



ESP Cable Solutions Co., Limited

Electric Submersible pump System

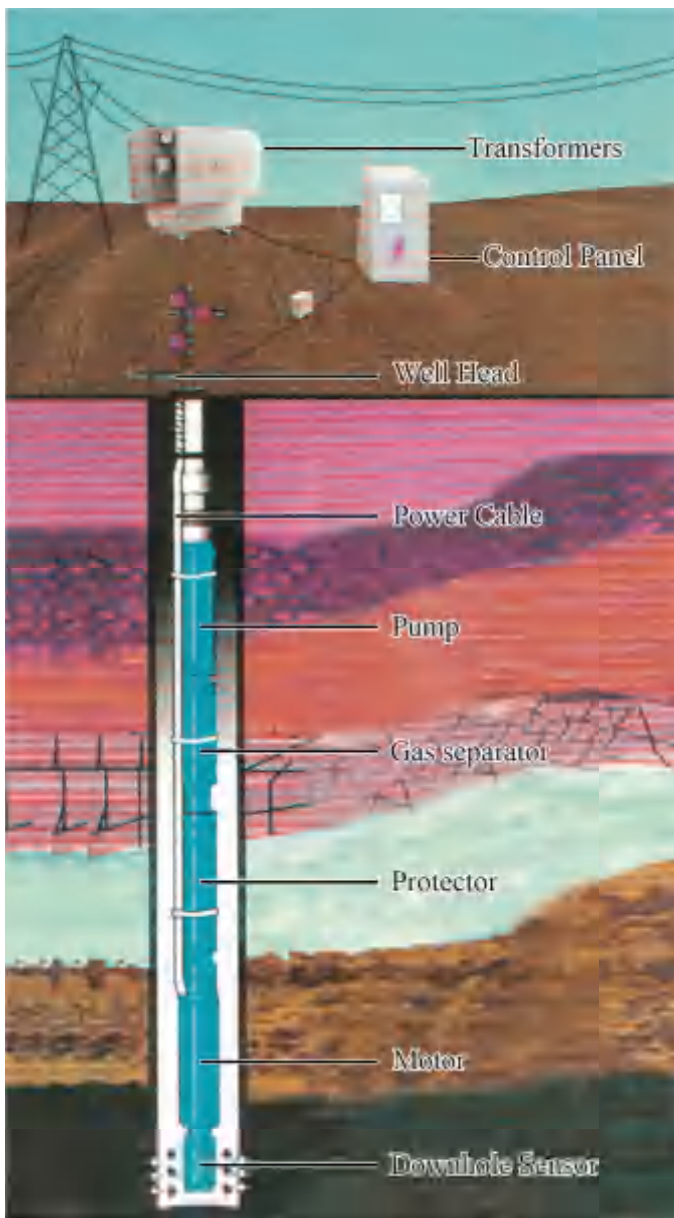
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Manufacturing Equipment



The electric submersible pumping system consists of the surface equipment, the electric transmission part and the down hole equipment. The surface equipment includes transformer, control panel (VSD), junction box and the ground cable etc. Downhole equipment includes the motor, protector, gas separator, submersible centrifugal pump and the submersible power cable etc.



ESP system is applicable to the production casing of 5", 5-1/2", 7", 8", 9" and above.

Capacity:	30-1600m ³ /d	50HZ
	200-12000BPD	60HZ

Head:	< 4000m	50HZ
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The Submersible motor is a three-phase squirrel cage induction type motor, usually Two-pole motor .Mainlycomposed :stator ,rotor,centralizer bearing,thrust bearing ,shaft ,head&base.

The motor is made by the best insulation materials ,the voltage is up to 5kv.

The connection of the motor and the pothead may be plug-in or tape-in according to the requirements of the customer.

Rated RPM:2850r/min@50HZ (3420r/min@60HZ).

Temperature grade:90℃ ,120℃ ,150℃ ,180℃ ,210℃ .

Motor is applicable to the casing of 5" , 5-1/2 , 7" , 8" , 9" and above.



GM375 Series Bipolar Motor

Power		Voltage 50/60Hz V	Current A	Type	Length		Weight				
50Hz(kW)	50/60Hz(HP)				mm	in	kg	lb			
4.5	6.3/7.5	345/415	14	S UT	1987	84	86.6	191			
					1975	78	94	208			
6.5	8.8/10.5	333/400	20	S UT	2700	106	130	287			
		575/690	12		2547	100	123	270			
9.5	12.5/15	275/330	34	S UT	3557	140	173	380			
		346/415	27		CT	3404	134	165	364		
LT	3373			133	164	360					
12	16.3/19.5	346/415	27	CT LT	3383	133	163	358			
					239/287	51	S UT CT LT	4414 4261 4230 4240	174 168 167 167	215 208 206 205	474 457 454 452
					322/387	38					
					541/650	22.5					
608/730	23										
14	18.8/22.5	275/330	51	S UT CT LT	4986 4833 4802 4812	196 190 189 189	244 236 235 234	536 520 516 514			
		367/440	38								
		608/730	23								
16	21.3/25.5	308/370	51	S UT CT LT	5557 5404 5373 5383	219 213 212 212	272 265 263 262	599 582 579 576			
		417/500	37								
		525/630	31								
		541/650	29.5								
		633/760	25								

Maximum concatenated power: 75kW For shipping length add 66mm(2.6in)×2 S–Single Section, UT–Upper Tandem , CT – Center Tandem, LT – Lower Tandem

GM456 Series Bipolar Motor

Power		Voltage 50/60Hz V	Current A	Type	Length		Weight	
50Hz(kW)	50/60Hz(HP)				mm	in	kg	lb
6.5	8.5/10	363/435	15	S UT	1453	58	100	220
					1335	53	82	180
9.5	12.5/15	363/435	23	S UT	1818	73	128	280
		546/655	16		1700	67	109	240
12.5	16.5/20	375/450	28.5	S UT	2183	87	155	340
		625/750	17		2065	82	136	300
15	21/25	342/410	39	S UT	2548	102	182	400
		575/690	22		2430	96	163	360
18	25/30	355/425	44.5	S UT	2913 2795	116 110	209 190	460 420
		625/750	25.5					
		1050/1260	15					
21	29.5/35	321/385	57	S UT	3278 3160	131 125	236 217	520 480
		563/675	33					
		654/785	25.5					
24	33.5/40	360/430	59	S UT	3643 3525	145 139	262 244	580 540
		642/770	33					
		733/880	29					
		1116/1340	19					
31	41.5/50	562/675	47	S UT	4373 4255	174 168	316 298	700 660
		680/816	39					
		796/955	33					
		1158/1390	23					
37	50/60	533/640	59	S UT LT	5103 4985 5189	203 197 204	369 352 376	820 780 828
		621/745	52					
		675/810	47					
		808/970	39					
		1108/1330	29					

