



Full Stainless Steel
3S SUBMERSIBLE MOTORS



Export to
80 Countries
in 6 Continents

WE PRODUCE WATER TECHNOLOGIES

SINCE 1964

Vansan was established at a 200 m² workshop in 1964 by Mech. Eng. A. Özden ERTÖZ and develops rapidly on the path of becoming a global trademark by bringing together its expert engineering, importance given on R&D activities and its customer-oriented working policy with its approximately **600 employees** working in **42.000 m² open and 27.500 m² closed area**. Vansan achieves to export its products to **80 countries** around the world.

Vansan offers a wide range of pumps and motors for the water and other fluid solutions in local, agricultural and industrial areas. We produce Submersible Pumps and Motors, Vertical Multistage Inline Pumps, Centrifugal Pumps, Fire Fighting Pump Systems, Double Suction Split Case Pumps, Special Design Vertical Turbine Pumps, Geothermal Pumps and Oil Pumps that are able to offer customized solutions to your needs.





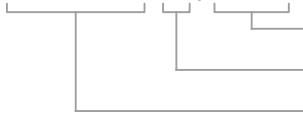
FULL STAINLESS STEEL 3S MOTORS

3S motors construction is completely manufactured of stainless steel. 3S Motors, which are winded with PE2+PA insulated wires, provide superior performance compared to the other types of submersible motors.

The 3S motors can reach much higher powers (about %20 more) than other submersible pump motors. These motors also demonstrate excellent performance at well water of 50 °C.

PRODUCT CODE SYSTEM

VSM 3S 8 / 150



Motor power (HP)

Motor diameter

Motor type

Full Stainless Steel 3S SUBMERSIBLE MOTORS



GENERAL FEATURES

COMPLETELY STAINLESS STEEL

CW & CCW direction of rotation ■

High efficiency provides operation cost savings ■

Max. ambient water temperature 50°C (70°C is optional) ■

Variable operation revolutions by frequency convertor ■

Standard voltage 380/460V - 50/60Hz ■
(Allowable voltage tolerance $\pm\%10$)

Filter Check Valve ■

Water coolant system ■

Applications

Excellent choice for submersible motor applications, including:

- ▶ Water Wells (Domestic, Agricultural, Municipal)
- ▶ Sea Water and Fountains
- ▶ Mining and Industrial
- ▶ Drinking Water Applications



STEEL (AISI 304) CONSTRUCTION (AISI 316 opt.)



- High quality PE2+PA winding wires
- Availability to be operated by Soft-Starter
- Rewindable Vansan Motors provides long service life
- Vansan motors can be operated horizontally
- Flange with NEMA standards
(Key type flange for 10" is optional)
- Standard and dual flange options
- Stainless steel shaft

Special Features

- Corrosion Resistant Construction* ▲
- Meets Drinking Water Regulations* ▲
- Enhanced Cooling Properties* ▲
- Reasonable price difference with Standard Version* ▲

GENERAL FEATURES

PT100 Overheating Protection

By connecting the PT100 thermal sensors to the slot that is standardly placed on upper bearing body, motor temperature can be easily measured.



Up-Thrust Ring

Provides safe operation conditions for motor by absorbing Up-Thrust loads with its machined surface and water channels on it.



Cable Connection

Preventing the water inside the motor to run through the cable and reach connection parts of power cables by specially designed cable seals.



Adjustment Screw

Standard shaft height can be precisely adjusted by the adjustment screw on the thrust bearing base.



Membrane

Membrane minimizes the expansion pressure that is caused by heating of cooling water's inside the motor



Slinger (Sand Guard)

Slinger helps to prevent the sand inside the water of the well entering in mechanical seal and through mechanical seal to inside of the motor.



GENERAL FEATURES



Heavy Duty Bearings With High Thrust Capacity

Heavy duty bearings provides the option to revolve both sides, has the capacity to carry high thrust load.



Water Lubricated Radial Carbon Bearings

Radial carbon bearings, which have channels in its structure that makes it possible to get lubricated by water easily, provides precise bearing of rotor shaft at up and down.



Chrome-plated Bearing Collet

Chrome-plated and precisely machined bearing collets which are located in the radial bearings operating area, have great importance for bearing the rotor.



Mechanical Sealing For High Sand Resistance (IP68)

Although mechanical seal is optionally used by other brands, it is always used by Vansan as a standard, to prevent sand and other particles to get into motors to provide long bearing life.



Practical And Easy-to-Mount Output Power Cable

Connection of the power cable to body is made practically by cable seal and seal cover. Power cables can be changed easily without any damage.



Pressure Balancing Checkvalve

Checkvalve controls the pressure changes inside the motor. When the pressure increases, it throws water out of the motor. When the pressure drops, it filtrates the water inside well and gets it inside the motor by the help of this checkvalve to balance the pressure inside. Thus why pressure differences inside motor never causes membrane under motor to blow up.

PEF2





A standard of HT Motors:

“PE2+PA Winding Wire”

- ✓ Perfect performance up to 50°C ambient temp.,
- ✓ Longer Life
- ✓ High resistance against voltage fluctuation,
- ✓ Gives more safety factor than standard motors

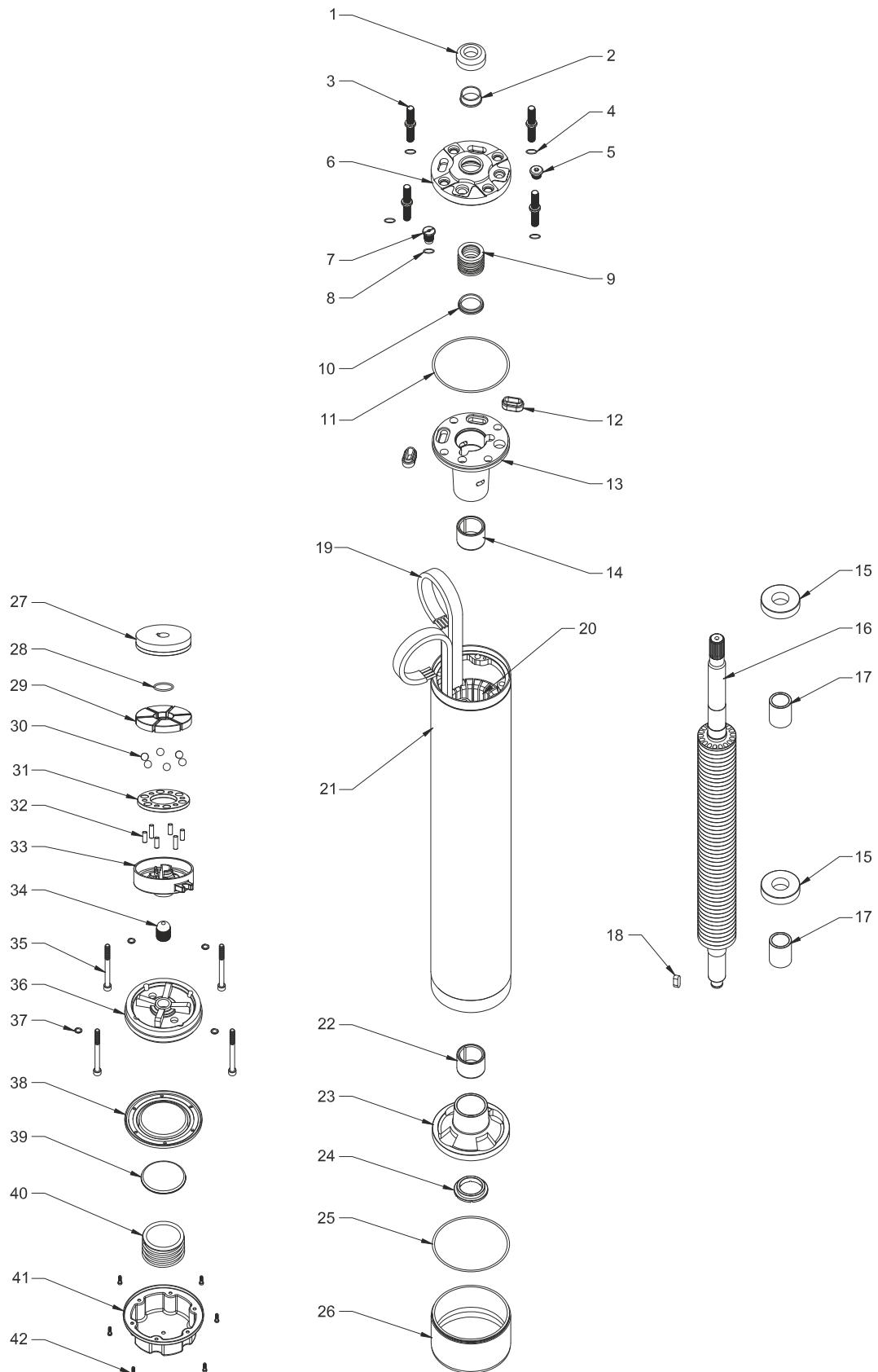
Vansan submersible motors get their power from the PE2+PA winding wire used as standard. This wire, consisting of a single copper conductor, has a very high insulation resistance. PE2 (Polyethylene) provides electrical isolation, PA (Polyamide) provides mechanical protection. Increased heat resistance is achieved by cross-linking of polyethylene. In this way, Vansan submersible motors offer superior performance at high voltage and temperatures up to 50 °C. At the same time it ensures trouble-free operation and a long service life of the motors for many years.

