



**Seelye, Inc.**

# Thermoplastic Welding Products Guide



# Applications

Use the Seelye welders for these and other thermoplastic applications.

Boats	Gaskets	PVC Fencing
Fan Housings	Conduit Fittings	Drums
Scrubbers	Pail	DWV Pipes
Ductwork	Flues	Plenums
Screens	Displays	Pipe Fittings
Chick Hatchery Boxes	Pipes	Tanks
Dampers	Drains	Storage Tanks
Waste Canisters	Sinks	Dippers
Pans	Stands	Filter Housings
Etching Tanks	Beams	Slide Gates
Grills	R.V.s	Hangers
Vanes	Vents	Lines
Fixtures	Faucets	Hoods
Trays	Stack Caps	Blower Housings
Etching Machines	Manifolds	Louvers
Frames	Valves	Bumpers

DO NOT USE NEAR FLAMMABLE PRODUCTS • TIPS AND BARRELS ARE HOT – DO NOT TOUCH





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# Seelye Thermoplastic Welding Group

## Model 63 Series



SI - 1005



SI - 1002

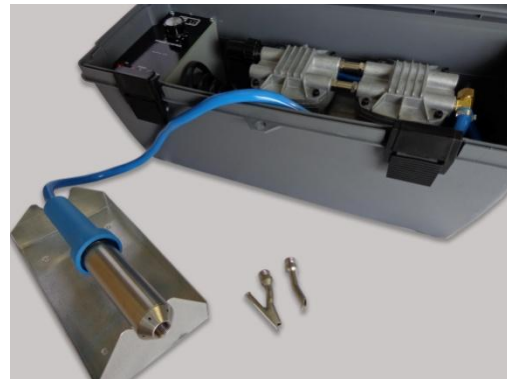


SI-1167

## FC Series



SI-2001FC



SI-2001FCP

## 97CH Series - Discontinued



SI-1197CH  
(Discontinued)

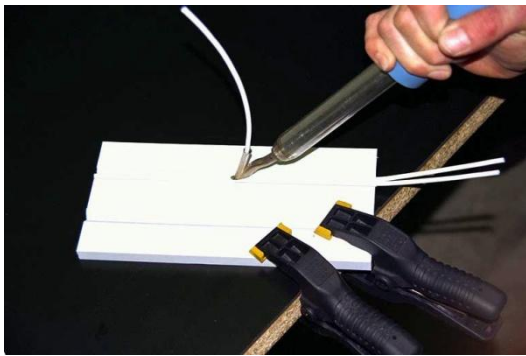


SI-1197CHP  
(Discontinued)

DO NOT USE NEAR FLAMMABLE PRODUCTS • TIPS AND BARRELS ARE HOT – DO NOT TOUCH

## Thermoplastic Welding

It is possible to weld thermoplastic material (*plastic that can be softened or shaped by heat*) with a Seelye electric hot air welder. This lightweight, hand-held equipment makes it easy for even an inexperienced user to develop the “feel” for welding plastic and to do it economically and with speed after only a few hours of study and practice. Whether fabricating thermoplastic stock or repairing various types of plastic parts, hot air welding is usually performed on plastics with a minimum thickness of 1/16 inch or more. The bond achieved, depending on the type of weld, is generally as strong (90% or greater) as the original material



### User Friendly Hot Air Welding

Seelye Hot Air Welding Equipment is specially designed for extensive hand-held use without causing the operator fatigue. The equipment is lightweight and very maneuverable. It can be moved easily from one project work area to another. All that is needed is a concentrated effort to learn about the use of the equipment.

## Welding Safety

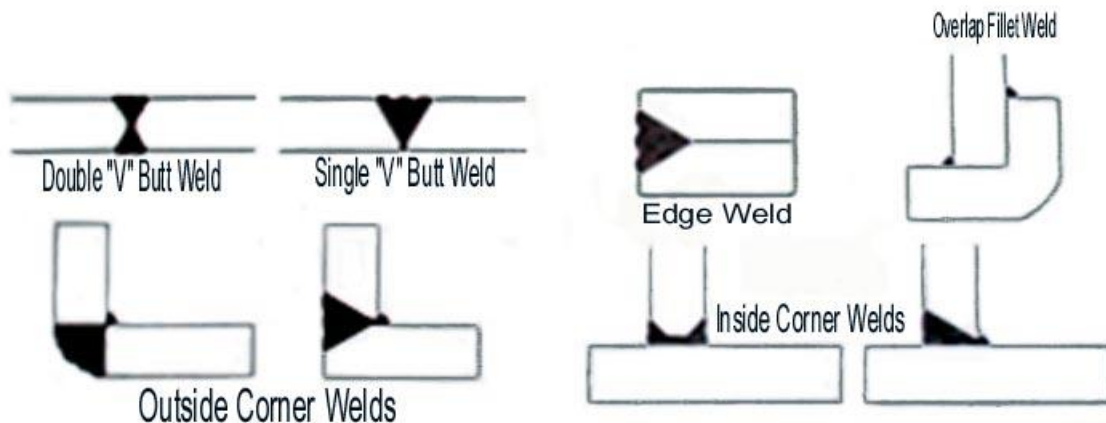
After following Seelye’s step-by-step instructions, as well as those issued by the manufacturers of the plastic materials, you will be on your way to welding. Hot air welding is safe because there is no flame, spark, or smoke involved. Special venting, hoods and ducting are not required. Observe these simple precautions:

1. Never attempt to perform hot air welding with a flammable gas.
2. To avoid burning out the heating element, always remember **AIR FLOW FIRST and AIR FLOW LAST**. Start the air flow before the heating element. Set the air flow between 4 to 6 PSI (*depending on which welder is being used and what type of plastic is being welded*). Air pressure minimum settings vary depending on welder model.
3. **Never touch metal parts on the welding gun until they have cooled.**
4. Always use pliers to change the tip on a welding gun. **(DO NOT OVER TIGHTEN OR CROSS THREAD)**
5. Disconnect the electricity to the gun but **continue the air flow**. The gun will cool faster and the electric heating element will last longer.
6. Do not put the welder in a vise to change heating elements.
7. Keep away from children.

