# Product Guide

## 【TIG Welding Machines】

| | Model | Process | | | | | Weld Navigation | Input | | | Output Current (A) | | | Duty Cycle (%) | Pulse Frequency (Hz) | Arc Spot Time (s) | Base Metal Thickness (mm) | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AC TIG | DC TIG | Pulse | AC Stick | DC Stick | | Phase | Voltage (VAC) | Frequency (Hz) | AC TIG | DC TIG | DC Stick | | | | | |
| Full Digital (Inverter) | 300BZ3 | | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | — | 300 | 250 | 40 | 0.8 to 500 | 0.1 to 5.0 | Stainless steel: 0.3 to 6.0 | 2 |
| | 200BL3YNA | | ○ | ○ | | ○ | | 1 | 200 to 240 | 50/60 | — | 200 | 150 | 20 | 0.5 to 500 | 0.1 to 5.0 | Stainless steel: 0.3 to 4.5 | 2 |
| | 300BP4YUA | ○ | ○ | ○ | | ○ | ○ | 3 | 380 to 415 | 50/60 | 300 | 300 | 250 | 40 | 0.1 to 500 | 0.1 to 5.0 | Stainless steel: 0.3 to 6.0<br>Aluminum: 0.8 to 6.0 | 3 |
| Inverter | 315TX3 | | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | — | 315 | 315 | 60 | 0.5 to 500 | — | Stainless steel: 0.5 to 6.0 | 3 |
| | 400TX3 | | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | — | 400 | 400 | 60 | 0.5 to 500 | — | Stainless steel: 0.5 to 8.0 | 3 |
| | 200BL1HDK | | ○ | | | ○ | | 1 | 220 | 50/60 | — | 200 | 160 | 20 | — | — | Stainless steel: 0.5 to 4.5 | 4 |
| | 300WX4 | ○ | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | 300 | 300 | 250 | 40 | 0.5 to 500 | — | Stainless steel: 0.5 to 6.0<br>Aluminum: 0.8 to 6.0 | 4 |
| | 500WX4Y0E | ○ | ○ | ○ | | ○ | | 3 | 380 | 50/60 | 500 | 500 | 400 | 60 | 0.5 to 500 | — | Stainless steel: 0.8 to 8.0<br>Aluminum: 1.5 to 8.0 | 4 |
| | 300WY4 | ○ | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | 300 | 300 | 250 | 40 | 0.5 to 500 | — | Stainless steel: 0.5 to 6.0<br>Aluminum: 0.8 to 6.0 | 5 |
| | 200BR1YAA | ○ | ○ | ○ | | | | 1 | 200 | 50/60 | 200 | 200 | — | 25 | 0 to 500 | — | Stainless steel: 0.5 to 4.5<br>Aluminum: 0.8 to 4.5 | 5 |
| Thyristor | 300TSP | | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | — | 300 | 300 | 40 | 0.5 to 15 | 0.5 to 5.0 | Stainless steel: 0.5 to 6.0 | 6 |
| | 500TSP | | ○ | ○ | | ○ | | 3 | 380 or 415 | 50/60 | — | 500 | 500 | 60 | 0.5 to 15 | 0.5 to 5.0 | Stainless steel: 0.8 to 8.0 | 6 |
| | 150TM(Mini) | | ○ | | | ○ | | 1 | 220 or 380 | 50/60 | — | 150 | 150 | 20 | — | — | Stainless steel: 0.5 to 4.5 | 6 |
| | 300WP5 | ○ | ○ | ○ | ○ | ○ | | 1 | 220 or 380 or 415 | 50/60 | 315 | 315 | 315 | 40 | 0.5 to 10 | 0.5 to 5.0 | Stainless steel: 0.8 to 6.0<br>Aluminum: 1.5 to 6.0 | 7 |

【Full Digital (Inverter)】: Digital display, control and communication for easier operation, increased energy savings, reduced size and weight and superior welding performance compared to non-digital or thyristor welding machines.
【Inverter】: Inverter control achieves improved welding performance compared to thyristor models while providing increased energy savings in a smaller and lighter design.
【Thyristor】: Standard welding models.