Technical Data

Tensile Strength	Standard: IEC 60811-1-1	23°C (±5)	≥ 10 N/mm ²
Elongation	Standard: IEC 60811-1-1	23°C (±5)	≥ %100
Dielectric constant	Standard: DIN 53483	20°C / 800 Hz	2,3
Specific insulation resistance	Standard: IEC 60093	20°C	10 Ω cm
Dielectric breakdown strength	Standard: DIN VDE 0303-21	20°C/50 Hz	70 kV/mm
Tensile strength after aging		80°C / 7x24 hour	≥ 10 N/mm ²
Elongation at break after aging		80°C / 7x24 hour	≥ %100

Nr	PART NAME	MATERIAL
1	Slinger (Sand Guard)	NBR_EPDM
2	Inner Ring	Bronz
3	Stud	AISI 304
4	O-ring	NBR
5	Plug	AISI 304
6	Upper Connection Flange	AISI 304
7	Check Valve	AISI 304
8	O-ring	NBR
9	Mechanical Seal	SiC-SiC
10	Support Ring	-
11	O-ring	NBR
12	Cable Seal	NBR
13	Upper Bearing Body	GG25
14	Radial Bearing	Carbon
15	Balance Ring	CK 45
16	Rotor	-
17	Shaft Sleeve	St 37 (Coated CrNi)
18	Key	AISI 420
19	Energy Cable (Lead)	PVC
20	Stator Stack	M700-50A / Magnetic Steel
21	Stator	-
22	Radial Bearing	Carbon
23	Lower Bearing Body	GG25
24	Up Thrust Bearing	Bronze
25	O-ring	NBR
26	Axial Bearing Sheet	AISI 304
27	Thrust Disc	Carbon With Antimony
28	O-ring	NBR
29	Axial Thrust Segments	AISI 420
30	Ball	Inox
31	Ball Holder	St 37 (Coated Cr+3)
32	Pins	Inox
33	Axial Thrust Bearing Support	GG25
34	Screw	Inox
35	Bolt	AISI 304
36	Axial Bearing Body Flange	GG25
37	Copper Ring	Copper
38	Membrane	NBR
39	Support Sheet	AISI 304
40	Spring	AISI 304
41	Membrane Cover	AISI 304
42	Bolt	AISI 304

PART LIST



POWER CABLE INFO

D.O.L.

HP	CABLE SIZES											
	3x1,5	3x2,5	3x4	3x6	3x10	3x16	3x25	3x35	3x50	3x70	3x95	3x120
5,5	65	108	172	258	431	689						
7,5	48	80	129	193	322	515						
10	38	64	102	153	256	409	639					
12,5		52	83	125	209	334	522	730				
15		45	72	109	181	289	452	633				
17,5			61	92	153	245	383	536	765			
20			52	79	131	210	327	458	655			
25					106	170	266	372	531	744		
30					90	145	226	316	452	633		
35					76	122	190	266	380	532	722	
40					67	107	168	235	336	470	638	
50						89	139	195	279	390	529	
60							115	160	229	321	434	548
70								139	198	278	377	476
75								131	187	262	356	450
80								120	172	241	326	411
90									154	215	292	368
100									132	192	261	329
110									127	178	242	305
125										157	213	269
135										145	197	249
150											182	230
175											155	196
200												171
210												
225												
250												
300												

WYE - DELTA

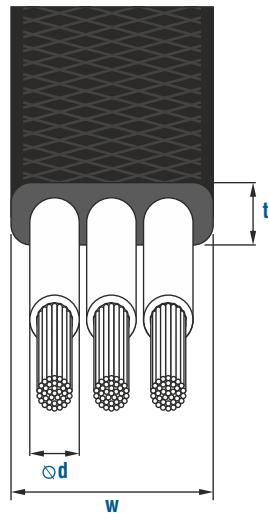
HP	CABLE SIZES											
	3x1,5	3x2,5	3x4	3x6	3x10	3x16	3x25	3x35	3x50	3x70	3x95	3x120
5,5	97	161	258	388	646							
7,5	72	121	193	290	483	773						
10	57	96	153	230	383	613	958					
12,5	47	78	125	188	313	501	783					
15	41	68	109	163	271	434	678	949				
17,5	34	57	92	138	230	367	574	803	982			
20	29	49	79	118	196	314	491	688	797			
25		40	64	96	159	255	398	558	678			
30			54	81	136	217	339	475	570	949		
35			46	68	114	182	285	399	503	798		
40				60	101	161	252	352	418	705		
50					84	134	209	293	344	585	794	
60					69	110	172	241	297	481	653	
70					59	95	149	208	281	416	565	
75						90	141	197	258	394	534	675
80						82	129	180	231	361	490	619
90						74	115	162	206	323	439	554
100							103	144	191	289	392	495
110							95	134	168	267	363	458
125								118	144	235	319	402
135								109	133	218	295	371
150									123	201	273	344
175										172	233	294
200										152	207	261
210										145	196	247
225										136	184	232
250										164	210	
300										130	164	

