



# NES SERIES

## Diesel Engine Generator

**Reliable technology, further evolution  
Earth-friendly green generators**



# 1960

**First generator developed**  
Development of DG model generator  
(Japan's first portable diesel generator  
for construction, September 1960)

### Paving the way to the future

The history and progress of diesel generator sets cannot be told without Nippon Sharyo, Ltd. We have defined the times by launching various power production facilities with new innovative concepts.

We continue to contribute to the environment and ergonomics through improving our products.



# SPECIFICATIONS



▲ NES25TK



▲ NES25TKL



▲ NES45TY3

Item			NES25TK		NES25TKL		NES45TY3			
Alternator	Frequency		Hz	50	60	50	60	50	60	
	Three-phase 4-wire type	Output		kVA	20	25	20	25	37	45
				kW	16	20	16	20	29.6	36
		200V	Voltage	V	200	220	200	220	200	220
			Current	A	57.7	65.6	57.7	65.6	107	118
		400V	Voltage* <sup>1</sup>	V	400	440	400	440	400	440
			Current* <sup>1</sup>	A	28.9	32.8	28.9	32.8	53.4	59.0
	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		
	Type			Swirl chamber type				Direct injection type with turbocharger		
	Cylinders - Bore × Stroke		mm	4-87×102.4		4-87×102.4		4-98×110		
	Displacement		ℓ	2.434		2.434		3.319		
	Rated output		kW	19.1	23.7	19.1	23.7	37.9	45.6	
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	1500	1800	
	Fuel consumption	50% load	ℓ /H	3.1	3.8	3.1	3.8	4.2	5.3	
		75% load		4.0	5.1	4.0	5.1	5.9	7.4	
	Engine oil volume		ℓ	9.7		9.7		11.2		
	Battery			85D26L×1		85D26L×1		105D31L×1		
	Fuel tank capacity		ℓ	70		195		145		
	Fuel			Diesel fuel						
Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	70/70		300/95		245/80			
Dimensions and weight	Length* <sup>2</sup>		mm	1540		1540		1740		
	Width		mm	700		700		880		
	Height		mm	1125		1460		1350		
	Dry weight		kg	645		735		1025		
	Operating weight		kg	720		915		1175		
Sound power level* <sup>3</sup>			dB	90		88		88		
Sound level at 7 meters* <sup>4</sup>			dB	61	64	61	61	60	61	

\*1 : **Bold borders** indicate options.

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

\*3 : Value at 60Hz with zero load.

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

\*5 : Total capacity means the capacity of the oil guard itself. Effective capacity means the capacity considering the fuel tank and other components.



▲ NES45TYL3



▲ NES60TK2



▲ NES60TKL2

Item			NES45TYL3		NES60TK2		NES60TKL2		
Alternator	Frequency		Hz	50	60	50	60	50	60
	Three-phase 4-wire type	Output	kVA	37	45	50	60	50	60
			kW	29.6	36	40	48	40	48
		200V	Voltage	V	200	220	200	220	200
	Current		A	107	118	144	157	144	157
	400V	Voltage* <sup>1</sup>	V	400	440	400	440	400	440
		Current* <sup>1</sup>	A	53.4	59.0	72.2	78.7	72.2	78.7
	Type & Power Factor			Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging					
Engine	Engine model			YANMAR 3-4TNV98TG		KUBOTA V3800-DI-TI-K3A		KUBOTA V3800-DI-TI-K3A	
	Type			Direct injection type with turbocharger		Direct injection type with turbocharger and intercooler			
	Cylinders - Bore × Stroke		mm	4-98×110		4-100×120		4-100×120	
	Displacement		ℓ	3.319		3.769		3.769	
	Rated output		kW	37.9	45.6	49.2	57.5	49.2	57.5
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	1500	1800
	Fuel consumption	50% load	ℓ / H	4.2	5.3	5.8	7.2	5.8	7.2
		75% load		5.9	7.4	8.4	10.3	8.4	10.3
	Engine oil volume		ℓ	11.2		13.8		13.8	
	Battery			105D31L×1		105D31L×1		105D31L×1	
	Fuel tank capacity		ℓ	330		180		400	
	Fuel			Diesel fuel					
Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	365/145		275/75		400/140		
Dimensions and weight	Length* <sup>2</sup>		mm	1740		2050		2050	
	Width		mm	880		930		930	
	Height		mm	1650		1390		1600	
	Dry weight		kg	1090		1160		1235	
	Operating weight		kg	1390		1335		1595	
Sound power level* <sup>3</sup>			dB	89		90		90	
Sound level at 7 meters* <sup>4</sup>			dB	58	60	61	64	60	63

\*1 : **Bold borders** indicate options.

