

ISO 9001 Registered



DP400R

Pulsed MAG/MIG CO₂/MAG Automatic Welding Machine



D Digital Inverter
Welding Machine
SERIES

SPECIALIZED POWER SUPPLY MACHINE FOR ROBOTIC AND FULLY AUTOMATED WELDING

- Various welding modes
- New Wave Pulse Process for Steel and Stainless Steel Welding



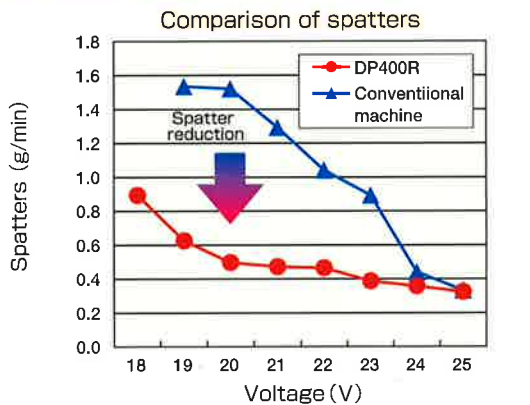
DAIHEN Corporation

The Next Evolution in Welding The DP400R—A More Powerful Pu

Improved Stability and Quality for **Stainless and Mild Steel Welding**

Lower Spatter with high speed welding

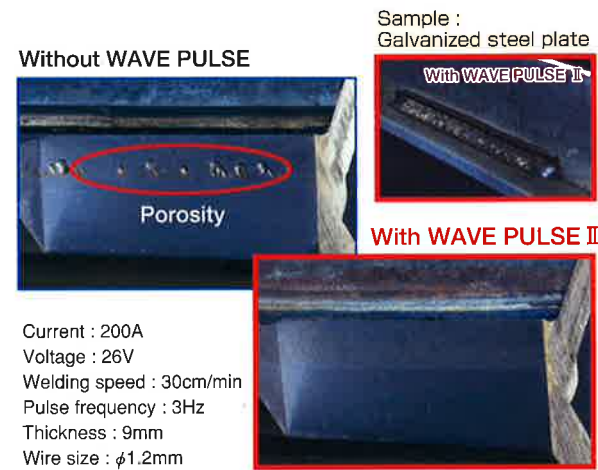
With an optimized wave pulse method, high quality welds are achieved even with lower voltages during high speed welding.



[Current : 320A, Voltage : 18~25V, Welding speed : 130cm/min, Wire size : ϕ 1.2mm]

Reduced Porosity, Even with Galvanized Welding

Experience Less Porosity with the New Wave Pulse Welding at High Currents.



Wider Range of Stability

This power supply performs stable high quality welding even when the gas mixture ratio is changed.

Appropriate mixture ratio

Ar 80%
CO₂ 20%

The gas ratio is changed.

Ar 70%
CO₂ 30%

Conventional machine

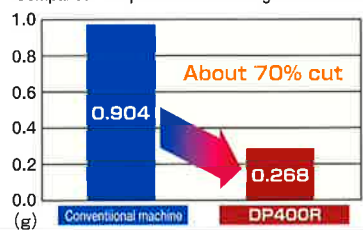


DP400R



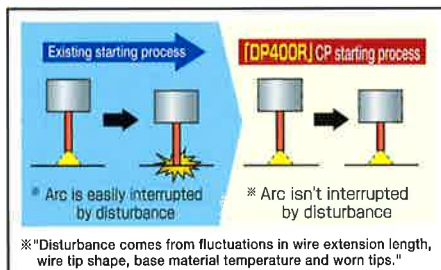
[Current : 150A, Voltage : 24V, Welding speed : 100cm/min, Wire size : ϕ 1.2mm]

Comparison of spatters at different gas mixture ratio.



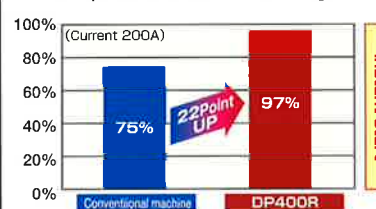
Advanced Arc Start Control

"CP-start" provides a smooth arc start and is able to prevent interruption of the weld due to arc start failures.



