

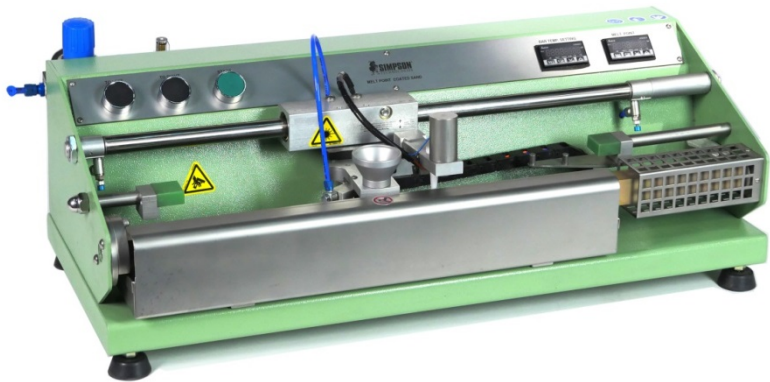
SIMPSON

A Norican Technology

Operating Instructions

Melt Point Tester

Model 42152



Type:

Melt Point Tester

Model:

42152

Part No.:

0042152-ASM
0042152-220-ASM

Serial Number:

Name and address of manufacturer:

Simpson Technologies
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Naperville, IL 60563

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Table of Contents

1	Introduction	1
1.1	Application and Designated Use	1
1.2	Organizational Measures	1
2	Safety	2
2.1	Safety Signs and Labels	2
2.1.1	Safety Alert Symbols	3
2.1.2	Safety Symbol Labels	4
2.2	Lockout and Tagout System Procedures	8
2.2.1	Lockout and Tagout Device	8
2.2.2	Glossary:	9
3	Short Description & Specifications	10
3.1	Application	10
3.2	Description	10
3.3	Specifications, Dimensions and Weights (Approximate).....	11
3.3.1	Sand Rammer Base (Model 42100C).....	11
4	Unpacking and Installation	12
4.1	Unpacking	12
4.2	Components.....	13
4.3	Installation.....	13
4.4	Electrical and Pneumatic Power Connection	14
4.5	Rammer Scales.....	14
4.6	Airborne Noise Emission.....	15
5	Operating Instructions	16
5.1	Performing a Melt Point Test.....	16

Table of Contents

6	Maintenance and Calibration	20
6.1	Maintenance	20
6.1.1	Daily Maintenance	20
6.1.2	Weekly Maintenance	21
6.2	Calibration	21
6.2.1	Melt Bar Temperature.....	21
6.2.2	Hopper Travel Spe	22
7	Apparatus Layout	24
8	Parts List / Ordering Parts / Returns	27
8.1	Spare Parts List	27
8.2	Ordering Replacement / Spare Parts	28
8.3	Returned Goods Policy	29
9	Decommissioning	31
10	Location of Safety Symbols	32
11	Commercial Manuals	35
11.1	Temperature Controller	35

1 Introduction

Congratulations, you have just purchased an extremely reliable sand testing instrument that is backed by the professional technical support and years of proven sand technology experience of Simpson Technologies .

This laboratory equipment is constructed of quality materials and is the result of unsurpassed craftsmanship. The Melt Point Tester should be operated only when it is in perfect condition, in accordance with its designed purpose and being aware of possible hazards. Observe the safety instructions in Section 2 and operating instructions in Section 5.

1.1 Application and Designated Use

The Melt Point Tester Model 42152 is designed to measure the melt point or stick point of shell resin coated foundry sands.

The melt point of shell resin refers to the heat sensitivity of the resin coating on the sand and indicates the lowest temperature at which the coating becomes soft or tacky enough to adhere to itself or other surfaces. The test is useful for incoming quality control, production control of the sand coating process as well as determining the suitability of sands for a production application.

1.2 Organizational Measures

The operating instructions should be readily available at the place of operation. In addition to the operating instructions, the general legal regulations or other mandatory rules for prevention of accidents and environmental protection should be made known and be observed!

The personnel instructed to use this apparatus, before beginning work, should have studied and fully understood these Operating Instructions, in particular the "Safety" chapter.

No modifications, extensions or changes of design of the device that would impact safety requirements should be put into effect without prior consent of the supplier! Spare parts must conform to the technical specifications defined by the manufacturer. This is always guaranteed when using original spares.

2 Safety

NOTICE

Before operating and/or performing maintenance or repair on Simpson Technologies designed and/or manufactured equipment, it is required that all personnel have read and understood the entire Operation Maintenance manual. If any questions exist, you must contact your supervisor or Simpson Technologies before taking further action.

If properly operated and maintained, your Simpson Technologies supplied equipment can provide many years of dependable and safe operation. Please follow all recommended safety, operating, and maintenance instructions. Furthermore, the introduction of any non-Simpson Technologies manufactured and/or approved parts to the equipment may create a hazardous situation. Never alter the equipment without prior consultation with Simpson Technologies .



DO NOT use this machine for purposes other than that for which it was intended. Improper use could result in death or serious injury.

2.1 Safety Signs and Labels

Simpson Technologies has incorporated the ANSI Z535.6 / ISO 3864-1-2 safety symbol only label format on all of its laboratory equipment. For the location of the safety labels on your equipment, refer to the "Location of Nameplate and Decals" drawing in Section 10.