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

\*3 : Value at 60Hz with zero load.

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

\*5 : Total capacity means the capacity of the oil guard itself. Effective capacity means the capacity considering the fuel tank and other components.



▲ NES100TI2



▲ NES125TI2



▲ NES150TI

Item			NES100TI2		NES125TI2		NES150TI			
Alternator	Frequency		Hz	50	60	50	60	50	60	
	Three-phase 4-wire type	Output	kVA	80	100	100	125	125	150	
			kW	64	80	80	100	100	120	
		200V	Voltage	V	200	220	200	220	200	220
			Current	A	231	262	289	328	361	394
	400V	Voltage* <sup>1</sup>	V	400	440	400	440	400	440	
		Current* <sup>1</sup>	A	115	131	144	164	180	197	
	Type & Power Factor			Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging						
Engine	Engine model			ISUZU BI-4HK1X		ISUZU BI-4HK1X		ISUZU BH-6HK1X		
	Type			Direct injection type with turbocharger and intercooler						
	Cylinders - Bore × Stroke		mm	4-115×125		4-115×125		6-115×125		
	Displacement		ℓ	5.193		5.193		7.790		
	Rated output		kW	95.8	113.6	95.8	113.6	135.2	166.5	
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	1500	1800	
	Fuel consumption	50% load	ℓ /H	9.5	12.3	11.3	14.6	14.1	18.0	
		75% load		13.6	17.4	16.5	20.8	19.9	24.5	
	Engine oil volume		ℓ	23.5		23.5		41		
	Battery			170F51×1		170F51×1		120E41R×2		
	Fuel tank capacity		ℓ	250		250		250		
	Fuel			Diesel fuel						
Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	265/215		265/215		390/280			
Dimensions and weight	Length* <sup>2</sup>		mm	2720		2720		3480		
	Width		mm	1130		1130		1180		
	Height		mm	1550		1550		1650		
	Dry weight		kg	1900		1940		2720		
	Operating weight		kg	2150		2190		2990		
Sound power level* <sup>3</sup>			dB	91		93		92		
Sound level at 7 meters* <sup>4</sup>			dB	60	64	61	64	60	65	

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\*3 : Value at 60Hz with zero load.

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

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▲ **NES220TI**



▲ **NES400TI**

Item			NES220TI		NES400TI			
Alternator	Frequency		Hz	50	60	50	60	
	Three-phase 4-wire type	Output		kVA	200	220	350	400
				kW	160	176	280	320
		200V	Voltage	V	200	220	200	220
			Current	A	577	577	1010	1050
		400V	Voltage* <sup>1</sup>	V	400	440	400	440
			Current* <sup>1</sup>	A	289	289	505	525
	Type & Power Factor			Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging				
	Engine	Engine model			ISUZU BH-6UZ1X		ISUZU BH-6WG1X	
Type			Direct injection type with turbocharger and intercooler					
Cylinders - Bore × Stroke		mm	6-120×145		6-147×154			
Displacement		ℓ	9.839		15.681			
Rated output		kW	185.2	203.7	309	346		
Revolution		min <sup>-1</sup>	1500	1800	1500	1800		
Fuel consumption		50% load	ℓ /H	22.1	25.8	39.6	50.6	
		75% load		32.4	36.5	55.9	67.6	
Engine oil volume		ℓ	42		52			
Battery			195G51×2		195G51×2			
Fuel tank capacity		ℓ	390		490			
Fuel			Diesel fuel					
Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	435/265		605/410			
Dimensions and weight	Length* <sup>2</sup>		mm	3835		4780(4490)		
	Width		mm	1290		1500		
	Height		mm	1790		2200		
	Dry weight		kg	3650		5520		
	Operating weight		kg	4050		6050		
	Sound power level* <sup>3</sup>		dB	94		97		
Sound level at 7 meters* <sup>4</sup>		dB	64	67	66	69		

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

\*3 : Value at 60Hz with zero load.

