

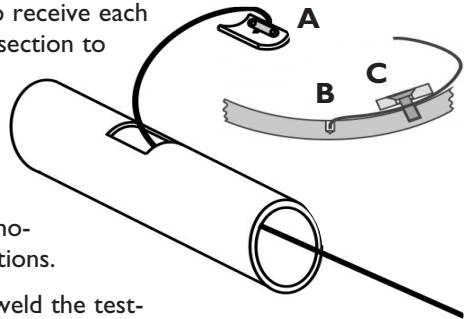
Furnace Tracker® Rotating Evaporative Thermal Barrier for Annealing and Homogenizing of Tubes in Non-quench Processes

USER GUIDE



Preparing a Test-piece and Thermocouples

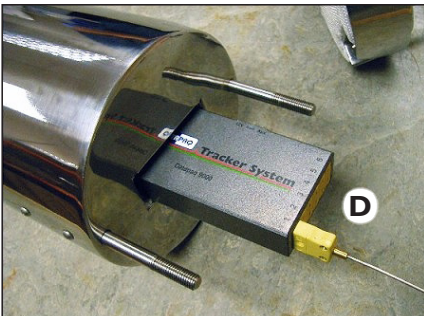
1 Cut out a section from the tube to receive each thermocouple (A). Drill each test-section to receive the thermocouple-tip (B) and an adjacent bolt to clamp it in place (C). Thermocouple length should be equal to the distance from the end of the tube to the test-section, plus the length of the thermal barrier. Pull thermocouples through, and fix to the test-sections.



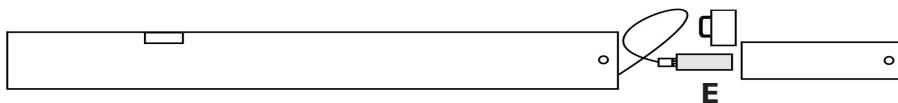
2 Pull the thermocouples back, and weld the test-sections into position.

Setting up the Thermal Barrier and Data Logger

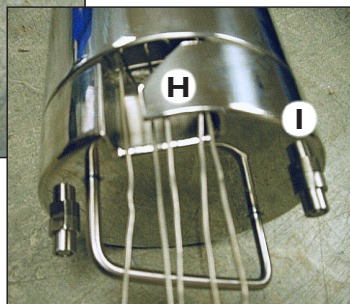
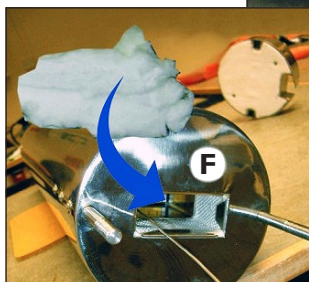
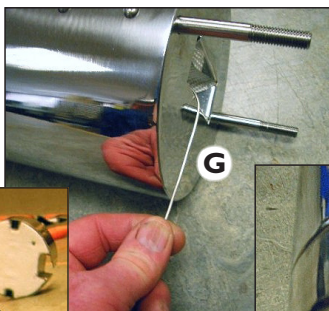
1 **Reset the data logger** for a new temperature profile run (see the logger's *User Manual*) and plug the thermocouples into the logger (D, E). **Start the logger** by pressing its start button (unless a time or temperature trigger has been selected during logger reset). **Push the logger into the barrier** as far as it will go, and push in some insulating fiber blanket to fill the gap between the barrier's lid and the logger (F).



2 Apply some Molykote high-temperature anti-seize copper grease to the barrier lid's fixing studs. Bend thermocouples through 90° across the face of the barrier (G), then **fit the lid** and bend the thermocouples up into the exit slot on the lid (H). Make sure the nuts are fitted as



shown; the end of the nut with the milled face must be towards the lid (I). Do not over-tighten the nuts.