## Standard Weld Identification

Similar to metal welding, the same types of welds are performed in hot air welding; these consist of butt welds, fillet welds, lap-joints, edge welds, and corner welds. See the diagram of each type of weld below.

### Types of Welds



## Setting Up the Welding Equipment

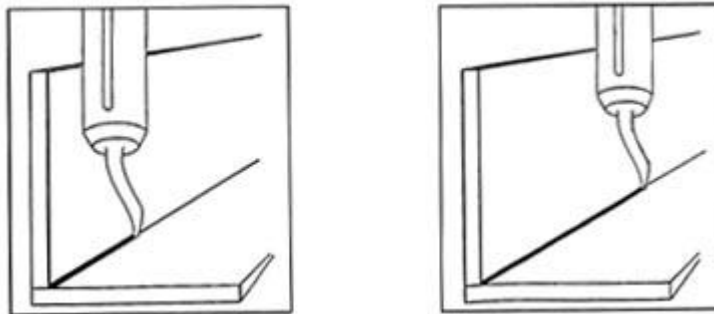
1. Connect your Seelye Gun to a clean, dry air supply (*compressed air – 90 PSI minimum*) or an inert gas.
2. Your Seelye welder can be plugged into any 110 volt A.C. outlet. Now that you have your air supply flowing, plug into the electrical source and allow the welder to warm up for several minutes before starting to weld.
3. Be sure to select the proper welding tip:
  - Tacking Tip is used for fitting up the work. No rod or strip is required.
  - Round Tip is used for small are welds. Any size welding rod can be used.
  - Automatic Speed Tip is used for speed and larger areas. Size of tip will depend on size of welding rod needed.
4. Always use pliers to install and remove tips. **Do not over tighten or cross thread.**

## Step-by-Step Welding Procedure

- A. Determine whether the type of weld being performed requires a beveled edge. See diagrams on the Types of Welds Chart above.
- B. If beveling is required, perform the beveling with a grinder and/or table saw. Bevel a 60° angle.
- C. Clean dust and dirt from materials to be welded. To remove oily substance use Methyl Ethyl Keton (MEK). Be sure materials to be welded are dry before starting to tack weld.

## Tack Welding for Work Fit Up

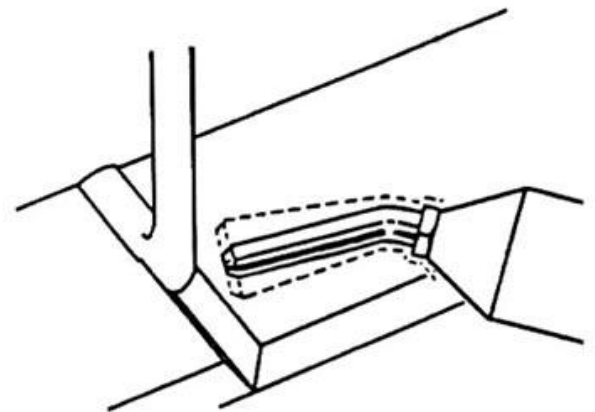
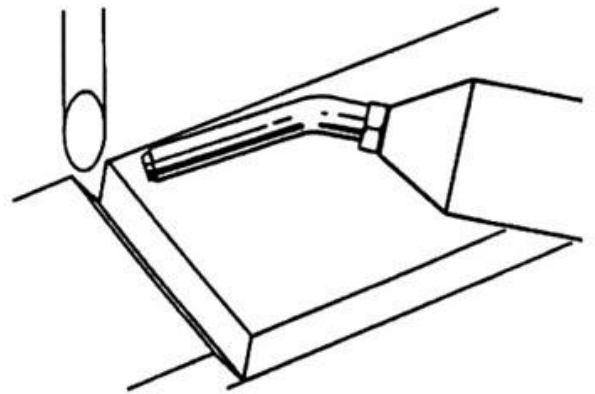
- A. After you have installed the Seelye [Tacking Tip](#), start the air flow, plug in the electrical source, and allow the welding tip to heat for several minutes.
- B. While the tip is heating, line up pieces to be welded. By this stage you should have prepared the plastic pieces carefully, made the necessary bevels, if required, and cleaned and dried the pieces to be welded.
- C. No rod or strip is required for tack welding with hot air. Apply the hot Tacking Tip to the area or seam where the plastic pieces are to be joined, moving the tip along both pieces at the same time, until the plastic fuses (joins) together.
- D. Do enough tack welds to hold the weight of the pieces together. With large pieces, it may be necessary to draw the Tacking Tip along the entire seam, fusing the work continuously. This will hold the weld together properly for accurate permanent bonding, which will be performed during the next phase of work.
- E. Avoid overheating the tack points. This causes the plastic material to discolor, char or warp. If you are not properly fitted, start over. Tack welds are easy to break. Before doing a new tack weld, grind the tack points down to smooth edges.