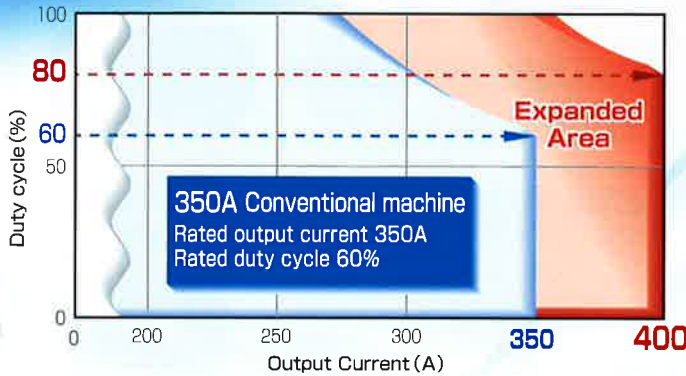
※ "CP start" adopted only Mild steel or Stainless solid wire mode.

Comparison of the instant starting ratio



Welding Power Supply for Fully ems and Multiple Materials!

Large Welding Machine



DP400R

Rated output current **400A**

Rated duty cycle **80%**

(Output current 350A)
(Duty cycle 100%)

Power Up!



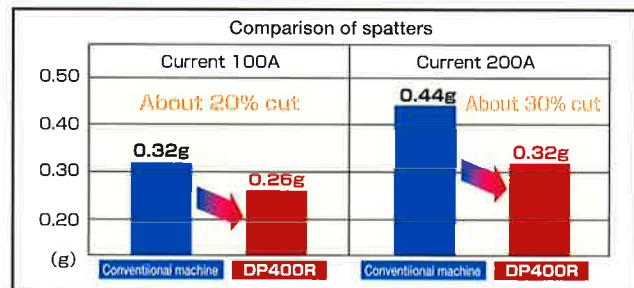
Beautiful High Quality Aluminum Welding

Beautiful welding bead appearance

Reduced Spatter generation for clean beautiful looking welds.



Current : 180A
Voltage : 22V
Welding speed : 80cm/min
Thickness : 3mm
Wire size : ϕ 1.2mm



TIG like bead appearance with WAVE PULSE II

By controlling the wire feed speed a TIG like bead appearance can be achieved.

Conventional machine



DP400R



[Current:100A, Voltage:20V, Welding speed:40cm/min, Pulse frequency:2Hz, Thickness:3mm, Wire size: ϕ 1.2mm]

Better gap welding Control with WAVE PULSE II

WAVE PULSE Welding provides better heat control and improves the tolerance to gaps.

Gap
1.5mm



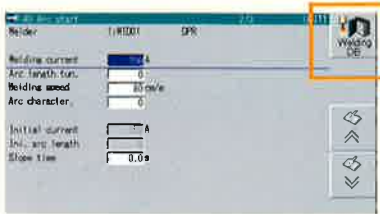
Gap
3mm



[Current : 85A, Voltage : 17V, Welding speed : 50cm/min, Pulse frequency : 3Hz, Thickness : 2mm, Wire size : ϕ 1.2mm]

Maximize Your Welding with the AII and DP400R!

- The connection between the Almega AII and the D-series power supply is simple when using a CAN interface board (optional).
- OTC's own uniquely developed "RS control" (optional) achieves stable arc starts and reduces spatter with a 4-roll wire feeder. This also helps reduce poor welding due to arc start problems.
- The OTC Almega AII welding robot series can determine the welding conditions through the teach pendant automatically using given welding conditions (thickness, joint type, weld length, and welding speed).



