

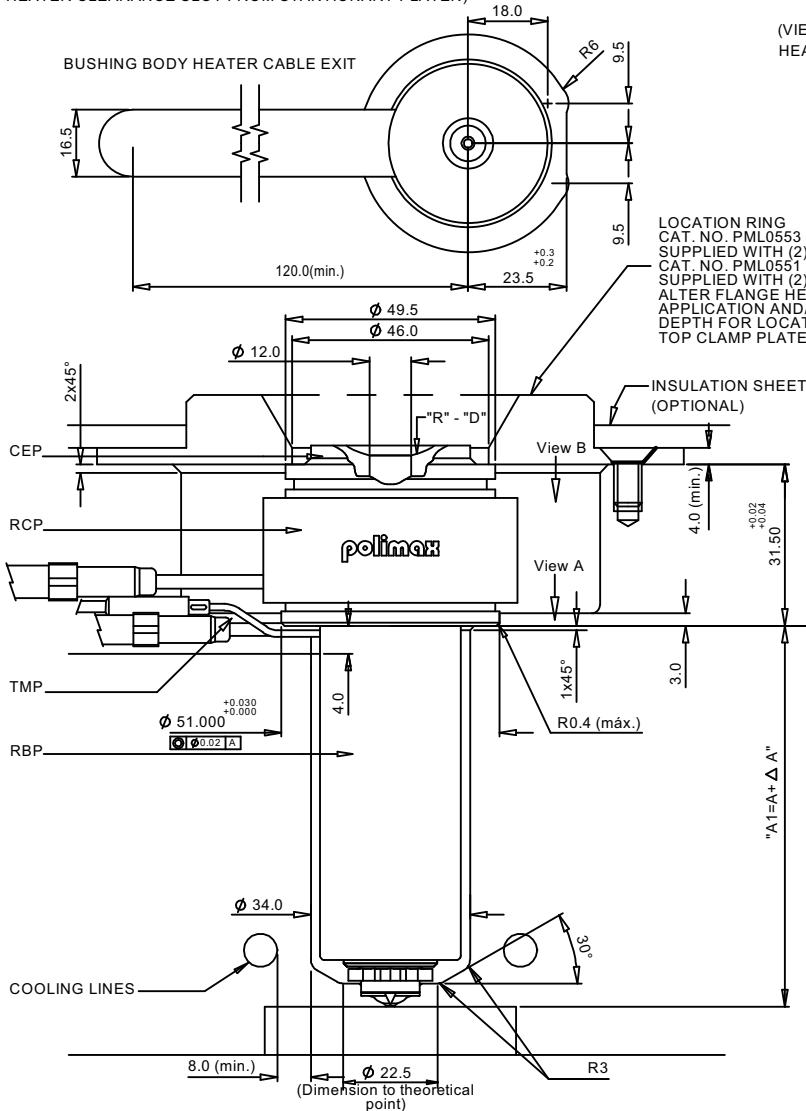
500 SERIES

POLIMAX LINE HIGH PERFORMANCE HOT SPRUE BUSHING PACKING SLIP

Drawing No. ME-060001-0550(D) Catalog No. EDP-10-9999



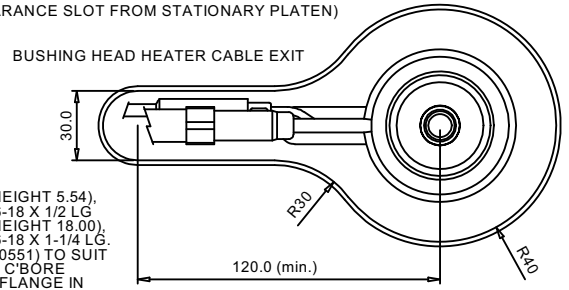
(VIEW OF BUSHING BODY INSTALLATION HOLE AND BODY CAVITY BLOCK VIEW A
HEATER CLEARANCE SLOT FROM STANTIONARY PLATEN)



Bushing Thermal Expansion $\Delta A = A \times 0.0000115 \times (\text{Setpoint } ^\circ\text{C} - 20^\circ\text{C})$
or $\Delta A = A \times 0.0000064 \times (\text{Setpoint } ^\circ\text{F} - 68^\circ\text{F})$

