

# NES SERIES

Diesel Engine Generator

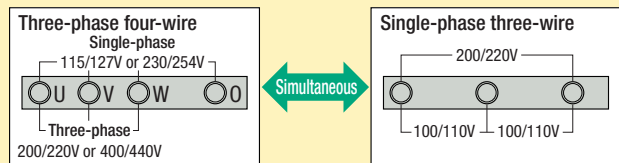


Reliable technology, further evolution  
Earth-friendly green generators

# High performance and High quality

## ■ Three-phase/single-phase three-wire simultaneous output (switching not required) New function

The NES25 is provided with a three-phase/single phase three-wire independent terminal that enables simultaneous use.



## ■ Dual voltage

All models (except for the NES100EI) are equipped with a dual voltage feature to select either 200V for general use and 400V for large-capacity equipment. The dual voltage feature meets the need for globalization since 400V loads are more common overseas. The voltage currently selected is shown by the voltage indicator.



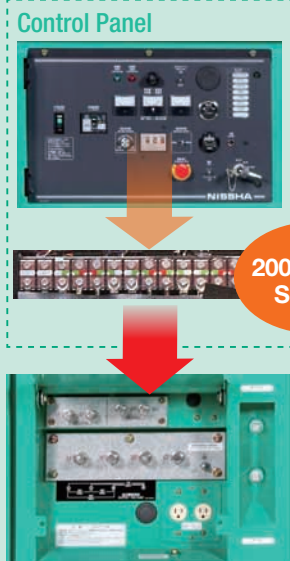
▲ Voltage indicator

### Methods

#### Voltage Changeover Terminal Block

( NES25 – NES60, NES100TI, NES125TI )

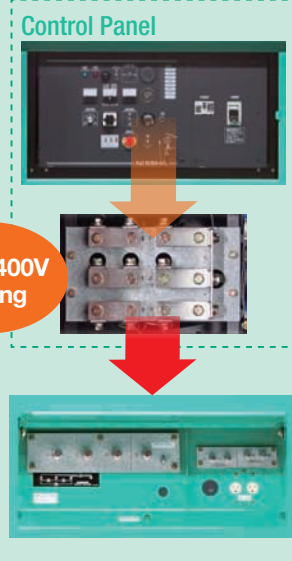
Example: NES45TY2



#### Voltage Changeover Terminal Board

( NES100EI, NES125EH, NES150 – NES800 )

Example: NES150TI



200V / 400V Setting

## ■ High-quality power supply

The FET-type AVR (Automatic Voltage Regulator) and high-performance damper winding provide high-quality power with a voltage regulation of  $\pm 0.5\%$ . In addition to working well with general linear loads, the generator also works well with non-linear loads such as inverters.

## ■ High insulation

The alternator winding is coated with varnish using dripping impregnation and vacuum impregnation to provide high insulation performance.

## ■ Weather resistant coating

Electrodeposition and weather-resistant baking finish are used on all models, providing high resistance to corrosion.

## ■ Fuel air bleeding

When the start/stop switch is in the ON position, a fuel pumps operates to execute air bleeding, which is very useful when changing fuel filters (standard equipment on NES25TK – NES400TI and NES100EI).

## ■ Tough and durable

NISSHA generators are known for toughness and durability. We continue to create products that satisfy our customers.



Note: Some of the above features are not included in some models.



## Useful and safe equipment and structure

### Oil guard

NES25TK – NES400TI are equipped with an oil guard that has passed leak test to protect the environment. In addition to offering rain protection, a drain cock is also provided to drain rainwater that has entered the oil guard.



▲ Leak test



Note: Rainwater collected in the oil guard needs to be drained.

### Large tank

NES25TKL, NES45TYL, and NES60TKL models are equipped with a large capacity fuel tank. This makes it possible to support more than 48 hours of long term continuous operation on one tank without using an external tank (with a 50% load at 50Hz for each model).

Also, because an external tank is not used, it conforms to “electrical generator facilities that are not continuously monitored” of the electrical installation technical standards.



