Power Systems PU

Hyosung Welding Machine

ARC Welding Machines
TIG Welding Machines
Air Plasma Cutters
Spot Welding Machines
Spot Special Machines

HYOSUNG

Power & Industrial Systems
Performance Group



Power & Industrial Systems Performance Group of Hyosung has made remarkable contributions to the development of electric industry and industrial machinery in Korea through its advanced technology, production capacity, and the best customer service for the past 40 years since it started its operation in 1962, ushering in a new era of Korean heavy industry. Hyosung Corporation is the leading supplier of electrical equipment for power transmission and distribution in Korea.

Power Systems Performance Unit

Welding Machine
UHV Power Transformer Power TR
EHV Power Transformer Power TR
Distribution Transformer
Cast Resin Transformer
Gas Circuit Breaker
Gas Insulated Switchgear
Control Panel

Industrial Machinery Performance Unit

Electric Motor
Gear Reducer
Generator
Chemical Process Equipment
Industrial Machinery
Ropeway
CNG Refill Station

Power Systems Performance Unit

As streetlamps lighten dark streets, and as neon signs add fascination of the night view, **Hyosung Power Systems Performance Unit** provides the customers with convenient and beautiful world. Supplying **80%** of the power supply devices, Power Systems Performance Unit will be remembered as the **Global Top Energy Solution Provider** that fulfills the requirements of customers from production to consumption of energy.

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Hyosung Welding Machine

- ARC Welding Machines
- TIG Welding Machines
- Air Plasma Cutters

Hyosung leads the welding machine industry of Korea.

As a comprehensive welding machine maker, Hyosung continues its effort to develop the welding machine industry of Korea, and to improve quality and performance to meet the needs of the customers.
With abundant experience and know-how on welding process,
Hyosung produces MIG, MAG, TIG, DC arc, plasma cutter, spot, projection and seam welding machines, and provides the comprehensive service from design to engineering, manufacturing and installation of all the machines for welding.
Hyosung will do its best to grow to one of the major brands in the world welding industry.

Product Composition

ARC Welding Machines

- DC ARC welding machines
- CO_2/MAG SCR (Thyristor) type welding machine
- CO_2/MIG/MAG inverter type welding machine
- CO_2/MIG/MAG pulse type welding machine
- Submerged welding machine
- Arc welding machine for robots

TIG Welding Machines

- AC/DC inverter TIG welding machine
- DC inverter TIG welding machine

Air Plasma Cutters

TABLE OF SELECTED MACHINES AT A GLANCE

Please choose machines you want in consideration of the material and thickness of plates to be welded.

Material	Welding Method	Type	Dia/Thickness	Hyosung Machine
Mild Steel	Shielded metal arc welding Stick (manual)	High-functional type (DC machine)	3.2mm or less	• PA 200
			4.0mm or less	• PA 300, ProPAC 500
			5.0mm or less	• PA 300, ProPAC 500
			8.0mm or less	• PS 500G, ProPAC 600
	CO_2/MAG welding	High-functional type (Inverter control)	Up to 6.0mm	• PE 200B, PD 200B
			Up to 15.0mm	• PE 350, PD 350
			Up to 25.0mm	• PE 500
			Up to 40.0mm	• PE 600, PD 600
		General type (SCR control)	Up to 15.0mm	• ProPAC 350
			Up to 25.0mm	• ProPAC 500
			Up to 40.0mm	• ProPAC 600
	TIG welding	High-functional type (Inverter control)	8.0mm or less	• PRT 300D, PRT 300AD
			15.0mm or less	• PRT 500D, PRT 500AD
Stainless	Shielded metal arc welding Stick (manual)	High-functional type (DC machine)	3.2mm or less	• PA 200
			4.0mm or less	• PA 300
			5.0mm or less	• PA 300
			8.0mm or less	• PS 500G, ProPAC 500, ProPAC 600
	C0$_2$/MAG welding	High-functional type (Inverter)	Up to 6.0mm	• PE 200B
			Up to 15.0mm	• PE 350, PD 350S
			Up to 25.0mm	• PE 500
		General type (SCR control)	Up to 15.0mm	• Pro PAC 350
			Up to 25.0mm	• ProPAC 500, ProPAC 600
Aluminum	TIG welding	High-functional type (Inverter control)	8.0mm or less	• PRT 300D, PRT 300AD
			15.0mm or less	• PRT 500D, PRT 500AD
	MIG welding	High-functional type (Inverter control)	Up to 6.0mm	• PE 350, PD 350A
			Up to 15.0mm	• PE 500
			40.0mm or less	• PD 600AL
	TIG welding	High-functional type (Inverter control)	8.0mm or less	• PRT 300AD
			15.0mm or less	• PRT 500AD

IGBT Inverter & Thyristor Control

DC ARC Welding Machine

DC ARC welding machine

A renovation for manual welding

DISTINCTIVE FEATURES OF PS 500G MODEL

Regular welding current provided

With perfect static current, this machine always keeps welding current unchanged when input voltage or arc length gets changed or output cable is extended up to about 50m.

Cost-effective type with power saving

The machine employs, in design, power saving circuit, which blocks power feed toward the transformer in case welding operation is not conducted, to minimize the no-load loss.

Excellent performance in manual welding of special alloy

You can obtain seamless beads in manual welding of not only mild steels and stainless but special alloys such as chrome, molybdenum, etc. with spatter minimized.

Safety design

The machine holds two circuits for the safety of workers in it: a circuit detecting abnormal increase in temperature and an electric shock-reduced circuit, which makes no-load voltage lowered to 30V or less when welding operation pauses.

STANDARD SPECIFICATIONS

MODEL		PA 200	PA 300	PS 500G
Control method		IGBT INVERTER	IGBT INVERTER	THYRISTOR
Welding power	Type	PA 200	PA 300	PS 500G
Input voltage	V	Single phase 220	3 - phase 220, 380, 440	3 - phase 220, 380, 440
Frequency	Hz	50, 60	50, 60	50, 60
Rated input	kVA	9.7	12(9.2)	33
	kW	7.0	11.6(7.0)	27
Rated output current	A	200	300(200)	500
Rated load voltage	V	28	32(28)	40
Highest no-load voltage	V	63	65	69.8
Output current range	A	10~200	10~300(200)	50~500
Duty cycle	%	40	40	100
Dimension(WxDxH)	mm	200×450×410	200×450×370	445×620×700
Weight	kg	16	17	160

ProPAC series

Multi-function, high efficiency welding machine specialized for shipbuilding and heavy industries

ADVANCED FUNCTIONS THAT SOLVE THE WELDING TROUBLES COMPLETELY

■ 3-way feed back system and PCB protection

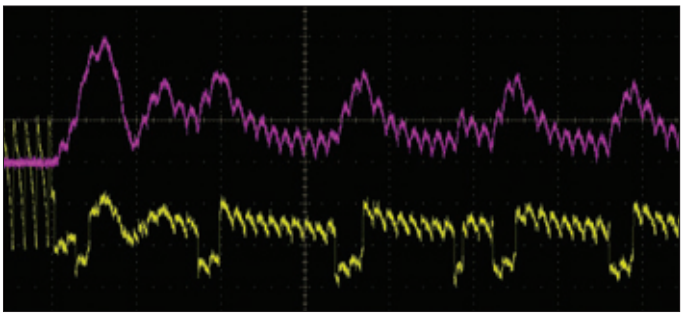
- The system maintains stable output at fluctuation of main voltage by up to ± 15%.
- The system regulates the output at extension of secondary welding cable by up to 120m (60sq).
- The system maintains consistent feeding speed at a drop of voltage due to longer secondary welding cable or fluctuation of load current of the feeder motor.
- The system protects the PCB circuit against short-circuit at a single cable during the welding work, and continues the welding work without interruption.

MULTI-FUNCTION MODEL FOR GOUGING AND MANUAL WELDING

- The system supports the gouging function that is essential in thick plate welding process in the shipbuilding and heavy industries. The system demonstrates its optimum performance for the elevated welding work as it supports DC manual welding.
  (Applied carbon bar : 3.2 ~ 11mmØ : based on 600A series)
- With the built-in secondary over-current protection circuit, the system protects SCR and transformer against damage caused by the functional selection error during the gouging work.

SMOOTH ARC START CHARACTERISTIC WITH H.W.C.(HOTSTART WAVE CONTROL) SYSTEM

With unique control technique, optimum start waveform is made and enables low spatter and smooth arc start.



Hyosung H.W.C(Hotstart Wave Control) System enables smooth arc start in any welding current range with CO_2 and MAG welding.

Diagnosis	Causes	Lamp Indication
1. Initializing Failure	CT Failure, Voltage out-put phenomena, or Torch detection error at power on - Possible to check abnormality of key components on welder during operation	Twinkle twice quickly and twice slowly
2. Overheating	Inside temperature rises	Lamp on continuously
3. Over current	Over current flows on secondary output due to abnormality	Blinking slowly at an interval of 2 sec.
4. Control Cable Short	Short circuit on the cables due to physical damages of secondary control cable or electric leakage etc. - When short is detected by power monitoring circuit, power to control cable is cut off to protect PCB completely from burn out.	Blinking slowly at an interval of 0.5 sec.

IC + Thyristor control

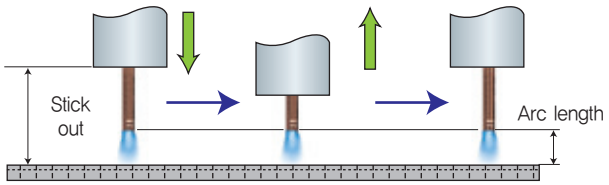
CO_2/MAG Automatic Welding Machine

THE COMPLETE WELDING POWER PROTECTION CIRCUIT GUARANTEES MAXIMUM STABILITY

- If the output current rises excessively due to the short-circuit between the welding cable (+) and the parent metal (-) the secondary over-current protection circuit automatically blocks the output to protect SCR and the transformer.
- If the internal temperature rises due to the fan error, defective ventilation or excessive load, the internal temperature protection circuit automatically blocks the output to protect SCR and the transform.

THE PROPRIETARY CTE CONTROL CIRCUIT REALIZES ZERO-DEFECT WELDING

- Even when the stick-out (projected length) changes during the temporary welding work or the welding work on a rough surface, the system supplies consistent heat to the parent metal, maintaining regular arc length. Therefore, the penetration depth and the bead width are also maintained consistently, and the welding error is minimized.