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

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▲ NES100EI



▲ NES125EH



▲ NES150EH

Item			NES100EI		NES125EH		NES150EH		
Alternator	Frequency		Hz	50	60	50	60	50	60
	Three-phase 4-wire type	Output	kVA	80	100	100	125	125	150
			kW	64	80	80	100	100	120
		200V	Voltage	V	200	220	200	220	200
	Current		A	231	262	289	328	361	394
	400V	Voltage* <sup>1</sup>	V	400	440	400	440	400	440
		Current* <sup>1</sup>	A	115	131	144	164	180	197
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	
	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	
	Displacement		ℓ	6.494		7.961		7.961	
	Rated output		kW	73.6	91.2	118	140	118	140
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	1500	1800
	Fuel consumption	50% load	ℓ / H	9.8	12.6	11.8	14.7	14.1	17.6
		75% load		13.6	17.6	16.7	20.0	20.0	24.0
	Engine oil volume		ℓ	20		24.5		24.5	
	Battery			95D31R×2		95D31R×2		95D31R×2	
	Fuel tank capacity		ℓ	200		250		250	
	Fuel			Diesel fuel					
Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	—		—		—		
Dimensions and weight	Length* <sup>2</sup>		mm	2730		3180		3180	
	Width		mm	1050		1130		1130	
	Height		mm	1290		1450		1450	
	Dry weight		kg	1650		2170		2270	
	Operating weight		kg	1850		2420		2520	
Sound power level* <sup>3</sup>			dB	93		94		95	
Sound level at 7 meters(60Hz)* <sup>4</sup>			dB	65		66		67	

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\*3 : Value at 60Hz with zero load.

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

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▲ NES220EM



▲ NES400EM



▲ NES500EM

Item			NES220EM		NES400EM		NES500EM			
Alternator	Frequency		Hz	50	60	50	60	50	60	
	Three-phase 4-wire type	Output		kVA	195	220	350	400	450	500
				kW	156	176	280	320	360	400
		200V	Voltage	V	200	220	200	220	200	220
			Current	A	563	577	1010	1050	1299	1312
		400V	Voltage* <sup>1</sup>	V	400	440	400	440	400	440
			Current* <sup>1</sup>	A	281	289	505	525	650	656
	Type & Power Factor			Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging						
Engine	Engine model			MITSUBISHI 6D24-TLE2B		MITSUBISHI S6B3-E2PTAA-3		MITSUBISHI S6A3-E2PTAA-1		
	Type			Direct injection type with turbocharger and intercooler						
	Cylinders - Bore × Stroke		mm	6-130×150		6-135×170		6-150×175		
	Displacement		ℓ	11.94		14.6		18.56		
	Rated output		kW	181	199	309	346	405	467	
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	1500	1800	
	Fuel consumption	50% load	ℓ / H	22.1	26.5	38.5	47.5	49.9	61.0	
		75% load		30.9	36.6	55.1	67.4	71.8	86.1	
	Engine oil volume		ℓ	37		50		80		
	Battery			150F51×2		195G51×2		195G51×2		
	Fuel tank capacity		ℓ	370		490		490		
	Fuel			Diesel fuel						
	Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	—		—		—		
Dimensions and weight	Length* <sup>2</sup>		mm	3840		4550		5270(4790)		
	Width		mm	1290		1415		1650		
	Height		mm	1750		2090		2280		
	Dry weight		kg	3530		5510		6810		
	Operating weight		kg	3910		6030		7400		
	Sound power level* <sup>3</sup>		dB	95		101		98		
	Sound level at 7 meters(60Hz)* <sup>4</sup>		dB	67		71		68		