Note: “Continuous monitoring” means a state under which a technician is continuously present at the location, site, etc. where the generator is installed, and can supervise its operation.

### Earth leakage protector



To prevent electric shocks, a high-sensitivity, high-speed earth leakage relay is provided (detection in 0.1 seconds at 30mA). Also, leakage detection can be changed to 200mA as an option, which is effective in protection coordination with the leakage breaker on the load system side.

### Daily check on one side

The fuel filler port, oil filler/inspection port, reserve tank and output terminal board are placed on one side, allowing easy access for daily checking and wiring (excluding the NES25).





## Easy oil change

Oil can be changed quickly and easily without special tools. Maintenance time is saved and your hands keep clean (applies to NES25, NES45TY2, and NES60).



▲ Oil drain hose

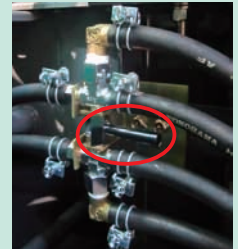
## Easy radiator flushing

The front cover of the radiator is either a full-open type (NES25 to NES60) or hinged type (NES100 to NES800) to enable easy flushing of the radiator.



## Fuel tank three-way cock

A single-lever, fuel tank changeover cock for switching between the internal and external tanks is provided to allow for long time operation. The cock is easy to operate and prevents mistakes switching. (Provided on NES25 to NES220, except NES25TKL, NES45TYL and NES60TKL.)



Three-way cock of fuel tank ▲

## New IC monitor

New IC monitor checks the system for malfunction at all times before and during operation.

Note: Except machines equipped with second exhaust emission compliant engines and NES800SM.



Example: Control panel of NES100TI



	Item	Engine stop	Breaker trip	Lamp
Monitor	Low oil pressure	○	—	○
	High water temperature	○	—	○
	Overspeed	○	—	○
	Battery voltage failure	—	—	○
	Non charge	—	—	○
	Low fuel level	○	—	○
	Oil guard *1	—	—	○
	Diagnosis (ECU error) *2	○	—	○
	Overcurrent	—	○	—
	Earth leakage	—	○	○

\*1: Large tank models only (NES25TKL, NES45TYL, NES60TKL).

\*2: ECU models only (NES45 to NES400TI).

## Certification

The specifications, registration and certification of government agencies and other organizations in Japan show the trust placed in NISSHA generators.



Construction equipment conforming to the Third Emission Regulation designated by MLIT (NES25TK – NES400TI)



Machines equipped with the Second Exhaust Emission engines (NES100EI – NES500EM)



Super low noise construction equipment designated by MLIT (NES25 – NES220)



Low noise construction equipment designated by MLIT (NES400 – NES800)



Oil guard integrated generator registered with NETIS by MLIT (NES25TK – NES400TI)

Note : Third Emission Gas Policy models



Portable generator certified by the Nippon Engine Generator Association (all models)

