

# LEE PRO 20 SERIES MELTERS

The most advanced design melters made

Symmetrical reflective housing allows quick melting with low current requirements. The flow control valve is the easiest to adjust and features valve rod that can be rotated 360° for quick reseating.

## Pro 20 & Magnum Melter Thermostat

Inside upright | not visible

- EL3466 Thermostat 110V
- EM1133 Thermostat 220V
- EM1115 Heater Clamp
- EM1129 Jumper 3½" 18 Ga

- Name Plate
- EL3454 110V
- EL3446 220V

- FE1122 Screw 6x5/8 unslotted

- EL3437 110V Upright Long Rear
- EL3509 220V Upright Long Rear

- FE1116 Jam Nut 7/16 x 14

- EL3453 Heater 110V
- EL3452 Heater 220V

- EL3434 Pot Housing Left
- EL3433 Pot Housing Rear not visible

- EL3436 Upright Long Front

- FE3470 Thumb Screw 10-32 x 3/8

- EL3447 Mold Guide

- EL3429 Column Long

## MAGNUM MELTER

- FE2753 Screw 8 x 1 Type A

- FE2030 10-32 Hex Nut
- EL3021 Pot 20 LB

- EL3432 Pot Housing Front

- EL3430 Column Medium

- EL3445 Base

- EM1135 Thermostat Knob not visible

- EL3454 Name Plate

- FE1122 Screw 6x5/8 unslotted

- FE1116 Jam Nut 7/16 x 14

- EL3434 Pot Housing Left

- EL3433 Pot Housing Rear not visible

- EL3438 Upright Med Front

- EL3439 Upright Med Rear not visible

- EL3403 Medium Spacer

## CAUTION

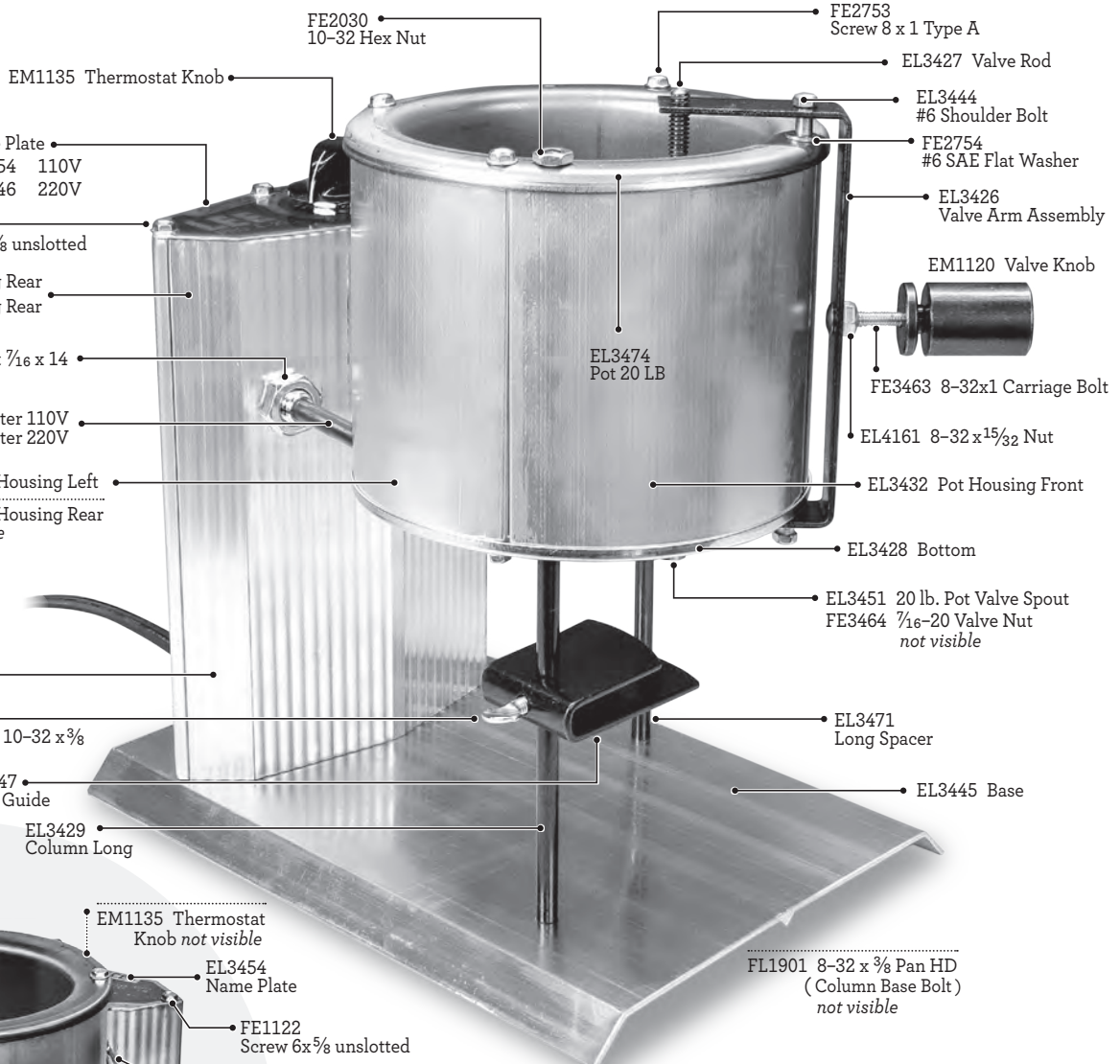
Be extremely careful not to get any water into the molten lead. Even a small drop will explode into steam and violently spatter hot lead.