REINFORCED ENERGY-SAVING FUNCTION

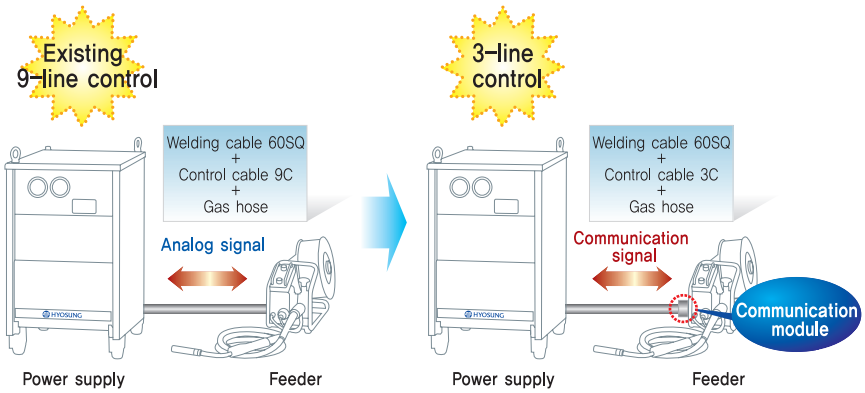
- In a given time (within 30 seconds) after the welding work is stopped, the system automatically blocks the power to the transformer, and stops the cooling fan(1~7minutes) dependant on welding current, minimizing waste of ineffective power consumption.

STANDARD SPECIFICATIONS

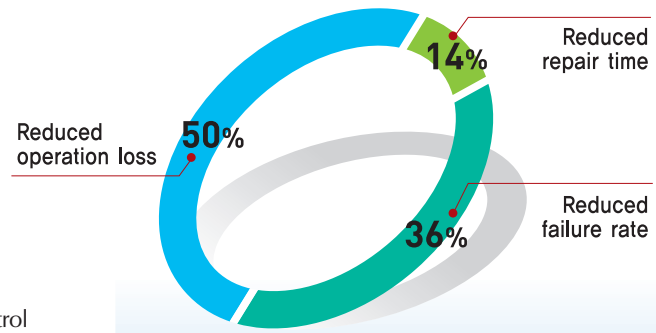
MODEL			ProPAC 350	ProPAC 500	ProPAC 600
Welding method			CO_2/MAG(MIG)	CO_2/MAG(MIG)	CO_2/MAG(MIG)
			DC Arc welding	DC Arc welding	DC Arc welding
			-	DC gouging	DC gouging
Welding power		Type	HW-S350	HW-S500	HW-S600
Input voltage		V	220, 380, 440		
Frequency		Hz	50, 60		
Phase		-	3Phase		
Rated input		kVA	18	30	41
		kW	16	26	36
Output current range	Welding	A	50~350	50~500	60~720
	Crater	A	50~350	50~500	60~720
	Manual welding	A	60~350	60~500	80~720
	Gouging	A	-	60~500	80~720
Output voltage range	Welding	V	15~36	15~45	15~52
	Crater	V	15~36	15~45	15~52
	Manual welding	V	15~36	15~45	15~52
	Gouging	V	-	15~45	15~52
Duty cycle		%	60	60	70(at 720A) 100(at 600A)
Dimension (W×D×H)		mm	375×560×730	445×660×810	490×690×850
Weight		kg	100	141	190
Feeder	Type		W-SA 350	W-SA 500	W-SA 600
	Standard wire dia.	mm ø	0.9/1.0, 1.2	1.2/1.4/1.6	1.2/1.4/1.6
	Weight	kg	9		

ProPAC CD series

"Zero" interruption due to defective cable
"Full compatibility" with existing welding machine and cables & feeder
"Communication control" with an additional communication module only



FEATURES OF FAILURE-REDUCED DIGITAL COMMUNICATION MODULE



■ **Reduced maintenance time**

- It takes approx. 60~90 min to repair the existing control cables
- It only requires 30 min to repair a new 3-line control cable

■ **Reduced failure rate**

- When replacing the existing 9-line control with 3-line control
  - → Failure rate is reduced by approx. 37.5% with existing single cable (10 lines)
  - → Failure rate is reduced by approx. 70% with Hyosung single cable (3 lines + 1 spare line)

■ **Reduced interruption prevents loss**

- Lower failure rate reduces interruption and saves cost
- Increases efficiency by reducing interruption

■ **Only 3 control lines are required to reuse the old machine**

Calculation of saved cost

[for 1 unit of welding machine]

- Cost saved with reduced repair time : USD 60.00/Year (from 60min to 30min)
- Cost saved with reduced failure rate : USD 140.00/Year
- Cost saved with reduced loss : USD 200.00/Year

➜ **Annual saving : USD 400.00/Year**

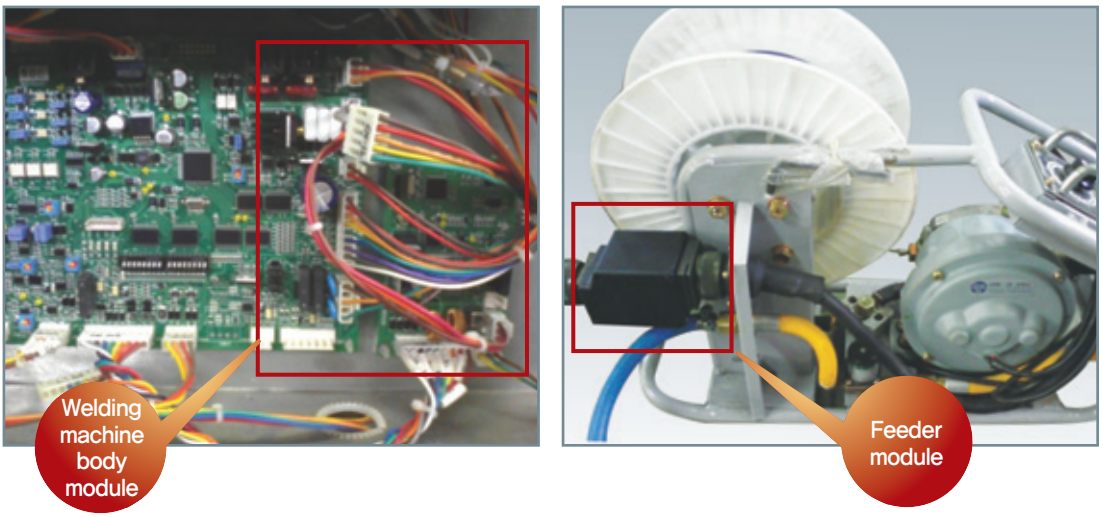
※ Operation : 0.5 unit/month, Labor : USD 10.00/H
※ Failure rate and loss may vary between manufacturers.

IC + Thyristor control

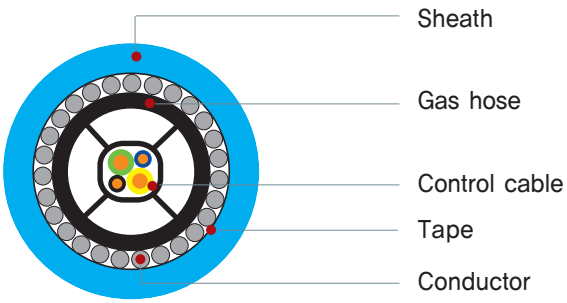
CO_2/MAG Automatic Welding Machine

EASY INSTALLATION

- **With an additional feeder module, it is possible to utilize the existing feeder and control cable** (up to 90M).
- **3-line control is possible by installing a feeder module on the existing feeder** (Time required: within 1 minute. Installable by non-expert)
- **A communication PCB can be mounted on the existing welding machine, if required, for use for 3-line control.**



HS-60-4C : EXCLUSIVE SINGLE CABLE FOR 3-LINE CONTROL



Sheath	**Material**	FR-TPE(Inflammable)
	Hardness	85
	Color	BL
Control cable	1.25sq × 2, 0.5sq × 2	
Tape	0.15t × 25 × 1/4(wrap)	
Conductor	Copper (60sq)	

SPECIFICATIONS

Welding machine power supply	CD600	600A, 100%
Communication module	CDM-9T3	Injection module for feeder
Single cable	HS-60-4C	60SQ + 4C (3 Cable + 1 Spare cable) + Gas hose

CO_2/MAG Automatic Welding Machine

ProPAC PE series

BETTER WELDING STABILITY

Optimum inverter waveform control with micro-processor enables arc to be stable and make a clean bead.

BETTER WELDING FINISH

Upgraded technique enables smooth welding finish and wire control, as a result stable arc start is possible.

*Applied Digital Panel, Convenient parameter change with simple operation.

INDIVIDUAL FUNCTION CONTROL

Most functions (Pre-flow time, Post-flow time, Hotstart voltage etc.) is adjustable by user with Function Control.

VARIOUS MEMORY SAVING

Various parameters can be memorized and recalled (10 parameters).

PROTECT DAMAGE

To protect Power system, it has triple protection system, detecting short circuit of cable, monitoring input voltage,single/three phases monitoring, and malfunction display function.

ENERGY SAVING

After welding, cooling fan stops in a setting time (1~7 minutes), that is dependant on current usage, in order to save energy with minimizing wattless power.

ProPAC PE model available for all kinds of robots

The machine can be employed to more numbers of robots than any other products for the first time in the nation, proving its high reliability.

DISTINCTIVE FEATURES

- Interface embedded in main body
- Arc sensing
- Inverse/reverse wire inching and gas checking
- Easy checking of welding detection
- Abnormality display : Broken arc, faulty welding machine, no remaining gas, and no wire found
- Controller signal checking using external lamps (Related to gas, wire, welding start and inching)

