

# NH 50Hz

### SUBMERSIBLE SEWAGE PUMPS

CHANNEL IMPELLER
CUTTER IMPELLER
VORTEX IMPELLER



#### ALSO AVAILABLE











"NOVAX" is a new brand of products from NOVAX, a leading company in the field of submersible pumps for over 20 years. It has been developed to further spread NOVAX products to markets around the world. Based on years of research and achievements, the brand was developed with the aim of enhancing competitiveness, while providing qualities equivalent to conventional models and NOVAX's original features and functions. Now, after thorough preparation, we are releasing our NH-series pumps under the new brand name of NOVAX"



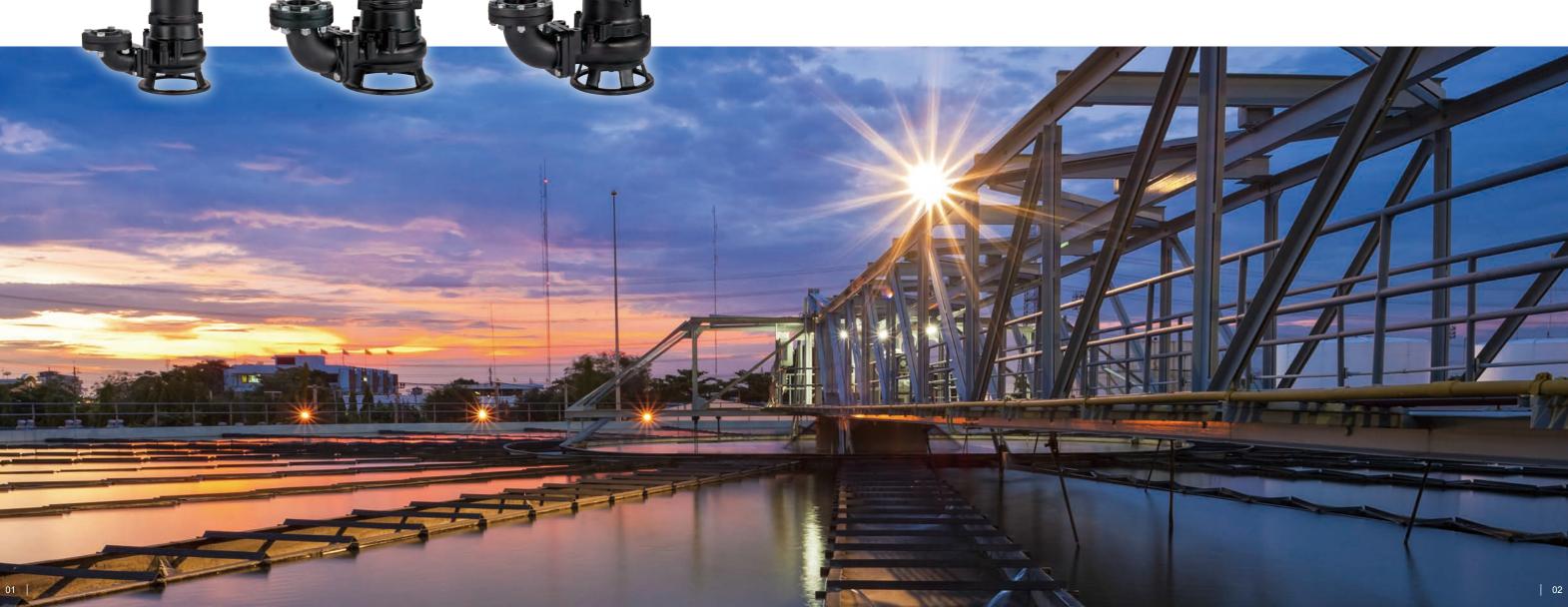
### **Submersible Sewage Pumps**

The NH-series pumps of the "NOVAX" brand are heavy-duty submersible sewage pumps made of cast iron. In addition to the wide range of specifications featuring 50 to 500 mm discharge bore diameters and 0.75 to 75 kW motor output capacities, the NH-series offers a variety of product lineups with three types of impellers: Channel, Cutter and Vortex types. The guide rail fitting device is applicable to all models, enabling easy installation and maintenance.

Equipped with a channel impeller, the NHB and NH series are NOVAX's basic type of pumps and provide excellent foreign object passage. The NHC-series features cutter pumps built with a combination of a channel impeller and a specially structured suction cover, in which a tungsten carbide alloy cutting edge is brazed to the impeller vane, thus enabling foreign objects to be shredded at the suction port while pumping. The NHU-series provides a semi-vortex structure equipped with a vortex impeller, whereby minimizing potential troubles caused by clogging of fibrous foreign objects.

The NH-series pumps are applicable to a wide spectrum of fields, such as raw water transfer in purifying tanks (Johkasou/septic tanks), wastewater treatment facilities, pumping stations and flood prevention equipment, and reservoirs of recreational facilities, as well as drainage of sewage and wastewater. These pumps integrate original technologies NOVAX has perfected via years of research and achievements, to note our anti-wicking cable, dual inside mechanical seals with silicon carbide face, and Oil Lifter. In addition, with a design that thoroughly considers pump durability and wear resistance, these pumps enable continuous duty for a long period of time.

Novax products feature a highly reliable design that ensures excellent durability and stable quality, contributes to stable operations of facilities, and results in remarkably reduced maintenance costs.



