

Products presentation



➤ 常规实心抽油杆 Solid sucker rod

抽油杆是有杆抽油设备的重要部件。在采油过程中利用抽油杆柱传递能量，将地面动力或运动传递给井下的抽油泵。可以按照API Spec 11B规范生产：C、D、HL（eq. N97）、HY等级的钢制实心抽油杆。产品选用优质合金钢材料，100%矫直探伤抛丸，采用闭环温控加热先进技术进行锻造，采用先进的全自动数控滚丝进行杆头加工，采用先进的热处理工艺装备进行整体调质，采用超音频工艺进行表层淬火，确保抽油杆质量。

Sucker rod is important part of rod production equipment which drives the downhole pump from the motor of the pumping units. We can manufacture more than the grade C、D、HL（eq. N97）、HY solid sucker rods all according to API Spec 11B specifications. The sucker rod uses the high quality alloy steel as the material, 100% be straighten、flaw detection and Shot blasted, forged by the close-loop advance technology, using advanced automatic thread rolling for pin end, using advanced heat-treatment for sucker rod, using the ultrasonic frequency surface quenching, to ensure the quality of sucker rod

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主要力学性能

MECHANICAL STRENGTH PROPERTY

等 级 Grade	抗拉强度 R _m Tensile strength MPa	屈服强度 R _{el} Yield strength MPa	伸长率 A 200mm % Elongation	断面收缩率 Z % Reduction	艾氏冲击功 (Z 型) J Izod impact
C	620~795	≥415	≥13	≥50	≥80
K	620~795	≥415	≥13	≥60	≥115
D	795~965	≥590	≥10	≥50	≥60
KD	795~965	≥590	≥10	≥50	≥60
HL(eq.N97)	965~1195	≥795	≥10	≥45	≥60
HY	965~1195	表面硬度 HRC≥42; 心部硬度 HB≥224; 淬硬层深度为杆体直径的5%~13%. surface hardness HRC≥42; core hardness HB≥224; the depth of quench hard layer is 5%~13% of rod body diameter.			

