



EBARA

Submersible Motor ZBH Series

Submersible Canned Motor, water filled



ZBH4N/NH(Spring Water) 4" Motors

ZBH4N

For Clean
Water

ZBH4NH

For Spring
Water

ZBH4N Type : Submersible Canned Motor for Deep Well

This motor is intended to be used with a directly connected submersible pump for deep well. Considering its usage environments, our own technology backed up with long term experience in designing and manufacturing of the submersible motor has been fully reflected in the areas of configuration and parts structure.

●Welding encapsulated structure

Stator room where stator coil exists is in welding encapsulated structure (canned state) so that the stator coil can be completely isolated from the exterior.

●Enclosure liquid

The motor is filled up with propylene glycol water solution.

Lubrication for radial bearing and thrust bearing.
Protection of parts within the motor from the rust.
Distribution of heat inside the motor and prevention of local heat generation.

Propylene glycol is also used as a food additive which proves it to be safe liquid.

●Shaft seal

The oil seal is used at shaft seal section in order to avoid replacing enclosure liquid with outside water. Also, the sand slinger is used to avoid entry of sand into the motor.

●Connector Lead Wire

Power supply Lead Wire and connector section are combined together with rubber mold for high durability water resistance.

●Stainless steel for liquid surface

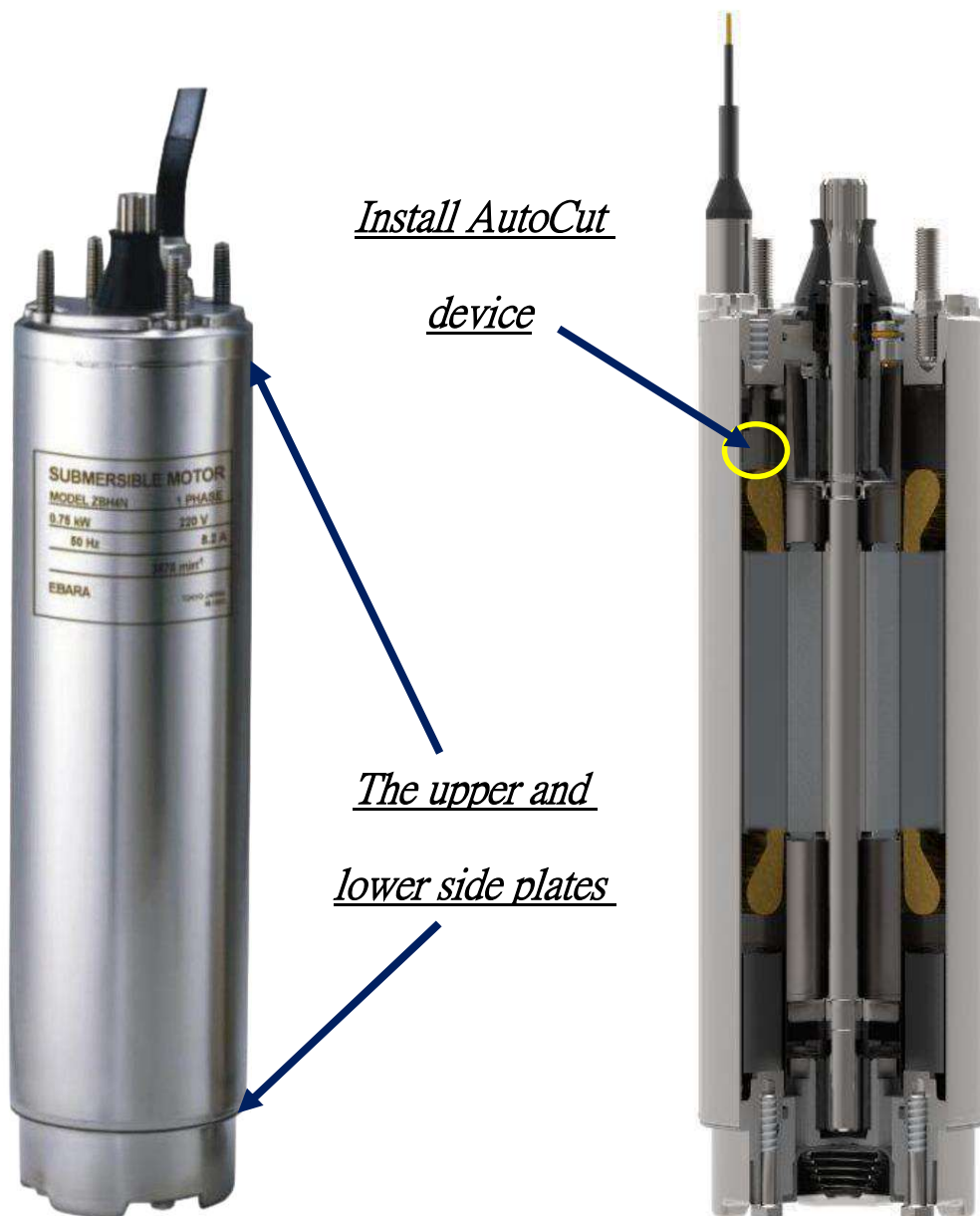
Stainless steel is used as liquid surface material for high corrosion resistance.

