

# Weller® Tech Sheet

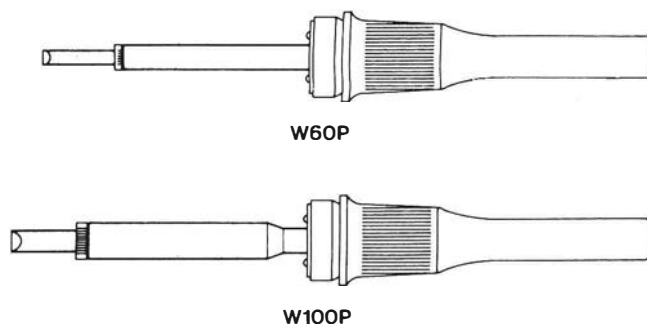
## W60P(D)-W100P(D) Series

### PRODUCT DESCRIPTION

A line voltage high quality portable tool with all the advantages of controlled output and temperature. The special Weller "closed loop" method of controlling maximum tip temperature is employed, thereby protecting temperature sensitive components.

The soldering pencil also features a stainless steel modular plug in heater construction for greater soldering efficiency, cool blue handle, a large selection of iron plated tips and sizes, for W60P from 1/16" to 1/4" and for W100P from 1/8" to 3/8" and both irons with choice of tip temperature of 600, 700, and 800°F. The W60P irons are provided with a CT5A7 tip (700° 1/16" diameter, screwdriver). The W100P irons are provided with a CT6F7 tip (700° 1/4" diameter screwdriver).

Both the W60P and W100P irons are equipped with the cool blue handle. The W60P 2 wire and W100P 2 wire are U.L. approved. The 60P-3 and W100P-3 are U.L. and C.S.A. approved. The W60PD3 and W100PD3 are 240V 3 wire irons. The modular heating elements are interchangeable and either handle can be used with either heating element.



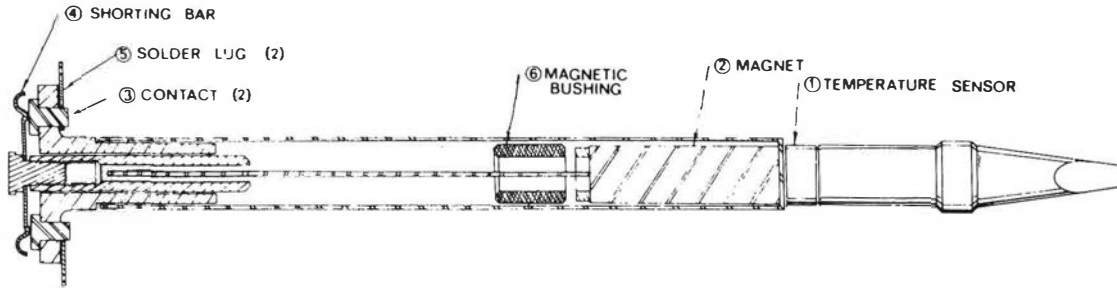
### SPECIFICATIONS

- Electrical:
1. Line voltage - 120 Volts, 50/60 Hz (W60PD3 and W100PD3 240 Volts, 50/60 Hz)
  2. Soldering pencil wattage - W60P, 60 Watts  
W100P, 100 Watts
  3. Tip leakage voltage to ground - 2 wire  $\pm$  5 Volts RMS  
3 wire  $\pm$  10 Millivolts RMS\*
- Physical:
1. Pencil weight - W60P without cord 2 oz.  
W100P without cord 3 oz.
  2. Pencil length - W60P less tip 7-1/2"  
W100P less tip 7-3/4"
  3. Cord length - Six (6) foot all models.
  4. Nominal heat up time - W60P with CT5E7 tip = 110 seconds  
W100P with CT6F7 tip = 110 seconds
  5. Nominal recovery time from 100°F drop - W60P with CT5E7 tip = 16 seconds.  
W100P with CT6F7 tip = 40 seconds

\*Tip ground connected.

