

保守点検報告書

2024年 第3/3回

顧客名 独立行政法人国立病院機構
四国がんセンター

装置名 Ingenia 3.0T

設置場所 MRI室

点検実施日 2024年05月21日

Case番号 0120883251

株式会社フィリップス・ジャパン

点検項目の説明

製品グループ Ingenia 3.0Tシリーズ

検査項目

Chapter: Configuration (All Visits) システム構成(全訪問回)	Chapter: Operator Console & Viewing (All) コンソール機能確認(全訪問回)
Chapter: Visit number (All Visits) 訪問回数(全訪問回)	Chapter: Magnet system (All) 安全性確認(全訪問回)
Chapter: Liquid Cooling LCC2B/2BB (All) 水冷システム点検:LCC2B/2BB(全訪問回)	Chapter: Magnet system (1, 3) ヘリウム排気管排水穴確認(訪問回数1、3)
Chapter: Liquid Cooling LCC2/2A (All) 水冷システム点検:LCC2/2A(全訪問回)	Chapter: Magnet system (2, 4) ヘリウム排気管設置状況確認(訪問回数2、4)
Chapter: Liquid cooling LCC2B/2BB (1, 2, 4) 水冷システム点検:LCC2B/2BB(訪問回数1、2、4)	Chapter: Magnet system (3) ヘリウム排気管取付確認(訪問回数3)
Chapter: Liquid cooling LCC2A (1, 2, 4) 水冷システム点検:LCC2(訪問回数1、2、4)	Chapter: Magnet system (4) 緊急磁場消失ユニット機能確認(訪問回数4)
Chapter: Liquid Cooling LCC2B/2BB (1, 3) 水冷システム点検:LCC2B/2BB(訪問回数1、3)	Chapter: Gradient System 78x / 2118 (1, 3) グラディエントシステム点検:78x / 2118(訪問回数1、3)
Chapter: Liquid Cooling (1) ・不凍液濃度確認 ・ストレーナー清掃	Chapter: Gradient System 78x / 2118 (2, 4) グラディエントシステム点検:78x / 2118(訪問回数2、4)
Chapter: Liquid Cooling LCC2B/2BB (3) 冷却水経路洗浄:LCC2B/2BB(訪問回数3)	Chapter: Operator Console & Viewing (1, 3) 天井取付具点検: Interventionalシステム(訪問回数1、3)
Chapter: Liquid Cooling LCC2A (3) 冷却水経路洗浄:LCC2A(訪問回数3)	Chapter: Gradient System (1, 3) グラディエントシステム点検(訪問回数1、3)
Chapter: Liquid Cooling LCC2 (3) 冷却水経路洗浄:LCC2(訪問回数3)	Chapter: Gradient System (2, 4) グラディエントシステム点検(訪問回数2、4)
Chapter: Cooling System (All) 水冷システム点検(全訪問回)	Chapter: Software (All) ソフトウェア点検(全訪問回)
Chapter: Cooling System (1, 2, 4) 水冷システム点検(訪問回数1、2、4)	Chapter: Software (2,4) ソフトウェア点検(訪問回数2、4)
Chapter: Cooling System (1, 3) 水冷システム点検(訪問回数1、3)	Chapter: Software (2) リモート接続確認(訪問回数2)
Chapter: Cooling System (1) 水冷システム点検(訪問回数1)	Chapter: Workflow (All) 担当者への面談
Chapter: Cooling System (3) 水冷システム点検(訪問回数3)	Chapter: System Level Checks (Visits 1,3) システムレベル点検(訪問回数1、3)

点検項目の説明

製品グループ Ingenia 3.0Tシリーズ

検査項目

Chapter: System Level Checks (Visits 2,4)	Chapter: One time tasks (all)
システムレベル点検(訪問回数2、4)	LEDポアライトへの交換
Chapter: System Level Checks (Visits 2)	Chapter: SAFETY (All)
システムレベル点検(訪問回数2)	静電気対策
Chapter: System Level Checks (3)	Chapter: PM end
システムレベル点検(訪問回数3)	最終確認
Chapter: 2 System Level Checks (Visits 4)	
システムレベル点検(訪問回数4)	
Chapter: Earth bonding	
アース導通測定	
Chapter: Earth bonding Exam Room	
アース導通測定:検査室	
Chapter: Earth bonding Tech Room	
アース導通測定:機械室	
Chapter: Earth Leakage Current	
漏れ電流測定	
Chapter: Patient support (All)	
寝台システム点検(全訪問回)	
Chapter: Patient support (1, 3)	
寝台システム点検(訪問回数1、3)	
Chapter: Patient support (1)	
寝台システム点検(訪問回数1)	
Chapter: Patient support (3)	
寝台システム点検(訪問回数3)	
Chapter: System Meas. & Adjustments (All)	
システム測定及び調整(全訪問回)	
Chapter: System Meas. & Adjustments (2, 4)	
システム測定及び調整(訪問回数2、4)	
Chapter: System Meas. & Adjustments (4)	
スパイクノイズ確認(訪問回数4)	
Chapter: Refrigerator system F-40/F-50	
コンプレッサー動作確認:F-40/F-50	

Ship To:

