



## Luoyang Runcheng Petrochemical Equipment Co.,Ltd

Oilfield & Gas Field Surface Test Units & Services



### Luoyang Runcheng Petrochemical Equipment Co.,Ltd

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CHINA • LUOYANG

## Brief Introduction

Luoyang Runcheng Petrochemical Equipment Co., Ltd, which located in HENAN PROVINCE, CHINA, is a professional manufacturer for design & sale & services in wellhead surface test units.

Company owns various technologies and processing equipment, so that we can achieve test, assemble and commission for instruments, equipment and devices.

Company passed the ISO9001 quality management system certification, obtain the special equipment of pressure vessel (A2), pressure pipe element combination device manufacturing license qualification (class A) and pressure special equipment pressure vessel manufacturing qualification (A1), obtain access certificate of China national petroleum corporation supplies suppliers, won the title of luoyang, luoyang advanced enterprise of science and technology, etc.

Company insist to adhere to the science and technology enterprises, scientific management approach, attention to scientific and technological progress as the business opportunities and benefits, efforts will be those new technological achievements into industrial advantage, high-quality products to meet market demand. Companies always abide by the "customer first, quality first, the credibility of the first" quality, best-selling products overseas. Development and production of three-phase separator and other petrochemical equipments exports to Algeria, India, Mongolia and other countries, and get praised by customers.

Main products about oil&gas wellhead surface testing & metering units, including LRC series gas separating & metering units, three phase separator, water jacket heater, steam heat changer, stream generation, cyclone desander, buffer tank, HP choke manifold. We will take advantage of science & talent, rely on scientific management, advanced technology and sophisticated equipment and good equipment. Provide high quality products, first-class technology and satisfactory service to our customers.

## Enterprise Culture

### Enterprise spirit

Pioneering spirit, innovation

### Management approach

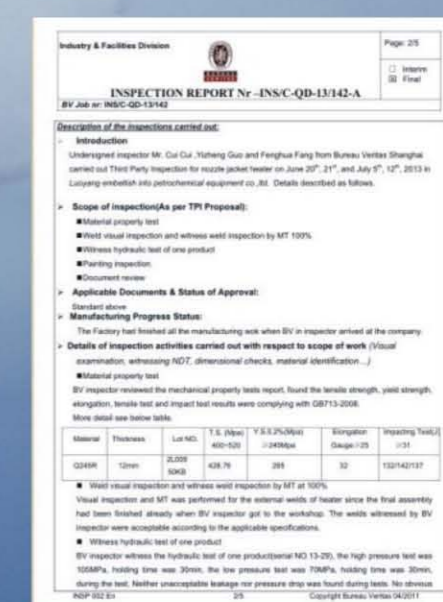
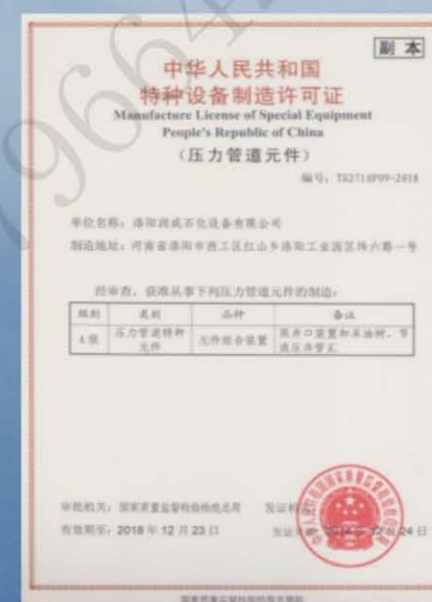
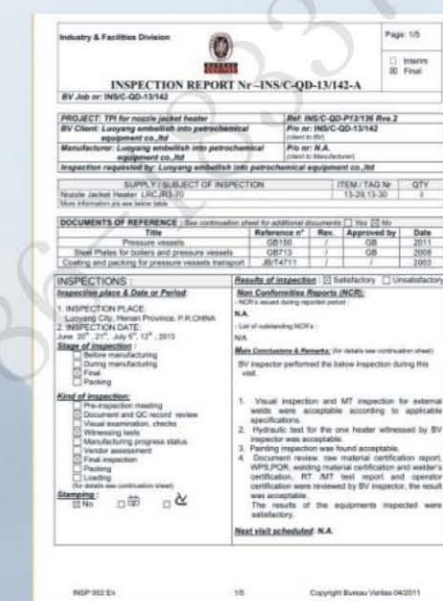
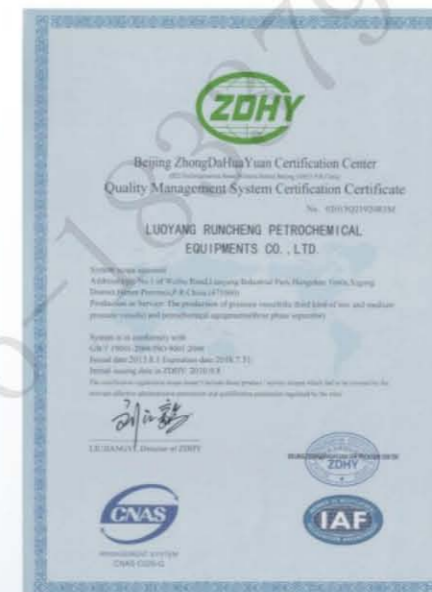
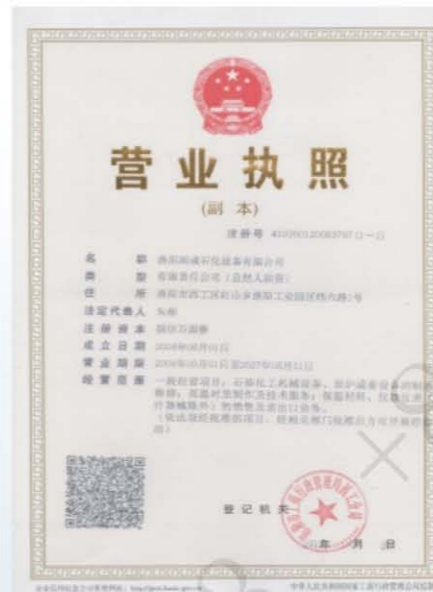
Develop enterprise s by science and technology, scientific management