【ZBH4N Operating Parameters 】

Maximum water depth : 100m
Minimum allowable velocity
of cooling water : 0.063m/s
Liquid characteristics : Clean water (PH 5.8 to 8.6)
Temperature : 0 to 40°C

【ZBH4NH Operating Parameters 】

Maximum water depth : 100m
Minimum allowable velocity
of cooling water : 0.063m/s
Liquid characteristics : Spring Water
Temperature : 0 to 90°C



1. EBARA single-phase deep well motor with built-in auto-cut protection device is the pioneer of global industrial innovation. The automatic shutdown/reset functions solve all the problems that may occur in deep well motors.
2. SUS304 material side plate can effectively prevent rust and resist abnormal water quality

ZBH4N 4" DATA 50Hz (Single phase) [EBARA Control Box required]

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	220/230	3	2	4.2/4.2	2860/2870	262	9.05	1500	Clean Water	0~40	100	NEMA
0.55	0.75	220/230	3	2	6.4/6.5	2870/2890	292	10.35	1500	Clean Water	0~40	100	NEMA
0.75	1	220/230	3	2	7.8/7.7	2840/2860	319	11.3	3000	Clean Water	0~40	100	NEMA
1.1	1.5	220/230	3	2	9.5/9.3	2840/2860	379	14.05	3000	Clean Water	0~40	100	NEMA
1.5	2	220/230	3	2	12.0/12.0	2850/2870	409	15.3	3000	Clean Water	0~40	100	NEMA
2.2	3	220/230	3	2	16.8/16.8	2860/2880	484	18.6	3000	Clean Water	0~40	100	NEMA
3.7	5	220/230	3	2	17.1/17.1	2820/2840	680	29	6500	Clean Water	0~40	100	NEMA

ZBH4N 4" DATA 50Hz (Three phase)

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	220/230	3	2	2.3/2.4	2850/2860	237	7.6	1500	Clean Water	0~40	100	NEMA
		380/400/415	3	2	1.3/1.4/1.5	2850/2860/2870	237	7.6	1500	Clean Water	0~40	100	NEMA
0.55	0.75	220/230	3	2	3.0/3.1	2850/2860	252	8.3	1500	Clean Water	0~40	100	NEMA
		380/400/415	3	2	1.8/1.8/1.9	2850/2860/2870	252	8.3	1500	Clean Water	0~40	100	NEMA
0.75	1	220/230	3	2	3.8/3.7	2830/2850	289	9.65	3000	Clean Water	0~40	100	NEMA
		380/400/415	3	2	2.2/2.2/2.2	2830/2850/2860	289	9.65	3000	Clean Water	0~40	100	NEMA
1.1	1.5	220/230	3	2	5.3/5.2	2820/2840	319	10.85	3000	Clean Water	0~40	100	NEMA
		380/400/415	3	2	3.1/3.0/3.1	2820/2840/2850	319	10.85	3000	Clean Water	0~40	100	NEMA
1.5	2	220/230	3	2	6.8/6.8	2830/2840	354	12.45	3000	Clean Water	0~40	100	NEMA
		380/400/415	3	2	3.9/3.9/4.0	2830/2840/2850	354	12.45	3000	Clean Water	0~40	100	NEMA
2.2	3	220/230	3	2	9.8/9.6	2780/2810	408	14.65	4000	Clean Water	0~40	100	NEMA
		380/400/415	3	2	5.7/5.6/5.6	2780/2810/2820	408	14.65	4000	Clean Water	0~40	100	NEMA
2.2	3	380/400	3	2	5.7/5.6	2780/2810	448.5	14.65	6500	Clean Water	0~40	100	NEMA
3.7	5	220/230	3	2	16.3/16.2	2820/2840	555.5	22.75	6500	Clean Water	0~40	100	NEMA
		380/400/415	3	2	9.4/9.4/9.5	2820/2840/2850	555.5	22.75	6500	Clean Water	0~40	100	NEMA
5.5	7.5	220/230	3	2	24/-	2810/-	680.5	29	6500	Clean Water	0~40	100	NEMA
		380/400/415	3	2	13.9/13.7/-	2810/2830/-	680.5	29	6500	Clean Water	0~40	100	NEMA