IGBT Inverter control

CO_2/MAG Automatic Welding Machine

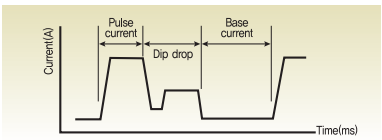
STANDARD SPECIFICATIONS

MODEL			PE 350	PE 350R	PE 500	PE 500R	PE 600
Welding method			CO_2/MAG(AL MIG)	←	CO_2/MAG(AL MIG)	←	CO_2/MAG(AL MIG)
Welding power		Type	PE 350	PE 350R	PE 500	PE 500R	PE 600
Input voltage		V	3-phase/1-phase 220, 380, 440	←	3-phasee 220, 380, 440	←	3-phasee 220, 380, 440
Frequency		Hz	50, 60	←	50, 60	←	50, 60
Rated input		kVA	16.3	←	29	←	40
		kW	15.8	←	27	←	36
Rated output current		A	350 (200: In case of single phase)	←	500	←	600
Output current range	Welding	A	40~350	←	40~500	←	60~600
	Crater	A					
Rated output voltage		V	36	←	42	←	50
Output voltage range	Welding	V	14~36	←	14~45	←	15~55
	Crater	V					
Duty cycle		%	70	←	100	←	100
Dimension(W×D×H)		mm	340×460×600	←	390×535×720	←	430×560×830
Weight		kg	43	←	69	←	90
Welding functions	di/dt control		○	○	○	○	○
	Current change point. (±50A) Variable		○	○	○	○	○
	Choosing unified/separated functions		○	○	○	○	○
	Choosing Waveform controlling		○	○	○	○	○
	Choosing Wire Fe-Al		○	○	○	○	○
	Slow down		○	○	○	○	○
	Controlling tools when completing welding		○	○	○	○	○
	Preflow/Post-flow		○	○	○	○	○
	Shifting short/long power delay time		○	○	○	○	○
	Entering external operation		○	○	○	○	○
	Arc spot		Chosen	Chosen	Chosen	Chosen	Chosen
	Entering pause in emergency		○	○	○	○	○
	Displaying signals meaning welding is being performed		○	○	○	○	○
	Displaying abnormal signals		○	○	○	○	○
Robot Acc'y	Interface (for each robot)	Type	-	Embedded in the main body	-	Embedded in the main body	
	Wire reel stand	Set	-	○	-	○	
	Conduit cable	Type	-	4M 9/16-UNF	-	4M 9/16-UNF	-
	Control cable	Type	-	9P, 6M	-	9P, 6M	-
	Shock sensor	Set	-	Chosen	-	Chosen	-
	Cable hanger	Set	-	Chosen	-	Chosen	-
Handling craters	Self-maintenance		○	-	○	-	○
	General crater handling		○	-	○	-	○
	Crater starting		○	-	○	-	○
	Crater repeating		○	-	○	-	○
	Crater dividing		○	-	○	-	○
Wire feeder	Standard type		○	-	○	-	○
	Robot type (for each robot)		-	○	-	○	-
	Box type		○	-	○	-	○
	Shoulder type		○	-	○	-	○
	Spot gun type		○	-	○	-	○
Wire feeder (with remote control)		Type	3S3AR-S2V42C/02	3S3AR-S2V42C/02R	3P5AS-N2V42S/24	3P5AS-N2V42S/24R	3P6AS-N2V42S/44
Remote control box		Type	RB-A350	-	RB-A500	-	RB-A600
Standard wire diameter		ømm	0.9/1.0/1.2	←	1.2/1.6	←	1.2/1.6
Weight		kg	9	←	9	←	9
Dimension (W×D×H)		mm	180×445×300	←	180×445×300	←	183×445×300
Welding touch		Type	F-35L	RS-350	F-50H	RS-500	F-60H
Rated current		A	350	←	500	←	600
Wire diameter		ømm	0.9 - 1.2	←	1.2 - 1.6	←	1.2 - 1.6(2.0)
Cable length		m	3	←	3	←	3
Cooling method		-	Air cooling	←	Air cooling	←	Air/water cooling
Duty cycle		%	40(CO_2), 20(MAG)	←	70(CO_2), 35(MAG)	←	70(CO_2), 35(MAG)
Gas flow meter		Type	FCR 1025	←	FCR 1025	←	FCR 1025

DIGITAL MIG MAG Automatic Welding Machine

PD-Digital Pulse series

Automobile Industries, Environmental Friendly, High Speed and High Quality Welding on Anti-Corrosive Material



MAIN FEATURE

Low heat input pulse welding with unique PDC control

- Applied to various materials such as Zinc(Zn), Aluminum(AL) or Zinc+Aluminum alloy
- Maximizing welding quality and productivity with low heat input/ low spatter/ high speed welding
- Arc length control process allows optimal welding condition even with gap or tolerance
- Low cost/high quality welding with MAG(CO_2+Ar) pulse technique

Maximizing user convenience by the state of the art control technique

- Setting welding condition with jog volume
- Saving welding condition(up to 99 setings) and one-touch call
- Data copy and optimal parameter setting with teaching pendant
- Compensate deviation between setting and output value

PDC control technique

PDC(1-Pulse 1-Dip drop Control) is the unique pulse control technique of Hyosung that allows ideal one-pulse one-drop by optimizing welding current and voltage and reducing heat input into material.

STANDRD SPECIFICATIONS

MODEL		PD 200B	PD 350	PD 350AL	PD 350S	PD 600	PD 600AL
Welding power	Type	PD-200B	PD-350	PD-350AL	PD-350S	PD-600	PD-600AL
Welding function		• MiG, Pulse • Base Metal : Fe, CU	• CO_2, MAG, Pulse • Base Metal : Fe, SUS,AL	• MIG, Pulse • Base Metal : Fe, AL	• MIG, Pulse • Base Metal : Fe, SUS	• CO_2, MAG, Pulse • Base Metal : Fe, SUS, AL	• MIG, Pulse • Base Metal : Fe, AL
Input voltage	V	3ø 220V, 380, 440V				3ø 220V, 380, 440V	
Frequency	Hz	50, 60				50, 60	
Rated input	kVA	10.2	19.4	19.4	19.4	40.0	40.0
	kW	8.0	15.8	15.8	15.8	36.0	36.0
Rated output current	A	40 ~ 200	40 ~ 350	40 ~ 350	40 ~ 350	50 ~ 600	50 ~ 600
Rated output voltage	V	11 ~ 28	12 ~ 36	12 ~ 36	12 ~ 36	13 ~ 48	13 ~ 48
Duty cycle	%	100	60	60	60	40	40
Dimension(W×D×H)	mm	290×600×520(W×H×D)				290×600×640(W×H×D)	
Weight	kg	46				70	
Wire feeder	Type	EF-200	EF-350	EF-350M	EF-350	EF-600	EF-600M
Standard wire diameter	ømm	0.8, 1.0	1.0(0.9), 1.2	1.0(0.9), 1.2	1.0(0.9), 1.2	1.2(1.4), 1.6	1.2(1.4), 1.6
Feeding Speed(/Min)	m	0.8 ~ 22				0.8 ~ 22	
Feed-back control		Encoder pulse control				Encoder pulse control	
Dimension(W×D×H)	mm	225×400×625 (W×H×D : Include wire cover)				225×400×625 (W×H×D : Include cover)	
Weight	kg	14.5				14.5	
Welding torch	Type	F-20L	F-35L	MB-350D	F-35L	F-50L	MB501D
Rated output current	A	200	350	350	350	500	500
Standard wire diameter	ømm	0.8, 0.9, 1.0, 1.2	0.9, 1.0, 1.2			1.2, 1.4, 1.6	
Duty cycle	%	30(MIG)	40(CO_2), 20(MAG)	30(MIG)	40(CO_2), 20(MAG)	40(CO_2), 20(MAG)	70(CO_2), 35(MAG)
Cable length	m	3				3	
Cooling mode		Air Cooling				Air Cooling	Water Cooling
Cable & etc							
Remote control	Type	RC-200	RC-350			RC-600	
Gas regulator		Ar gas regulator				Ar gas regulator	
Welding cable		35SQ 5M	70SQ 5M			95SQ 5M	
Earth cable		35SQ 5M	70SQ 5M			95SQ 5M	
Control cable		10C 5M				10C 5M	
GAS hose		8mm 8M				8mm 8M	
		Air Cooling		Water Cooling	Air Cooling	Air Cooling	Water Cooling

Digital pulse inverter control

DIGITAL MIG MAG Automatic Welding Machine

ENCORDER CONTROLLED 4-ROLL GEAR WIRE FEEDER

- Stable wire feeding with fluctuation of primal input power
- Precise Feed-Back with Encorder motor
- Zero wire sleepage with 4Roll-Gear U-Groove roller

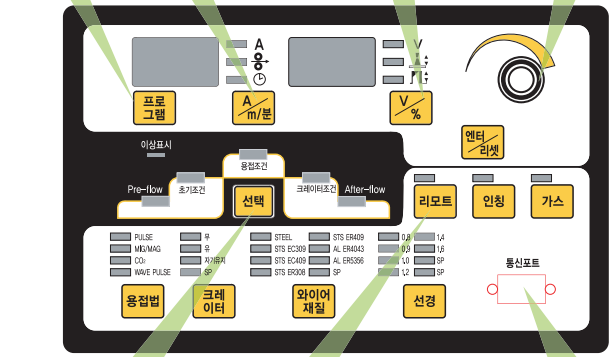
EASY VISUAL CONTROL PANNEL AND TEACHING PENDANT

Welding condition
- 1~99 Settings

Current setting
- Welding current
- Feed rate
- Time

Voltage setting
- Welding voltage
- Arc length
- Arc characteristic/peak current

Control volume
- 1~99 Settings



Function
- Initial current
- Welding current
- Gas

Remote box

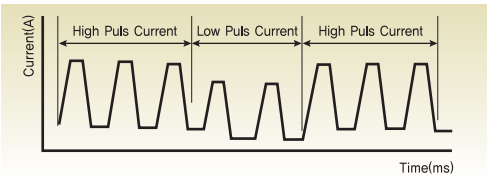
Teaching pendant communication port
- Setting weding condition with teaching pendant

Current and voltage setting window

Data copy function
- Enables copy welding setting data from other welding machine

Actual output welding current and voltage

LOW HEAT INPUT (WAVE PULSE)

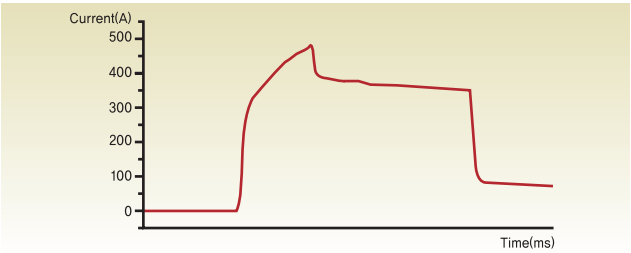


▶ **Wave Bead of Aluminum**

ZERO WELDING DEFECT WITH FCR/OD CONTROL

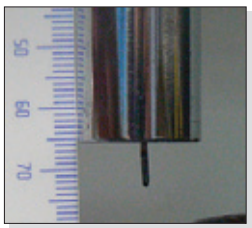
■ Reduce welding defect by arc start control(FCR) and optimal end control

- Smooth Arc start with FCR(Fast-Current Raising time) Control and OD(One-Drop) Control at the end



■ Wire bulb comparison

<Conventional Pulse>



<Digital Pulse>

MIG ARC Brazing Welding Machine

Brazing PE 200B

Optimized for welding thin board in high efficiency and high quality

DISTINCTIVE FEATURES

- **Superior arc stability in low-current areas, minimum distortion of thin plate**

  Employing inverter control and our own waveform control method (CC-CVC), this machine can obtain arc stability in low-current areas, enabling MIG brazing with little deformation caused from low heat input.