## 【AC/DC Stick Welding Machines, Plasma Cutting Machines】

| Model | Process | | | | | Input | | | Output Current (A) | Duty Cycle (%) | Page |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | AC Stick | DC Stick | Arc Gouging | DC Simple TIG | Cutting | Phase | Voltage (VAC) | Frequency (Hz) | | | |
| 400AT3 | | ○ | | ○ | | 3 | 380 or 415 | 50/60 | 400 | 60 | 16 |
| 630AT3 | | ○ | ○ | ○ | | 3 | 380 or 415 | 50/60 | 630 | 60 | 16 |
| 400SS3 | | ○ | | | | 3 | 380 or 415 | 50 | 400 | 60 | 16 |
| 630SS3 | | ○ | ○ | | | 3 | 380 or 415 | 50 | 630 | 60 | 16 |
| 405FL4 | ○ | | | | | 1 | 220 or 380 or 415 | 50 | 400 | 60 | 17 |
| 505FL4 | ○ | | | | | 1 | 220 or 380 or 415 | 50 | 500 | 60 | 17 |
| 305AA3 | ○ | | | | | 1 | 380 | 50 | 300 | 60 | 17 |
| 060PS2 | | | | | ○ | 3 | 380 or 415 | 50/60 | 63 | 60 | 18 |
| 100PS2 | | | | | ○ | 3 | 380 or 415 | 50/60 | 100 | 60 | 18 |

# TSP

Thyristor Control DC TIG Welding Machine

DC TIG

DC Stick

## Economical Model for DC TIG and DC Stick welding.


300TSP 500TSP

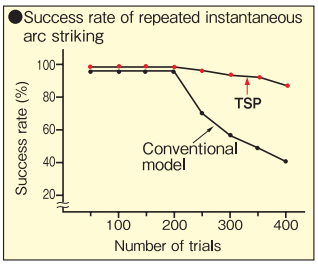
### Good Welding Performance

#### DC TIG welding and DC pulse TIG welding

●High arc starting success rate even at a low current

IC thyristor current control allows high success rate of instantaneous arc striking at every current level and in repeated arc striking.

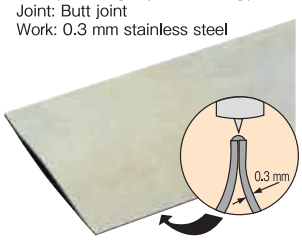
●Success rate of repeated instantaneous arc striking




●Gentle and stable arc

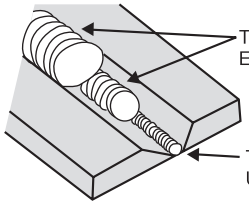
Stable output current with less ripple produces gentle and stable, providing excellent bead appearance even in high speed welding.

Example of high speed welding(300TSP)
Joint: Butt joint
Work: 0.3 mm stainless steel

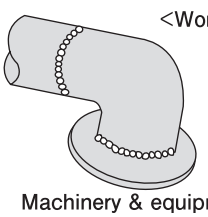



#### DC Stick welding

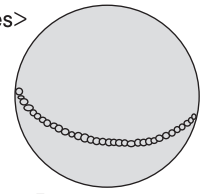
●Achives high quality welding of various metals such as mild steel, stainless steel, high tensile steel and Cr-Mo steel




<Work examples>



Machinery & equipment



Pressure vessel

# 150TM

Thyristor Control DC TIG Welding Machine

DC TIG

DC Stick

## Single-Phase Model for TIG and Stick Welding. Ideal for Thin Plates.


150TM

The Economical Model Featuring High Reliability.

### Compact but Multifunctional

#### IC thyristor control provides excellent TIG welding performance.

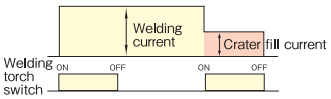
●Excellent arc starting and arc stability
- Improves the quality of thin plate welding.
- Ideal for tack welding and small workpiece welding.

●High frequency arc starting

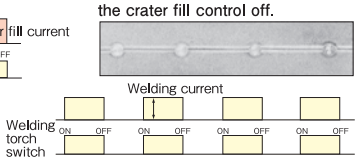
Allows non-contact arc starting that eliminates material or tungsten contamination.

●Crater fill control

Allows you to achieve good bead end appearance easily.




Tack welding possible with the crater fill control off.




●DC Stick welding

Can weld materials such as mild steel, stainless steel, high-tensile steel using up to 4 mm welding rod.

●Design for mobile welding
- Compact and easy to load into the van.
- Equipped with handles and casters.

●Built-in thermal protector

Stops welding and indicator lights up in case of an abnormal temperature rise due to overload.

