



# HAKKO

## ROBOTIC SOLDERING SYSTEM + ACCESSORIES



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# HU-200 ROBOTIC SOLDERING SYSTEM

With its built-in programming feature, touchscreen control, and 4-axis system with feeder, operating the **HAKKO HU-200 Robotic Soldering System** is an efficient soldering production solution. Every command is at the operator's fingertips, from precision of movement to controlling the speed at which the HU-200 solders, along with an integrated solder feeder which can control how much solder is dispensed.



## FEATURES & BENEFITS

- TX1 (140W) & TX2 (260W) tips for superior soldering capacity
- Pre-installed easy-to-program software
- Joystick controls for faster and more accurate positioning experience
- 4-axis soldering system (X, Y, Z &  $\theta$ )
- Integrated solder feeder
- Built-in tip cleaner
- FU-601 Robotic Integration Soldering included
- Touchscreen tablet



**TOUCH SCREEN**  
Tablet

A touch screen tablet provided as standard equipment allows you to set programming and soldering conditions without having to connect an external PC.



**EASY PROGRAMMING**  
Software

Pre-installed programming software makes creating soldering programs easy to learn. The software enables you to control solder feed, the number of accumulated solder points, soldering speed and much more.



**JOYSTICK**  
Control

The joysticks give the user better control by allowing you to adjust the inch and jog speed. This allows you to perform more delicate and difficult position adjustments with greater precision.



## SPECIFICATIONS For Part No. HU200-03Z

HU-200 ROBOTIC SOLDERING SYSTEM	
<b>Input Voltage</b>	100-240 VAC, 50 / 60 Hz
<b>Power Consumption</b>	300 W
<b>Movement</b>	X-axis 400 mm
	Y-axis 300 mm
	Z-axis 200 mm
	$\theta$ -axis $\pm 200^\circ$
<b>Drive System</b>	Servo motor (all axes)
<b>Position Detection</b>	Absolute encoder
<b>Max Speed</b>	X-axis 800 mm/s
	Y-axis 800 mm/s
	Z-axis 800 mm/s
	$\theta$ -axis 800 °/s
<b>Repeatability</b>	X-axis* $\pm 0.01$ mm <small>* Only when the unit temperature is constant</small>
	Y-axis*
	Z-axis*
	$\theta$ -axis $\pm 0.01^\circ$
<b>Noise Level</b>	56 dB
<b>Ambient Temperature Range</b>	0 °F - 104 °F / 0 °C - 40 °C
<b>Max Workpiece Payload</b>	44.1 lb / 20 kg
<b>External I/O Ports</b>	20 Inputs / 12 Outputs (2 for cleaner)
<b>External Interface</b>	4 USB Ports (1 for PC)
<b>Dimensions (W x H x D)</b>	23.6 x 35.8 x 25.6 in. / 600 x 910 x 650 mm
<b>Weight</b>	110.23 lb / 50 kg

HU-200 Specifications & Contents, see page 3



## SPECIFICATIONS

FU-601 STATION For Part No. FU601-40X (L-shaped Iron)	
<b>Input Voltage</b>	120 VAC, 50 / 60 Hz
<b>Power Consumption</b>	300 W
<b>Temperature Range</b>	120 °F - 940 °F / 50 °C - 500 °C
<b>ESD Safe</b>	Yes
<b>Output Voltage</b>	29 V
<b>Outer Dimension (W x H x D)</b>	5.7 x 4.2 x 8.3 in. / 145 x 107 x 211 mm
FU-6002 Handpiece For Part No. FU6002-01X	
<b>Tip Series</b>	TX1 (140W) and TX2 Series (260W) see page 6 & page 7 (Tips Sold Separately)
<b>Power Consumption</b>	260 W / 29 V
<b>Tip-to-Ground Resistance</b>	< 2 $\Omega$
<b>Tip-to-Ground Potential</b>	< 2 mV
<b>Heater</b>	Composite Ceramic Cartridge
<b>Outer Dimension (W x H x D)</b>	5.7 x 4.2 x 8.3 in. / 145 x 107 x 211 mm
<b>Weight (w/o Cord)</b>	0.38 lb / 173 g



