

H24 Hydraulic Hydrogen Compressor / Booster Package



Product Overview

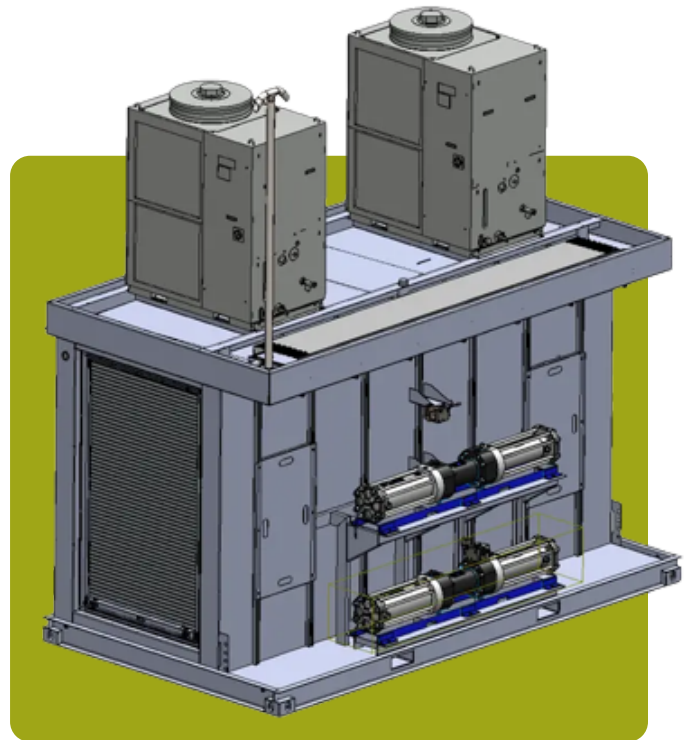
The H24 Hydraulic Hydrogen Compressor Booster Package is an outdoor-rated, high-capacity hydrogen compression system designed for Class I, Division 2 service. The package incorporates two 150/150 hydraulic hydrogen boosters configured in parallel with a common inlet and outlet arrangement. Each booster is equipped with a dedicated PHC-built hydraulic power unit and a dedicated cooling circuit. Hydrogen process components are located outside the enclosed equipment area, which is maintained by a glycol-fed air handler. Relief and vent connections are routed to a common 316 stainless steel vent stack supplied with the unit. The package is provided in a NEMA 3R enclosure and is designed in accordance with NFPA 2 requirements.

Key Features

- **Two Boosters in Parallel:** Two 150/150 boosters arranged for combined flow
- **PHC-Built HPUs:** Two dedicated 100 hp hydraulic power units
- **Dedicated Cooling:** Two SMC HRS 400 chillers (one per booster)
- **Allen-Bradley Controls:** PLC / HMI package control platform
- **Hydrogen Gas Detection:** Integrated into shutdown logic
- **NFPA 2 Compliant:** As supplied
- **Class I, Div 2:** Electrical classification for hydrogen service
- **NEMA 3R Outdoor:** Outdoor-rated package enclosure

Standard Package Description

- Two hydraulic hydrogen boosters piped in parallel to a common inlet and outlet
- Each booster has its own hydraulic power unit and cooling circuit
- Hydrogen process components located outside the enclosed equipment area
- Equipment area cooled by a glycol-fed air handler
- Relief and vent points route to a common 316 stainless vent stack supplied with the unit



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281-861-1284

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Technical Data

Compressor Performance Table - Two 150/150 Boosters in Parallel

Inlet Pressure (bar g)	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
Max Outlet Pressure (bar g)	120	180	200	200	200	200	200	210	215	225	235	240	250	260	270	280	290	300	310
Flow Per Booster (kg/min)	0.25	0.37	0.49	0.6	0.74	0.8	0.98	1.1	1.2	1.3	1.45	1.56	1.67	1.79	1.89	2	2.1	2.21	2.31
Total Package Flow (kg/min)	0.5	0.74	0.98	1.2	1.48	1.6	1.96	2.2	2.4	2.6	2.9	3.12	3.34	3.58	3.78	4	4.2	4.42	4.62
Total Package Flow (kg/hr)	30	44.4	58.8	72	88.8	96	117.6	132	144	156	174	187.2	200.4	214.8	226.8	240	252	265.2	277.2
Total Package Flow (kg/day)	720	1,066	1,411	1,728	2,131	2,304	2,822	3,168	3,456	3,744	4,176	4,493	4,810	5,155	5,443	5,760	6,048	6,365	6,653

Model Number Breakdown

H24	Hydrogen hydraulic compressor / booster platform
150/150-150/150	Two 150/150 booster assemblies
480	480 VAC electrical service
SMC2400	Two SMC HRS 400 chillers
275	Standard operating pressure class
P	PHC-built hydraulic power units
E	Enclosed outdoor package

Package Configuration

Gas Service	Hydrogen
Boosters	2; arranged in parallel
HPUs	2; one per booster
Motor Size	100 hp each
Chillers	2; SMC HRS 400
Cooling Loop	Glycol/water loop
Controls	Allen-Bradley PLC / HMI

Connections / Materials

Inlet	1/2 in NPT
Outlet	1/2 in NPT
Piping	316 stainless steel
Vent Stack	Supplied; 316 stainless steel
Gas Detection	Standard
Remote Monitoring	Optional; monthly fee applies
Handling	Forklift provisions standard

Pressure / Rating

Mechanical Rating	310 bar
Operating Class	275 bar
Ratio Limit	6:1 max per booster
Duty	Designed for continuous operation subject to site conditions and maintenance intervals
Electrical Class	Class I, Division 2
Enclosure	NEMA 3R outdoor rated

HPU Per Booster

Type	PHC-built custom HPU
Motor	100 hp electric motor
Pump	Oilgear PVG-100 hydraulic pump
Valve	HAWE single-section PSVF size 5
Included	Accumulators, filtration, kidney loop, heater, temp/level switch

Dimensions / Weight

Length	180.00 in / 4,572 mm
Width	101.01 in / 2,566 mm
Height	200.63 in / 5,096 mm
Lower Height	111.06 in / 2,821 mm
Chiller Height	67.48 in / 1,714 mm
Dry Weight	Approx. 10,000 lb / 4,536 kg