POWER CABLE INFO

CABLE INFO

50/60 Hz - 380/400/415/440/460 V

Type	Size	Power		D.O.L.	Wye-Delta	Ax.Thrust	Start	Length
		kW	HP	mm ²	mm ²	kN	start/h	m
VSM 3S 6/5,5	6"	4	5,5	4x2,5	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/7,5	6"	5,5	7,5	4x2,5	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/10	6"	7,5	10	4x2,5	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/12,5	6"	9,3	12,5	4x2,5	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/15	6"	11	15	4x4	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/17,5	6"	13	17,5	4x4	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/20	6"	15	20	4x4	4x2,5 + 3x2,5	20	20	4
VSM 3S 6/25	6"	18,5	25	4x6	4x4 + 3x4	20	20	4
VSM 3S 6/30	6"	22	30	4x6	4x4 + 3x4	20	20	4
VSM 3S 6/35	6"	26,5	35	4x10	4x6 + 3x6	26,5	15	4
VSM 3S 6/40	6"	30	40	4x10	4x6 + 3x6	26,5	15	4
VSM 3S 6/50	6"	37	50	3x16	4x10 + 3x10	26,5	15	4
VSM 3S 6/60	6"	45	60	3x16	4x10 + 3x10	26,5	15	4
VSM 3S 7/30	7"	22	30	4x6	4x4 + 3x4	45	17	4
VSM 3S 7/35	7"	26,5	35	4x10	4x6 + 3x6	45	17	4
VSM 3S 7/40	7"	30	40	4x10	4x6 + 3x6	45	17	4
VSM 3S 7/50	7"	37	50	3x16	4x6 + 3x6	45	17	4
VSM 3S 7/60	7"	45	60	3x16	4x10 + 3x10	45	17	4
VSM 3S 7/70	7"	52	70	3x16	4x10 + 3x10	45	17	4
VSM 3S 7/75	7"	55	75	3x16	4x10 + 3x10	45	17	4
VSM 3S 7/80	7"	60	80	3x16	4x10 + 3x10	45	17	4
VSM 3S 7/90	7"	67	90	3x16	4x10 + 3x10	45	17	4
VSM 3S 8/40	8"	30	40	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/50	8"	37	50	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/60	8"	45	60	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/70	8"	52	70	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/75	8"	55	75	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/80	8"	60	80	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/90	8"	67	90	4x16	4x10 + 3x10	45	15	4
VSM 3S 8/100	8"	75	100	3x25	4x16 + 3x16	45	15	4
VSM 3S 8/110	8"	81	110	3x25	4x16 + 3x16	55	15	4
VSM 3S 8/125	8"	92	125	3x25	4x16 + 3x16	55	10	4
VSM 3S 8/150	8"	110	150	3x35	3x25 + 3x25	55	10	4
VSM 3S 10/110	10"	81	110	3x25	4x16 + 3x16	75	10	5
VSM 3S 10/125	10"	92	125	3x25	4x16 + 3x16	75	10	5
VSM 3S 10/150	10"	110	150	3x35	3x25 + 3x25	75	10	5
VSM 3S 10/175	10"	129	175	3x35	3x25 + 3x25	75	10	5
VSM 3S 10/200	10"	147	200	3x35	3x25 + 3x25	75	10	5
VSM 3S 10/225	10"	166	225	-	3x35 + 3x35	75	10	5
VSM 3S 10/250	10"	185	250	-	3x35 + 3x35	75	10	5
VSM 3S 10/300	10"	220	300	-	3x35 + 3x35	75	10	5



Flat Cable Dimensions

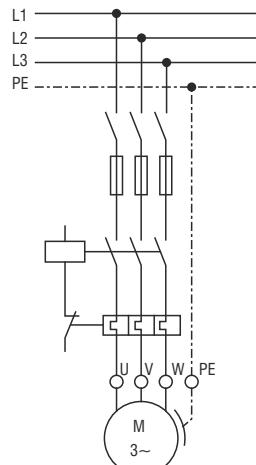
Type	Thickness	Width	Diameter
mm ²	(t) mm	(w) mm	(d) mm
3x2,5	6,4±0,2	15,0±0,3	3,6
3x4	7,1±0,5	16,5±0,5	4,1
3x6	8,0±0,5	18,3±0,5	4,6
3x10	8,8±0,5	21,8±0,5	6
3x16	10,5±0,5	25,4±0,5	7
3x25	12,0±0,5	33,0±0,5	9
3x35	13,5±1,0	34,5±1,0	10,1
4x2,5	6,4±0,2	18,0±0,3	3,6
4x4	7,1±0,5	20,2±0,5	4,1
4x6	8,0±0,5	22,4±0,5	4,6
4x10	8,8±0,5	28,0±0,5	6
4x16	10,5±0,5	33,7±0,5	7

220-230V cable sizes may vary / 220-230V kablo ölçülerini değişkenlik gösterebilir.

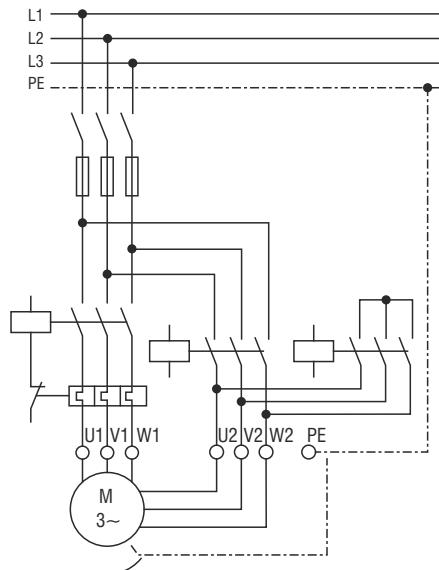
POWER CABLE INFO

ENERGY CONNECTION SCHEMA

D.O.L CONNECTION



Y/Δ CONNECTION



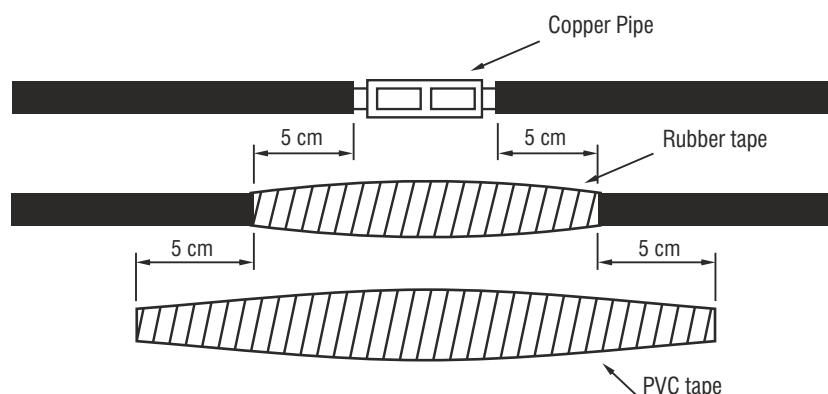
POWER CABLE CONNECTION

Connection of the power cable that will be used along the well and until the control panel with the power cable on the motor must be done very carefully and by the professionals only. If the insulation after connection is not done properly; short circuit might happen during the connection area is in the water.

