

## Sucker Rod

### Solid Sucker Rod

The thread of sucker rod and coupling are processed by compressing and rolling machine, which can improve the thread strength and solve the problems of loosening and unscrewing. The product includes Sucker Rod for Anti-Corrosion, Coupling for Anti-Corrosion and Anti-Abrasion, Polished Rod for Anti-Corrosion and Anti-Abrasion Rod, Polished Rod and etc.



#### Product Features:

1. The composite coating technology which compounded by epoxy resin and 1Cr18Ni9Ti can provide the sucker rod with capabilities as salt water resistance, hydrogen sulphide resistance and carbon dioxide resistance. It improves the corrosion resistance of sucker rod and prolongs its service life.
2. With the surface engineering technology, the coupling of sucker rod has higher mechanical property than the conventional one and has perfect corrosion resistance and abrasion resistance. The coating's hardness has reached to HRC56 and the combination strength is more than 400Mpa.
3. With coating on the polished rod, its hardness can reach to HRC56 and the combination strength is more than 400MPa, which prolongs the service life of the polished rod and pack. For high hardness and self-lubrication characteristic, it is especially suitable for high corrosive medium well, sandy well and it also can prevent polished rod from being cut and sawn.

#### Product Features:

The property of the rods conforms to the standard of Sucker Rod SY/T5029-2003 Grade D and Grade HL.

Machinery Property of Solid Sucker Rod

Strength Grade	Yield Strength $\sigma_s$ (Mpa)	Tensile Strength $\sigma_b$ (Mpa)	Elongation Percentage $\delta$ (%)	Section Contraction $\psi$ (%)	Impact Flexibility(J)
D	$\geq 590$	795~965	$\geq 10$	$\geq 50$	$\geq 60$
HL	$\geq 795$	965~1195	$\geq 10$	$\geq 45$	$\geq 60$

Specification	Rod Body(mm)		Nominal Thread (in)	Connector O.D.(mm)			Length (mm)	
	Dia.mm	Circulation Tolerance mm		Connector	Coupling	Small Drill Coupling	Rod	Pony
CYG16	15.9	$\leq 0.30$	1-5/16	31.8	38.1	31.8	7620 ~ 10000	600
CYG19	19.1		1-1/16	38.1	41.3	38.1		1000
CYG22	22.2		1-3/16	41.3	46	41.3		1500
CYG25	25.4		1-3/8	50.8	55.6	50.8		2000
CYG29	28.58		1-9/16	57.2	60.3	—		

## Hollow Sucker Rod

The mechanical property of hollow sucker rod has reach the standard of Hollow Sucker Rod Grade D SY/T5550.

Hollow sucker rod is a kind of special product which is designed for producing high condensation oil, high viscosity oil and high paraffin oil. The hollow sucker rod's connector and coupling are welded to the two ends of seamless steel pipe through friction welding. It forms a passage inside the rod string, which can achieve all kinds of its functions.

The hollow sucker rod can be used in:

- 1 Production device with injecting heat carrier.
- 2 Electric heating hollow sucker rod system.
- 3 Tubeless production devices.
- 4 Two-grade and three-section water injection.

It can also be used to drive the PC pump as its high load bearing and high rigidity.



### Product Features:

- 1 Friction pressurized welding technology is adopted for rod and its connectors;
  - 2 It is applicable to production heavy oil, high pour point oil and high-containing wax oil. It can meet the requirements of wire-line heating or chemical blending process ;
  - 3 It also can be used for driving the PCP ;
- Connection mode: insert, anti-dropout, direct-connecting.

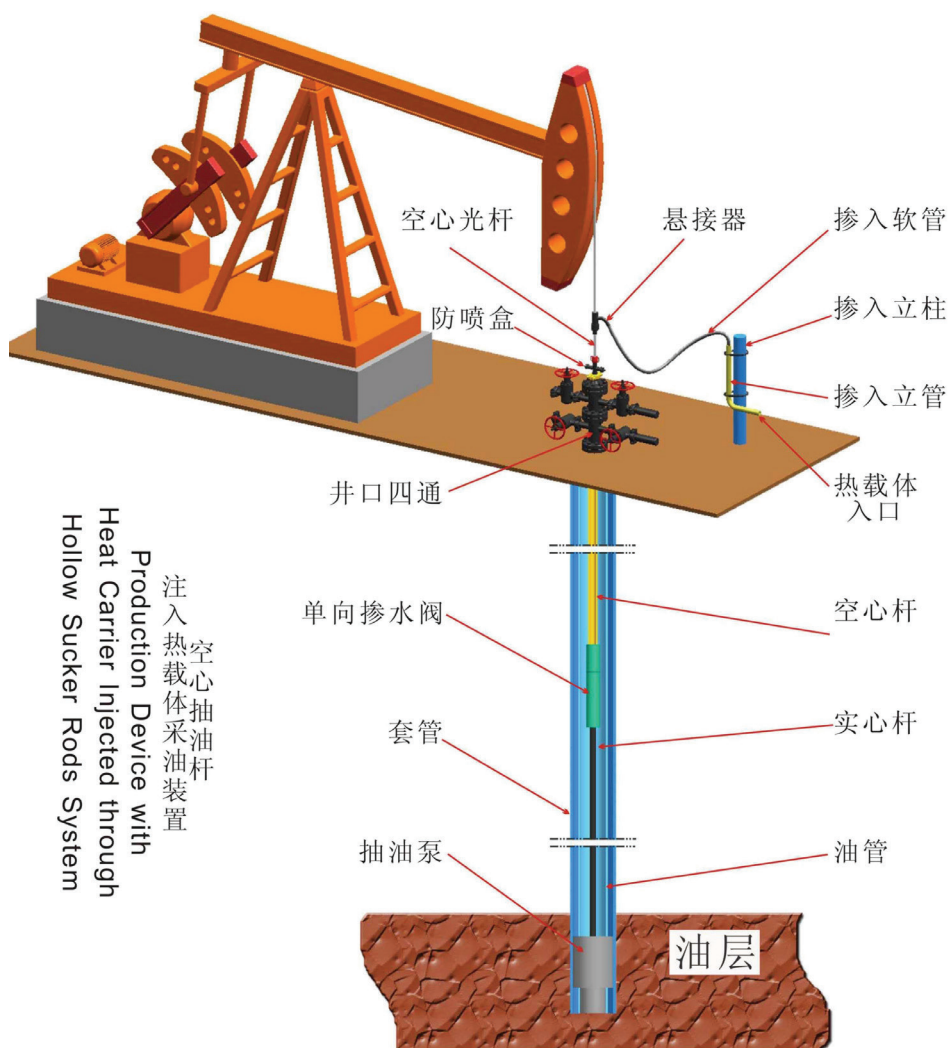
### Product Specifications:

#### Specification and parameters of Hollow Sucker Rod :

Specification	Rod Body(mm)		Nominal Thread(in.)	Connector (mm)	Length (mm)	
	Dia.	Thickness			Rod	Pony
KG32	32	5.5	1-7/16	48	8000 ~ 12000	600、1000、 1500、2000、 2500、3000、 3500
KG34	34	5.0	1-9/16	50		
		5.5				
KG36	36	5.0	1-9/16	50		
		5.5				
		6.0				
KG38	38	6.0	1-3/4	56		
KG42	42	6.0	1-7/8	59		
KG40	40	6.0	1-3/4	57		
KGG36	36	6.0	1-9/16	50		
KGG40	40	6.0	1-3/4	57		

## Production Device with Heat Carrier Injected through Hollow Sucker Rods

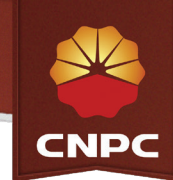
The device is used to raise the temperature in the well hole and decrease the viscosity of crude oil. It can solve the paraffin troubles of the well hole, and make the well equipments working normally by injecting hot water, hot oil, steam gas and chemical medicament continually or intermittently through the hollow sucker rod hole.



### Product Features:

1. It has good heating efficiency and has no interference or pollution to the oil zones.
2. The well can be washed at any time according to requirement without shutting in and does not need to pump back washing fluid
3. Simple in process, easy to operate and low energy cost.
4. Extend the stroke of plunger, increase pump efficiency and prolong the service life.
5. It is used to decrease the viscosity of crude oil through injecting with heat carrier and chemicals.





## Electric Heating Hollow Sucker Rods System

It makes electric cable go through the inner chamber of hollow sucker rod and current circulation can be formed by sucker rod's body. When the alternating current is supplied, the wall of hollow sucker rod is heated based on the principle of skin effect, then the crude oil in the whole tubing string can be heated and the viscosity will be decreased. It can improve the oil flowability and prevent paraffin troubles.

### Product Features:

- 1 Simple installation.
- 2 Easy to operate and easy to manage.
- 3 It has high heating efficiency and control the temperature automatically.
- 4 Extend the plunger stroke, increase pump efficiency and prolonging the well's operation periods.
- 5 It can bear many times operation due to safe and reliable structure.
- 6 Improve the load condition of the pumping unit.

We will select the type and design the system for the customers according to the well conditions if necessary.

## Special Driving Sucker Rod for PC Pump (Driving sucker rod)

The Special Hollow Sucker for PC Pump have been developed on the bases of general solid and hollow sucker rod production system according to the requirement of customers. It can solve the problem of rod which broken and unscrewed frequently in PC pumping wells.

### Structure:

There are two kinds of driving sucker rod: Driving Solid Sucker Rod and Driving Hollow Sucker Rod. There are two types of connecting: double shoulder straight thread type and wedge jack left hand thread type.



### Product Features:

1 The structure of double shoulder straight thread type:

a. The thread size is augmented, so the loading and connecting capacity can be improved.

b. Double shoulder can add a load bare surface, so the connecting capacity is improved effectively. The shoulder area is increased for one time, it can load more heavy transient torque and reversal torque, prevent from thread making and breaking out, and protect thread form breakdown. It works simply, takes-down easily and it can use repeatedly.

2 Wedge jack left hand thread

The part of wedge jack is V type, the root is thicker, so the twisting strength is high, and connecting threads is only used to connect. Using left hand thread can prevent the thread from being unscrewed when coupling make friction with tubing wall. This type of Driving sucker rod is widely used by our customers

### Product Specifications:

Type	Specification (mm)	Thread (in)	Max. O.D.(mm)	Length(mm)
Sucker rod	Φ22	1-3/8	Φ51	7000~9140
	Φ25	1-3/8or1-9/16	Φ48-Φ52	
	Φ28	1-9/16or1-7/8	Φ52-Φ60	
Hollow sucker rod	Φ36×5.5 Φ36×6.0 Φ36×6.5	1-9/16or1-7/8	Φ52-Φ58	pony 800、1000、1500
	Φ38×6.0 Φ38×6.5	1-3/4or1-7/8	Φ56-Φ60	2000、3000
	Φ42×6.0	2	Φ61	