

GENERATOR

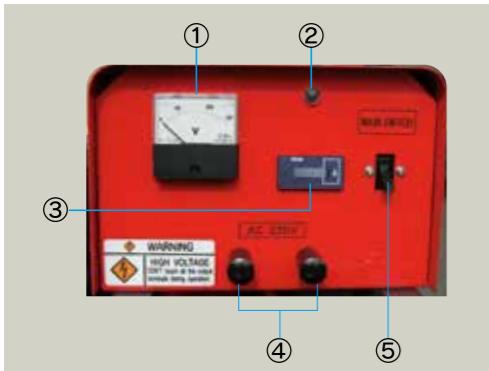
Standard Accessories

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

Note : All data subject to alteration without notice.

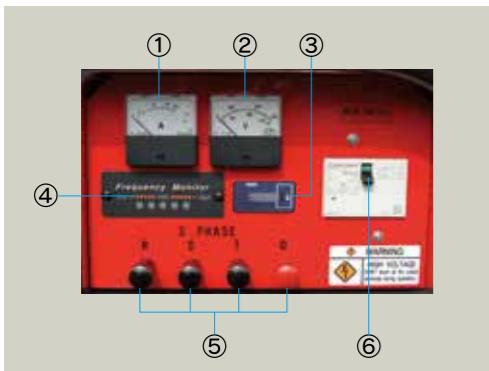
Control Panel

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

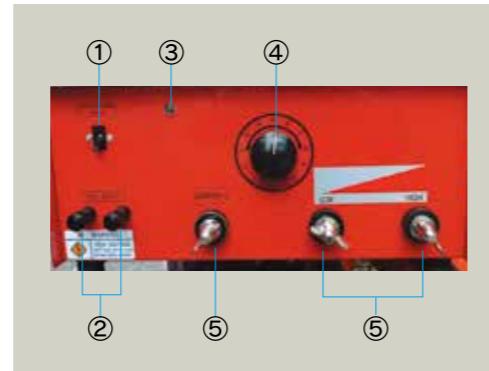
| | Model | TSW-200E~330E |
|---------------|-----------------------|---------------|
| Engine | Starting handle | 1 |
| Control panel | Tools for maintenance | 1 |
| | Engine Start switch | 1 |
| | Aux.Power switch | 1 |
| | ※Output terminals | 1set |
| | Pilot lamp | 1 |
| | Ampere Control | 1 |
|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

GENERATOR



MODEL:TSW-270E



MODEL:TY-12.5TE



MODEL:TY-5SE

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.

●Single phase TY-5S(E)~14SE

●Three phase TY-5T(E)~18TE



MODEL:TY-5SE



MODEL:TY-12.5TE



MODEL:TY-12.5TE



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



MODEL:TSW-270E



■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 |
|--|-----|----------|---------|---------|---------|----------|------------|-----------|---------|---------|
| Capacity | kVA | 5.0 | 10.0 | 12.0 | 14.0 | 5.0 | 7.5 | 12.5 | 15.0 | 18.0 |
| | kW | 5.0 | 10.0 | 12.0 | 14.0 | 4.0 | 6.0 | 10.0 | 12.0 | 14.4 |
| Frequency(Hz)/Revolutions(min ⁻¹) | | | | | | | | | | |
| — 50/3000 or 60/3600 | | | | | | | | | | |
| No. of phase | | | | | | | | | | |
| — Single phase | | | | | | | | | | |
| Power factor | | | | | | | | | | |
| — 1.0 | | | | | | | | | | |
| Excitation system | | | | | | | | | | |
| — Brushless, self-excitation system | | | | | | | | | | |
| Drive system | | | | | | | | | | |
| — V-belt drive | | | | | | | | | | |
| Voltages | | | | | | | | | | |
| — V AC 200, 230, 240 (110/220, 120/240)V required | | | | | | | | | | |
| Voltage regulation | | | | | | | | | | |
| — Condenser | | | | | | | | | | |
| Frequency regulation | | | | | | | | | | |
| — 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 | | | | | | | | | | |
| YANMAR | | | | | | | | | | |
| TF-90M(E) TF-160(E) TS-190R(E) TS-230R(E) TF-70(E) TF-120M(E) TF-160(E) TS-190RE TS-230RE | | | | | | | | | | |
| 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 1350×64 | | | | | | | | | | |