Insulation of each cable should be stripped only as far as necessary to

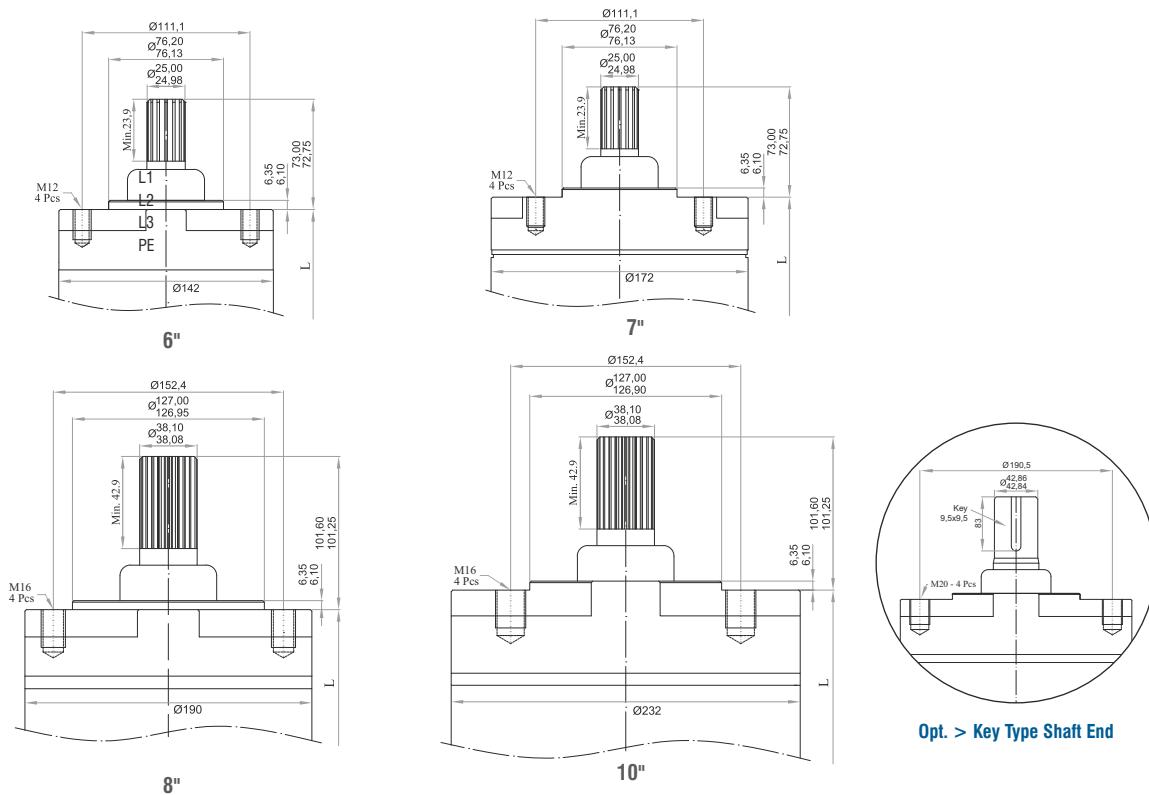
provide room for a stake type connector. Each individual joint should be taped with PVC tape, using two layers by wrapping tightly for eliminating airspaces as much as possible.

Total thickness of tape should be no less than the thickness of the cable insulation in order to prevent the smashing of the cables when the pump is lowered in the well.



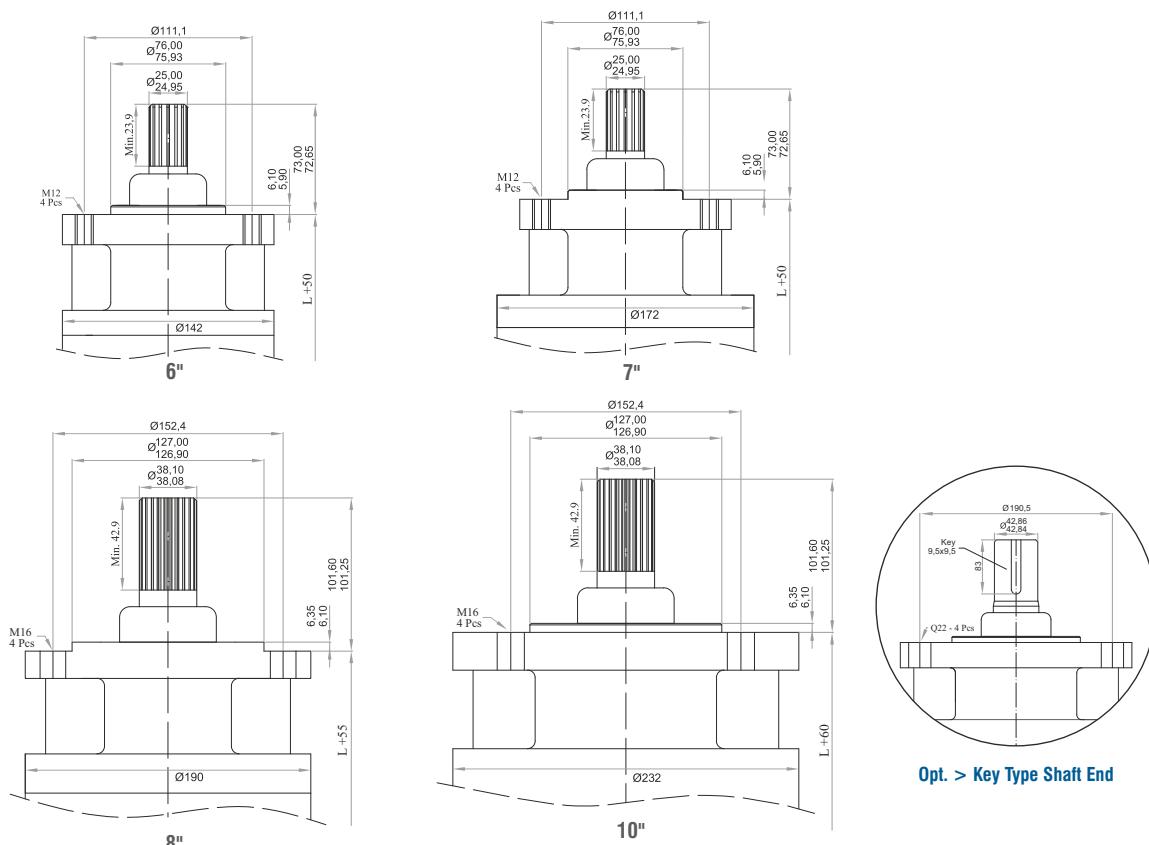
CONNECTION SIZE

STANDARD FLANGE



Opt. > Key Type Shaft End

DOUBLE FLANGE



Opt. > Key Type Shaft End

Type	Power		Axial Load	Voltage	n_N	I_N	I_A	Efficiency (%load)			$\cos \varphi$ (% load)			Length	Weight	
	HP	kW						kN	V	rpm	A	A	50	75	100	mm
VSM 3S 6/5.5	5,5	4	20	380	2770	10,2	39,4	67	71	71	63	71	84			
				400	2785	9,8	37,8	68	72	72	59	67	82	594	38	
				415	2795	9,5	36,9	68	72	72	58	66	81			
VSM 3S 6/7.5	7,5	5,5	20	380	2780	13,3	52,7	70	73	75	63	71	84			
				400	2795	12,8	50,6	71	74	76	59	67	82	623	42	
				415	2805	12,3	48,7	72	75	77	58	66	81			
VSM 3S 6/10	10	7,5	20	380	2790	17,2	66,4	77	79	79	63	71	84			
				400	2805	16,5	63,8	79	80	80	59	67	82	703	48	
				415	2815	16,1	62,2	79	80	80	58	66	81			
VSM 3S 6/12.5	12,5	9,3	20	380	2850	20,8	80,3	80	81	81	63	71	84			
				400	2855	20,2	78,1	80	81	81	59	67	82	743	53	
				415	2865	19,5	75,3	81	82	82	58	66	81			
VSM 3S 6/15	15	11	20	380	2810	23,7	91,6	81	82	82	67	75	86			
				400	2825	22,8	88,0	82	83	83	63	71	84	796	58	
				415	2835	22,2	85,9	82	83	83	61	69	83			
VSM 3S 6/17.5	17,5	13	20	380	2820	28,7	110,9	80	81	81	65	73	85			
				400	2835	27,6	106,6	81	82	82	61	69	83	856	63	
				415	2845	26,6	102,7	82	83	83	59	67	82			
VSM 3S 6/20	20	15	20	380	2850	33,1	127,9	80	81	81	65	73	85			
				400	2855	32,2	124,5	80	81	81	61	69	83	918	70	
				415	2865	31,0	120,0	81	82	82	59	67	82			
VSM 3S 6/25	25	18,5	20	380	2850	41,8	161,6	80	81	81	61	69	83			
				400	2865	40,2	155,4	81	82	82	58	66	81	951	74	
				415	2875	38,8	149,8	82	83	83	57	65	80			
VSM 3S 6/30	30	22	20	380	2860	48,5	187,6	81	82	82	63	71	84			
				400	2875	46,7	180,3	82	83	83	59	67	82	1051	85	
				415	2885	45,0	173,9	83	84	84	58	66	81			
VSM 3S 6/35	35	26,5	26,5	380	2870	56,4	217,9	83	84	84	65	73	85			
				400	2885	54,9	212,0	83	84	84	61	69	83	1166	96	
				415	2895	52,9	204,4	84	85	85	59	67	82			
VSM 3S 6/40	40	30	26,5	380	2880	64,6	249,7	82	83	83	65	73	85			
				400	2895	62,1	240,0	83	84	84	61	69	83	1196	101	
				415	2905	59,9	231,4	84	85	85	59	67	82			
VSM 3S 6/50	50	37	26,5	380	2890	79,7	315,6	80	81	83	65	73	85			
				400	2905	76,7	303,3	81	82	84	61	69	83	1296	108	
				415	2915	74,7	288,8	83	84	84	59	67	82			
VSM 3S 6/60	60	45	26,5	380	2890	96,9	374,7	82	81	83	65	73	85			
				400	2905	93,2	360,2	81	82	84	61	69	83	1296	108	
				415	2915	87,7	339,0	83	84	84	59	67	85			