The harmonized ANSI Z535.6 format became an established safety label format since it not only fully meets the current ANSI Z535 standards, but also incorporates ISO 3864-2 symbology and hazard severity panel and thus, can be used for both the U.S. and international markets.

2.1.1 Safety Alert Symbols



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. OBEY all safety messages that follow this symbol to avoid possible injury or death.



DANGER! Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



The safety alert symbol used without a signal word to call attention to safety messages indicates a potentially hazardous situation which, if not avoided, could or may result in death or minor injury.

NOTICE

NOTICE indicates information used to address practices not related to personal injuries but may result in property damage.



This symbol indicates information containing important instructions concerning the use of the machine or directions for further procedures. Ignoring this information can lead to malfunction of the machine.

2.1.2 Safety Symbol Labels



BURN HAZARD - HOT SURFACE
(STC #214045)

This label is located on the top and bottom of the blow-off sample tray. When the Tester is ON, the melt bar (see Item 8, Figure 1) is extremely hot and can cause severe burns to body parts. Follow **Lockout and Tagout** procedures before servicing.



HAND CRUSH / FORCE FROM THE RIGHT
(STC #217973)

This label is located on the inside wall of the cabinet below the “to right” push button.

When the carriage assembly travels all the way to the far left or to the far right, the carriage assembly may pin your hand/fingers to the carriage stops and side wall of the tester and may crush or cut body parts.



CLASS 111a LASER BEAM – AVOID DIRECT VIEWING (STC #214032)

This label is located on the carriage assembly near the laser pointer.

This equipment utilizes a Class IIIa laser pointer to manually locate the sand hopper assembly. Direct viewing of the Class IIIa laser beam could be **hazardous** to the eyes. *Do Not* look directly at the laser beam. *Do Not* point the laser beam into another person's eye. *Do Not* view a laser beam with telescopic devices. Follow **Lockout and Tagout** procedures before servicing.



ELECTRICAL SHOCK / ELECTROCUTION (STC #217958)

This label is located on the back panel of the cabinet.

With the back panel removed, the electrical power supply and electrical terminals are exposed. A hazardous voltage is present, can cause electric shock or burn, and will result in serious injury. Follow Lockout and Tagout procedures before servicing.



EXPLOSION / RELEASE OF PRESSURE

(STC #217945)

This label is located on the back of the unit by the pneumatic tubing connections.

With pneumatic pressure present, disconnecting or cutting the pneumatic tubing will release the pressure contained within the tubing. Blown-out air with or without solid particles in the air stream may get into the eyes and may irritate or damage the eye. Follow Lockout and Tagout procedures before servicing.



WEAR GLOVES / AVOID BURN

(STC #217975)

This label is located on the right hand top of the cabinet above the melt point control.

Always wear gloves / avoid burn when performing any test with the Melt Point Tester; its hot components may burn hand and body parts. Follow Lockout and Tagout procedures before servicing.



WEAR GLOVES / AVOID BURN

(STC #`217975)

This label is located on the right hand top of the cabinet above the melt point control.

Always wear gloves / avoid burn when performing any test with the Melt Point Tester; its hot components may burn hand and body parts. Follow Lockout and Tagout procedures before servicing.



**READ AND UNDERSTAND ALL SERVICE
MANUAL INSTRUCTIONS**

(STC #214042)

This label is located on the right hand top of the cabinet above the melt point control.

Before operating and/or performing any maintenance or repair on Simpson Technologies designed and/or manufactured equipment, it is required that all personnel read and understand the entire Operating Instructions manual. All protective guards shall be installed, and all doors closed before operating the equipment. If any questions exist, you must contact your Supervisor or Simpson Technologies before taking further action. Follow **Lockout and Tagout** procedures before servicing.

2.2 Lockout and Tagout System Procedures

NOTICE

*Whenever performing any type of maintenance or repair, whether in the form of cleaning, inspection, adjustment, mechanical or electrical maintenance, the equipment must be rendered into **Zero Mechanical State (ZMS)**.*

Prior to any maintenance (routine or otherwise) or repair of equipment, a safety procedure should be established and maintained. This procedure should include training of personnel; identification and labelling of all equipment which is interlocked mechanically, electrically, through hydraulics, pneumatics, levers, gravity or otherwise.

"Lockout and Tagout" refers to specific practices and procedures to safeguard personnel from the unexpected energizing of machinery and equipment, or the release of hazardous energy during service or maintenance activities. This requires, in part, that a designated individual turns off and disconnects the machinery or equipment from its energy source(s) before performing service or maintenance, and that the authorized employee(s) lock or tag the energy-isolating device(s) to prevent the release of hazardous energy and take steps to verify that the energy has been isolated effectively.

2.2.1 Lockout and Tagout Device

When attached to an energy-isolating device, both lockout and tagout devices are tools used to help protect personnel from hazardous energy. The lockout device provides protection by holding the energy-isolating device in the safe position, thus preventing the machine or equipment from becoming energized. The tagout device does so by identifying the energy-isolating device as a source of potential danger; it indicates that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

2.2.2 Glossary:

Authorized Person(s) - Personnel who have been designated by his/her department to perform maintenance or service on a piece(s) of equipment, machinery or system, and are qualified to perform the work through proper training on the Lockout/Tagout procedures for the equipment, machinery or system.