#### **Selection Table**

		Sewage	Pumps	
	NHB	NHC	NHU	NH
Discharge Bore mm	100 – 500	50 • 80	50 • 80	50 – 150
Motor Output kW	5.5 – 75	0.75 – 11	0.75 - 3.7	1.5 – 7.5
Pole	4 • 6 • 8	2	2	2
Impeller	Channel	Cutter (Channel Impeller with Cutting Edges)	Vortex	Channel
Flange Standard	DIN	JIS	JIS	JIS
Water Jacket	4-pole : 55 • 75kW only 6-pole : 45 - 75kW only			
Leakage Sensor	(11 – 75kW only)			
Seal Pressure Relief Ports	(22 – 75kW only)	(5.5 – 11kW only)		(5.5 • 7.5kW only)
Back Pull-out Design	4-pole: 11 • 15 • 30 • 37 • 45kW 6-pole: 22 • 30 • 37kW 8-pole: 22kW		(2.2 • 3.7kW only)	
Guide Rail Fitting System	•	•	•	•
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#### **IMPELLERS**

#### Channel



The impeller is shrouded type with one or two vanes. It has a wide channel extending from inlet to exit, which allows the pump to pass the solid matters from inflow to discharge with minimal blockage.

#### Cutter



The impeller is a semi-open type with two vanes. Two sintered tungsten carbide alloy edges are brazed on two impeller vanes, and they rotate on a saw-tooth suction port of a suction cover. This mechanism allows to cut up the foreign matters flowed into the impeller to discharge them.

#### Vortex



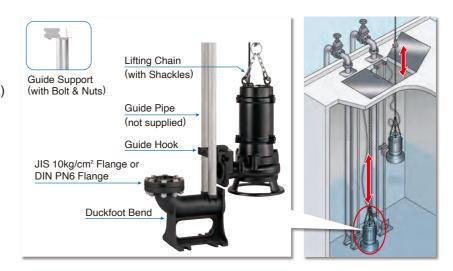
The impeller is a vortex type. The rotation of the impeller produces a whirling, centrifugal action between the impeller and pump casing. Being coupled with a wide pump casing, even large solids and fibrous matters can be pumped out without obstruction.

#### **Guide Rail Fitting System**

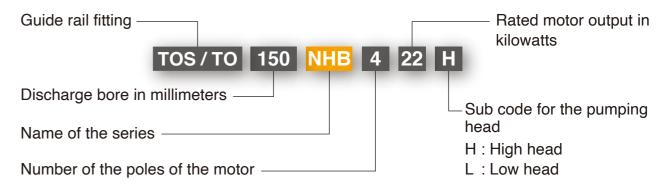
The guide rail fitting system connects the pump to and from the piping easily just by lowering and hoisting the pump, allowing easy maintenance and inspection without the need to enter the sump. The TOS/TO is the guide rail fitting system made of cast iron and is compatible with cast iron pumps.

#### **Accessories**

- · Duckfoot Bend
- Guide Support
- Guide Hook
- Lifting Chain 5m (with Shackles)
- JIS 10kg/cm<sup>2</sup> Flange or DIN PN6 Flange (TOS set only)



#### **Model Number Designation**



#### Float Switches

NOVAX offers two types of float switches (liquid level sensors). A micro-switch is incorporated in both types.

Model MC-2 is a heavy-duty type float switch with a shock absorber.

Having equipped with a high grade micro switch, the MC-2 assures trouble-free operation in the liquid containing much suspended solids and floating scum.

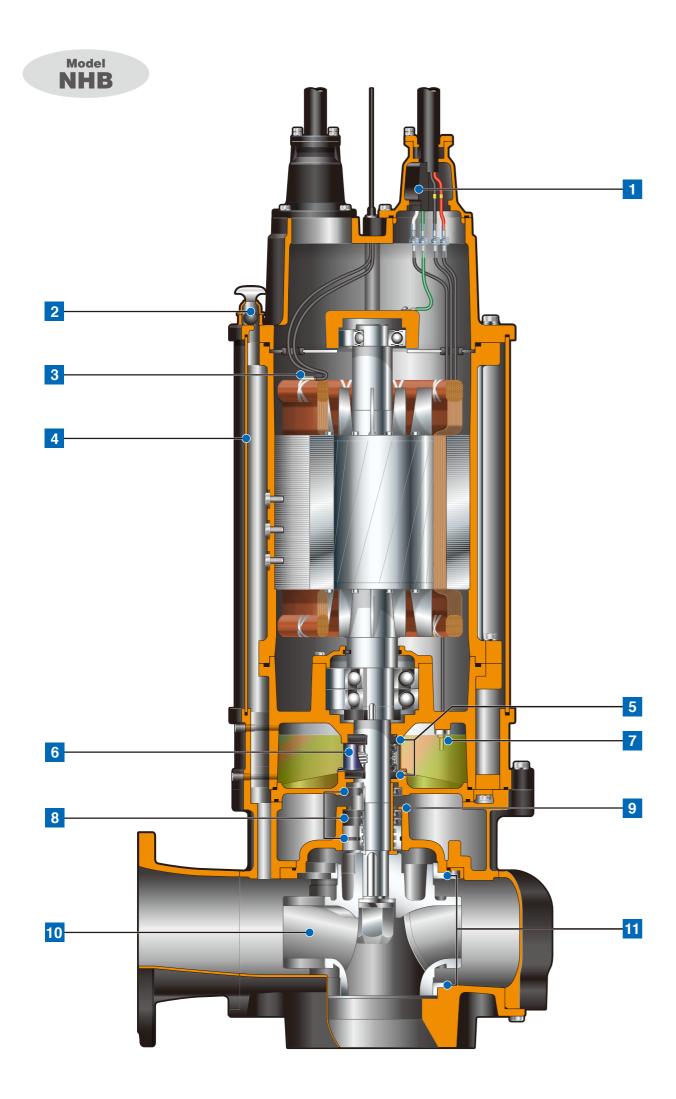
Either of the two contacts, normally-open or normally-close, can be selected as required



**Model RF-5** is an economy type float which can detect upper/lower limit water levels with single float. The snap on-off action ensures stable operation in clean or waste water containing suspended solids or oil and fat.



