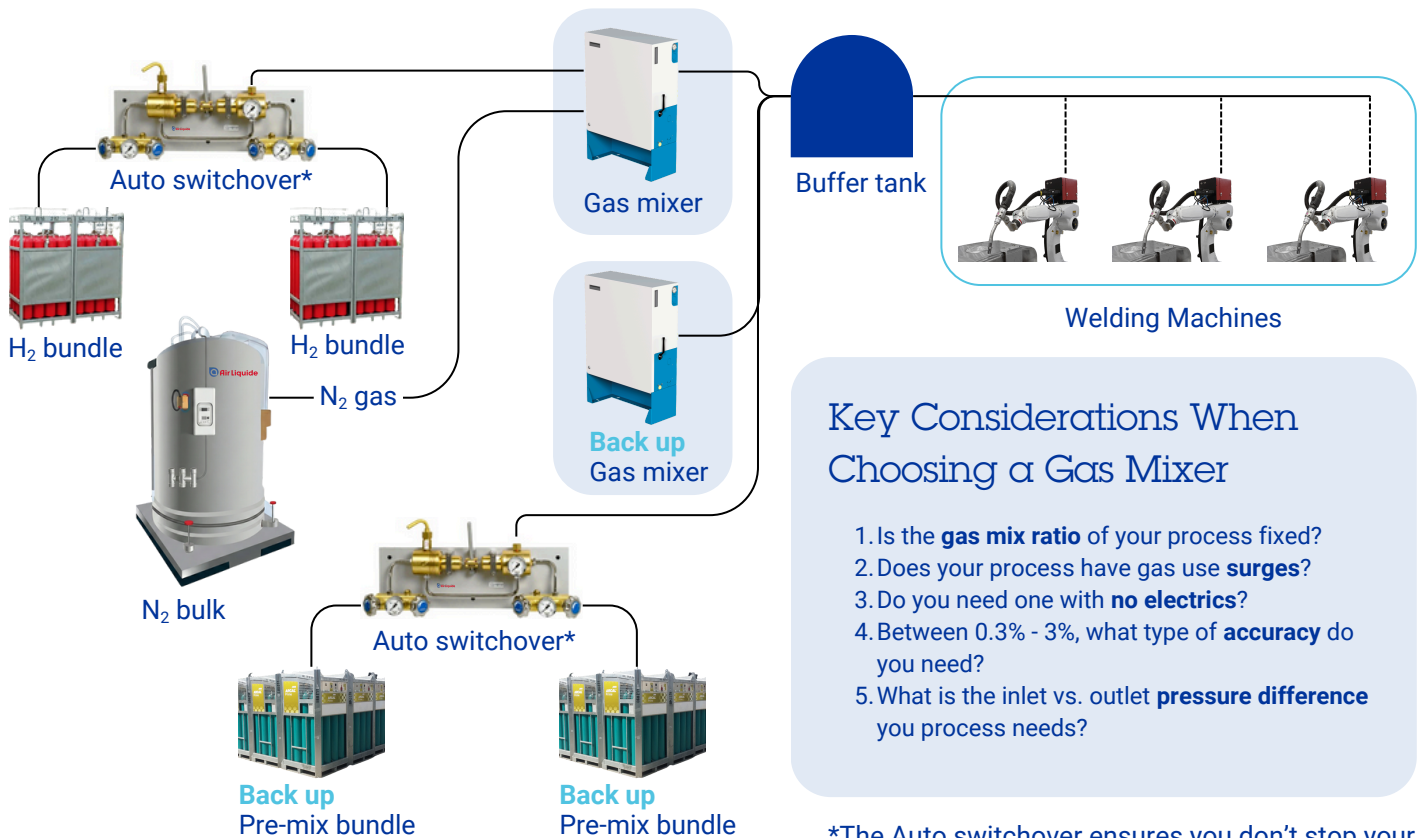


Benefit from automatic flowrate adjustment that efficiently supplies multiple points of use, streamlining your operations.

Easily adjust to produce various gas mix ratios for your process needs.

## How a Gas Mixer Fits into Your Process

Sample schema for an N<sub>2</sub>-H<sub>2</sub> set up. Other gas mixtures also available.



### Key Considerations When Choosing a Gas Mixer

1. Is the **gas mix ratio** of your process fixed?
2. Does your process have gas use **surges**?
3. Do you need one with **no electrics**?
4. Between 0.3% - 3%, what type of **accuracy** do you need?
5. What is the inlet vs. outlet **pressure difference** your process needs?

\*The Auto switchover ensures you don't stop your production just to change gas.

## How to Choose Your Mixer

Select from our range of mixers based on your priority considerations

	Mechanical Mixer	Orifice Mixer	Airgas Mixer
<b>Flow Rate (Nm<sup>3</sup>/h)</b>	20-200	50-500	50-1,000
<b>Accuracy</b>	0.5%	1-3%	0.3%
<b>Pressure Difference</b>	up to 4 bars	up to 4 bars	up to 2 bars
<b>Power</b>	✗	✓	✓
<b>Price</b>	\$	\$\$	\$\$\$
<b>System</b>	Mixing Valve	Surge Tank / Mixing Valve	Mass Flow Controller

### Our Airgas Mixer

Preferred by customers for precise gas mixing and low pressure difference from inlet to outlet.



## Industries that Benefit from Gas Mixers

Our gas mixing solutions are adaptable to a wide array of on-site processes, moving beyond traditional applications to address your unique requirements.

	Automotive and parts	Shipyards and Aeronautics	Metal Fabrication	Electrical appliances	Electronics
Specialty Gas Mixing	●		●		
Wire bonding	●		●	●	●
Heat Treatment	●		●	●	●
Welding	●	●	●		
Laser Cutting			●		

## How Gas Mixers Support Each Application



### Welding

Deliver consistent shielding and welding gas quality for high-volume welding production.



### Bright Annealing

Create a reducing atmosphere, homogenise metal structures, and relieve internal stress under carefully controlled  $N_2/H_2$  atmospheres. Tailored for stainless steels (100%  $H_2$ ), carbon steels (5-15% or 100%  $H_2$ ), and non-ferrous metals (2-10%  $H_2$ ).



### Sintering

In powder metallurgy, our systems provide precise  $N_2/H_2$  atmospheres (e.g., 5-15%  $H_2$  for carbon steels, 100%  $H_2$  for stainless steels) to prevent oxidation during the sintering process.



### Wire Bonding

Critical for creating electrical interconnections between the semiconductor chip and metal lead frame/substrate. Our  $N_2/H_2$  forming gas prevents copper oxidation at high temperatures, ensuring strong, defect-free bonds.



### Brazing

Achieve strong, clean joints by protecting base metals from oxidation using  $N_2$  for aluminum alloys or  $N_2/H_2$  (5-15%  $H_2$ ) for copper and other metals.

## Contact us

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