

TDSP-HB Submersible Seawater Pump

TDSP-HB series water (seawater)submersible pump shall be used as water submersible pump to lift water from well,and as seawater lift pump to lift seawater or other similar corrosive liquid.The electric submersible pump shall be suitable for operating in water,seawater or similar corrosive medium containing sand,marine living things.

There shall be a series of advantages,such as compact structure,less land occupation,no need of pump house,noiseless,easy to realize auto control and monitoring and management of internet of things etc.It is ideal equipment to supply water in municipal works,mine,off-shore platform,shipyard and similar operating mode.

Main Features

1. About Pump

TDSP-HB series submersible pump is multistage centrifugal pump,which consists of pump shaft,impeller,casing,shaft bushing,shaft sleeve,wear ring and other parts etc.According to different working conditions,pump parts separately select relevant material.

a.When using in clean water,the main material is generally cast iron,carbon steel,wear-resisting alloy steel and copper alloy.

According to the different sand content in water,the parts and components will be selected optimally,that ensure the reliabilityof the product.

b.When using in seawater or similar corrosive liquid,the main material is generally Cu-Ni alloy,stainless steel,duplex steel ormonel. In order to extend the life cycle and raise the quality of pump,excepting for choosing the superior materials and precisely fabricating on products,we continuously improve on design concept,structure of products and process of technolo-gy.That will improve the reliability of product further.

2.Motor

The motor matched with above pump is TDSM series water (seawater)submersible 3-phase asynchronous or permanent magnet synchronous electric motors,which is of wholly sealed construction full of clean water.

a. Stator windings are wound with polyethylene insulation nylon covered winding.

b. According to different working conditions,the external surfaces of motor are all made of relevant corrosion-resistant metal.

c. Motor sealing includes static seal and dynamic seal.The static seal is adhesive tape seal.The dynamic seal is mechanical seal or oil seal.

d. Motor bearings are of self-lubrication,and are lubricated by clean water or coolant.

e. Motor cable is corrosion-resistant and water-resistant flat or round cable with guard sleeve.

f. There are two methods to balance internal and external pressure:one is automatic balancing by regulating diaphragm,and the other is balancing of positive pressure water supply system. It will be selected appropriately according to different working condition

3.Operation Monitoring

According to customers' needs,submersible electric pumps can be equipped with different sensors to achieve the following operation monitoring on:

a.Temperature

b.Displacement, speed and acceleration

c.Voltage and current

Through the above monitoring,we can know operation status of the electric pump accurately. Propose early warning report which is application for The Internet of Things.

Whole Assembly

pump	column pipe
motor	lift clamp
cable	well head device
operating switchboard	check valve
junction box	marine growth preventing system
diversion cover	fixing bracket
monitoring sensor	monitoring system

The above components can be delivered in whole set or on your request,please give us detailed requirements when ordering.

Working Conditions

1. Medium: water, seawater or similar corrosive liquid. PH value should be 6.5~8.5.
 2. Medium temperatures 35°C or 90°C
 3. Sand content (by weight) $\leq 2\%$
 4. The pump should be operated vertically and submerged operating in water. Its inlet should be submerged in a position (when ebb-tide) lower than 1.5m to moving sea level. The bottom of motor should have a distance not less than 2m to sea bottom. In the special conditions, the motor shall be allowed to insert into sea bottom, but the distance of pump inlet to sea bottom must be over 0.5. The special application must notice us in advance.
 5. Submersible depth: type I $\leq -100\text{m}$, type II $\leq -1000\text{m}$, type III $\leq -3000\text{m}$
 6. The inside of motor must be filled up with clean water, and also with coolant according to need.
 7. Power supply: 380V/460V/690V/1.2kV/3.3kV/6.3kV/10kV, 50Hz/60Hz, 3Ph
- Note: When the actual application is special, design can be customized to satisfy the corresponding conditions.

