Sigmafos®

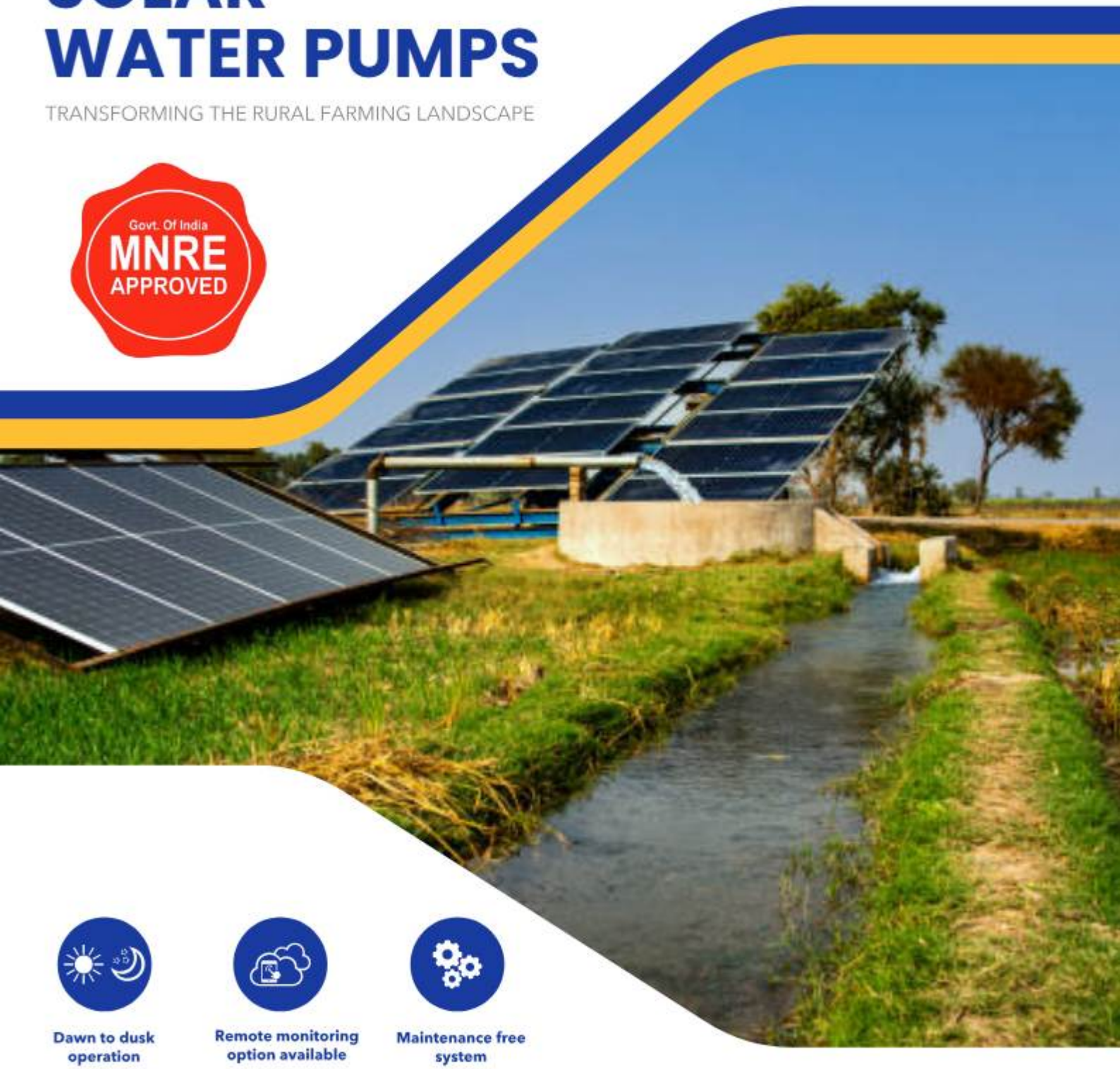
A trusted name in Water pump Industry

Proven Performance

SOLAR WATER PUMPS

TRANSFORMING THE RURAL FARMING LANDSCAPE

Govt. Of India
MNRE
APPROVED



Dawn to dusk operation

Remote monitoring option available

Maintenance free system

STANDALONE - SOLAR POWERED

AC/DC PUMPING SYSTEM

BRINGING RELIABLE WATER SUPPLY WITH SOLAR WATER PUMP SOLUTIONS

About Us

Our glorious journey of manufacturing pumps started in the year 1994 initially with a small scale production of Mono block pump sets and with a strong vision of Serving the world through the pumping industry and mission of "Delivering World class pump sets at bestquality" This policy driven company by the wide acceptance of our quality and reliability. Our products is now seeing new heights.