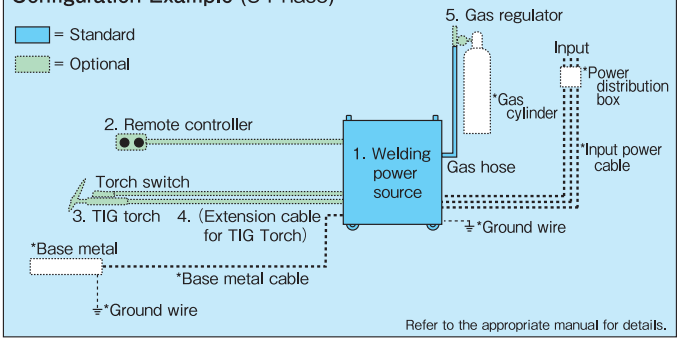
●Single-phase design

Single phase power supply for stick welding machines can be used.

# Welding System Configuration

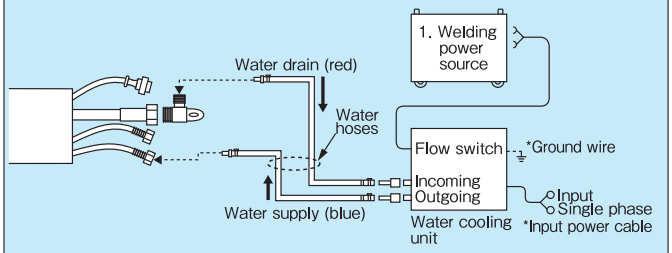
## TIG

**Configuration Example** (3-Phase)




*Customer supplied items

**Water Cooled Torch Additional Configuration**




*Customer supplied items

| 1. Welding Power Source | 2. Remote Controller (optional) | 3. Welding Torch (optional) *Common model names are described below. | 4. Extension Cable (optional) | 5. Gas Regulator (optional) | Other Items |
|---|---|---|---|---|---|
| YC-300BZ3<br>・3m gas hose included.<br>・Terminal adaptor for 0.3 m base metal cable included. | YC-30BPR1 (5 m) | ●YT-30TS2TAG (4 m, air-cooled)<br>●Selectable between No.9-10, 14, 15, 18, 19 of page 10 | Selectable between 5, 10, 15 m | YX-251A | Optional water cooling unit YX-09KGC1 required to use water-cooled torches. (3 m water hose included.) |
| YC-200BL3YNA<br>・2.5 m input power cable included. | – | ●YT-15TS2TAD (4 m, air-cooled) | – | YX-16AG1 | – |
| YC-300BP4YUA<br>・3 m gas hose included.<br>・Terminal adaptor for 0.3 m base metal cable included. | YC-30BPR1 (5 m)<br>YC-30BPR4 (5 m, parameter recall) | ●YT-30TS2TAG (4 m, air-cooled)<br>●Selectable between No.9-10, 14, 15, 18, 19 of page 10 | Selectable between 5, 10, 15 m | YX-251A | Optional water cooling unit YX-09KGC1 required to use water-cooled torches. (3 m water hose included.) |
| YC-315TX3<br>・3m gas hose included. | – | – | – | – | – |
| YC-400TX3<br>・3m gas hose included. | – | – | – | – | – |
| YC-200BL1HDK<br>・3m gas hose included.<br>・Attached cable/ Torch switch adaptor inclued. | – | ●YT-158T<br>●YT-208T | – | – | – |
| YC-300WX4<br>・3 m gas hose included. | YC-301URTRK1 (5 m) | ●YT-30TS2 (4 m, air-cooled)<br>●Selectable between No.1-4, 6, 7, 11-13, 16, 17, 20, 21 of page 10 | Selectable between 5, 10, 15 m | YX-251A | Optional water cooling unit YX-09KGC1 required to use water-cooled torches. (3 m water hose included.) |
| YC-500WX4Y0E<br>・3 m gas hose included. | YC-301URTRK1 (5 m) | ●YT-50TSW2 (4 m, water-cooled)<br>●Selectable between No.1-4, 6, 7, 11-13, 16, 17, 20, 21 of page 10 | Selectable between 5, 10, 15 m | YX-251A | Optional water cooling unit YX-09KGC1 required to use water-cooled torches. (3 m water hose included.) |
| YC-300WY4<br>・3 m gas hose included. | – | – | – | – | – |
| YC-200BR1YAA<br>・3 m gas hose included.<br>・3 m base metal cable included. | – | ●YT-20TS2TAD (8m, air-cooled) | – | YX-16AG1 | – |
| YC-300TSP | – | – | – | – | – |
| YC-500TSP<br>・3 m gas hose included. | YC-301URTRK1 (5 m) | ●YT-50TSW2 (4 m, water-cooled)<br>●YT-50TSW2 C1(8 m, water-cooled) | Selectable between 5, 10, 15 m | YX-251A | Optional water cooling unit YX-09KGC1 required to use water-cooled torches. (3 m water hose included.) |
| YC-150TM(Mini) | – | – | – | – | – |
| YC-300WP5 | YC-304URW (4 m) | – | – | – | – |