型号规格

SPECIFICATIONS

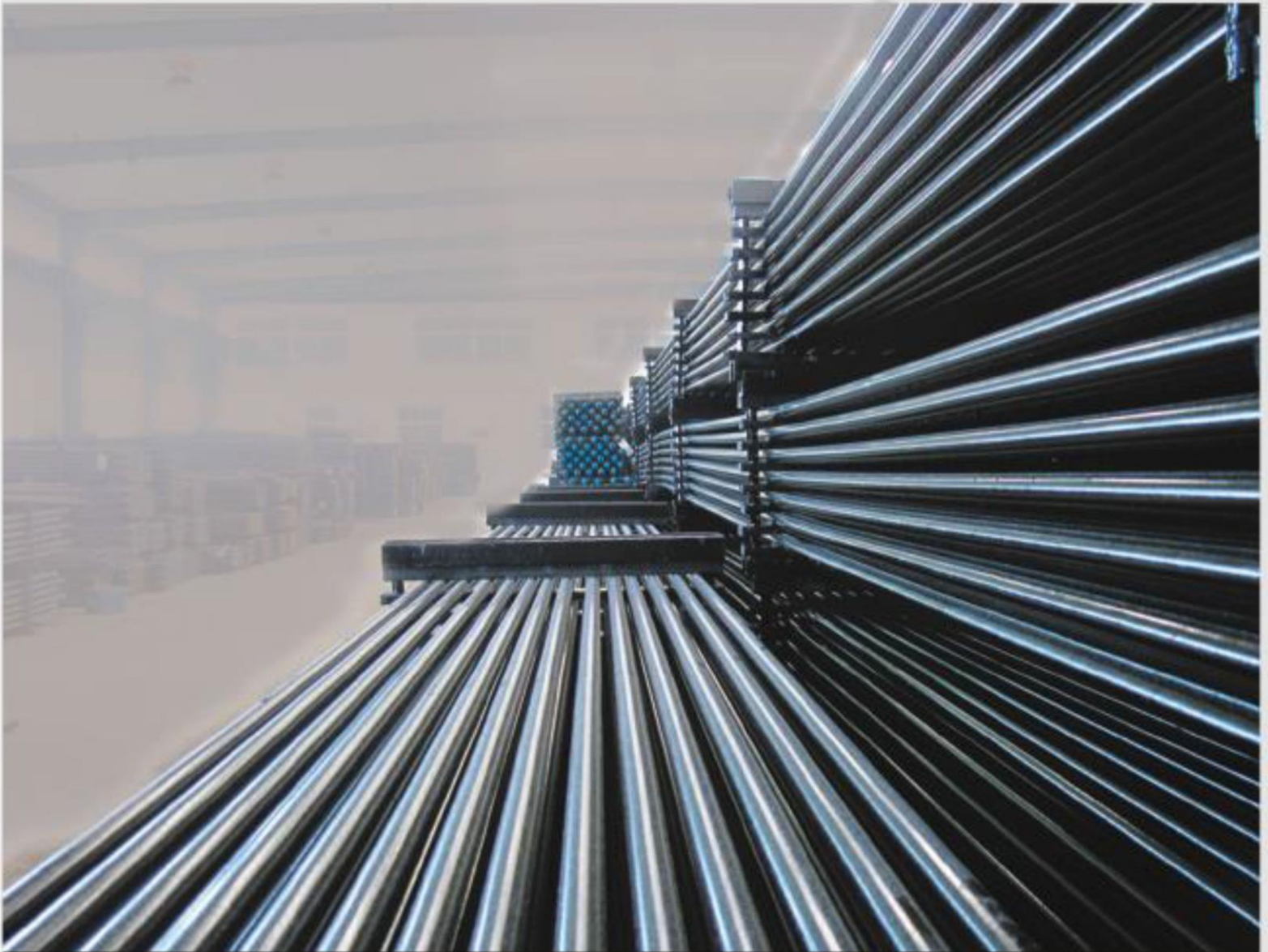
标称值 in Nom inal size	杆体直径 mm rod body OD	台肩外径 mm Pin shoulder OD	螺纹标称值 in Nom inal diameter of thread	抽油杆长度 mm Sucker rod Length	短节长度 mm pony rod Length
⁵ / ₈	15.88	31.8	¹⁵ / ₁₆	7518、9042	508 1118 1727 2337 2946
³ / ₄	19.05	38.1	1 ¹ / ₁₆		
⁷ / ₈	22.23	41.3	1 ³ / ₁₆		
1	25.40	50.8	1 ³ / ₈		
1 ¹ / ₈	28.58	57.2	1 ⁹ / ₁₆		

➤ K、KD等级防腐实心抽油杆

Grade K、KD anti-corrosive solid sucker rod

井液中 H_2S 、 CO_2 、 CL^- 等腐蚀性介质易导致抽油杆腐蚀失效，造成很大损失。针对这一情况，我们研制出K、KD等级的防腐实心抽油杆。产品选用特殊的镍铬钼合金钢材料，采用特殊工艺加工制造而成。多年实践应用证明，可有效防止 H_2S 、 CO_2 、 CL^- 等腐蚀性介质对抽油杆的腐蚀，并成功推广应用于海洋采油。

The H_2S 、 CO_2 、 CL^- such corrosive media in the production fluid will corrode the sucker rod and cause failure easily , resulting great loss. Due to this situation, we developed grade K, KD anti-corrosive solid sucker rod. Product use special nickel-chromium molybdenum alloy steel material, produced by special process. Many years application can proved, that can effective prevent H_2S 、 CO_2 、 CL^- such corrosive media effect on the sucker rod, and been successfully applied in the offshore petroleum.



Hollow sucker rod

普通空心抽油杆是一种具有中间流道的抽油杆，主要用于“三高”（高粘度、高凝、高含蜡）原油开采。除了可作普通抽油杆传递动力外，还可通过其内孔加入各种化学药剂和热油等降低原油粘度，控制油井结蜡，提高泵效；由于流道小、流速快，不易沉积砂粒，适用于含砂油井；抗扭能力大，可驱动螺杆泵；与无管泵配套使用，可替代油管；便于向井中安装各种控制器。



Hollow sucker rod has hole in the middle, mainly used for the “three high”(high viscosity, high pour point, high wax content) petroleum production. Besides used as the normal solid sucker rod to transfer the power, chemicals and hot oil can be injected through the inner hole to decrease the viscosity of the petroleum and the paraffin deposit in the well thus the pump efficiency is increased; The smaller passage and the faster flow velocity can avoid the sand deposit efficiently while use hollow sucker rod in the sand well; matched with the rodless pump hollow sucker rod can substitute the tubing; Hollow sucker rod can be used to drive the PC pumps as it can bear larger torque; and easy for install sensors in direction well.