- **Little spatter amount**

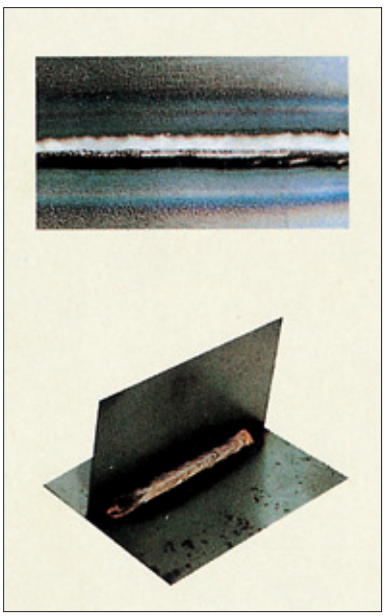
  With our unique waveform control method, the machine rarely makes spatter under normal condition.

- **Real-time arc start**

  Controlling waveform optimized for heat input upon start, the machine conducts so perfect real-time start in low-current areas that it can extend its usage for automatic machines and robots.

- **Small size coupled with light weight (41kg)**

MIG BRAZING SAMPLES



Condition
Current: 100A
Voltage: 14V
Speed: 70km/min
Wire diameter: 1.0ø
Base material: Soft steel

Condition
Current: 60A
Voltage: 14V
Speed: 50m/min
Wire diameter: 0.8ø
Base material: Soft steel

STANDARD SPECIFICATIONS

MODEL	BRAZING PE 200B
Welding power	PE 200B
Input voltage	3-phase,1-phase 220V, 380V, 440V
Rated output	200A 25V
Frequency	50Hz, 60Hz
Rated input	8kVA, 6.4kW(9kVA 7.2kW)
Output current range	20~200A
Output voltage range	11~28V
Duty cycle	60%
Dimension(W×D×H)	350×460×652mm
Weight	41.5kg
Feeder	M-VA 200B
Wire diameter	0.8, 0.9, 1.0 1.2mmø
Cable length	5m
Weight	9kg
Welding torch	F-35L
Wire diameter	0.8, 1.0mmø
Rated power/Duty cycle	200A/20%(MIG)
Cable length/cooling, configuration	3m air cooling - Curved
Gas flow meter	FR-II
Maximal flow rate	25ℓ/MIN

IC + Thyristor control

Submerged Welding Machine

Submerged series

DISTINCTIVE FEATURES

- Conduct stable and high-efficiency welding in a wide range of welding current - from low to high current
- Enhance easy-to-use operation, equipped with operation panel and wire reel part in one unit
- Operate stably with no slipping, adopting 4-wheel drive method
- One-touch method for welding start/stop with wire sticking preventing function that may occur in welding start/stop.

STANDARD SPECIFICATIONS

Type	SMART CARRY HSC-S60	
Pole number	1-POLE	
Welding current range	300~1500A	
Wire reel weight	12.5kg, 25kg	
Used wire diameter	(3.2mm), 4.0mm, 4.8mm, (6.4mm)	
Wire feeding speed	Standard type (Single Gear)	Double Gear
	2.1m/min	4.2m/min
Wire feeding motor	60W DC MOTOR	
Feeding speed control method	Control ARC Voltage by Thyristor	
Adjustable range of pole position	Vertical 50mm, Horizontal 50mm	
Speed range of driving carriage	10~100cm/min	
Flux hopper amount	6*l*	
Rail length of carriage	1.8m	
Weight	50kg	

WELDING POWER OF SUBMERGED WELDING MACHINES

MODEL	HAS-1000	HAS-1500
Rated input	80kVA	100kVA
Rated input voltage	Single phase 220V, 380V, 440V	
Frequency	50Hz, 60Hz	
Rated output	1000A	1500A
No-load voltage	88V	
Rated load voltage	44V	
Power feature	Dropping feature	
Duty cycle	100%	
Output current range	250~1000A	400~1500A
Insulation grade	H	
Weight	650kg	780kg
Dimension(W×D×H)	770×1140×1527	

AC/DC TIG series

Available for welding every kind of metals in high quality

DISTINCTIVE FEATURES

- **One machine is capable of performing more than six functions**
  - ① AC TIG welding : Light metal such as Al and Mg.
  - ② AC TIG pulse welding : Surface welding including Al, any position and different plate welding
  - ③ DC TIG welding : Stainless, copper, alloyed Ni, and Ti
  - ④ DC TIG pulse welding : Surface welding such as stainless
  - ⑤ DC manual welding : Stainless, Cr-Mo copper, general soft steel, etc.
  - ⑥ DC TIG arc spot welding : Stainless, copper, alloyed Ni, and low- alloyed Ti steel
- **Digital display**
- **Convenient setting of all the welding conditions**
- **Softer pulse noise in welding than that of other products**
- **Small size and light weight in slim type**
- **Energy-saving function**

STANDARD SPECIFICATIONS

MODEL		PRT 300AD		PRT 500AD	
Welding power	Type	PRT 300AD		PRT 500AD	
		TIG	Manual	TIG	Manual
Rated input voltage	V	3-phase 220, 380, 440V			
Rated output power	A	300		500	
Frequency	Hz	50/60			
Duty cycle	%	40		60	
Rated input	kVA	11.1	12.3	19	21
	kW	8.8	9.9	15.8	17.6
Rated output current range	DC	5~300	10~200	5~500	10~300
	AC	10~300		10~500	
Rated load voltage	V	22	28	30	32
Crater current	A	300		500	
Down Slope Time	Sec	0.1~5		0.1~5	
ARC Spot Time	Sec	0.1~5		0.1~5	
Gas After Flow Time	Sec	0.1~25		0.1~25	
Pulse frequency (Hz)	Low	0.5~15		0.5~15	
	high	15~300		15~500	
Pulse width adjustment	%			5~85	
Cleaning width adjustment	%	25~45		25~45	
Dimension (W×D×H)	mm	385×519×586		392×595×712	
Weight	kg	60		76	

IGBT Inverter control

DC TIG Welding Machine

DC TIG series

Excellent DC TIG welding machine

DISTINCTIVE FEATURES

- **Wide range of welding from thin plate to thick plate (0.3~8mm)**
- **Optimized for on-the-spot welding**
  Using inverter technology, the machine, for 300A, comes to be the first small-sized, light-weight product in the industry.
- **Simple TIG pulse adjustment**
  You can easily fine tune complex TIG pulse adjustments with one dial requiring no knowledge of TIG pulse. You can alternate low/middle frequency depending on its usage.
- **Real-time arc start and constantly stable arc feature**

STANDARD SPECIFICATIONS

MODEL		PRT 300D		PRT 500D	
Welding power	Type	PRT 300D		PRT 500D	
		TIG	Manual	TIG	Manual
Rated input voltage	V	3-phase (single phase) 220, 380, 440V			
Rated output power	A	300(200)	200(150)	500(300)	300(150)
Frequency	Hz	50/60 Hz			
Rated input	kVA	11(7.2)	11.2(7.5)	19	21
	kW	8.1	7.0(5.7)	15.8	17.6
Rated output current range	A	5~300(200)	5~300(150)	5~500(20~300)	5~300(20~150)
Duty cycle	%	60		60	
Crater current	A	5~300		5~500	5~300
Down Slope Time	Sec	0.1~5		0.1~5	
ARC Spot Time	Sec	0.1~5		0.1~5	
Gas After Flow Time	Sec	0.1~1		0.1~25	
Pulse frequency (Hz)	Low	0.5~25		0.5~25	
	high	15~400		10~500	
Pulse width adjustment	%			20~80	
Cleaning width adjustment	%			25~45	
Dimension (W×D×H)	mm	260×510×465		380×540×600	
Weight	kg	22		68	

* **Note :** The value in ( ) is for single phase input

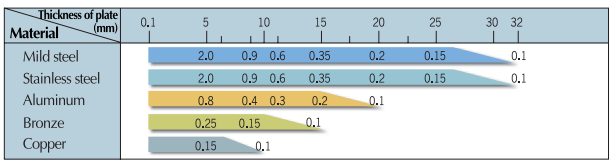
INVERTER PLASMA CUTTER series

DISTINCTIVE FEATURES

- **Economical model**
  High quality and function at a competitive price.
- **Optimum model for outside works**
  Designed for the factory where the cutting area is changed frequently and for the outside works.
- **Complete protection**
  Equipped with the warning lamps that flicker at abnormal input voltage, temperature and compressed air.
- **Clean cutting of all types of metals without thermal deformation**

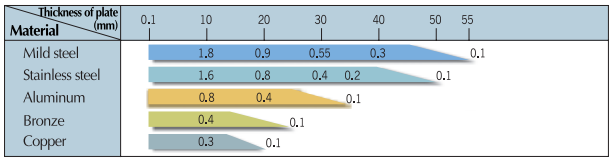
CUTTING CAPABILITY

70A



* **Note :** The figures show the approximate cutting speed (m/min) at 70A with 3-p.

120A



* **Note :** The figures show the approximate cutting speed (m/min) at 120A.

STANDARD SPECIFICATIONS

MODEL		PC 70		PC 120	
Welding power	Type	PC 70		PC 120	
Rated input voltage	V	3-phase (single phase) 220, 380, 440			
Frequency	Hz	50/60			
Phase		3-phase	single phase	3-phase	single phase
Rated output current	A	70	50	120	80
Rated output range	A	20~70	20~50	20~120	20~80
Rated load voltage	V	140		160	
Rated input	kVA	12.7	9.5	24	15
	kW	9.8	6.9	19.5	12
Maximum empty load voltage	V	280 or lower		320 or lower	
Duty cycle	%	60		60	
Dimension (W×D×H)	mm	260×510×465		380×540×600	
Weight	kg	24		74	

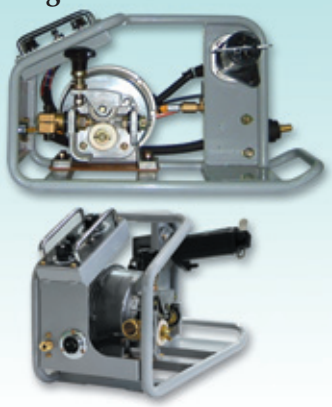
Accessories

CO_2 WELDING TORCH

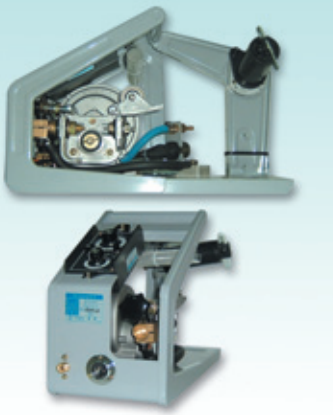
MODEL	MF-35L	MF-50L
Rated current (A)	350A	500A
Usage (%)	350A 60% CO_2 / 350A 20% MAG	500A 60% CO_2 / 500A 30% MAG
Weight (kg)	2.8	3.5
Length	3M	3M
Cooling method	Air cooling	Air cooling

Grib Type		Cross Sectional Area		Length		Type		Diffuser/Insulator	
2A	Small Std.	30	30SQ	3L	3.0M		Manual	D10	M10/21 ϕ
3A	Standard	38	38SQ	4L	4.0M	/C	Auto Curve	D11	M11/20 ϕ
X	Etc.	50	50SQ	5L	5.0M	/S	Auto Straight	D11-121	M11/21 ϕ
		X	Etc.	X	Etc.	/X	Etc.	D12	M12/25 ϕ
								X	Etc.