## CONTENTS For Part No. HU200-03Z

Part No.	Description
--	HAKKO HU-200 (robotic soldering station) Robotic Soldering Station
--	Power cord
<b>BX1052</b>	Tube unit B $\Phi$ 0.5 - 1.0
<b>BX1053</b>	Tube unit B $\Phi$ 1.2 - 1.6
<b>BX1054</b>	Tube unit B $\Phi$ 0.3
<b>BX1042</b>	Tube unit $\Phi$ 1.2 - 1.6
<b>BX1055</b>	Tube unit $\Phi$ 0.3 - 1.0
<b>BX1062</b>	USB cable
<b>BX1045<sup>1</sup></b>	Feeder cable: 4 m
<b>CX1003</b>	Cleaner
<b>CX5004</b>	Soldering unit mount
<b>CX5002<sup>1</sup></b>	Soldering unit fixture base
<b>CX5003<sup>1</sup></b>	Cleaner base
<b>CX5005</b>	Feeder unit
--	PC (Windows Tablet)
-- <sup>1</sup>	Attachment holder (for tablet PC)
-- <sup>1</sup>	Display arm (for tablet PC)
--	Instruction manual (CD-ROM)
--	Quick manual (Installation & Connection)
--	I/O cable (for cleaner)
--	Relay cord (1.5 mm)

<sup>1</sup>This system is shipped with it attached to the robot main body.



## TIP ALIGNMENT JIG

The jig is to allow for repeatable placement of the soldering iron tip.

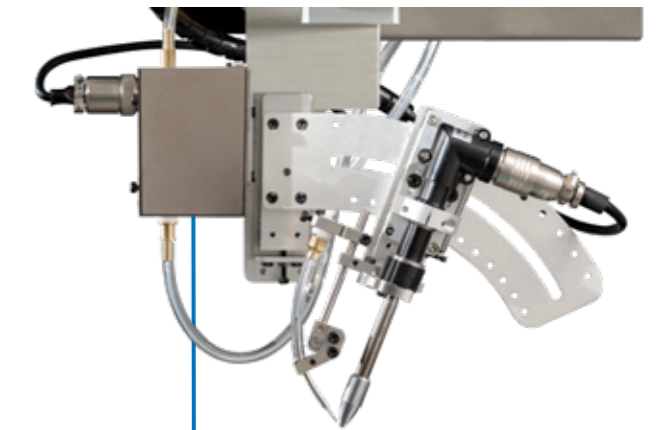
## FU-601 Robotic Integration Soldering Module INCLUDED WITH HU-200 ROBOTIC SYSTEM



The **HAKKO FU-601 Robotic Integration Soldering Module** is designed to communicate with the HAKKO FU-500 Intelligent Solder Feeder and the HU-200 Robotic Soldering System to achieve efficient performance soldering automation. See page 5

## EASY TO OPERATE

Utilizing the power of the FU-601 Soldering Module, the HU-200 is able to reach temperatures of up to 940 °F / 500 °C by using the powerful TX1 (140W) or TX2 (260W) series, which are available in over 40 different tips.



## BUILT-IN SOLDER FEEDER

Feeder perforates the wire solder surface to prevent solder balls and flux spattering.

Pulleys are sold separately.  
Solder wire range:  
0.3 mm - 1.6 mm



## TIP CLEANER

Brush-type cleaner with solder spatter prevention shield.







# FU-500 & FU-601

## ROBOTIC INTEGRATION SYSTEM

The **HAKKO FU-601 Robotic Integration Soldering Module** is designed to communicate with the **HAKKO FU-500 Robotic Integration Solder Feeder** and integrate with various robotic systems to achieve solder usage efficiency.



For more information  
Scan or Click  
the QR Code.

# FU-500

## INTELLIGENT SOLDER FEEDER

The **HAKKO FU-500 Robotic Integration Solder Feeder** works in conjunction with the **HAKKO FU-601 Robotic Integration Soldering Module** and can be integrated with various robotic systems to achieve low-cost soldering automation.

### FEATURES & BENEFITS

- Features a compact driver unit that allows the feed to be brought closer to the iron, increasing the accuracy of the amount of solder fed
- With an optical sensor, the FU-500 can detect solder clogging, slipping, and the end of the solder roll
- The Intelligent Solder Feeder is also equipped with a mechanism that perforates the solder wire as a counter measure against flux and solder spatter

### SPECIFICATIONS

STATION	For Part No. FU500-71X (Straight Type)	For Part No. FU500-21X (L-shape Type)
Input Voltage	120 VAC, 50 / 60 Hz	
Power Consumption	35 W	
Outer Dimensions (W x H x D)	5.7 x 3.9 x 9.1 in. / 145 x 100 x 230 mm	
Weight (Station)	5.1 lb / 2.3 kg	
ESD Safe	Yes	
FEEDER UNIT	For Part No. CX5006 (Straight Type)	For Part No. CX1010 (L-shape Type)
Compatible Solder	0.3 - 1.6 mm	0.3 - 1.6 mm