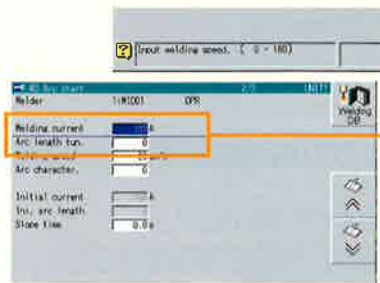
STEP 1

Select "Welding DB"



STEP 2

Plug in
 ①Plate thickness
 ②Joint type
 ③Welding Speed
 ④Weld Length
 and press "Complete"



STEP 3

Complete welding current and voltage automatically



Detachable Digital Panel (Option)

- The Detachable digital panel prevents any unnecessary changes to the welding conditions. A single digital panel can be used to set-up several welding power supplies.



Digital Panel (Option)



The digital panel can store up to 100 different welding conditions!

Various Welding Modes

- 59 different types of welding modes are built into this machine.

With Cr-Fe Solid mode

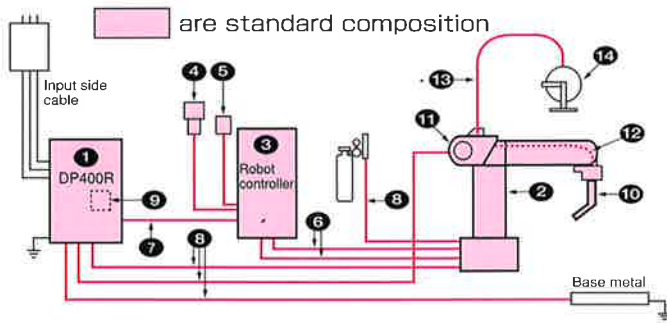


Current: 145A Voltage: 23V
 Welding speed: 100cm/min Thickness: 2mm
 Wire size: ϕ 1.2mm

welding method	Type of wire	Gas	Wire Dia. (mm)
DC	STEEL SOLID	CO ₂	0.8, 0.9, 1.0, 1.2
	STEEL CORED	CO ₂	1.0, 1.2
	CrNi-Fe CORED	CO ₂	0.9, 1.2
	STEEL SOLID	MAG	0.8, 0.9, 1.0, 1.2
	CrNi-Fe SOLID	MIG (2%O ₂)	0.8, 0.9, 1.0, 1.2
	Cr-Fe SOLID	MAG (10%CO ₂)	0.8, 0.9, 1.0, 1.2
DC PULSE	AL/MG	MIG	1.0, 1.2, 1.6
	AL/PURE	MIG	1.2, 1.6
	STEEL SOLID	MAG	0.8, 0.9, 1.0, 1.2
	CrNi-Fe SOLID	MIG (2%O ₂)	0.8, 0.9, 1.0, 1.2
DC WAVE PULSE	Cr-Fe SOLID	MAG (10%CO ₂)	0.8, 0.9, 1.0, 1.2
	AL/MG	MIG	1.0, 1.2, 1.6
	AL/PURE	MIG	1.2, 1.6
	AL/MG	MIG	1.0, 1.2, 1.6
	AL/PURE	MIG	1.2, 1.6
	STEEL SOLID	MAG	0.8, 0.9, 1.0, 1.2
DC WAVE PULSE	CrNi-Fe SOLID	MIG (2%O ₂)	0.8, 0.9, 1.0, 1.2
	Cr-Fe SOLID	MAG (10%CO ₂)	0.8, 0.9, 1.0, 1.2

Standard Composition and Accessories

■ A II -B4 Robot :



This figure indicates only the major components, based on the CO₂/MAG specification standard configuration drawing.

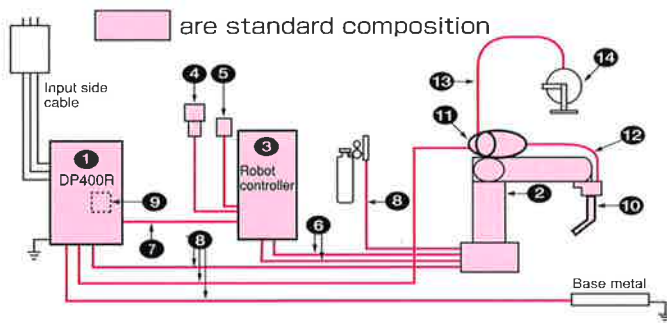
For details, contact our local sales representative or sales department.