Wear safety glasses while using.

Use only in areas of adequate ventilation. Air flow sufficient to carry away the smoke of an extinguished match is considered adequate.

Keep food and drink out of work area. Wash hands before eating or smoking.

If the pot is allowed to cool full of metal, the spout will likely drip during heat up. Be sure to place an ingot mold under spout to catch drips.



- FE2030 10-32 Hex Nut

- FE2753 Screw 8 x 1 Type A

- EL3427 Valve Rod

- EL3444 #6 Shoulder Bolt

- FE2754 #6 SAE Flat Washer

- EL3426 Valve Arm Assembly

- EM1120 Valve Knob

- FE3463 8-32x1 Carriage Bolt

- EL4161 8-32 x 1 5/8 Nut

- EL3432 Pot Housing Front

- EL3428 Bottom

- EL3451 20 lb. Pot Valve Spout
- FE3464 7/16-20 Valve Nut not visible

- EL3471 Long Spacer

- EL3445 Base

- FL1901 8-32 x 3/8 Pan HD (Column Base Bolt) not visible

## Pro 20 & Magnum Melter Cord

Cordset

- EM1127 110V
- EM1128 220V

Bushing Cord

- EM1117 110V
- EM1118 220V

- EM1117 110V
- EM1118 220V

- EM1117 110V
- EM1118 220V

- EL3469 Instructions

**NOTE**  
Does not ship with plug on cord

## Guarantee

Lee Precision products are guaranteed not to wear out or break from normal use for two full years or they will be repaired or replaced at no charge if returned to the factory. Any Lee product of current manufacture regardless of age or condition will be reconditioned to new, including a new guarantee, if returned to the factory with payment equal to half the current factory list price.

Date Purchased \_\_\_\_\_

**LEE**

**LEE PRECISION, INC.**

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69469



**WARNING** Melting lead and casting lead objects will expose you and others in the area to lead, which is known to the state of California to be reproductive harm and cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov). See instructions on REDUCING EXPOSURE supplied with product.

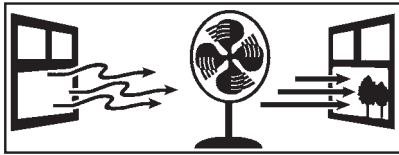
## Reducing Exposure

Lead contamination in the air, in dust and on your skin is invisible.

**Keep children and pregnant women away during use and until clean up is complete.**

Risk can be reduced—but not eliminated—with strong ventilation; washing hands immediately after use of these products before eating or smoking; and careful cleaning of surfaces and floors with disposable wipes, after lead dust has had a chance to settle. Use a lead-specific cleaner with EDTA, or a high-phosphate detergent (like most detergents sold for electric dishwashers), and bag wipes for disposal.

Use strong ventilation



## Set Up

**SCREW** knob onto valve arm stud.

**PLACE** the melter on a stable, non-combustible surface (shallow baking pan) work bench or table. Do not place in a draft or allow a fan to blow directly on the pot.

