
PCW

Precision circumferential
welding system

1.

What's PCW

Let's start with the first set of slides

PCW-350-08



What's PCW

ProArc **P**recision **C**ircumferential **W**elding system provide all of the features necessary to position and rotate parts for circumferential welding.

The extreme accuracy of part rotation in conjunction with the air-actuated torch advance/retract feature and part holding via air tailstock.

PCW provide the requirement functions for precision joining using the Tig, MIG, Micro plasma, or Laser welding processes.



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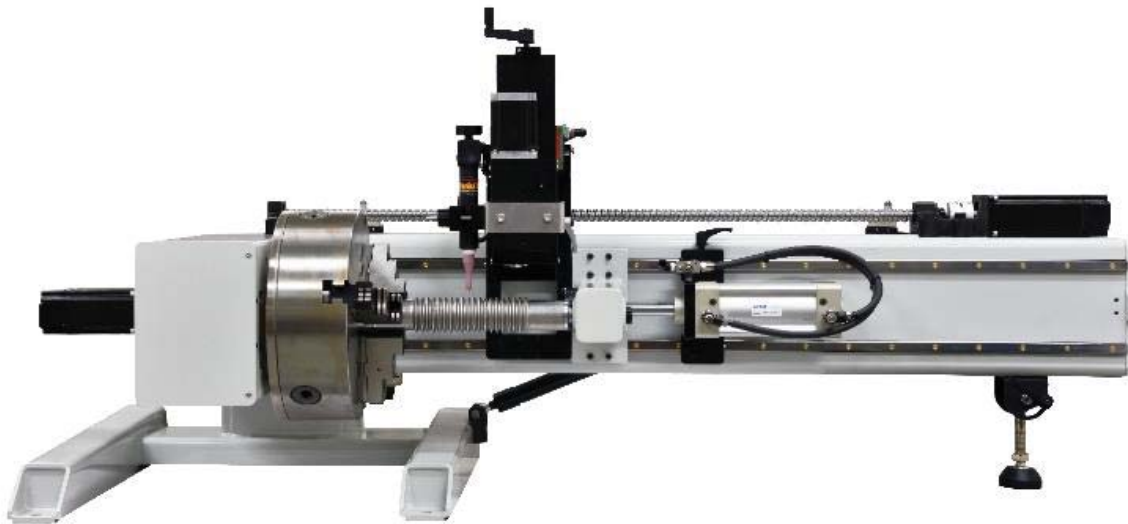
PCW-350-08

- **PCW** = **P**recision **C**ircumferential **W**elding system
- 350 = part diameter up to $\text{Ø}350\text{mm}$
- 08 = Max. part length is 800mm



