

# To meet customer needs: Panasonic CO<sub>2</sub>/MAG/MIG Welding Machines Lineup

Model	Process								Output		Input			Applicable wire diameter (mm)	Guide for Applicable Thickness (mm)	Page	
	CO <sub>2</sub> MAG	Pulse MAG	MIG		Pulse MIG		DC Gouging	DC Manual	Current range (A)	Duty Cycle (%)	Voltage (V)	Phase	Frequency (Hz)				
			Stainless steel	Aluminum	Stainless steel	Aluminum											
Full Digital (Inverter)	350GZ4 YUA	○		○						30 - 350	60	380/415	3	50/60	0.8/0.9 1.0/1.2	0.8 - 12.0	2
	350GR3 YGA	○		○						30 - 350	60	380	3	50/60	0.8/0.9 1.0/1.2	0.8 - 12.0	2
	400GR3 YUA	○		○						30 - 400	60	380/415	3	50/60	0.8/0.9 1.0/1.2	0.8 - 16.0	2
	500GR3 YGA	○		○						60 - 500	100	380/415	3	50/60	1.2/1.4 1.6	1.2 - 25.0	2
	350GE2 YGE	○	○	○						30 - 350	60	380	3	50	0.8/0.9 1.0/1.2	0.8 - 12.0	3
	350GE2 YGE For aluminum	(○)	(○)	(○)	○	(○)	○			30 - 350	60	380	3	50	1.0/1.2 1.6	1.0 - 12.0	3
	400GT3 YUA	○	○	○			○			30 - 400	60	380/415	3	50/60	0.9/1.0 1.2/1.4	0.8 - 16.0	4
	400GT3 YUD For aluminum	(○)	(○)	(○)	○	(○)	○			30 - 400	60	380/415	3	50/60	1.2/1.6	1.2 - 16.0	4
	350GB2 YGJ	○		○						30 - 350	60	380	3	50/60	0.8/0.9 1.0/1.2	0.8 - 12.0	5
Inverter	600RF2 YGA	○								60 - 600	100	380	3	50/60	1.2/1.4 1.6	1.2 - 40.0	6
	350FR1	○								40 - 350	60	380/415	3	50/60	0.8/1.0 1.2	1.2 - 12.0	6
	500FR1	○								60 - 500	100	380/415	3	50/60	1.0/1.2 1.6	1.2 - 25.0	6
Thyristor	200KR2	○								50 - 200	60	380	3	50/60	0.8/0.9 1.0/1.2	0.8 - 6.0	7
	350KR2	○								60 - 350	50	380	3	50/60	0.8/0.9 1.0/1.2	1.2 - 12.0	7
	500KR2	○								60 - 500	60	380	3	50/60	1.2/1.4 1.6	1.2 - 25.0	7
	600KH2	○						○	○	60 - 600	100	380	3	50/60	1.2/1.4 1.6	1.2 - 40.0	7
	500CL5	○						● (option)	● (option)	60 - 500	60	380	3	50/60	1.2/1.4 1.6	1.2 - 25.0	8
Slide transformer	180SL7	○								60 - 180	40	380	3	50/60	0.8/1.2	0.8 - 6.0	8

※(○) : please select the wire feeder and torch for steel / stainless steel welding.

**[Full Digital (Inverter)]** Welding machine that digitalizes all display/control/communication, and improves welding performance/energy saving/small size/lightening/easiness to use rapidly.

**[Inverter]** Welding machines that are welding performance improvement/energy saving/small size/lighter than thyristor machines.

**[Thyristor]** Basic model welding machines.

# Inverter 600RF2

Inverter Controlled CO<sub>2</sub>/MAG Welding Machines

CO<sub>2</sub>/MAG

## Main machines for semi-automatic and automatic welding of medium and thick plates !

Greatly increased deposition rate. Large deposition amount obtainable.



Duty cycle  
**600A**  
**100%**

### High welding performance

The power source provides high power with the rated output of 600A and duty cycle of 100% and best suited as a power supply for automatic welding.

■The output voltage with a margin still permits stable arc even if an extension cable is used. ※With 55V output, the duty cycle will be 80%.