## Permanent Welding with Hot Air

- A. Before starting the permanent weld, be sure to select the right type of welding rod (or strip). It must be the same type of plastic as the material you will be bonding together. Usually the manufacturer of the plastic material will label the plastic type for easy identification – please visit our website, [www.seelyeinc-ori.com](http://www.seelyeinc-ori.com), to view our [Types of Plastics](#) chart. If you do not know what type of plastic you are welding, refer to our [Burn Chart](#) to identify the material you are going to weld.
- B. For maximum welding economy, select a rod diameter size close to the thickness size of the base material. For base Material thickness greater than 3/16" diameter more than one rod will be necessary. Example: To weld a ¼" thick plastic, fill in the beveled area with three beads of 5/32" diameter welding rod.

- C. Select the proper welding temperature and air flow setting. (See page 7 chart)
- D. Install the [Round Tip](#) for permanent welding. Allow the Round Tip to heat properly. If you Change the Tacking Tip to the Round Tip while The welding gun is hot, be sure to unscrew the Tacking Tip and screw in the Round Tip using Pliers. **Do not overtighten; it should be snug only.**
- E. Cut the end of the rod at 60° angle. Hold the cut end of the rod just above the weld starting point. Apply heat to the rod end and the base material seam at the same time until both are tacky. Press the tacky end of the rod down into the tacky starting point of the base materials. Only the surface of the rod and base materials will be tacky, but will bond properly. The rod will continue to hold its basic shape, for the most part, throughout the welding work.
- F. Continue the weld, holding the rod at a 90° angle directly above the weld seam, press firmly and evenly down into the weld joint as you apply heat in the direction of the weld seam with a short fanning motion (see illustration). As the rod and base material become tacky, if you are welding at the proper temperature, a loop will form where the rod joins the base materials and small beads will form on either side of the completed weld.
- G. At the end of the weld, cut the rod with a knife or pliers at a 30° angle. Cut the end of the new rod at a 60° angle to continue.



There should be no charring, discoloration, or warping if proper heat is applied. There should be no stretching of the welding rod. This will weaken the rod bond and can be avoided by taking care to press directly down on the rod rather than pushing the rod along the direction of the weld seam. A few hours of practice welding will give the “feel” for maintaining the right even pressure on the rod straight down into the weld area. Please view our [videos and tutorials](#) for more information.





### Rod Size Chart

Base Material Thickness	Welding Rod Size
1/16"	1/8" diameter
1/8"	1/8" diameter
3/16"	3 beads of 5/32" or 3/16" diameter
¼"	3 beads of 5/32" or 3/16" diameter

\*For thicknesses greater than ¼" it will be necessary to use multiple beads to fill. Standard size welding rod are 1/8", 5/32" and 3/16". Other sizes are available upon request – minimum quantities and set up fees may be required.

### Standard Welding Temperature Chart

Plastic Type	Temperature (F°)
Polypropylene (PP)	550 – 625
Copolymer	550 – 625
Polyethylene	500 – 600
High Density Polyethylene (HDPE)	500 – 550
Low Density Polyethylene (LDPE)	900 – 1000
High Molecular Weight (HMW)	
Polyvinyl Chloride (PVC)	550 – 625
Chlorinated Polyvinyl Chloride (CPVC)	900 – 1000
Acrylonitrile Butadiene Styrene (ABS)	650 – 725
Polycarbonate (PC)	600 – 675
Polyurethane (TPUR)	500 – 650
Polyvinylidene Fluoride (PVDF)	900 - 1000

\*Normal air pressure settings are between 4 to 6 PSI for most thermoplastic materials.

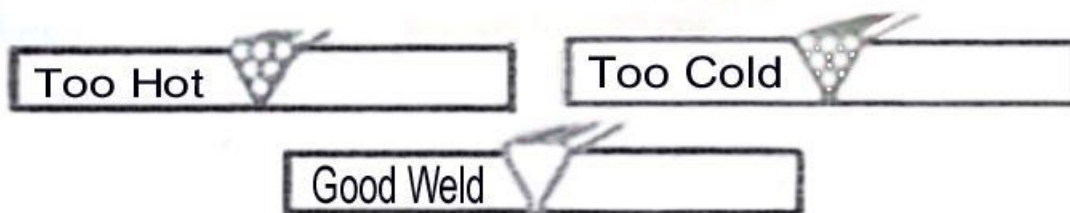
**DO NOT GO BELOW 4 PSI!**

Temperature may vary depending on atmosphere and welding speed. Temperature is measured 1/8" from the end of the Round Tip. Most thermoplastics are weldable. If not listed above, please consult factory.

## Weld Quality Analysis

- A. Check the quality of your weld. You can tell more about the quality of the weld by its appearance. The Weld Quality Analysis Chart below shows what a good, permanent weld looks like.
- B. If you require less heat, increase air pressure. Do NOT go below 4 PSI.

### Weld Quality Analysis Chart



## High Speed Welding

Either the rod or strip is fed through a special high speed welding tip containing a feeding channel, which makes it unnecessary for the weldor to hold to the rod or strip in hand while welding is preformed. A person performing high speed welding, moving the welder at proper speed, can join approximately 2 to 3 feet of Polyvinyl Chloride (PVC), Polyethylene, or Polypropylene (PP) per minute. Seams, joints or repair areas can be as strong or stronger than the original, or base material, welded (90% or better, depending on the type of weld applied).

When performing high speed welding, remove welding rod from feeder tube immediately when weld is complete. Always clean the rod feeder tube with a small bristle brush before and after completion of weld.



