Dynisco
Instruments

INSTRUCTIONS FOR MELT PRESSURE GAUGES



The following models are covered in this manual:

PG441R

PG442R

TPG443R

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1. INTRODUCTION

These rugged Dynisco mechanical pressure gauges will provide excellent service if proper care is taken during handling, installation, and use.

The tip of the gauge consists of a stainless steel diaphragm which must be protected against severe abrasives, dents, and gouges. During storage, the protective cap supplied with the gauge should be left in place.

The most common causes of transducer damage are: installation in improperly machined or plugged mounting holes and cold starts.

Please read the appropriate sections of this manual prior to installation and use.

IMPORTANT

- DO NOT REMOVE PROTECTIVE CAP UNTIL READY TO INSTALL.
- PRIOR TO INITIAL INSTALLATION, VERIFY CORRECT MACHINING OF MOUNTING HOLE.
- WHEN RE-INSTALLING, MAKE SURE MOUNTING HOLE IS CLEAR OF HARDENED PLASTIC.
- TRANSDUCER SHOULD BE REMOVED WHEN AT OPERATING TEMPERATURE (NO PRESSURE IN SYSTEM).

2. Gauge Probe Mounting Hole And Installation

Careful attention should be paid to correctly machine the mounting hole. A set of mounting hole machining tools (Dynisco Part Number 200925) is available with all the necessary drills, taps, and reamers. Detailed instructions are given in Dynisco Bulletin 2000925, available on request.

When machining the hole pay careful attention to the concentricity between the threads and the .312/.314 diameter. Since the pressure seal is on the 45 degree seating surface, this surface should be examined for good finish, free from burrs, etc.

It is generally good practice to check the mounting hole before installing the transducer. One procedure is to coat a gauge plug (Part Number 200908) with Dykem machine blueing on surfaces below the thread. Insert the gauge plug into the mounting hole and rotate until surface binding is encountered. Remove and inspect. Blueing should only be scraped off of the 45 degree sealing chamber. If blueing has been removed from other surfaces, the mounting hole has not been machined properly.

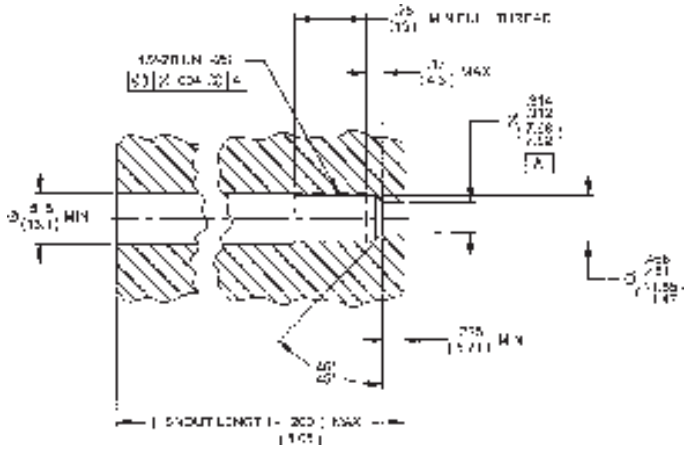
To prevent galling, the transducer threads should be lubricated with a high temperature anti-seize compound.

- DO NOT ATTEMPT TO TORQUE UNIT IN BY TWISTING GAUGE ENCLOSURE.

In a properly machined mounting hole, an adequate seal should be obtained with 100 inch-pounds of mounting torque. The maximum recommended installation torque is 500 inch-pounds.

When re-installing the transducer, the mounting hole must be free of hardened plastic. It is recommended that the barrel/manifold be at operating temperature. A mounting hole cleaning tool kit is available (Dynisco Part Number 200100) to aid in removing material from .312 diameter, 45 degree seat and the threads. A gauge plug to check the hole is included in this kit.

Fig. 1 Recommended Mounting Hole



DIMENSIONS ARE IN IN (MM)

3. Gauge Enclosure Rotation (PG441R Only)

Once installation has been completed, the gauge enclosure can be swiveled 300° to provide optimum visibility. To do this, rotate the enclosure to the desired position. Do not attempt to force enclosure rotation beyond the built-in mechanical stops.