Specifications



▲ NES45TY2



▲ NES45TYL

Item		NES25TK		NES25TKL		NES45TY2		NES45TYL		NES60TK			
Alternator	Frequency	Hz	50	60	50	60	50	60	50	60	50	60	
	Output	kVA	20	25	20	25	37	45	37	45	50	60	
		kW	16	20	16	20	29.6	36	29.6	36	40	48	
	200V	Voltage	V	200	220	200	220	200	220	200	220	200	220
		Current	A	57.7	65.6	57.7	65.6	107	118	107	118	144	157
	400V	Voltage	V	400	440	400	440	400	440	400	440	400	440
		Current	A	28.9	32.8	28.9	32.8	53.4	59.0	53.4	59.0	72.2	78.7
	Single-phase 3-wire type	Output*1	kVA	11.5[5.8] <sup>7</sup>	14.4[7.2] <sup>7</sup>	11.5[5.8] <sup>7</sup>	14.4[7.2] <sup>7</sup>	21.4	26.0	21.4	26.0	28.9	34.6
			kW	11.5[5.8] <sup>7</sup>	14.4[7.2] <sup>7</sup>	11.5[5.8] <sup>7</sup>	14.4[7.2] <sup>7</sup>	21.4	26.0	21.4	26.0	28.9	34.6
		Voltage*1	V	100/200	110/220	100/200	110/220	100/200	110/220	100/200	110/220	100/200	110/220
		Current*1	A	57.7[28.9] <sup>7</sup>	65.6[32.8] <sup>7</sup>	57.7[28.9] <sup>7</sup>	65.6[32.8] <sup>7</sup>	107	118	107	118	144	157
	Single-phase 2-wire type, auxiliary output	Output*5	kVA	6.0	6.6	6.0	6.6	12.0	13.2	12.0	13.2	15.0	16.6
			kW	6.0	6.6	6.0	6.6	12.0	13.2	12.0	13.2	15.0	16.6
		Voltage	V	100	110	100	110	100	110	100	110	100	110
		Dedicated terminal		—		—		60A × 2 circuits		60A × 2 circuits		75A × 2 circuits	
Outlet		15A × 4		15A × 4		15A × 2		15A × 2		15A × 2			
Type & Power Factor		Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging											
Engine	Engine model		KUBOTA V2403-K3A		KUBOTA V2403-K3A		YANMAR 3-4TNV98TG		YANMAR 3-4TNV98TG		KUBOTA V3800-DI-TI-K3A		
	Type		Swirl chamber type				Direct injection type with turbocharger				Direct injection type with turbocharger and intercooler		
	Cylinders - Bore × Stroke	mm	4-87 × 102.4		4-87 × 102.4		4-98 × 110		4-98 × 110		4-100 × 120		
	Displacement	ℓ	2.434		2.434		3.319		3.319		3.769		
	Rated output	kW	19.1	23.7	19.1	23.7	37.9	45.6	37.9	45.6	49.2	57.5	
	Revolution	min <sup>-1</sup>	1500	1800	1500	1800	1500	1800	1500	1800	1500	1800	
	Fuel consumption	50% load	ℓ/H	3.1	3.8	3.1	3.8	4.2	5.3	4.2	5.3	5.8	7.2
		75% load		4.0	5.1	4.0	5.1	5.9	7.4	5.9	7.4	8.4	10.3
	Engine oil volume	ℓ	9.7		9.7		11.2		11.2		13.8		
	Battery		85D26L × 1		85D26L × 1		105D31L × 1		105D31L × 1		105D31 × 1		
	Fuel tank capacity	ℓ	70		195		145		330		180		
Fuel		Diesel fuel											
Oil guard capacity Total/Effective*6	ℓ	70/70		300/95		245/80		460/135		275/75			
Dimensions and weight	Length*2	mm	1540		1540		1740		2000		2050		
	Width	mm	700		700		880		880		930		
	Height	mm	1125		1460		1350		1585		1390		
	Dry weight	kg	645		735		1020		1125		1150		
	Operating weight	kg	720		915		1170		1440		1325		
Sound power level*3	dB	90【Super】		88【Super】		90【Super】		88【Super】		89【Super】			
Sound level at 7 meters*4	dB	61	64	61	61	61	63	57	60	59	62		

\*1: Colored characters denote options.

\*2: Values in parentheses are dimensions excluding the rain cover.

\*3: Value at 60Hz with zero load. 【Super】denotes super low noise design machines, (Low) denotes low noise design machines.