主要力学性能

MECHANICAL STRENGTH PROPERTY

等 级 Grade	抗拉强度 R _m Tensile strength MPa	屈服强度 R _{el} Yield strength MPa	伸长率 A 200mm % Elongation	断面收缩率 Z % Reduction
C	620~793	≥412	≥13	≥50
D	793~965	≥620	≥10	≥48

型号规格

SPECIFICATIONS

规格 Specification	杆体 mm rod body		接头外径 mm Connector OD	扳手方 mm Wrench square		螺纹标称尺寸 in Nominal Diameter of the Thread	长度 mm Length	
	直径 O.D	壁厚 Wall thickness		长度 Length	宽度 Width		空心杆 Hollow rod	短节 Pony rod
KG32	φ32	5	48	34	41	1 ⁷ / ₁₆	7000 7500 8000 8500 9000 9500 10000	1000 1500 2000 3000
KG34	φ34	5.5	50	34	44	1 ⁹ / ₁₆		
KG36	φ36	5.5, 6	50	34	44	1 ⁹ / ₁₆		
KG38	φ38	6	56	40	49	1 ³ / ₄		
KG40	φ40	6	59	40	54	1 ⁷ / ₈		
KG42	φ42	6	59	40	54	1 ⁷ / ₈		

Hollow torque resistance rod

空心扭矩杆是我公司专利产品，用于驱动螺杆泵，可大幅降低抽油杆失效频次，减少损失。产品选用特殊螺纹，螺纹抗扭极限可达7500Nm；能产生较大的预紧力以防脱扣；同等扭矩条件下储存的反扭矩小，大幅降低停机反转圈数；采用高精度螺纹台肩与胶圈叠加密封，便于渗液、冲砂和下电缆等作业。

Hollow torque resistance rod is our patent product, used to drive PC pumps, sucker rod failure frequency can significantly reduced and lower the loss. Product use special thread, thread torque resistance limit up to 7500Nm; can have a greater preload to prevent tripping; In equal torque conditions, the anti-torque minimum stored, dramatically reducing the reversal laps when PC pumps shut down; using high-precision thread shoulder and rubber ring for double seal, suit for liquid injection , sand flushing, and cable input.



主要力学性能

MECHANICAL STRENGTH PROPERTY

等级 Grade	抗拉强度 R _m Tensile strength MPa	屈服强度 R _{el} Yield strength MPa	伸长率 A 200mm % Elongation	断面收缩率 Z % Reduction	艾氏冲击功 (Z 型) J Izod impact
D	795~965	≥620	≥10	≥48	≥60

型号规格

SPECIFICATIONS

规格 Specificaion	杆体 mm rod body		接头外径 mm Connector OD	扳手方 mm Wrench square Spanner		长度 mm Length		最大抗扭强度 Max torsional strength N·m
	直径 O.D	壁厚 Wall thickness		长度 length	宽度 width	杆 Hollow rod	短节 Pony rod	
GQG34	φ34	6	54	32	45	6500~9500	600~3000	3000
GQG36	φ36	6	54	32	45			3000
GQG38	φ38	6	54	32	45			4000
GQG40	φ40	6	54	32	45			4500

Solid torque resistance
& anti-corrosive torque resistance sucker rod

实心扭矩杆是我公司专利产品，用于驱动螺杆泵，可大幅降低抽油杆失效频次，减少损失。产品选用特殊螺纹，螺纹抗扭极限可达7500Nm；能产生较大的预紧力以防脱扣；同等扭矩条件下储存的反扭矩小，大幅降低停机反转圈数。

我公司研制出的防腐实心扭矩杆选用特殊的镍铬钼合金钢材料，采用特殊工艺加工制造而成。不仅具有上述实心扭矩杆的性能，而且可有效防止H₂S、CO₂、CL⁻等腐蚀性介质对扭矩杆的腐蚀。



Solid torque resistance rod is our patent product, used to drive PC pumps, sucker rod failure frequency can significantly reduce and lower the loss. Product use special thread, thread torque resistance limit up to 7500Nm; can have a greater preload to prevent tripping; in equal torque conditions, the anti-torque minimum stored, dramatically reducing the reversal laps when PC pumps shut down.

