CALL #: _____	**Date:** _____
REPORT #: _____	

SERVICE
INSTALLATION DATE: ____
ENGINEER: ____

CUSTOMER INFORMATION
INSTALLATION SITE: _____
ADDRESS: _____
COUNTRY: _____

DISTRIBUTOR NAME: _____
PHONE N°: _____
MAIL: _____

1. FOCAL ONE® IDENTIFICATION

1.1	**Focal One® serial number:** ____	1.2	**Probe 1 S/N:** ____	1.3	**Probe 2 S/N:** ☐ **NA** ____

2. SUBASSEMBLIES SERIAL NUMBER

N°§	Item		Reference	Version*	Serial number*
2.1	Amplifier		(R) 233360	_____	_____
	Mot Probe Holder		(R) 901504	_____	_____
	OR	IPO computer	(R) 236659	_____	_____
		Ecrin computer	(R) 233176	_____	_____
	Cooling system		(R) 901560	_____	_____
	MEP board		(R) 235403	_____	_____
	Extension board		(R) 228038	_____	_____
	OR	Ultraview scanner	(R) 230885	_____	_____
		EB2300 scanner	(R) 236150	_____	_____

*only for first form used or replacement.

3. CONTROL TOOLS				
N°§	TEST EQUIPEMENT	S/N	VALIDITY	COMMENTS
3.1	Voltmeter	_____	_____	_____
3.2	Thermometer	_____	_____	_____
3.3	Inclinometer	_____	_____	_____
3.4	Current clamp	_____	_____	_____
3.5	Load bench	_____	_____	_____

4. INSTALLATION SITE					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
4.1	Conform to installation recommendations.		☐	☐	_____
4.2	UPS is present. If YES, write its maxi power	_____ ☐ N/A	YES ☐	NO ☐	_____
4.3	Circuit breaker (Type D or slow trip) is present. Write the value	_____	☐	☐	_____
4.4	Earth leakage circuit breaker is present. Write the value	_____ (30mA)	☐	☐	_____

5. FUSES				
N°§	CONTROL	PASS	FAIL	COMMENTS
5.1	F1 and F2 are as expected	☐	☐	_____
5.2	F3 and F4 are as expected	☐	☐	_____

6. MAIN FUNCTION				
N°§	CONTROL	PASS	FAIL	COMMENTS
6.1	Secondary screen is enough compensated.	☐	☐	_____
6.2	Main screen movement.	☐	☐	_____
6.3	3 positions of breaking pedal.	☐	☐	_____
6.4	Hexagon's socket set screws.	☐	☐	_____
6.5	Cable wipers ☐ N/A if mobile system	☐	☐	_____
6.6	Tablet's locking system.	☐	☐	_____
6.7	Tablet displacement.	☐	☐	_____
6.8	Screens movements.	☐	☐	_____
6.9	Main power cable.	☐	☐	_____
6.10	Ablasonic holder tightening.	☐	☐	_____
6.11	Mönninghoff arm's locking system.	☐	☐	_____
6.12	Chassis fans.	☐	☐	_____

7. MANUAL MOVEMENTS.					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
7.1	No hard point during displacement.		☐	☐	_____
7.2	Move manually from one side to another. Record distances:	• X = ____ (235mm ±3) • Y = ____ (50mm ±3)	☐ ☐	☐ ☐	_____
7.3	No friction between cover and shutter.		☐	☐	_____
7.4	No cables can interfere with movements.		☐	☐	_____
7.5	Probe holder levelled	•X = ____ •Y = ____	☐	☐	_____

8. FOCAL ONE® SWITCH ON.					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
8.1	Blue LED's.		☐	☐	_____
8.2	Switch ON Focal One®, all the auto start is executed.		☐	☐	_____
8.3	Check powers supplies : • Before F1 and after F2 • Before F3 and after F4 • MEP power supply • 12V power supply	• ___ V (Main power ±10%) • ___ V (217V -253V) • ___ V (22.8V - 25.2V) • ___ V (11.4V – 12.6V)	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
8.4	LED tape.		☐	☐	_____
8.5	Patient movement detector.		☐	☐	_____
8.6	External USB connectors.		☐	☐	_____
8.7	Touchpad test		☐	☐	_____
8.8	All "Get Init Status" are "OK"		☐	☐	_____
8.9	MEP Analog inputs : "In7 - 3.3 Volts Power Supply" "In8 - 24 Volts Power Supply"	_____ (3.13V-3.47V) _____ (22.8V-25.2V)	☐ ☐	☐ ☐	_____
8.10	Inspect "Error" file.		☐	☐	_____
8.11	Emergency stop functions		☐	☐	_____