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▲ NES610SM



▲ NES800SM

Item			NES610SM		NES800SM			
Alternator	Frequency		Hz	50	60	50	60	
	Three-phase 4-wire type	Output		kVA	554	610	700	800
				kW	443	488	560	640
		200V	Voltage	V	200	220	200	220
			Current	A	1599	1600	2021	2100
		400V	Voltage* <sup>1</sup>	V	400	440	400	440
			Current* <sup>1</sup>	A	800	800	1010	1050
	Type & Power Factor			Brushless Alternator, 3-Phase, 4-Wire, 4-Poles, Power Factor 80% Lagging				
Engine	Engine model			MITSUBISHI S6R-PTA		MITSUBISHI S12A2-PTA		
	Type			Direct injection type with turbocharger and intercooler				
	Cylinders - Bore × Stroke		mm	6-170×180		12-150×160		
	Displacement		ℓ	24.5		33.9		
	Rated output		kW	517	565	677	758	
	Revolution		min <sup>-1</sup>	1500	1800	1500	1800	
	Fuel consumption	50% load	ℓ /H	60.2	72.9	82.2	105	
		75% load		84.0	99.2	113	141	
	Engine oil volume		ℓ	92		130(+Sub Tank 85)		
	Battery			195G51×2		195G51×4		
	Fuel tank capacity		ℓ	580		730		
	Fuel			Diesel fuel				
	Oil guard capacity Total/Effective* <sup>5</sup>		ℓ	—		—		
Dimensions and weight	Length* <sup>2</sup>		mm	5173(4690)		6235(5600)		
	Width		mm	1650		1950		
	Height		mm	2400		2580		
	Dry weight		kg	8190		11000		
	Operating weight		kg	8860		12000		
	Sound power level* <sup>3</sup>		dB	101		101		
Sound level at 7 meters(60Hz)* <sup>4</sup>		dB	72		73			

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The history and progress of diesel generator sets cannot be told without Nippon Sharyo, Ltd. We have defined the times by launching various power production facilities with new innovative concepts. We continue to contribute to the environment and ergonomics through improving our products.

# 1960

## First generator developed

Development of DG model generator (Japan's first portable diesel generator for construction, September 1960)



Thanks to customers support, we have been successful for more than half a century in many locations of the world.

Both voltages, 200 V and 400 V, are available.



## High insulation + alternator

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.



## 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.

## Tough and durable

Toughness and durability. We continue to create products that satisfy our customers.



## Generators developed by NISSHA

All NISSHA generators, except for engine components, are developed and manufactured according to our designs.

In particular, we have absolute confidence in our alternators due to our many years of experience.

We will continue to respond to our customer's requests so that they can supply power to a wide variety of loads.

# LIST OF OPTIONS

●:Standard ○:Options are applicable at time of factory shipment

	Item	Page	NES										
			25TK	25TKL	45TY3	45TYL3	60TK2	60TKL2	100TI2	125TI2	150TI	220TI	400TI
Parallel running	Full-auto parallel running device	13	—	—	—	—	—	—	—	—	—	○	○
	Manual synchronizing device	13	—	—	—	—	—	—	—	—	○	○	●
	Percent power meter	—	—	—	—	—	—	—	—	—	—	○	○
Output	Dual voltages	—	●	●	●	●	●	●	●	●	●	●	●
	Single-phase 3-wire dedicated specification	—	—	—	—	—	—	—	○	○	—	—	—
Operation control	Energy-saving remote controller	15	—	—	—	—	—	—	○	○	○	○	○
	Slowdown device	15	—	—	—	—	—	—	—	—	—	○	○
	Auto idling device	—	—	—	—	—	—	—	—	—	—	—	○
	Auto start/stop unit and charger	14	○*1	○*1	○*1	○*1	○*1	○*1	○	○	○	○	○
	Battery charger	14	○*1	○	○	○	○	○	○	○	○	○	○
	Power switching panel*1	15	○	○	○	○	○	○	○	○	○	○	○
Oil/fuel	Oil guard	12	●	●	●	●	●	●	●	●	●	●	●
	Fuel tank three-way cock	15	●	—	●	—	●	—	●	●	●	●	○
	Automatic oil supply unit	—	—	—	—	—	—	—	—	—	—	○	○
	Oil drain pump	—	—	—	—	—	—	—	—	—	—	○	○
	Fuel supply device	—	—	—	—	—	—	—	—	—	—	○	○
Others	Muffler flange	—	○*2	○*2	○*2	○*2	○*2	○*2	○	○	○	○	○
	Leak detection set at 200mA	—	○	○	○	○	○	○	○	○	○	○	○
	Salt resistance	—	○	○	○	○	○	○	○	○	○	○	○
	Simple Salt damage	—	○	○	○	○	○	○	○	○	○	○	○
	Anti-theft cover*2	—	○	○	○	○	○	○	○	○	○	○	—
	Skid*2	—	○	○	○	○	○	○	○	○	○	○	○
	Panel door with key*2	—	○	○	○	○	○	○	○	○	○	○	○
	Fuel filler with key*2	—	●	○	○	○	○	○	○	○	○	○	○
	Output terminal rubber backing sheet*2	—	●	●	○	○	○	○	○	○	○	○	○