MOTOR SPECIFICATIONS

Motor Power : 5,5-60 HP
 Outside Diameter : 142 mm
 Flange Standard : 6" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

3S

7" VSM 3S SUBMERSIBLE MOTORS (VSM 8" Slim Line)

50 Hz

Type	Power			Axial Load	Voltage	n _N	I _N	I _A	Efficiency (%load)			Cos φ (% load)			Length	Weight
	HP	kW	kN						V	rpm	A	50	75	100	mm	kg
VSM 3S 7/30	30	22	45		380	2880	46,3	235	83	84	84	76	82	86	842	83
					400	2900	44,5	225	82	84	85	75	81	85		
VSM 3S 7/35	35	26,5	45		380	2880	55,1	279	84	85	85	76	82	86	882	88
					400	2900	52,9	269	83	85	85	75	81	85		
VSM 3S 7/40	40	30	45		380	2880	62,4	312	85	86	85	76	82	86	922	100
					400	2900	59,2	300	84	86	86	75	81	85		
VSM 3S 7/50	50	37	45		380	2880	74,3	377	85	86	86	78	85	88	1001	110
					400	2900	72,2	366	84	86	86	75	82	86		
VSM 3S 7/60	60	45	45		380	2870	90,3	459	85	86	86	76	84	88	1081	124
					400	2890	87,8	446	84	86	86	75	83	86		
VSM 3S 7/70	70	52	45		380	2860	105,6	537	85	86	86	78	83	87	1160	135
					400	2880	102,7	522	85	86	86	76	82	85		
VSM 3S 7/75	75	55	45		380	2900	112,9	554	85	85	84	76	84	88	1160	135
					400	2905	109,8	540	84	85	84	75	83	86		
VSM 3S 7/80	80	60	45		380	2900	123,3	596	85	85	84	76	84	88	1248	157
					400	2905	119,9	580	84	85	84	75	83	86		
VSM 3S 7/90	90	67	45		380	2895	137,7	666	85	85	84	76	84	88	1279	168
					400	2900	133,9	647	84	85	84	75	83	86		
VSM 3S 7/95	100	75	45		380	2905	145,5	722	85	85	84	76	84	88	1360	175
					400	2910	142,4	708	84	85	84	75	83	86		

MOTOR SPECIFICATIONS

Motor Power : 30-90 HP
 Outside Diameter : 172 mm
 Flange Standard : 6" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

Type	Power			Axial Load	Voltage	n_N	I_N	I_A	Efficiency (%load)			$\cos \varphi$ (% load)			Length	Weight
	HP	kW	kN						V	rpm	A	A	50	75	100	
VSM 3S 8/40	40	30	45		380	2880	63,2	239	82	83	83	73	78	87	948	125
					400	2895	60,7	229	83	84	84	67	74	85		
					415	2905	59,2	223	83	84	84	65	73	84		
VSM 3S 8/50	50	37	45		380	2890	76,1	287	84	85	85	73	78	87	1008	134
					400	2905	73,1	276	85	86	86	67	74	85		
					415	2915	72,2	269	85	86	86	65	73	84		
VSM 3S 8/60	60	45	45		380	2890	92,6	349	84	85	85	73	78	87	1093	148
					400	2905	89,0	336	85	86	86	67	74	85		
					415	2915	86,8	327	85	86	86	65	73	84		
VSM 3S 8/70	70	52	45		380	2890	105,7	399	84	85	85	75	81	88	1178	166
					400	2905	101,6	383	85	86	86	70	76	86		
					415	2915	99,1	374	85	86	86	67	74	85		
VSM 3S 8/75	75	55	45		380	2890	113,2	427	83	84	84	75	81	88	1178	166
					400	2905	110,0	415	83	84	84	70	76	86		
					415	2915	106,0	400	84	85	85	67	74	85		
VSM 3S 8/80	80	60	45		380	2890	122,0	460	85	86	86	73	78	87	1233	181
					400	2905	118,6	447	85	86	86	67	74	85		
					415	2915	115,7	436	85	86	86	65	73	84		
VSM 3S 8/90	90	67	45		380	2890	137,8	520	84	85	85	73	78	87	1258	186
					400	2905	132,4	499	85	86	86	67	74	85		
					415	2915	129,2	487	85	86	86	65	73	84		
VSM 3S 8/100	100	75	45		380	2890	154,3	582	83	84	84	75	81	88	1283	191
					400	2905	148,3	559	84	85	85	70	76	86		
					415	2915	144,6	545	84	85	85	67	74	85		
VSM 3S 8/110	110	81	55		380	2895	166,6	629	84	85	85	73	78	87	1363	201
					400	2900	160,1	604	85	86	86	67	74	85		
					415	2905	156,2	589	85	86	86	65	73	84		
VSM 3S 8/125	125	92	55		380	2860	189,2	714	84	85	85	73	78	87	1428	208
					400	2875	181,9	686	85	86	86	67	74	85		
					415	2890	177,4	669	85	86	86	65	73	84		
VSM 3S 8/150	150	110	55		380	2940	223,7	844	84	85	85	72	78	88	1574	229
					400	2950	212,5	802	85	86	86	67	74	87		
					415	2955	204,8	773	85	86	86	65	73	87		

MOTOR SPECIFICATIONS

Motor Power : 40-150 HP
 Outside Diameter : 192 mm
 Flange Standard : 8" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