The solid anti-corrosive torque resistance rod uses the special nickel-chromium molybdenum alloy steel material, manufacture through special process. Not only own all above advantage, but also can avoid the such H₂S、CO₂、CL⁻ corrosive on the sucker rod efficiently.

主要力学性能

MECHANICAL STRENGTH PROPERTY

等级 Grade	抗拉强度 R _m Tensile strength MPa	屈服强度 R _{el} Yield strength MPa	伸长率 A 200mm % Elongation	断面收缩率 Z % Reduction	艾氏冲击功 (Z型) J Izod impact
H	965~1195	≥795	≥10	≥45	≥60

型号规格

SPECIFICATIONS

公称尺寸 in Nominal size	杆体直径 (mm) Rod body OD	长度 Length (mm)		最大抗扭强度 (N·m) Maximum torsional strength
		杆 Sucker rod	短节 Pony rod	
1	25.40	7620 8000 9140	600, 1200 1800, 2400 3000, 3600	1400
1 ¹ / ₈	28.58			1800
1 ¹ / ₄	31.80			2500
1 ¹ / ₂	38.10			4000

Drive rod

我们研制出的驱动杆，选用优质合金钢，采用特殊结构和螺纹连接，采用特殊工艺加工制造而成，可以大大降低抽油杆的失效频次，减少相应损失。

We developed the drive rod, it made of the high quality alloy steel, adopt special structure and connection, manufactured by special process, can dramatically decrease the rod failure frequency, and lower the loss.



主要力学性能

MECHANICAL STRENGTH PROPERTY

等 级 Grade	抗拉强度 R _m Tensile strength MPa	屈服强度 R _{el} Yield strength MPa	伸长率 A 200mm % Elongation	断面收缩率 Z % Reduction	艾氏冲击功 (Z 型) J Izod impact
H	965~1195	≥795	≥10	≥45	≥60

型号规格

SPECIFICATIONS

公称尺寸 in Nominal size	杆体直径 (mm) Rod body OD	杆头结构尺寸 in Rod end size	长度 Length (mm)	
			驱动杆 Drive rod	短节 Pony rod
1	25.40	7/8	7620 8000 9140	600, 1200 1800, 2400 3000, 3600
1 1/8	28.58	1		
1 1/4	31.80	1		
1 1/2	38.10	1 1/8		

Sinker bar

加重杆是为了防止大泵抽油、抽稠油和深井抽油时，抽油杆柱下行过程中受到阻力，当其下部自重不能抵消阻力时，抽油杆柱的下部发生纵向弯曲。杆柱失稳弯曲易造成抽油杆的早期失效；增大冲程损失，降低泵效；增大杆管间的磨损。

产品选用采用优质碳钢或合金钢，按API Spec 11B规范生产两个强度等级（1级和2级）的加重杆。



Sinker bar is to prevent the large pump pumping, pumping heavy oil and deep pumping, the sucker rod string's weight can not offset the resistance during down stroke, the lower sucker rod occur the vertical bending. Sucker rod string instability and bending easily lead to early failure of sucker rod; increased stroke loss, reduce the pump efficiency; increase wear between sucker rod and tubing.

Sinker bar made of the high quality carbon steel or alloy steel, two strength grade sucker bar (grade 1 and 2) are manufactured according to API Spec 11B specifications.



主要力学性能

MECHANICAL STRENGTH PROPERTY

等级 Grade	最小抗拉强度 Min tensile strength	
	kpsi	MPa
1	65	448
2	90	620

型号规格

SPECIFICATIONS

标称值 in Nominal size	杆体直径 mm Rod body OD	外螺纹标称值 in Nominal Diameter of the Thread	提升颈直径 mm Elevator neck OD	最小提升颈长度 mm Min elevator neck Length	加重杆长度 mm Sinker bar length
1 ¹ / ₄	31.75	¹⁵ / ₁₆ SR	22.23	101.6	7620 9140
1 ¹ / ₄	31.75	1 ¹ / ₁₆ PR	22.23	101.6	
1 ³ / ₈	34.93	¹⁵ / ₁₆ SR	25.40	101.6	
1 ³ / ₈	34.93	1 ¹ / ₁₆ PR	25.40	101.6	
1 ¹ / ₂	38.1	1 ¹ / ₁₆ SR	25.40	101.6	
1 ⁵ / ₈	41.28	1 ³ / ₁₆ SR	25.40	101.6	
1 ³ / ₄	44.45	1 ³ / ₁₆ SR	25.40	101.6	