### Enterprise quality policy

Customer first, quality first, reputation first, adhere to good quality, insist to provide reliable products for all the customers around the world forever.

### Enterprise purpose

Giving full play to the advantages of science and technology, relying on scientific management, advanced technology and excellent equipment, providing customers with quality products, first-class technology and satisfactory service.





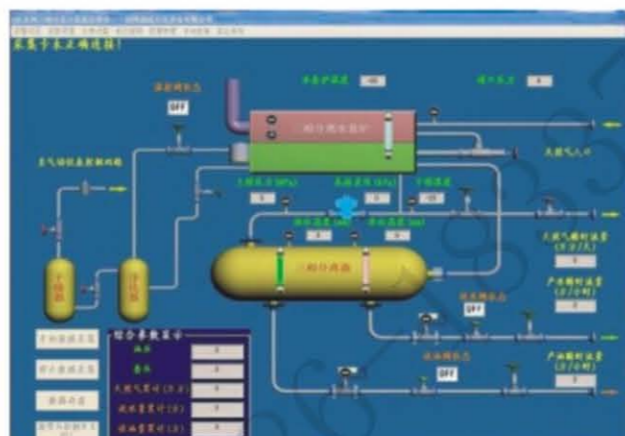
## Gas Three Phase Separating And Metering Units

### »»» Brief introduction:

LRC Series three phase separator unit is special for oil and gas well testing and gathering pretreatment. We adapts various self-development technology after we absorb international testing units advantage for us to design & fabricate equipments. The unit passed the technical evaluation for Changqing oilfield exploration bureau in 1994; Also passed SINOPEC technical expert testimony in 2002; Also achieve a award for scientific and technological advancement in 2003. After more than a decade of applications and constantly improve, we have a good feedback on product quality, saving energy and reducing consumption, reducing investment and technical services by user.

### »»» Technical parameters:

- 1) Model state: For "LRC A/B", "LRC" means products series mark; "A" means gas handling capacity per day:  $A \times 10^4 \text{ m}^3/\text{d}$ ; "B" means liquid handling capacity per day:  $B \text{ m}^3/\text{d}$ .
- 2) Design pressure for heating coil in heater  $P_{\text{max}}$ : 32MPa (4640psi)
- 3) Design pressure  $P_{\text{max}}$ : 9.8MPa (1400psi)
- 4) Normal operate pressure  $P_{\text{max}}$ : <7.5MPa (1088psi)
- 5) Inlet pressure  $P_{\text{max}}$ : 32.0MPa (4640psi)
- 6) Inlet temperature:  $\geq 10^\circ\text{C}$  ( $50^\circ\text{F}$ )
- 7) Safety valve set pressure: 7.5MPa(HP)(1088psi), 1.3MPa(LP)(200psi) (Details see nameplate)。
- 8) Rupture Disc set pressure: 9.4MPa (1363psi)
- 9) Gas Flow measure precision:  $\pm 1\%$
- 10) Overall dimensions (L×W×H): 7.4×2.2×2.5m(24×7×8inch) (When chimney is down)
- 11) Power supply: 220VAC, 10A
- 12) Inlet&outlet connection type: Thread type, following are size:  
Gas inlet: DN2½"  
Gas outlet: DN2½"  
Oil & Water outlet: DN2½"