03 | 04



#### 1 Anti-wicking Cable Entry

Prevents water incursion due to capillary action should the cable sheath be damaged or the end of cable submerged. Also prevents moist air from infiltrating the motor housing and condensation from forming inside the housing due to temperature differences between the housing and outside air.

#### 2 Air Release Valve \*excluding some models

Fitted on/into the water jacket and/or the pump casing to prevent the air lock. When air flows through the valve, the ball stays at the bottom, but when the pumped water starts to flow, the ball closes the outlet because of its buoyancy.

#### 3 Motor Protector

Circle Thermal Protector (7.5kW and below)

Directly cuts the motor circuit if excessive heat builds up or overcurrent occurs in the motor.

Miniature Thermal Protectors (11kW and above)

React to excessive heat caused by dry-running. The bimetal strip opens to cause the control panel to shut the power supply.

#### 4 Water Jacket (NHB 55kW and above for 4-pole, 45kW and above for 6-pole)

The pump is equipped with a water jacket, around the motor frame. A portion of the pumped liquid is allowed to flow into the water jacket to cool the motor. This design feature permits the unit to operate at low water levels for extended periods of time.

#### **5** Dual Inside Mechanical Seals with Silicon Carbide Faces

Isolated in the oil chamber where a clean, non-corrosive and abrasion-free lubricating environment is maintained. Compared with the water-cooled outside mechanical seal, it reduces the risk of failure caused by dry-heating and adhering matter. The silicon carbide provides 5 times higher corrosion, wear and heat resistance than the tungsten carbide. Rubber parts of the upper and lower fixing rings are made of NBR or FPM (FKM), which provides higher resistance to heat and chemicals.

#### 6 Oil Lifter

Provides lubrication and cooling of the seal faces down to 1/3 of normal oil level, thus maintaining a stable shaft sealing effect and prolonging seal life longer. The Oil Lifter is Tsurumi original design.

#### **7 Leakage Sensor** (11kW and above)

Detects flooding into the oil chamber that may occur in a worst case scenario. When flooding is detected, signals are sent to operate the indicator lamps through the external control panel.

#### ■ Single/Triple/Quadruple Oil Seals + Labyrinth Ring (NHB 55kW and above for 4-pole)

Used as a "Dust Seal", a number of oil seals from 1 to 4 protect the mechanical seal from abrasive particles. The labyrinth ring is equipped to provide a better countermeasure against wear caused by high pressure generated in the casing and improve the maintainability for pumps of 55kW and above for 4-pole.

#### 9 Seal Pressure Relief Ports (NHB 22kW and above, and NH, NHC 5.5kW and above)

Protect the mechanical seal from pump pressure. They also protect the seal face by discharging wear particles.

#### Cast Iron Channel Impeller (NHB and NH)

Cast Iron Cutter Impeller (NHC)

Cast Iron Vortex Impeller (NHU)

Minimizes potential troubles caused by clogging of solids, fibers and other foreign matter in pumped fluids.

#### Mouth Ring & Wear Ring (NHB 22kW and above, excluding 150NHB422H and 150NHB422)

Prevent wear in the pump casing and suction cover, resulting in reduced maintenance costs.

05 | 06

# NHC -Cutter Impeller, 2-pole-

The NHC-series is a submersible cutter pump designed for handling raw sewage, wastewater, and heavy-duty industrial applications, where the pump is subject to clogging from oversize material.

Two tungsten carbide alloy edges blazed on the impeller vane on the serrated suction cover.

This mechanism cuts incoming fibrous material into pieces, permitting smooth passage of fibrous material.