● Combination with A II -B4 robot

Item	Type	
1	Welding Power Sauce	DP-400R
2	Manipulator	A II -B4 (Model : NB41-NJFN)
3	Robot controller	AX21 (Model : AX21-JV0000)
4	Teach pendant	A2TPDSNN-JC08
5	Operation box	AXOP-0005
6	Control cable 1,2 (Wiring harness)	A2RB-1005
7	Control cable 5	AXRB-5105
8	Control cable 4	※1 A2RB-4405
9	CAN interface board	L20809A
10	CO ₂ /MAG Welding torch	RT3500H (CO ₂ : 350A80% MAG: 350A60%) RT5000H (CO ₂ : 500A50% MAG: 350A70%)
11	Wire feeder	AF-4011
12	Coaxial power cable	L-10638
13	Conduit	L10597D
14	Wire reel stand	L318H

※1 Gas hose and torch side output cable are included as cable hoses.

■ A II -V6 Robot :



This figure indicates only the major components, based on the CO₂/MAG specification standard configuration drawing.

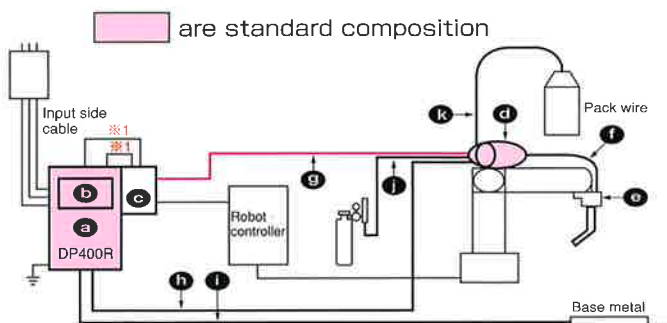
For details, contact our local sales representative or sales department.

● Combination with A II -V6 robot

Item	Type	
1	Welding Power Sauce	DP-400R
2	Manipulator	A II -V6 (Model : NB61-NJFN)
3	Robot controller	AX21 (Model : AX21-JV0000)
4	Teach pendant	A2TPDSNN-JC08
5	Operation box	AXOP-0005
6	Control cable 1,2 (Wiring harness)	A2RB-1005
7	Control cable 5	AXRB-5105
8	Control cable 4	※1 A2RB-4405
9	CAN interface board	L20809A
10	CO ₂ /MAG Welding torch	RT3500H (CO ₂ : 350A80% MAG: 350A60%) RT5000H (CO ₂ : 500A50% MAG: 350A70%)
11	Wire feeder	AF-4011
12	Coaxial power cable	L-10621
13	Conduit	L10597D
14	Wire reel stand	L318H

※1 Gas hose and torch side output cable are included as cable hoses.

■ Other Companies :



This figure indicates only the major components, based on the CO₂/MAG specification.

When connecting to other companies' robots and automated equipment, check the detailed specifications.

● Combination with robot made by other companies

品名	形式	
a	Welding Power Sauce	DP-400R
b	Digital panel	E-2521
c	Interface box	IFR-101D (Mounting hook: E2451Q00)
d	Wire feeder	CMRE-741
e	CO ₂ /MAG Welding torch	K2331 model curved torch
f	Coaxial power cable	K5369 (1.1m) 、 K5370 (1.2m)
g	Control cable for wire feeder	※2 BKCPJ-1010
h	Power cable for wire feeder	※2 BKPT-6012
i	Power cable for base metal	※2 BKPT-6012
j	Gas hose	※2 BKGG-0610
k	Conduit	※3 Z318P50 (9/16-18UNF for guide adapter attaching portion)

※1. Accessory cable for interface box. Refer to the owner's manual of IFR-101D for connection method.

※2. Use an appropriate cable and gas hose length. (5m, 10m, 15m, 20m)

※3. Guide adapter (L7810D04) is necessary when using conduit of 7/16-20 UNF.