# Specifications

## TIG

## 1. Welding Power Sources

| Model | Rated Input Voltage Phase Rated Frequency | Rated Input (kVA) (kW) | Output Current Adjustable Range (A) | | | | | | Rated Duty Cycle (%) | Arc Spot Time (s) | AC Frequency (Hz) | MIX Frequency (Hz) | Pulse Frequency (Hz) | Dimensions (W×D×H) (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AC TIG | | | MIX TIG | DC TIG | DC Stick | | | | | | | |
| | | | Standard | Hard | Soft | | | | | | | | | | |
| YC-300BZ3 | 380 V or 415 V 3-phase 50/60 Hz | 10.5 9.5 | – | – | – | – | 4 to 300 | 4 to 250 | 40 | 0.1 to 5 | – | – | 0.8 to 500 | 380×510×410 | 35 |
| YC-200BL3YNA | 200 to 240 V 1-phase 50/60 Hz | 7.8 5.1 | – | – | – | – | 5 to 200 | 5 to 150 | 20 | 0.1 to 5 | – | – | 0.5 to 500 | 95×420×295 | 9 |
| YC-300BP4YUA | 380 to 415 V 3-phase 50/60 Hz | 11.6 9.7 | 10 to 300 | 20 to 300 | 10 to 200 | 10 to 300 | 4 to 300 | 4 to 250 | 40 | 0.1 to 5 | 30 to 400 | 0.1 to 20 | 0.1 to 500 | 375×523×634 | 64 |
| YC-315TX3 | 380 V or 415 V 3-phase 50/60 Hz | 8.8 8.3 | – | – | – | – | 4 to 315 | 4 to 315 | 60 | – | – | – | 0.5 to 500 | 327×555×602 | 42 |
| YC-400TX3 | 380 V or 415 V 3-phase 50/60 Hz | 14.5 12.4 | – | – | – | – | 4 to 400 | 4 to 400 | 60 | – | – | – | 0.5 to 500 | 327×555×602 | 43 |
| YC-200BL1HDK | 220 V 1-phase 50/60 Hz | 7.5 4.5 | – | – | – | – | 5 to 200 | 5 to 160 | 20 | – | – | – | – | 150×345×252 | 10 |
| YC-300WX4 | 380 V or 415 V 3-phase 50/60 Hz | 12.0 10.5 | 10 to 300 | 20 to 300 | 10 to 200 | 10 to 300 | 4 to 300 | 4 to 250 | 40 | – | – | 0.5 to 10 | 0.5 to 500 | 380×530×730 | 74 |
| YC-500WX4Y0E | 380 V 3-phase 50/60 Hz | 24.0 19.5 | 20 to 500 | 40 to 500 | 20 to 330 | 20 to 500 | 5 to 500 | 50 to 400 | 60 | – | – | 0.5 to 10 | 0.5 to 500 | 440×585×945 | 118 |
| YC-300WY4 | 380 V or 415 V 3-phase 50/60 Hz | 10.5 9.0 | 10 to 300 | 20 to 300 | 10 to 200 | 10 to 300 | 4 to 300 | 4 to 250 | 40 | – | – | 0.5 to 10 | 0.5 to 500 | 380×530×730 | 74 |
| YC-200BR1YAA | 200 V 1-phase 50/60 Hz | 7.3 5.4 | 10 to 200 | – | – | – | 4 to 200 | – | 25 | – | – | – | 0 to 500 | 212×448×333 | 15 |
| YC-300TSP | 380 V or 415 V 3-phase 50/60 Hz | 16.1 13.5 | – | – | – | – | 5 to 300 | 5 to 300 | 40 | 0.5 to 5 | – | – | 0.5 to 15 | 470×560×845 | 136 |
| YC-500TSP | 380 V or 415 V 3-phase 50/60 Hz | 33.2 30.7 | – | – | – | – | 5 to 500 | 5 to 500 | 60 | 0.5 to 5 | – | – | 0.5 to 15 | 500×650×1 020 | 225 |
| YC-150TM(Mini) | 220 V or 380 V 1-phase 50/60 Hz | 11.4 6.3 | – | – | – | – | 8 to 150 | 8 to 150 | 20 | – | – | – | – | 300×460×520 | 62 |
| YC-300WP5 | 220 V or 380 V or 415 V 1-phase 50/60 Hz | 26.0 17.0 | 20 to 315 | – | – | – | 5 to 315 | 5 to 315 | 40 | 0.5 to 5 | – | – | 0.5 to 10 | 465×617×846 | 193 |