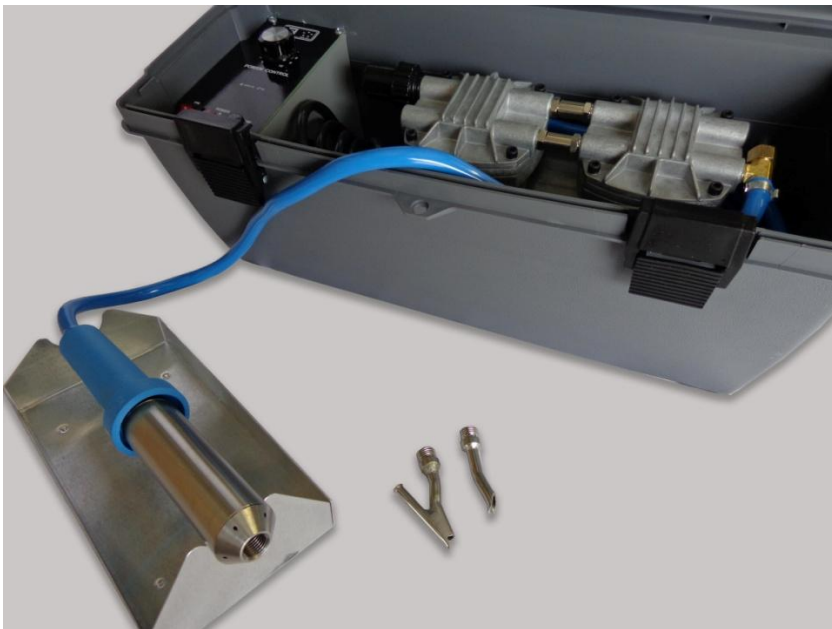
# 2001FC Series



The [2001FC Welder Kit](#) comes with a standard 500 watt 120 volt Heating Element, Pressure Switch, Infinite Heat Control, Perforated Nose Cone and Inner Barrel for disbursement of fumes and cooler barrel, Air Filter, Gauge, Tacking Tip, [Narrow Body Automatic Speed Tip for 1/8" & 5/32"](#) diameter welding rod, Tray, Carrying Case and Welder Guide CD.

This welder has a temperature range from ambient to approximately 1600° F (*maximum temp. reached when used with the 650 watt heating element*). The 2001FC can weld any thermoplastic from PVC to Polypropylene to UHMW.

(Also available with a 400 or 650 watt element and/or [Narrow Body Automatic Speed Tip for 3/16"](#) diameter welding rod)



The [2001FCP PortaWelder](#) comes with a standard 500 watt 120 volt Element, Infinite Heat Control, Perforated Nose Cone and Inner Barrel for disbursement of fumes and cooler barrel, Tacking Tip, [Narrow Body Automatic Speed Tip for 1/8" & 5/32"](#) diameter welding rod, Tray, Compressor, Carrying Case and Welder Guide CD.

Like the 2001FC, this welder has a Temperature range from ambient to approximately 1600° F (*maximum temp. reached when used with the 650 watt heating element*). The 2001FCP can weld any thermoplastic from Polypropylene to PVC to UHMW.

(Also available with a 400 or 650 watt element and/or [Narrow Body Automatic Speed Tip for 3/16"](#) diameter welding rod)

# 2001FC Series Breakdown



No.	Description	Part No.
1	Automatic Speed Tip	270-11025
2	Tacking Tip	270-11011
3	Handle	270-11034
4	Barrel Assembly	270-35789
5	Element (500 watt)	270-11061
6	Teflon Insulators (2)	270-11041
7	Handle Screw	270-11046
8	Ground Terminal	270-11042
9	Cable Lock	270-11043
10	Brass Tee	270-11052M

No.	Description	Part No.
11	Hose Clamp	270-11051
12	Aluminum Clamp	270-11044
13	Hose	270-11050
14	Electrical Cord	270-11048
15	Control Board	960-09686
16	Tray	270-11056
17	Carrying Case	270-11076
18	Air Filter	800-05025
19	Gauge	270-11055
20	Fuse	960-09645

\*The 2001FCP PortaWelder Kit comes with an Air Compressor (#270-11059) and includes the above items with the exception of the Air Filter (#800-05025) and Gauge (#270-11055).



# Model 63 Series



The [Model 63 SI-1005](#) Welder comes with a standard 500 watt 120 volt Element, air Filter, Gauge, Regulator, Round Tip, Tray and Welder Guide CD. The SI-1005 is considered one of Seelye's work horse welders. This is an ideal welder for small repairs or first time users. This welder ranges from ambient up to 900° F (*maximum temp. reached when used with a 650 watt Element*).

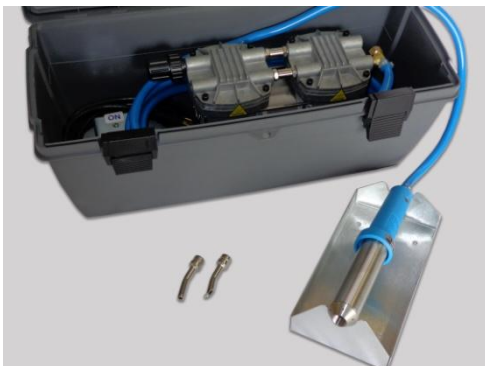
*(Also available with a 400 or 650 watt or in a 240 volt in 400, 500, or 650 watt Element)*



The [Model 63 SI-1002 Welder Kit](#) comes with a standard 500 watt 120 volt Element, Air Filter, Gauge, Regulator, Round Tip, Tacking Tip, Tray, Carrying Case and Welder Guide CD. The SI-1002 is ideal for first time users and small repair jobs.

This welder ranges from ambient up to 900° F (*maximum temp. reached when used with a 650 watt Element*).

*(Also available with a 400 or 650 watt or in a 240 volt in 400, 500 or 650 watt Element)*



The [Model 63 SI-1167 PortaWelder Kit](#) comes with a standard 500 watt 120 volt Element, Round Tip, Tacking Tip, Tray, Compressor, Carrying Case and Welder Guide CD. A benefit of this welder is that it can be taken to any job site.