In 2008, we designed and developed a new generation of pumps, with significant upgradations under the brand name 'SIGMAFOS'. Today our brands cater to the needs of the most refined customers who are looking for trouble-free, high quality, energy efficient, silent pumps that are simple and easy to use with low energy consumption giving great return on investment.

29+	495800+	501029 +	112+
years of Experience	Happy Customers	Units Sold	Dealer Network

Infrastructure

The Infrastructure of Sigma Pump Systems is quite comprehensive with state-of-the-art machineries and a high potential R&D wing. Our state-of-the-art infrastructure is backed with technologically advanced tools, machinery that have facilitated us to provide a wide spectrum in clear water pumping segment and covering around 1000+ models in its product list.

What We Offer

Management Team

Network

Testimonials

Our clients consistently praise us for our professionalism, reliability, and ability to exceed their expectations. They eagerly share their remarkable experiences with us.

Sivanantham P, Founder

Founder's Note

Water has been the ultimate need of all life kind. Especially, farmers & agriculturists who provide us with the basic need – food. This holy profession of providing easy access to water to farmers, homes, other institutions & celebrating the satisfaction of these people has become a great motivation, inspiration and addiction. We have been the government's choice of pumpset for farmers of Tamil Nadu & Karnataka.
The firm is hunting for opportunities to serve for the satisfaction of people by expanding it's business throughout the globe. Jai Hind!

In 2008, we designed and developed a new generation of pumps, with significant upgradations under the brand name 'SIGMAFOS'.

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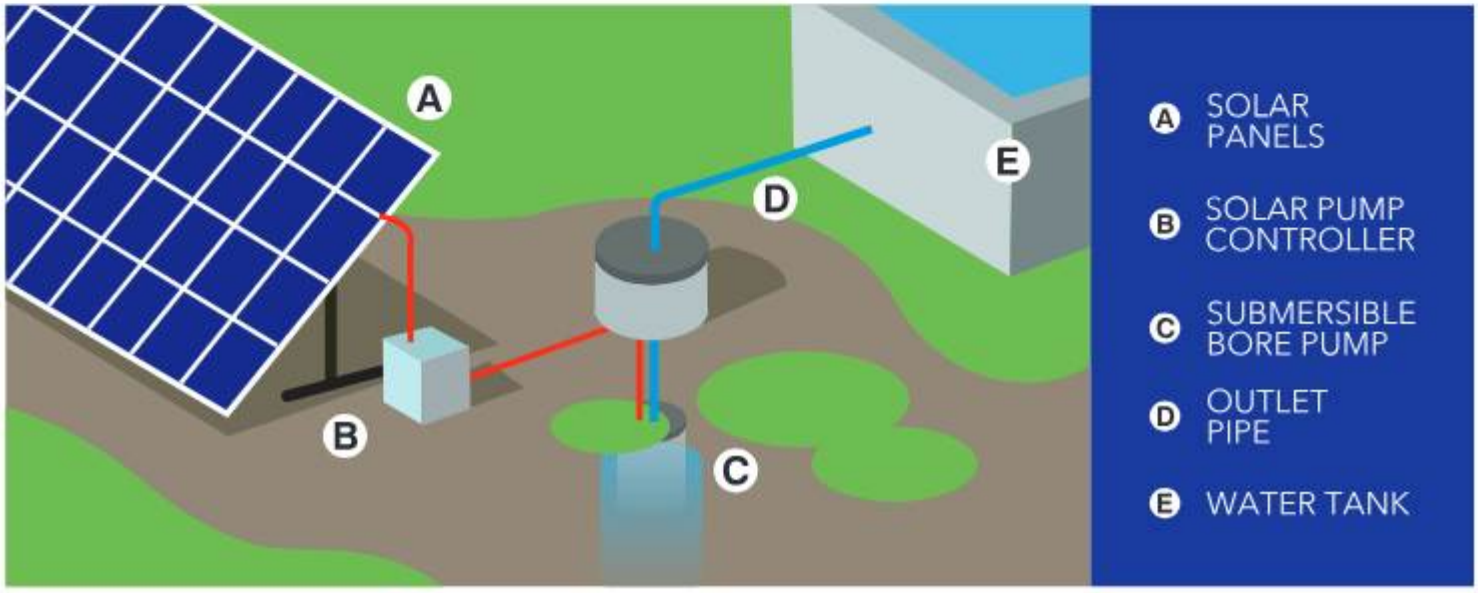
What is a Solar Pump ?

