

Full Digital Controlled Welding Machine

# Full Digital

## Improved Arc Control in All Current Ranges



Easy to operate even for  
inexperienced operators

"Weld Navigation"  
for better parameter

Standard

Weld  
Navigation

"Thickness settings"  
for easier welding

Plate thickness      Voltage  
**82.3 18.4**  
A CURRENT      VOLTAGE V ±V  
mm WIRE-FEED SPEED      TIME S  
mm THICKNESS

Standard

You can set weld  
parameters only  
by entering plate  
thickness.

**Full Digital  
350VR1 series**

Full Digital CO<sub>2</sub>/MAG Welding Machine

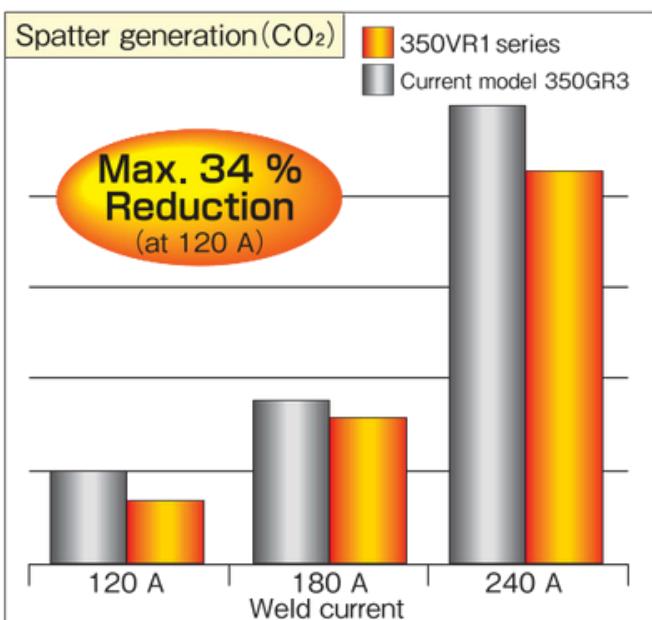
## Improved Arc Control in All Current Ranges

High welding performance. Various functions.

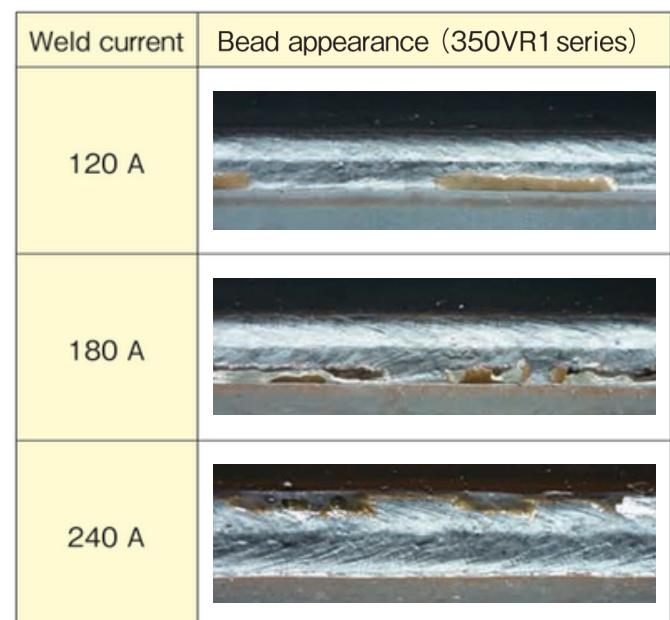


CO<sub>2</sub>/  
MAG  
Stainless  
MIG

Improved arc **control** in all current ranges achieves stable arc.