▲ NES125TI



NES150TI ▲



NES220TI ▲

NES60TKL		NES100TI		NES125TI		NES150TI		NES220TI		NES400TI	
50	60	50	60	50	60	50	60	50	60	50	60
50	60	80	100	100	125	125	150	200	220	350	400
40	48	64	80	80	100	100	120	160	176	280	320
200	220	200	220	200	220	200	220	200	220	200	220
144	157	231	262	289	328	361	394	577	577	1010	1050
400	440	400	440	400	440	400	440	400	440	400	440
72.2	78.7	115	131	144	164	180	197	289	289	505	525
28.9	34.6	46.2	57.7	57.7	72.2	—	—	—	—	—	—
28.9	34.6	46.2	57.7	57.7	72.2	—	—	—	—	—	—
100/200	110/220	100/200	110/220	100/200	110/220	—	—	—	—	—	—
144	157	231	262	289	328	—	—	—	—	—	—
15.0	16.6	20.0	22.0	20.0	22.0	20.0	22.0	3.0	3.3	3.0	3.3
15.0	16.6	20.0	22.0	20.0	22.0	20.0	22.0	3.0	3.3	3.0	3.3
100	110	100	110	100	110	100	110	100	110	100	110
75A × 2 circuits		100A × 2 circuits		100A × 2 circuits		100A × 2 circuits		—		—	
15A × 2		15A × 2		15A × 2		15A × 2		15A × 2		15A × 2	
Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging											
KUBOTA V3800-DI-TI-K3A		ISUZU BI-4HK1X		ISUZU BI-4HK1X		ISUZU BH-6HK1X		ISUZU BH-6UZ1X		ISUZU BH-6WG1X	
Direct injection type with turbocharger and intercooler											
4 - 100 × 120		4 - 115 × 125		4 - 115 × 125		6 - 115 × 125		6 - 120 × 145		6 - 147 × 154	
3.769		5.193		5.193		7.790		9.839		15.681	
49.2	57.5	95.8	113.6	95.8	113.6	135.2	166.5	185.2	203.7	309	346
1500	1800	1500	1800	1500	1800	1500	1800	1500	1800	1500	1800
5.8	7.2	9.6	12.5	11.8	15.2	14.1	18.0	22.1	25.8	39.6	50.6
8.4	10.3	13.9	17.4	17.0	21.4	19.9	24.5	32.4	36.5	55.9	67.6
13.8		23.5		23.5		41		42		52	
105D31L × 1		170F51 × 1		170F51 × 1		120E41R × 2		195G51 × 2		195G51 × 2	
400		250		250		250		390		490	
Diesel fuel											
400/140		255/205		255/205		390/280		435/265		605/410	
2050		2900		2900		3480		3835		4780 (4490)	
930		1180		1180		1180		1290		1500	
1600		1550		1550		1650		1790		2200	
1210		2000		2050		2720		3650		5520	
1570		2250		2300		2990		4050		6050	
88【Super】		93【Super】		93【Super】		92【Super】		94【Super】		97 (Low)	
58	61	61	64	60	64	60	65	64	67	66	69

\*4: Average sound pressure in 4 directions at no load.

\*5: Total output value for dedicated terminals and power outputs.

\*6: Total capacity means the capacity of the oil guard itself. Effective capacity means the capacity considering the fuel tank and other components.

\*7: Values in [ ] are for three-phase 400V wire connections.

