

Philips Medical Systems

NEWSLETTER

Service

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FSE



Specialist



Manager

Helium reading problems for 1.5 Tesla F2000 magnets

1 INTRODUCTION

This newsletter is to inform you that we have encountered problems with the readout of the helium level of several 1.5T F2000 magnets. There are two possible causes for this:

- A software bug in the MR console software release 2.1.5
- Frozen helium probes.

The latter result in **highly misleading LHe level readings** and may cause the magnet to run empty unnoticed and quench. Correct readings are important for remote monitoring and fast responses to critical helium levels. It is therefore important to be able to recognize this problem and solve it for the affected systems. This newsletter describes the diagnosis and action plan.

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2 SOFTWARE BUG IN MR CONSOLE SOFTWARE RELEASE 2.1.5

2.1 AFFECTED SYSTEMS

All systems with MR Console software release 2.1.5 up to service pack 4.

2.2 PROBLEM

The bug causes the software to show no LHe level at all in the RADAR screen. Helium reading at the console will still work fine in this case. In March 2010, Release 2.1.5 service pack 5 was released with FCO 78100288 to solve this problem.

Despite this FCO, service pack 5 has been installed on only a few systems.

2.3 REQUIRED ACTION

Installation of Service Pack 5 is needed for proper monitoring of your installed base.

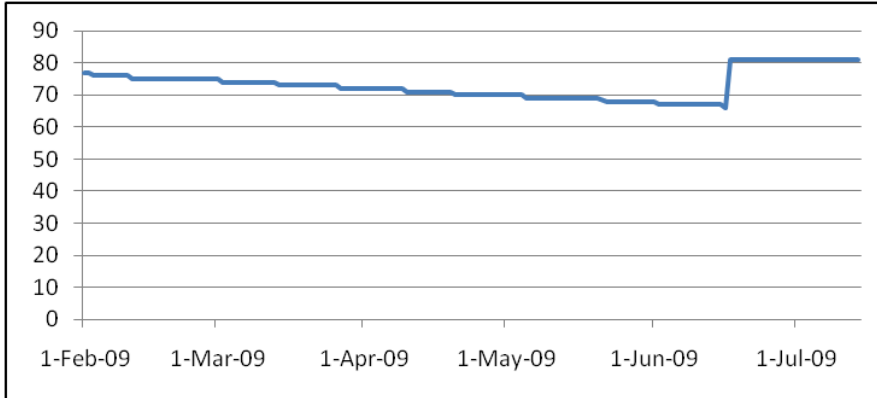
3 FROZEN HELIUM PROBES

3.1 AFFECTED SYSTEMS

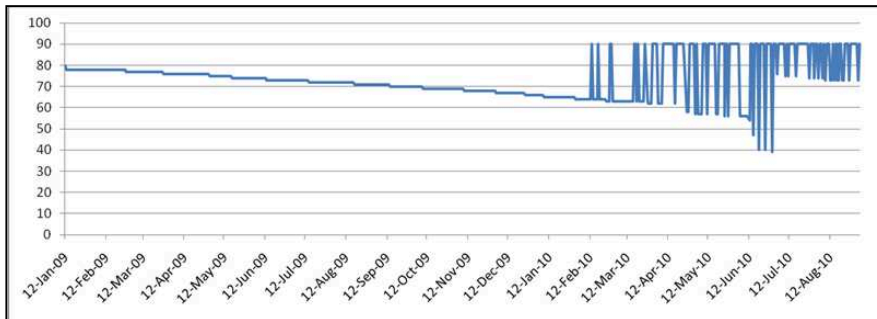
Some 1.5 Tesla F2000 magnets may be affected. Chapter 3.2 explains how to recognize affected systems.

3.2 PROBLEM

Some systems show a constant helium level through Radar, even though the correct software is installed. These systems may have a frozen helium probe. A typical example is given below.



A frozen probe problem may manifest in different ways. In many cases the LHe level reading will jump to a fixed value and stay there, as in the example above. It also happens that the reading makes random jumps up and down, as in the example below.



Magnet damage and quench events can be prevented by monitoring your installed base regularly! A constant LHe reading for more than 4 weeks is suspicious and a good indication that there is a frozen probe. Action is needed in such a case.

3.3 REQUIRED ACTION FOR MAGNETS WITH A MAGNET INTERFACE BOX (MIB)

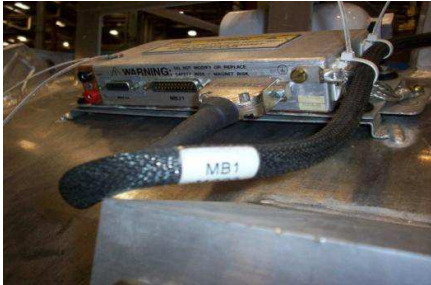


Figure 1 - MIB

Corrective actions in case of a probe problem (only in this order!)

