

The background image shows two industrial workers in a blue-tinted environment. They are wearing hard hats with headlamps and dark blue work jackets. One worker is in the foreground, looking towards the right, while the other is slightly behind and to the right, working on a large, white, cylindrical piece of machinery. The scene is filled with pipes and industrial equipment, suggesting a factory or refinery setting.

Hydrogen diaphragm compressor

XR *Xin Ran*

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A photograph of two industrial workers in a factory setting. They are wearing high-visibility yellow and green safety jackets with reflective stripes and white hard hats. The worker on the left is pointing upwards with their right hand, while the worker on the right is holding a set of blueprints or plans. The background shows industrial machinery and overhead lights, all with a blue color overlay.

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**Shanghai Xinran
company introduction**

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S H A N G H A I X I N R A N

Shanghai Xinran Compressor Co., Ltd

- With more than 20 years of industry accumulation, we moved to Xuzhou, Jiangsu Province in July 2012
- Deeply engaged in the process gas compressor market, with more than 3000 industrial enterprise users
- The products cover hydrogen production, hydrogen filling, hydrogen station compressor and other products, providing a full set of compressed gas solutions for the hydrogen energy industry
- Led and participated in many group standards such as diaphragm compressor for China's first hydrogen refueling station
- Shanghai Xinran won the bid for a unit of ultra-high pressure technology large-scale compressor equipment order

189+
staffs

2000+
equipments

280,000,000+
Annual output value

Core competitiveness



Full range of compressed gas solutions

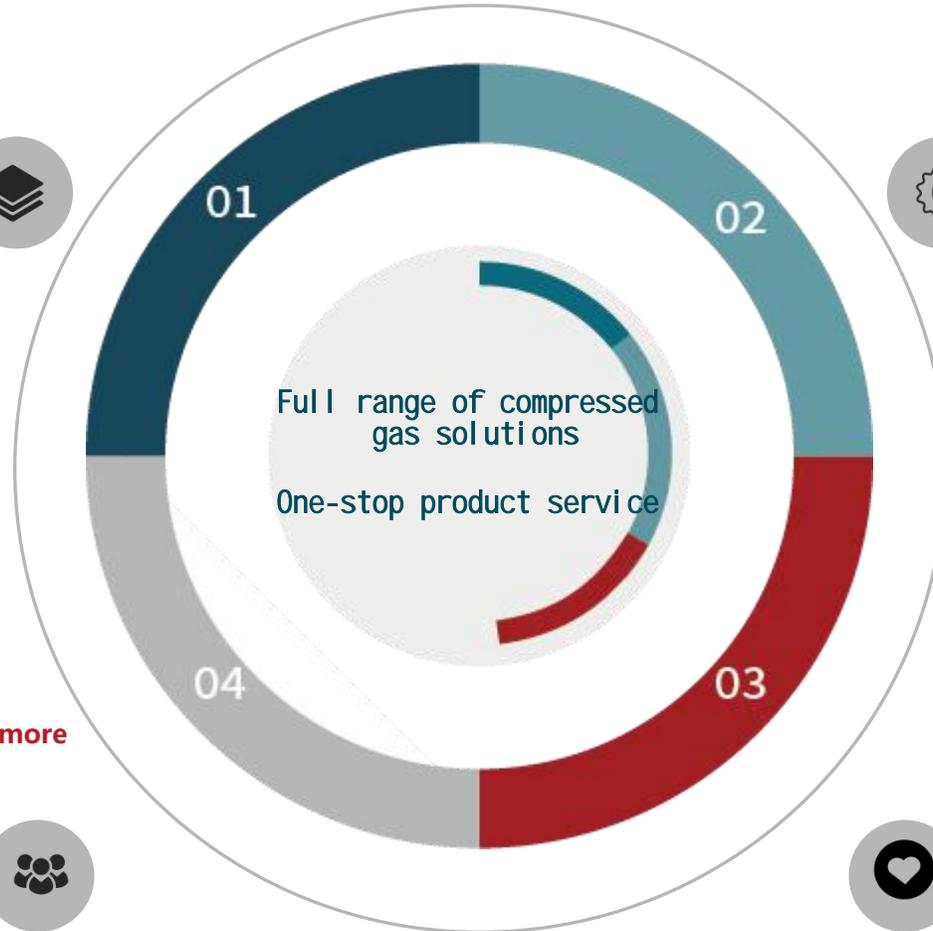
Provide one-stop product service

Product supply, equipment installation, commissioning services, operation and maintenance, maintenance and overhaul of one-stop products and services