Outline drawing shown in Figure 2.

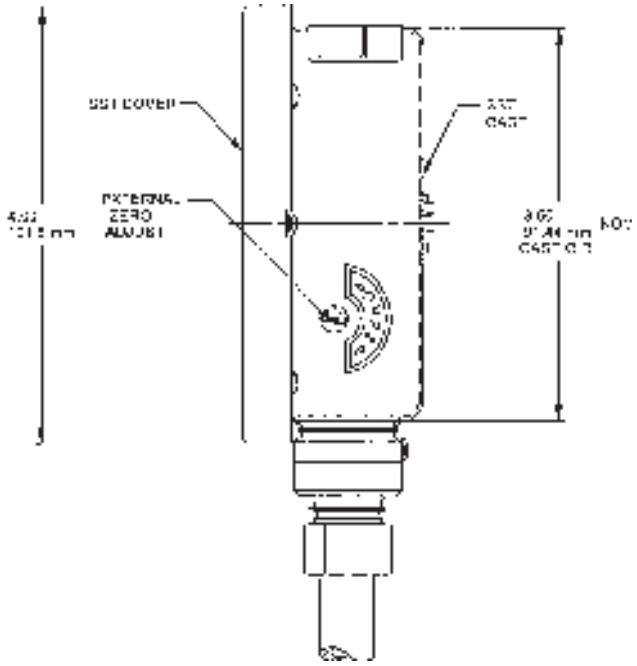
4. Gauge Enclosure Mounting (PG422R and TPG443R Only)

The gauge enclosure should be mounted with the bracket (Dynisco P/N 700991) which is supplied.

Outline drawings shown in Figures 3 and 4.

5. Zero Adjustment

To adjust the zero setting of the gauge, it is important that no pressure be applied to the diaphragm. In addition, the gauge must be secured by the bracket or held firmly by hand. Using a slotted screwdriver, adjust the zero screw on the gauge case until the dial pointer is centered in the zero box on the gauge scale.



6. Removal

The gauge must be removed while the plastic is hot and liquid. Removing the probe from a cold barrel might cause diaphragm damage due to hardened plastic adhering to the diaphragm.

7. Cleaning

The sensing tip of the probe may be wiped with a soft cloth while the plastic is still molten. Under no condition should any kind of tool or anything other than a soft cloth be used to clean the diaphragm or any part of the tip located between the diaphragm and the 45° chamfered surface. The probe must be removed prior to using an abrasive material or wire brush to clean the extruder barrel.

8. Cold Starts

Whenever the machine is allowed to cool, plastic may adhere to the probe diaphragm. Before screw restart, heat must be applied to the extruder barrel to ensure that the plastic has become molten.

9. Thermocouple Removal And Installation Instructions Model TPG443R

To remove the thermocouple, loosen the allen set screw on the side of the probe. Without twisting, pull the thermocouple probe stem carefully out of the probe. Refer to Figure 4.

To install the thermocouple, align the slot on the probe stem with pressure capillary tube and press into the probe until the tip of the thermocouple shoulders against the probe. Lock the thermocouple in place by tightening the set screw.

The standard thermocouple supplied is iron-constantan (Type J). The TPG443R thermocouple has a resistance of 0.9 ohms.

Optional temperature sensors are available. Please consult factory.

10. Warranty And Service

This equipment is sold subject to the mutual agreement that it is free from defects of material and construction. Our liability in connection with it shall be limited to the replacement or repair, without charge at our factory, of any material or construction defect that becomes apparent within two years from the date that the products are shipped. We are not liable for damages of any kind arising from the installation or use of our products or both.

Damaged transducers should be returned to:

DYNISCO INSTRUMENTS

38 Forge Parkway

Franklin, MA 02038

Attn: Repair Dept. RA #_____

Please call for a Return Authorization Number before returning product to Dynisco.