- 1) Order the reversed polarity cable for MIB systems, 4535 010 00651. First submit both the SRN and magnet serial number (e.g. TB_150_...) to the Helpdesk (Helpdesk.MR.Best@philips.com) and ask for approval. Use their reply email for your communications towards the order desk. They are allowed to lift an order block with this approval.
Install the cable on the magnet. This action can be done with the magnet on field. Now the LHe level is read with a reverse current.
- 2) Only if this is NOT successful, order the standard backup cable 4522 150 23532 and install it on the magnet. This action can be done with the magnet on field.
- 3) Only if this is NOT successful: contact the BU helpdesk for assistance. A toolkit is available to heat up the probes with an external power supply. For this procedure the magnet has to be ramped down, therefore at least one complete day will be required for this action.
- 4) Keep monitoring the helium readings of this system routinely.

3.4 REQUIRED ACTION FOR MAGNETS WITH A MAGNET ELECTRONICS UNIT (MEU)



Figure 2 - MEU

Corrective actions in case of a probe problem (only in this order!)

- 1) Select the backup probe for LHe level reading by adjusting three jumper settings in the MEU (see figure below):
 - Remove the top cover of the MEU
 - JP1 must connect pin 1 to pin 2 (connects +V2 to LHe meter)
 - JP2 must connect pin 1 to pin 2 (connects VM2 to LHe meter)
 - JP4 must connect pin 1 to pin 2 (connects +I2 to LHe meter)

CSIP Level 1 (10.0)

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- Replace the top cover
This action can be done with the magnet on field.
Report this action to Helpdesk.MR.Best@philips.com by submitting SRN and magnet serial number (e.g. TB_150_...) and keep monitoring the helium readings routinely. If you have already performed this action in the past, please also report this to the Helpdesk.
- 2) Only if this is NOT successful: Order the reversed polarity cable for MEU systems. This cable is currently being developed and will be available soon. First ask the Helpdesk (Helpdesk.MR.Best@philips.com) for approval and use their reply email for your communications towards the order desk. They are allowed to lift an order block with this approval.
Install the cable on the magnet. This action can be done with the magnet on field. Now the LHe level is read with a reverse current.
- 3) Only if this is NOT successful: contact the Helpdesk for further assistance. A toolkit is available to heat up the probes with an external power supply. For this procedure the magnet has to be ramped down, therefore at least one complete day will be required for this action.
- 4) Keep monitoring the helium readings of this system routinely.

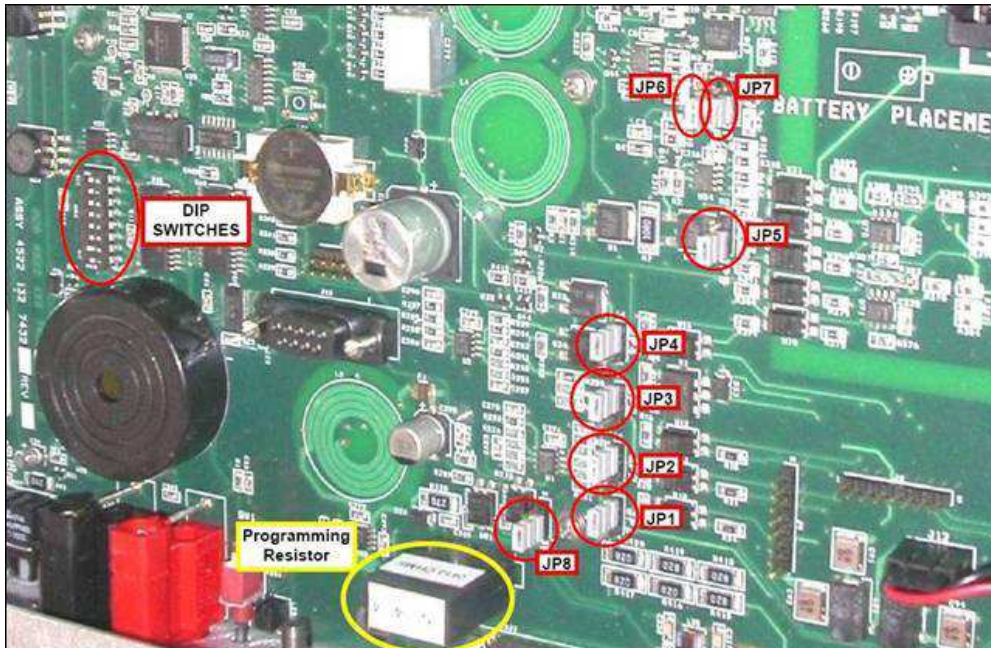


Figure 3 - Jumper settings inside the MEU

Please monitor your installed base carefully in order to prevent unnecessary costs.

Best Regards,
BU Life Cycle Business