ZBH4N 4" DATA 60Hz (Single phase) [EBARA Control Box required]

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	220/230	3	2	4.9/4.9	3470/3480	262	9.05	1500	Clean Water	0~40	100	NEMA
0.55	0.75	220/230	3	2	6.9/7	3480/3480	292	10.35	1500	Clean Water	0~40	100	NEMA
0.75	1	220/230	3	2	8.5/8.7	3470/3480	319	11.3	3000	Clean Water	0~40	100	NEMA
1.1	1.5	220/230	3	2	9.2/9	3460/3480	379	14.05	3000	Clean Water	0~40	100	NEMA
1.5	2	220/230	3	2	11.8/11.6	3480/3490	409	15.3	3000	Clean Water	0~40	100	NEMA
2.2	3	220/230	3	2	15.4/15	3490/3490	484	18.6	3000	Clean Water	0~40	100	NEMA
3.7	5	220/230	3	2	17/17	3450/3450	680	29	6500	Clean Water	0~40	100	NEMA

ZBH4N 4" DATA 60Hz (Three phase)

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	220	3	2	2.9	3470	237	7.6	1500	Clean Water	0~40	100	NEMA
		380	3	2	1.7	3470	237	7.6	1500	Clean Water	0~40	100	NEMA
0.55	0.75	220	3	2	3.6	3470	252	8.3	1500	Clean Water	0~40	100	NEMA
		380	3	2	2.1	3470	252	8.3	1500	Clean Water	0~40	100	NEMA
0.75	1	220	3	2	4.2	3460	289	9.65	3000	Clean Water	0~40	100	NEMA
		380	3	2	2.4	3460	289	9.65	3000	Clean Water	0~40	100	NEMA
1.1	1.5	220	3	2	5.4	3440	319	10.85	3000	Clean Water	0~40	100	NEMA
		380	3	2	3.1	3440	319	10.85	3000	Clean Water	0~40	100	NEMA
1.5	2	220	3	2	7.2	3440	354	12.45	3000	Clean Water	0~40	100	NEMA
		380	3	2	4.2	3440	354	12.45	3000	Clean Water	0~40	100	NEMA
2.2	3	220	3	2	10.6	3450	408	14.65	4000	Clean Water	0~40	100	NEMA
		380	3	2	6.1	3450	408	14.65	4000	Clean Water	0~40	100	NEMA
2.2	3	380	3	2	6.1	3450	448.5	14.65	6500	Clean Water	0~40	100	NEMA
3.7	5	220	3	2	17	3440	555.5	22.75	6500	Clean Water	0~40	100	NEMA
		380	3	2	9.8	3440	555.5	22.75	6500	Clean Water	0~40	100	NEMA
5.5	7.5	220	3	2	24.9	3450	680.5	29	6500	Clean Water	0~40	100	NEMA
		380	3	2	16	3450	680.5	29	6500	Clean Water	0~40	100	NEMA

ZBH4N PSC 4" 50Hz 3Wire (Single phase) [EBARA Control Box required]

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	220/230	3	2	3.1/3.1	2870/2880	262	8.4	1500	Clean Water	0~40	100	NEMA
0.55	0.75	220/230	3	2	4.3/4.3	2860/2875	292	9.5	1500				
0.75	1	220/230	3	2	5.5/5.5	2860/2870	319	10.5	3000				
1.1	1.5	220/230	3	2	7.6/7.4	2860/2870	379	13.1	3000				
1.5	2	220/230	3	2	10.3/10.2	2850/2870	409	14.5	3000				
2.2	3	220/230	3	2	14.9/14.7	2855/2870	484	17.6	3000				

