

GENERATOR

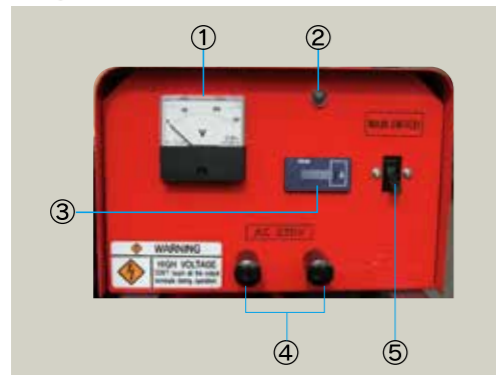
Standard Accessories

	Model	TY-5S(E)~14SE	TY-5T(E)~18TE
Engine	Starting handle	1	1
	Tools for maintenance	1	1
Control panel	Voltmeter	1	1
	Output terminals	1set	1set
	Main switch	1	1
	Pilot lamp	1	optional
	Ammeter	optional	1
	Frequency monitor	optional	1
Unit	Hourmeter	1	1
	Single phase receptacle	optional	optional
	Operation manual	1	1
	Caster	optional	optional

Note : All data subject to alteration without notice.

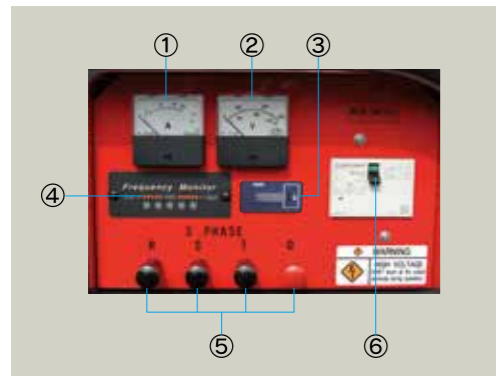
Control Panel

Single phase



- ① Voltmeter ② Pilot lamp ③ Hourmeter
④ Output terminals ⑤ Main switch (No fuse breaker)

Three phase



- ① Ammeter ② Voltmeter ③ Hourmeter ④ Frequency monitor
⑤ Output terminals ⑥ Main switch (No fuse breaker)

WELDER

Standard Accessories

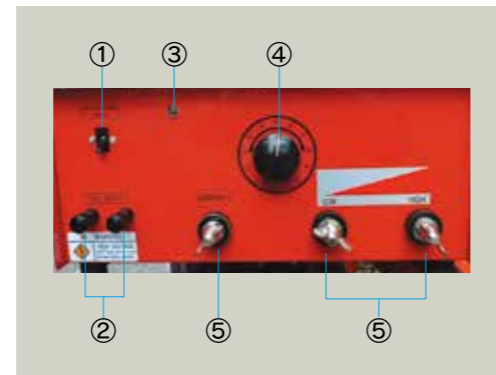
	Model	TSW-200E~330E
Engine	Starting handle	1
	Tools for maintenance	1
Control panel	Engine Start switch	1
	Aux.Power switch	1
	※Output terminals	1set
	Pilot lamp	1
Unit	Ampere Control	1
	Welding Terminals	1set
	Operation manual	1
	4-Caster	1set

※High frequency light only

Note : All data subject to alteration without notice.

Control Panel

AC Welder



- ① Aux. Power switch ② Output terminals(High Frequency light only)
③ Pilot lamp ④ Ampere Control ⑤ Welding Terminals

ISO 9001 Certificated



Manufactured by



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TOYO

Long Life and
High Quality
Easy Maintenance

Made in JAPAN



MODEL:TSW-270E



MODEL:TY-12.5TE



MODEL:TY-5SE

TOYO DENKI INDUSTRIAL CO.,LTD.

BRUSHLESS DIESEL

GENERATOR

Alternator Concept

Brushless revolving field type. Carbon brushes and slip-rings are not used. Silicon rectifier built-in revolving field is in use.

Maintenance-free

Because of brushless, no regular maintenance is required. More than 95% of maintenance from alternator is said to come from carbon brushes and slip-rings in case of traditional slip-ring alternators.

No wave interference

Because of brushless, no measurable wave interference is developed.

Safety Devices

When the engine oil exceeds 120°C, power generation is stopped.
※Only AVR model

Engine Concept

Horizontal single cylinder, 4 cycle, full diesel engine, water cooled with radiator, totally enclosed with automatic lubrication, and dust proof.

Fuel oil economy, easy handling, of the largest production in these range in the world from reputable Japanese diesel engine manufacturers.

- Single phase TY-5S(E)~14SE
- Three phase TY-5T(E)~18TE



BRUSHLESS DIESEL

WELDER

Brushless

No carbon brushes or slip rings. Instead, silicon rectifier built-in field is incorporated.

Maintenance-free

There are no carbon brushes, slip rings or commutator, so maintenance is almost eliminated.