\*1 : External separate panel

\*2 : Available after shipment.

Note : Please consult with Nippon Sharyo if you have a specific requirement for options or specifications other than the above.  
Some combinations of options are not available. Please consult with Nippon Sharyo for more information.

●:Standard ○:Options are applicable at time of factory shipment

	Item	Page	NES							
			100EI	125EH	150EH	220EM	400EM	500EM	610SM	800SM
Parallel running	Full-auto parallel running device	13	—	—	—	○	○	○	○	○
	Manual synchronizing device	13	—	○	○	○	●	●	●	●
	Percent power meter	—	—	—	—	○	○	○	○	○
Output	Dual voltages	—	○	●	●	●	●	●	●	●
	Single-phase 3-wire dedicated specification	—	○	○	—	—	—	—	—	—
Operation control	Energy-saving remote controller	15	—	○	○	○	○	○	○	○
	Slowdown device	15	—	—	—	○	○	○	○	○
	Auto idling device	—	—	—	—	○	○	○	○	●
	Auto start/stop unit and charger	14	○*1	○	○	○	○	○	○	○
	Battery charger	14	○	○	○	○	○	○	○	○
	Power switching panel*1	15	○	○	○	○	○	○	○	○
Oil/fuel	Oil guard	12	—	—	—	—	—	—	—	—
	Fuel tank three-way cock	15	●	●	●	●	○	○	○	○
	Automatic oil supply unit	—	—	—	—	○	○	○	○	●
	Oil drain pump	—	—	—	—	○	○	○	○	○
	Fuel supply device	—	—	—	—	○	○	○	○	○
Others	Muffler flange	—	○*2	○	○	○	○	○	○	○
	Leak detection set at 200mA	—	○	○	○	○	○	○	○	○
	Salt resistance	—	○	○	○	○	○	○	○	○
	Simple Salt damage	—	○	○	○	○	○	○	○	○
	Anti-theft cover*2	—	●	○	○	○	—	—	—	—
	Skid*2	—	○	○	○	○	○	○	○	○
	Panel door with key*2	—	○	○	○	○	○	○	○	○
	Fuel filler with key*2	—	○	○	○	○	○	○	○	○
	Output terminal rubber backing sheet*2	—	○	○	○	○	○	●	●	●

\* 1 : External separate panel

\* 2 : Available after shipment.

Note : Please consult with Nippon Sharyo if you have a specific requirement for options or specifications other than the above.  
Some combinations of options are not available. Please consult with Nippon Sharyo for more information.

## Oil guard

Oil guards that have passed leakage are provided as standard equipment in all models compliant on **NES25** to **NES400TI** (P2~P5). These prevent fuel and oil leakage and protect the environment. Although all possible measures have been taken against rainwater, if rainwater nevertheless penetrates, it is removed by a dedicated drain cock.



