

# Customized Compression Systems

Since 1959, our low-maintenance, made in America systems have been deployed in operations across the globe to minimize downtime. Our partnership with Haskel brings this value to the Hydrogen market.



Building high pressure systems  
since 1959



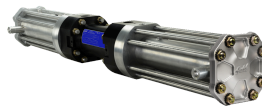
Haskel H-Drive Booster



Making high pressure equipment  
since 1946

- Reliable, easy to maintain, compact and robust
- No heat, flame, or spark risk
- Infinitely variable cycling speed and output
- Modular construction for easy gas section maintenance
- Will not rust like other carbon steel manufactured units
- Non-contaminating gas compression
- Minimizes gas temperature rise from compression
- Suitable for ultra pure gas compression
- Broad range of flows and pressures
- Smooth stroke direction changeover and cycle rate control
- Multiple gas boosters can be driven by one power source
- Steady state cycle control to maximize seal life
- High efficiency for continuous operation

## Haskel Hydrogen Booster Types



	Pneumatically Driven (Air)	Hydraulically Driven (H-Drive)	Electric Servo Driven (Q-DriveX)
	Smallest footprint No heat, flame, or risk of spark	Capable of flow rates up to 8x higher than air driven models	Highest flow rates Highest efficiencies
<b>Starting Pressure</b>	As low as ambient	As low as 50 psi (6 bar)	As low as 10 psi (3 bar)
<b>Ending Pressure</b>	Up to 40,000 psi (2,400 bar)	Up to 15,000 psi (1034 bar)	Up to 15,000 psi (1034 bar)
<b>Flow Rates (per booster)*</b>	Up to 20 scfm, (36 NCMH) 2.8kg H2/hr	Up to 400 scfm, (680 NCMH) 56kg H2/hr	Up to 625 scfm, (1062 NCMH) 100kg H2/hr
<b>Capex</b>	\$	\$\$	\$\$\$
<b>Power Efficiency</b>	Good	Better	Best

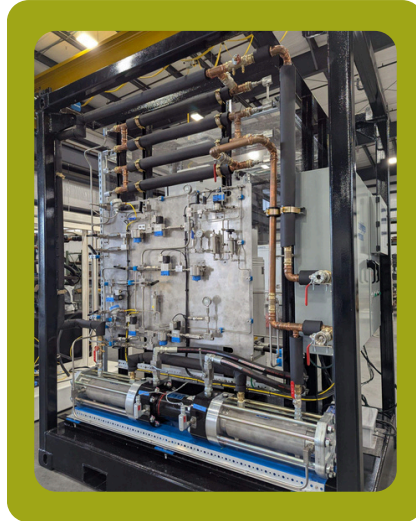
# We integrate all Haskel boosters.

As experts in system integration, Total Hydrogen Solutions can integrate all types of Haskel boosters into gas compression systems.

## We build systems ranging from standard...



Air Driven Systems









Hydraulically Driven Systems



Servo Motor Systems

## ...to infinitely customizable and scalable options.

-  Stationary
-  Modular
-  Portable
-  Mobile
-  Rugged
-  Silent
-  Remote operated



## H-Drives offer flexibility and choice.

From low pressure to 1000+ bar hydrogen applications, we can integrate any booster model to fit your needs.

Model	Supply Pressure (bar)	Max Outlet Pressure (bar)	Compression Ratio	Displacement per Cycle (L)	Stages
HGD-150	3.4 – 310	310	6	10.77	Single
HGD-90	3.4 – 621	689	6	3.88	Single
HGD-63	6.9 – 1034	1034	6	1.9	Single
HGT-150/90	3.4 – 310	689	100	5.37	Two-stage
HGT-150/63	3.4 – 310	1034	280	5.37	Two-stage
HGT-90/63	3.4 – 621	1034	64	1.93	Two-stage



# Hydrogen System Integration Experts



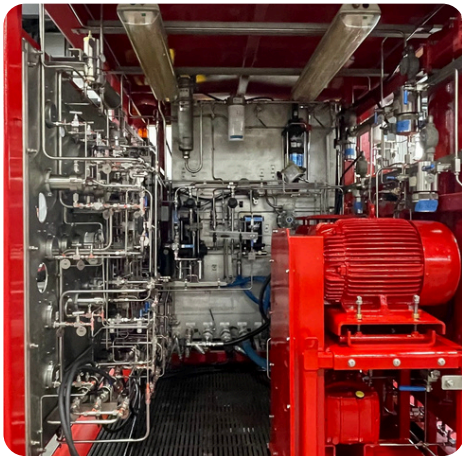
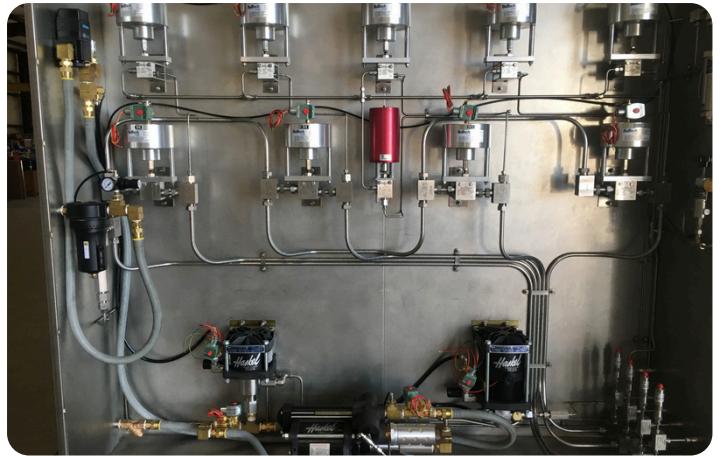
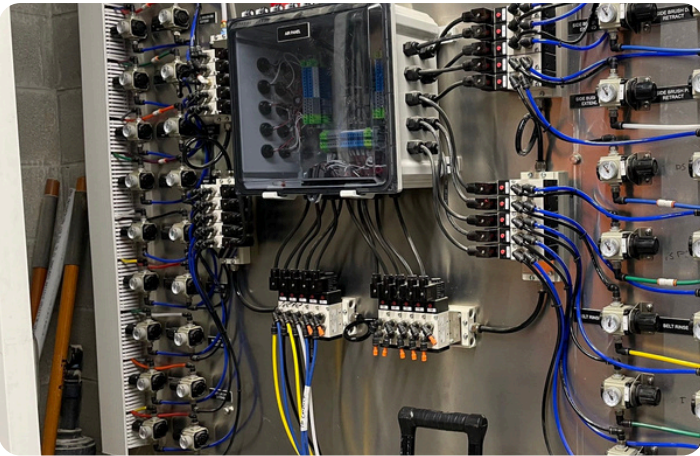
We proudly staff over 40 professional and electrical engineers, pipe fitters, electricians, hydraulic technicians, industrial and process designers, and material experts - our team is ready to tackle your next hydrogen system design. Offering in-house custom fabrication, PLC programming and P&ID and CAD designs, we offer a seamless project execution approach.

\$10MM+ IN INVENTORY

EXCELLENT LEAD TIMES

IN-HOUSE EXPERTISE

PREFERENTIAL PRICING



PROUDLY REPRESENTING 40+ BRANDS