No wave interference

There are no brushes, so no wave interference is generated.

Stable arc

Stable arc of high frequency welder (220-240 Hz) is almost the same as the arc of DC welder.

YANMAR TF & TS type diesel engines

- Lower fuel costs.
- Low maintenance costs.
- Dust proof.
- Unattended operation.

- TSW-200E~330E



Specifications

Model		TY-5S(E)	TY-10SE	TY-12SE	TY-14SE	TY-5T(E)	TY-7.5T(E)	TY-12.5TE	TY-15TE	TY-18TE	
GENERATOR	Capacity	kVA 5.0 kW 5.0	10.0	12.0	14.0	5.0	7.5	12.5	15.0	18.0	
	Frequency(Hz)/Revolutions(min ⁻¹)	50/3000 or 60/3600									
	No. of phase	Single phase					Three phase(4wire type)				
	Power factor	1.0					0.8				
	Excitation system	Brushless, self-excitation system									
	Drive system	V-belt drive									
	Voltages	V AC 200, 230, 240 (110/220, 120/240)V required	AC 200V~480V required								
	Voltage regulation	Condenser	AVR (Automatic Voltage Regulation)								
	Type	Semi-enclosed, drip-proof, self ventilated									
	Insulation class	Stator. E					Rotor. F				
	Safety Devices	Not Available		Power generation stops when the temperature oil exceeds 120°C							
	Model ※		YANMAR								
	Type	Horizontal, water-cooled 4-cycle, diesel engine									
	Bore × Stroke	mm	85×87	102×105	110×106	112×115	78×80	92×96	102×105	110×106	112×115
Displacement	ℓ	0.493	0.857	1.007	1.132	0.382	0.638	0.857	1.007	1.132	
Continuous rating Output	kW	6.3	10.4	11.9	14	4.4	7.7	10.4	11.9	14	
	hp	8.5	14.0	16.0	19.0	6.0	10.5	14.0	16.0	19.0	
Revolutions	min ⁻¹	2400		2200			2400		2200		
Compression ratio	—	18.0	17.8	16.3	16.3	18.1	17.7	17.8	16.3	16.3	
Starting system	—	Hand(Electric)	Hand & Electric				Hand(Electric)	Hand & Electric			
Cooling system	—	Radiator									
Lubricating system	—	Forced lubrication with trochoid pump									
Combustion system	—	Direct injection									
Fuel consumption(at 70% load)	ℓ/h	1.6	2.5	3.0	3.5	1.3	2.2	2.5	3.0	3.5	
Fuel tank capacity	ℓ/h	10.5	14.3	13.7	21.5	7.1	11.0	14.3	13.7	21.5	
Dimensions (L×W×H)	mm	1090×490×610	1350×640×720	1470×660×780	1570×660×840	1100×550×630	1200×550×650	1350×640×720	1470×660×780	1570×660×840	
	with 4 caster	mm	1090×490×730	1350×640×870	1470×660×930	1570×660×990	1100×550×780	1200×550×800	1350×640×870	1470×660×930	1570×660×990
Net Weight	kg	205	335	440	480	210	260	345	450	485	
	with 4 caster	kg	210	342	447	487	216	267	352	457	492

※(E)=Electric start

Specifications

Model		TSW-200E	TSW-270E	TSW-330E	
WELDER	Welding current (AC)	A 60~200	70~270	70~330	
	Rated current (AC)	A 150	250	300	
	Rated voltage	V 30	32	35	
	Welding capacity	kW 6.0	8.6	11.6	
	No load voltage	V 65~70	70~75		
	Rated use	% 70			
	Frequency	Hz 220~240			
	Rated speed	min ⁻¹ 4400~4800			
	Welding rod	mm 2.6~4	2.6~5	2.6~7	
	Auxiliary power (Light only)	kW 1		1.5	
	Cable size	mm ² 22~38	38~50		
	Recommended(40-60m)				
	Model ※		YANMAR		
	Type	—	Horizontal, water-cooled 4-cycle, diesel engine		
No of cylinders-Bore × stroke	mm	92×96	1-102×105	1-110×106	
Cont. rating	kW	7.7	10.4	11.9	
	hp	10.5	14	16	
Displacement	ℓ	2400	2400	2200	
Starting system	—	Hand & Electric			
Cooling system	—	Radiator			
Lubricating system	—	Forced lubrication with trochoid pump			
Lub oil capacity	ℓ	2.8	3.0	3.4	
Fuel consumption	ℓ/h	2.2	2.5	3.0	
Fuel tank capacity	ℓ	11.0	14.3	13.7	
Dimensions (L×W×H)	mm	1180×550×640	1350×600×715	1470×700×785	
	with 4 caster	mm	1180×550×816	1350×600×920	1470×700×990
Net Weight	with 4 caster	kg 230	345	490	

※(E)=Electric start