9. PROBE HOLDER ARM.

9.1. ALL AXIS

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
9.1.1	Status is “NoMotError” after centering.		☐	☐	_____
9.1.2	4 values of “Pos Mot” are 0mm (± 0.2mm)	X: _____ Y: _____ T: _____	☐	☐	_____
9.1.3	Record backlash values	X: _____ Y: _____ T: _____			
9.1.4	The keypad works well.		☐	☐	_____
9.1.5	Theta fan works.		☐	☐	_____

9.2. X AXIS (LONGITUDINAL)

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
9.2.1	Measure the complete displacement from +50mm to -50mm.				
	Software value: Measured value:	___ mm (100 mm) ___ mm (<2mm)	☐	☐	_____

9.3. Y AXIS (TRANSVERSAL)

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
9.3.1	Measure the complete displacement from +25mm to -25mm.				
	Software value: Measured value:	___ mm (50 mm) ___ mm (<2mm)	☐	☐	_____

9.4. Z AXIS (ACTUATOR)

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
9.4.1	Measure the complete displacement from +40mm to -40mm.				
	Software value: Measured value:	___ mm (80 mm) ___ mm (<2mm)	☐	☐	_____

9.5. Θ AXIS (THETA)

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
9.5.1	Request a movement of +70°. Measure displacement.				_____
	Software value: Measured value:	___° ___° (<2°)	☐	☐	_____

9.6. MANUAL MOVEMENTS

N°§	CONTROL	PASS	FAIL	COMMENTS
9.6.1	Front right, No interferences between motors board cables and frame. No collision with cover.	☐	☐	_____
9.6.2	Back right No interferences between motors board cables and frame. No collision with cover.	☐	☐	_____
9.6.3	Back left No interferences between motors board cables and frame. No collision with cover.	☐	☐	_____
9.6.4	Front left No interferences between motors board cables and frame. No collision with cover.	☐	☐	_____
9.6.5	No friction with top cover	☐	☐	_____

9.7. RANDOM MOVEMENTS					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
9.7.1	No motors errors occur after mechanical origin.		☐	☐	_____
9.7.2	Record backlash values before random: X = _____ (<0.3mm) / Y = _____ (<0.3mm) / T = _____(<0,6°)				
9.7.3	Time start : _____ Time stop : _____ Number of movements : _____				
9.7.4	Open file and check if there is no error during displacement.		☐	☐	_____
9.7.5	No motors errors occurs after mechanical origin		☐	☐	_____
9.7.6	Record backlash values before random: X = _____ (<0.3mm) / Y = _____ (<0.3mm) / T = _____(<0,6°)				
9.7.7	Difference between before and after random		☐	☐	_____

10. COOLING SYSTEM.					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
10.1	Peltier consumption.	Max: ___A (27-38A)	☐	☐	_____
10.2	Fans operate and cooling temperature decreases.		☐	☐	_____
10.3	Pump operates.		☐	☐	_____
10.4	Regulation is working.		☐	☐	_____
10.5	Peltier consumption.	___ A (<0.2A)	☐	☐	_____
10.6	Difference between the two PT100.	___ °C.(<2°C)	☐	☐	_____
10.7	Difference between thermometer and mean.	___ °C.(<4.5°C)	☐	☐	_____
10.8	Cooling's fans.		☐	☐	_____

11. ULTRASOUND.

11.1

Preventative Maintenance Checklist & Certification

bk medical

Valid for BK3000, BK3500, BK5000, Flex Focus 1202 series scanners, and Pro Focus 2202 series scanners.