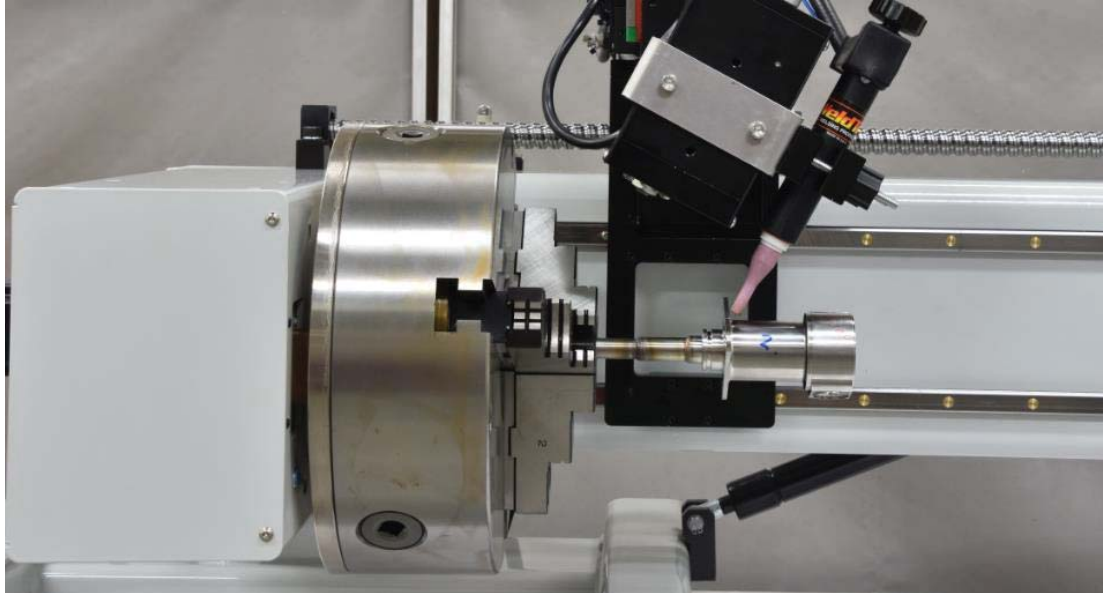
PCW-350 Position

- Horizontal
- Vertical



Specification

- Work capacity (Horizontal/Vertical): 30KG / 50 KG
- Work piece diameter: Max. 350mm
- Work piece length: Max. 800mm
- Through hole: Max. 80mm (options)
- Rotation speed: 0.02~50 rpm



2.

Standard Accessories

Includes

- Advanced control box
- PCW
- Pneumatic Tailstock with manual quick positioning device, 75mm stroke
- Manual torch angel adjustment device
- Slides
 1. Y axis pneumatic slide, 100mm stroke
 2. Z axis manual slide: 250mm stroke
 3. Ø35mm torch holder



3. Optional Accessories

For Advance Applications



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AVC (option)

- ProArc designs AVC
- Integrated control
- Stroke is 25mm



Motorize carriage on X axis (option)

- Ball screw drive system with dual linear guide way.
- 800mm stroke.
- Positioning accuracy is 0.1mm
- Motion speed 6,000mm/min



Gas Spring (option)

- Easy to change position from Horizontal to Vertical
- Protect the operator

- The advantages of gas springs over mechanical springs are their speed and their unique damping properties, which allow even heavy objects to be handled with ease



Remote Control pendant (option)

- X axis motion
- A axis motion
- Pulse generator for speed adjustment
- Useful for parameter development



4.

Control Box

Smart Software and Friendly HMI



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Controller



Main screen

PCW SYSTEM MAIN 02/10/2019
07:38:23

X:Ready
 X:In position
 X:+limit
 X:-limit
 A:Ready
 A:In position
 Weld start
 Arc Sense
 AVC ON
 Alarm: X
 Alarm: A
 Alarm: AVC

Program:

X Position(mm): X Speed(mmmps):







AVC Position(mm): AVC Speed(mmmps):

AVC Voltage(V):

A Position(deg): A Speed(rpm):