Model Definition

Example	TDSP-900QB1200-88/1
Primary Category	TDSP
Minimum well diameter available (mm)	900
Series	QB
Capacity (m ³ /h)	1200
Head (m)	88
Stage Quantity	1

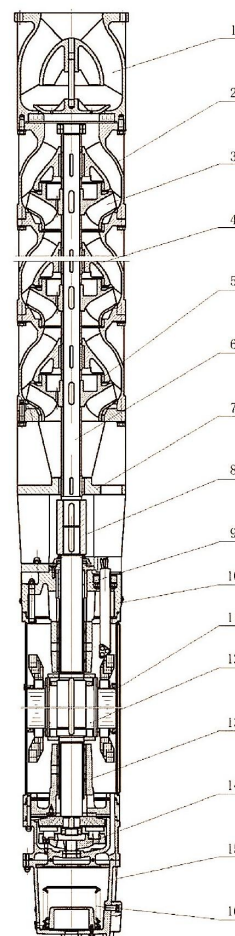
- 250QB80-60/3 seawater submersible pump: suitable for minimum well diameter 250mm, capacity 80m³/h, head 60m, 3 stages.
- 400QB300-90/5 seawater submersible pump: suitable for minimum well diameter 400mm, capacity 300m³/h, head 90m, 5 stages

How to Select Pump Model

1. Settle the pump operating frequency according to the power system.
2. Figure out the motor speed based on working condition and surroundings.
3. Select the model from our QB model list according to required capacity (Q) and head (H)
4. Reconfirm with our technical engineers to select the exact model.

Structure

- 1 Check Valve
- 2 Casing
- 3 Impeller
- 4 Shaft Sleeve
- 5 Seal Ring
- 6 Shaft
- 7 Inlet Segment
- 8 Coupling
- 9 Mechanical Seal Or Oil Seal
- 10 Upper Guide Bearing
- 11 Stator
- 12 Rotor
- 13 Lower Guide Bearing
- 14 Thrust Bearing
- 15 Base
- 16 Rubber Regulating Airbag



Main Parameters of TDSP-QB Submersible Seawater Pump

Model No.	Flow (m3/h)	Head (m)	Speed (r/min)	Eff (%)	Power (kW)	Freq (Hz)	Max Diameter (mm)
200QB7-30 200QB7-40 200QB7-50 200QB7-60 200QB7-70 200QB7-80 200QB7-90 200QB7-100 200QB7-110 200QB7-120 200QB7-130	7	30 40 50 60 70 80 90 100 110 120 130	1750	58	1.7 1.7 2.2 3 3 4 4 5.5 5.5 5.5 5.5	60	147
300QB34-30 300QB34-40 300QB34-50 300QB34-60 300QB34-70 300QB34-80 300QB34-90 300QB34-100 300QB34-110 300QB34-120 300QB34-130	34	90 100 110 120 130	1750	60	7.5 9.2 15 15 15 18.5 18.5 22 22 25 25	60	250
300QB100-16/1 300QB100-32/2 300QB100-48/3 300QB100-64/4 300QB100-80/5 300QB100-96/6 300QB100-122/7 400QB100-128/8 400QB100-144/9 400QB100-160/10 400QB100-176/11 400QB100-192/12	100	16 32 48 64 80 96 112 128 144 160 176 192	1750	72	9.2 15 22 30 37 44 52 70 70 87 87 100	60	253 290
300QB120-14/ 300QB120-28/2 300QB120-42/3 300QB120-56/4 300QB120-70/5 300QB120-84/6 300QB120-98/7 400QB120-112/8	120	14 28 42 56 70 84 98 112	1750	72	9.2 18.5 25 33 42 52 55 70	60	253

400QB120-126/9 400QB120-140/10 400QB120-154/11 400QB120-168/12		126 140 154 168			70 87 87 100		290
350QB140-13/1 350QB140-26/2 350QB140-39/3 350QB140-52/4 350QB140-65/5 350QB140-72/6 400QB140-91/7 400QB140-104/8 400QB140-117/9 400QB140-130/10 400QB140-143/11 450QB140-156/12	140	13 26 39 52 65 72 91 104 117 130 143 156	1750	72	9.2 18.5 25 37 44 52 70 70 87 87 100 120	60	253 290 360
400QB180-20/1 400QB180-40/2 400QB180-60/3 400QB180-80/4 400QB180-100/5 450QB180-120/6 450QB180-140/7 450QB180-160/8 450QB180-180/9 450QB180-200/10 450QB180-220/11 450QB180-240/12	180	20 40 60 80 100 120 140 160 180 200 220 240	1750	72	18.5 37 52 70 87 120 120 140 160 185 185 220	60	305 360
400QB240-18/1 400QB240-36/2 400QB240-54/3 400QB240-72/4 450QB240-90/5 450QB240-108/6 450QB240-126/7 450QB240-144/8 450QB240-162/9 450QB240-180/10	240	18 36 54 72 90 108 126 144 162 180	1750	72	22 42 70 87 120 140 160 185 185 220	60	305 360
450QB290-17/1 450QB290-34/2 450QB290-51/3	290	17 34 51	1750	72	25 52 70	60	305

