

MTMS KIT

(Melt Temperature Measurement System)

Injection Molding Plastic Melt Temperature Measurement Kit



Features & Benefits

- **Low-Cost Purge:** MTMS \$1.75 per purge vs. probe-immersion purge at \$10+ per purge on average
- **Safety:** No hands are in or near the purge during measurement
- **Eliminates Human Error:** No manual probe-immersion purge
- **Increases Production & Decreases Downtime:** Measures temperature in under 1 minute, and as low as 35 seconds
- **Measures shot sizes down to 1 ounce**
- **Repeatable** from press-to-press, operator-to-operator
- **Accurate within +/- 1%**
- **Heavy duty, long lasting thermocouple probe** designed for rapid heat transfer
- **Fast-reading pyrometer** 3x per second
- Patented **insulated purge cups designed for precise probe positioning** keeps the heat/BTUs in the cup and prevents skinning
- **Heavy duty purge cup ring** made from H-13, 52-54Rc hardened steel holds purge cup in place and provides precise flow path for thermocouple probe tip
- **Sturdy purge puck with magnets**
- **Kit Includes:** (1) Fast-reading Pyrometer, (2) Proprietary Thermocouple Probes, (1) Purge Puck with Magnets, (1) Hardened Steel Ring (H-13, 52-54Rc), (50) Insulated purge Cups

Description

Fast, accurate, easy and safe plastic temperature measurement from press-to-press, operator-to-operator without human error.



MTMS KIT

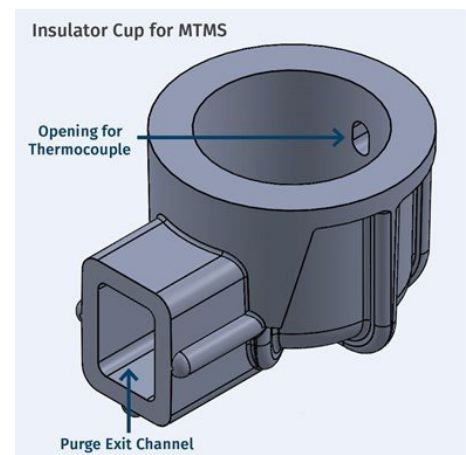
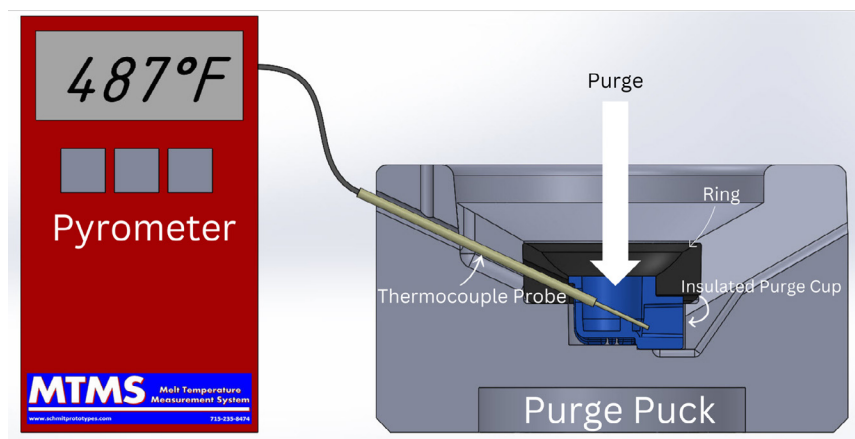
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How the MTMS Kit Works:

MTMS is based on two major principles:

- 1.) Keeping the purge molten by using an insulated purge cup
 - Normally, in the injection molding industry, we focus on solidifying the resin rapidly by cooling the resin quickly so we can produce more parts per hour. However, the MTMS focuses on keeping the purge material molten so the thermocouple can detect the temperature before the material “freezes” or “skins”. When the material skins the tip is now insulated and this prevents the thermocouple from measuring the melt temperature accurately.
- 2.) Precisely position the thermocouple probe in the effective flow path of the material or purge
 - This also includes a wiping action over the thermocouple probe to eliminate skinning. The precise positioning of the thermocouple also eliminates human error and provides a more repeatable and accurate melt temperature.



NOTE: A minimum of 1 ounce purge is required for accurate melt temperature measurement.

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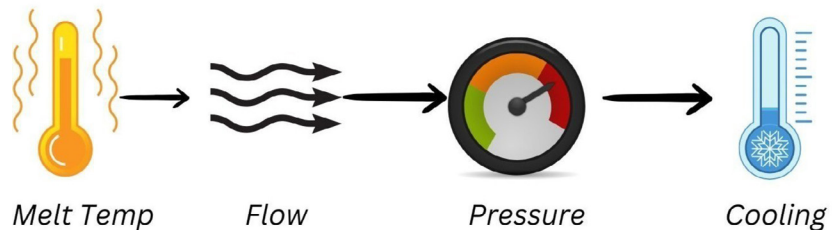
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Why Measure Plastic Melt Temperature?

