Motor/pump/protector housing, guard tube - ESP accessories

The motor/pump/protector housing are the outer pipes of the ESP unit. Our company can provide customers with various honing-free finishing housings and fine honing housings. The material includes 35 steel, 45 steel, C1026, 9Cr1Mo, 32205, 316, etc., and we can provide customers Various types high-precision stress-relieving housings with OD from φ25.4 to φ300mm and the max length is 12000mm.

Honing machine (The company has 22 sets high-precision and powerful honing machines to meet the precision honing of the inner bore of various specifications.)

Raw material production equipment

High precision cold drawing machine,

High precision cold rolling equipment

The equipment has a high degree of automation, with automatic loading and unloading tooling, and the internal and external molds of the cold drawing machine are drawn together. At present, We have 50T, 150T, 300T, 600T and other types of chain cold drawing machines and hydraulic cold drawing. There are 8 sets of machine equipment, and there are nearly 20 sets of various precision cold-rolled pipe machine equipments of 60 type, 80 type, 120 type, 150 type and 240 type, which can produce various high precision straightness requirements of the housings.

Housing specification series(For China、Singapore and the United States etc)

Series		OD (mm)	ID (mm)	Material	Straightness
Motor housing	375	φ 95.25±0.30	φ $84.8868^{+0.05}_{0}$	C1026、9Cr1Mo、35#、45#、304、316、UNS32205、ST52.3	0.05/315mm 0.50/6096mm The inner hole must pass through the corresponding straightness gauge
	400	φ $101.6^{+0.25}_{0}$	φ $92.075^{+0.05}_{0}$		
	456	φ 115.8±0.30	φ $104.8512^{+0.05}_{0}$		
	540	φ 138.125±0.30	φ $123.9012^{+0.05}_{0}$		
	562	φ 142.875±0.30	φ $130.0988^{+0.05}_{0}$		
	738	φ 187.325±0.30	φ $165.0746^{+0.05}_{0}$		
Pump housing	338	φ 86±0.30	φ $76.2^{+0.15}_{0}$	C1026、9Cr1Mo、35#、45#、304、316、UNS32205、ST52.3	0.30/1000mm
	387	φ 98.6±0.30	φ $88.9^{+0.279}_{0}$		
	400	φ 101.6±0.30	φ $88.9^{+0.279}_{0}$		
	540	φ 130.2±0.30	φ $114.986^{+0.076}_{0}$		
	675	φ 172±0.30	φ $158.5^{+0.20}_{+0.12}$		
Protector housing	338	φ 85.725±0.30	φ 76.327±0.127	C1026、9Cr1Mo、35#、45#、304、316、UNS32205、ST52.3	0.30/1000mm
	387	φ 98.6±0.30	φ $88.9^{+0.179}_{-0.10}$		
	400	φ 101.6±0.30	φ $88.9^{+0.179}_{-0.10}$		
	540	φ 130.2±0.30	φ 115.164±0.178		
Guide tube		φ 31.75±0.20	φ 23.8±0.20	C1026、9Cr1Mo、35#、45#、304、316、UNS32205、ST52.3	0.30/1000mm
		φ 38.1±0.20	φ 25.4±0.20		
		φ 41.41±0.20	φ 31.75±0.20		
		φ 47.6±0.20	φ 31.75±0.20		
		φ 50.8±0.20	φ 34.8±0.20		

Housing specification (Especially for Russia etc)

ITEM	OD(mm)×ID(mm)×WT(mm) ×Length(mm)	Material	Straightness
Housing	φ55×φ$46.1^{+0.08}_{0}$×4.45×4010	35#、ST52.3、AISI321H、UNS32205、F91	The inner hole passes through the size gauge and straightness gauge
	φ86×φ75×5.5×6300		
	φ92×φ$80^{+0.12}_{0}$×6±0.36×6300		
	φ96×φ86×5×5625		
	φ103×φ$83^{+0.4}_{0}$×$10^{+0.4}_{-0.1}$×2780		
	φ103×φ$90^{+0.12}_{0}$×6.5±0.39×6300		
	φ117×φ$105^{+0.17}_{+0.05}$×6±0.36×8940		

ITEM	OD(mm)×ID(mm)×WT(mm) ×Length(mm)	Material	Straightness
Housing	φ130×φ118$^{+0.17}_{+0.05}$×6±0.36×8560	35#、ST52.3、AISI321H、UNS32205、F91	The inner hole passes through the size gauge and straightness gauge
	φ136×φ122$^{+0.12}_{0}$×7±0.42×6320		
	φ139×φ122$^{+0.12}_{0}$×8.5±0.51×6300		
	φ143×φ130$^{+0.185}_{+0.085}$×6.5±0.4×7853		
	φ172×φ156$^{+0.15}_{05}$×8±0.4×6010		
	φ175×φ156$^{+0.15}_{0}$×9.5±0.4×6200		
	φ188×φ170$^{+0.17}_{+0.05}$×9±0.4×8835		