Lockout - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, to ensure that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device - Any device that uses positive methods, such as a lock (either key or combination type), to hold an energy isolating device in a safe position, thereby preventing the energizing of machinery or equipment. When professionally installed, a blank flange or bolted slip blind are considered equivalent to lockout devices.

Tagout - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout Device - Any prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure. The tag indicates that the machine or equipment to which it is attached is not to be operated until the tagout device is removed in accordance with the energy control procedure.

Zero Mechanical State - The mechanical potential energy of all portions of the equipment or machine is set so that the opening of pipes, tubes or hoses, and the actuation of any valve, lever or button, will not produce a movement which could cause injury.

3 Short Description & Specifications

3 Short Description & Specifications

3.1 Application

The Simpson Melt Point Tester Model 42152 is designed to measure the melt point or stick point of shell resin coated foundry sands. The melt point of shell resin refers to the heat sensitivity of the resin coating of the sand. It indicates the lowest temperature at which the coating becomes soft or tacky enough to adhere to other sand grains or substances in contact with the resin. The resultant test data is useful for incoming quality control, production control of the sand coating process and determining the suitability of sands for a production application.

NOTICE

The Simpson Melt Point Tester should only be used for the application it has been designed for. Failure to do so may damage the Tester and/or cause personal injuries.

3.2 Description

The Simpson Melt Point Tester Model 42152 consists of a heated bar in which a temperature gradient is established so that the left end of the bar is cooler than the right. The temperature gradient of the bar can be adjusted and is controlled by the tester temperature control. The typical temperature range for measuring foundry shell sand is between 160° and 250°F (71° - 121°C).



The actual temperature set point chosen should be one that will attain a melt point near the center of the melt bar.



The melt bar is extremely hot when the tester is in operation. Always use gloves and be cautious when working with or around the tester.

Hot surfaces can burn hands and body parts.

To make a test, the shell sand sample is loaded into a specially designed traveling hopper. When a test is started, the instrument automatically opens the sand hopper and moves it left to right at a controlled travel speed. While traveling, the hopper delivers a very controlled amount of shell sand onto the heated melt bar. After one minute the instrument automatically blows a gentle stream of air toward the sand deposited on the melt bar. This action starts from the cool end, (right side) towards the hot end, (left side) of the melt bar. At the point where the sand resists being blown off the melt bar, a thermocouple tip is manually applied to the surface of the heated melt bar. A laser beam is used to assist in the process of aligning the thermocouple tip at the correct position on the melt bar. The temperature measured at this point on the heated bar is the melt point of the sand sample.



The melt bar is extremely hot when the tester is in operation. Always use gloves and be cautious when working with or around the tester.

Hot surfaces can **burn** hands and body parts.

The Melt Point Tester automatically controls the bar temperature and the loading and unloading of resin-coated sand on the heated bar which reduces the operator influence on the test results.

3.3 Specifications, Dimensions and Weights (Approximate)

Specifications	Melt Point Tester (42152)
Length	635 mm (25 in.)
Width	381 mm (15 in.)
Height	280 mm (11 in.)
Weight	25.4 kg (56 lbs.)

3.3.1 Sand Rammer Base (Model 42100C)

The Sand Rammer is mounted to this base to isolate the rammer from vibration variations to ensure consistent and accurate readings. The base is fitted with a Specimen Tube Swab (Part No. 0042100J) to clean and prepare the specimen tube before testing.

4 Unpacking and Installation

4 Unpacking and Installation

4.1 Unpacking

NOTICE

Your new Laboratory Equipment has been thoroughly inspected before being shipped to your plant. However, damage can occur in route, so it is wise to inspect all equipment on arrival. Notify both the carrier and Simpson Technologies of any damage at once. Damage should be noted on the shipper's receipt before signing for receipt of the shipment.

The Simpson Melt Point Tester Model 42152 is shipped in one piece and is intended to be used as received; no further assembly/disassembly is required. The approximate instrument dimensions are 635mm (25 in.) x 381mm (15 in.) x 280mm (11 in.) and its weight 25.4 Kg. (56 lb.).



ONLY authorized personnel may unload and install this equipment. Two people are required to unpack this instrument due to the weight and tight fit to the packing crate. Failure to follow safety procedures could result in serious injury.

1. Carefully remove apparatus from the packing crate and place it on stable bench.
2. Once removed from the crate, proceed by taking off any protective wrap and unpack the included accessories.
3. Carefully remove the tie straps that are used to hold and secure the hinged arm that supports the temperature probe and the laser pointer.
4. The packaging remains the property of the Customer and may be used for returning the apparatus if some repair is required.

4.2 Components

Your Melt Point Tester is shipped with the following accessories and installation components. Please take a moment and identify that the following items were included:

- Blow off Sample Tray
- Universal Power Cord

If any of the above components are missing, contact your local Simpson Technologies office.

4.3 Installation

The installation of the Melt Point Tester is the responsibility of the Client to include procuring and preparing the material required for this purpose. In order to guarantee effective performance, a solid surface that is free of vibration is recommended. Place the tester on a stable bench. Although it is not required that the machine be perfectly level in order to operate, it should be in a level condition. The instrument can be leveled by adjusting the four rubber feet located on each corner of the base (see Item 10, Figures 1 and 3).