**ROUTE** the power cord so it will not be tripped over, or pulled by a child.

**PLACE** an ingot mold or small metal can under the pour spout during warm up.

**FILL** the pot with desired casting alloy.

**SET** mold guide for proper height and rotate mold guide forward or backward for proper right to left alignment. [NOTE This feature available only on PRO 4 Series] Best results with bottom pour pots are obtained by holding the mold away and slightly off center of the pour spout.

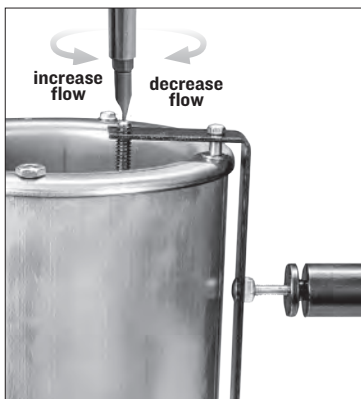
**SET** heat control to HIGH and plug in.

## Directions

It will take about 20–30 minutes to heat 20 lbs. of metal to 600 degrees; line voltage greatly affects melt time. After the metal is melted, adjust heat setting to desired position. The markings are reference numbers only and do not indicate temperature. The high setting will stabilize at approximately 900° F. and the low about 450° F. Cast at the lowest temperature that will give good fill out.

650° F. is a good starting point.

With an ingot mold placed under the pour spout, lift the pour knob and observe the flow. Rotate the valve rod clockwise to decrease flow. As the metal is consumed, you will need to rotate the valve rod counterclockwise to maintain a uniform flow. Do not rotate the valve rod too far counterclockwise as continuous flow will occur. As the valve spout ages, it may corrode or accumulate debris.



Should your valve begin to drip, rotate the valve rod with a screwdriver—this will force out any debris or corrosion from between the valve rod and seat. The metal should be fluxed whenever more metal is added to the pot. A small piece of wax about the size of a pea works well as a flux. Be prepared for a flame when the wax is added to the pot. Stir the metal vigorously and scrape the side and bottom of the pot to dislodge impurities, which will float and can be skimmed off and discarded properly.

The following metals **can not** be melted in this pot

■ GOLD ■ SILVER ■ ZINC ■ COPPER ■ ZINC-BASED PEWTER ■ ALUMINUM

## Tips

Leaving a thin layer of oxidized metal on the surface will cause no harm when using the melter as a bottom pour pot and will slow further oxidation of your metal. Flux and skim only after adding more metal to the pot.

Before storing your melter for extended periods, spray all steel parts with a silicone spray or rust inhibitor, like WD-40.

Store your melter with about an inch of metal in the bottom. It speeds the next melt and reduces the likelihood of carrying surface contamination through the valve.

## Troubleshooting

Should the valve not pour when the knob is raised, it's most likely caused by heat being set too low or valve rod rotated too far clockwise. If you're sure the heat is set high enough and flow control is open, the spout is likely plugged with sediment. With the melter at operating temperature, hold a straightened paper clip with pliers and feed wire up the spout opening to force out the obstruction.

Should the valve drip, simply rotate the valve with a screwdriver. If this does not cure the drip, check valve linkage for binding due to corrosion or damage. The moving points of the valve linkage should be lubed with a high temperature anti-sieze lubricant, like Permatex #133 or equivalent, found at any automotive or well-stocked hardware store.

See help video



<https://vimeo.com/192698547>

## Rule of Thumb for Hardening Lead

For every 1% additional tin, Brinell hardness increases 0.29

For every 1% additional antimony, Brinell hardness increases 0.92

Sample equation:

Brinell = 5 Brinell Pure Lead + (0.29 x Tin percentage) + (0.92 x Antimony percentage)

For example, if you increase the amount of tin by 10% and the amount of antimony by 5%, the Brinell hardness of your lead will be 12.5

Brinell hardness 12.5 = 5 + (0.29 x 10) + (0.92 x 5)

Don't risk handling molten metal in a makeshift container. Use the Lee Ingot Mold to cast ½ and 1 - lb. ingots. Perfect for remelting and alloying. Wood handle stays cool. Aluminum construction is lightweight and rustproof.



Send your name and address for complete catalog.

**LEE**

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