CAVITY BLOCK VIEW B

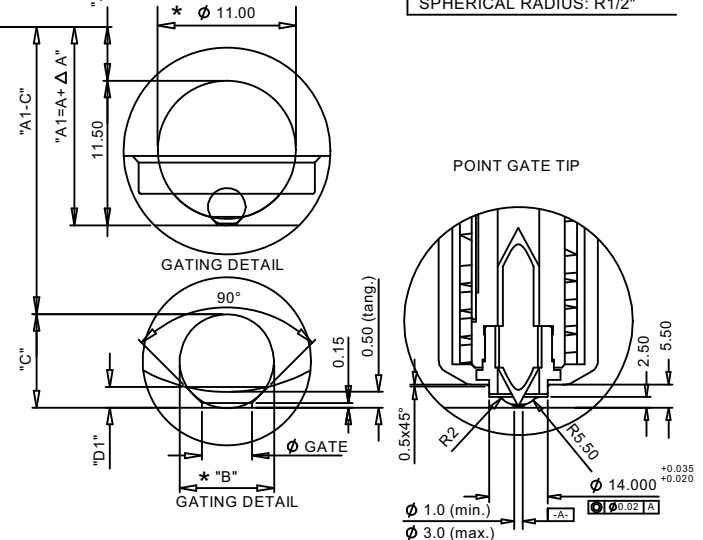
(VIEW OF BUSHING HEAD INSTALLATION HOLE AND HEAD
HEATER CLEARANCE SLOT FROM STATIONARY PLATEN)



CODE FOR DETAIL	SPHERICAL "R"	CHAMFER "D"
...-R000	0	
...-R155	15.5	
...-R400	40.0	
...-R050	1/2"	
...-R075	3/4"	
...-D090		90°

Ex: EDP10060-R050

SPHERICAL RADIUS: R1/2"



BUSHING CODE	DIMENSION "A"	SPECIFICATION FOR BUSHING AND COMPONENTS					
		COMPONENTS					
		BODY OF BUSHING	BODY HEATER	POWER	HEAD HEATER	POWER	THERMOCOUPLE
EDP10060-R...	60.00	CEP10060-R...	RBP10056	500W	RCP50020	400W	TMP01080
EDP10072-R...	72.50	CEP10072-R...	RBP10069	690W			TMP01100
EDP10085-R...	85.00	CEP10085-R...	RBP10081	760W			TMP01120
EDP10097-R...	97.50	CEP10097-R...	RBP10094	760W			TMP01140
EDP10110-R...	110.00	CEP10110-R...	RBP10107	760W			TMP01160
EDP10135-R...	135.00	CEP10135-R...	RBP10131	850W			TMP01180
EDP10160-R...	160.00	CEP10160-R...	RBP10158	1100W			TMP01200
EDP10185-R...	185.00	CEP10185-R...	RBP10183	1300W			TMP01220

GATE DIAMETER	DIMENSION "B"	DIMENSION "C"	DIMENSION "D1"
Ø 1.0	Ø 2.00	2.06	0.58
Ø 1.2		1.96	0.60
Ø 1.4		1.86	0.63
Ø 1.6	Ø 3.00	2.97	0.66
Ø 1.8		2.87	0.69
Ø 2.0		2.77	0.73
Ø 2.2	Ø 4.00	3.88	0.78
Ø 2.4		3.78	0.83
Ø 2.6		3.68	0.89
Ø 2.8	Ø 5.00	4.78	0.96
Ø 3.0		4.68	1.05

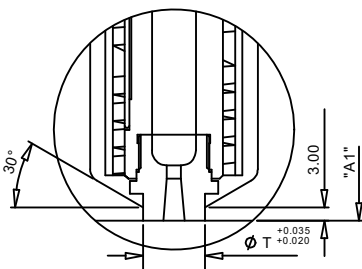
- NOTE: 1) MAXIMUM OPERATING PRESSURE IN BUSHING 138 MPa (20,000 PSI)
2) MAXIMUM OPERATING TEMPERATURE OF BUSHING 343°C (650°F)
3) WATTS SHOWN BASED ON 230 V

- 4) FOR EXTRA STOCK TIPS, CUSTOMER MUST MODIFY AND
ADD RELIEF, SUCH THAT AVERAGE LAND CONTACT IS 3.00 mm.
5) DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS STATED
OTHERWISE.

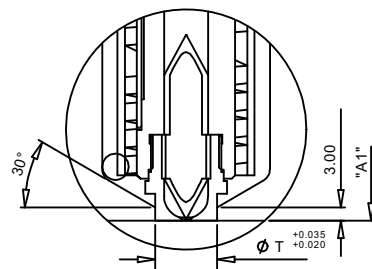
* THE "B" AND 11.00 DIAMETER DIMENSIONS ARE CORRECT, BALL GAGES
TO BE USED FOR CHECKING THE "A1-C" AND THE "A1-11.50" DIMENSIONS.