The Melt Point Tester would likely be occupied by one operator at a time. It is used in a foundry sand laboratory, with its operation display and control buttons placed at about waist level of the operator. It should also be placed in an ergonomically correct position to allow the operator to comfortably handle the sand samples as well as the control buttons.

NOTICE

Do not store the device in the open and unprotected from atmospheric conditions. If this instruction is not followed, claims under guarantee will no longer be considered.

4.4 Electrical and Pneumatic Power Connection



Electrical Requirements: 100 - 240 Volts, 50-60 Hz + Ground (5Ω or less).
Connect the equipment to a grounded electrical outlet.

1. Compressed Dry Air, Filtered and Non-Lubricated at a minimum pressure of 6 bar (87 psi).
2. 110/220 ACV - 50/60 Hz Electrical power as specified.



*Before connecting the equipment, an approved pneumatic safety Lock-Out air valve must be installed in the supply airline. Verify that the voltage marked on the serial number name plate is the same as the electrical outlet to be used for the machine. Outlet must be properly grounded! Failure to follow safety procedures could result in serious injury. Follow **Lockout and Tagout** procedures before servicing.*

4.5 Rammer Scales

1. The Sand Rammer is designed with four scales. Two are affixed to Use a flexible hose or tubing, rated to a minimum working pressure as the incoming air supply line pressure, to connect the air filter-regulator-lubricator on the back of the Melt Point Tester.
2. Fill the air lubricator with a high quality air tool lubricant. Adjust the pneumatic lubricator to ensure that one drop falls in the air stream every three full cycles of the carriage assembly.
3. Set the air regulator to 5 bar (72 psi).
4. Connect the universal power cord first to the Melt Point Tester (see Item 17, Figure 3) and then to an AC electrical outlet that is free of disturbances/fluctuation and is properly grounded. Use a voltage stabilizer/filter (line conditioner) if the power line fluctuates or is noisy from an electrical point of view.

4.6 Airborne Noise Emission

Regarding airborne noise emission by the Melt Point Tester Model 42152, there is no motor or other noise emitted by this machinery other than the sound of the hopper carriage moving and the air nozzle blowing air. As such, the equivalent continuous A-weighted sound pressure level at the workstation does not exceed 70db(A).

5 Operating Instructions



For more information on how to use and care for your Simpson Analytics equipment and accessories visit our Simpson Technologies channel on YouTube and search our library of videos. Subscribe to our channel to keep updated on new releases.



*The melt bar is extremely hot when the tester is in operation. Always wear gloves and be cautious when working with or around the tester. **Hot** surfaces can **burn** hands and body parts.*

5.1 Performing a Melt Point Test

1. Turn the Melt Point Tester on by switching the rocker switch located on the back of the machine (see Item 17, Figure 3) to the ON position.
2. Set melt point temperature using the up ▲ and down ▼ buttons on the temperature controller (see Item 5, Figure 1). The SV display is the Set (temperature) Value, and the PV display is the Present (temperature) Value.



The typical operating temperature for foundry shell sand is between 160°F (71°C) and 260°F (126°C).



For further information regarding temperature controller, refer to the temperature controller manufacturer's manual in Section 11 of this manual.

3. Manually raise the temperature probe (Item 12, Figure 3) off the melt bar.
4. Allow time for the melt bar to reach the selected operating temperature. SV = PV temperature displayed by the temperature controller.

NOTICE

NEVER move the carriage assembly (Item 4, Figure 1) while the temperature probe (Item 12, Figure 3) is in contact with bar. Doing so will interfere with the application of the sand mixture onto the melt bar. This may also result in scratching of the melt bar and damaging the temperature probe.

5. Using the Right button (Item 2, Figure 1), position the carriage assembly to far right end of the melt bar to load the sand sample. To reach this position, press and hold the Right (direction) button until the carriage assembly stops. When the carriage assembly reaches the far right end of the melt bar, the hopper slide gate located under the hopper will automatically move of the closed position.
6. Fill the sand hopper (Item 13, Figure 2) with sand. The hopper should be approximately 60% to 70% full.



If the carriage assembly is not positioned all the way to the right, the hopper slide gate located at the bottom of the hopper will not close and the sand will flow through the hopper into the blow-off sample tray during the sand filling sequence in Step 6.



***BURN HAZARD!** Extreme caution must be observed when loading sand in the hopper or cleaning the melt bar due to the high temperatures present on the melt bar.*

7. Push Start button (Item 3, Figure 1).
8. The carriage supporting the hopper, thermocouple, air nozzle and the laser pointer will start moving to the left. The hopper slide gate will automatically open, and the hopper will start distributing sand on top of the melt bar. When the carriage assembly reaches the far left end of the melt bar, the hopper will automatically swing away from the melt bar discharging any remaining sand into the blow-off sand tray. At this point of the sequence, an internal timer will automatically start. The carriage assembly will remain in this position until the sand blow sequence begins.

