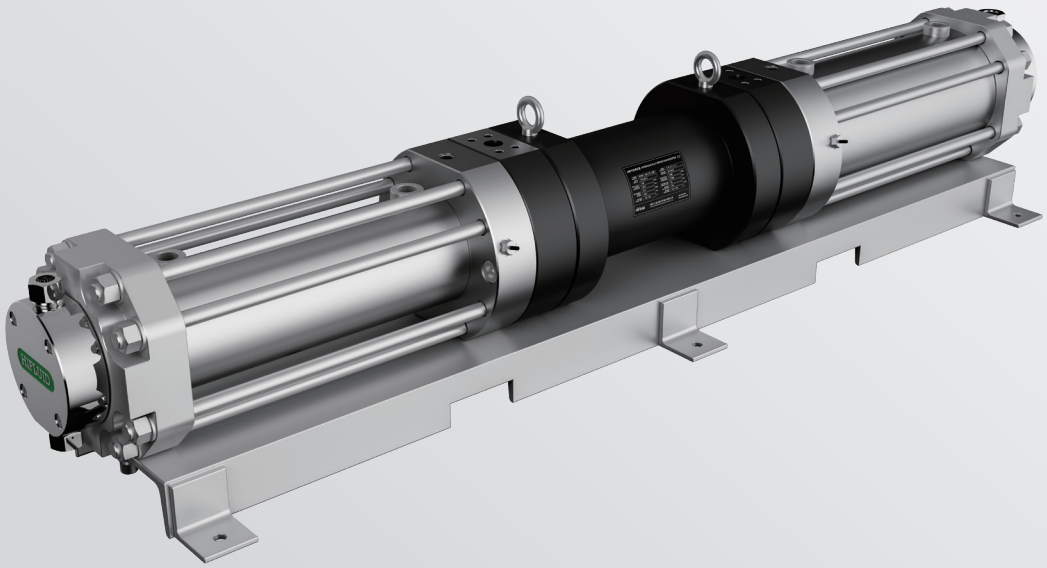
HiFluid
Driven by Reliability & Performance

Hydraulically Driven Gas Boosters



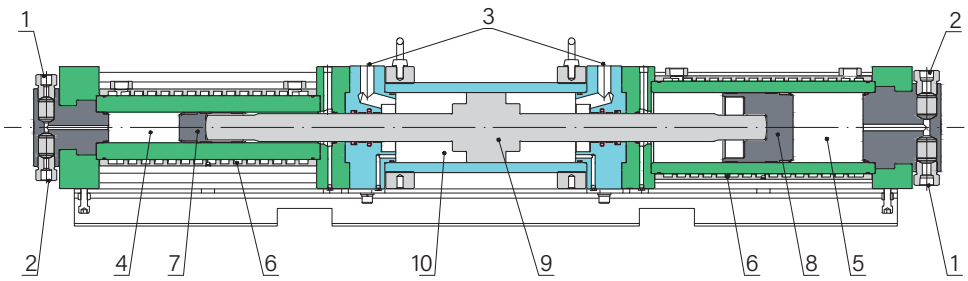
www.hifluid.com

HiFluid Hydraulically Driven Gas Boosters

HIFLUID

HiFluid offers a comprehensive product portfolio, delivering suitable solutions for a wide range of applications worldwide.

Our hydraulically driven gas boosters use low-pressure hydraulic oil as the driving source to compress gases to the required pressure. The standard design supports a maximum working pressure of 120MPa, with customized solutions available for higher pressure requirements.