•Joint: Fillet •Material: Mild steel (SPCC) •Weld speed: 50 cm/min  
•Wire size: 1.2 mm •Shielding gas: CO<sub>2</sub>



**Full Software Control of Welding Waveform**



- Spatter reduction
- Stable bead

**Effective in all current ranges.**

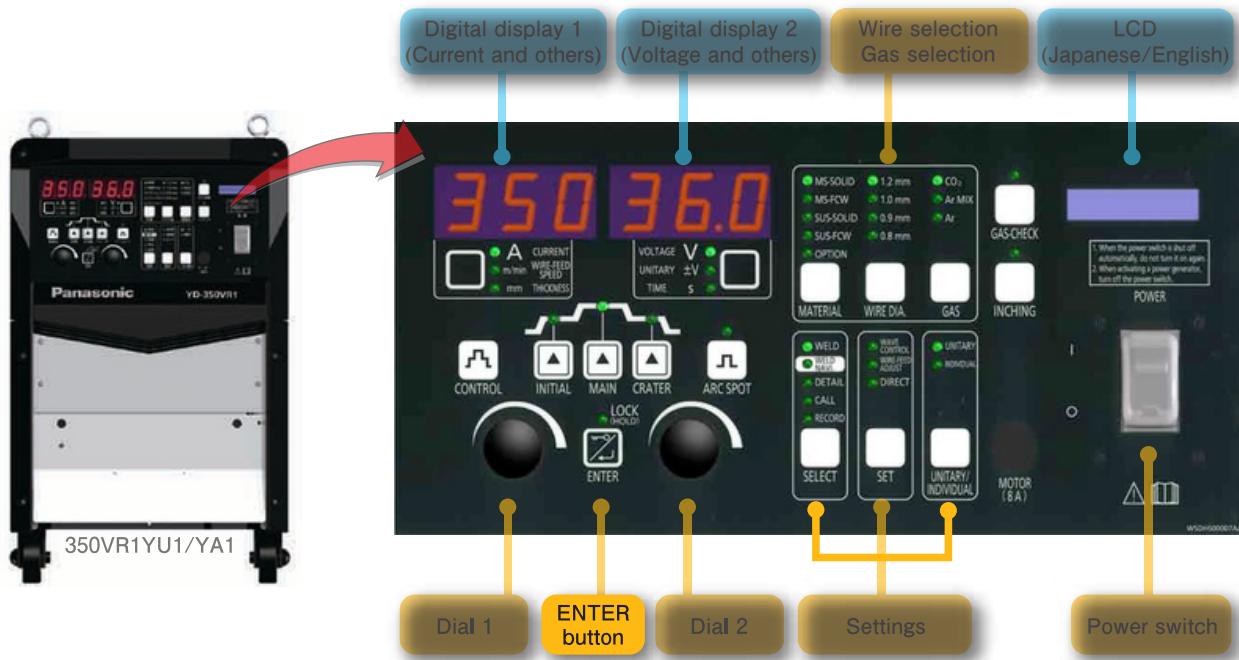
A variety of arc characteristics are standard for any application.

Output	DC																	
	Solid mild steel						Flux-cored mild steel			MAG	Solid stainless steel				Flux-cored stainless steel			
Shielding gas	CO <sub>2</sub> /MAG						CO <sub>2</sub>				MIG				CO <sub>2</sub>			
	0.8	0.9	1.0	1.2	1.4	1.6	1.2	1.4	1.6	1.2	0.8	0.9	1.0	1.2	1.6	0.9	1.2	1.6
YD-350VR1 series	○	○	○	○	—	—	○	—	—	○	○	○	○	○	—	○	○	—

Note: Characteristics for automatic welding system are also standard.

## Easy and Intuitive

The operation is more intuitive than conventional GR3 series.



## "Weld Navigation." for Weld Parameters

Same algorithm as TAWERS robot welding system with integrated power source.

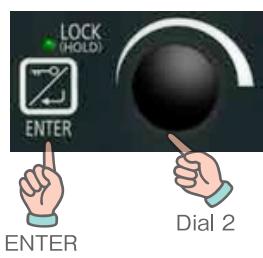
**Shorter parameter setting time.**



**STEP 1**  
Activate Weld  
Navigation.



**STEP 2**  
Set weld  
conditions.



**STEP 3**  
Welding parameters are  
set automatically\*.



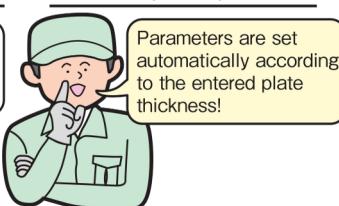
Start welding!