■Particularly, stable welding starting from 120A is possible by wire with a diameter of 1.4 mm.(When using mild steel and CO<sub>2</sub> gas)

#### Advantages of using 1.2 mm solid wire

- Very little spattering in the large current range
- Good bead appearance
- A more deposition amount can be obtained because of varying maximum output with 1.2 mm.

	Max. welding current	Deposition amount
600RF2	400A	190g/m
CO <sub>2</sub> 500A machine	350A	120g/m

#### Advantages of using 1.4 mm solid wire

- A more deposition amount can be obtained because of its capacity of providing the maximum current of more than 500A.
- 1.4 mm is more advantageous than 1.2 mm in terms of economy.

	Max. welding current	Deposition amount
600RF2	550A	240g/m
CO <sub>2</sub> 500A machine	500A	200g/m

### Easy operation

Medium/thick plate welding functions enriched to further improve usability.

■The “initial current control”, “initial voltage fine adjustment control”, and “crater iterative function switch”, which are frequently used in welding of medium and thick plates, are arranged on the front panel.

#### Front panel



# Inverter FR1 series

Inverter Controlled CO<sub>2</sub>/MAG Welding Machines

CO<sub>2</sub>/MAG

## Realizing stable welding performance and easy operation!

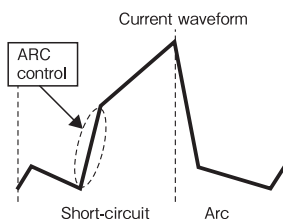


500FR1  
Duty cycle  
**500A**  
**100%**

### High welding performance

#### Equipped with "Arc control"

■It is to adjust the slope of the wave control part. From standard value, adjust to “HARD” side to increase di / dt of the part.



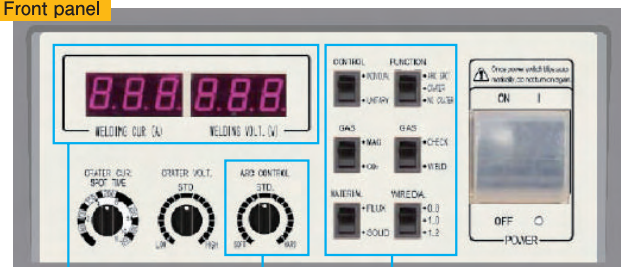
Adjustment	Changes
STD	(Standard)
To "SOFT" side	<ul style="list-style-type: none"> <li>● Softer arc-feeling</li> <li>● Reduce spatter</li> </ul>
To "HARD" side	<ul style="list-style-type: none"> <li>● Harder arc-feeling</li> <li>● More stable arc in high speed welding</li> </ul>

welding voltage is set based on the welding current set value automatically.

### Easy operation

■The welding power source adopts a simple touch panel to match the operating site.

#### Front panel

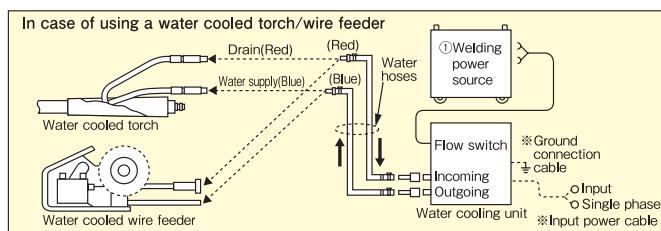
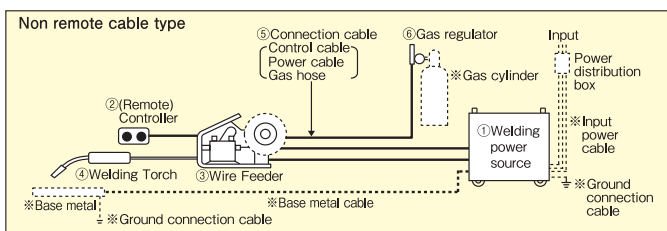


Large digital meter  
It became easy to see.