20 years of industry experience professional technical team

Safe and stable operation experience of more than 1500 compressors

The technical team has more than 20 years of experience in compressor design and development, only to create safe and stable compressor products



Strict quality control

Highly recognized by domestic and foreign and industry

The company has passed ISO9001, ISO14001, ISO45001 system certification, GC product certification. Ensure that every factory product meets the standards and customer requirements

Service operation and maintenance are fully guaranteed

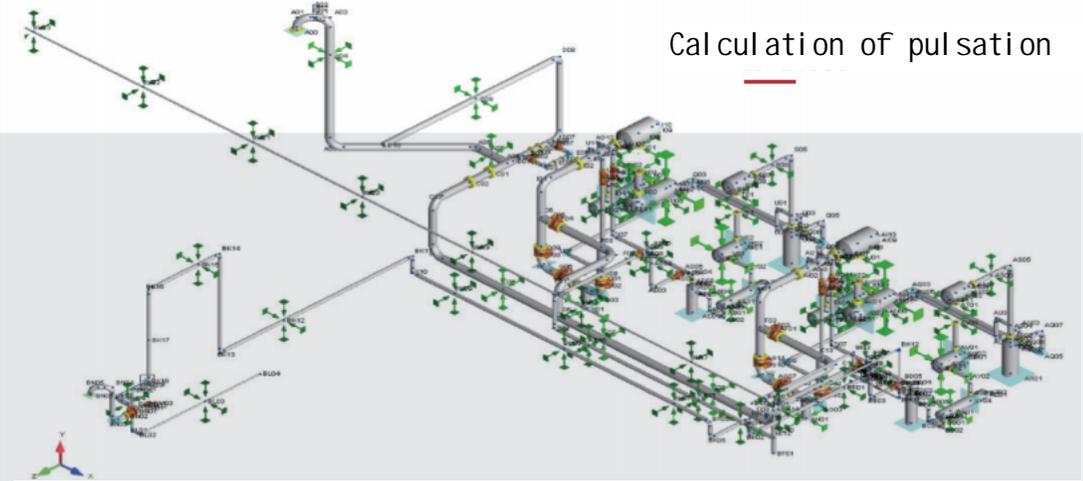
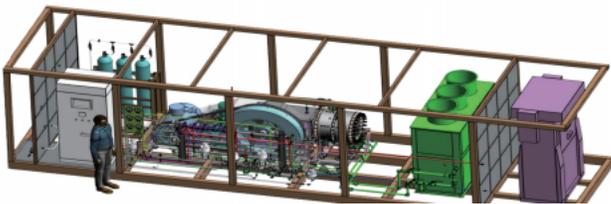
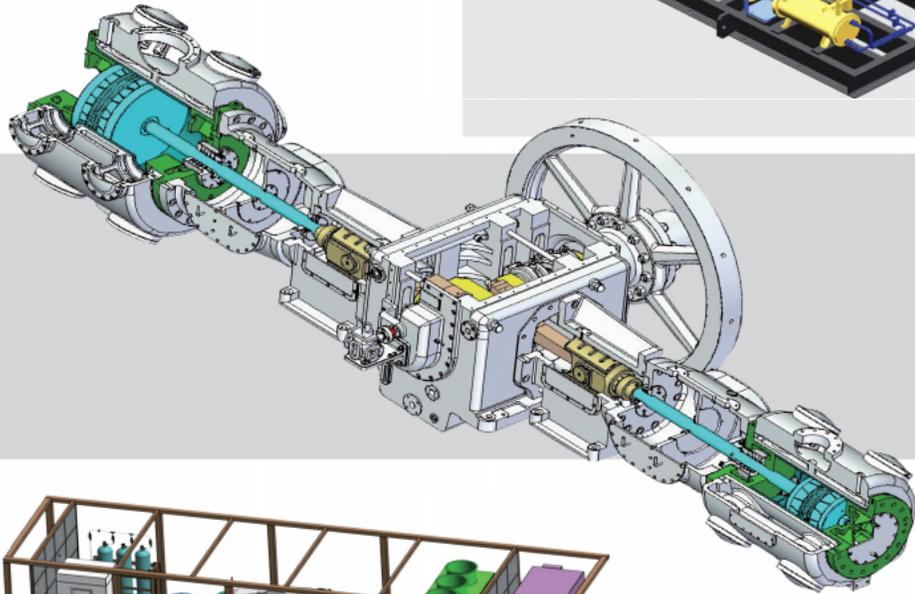
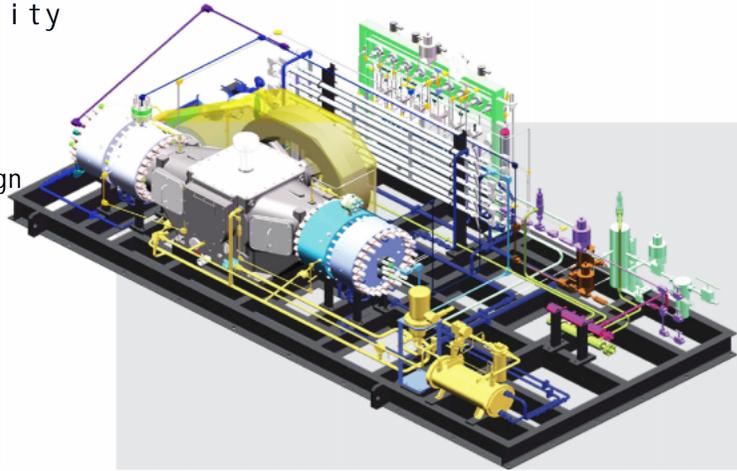
Experienced engineer team escort
Provide technical support, spare parts supply, transformation and upgrading, overhaul and maintenance and other 7X24 hours all-weather support