9P Wire feeder for shipbuilding light weight



14P Wire feeder for inverter



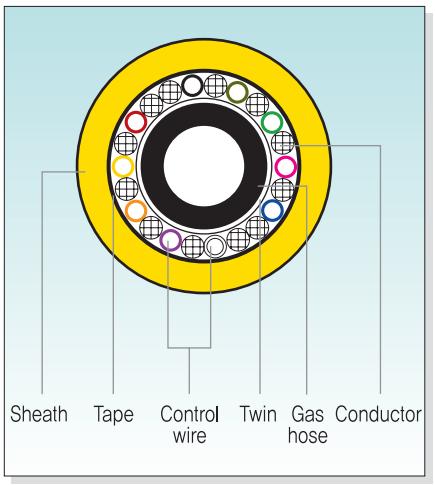
CO_2 WIRE FEEDER

Type		Wire feeder for light weight (9P)	Wire feeder for inverter (14P)
Control box	Guide	○	○
	Volume	RV24YN 20S B5KΩ	RV24YN 20S B5KΩ
	Fuse	1A 20mm	1A 20mm
Sheath	Motor	DC 24V Reduction Ratio 25:1	DC 24V Reduction Ratio 25:1
	Feeder Roller	Ceramic 1.4/1.4 42mm	Ceramic 0.9/1.2 42mm
	Gas valve	DC 24V Orifice 3mm	DC 24V Orifice 3mm
	Lead-inside gas nipple	One-Tough +9/16 UNF-18	One-Tough +9/16 UNF-18
	Metal consent	MS3102 20-16P (9 PIN)	MS3102 20-27P (14 PIN)

CO_2 WELDING SINGLE CABLE

■ **Structure : STS 60SQ+10C**(60㎟+1.25㎟×2C + 0.75㎟×8C)

Nominal Sectional Area (㎟)		Construction							Max. conductor resistance 20℃ (Ω/km)	Min. insulation resistance 20℃ (MΩ/km)	A.C Spark test 1,000 V/ 1min	Standard length (m)
		Conductor			Combined diameter (mm)	Tape thickness (mm)	Sheath thickness (mm)	App. overall diameter (mm)				
		Number & diameter of wire (mm)	Control wire insulation									
			Thickness (mm)	Dia. (mm)								
60 + 1.25×2C + 0.75×8C	60	12/94/0.26	-	-	18.7	0.15	3.0	25.0 (±0.5)	0.311	–	No break-down	To order
	1.25	65/0.16	0.46	2.41					15.6	1,000		
	0.75	41/0.16	0.46	2.10					26.0	1,000		
	Gas hose	8.0(I.D) X 12.7 X 13.0 (O.D)							–	–		



■ **Sectional Diagram**

NO	Item		Specification
1	Conductor	Meterial	Copper Wire
2	Gas hose	Meterial	EPDM
		Hardness (A)	85A(±3)
3	Control wire	Meterial	Sn copper wire
		Insulation	XL-PE
		Color 1.25 SQ×2C	WH, BK
		Color 0.75 SQ×8C	RD, YL, BL, GN, BN, VT, OR, PK
4	Tape	Construction	0.15(t)×25(w)×1/4(wrap)
		Material	PE(FINON)
5	Twin	Direction	Left handed
		Pitch (mm)	290 (more or less)
6	Sheath	Material	FR-TPE
		Hardness (A)	85A
		Color	YL
7	Printing	HYOSUNG SILK ROAD STS 60SQ + 10C ILHUNG	

HYOSUNG
Welding Machine

▸▸ SPOT WELDING MACHINES
▸▸ SPOT SPECIAL MACHINES

Hyosung leads the welding machine industry of Korea.

As a comprehensive welding machine maker, Hyosung continues its effort to develop the welding machine industry of Korea, and to improve quality and performance to meet the needs of the customers.
With abundant experience and know-how on welding process, Hyosung produces MIG, MAG, TIG, DC arc, plasma cutter, spot, projection and seam welding machines, and provides the comprehensive service from design to engineering, manufacturing and installation of all the machines for welding.
Hyosung will do its best to grow to one of the major brands in the world welding industry.

Product Composition

◉ Spot Welding Machines

- Manual portable spot welding machine
- Multi spot welding machine
- Timer & SCR contactor (controller)
- Stationary (pedestal) & projection welding machine
- Inverter sport welding machine (high strength steel for bodies and high-quality welding of aluminum sheet)
- Wire Butt Welding Machine

◉ Spot Special Machines

- 3-phase rectifier type projection spot welding machine (high volume and high quality)
- SEAM welding machine
- WIRE-SEAM welding machine (Plated steel sheet and aluminum coated steel sheet)
- FLASH-BUTT welding machine (Vehicle wheels, etc.)

TABLE OF SELECTED MACHINES AT A GLANCE

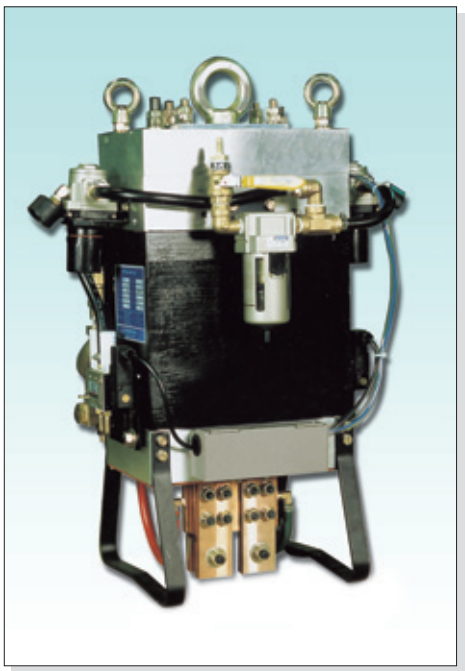
Please choose machines you want in consideration of the material and thickness of plates to be welded.

Material	Welding Method	Type	Dia/Thickness	Hyosung Machine
Mild Steel	Spot welding	High-functional type (Inverter)	4.0mm or less	• SP(IG) 45~190
		General type (SCR control)	3.6mm or less	• SP 50
			4.0mm or less	• SP 75, 100, 160
Stainless	Spot welding	High-functional type (Inverter)	4.0mm or less	• SP(IG) 45~190
		General type (SCR control)	3.6mm or less	• SP 50
			4.0mm or less	• SP 75, 100, 160
Aluminum	Spot welding	High-functional type (Inverter)	2.0mm or less	• SP(IG) 45~190

IGBT Inverter control

Portable SPOT Welding Machine

TP series



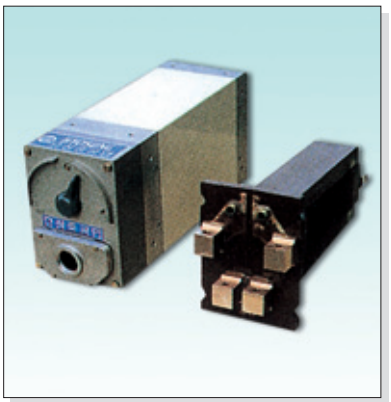
DISTINCTIVE FEATURES

- **Distinctive features**
  Compact design for on-the-spot usage by removing useless functions
- **Water cooling piping**
  Simple water integrator (Manifold) and easy-to-use water supply control
- **Molded coil (0.1, Torr) in high-vacuum mold, making excellent reliability and durability**
- **Aluminum frame and iron core exposed type, conducting high-quality cooling by ambient air**
- **Combined use of kickless cable and 2-wire type**
- **Swivel-bearing embedded to seamless movement**

STANDARD SPECIFICATIONS OF TP TYPE TRANS

MODEL	Rated Capacity	Duty Cycle	Rated Frequency	Rated Input Voltage	Secondary No-Load Voltage	Insulation Grade	Weight	Coolant Flow Rate	Coolant Temp.
TP	100kVA	50%	50, 60Hz	220, 380, 440V	21.0V	F	135kg	5ℓ / min.	Under 30℃
	150kVA	50%	50, 61Hz	220, 380, 441V	23.5V	F	160kg	5ℓ / min.	Under 30℃
	180kVA	50%	50, 62Hz	220, 380, 442V	25.0V	F	190kg	5ℓ / min.	Under 30℃

TM series



DISTINCTIVE FEATURES

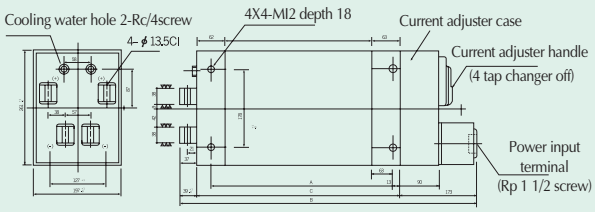
- **Excellent durability**
  Using high-vacuum molded coil to keep durability in high quality
- **Hyosung's unique design and manufacturing**
  In precise production and compact design, the machine is featured with small size and light weight to get employed to any direction of a dedicated automatic welding machine.