Gas Three Phase Separating And Metering Units Series Sheet

Model	Technical parameters	Gas handling capacity per day	Liquid handling capacity per day	Structure	Monitoring mode	Dimension (M)	Weight (T)
LRC25/50		25	50	Integrated	IPC control	7.2×2.2×2.4	11.2
LRC25/100		25	100	Integrated	IPC control	7.4×2.2×2.4	11.5
LRC30/50		30	50	Integrated	IPC control	7.5×2.2×2.4	12.1
LRC30/100		30	100	Integrated	IPC control	7.6×2.2×2.4	12.5
LRC50/50		50	50	Integrated	IPC control	8.1×2.2×2.4	13.5
LRC50/100		50	100	Integrated	IPC control	8.6×2.2×2.4	13.8
LRCF30/2B		30	200	Separated	IPC control		14.9
LRCF50/2B		50	200	Separated	IPC control		15.8
LRCF30/3B		30	300	Separated	IPC control		16.4
LRCF50/3B		30	300	Separated	IPC control		17.9
LRCF-X		<30	>300	Separated	IPC control	Special design	

### »»» Application condition:

After ten years of research, LRC series 3phase separating & metering unit currently have more than a dozen varieties. Now it can meet the various requirements for oil and gas fields of test and production.

The unit have put into use in the Changqing gas field since 1993 and it is successfully operated for nearly ten years. Currently, there are more than 40 sets of equipments in Changqing oilfield, Dagang oilfield, Jilin oilfield, Qinghai oilfield, Daqing oil field, and achieved good economic and social benefits.



## Anti Sulfur Acid Three Phase Separating and Metering Equipment

### »»» Brief introduction:

Three-phase separating metering equipment widely used in oil and gas well testing process of flowing well, after the formation fluid of flowing well flow to the surface, to separate the oil, gas and water, Measuring three kinds of fluid production respectively, and obtained the chemical and physical properties. Horizontal three phase separator is with gas pressure control valve, the gas-oil and oil-water interface can be automatically controlled. Installed on the oil field special skid. The device is equipped with a complete manifold system, including the bypass pipeline and oil, gas, water interconnection pipe, all the pipes import and export connected with union, easy to operate. Designed the removable outer frame to prevent impact.

### »»» Technical parameters :

- 1) Working environment: Anti-sulfur EE or anti-acid 15%
- 2) Design pressure: 9.8MPa
- 3) Handling fluid  $P_{\text{max}}$ : 1000m<sup>3</sup>/d
- 4) Main anti-acid material: Q245R+316L
- 5) Handling gas capacity  $P_{\text{max}}$ :  $120 \times 10^4 \text{ Nm}^3/\text{d}$



### »»» Anti-acid description:

1. The general separator including the import separator, the vessel shell and head are chosen Q245R carbon steel. Material conform to the standard of anti H<sub>2</sub>S. It can meet production requirements for the performance of acid liquid. Some internal parts and accessories also used ordinary carbon steel material, for that they will soon be corroded in acid solution.

2. Anti sulfur acid threephaseseparating metering equipment select and use Q245R+316L steel not only to ensure the vessel strength. At the same time, due to more valve and pipeline, complex structure, it can improve the overall performance of the equipment by using same material, reduce the weak link, improve the equipment service life effectively.

»»» Advantage:

Anti sulfur acid threephaseseparating metering equipment has overall anti sulfur acid function. The device uses advanced materials and production process, so that it can effectively meet the acid back acid ground measurement work. So that can be satisfied with the ground measurement after discharging acid. Because of the production process and material of the conventional separator, can not be effective to prevent the corrosion of acid liquid. The separators made by conventional materials and processes can not effectively prevent the corrosion of acid liquid. But our separator can protect the underlying fluid into the surface flow separation measurement at PH>1, effectively meet the requirements of the gas measurement work in acid fracturing condition. Reduce the time of emptying discharging after acidification. Improve the operating efficiency. Especially to ensure the personal health and environmental protection of H<sub>2</sub>S well testing.

### Steam Heat Exchanger

»»» Brief introduction :

The steam heat exchanger is directly heat to the coil pipes by steam from the steam generator. The heat exchange efficiency of this method is higher than the indirect heating furnace, and low heat consumption. The coil pipes are divided into upstream and downstream. The middle part is provided with adjustable nozzle. The adjustable nozzle reduce the flow rate when through the downstream coil pipe. So as to carry out more heat exchange.