Various configuration switches  
Equipped with easy switch

Arc control volume

# Configuration



①Welding power source	②Controller (Remote)	③Wire feeder	④Welding torch	⑤Connection cable	⑥Gas regulator	Others
YD-350GZ4YUA	YD-00DHR1YAA : 2m	YW-35DH1	YT-35CS4TAB (Special) Selectable (No.34—38)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m (Option: Expansion cable)	YX-25AD1	Attachment of ① Base metal(-) voltage detection wire: 5m Option: Expansion cable (DWC00**)
YD-350GR3YGA	YD-35GRR1 : 2m	YW-35DG1 control cable: 1.8m type YW35DG1CA0 control cable: 10m type	YT-35CV4 Selectable (No.1—10)	Attachment of ③ (Option: Expansion cable)	YX-25AD1: for CO <sub>2</sub> /MAG/MIG YX-25CC1(YX-01GB1): for CO <sub>2</sub>	
YD-400GR3YUA	YD-40GRR1 : 2m	YW-40DG1	YT-50CS4 Selectable (No.3—10,12—17)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m (Option: Expansion cable)	YX-25AD1: for CO <sub>2</sub> /MAG/MIG YX-25CC1(YX-01GB1): for CO <sub>2</sub>	
YD-500GR3YGA	YD-50GGR1 : 2m	YW-50DG1	YT-50CS4 Selectable (No.12—17)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m (Option: Expansion cable)	YX-25AD1: for CO <sub>2</sub> /MAG/MIG YX-25CC1(YX-01GB1): for CO <sub>2</sub>	
YD-350GE2YGE (for mild steel/ stainless steel)	YD-00DES1 : 0.4m (Standard type) YD-00DEU1 : 0.4m (Direct type) (Option: Expansion cable 3m)	YW-35DEB1YAD	YT-35ESG4 (Euro-connector type)	YV***GB2A Selection necessity	YX-25AD1	
YD-350GE2YGE (for aluminum)	YD-00DES1 : 0.4m (Standard type) YD-00DEU1 : 0.4m (Direct type) (Option: Expansion cable 3m)	YW-35DEE1YAD	YT-30MF2 Selectable (Euro-connector type) (No.30—33)	YV***GB2A Selection necessity	YX-503A	
YD-400GT3YUA (for mild steel/ stainless steel)	YD-40GTR1 : 2m	YW-40DG1	YT-35CSG4 Selectable (No.11—18)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m (Option: Expansion cable)	YX-25AD1	
YD-400GT3YUD (for aluminum)	YD-40GTR1 : 2m	YW-40DG1TAK	YT-30MD2 Selectable (No.26—29)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m (Option: Expansion cable)	YX-25AD1	
YD-350GB2YGJ	YD-00DES1 : 0.4m (Standard type) YD-00DEU1 : 0.4m (Direct type) (Option: Expansion cable 3m)	YW-35DEB1YAD	YT-35ES4 Selectable (Euro-connector type) (No.19—22,24—25)	YV***GB2A Selection necessity	YX-25AD1	
YD-600RF2YGA	YD-60RFR1	YW-50AF1 (Air cooled) YW-60AFW2 (Water cooled)	YT-50CS4 (Air cooled) YT601CCW (Water cooled)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25AD1: for CO <sub>2</sub> /MAG/MIG YX-25CC1: for CO <sub>2</sub>	Option Water cooling unit: YX-09KGC1
YD-350FR1	Attachment of ③	YW-35KB3HME	YT-35CS3CTA Selectable (No.1—10)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	
YD-500FR1	Attachment of ③	YW-50KB3HME	YT-50CS3CTA Selectable (No.3—10,12—17)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	
YD-200KR2	Attachment of ③	YW-20KB3HAE	YT-20CS3CTA Selectable (No.1—2)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	
YD-350KR2	Attachment of ③	YW-35KB3HAE	YT-35CS3CTA Selectable (No.1—10)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	
YD-500KR2	Attachment of ③	YW-50KB3HAE	YT-50CS3CTA Selectable (No.12—17)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	
YD-600KH2	Attachment of ③	YW-60KCW2HAE	YT-601CCWHAE	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	Option Water cooling unit: YX-09KGC1HGE
YD-500CL5	Attachment of ③	YW-50CA2HAJ	YT-35CSM3CTA Selectable (No.3—10,12—17)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	
YD-180SL7		YW-181FK2HAE	YT-20CS3CTA Selectable (No.1—2)	Attachment of ③ control/Power cable: 1.8m Gas hose: 4.8m	YX-25CD1HAH	

