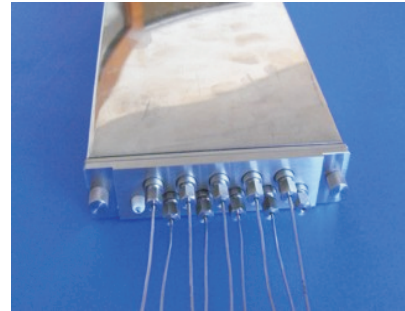
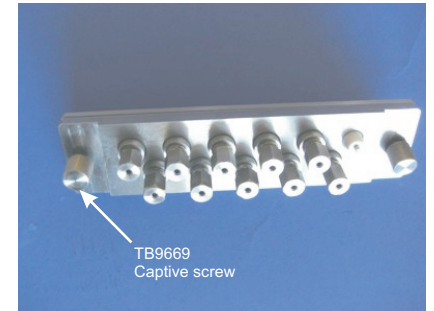


**TB5810 Face Plate with 'VR' Compression Glands**

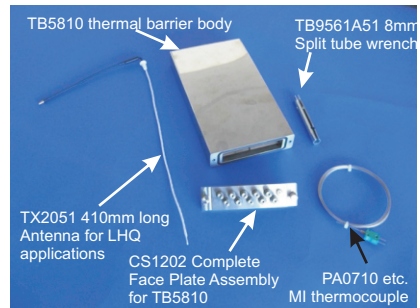
**Part numbers, general description and instructions on how to assemble, lock, and replace thermocouples, and antenna.**



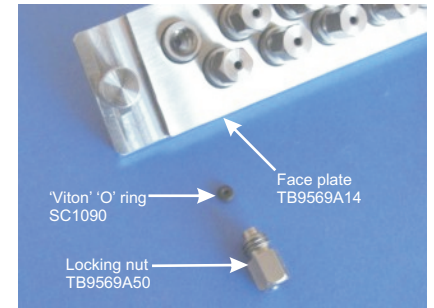
The TB5810 thermal barrier can be used in low height quench systems (LHQ) as a barrier to protect the Tpaq21 data logger during a full immersion water quench.



The TB5810 is supplied with a face plate CS1202 containing 10 thermocouple entry ports and an 11th port for an antenna if RF telemetry is used.

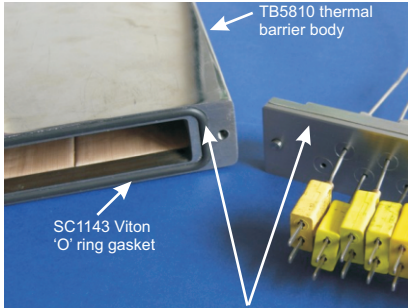


Part numbers for the TB5810 barrier are shown above. Please note that only 1.5mm diameter mineral insulated (MI) thermocouples (PA0710 etc.) should be used with this assembly. 2mm diameter MI probes require a different assembly.

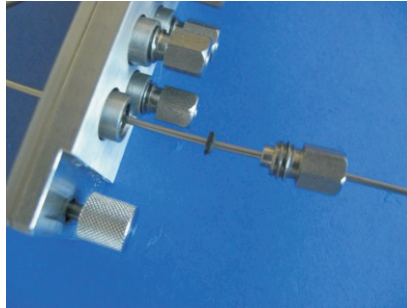


Part numbers for the VR Compression gland are shown above. Other part #'s are shown later in this document.