Please note the only way to adjust the temperature with the SI-1167 is by changing the element. For cooler temperatures use the 400 watt 120 volt Element, for hotter temperatures use the 650 watt 120 volt Element. Most thermoplastics will use the standard 500 watt 120 volt Element. (*Also available with a 400 or 650 watt Element*)



# Model 63 Series Breakdown



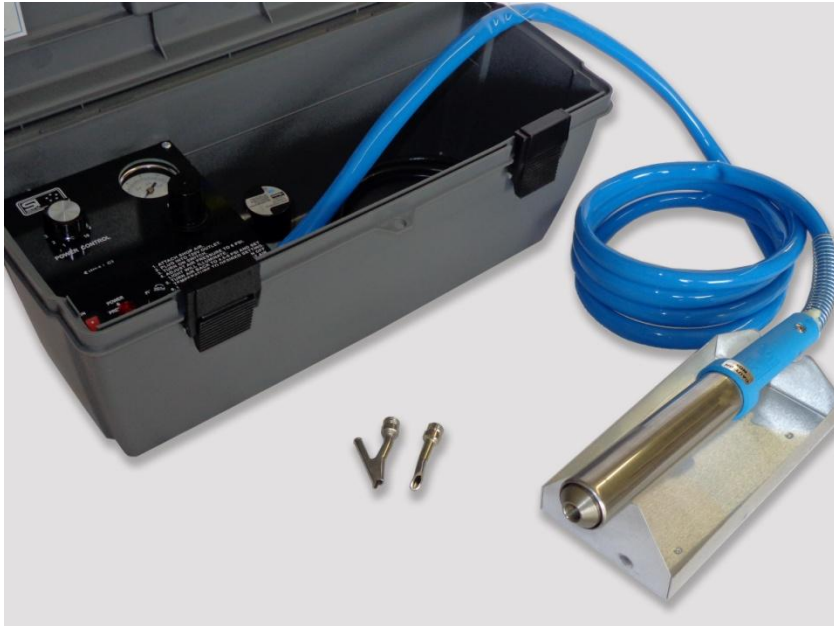
No.	Description	Part No.
1	Handle	270-11034
2	Round Tip	270-11012
3	Tacking Tip	270-11011
4	Barrel Assembly	270-35789
5	Element (500 watt)	270-11061
6	Pin Terminals (2)	270-11040
7	Teflon Insulators (2)	270-11041
8	Ground Terminal	270-11042
9	Cable Lock	270-11043
10	Aluminum Adapter	270-11044
11	Ground Screw	270-11911
12	Handle Screw	270-11046
13	Hose	270-11050
14	Tray	270-11056
15	Brass Tee	270-11052M
16	Regulator	270-11053
17	Pressure Gauge	270-11055
18	Hose Clamps	270-11051
19	¼" NPT Nipple	960-09680
20	Filter Assembly	800-05025
21	Carrying Case	270-11057
22	Electrical Cord	270-11048

\*The SI-1005 contains everything listed above except the Tacking Tip (#270-11011) and the Carrying Case (#270-11057). The SI-1167 contains an Air Compressor (#270-11059) and everything listed above with the exception of the Pressure Gauge (#270-11055), Air Filter (#800-05025) and Regulator (#270-11053).



# 1197CH Series

*Discontinued*



The [1197CH High Heat Production Welder](#) with Controlled Heat comes with an 800 watt 120 volt Element, Patented “Cool to the Touch” Barrel, Pressure Switch, Indicator Light, On & Off Switch, Pressure Gauge, Air Regulator, Air Filter, Infinite Heat Settings, Tacking Tip, [Wide Body Automatic Speed Tip for 3/16”](#) diameter welding rod, Carrying Case, and Welder Guide CD. This welder ranges from ambient to approximately 1600°F.

Our state-of-the-art “Cool to the Touch” Barrel system enables the barrel to stay relatively cool even when the welder is working at full capacity.

The 1197CH can weld everything from PP to PVC to UHMW, while keeping the user safe from burns.

*(Also available with a [Wide Body Automatic Speed Tip for 1/8” & 5/32”](#) diameter welding rod upon request)*