1. Gas Inlet
2. Gas Outlet
3. Hydraulic Oil Port
4. Secondary Cylinder
5. Primary Cylinder
6. Cooling Jacket
7. Secondary Piston
8. Primary Piston
9. Drive Piston
10. Hydraulic Cylinder

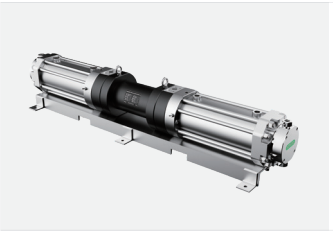
Key Advantages

- Specially designed for high-pressure gas applications, compatible with multiple gases.
- Hydrogen-compatible: materials used in hydrogen-contacting parts provide excellent resistance to embrittlement.
- Robust construction, ideal for frequent start-stop operations and continuous heavy-duty duty cycles.
- Special structure for both drive and compression ends to prevent gas contamination.
- Spiral-guided cooling design ensures uniform and efficient heat dissipation.
- Excellent primary sealing performance, operates without oil lubrication, and features long maintenance intervals.
- Maintenance-friendly design, significantly reducing seal replacement time.
- Modular design with flexible configurations and diverse options.
- Flow continuously adjustable from 0% to 100%.
- Suitable for explosion-proof environments.

Typical Applications

- **Leak Testing:** Supplies high-pressure gas for airtightness tests to detect leaks in components.
- **Hydrogen Refueling:** Provides high-flow, contamination-free hydrogen filling into vessels, equipment, or systems to the required pressure.
- **Airbag Inflation:** Charges helium/argon mixed gases into airbag inflators.
- **Gas-Assisted Molding:** Provides high-pressure, high-flow gas to improve molding processes and product quality.
- **Hot Isostatic Pressing (HIP):** Pressurizes inert gas for HIP furnaces to achieve superior material performance.
- **Chemical Production:** Multi-stage pressurization of ethylene for polymerization in batch and tubular reactors.

Structural Types



Single-Stage Double-Acting

Each cycle delivers two compressions at a single ratio, ensuring continuous high-flow output.

Double-Stage Single-Acting

Each cycle delivers a single compression at double ratio, achieving high output pressure even with low inlet pressure.

Type Coding

HF HG1 - 100 - 70 - H_2

- HF — HiFluid
- HG1 — Hydraulically Driven Gas Booster
- 100 — Cylinder Diameter (mm) (two-stage models indicated with "/")
- 70 — Maximum Working Pressure (MPa)
- H_2 — Medium Gas Code