450QB290-68/4 450QB290-85/5 450QB290-102/6 450QB290-119/7 450QB290-136/8 450QB290-153/9 700QB290-170/10		68 85 102 119 136 153 170			120 140 185 185 220 300		360 600
400QB330-14/1 400QB330-28/2 400QB330-42/3 400QB330-56/4 450QB330-70/5 450QB330-84/6 450QB330-98/7 450QB330-112/8 450QB330-126/9 450QB330-140/10 700QB330-154/11 700QB330-168/12	330	14 28 42 56 70 84 98 112 126 140 154 168	1750	72	22 44 70 87 120 140 160 185 220 220 300 300	60	305 360 600
400QB330-17/1 400QB330-34/2 400QB330-51/3 450QB330-68/4 450QB330-85/5 450QB330-102/6	330	17 34 51 68 85 102	1750	72	30 52 87 120 140 160	60	322 360
450QB360-27/1 450QB360-54/2 450QB360-81/3 450QB360-108/4 700QB360-135/5 700QB360-162/6	360	27 54 81 108 135 162	1750	72	52 100 140 185 300 300	60	352 360 600
450QB420-26/1 450QB420-52/2 450QB420-78/3 450QB420-104/4 700QB420-130/5 700QB420-156/6	420	26 52 78 104 130 156	1750	72	52 120 160 220 300 380	60	352 360 600 615
450QB480-23/1 450QB480-46/2 450QB480-69/3 450QB480-92/4 700QB480-115/5 700QB480-138/6 700QB480-161/7 700QB480-184/8	480	23 46 69 92 115 138 161 184	1750	72	52 120 160 220 300 380 380 420	60	352 360 600 615

450QB600-20/1 450QB600-40/2 450QB600-60/3 700QB600-80/4 700QB600-100/5 700QB600-120/6 700QB600-140/7 700QB600-160/8	600	20 40 60 80 100 120 140 160	1750	72	70 120 185 300 300 380 420 470	60	352
							360
							600
							615
550QB330-50/1 550QB330-100/2 700QB330-150/3	330	50 100 150	1750	72	87 160 300	60	420
							600
550QB420-43/1 700QB420-86/2 700QB420-129/3 700QB420-172/4	420	129 172	1750	72	87 185 300 380	60	420
							600
							615
550QB540-36/1 550QB540-72/2 700QB540-108/3 700QB540-144/4 700QB540-180/5	540	36 72 108 144 180	1750	72	100 185 300 380 470	60	420
							600
							615
700QB780-46/1 700QB780-92/2 700QB780-138/3	780	46 92 138	1750	72	185 350 520	60	480
700QB900-44/1 700QB900-88/2 700QB900-132/3	900	44 88 132	1750	72	185 420 620	60	480
							520
700QB1020-41/1 700QB1020-82/2 700QB1020-123/3 700QB1020-164/4	1020	41 82 123 164	1750	72	220 420 620 850	60	480
							520
600QB660-40/1 700QB660-80/2 700QB660-120/3 700QB660-160/4	660	40 80 120 160	1750	72	140 300 380 540	60	465
							600
							615
600QB780-36/1 700QB780-72/2 700QB780-108/3 700QB780-144/4	780	36 72 108 144	1750	72	140 300 420 540	60	465
							600
							615
600QB900-27/1 700QB900-54/2 700QB900-81/3 700QB900-108/4 700QB900-135/5	900	27 54 81 108 135	1750	72	120 300 380 470 620	60	465
							600
							615

800QB960-50/1 800QB960-100/2 800QB960-150/3	960	50 100 150	1750	72	220 470 720	60	630
800QB1200-43/1 800QB1200-86/2 800QB1200-129/3	1200	43 86 129	1750	72	300 540 720	60	630
900QB960-95/1	960	95	1750	72	420	60	655
900QB1200-88/1 900QB1200-176/2	1200	88 176	1750	72	470 1000	60	655
							655
900QB1500-70/1 900QB1500-140/2	1500	70 140	1750	72	470 1000	60	655
							685
900QB2000-56/1 900QB2000-112/2	2000	56 112	882	83	450 900	60	720
900QB2200-54/1 900QB2200-108/2	2200	54 108	882	83	480 960	60	720
900QB2500-52/1 900QB2500-104/2	2500	52 104	882	85	500 1000	60	720