STANDARD SPECIFICATIONS

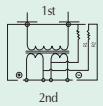
Rated amount (kVA)	Type	Input voltage (V)	Frequency (Hz)	2nd rated voltage(V)	Current adjustment(Tap)	Insulation grade	Weight(kg)
125	TM125-46-C4-11	220,380,440	50,60	10.52~8.16	4T+OFF	F	130
150	TM150-46-C4-12	220,380,440	50,60	11.76~9.3	4T+OFF	F	160
175	TM175-46-C4-14	220,380,440	50,60	13.3~10.52	4T+OFF	F	185

APPEARANCE

A-TYPE

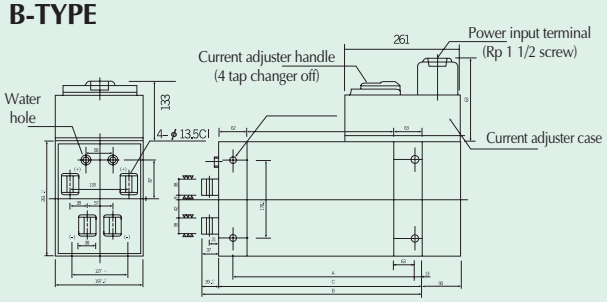


• 2nd ground resistance (10W 100Ω)

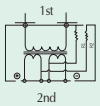


Capacity	Measurement			Remark
	A	B	C	
125kVA	412±1.5	670	458	
150kVA	472±1.5	756	544	
175kVA	472±1.5	756	544	

B-TYPE



• 2nd ground resistance (10W 100Ω)



Capacity	Measurement			Remark
	A	B	C	
125kVA	412±1.5	587	458	
150kVA	472±1.5	673	544	
175kVA	472±1.5	673	544	

Pneumatic SPOT Welding Machine

SPOTRA series

Upgraded clean spot welding machine provides highly-reliable welding quality

Auxiliary air tank

An auxiliary air tank can be used if the air pressure is low. (optional)

Ergonomic design

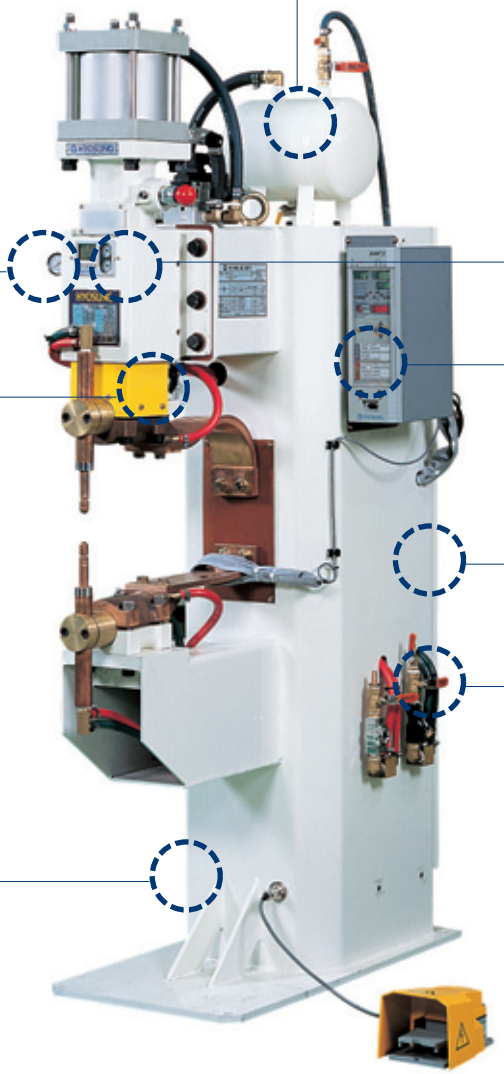
The air gauge at the operator's eye level helps to easily check and adjust air pressure.

Concentration on safety

The safety cover of the cylinder Ram guide increases safety of the operators.

Compact design

Compact design (70% of the existing model) enables the system to be installed in a narrow space.



Thermo hygrometer

The system provides the supplementary functions for appropriate work environment.

Top-performance timer

High-performance 32bit DSP CPU provides the superior performance.

High-performance mold transformer

Simple epoxy molding provides superior durability, low-vibration and damp-resistance.

Maximum cooling effect

Modified coolant flow method maximizes the cooling effect.

MODEL NUMBER

MODEL □ — □□□ — □□ — □□□□

Stationary
- **S** SPOT
- **SP** Spot/Projection

Capacity
- **50** 50kVA
- **75** 75kVA
- **100** 100kVA
- **160** 160kVA

Pressure
- **6** 600kgf
- **10** 1,000kgf

Option
- **M** Depth(mm)
- **AT** AIR TANK
- **Z** Others
- **N** NFB BOX
- **O** OILER

PNEUMATIC AC SPOT WELDING MACHINE

MODEL		50-06	50-10	75-10	100-10	160-10
Rated capacity	kVA	50	50	75	100	160
Input voltage	V	220/380/440				
Maximum welding input	kVA	150(129)		188(161)	225(196)	482(413)
Maximum short-cut current	A	20,000		22,000	26,000	40,000
Maximum welding current	A	18,000		19,800	22,500	36,000
Rated pressure	kgf	600	1,000			
Axis depth	mm	500				
Axis interval	mm	210				
Duty cycle	%	5.5(7.5)		8(10)	8(10)	5.5(7.5)
Rated Frequency	Hz	60/(50)				
Control voltage	V	110				
Electrode stroke	mm	20/60	20/80			
Electrode dia.	mm	16	18			
Electrode holder dia.		25	32			
Electrode holder length	mm	180	220			
Horn diameter		60	70			
Rough weight	kg	291	385	365	400	550
Timer type		RESCOM^2- T1				
Contactor type		D-SIZE			E-SIZE	

* **Note:** The value in ( ) is at 50Hz.

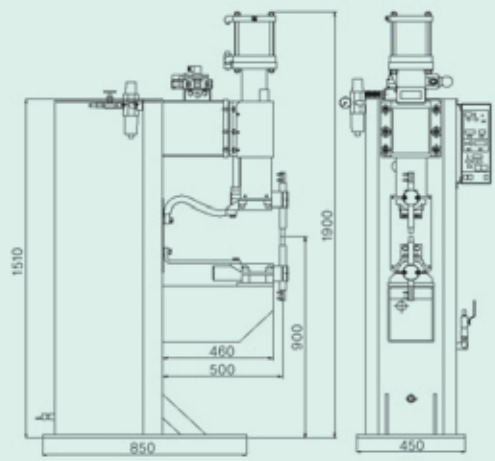
PNEUMATIC AC GLOBAL SPOT/PROJECTION WELDING MACHINE

MODEL			P50-10	P75-10	P100-10	P160-10
Rated capacity		kVA	50	75	100	160
Rated input		V	220/380/440			
Maximum welding input		kVA	182(156)	237(200)	272(237)	482(413)
Maximum short-cut current	Platen	A	24,000	27,000	30,000	40,000
Maximum welding current			21,600	24,300	27,000	36,000
Maximum short-cut current	Tip location	A	20,500	23,000	26,000	35,000
Maximum welding current			18,500	20,700	23,400	33,000
Rated pressure		kgf	1,000			
Axis depth	Platen	mm	385			
	Axis	mm	500			
Axis interval		mm	170			
Duty cycle		%	3.8(5.2)	5.0(6.8)	5.5(7.5)	5.5(7.5)
Rated Frequency		Hz	60/(50)			
Control voltage		V	110			
Platen		mm	150			
Electrode stroke		mm	20/80			
Rough weight		kg	412	420	450	600
Timer type			RESCOM^2- T1			
Contactor type			D-SIZE		E-SIZE	

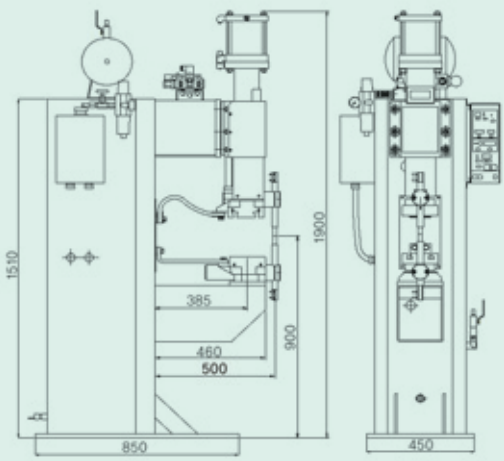
* **Note:** Tip dia. 16mm, Tip holder dia. 32mm, Horn length 250mm (Lower horn 350mm) and Horn dia 70mm are applied to all models
* **Note:** The value in ( ) is at 50Hz.

APPEARANCE

10-SPOT (Standard)



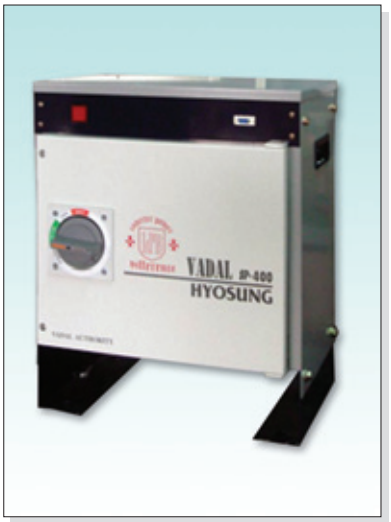
10-Spot/Projection (Option)



Resistance Welding Controller

VADAL series

MFDC Inverter
Resistance welding controller

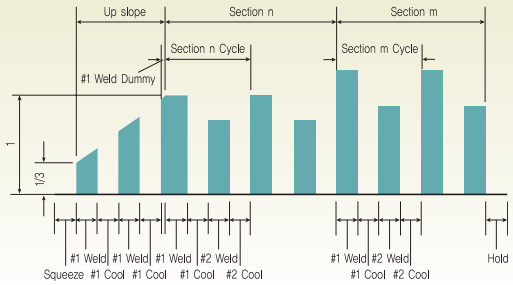


FEATURES

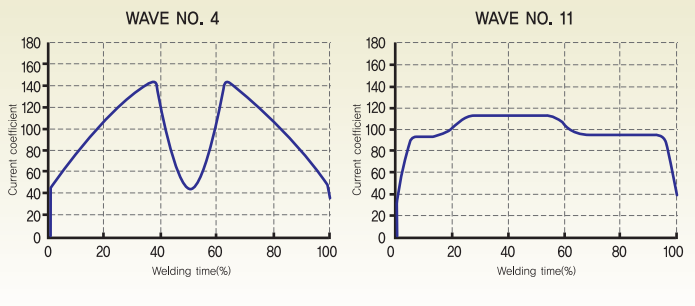
- **Respond to the 63 series welding conditions**
  SE-1000 Seam Model responds to 31 series welding conditions with 8 sections
- **3-step conducting welding sequence**
  SE-1000 Seam Model supports 2-step conducting
- **Optimized welding time with accurate 1ms-scale time setting**
- **Support different types of user interface**
  - Remote teaching box
  - Touch panel
  - FND-display program box
  - Communication network
- **Current waveform control for optimized welding by type of material**
- **DC/AC inverter control**
- **Increased welding current in the parallel operation mode**
- **Compact size with optimum design**
- **Easy to install with one touch-type cable connection**