Type	Power			Axial Load	Voltage	n _N	I _N	I _A	Efficiency (%load)			Cos φ (% load)			Length	Weight
	HP	kW	kN						50	75	100	50	75	100	mm	kg
VSM 3S 10/110	110	81	75		380	2890	164,7	615	84	84	85	76	81	88	1282	188
					400	2905	158,3	590	85	85	86	72	77	86		
VSM 3S 10/125	125	92	75		380	2900	184,9	690	85	85	86	76	81	88	1342	201
					400	2915	179,8	671	85	85	86	72	77	86		
VSM 3S 10/150	150	110	75		380	2900	223,6	835	85	85	86	74	80	87	1422	249
					400	2915	217,5	811	85	85	86	69	75	85		
VSM 3S 10/175	175	129	75		380	2920	256,3	957	86	86	87	76	81	88	1522	249
					400	2935	246,3	919	87	87	88	72	77	86		
VSM 3S 10/200	200	147	75		380	2910	292,1	1090	86	86	87	76	81	88	1652	272
					400	2925	283,9	1059	86	86	87	72	77	86		
VSM 3S 10/225	225	166	75		380	2900	333,7	1245	85	85	86	76	81	88	1732	279
					400	2915	320,6	1196	86	86	87	72	77	86		
VSM 3S 10/250	250	185	75		380	2905	371,8	1388	85	85	86	76	81	88	1732	287
					400	2915	361,5	1348	85	85	86	72	77	86		
VSM 3S 10/300	300	220	75		380	2905	442,2	1651	85	85	86	76	81	88	1922	302
					400	2915	429,9	1604	85	85	86	72	77	86		
					415	2925	414,4	1546	86	86	87	69	75	85		

MOTOR SPECIFICATIONS

Motor Power : 110-300 HP
 Outside Diameter : 232 mm
 Flange Standard : 8" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

Type	Power		Axial Load	Voltage	n_N	I_N	I_A	Efficiency (%load)			$\cos \varphi$ (% load)			Length	Weight
	HP	kW						50	75	100	50	75	100		
VSM 3S 6/5.5	5,5	4	20	220	3510	19,2	102	69	74	76	51	63	72	594	38
				380	3540	11,4	61	65	71	76	50	62	70		
				460	3530	8,8	47	69	75	77	55	66	74		
VSM 3S 6/7.5	7,5	5,5	20	220	3480	23,8	126	73	77	77	60	72	79	623	42
				380	3490	13,6	72	75	77	77	63	74	80		
				460	3490	11,7	62	73	76	75	64	75	79		
VSM 3S 6/10	10	7,5	20	220	3480	32,8	174	74	78	78	57	70	77	703	48
				380	3490	18,3	97	75	78	78	63	74	80		
				460	3480	15,1	80	74	77	77	66	76	81		
VSM 3S 6/12.5	12,5	9,3	20	220	3480	40,7	216	74	78	78	58	70	77	743	53
				380	3480	22,4	119	76	79	79	63	74	80		
				460	3470	18,3	97	77	79	79	66	77	81		
VSM 3S 6/15	15	11	20	220	3480	46,3	245	76	79	80	59	71	78	796	58
				380	3500	26,5	140	76	80	80	61	73	79		
				460	3490	21,3	113	77	80	79	67	76	82		
VSM 3S 6/17.5	17,5	13	20	220	3490	56,9	302	75	79	80	54	67	75	856	63
				380	3510	31,7	168	76	80	81	58	70	77		
				460	3500	25,2	134	77	80	80	64	75	81		
VSM 3S 6/20	20	15	20	220	3490	60,1	318	79	82	82	62	73	80	918	70
				380	3500	34,4	182	80	82	82	65	76	81		
				460	3500	28,4	150	79	81	81	67	77	82		
VSM 3S 6/25	25	18,5	20	220	3480	77,9	413	76	80	81	58	70	77	951	74
				380	3500	46,3	245	75	79	80	57	69	76		
				460	3490	35,9	190	79	81	81	64	75	80		
VSM 3S 6/30	30	22	20	220	3500	91,6	495	81	83	83	64	73	76	1051	85
				380	3520	52,4	283	81	83	83	66	74	77		
				460	3510	41,1	222	82	83	83	71	78	81		
VSM 3S 6/35	35	26,5	26,5	220	3500	110,5	597	82	84	84	62	71	75	1166	96
				380	3510	60,0	324	82	84	84	61	73	80		
				460	3510	48,9	264	82	83	83	63	75	82		
VSM 3S 6/40	40	30	26,5	220	3500	124,8	674	77	81	82	57	70	77	1196	101
				380	3520	68,7	371	78	82	83	61	73	80		
				460	3510	56,1	303	80	83	83	63	74	81		
VSM 3S 6/50	50	37	26,5	220	3500	155,9	842	76	80	81	58	70	77	1296	108
				380	3520	90,2	487	76	80	81	58	70	77		
				460	3510	69,2	374	81	83	84	62	74	80		
VSM 3S 6/60	60	45	26,5	220	3500	189,5	1023	75	79	80	58	71	78	1296	108
				380	3520	109,7	592	75	79	80	58	71	78		
				460	3510	84,1	454	80	82	83	62	75	81		

MOTOR SPECIFICATIONS

Motor Power : 5,5-60 HP
 Outside Diameter : 142 mm
 Flange Standard : 6" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

3S

7" VSM 3S SUBMERSIBLE MOTORS (VSM 8" Slim Line)

60 Hz

Type	Power			Axial Load	Voltage	n _N	I _N	I _A	Efficiency (%load)			Cos φ (% load)			Length	Weight
	HP	kW	kN						V	rpm	A	50	75	100	50	75
VSM 3S 7/30	30	22	45		220	3480	86,0	456	81	82	82	72	78	82	842	83
					380	3490	49,8	264	81	82	82	72	78	82		
VSM 3S 7/35	35	26,5	45		220	3480	102,3	542	82	83	83	72	78	82	882	88
					380	3490	59,2	314	82	83	83	72	78	82		
VSM 3S 7/40	40	30	45		220	3485	115,8	614	83	84	83	72	78	82	922	100
					380	3495	67,1	355	83	84	83	72	78	82		
VSM 3S 7/50	50	37	45		220	3480	137,8	730	83	84	84	74	81	84	1001	110
					380	3490	79,8	423	83	84	84	74	81	84		
VSM 3S 7/60	60	45	45		220	3470	167,6	888	83	84	84	72	80	84	1081	124
					380	3480	97,0	514	83	84	84	72	80	84		
VSM 3S 7/70	70	52	45		380	3495	113,5	601	83	84	84	74	79	83	1160	135
					460	3505	93,7	497	83	84	84	74	79	83		
VSM 3S 7/75	75	55	45		380	3495	120,0	636	83	84	84	74	79	83	1160	135
					460	3505	99,1	525	83	84	84	74	79	83		
VSM 3S 7/80	80	60	45		380	3470	130,9	694	83	84	84	74	79	83	1248	157
					460	3480	108,1	573	83	84	84	74	79	83		
VSM 3S 7/90	90	67	45		380	3475	146,2	775	83	84	84	74	79	83	1279	168
					460	3485	120,8	640	83	84	84	74	79	83		

MOTOR SPECIFICATIONS

Motor Power : 30-90 HP
 Outside Diameter : 172 mm
 Flange Standard : 6" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