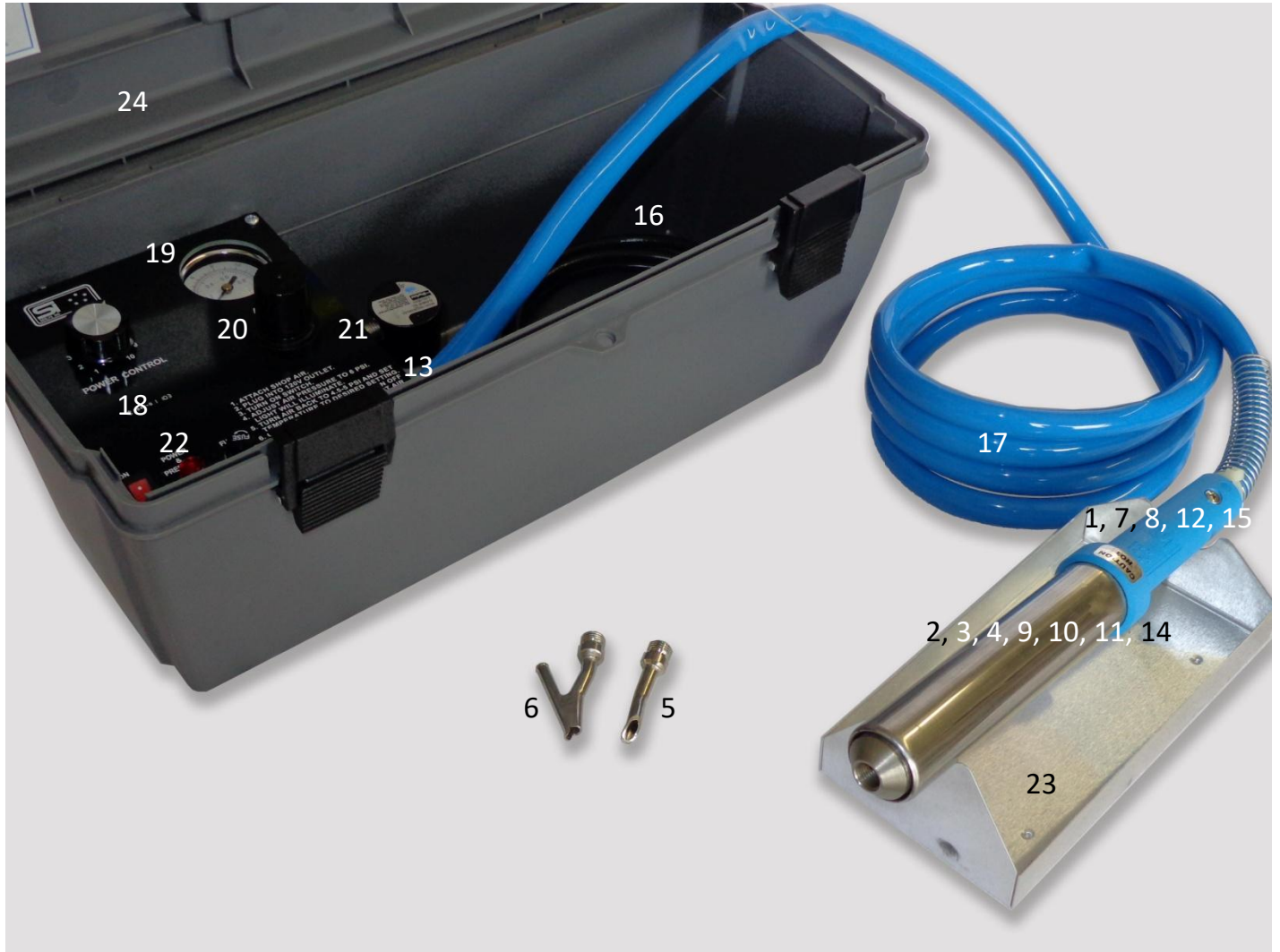
The [1197CHP High Heat Production Welder](#) with Controlled Heat comes with an 800 watt 120 volt Element, Patented “Cool to the Touch” Barrel, Pressure Switch, Indicator Light, On & Off Switch, Tacking Tip, [Wide Body Automatic Speed Tip for 3/16”](#) diameter welding rod, Carrying Case, Air Compressor, and Welder Guide CD. This welder ranges from ambient to approximately 1600°F. Like our 1197CH, the 1197CHP can weld everything from PP to PVC to UHMW but is no longer inhibited by having to supply an air source. The CHP allows the user to take this High Heat Production welder to any jobsite that has an 110 electrical source.

*(Also available with a [Wide Body Automatic Speed Tip for 1/8” & 5/32”](#) diameter welding rod upon request)*



# 1197CH Series Breakdown

Discontinued



No.	Description	Part No.
1	Handle	270-11034
2	Outer Barrel	632-77010
3	Inner Barrel	632-77005
4	800 watt 120 volt Element	270-11078
5	Tacking Tip	270-11011
6	Automatic Speed Tip	270-11018
7	Handle Screw	270-11046
8	Spring	632-77040
9	Snap Ring	270-11038
10	Alignment Ring	270-11039
11	Ground Terminal	270-11042CH
12	Cable Lock	270-11043

No.	Description	Part No.
13	Nylon Tee & Nut	960-09688
14	Ground Screw	270-11047
15	Aluminum Adapter	632-77045
16	Electrical Cord	632-77035
17	Hose	632-77050
18	Control Board	960-09686
19	Pressure Gauge	270-11055
20	Regulator	270-11053FC
21	Air Filter	800-05025
22	Pressure Switch	960-09630
23	Tray	270-11056
24	Carrying Case	270-11076

\*The 1197CHP comes with an Air Compressor (#270-11059) and everything listed above with the exception of Pressure Gauge (#270-11055), Regulator (#270-11053FC), Air Filter (#800-05025) and Pressure Switch (#960-09630).

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# Welding Tips

(Most popular styles)



## Tacking Tip – Item #270-11011

No welding rod used

Comes standard with all welders except the SI-1005



## Round Tip – Item #270-11012

Any size welding rod may be used

Comes standard with the SI-1005, SI-1002, and SI-1167 welders



## **Narrow Body Automatic Speed Tips**

Item [#270-11025](#) for 1/8" & 5/32" diameter welding rod

Item [#270-11028](#) for 3/16" diameter welding rod

Comes standard with SI-2001FC and SI-2001FCP



## **Wide Body Automatic Speed Tips**

Item [#270-11017](#) for 1/8" & 5/32" diameter welding rod

Item [#270-11018](#) for 3/16" diameter welding rod

Comes standard with SI-1197CH and SI-1197CHP



## Ribbon/Strip Rod Automatic Speed Tip – item #270-11024

Welds 1/16" thick x 5/8" wide ribbon/strip welding rod

\*Please visit our website, [www.seelyeinc-ori.com](http://www.seelyeinc-ori.com), to view all our welding tips. Our tips are made to interchange with any of our welders. All tip and barrel threads are 1/4" – 18 NPS.