▲ Leakage test

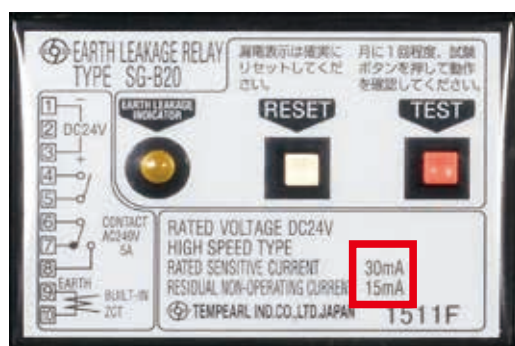


▲ Oil guard



## Earth leakage protector

To prevent electric shock, high-sensitivity, high-speed earth leakage relay is provided (detection in 0.1 seconds at 30mA).



▲ 30mA (standard)

# OPTION

## Full-auto parallel running device

This controller includes auto start/stop, synchronizing, load sharing, controlling the number of operating units, and measurement and protection, allowing fully automatic parallel running of generators. The number of operating generators are automatically controlled so that the optimum number are in operation according to changes in the power load, therefore only the minimum necessary number of generators are in operation and the remaining generators are stopped and placed in a standby state, thus improving the operating efficiency of the generators and saving fuel.

### Features

- Compact unit that enables all-in-one control
- Full automatic control with a single switch
- Efficient operation for lower fuel consumption
- Up to 8 generators can be connected
- Remote auto start-stop of one or more generators via contact input (can be applied as standard emergency generator for power failures)

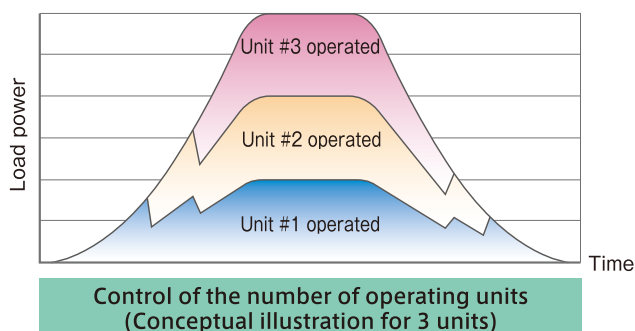


▲ Front panel

### Functions

- 1 Auto start/stop
- 2 Auto synchronizing, load sharing
- 3 Control for constant frequency and voltage
- 4 Auto control of the number of operating units

Parallel running and disconnection are automatically controlled to run the optimum number of units according to changes in load power. (Generators are controlled by communications cables. Standard length of cables is 10m, with optional 99m cables available.)

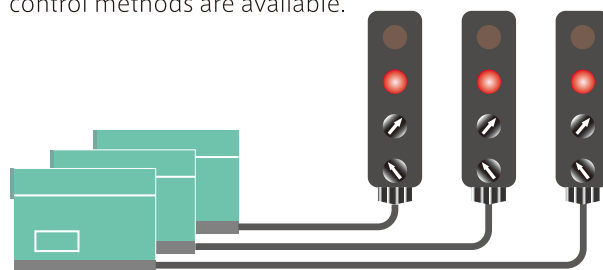


- 5 Control for heavy loads

The number of operating units can be increased in advance with a forced operation command, allowing heavy load equipment such as vibratory pile drivers, earth augers and tunnel excavators to be connected.

- 6 Remote control of auto start/stop

Each generator can be controlled remotely. Various control methods are available.



- 7 Provided with reverse power protection and measurement display

### Notes on parallel running

Although parallel running involves procedures such as load sharing, as well as monitoring the operation state, it offers a number of benefits:

- Allows large power supply.
- The number of operating units can be easily set according to the load demand.
- Even if one generator fails, operation can be continued with other units.

Furthermore, an advanced power generation system can be built by controlling the number of operating units and using the remote start/stop.

	Start/stop	Synchronizing	Load sharing	No. of operating units	Remote control
Full-auto parallel running	Auto	Auto	Auto	Auto	Option
Manual synchronizing	Manual	Manual	Manual	Manual	Option