80NHC23.7 80NHC25.5

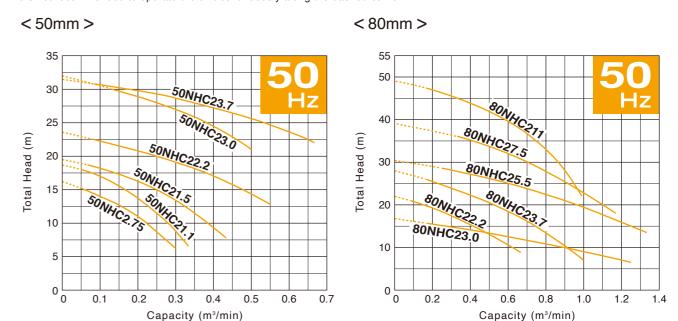
**TOS80NHC23.7** 

Discharge Bore	Mc	odel	Motor Output	Starting Method		L x W x H*1	Dry W	Cable Length	
mm	Free Standing	Guide Rail Fitting	kW		Free Standing	Guide Rail Fitting	Free Standing	Guide Rail Fitting	m
50	50NHC2.75	TOS50NHC2.75	0.75	D.O.L.	380 x 216 x 414	596 x 216 x 486	26	23	6
50	50NHC21.1	TOS50NHC21.1	1.1	D.O.L.	380 x 216 x 414	596 x 216 x 486	26	23	6
50	50NHC21.5	TOS50NHC21.5	1.5	D.O.L.	451 x 238 x 468	633 x 238 x 534	41	37	6
50	50NHC22.2	TOS50NHC22.2	2.2	D.O.L.	451 x 238 x 510	633 x 238 x 569	44	39	6
50	50NHC23.0	TOS50NHC23.0	3.0	D.O.L.	470 x 256 x 540	652 x 256 x 597	51	47	6
50	50NHC23.7	TOS50NHC23.7	3.7	D.O.L.	513 x 278 x 557	695 x 278 x 611	56	52	6
80	80NHC22.2	TOS80NHC22.2	2.2	D.O.L.	517 x 259 x 577	691 x 259 x 604	55	48	6
80	80NHC23.0	TOS80NHC23.0	3.0	D.O.L.	515 x 272 x 585	688 x 272 x 627	55	48	6
80	80NHC23.7	TOS80NHC23.7	3.7	D.O.L.	517 x 259 x 610	691 x 259 x 637	67	60	6
80	80NHC25.5	TOS80NHC25.5	5.5	D.O.L.	615 x 346 x 879	788 x 320 x 877	115	102	6
80	80NHC27.5	TOS80NHC27.5	7.5	D.O.L.	615 x 346 x 879	788 x 320 x 877	128	115	6
80	80NHC211	TOS80NHC211	11	Star-Delta	615 x 346 x 927	788 x 320 x 925	154	141	8

<sup>\*1</sup> Refer to page 8 for dimension symbol positions.

#### **Performance Curves**

It is not recommended to operate the unit continuously along the dashed curve.



#### **Cutting Mechanism: Impeller & Suction Cover**

Two sintered tungsten carbide alloy edges are brazed onto the impeller vane, and they rotate on the serrated part of the suction cover. Incoming fibrous materials are cut up by this mechanism, and this prevents clogging in the pump discharge pipes or valves.





<sup>\*2</sup> All weights excluding cable

Weights of guide rail fitting excluding duckfoot bend

# NHB - Channel Impeller, 100 - 250mm-

The NHB-series is a submersible channel impeller pump designed for handling raw sewage, wastewater and heavy-duty industrial applications, where the pump is subject to complete submersion and requires maximum reliability. A shrouded channel impeller practically prevents internal clogging and enables the pump to efficiently transfer sewage and wastewater containing solid matters. It is available as an extended line-up from 100 to 500mm discharge bores, 5.5 to 75kW.



100NHB45.5





TOS100NHB45.5

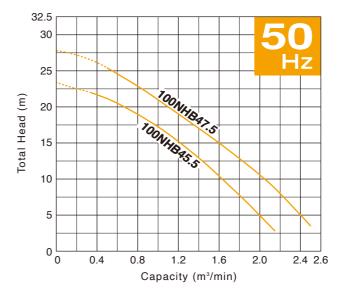
					Dimonsiss	al vWvII	Dw - 14	laiaht*2	
Discharge Bore	Mo	odel	Motor Output	Starting Method		sLxWxH m		/eight* <sup>2</sup> (g	Cable Length
mm	Free Standing	Guide Rail Fitting	kW		Free Standing	Guide Rail Fitting	Free Standing	Guide Rail Fitting	m
100	100NHB45.5	TOS100NHB45.5	5.5	D.O.L.*1	689 x 410 x 908	905 x 384 x 906	145	132	6
100	100NHB47.5	TOS100NHB47.5	7.5	D.O.L.*1	689 x 410 x 929	905 x 384 x 927	158	145	6
150	150NHB47.5L	TOS150NHB47.5L	7.5	D.O.L.*1	858 x 486 x 1085	1065 x 459 x 1030	221	192	6
150	150NHB411	TOS150NHB411	11	Star-Delta	882 x 490 x 1097	1089 x 465 x 1052	243	213	8
150	150NHB415	TOS150NHB415	15	Star-Delta	882 x 490 x 1167	1089 x 465 x 1122	259	234	8
150	150NHB422H	TOS150NHB422H	22	Star-Delta	884 x 492 x 1281	1092 x 470 x 1241	347	317	8
150	150NHB422	TOS150NHB422	22	Star-Delta	884 x 492 x 1282	1092 x 470 x 1241	347	317	8
150	150NHB437	TO150NHB437	37	Star-Delta	1072 x 724 x 1567	1305 x 612 x 1399	547	486	8
150	150NHB455	TO150NHB455	55	Star-Delta	1120 x 726 x 1663	1391 x 686 x 1557	877	838	8
200	200NHB411	TO200NHB411	11	Star-Delta	947 x 485 x 1113	1257 x 458 x 1078	262	257	8
200	200NHB415	TO200NHB415	15	Star-Delta	925 x 472 x 1184	1235 x 440 x 1144	287	282	8
200	200NHB437	TO200NHB437	37	Star-Delta	1191 x 724 x 1590	1432 x 611 x 1477	562	503	8
200	200NHB455	TO200NHB455	55	Star-Delta	1189 x 726 x 1663	1470 x 686 x 1577	912	875	8
200	200NHB475	TO200NHB475	75	Star-Delta	1189 x 726 x 1663	1470 x 686 x 1577	992	955	8
250	250NHB622	TO250NHB622	22	Star-Delta	1314 x 760 x 1654	1587 x 675 x 1593	789	698	8
250	250NHB430	TO250NHB430	30	Star-Delta	1296 x 724 x 1517	1567 x 637 x 1450	551	473	8
250	250NHB437	TO250NHB437	37	Star-Delta	1296 x 724 x 1594	1567 x 637 x 1527	611	533	8
250	250NHB445	TO250NHB445	45	Star-Delta	1314 x 760 x 1556	1581 x 668 x 1497	711	620	8
250	250NHB475	TO250NHB475	75	Star-Delta	1384 x 750 x 1663	1702 x 725 x 1606	1050	995	8