### CONTENTS

FU500-71X (Straight Type)		FU500-21X (L Type)	
Part No.	Description	Part No.	Description
<b>CX5006</b>	Feeder unit (straight type)	<b>CX1010</b>	Feeder unit (L type)
<b>BX1041</b>	Tube unit (0.3-1.0 mm)	<b>BX1041</b>	Tube unit (0.3-1.0 mm)
<b>BX1042</b>	Tube unit (1.2-1.6 mm)	<b>BX1042</b>	Tube unit (1.2-1.6 mm)
<b>BX1036</b>	Feeder cable	<b>BX1036</b>	Feeder cable
<b>B3508</b>	Power cord	<b>B3508</b>	Power cord
<b>BX1057</b>	Solder reel stand	<b>BX1057</b>	Solder reel stand
--	Instruction manual	--	Instruction manual

### PARTS LIST FOR SOLDER DIAMETERS

	0.3 mm	0.5 mm	0.6 mm	0.8 mm	1.0 mm	1.2 mm	1.6 mm
Solder Feeder Drive Unit	BX1000	BX1001	BX1002	BX1003	BX1004	BX1005	BX1006
Solder Feeder Guide Set	BX1007	BX1008			BX1009		
PTFE Tube Inserts	BX1010	BX1011	BX1012	BX1013	BX1014	BX1015	

To configure the FU-500 for use with your soldering application, select the Solder Feeder Drive Unit, Solder Feeder Guide Set, and PTFE Tube Insert based on the diameter of the solder you will be using. These parts are sold separately, but are required for the station to be operational.

**CX5006** used with the **FU-6001 STRAIGHT IRON**

**CX1010** used with the **FU-6002 L-SHAPE IRON**



# FU-601

## ROBOTIC INTEGRATION SOLDERING MODULE

The **HAKKO FU-601 Robotic Integration Soldering Module** is designed to communicate with the **HAKKO FU-500 Intelligent Solder Feeder** and with the **HU-200** can also be integrated with various robotic systems to achieve low-cost soldering automation.



### FEATURES & BENEFITS

- TX1 (140W) & TX2 (260W) tips for superior soldering capacity
- Up to 260W composite ceramic heating element
- Top controlled temperature of 940°F / 500°C and high mass shapes
- Straight or L-shaped iron options available

### INTERCHANGEABLE SOLDERING IRONS

Select Straight or L-shaped to meet your process requirements. The tip can be easily replaced and the position of the tip end can be easily adjusted using the tip alignment jig.



### NITROGEN ADAPTER ASSEMBLY (Optional)

For nitrogen soldering, attach the optional N<sub>2</sub> adapter to the iron and install a nozzle assembly that matches the tip.



### PART LIST (Optional)

Part No.	Description
<b>BX1023</b>	N2 adapter for TX1 tips
<b>BX1024</b>	
<b>BX1025</b>	
<b>BX1026</b>	
<b>BX1029</b>	
<b>BX1030</b>	N2 adapter for TX2 tips
<b>BX1031</b>	N2 nozzle assembly A for TX1-XD24/XD3
<b>CX1000</b>	
<b>CX1001</b>	N2 nozzle assembly B for TX1-XD/XD08/XD16
<b>CX1002</b>	
<b>CX1003</b>	N2 nozzle assembly C for TX1-XBCR4/XRC
<b>FU6001-01X</b>	
<b>FU6002-01X</b>	N2 nozzle assembly D for TX2-XD4/XD6/XDR4/XDR6/XBCR4/XBCR6
	N2 assembly E for TX2-XD3/XDR3/XBCR3
	Point solder slide unit for FU-6001/6002
	Drag solder slide unit for FU-6001/6002
	Temperature probe
	Robotic tip cleaner
	Straight type soldering unit
	L-shaped type soldering unit

### SPECIFICATIONS

STATION	For Part No. FU601-60X (Straight Iron)	For Part No. FU601-40X (L-shape Iron)
Input Voltage	120 VAC, 50 / 60 Hz	
Output Voltage	29 V	
Power Consumption	300 W	
Temperature Range	120 °F - 940 °F / 50 °C - 500 °C	
Outer Dimensions (W x H x D)	5.7 x 4.2 x 8.3 in. / 145 x 107 x 211 mm	
Weight (Station)	8.8 lb / 4.0 kg	
SOLDERING IRON	For Part No. FU6001-01X (Straight Iron)	For Part No. FU6002-01X (L-shape Iron)
Tip Series	TX1 & TX2 Series see page 6 & page 7 (Tips Sold Separately)	
Power Consumption	260 W MAX / 29 V	
Tip-to-Ground Resistance	< 2 Ω	
Tip-to-Ground Potential	< 2 mV	
Heater	HAKKO Composite Ceramic™	
Weight (w/o cord)	0.376 lb / 171 g	0.381 lb / 173 g