HiFluid Hydraulically Driven Gas Boosters

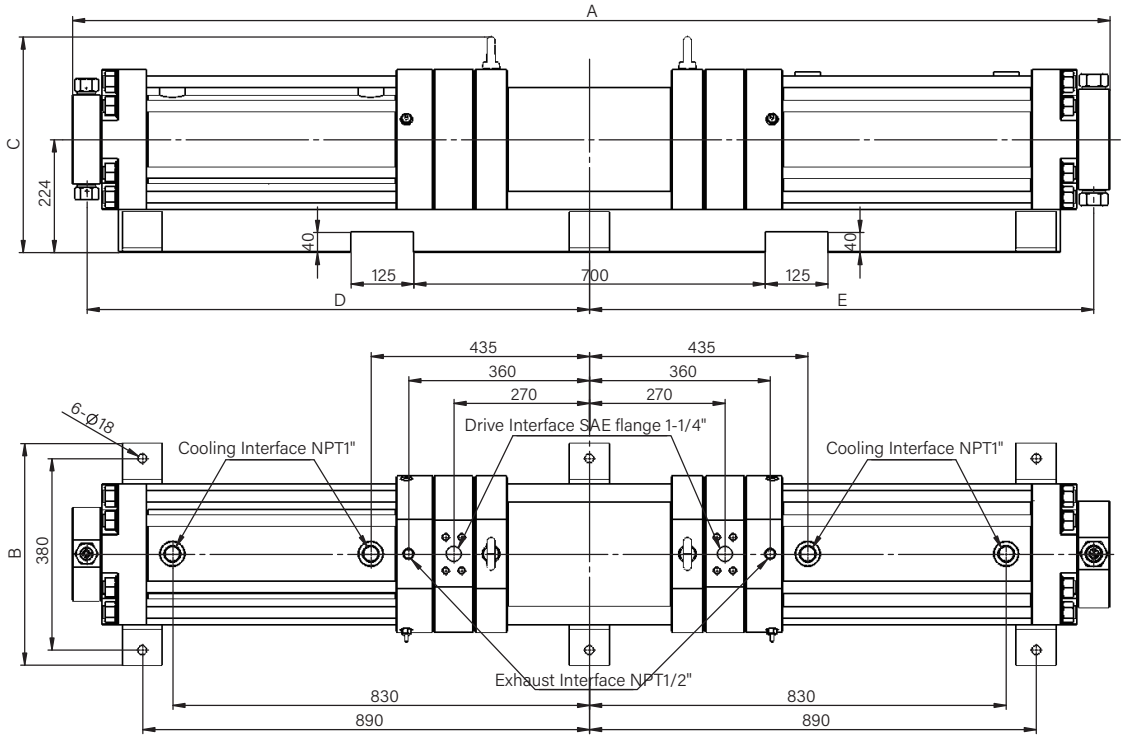
HIFLUID

Product Parameters

Type	Model	Pressure Ratio	Displacement /Cycle (ml)	Pressure Limit						15 Times per Minute Typical Flow Rate Reference				
				Max. Outlet Pressure		Min. Inlet Pressure		Max. Inlet Pressure		Inlet Pressure		Outlet Pressure		Flow Rate Nm^3/h
				MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	
Single-Stage Double-Acting	HFHG1-160-35	1:0.8	12868	35	5075	0.34	50	35	5075	5.5	797.5	22	3190	496
	HFHG1-100-70	1:2.1	5026	70	10150	0.34	50	70	10150	10	1450	45	6525	339
	HFHG1-70-120	1:4.4	2463	120	17400	0.34	100	120	17400	42	6090	90	13050	651
Double-Stage Single-Acting	HFHG1-160/100-70	1:0.8/1:2.1	6434	70	10150	0.69	50	35	5075	3	435	40	5800	135
	HFHG1-160/70-120	1:0.8/1:4.4	6434	120	17400	0.34	50	35	5075	4	580	90	13050	180
	HFHG1-100/70-120	1:2.1/1:4.4	2513	120	17400	0.34	50	70	10150	8	1160	90	13050	136

Installation Dimensions

Type	Model	Connection Interface			Dimensions(mm)					Weight (kg)
		Drive Port	Medium Inlet	Medium Outlet	A	B	C	D	E	
Single-Stage Double-Acting	HFHG1-160-35	SAE flange1 1/4" 6000PSI	NPT 1"	NPT 1"	2074	440	430	1005	1005	620
	HFHG1-100-70	SAE flange1 1/4" 6000PSI	MP 3/4"	MP 3/4"	2074	440	430	1005	1005	600
	HFHG1-70-120	SAE flange1 1/4" 6000PSI	MP 3/4"	MP 3/4"	2060	440	430	1001	1001	580
Double-Stage Single-Acting	HFHG1-160/100-70	SAE flange1 1/4" 6000PSI	NPT 1"	MP 3/4"	2074	440	430	1005	1005	610
	HFHG1-160/70-120	SAE flange1 1/4" 6000PSI	NPT 1"	MP 3/4"	2067	440	430	1001	1005	600
	HFHG1-100/70-120	SAE flange1 1/4" 6000PSI	MP 3/4"	MP 3/4"	2067	440	430	1001	1005	590



HiFluid 瀚孚工業

瀚孚工业设备（济南）有限公司
HiFluid Industrial Equipment (Ji'nan) Co., Ltd.

Factory 102, No.16 Building, No.2222 South Yuqing Road, Changqing, Ji'nan, China
R&D Center 328 Tiantong Road, 3/F, Landmark Center, Hongkou, Shanghai

Web www.hifluid.com

E-mail communication@hifluid.com