# Heat Guns

Master Appliance



## Models SI-1164, SI-1165, SI-1166

Heavy Duty, industrial quality heat gun with temperature and power ratings up to 1000°F(538°C) and up to 1740 watts (120v). A universal motor, diecast aluminum housing, reinforced mica-insulated ceramic heating element, and externally replaceable carbon brushes make this heat gun a rugged, reliable source of flameless heat, where you are working with freezer coils, plastic laminates, circuit boards, PVC, fiberglass, or heat shrinkable materials.

A variety of heat gun tips available upon request

Model No.	Approx. Temp.	Volts	Amps	Watts
270-11164	300°F – 500°F (149°C – 260°C)	120	12	1440
270-11165	500°F – 750°F (260°C – 399°C)	120	14	1680
270-11166	750°F – 1000°F (399°C – 538°C)	120	14.5	1740



## Model SI-6005

This lightweight, low cost heat gun features two heat settings: 500°F (260°C) and 1000°F (538°C). The airflow rating is 8 CFM at 1020 FPM. This model is ideal for automotive applications.

A variety of heat gun tips available upon request.

Model No.	Approx. Temp	Volts	Amps	Watts
271-16005	500°F & 1000°F (260°C & 538°C)	120	10	1200

[Model SI-16003](#)



SI-6003 – This heat gun with temperature settings of 570°F and 1050°F (299°C and 565°C) and airflow of 15 CFM at 3650 FPM meets the requirements of most materials. Features include a DC permanent magnet motor that is compatible with all electrical frequencies. The compact, ergonomically designed Lexan housing, enclosed ceramic heating element and wrap around air intake assures you of a lightweight (1 lb. 10 oz) easy-to-use source of flameless heat whether you are working with shrinkable packaging materials, bending plastics/laminates or activating adhesives.

[Model SI-16004](#)

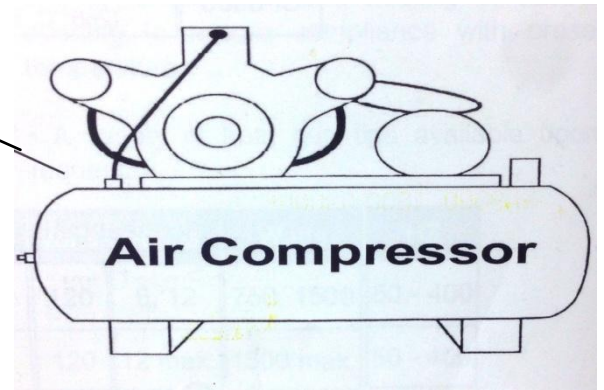


SI-6004 – This easy to use heat guns offers all the feature that the model SI-6003 does plus variable temperature control. The variable temperature control allows the user to dial in any temperature from ambient to 1050°F (565°C). The airflow rating is 15 CFM at 2650 FPM. Its thermostatic control maintains the pre-selected temperature and prevents heat from backing up and overheating when airflow is restricted. The Supervisor Temperature Lock-In feature allows pre-setting of temperature and sealing of access opening to assure compliance with preset temperature.

Model No.	Approx. Temperature	Volts	Amps	Watts	HZ
271-16003	570°F – 1050°F (299°C – 565°C)	120	6, 12	750, 1500	50 – 400
271-16004	Ambient - 1050°F (565°C)	120	12 max	1500 max	50 - 400

*\*Other heat guns are available upon request.*

# Air Filter Installation



## **Benefits of using a DX Filter System:**

- Protect welder elements
- Eliminate unnecessary downtime
- Up to 93% removal of 0.1 micron oil, water, dirt
- Handles the vast majority of compressed air requirements
- Continuous coalescing and draining liquids
- ¼" NPT Inlet Outlet
- Pressure rated at 150 PSI
- Maximum Flow at 100 PSI – 22 SCFM
- Clear Polycarbonate bowl
- Manual drain valve included
- Microfibre Filter Cartridge included

## **Description:**

The SI-5025 filter assembly is a high efficiency coalescing filter designed specifically for plastic welding equipment. The filter assembly comes complete with a filter cartridge and is ready to install in the manufacturers equipment.

\*Pictures are for illustration purposes only – not actual size



# Burn Chart

Material	Burn Class	Odor
ABS	Yellow/Blue edge flame Drips Slow Burn Black smoke with soot in air	Acrid
Acrylics	Blue/Yellow tip flame Drips (molded) Slow burn Flame may spurt if rubber modified	Fruity
Nylon	Blue/Yellow tip flame Drips Extinguishes on removal of flame 6/6 is more rigid than Type 6 Nylon	Acrid
Polycarbonate	Orange flame Drips Extinguishes on removal of flame Black smoke with soot in air	Faint, Sweet Aromatic Ester
Polyethylene	Blue/Yellow tip flame Drips Slow burn Floats in water	Paraffin (wax)
Polypropylene	Blue/Yellow tip flame Drips Slow burn Floats in water More difficult to scratch than Polyethylene	Sweet
Polystyrene	Yellow flame Drips Rapid burn Dense black smoke with soot in air	Illuminating Gas
Polyurethane	Yellow Flame Does not drip Slow burn Black smoke	No distinct odor



## Most Common Weldable Thermoplastic Materials

### **HDPE**

*(Polyethylene)*

High Density Polyethylene is one the most common form. If not welded properly it will easily separate from the substrate in the “wetted” or melted state and must be held in place until the clear color on the surface turns back to its original appearance. Other densities include Low, Medium, High and Ultra High Molecular Weight (UHMW). The Low Density is much softer and more flexible. You can weld a higher density with a lower density rod, however, you cannot weld a lower density with a higher density rod. If you identify a polyethylene with the burn test and you think it is high density but it will not weld it is either Ultra High Molecular Weight or a cross link material. The UHMW requires a special welder (either SI-2001FC Series or SI-1197CH Series), welding rod and welding tip for proper welding. The cross link is a thermoset and is not welded.