Maximum concatenated power: 180kw For shipping length add 74mm(2.83in)X2 S-Singe Section, UT-Upper Tandem, CT-Center Tandem, LT-Lower Tandem

GM456 Series Bipolar Motor

Power		Voltage 50/60Hz V	Current A	Type	Length		Weight	
50Hz(kW)	50/60Hz(HP)				mm	lb	kg	lb
43	58.5/70	450/540	82.5	S UT CT LT	5833 5715 5759 5919	231 225 227 233	421 406 426 430	940 900 937 947
		625/750	60					
		788/945	47					
		945/1135	39					
49	66.5/80	529/635	80	S UT CT LT	6563 6445 6489 6649	260 254 255 262	474 460 480 484	1060 1020 1056 1065
		717/860	60					
		904/1085	46					
		1091/1310	39					
56	75/90	591/710	81	S UT CT LT	7293 7175 7219 7379	289 283 284 291	527 514 534 538	1180 1140 1174 1184
		800/960	59					
		945/1135	50					
		1017/1220	46					
		1216/1460	39					
		1635/1960	29					
62	83.5/100	658/790	80	S UT CT LT	8023 7905 7949 8109	318 312 313 319	580 568 588 592	1300 1260 1293 1303
		767/920	70					
		895/1075	59					
		1129/1355	46					
		1837/2205	29					
68	91.5/110	991/1190	60	S UT CT LT	8753 8635 8679 8839	332 340 327 334	632 595 615 619	1420 1380 1352 1362
		1982/2378	30					
74	100/120	787/945	81	S UT CT LT	9483 9365 9409 9569	347 340 370 376	681 622 642 646	1620 1390 1412 1422
		937/1125	70					
		1079/1295	59					
		1870/2245	35					

Maximum concatenated power: 180kw For shipping length add 74mm(2.83in)X2 S-Singe Section, UT-Upper Tandem, CT-Center Tandem, LT-Lower Tandem

GM540Series Bipolar Motor

Power		Voltage 50/60Hz V	Current A	Type	Length		Weight	
50Hz(kW)	50/60Hz(HP)				mm	in	kg	lb
12.5	16.5/20	367/440	29	S	1618	64	136	300
		629/755	17	UT	1475	58	118	260
18.5	25/30	362/434	45	S UT	2036 1893	80.5 74.5	177 159	390 350
		591/710	28					
		1012/1215	16					
25	33.5/40	362/435	60	S UT	2454 2310	96.6 91	219 201	483 443
		550/660	40					
		608/730	36					
		733/880	30					
		1104/1325	20					
31	41.5/50	375/450	72	S UT	2871 2728	113 107	261 243	575 535
		604/725	45					
		754/905	34					
		1146/1375	22					
37	50/60	354/425	91	S UT	3288 3145	129.5 124	308 285	665 630
		537/645	60					
		725/870	45					
		808/970	40					
		1100/1320	30					
43.5	58.5/70	629/755	60	S UT	3706 3563	146 140.5	350 327	755 730
		845/1015	45					
		1287/1544	30					
49.5	66.5/80	720/865	60	S UT	4123 3980	163 153.2	391 369	700 813
		966/1160	45					
56	75/90	810/974	60	S UT	4541 4398	179 173.2	433 411	820 903
		1086/1305	45					
62.5	83.5/100	591/710	89	S UT	4958 4815	195 189.6	475 453	940 997
		696/835	76					
		891/1069	60					
		1808/2170	29					
68.5	91.7/110	655/783	88	S UT	5375 5233	212 206	516 495	1060 1091
		787/944	73					
		989/1187	59					
		1653/1983	33					
74.5	100/120	712/855	88	S UT CT LT	5793 5650 5726 5882	228.5 222.5 225.4 231.6	559 537 537	1180 1185 1185 1185
		858/1030	73					
		1079/1295	59					
		1803/2165	33					

GM540Series Bipolar Motor

Power		Voltage 50/60Hz V	Current A	Type	Length		Weight	
50Hz(kW)	50/60Hz(HP)				mm	in	kg	lb
80.5	108/130	770/925	88	S	6210	244.5	600	1300
		937/1125	67	UT	6068	238.9	579	1275
		1521/1825	44	CT	6144	242	579	1275
		1975/2370	30	LT	6300	248	579	1275
87	116.7/140	836/1002	87	S	6628	261	642	1420
				UT	6485	255.3	621	1365
		1638/1966	44	CT	6561	258.4	621	1365
				LT	6717	264.5	621	1365
93	125/150	895/1075	87	S	7046	277.4	687	1620
				UT	6903	271.8	663	1455
		1755/2105	44	CT	6979	274.8	663	1455
				LT	7135	281	663	1455
99.5	133/160	687/825	122	S	7463	293.9	728	1710
				UT	7320	288.2	705	1545
		929/1115	89	CT	7397	291.2	705	1545
		1820/2185	46	LT	7552	297.4	705	1545
105.5	141.7/170	744/891	120	S	7881	310.3	770	1800
				UT	7738	304.7	747	1635
		1003/1204	89	CT	7815	307.7	747	1635
		1531/1837	59	LT	7970	313.8	747	1635
112	150/180	787/945	120	S	8298	326.8	811	1890
				UT	8156	321	789	1728
		1062/1275	89	CT	8574	337.5	789	1728
		1620/1945	59	LT	8386	330	789	1728
118	158.3/190	871/1045	115	S	8716	343	853	1980
				UT	8573	337.5	831	1818
		1693/2033	54	CT	8991	354	831	1818
				LT	8803	346.6	831	1818
124.5	166.7/200	916/1100	115	S	9133	359.6	681	2070
				UT	8990	354	873	1908
		1783/2140	54	CT	9462	373 363	873	1908
		2340/2808	44	LT	9220		873	1908
130.5	175/210	886/1063	127	S	9550	376	935	1620
				UT	9408	370.4	915	1390
		1746/2095	64	CT	9879.5	389	915	1390
				LT	9637	380	915	1390
140	187/224	945/1134	127	S	9968	392.5	976	1620
				UT	9826	386.9	957	1390
		1862/2235	64	CT	10297	405	957	1390
				LT	10054	396	957	1390