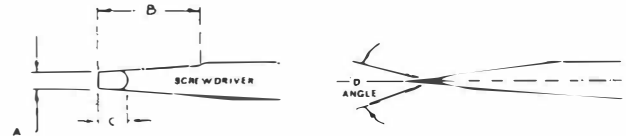
## PRINCIPLE OF OPERATION

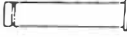

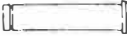
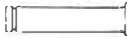
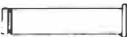




When the soldering tip is cold, a ferromagnetic temperature sensor (1) attached to the tip attracts a permanent magnet (2). The magnet movement causes a shorting bar (4) to make contact with a set of isolated electrical contacts (3) thereby supplying power to the heating element through the solder lugs (5). When the tip reaches its rated temperature, the sensor becomes non-magnetic and no longer attracts the magnet. Then a magnetic bushing (6) attracts the magnet causing the shorting bar to break the circuit. In this manner, power to the heating element is turned on and off automatically to compensate for variations in work loads.



## TIP SIZES AVAILABLE

Weller industrial soldering tips have heavy iron plating with anti-oxidation coating.



CT5 Series Tips for W60 Series Irons	Description	Dimension				Catalog Numbers		
		A	B	C	D	600°F	700°F	800°F
	Screwdriver	1/16"	1-5/32"	1/8"	15°	CT5A6	CT5A7	CT5A8
	Screwdriver	3/32"	1-5/32"	1/4"	15°	CT5B6	CT5B7	CT5B8
	Screwdriver	1/8"	1-5/32"	5/16"	15°	CT5C6	CT5C7	CT5C8
	Screwdriver	3/16"	1-5/32"	3/8"	15°	CT5D6	CT5D7	CT5D8
	Screwdriver	1/4"	1-5/32"	7/16"	15°	CT5E6	CT5E7	CT5E8
CT6 Series Tips for W100 Series Irons	Description	Dimension				Catalog Numbers		
		A	B	C	D	600°F	700°F	800°F
	Screwdriver	1/8"	1-3/8"	3/8"	15°	CT6C6	CT6C7	CT6C8
	Screwdriver	3/16"	1-3/8"	3/8"	15°	CT6D6	CT6D7	CT6D8
	Screwdriver	1/4"	1-3/8"	1/2"	15°	CT6E6	CT6E7	CT6E8
	Screwdriver	1/4"	1-3/8"	1/2"	15°	CT6F6	CT6F7	CT6F8

## SELECTION OF WELLER CT SERIES TIPS

- Select a tip configuration with the maximum working surface, thickest cross section and shortest reach compatible with the size, the accessibility, and the visual restrictions of the solder joint.
- Select a tip temperature based on the size of the solder joint, the temperature sensitivity of the components, and the production rate required. Tip life is directly related to tip temperature — the lower the tip temperature, the longer the tip life.
- Performance is determined by both temperature and configuration. Work satisfactorily soldered with a CT5D7 (700°, 3/16" diameter screwdriver tip) might also be soldered quite successfully with a CT5C8 (800°, 1/8" diameter screwdriver tip).

**CAUTION:** These are automatically controlled tools and use of improper metallic stands will affect life of tool and tip. Specifically engineered and recommended PH and SF series stands are listed in this sheet.

## CARE OF WELLER CT SERIES TIPS

1. Keep tip tinned; wipe only before using.
2. Use rosin or activated rosin fluxes if possible. Acid type fluxes will greatly reduce tip life.
3. Remove tip and clean w/suitable cleaner for flux used. The frequency of cleaning will depend on the type of work and usage. Tips in constant use should be cleaned at least once a week.
4. Don't try to clean tip with abrasive materials and never file tip, to do so will greatly reduce tip life.
5. Don't remove excess solder from heated tip before storing. The excess solder will prevent oxidation of the wettable surface when tip is reheated.
6. Don't use anti-seize compounds on tips, they have been plated for oxidation protection.