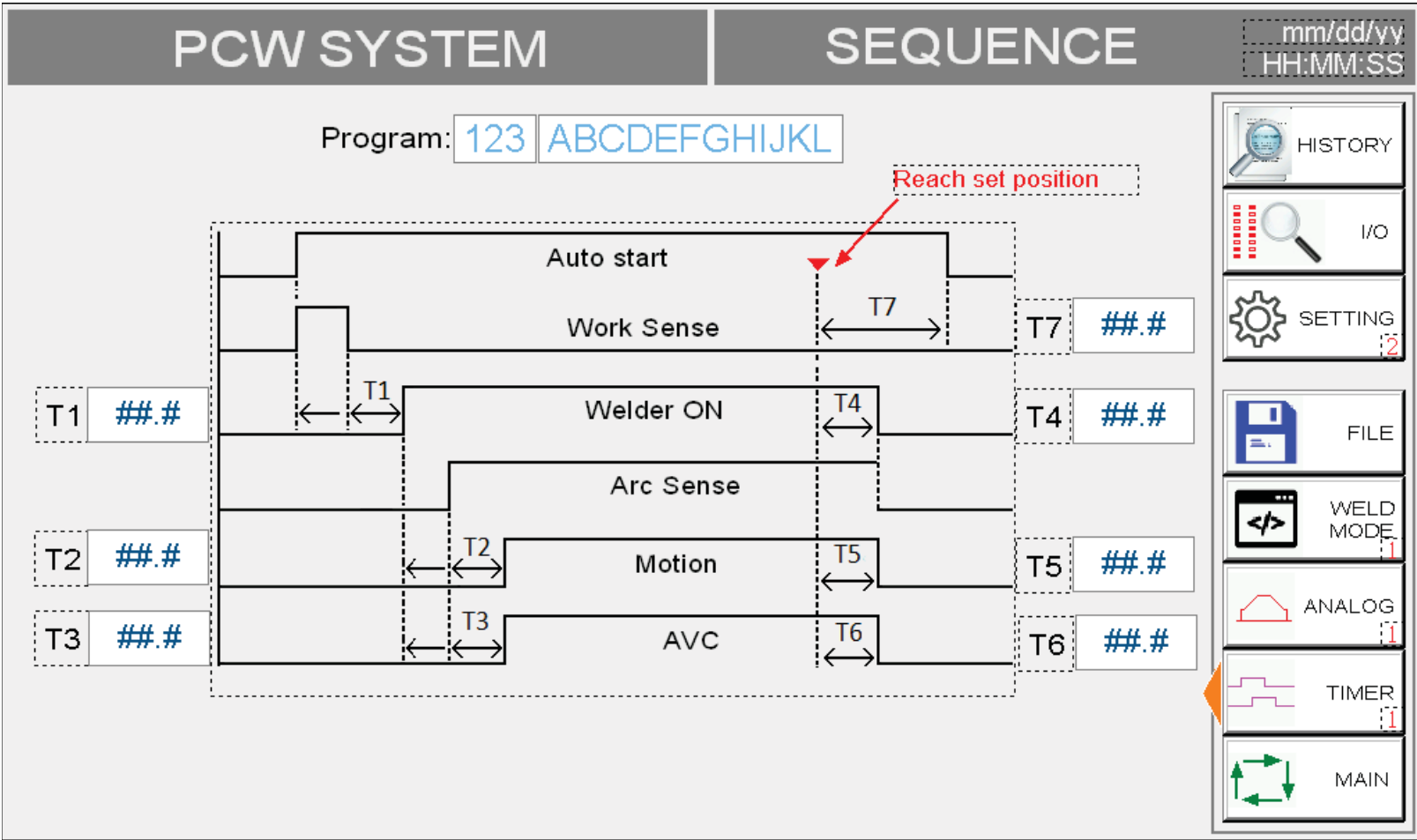
A Position(mm):

SIMULATION **ZERO** **PAUSE AVC** **LANGUAGE** **NOTE** **MANUAL**

HISTORY
I/O
SETTING 2
FILE
WELD MODE 1
ANALOG 1
TIMER 1
MAIN

Sequence setting



System Setting

SYSTEM SETTING

mm/dd/yy
HH:MM:SS

Time Back Light Touch Password HMI System PLC Update Default User_Level

"Arc Sense" feedback

Unit

Calibration Advanced Setting

HISTORY
I/O
SETTING
FILE
WELD MODE
ANALOG
TIMER
MAIN

LD X6
OR MIS
OUT M103

#

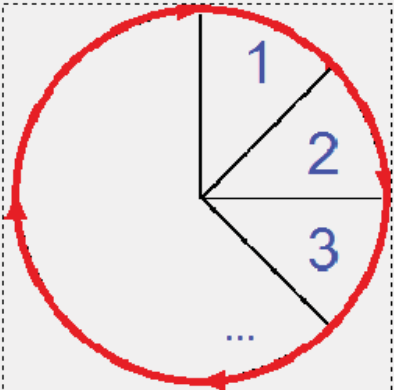
Metric

HMI Ver.: 190130
HMI file name : HMI_AutoUP
PLC Ver.: 12345678
PLC file name : PCW.dvp