A solar pump is an eco-friendly, energy-efficient system that uses solar energy to power water pumping operations. It consists of solar photovoltaic (PV) panels, a controller, and a pump (either submersible or surface), converting sunlight into electricity to draw water from Sources such as borewells, rivers, lakes, or tanks.

Solar Water Pump working Procedure

The Photovoltaic cells in solar modules convert sunlight in to Direct Current (DC) electrical energy.This DC energy is then fed to the Motor Pump Set via Pump Controller in case of DC pump or via Variable Frequency Drive (VFD) in case of AC Pumps (VFD controls speed of Motor). The Pumping system is combination of an Impeller and Motor, The impeller proples water movement and the Motor drives the pump. The water is propelled ourt of the bore well/ river/lake/pond through the pipe so that water can then be fes to the fields for irrigation and other purposes. Water output caries during the day depending upon varying solar irradiance.



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Benefits of Solar Pump

- No dependence on erratic grid power and saving on expensive diesel
- Higher yield during the day time when crop gets all the necessary ingredients - sunlight and water
- Water output across all seasons to cultivate multiple crops every year
- One time investment and then zero running costs (free sunlight) for many years to come
- Easy for farmers to cultivate the land during day time rather than at night time when grid is erratic
- Drip and sprinkler systems can be connected with the solar system to further improve crop yield
- Solar system needs no maintenance except regular cleaning of the modules - no consumables; easy to operate
- As water can be harnessed any time of the day, the user can plan his other activities independently
- Contribution to reduction of carbon emission and pollution

What does Sigmfos Solar System consist of..

- Solar PV modules with 25 years power warranty
- Galvanized iron module mounting structures with a provision to adjust module towards sun 3 times in a day. This can withstand speed of 150 km/hr
- Pump controller (in DC) or Variable Frequency Drive (in AC pump)
- Solar Pump motor set (DC/AC) made of stainless steel which remains rust-free. Cast iron pump available as per request
- Suitable accessories - pipe, cable, rope etc
- Remote monitoring option available on request
- Warranty against manufacturing defect on pump, controller, module and pump kit
- NABARD - MNRE scheme pump systems are also available

Why Choose Sigmafos® Solar Pumps?

- High-efficiency BLDC motors
- Durable construction for harsh environments
- Excellent ROI with zero operating cost
- Easy installation and low maintenance
- Designed for maximum water output even in low sunlight conditions.
- They are Indian government's MNRE certified products

Sigmafos Solar Pump Range

Sigmfos Solar offers both dual AC and DC range of pumps suitable for Surface, Bore well and Open Well applications. These pumps can be used for various applications: Agriculture irrigation, drinking water (replacement of hand pump & dual hand pump). Customized solutions are available on request.

DC Surface Pump

Technical Data	1HP DC	2HP DC	3HP DC	5HP DC	7.5HP DC	10HP DC
Pump Type		Surface / Shallow water source				
PV Array Size (Wp)	900	1800	2700	4800	6750	9000
Pump Capacity (HP)	1	2	3	5	7.5	10
Total Dynamic Head (m)	10	10	10	10	10	10
Shut off Dynamic Head (m)*	12	12	12	12	12	12
Water discharge (LPD) LPD - Litres per day	99,000 @ 10m head	1,98,000 @ 10m head	2,97,000 @ 10m head	5,28,000 @ 10m head	7,42,000 @ 10m head	9,90,000 @ 10m head

DC Submersible Pumps

Technical Data	1HP DC	2HP DC	3HP DC	5HP DC	7.5HP DC	10HP DC
Pump Type	Submersible / Borewell, Tubewell, Diggi					
PV Array Size (Wp)	1200	1800	3000	4800	6750	9000
Pump Capacity (HP)	1	2	3	5	7.5	10
Total Dynamic Head (m)	30	30	50	50	50	50
Shut off Dynamic Head (m)*	45	45	75	70	70	70
Water discharge (LPD) LPD - Litres per day	45,600 @ 30m head	68,400 @ 30m head	1,14,000 @ 30m head	1,10,400 @ 50m head	1,55,250 @ 50m head	2,07,000 @ 50m head