<sup>\*1</sup> Star-Delta available upon request

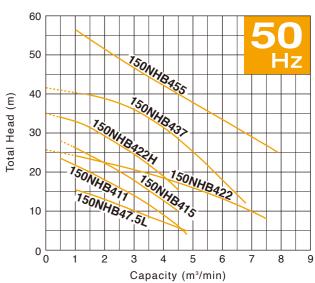
#### **Performance Curves**

It is not recommended to operate the unit continuously along the dashed curve.

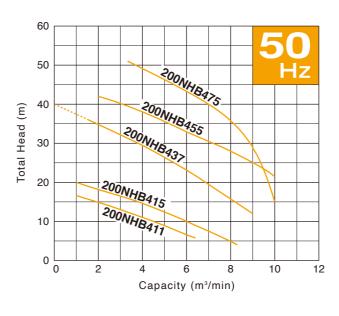
#### < 100mm >



#### < 150mm >



#### < 200mm >

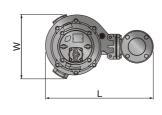


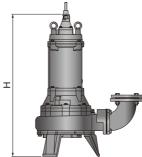
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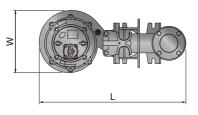
#### **Dimensions**

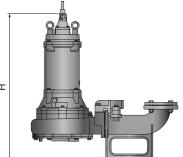
Free Standing





Guide Rail Fitting





07 | 08

<sup>\*2</sup> All weights excluding cable

Weights of guide rail fitting excluding duckfoot bend

# NHB -Channel Impeller, 300 - 500mm-

The NHB-series is a submersible channel impeller pump designed for handling raw sewage, wastewater and heavy-duty industrial applications, where the pump is subject to complete submersion and requires maximum reliability. A shrouded channel impeller practically prevents internal clogging and enables the pump to efficiently transfer sewage and wastewater containing solid matters. It is available as an extended line-up from 100 to 500mm discharge bores, 5.5 to 75kW.



300NHB645

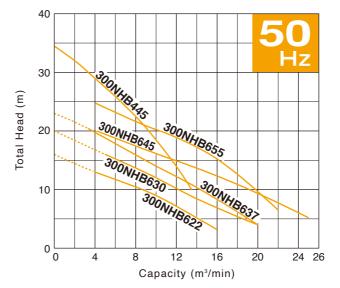
Discharge Bore	Мо	odel	Motor Output	Starting Method	Dimensions m		Dry W	Cable Length	
mm	Free Standing	Guide Rail Fitting	kW		Free Standing	Guide Rail Fitting	Free Standing	Guide Rail Fitting	m
300	300NHB622	TO300NHB622	22	Star-Delta	1367 x 760 x 1663	1690 x 654 x 1616	818	724	8
300	300NHB630	TO300NHB630	30	Star-Delta	1367 x 760 x 1663	1690 x 654 x 1616	860	766	8
300	300NHB637	TO300NHB637	37	Star-Delta	1367 x 760 x 1663	1690 x 654 x 1616	889	795	8
300	300NHB445	TO300NHB445	45	Star-Delta	1349 x 724 x 1605	1672 x 654 x 1536	775	695	8
300	300NHB645	TO300NHB645	45	Star-Delta	1415 x 830 x 1772	1785 x 654 x 1755	1260	1110	8
300	300NHB655	TO300NHB655	55	Star-Delta	1415 x 830 x 1772	1785 x 654 x 1755	1310	1160	8
350	350NHB822	TO350NHB822	22	Star-Delta	1495 x 790 x 1703	1846 x 731 x 1718	923	832	8
350	350NHB630	TO350NHB630	30	Star-Delta	1495 x 790 x 1703	1846 x 731 x 1718	914	823	8
350	350NHB637	TO350NHB637	37	Star-Delta	1495 x 790 x 1703	1846 x 731 x 1718	941	850	8
400	400NHB645	TO400NHB645	45	Star-Delta	1415 x 792 x 1817	2141 x 792 x 1895	1300	1250	8
400	400NHB655	TO400NHB655	55	Star-Delta	1415 x 792 x 1817	2141 x 792 x 1895	1330	1280	8
400	400NHB675	TO400NHB675	75	Star-Delta	1415 x 784 x 1817	2141 x 784 x 1895	1470	1410	8
500	500NHB675	TO500NHB675	75	Star-Delta	2229 x 1188 x 1926	2815 x 1188 x 2091	1960	1820	8

 $<sup>^{\</sup>star 1}\,\text{Refer}$  to page 8 for dimension symbol positions.

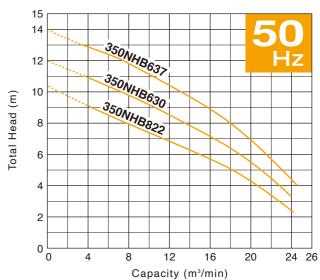
#### **Performance Curves**

It is not recommended to operate the unit continuously along the dashed curve.