Design capability

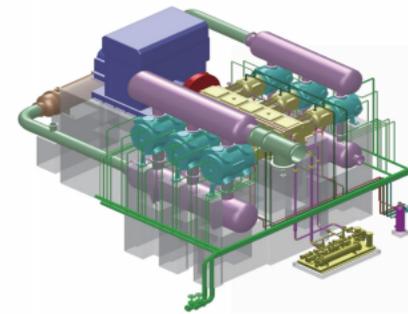


design capability

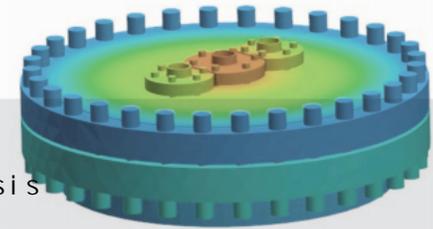
Digital analog design



Calculation of pulsation



finite element analysis



Research and development ability (R&D ability)



Shanghai Xinran based on the forefront of the market, took the lead in the development of a number of advanced performance of diaphragm compressor products



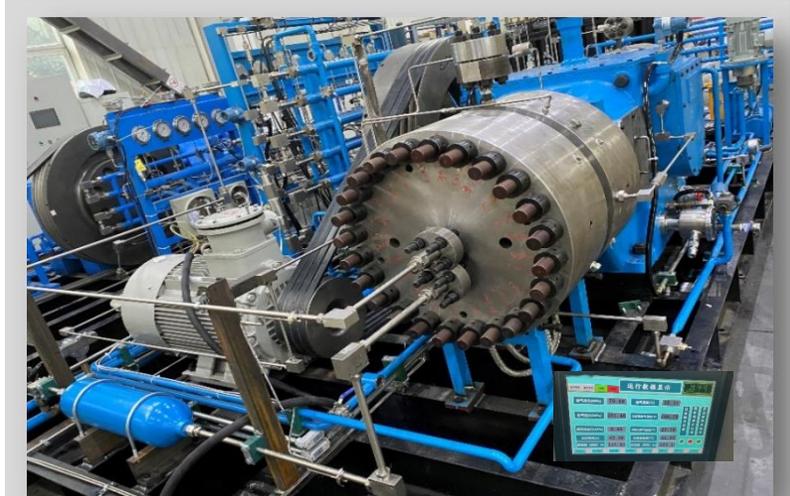
32MPa filling with diaphragm hydrogen compressor

- The first 32MPa hydrogen compressor in the domestic charging field



90MPa diaphragm hydrogen compressor

- The successful development of the first 90MPa hydrogen compressor in China relies on the development of major scientific and technological projects in Inner Mongolia
- Cooperate with National Energy Group to tackle key projects