Maximum concatenated power: 250kw For shipping length add 74mm(2.91in)X2 S-Singe Section, UT-Upper Tandem, CT-Center Tandem, LT-Lower Tandem

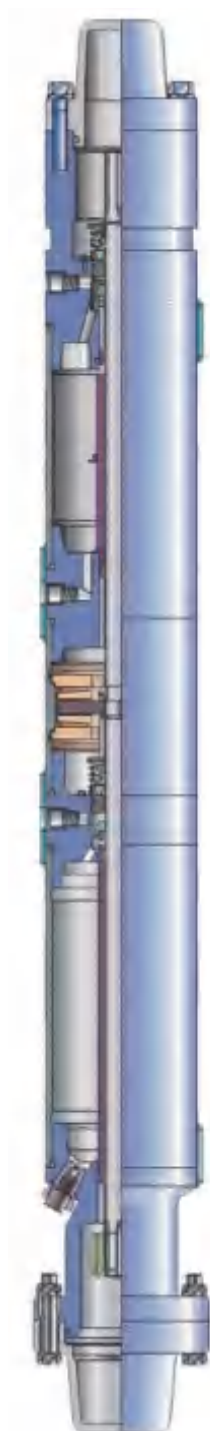
The protector plays an important role in prolonging the motor's life ,its main function

- 1、 Prevent the well fluid from entering the motor chamber ;
- 2、 Balance the motor chamber against the outside pressure. ;
- 3、 Compensate the loss of the motor's lubricating oil transmit the power and bear the operating thrust pressure from the centrifugal pump.

Composed:thrust bearing,seal body,mechanical seals, housing,shaft,head & base.

It was divided into the following three types such as Labyrinth, Bag type and High load bag type.

The well temperature > 150°C, “O” ring, bag chamber with AFLAS elastomer.



Series	Type	Model	Length		Weight	
			mm	in	kg	lb
338	GH338C	Labyrinth	1600	63.0	40	88.1
387/400	GH387C	Labyrinth	1600	63.0	47	103.5
	GH387J	Bag type	1869	73.6	53	116.7
	GH387J-GZ	High load bag type	1906	75.0	54	118.9
513/540	GH513C	Labyrinth	1639	64.5	78	171.8
	GH513J	Bag type	1869	73.6	85	187.2
	GH513J-GZ	High load bag type	1913	75.3	86	189.4

The main role of gas separator is to free gas into the oil well annular ,eliminating or reducing the free gas s corrosive impact on the centrifugal pump to improve the entire system.

Composed:induction wheel, separation wheel,shaft and head & base.

In order to achieve a better results, we may adopt the two–stage connection.

Head& base use high hardness alloy material to improve the sand–resistance ability.

Series	Model	Type	Length		Weight	
			mm	in	kg	lb
338	GF338X	Rotary	673	26.5	20.5	45.2
	GF338X-SJ	Double Section Rotary	1358	53.5	42	92.5
387/400	GF387X	Rotary	757	29.8	24	52.9
	GF387X-SJ	Double Section Rotary	1528	60.2	49	107.9
513/540	GF513X	Rotary	757	29.8	40	88.1
	GF513X-SJ	Double Section Rotary	1528	76.2	81	178.4

Intake		Length		Weight	
Series	Model	mm	in	kg	lb
338	GK338	305	12.0	4.8	10.6
387/400	GK387	305	12.0	5.3	11.7
513/540	GK513	378	14.9	7.5	16.5



The submersible centrifugal pump is made up by multistage impellers.

Composed: housing, induction wheels, shaft and head & base etc.

Three assembling types of float, compression and bottom float;

Two stage structures, radial flow and mixed flow.

Categorized as standard, abrasion resistant (AR), anti-corrosion pump.

The impeller and induction wheel are using the nickel cast iron material to advance their performance in corrosion and anti-friction.

The pump shaft is using the Monel K500 material in order to make it keep working in the heavy pressure and loading operating environment.

It has adopted the wide fluid induction impellers to enhance the pump's production ability in the heavy oil.

In order to improve the anti-corrosion ability, Monel Coating along the entire pump housing.

In order to improve the anti-scaling ability, the impeller was carried out on the surface coating treatment, which can reduce the adhesion of dirt.

The anti-friction using the tungsten carbide, compound zirconia, carbide and other materials to improve the ability to improve the ability of centrifugal pump's sand control.