Housing chemical composition

Chemical 化学成分	Percentage，百分比					
	C1026	9Cr1Mo	45#	35#	304	UNS32205
Carbon，C 碳	0.21～0.28	0.15 MAX	0.42～0.50	0.32~0.40	0.07MAX	0.03MAX
Manganese，Mn 锰	0.60～0.90	0.30～0.60	0.50～0.80	0.50~0.80	2.0MAX	2.0MAX
Phosphorus，P 磷	≤0.040	0.03MAX	≤0.035	≤0.030	≤0.035	≤0.030
Sulfur，S 硫	≤0.050	0.03MAX	≤0.035	≤0.035	≤0.030	≤0.020
Silicon，Si 硅	/	0.25～1.00	0.17～0.37	0.17~0.37	1.0MAX	1.0MAX
Chromium，Cr 铬	/	8.00～10.00	≤0.25	≤0.25	17.0～19.0	22.0～23.0
Molybdenum，Mo 钼	/	0.90～1.10	/	/	/	3.0～3.5
Ni 镍	/	/	≤0.30	≤0.30	8.0～11.0	4.5～6.5
Cu 铜	/	/	≤0.25	≤0.25	/	/
N						0.14~0.20

Physical properties

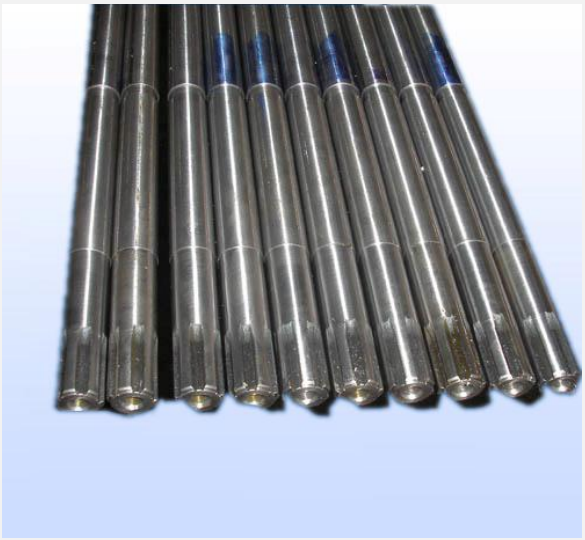
Mechanical Properties 机械性能	Value，值					
	C1026	9Cr1Mo	45#	35#	304	UNS32205
Tensile Strength（MPa），抗拉强度	551 MIN	551 MIN	645MIN	510MIN	515MIN	/
Yield Strength（MPa），屈服强度	517 MIN	517 MIN	/	392MIN	205MIN	340MIN
Elongation（%），伸长率	10 MIN	10 MIN	4MIN	8MIN	40MIN	/
Hardness，HRC 硬度	/	22 MAX	/	/	/	36MAX

Motor shaft - ESP accessories

The pump shaft is the main component of the submersible pump unit. It is mainly made of K500 Monel. Due to its special and excellent resistance to torsion, tensile and other mechanical properties, and its high temperature and corrosion resistance under complex well conditions, the pump can have a satisfactory operating life under maximum strength and load. A material has been used for a long time and widely used, and our company has also developed the inconel625、inconel718 high-strength shaft series.

The protector is located between the gas separator and the submersible motor. In addition to the connection, its main function is:

1. Prevent well fluid from entering the cavity of the submersible motor
2. Balance the pressure inside the internal cavity of the submersible motor.
3. Support the axial thrust from the submersible pump. According to different oil well conditions, various types of protector shafts such as sedimentation type, capsule type, and compensation type can be provided according to the needs of users.



The submersible motor shaft product is the main component of the submersible electric pump unit. It is suitable for the oil well temperature of 50 ° C (C). 90 ° C (A). 120 ° C (E). 150 ° C (F). It works by continuous operation and has a good sealing performance with the connector. When the single-section motor shaft cannot meet the demand, it can be arbitrarily combined into the series by the upper section, the middle section or the lower section. After the motor overspeed test, there is no permanent deformation and hinders the normal operation of the motor.

Motor shaft

序号	产品名称	直径（mm）	材质	长度	备注
1	375 系列电机轴	φ 25	35CrMo/42CrMo	根据图纸确定长度	
2	456 系列电机轴	φ 30	35CrMo/42CrMo	根据图纸确定长度	
3	540/562 系列电机轴	φ 35	35CrMo/42CrMo	根据图纸确定长度	
4	738 系列电机轴	φ 48	35CrMo/42crMo	根据图纸确定长度	
5	738 系列电机轴	φ 50.776	35CrMo/42CrMo	根据图纸确定长度	

The chemical composition of motor shaft

Chemical 化学成分	Percentage，百分比	
	35CrMoA	42CrMoA
Carbon，C 碳	0.32～0.40	0.38～0.45
Silicon，Si 硅	0.17～0.37	0.17～0.37
Manganese，Mn 锰	0.40～0.70	0.50～0.80
Chromium，Cr 铬	0.80～1.10	0.90～1.20
Molybdenum，Mo 钼	0.15～0.25	0.15～0.25

Physical property of motor shaft

Mechanical Properties 机械性能	Value，值	
	35CrMoA	42CrMoA
Tensile Strength（MPa），抗拉强度	980 MIN	1080 MIN
Yield Strength（MPa），屈服强度	835 MIN	930 MIN
Elongation（%），伸长率	12 MIN	12 MIN
Impact absorbing energy（J）冲击吸收功	63 MIN	63 MIN
Hardness，HB 硬度	239 MIN	240 MIN