250MPa diaphragm hydrogen compressor

- The first ultra-high pressure 250MPa hydrogen compressor in China has been successfully developed

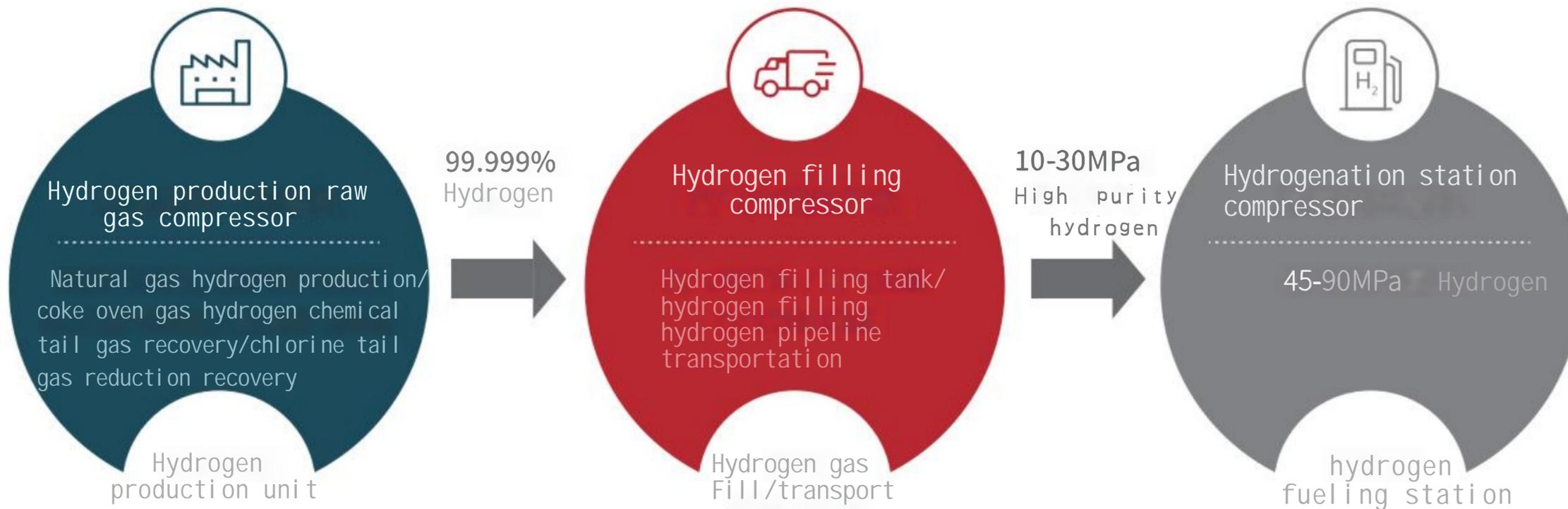
A photograph of two industrial workers in a factory setting. They are wearing high-visibility yellow safety jackets with reflective stripes and white hard hats. The worker on the left is pointing upwards with their right hand. The worker on the right is holding a tablet computer and looking at it. The background shows industrial equipment and a large, dimly lit space. The entire image has a blue tint.

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Application of
hydrogen compressor

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Application of compressors in the field of hydrogen energy



Hydrogen energy compressor

Hydrogen production
raw gas booster compressor
(piston type)



Application scenarios **Hydrogen preparation**

Product feature

- Professional tailor-made** Professional customization for actual working conditions
- Multiple types of aircraft** More than 60 product series, including M type, D type, L type and P type, can achieve one to six levels of pressure matching
- Oil free structure** The structure of gas contact part adopts oil-free design to reduce the pollution of gas
- Safety guarantee** Monitoring and security protection system



Hydrogen energy compressor

Hydrogen filling and hydrogenation station diaphragm compressor



application scenarios **Hydrogen filling and refueling station**

Product feature

big engine

The maximum displacement can reach 2000Nm³/h

The piston force of the compressor can reach 250kN

No pollution leakage

High purity gas diaphragm compressor, zero pollution, zero leakage of compression medium

unattended operation

Adopt one button automatic start and stop, realize unattended

safe and reliable

The INSTRUMENT valve adopts international/ domestic brand to ensure the smooth and safe operation of the equipment