TIP OPTIONS

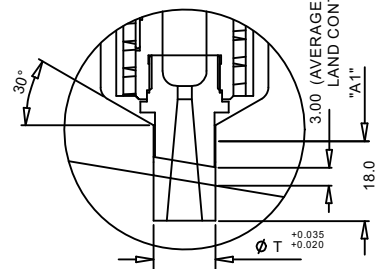
SPRUE GATE TIP



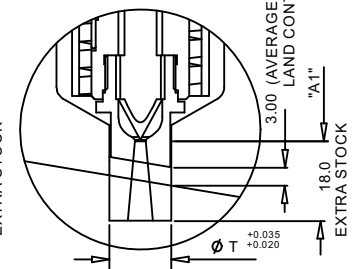
RING GATE TIP



SPRUE GATE EXTRA STOCK TIP



RING GATE EXTRA STOCK TIP



500 SERIES

POLIMAX LINE

HIGH PERFORMANCE HOT SPRUE BUSHING PACKING SLIP

Drawing No. ME-060001-0550(D) Catalog NO. EDP-10-9999



READ USER INSTRUCTIONS BEFORE SERVICING OR OPERATING

IMPORTANT SAFETY INFORMATION

A hot-runner system includes electrical elements and may contain molten plastic at elevated temperature and pressure. To avoid injury, exercise caution by reading these instructions before servicing or operating the system.

These instructions must be passed on to the end user where they should be read before using this product. Failure to do so can result in serious injury or death.



ELECTRICAL HAZARDS

Improper voltages or grounding can result in electrical shock. Use only with proper voltage and a proper earth ground.

To avoid electrical shock, do not operate product when wet.

Do not operate this equipment with covers or panels removed.

To avoid electrical shock, turn off main power disconnect and lock out / tag out before servicing this device.



Failure to comply could result in serious injury:

STORED ENERGY AND HIGH TEMPERATURE HAZARDS

This product maintains molten plastic at high pressure. Use caution when operating and servicing the system.

Physical contact with molten plastic may result in severe burns. Proper protective equipment, including eye protection, must be worn.

This product has heated surfaces. Use caution when operating and servicing the system to avoid severe burns. Proper protective equipment should be worn.

OPERATING PROCEDURE:

The bushings are supplied with two (2) Square (flat) Coil Heaters with jackets around the heaters. One heater fits over the head of the bushing and the other fits over the shaft of the bushing. Both heaters have an internal J type thermocouple. An external J type thermocouple is also provided as a spare for the heater that fits on the shaft. It is recommended to use a DME Closed Loop Temperature Controller for optimum temperature control. It is essential to use controller with the proper Voltage and Wattage capabilities.

DISASSEMBLY PROCEDURE:

For bushing head heater removal, proceed with steps: 1 thru 8

For tip and/or needle removal, proceed with steps: 1 thru 16

For bushing shaft heater removal, proceed with steps: 1 thru 10, 17 and 21

For external thermocouple removal, proceed with steps: 1 thru 10, 17 thru 2

- 1) Unplug the two (2) bushing heaters from controller.
- 2) Remove all waterlines from mold.
- 3) Remove mold from injection molding machine.
- 4) Remove bushing from mold base.
- 5) Slide Heater Jacket Removal Tool (HJRT) tip end into slot in jacket of bushing head square coil heater. (See Detail "A")
- 6) Jacket slot to fit into HJRT "V" grooves.
- 7) Squeeze HJRT handles together to open jacket up and slide jacket off heater.
- 8) Remove HJRT from jacket.
- 9) Slide square coil heater off bushing head.
- 10) Place head of bushing in a vise using "V" blocks, then secure the head firmly. (Heater leads should be upright.)
- 11) Attach a (EARTH) ground to the vise.
- 12) Plug in bushing shaft heater and thermocouple into controller.
- 13) DO NOT plug in bushing head heater.
- 14) Turn on controller and set at processing temperature.
- 15) Wait 5 minutes after processing temperature has been achieved, turn off and unplug heater and thermocouple.
- 16) Using a 17mm, 12 point deep well socket to remove tip counter clockwise from bushing.
- 17) Slide HJRT tip end into slot in jacket of bushing shaft square coil heater.
- 18) Jacket slot to fit into HJRT "V" grooves.
- 19) Squeeze HJRT handles together to open jacket up and slide jacket off heater.
- 20) Remove HJRT from jacket.
- 21) Slide square coil heater off of bushing shaft.
- 22) Lift external thermocouple from slot in bushing shaft.
- 23) Remove bushing from vice.