Polished rod

光杆是将地面动力或运动传递给抽油杆的一个重要部件，表面粗糙度Ra应达0.2um~0.8um（ $8\times10^{-6}\text{in}\sim32\times10^{-6}\text{in}$ ）。

产品选用优质合金钢，采用先进加工工艺，可生产各类实心光杆、空心光杆和特种光杆。

Polished rod is an important part transfer the power from the ground to sucker rod. The surface finish roughness can reach Ra 0.2um~0.8um（ $8\times10^{-6}\text{in}\sim32\times10^{-6}\text{in}$ ）.

Polished rod use the high quality alloy steel, manufactured by advanced process, can manufacture every kind of solid polished rod, hollow polished rod and special polished rod.



主要力学性能

MECHANICAL STRENGTH PROPERTY

极限抗拉强度 R _m Kpsi Max Tensile strength	极限抗拉强度 R _m MPa Max Yield strength	伸长率 A200mm % Elongation	断面收缩率 Z % Reduction
95~160	655~1103	≥10	≥45

SPECIFICATIONS

公称尺寸 in Nominal Size	杆体直径 mm Rod body OD	外螺纹标称值 in Nominal Diameter of the Thread	外螺纹台肩外径 mm Pin end shoulder OD	长度 mm Length
1 锻锻 Forging	25.4 锻锻 Forging	¹⁵ / ₁₆ SR	——	2438 3353 4877 6707 7315 7620 7925 9140 10973 12192
		1 ³ / ₁₆ SR	41.3	
1 ¹ / ₈	28.6	¹⁵ / ₁₆ PR	——	
		1 ¹ / ₁₆ PR	——	
1 ¹ / ₈ 锻锻 Forging	28.6 锻锻 Forging	¹⁵ / ₁₆ SR	——	
		1 ¹ / ₁₆ SR	38.1	
1 ¹ / ₄	31.8	1 ³ / ₁₆ PR	——	
1 ¹ / ₄ 锻锻 Forging	31.8 锻锻 Forging	1 ³ / ₁₆ SR	41.3	
1 ¹ / ₂	38.1	1 ³ / ₈ PR	——	
1 ¹ / ₂ 锻锻 Forging	38.1 锻锻 Forging	1 ⁹ / ₁₆ SR	57.2	



Coupling

产品选用采用优质碳钢或合金钢，按API Spec 11B规范生产T级、SM级足尺或小井眼接箍，异径接箍，也可生产KD级接箍，双向保护防偏磨接箍，光杆接箍或超高强度接箍等。

The coupling used the high quality carbon steel or alloy steel , manufacture class T, class SM full size coupling, or slim hole coupling and subcoupling, also can manufacture class KD coupling ,double direction abrasion proof coupling, polished rod coupling or ultra strength coupling according to API Spec 11B specifications.



MECHANICAL STRENGTH PROPERTY

等级 Grade	最小抗拉强度 Min Tensile Strength		硬度 Hardness
	kpsi	MPa	
T	95	655	56HRA~62HRA
SM	95	655	基体硬度 56HRA~62HRA, 喷涂层硬度 $\geq 595\text{HV}_{200}$ Base hardness 56HRA~62HRA, Sprayed layer hardness $\geq 595\text{HV}_{200}$