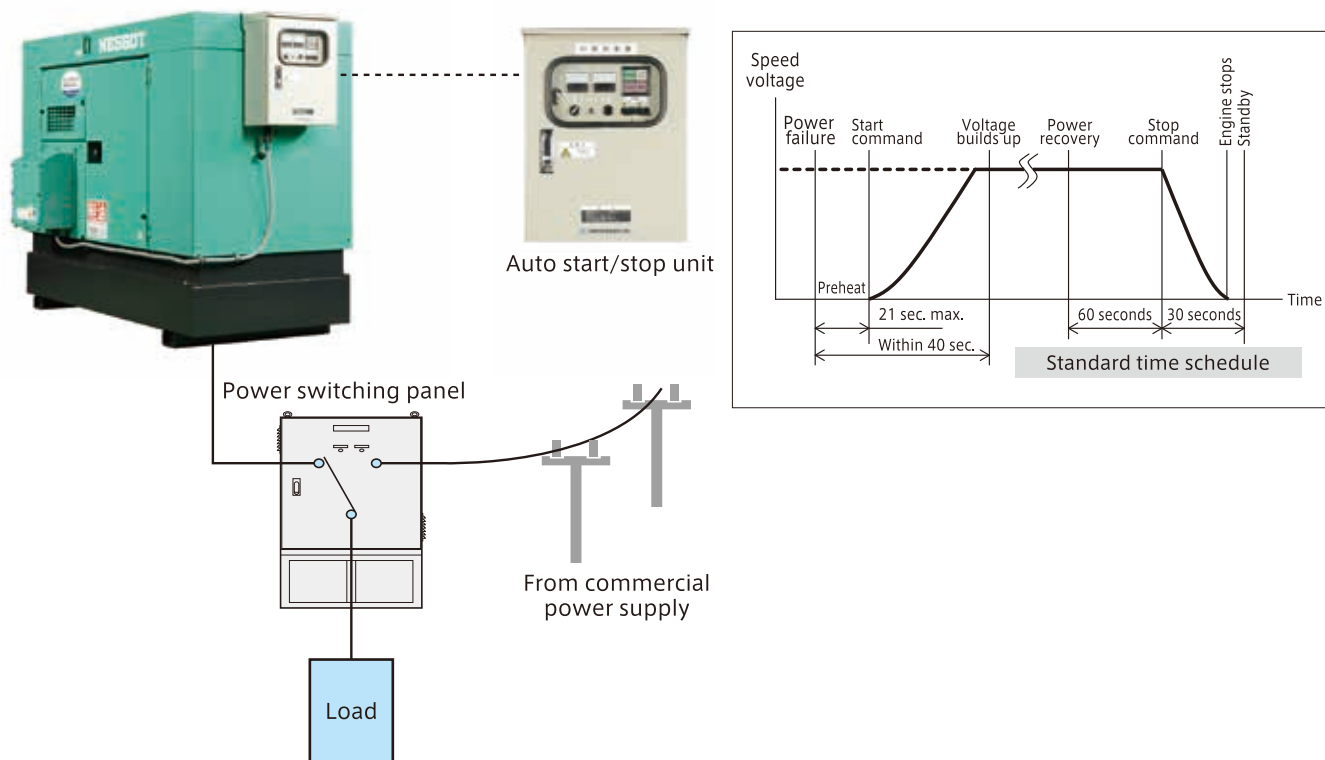
Note: This table shows the basic functions of parallel running.

### Caution

There are limitation of capacity depending on use. For details, please consult Nippon Sharyo.

## AMF system

Although the NES series portable generators are basically designed to provide power supply at work sites, options are available for use as AMF generators that automatically supply power in the event of a power failure. These options include the auto start/stop unit, battery charger and power switching panel, and an AMF generator can be configured using simple optional equipment.



### Auto start/stop unit



This unit automatically starts/stops a generator according to the commercial power state. The generator starts automatically when commercial power fails, and stops automatically after cooling down when commercial power is restored.

The unit is provided with an auto/manual switch to select auto or manual operation in the event of a power failure, as well as a test switch to check if the generator starts automatically.

### Battery charger



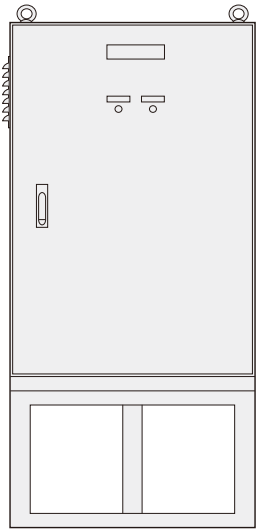
This unit charges the battery used for starting the generator engine. The battery slowly discharges to supply stand-by power even when the generator is not operating. The battery charger is indispensable, preventing the battery from running down for an emergency generator that is equipped with an auto starting start/stop unit and maintaining a stand-by state at all times in case of emergencies. The charger uses commercial power to charge the battery while the generator is in a stand-by state.