Questions concerning warranty, repair cost, and delivery should be directed to the Dynisco Repair Department, telephone number 508-541-9400 or E-mail: repair@dynisco.com

For technical assistance, call: 800-221-2201

11. Outline Drawings

Fig. 2 Outline Drawing PG441R

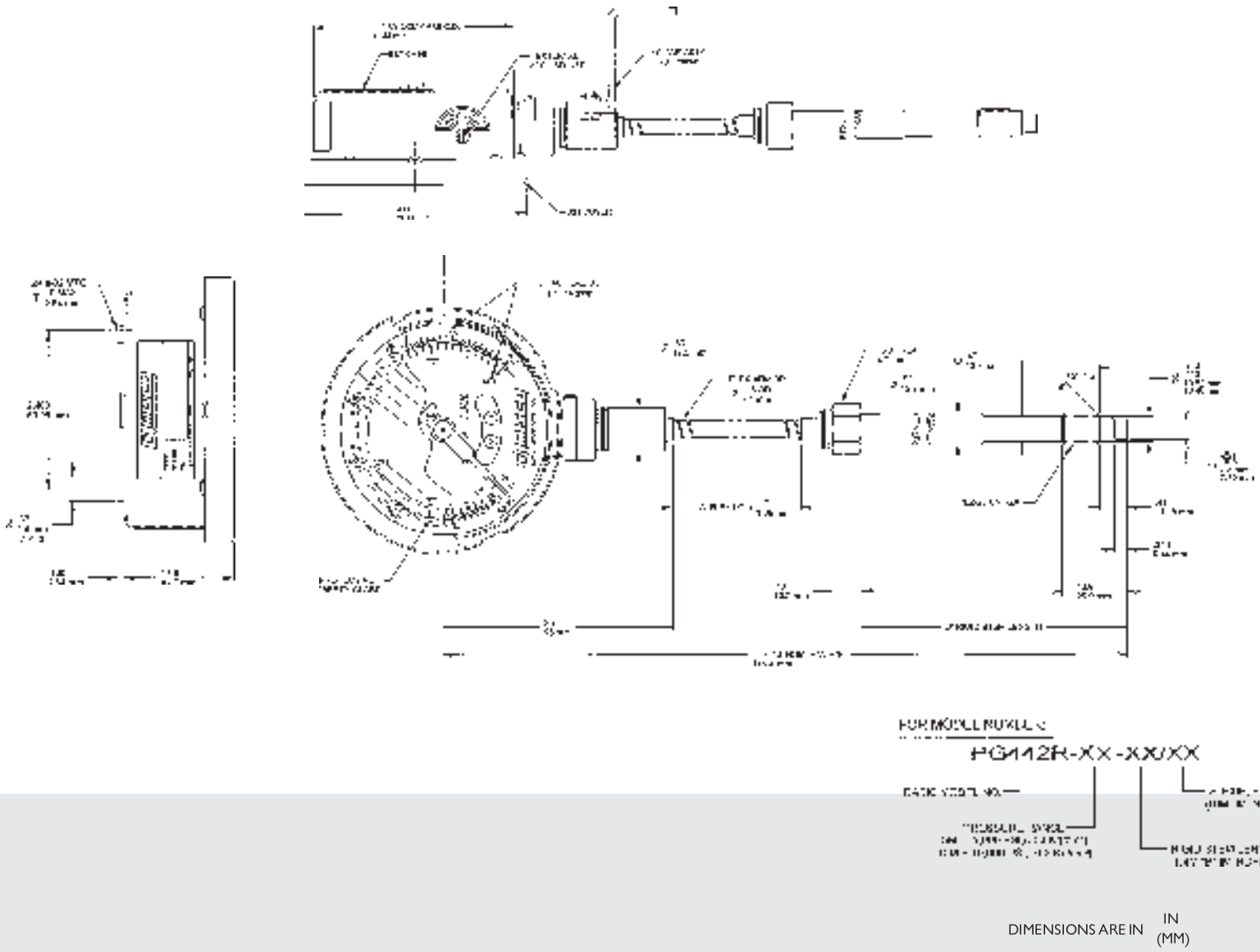


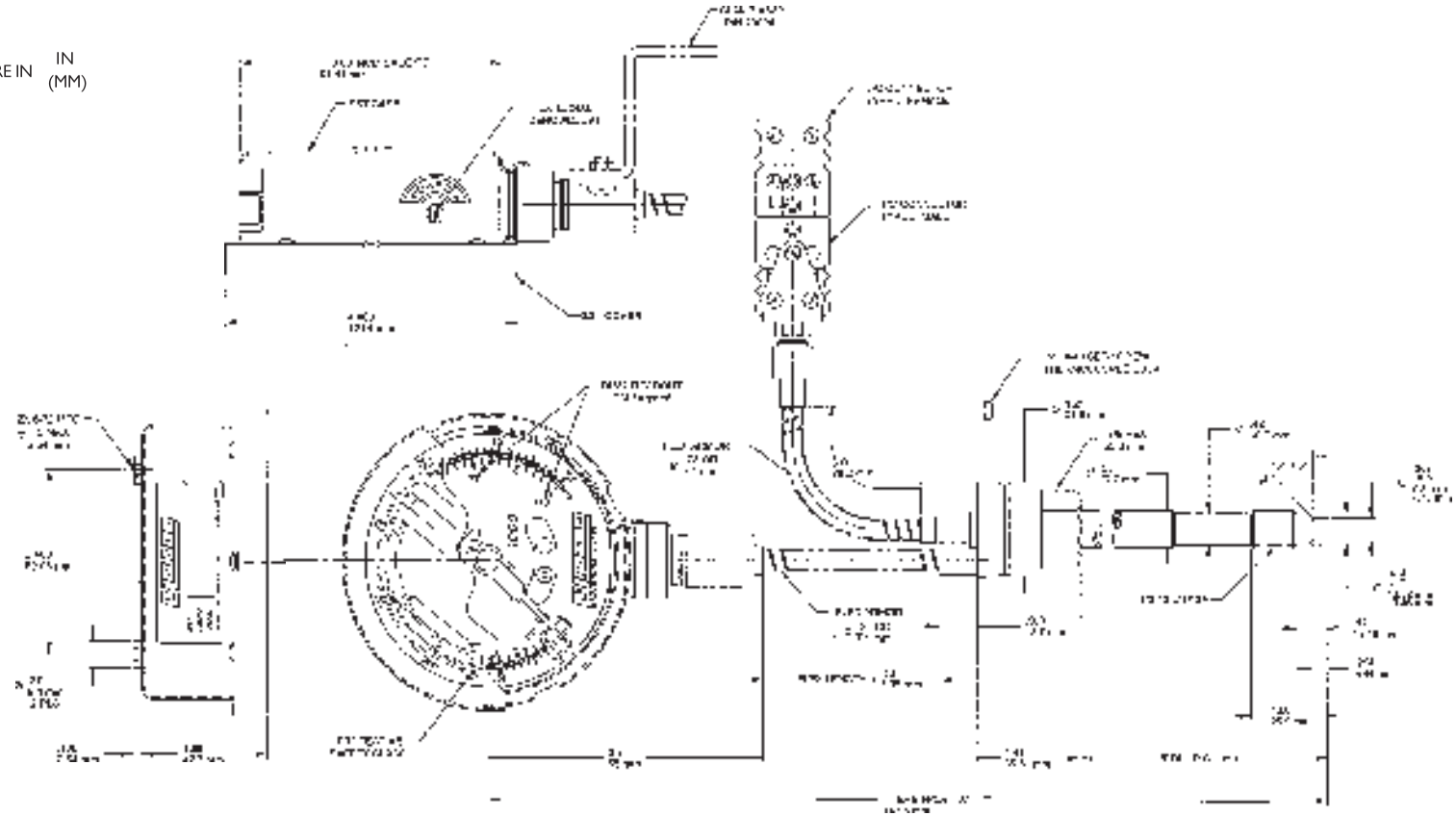
Fig. 3 Outline Drawing PG442R

Fig. 4 Outline Drawing TPG443R

ORDERING NUMBER:

TPG443R-XX-XX/XX ①

DIMENSIONS ARE IN IN (MM)



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4/00 Rev. B
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DATE PURCHASED _____

PURCHASED FROM: _____

NAME _____

COMPANY _____

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