型号规格

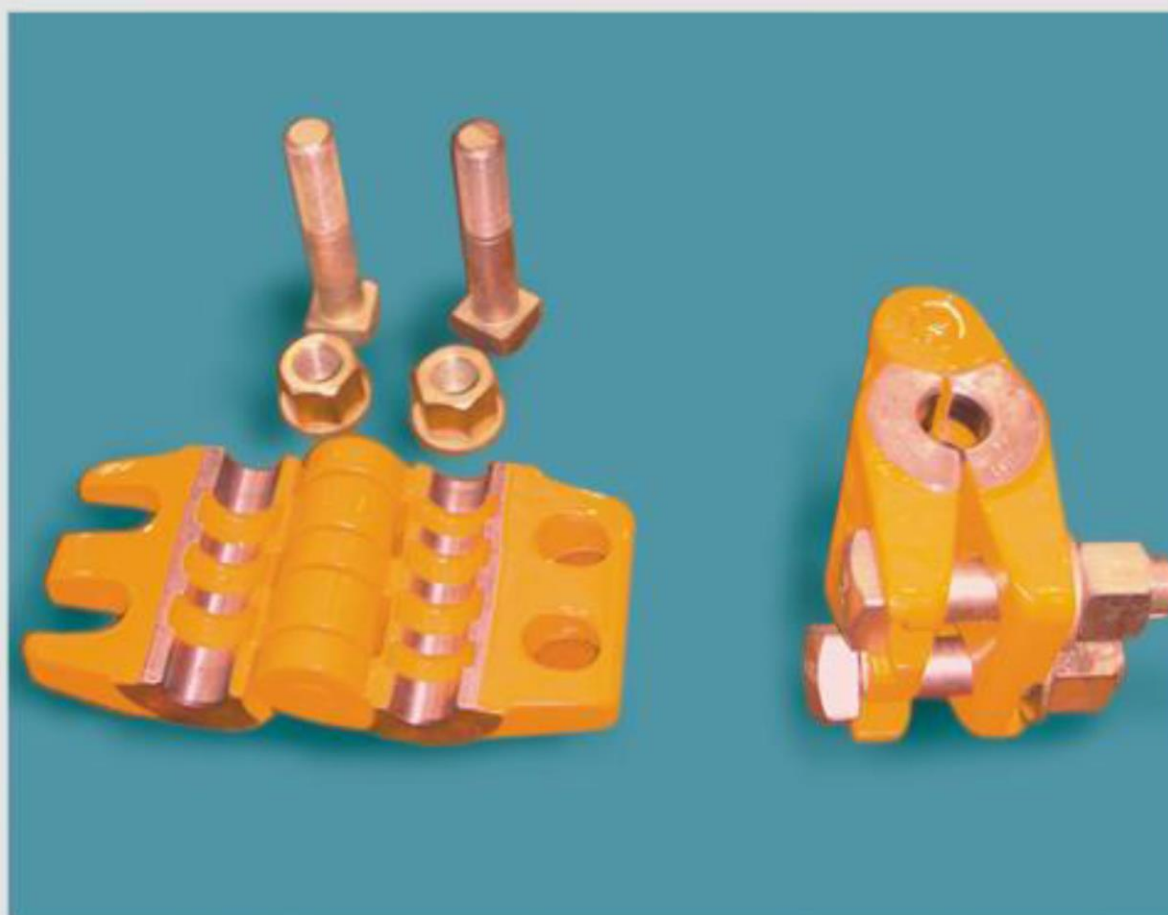
SPECIFICATIONS

标称值 in Nominal size	外径 mm OD	长度 Length mm	扳手方长度 mm Wrench square length	扳手方宽度 mm Wrench square width
$\frac{5}{8}$ S.H	31.8	101.6	——	——
$\frac{5}{8}$	38.1	101.6	31.8	34.9
$\frac{3}{4}$ S.H	38.1	101.6	——	——
$\frac{3}{4}$	41.3	101.6	31.8	38.1
$\frac{7}{8}$ S.H	41.3	101.6	——	——
$\frac{7}{8}$	46.0	101.6	31.8	41.3
1 S.H	50.8	101.6	——	——
1	55.6	101.6	38.1	47.6
$1\frac{1}{8}$	60.3	114.3	41.3	53.9
1 S.H 异径接箍 S.H subcoupling	50.8	114.3	——	——
1 异径接箍 Reducing coupling	55.6	114.3	38.1	47.6
$1\frac{1}{8}$ 异径接箍 subcoupling	60.3	127.0	41.3	53.9