独立行政法人国立病院機構 四国がんセンター
 南梅本町甲160
 松山市
 Japan

Test and Verification Report

Case Number: 0120883251

Work Order: WO-10146726

WORK DETAILS

Engineer Name: MASASHI HIKASA

Event Type: Predictive / Preventative Maintenance

Device Status: Pass

Service Activity: Visit 2

EQUIPMENT DETAILS

Product Name: Ingenia 3.0T

Serial Number: 42263

Product Number: 781377

Installed Product: 57986182

UDI:

	Min	Max	UoM	Measurement	Result	Comments
PM section 4. Safety						
4. Safety						
Prevent electro static discharge					PASS	
PM section 6. Workflow						
On-site preparations						
Interview the representative of the site					YES	
PM section 7. System level						
System level						
Do PIQT (Remote / On-site)					PASS	
Check system parts visually					PASS	
Clean the computers externally					PASS	
Clean the EWS (Extended Workspace)					PASS	
Check the dust filter					PASS	
Clean the dust filter					PASS	
Check the dust filter of the patient ventilation					PASS	
PM - Disable alerts					PASS	
Check the RF enclosure					PASS	
Check the shock indicator(s)					PASS	
Check the RF coils for damage					PASS	
Relative humidity Examination room	40	70	%	44	Pass	

	Min	Max	UoM	Measurement	Result	Comments
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PM section 7. System level

System level

Relative humidity Technical room	30	70	%	44	Pass	
Temperature Examination room (> R5)	18	22	°C	21	Pass	
Temperature Technical room	15	24	°C	22	Pass	
Check the respiratory sensor and hose					PASS	
Check the version of the SPT spec file (Remote / On-site)					PASS	
Compare and download the SPT spec file					PASS	

PM section 9. Gradient System

Gradient System

Check the circuit to detect overheated gradient coils					PASS	
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PM section 10. Liquid Cooling

Liquid cooling

Check the flow of the wc RF amplifier (WDH1.5T, AN8137, QLH_128)	16	20	l/minute	19	Pass	
Check the filling pressure	1.4	2.4	bar	2	Pass	
Check the hoses with liquid cooling for leaks					PASS	

Liquid cooling [LCC2BB] [LCC2B]

Fill the gradient coil and the WC RF amp (if < 1.4 bar)	1.4	2.4	bar	2	Pass	
Fill the gradient amp (if < 1.4 bar)	1.4	2.4	bar	2	Pass	
Check the flow in the gradient coil circuit	18	22	l/minute	20	Pass	
Check the flow in the gradient amplifier (C78X)	30	45	l/minute	40	Pass	

PM section 11. Refrigerator system

Refrigerator system

Check the compressor pressure F50 (dynamic)	1.9	2.2	MPa	2.1	Pass	
Check the water flow					PASS	
Check the cryogenic performance					PASS	

PM section 12. Magnet system

Magnet system

Check the labels and covers of the ERDU buttons					PASS	
Check the outlet of the helium venting system					PASS	
Check the service history of the coldhead (48 months)					≤ 48 Months Ago	
Record the last date coldhead service was done					Jul 29, 2020	

	Min	Max	UoM	Measurement	Result	Comments
PM section 12. Magnet system						
Magnet system						
Check Differential Pressure Switch (DPS)					PASS	
PM section 13. Patient support						
Patient support [IMT]						
Check the patient alarm					PASS	
Check the patient comfort lights					PASS	
Clean the DCI RF coil sockets and connector					PASS	
Clean the PSU					PASS	
PM section 14. System Meas. & Adjustments						
System Meas. & Adjustments						
Check the body coil transmit characteristics					PASS	
Run the software tests for PM						
System selftest					PASS	
PFEI peripheral test					PASS	
Patup self test					PASS	
PSU2 selftest (PSU(2) fan speed test)					PASS	
TX att. calibration					PASS	
Max kW calibration body coil					PASS	
RF amp TX1 PMU test body coil					PASS	
RF amp TX2 PMU test body coil					PASS	
RF amp controlloop calibration					PASS	
F0 determination					PASS	
RF power ref. cal. body coil					PASS	
Pickup coil tripl.cal.body coil					PASS	
Multitransmit RF calibration					PASS	
System measurements and adjustments						
Check the VSWR (3.0T multi-transmit TX1)		5		1.4	Pass	
Check the VSWR (3.0T multi-transmit TX2)		5		1.4	Pass	
Use the analyzer					PASS	
Run the RF spurious test					PASS	
Run the spurious noise test batch					PASS	
Analyze the result of the spurious noise test batch					PASS	
PIQT						
Do PIQT					PASS	

	Min	Max	UoM	Measurement	Result	Comments
PM section 14. System Meas. & Adjustments						
PIQT						
Generate a report with PIQT results					PASS	
PM section 15. Operator Console & Viewing						
Operator Console & Viewing (All)						
Clean the mouse, keyboard, monitor of host and EWS					PASS	
Check the audio communications					PASS	
PM section 16. Software						
Software						
Check and update the EAS software (e-Alert)					PASS	
Clean up disks					PASS	
Defragment the hard disks					PASS	
Do the PRS related checks					PASS	
Make a system back-up					PASS	
Export the configuration					PASS	
PM section 19. PM end						
19. PM end						
PM - Enable alerts					PASS	
Handover					PASS	
Administration					PASS	

Engineer Name: MASASHI HIKASA

Date: May 21, 2024



ヘリウムレベル推移表(%)