Input Power Capacity and Cable Specifications

Item	Model Name	DP-400R
Power Source Voltage	V	400±15% (Inform input voltage when ordering)
Number of Phase	—	3
Input Power Capacity	kVA	more than 21
Fuse Capacity	A	50
* Breaker Capacity	A	50
Input Side Cable	mm ²	more than 8
Base Metal / Feeder Power Cable	mm ²	60
Earth Cable	mm ²	more than 14

* When using a no-fuse breaker, use a motor breaker.

Specifications

Specifications	DIGITAL INVERTER DP400R	
• Welding power source	Model	DP-400R
Rated input voltage	V	400±15%
Number of phase		3
*1 Rated input power		20.1(17.2)kVA 18.4(15.6)kW
Rated input current	A	29
*2 Rated duty cycle	%	80(70)
Rated output current	A	400
Rated load voltage	V	34
Rated output current range	A	30~400
Rated output voltage range	V	12~38
Maximum no-load voltage	V	86
Dimensions(WxDxH)	mm	350x730x630 (without the carrying handle)
Weight	kg	64

* 2m Input Cable attached to Welding Power Source

*3 Digital panel	Model	E-2520
*4 Control cable	m	1

• Wire feeder	Model	CMRE-741
*5 Applicable wire size	mm	(0.8)、0.9、1.0、1.2
Wire type		Solid wire, Flux-cored wire
Wire feeding speed	m/min	22
Dimensions(WxDxH)	mm	195x275x248 (without cable)
Weight	kg	7

*1 () without pulse.

*2 () as for used with attached dust filter.

*3 Required in the case of using without OTC-Robots.

*4 Extensions are not available.

*5 () required options.

Accessories

• Welding power source	DP-400R
Dust filter	1
Bolt (M10-30)	2
Nut (M10)	2
Spring washer (M10)	2
Washer (M10)	2

Options

Power Cable (Extensions)

	5m	10m	15m	20m
* Power cable				
(60mm ²)	BKPT-6007	BKPT-6012	—	—
(80mm ²)	—	—	BKPT-8017	BKPT-8022
Gas hose	BKGG-0605	BKGG-0610	BKGG-0615	BKGG-0620
Control cable for wire feeder	BKCPJ-1005	BKCPJ-1010	BKCPJ-1015	BKCPJ-1020
Cable for Analog remote control	BKCPJ-0605	BKCPJ-0610	BKCPJ-0615	BKCPJ-0620
Cable for Digital remote control	BKCAN-0405	BKCAN-0410	BKCAN-0415	BKCAN-0420
Water Hose	BKWR-0605	BKWR-0610	BKWR-0615	BKWR-0620

* No attached power cable (2m) is necessary.

Remote Control

Analog type

Description	Specification
Analog remote control (3m)	K5416Z00

Analog remote control



Digital type

Description	Specification
* Digital remote control	E-2454
CAN communication cable	BKCAN-0405 (5m)
	BKCAN-0410 (10m)
	BKCAN-0415 (15m)
	BKCAN-0420 (20m)

Digital remote control



* Required CAN Cable.

For Other Companies' Robots

Description	Specification
Interface	IFR-101D
Hook	E2451Q00
Control cable	E2451M00

CO₂/MAG Automatic Welding torches

	350A			
Model	WT350PD	WT350RD	WT350PA	WT350RA
Rated Input Power	350A (CO ₂ /MAG)			
Wire diameter	(0.9)、(1.0)、1.2、(1.4) mm			
Rated Duty Cycle	60% (CO ₂) / 35% (MAG)			
Cable length	1~6m (in 10cm increments)			

	500A			
Model	WT500PD	WT500RD	WT500PA	WT500RA
Rated Input Power	500A (CO ₂) / 450A (MAG)			
Wire diameter	(1.2)、1.4、(1.6) mm			
Rated Duty Cycle	60% (CO ₂) / 30% (MAG)			
Cable length	1~6m (in 10cm increments)			

* You can't use 0.9mm wire with 3.1-4.5m cable, and 0.9/1.0 wires with 4.6-6.0m cable.

* Every torches are used in combination with CM-4701 (wire feeder).

In accordance with DAIHEN's policy to make continuing improvements, design and/or specifications are subject to change without notice and without any obligation on the part of manufacturer.

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