Customer Information:			
Name:		Department:	
Address:			

Scanner information:					
Type:		Serial Number:		SW Version:	
Customer Comments:					
Installation Date:		Previous Test Date:		Service Contract Number:	

Mechanical Diagnostics	Pass	Replaced now	Replace next time	Adjusted	Cleaned	Comments:
Visual inspection:						
Trackball friction:						
Height Adjustment:						
Wheel movement:						
Monitor movement:						
Cables:						
Connectors:						
Keyboard:						

Hardware Diagnostics	Pass	Replaced now	Replace next time	Adjusted	Cleaned	Comments:
Fans:						
Display:						
Boards:						
Power Supply:						

Software Diagnostics	Pass	Replaced now	Replace next time	Adjusted	Values:	Comments:
Boot up time:						
Monitor Checking:						
B-Mode:						
M-Mode:						
Audio / Spectral Doppler						
CFM						
3D						
Labels						
Measurement						
Touch Screen sensitivity						
Battery Support						
Image Storage						
Remaining disk space						
DVD / CD						

World Headquarter: BK Medical • Mileparken 34 • DK-2730 Herlev • Denmark • Fax: +45 4452 8199 • Tel: +45 4452 8100 • bkultrasound.com

11.1

Connectivity	Pass	Adjusted	Comments:
External monitor			
~~Picture in Picture~~			
~~Video input~~			
Video output			
~~Sony printing~~			
~~Office printing~~			
~~Remote control~~			

Connectivity	Pass	Adjusted	Comments:
~~Dicom~~			
~~Variseed / Vitesse~~			
~~Histoscanning~~			
~~Dornier~~			
~~Network Drive~~			

~~Transducer Type & Serial number.~~	Visual Check		Functional Test*		Button Test		Pressure Test		Comments:
	☐P	☐F	☐P	☐F	☐P	☐F	☐P	☐F	
	☐P	☐F	☐P	☐F	☐P	☐F	☐P	☐F	
	☐P	☐F	☐P	☐F	☐P	☐F	☐P	☐F	
	☐P	☐F	☐P	☐F	☐P	☐F	☐P	☐F	
	☐P	☐F	☐P	☐F	☐P	☐F	☐P	☐F	

*B-mode, M-Mode, Doppler/power mode, and crystal movement when available.

Electrical Safety Test Record			
Performed by:		Performed date:	
Comments:			

Software handling	Pass	Comments:
Check Hard disk		
Defragment Hard disk		
Check Log files		
Clean up		

Upgrades	Done	New versions				Comments:
~~Hotline upgrades~~						
~~Software patches~~						
~~Software upgrades~~						

~~Overall~~					
~~Performed by:~~				~~Signature:~~	
~~Date:~~		~~Start Time:~~		~~End time:~~	
~~Comments:~~					

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
11.2	Fans function.		☐	☐	_____
11.3	IP address Port number	_____ _____	_____		
11.4	Delay	ON: ___ s (100s) OFF: ___s (30s)	☐ ☐	☐ ☐	_____
11.5	Offset	X: _____ Y: _____	_____		
11.6	Size	X: _____ Y: _____	_____		
11.7	Ultrasound imaging appears		☐	☐	_____
11.8	Yellow box		☐	☐	_____
11.9	Active area		☐	☐	_____
11.10	Exclusion circle coordinates	X: ___ mm Y: ___ mm Radius: ___ mm	_____		
11.11	Screen image is correctly oriented		☐	☐	_____
11.12	Date and time are correct.		☐	☐	_____
Parameter checking		Ultraview / EB2300			
11.13	Size	(75%)	☐	☐	_____
	Dyn Range	(62dB)	☐	☐	_____
	Pers	(1)	☐	☐	_____
	Resolution:	Only 1 focal point at 25mm.	☐	☐	_____
	Depth	(7.8 or 8cm)	☐	☐	_____
	Frequency	(7.5MHz)	☐	☐	_____
	Imaging cell	(6030) / (X12C3E)	☐	☐	_____
	Mi	(1.39/1.50) / (1.2/1.2)	☐	☐	_____
	Gain	(50%)	☐	☐	_____
	TIS	(0.3/4.0Hz)	☐	☐	_____

12. PROBE PARAMETERS.						
12.1	Probe serial number	_____	_____			
N°§	CONTROL	VALUE	PASS	FAIL	N/A	COMMENTS
12.2	Power connector VPC.		☐	☐		_____
12.3	Ultrasound connector.		☐	☐		_____
12.4	Probe adapts correctly.		☐	☐		_____
12.5	Holding pin.		☐	☐		_____
12.6	Luer connections.		☐	☐		_____
12.7	Correspondence between software and data sheet.		☐	☐		_____
12.8	Record “Installation date”.	___	☐	☐		_____
12.9	Total number of shots.	___	☐	☐		_____
12.10	Total number of treatments.	___	☐	☐		_____
12.11	Last maintenance date.	___	☐	☐	☐	_____
12.12	Nb of Shots since last maintenance.	___	☐	☐	☐	_____
12.13	Nb of Treatments since last maintenance.	___	☐	☐	☐	_____
12.14	“Calibration state” is “Done”.		☐	☐		_____

13. POWER

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
13.1	Record amplifier serial number	_____	☐	☐	_____
13.2	Record COM number	_____	☐	☐	_____
13.3	Fans consumption	___ A (2.37A - 2.63A)	☐	☐	_____
13.4	All wires are connected.		☐	☐	_____
13.5	Writes totals values on this table.				