### CONTENTS

FU601-60X Soldering Module		FU601-40X Soldering Module	
Part No.	Description	Part No.	Description
<b>FU6001-01X</b>	Soldering iron (Straight)	<b>FU6002-01X</b>	Soldering iron (L-shape)
<b>FU601-01X</b>	FU-601 station	<b>FU601-01X</b>	FU-601 station
<b>CX5019</b>	Soldering iron mount	<b>CX5019</b>	Soldering iron mount
<b>CX5017</b>	Tip alignment jig (TX1)	<b>CX5017</b>	Tip alignment jig (TX1)
<b>CX5018</b>	Tip alignment jig (TX2)	<b>CX5018</b>	Tip alignment jig (TX2)
<b>BX1033</b>	Soldering iron cable	<b>BX1033</b>	Soldering iron cable
<b>BX1056</b>	Connecting cable	<b>BX1056</b>	Connecting cable
<b>BX1027</b>	Flux cover	<b>BX1027</b>	Flux cover
--	Feeder unit attachment screw	--	Feeder unit attachment screw
<b>B2300</b>	Heat resistant pad	<b>B2300</b>	Heat resistant pad
<b>B2419</b>	Power cord	<b>B2419</b>	Power cord
--	Instruction manual	--	Instruction manual

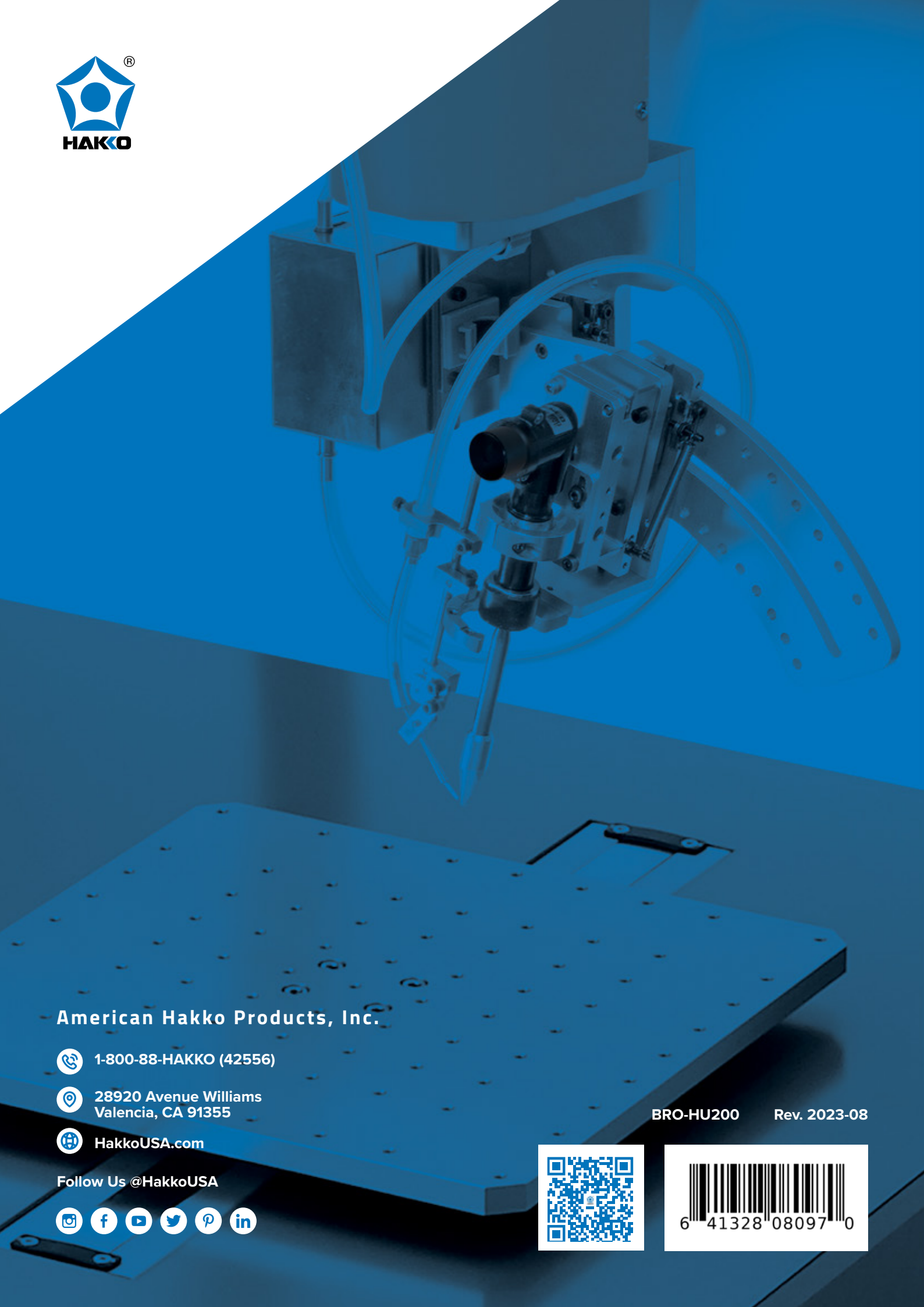


TX1 SERIES (140W) TIPS FOR USE WITH HU-200 & FU-601 STATIONS			
UNIT: mm(inch)			
<b>TX1-XD</b> (Chisel) 	<b>TX1-XD08</b> (Chisel) 	<b>TX1-XD16</b> (Chisel) 	<b>TX1-XD24</b> (Chisel) 
<b>TX1-XD3</b> (Chisel) 	<b>TX1-XBCR2</b> (Bevel) 	<b>TX1-XBCR3</b> (Bevel) 	<b>TX1-XBCR4</b> (Bevel) 
<b>TX1-XDR</b> (Chisel) 	<b>TX1-XDR16</b> (Chisel) 	<b>TX1-XDR24</b> (Chisel) 	<b>TX1-XDR3</b> (Chisel) 
<b>TX1-XRK</b> (Slot) 	<p>For more TX1 Series information Scan QR Code.</p>		