Multi Speed Functions

CIRCUMFERENCE WELDING MODE

mm/dd/yy
 HH:MM:SS



Diameter(mm): ###

AVC Height(mm): ##.#

Retract Length(mm): ##.#

##	ANGLE	RPM / MMPS	AVC
12	###.##	##.### / ###.#	##.#
12	###.##	##.### / ###.#	##.#
12	###.##	##.### / ###.#	##.#
12	###.##	##.### / ###.#	##.#
12	###.##	##.### / ###.#	##.#
12	###.##	##.### / ###.#	##.#

▲

▼

HISTORY

I/O

SETTING

FILE

WELD MODE

ANALOG

TIMER

MAIN

AVC

Touch Sense:

Retract

Reverse Direction

Create New

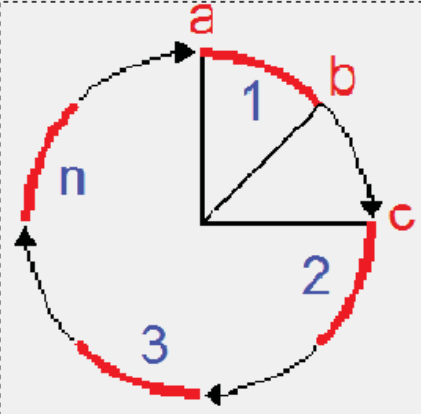
Circular

Index Mode

Index Welding Mode

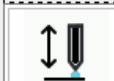



INDEX WELDING MODE


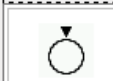

mm/dd/yy
 HH:MM:SS











a-b Angle(deg):	###.##	a-b Speed(rpm):	##.###
b-c Angle(deg):	###.##	b-c Speed(rpm):	##.###
Repeats (n):	###		

Diameter(mm):	###
AVC Height(mm):	##.#
Retract Length(mm):	##.#
AVC Voltage(V):	##.#

AVC	Touch Sense	Retract	Reverse Direction
			

Create New	Circular	Index Mode
		

 HISTORY
 I/O
 SETTING
 FILE
 WELD MODE
 ANALOG
 TIMER
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ProArc
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Weld Current Control

PCW SYSTEM
WELD CURRENT

mm/dd/yy
HH:MM:SS

Program: 123 ABCDEFGHIJKL

WELDER ON

	A1	A2	A3		A4	
A (%)	###.#	###.#	###.#		###.#	

	T1	T2	T3	T4	T5	T6	CH2 %
T (sec)	###.#	###.#	###.#	###.#	###.#	###.#	###.#

→ T3、T4 = "0", the pulse wave is disabled.

HISTORY

I/O

SETTING

FILE

WELD MODE

ANALOG

TIMER

MAIN

Programs Save/Load

FILE SAVE/LOAD

mm/dd/yy
HH:MM:SS

Program: 123 ABCDEFGHIJKL

Load

←

No.
 ###

→

Program Code

Save

123	ABCDEFGHIJKL	123	ABCDEFGHIJKL	<div style="margin-bottom: 10px;">▲</div> <div style="margin-bottom: 10px;">▼</div>
GHIJKL	123	ABCDEFGHIJKL	GHIJKL	
GHIJKL	123	ABCDEFGHIJKL	GHIJKL	
GHIJKL	123	ABCDEFGHIJKL	GHIJKL	
GHIJKL	123	ABCDEFGHIJKL	GHIJKL	

NOTE

mm/dd/yy
HH:MM:SS

*****	*****
*****	*****
*****	*****
*****	*****
*****	*****
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*****	*****
*****	*****
*****	*****
*****	*****