Submersible Centrifugal Pump

Series	Model	Flow at BEP		Recommended Range		Shaft Diameter		shaft load power limit			
		60Hz BPD	50Hz m ³ /d	60Hz BPD	50Hz m ³ /d	in	mm	Standard		High Strength	
								60Hz HP	50Hz kW	60Hz HP	50Hz kW
338	GA230	230	30	185 ~ 320	24 ~ 42	0.625	15.9	92	57	146	91
	GA380	380	50	300 ~ 530	40 ~ 70	0.625	15.9	92	57	146	91
	GA530	530	70	430 ~ 750	55 ~ 100	0.625	15.9	92	57	146	91
	GA750	750	100	600 ~ 1060	80 ~ 140	0.625	15.9	92	57	146	91
	GA1200	1200	150	900 ~ 1580	120 ~ 210	0.625	15.9	92	57	146	91
	GA1900	1900	250	1500 ~ 2650	200 ~ 350	0.685	17.4	122	75	195	121
387/400	GD280	280	30	180 ~ 380	24 ~ 50	0.685	17.4	122	75	195	121
	GD400	400	50	300 ~ 530	40 ~ 70	0.685	17.4	122	75	195	121
	GD650	650	80	480 ~ 840	65 ~ 110	0.685	17.4	122	75	195	121
	GD750	750	100	600 ~ 1060	80 ~ 140	0.875	22.2	250	155	400	177
	GD1200	1200	150	960 ~ 1700	130 ~ 225	0.875	22.2	250	155	400	177
	GD1500	1500	200	1210 ~ 2110	160 ~ 280	0.875	22.2	250	155	400	177
	GD1900	1900	250	1510 ~ 2640	200 ~ 350	0.875	22.2	250	155	400	177
	GD2400	2400	320	1960 ~ 3500	260 ~ 450	0.875	22.2	250	155	400	177
	GD3000	3000	400	2420 ~ 4220	320 ~ 560	0.875	22.2	250	155	400	177
	GD4000	4000	500	3020 ~ 5280	400 ~ 700	0.875	22.2	250	155	400	177
513/540	GD5300	5300	700	4220 ~ 6340	560 ~ 840	0.875	22.2	250	155	400	177
	GG800	800	100	600 ~ 1130	80 ~ 150	0.875	22.2	250	155	400	177
	GG1300	1300	150	900 ~ 1580	120 ~ 210	0.875	22.2	250	155	400	177
	GG1600	1600	200	1300 ~ 1900	170 ~ 250	0.875	22.2	250	155	400	177
	GG2000	2000	250	1660 ~ 2340	220 ~ 310	0.875	22.2	250	155	400	177
	GG2500	2500	350	2000 ~ 3020	280 ~ 400	0.875	22.2	250	155	400	177
	GG3100	3100	450	2490 ~ 3620	330 ~ 480	1.000	25.4	366	228	586	364
	GG4000	4000	550	3020 ~ 4530	400 ~ 600	1.000	25.4	366	228	586	364
	GG5200	5200	700	4380 ~ 6410	580 ~ 850	1.000	25.4	366	228	586	364
	GG5600	5600	800	4980 ~ 7240	660 ~ 960	1.000	25.4	366	228	586	364
GG7000	7000	900	6000 ~ 8000	800 ~ 1060	1.000	25.4	366	228	586	364	
GG10000	10000	1200	7250 ~ 12000	960 ~ 1590	1.188	30.15	622	387	995	619	

The electric submersible pump monitoring system can measure pressure, temperature, pump motor operating parameters, and vibration on the x, y and z axes. One of the key advantages of the PPS system is the high level of accuracy and resolution provided for all measurements.

Surface Touch System(ST)

Memory capacity	32GB SD (2GB Factory Default)
Operating System	Industry HMI
Display	4.7" Colour Touchscreen
Power	110V to 240V AC
Operating Temperature	-40°C to 75 °C



Downhole Gauge

ESPLink-4 Downhole Gauge

ESPLink-4	Rating	Accuracy	Resolution
Pressure (Intake)	6,000 psi	0.05 % FS	0.02 psi
Current Leak	25 mA	0.05 % FS	1 uA
Temperature (Intake)	150 ° C (302 ° F)	0.67 % FS	0.01 ° C
Temperature (Motor)	210 ° C (410 ° F)	0.67 % FS	0.01 ° C

ESPLink-7 Downhole Gauge

ESPLink-7	Rating	Accuracy	Resolution
Pressure (Intake)	6,000 psi	0.05 % FS	0.02 psi
Vibration (x)	12 g	0.5 % FS	2 mg
Vibration (y)	12 g	0.5 % FS	2 mg
Vibration (z)	12 g	0.5 % FS	2 mg
Current Leak	25 mA	0.05 % FS	1 uA
Temperature (Intake)	150 ° C (302 ° F)	0.67 % FS	0.01 ° C
Temperature (Motor)	210 ° C (410 ° F)	0.67 % FS	0.01 ° C

ESPLink-9 Downhole Gauge

ESPLink-9	Rating	Accuracy	Resolution
Pressure (Intake)	6,000 psi	0.05 % FS	0.02 psi
Pressure (Discharge)	6,000 psi	0.05 % FS	0.02 psi
Vibration (x)	12 g	0.5 % FS	2 mg
Vibration (y)	12 g	0.5 % FS	2 mg
Vibration (z)	12 g	0.5 % FS	2 mg
Current Leak	25 mA	0.05 % FS	1 uA
Y-Point Voltage	1,000 V	10 V	5 V
Temperature (Intake)	150 ° C (302 ° F)	0.67 % FS	0.01 ° C
Temperature (Motor)	210 ° C (410 ° F)	0.67 % FS	0.01 ° C



QYGKB Series ESP System Transformer

Type: QYGKB-M
Rated Capacity : 50~ 1000 KVA
Medium Voltage: 800~3300 V 30 step adjustable
2400~4200V 30 step adjustable
Low Voltage: 380~ 690 V
Frequency : 0~80 Hz
Protection Class: IP 54



Control Panel for ESP



Application condition

- 1、Altitude:Maximum2000m
- 2、Ambient temperature:-30℃ ~+50℃。
- 3、Relative Humidity:20%~90% non-condensing
- 4、No corrosion of metal or destruction of insulating harmful gases nor the conductive dust.
- 5、Grid voltage fluctuation: $\leq +10\%-15\%$.
- 6、Enclosure:IP20~IP54 (According user' s requirement)

Technical parameters;

- 1、Rated voltage:3~6kv
- 2、Rated current: 0~150A
- 3、Rated frequency:50HZ or 60HZ

Variable Frequency Drive(VFD)

It is specially designed for the smart controlling of ESP System .Input and output structure:Low Voltage(VFD)–High Voltage (Output Transformer).

Features:

- 1、 The switchboard reliability is improved by using imported low voltage VFD.
- 2、 The lifetime of motor and cable is prolonged,The output wave shape of VFD is like the sine wave after reformed by the filter and the wideband stepup transformer.

Technical parameters:

- 1、 Input voltage :380~480V
- 2、 Output voltage :800V~2600V
- 3、 Power:30~400KW
- 4、 Out frequency :30~75Hz 10~80Hz.