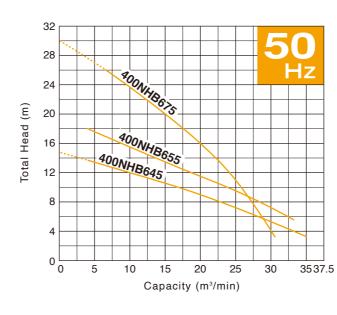
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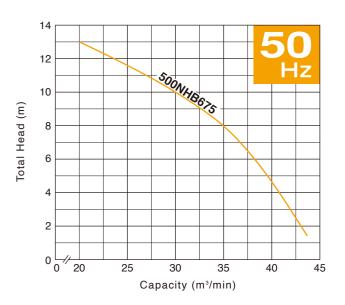
#### < 350mm >



#### < 400mm >



#### < 500mm >





<sup>\*2</sup> All weights excluding cable Weights of guide rail fitting excluding duckfoot bend

# NHU -Vortex Impeller, 2-pole-

The NHU-series is a heavy-duty submersible pump equipped with a vortex impeller for pumping sewage and wastewater. The semi-vortex design provides a solids passage that is 70% or more\* of the discharge bore, thus reducing troubles caused by the clogging of fibrous solids to a minimum. Rotation of the impeller produces vortex flow in the pump casing, which allows those foreign matters to be pumped out with minimum contact to the impeller.

\* excluding model 80NHU21.5





50NHU2.75

80NHU22.2

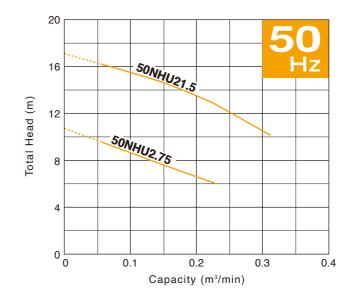
Discharge Bore	Mo	odel	Motor Output	Starting Method	Solids Passage		LxWxH*1 m		eight*2 g	Cable Length
mm	Free Standing	Guide Rail Fitting	kW		mm	Free Standing	Guide Rail Fitting	Free Standing	Guide Rail Fitting	m
50	50NHU2.75	TOS50NHU2.75	0.75	D.O.L.	35	364 x 168 x 430	580 x 168 x 518	23	21	6
50	50NHU21.5	TOS50NHU21.5	1.5	D.O.L.	35	406 x 202 x 466	622 x 202 x 549	31	30	6
80	80NHU21.5	TOS80NHU21.5	1.5	D.O.L.	46	420 x 202 x 489	607 x 202 x 577	36	33	6
80	80NHU22.2	TOS80NHU22.2	2.2	D.O.L.	56	502 x 234 x 539	641 x 234 x 624	50	42	6
80	80NHU23.7	TOS80NHU23.7	3.7	D.O.L.	56	502 x 234 x 572	641 x 234 x 657	58	50	6

<sup>\*1</sup> Refer to page 8 for dimension symbol positions.

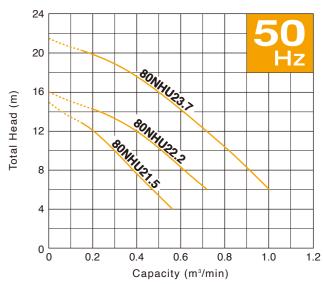
#### **Performance Curves**

It is not recommended to operate the unit continuously along the dashed curve.

#### < 50mm >



#### < 80mm >





<sup>\*2</sup> All weights excluding cable

Weights of guide rail fitting excluding duckfoot bend

## NH -Channel Impeller, 2-pole-

The NH-series is a cast iron made, submersible sewage pump utilizing 2-pole motor. This impeller is a shrouded two-channel impeller. Each channel is designed to have a larger area and it enables the pump to be suitable for pumping wastewater containing a certain size of solids. The pumps are available in six motor sizes ranging from 1.5 to 7.5kW and available in either High Head or High Volume Type.





TOS80NH24.0

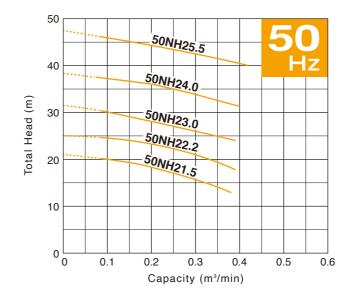
	charge Sore	Mo	odel	Motor Output	Starting Method	Dimensions m	L x W x H*1 m		/eight* <sup>2</sup> .g	Cable Length
n	nm	Free Standing	Guide Rail Fitting	kW		Free Standing	Guide Rail Fitting	Free Standing	Guide Rail Fitting	m
į	50	50NH21.5	TOS50NH21.5	1.5	D.O.L.	452 x 240 x 475	634 x 240 x 534	40	36	6
į	50	50NH22.2	TOS50NH22.2	2.2	D.O.L.	454 x 242 x 510	637 x 242 x 568	44	40	6
į	50	50NH23.0	TOS50NH23.0	3.0	D.O.L.	474 x 266 x 540	657 x 266 x 597	51	47	6
į	50	50NH24.0	TOS50NH24.0	4.0	D.O.L.	515 x 284 x 557	698 x 284 x 611	57	52	6
į	50	50NH25.5	TOS50NH25.5	5.5	D.O.L.	540 x 320 x 798	723 x 320 x 841	93	88	6
8	80	80NH24.0	TOS80NH24.0	4.0	D.O.L.	538 x 278 x 563	712 x 278 x 631	63	55	6
8	80	80NH25.5	TOS80NH25.5	5.5	D.O.L.	544 x 290 x 804	718 x 290 x 857	99	91	6
1	100	100NH25.5	TOS100NH25.5	5.5	D.O.L.	585 x 288 x 835	804 x 288 x 910	107	97	6
1	100	100NH27.5	TOS100NH27.5	7.5	D.O.L.	622 x 310 x 832	841 x 310 x 905	117	107	6
1	150	150NH27.5	TOS150NH27.5	7.5	D.O.L.	727 x 328 x 850	921 x 328 x 972	146	120	6

<sup>\*1</sup> Refer to page 8 for dimension symbol positions.