The accessories of sucker rod

我公司可配套加工光杆卡子、光杆密封器、抽油杆扶正器、抽油杆防脱器等产品。

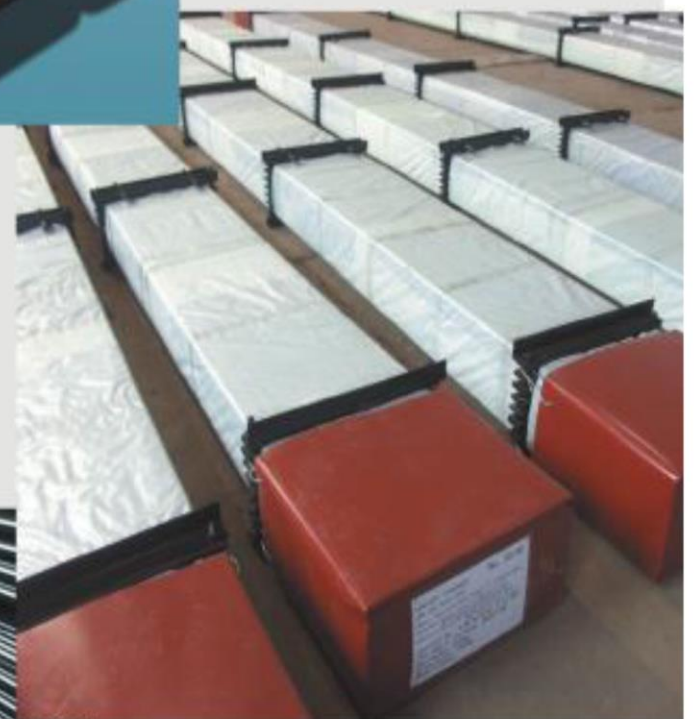
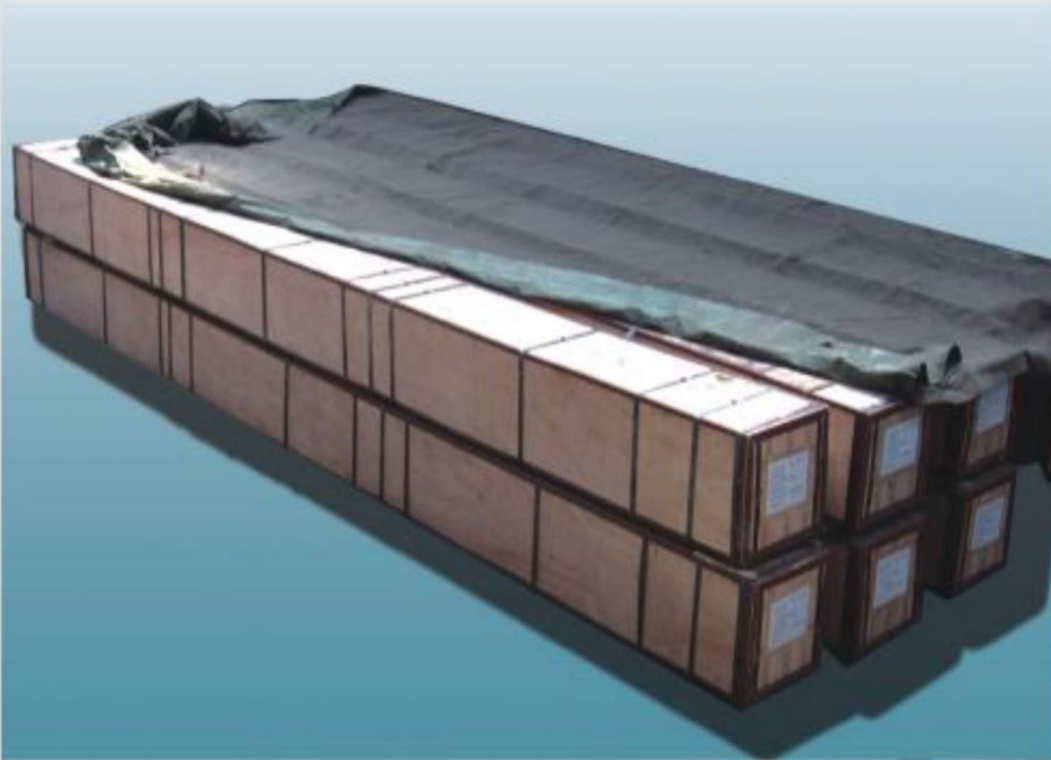
Our company also can manufacture polished rod clamp, polished rod stuffing box, Sucker rod guide and sucker rod anti-drop device etc.



Package

我公司可根据客户要求提供抽油杆简易包装、尼龙包装和木箱包装等多种包装型式。

We can offer the sample package, nylon package, wooden package etc. according to customer requirements.



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Machining equipment



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五、检测设备 Testing equipment