Medium Voltage Variable Frequency Drive



Name	Model& Spec	Voltage V
Medium Voltage VFD	GVF-MV/ I /43-50A	690-1200
Medium Voltage VFD	GVF-MV/ I /58-65A	
Medium Voltage VFD	GVF-MV/ I /75A	
Medium Voltage VFD	GVF-MV/ II /43-50A	1200-1600
Medium Voltage VFD	GVF-MV/ II /58-65A	
Medium Voltage VFD	GVF-MV/ II /75A	
Medium Voltage VFD	GVF-MV/ III /43-50A	1600-2200
Medium Voltage VFD	GVF-MV/ III /58-65A	
Medium Voltage VFD	GVF-MV/ III /75A	
Medium Voltage VFD	GVF-MV/ IV /43-50A	2200-2600
Medium Voltage VFD	GVF-MV/ IV /58-65A	
Medium Voltage VFD	GVF-MV/ IV 75A	

ESP power cable is divided into round cable and flat cable. The cable consists of conductor (solid、stranded、compact-stranded), insulation layer(PP、EPDM、PI), jacket (Nitrile and EPDM) and cable armor. According to the different requirements of power and different conditions of oil well, there are different specifications of cable. Temperature rating: 90 °C (194 °F), 120 °C (248 °F), 150 °C (302 °F), 205 °C (400 °F) Voltage range : 3KV、4KV、5KV、6KV. Usually, we use the galvanized steel armor, stainless steel armor and Monel armor for corrosive medium to prevent the cable from being damaged. All of the products are provided and tested in line with national standards of GB/T16750, IEEE and API Recommended Practice.

Model	Working Temperature °C		Voltage KV	Cross section mm ²	AWG
	The lowest	The highest			
QYPN	-30	90	3KV 4KV 5KV 6KV	42 33 20 16 13 10 8	1# 2# 4# 5# 6# 7# 8#
QYPQ	-30	90			
QYEN	-40	150			
QYEE	-40	150			
QYEQ	-40	150			
QYYEQ	-40	205			
QYPNY	-40	90			
QYENY	-40	150			
QYEEY	-40	150			
QYYEQEY	-40	205			



QYPN 90°C (194 °F) Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω /KM		Insulation Thickness mm		Jacket Thickness mm	Overall Size and weight			
		No tinned	tinned	3KV	6KV		3KV-6KV	3KV		6kv
						mm		kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	1.3	14.5 × 37.5	1383	15.5 × 39.5	1471
20AWG4	5.19	0.84	0.86	1.9	2.3	1.3	15.0 × 39.0	1550	16.0 × 41.5	1640
33/AWG2	6.54	0.54	0.56	1.9	2.3	1.3	16.5 × 43.0	2001	17.5 × 45.5	2096
42/AWG1	7.35	0.43	0.44	1.9	2.3	1.3	17.5 × 45.5	2308	18.0 × 48.0	2405

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation M Ω /KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation M Ω /KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	3500	0.29	4082	0.24	27	35
AWG4	5.19	3195	0.31	3738	0.27	27	35
AWG2	6.54	2650	0.38	3121	0.32	27	35
AWG1	7.35	2405	0.42	2841	0.35	27	35

QYPQ 90°C (194 °F) Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω /KM		Insulation Thickness mm		Jacket Thickness mm	Overall Size and weight			
		No tinned	tinned	3KV	6KV		3KV-6KV	3KV		6kv
						mm		kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	1.0	14.5 × 35.5	2196	14.5 × 38.0	2355
20AWG4	5.19	0.84	0.86	1.9	2.3	1.0	14.5 × 37.5	2414	15.5 × 39.5	2576
33/AWG2	6.54	0.54	0.56	1.9	2.3	1.0	16.0 × 41.5	2987	16.5 × 44.0	3154
42/AWG1	7.35	0.43	0.44	1.9	2.3	1.0	16.5 × 44.0	3368	17.5 × 46.0	3537

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation M Ω /KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation M Ω /KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	3500	0.29	4082	0.24	27	35
AWG4	5.19	3195	0.31	3738	0.27	27	35
AWG2	6.54	2650	0.38	3121	0.32	27	35
AWG1	7.35	2405	0.42	2841	0.35	27	35

QYEN 120°C (248 °F) Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω /KM		Insulation Thickness mm		Jacket Thickness mm	Overall Size and weight			
		No tinned	tinned	3KV	6KV		3KV-6KV	3KV		6kv
						mm		kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	1.3	14.5 × 37.5	1435	15.5 × 39.5	1537
20AWG4	5.19	0.84	0.86	1.9	2.3	1.3	15.0 × 39.0	1606	16.0 × 41.5	1712
33/AWG2	6.54	0.54	0.56	1.9	2.3	1.3	16.5 × 43.0	2068	17.5 × 45.5	2180
42/AWG1	7.35	0.43	0.44	1.9	2.3	1.3	17.5 × 45.5	2381	18.0 × 48.0	2498

Conductor Size AWG	Conductor Diameter mm	0.8mm Resistance Insulation M Ω /KM	Leakage Current at 15.6°C μ A/km/kv	1.0m.mResistance Insulation M Ω /KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	1400	0.71	1633	0.61	27	35
AWG4	5.19	1278	0.78	1495	0.67	27	35
AWG2	6.54	1060	0.94	1248	0.80	27	35
AWG1	7.35	962	1.04	1136	0.88	27	35

QYEE 150°C (302 °F) Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV-6KV	3KV		6kv		
							mm	kg/km	mm	kg/km	
16/AWG5	4.62	1.15	1.16	1.9	2.3	1.3	14.5 × 37.5	1428	15.5 × 39.5	1530	
20AWG4	5.19	0.84	0.86	1.9	2.3	1.3	15.0 × 39.0	1600	16 × 41.5	1705	
33/AWG2	6.54	0.54	0.56	1.9	2.3	1.3	16.5 × 43.0	2061	17.5 × 45.5	2172	
42/AWG1	7.35	0.43	0.44	1.9	2.3	1.3	17.5 × 45.5	2374	18.0 × 48.0	2490	

Conductor Size AWG	Conductor Diameter mm	0.8mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	1.0m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG7	4.62	1400	0.71	1633	0.61	27	35
AWG6	5.19	1278	0.78	1495	0.67	27	35
AWG5	6.54	1060	0.94	1248	0.80	27	35
AWG4	7.35	962	1.04	1136	0.88	27	35

QYEQ 150°C (302 °F) Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV	6KV	3KV		6kv	
								mm	kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	1.0	1.0	13.0 × 35.5	2211	14.5 × 38	2420
20AWG4	5.19	0.84	0.86	1.9	2.3	1.0	1.0	14.5 × 37.5	2442	15.5 × 39	2648
33/AWG2	6.54	0.54	0.56	1.9	2.3	1.0	1.0	16.0 × 41.5	3116	16.5 × 44	3338
42/AWG1	7.35	0.43	0.44	1.9	2.3	1.0	1.0	16.4 × 44.0	3544	17.5 × 46	3629