# Specification

## ①Welding power source

	Rated input voltage Phase Rated Frequency	Rated input	Output current adjustable range	Output voltage adjustable range	Rated duty cycle (10 minute cycle)	Applicable wire diameter (mm)	Applicable welding wire	Dimension (W×D×H)	Mass
YD-350GZ4YUA	380/415V 3-phase 50/60Hz	17.7kVA 16kW	30—350A	12—36V	60%	0.8/0.9/ 1.0/1.2	Mild steel Stainless steel	380×550×640	61kg
YD-350GR3YGA	380V 3-phase 50/60Hz	17kVA 16kW	30—350A	12—36V	60%	0.8/0.9/ 1.0/1.2	Mild steel Stainless steel	380×540×640	52kg
YD-400GR3YUA	380/415V 3-phase 50/60Hz	19.5kVA 18kW	30—400A	12—38V	60%	0.8/0.9/ 1.0/1.2	Mild steel Stainless steel	380×540×675	55kg
YD-500GR3YUA	380/415V 3-phase 50/60Hz	28.5kVA 26.5kW	60—500A	14—45V	100%	1.2/1.4/1.6	Mild steel Stainless steel	380×540×810	65.5kg
YD-350GE2YGE	380V 3-phase 50Hz	20kVA 18kW	30—350A	12—31.5V	60%	0.8/0.9/ 1.0/1.2 1.6:aluminum only	Mild steel Stainless steel Aluminum	380×510×570	66kg
YD-400GT3YUA (Mild steel/ stainless steel)	380/415V 3-phase 50/60Hz	20.5kVA 19kW	30—400A	12—38V	60%	0.9/1.0/ 1.2/1.4	Mild steel Stainless steel	380×540×675	61kg
YD-400GT3YUD (Mild steel/ stainless steel/ aluminum)	380/415V 3-phase 50/60Hz	20.5kVA 19kW	30—400A	12—38V	60%	0.9/1.0/ 1.2/1.4 1.6:hard aluminum	Mild steel Stainless steel Hard aluminum	380×540×675	61kg
YD-350GB2YGJ	380V 3-phase 50/60Hz	18kVA 16kW	30—350A	12—31.5V	60%	0.8/0.9/ 1.0/1.2	Mild steel Stainless steel	380×510×494	48kg
YD-600RF2YGA	380V 3-phase 50/60Hz	37kVA 35kW	60—600A	14—50V	100%	1.2/1.4/1.6	Mild steel	440×585×1005	120kg
YD-350FR1	415V 3-phase 50/60Hz	13.5kVA 13kW	40—350A	16—31.5V	60%	0.8/1.0/1.2	Mild steel	372×545×669	56kg
YD-500FR1	415V 3-phase 50/60Hz	23.3kVA 22.4kW	60—500A	17—39V	100%	1.0/1.2/ 1.4/1.6	Mild steel	372×545×669	62kg
YD-200KR2	380V 3-phase 50/60Hz	7.6kVA 6.5kW	50—200A	15—25V	60%	0.8/1.0/1.2	Mild steel	376×675×747	89kg
YD-350KR2	380V 3-phase 50/60Hz	18.1kVA 16.1kW	60—350A	16—31.5V	50%	0.8/1.0/1.2	Mild steel	376×675×747	117kg
YD-500KR2	380V 3-phase 50/60Hz	31.9kVA 28.1kW	60—500A	17—39V	60%	1.2/1.4/1.6	Mild steel	436×675×762	158kg
YD-600KH2	380V 3-phase 50/60Hz	45kVA 40kW	60—600A	17—44V	100%	1.2/1.4/1.6	Mild steel	500×690×920	232kg
YD-500CL5	380V 3-phase 50/60Hz	30.4kVA 28.1kW	60—500A	17—39V	60%	1.2/1.4/1.6	Mild steel	436×675×762	148kg
YD-180SL7	380V 3-phase 50/60Hz	6.8kVA 6.4kW	60—180A	17—23V	40%	0.8/1.2	Mild steel	310×430×509	49kg