Firing number	Focal	Watts per channel	Total of watts	Total of Watts into "Pact_Load (W)" columns
1	32	1	16	_____
2	37	2	32	_____
3	42	3	48	_____
4	47	4	64	_____
5	52	5	80	_____
6	57	6	96	_____
7	62	7	112	_____
8	67	8	128	_____
9	72	9	144	_____
10	NAT	10	160	_____

13.6	Shoots are into tolerances. There is no red values		☐	☐	_____

14. 3D MEASUREMENT AND RECTUM WALL SIMULATION WITH DUMMY LOAD

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
14.1	X real X measured	___ mm ___ mm(<2 mm)	☐	☐	_____
14.2	Y real Y measured	___ mm ___ mm(<2 mm)	☐	☐	_____
14.3	Z real Z measured	___ mm ___ mm(<2 mm)	☐	☐	_____
14.4	Software detects rectum automatically.		☐	☐	_____
14.5	Transverse corrections occur.		☐	☐	_____
14.6	Treatment doesn't stop after correction.		☐	☐	_____
14.7	Software gives error message.		☐	☐	_____

15. TREATMENT SIMULATION.					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
15.1	Initialization done without message		☐	☐	
15.2	Motors centering done		☐	☐	
15.3	Fusion test		☐	☐	
For the 4 first Block					
15.4	Treatment area is correctly defined.		☐	☐	
15.5	Lesions are correctly displayed.		☐	☐	
15.6	Endo-rectal probe moves to the next slice.		☐	☐	
15.7	Localization process is successfully completed.		☐	☐	
15.8	Endo-rectal probe moves from lesion to lesion.		☐	☐	
15.9	Treatment area is successfully completed.		☐	☐	
For the 4 last Block					
15.10	Treatment area is correctly defined.		☐	☐	
15.11	Lesions are correctly displayed.		☐	☐	
15.12	Endo-rectal probe moves to the next slice.		☐	☐	
15.13	Localization process is successfully completed.		☐	☐	
15.14	Endo-rectal probe moves from lesion to lesion.		☐	☐	
15.15	Treatment area is successfully completed.		☐	☐	
For the end of treatment					
15.16	Print treatment report.		☐	☐	
15.17	Treatment duration		_____		

DISCONNECT THE MAIN PROBE AND CONNECT THE SECOND PROBE IF IT IS AVAILABLE.

IF NOT, TICK THIS BOX: ☐.

THEN PERFORM THE SAME TESTS AS PREVIOUSLY.

12. PROBE PARAMETERS.

12.1	Probe serial number	_____	_____			
N°§	CONTROL	VALUE	PASS	FAIL	N/A	COMMENTS
12.2	Power connector VPC.		☐	☐		_____
12.3	Ultrasound connector.		☐	☐		_____
12.4	Probe adapts correctly.		☐	☐		_____
12.5	Holding pin.		☐	☐		_____
12.6	Luer connections.		☐	☐		_____
12.7	Correspondence between software and data sheet.		☐	☐		_____
12.8	Record “Installation date”.	___	☐	☐		_____
12.9	Total number of shots.	___	☐	☐		_____
12.10	Total number of treatments.	___	☐	☐		_____
12.11	Last maintenance date.	___	☐	☐	☐	_____
12.12	Nb of Shots since last maintenance.	___	☐	☐	☐	_____
12.13	Nb of Treatments since last maintenance.	___	☐	☐	☐	_____
12.14	“Calibration state” is “Done”.		☐	☐		_____

13. POWER

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
13.1	Record amplifier serial number	_____	☐	☐	_____
13.2	Record COM number	_____	☐	☐	_____
13.3	Fans consumption	___ A (2.37A - 2.63A)	☐	☐	_____
13.4	All wires are connected.		☐	☐	_____
13.5	Write total values on this table.				