Conductor Size AWG	Conductor Diameter mm	0.8mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	1.0m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	1400	0.71	1633	0.61	27	35
AWG4	5.19	1278	0.78	1495	0.67	27	35
AWG2	6.54	1060	0.94	1248	0.80	27	35
AWG1	7.35	962	1.04	1136	0.88	27	35

QYYEQ 205°C (400 °F) Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV	6KV	3KV		6kv	
								mm	kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	1.0	1.0	14.0 × 35.5	2245	14.5 × 38.0	2418
20AWG4	5.19	0.84	0.86	1.9	2.3	1.0	1.0	14.5 × 37.5	2469	15.5 × 39.5	2645
33/AWG2	6.54	0.54	0.56	1.9	2.3	1.0	1.0	16.0 × 41.5	3054	16.5 × 44.0	3337
42/AWG1	7.35	0.43	0.44	1.9	2.3	1.0	1.0	16.4 × 44.0	3441	17.5 × 46.0	3629

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	1400	0.71	1633	0.61	27	35
AWG4	5.19	1278	0.78	1495	0.67	27	35
AWG2	6.54	1060	0.94	1248	0.80	27	35
AWG1	7.35	962	1.04	1136	0.88	27	35

QYYEQ Flat Cable Stranded conductor 205°C (400 °F)

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV	6KV	3KV		6kv	
								mm	kg/km	mm	kg/km
33/AWG2 42/AWG1	7/2.50 7/2.85	0.55 0.44	0.57 0.45	1.9 1.9	2.3 2.3	1.0 1.0	1.0 1.0	16.5 × 44.5 17.5 × 47.5	3170 3636	17.5 × 47.0 18.5 × 50.0	3352 3823

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG2 AWG1	7.5 8.55	946 846	1.06 1.18	1118 1003	0.89 1.00	27 27	35 35

QYYEQ Flat Cable Compacted-Stranded conductor 205°C (400 °F)

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV	6KV	3KV		6kv	
								mm	kg/km	mm	kg/km
33/AWG2 42/AWG1	7/2.50 7/2.85	0.55 0.44	0.57 0.45	1.9 1.9	2.3 2.3	1.0 1.0	1.0 1.0	16.5 × 42.5 17.5 × 45.0	3047 3464	17.0 × 45.0 15.5 × 47.5	3226 3647

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG2 AWG1	6.81 7.57	1023 934	0.98 1.07	1206 1104	0.83 0.91	27 27	35 35

QYPNY 90°C (194 °F) Round Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm	Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV-6KV	3KV		6kv	
							mm	kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	2.0	28.6	1397	30.4	1508
20/AWG4	5.19	0.84	0.86	1.9	2.3	2.0	29.9	1581	31.7	1697
33/AWG2	6.54	0.54	0.56	1.9	2.3	2.0	32.85	2080	34.6	2205
42/AWG1	7.35	0.43	0.44	1.9	2.3	2.0	34.63	2418	36.4	2547

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	3500	0.29	4082	0.24	27	35
AW G4	5.19	3195	0.31	3738	0.27	27	35
AWG2	6.54	2650	0.38	3121	0.32	27	35
AWG1	7.35	2405	0.42	2841	0.35	27	35

QYENY 、 QYEEY (150°C 302 °F) Round Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω /KM		Insulation Thickness mm		Jacket Thickness mm	Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV-6KV	3KV		6kv	
							mm	kg/km	mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	2.3	2.0	30.0	1547	31.8	1678
20/AWG4	5.19	0.84	0.86	1.9	2.3	2.0	31.5	1739	33.0	1876
33/AWG2	6.54	0.54	0.56	1.9	2.3	2.0	34.5	2258	36.0	2405
42/AWG1	7.35	0.43	0.44	1.9	2.3	2.0	36.0	2607	37.8	2761

Conductor Size AWG	Conductor Diameter mm	0.8mm Resistance Insulation MΩ /KM	Leakage Current at 15.6°C μ A/km/kv	1.0m.mResistance Insulation MΩ /KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG7	4.62	1400	0.71	1633	0.61	27	35
AWG6	5.19	1278	0.78	1495	0.67	27	35
AWG5	6.54	1060	0.94	1248	0.80	27	35
AWG4	7.35	962	1.04	1136	0.88	27	35

QYEEQY 205°C (450 °F) Round Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω /KM		Insulation Thickness mm	InnerJacket Thickness mm	OuterJacket Thickness mm	Overall Size and weight	
		No tinned	tinned	3KV-6KV	3KV-6KV	3KV-6KV	3KV-6KV	
							mm	kg/km
16/AWG5	4.62	1.15	1.16	1.9	1.0	2.0	33	2707
20/AWG4	5.19	0.84	0.86	1.9	1.0	2.0	34	2963
33/AWG2	6.54	0.54	0.56	1.9	1.0	2.0	37	3628
42/AWG1	7.35	0.43	0.44	1.9	1.0	2.0	39	4066

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ /KM	Leakage Current at 15.6°C μ A/km/kv	1.9m.mResistance Insulation MΩ /KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG5	4.62	1400	0.71	1400	0.71	27	35
AWG4	5.19	1278	0.78	1278	0.78	27	35
AWG2	6.54	1060	0.94	1060	0.94	27	35
AWG1	7.35	962	1.04	962	1.04	27	35

QYEEQY 205°C (450 °F) Round Cable compacted-stranded Conductor

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω /KM		Insulation Thickness mm		InnerJacket Thickness mm	OuterJacket Thickness mm	Overall Size and weight			
		No tinned	tinned	3KV	6KV	3KV-6KV	3KV-6KV	3KV		6KV	
								mm	kg/km	mm	kg/km
33/AWG2	7/2.50	0.55	0.57	1.9	2.3	1.0	2.0	40.5	3936	42.0	4179
42/AWG1	7/2.85	0.44	0.45	1.9	2.3	1.0	2.0	42.5	4477	44.5	4729

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ /KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ /KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG2	7.50	946	1.06	1118	0.89	27	35
AWG1	8.55	846	1.18	1003	1.00	27	35

Electric submersible pump with Capillary Cable



This cable is suitable for transmit power to the Electric Submersible Pump units with rated voltage 3kv、4kv、5kv、6KV ,and inject chemical additives into the down-hole. The permissible working temperature of the conductor is 120°C (248 °F) and 205°C (400 °F) with a good performance on the oil-resistance, heat-resistance and corrosion-resistance.