# Specification

## ③ Wire feeder

	For welding power source	Applicable welding wire	Applicable wire diameter (mm)	Connector type for welding torch	Drive method	Mass	Remarks
<b>YW-35DH1</b>	YD-350GZ4YUA	Mild steel Stainless steel	(0.8)/0.9/(1.0)/1.2	CC fitting connection type	2 drives and 2 free rolls	15kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-35DG1</b>	YD-350GR3YGA	Mild steel Stainless steel	(0.8)/0.9/(1.0)/1.2	CC fitting connection type	2 drives and 2 free rolls	12kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-35DG1CA0</b>	YD-350GR3YGA	Mild steel Stainless steel	(0.8)/0.9/(1.0)/1.2	CC fitting connection type	2 drives and 2 free rolls	19kg	Control/power cable: 1.0m Gas hose: 1.3m
<b>YW-40DG1</b>	YD-400GR3YUA YD-400GT3YUA	Mild steel Stainless steel	0.9/(1.0)/1.2/(1.4)	CC fitting connection type	2 drives and 2 free rolls	12.5kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-50DG1</b>	YD-500GR3YUA	Mild steel Stainless steel	1.2/1.4/(1.6)	CC fitting connection type	2 drives and 2 free rolls	13kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-35DEB1YAD</b>	YD-350GE2YGE YD-350GB2YGJ	Mild steel Stainless steel	(0.8)/(0.9)/1.0/1.2	Euro-connector type	2 drives and 2 free rolls	16kg	YV-***GB2A Selection necessity
<b>YW-35DEE1YAD</b>	YD-350GE2YGE	Aluminum	(1.0)/1.2/1.6	Euro-connector type	4 drive rolls	16kg	YV-***GB2A Selection necessity
<b>YW-40DG1TAK</b>	YD-400GT3YUD	Aluminum	1.2/1.6	CC fitting connection type	4 drive rolls	15kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-50AF2 (Air cooled)</b>	YD-600RF2YGA	Mild steel	1.2/1.6	CC fitting connection type	1 drive and 1 free roll	10.5kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-60AFW2 (Water cooled)</b>	YD-600RF2YGA	Mild steel	1.2/(1.4)/1.6	CC fitting connection type	1 drive and 1 free roll	12kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-35KB3HME</b>	YD-350FR1	Mild steel	1.0/1.2	CC fitting connection type	1 drive and 1 free roll	10kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-50KB3HME</b>	YD-500FR1	Mild steel	1.2/1.6	CC fitting connection type	1 drive and 1 free roll	10.5kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-20KB3HAE</b>	YD-200KR2	Mild steel	0.8/1.0	CC fitting connection type	1 drive and 1 free roll	10kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-35KB3HAE</b>	YD-350KR2	Mild steel	1.0/1.2	CC fitting connection type	1 drive and 1 free roll	10kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-50KB3HAE</b>	YD-500KR2	Mild steel	1.2/1.6	CC fitting connection type	1 drive and 1 free roll	10.5kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-60KCW2HAE</b>	YD-600KH2	Mild steel	1.2/1.6	CC fitting connection type	1 drive and 1 free roll	12kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-50CA2HAJ</b>	YD-500CL5	Mild steel	1.0/1.2	CC fitting connection type	1 drive and 1 free roll	12kg	Control/power cable: 1.8m Gas hose: 4.8m
<b>YW-181FK2HAE</b>	YD-180SL7	Mild steel	0.8/1.2	CC fitting connection type	1 drive and 1 free roll	9kg	Control/power cable: 1.8m Gas hose: 4.8m



# Peripherals and Option

## ⑤ Connection cable

For 350GZ4 (option)