## 2. Remote Controllers

Eliminate the need to return to the power source to adjust welding current or voltage.

**■YC-301URTRK1**
- For use with WX4
- 5 m 6 core cable

**■YC-30BPR1**
- For use with BZ3 and BP4
- 5 m 12 core cable
- Pulse current adjustment

**■YC-30BPR4**
- For use with BP4
- Recall of welding parameters
- 5 m 12 core cable
- Pulse current adjustment

## 5. Argon Gas Regulator

●YX-251A

Provides accurate regulation of shielding gas for quality welding.

## 4. Extension Cables for Welding Torches (Build-to-Order)

| Torch | Cable Length (m) | Cooling Method | Connector | Power Source |
|---|---|---|---|---|
| YT-20TS2TAG | 4 | Air-cooled | Dinse | 300BP4/300BZ3 |
| YT-20TS2TAH | 8 | Air-cooled | Dinse | 300BP4/300BZ3 |
| YT-30TS2TAG | 4 | Air-cooled | Dinse | 300BP4/300BZ3 |
| YT-30TS2TAH | 8 | Air-cooled | Dinse | 300BP4/300BZ3 |
| YT-30TS2 | 4 | Air-cooled | Ring | |
| YT-30TS2C1 | 8 | Air-cooled | Ring | |
| YT-30TSW2TAG | 4 | Water-cooled | Dinse | 300BP4/300BZ3 |
| YT-30TSW2THA | 8 | Water-cooled | Dinse | 300BP4/300BZ3 |
| YT-30TSW2 | 4 | Water-cooled | Ring | |
| YT-30TSW2C1 | 8 | Water-cooled | Ring | |
| YT-50TSW2 | 4 | Water-cooled | Ring | |
| YT-50TSW2C1 | 8 | Water-cooled | Ring | |

Note: A terminal block adapter (CWC00180) and a control cable assembly (TWX00018) are required to connect a extension cable to 300BP4 or 300BZ3.

### For Air-Cooled Torches

| Model | Section Area(mm²) | Length(m) |
|---|---|---|
| TWU20131 | 38 | 5 |
| TWU20132 | | 10 |
| TWU20133 | | 15 |