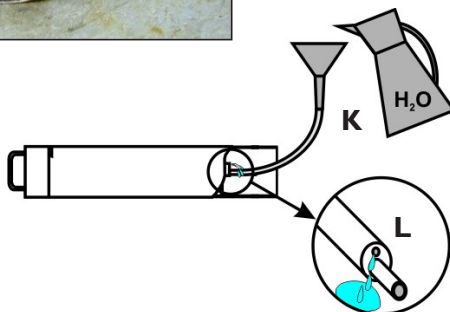


Check the Barrier and Fill with Water

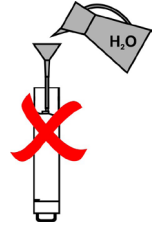
- 1** Before every run, roll the barrier along a flat surface to **check that the internal mechanism of the thermal barrier is rotating freely (J)**. The central filler pipe should remain mainly stationary while the barrier turns; if the filler pipe rotates with the barrier, return the barrier to Datapaq immediately for maintenance.



- 2** Connect one end of a flexible hose to the filler pipe of the barrier and the other end to a funnel (K). **Fill with the correct amount of water** as specified in the data sheet or quotation.



When the barrier is full, the excess water will begin to escape from the vent hole above the filler tube (L). Do not overfill as water may leak back into the insulation which will permanently damage it.



WARNING

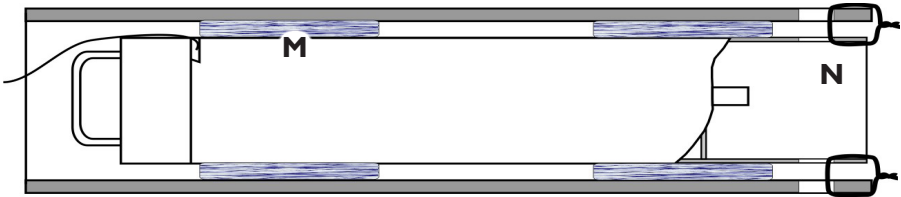
Make sure the barrier is horizontal when filling. Never fill the barrier while it is vertical.

Fit Barrier into Tube

1 If required, fit insulating fiber blanket (**M**) around the barrier to stabilize it, and **push the barrier into the tube**.

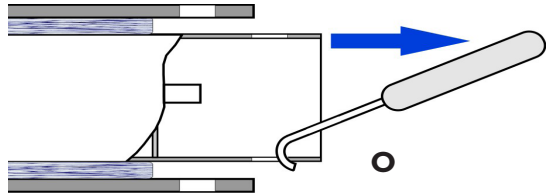


2 To ensure that the barrier rotates with the tube, **secure them together with heavy-gauge wire (N)** through two holes drilled near the end of the tube to match the two fixing holes at the end of the thermal barrier. In some cases, the barrier and tube may be fixed together with bolts.



Recovering the Thermal Barrier

At the end of the temperature profile run, immediately cut and remove the wire securing the barrier. Insert a hook (**O**) to **pull the barrier from the tube**, then remove the logger from the barrier.



© Datapaq Ltd., Cambridge, UK 2010 All rights reserved

Datapaq Ltd. makes no representations or warranties of any kind whatsoever with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Datapaq Ltd. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of the Datapaq software, associated hardware or this material. Datapaq Ltd. reserves the right to revise this publication from time to time and to make changes to the content hereof without obligation to notify any person of such revisions or changes.

Datapaq, the Datapaq logo and Furnace Tracker are registered trademarks of Datapaq.

User manuals are available in other languages. Contact Datapaq for details.

Europe & Asia

Datapaq Ltd
Lothbury House,
Cambridge CB5 8PB, UK
Tel: +44-(0)1223-652400
Fax: +44-(0)1223-652401
sales@datapaq.co.uk

North & South America

Datapaq, Inc.,
3 Corporate Park Dr., Unit 1,
Derry, NH 03038, USA
Tel: +1-603-537-2680
Fax: +1-603-537-2685
sales@datapaq.com

www.datapaq.com