

# ThermoFisher

## SCIENTIFIC

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## CHANGE SUMMARY

(Only changes within the last 18 months are listed below.)

Revision Number	Effective Date	Description of Changes
007	See coversheet	<ul style="list-style-type: none"><li>• Minor corrections.</li></ul>
006	28 Mar 2023	<ul style="list-style-type: none"><li>• Orbitrap Resolution Evaluations tasks added in Pre- and PostPM tables.</li><li>• Minor misspelling corrections.</li></ul>
005	23 Mar 2023	<ul style="list-style-type: none"><li>• Overall update of document together with update of PMI document.</li></ul>

Customer:		Equipment Manufacturer:	Thermo Scientific	
Customer Contact Name:		Model:		
Engineer Name:		Serial #:		
C4S-Ticket #:		System Reference ID:		
Procedure(s) utilized:		Decontamination:	Yes <input type="checkbox"/> Not Required <input type="checkbox"/>	
		Date Performed:		
<b>Initial Checks</b>		<b>Task Performed/Not Performed</b>		
Ballast Rotary Pump(s) (if applicable)		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/> N/A <input type="checkbox"/>		
Check all vacuum hoses		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Inspect all fans		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Check gas pressures of UHP N2, UHP He and HP N2		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Check Probe Safety Interlock functionality		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Comments:				
<b>System Functionality Checks</b>		<b>Task Performed/Not Performed</b>		
Backup current TNGCalFile		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Stable spray achieved (<10% RSD)		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Performed Scan All RFs		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Performed Scan All DCs		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Performed Measure IRM Drag Resistance and Split Gate		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Power Supplies		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
IRM pressure regulation		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
IRM to UHV Leak		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Calibration Checks (+) polarity Orbitrap Mass & System		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap S/N Evaluation in (+) polarity		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Resolution Evaluation in (+) polarity		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Isotope Ratio Evaluation in (+) polarity		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Q0 Flight Time test		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Evaluate Positive Lens Charging test		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Calibration Checks (-) polarity Orbitrap Mass & System		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap S/N Evaluation in (-) polarity		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Resolution Evaluation in (-) polarity		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Isotope Ratio Evaluation in (-) polarity		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		

Comments:				
<b>PM Tasks Performed</b>		<b>Yes/No/Replaced</b>		
Oil changed in roughing pump (if applicable)		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/> N/A <input type="checkbox"/>		
Oil mist filter(s) replaced (if applicable)		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/> N/A <input type="checkbox"/>		
Intake fan dust filter cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
Source housing assembly cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
RF lens (S-lens/Ion funnel) cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
Exit lens cleaned (if applicable)		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/> N/A <input type="checkbox"/>		
ETD RIS cleaned (if applicable)		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/> N/A <input type="checkbox"/>		
MP00 cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
L0 cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
Particulates removed from stack manifold		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Fluoranthene crucible refilled (every 2 <sup>nd</sup> year, if applicable)		Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>		
MP0 cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
TK Lens assembly cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
Manifold area 1 cleaned from particulates		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Q1 cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
Split gate cleaned		Yes <input type="checkbox"/> No <input type="checkbox"/> Replaced <input type="checkbox"/>		
Manifold area 2 cleaned from particulates		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Comments:				
<b>Readings Pre-PM and Post-PM</b>		<b>Pre-PM</b>	<b>Post-PM</b>	
Source Pressure				
Source Turbo Power				
Ion Gauge Pressure				
Turbo 2 Power				
UHV Pressure				
Turbo 3 Power				
Analyzer Temperature				
IRM pressure (standard mode)				
Instrument Control software version				
<b>Source Parameters used</b>	<b>(+) Polarity</b>		<b>(-) Polarity</b>	
	<b>Pre-PM</b>	<b>Post-PM</b>	<b>Pre-PM</b>	<b>Post-PM</b>
Source Voltage				
Source Current				

Sheath Gas				
Aux Gas				
Sweep Gas				
Source Temp				
<b>Post-PM Calibrations</b>		<b>Task Performed &amp; Passed/Not Performed</b>		
Stable spray achieved (<10% RSD)		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Dip RFs		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Dip End lens RF (for ETD-option, if applicable)		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/> N/A <input type="checkbox"/>		
Calibrate Devices		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Scan All RF's		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Scan All DC's		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Measure IRM Drag Resistance and Split Gate		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Power Supplies		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Quad Coarse Calibrations (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Ion Optics Calibrations (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Optics RF Calibrations (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Ion Trap Calibrations (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Quad RF only Calibration (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Quadrupole Calibrations (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Calibrations (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Predictive AGC Calibration (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap S/N Evaluation in (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Resolution Evaluation in (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Isotope Ratio Evaluation in (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Q0 Flight Time test (+) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Evaluate Positive Lens Charging test		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Calibration checks in (+) polarity (Main Cal tab)		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Ion Optics Calibrations (-) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Ion Trap Calibrations (-) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Calibrations (-) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap S/N Evaluation in (-) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Resolution Evaluation in (-) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Orbitrap Isotope Ratio Evaluation in (-) polarity		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Calibration checks in (-) polarity (Main Cal tab)		Performed & Passed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
<b>Additional Post-PM tasks</b>		<b>Task Performed/Not Performed</b>		
Backup current TNGCalFile		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		
Copy PM-folder & upload (customer approval)		Performed <input type="checkbox"/> Not Performed <input type="checkbox"/>		

Comments:		
<b>Field Service Representative Signature:</b>		<b>Customer Signature:</b>
Date: _____ <i>Date not required if using Digital Signature</i>		Date: _____ <i>Date not required if using Digital Signature</i>