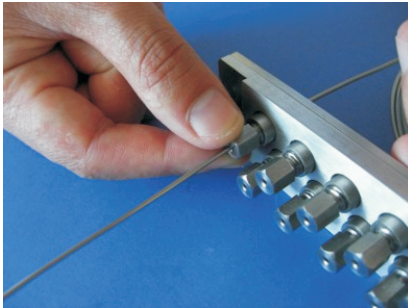
## Fitting thermocouples into the TB5810 face plate



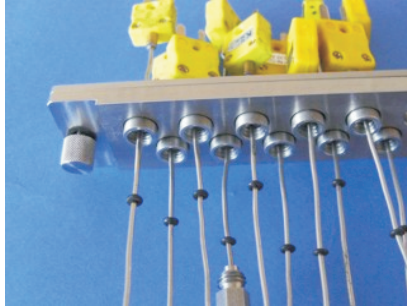
Before fitting the face plate assembly to the body of the TB5810 barrier, check the rear of the face plate (which mates with the Viton gasket on the face of the TB5810 body) to ensure there are no scratches etc. which could cause water leakage.



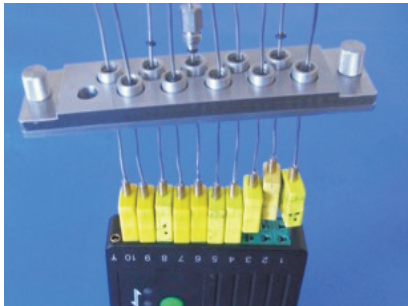
Remove the locking nut and Viton ring from the face plate assembly and push the 1.5mm diameter thermocouple through from the rear. Re-fit the seal and nut as shown above.



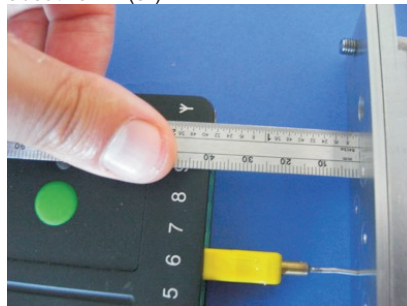
Push the Viton ring into position and tighten the lock nut until finger tight.



When all thermocouples are in position, loosen the locknuts and slide them back about 75mm (3")



Plug the individual thermocouples into the data logger as shown ensuring that the pins are in the correct sockets.



Then ease the faceplate down over the thermocouples until there is a gap of 40mm (1.575"), between the rear of the face plate and the front end of the data logger. Then re-tighten all the locknuts to finger tightness.

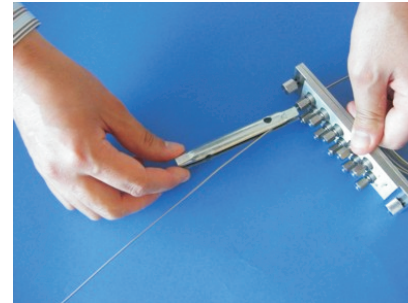
**TB5810 Face Plate with 'VR' Compression Glands**

Parts list:

TB5810 waterproof thermal barrier comprises:

- 1 x TB5810 insulated body complete with SC1143 Viton gasket (seals between body and face plate)
- 1 x CS1202 face plate assembly kit (which is made up of the following parts):
  - 2 x TB9669 captive screws
  - 1 x TB9569A14 face plate
  - 12 x TB9569A50 locking nuts (2 spare)
  - 20 x SC1090 Viton 'O rings (10 spare)
  - 1 x TB9569A51 split box spanner (tube wrench)
  - 2 x TB1278 Type 2 round silicone rubber bungs (1 spare)
  - 6 x SC0133 25mm (1") long - 1.5mm (1/16") diameter sealing Pins (5 spare)

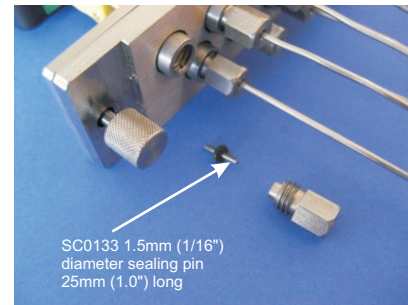
**Note: For the TB4109 barrier (20 channel system) a similar face plate can also be supplied. Please contact Datapaq for details.**