## "Thickness setting" for easier welding

**Current setting**  
(conventional)  
(Example)



**Thickness setting**  
(New)



The entered plate thickness  
determines the weld parameters\*.

Just adjust the parameters  
to fit your torch movement.

Note: The parameters set by this function are for fillet joint of  
the same plate thickness.

**Easy to use even for casual or inexperienced operators**

\*Weld parameters set by "Weld Navigation." or "Thickness setting" are guideline only and do not guarantee welding results.

## Output Management Supports Welding Quality and Maintenance

The LCD blinks when a preset upper or lower limit is exceeded.

Setting item	Unit	Application example	LCD display	Contact output
Motor current (upper limit)	A	Maintenance of wire feed path	○	○
Welding current (upper/lower limit)	%	Improvement of welding quality or welding skill	○	○
Welding voltage (upper/lower limit)	%	Same as above	○	○
Number of welding (upper limit)	Times	Notification of contact tip replacement	○	—
Arc time (upper limit)	h/m/s	Same as above	○	—
Wire usage (upper limit)	kg	Notification of wire replacement	○	—
Fan rotation time (upper limit)	h/m/s	Maintenance of welding power source	○	—



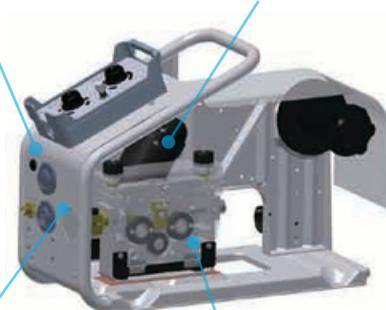
Allows consistent welding quality and optimal maintenance timing.

## Wire Feeder Achieves Stable Wire Feeding

### YW-35DG2 series

#### Dust-proof cover

reduces dust accumulation on drive section.



#### Motor with encoder

compensates voltage or load fluctuation and achieves stable wire feeding.

#### Lightweight flame

reduces burden of moving the feeder.

• YW-35DG2: 12 kg  
(excluding cables)

#### Drive section cover

prevents fingers from getting caught.

#### Non-remote control cable design

Only 3 lines between wire feeder and welding power source. This reduces potential for cable damage.

## High safety and high usability.

### Upgradable according to the site. (optional)

Wire straightener unit\*  
YX-ZZ043  
straightens welding wire with three rollers.

Wire cover unit\*  
YX-ZZ045  
protects welding wire.



\*The extension unit (YX-ZZ042) is necessary to use these units.

## Interchangeable with Peripherals for 350GR3



Welding power source	350VR1 series	350GR3 series
Wire feeder	YW-35DG2 YW-35DG2CA0	YW-35DG1 YW-35DG1CA0

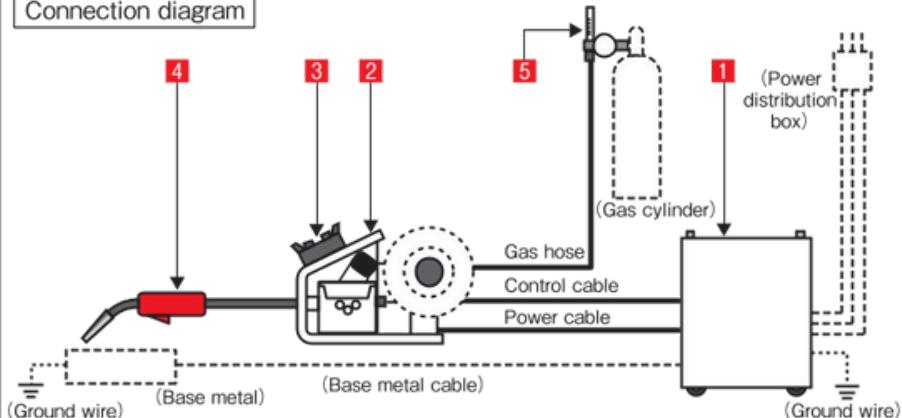
Remote controller	YD-35GRR1(standard) YD-35GRR1TAG (with 5 memory recall function)
Torch	YT-CS4/CE4 series
Gas regulator	YX-25AD1

Peripherals for 350GR3 are also supported.