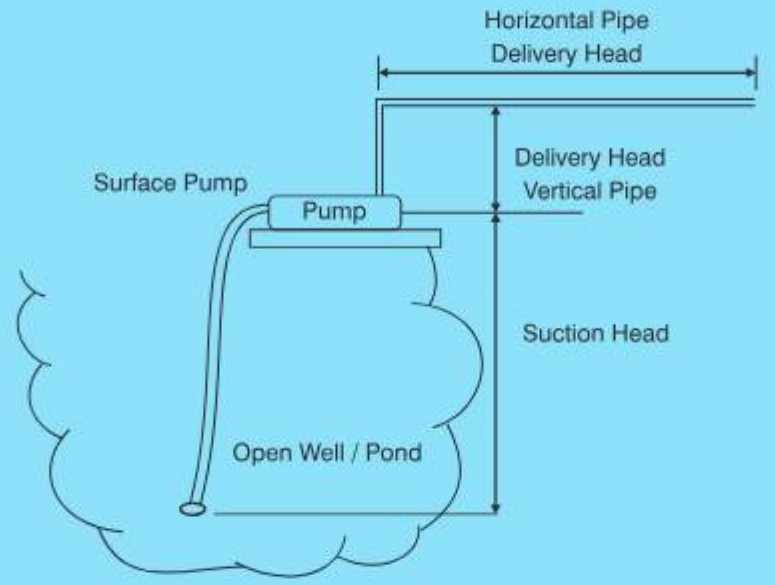
AC Surface Pump

Technical Data	1HP AC	2HP AC	3HP AC	5HP AC	7.5HP AC	10HP AC
Pump Type	Surface / Shallow water source					
PV Array Size (Wp)	900	1800	2700	4800	6750	9000
Pump Capacity (HP)	1	2	3	5	7.5	10
Total Dynamic Head (m)	10	10	10	10	10	10
Shut off Dynamic Head (m)*	12	12	12	12	12	12
Water discharge (LPD) LPD - Litres per day	89,100 @ 10m head	1,78,200 @ 10m head	2,67,300 @ 10m head	4,75,200 @ 10m head	6,41,025 @ 10m head	8,90,000 @ 10m head

AC Submersible Pumps

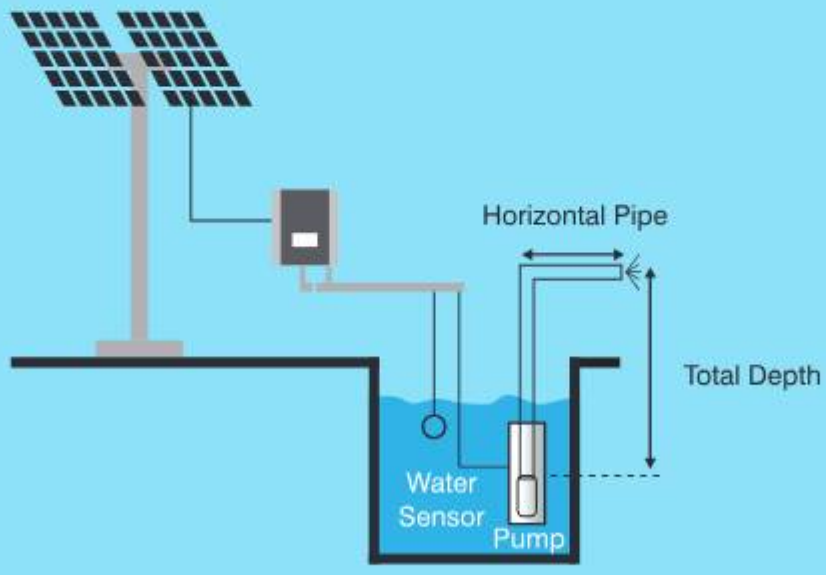
Technical Data	1HP AC	2HP AC	3HP AC	5HP AC	7.5HP AC	10HP AC
Pump Type	Submersible / Borewell, Tubewell, Diggi					
PV Array Size (Wp)	1200	1800	3000	4800	6750	9000
Pump Capacity (HP)	1	2	3	5	7.5	10
Total Dynamic Head (m)	30	30	30	50	50	50
Shut off Dynamic Head (m)*	45	45	45	70	70	70
Water discharge (LPD) LPD - Litres per day	42,000 @ 30m head	63,000 @ 30m head	1,05,000 @ 30m head	1,00,800 @ 50m head	1,41,750 @ 50m head	1,89,000 @ 50m head