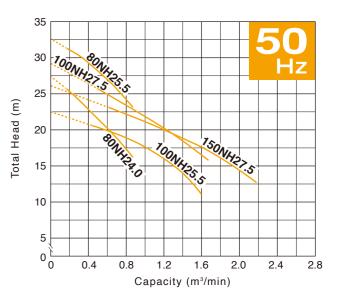
#### **Performance Curves**

It is not recommended to operate the unit continuously along the dashed curve.

#### < High Head Type >



#### < High Volume Type >





<sup>\*2</sup> All weights excluding cable

Weights of guide rail fitting excluding duckfoot bend

### **Specifications 50Hz**

						NHB									NI	НВ				
			100NHB45.5 100NHB47.5	150NHB47.5L	. 150NHB411	150NHB415	150NHB422H 150NHB422 15	50NHB437 1	150NHB455	200NHB4	3411 20	00NHB415	200NHB437	200NHB455	200NHB475	250NHB622	250NHB430	250NHB437	250NHB445	250NHB475
	Discharge Bore	mm	100		1	I	150						200					250		
	Discharge Connect	ion		DIN PN6 F	Flange (come	with Thread	led Companion Flange)								DIN PN	6 Flange				
			Shrouded Single-channel	Shrouded Two-channel	Shrou	ded Single-c	hannel Shroude	ed Two-cha	nnel						Shrouded T	Two-channel				
	Impeller		Radial Gap			Axia	Gap	Radial	Gap	А	Axial Ga	ap				Radia	al Gap			
					(	Gray Cast Iro	n								Gray C	ast Iron				
	Suction Cover				(	Gray Cast Iro	n								Gray C	Cast Iron				
PUMP	Mouth Ring & Wear R	ing						Gray Cas	st Iron		_					Gray C	ast Iron			
P	Oil Seal	Q'ty			Sir	ngle			Triple		Single Triple Sin					gle		Triple		
					Nitrile	Butadiene F	Rubber				Nitrile Butadiene Rubber									
	Labyrinth Ring			·				304 Stainless Steel			_		304 Stain	less Steel		_	_		304 Stainless Steel	
	Casing				(	Gray Cast Iro	n				Gray Cast Iron									
	Shaft Seal			Dua	al Inside Med	chanical Sea	s (with Oil Lifter)				Dual Inside Mechanical Seals (with Oil Lifter)									
			Silicon Carbide							Silicon Carbide										
	Shaft Sleeve	— 410 Stainless Stee						ess Steel		— 410 Stainless Steel										
	Туре		Continuous-duty Rated, Dry-type Induction Motor								Continuous-duty Rated, Dry-type Induction Motor									
	Output	kW	5.5	7.5	11	15	22	37	55	11		15	37	55	75	22	30	37	45	75
	Phase					Three									Th	ree	I			
	Pole					4							4			6		2		
	Speed (S.S.)	min-1				1500							1500			1000		15	500	
	Insulation				1	F										F				
~	Starting Method		D.O.L.*2				Star-Delta								Star-	-Delta				
MOTOR	Motor Protector (built-in)		СТР				MTP								М	TP				
<b>M</b>	Leakage Sensor (built-in)					I	Electrode								Elec	trode		Г		
	Lubricant	ml	4200 46	600	5200	5100		9100	9600	5200	)	5100	9100	96		9100	8600	91	00	9600
						ine Oil (ISO )										(ISO VG32)				
	Frame				(	Gray Cast Iro	n								Gray C	Cast Iron				1
	Outor Cover			— Roller										Rolled			_	_		Rolled Steel
	Shaft		420 Stainless Steel											420 Stain	less Steel					
	Power Cable	m	6 8											8						
			Chloroprene Rubber								Т				ne Rubber				1	
ry We	Free Standing eight*1		145 158	221	243	259	347	547	877	262	_	287	562	912	992	789	551	611	711	1050
	Guide Rail Fitting	g kg	132 145	192	213  *2 Star-Delta a	234	317	486	838	257		282	503	875	955	698	473	533	620	995

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\*1 All weights excluding cable
Weights of guide rail fitting excluding duckfoot bend