## Welding system configuration

Other than this product (1 welding power source), equipment 2 to 5, and dotted equipment are necessary. Purchase them separately.

Connection diagram



Note: Equipment in ( ) and dotted equipment are customer supplied.

### Equipment required for welding

	Model No.	Remarks
1 Welding power source	YD-350VR1YU1	380 to 415 VAC
	YD-350VR1YA1	200 to 220 VAC
2 Wire feeder	YW-35DG2	1.8 m power cable
	YW-35DG2CA0	10 m power cable (direct connection)
3 Remote controller	YD-35GRR1	Standard type (2 m cable)
	YD-35GRR1TAG	5 memory recall function (2 m cable)
4 Torch (representative models)	YT-35CE4	Lightweight type (3 m)
	YT-35CS4	Standard type (3 m)
	YT-35CSM4	4.5 m
	YT-35CSL4	6 m
5 Gas regulator	YX-25AD1	For CO <sub>2</sub> /MAG/MIG
	YX-25CC1	Exclusively for CO <sub>2</sub>

### Options (Purchase as necessary)

Model name	Model No.	Remarks
Connection cables (set of control cable, power cable, and gas hose)	YV-305GR3A	38 mm <sup>2</sup> , 5 m
	YV-310GR3A	38 mm <sup>2</sup> , 10 m
	YV-315GR3A	38 mm <sup>2</sup> , 15 m
	YV-320GR3A	38 mm <sup>2</sup> , 20 m
	YV-610GR3A	60 mm <sup>2</sup> , 10 m
	YV-615GR3A	60 mm <sup>2</sup> , 15 m
	YV-620GR3A	60 mm <sup>2</sup> , 20 m

Model name (for wire feeder)	For YW-35DG2	Remarks
Extension unit	YX-ZZ042	
Wire straightener unit	YX-ZZ043	
Full cover unit	YX-ZZ044	Extension unit is necessary.
Wire cover unit	YX-ZZ045	
Flexible conduit fitting	MGX00002	

### Standard components

	Model No.	Remarks
1 Welding power source	YD-350VR1YU1	
2 Wire feeder	YW-35DG2	1.8 m power cable
3 Remote controller	YD-35GRR1	Standard type (2 m cable)
4 Torch	YT-35CS4	Standard type (3 m)
5 Gas regulator	YX-25AD1	For CO <sub>2</sub> /MAG/MIG

## Connection with robot or automatic welding system

**Welding system can be built easily in combination with TM/TL-GIII series\* Panasonic robot.**

**YD-350VR1YU1/YA1**  
(equipped with interface for direct robot connection)



\*Models manufactured in December 2014 or later

### Automatic welding system / Competitor's robot

Model name	Model number	Remarks
Welding power source	YD-350VR1YU1	
	YD-350VR1YA1	
Wire feedetr for automatic welding system	YW-35DGA2*1	Power cable: 7 m
	YT-CAT353T38	Power cable: 2 m
Welding torch for automatic welding system*2	YT-CAT353T39	Power cable: 2 m
	TFM00167	For fixing torch (regarded as part of a product)
Robot interface	YC-001UG1YAA	For connection with robot

\*1: For 0.9 mm or 1.2 mm wire \*2: For 1.2 mm wire

\*1, \*2: To change wire sizes, additional parts are necessary. Consult us for details.