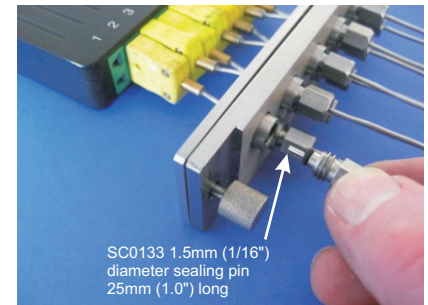
Slide the split tube wrench over each thermocouple in turn and onto the lock nut



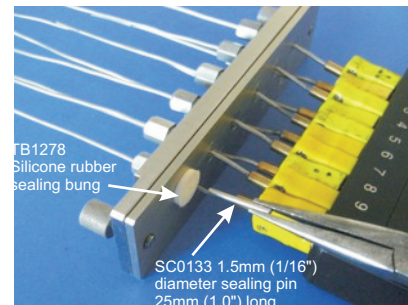
Using a bar or small screwdriver tighten the locknut a further 3/4 of a turn from the finger tight position. Do not overtighten.



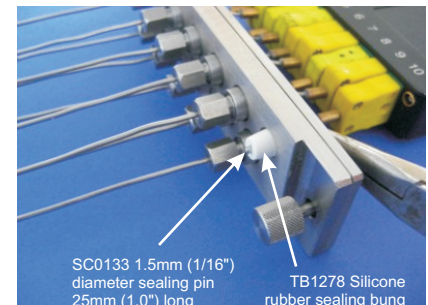
SC0133 1.5mm (1/16") diameter sealing pin 25mm (1.0") long  
If any thermocouple ports are not being used, then these must be blocked by using a SC0133 sealing pin in conjunction with the Viton ring and the locknut.



SC0133 1.5mm (1/16") diameter sealing pin 25mm (1.0") long  
If a SC0133 pin is not available then use a 25mm (1") length of old MI thermocouple, or use the shank (not the fluted section) of a ground down 1.5mm (1/16") twist drill.



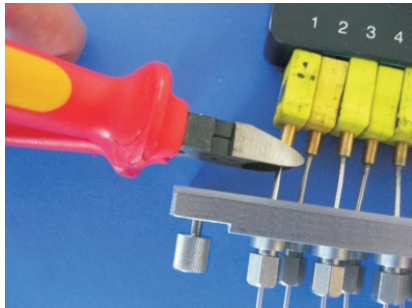
TB1278 Silicone rubber sealing bung  
SC0133 1.5mm (1/16") diameter sealing pin 25mm (1.0") long  
If the antenna port is not being used, then this must also be blocked by using a SC0133 sealing pin in conjunction with a TB1278 silicone rubber sealing bung. Note: Fit the TB1278 rubber bung into the face plate before fitting the sealing pin



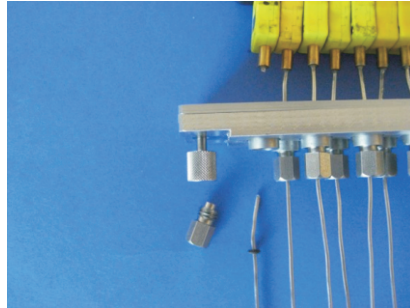
SC0133 1.5mm (1/16") diameter sealing pin 25mm (1.0") long TB1278 Silicone rubber sealing bung  
If a SC0133 pin is not available then use a 25mm (1") length of old MI thermocouple, or use the shank (not the fluted section) of a ground down 1.5mm (1/16") twist drill.

## Replacing a thermocouple in the TB5810 face plate

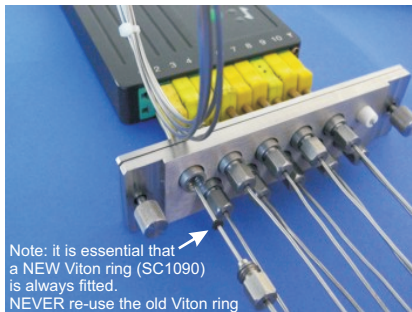
From time to time thermocouples fail and it will be necessary to replace them. This section details how the replacement is carried out. Please note that it is not possible to use any other type of thermocouple than an MI thermocouple with the 'VR' compression glands (e.g. not possible to use fibre glass insulated)