Specifications



NES100EI ▲



NES125EH ▲



NES220EM ▲

Item			NES100EI		NES125EH		NES150EH		NES220EM				
Alternator	Frequency		Hz	50	60	50	60	50	60	50	60		
	Three-phase 4-wire type	Output		kVA	80	100	100	125	125	150	195	220	
				kW	64	80	80	100	100	120	156	176	
		200V	Voltage	V	200	220	200	220	200	220	200	220	
			Current	A	231	262	289	328	361	394	563	577	
		400V	Voltage*1	V	400	440	400	440	400	440	400	440	
			Current*1	A	115	131	144	164	180	197	281	289	
	Single-phase 3-wire type	100/200V	Output*1		kVA	46.2	57.7	57.7	72.2	—	—	—	—
					kW	46.2	57.7	57.7	72.2	—	—	—	—
			Voltage*1		V	100/200	110/220	100/200	110/220	—	—	—	—
			Current*1		A	231	262	289	328	—	—	—	—
	Single-phase 2-wire type, auxiliary output	100V	Output*5		kVA	20.0	22.0	20.0	22.0	20.0	22.0	3.0	3.3
					kW	20.0	22.0	20.0	22.0	20.0	22.0	3.0	3.3
			Voltage		V	100	110	100	110	100	110	100	110
			Dedicated terminal			100A × 2 circuits		100A × 2 circuits		100A × 2 circuits		—	
Outlet				15A × 2		15A × 2		15A × 2		15A × 2			
Type & Power Factor			Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging										
Engine	Engine model			ISUZU DD-6BG1T		HINO J08C-UD		HINO J08C-UD		MITSUBISHI 6D24-TLE2B			
	Type			Direct injection type with turbocharger		Direct injection type with turbocharger and intercooler							
	Cylinders - Bore × Stroke		mm	6 - 105 × 125		6 - 114 × 130		6 - 114 × 130		6 - 130 × 150			
	Displacement		ℓ	6.494		7.961		7.961		11.94			
	Rated output		kW	73.6	91.2	118	140	118	140	181	199		
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	1500	1800	1500	1800		
	Fuel consumption	50% load	ℓ/H	9.8	12.6	11.8	14.7	14.1	17.6	22.1	26.5		
		75% load		13.6	17.6	16.7	20.0	20.0	24.0	30.9	36.6		
	Engine oil volume		ℓ	20		24.5		24.5		37			
	Battery			95D31R × 2		95D31R × 2		95D31R × 2		150F51 × 2			
	Fuel tank capacity		ℓ	200		250		250		370			
Fuel			Diesel fuel										
Dimensions and weight	Length*2		mm	2730		3180		3180		3840			
	Width*1		mm	1050		1130		1130		1290 (1820)			
	Height		mm	1290		1450		1450		1750			
	Dry weight		kg	1650		2170		2270		3530			
	Operating weight		kg	1850		2420		2520		3910			
Sound power level*3		dB	93【Super】		94【Super】		95【Super】		95【Super】				
Sound level at 7 meters*4		dB	65		66		67		67				

\*1: Colored characters denote options.

\*2: Values in parentheses are dimensions excluding the rain cover.

\*3: Value at 60Hz with zero load. 【Super】denotes super low noise design machines, (Low) denotes low noise design machines.



▲NES400EM



▲NES500EM



▲NES800SM

NES400EM		NES500EM		NES610SM		NES800SM	
50	60	50	60	50	60	50	60
350	400	450	500	554	610	700	800
280	320	360	400	443	488	560	640
200	220	200	220	200	220	200	220
1010	1050	1299	1312	1599	1600	2021	2100
400	440	400	440	400	440	400	440
505	525	650	656	800	800	1010	1050
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
3.0	3.3	3.0	3.3	3.0	3.3	3.0	3.3
3.0	3.3	3.0	3.3	3.0	3.3	3.0	3.3
100	110	100	110	100	110	100	110
—		—		—		—	
15A × 2		15A × 2		15A × 2		15A × 2	
Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging							
MITSUBISHI S6B3-E2PTAA-3		MITSUBISHI S6A3-E2PTAA-1		MITSUBISHI S6R-PTA		MITSUBISHI S12A2-PTA	
Direct injection type with turbocharger and intercooler							
6 - 135 × 170		6 - 150 × 175		6 - 170 × 180		12 - 150 × 160	
14.6		18.56		24.5		33.9	
309	346	405	467	517	565	677	758
1500	1800	1500	1800	1500	1800	1500	1800
38.5	47.5	49.9	61.0	60.2	72.9	82.2	105
55.1	67.4	71.8	86.1	84.0	99.2	113	141
50		80		92		130 (+Sub Tank 85)	
195G51 × 2		195G51 × 2		195G51 × 2		195G51 × 4	
490		490		580		730	
Diesel fuel							
4550		5270 (4790)		5173 (4690)		6235 (5600)	
1415 (2375)		1650		1650		1950	
2090		2280		2400		2580	
5510		6810		8190		11000	
6030		7400		8860		12000	
101 (Low)		98 (Low)		101 (Low)		101 (Low)	
71		68		72		73	

\*4: Average sound pressure in 4 directions at no load (60Hz).

\*5: Total output value for dedicated terminals and power outputs.