3S**8" VSM 3S SUBMERSIBLE MOTORS****60 Hz**

Type	Power			Axial Load	Voltage	n _N	I _N	I _A	Efficiency (%load)			Cos φ (% load)			Length	Weight	
	HP	kW	kN						V	rpm	A	A	50	75	100		
VSM 3S 8/40	40	30	45		220	3480	115,1	612		81	84	84	77	78	82	948	125
					380	3490	66,3	352		82	84	84	77	78	82		
VSM 3S 8/50	50	37	45		460	3480	54,1	288		81	83	83	79	81	84	1008	134
					220	3490	139,5	742		82	85	85	77	78	82		
VSM 3S 8/60	60	45	45		380	3480	167,6	892		83	85	85	70	78	83	1093	148
					460	3490	97,0	516		83	85	85	70	78	83		
VSM 3S 8/70	70	52	45		220	3490	189,1	1000		84	86	86	72	80	84	1178	166
					380	3500	109,5	583		84	86	86	72	80	84		
VSM 3S 8/75	75	55	45		460	3495	90,4	481		84	85	85	76	83	85	1178	166
					220	3490	200,0	1064		84	86	86	68	77	84		
VSM 3S 8/80	80	60	45		380	3500	115,8	616		84	86	86	68	77	84	1233	181
					460	3500	95,7	509		85	86	86	74	81	84		
VSM 3S 8/90	90	67	45		220	3490	215,7	1148		85	87	87	74	81	84	1258	186
					380	3500	124,9	664		85	87	87	74	81	84		
VSM 3S 8/100	100	75	45		460	3500	103,1	549		85	86	86	77	83	85	1283	191
					220	3500	252,7	1344		84	86	86	70	79	81		
VSM 3S 8/110	110	81	55		380	3500	146,3	778		84	86	86	70	79	81	1363	201
					460	3500	116,5	620		85	86	86	74	82	84		
VSM 3S 8/125	125	92	55		380	3500	191,5	1019		86	87	87	74	80	84	1428	208
					460	3500	158,2	842		86	87	87	73	80	84		
VSM 3S 8/150	150	110	55		380	3490	231,6	1232		86	86	86	74	80	84	1574	229
					460	3490	191,3	1018		86	86	86	73	80	84		

MOTOR SPECIFICATIONS

Motor Power : 40-150 HP
 Outside Diameter : 192 mm
 Flange Standard : 8" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

Type	Power			Axial Load	Voltage	n _N	I _N	I _A	Efficiency (%load)			Cos φ (% load)			Length	Weight
	HP	kW	kN						V	rpm	A	50	75	100	mm	kg
VSM 3S 10/110	110	81	75		380	3500	170,5	904	85	85	85	80	83	85	1282	188
					460	3510	137,6	729	85	85	85	82	85	87		
VSM 3S 10/125	125	92	75		380	3510	193,7	1.027	85	85	85	80	83	85	1342	201
					460	3520	156,3	829	85	85	85	82	85	87		
VSM 3S 10/150	150	110	75		380	3515	234,3	1242	85	86	85	79	82	84	1422	249
					460	3520	189,1	1002	85	86	85	81	84	86		
VSM 3S 10/175	175	129	75		380	3520	268,4	1423	86	87	86	80	83	85	1522	249
					460	3530	216,7	1148	86	87	86	82	85	87		
VSM 3S 10/200	200	147	75		380	3515	305,9	1621	86	86	86	80	83	85	1652	272
					460	3520	246,9	1308	86	86	86	82	85	87		
VSM 3S 10/225	225	166	75		380	3505	345,4	1831	86	86	86	80	83	85	1732	279
					460	3510	278,8	1478	86	86	86	82	85	87		
VSM 3S 10/250	250	185	75		380	3505	385,0	2040	86	86	86	80	83	85	1732	287
					460	3510	310,7	1647	86	86	86	82	85	87		
VSM 3S 10/300	300	220	75		380	3505	457,8	2426	86	86	86	80	83	85	1922	302
					460	3510	369,5	1958	86	86	86	82	85	87		

MOTOR SPECIFICATIONS

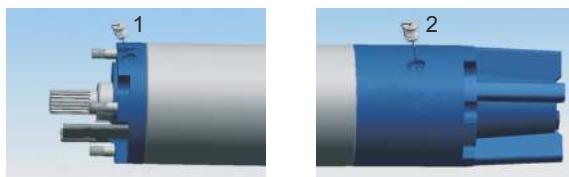
Motor Power : 110-300 HP
 Outside Diameter : 232 mm
 Flange Standard : 8" NEMA
 Winding Wire : PE2-PA

Working Position : Vertical & Horizontal
 Ambient Water Temp. : Max 50°C (70°C opt.)
 Rotation Direction : CW & CCW
 Motor Shaft : Stainless steel

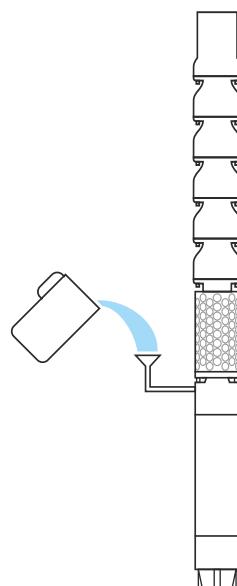
OTHER INFORMATIONS

MOTOR WATER FILLING

During the storage and delivery period, antifreeze is used not to cause any freezing. VANSAN submersible motors are filled with water+antifreeze mix before shipment to protect motor till -10°C freezing temperature.



Before the installation of the motor to the well, water level inside the motor should be checked. Position the motor horizontally and remove the screw 1 and 2, fill the motor with clean water if it is not full. After waiting 30 minutes with the filling screw open, fill the water completely again and tight with a screw providing no leakage.



INSULATION RESISTANCE TEST

All Vansan motors are applied insulation test under 3.000 V before shipment. Motors which have at least 2.000 megaohm test results are shipped. Insulation test results should be controlled before the installation and after connecting power cables as it is explained below. Megger tester's one probe should be touched to motor body and the other probe should be touched to tip of each power cable to measure the insulation of each phase. If there is any short circuit in a phase, insulation value is 0 megaohm.



Under the normal operating conditions, a motor inside the well should have 2 megaohm insulation resistance. When the insulation resistance drops under 0.5 megaohm, there might be an insulation problem in winding. Test voltage should be at least 500 V DC.

After extending power cables with a joint, same test procedures should be also applied for insulation control while power cables are inside water. If insulation test results for any winding is lower than 100 megaohm, cable joint should be done again.

OTHER INFORMATIONS

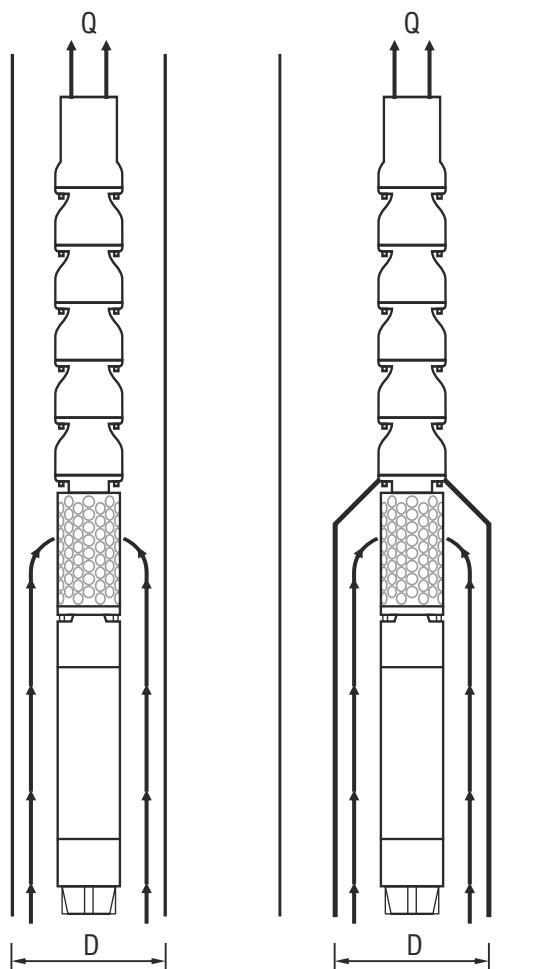
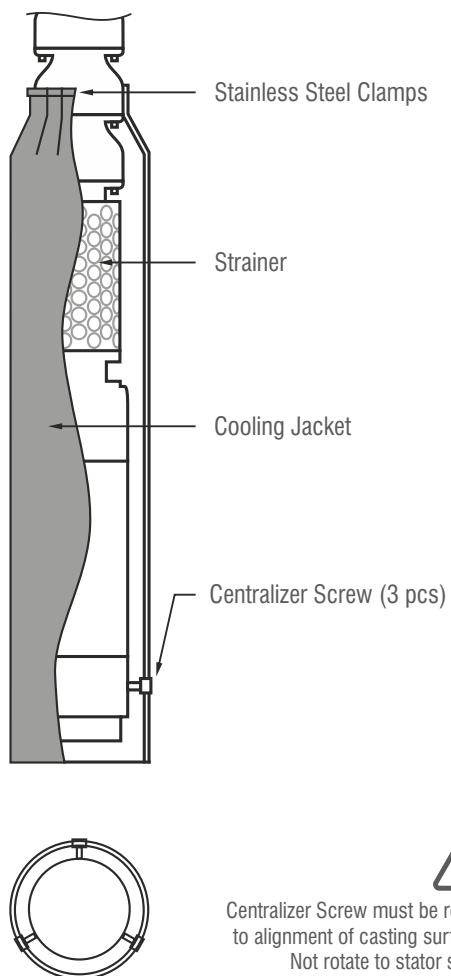
USE COOLING JACKET / SOĞUTMA CEKETİ KULLANIMI