5 Operating Instructions

9. Immediately after the hopper distributes sand onto the melt bar, gently remove (wipe off) approximately two inches (25mm) of sand from the far right end of the melt bar using a soft heat resistant bristle brush. This will ensure the proper operation of the hopper mechanism when it returns to its home position.
10. When the internal timer stops (after one minute), the carriage assembly will automatically move left to right. At the same time an air nozzle attached to the carriage assembly will blow the loose sand from the melt bar.
11. After the loose sand has been blown off the melt bar, press the Left button (Item 1, Figure 1) to stop the nozzle air flow and allow the carriage assembly to be moved to the right.



It is normal for the Melt Point display to flash ERROR when probe is not in contact with bar. If display flashes ERROR when probe is placed on bar, the probe is not making good electrical contact with bar due to the probe resting on a sand grain. Wipe sand from bar and replace probe onto bar.

12. Press and hold the Right button to move the carriage assembly and the laser pointer over the melt bar until the laser pointer reaches the first particles of the sand sample sticking to the melt bar. This sand will be the last of the sand sample to harden onto the melt bar. The laser pointer will indicate approximately where the temperature probe will make contact on the melt bar. Once the carriage assembly is properly positioned at the sand sticking point, manually lower the temperature probe gently onto the melt bar.



Adjusting the position of the temperature probe may require using both the *Right* and *Left* buttons to achieve proper positioning in relationship to the remaining sand sample.

13. Allow approximately 20 seconds for the temperature controller to stabilize the digital readout. Record the temperature reading.
14. Manually raise the temperature probe off the melt bar. Press the Left button to move the carriage assembly all the way to the left, exposing the top of the melt bar for cleaning.

NOTICE

NEVER move the carriage assembly with the temperature probe over the sand or the melt bar. NEVER use a sharp object or abrasive cleaning agent to clean the melt bar. Failure to follow this guidance will damage the equipment and will VOID the warranty.



Do not leave the carriage assembly in any other position but the home position (far right) for storage.

15. Using a soft heat-resistant bristle brush, wipe off the remaining sand from the melt bar and use a damp cloth with a non-abrasive cleaning agent to wipe clean the melt bar. Always wear gloves when operating the Melt Point Tester.
16. Remove the Blow-off Sand Tray from the tester and dispose of the unused sand into an approved container. Wipe off and clean the tray and return it to its position in the Melt Point Tester.
17. Press the Right button to move the carriage assembly to the full right (home) position for the next test.



Do not leave the carriage assembly in any other position but the home position (far right) for storage.

6 Maintenance and Calibration



For more information on how to use and care for your Simpson Analytics equipment and accessories visit our Simpson Technologies channel on YouTube and search our library of videos. Subscribe to our channel to keep updated on new releases.

6.1 Maintenance



*Before performing any maintenance, turn-off the Lock-Out air supply valve, remove the electrical power cord from the wall receptacle and allow the melt bar to cool off to ambient temperature. Follow **Lockout and Tagout** procedures before servicing.*

6.1.1 Daily Maintenance

- Drain any condensation from the air filter located under the regulator in the air filter-regulator- lubricator unit.
- De-dust and clean the melt bar using a damp cloth with a non-abrasive cleaning agent.
- Remove and clean the blow-off sand tray from the tester. Reinstall the clean blow-off sand tray.
- Clean any loose sand from the tester.

NOTICE

NEVER move the carriage assembly with the temperature probe over the sand or the melt bar. NEVER use a sharp object or abrasive cleaning agent to clean the melt bar. Failure to follow this guidance will damage the equipment and will VOID the warranty.

6.1.2 Weekly Maintenance

- Refill the pneumatic lubricator located in the air filter-regulator-lubricator unit with high quality air tool oil.
- Check the pneumatic lubricator and adjust, if required, to ensure that one drop falls in the air stream every three full cycles of the carriage assembly.

6.2 Calibration

6.2.1 Melt Bar Temperature

1. The temperature controller reading should be verified to be within ± 0.15 °C (± 5 °F) using a certified pyrometer fitted with a surface temperature probe.
2. Turn the melt point tester on and set the bar temperature to the normal operating temperature per the instructions provided in Section 5.1.

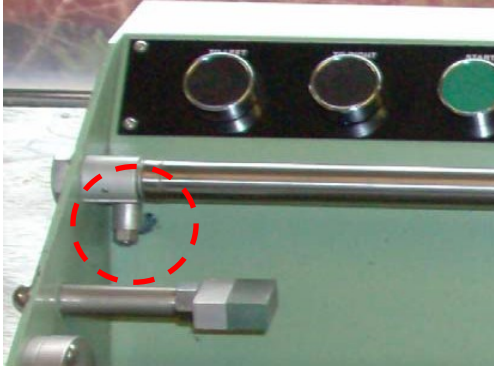


*The melt bar is extremely hot when the tester is in operation. Always wear gloves and be cautious when working with or around the tester. **Hot surfaces can burn hands and body parts.***

3. Position the carriage assembly in approximately the center of the melt bar using the Left and/or Right buttons.
4. Manually lower the temperature probe and allow the temperature probe so that it is the same distance from the end of the melt bar.
5. Place the surface pyrometer in front of the temperature probe so that it is the same distance from the end of the melt bar.
6. Allow both temperature displays to stabilize and record the difference.
7. Lift the temperature probe and position the carriage assembly in two other places on the melt bar. Repeat steps 4 and 5.