TX2 SERIES (260W) TIPS FOR USE WITH HU-200 & FU-601 STATIONS			
* Pre-tinning on one side only.			
UNIT: mm(inch)			
<b>TX2-XDRF16*</b> (Chisel) 	<b>TX2-XDRF24*</b> (Chisel) 	<b>TX2-XDRF32*</b> (Chisel) 	<b>TX2-XBCR3</b> (Bevel) 
<b>TX2-XBCR4</b> (Bevel) 	<b>TX2-XBCR6</b> (Bevel) 	<b>TX2-XBCR16</b> (Bevel) 	<b>TX2-XBCR24</b> (Bevel) 
<b>TX2-XBCR32</b> (Bevel) 	<b>TX2-XNC16</b> (Bevel) 	<b>TX2-XNC24</b> (Bevel) 	<b>TX2-XNC32</b> (Bevel) 
<b>TX2-XNC40</b> (Bevel) 	<b>TX2-XNC60</b> (Bevel) 	<b>TX2-XNC100</b> (Bevel) 	<b>TX2-XRK</b> (Slot) 
<b>TX2-XRK1040</b> (Slot) 	<b>TX2-XRK1545</b> (Slot) 	<b>TX2-XRK2055</b> (Slot) 	<b>TX2-XRK3065</b> (Slot) 
<b>TX2-XDR1632</b> (Groove) 	<p>For more TX2 Series information Scan QR Code.</p>		

# TX2 SERIES TIPS

TX2 SERIES (260W) TIPS FOR USE WITH HU-200 & FU-601 STATIONS			
* Pre-tinning on one side only.			
UNIT: mm(inch)			
<b>TX2-XD3</b> (Chisel) 	<b>TX2-XD4 &amp; TX2-XDF4*</b> (Chisel) 	<b>TX2-XD6 &amp; TX2-XDF6*</b> (Chisel) 	<b>TX2-XD08 &amp; TX2-XDF08*</b> (Chisel) 
<b>TX2-XD16 &amp; TX2-XDF16*</b> (Chisel) 	<b>TX2-XD24 &amp; TX2-XDF24*</b> (Chisel) 	<b>TX2-XD32 &amp; TX2-XDF32*</b> (Chisel) 	<b>TX2-XDR3</b> (Chisel) 
<b>TX2-XDR4 &amp; TX2-XDRF4*</b> (Chisel) 	<b>TX2-XDR6 &amp; TX2-XDRF6*</b> (Chisel) 	<b>TX2-XDRF12*</b> (Chisel) 	<p>For more TX2 Series information Scan QR Code.</p>



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