»»» Technical parameters :

- 1) Working environment: Anti-sulfur EE or anti-acid 15%
- 2) Pressure level: 35MPa
- 3) Connection mode: 3" Fig 602 union
- 4) Coil pipe material: 20G(Heating coil pipe)Anti-sulfur EE, 20G+316L (Heating coil pipe) anti-acid 15%

»»» Advantage :

- 1) Steam inlet installed a temperature control system, according to the temperature of the heated fluid to determine how much of the steam supply.
- 2) Steam outlet installed a mist catcher, only liquid water is allowed to reach the goal of maximum energy saving.
- 3) The steam heat exchanger is equipped with double Safety system which is the spring safety valve and rupture disk on the top of the vessel. They connect to the discharge nozzle by the safety release line.



### Steam Generator

»»» Brief introduction :

Steam generator used the fuel combustion system which imported from Italy. The heating system heating directly by fire canister,

According to natural gas temperature and oil gas processing capacity, the intelligent controller automatic control and adjust the steam temperature, water level and pressure. To achieve the purpose of full automatic control the equipment. All the pipes import and export connected with union. Designed the removable outer frame to prevent impact.

»»» Technical parameters

Rated capacity	2t/h	Feedwater temperature	20℃	
Rated temperature	184℃	Design thermal efficiency	Fuel	91.20%
Rated steam pressure	1.0MPa		Gas	90.01%
Hydrostatic test pressure	1.4MPa	Exhaust gas temperature	Fuel	152.27℃
Heating surface	Radiation		8.45m <sup>2</sup>	Gas
	Convection	38.412m <sup>2</sup>	Boiler capacity	4.9m <sup>3</sup>
	Energy saving device	11.76m <sup>2</sup>	Discharge rate	5%
Fuel consumption	0# Light diesel oil	141.86kg/h	Stack size	Φ325×8000
	Natural gas	151.03m <sup>3</sup> /h	Boiler weight	8.22t
Boiler transport dimension ( L×W×H )			4464×1893×2204 ( mm)	

»»» Advantage :

- 1) The boiler main body is a massive structure, the main body comprises a heating surface and a combustion chamber. Reasonable structure, compact, low steel consumption. Using the bias waveform furnace. Heat insulation layer choose the new lightweight heat insulation material. Color sheet used in packaging. Outer packing is rectangular. Our boiler performance, weight, structure, appearance are more advanced and beautiful than the same capacity domestic products.
- 2) The water supply unit is installed at the right bottom of the boiler, and is one part of the subject.
- 3) Water cycle is simple, structure of the pressure parts is reasonable. The boiler can operate safely in ensuring the water quality situation.
- 4) Auxiliary complete, comprehensive and advanced technical performance. Comprehensive technical and performance are advanced.



## Cyclone Desander

### »»» Brief introduction :

Cyclone desander is made according to the principle of the Solid particles in the fluid are being screened at the time of rotation. The cyclone and filtration become a whole, achieve the removal of desanding and liquid separation in the field of oil treatment.

### »»» Working principle :

After the oil flow tangential entry from the inlet to the device with a certain pressure, produce strong rotational motion, because of different density of sand and oil, in the action of centrifugal force, centripetal force, buoyancy force and drag force, the low density oil rises, then discharge from the oil outlet, density large sand will be the sink to the sand bin. Achieve the purpose of desanding.

### »»» Advantage :

- 1) Simple structure, easy operation, safe and reliable, almost no maintenance.
- 2) Compared with the expansion pipe, the buffer tank and other equipment, it has the advantages of small size, large processing capacity, saving space and so on.
- 3) Desanding in the process of oil uninterrupted supply.
- 4) To avoid the second time pollution of other desanding way, and with high efficiency.

### Technical Parameters

Model	Gas Inlet Pressure	Average Desanding	Gas Inlet	Gas Outlet	Sand outlet DN1- 1/2
	MPa	%	DN	DN	mm
LRCS-1	<35	>96	65	65	32
LRCS-2	<70	>95	65	65	32



## High Pressure Anti Sulfur Desander

### »»» Brief introduction :

High pressure anti sulfur desander successful development is according to the principle of foreign filtering desander. And combined with the actual situation of domestic oil field, using a new type of anti sulfur acid materials. It is a new high pressure desander with anti sulfur and acid.

This device not only have same effect device as foreign import, but also anti sulfur and acid. Suitable for desanding in the high pressure, high yield, acid oil and gas well. Can effectively desand the sand fracturing, sand stratum, shot pierced shells, other harmful solid debris, clay, heavy oil and so on which Impact of surface transport, testing, measurement.



