

# *Pro-Fusion Technologies, Inc.*

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## **Dual Arc 80 Specifications**

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### **Product Outline Specification:**

Process Capability:	Micro-Plasma/Plasma & MicroTIG/TIG
Welding Amperage Capability:	0.1 - 80 amps
Dimensions	
Power Supply (L x W x H):	19.5" x 19.5" x 6.75" (496mm x 496mm x 172mm)
Water Circulator (L x W x H):	19.5" x 19.5" x 6.5" (496mm x 496mm x 165mm)
Weight:	
Power Supply	80 lbs (36.3 kg)
Water Circulator	38 lbs (17.25 kg) - w/o water
System Input Voltage:	110V (+/- 10V) – 30 amps, 230V – 15 amps 50/60 Hz single phase

### **Programmable Weld Parameters:**

#### **Current:**

Minimum Weld Current:	0.1 A
Maximum Weld Current:	80 A (@ 60% duty cycle)
Current Increments:	Low scale: 0.1 A increments from 0.1 to 20 A High scale: 0.5 A increments from 1 to 80 A
Response Time:	2 ms @ 80 A (faster at lower amps)
Start Current:	5%-100% of programmed weld current
Final Current:	5%-100% of programmed weld current

#### **Arc Pulsation:**

Arc Pulsation	On/Off
Peak (Main) Current:	Low scale: 0.1 to 20 A in 0.1 A increments High scale: 1 to 80 A in 0.5 A increments
Background Current:	5% to 95% of programmed weld current
Pulse Time (Frequency Rate):	.004 – 1 second (1-250 Pulses per second)
Pulse Width/Duty Cycle:	Peak current at 5 - 95% of pulse period

**Timers:**

Shield Gas Pre-Purge Time	0.1 – 10.0 secs in 0.1 sec increments
Upslope Time	0.00 – 9.99 secs in 0.1 sec increments
Weld Time	0.01 – 99.9 secs with increments of 0.01 up to 1.00 sec and increments of 0.1 up to 99.9 secs
Downslope Time	0.01 – 99.9 secs with increments of 0.01 up to 1.00 sec and increments of 0.1 up to 99.9 secs
Shield Gas Post-Purge Time	0.1 – 30.0 secs

**Other System Specifications:**

- Soft arc start capability
- Low amperage capability without arc wander
- Solid state closed loop servo control design
- Solid state arc transfer contactors

<b>Open Circuit Voltage:</b>	110 Volts
<b>Output Current/Power:</b>	80 weld amps, 22V, 2.3 KVA - 60% duty cycle 40 weld amps, 21V, 1.6 KVA - 100% duty cycle
<b>Arc Start Method:</b>	High voltage pulse (6,000 V), very narrow (about 2 micro seconds) with a repetition ratio of 60-70 Hz

**Communications:**Connectors:

Torch switch	Front panel 3 pin connector to 2 button pendant
Foot pedal/remote control	Front panel 7 pin connector
External/robot receptacle	Rear panel 16 pin connector

Inputs:

Foot Pedal:	Front panel foot pedal/remote connector
0 – 10 volt signal	From external/robot receptacle on rear
Remote Operator Pendant:	Start and stop buttons
Remote Start:	Starts automatic sequence through any of the three connectors
Remote Downslope/Stop:	Slopes current out/stops arc immediately

Outputs:

Front Panel Digital Amp meter	Digital readout while welding
Arc Detect/Transfer Signal:	Through external/robot receptacle
Start signal to external positioner	Can be connected through any of the three connectors

**Weld Program Memory:**

# internal weld programs storable: 7

**Panel Switches/Manual Controls:**

High Frequency	On/Off
Pilot Gas and Current	On Low / Off / On High
Weld Current:	High/Low key switch
Pilot Gas Flowmeter	0.2 – 3.0 SCHF (0.1 – 1.5 l/min)
Pilot Gas Manual purge button	Off / momentary on
Pilot Gas Flowmeter	1.0 – 30.0 SCHF (0.5 – 15 l/min)
Pilot Gas Manual purge button	Off / momentary on

**Operating Environment:**

Ambient Temperature:	Max. 40°C
Relative Humidity:	Must be less than 80%

**Shipping Details:**

Shipping Weight:	Consult factory at time of order
Shipping Dimensions:	Consult factory at time of order