8. Verify that all three temperatures are within tolerance. If not, adjust the temperature offset of the temperature controller for the temperature probe. Refer to the temperature controller manufacturer's manual in Section 11 of this manual for detailed instructions.

6.2.2 Hopper Travel Spe



Before you make any change to the carriage assembly speed, check to ensure the following is in place:

1. The air filter-regulator-lubricator filter bowl is emptied.
2. The lubricator bowl has oil and is properly lubricating the air stream (see Section 6.1.2). If not, the carriage assembly drive mechanism may be dragging and therefore slowing down the carriage.
3. The air pressure regulator is set at 5 bar (72 psi).



*DO NOT make any speed adjustment while the carriage assembly is in motion. The carriage assembly may pin your hand/fingers to the side wall of the tester and may **crush** or **cut** them.*

NOTICE

There are two air flow valves inside the Melt Point Tester that are used ONLY to control the air in rush into the tester when the air is introduced for the first time or after a long period of inactivity. Do not attempt to adjust or remove these valves as doing so may damage the tester if the air inrush is not controlled.

7 Apparatus Layout

7 Apparatus Layout

Item	Description
1	Left Button
2	Right Button
3	Start Button
4	Carriage Assembly
5	Melt Bar Temp Controller
6	Temperature Probe Controller
7	Flow Control Valves
8	Melt Bar
9	Blow-off Sand Tray
10	Leveling Feet
11	Laser Output
12	Temperature Probe
13	Hopper
14	Nameplate
15	Pneumatic Oiler
16	Pneumatic Filter/Regulator
17	Power Cord Inlet/Switch/Fuse Holder