Surface Pump Schematic



Total Dynamic Head in surface pump = Suction Head + Vertical Pipe Delivery Head

Submersible Pump Schematic



Total Dynamic Head in submersible pump = Vertical Head (Total Depth) + Horizontal Head

1. Please note, horizontal head is dependent upon pipeline length from pump discharge to water delivery point.
2. In case, the water is being stored in an overhead storage tank, please mention the height from the ground and horizontal distance from the pump.
3. If you are using any drip / sprinkler, kindly mention the same in your enquiry.

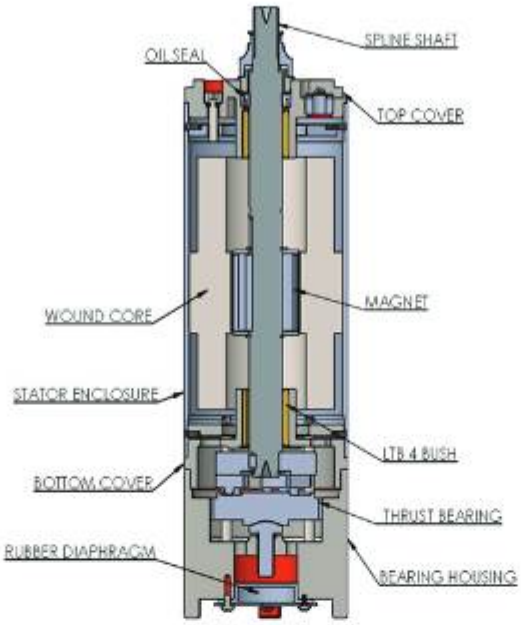
Do's

- Check the connections and cables periodically for any damages and report.
- Always operate the controller with dry hands.
- Set the tracker to position shown.
- After sunset, when operating in manual mode, modules must be brought to stow position which is parallel to the earth.
- Check safety rope for damages and replace when needed.
- After any storms/rain, check the system for healthy working.
- Controller to be operated by trained people.
- Clean the modules early in the morning or late in the evening when the modules are at normal temperature.
- Keep the controller box locked.
- If the controller or actuator is not working, then, do place a call to the customer service support team of Tata Power Solar.
- Get the annual maintenance contract signed.
- Ensure the lubrication on screw rods (manual tracking) is provided every 3 months for smooth operation.

Dont's

- Do not replace any modules with modules of other make or rating.
- Do not open the connections between the modules.
- Junction box must not be operated by an untrained person.
- Do not compare your pump's water discharge at the field with that of neighbours, as it depends on the bore condition.