90MPa large displacement hydrogenation station compressor



(350Nm³/h ,90MPa)

Hydrogenation station compressor

Diaphragm compressor for
hydrogenation station



- **Jointly developed the first 90MPa large-displacement hydrogenation station compressor in China with National Energy Group**

- **Exceed the standard to meet the assessment requirements of project key indicators**
(Inlet pressure 12.5MPa, outlet pressure 87.5MPa, displacement greater than 350Nm³/h)
- **It solves the situation that the diaphragm compressor for 70MPa hydrogenation station in our country depends on imports, and realizes the localization substitution of diaphragm compressor and the technological breakthrough of high pressure diaphragm compressor**
- **The expert group gave high evaluation: the most complete data collection in the hydrogen press test equipment vibration minimum, reasonable structure design**



350Nm³/h , 90MPa

application scenarios Residual hydrogen recovery

Product feature

displacement The maximum displacement can reach 1000Nm³/h
With the capacity of hydrogenation station

Post recovery pressure 1.5-2.0MPa

synergia Improve the gas utilization rate of hydrogen tank
truck by more than 25%
reducing transportation cost



Hydrogenation station compressor

Diaphragm compressor for
hydrogenation station



● Overseas application of diaphragm compressor in hydrogenation station

- **Application scenario:** 21, 22 products exported to South Korea hydrogen refueling station
- **Technical strength:** to meet the demand of 1000Kg/d hydrogen refueling stations in Korea

(Inlet pressure: 8MPa, exhaust pressure: 45MPa, displacement: 670 Nm³/h)

- **The difference between this product and domestic product:**

Different from domestic products, the inlet pressure is 8MPa

Shanghai Xinran overcame the difficulties of the epidemic and delivered to South Korean customers on time



**GTC 45MPa, 1000Kg/d
hydrogenation station, South Korea**

● Application of diaphragm compressor in hydrogen-producing and hydrogenation integrated station

➤ **Application scenario: Hydrogen skid in Qingdao methanol station**
(Inlet pressure: 0.05MPa, exhaust pressure: 45MPa, exhaust volume: 100kg/d)

➤ **Technical strength: achieve three levels of compression, single machine operation, reduce maintenance costs**

Due to the low outlet pressure of hydrogen production from methanol water, it is relatively large to pressurize to 45MPa. Usually, two equipment are equipped, which has problems such as large floor area, high difficulty in pry and poor matching degree of operation of two machines. We use three-stage compression technology to achieve small footprint, stable operation, low maintenance costs and other important features.

➤ **Future application: replacing gasoline and diesel vehicles, machinery and tools in subway construction sites with hydrogen fuel to provide hydrogen supply guarantee**



Hydrogen production, charging/high pressure transportation integration and many other projects

More than 300 sets of hydrogen energy compressors have been actually introduced into the hydrogen energy industry



**The first commercial hydrogen energy project in China
32MPa hydrogen filling compressor**



**High purity Hydrogen Facility
Project of petrochina North
China Petrochemical
22MPa hydrogen filling
compressor**



**Sinopec Hainan high
purity hydrogen charging
project
Hydrogen filling compressor**

A photograph of two industrial workers in a factory. They are wearing high-visibility yellow-green jackets with reflective silver stripes and white hard hats. The worker on the left is pointing upwards with their right hand. The worker on the right is holding a tablet computer and looking at it. The background shows industrial machinery and overhead lights, all with a blue color overlay.

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Other application
cases

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Other application cases



Gas/fluorine chemical industry/silicon chemical industry/nuclear power/petrochemical industry/metallurgy/medicine, aerospace, military industry/others



2000Nm³/h hydrogen production and transportation integration project



Polysilicon industry piston compressor



Coke oven gas compressor for steel mill



6000Nm³/h exhaust gas recovery hydrogen production project

A photograph of two construction workers in a factory or industrial setting. They are wearing high-visibility yellow and grey safety jackets and white hard hats. The worker on the left is a woman pointing upwards with her right hand. The worker on the right is a man with a beard and glasses, holding a large set of blueprints. The background shows industrial structures and lights, all with a blue color overlay.

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cooperative partner

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Our cooperative partners





Committed to high quality development

<http://xinrancompressor.com/>

XR ***Xin Ran***