ZBH4N PSC 4" 60Hz 3Wire (Single phase) [EBARA Control Box required]

kW	HP	Volts	Wire	Poles	A	RPM	S.F.	S.F MAX	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	110/115	3	2	6.5/6.7	3465/3475	1.6	8.5	262	8.2	1500	Clean Water	0~40	100	NEMA
		220/230	3	2	3.4/3.4	3483/3490	1.6	4.2	262	8.4	1500				
0.55	0.75	220/230	3	2	4.5/4.6	3490/3500	1.5	5.6	292	9.5	1500				
0.75	1	220/230	3	2	6.0/6.0	3480/3490	1.4/1.4	7.4/7.5	319	10.5	3000				
1.1	1.5	220/230	3	2	8.3/8.4	3500/3500	1.3	9.6/9.5	379	13.1	3000				
1.5	2	220/230	3	2	10.5/10.3	3465/3485	1.25	12/11.7	409	14.5	3000				
2.2	3	220/230	3	2	15.1/14.8	3470/3485	1.15	16.3/15.7	484	17.6	3000				

ZBH4N PSCI 4" 50Hz (Single phase) [EBARA Control Box is NOT required]

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	220/230	3	2	3.1/3.1	2870/2880	298	8.5	1500	Clean Water	0~40	100	NEMA
0.55	0.75	220/230	3	2	4.3/4.3	2860/2875	328	9.8	1500				
0.75	1	220/230	3	2	5.5/5.5	2860/2870	348	10.85	3000				
1.1	1.5	220/230	3	2	7.6/7.4	2860/2870	421	13.5	3000				
1.5	2	220/230	3	2	10.3/10.2	2850/2870	451	14.8	3000				

ZBH4N PSCI 4" 60Hz (Single phase) [EBARA Control Box is NOT required]

kW	HP	Volts	Wire	Poles	A	RPM	S.F.	S.F MAX	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
0.37	0.5	110/115	3	2	6.5/6.7	3465/3475	1.6	8.5	321	8.7	1500	Clean Water	0~40	100	NEMA
0.37	0.5	220/230	3	2	3.4/3.4	3483/3490	1.6	4.2	298	8.5	1500				
0.55	0.75	220/230	3	2	4.5/4.6	3490/3500	1.5	5.6	328	9.8	1500				
0.75	1	220/230	3	2	6.0/6.0	3480/3490	1.4/1.4	7.4/7.5	348	10.85	3000				
1.1	1.5	220/230	3	2	8.3/8.4	3500/3500	1.3	9.6/9.5	421	13.5	3000				
1.5	2	220/230	3	2	10.5/10.3	3465/3485	1.25	12/11.7	451	14.8	3000				

ZBH4NH(Spring Water) 4" DATA 50Hz (Three phase)

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
1.5	2	380	3	2	4.1	2794	411.5	14.75	3000	Spring Water	0~90	100	NEMA
		400	3	2	4.0	2818	411.5	14.75	3000				
2.2	3	380	3	2	5.9	2784	461.5	18	4000				
		400	3	2	5.7	2806	461.5	18	4000				
3.7	5	380	3	2	9.9	2800	563.5	22.9	6500				
		400	3	2	9.6	2832	563.5	22.9	6500				
5.5	7.5	380	3	2	14.1	2794	688.5	29.3	6500				
		400	3	2	13.7	2822	688.5	29.3	6500				

ZBH4NH(Spring Water) 4" DATA 60Hz (Three phase)

kW	HP	Volts	Wire	Poles	A	RPM	H (mm)	Kg	Thrust Load(N)	Liquid Type	°C	Max Depth (m)	Key Shaft Spline Shaft
1.5	2	380	3	2	4.3	3420	411.5	14.75	3000	Spring Water	0~90	100	NEMA
		400	3	2	4.0	3369	411.5	14.75	3000				
2.2	3	380	3	2	6.0	3401	461.5	18	4000				
		400	3	2	5.6	3340	461.5	18	4000				
3.7	5	380	3	2	10.0	3432	563.5	22.9	6500				
		400	3	2	9.2	3387	563.5	22.9	6500				
5.5	7.5	380	3	2	14.3	3421	688.5	29.3	6500				
		400	3	2	13.1	3376	688.5	29.3	6500				