




# XR 系列螺杆蒸汽压缩机

XR SERIES SCREW STEAM COMPRESSOR

 Shanghai Xinran Compressor Co., Ltd  
X. E. S. industry (jiangsu) Co., Ltd

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## X.E.S. industry (Jiangsu) Co., Ltd

We are compressor production based joint venture, by Shanghai Xinran Compressor Co., Ltd. and Asia Pacific General Machinery Co., LTD Built as the Jiangsu production base of Shanghai Xinran Compressor Co., LTD., the main production company is the whole system List of products, of which the screw host and the whole machine production base covers a total area of 60 acres.



## Shanghai Xinran Compressor Co., Ltd

Founded in 2004, is China's largest compressor manufacturer and exporter. Its leading product is screw air pressure Machine, mobile air compressor, high pressure air compressor, variable frequency air compressor, oil-free air compressor, centrifugal compressor, vacuum pump, oil-free screw A full range of products, such as rod blower, drill truck, dryer, precision filter, gas storage tank, pneumatic tools, etc. The company is in... The industry took the lead in passing the National Quality Certification Center (CQC) Certification the national industrial production license, CE Certification, TUV certification, ISO9001:2008 quality management system certification, and successively won the "Chinese government procurement preferred brand", "High-tech products" and other honorary titles.

## Asia-pacific General Machinery Co., LTD

It takes import and export of mechanical and electrical equipment as its core business and strategic investment as its business focus. The joint company. The main business covers: general machinery and equipment import and export, agency mechanical and electrical equipment import and export, complete equipment project implementation, product manufacturing, venture capital platform, etc. The company to Skilled business level, the company has a sound qualification system and strong technology support, extensive service network at home and abroad, for "made in China" and overseas. Build a bridge to reach the market.

公司简介

# Qualification



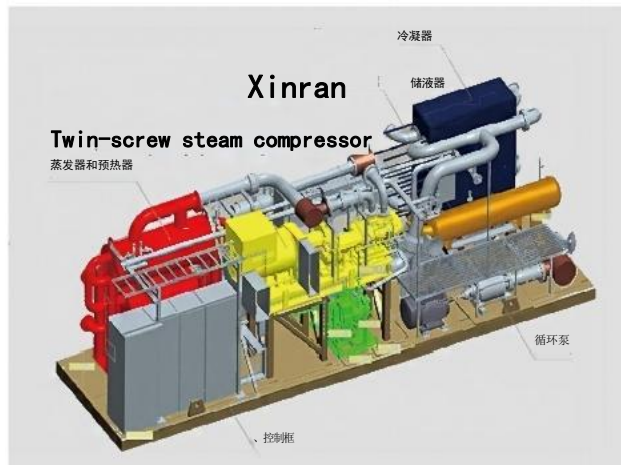
## INTRODUCTION

### 产品介绍

The screw steam compressor is a kind of high efficiency steam compressor specialized in recycling low-grade energy, it drives the screw steam compressor to rotate through the motor, when the low-grade thermal energy medium enters the screw groove, with the rotation of the rotor, the volume of the groove is rapidly reduced, the use of fluid compression and pressure boost to achieve energy conversion. From and make full use of energy to transform waste heat steam from low quality state to high quality state, and output high temperature and high pressure steam to meet the steam parameters required by users.

At present, in the production process of industrial and mining enterprises, a lot of low-grade steam and flash steam are produced. They are characterized by low temperature and low pressure and high humidity, although they contain a lot of latent heat energy of vaporization but can not be fully used, most of them are discharged or condensed into water to be recovered, wasting a lot of energy at the same time, not through the boiler, the condensate reevaporation heating pressure to meet the needs of production steam, or to buy new steam from the thermal power plant. If the screw steam compressor is used to compress the low quality steam to meet the production steam standards, so that the steam can be recycled, which can not only purify the environment but also achieve energy saving and emission reduction goals, but also give enterprises

The industry brings huge economic benefits.



## TECHNICAL CHARACTERISTICS

### 技术特点



- Simple structure, safe and reliable - screw steam compressor unit has simple structure, small size, stable operation, small vibration, safe, reliable and durable, simple operation and easy maintenance. The whole machine is assembled from the factory, and can be put into operation by connecting and debugging on site

- Large pressure difference width, strong applicability - screw steam compressor maximum inlet and exhaust steam pressure difference up to 1MPa, far more than other steam supercharging equipment. High grade heat source can be obtained with less energy consumption, suitable for saturated steam, vapor-liquid two-phase and other force lifting.

- The screw steam compressor has the characteristics of forced steam delivery, the volume flow is almost not affected by the exhaust pressure, and can maintain a high efficiency in a wide range. In the case of no change in the structure of the steam compressor, it is suitable for a variety of working conditions

- The energy saving effect is remarkable, and the return on investment is short. By increasing the pressure of the low-pressure steam, the steam is applied in the loop. Thus, it can reduce or even avoid the large energy consumption of steam in the process of condensation, pressure boost and reheating, realize the recovery of process steam tail steam, and save energy significantly. The equipment payback period is generally within one year.