WELDING SEQUENCE

■ SE – 1000



CURRENT WAVEFORM CONTROL



STANDARD SPECIFICATIONS

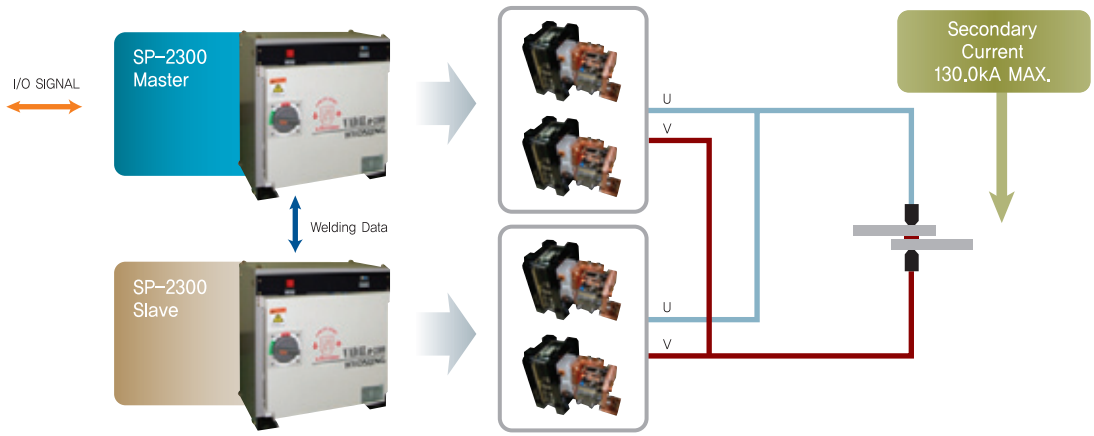
MODEL	SP-400	SP-401	SP-1000	SP-2300	SE-1000
Use	SPOT / PROJECTION				SEAM
Welding power	3-phase, 380/400/440V 50/60Hz				
No. of welding conditions	63 series				31 series 8 sections
Time control unit	1ms				
Inverter control method	1kHz PWM control				
Current control method	Static current control by initial feedback control of welding machine transformer				
Primary max. current	400A (10% or lower)		1000A (10% or lower)	2300A (7.5% or lower)	1000A (10% or lower)
Secondary max. current	2.0 ~ 25.0kA		2.0 ~ 50.0kA	5.0 ~ 100.0kA	2.0 ~ 50.0kA
Welding sequence	3-step conducting				2-step conducting
Stepper	15 steppers / 5 steps (Linear / Cascade)				-
Valve output	2 elements (DC 24V, AC 110V)				-
Current waveform control	1 ~ 19				
DC / AC control	DC/AC compatible		DC control		
Input/output I/F	Terminal block	One-touch	Terminal block		

USER INTERFACE

HTB-25 Teaching box

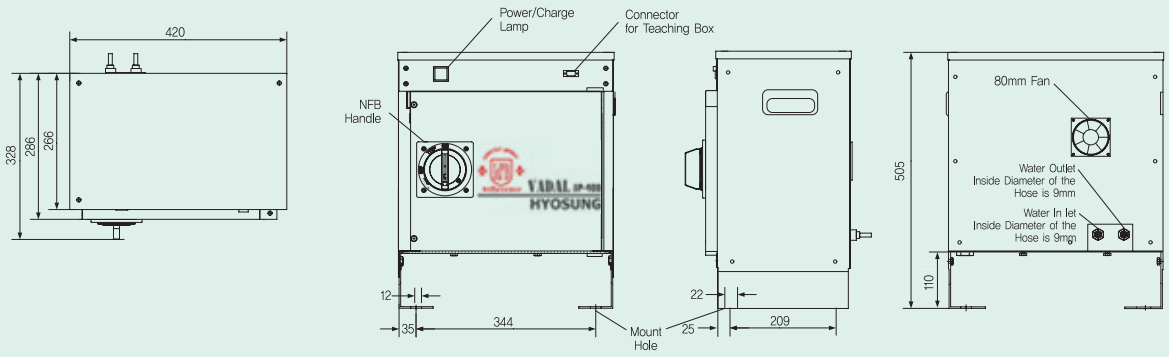
Touch panel

PARALLEL OPERATION METHOD



MINIATURIZATION BY OPTIMUM DESIGN

SP-400 Appearance (unit : mm)



Spot Welding Timer

HY series

DISTINCTIVE FEATURES

- **Digital display of synchronous static current control, Micom memorizing, and monitoring function to ensure the best quality/work management in any welding method**
- **Three-step conducting methods (up-slope, pre-heating, and tempering) to make welding fully done**
- **Self-diagnosis function using abnormality detection monitoring to display any faulty status on lamps and send abnormality signals**
- **Current/firing angle monitoring to check current fluctuation and 2nd circuit short**

STANDARD SPECIFICATIONS

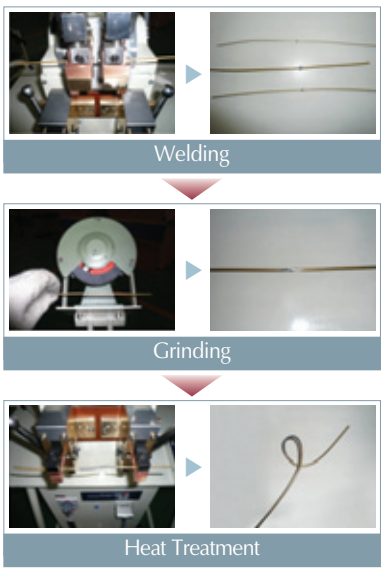
Item \ Type		HY-030	HY-020
Control coefficient, conducting method		2-series, 3-step conducting	4-series, 3-step conducting
Number of memorized welding conditions		10 conditions	15 conditions
Input voltage		220V, 380V, 440V+10%-25% 60Hz Automatic switchover	
Control current		110V±10% 60Hz Automatic switchover	
Time setting	Initial pressure time	0~99 cycle(s)	0~99 cycle(s)
	1st conducting time	0~99 cycle(s)	0~99 cycle(s)
	1st cooling time	0~99 cycle(s)	0~99 cycle(s)
	Wave front time	0~99 cycle(s)	0~99 cycle(s)
	2nd conducting time	0~99 cycle(s)	0~99 cycle(s)
	2nd cooling time	0~99 cycle(s)	0~99 cycle(s)
	3rd conducting time	0~99 cycle(s)	0~99 cycle(s)
	Maintained pressure time	0~99 cycle(s)	0~99 cycle(s)
	Open time	0~99 cycle(s)	0~99 cycle(s)
Current adjustment	Current range	50kA~40kA (set to the maximal current)	
	3rd conducting	Set current ranges from 20% to 100% of the maximal current	
	2nd conducting		
	1st conducting		
Compensation circuit		Constant current method or power voltage compensation method	
Compensation amount		In case of 2nd feel back constant current (a) Induced no-load fluctuation±10% ~ ±2% (b) Resistance load fluctuation±10% ~ ±2% (c) Welding power voltage fluctuation±10% ~ ±2%	
Monitoring		Welding power, firing angle, welding count	
Interlock signal		O	
Abnormal output signal		O	
Production Counting		O	
Current step		-	O
Dimension (W×D×H)		90(W)×295(D)×320(H)	90(W)×295(D)×320(H)
Weight		8kg	

BUTT WELDING MACHINE

FEATURES

- **Auto welding with set current and time allows even welding quality**
- **Good tensile strength is obtain through Welding → Grinding → Heat Treatment(HT)**
  (Reduce wire disconnection and Increase fictious profit)
- **Easy maintenance due to separation of electrode for welding and heat treatment**
- **31 welding conditions memorizing function by remote teaching box**
- **Display sequence state and progressing time through a lamp**
- **Recall welding condition from the front panel**

PROCESS



PROGRAM SETTING

Program Setting Parameter	
No. of Program	64
Grinding time	1 ~ 600초
Wire length for HT	10 ~ 200mm
Wire dia.	0.00 ~ 9.99mm
Wire coating type	9 type
WIRE carbon content	0.00 ~ 9.99%
Welding current	0 ~ 99.9%
HT current after welding	0 ~ 99.9%
Primary HT current	0 ~ 99.9%
Secondary HT current	0 ~ 99.9%
Holding time after welding	0 ~ 999 sec.
Primary HT time	0 ~ 999 sec.
Holding time after HT	0 ~ 999 sec.
Secondary HT time	0 ~ 999 sec.

STANDARD SPECIFICATION

Item		Specification
Power Unit	Rated Capacity	1KVA (50% Duty Cycle)
	nput Voltage	Single phase AC 220V
	Frequency	50/60Hz
	Rated Current	4.5A
	Secondary Current	720A (15% Duty Cycle)
	Secondary Short Circuit Current	900A
Electrode	WIRE Dia	STEEL WIRE 0.5 ~ 5.0mm
Operating Method		Manual operation for Welding and HT Clamping
		Automatic welding time setting with upset spring

Item	Specification
WIRE LEVER SHEARS	
Max. dia. of Mild Steel	10mm
Max. dia. of Hard Steel	6mm
GRINDING MOTOR	
Spec.	1/4HP
Input Voltage	Single phase AC 220V
Power Consumption	300W
Grinder	6″
Axial Dia.	15.8 ϕ
MOBILE BENCH WHEEL	
2 rotating wheels and 2 fixed wheels	

Projection Seam

3-phase rectifying & AC single phase series

The machine can be used for large-sized projection welding such as aluminum alloyed bodies of vehicles and railway vehicles, and zinc-plated and alloyed steel sheet with corrosion tolerance such as vehicle components, enabling short-time current welding to get high-quality welding.

3-phase rectifying Projection

Automatic projection

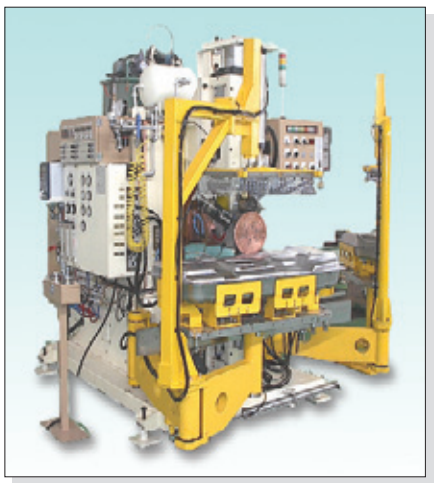
DISTINCTIVE FEATURES

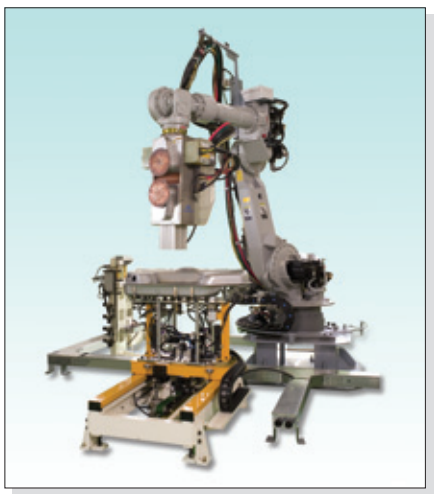
- **Max. welding ability : Input capacity 300kVA**
  Maximal current 130,000A
- **Unique design in low friction pressure structure, making satisfying pressure parameters and optimized welding quality in low noise**
- **Excellent control system with less than 1% of error rate in control of flowing current to get perfect welding result**
- **Adopting touch-screen panel and displaying the outcome of welding condition**
- **Displaying various abnormal signals and comparing limited settings for designating welding conditions to prevent bad outcome due to power voltage drop, etc.**
- **Manufactured models (per capacity) : 150kVA, 200kVA, 250kVA, 300kVA, and 350kVA.**

STANDARD SPECIFICATIONS

MODEL		3-phase rectifying type			AC single phase type				
		MPW-3P200	MPW-3P250	MPW-3P300	MPW-1P75	MPW-1P100	MPW-1P160	MPW-1P240	MPW-1P260
Rated input capacity(kVA)		200	250	300	75	100	160	240	260
Input voltage(V)		220, 380, 440							
Tolerant usage(%)		1.3	1.3	1.3	3.4	3.4	4.2	3.6	3.6
2nd short current	Maximum(A)	100,000	125,000	150,000	20,000	25,000	40,000	55,000	60,000
	Minimum(A)	25,000	30,000	30,000	5,000	5,000	5,000	10,000	10,000
Depth(mm)		400	400	400	600	600	300	300	300
Axis interval(mm)		110	110	110	210	210	200	200	200
Maximal pressure(kgf)		2,000	2,500	3,000	950	950	1,500	2,000	
Height(mm)		1,000	1,000	1,000	900	900	900	900	
Stroke(mm)	Commercial	200	200	200	80	80	200	200	
	Work	20			20	20	20	20	
Timer controller		Touch panel type, dedicated 3-phase Micom timer and controller			HY-030			HY-030	
Option		Double head, quality monitoring meter, upper/lower pole JIG system, ejector, current work detector, sensor, automatic robot handling, etc.							