There are four major variables in the plastic injection molding process. Mastering all four reduces production downtime and ensures a high-quality product.

- 1.) Melt Temperature
- 2.) Flow
- 3.) Pressure
- 4.) Cooling



Item Number	Product	Description
10100	MTMS Kit	(1) Fast-reading Pyrometer, (2) Proprietary Thermocouple Probes, (1) Purge Puck with Magnets, (1) Hardened Steel Ring (H-13, 52-54Rc), (50) Insulated Purge Cups (one-time use)
10200	Purge Puck with (2) Magnets	Aluminum puck that precisely positions the assembly in the locating ring on the injection molding press
10300	Hardened Steel Ring	H-13, 52-54Rc Hardened Steel ring that holds the purge cup in place and provides hardened radiused seat for nozzle
10400	Pyrometer	Fast-reading pyrometer with peak temperature hold & rapid scan rate
10500	(2) Thermocouple Probes	Heavy duty thermocouple probes proprietary to the MTMS Kit, engineered for rapid rate heat transfer, includes built-in stopper
10700	(2) Magnets	Replacement magnets for purge puck
20250	(250) Purge Cups	One-time use insulated purge cups, quantity of 250
20500	(500) Purge Cups	One-time use insulated purge cups, quantity of 500
21000	(1000) Purge Cups	One-time use insulated purge cups, quantity of 1000

Purchase online at <https://www.plastixs.com/product/mtms-kit-melt-temperature-measurement-system/>

For more information email sales@plastixs.com



Frequently Asked Questions:

Is MTMS, LLC the OEM for the MTMS Kit?

A: Yes, MTMS, LLC is the original equipment manufacturer (OEM).

Will the MTMS Kit work on all press manufacturers?

A: The MTMS Kit works on all presses with a standard 4-inch locating ring with standard nozzles with either 1/2-inch or 3/4-inch radius.

Will the MTMS Kit work on all materials?

A: The MTMS Kit works on most materials, except for mineral and high glass-filled materials >30%, due to its thermoconductivity which gives up heat too rapidly and will give more variable readings.

What if I forget to put a purge cup in the assembly and shoot a shot?

A: The purge will solidify immediately and dame to the probe may occur.

Why am I getting a reading that is substantially off from what I expect?

A: The pyrometer is interchangeable between a Type K and J. The MTMS thermocouple is a type K. The pyrometer must be set to Type K. To set, push the Type button on the pyrometer keypad until the "K" appears on the screen. Now retest for the correct temperature.

The MTMS thermocouple probes are specifically engineered with a "dead stop" and for extremely fast response times. Other probes will not work with the MTMS Kit. The MTMS pyrometer is also a "peak hold" pyrometer and must be used to get accurate and repeatable readings.

What shot sizes will the MTMS Kit work on?

A: The MTMS Kit is designed to measure shot sizes from 1 ounce to 10 pounds. The injection molding machine can be modified to accommodate shot sizes under one ounce. Please contact us for instructions.

What if I forget to lock the ring in place with the flathead cap screw?

A: It may not be a problem. Some materials stick to the purge cup and the ring may stay with the nozzle when retracted, and the purge puck puck stays with the mold. If this happens, the thermocouple probe may be bent or damage.

What sprue radius will the MTMS Kit work on?

A: The MTMS Kit will work on, both, 1/2-inch and 3/4-inch radius.

What can I expect for a arnage?

A: +/-1% for most materials

Why am I getting slightly higher readings compared to other methods?

A: The purge stays molten due to the insulating properties of the purge cup. Also, the wiping action of the flowing material going over the probe eliminates skinning on the probe. With the elimination of the skin, which is an insulator, the maximum temperature is obtained and recorded.

What if the thermocouple probe tip gets bent?

A: It can be carefully straightened or purchase a replacement on our website.

I'm using it on a large 500-ton press. Can I put an extension on the thermocouple probe?

A: Yes. Use with Type K with mini plugs.

Will the MTMS Kit work on two and three shot presses with top and side barrels?

A: No. We are in the development stages of designing a locating system to work. Contact us for an update.

I'm using it on a large 500-ton press. Can I put an extension on the thermocouple probe?

A: Yes - Type K with mini plugs.

Can the insulated purge cups be reused?

A: No. The insulated purge cups are for one-time use only. Please reorder on our website.