## PERFORMANCE PARAMETER

## 产品性能参数

Inlet and exhaust pressure difference: 0.2-1.0MPa

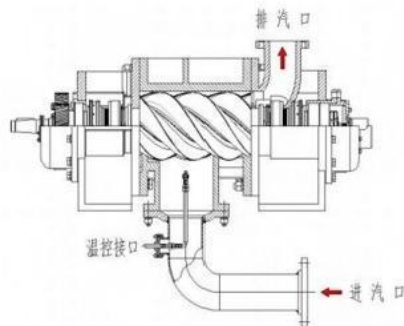
Temperature rise range: 20-100°C

Maximum exhaust temperature: 250°C

Range of speed: 1500-4000r/min

Unit displacement range: 20-320m³/min

Steam compression capacity: 0.5-20t/h



## Some screw steam compressors product parameter

Model No.	Displacement (m³/min)	Inlet/Outlet (MPa)	In/out pipe diameter (mm)	Capacity (t/h)	rotate speed (r/min)
XRY40-W	20-50	0.2-1.0	150/80	0.5-2	1500-4000
XRY80-W	40-80	0.2-1.0	200/100	2-8	1500-3000
XRY130-W	65-130	0.2-1.0	300/150	3-12	1500-3000
XRY160-W	80-160	0.2-1.0	300/150	4-16	1500-3000
XRY320-W	160-320	0.2-1.0	350/200	10-30	1500-3000

## APPLICATION AREA

## 产品应用领域

Screw steam compressor products can be widely used in petroleum, chemical industry, metallurgy, thermal power, steel, paper, light industry and other industrial enterprises of low pressure steam recovery.



petroleum



chemical industry



metallurgy



Electric power

## APPLICATION PROJECT

## 应用项目

## Low grade steam pressure recovery project

## Steam source parameter

Saturated vapor pressure  $\geq 0.3$ MPa(g); steam dryness 0.95-0.97

Quantity of steam  $\geq 4$ t/h.

## Steam parameters after compression

Pressure: 0.8MPa(g); temperature  $\geq 175^\circ\text{C}$ ; capacity: 4t/h

## Technology parameter

1.inlet: 0.3MPa (meter),saturation:  $144^\circ\text{C}$

2.outlet: 0.8MPa (meter),outlet temperature  $\geq 175^\circ\text{C}$

## steam enters the process pipe network:

3.Compressed steam: 4t/h.

## Equipment parameter

Model: XRY40-3000

speed: 3000r/min

Shaft power: 285KW

Motor power: 315KW

## Economic benefit (8000h)

Item	QTY	PRICE	AMOUNT
Annual steam recovery:	32000 Tons	140Yuan/ton	448ten thousand yuan
Annual power consumption cost:	232万kw. h	0.5Yuan/kw	-116ten thousand yuan
Annual total revenue	332ten thousand yuan		

## APPLICATION ITEM

## 应用项目

## Steam compression recovery project of a plant in Zhejiang

## Steam source parameter

Steam pressure 0.47MPa(g) Saturated wet steam: steam dryness 0.97: steam capacity  $\geq 4t/h$ .

## Steam parameters after compression

After compression, the steam pressure is 1.25MPa(g): the temperature is 200°C, the steam compression capacity is 4t/h, the equipment is matched with 220KW motor: the theoretical power consumption is 180KW.

## Technical specification

- 1.inlet: 0.7MPa (meter),170°C:
- 2.displacement: 1.25MPa (meter) 2 0 0°C:

## Steam enters the process pipe network:

- 3.capacity: 4t/h

## Equipment parameter

Model: XRY20-1500

speed: 1500r/min

Shaft power: 180KW

Motor power: 220KW

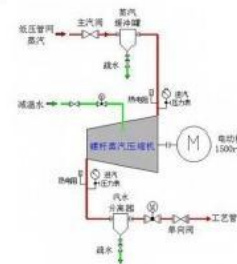
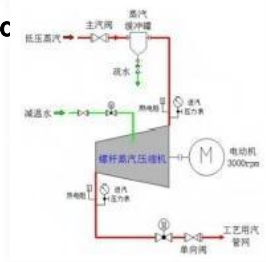
## Economic benefit (8000h)

Item	QTY	PRICE	AMOUNT
Annual steam recovery: :	32000Tons	200Yuan/Tons	640ten thousand yuan
年耗电成本:	148万kw. h	0. 7Yuan/kw	-103. 6ten thousand yuan
年总收益:	536. 4ten thousand yuan		

The site photo:

Thermoc

ram:



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## APPLICATION PROJECT

### 应用项目



## Steam compression recovery project in Anhui

### Technical specification

- 1.inlet: 0.8MPa (meter),175°C:
- 2.displacement: 1.45MPa (meter),210°C:

### Steam enters the process pipe network:

- 3.Compressed steam: 4t/h

### Equipment parameter

Model: XRY20-1500                      speed: 1500r/min  
Shaft power: 200KW                      Motor power: 220KW

### Economic benefit (8000h)

Item	QTY	PRICE	AMOUNT
Annual steam recovery:	32000Tons	150Yuan/Tons	480ten thousand yuan
Annual electricity consumption cost:	164万kw. h	0.5Yuan/kw	-82ten thousand yuan
Annual gross return :	398ten thousand yuan		

The site photo:

Thermodynamic system diagram:

## APPLICATION ITEM

### 应用项目

#### Saturated steam pressurization project of a company

##### Steam source parameter

The steam pipe network (operating pressure is 0.4~0.6MPa.g) in the plant is supplied with saturated steam generated by vaporizing cooling of the company's heating furnace. During the non-heating season (in principle, from February 30 to November 30 of the following year), the steam pipe network pressure is maintained at 0.4~0.6MPa.g by controlling steam release. The estimated dispersion is about 8t/h. The saturated steam temperature is about 140~150°C.

The second steelmaking initial smelting includes 3#100t electric furnace and 120t converter, which require a very high proportion of VD furnace vacuum, and the waste heat boiler of the electric furnace has been operated under reduced pressure due to aging, and the steam generated by the pipe network in the plant area is no longer used for the second steelmaking production. Converter vaporization cooling steam into 150m<sup>3</sup> heat storage

After the device is reduced to 1.3MPa.g for VD furnace vacuum use. The part with insufficient steam needs to be supplied by 25t/h gas boiler. At present, the set pressure of the boiler is 1.65MPa.g, the pressure of the boiler outlet pipeline supplied during the current normal production period in the boiler station is 1.25-1.4mpa. g, and the pressure of the user side inlet is 1.2-1.3mpa. g.

##### requirement of project

The project plans to build a set of variable frequency pressure equipment for saturated steam near the 25t/h boiler. After increasing the pressure, the discharged saturated steam will reach the outlet pressure and temperature that meet the requirements of use, and then connect it to the same supply pipeline near the boiler outlet. Under the condition that the pressurized steam is used first, it can supply VD production of second steelmaking at the same time as the 25t/h boiler. Reduce the boiler output, so as to reduce the output of 25 tons of boiler and save the purpose of natural gas consumption. After compression, the steam pressure is 1.5MPa.g, and the steam temperature is 210-220 °C(saturation temperature is 198.3°C). Steam flow 8t/h

##### Technical specification

1. Inlet: 0.5MPa (meter), saturation 159°C;
2. Displacement: 1.5MPa (meter), enter into the steam pipe;
3. compressed steam: 8t/h

##### Equipment parameter

Model: XRY60-2250 speed: 2250 r/min;

Shaft power: 680 Kw; Motor power: 900Kw;

##### Economic benefit (8000h)

Item	QTY	PRICE	AMOUNT
Annual steam recovery:	64000Tons	160Yuan/Tons	1024ten thousand yuan
Annual electricity consumption cost:	584万kw. h	0.5Yuan/Tons	-274ten thousand yuan
Annual electricity consumption cost:	750ten thousand yuan		

##### Site equipment photos:







Screw compressor product order data table			
No.	User Info		
1	username		
2	project name		
3	project location		
4	forms of application:	Screw steam compressor	
Steam parameters and characteristics for plant/process			
5	Device/Process Name:		
6	Annual running time:H		
7	Exhaust parameter	steam pressure: MPa.g	rated: Mini Max:
8		steam temperature: °C	rated: Mini: Max:
9		steam flow; t/h	rated: Mini: Max:
10	Steam parameter	Steam Pressure: MPa.g	rated: Mini: Max:
11		Steam temperature: °C	rated: Mini: Max:
12	In vapor form	Direct access steam equipment <input type="checkbox"/> ; Access to steam network <input type="checkbox"/> ; Others: <input type="checkbox"/> (Note: _____ )	
Power Supply Properties			
13	power	voltage : <b>380/400V</b> <input type="checkbox"/> ; 6000/6300V <input type="checkbox"/> ;10000/10500V <input type="checkbox"/> ; HZ: 50Hz Others <input type="checkbox"/> (Note: _____ )	
14	control power supply	220V <input type="checkbox"/> 380V <input type="checkbox"/> Others <input type="checkbox"/> (Note: _____ )	
Field energy/media prices - Economic accounting			
15	Local electricity price:	\$/KW	
16	<b>softened water:</b>	\$/T	

17	Steam Price:	\$/T
<p>Note:</p> <ol style="list-style-type: none"><li>1, if the on-site industrial water quality is very good, there is no need to support the circulating cooling water system, can directly use industrial water as the sealing cooling water;</li><li>2, if it is necessary to reduce the temperature/dryness of the steam intake of the unit, such as strict requirements for steam quality, it is recommended to use deoxygenated water.</li></ol>		