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ASSEMBLY PROCEDURE:

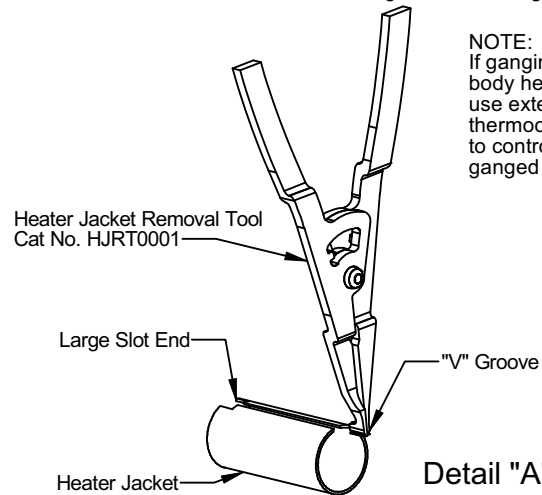
For external thermocouple assembly, proceed with steps: 1 thru 9, 13 thru 25

For bushing shaft heater assembly, proceed with steps: 1, 2, 4 thru 9, 13, 19 thru 25

For tip assembly, proceed with steps: 1, 2, 10 thru 13, 19 thru 25

For bushing head heater assembly, proceed with steps: 1, 14 thru 25

- 1) Bushing and tip and/or needle must be clean of all material.
- 2) Place head of bushing in vice using "V" blocks, then secure the head firmly. (Slot in bushing head should face upright)
- 3) Place external thermocouple in bushing shaft slot.
- 4) Slide square coil heater onto bushing shaft, centering leads in slot of bushing head.
- 5) Slide HJRT into jacket slot, opposite end of large slot.
- 6) Jacket slot to fit into HJRT "V" grooves.
- 7) Squeeze HJRT handle together to open jacket up and slide jacket over heater.
- 8) Align larger slot of jacket over the heater leads.
- 9) Remove HJRT from jacket.
- 10) Apply "C5A" anti-seize compound on threads of tip.
- 11) Thread tip and/or needle into bushing shaft. Tighten and untighten two or three times making sure there is good contact between tip and bushing.
- 12) Torque tip and/or needle into bushing at 75Nm, using a 17mm, 12 point deep well socket.
- 13) Remove bushing from vice.
- 14) Slide Square Coil Heater onto bushing head, aligning heater leads in correct position.
- 15) Slide HJRT into jacket slot, opposite end of large slot.
- 16) Jacket slot to fit into "V" grooves.
- 17) Squeeze HJRT handles together to open jacket up and slide jacket over heater.
- 18) Align larger slot of jacket over the heater leads.
- 19) Check heaters and thermocouple with OHM meter for correct resistance.
- 20) Assembly bushing into mold.
- 21) Assembly mold into Injection Molding Machine.
- 22) Attach all waterlines to mold.
- 23) Plug bushing heaters and thermocouples into controller.
- 24) Turn on controllers using operating procedure as specified.
- 25) Wait a minimum of 5 minutes after set point has been achieved for sufficient heat to transfer into bushing before molding.



NOTE:
If ganging head and body heater together, use external thermocouple (near tip) to control the ganged heaters.

WIRE-UP NOTES

- 1) Heater wattages based on 230 V.
- 2) Heater power lead colors can be either:
 - a) Grey and Black
 - b) Grey and Purple
 - c) Black (both leads)
 - d) Tan with Red Tracer (both leads)
- 3) Heater ground wire lead color can be either:
 - a) Yellow with Green tracer
 - b) Green
- 4) Use separate zone control for each heater.
- 5) Bushing shaft heater has an internal spare thermocouple. An external thermocouple is supplied on the Bushing Shaft. Use the external thermocouple for zone control of the Bushing Shaft under normal operation.
- 6) Bushing head heater comes with an internal thermocouple. No external Thermocouple is supplied with the Bushing head heater.
- 7) Thermocouple lead wire color code combination can be either:
 - a) Black (+, positive), White (-, negative)
 - b) White (+, positive), Red (-, negative)
 - c) Red (+, positive), Blue (-, negative)