### For Water-Cooled Torches

| | | |
|---|---|---|
| TWU30132 | 38 | 5 |
| TWU30133 | | 10 |
| TWU30134 | | 15 |

### For 500 A Water-Cooled Torches

| | | |
|---|---|---|
| TWU50137 | 60 | 5 |
| TWU50138 | | 10 |
| TWU50139 | | 15 |

# 3. RED TIG TORCH 2

TIG Welding Torches

All New. RED

## Higher Welding Performance, Operability and Safety.

YT-50TSW2

YT-30TS2

| No. | Model | Rated Current (A) | | Duty Cycle (%) | Cable Length (m) | Electrode Diameter (mm) Sizes in ( ) Optional | Nozzle Inner Diameter (mm) Sizes in ( ) Optional | Water Flow (L/min) | Water Pressure (MPa) | Water Cooling Unit Capacity (kW) | Weight (kg) | Cooling Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DC | AC | | | | | | | | | |
| 1 | YT-08TS2 | 80 | 55 | 35 | 4 | (0.5), (1.0), 1.6 | 8 | – | – | – | 0.9 | Air-cooled |
| 2 | YT-12TS2 | 120 | 85 | 35 | 4 | (0.5), (1.0), 1.6, (2.0) | 6.4, (8), (10), (11), (12.7), (16) | – | – | – | 0.9 | Air-cooled |
| 3 | YT-15TS2 | 150 | 105 | 35 | 4 | (0.5), (1.0), 1.6, (2.0), (2.4) | (6.5), 8, (9.5), (11), (12.7), (16), (19) | – | – | – | 1.2 | Air-cooled |
| 4 | YT-15TS2C1 | 150 | 105 | 35 | 8 | (0.5), (1.0), 1.6, (2.0), (2.4) | (6.5), 8, (9.5), (11), (12.7), (16), (19) | – | – | – | 2.0 | Air-cooled |
| 5 | YT-15TS2TAD | 150 | 105 | 35 | 8 | (0.5), (1.0), 1.6, (2.0), (2.4) | (6.5), 8, (9.5), (11), (12.7), (16), (19) | – | – | – | 2.0 | Air-cooled |
| 6 | YT-20TS2 | 200 | 140 | 35 | 4 | (0.5), (1.0), (1.6), (2.0), 2.4, (3.2) | (6.5), (8), 9.5, (11), (12.7), (16), (19) | – | – | – | 1.8 | Air-cooled |
| 7 | YT-20TS2C1 | 200 | 140 | 35 | 8 | (0.5), (1.0), (1.6), (2.0), 2.4, (3.2) | (6.5), (8), 9.5, (11), (12.7), (16), (19) | – | – | – | 3.0 | Air-cooled |
| 8 | YT-20TS2TAD | 200 | 140 | 35 | 8 | (0.5), (1.0), (1.6), (2.0), 2.4, (3.2) | (6.5), (8), 9.5, (11), (12.7), (16), (19) | – | – | – | 3.0 | Air-cooled |
| 9 | YT-20TS2TAG | 200 | 140 | 35 | 4 | (0.5), (1.0), (1.6), (2.0), 2.4, (3.2) | (6.5), (8), 9.5, (11), (12.7), (16), (19) | – | – | – | 1.9 | Air-cooled |
| 10 | YT-20TS2TAH | 200 | 140 | 35 | 8 | (0.5), (1.0), (1.6), (2.0), 2.4, (3.2) | (6.5), (8), 9.5, (11), (12.7), (16), (19) | – | – | – | 3.1 | Air-cooled |
| 11 | YT-20TSW2 | 200 | 140 | 100 | 4 | (0.5), (1.0), (1.6), (2.0), 2.4, (3.2) | (6.4), (8), 10, (11), (12.7), (16) | 0.7 or more | 0.1 to 0.35 | 0.75 or more | 1.4 | Water-cooled |
| 12 | YT-30TS2 | 300 | 210 | 20 | 4 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | – | – | – | 2.2 | Air-cooled |
| 13 | YT-30TS2C1 | 300 | 210 | 20 | 8 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | – | – | – | 3.7 | Air-cooled |
| 14 | YT-30TS2TAG | 300 | 210 | 20 | 4 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | – | – | – | 2.3 | Air-cooled |
| 15 | YT-30TS2TAH | 300 | 210 | 20 | 8 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | – | – | – | 3.8 | Air-cooled |
| 16 | YT-30TSW2 | 300 | 210 | 100 | 4 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | 0.7 or more | 0.1 to 0.35 | 0.8 or more | 1.8 | Water-cooled |
| 17 | YT-30TSW2C1 | 300 | 210 | 100 | 8 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | 0,7 or more | 0.1 to 0.35 | 1.6 or more | 3.0 | Water-cooled |
| 18 | YT-30TSW2TAG | 300 | 210 | 100 | 4 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | 0.7 or more | 0.1 to 0.35 | 0.8 or more | 1.9 | Water-cooled |
| 19 | YT-30TSW2TAH | 300 | 210 | 100 | 8 | (0.5), (1.0), (1.6), (2.0), (2.4), 3.2, (4.0) | (6.5), (8), (9.5), 11, (12.7), (16), (19) | 0.7 or more | 0.1 to 0.35 | 1.6 or more | 3.1 | Water-cooled |
| 20 | YT-50TSW2 | 500 | 350 | 100 | 4 | (1.0), (1.6), (2.0), (2.4), (3.2), 4.0, (4.8), (6.4) | (9.5), (12.7), 16, (19) | 1.0 or more | 0.15 to 0.35 | 1.9 or more | 2.6 | Water-cooled |
| 21 | YT-50TSW2C1 | 500 | 350 | 100 | 8 | (1.0), (1.6), (2.0), (2.4), (3.2), 4.0, (4.8), (6.4) | (9.5), (12.7), 16, (19) | 1.5 or more | 0.2 to 0.35 | 3.3 or more | 4.4 | Water-cooled |

Note: Torch switch included. *Flexible type and pencil type also available. **Optional collet and collet body required to use optional electrode.