Cooling of submersible motors is provided with the flow of the water around it. That's allows water flow around motors has vital importance during submersible pump installation. This flow rate depends on diameter and power of motor.

The most important factor of submersible motors' long service life is that the motor has to be cooled well. Required flow velocity around the motor is given in the table below for motors being cooled well enough.

If the motor will be installed in an open body of water (i.e pool) or diameter of the well is much bigger than the diameter of the motor, Flow Inducer Sleeve must be used to provide the flow velocities that are given in the table below, around the motor.

Motor Type Motor Tipi	Motor Rating Motor Gücü	Min. Water Flow (m/s) Min. Akış Hızı (m/s)
6"	5.5 - 18.5 kW	0.2
	22 - 45 kW	0.5
7"	22 - 67 kW	0.2
	60 - 75 kW	0.5
8"	30 - 55 kW	0.2
	60 - 110 kW	0.5
10"	81 - 220 kW	0.5



OTHER INFORMATIONS

USE FREQUENCY CONVERTOR AND SOFT STARTER

These points listed below should be taken into consideration while operating submersible motors with frequency convertor and soft starter.

- Needed precautions should have been taken to protect your frequency convertor from voltage fluctuations.
- Flow rate around motor must be at least 0,15 m/s. If flow rate is not enough, flow inducer sleeve must be used to provide the needed flow rate.
- In systems which are operated by frequency convertor and soft starter, motor selection should be done as choosing next higher motor rate for pumps will provide long service life for motors.
- Motors should be operated between 30-50 Hz with frequency convertors. As the protective water layer can't be formed on thrust bearing at the lower frequencies, motor would get damaged.
- Dual slope frequency convertors should be used while using soft starter too.



VOLTAGE DROP AND CABLE POWER LOSS

To determine the cable section it should be considered that the voltage drop must not exceed %3. The formulas used for voltage drop calculation are given below.

Direct Starter

1 cable	$U_v = \frac{3,1 \times L \times I \times \cos\varphi}{q \times U}$	$q = \frac{3,1 \times L \times I \times \cos\varphi}{U_v \% \times U}$
2 cables in parallel	$U_v = \frac{1,55 \times L \times I \times \cos\varphi}{q \times U}$	$q = \frac{1,55 \times L \times I \times \cos\varphi}{U_v \% \times U}$

Delta Star Starter

$$U_v = \frac{2,1 \times L \times I \times \cos\varphi}{q \times U} \quad q = \frac{2,1 \times L \times I \times \cos\varphi}{U_v \% \times U}$$

L	: Cable length (m)
I	: Current at nominal vol. (A)
q	: Conductor section (mm ²)
cosφ	: Power factor
P _V	: Power loss (%)
U _v	: Voltage drop (%)
U	: Nominal voltage (V)

The power loss along the feeling cable has to be calculated adjacent to

$$P_V = \frac{U_V}{\cos^2\varphi}$$

TROUBLE SHOOTING

MOTOR DOES NOT START

Possible Cause	Remedy
No power or incorrect voltage	Check voltage at lines. Contact power company if voltage is incorrect
Fuses blown or circuit breakers tripped	Replace with proper fuse or reset circuit breakers
Control box malfunction	Repair or replace
Defective wiring	Correct faulty wiring or connections
Bound pump	Pull pump and correct problem. Run new installation until the water clears
Defective cable or motor	Repair or replace

MOTOR STARTS TOO OFTEN

Possible Cause	Remedy
Check valve stuck open	Replace if defective
Waterlogged tank	Repair or replace
Leak in system	Replace damaged pipes or repair leaks

MOTOR RUNS CONTINUOUSLY

Possible Cause	Remedy
Low water level in well	Throttle pump outlet or reset pump to lower level. Do not lower if sand may block pump
Worn pump	Pull pump and replace worn parts
Loose coupling or broken motor shaft	Replace worn or damaged parts
Pump screen blocked	Clean screen and rest pump depth
Check valve stuck closed	Replace if defective
Control box malfunction	Repair or replace

MOTOR RUNS BUT OVERLOAD PROTECTOR TRIPS

Possible Cause	Remedy
Incorrect voltage	Contact power company if voltage is incorrect
Overheated protectors	Shade the box, provide ventilation or move box away from source
Defective control box	Repair or replace
Defective motor or cable	Repair or replace
Worn pump or motor	Replace pump and/or motor

NOTES

The secret of our success is **VANSAN QUALITY POLICY**

We know very well that being a trusted business partner is not an easy process. We are following changes in the industry and offer high-efficiency innovative products with well-planned details in order to offer customized solutions to the evolving needs. We produce each product in exceptional quality standards without exception.

We design our products and technologies not with the logic of "build and then sell" but with the philosophy of "understand and then find a solution" and we carry out our productions in accordance with the requirements of TS EN ISO 9001: 2000 Quality Management System Standards. The secret of Vansan's success is hidden in high-quality

policy that has been followed since its establishment. "Always manufacturing the best" is essential for Vansan. From design to after sales period, "Creating value" is always a part of our service policy to keep customer satisfaction in the highest level.

The 17025 standard is primarily concerned with technical competence and ability to generate technically valid results within a laboratory. VANSAN Pump Test Laboratory has been assessed against the requirements of EN ISO IEC 17025 and is accredited to undertake specified tests.



EASY SERVICE

Vansan, which is developing on the way of becoming a global brand; knows the importance of providing fast and just on time service. That's why we expand our organisation to provide perfect service in every location our products are used.



ENVIRONMENT

With the awareness of 20% of produced electricity in the world is consumed by pumps ; VANSAN always aim to design pumps with higher efficiencies. Environmental friendly materials are used during production as much as possible and wastes are minimized.



INNOVATION

Vansan follows new technologies closely. Tests and analysis are done in order to improve our products in the fastest way and create new production lines. VANSAN always shows effort on developing its products and systems in order to be the followed one in its profession. That's why high budget is allocated on R&D and have expert staff on their profession.

powered by engineering

Submersible Pump & Motor
Vertical Axial Flow Turbine Pumps
Fire Fighting Systems
Geothermal Pumps
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Motor

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