	Model No.	Cable length	Remarks
1	YV-305GZ4A	38mm <sup>2</sup> 5m	One power cable
2	YV-310GZ4A	38mm <sup>2</sup> 10m	One control cable
3	YV-315GZ4A	38mm <sup>2</sup> 15m	One gas hose
4	YV-320GZ4A	38mm <sup>2</sup> 20m	
5	YV-605GZ4A	60mm <sup>2</sup> 5m	
6	YV-610GZ4A	60mm <sup>2</sup> 10m	
7	YV-615GZ4A	60mm <sup>2</sup> 15m	
8	YV-620GZ4A	60mm <sup>2</sup> 20m	

For 350GE2/GB2 (Selection necessity)

	Model No.	Cable length	Remarks
12	YV-305GB2A	38mm <sup>2</sup> 5m	One power cable
13	YV-310GB2A	38mm <sup>2</sup> 10m	One 0.5m output cable
14	YV-315GB2A	38mm <sup>2</sup> 15m	One control cable
15	YV-320GB2A	38mm <sup>2</sup> 20m	One gas hose
16	YV-605GB2A	60mm <sup>2</sup> 5m	
17	YV-610GB2A	60mm <sup>2</sup> 10m	
18	YV-615GB2A	60mm <sup>2</sup> 15m	
19	YV-620GB2A	60mm <sup>2</sup> 20m	

For 350/500GR3 (option)

	Model No.	Cable length	Remarks
28	YV-305GR3A	38mm <sup>2</sup> 5m	One power cable
29	YV-310GR3A	38mm <sup>2</sup> 10m	One control cable
30	YV-315GR3A	38mm <sup>2</sup> 15m	One gas hose
31	YV-320GR3A	38mm <sup>2</sup> 20m	
32	YV-610GR3A	60mm <sup>2</sup> 10m	
33	YV-615GR3A	60mm <sup>2</sup> 15m	
34	YV-620GR3A	60mm <sup>2</sup> 20m	
35	YV-810GR3A	80mm <sup>2</sup> 10m	
36	YV-815GR3A	80mm <sup>2</sup> 15m	
37	YV-820GR3A	80mm <sup>2</sup> 20m	

For 400GR3/ GT3 (option)

	Model No.	Cable length	Remarks
28	YV-610GR1A	60mm <sup>2</sup> 10m	One power cable
29	YV-615GR1A	60mm <sup>2</sup> 15m	One control cable
30	YV-620GR1A	60mm <sup>2</sup> 20m	One gas hose
31	YV-810GR1A	80mm <sup>2</sup> 10m	
32	YV-815GR1A	80mm <sup>2</sup> 15m	
33	YV-820GR1A	80mm <sup>2</sup> 20m	

## ⑥ Gas regulator



YX-25AD1



YX-20CH1

No.	Model	Model	Gas flow rate (L/min)	Remarks
1	YX-25AD1	CO <sub>2</sub> /MAG/MIG	25	
2	YX-20CC1	CO <sub>2</sub>	25	YX-01GB1 : buzzer
3	YX-503A	Aluminum MIG	50	

## Water cooling unit



YX-09KGC1 series

### ◆ Features

- High cooling capacity. (200kJ/min)
- No pump-priming is needed.  
It adopts "Cascade pump".
- Simple maintenance.  
No tool is needed to change or supply coolant, or attach or remove the tank or the filter.  
The tank and filter are removable/attachable at your fingertips, which makes cleaning work easy.  
(Cleaning of the tank and filter reduces pump troubles.)

		YX-09KGC1YGA	YX-09KGC1YJA
Input voltage	V	380 (±10%)	415 (±10%)
Phase	—	Single phase	
Frequency	Hz	50/60 (common)	
Input power	W	230/330	
Coolant capacity	L	9	
Cooling system	—	Forced air cooling system with radiator	
Coolant circulating system	—	Forced circulation system with pump	
Cooling ability	kJ/min	200	
Flow rate of coolant	L/min	2.2/2.6	
Head of coolant	m	20/25	
Maximum load	kg	60	
Dimensions (W×D×H)	mm	380×545×474	
Mass	kg	36	

The depth (D) does not include the refill inlet of the tank.