## ABOUT WELLER SOLDERING PENCIL TIPS

All Weller **CT** Series soldering pencil tips have been plated with an exclusive process that deposits three (3) protective coatings. The high conductivity copper tips are iron plated, then nickel plated and finally chromium plated on non-working surfaces. The working surface is then pre-tinned. The chromium and nickel plating of the tip prevents oxidation of the iron plating which can cause freezing of the tip in the pencil. The chromium also prevents solder "creep-up". Weller's "temperature-sensing" tips have a small ferromagnetic sensing element attached to the tip shank. The sensing element is coded with a number to indicate idle temperature in hundreds of degrees F. Thus a simple change of tips is all that is necessary to adapt the tool to an entirely different temperature range. **Use only original Weller soldering tips, parts and accessories for this product.**

## TROUBLESHOOTING GUIDE\*

**CAUTION:** Disconnect from power source before attempting any repair.

- I. Tool does not heat.  
Check for 120 volts at receptacle. (240 volts for "D" versions)
- II. Check tool for:
  1. Magnastat (fastened to back of tip). Pencil will not heat or may overheat if it is missing. There should be 1/16" minimum tip spring action.
  2. Correct heater resistance. With tip in tool, measure between blade contacts of cord plug. For a W60P, 214-248 ohms is normal and a W100P, 129-149 ohms is correct. Replace heater if readings are high or low. A very high reading indicates an open heater, switch or cord.
  3. To replace the heater or isolate the fault, proceed as follows. Remove two screws from element flange. Grasp handle and black heat insulator in one hand and pull heater unit with other hand to unplug it from the handle assembly. Measure heater resistance across the two closely spaced pins.
  4. Magnastat Switch Check:  
Place tool on workbench with flat at rear of handle up. Insert 3/16" flat blade screwdriver into slot at rear of handle. Compress cord by pushing downward and toward handle until cord is pushed into handle (do not pry on handle). This releases the strain relief catch. Slide handle down cord to expose switch terminals. Check for proper magnastat switch operation by testing for continuity across magnastat switch terminals with tip held against end of switch and loss of continuity when tip is removed. If magnastat switch checks good, check wiring for continuity. Refer to schematic.
- III. Tool overheats or temperature is higher than marked on tip or the temperature control is erratic.
  1. Be sure tip is a Weller tip. Replace with Weller tip.
  2. Check heater for correct resistance and good connections.
  3. Check switch operation — replace switch if no other defects are found.
- IV. High voltage on tip or indication of damage to components.
  1. Check tip ground for maximum 1 ohm resistance from heater barrel to line cord round terminal. If greater than one ohm, locate and correct defect.
  2. With switch closed, measure resistance at cord plug between blade contacts and round pin — minimum 10 megohms. If reading is less, locate defective component and replace.

**CAUTION:** When replacing heater assembly, be sure that the flange is marked 120V-60W or 120V-100W. On "D" versions the flange needs to be marked 240V-60W or 240V-100W. Insertion of a lower voltage element will cause the element to be destroyed and possibly damage the switch.

\*For use with plug-in heating element tool only.

## REPLACEMENT PARTS FOR W60P/W100P

KEY NO.	PART NO.	DESCRIPTION
1	HEW60P	Heater Element, W60P
1a	HEW100P	Heater Element, W100P
1b	HEW60PD	Heater Element W60PD3
1c	HEW100PD	Heater Element W100PD3
2	SW60	Switch Assembly
3	CS2W	Cord Set W/Strain Relief (2 Wire)
3a	CS3W	Cord Set W/Strain Relief (3 Wire)
4	EC232	Handle Assembly
5	KN60	Tip Nut, W60P
5a	KN100A	Tip Nut, W100P
Not Shown	PH60	Soldering Tool Stand W/Sponge (W60P)
Not Shown	PH100	Soldering Tool Stand W/Sponge (W100P)

### OPTIONAL PART

Not Shown	SHA1	Cushion Grip Sleeve For Iron Handle
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