### **Specifications 50Hz**

Disc. Imperior Suct Mout Casi Shaf Shaf Shaf Outp Phas Pole Spee Insul Start Moto (built) Leak (built) Lubr Fram Outo				NI	НВ			NHB								
		300NHB622	300NHB630	300NHB637	300NHB445	300NHB645	300NHB655	350NHB822	350NHB630	350NHB637	400NHB645	400NHB655	400NHB675	500NHB675		
	Discharge Bore mm			31	00				350			400		500		
	Discharge Connection			DIN PN	6 Flange			DIN PN6 Flange								
				Shrouded 1	wo-channel					S	Shrouded Two-chann	el				
	Impeller			Radia	al Gap						Radial Gap					
				Gray C	ast Iron						Gray Cast Iron					
	Suction Cover			Gray C	ast Iron						Gray Cast Iron					
MP	Mouth Ring & Wear Ring			Gray C	ast Iron						Gray Cast Iron					
P.	Q'ty		Sir	ngle		Quad	Iruple		Single			Quad	druple			
	Oli Seal			Nitrile Butac	liene Rubber					N	itrile Butadiene Rubb	er				
	Casing			Gray C	ast Iron						Gray Cast Iron	ron				
	Shaft Seal		Dua	al Inside Mechanic	al Seals (with Oil Li	fter)				Dual Inside	Mechanical Seals (w	rith Oil Lifter)				
	Shait Seai			Silicon	Carbide						Silicon Carbide					
	Shaft Sleeve			410 Stain	less Steel						410 Stainless Steel	oteel				
	Туре		Conti	nuous-duty Rated,	Dry-type Induction	Motor		Continuous-duty Rated, Dry-type Induction Motor								
	Output kW	22 30 37 45				55	22	30	37	45	55	7	5			
	Phase			Th	ree						Three	Three				
	Pole		6		4	6	6	8			(	6				
	Speed (S.S.) min-1		1000		1500	10	00	750			10	00				
	Insulation				=						F					
	Starting Method			Star-	Delta						Star-Delta					
OB	Motor Protector (built-in)			М	TP						MTP					
MO	Leakage Sensor (built-in)			Elec	trode						Electrode					
	ml			9100			14000		91	100			14000			
	Lubricant			Turbine Oil	(ISO VG32)					Т	Turbine Oil (ISO VG32	2)				
	Frame			Gray C	ast Iron						Gray Cast Iron					
	Outor Cover		-	_		Rolled	l Steel		_			Rolled	d Steel			
	Shaft			420 Stain	less Steel			420 Stainless Steel								
	m Power Cable				3			8								
	Power Cable -			Chloropre	ne Rubber				Chloroprene Rubber							
	Free Standing kg	818	860	889	775	1260	1310	923	914	941	1300	1330	1470	1960		
Dry Weig	ght* Guide Rail Fitting kg	724	766	795	695	1110	1160	832	823	850	1250	1280	1410	1820		

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<sup>\*</sup> All weights excluding cable
Weights of guide rail fitting excluding duckfoot bend

### **Specifications 50Hz**

	NHC			NHU	J			N	IH				
	50NHC2.75   50NHC21.1   50NHC21.5   50NHC22.2   50NHC23.0   50NHC23.7   80NHC22.2   80NHC23.0   80NHC23.7   80NHC25.5   80NHC27.5	80NHC211	50NHU2.75 50NH	1U21.5 80NHU2	1.5 80NHU22.2 80NHU23.	7 50NH21.5 50NH22.2	50NH23.0 50NH24.	50NH25.5	80NH24.0 80NH25.5	100NH25.5 100NH	127.5 150NH		
Discharge Bore mm	50 80		50		80		50	-1	80	100	15		
Discharge Connection	Threaded Oval Flange Threaded JIS 10kg/cm² Flange		Thre Oval	aded Flange			Threaded JIS	10kg/cm <sup>2</sup>	Flange				
	Cutter			Vorte			Shrouded Two-channel						
Impeller	(Semi-open Two-channel Impeller with Two Cutting Edges)			vorte	x			Radia	al Gap				
	Gray Cast Iron with Tungsten Carbide Alloy					G	ray Cast Iron						
Suction Cover	Ductile Cast Iron		Gray C	ast Iron	_			Gray C	Cast Iron				
Q'ty Oil Seal	Single						Single						
	Nitrile Butadiene Rubber		Nitrile Butadiene Rubber										
Casing	Gray Cast Iron					G	ray Cast Iron						
Shaft Seal	Dual Inside Mechanical Seals (with Oil Lifter)					Dual Inside Mecl	nanical Seals (with	Oil Lifter)	Lifter)				
	Silicon Carbide		Silicon Carbide										
Shaft Sleeve	— 410 Stainless Steel	_	<del>-</del>										
Туре	Continuous-duty Rated, Dry-type Induction Motor					Continuous-duty Ra	ated, Dry-type Indu	uction Moto	or				
Output kW	0.75 1.1 1.5 2.2 3.0 3.7 2.2 3.0 3.7 5.5 7.5	11	0.75	1.5	2.2 3.7	1.5 2.2	3.0 4.0	5.5	4.0 5	.5	7.5		
Phase	Three						Three						
Pole	2						2						
Speed (S.S.) min <sup>-1</sup>	3000						3000						
Insulation	F						F						
Starting Method	D.O.L.	Star-Delta Star-Delta					D.O.L.						
Motor Protector (built-in)	CTP	MTP					СТР						
Leakage Sensor (built-in)	_	Electrode					_	1					
ml Lubricant	500 940 1160 1100 1300 1160 1100 1300 2140 200	00	500	940	1160 1300	940 1160	1100 1300	2140	1300 21	40	2000		
	Turbine Oil (ISO VG32)					Turbir	ne Oil (ISO VG32)						
Frame	Gray Cast Iron					G	ray Cast Iron						
Shaft	420 Stainless Steel					420	Stainless Steel						
m Power Cable	6	8					6						
	Chloroprene Rubber			1		Chlo	roprene Rubber	1					
Free Standing kg ght*	26 41 44 51 56 55 67 115 128	154	23 3	36	50 58	40 44	51 57	93	63 99	107 11	17 1		
Guide Rail Fitting kg	23 37 39 47 52 48 60 102 115	141	21 3	33	42 50	36 40	47 52	88	55 91	97 10	)7		

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<sup>\*</sup> All weights excluding cable Weights of guide rail fitting excluding duckfoot bend



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