### »»» Working principle :

- 1) Maximum working pressure: 70MPa/ 105MPa
- 2) Maximum working temperature of fluid: 120 °C
- 3) Ambient temperature : -40 ~70°C
- 4) Lowest temperature device storage: -50 °C
- 5) Working medium: oil, gas, water
- 6) Desanding cylinder maximum diameter: Φ 210mm
- 7) Inlet and outlet size : 2-<sup>2</sup>/16"
- 8) Desanding cylinder volume: ≥46L
- 9) Natural gas processing capacity : 150,000Nm<sup>3</sup> /d
- 10) Anti - sulfur grade: 10%



## Choke Manifold

### »»» Brief introduction :

The purpose of the 35/70/105MPa choke manifold is to throttle the fluid and make the oil and gas well operate under different working conditions.

### Technical Parameter

Pressure level Parameter	35MPa (5000psi)	70MPa (10000psi)	105MPa (15000psi)
Color	Blue	Yellow	Red
Model	JG/S52-35	JG/S78-70	JG/S78-105
Design pressure	35MPa	70MPa	105MPa
Weight	2530kg(5578lb)	3580kg (7892.5lb)	4630kg (10260lb)
Dimension(L×W×H)	1802×1339×680mm 70.9×52.7×26.8 in	2516×1824×799 mm 99.1×71.8×31.5 in	3270×2371×1038.7 mm 128.83×93.34×40.95 in
Material Level	EE	EE	EE
Product specification level	PSL3	PSL3	PSL3
Work temperature	PU(-29°C-121°C)	PU(-29°C-121°C)	PU(-29°C-121°C)
Product performance level	PR1	PR1	PR1
Nozzle	Fixed and adjustable nozzle	Fixed and adjustable nozzle	Fixed and adjustable nozzle
Characteristics	Five gate design	Five gate design	Five gate design
Work medium	Mud, oil and drilling fluid	Mud, oil and drilling fluid	Mud, oil and drilling fluid
Connection type	Flange	Flange	Flange

### »»» Device features :

- 1) Control the well fluid flow;
- 2) Standard dual nozzle system: fixed nozzle and adjustable nozzle;
- 3) 5 valve control manifold with bypass, dedicated to oil and gas well testing;
- 4) Gate valves are all Hagnum type upstream and downstream two-way metal-to-metal seal;
- 5) 15000psi adjustable nozzle adopts gear handle, have reduced the operating torque;
- 6) Fixed nozzle is equipped with tungsten steel lining, wear and corrosion resistance.



### Buffer Tank

»»» Brief introduction :

The function of the buffer tank is to confirm the data of the oil flow gauge of the separator, measuring oil output, and for the further gas separation from the crude oil which is separated from the separator. At the same time can prevent gas gathering near the well site to produce H<sub>2</sub>S. The buffer tank is not only a secondary separator but also also a metering tank, which can be used to measure the output of crude oil and to calibrate the liquid flow meter.



The Parameters And Characteristics Of Buffer Tank

Total capacity	Work pressure	Work temperature	Inlet and outlet thread type	Weight	Dimension (H×L×W)	Sampling point	Design basic and work environment
bbls (m <sup>3</sup> )	psi (bar)	°F (°C)		lbs (kg)	ft (m)		
2x50 (16)	50 (3.5)	-20~100 (-29~38)	2"3/4" fig 602 inlet 2"3/4" fig 602 outlet 4" fig206 gas outlet 4" fig206 release outlet 2" fig 206 relief outlet 2"150#spare top	14300 (6486)	18.8×9.9×8 (5.7×3×2.5)	One each side	With one or two release valve and pressure glass observation window, each compartment has a glass gauge socket, inlet and the bypass hole with 3 "600# plug valves
2x50 (16)	50 (10.3)	-50~250 (-45~21)	4" fig 602 inlet 4" fig 602 outlet 6" fig206 gas outlet 6" fig206 release outlet 2" fig 206 relief outlet 3"150#spare top	17000 (7711)	18.8×9.9×8 (5.7×3×2.5)	One each side	With 6 "150#SRXG rupture disc and bearing glass observation window, each compartment has a glass gauge socket, inlet and the bypass hole with 4" 600# plug valves

### Metering Tank

»»» Brief introduction :

Metering tank is used formetering crude oil after separation and the verification of the separator's flow gauge.