QYEQC 120°C (248 °F) Flat Cable

Conductor AWG mm		DC Resistance at20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm	Tubing Diameter mm		Overall Size and weight			
Size	Diameter	No tinned	tinned	3kv	6Kv	3kv-6kv	Inner	Outer	3kv		6kv	
									mm	kg/km	mm	kg/km
AWG4	5.19	0.84	0.86	1.9	2.3	1.0	7.0	9.5	14.5 × 47.0	2781	15.5 × 49.5	2951
AWG2	6.54	0.54	0.56	1.9	2.3	1.0	7.0	9.5	16.0 × 51.0	3353	16.5 × 53.5	3530
AWG1	7.35	0.43	0.44	1.9	2.3	1.0	7.0	9.5	16.5 × 53.5	3732	17.5 × 56.0	3913

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DCVoltageTest for 5 minutes	
						3kv	6kv
AWG4	5.19	1278	0.78	1495	0.67	27	35
AWG2	6.54	1060	0.94	1248	0.80	27	35
AWG1	7.35	962	1.04	1136	0.88	27	35

QYYEQC 205°C (400 °F) Flat Cable

Conductor AWG mm		DC Resistance at20°C Ω/KM		Insulation Thickness mm		Jacket Thickness mm	Tubing Diameter mm		Overall Size and weight			
Size	Diameter	No tinned	tinned	3kv	6Kv	3kv-6kv	Inner	Outer	3kv		6kv	
									mm	kg/km	mm	kg/km
AWG4	5.19	0.84	0.86	1.9	2.3	1.0	7.0	9.5	14.5 × 47	2774	15.5 × 49.5	2941
AWG2	6.54	0.54	0.56	1.9	2.3	1.0	7.0	9.5	16.0 × 51.0	3347	16.5 × 53.5	3521
AWG1	7.35	0.43	0.44	1.9	2.3	1.0	7.0	9.5	16.5 × 53.5	3727	17.5 × 56.0	3905

Conductor Size AWG	Conductor Diameter mm	1.9mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	2.3m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DCVoltageTest for 5 minutes	
						3kv	6kv
AWG4	5.19	1278	0.78	1495	0.67	27	35
AWG2	6.54	1060	0.94	1248	0.80	27	35
AWG1	7.35	962	1.04	1136	0.88	27	35

Motor lead extension is used to link the power cable and the motor. We can provide galvanized steel armor , stainless steel armor and Monel armor for corrosion resistant medium .The MLE pothead is a key part to connect the motor with the power cable . The motor pothead types include Tape-in and Plug-in..Performing criterion:GB/T16750、IEEE1018、API RP 11S6. Temperature : 205 °C (400 °F) 、 232 °C (450 °F) 、 260 °C (500 °F) .Rated Voltage:3kv、4kv、5kv、6kv.



QYJYEQ 232 °C /450 F Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM	Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
			3KV	6KV	3KV	6KV	mm		kg/km	
							3kv	6kv	3kv	6kv
10/AWG7	3.67	1.83	1.0	1.5	0.8	0.8	10.5 × 25.5	1209	10.5 × 28.5	1371
13/AWG6	4.12	1.39	1.0	1.5	0.8	0.8	11.0 × 27.0	1344	12.0 × 30.0	1509
16/AWG5	4.62	1.15	1.0	1.5	0.8	0.8	11.5 × 28.5	1504	12.5 × 31.5	1672
20/AWG4	5.19	0.84	1.0	1.5	0.8	0.8	12.0 × 30.5	1700	13.5 × 33.0	1872

Conductor Size AWG	Conductor Diameter mm	1.0mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	1.5m.mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG7	3.67	845	1.18	1291	0.77	27	35
AWG6	4.12	720	1.39	1128	0.89	27	35
AWG5	4.62	628	1.59	1007	0.99	27	35
AWG4	5.19	542	1.85	893	1.12	27	35

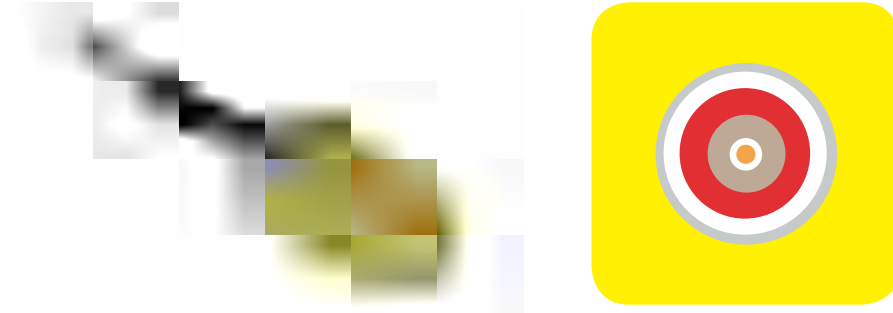
QYJYFF 260 °C /500 F Flat Cable

Conductor Size mm ² /AWG	Conductor Diameter mm	DC Resistance at 20°C Ω/KM	Insulation Thickness mm		Jacket Thickness mm		Overall Size and weight			
			3KV	6KV	3KV	6KV	mm × mm		kg/km	
							3kv	6kv	3kv	6kv
10 AWG7	3.67	1.83	1.07	1.07	0.8	0.8	10.0 × 24.5	8123	10.0 × 24.5	8123
13 AWG6	4.12	1.39	1.07	1.07	0.8	0.8	10.5 × 26.0	920	10.5 × 26.0	920
16 AWG5	4.62	1.15	1.07	1.07	0.8	0.8	11.0 × 27.5	1050	11.0 × 27.5	1050
20 AWG4	5.19	0.84	1.07	1.07	0.8	0.8	11.5 × 29.0	1208	11.5 × 29.0	1208

Conductor Size AWG	Conductor Diameter mm	1.07mm Resistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	1.07m. mResistance Insulation MΩ/KM	Leakage Current at 15.6°C μ A/km/kv	DC Voltage Test for 5 minutes	
						3kv	6kv
AWG7	3.67	6714	0.15	6714	0.15	27	35
AWG6	4.12	6104	0.16	6104	0.16	27	35
AWG5	4.62	5546	0.18	5546	0.18	27	35
AWG4	5.19	5023	0.20	5023	0.20	27	35

Application Range

Tubing Encapsulated Cable (TEC) is suitable for facing the challenges of harsh environmental conditions associated with recovery of oil and gas through reservoir management. TEC uses welded stainless steel and nickel alloy tubing to protect electrical and optical components from the pressure and corrosive effects of the downhole environment. Polymeric encapsulation provides additional mechanical protection.