Model	Auto start/stop unit and charger		Battery charger	
	Built in <b>NES</b> unit	Separate board	Built in <b>NES</b> unit	Separate board
<b>NES25TK</b>	—	○	—	○
<b>NES25TKL, NES45, NES60, NES100EI</b>	—	○	○	○
<b>NES100TI2, NES125 - NES800</b>	○	○	○	○

## Power switching panel

This panel incorporates a switch to toggle between commercial power and generator output. The design is similar to a distribution board.

Various models are available to meet your requirements for voltage, current and indoor/ outdoor use.



Power switching panel  
(Conceptual illustration)

Standard size of power switching panel (Indoor type)

Voltage	Current	Dimensions(W×H×D)	Method
200V system	200A	700×1000×300	Wall-mounted
	400A		
	600A	800×1650×500	Free-standing
	800A	800×1850×500	
	1000A	800×1950×500	
	1200A		
400V system	200A	700×1000×300	Wall-mounted
	400A		
	600A	800×1650×500	Free-standing
	800A	800×1850×500	
	1000A	800×1950×500	
	1200A		

Note: \* Please consult with Nippon Sharyo for special requirements such as incorporating an auto start/stop unit in the power switching panel.  
\* Please consult Nippon Sharyo about outdoor specifications.

## Energy-saving remote controller and slowdown device

The energy-saving remote controller and slowdown device remotely control engine operation for better fuel economy. Both are wired remote controllers.

○:Available

Remote control	Energy-saving remote controller	Slowdown device
Idling/ rated speed	○	○
Start/stop	—	○
Cable length	10m	30m



Energy-saving remote controller

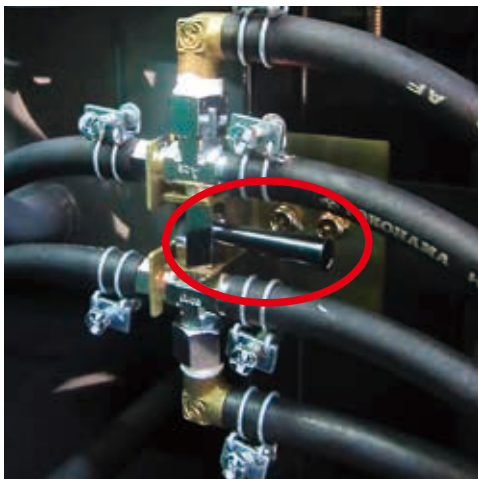


Slowdown device

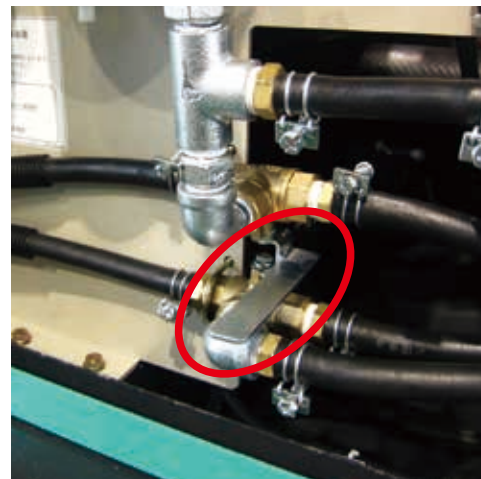
## Fuel tank three-way cock

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 as standard equipment on **NES25** to **NES220** and as an option for **NES400** to **NES800**; not available for **NES25TKL**, **NES45TYL3**, and **NES60TKL2**.)



▲ Three-way cock of fuel tank (standard)



▲ **NES400** and later (optional)



Pile Driving Rig



Soil Stabilizing Rig



Earth Drilling Rig



Casing Rotator (RT)

Manufacturer

 **NIPPON SHARYO**

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