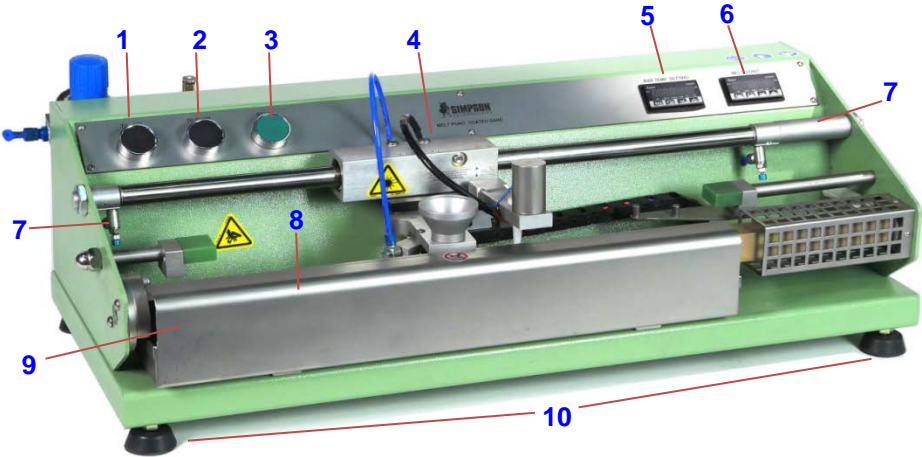


Figure 1: Front View

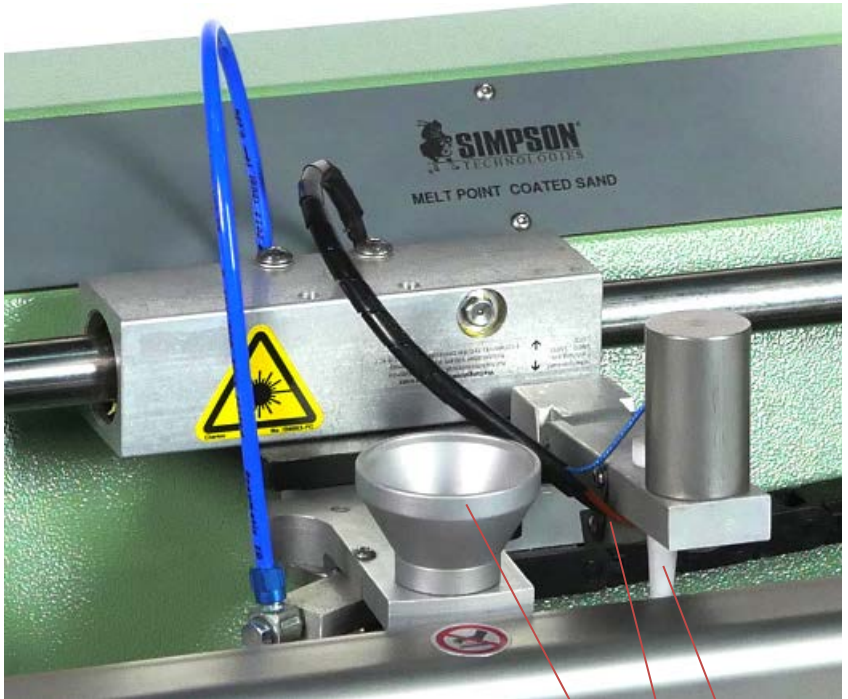


Figure 2: Carriage Assembly 13 11 12

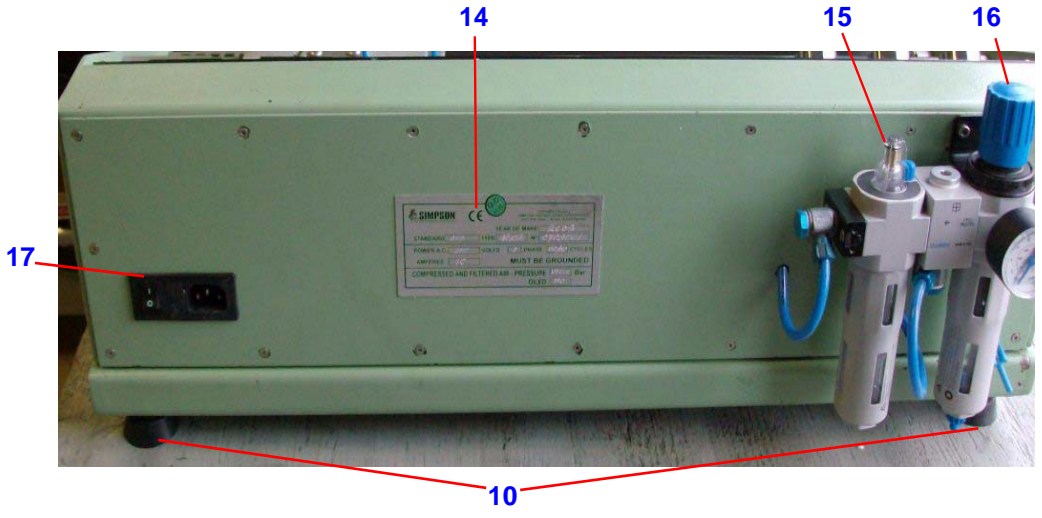


Figure 3: Back View

8 Parts List / Ordering Parts / Returns

8.1 Spare Parts List

Simpson maintains a large inventory of common spare parts for all current Simpson Analytics products. The following table provides part numbers for common spare parts for this device. Contact Simpson Technologies with the part number and description when ordering.

Part No.	Description
206700	Thermocouple Wire
206701	Probe Constantan
206702	Probe Wire
206703	Melt Bar
31-100	Heating Cartridge 110v
206705	Heating Cartridge 220v
206704	Teflon Bearing (HI Temp. End)
0045617	Cam Bearing (Sand Hopper ASM)
206706	Melt Bar Assembly, 110 Volts
206707	Melt Bar Assembly, 220 Volts

8.2 Ordering Replacement / Spare Parts

The source of replacement parts for your Simpson Analytics equipment is just as important as the make of the equipment you purchase. ALWAYS order parts for your Simpson Analytics equipment directly from Simpson Technologies. To find the Simpson office closest to you please visit us on the internet at simpsongroup.com on the “Contact Us” page.

Parts may be ordered from the sales department via e-mail at parts@simpsongroup.com: When contacting our sales department to obtain a quotation on replacement parts or service please always include the equipment serial number, the description of the part and the part number. Your Simpson Technologies sales team representative will provide you with a quote on the items with current price and delivery times. When ordering, please always refer to the quote number on your order.

To arrange for calibration support or repair assistance please contact our customer service department at service@simpsongroup.com.

8.3 Returned Goods Policy

Simpson Technologies strives to provide their customers with maximum follow up support and, in order to offer the most practical flexibility, the following conditions apply to returned goods. Adherence to these procedures will assure the most prompt and efficient service

RETURNS WILL BE CONSIDERED IN THE FOLLOWING SITUATIONS:

- Products ordered in error by customer (subject to a restocking charge).
- Incorrect or defective products shipped to customer.
- The return of existing products for factory repair or upgrade.
- Products ordered correctly but which are unwanted or unsuitable (subject to a restocking charge).
- A Safety Data Sheet (SDS) must accompany material that is sent to Simpson Technologies for testing purposes. Simpson Technologies will NOT authorize the return of hazardous materials.

RETURN PROCEDURE:

- **The customer must obtain a Return Material Authorization Number (RMA#) from Simpson Technologies prior to returning the goods.**
- To obtain an RMA#, the customer should contact the Customer Service department by phone, fax, e-mail to service@simpsongroup.com. The material being returned must be identified and the reason for its return clearly specified. Once approved for return, Simpson Technologies will issue the customer an RMA form to be included with the shipment and with instructions on where and how to ship the goods.
- All returned goods are to be shipped with transportation charges PREPAID, unless otherwise agreed when the RMA# is assigned. If it has been predetermined that return goods are to be shipped COLLECT, Simpson Technologies will specify the desired routing.
- All returned shipments will be subject to inspection upon arrival at Simpson Technologies.
- Material returned without an RMA# may be refused and returned at customer's expense.

9 Decommissioning



*Before doing any work, review the Safety Procedures in Section 2 and **Lockout** and **Tagout** all the power sources to the machine and peripheral equipment.*

Use qualified personnel and follow safety procedures, applicable local policies and regulations in decommissioning the Melt Point Tester and peripheral equipment.

Electrical Power: Disconnect the electrical power source and verify there is no power on all components being decommissioned.

Water Supply: Shut-off all plant airlines supplying air to the pneumatic components and bleed the downstream air lines before dismantling.

WASTE DISPOSAL

The machinery and controls consist of:

- Iron
- Aluminum
- Copper
- Plastic
- Electronic Components and circuit boards

Dispose of the parts in accordance with the applicable regulations.