Cut the faulty thermocouple just beyond the plug

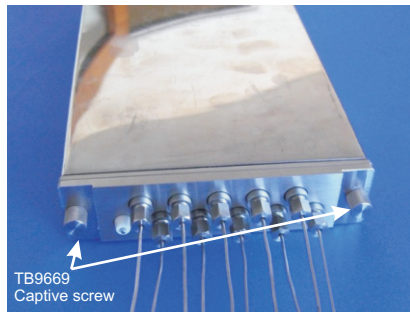


Remove the old thermocouple plug from the data logger, then loosen the locknut and remove the old thermocouple from the faceplate



Note: it is essential that a NEW Viton ring (SC1090) is always fitted. NEVER re-use the old Viton ring

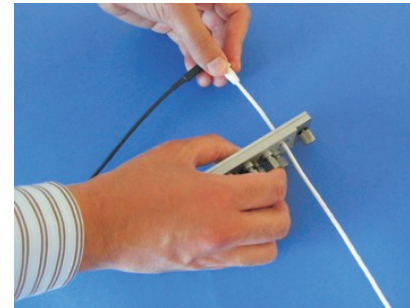
Feed the new thermocouple from the rear of the faceplate and fit a **new** Viton ring. The old locknut can be re-used if in good condition. Plug the thermocouple into the data logger socket and tighten in same way as shown on pages 2 & 3.



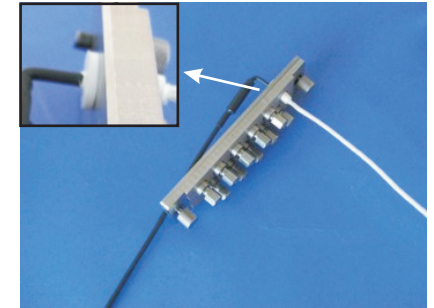
Fit the faceplate back onto the TB5810 body ensuring both sides of the sealing faces are clean. Tighten the captive faceplate securing screws as tight as you can with your fingers, finishing off with an extra 1/4 turn using a pair of pliers.

## Fitting an antenna to the TB5810 face plate

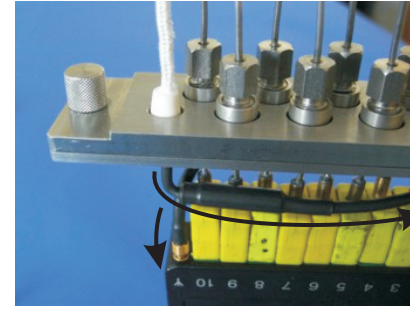
If the Tpaq21 has been fitted with a transmitter, then it is possible to send temperature data via radio frequency (RF) to a PC outside the furnace. This will require an antenna to be fitted to the TB5810 which can then be plugged into the Tpaq21. Please note that RF signal cannot be transmitted through water so it will not be possible to get real time data from the quench. Data from the quench however will still be stored in the loggers memory and can be downloaded at the end of the run



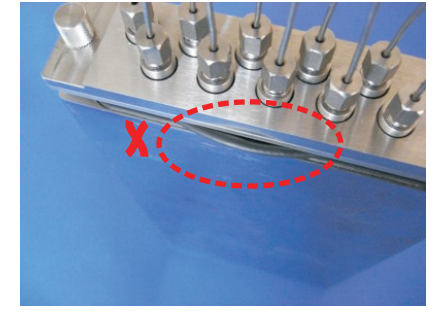
Pass the TX2051 antenna through the antenna port which is the port closest to the antenna socket on the Tpaq21.



Push the silicone rubber bung right through until the flange of the bung is tight on the faceplate (see inset).



Wind the spare antenna cable right around the thermocouples and plug into the antenna socket on the Tpaq21.



When closing the TB5810 make sure that the antenna wire is inside the barrier all the way around and is not caught between the body and the faceplate of the barrier