Technical Parameter

Volume	Working pressure	Manhole size	Inlet and outlet thread type	Net weight	Size (L×W×H)	Sampling point	Feature
bbls (m <sup>3</sup> )	psi (bar)	inch (mm)		(kg)			
252 (40)	Atmospheric pressure	18 (450)	3" fig2602 F 3" fig602M	8000	7.8×2.45×3.2	1/2" one each side	Tank top with a manhole and explosion-proof oil hole, equipped with a manhole at the bottom is convenient to clean the internal of the tank, and there are also mounted breather valve and flame arrester at the tank top.
2x50 (16)	Atmospheric pressure	18 (457)	3" fig2602 F 3" fig602M	6400	5.5×2.5×2.7	1/2" one each side	Double rooms, with 6 "flame arrester, flame arrester flanges are ANSI 150 RF stainless steel flanges, with observation hole, the oil gauging hole



### Ignition Device

»»» Brief introduction :

The ignition device is a comprehensive flare device which integrates the high pressure electronic ignition and gas combustion function. By the ignition control box, an ignition device and the torch three major components. The connection between the ignition control box and the ignition device adopts high voltage wire, External install protective tube and explosion-proof hose.

»»» Technical parameter :

- 1) Fuel types: oil and gas
- 2) Gas pressure: ≤0.1 MPa or less
- 3) Gas inlet test pressure: 0.4 MPa
- 4) Largest gas consumption: 1000 m<sup>3</sup> / h
- 5) Power source: AC220V. 50 HZ 3A (Max)
- 6) Electric ignition voltage: 10 KV(Max)
- 7) Electric ignition energy storage: 150MJ
- 8) Spark frequency: ≥5HZ
- 9) Flame detector response time: ≤5S
- 10) Working temperature: the head of the ignition device (flame outlet within the range of 2m, max 600°C); the other parts -25°C~ 60°C
- 11) Electrical insulation performance: ≥2MΩ (normal condition, the insulation resistance between the ignition device shell and the power input ) test conditions: AC500V 50HZ.



### Surface Safety Valve

»»» Brief introduction :

SSV series surface safety valve is mainly used in the station of the petroleum and natural gas, wellhead and ground process, or other devices etc. When the downstream pipeline occurs tube explosion, leakage, blockage and has lead to the well site appears the phenomenon of the over pressure or under voltage, the safety valve can can be automatically shut down. Therefore, the ground safety valve can effectively prevent the danger expansion, to provide a strong guarantee for the rescue work of the oil and gas production units.

»»» Technical parameters :

- 1) Nominal diameter (mm): 52, 65, 78/80, 103
- 2) Rated pressure (MPa): 14, 21, 35, 70, 105
- 3) Maximum working pressure (MPa) of induction system: 21MPa
- 4) Working temperature (°C) : -29°C~120°C
- 5) Performance level: PR1, PR2
- 6) Specification level: PSL1, PSL2, PSL3
- 7) Material level: AA/BB/CC/DD/EE/FF



## Crude Oil Transfer Pump

### »»» Brief introduction :

Crude oil transfer pump are driven by electricity and diesel engines, for the transmission of crude oil and combustion.

### »»» Technical parameters :

- 1) Use: deliver the liquid (oil water ) from metering tank (sometimes buffering tank) into the storage tank or mobile tanker; pump the crude oil from the metering tank, buffering tank, storage tank into the burner (pump pressure  $\geq 2\text{MPa}$ ) or the oil pipeline
- 2) Capacity: 10 M<sup>3</sup>/hour or more
- 3) Pump pressure: 0.3-3MPa
- 4) Type: centrifugal pump, screw pump, etc.
- 5) Power: electric, diesel engine driven
- 6) Requirements: explosion-proof
- 7) Entry connection: 3" Fig 602 T
- 8) Export connection: 3" Fig 602 W



## Data Head

### »»» Brief introduction :

Data header set chemical injection, temperature and pressure collection, sampling channel, ESD high and low pressure sensors in one.

### »»» Technical parameters :

- 1) Pressure and temperature record and monitor;
- 2) Sampling;
- 3) Monitor pressure and temperature;
- 4) Injecting antifreeze, defoaming agent and other chemicals;
- 5) High pressure (>10000psi) adopt Autoclave buckle type, sealing reliable.
- 6) H<sub>2</sub>S services
- 7) 5K-20Kpsi working pressure
- 8) 2"-4" inner diameter



## Light Hydrocarbon Recovery Device

### »»» Brief Introduction :

The low-pressure natural gas which from precinct to supercharger after dehydration, and then mixed heat exchange with hydrocarbons and fuel gas; and then into the deep cold machine, the temperature of natural gas fell to -35 °C; and then choke & decompression and cooling by adjusting valve. The gas which decompression and cooling is mixed phase; it will complete gas-liquid separation in the gas-liquid separator; the gas which located in top of separator will send to heater to generating after it heat exchange with raw material. Liquid which located in bottom will heat exchange with raw material after it boost by pump, then send away by tank car. At the same time, processes will consider the high pressure feed conditions is 3.5MPa; the working conditions of natural gas will across the supercharger instead of go through supercharger. Following progress is same as above working condition.