HISTORY

I/O

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WELD MODE

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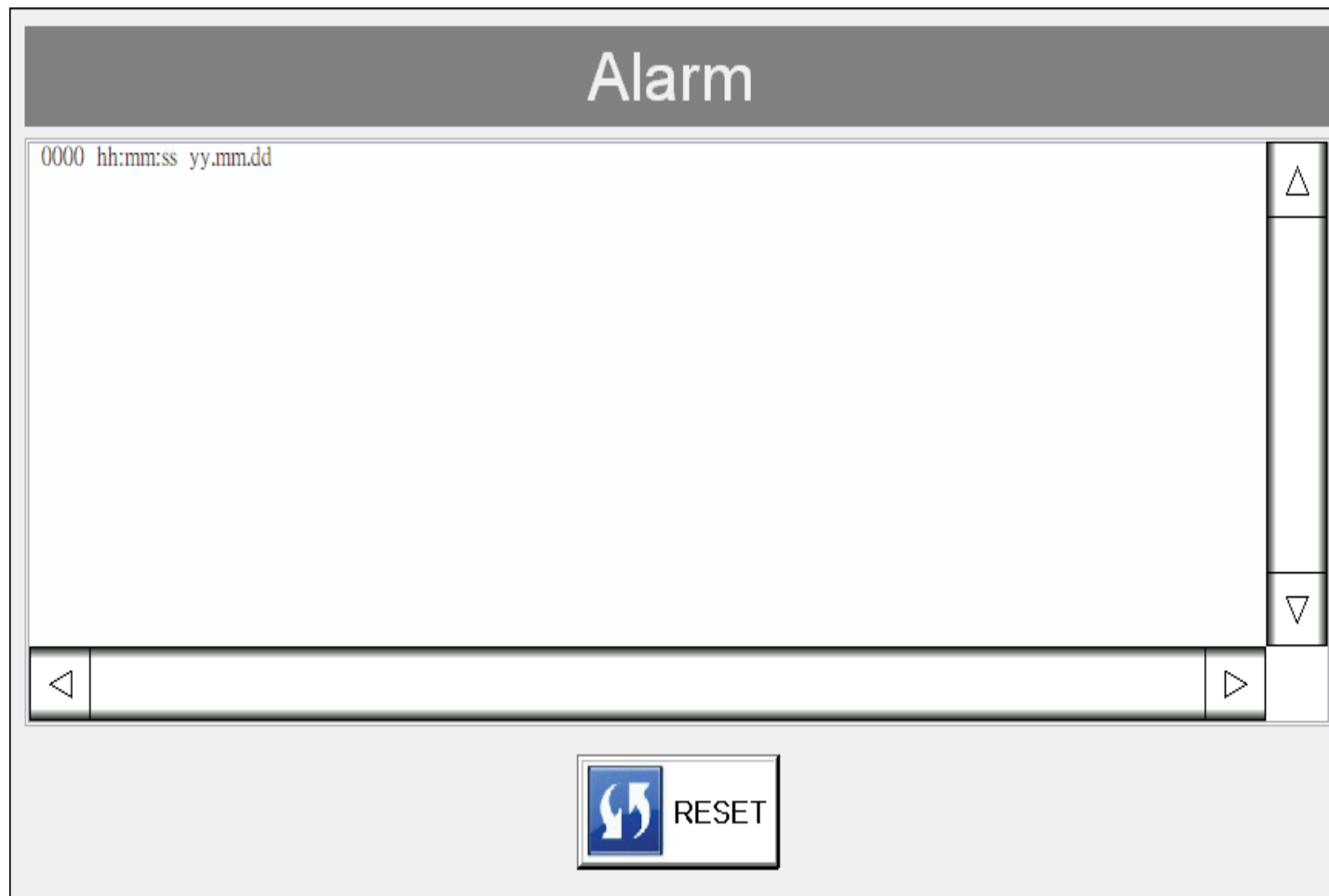
MAIN

FILE

NOTE

BACKUP

Alarm History



5. Market

Aerospace / High quality parts

Aerospace



Aerospace