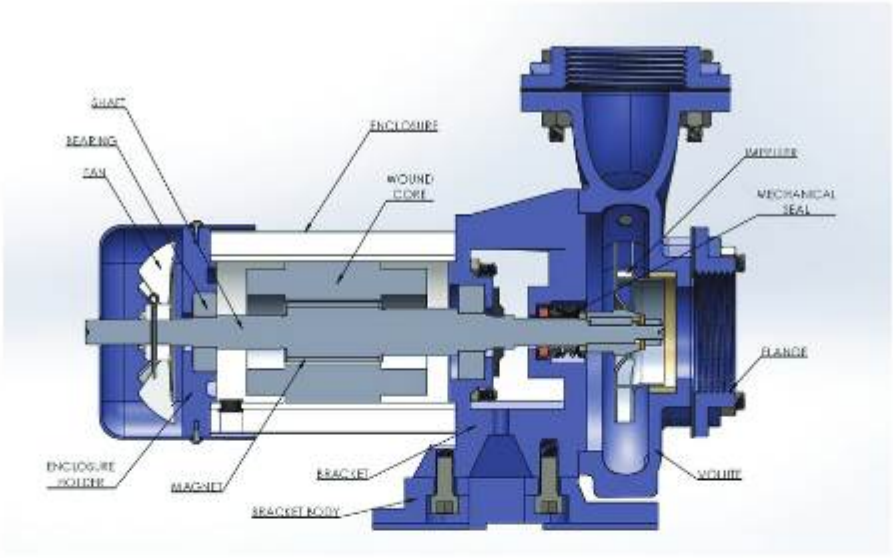
Material Of Construction



Sr.No	Part Name	Specification/ MOC
1	Allen Bolt	AISI SS304, M6x30 mm
2	Stud	AISI SS304, M8 x35 mm
3	HX Nut	AISI SS304, M8
4	Grub Screw	Brass, M 10 x 8 mm
5	Plilips Head Screw	AISI SS304, M4 x 6 mm
6	Allen Head Screw	AISI SS304, M4 x 10 mm
7	Pan Head Screw	AISI SS304, M12 x 30 mm
8	Stud	AISI SS304, M6 x 90 mm ref drawing
9	HX Nut	AISI SS304, M12
10	Start Lock	MS, ID 84, OD 95
11	External Circlip	AISI SS304, A15
12	External Circlip	AISI SS304, A19
13	HX Nut	AISI SS304, M6
14	Flat Washar	AISI SS304, M5
15	Spring Washar	AISI SS304, M8
16	Top Cover	AISI SS304 with Machinig
17	Bearing Housing	
18	Bottom Cover	
19	Rubber Diaphragm	NBR
20	Cable Rubber Bush	NBR
21	Oil Seal	NBR 30x 19 x 7 mm
22	Sand Gard	NBR

Sr.No	Part Name	Specification/ MOC
23	Sand gard washer	Teflon
24	O Ring	NBR, OR5, IR 2.5, THK 2.5
25	O Ring	NBR, OR5, IR 2.5, THK 2.5
26	Shaft	AISI SS420 Dia 20mm, NIMA Coupling
27	Shaft Key	MS
28	Rotor Drum	MS
29	Rotor Sleeve	AISI SS304
30	Bearing Key	AISI SS420
31	Rotor Stopper	AISI SS304
32	Magnet N	NdFeB, N42UH
33	Magnet S	NdFeB, N42UH
34	Stator Enclosure	AISI SS304
35	MS Bottom Flange	MS
36	MS Top Flange	MS
37	Diaphragm Cover	AISI SS04
38	Oi Seal Protecting ring	AISI SS304
39	Thrust Bearing	Caebon
40	Bush	IS LTB4
41	Stack	CRNO 600 Grade
42	PVC Winding Wire	Submersible
43	Flat Cable	2.5sq.mm, 3core Submersible Cable
44	Cable Gland	AISI SS304

Material Of Construction



Sr.No	Part Name	Specification
1	Bracket Body	FG 200
2	Bracket	
3	Volute	
4	Enclosure Holder	
5	In & Out Housing Cap	
6	Shaft	EN 8
7	Magnet N	NdFeb N42UH
8	Magnet S	NdFeb N42UH
9	Rotor Stopper Small	SS 420
10	Rotor Stopper	SS 420
11	MS Drum	MS
12	Shaft Key	MS
13	Rotor Sleeve	SS 304
14	Enclosure Holding Rod	MS
15	M8 Nut	MS
16	Inner Housing Stud	MS
17	Inner Housing Cap Bolt	MS
18	In&Out Housing Cap Nut	MS
19	In.H. Bracket Allen Bolt	MS
20	Volute Bolt	MS
21	Volute In.Housing Stud	MS
22	Nylock Nut	MS

Sr.No	Part Name	Specification/ MOC
23	Phililip Head Screw	SS 304
24	Impeller Key	MS
25	Packaging Bolt	MS
26	Circlip- A21	SS 420
27	Circlip- A30	SS 420
28	Fan + Fan Lock	Plastic
29	Fan Cover	
30	Mechanical Seal	Carbo\Ceramic NBR
31	Gasket	NBR
32	Rubber Protecting Seal	NBR
33	Cable Protecting Bush	NBR
34	Volute Bush	LTB4
35	Mechanical Seal Bush	LTB4
36	Impeller Lock	LTB4
37	Enclosure Body	Aluminum
38	Volute washer	LTB4
39	Impeller	SS 304
40	Stack	CRNO C350
41	Round Cable	2.5sq mm 3C
42	Bearing	SS304

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