### Technical Parameters

Handling capacity per day : 1-10×10<sup>4</sup> m<sup>3</sup>/d ( 0.35-3.53MMSCFD )

Item	Number	Name	Transportation size ( L*W*H) (m)	Weight(t)	Note
1	M101	Skid mounted compressor	According to gas recovery requirements		Customized
2	M102	Skid mounted desulfuration dehydration device	3.5×2.3×2.7	6.80	
3	M103	Skid mounted separator	6.8×2.2×2.5	8.5	
4	M104	Skid mounted choke manifold jacket heater	2.5×2.5×2.7	15.8	
5	M105	Skid mounted control room	7.2×2.3×2.7	8.5	
6	M106	Skid mounted light hydrocarbon Recovery device	According to recovery requirements	15-20	Without ice machine



## Oil&Gas Manifold

### »»» Brief introduction :

Oil & Gas manifold including three ball valves, three tee joints, five outlet switch heads.

### Technical Parameters

Pressure class	1500psi
Temperature class	-28.9°C~121°C
Size	3-1/16 inch
Work environment	Oil, Gas, mud, water including H <sub>2</sub> S
Design code	NACE MR-01-75
Inlet connection	3 inch Fig 1502 T×1
Outlet connection	3 inch Fig 1502 W×1
Ball valve	Five Ball valve ( UK Brand )





### Wellhead Christmas Tree ( X-mass Tree )

»»» Brief introduction :

Christmastree will install on top of tubing head . It is mainly used for control wellhead pressure and adjust oil&gas production . Transfer oil (gas ) to oil-conveying pipe . It also can close wellhead or Wellhead acidification , fracturing , paraffin removal when need .

»»» Technical parameters :

- 1) Work Temperature: -46° C~121° C (LU)
- 2) Work pressure: 2000-20000psi
- 3) Size : 2.1/16" to 5.1/8"
- 4) Material class : AA BB CC DD EE FF
- 5) Work medium: oil , gas , mud ,gas with H2S , CO2
- 6) PSL: PSL1~4
- 7) PR: PR1~2



»»» Advantage :

- 1) Wellhead work safety, easy to operate and maintenance.
- 2) The end user can equipped various specification (gas)liquid safety valve.
- 3) It can Fixed drilling , wellhead casing connection, Seal and the annular space between the control tube,

Hanging tubing, control of wellhead pressure, and regulating the flow of oil (gas) well, Induced to the oil well tubing, when necessary, can also be used to shut down the well, also can be used in acid fracturing, injection, testing and other special operations.

### Chemical Injection Pump

»»» Brief introduction :

Inject gas hydrate inhibitor which can lower the temperature in the natural gas hydrates formation .



Technical Parameters

Work environment	Methanol or glycol( CH3OH or CH2OH-CH2OH )
Connection	1/2" NPT
Injection capacity	0.01 to 0.19 m <sup>3</sup> /Hr
Injection pressure	10,000 psi (70MPa)
Volume	0.04 m <sup>3</sup>
Needed air pressure accessories	Air pressure regulator
	Pressure gauge
	liquid level gauge
	Pressure relief valve
	Stainless steel tank



### High-pressure Gas Cylinder

»»» Manufacture Process :

There are two ways to manufacture high-pressure cylinders: one is using seamless pipe as preform body, the convergent closed bottom of hot spinning forming; the other is to use square billet by stamping tensile and convergent molding .

1) Overall punch pull type : Whole red pull type: billet saw cutting and laying-off - reaction heating - Spinning shut - heat treat - outside shot (descaling cylinder surface oxide after heat treatment) - Confirm Length - mouth thread processing - Magnetic particle testing (to detect whether the surface crack) - hydrostatic testing (both inside and outside cylinders require soaking) - Inside shot - install valve - tightness test - spray - drying - inspection - storage

2) Pipe Spinning Forming type: pipe saw cutting and laying-off - reaction heating - spinning back - milling the bottom - reaction heating- Spinning shut - Heat Treatment - sandblasting - mouth thread processing - insided the sand treatment (or phosphate) - hydrostatic testing -install valve- tightness test - spray - drying - test - storage