## ■ Specifications

1 Welding power source		YD-350VR1YU1	YD-350VR1YA1
Rated input voltage (Allowable fluctuation range)	VAC	380 to 415 (342 to 456)	200 to 220 (180 to 242)
Phases, rated frequency	—	3-phase, 50 Hz/60 Hz (common)	
Rated input	—	16.4 kVA, 15.0 kW	
Maximum no-load voltage	VDC	68	
Rated output current	ADC	350	
Rated output voltage	VDC	36	
Rated duty cycle	%	60	
Output current adjustable range	ADC	30 to 350	
Output voltage adjustable range	VDC	12 to 36	
Power control method	—	IGBT inverter type	
Memory	—	100-channel record/recall	
Welding process	—	CO <sub>2</sub> / MAG / Stainless steel MIG	
Waveform control method	—	Digital	
Sequence	—	Main welding Main welding - crater Initial welding - main welding - crater	
Shielding gas	—	CO <sub>2</sub> (100 %) / MAG (Ar:80 %, CO <sub>2</sub> :20 %) Stainless steel MIG(Ar:98 %, O <sub>2</sub> :2 %)	
Wire size*1	mm	0.8 / 0.9 / 1.0 / 1.2	
Wire type	—	Mild steel / Flux cored mild steel / Stainless steel / Flux cored stainless steel	
Pre-flow time	s	0.0 to 10.0 (increment of 0.1)	
Post-flow time	s	0.0 to 10.0 (increment of 0.1)	
Arc spot time	s	0.3 to 10.0 (increment of 0.1)	
Input terminal	—	Terminal block (for 3-phase, M6 bolting)	
Output terminal	—	Copper terminal with M8 bolting	
Dimensions (W x D x H)*2	mm	380 x 540 x 660	380 x 540 x 640
Weight	kg	59	50

\*1: For wire sizes of solid wires and flux cored wires, see "Applicable arc characteristics" in manual.

\*2: Input terminal cover on the back side is excluded.

2 Wire feeder	YW-35DG2	YW-35DG2CA0
Torch connection	CC fitting	
Rated current	350 A	
Wire type	Mild steel / Flux cored mild steel / Stainless steel / Flux cored stainless steel	
Wire size*3	(0.8) / 0.9 / (1.0) / 1.2 mm	
Drive method	2 driven rolls and 2 idler rolls	
Spool shaft	With brake	
Cable and hose lengths	Power cable: 1.8 m Control cable: 2.1 m Gas hose: 4.8 m	Power cable: 10 m Control cable: 10.3 m Gas hose: 13.2 m
Weight	12 kg	19 kg

\*3: Optional parts are required to use the wire sizes in ( ).

3 Remote controller	YD-35GRR1	YD-35GRR1TAG
Type	Standard	5-channel memory recall function
Cable length(m)	2	2

4 Torch (CC fitting connection)						
Model number	Rated current (A)	Cable length (m)	Wire sizes* (mm)	Rated duty cycle (%)	Weight (kg)	Remarks
YT-18CS4	180	3	0.8	40(CO <sub>2</sub> ) 20(MAG)	1.7	
YT-20CS4	200	3	0.9 / (1.0) / (1.2)	50(CO <sub>2</sub> ) 25(MAG)	1.9	
YT-35CS4	350	3	(0.9) / (1.0) / 1.2	45(CO <sub>2</sub> ) 35(MAG)	2.8	
YT-35CE4	350	3	(0.9) / (1.0) / 1.2	20(CO <sub>2</sub> ) 20(MAG)	2.1	Lightweight type
YT-35CH4	350	3	(0.9) / (1.0) / 1.2	60(CO <sub>2</sub> ) 35(MAG)	3.2	High duty cycle
YT-35CSM4	350	4.5	(0.9) / (1.0) / 1.2	45(CO <sub>2</sub> ) 35(MAG)	3.6	
YT-35CEM4	350	4.5	(0.9) / (1.0) / 1.2	20(CO <sub>2</sub> ) 20(MAG)	2.8	Lightweight type
YT-35CHM4	350	4.5	(0.9) / (1.0) / 1.2	60(CO <sub>2</sub> ) 35(MAG)	4.4	High duty cycle
YT-35CSL4	350	6	1.2	45(CO <sub>2</sub> ) 35(MAG)	4.5	
YT-35CHL4	350	6	1.2	60(CO <sub>2</sub> ) 35(MAG)	5.6	High duty cycle

\*Optional parts are required to use the wire sizes in ( ).

## ⚠ Safety precautions

• Before attempting to use any welding product always read the manual to ensure correct use.

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