Firing number	Focal	Watts per channel	Total of watts	Total of Watts into "Pact_Load (W)" columns
1	32	1	16	_____
2	37	2	32	_____
3	42	3	48	_____
4	47	4	64	_____
5	52	5	80	_____
6	57	6	96	_____
7	62	7	112	_____
8	67	8	128	_____
9	72	9	144	_____
10	NAT	10	160	_____

13.6	Shoots are into tolerances. There is no red values		☐	☐	_____

14. 3D MEASUREMENT AND RECTUM WALL SIMULATION WITH DUMMY LOAD

N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
14.1	X real X measured	___ mm ___ mm(<2 mm)	☐	☐	_____
14.2	Y real Y measured	___ mm ___ mm(<2 mm)	☐	☐	_____
14.3	Z real Z measured	___ mm ___ mm(<2 mm)	☐	☐	_____
14.4	Software detects rectum automatically.		☐	☐	_____
14.5	Transverse corrections occur.		☐	☐	_____
14.6	Treatment doesn't stop after correction.		☐	☐	_____
14.7	Software gives error message.		☐	☐	_____

15. TREATMENT SIMULATION.					
N°§	CONTROL	VALUE	PASS	FAIL	COMMENTS
15.1	Initialization done without message		☐	☐	
15.2	Motors centering done		☐	☐	
15.3	Fusion test		☐	☐	
For the 4 first Block					
15.4	Treatment area is correctly defined.		☐	☐	
15.5	Lesions are correctly displayed.		☐	☐	
15.6	Endo-rectal probe moves to the next slice.		☐	☐	
15.7	Localization process is successfully completed.		☐	☐	
15.8	Endo-rectal probe moves from lesion to lesion.		☐	☐	
15.9	Treatment area is successfully completed.		☐	☐	
For the 4 last Block					
15.10	Treatment area is correctly defined.		☐	☐	
15.11	Lesions are correctly displayed.		☐	☐	
15.12	Endo-rectal probe moves to the next slice.		☐	☐	
15.13	Localization process is successfully completed.		☐	☐	
15.14	Endo-rectal probe moves from lesion to lesion.		☐	☐	
15.15	Treatment area is successfully completed.		☐	☐	
For the end of treatment					
15.16	Print treatment report.		☐	☐	
15.17	Treatment duration		_____		

16. COMPUTER						
N°§	CONTROL	VALUE	PASS	FAIL	N/A	COMMENTS
16.1	PC screens image		☐	☐		_____
16.2	Free space on HDD	C: ___ (>10GB) D: ___ (>10GB)	☐ ☐	☐ ☐		_____
16.3	Number of patients treated since last maintenance activity.	_____	☐	☐	☐	_____
16.4	Indicate date of last maintenance activity on this machine.	_____	☐	☐	☐	_____
16.5	Defrag analysis.		☐	☐	☐	_____
16.6	Date and time.		☐	☐		_____
16.7	Software version Check		☐	☐		
16.8	Files backup and retrieve		☐	☐	☐	
16.9	Printer test.		☐	☐	☐	
16.10	Back up battery.	___ V	☐	☐	☐	_____
16.11	Clean computer dust filter.		☐	☐		_____

17. ASPECT AND ACCESSORIES					
N°§	CONTROL	PASS	FAIL	N/A	COMMENTS
17.1	Wheels don't touch covers or chassis.	☐	☐		_____
17.2	Panels are in good condition	☐	☐		_____
17.3	Long panels are easily removed.	☐	☐		_____
17.4	Labels are in good condition	☐	☐		_____
17.5	Ground cables are firmly attached to panels.	☐	☐	☐	_____
17.6	Leg holder condition.	☐	☐		_____
17.7	Transport carriage condition.	☐	☐	☐	_____
17.8	Covers condition.	☐	☐		_____
17.9	Maintenance sticker.	☐	☐	☐	_____

18. ELECTRICAL SAFETY TEST					
N°§	CONTROL	PASS	FAIL	N/A	COMMENTS
18.1	All item passed in electrical safety test	☐	☐	☐	_____

19. REPORTING					
N°§	CONTROL	PASS	FAIL	N/A	COMMENTS
19.1	Reporting in Website support	☐	☐	☐	_____

20. DOCUMENTS
List any documents left with customer or local distributor.
_____
_____
_____
_____
_____

Date: __/__/__ Signature: CUSTOMER: _____	Date: __/__/__ Signature: SUPPORT ENGINEER: _____	Date: __/__/__ Signature: SERVICE MANAGER: _____