Technical Parameters

Work pressure	25MPa	Cylinder class	B1
Wore temperature	-50~65°C	Calculate volume m <sup>3</sup>	2
Hydraulic pressure	37.5MPa	Equipment weight kg±10%	2037
Gas-tight test pressure	25MPa	Cylinder length mm	9515
Main material	30CrMoLX	Medium name	CNG
Heat treatment	Quench +Temper	Ratio of permanent expansion	≤10%

»»» Trailer CNG :

Trailer CNG is fixed in the trailer set up a gas cabinets, gas cylinder cabinet unit with a plurality of gas cylinders, gas cylinders unit features multiple rows of cylinders with a special three-way valve cylinder and high-pressure pipe connected with the adjacent cylinders, each row of cylinders by high-pressure line is connected to the unit by-pass line, pass line through the high pressure manifold valve manifold connected to the road, the road has a high-pressure manifold valve, high pressure safety valve connected to the discharge pipe, duct the road has a total valve, pressure gauge and sub-valve, the valve is connected with the high pressure points quick connector. The system for transporting compressed natural gas .



Trailer CNG :

- 1) With the rapid spread of natural gas as a clean city gas purification project-fuel vehicles are being vigorously promoted, gate stations, gas station construction rapid increase in long high-pressure gas pipe trailer demand will grow
- 2) Work pressure : 20MPa
- 3) Shape of two sides : Open in two sides
- 4) Material : 4130X
- 5) Medium: CNG、H<sub>2</sub>、He、N<sub>2</sub>、Air , ethylene, and so on.



Φ 559 Trailer CNG :

Long-tube trailers for industrial gas and compressed natural gas storage and transportation, to provide safe and reliable guarantee for the storage and transport of large quantities of hazardous gases, ensure quality while reducing costs.



Φ 660 Trailer CNG :

To minimize operating costs of customers, through research and integration of resources, the company developed a greater diameter, the volume of large volume high-pressure cylinders. Eight tubes Φ 660 trailer CNG instead of the traditional eight-tube Φ 559 trailer CNG , improve vehicle cylinders density ratio, while due to reduced connection piping, safety is further improved..



8 Pipe Φ 559 Trailer CNG Technical Parameters

Item	Parameter	
Semi-Trailer:	Trailer weight	30730Kg
	Trailer and CNG cylinders weight	33930Kg
	Full saddle axle load distribution	15930Kg
	Full rear axle axle load distribution	16530Kg
	Leg load	17400Kg
	front fitting radius	1600mm
	Post-gap radius	2150mm
	Saddle binding membrane height	1369/1245mm
	whole car gas test	20MPa
	Dimension: (L×W×H)	12390×2480×3000
CNG Bottle Type Pressure Vessel	Work pressure	20MPa
	Work temperature	-40~60℃
	Medium	CNG
	Cylinder number	8
	Volume	18m <sup>3</sup>
	Filling CNG volume	4550Nm <sup>3</sup>
	Bottle type pressure vessel weight	21760Kg
	Hydraulic test pressure	33.3MPa
	Gas-tight test	20MPa
	Overall weight	25660Kg
Size: (Dia×Wallthickness×cylinder length)mm	Φ559×16.8×10970	

8 Pipe Φ 660 Trailer CNG Technical Parameters

Item	Technical parameters		
All	Curb weight / Kg	35712	
	Filling weight / Kg	4288	
	All weight / Kg	40000	
	CNG cylinder volume / m <sup>3</sup>	23.82	
	Carrier gas capacity / Nm <sup>3</sup>	6002	
	Tire Rim type	Aluminum Tire Rim	
	Axle	Three axis Axle	
	Hanging plate spring	4 piece taper spring leaf	
	Wheelbase / mm	8474+1310	
	Dimension / mm (L×W×H)	12397×2480×3775	
	Tyre	11.00-20 12PR 11.00R20 12PR 12R22.5 12PR	
	CNG cylinder	tagging code	DOT-3AAX
		Work pressure / MPa	20
Work temperature / °C		-20~60	
Main material		4130X	
Filling medium		CNG	
Nominal water volume / L		2977	
Cylinder number		8	
CNG cylinder volume / m <sup>3</sup>		23.82	
CNG cylinder test pressure / MPa		20	
Hydraulic test / MPa		33.4	
CNG cylinder size / mm (Dia×Wall thickness×cylinder length)	Φ660×19.5×10255		



HP Chiksan Swivev Joint Styles

Brief introduction

Chiksan swivel joints are available from stock in nine basic styles or configurations. These styles permit 360-degree rotation and movement in one, two, or three planes. They can be combined in an unlimited variety of ways to suit practically any installation. All Chiksan swivel joints are assembled using two or more standard pieces.



union pipeline



chiksan swivev joint

HP chiksan swivev joint styles