

TOYO

SINCE  
1951

# Generators

BRUSHLESS WITH AVR

AIR COOLED V-TWIN GASOLINE ENGINE



MODEL TSN-24TV



MODEL TSN-16V



Engine made in japan

 TOYO DENKI INDUSTRIAL CO., LTD.

## Features

### ●BRUSHLESS GENERATORS

TOYO BRUSHLESS design eliminates carbon brushes and slip rings, so the GENERATOR is virtually maintenance-free.

### ●ENGINE

High-technology and compact VANGUARD 2-cylinder OHV engine.

Ensure low exhaust gas, low noise, low vibration and low fuel consumption as well as heavy-duty operation and long-life.

### ●OPTIONAL ACCESSORIES

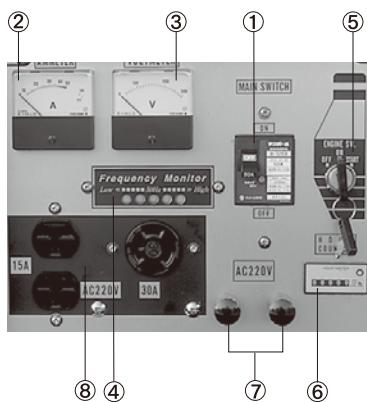
4-Wheel

#### Specifications

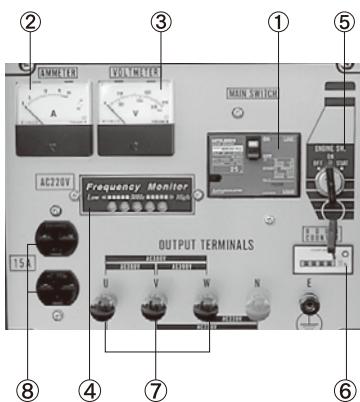
	Model	TSN-13SV	TSN-16TV	TSN-16SV	TSN-20TV	TSN-19SV	TSN-24TV
GENERATOR	50Hz Output	Stand-by 11.5kW Prime 10.5kW	14.5kVA	14.4kW	18.0kVA	17.5kW	22.0kVA
	60Hz Output	Stand-by 12.8kW Prime 11.5kW	16.0kVA	16.0kW	20.0kVA	19.2kW	24.0kVA
	Type	Revolving-field type AC Generator (Brushless)					
	Excitation	Brushless, self - excitation					
Rated speed		50Hz/3000min <sup>-1</sup>		60Hz/3600min <sup>-1</sup>			
Voltage regulation		AVR ± 1.5% at rated speed					
Phase/wire		Single phase 2(4)wire	Three phase 4 wire	Single phase 2(4)wire	Three phase 4 wire	Single phase 2(4)wire	Three phase 4 wire
Voltage		※110-240V	※200-415V	※110-240V	※200-415V	※110-240V	※200-415V
Power factor		1.0	0.8	1.0	0.8	1.0	0.8
Class of insulation		F-class (both stator & rotor)					
Bearing		Single Bearing (direct coupling with engine)					
<b>VANGUARD</b>		<b>385447</b>		<b>543477</b>		<b>613477</b>	
Type		Air cooled 4-stroke OHV V-twin					
Max.rating Output		20.0HP(14.9kW)=3000min <sup>-1</sup> 22.0HP(16.4kW)=3600min <sup>-1</sup>		27.0HP(20.1kW)=3000min <sup>-1</sup> 31.0HP(23.1kW)=3600min <sup>-1</sup>		32.0HP(23.9kW)=3000min <sup>-1</sup> 35.0HP(26.1kW)=3600min <sup>-1</sup>	
Cont.rating Output		18.0HP(13.4kW)=3000min <sup>-1</sup> 20.0HP(14.9kW)=3600min <sup>-1</sup>		22.0HP(16.4kW)=3000min <sup>-1</sup> 25.0HP(18.7kW)=3600min <sup>-1</sup>		25.5HP(19.0kW)=3000min <sup>-1</sup> 29.0HP(21.6kW)=3600min <sup>-1</sup>	
Displacement		0.627 l		0.895 l		0.993 l	
Starting system		Electric starting motor (Recoil)		Electric starting motor		Electric starting motor	
Recommended fuel		Unleaded or regular gasoline; 86 pump octane(unleaded preferred)					
Fuel consumption(l/h)		4.5 l (h=3000min <sup>-1</sup> ) / 6 l (h=3600min <sup>-1</sup> )		6.5 l (h=3000min <sup>-1</sup> ) / 7.5 l (h=3600min <sup>-1</sup> )		7.5 l	8.5 l
Fuel tank capacity		33 l			44 l		
Automatic safety shut down devices		Low lubricating oil pressure					
Dimensions(L×W×H)※()=with wheel		940×630(810)×620(710) mm		980×660×(845)×730(850) mm		1000×660(845)×730(850) mm	
Dry weight		164 kg		210 kg		220 kg	
Sound level(at7m)		50Hz=71dB/60Hz=77dB		50Hz=75dB/60Hz=80dB		50Hz=77dB/60Hz=81dB	

#### Control panel

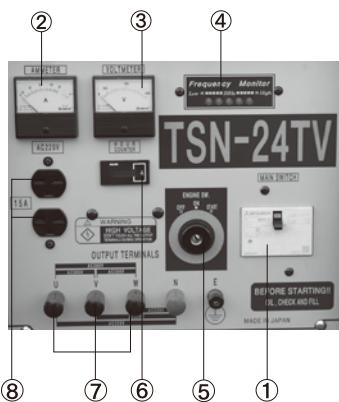
Model  
**TSN-13SV**



Model  
**TSN-16TV**



Model  
**TSN-16SV/20TV**  
**TSN-19SV/24TV**



- ①Main Switch
- ②Ammeter
- ③Voltmeter
- ④Frequency monitor
- ⑤Engine Start / Stop Key
- ⑥Hour Counter
- ⑦Output Terminals
- ⑧Output Receptacles

●We strive constantly to improve the quality of the product, so we can change photos and images at any time without notice.



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