Oil and Grease: Used oil and grease, which are no longer suitable for their intended use, must be transported to the relative collection point and disposed of in accordance with local regulations.

10 Location of Safety Symbols

10 Location of Safety Symbols

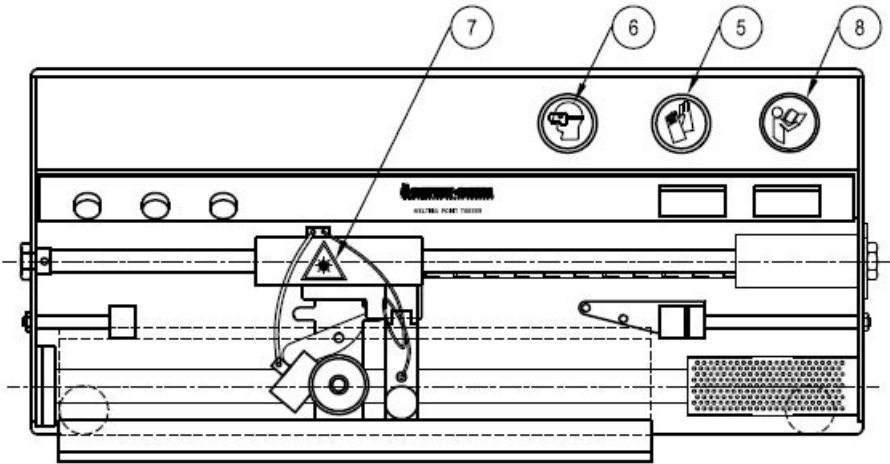


Figure 1: Top View

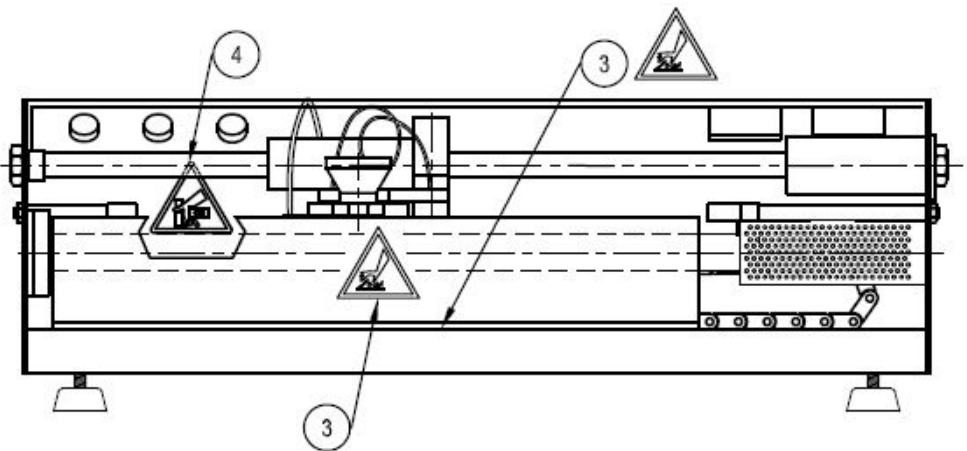


Figure 2: Front View

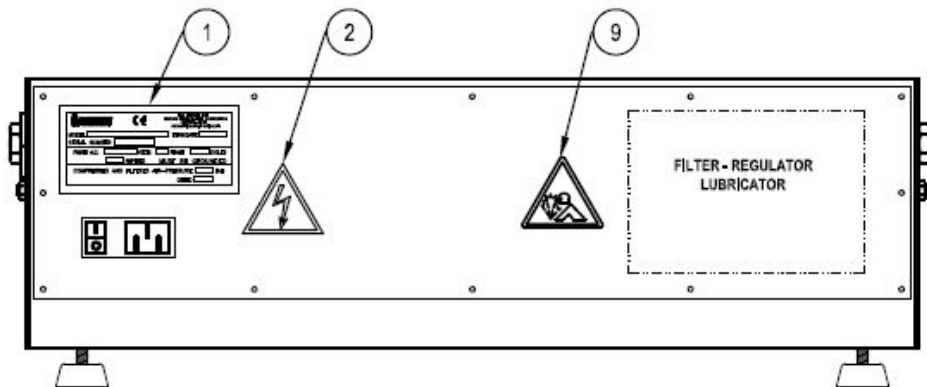


Figure 3: Rear View

Item	Part No.	Quantity	Description
1	XXXXXX	1	Serial Number Nameplate
2	217958	1	Electrical Shock/Electrocution
3	214045	2	Burn Hazard/Hot Surface
4	217973	1	Hand Crush/Force from Right
5	217975	1	Wear Protective Gloves/Hot Surface
6	214075	1	Wear Safety Goggles
7	214032	1	Laser Aperture
8	214042	1	Read Technical Manual Before Servicing
9	217945	1	Explosion/Release of Pressure

10 Location of Safety Symbols

NOTICE

The product user is responsible for maintaining the legibility of all safety signs.

When replacement signs are required, contact Simpson Technologies Parts Department.

11 Commercial Manuals

11.1 Temperature Controller

Delta - DTB Series Temperature Controller, 2010-04-20, Document No. 5011628505-DBC5.



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