SEAM welding machine series





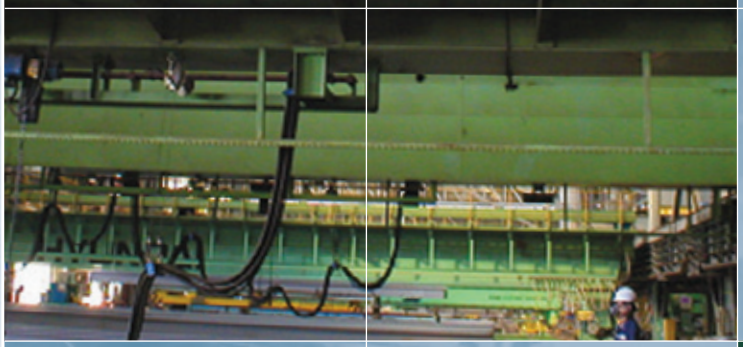
DISTINCTIVE FEATURES

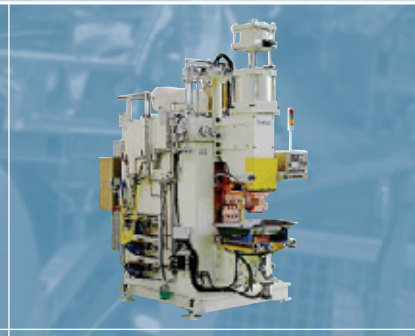
- **Pressure machine with precise adaptability**
  - Adopting Hyosung's own octangle RAM method
- **Power feeder designed for longer life**
  - Lubrication and cooling method suitable for large volume of current for the turning axis of power feeder housing
  - Electrode operation by inverter control.
- **Employing AC&inverter DC in output type and welding TRANS with high usage of heat / vibration / temperature tolerance**
- **Using dedicated SEAM welding timer to control 3-conditional synchronous Micom, the machine can improve welding quality and speed by controlling optimized welding condition input for each straight line, curve, and section.**
- **With Iron-Man in it, the machine works as a dedicated SEAM welding device using robots.**
- **Used for stainless, resin coated steel sheet and aluminum welding power(AC & inverter DC output control)**
- **Making basic models for a variety of special machines**
  - ① Special machines for manufacturing bodies and components of vehicles (automobile/car)
  - Manual SEAM welding machine
  - Iron-Man automatic SEAM special welding machine
  - Robot SEAM special welding machine
  - Wire SEAM of zinc-plated steel sheet in pole consumption type with no manufacturing performed
  - ② Mash SEAM special machine using tailored blank techniques of vehicle bodies
  - ③ Welding covered containers such as tanks (radiators) and drums

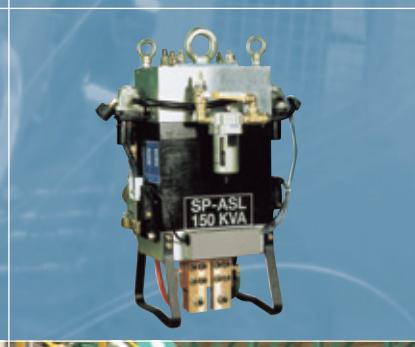
STANDARD SPECIFICATIONS

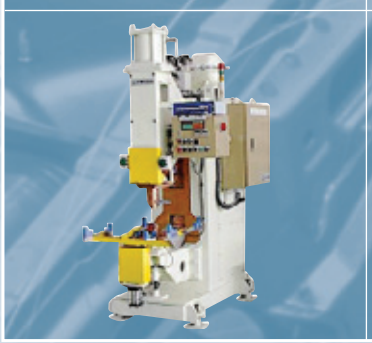
MODEL		Horizontal SEAM welding machine SE-V type			Vertical SEAM welding machine SE-U type				Robot SEAM welding machine SE-Pn type
		SE-V 90	SE-V 150	SE-V 200	SE-U 90	SE-U 150	SE-U 200	SE-U 250	SE-Pn-160
Rated input capacity(kVA)		90	150	200	90	150	200	250	130
Input voltage(V)		220, 380, 440							380, 440
Tolerant usage(%)		50	50	50	50	50	50	50	40
2nd short current	Maximum(A)	20,000	20,000	25,000	20,000	20,000	25,000	25,000	16,000
	Minimum(A)	10,000	10,000	10,000	10,000	10,000	13,000	13,000	3,000
Depth(mm)		470	560	560	600	1,000	600	1,000	80
Axis interval(mm)		50	50	110	50	50	50	50	20
Maximal pressure(kgf)		600	900	1,000	600	600	900	900	700
Height(mm)		950	950	950	950	950	950	950	
Turning pole(mm)	Thickness	12(4,8)	12(4,8)	12(4,8)	12(4,8)	12(4,8)	12(4,8)	12(4,8)	8(8)
	Diameter	250	260	260	200	200	200	200	210(30)
Stroke(mm)		40	40	100	40	40	40	40	60
Pole speed(m/min)		1~4	1~4	1~4	1~4	1~4	1~4	1~4	1~4
Welding ability		Soft steel 1.6t×2	2.8t×2	**	Soft steel 1.6t×2		2.8t×2		**
Available range		Vehicles/motorcycles, various fuel tanks, heatproof pipes of transformer, heater, etc.							
Option		Automatic welding JIG system (Iron-Man), lower part electrode adjuster, plated steel sheet wire SEAM, robot, automatic robot handling, quality monitoring meter, etc.							


Multi-electrode welding system of shipyard automatic line



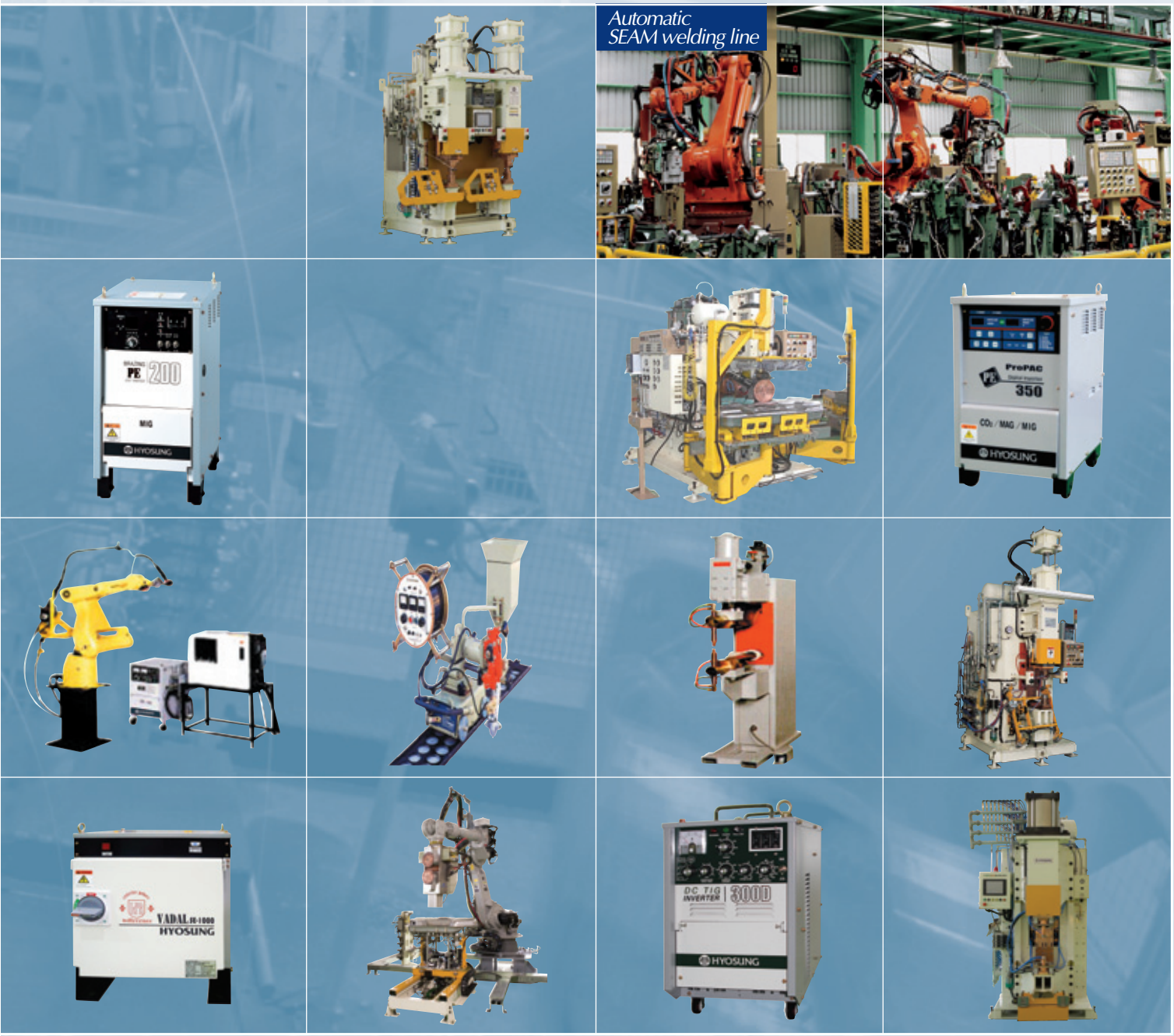






HYOSUNG WELDING MACHINE

Hyosung provides the quality products from welding machine to the machines related to the welding process to meet the needs of the customers.



CERTIFICATION »

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ISO 9001 / ISO 14001

HYOSUNG

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Power & Industrial Systems Performance Group

2010. 05

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