Mechanical Characteristics for Cold-worked 316L TEC

Diameter(Inches)	Wall Thickness(Inches)	316L Minimum Collapse PSI	A825 Alloy Minimum Collapse PSI	Minimum Bend Radius(Inches)
0.125 (1/8)	0.022	23.882	25.209	1.0
0.250 (1/4)	0.028	16.371	17.281	2.0
0.250 (1/4)	0.035	19.688	20.781	2.0
0.250 (1/4)	0.049	26.173	27.627	2.0
0.375 (3/8)	0.035	13.783	14.549	2.5
0.375 (3/8)	0.049	18.739	19.780	2.5

Maximum electrical Conductor resistance @ 68 °f (20°C)

Conductor AWG	O.D.	O.D.	Solid Bare Copper		Stranded (7 strands) Bare Copper	
	in	mm	Ohms / kft	Ohms / m	Ohms / kft	Ohms / m
18	0.0403	1.02	6.52	21.4	6.66	21.8
17	0.0453	1.15	5.15	16.9	5.27	17.3
16	0.0508	1.29	4.10	13.5	4.18	13.7
15	0.0571	1.45	3.24	10.6	3.31	10.9
14	0.0641	1.63	2.57	8.45	2.62	8.62
13	0.0720	1.83	2.04	6.69	2.08	6.82
12	0.0808	2.05	1.62	5.31	1.65	5.43
11	0.0907	2.30	1.29	4.22	1.32	4.30
10	0.102	2.59	1.019	3.34	1.039	3.41
9	0.114	2.90	0.808	2.65	0.825	2.71
8	0.128	3.25	0.641	2.10	0.654	2.14

Polyimide F46 composite film Winding round copper wire

This product is used in making wrapped wire of class H and below of Oil-submersible electric motor, or similar special oil electric motor, also can be used in oil-submersible pump. Adopted standard JB/T 5331-2011. Specification d 1.50~5.00mm



Type	Name
MYFE-4.0	Resistance to voltage 4kv double Polyimide F46 composite film around wrapping round copper wire
MYFS-7.25	Resistance to voltage 7.25kv triple Polyimide F46 composite film around wrapping round copper wire
MYFS-8.7	Resistance to voltage 8.7kv triple Polyimide F46 composite film around wrapping round copper wire
MYFS-10.0	Resistance to voltage 10.0 Polyimide F46 composite film around wrapping round copper wire

Item	Main Technical Requirements			Test Methods
Conductor size	As shown in article 4.2.1 of GB/T5331			GB/T4074.2
Insulation thickness	Type	Insulation thickness mm	Tolerance %	GB/T4074.2
	MYFE-4.0	0.36	± 0.06	
	MYFS-7.25	0.54	± 0.08	
	MYFS-8.7	0.63	± 0.09	
	MYFS-10.0	0.72	± 0.11	
D.C Resistance	The D.C resistance of conductor per unit per unit length at 20°C should conform to article 4.3 in GB/T 5331			GB/T 3048.2
Adhesiveness	Nominal conductor diameter mm	The internal of bare copper, when crapped wire elongated to 10%	Torsion Number	GB/T4074.3
	$d \leq 2.50$	4d		
	$2.50 < d \leq 3.00$	4d	20	
	$3.00 < d \leq 4.00$	3d	15	
	$4.00 < d \leq 5.00$	3d	10	
The max depth of the insulation layer film separation should not overtake 1/2 of crapped wire slued specifically				
Elongation	$d \leq 3.00$		≥ 25%	GB/T4074.3
	$3.00 < d \leq 5.00$		≥ 30%	
Flexibility	Nominal conductor diameter mm	Mandrel Diameter mm	After wrapped wire were wrapped around the mandrel, the insulation layer should not crack	GB/T4074.3
	$d \leq 3.00$	4d		
	$3.00 < d \leq 5.00$	5d		
Breakdown voltage	MTFE-4.0	10000V	GB/T 5331	
	MYFS-7.25	15000V		
	MYFS-8.7	18000V		
	MYEQ-10.0	21000V		



Check Valve



Drain Valve



Centralizer



Cable connection material



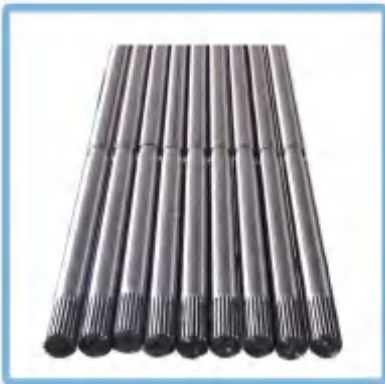
Cable Protector



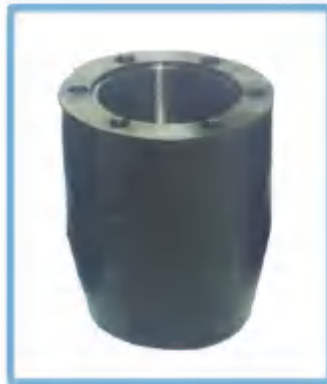
Cable Protector



MLE Motor Pothead



Shaft



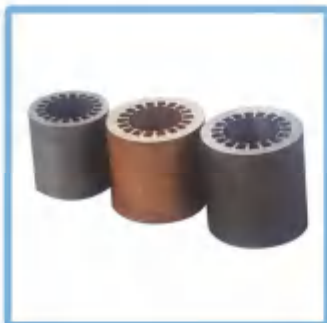
Universal Base



Lead Connecting Base



Housing



Silicon Steel Sheet



Stages