### **CPVC**

*(Chlorinated Polyvinyl Chloride)*

CPVC will produce a good weld if you sand or scrape both the welding rod and the surface to be welded to remove the coat of plasticizer that leaches from the CPVC material. Removing it with chemicals is not recommended as this will lead to softening the material and/or leaving a residue on the surface. More heat must be concentrated on the substrate when hand welding CPVC. It is recommended that an automatic speed tip is used to ensure proper pre-heating of the substrate. Be careful to guard against scorching, which will weaken the weld considerably.

### **TPUR**

*(Thermoplastic Polyurethane)*

TPUR produces a strong weld once the material has cured, but will pull loose immediately after welding, similar to Polyethylene. To determine the proper cure time, weld a short bead and test the strength by pulling up on the “tail” of the rod once it has cooled and every five minutes thereafter.

### **PP**

*(Polypropylene)*

Polypropylene welds very well if done properly. The rod does not soften completely through and will remain stiff, making welding in and out of corners and around outside corners difficult. If multiple welds are run, such as in the corner of a tank, relieve stress in the areas by heating the weld and the tank walls on either side of the weld and then cool it slowly by covering it. This process is called annealing and will add years to the life of your weld.

### **ABS**

*(Acrylonitrile Butadiene Styrene)*

ABS has a good esthetic value and can be finished by sanding and painting. ABS is commonly used in the automotive industry.

### **PVC**

*(Polyvinyl Chloride)*

Scorching or discoloration of PVC will weaken the weld. To avoid this problem, either reduce the power (if using a Seelye welder with a control board) or heat by increasing the air flow, or increase your welding speed. If backwelding pipe fittings, never attempt to weld over cement; first remove cement by either grinding or by other means.

### **PVDF**

*(Polyvinylidene Fluoride)*

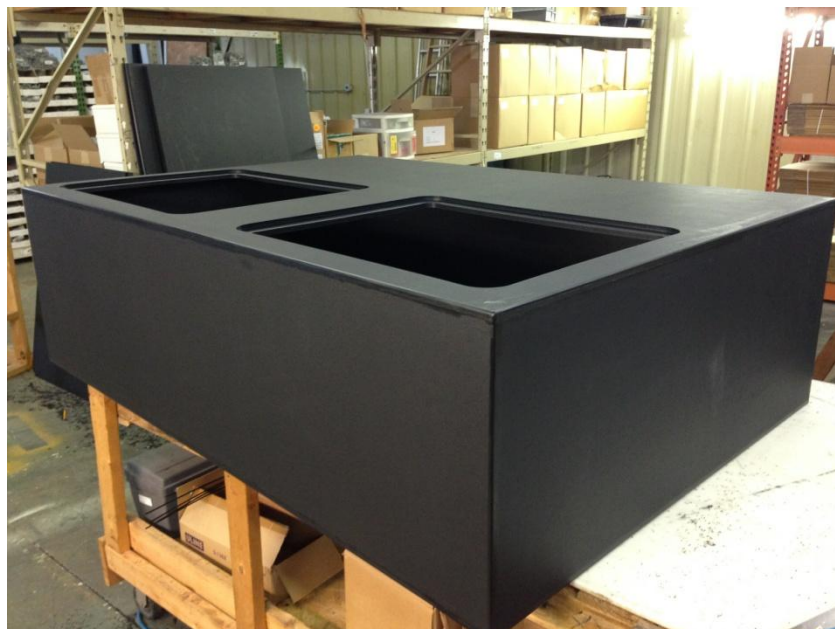
PVDF welds by hand or automatic speed tip at approximately 900° F – 1000° F and is very strong. All welds of PVDF will provide good performance for many years if annealed. The process of annealing is to heat the weld and the substrate around the welded area and allow it to cool slowly by covering it.



## Other Services

DJ Plastics is our custom fabrication division. Whether you are looking to have a tray fabricated, a 5,000 gallon water/chemical tank with baffles, fittings and tubing or anything in between, DJ Plastics is able to complete the job. We can either work off your print or help you create one. You are no longer restricted by size, shape or style type tanks.

To help you design your custom fabricated piece, please visit our website to view our [Custom Fabrication Worksheet](#).





## Other Services

[Tefen Products USA](#) is the exclusive distributor for Tefen fittings, tubing and nozzles. Tefen Tech has over 40 years of experience in producing fittings for the pneumatic, automation and irrigation industries. Quality is extremely important to us at Seelye Companies and we are proud to represent a company that follows the same motto. Tefen quality control is one of the most rigid in the industry; starting from raw materials inspection, through ongoing quality assurance during production using Statistical Process Control (SPC) and Total Quality Management (TQM), and finally through testing of the final product before delivery according to ISO 9001:2000 standards.

Tefen's produces their fittings, nozzles and tubing out of Acetal, Nylon 6/6, Polypropylene, Fiberglass Reinforced Polypropylene, PVDF (upon request), HDPE, LDPE and PVC. Their Nylon 6/6 fittings are ROHS compliant.







## Other Services

Seelye Companies is proud to be a distributor for [John Guest®](#) fittings. John Guest's products have been designed to be used in a variety of industrial applications, such as, Water Purification, Reverse Osmosis, Ice Makers, Beverage Dispensing, Vending & OCS, R.V. and Marine, Car Washing Systems and many more.

As a world leader of push-in fittings, tubing and other fluid control products, John Guest has always been committed to the highest quality and ease of use; making their fittings some of the most reliable and leak-free connections on the market. Quality is not only extremely important to them, as it is to Seelye Companies, safety is also. Their standard fittings, valves and PE tubing are all produced from FDA compliant materials and are listed with NSF International Standards 51 and 61.

