Table of contents

				tfl_b1map tfl_cb tgse tgse_asl trufi trufi_freqScout tse tse_dixon tse_MDME twist

\\DEFAULT\Sequence Region\Siemens Sequences\Default\AALScout

TA: 51 sec Coil Selection: Auto Voxel Size: 1.8×1.8×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	450 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	20.0 ms
TE	5.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	20.0 ms
TE	5.00 ms
Flip Angle	10 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Time to Center	21.3 s

Resolution - Common

FoV Read	450 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	256
Phase Resolution	50 %
Slice Resolution	100 %
Trajectory	Cartesian

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8

Resolution - Acceleration

Asymmetric Echo	Weak

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	450 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	20.0 ms
Multi-Slice Mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto

System - Adjustments

Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Flip Angle	10 deg
Measurements	1
Time to Center	21.3 s

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	5.00 ms
TR	20.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Inline - MapIt

MapIt	None
Flip Angle	10 deg
Measurements	1
Contrasts	1
TE	5.00 ms
TR	20.0 ms

Inline - MapIt

Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Fast
Gradient Mode	Normal
Bandwidth	540 Hz/Px
Asymmetric Echo	Weak

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\BEAT

TA: 8 sec Coil Selection: Auto Voxel Size: 2.3×2.3×10.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	10.0 mm
TR	200.0 ms
TE	1.87 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	200.0 ms
TE	1.87 ms
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	70 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	10.0 mm
Base Resolution	128
Phase Resolution	96 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	10.0 mm
TR	200.0 ms
Multi-Slice Mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	200.0 ms
Segments	3
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
Trufi Delta Freq.	0.00 Hz
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	96 %
Cine	Off
Trajectory	Cartesian
Dynamic Mode	Standard
Dummy Heartbeats	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Flip Angle	70 deg
Measurements	1
Multiple Series	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. Preparation	None

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.87 ms
TR	200.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tfi
Dimension	2D
Sequence Type	Trufi
Excitation	Slice-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	558 Hz/Px
Echo Spacing	3.74 ms
Asymmetric Echo	Off
Optimization	Min. TE
Define	Segments
Segments	3

Sequence - Part 2

Introduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\BEAT_epi

TA: 8 sec Coil Selection: Auto Voxel Size: 2.3×2.3×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	200.0 ms
TE	1.96 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	200.0 ms
TE	1.96 ms
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	70 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	96 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None

Resolution - Acceleration

Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	200.0 ms
Multi-Slice Mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	200.0 ms
Segments	3
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
Trufi Delta Freq.	0.00 Hz
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	96 %
Cine	Off
Trajectory	Cartesian
Dynamic Mode	Standard
Dummy Heartbeats	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Inline Evaluation	Off
Magn. Preparation	None
Save Original Images	On
TE	1.96 ms
TR	200.0 ms

Inline - MIP

MIP Sag	Off

Inline - MIP

MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tfi
Dimension	2D
Sequence Type	Trufi
Excitation	Slice-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	558 Hz/Px
Echo Spacing	3.92 ms
Asymmetric Echo	Off
Optimization	Min. TE
Define	Segments
Segments	3
EPI Factor	1

Sequence - Part 2

Introduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ciss

TA: 2:48 min Coil Selection: Auto Voxel Size: 2.3×2.3×2.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	10.16 ms
TE	5.08 ms
Averages	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	10.16 ms
TE	5.08 ms
Flip Angle	50 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	128
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	10.16 ms
Multi-Slice Mode	Sequential
Series	Interleaved

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	128 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
TE	5.08 ms
TR	10.16 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	ci
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	130 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\csi_se

TA: 6:56 min Coil Selection: Auto Voxel Size: 7.5×7.5×20.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
FoV R >> L	120 mm
FoV A >> P	120 mm
Thickness F >> H	20 mm
VoI R >> L	60 mm
VoI A >> P	60 mm
TR	1600.0 ms
TE	135.00 ms
Averages	1
Coil Elements	BC

Contrast - Common

TR	1600.0 ms
TE	135.00 ms
Flip Angle	90 deg
Preparation Scans	4
Averages	1
Water Suppression	Water Saturation
Water Suppr. BW	35 Hz
Spectral Suppr.	None
Application	Body

Resolution - Common

FoV A >> P	120 mm
FoV R >> L	120 mm
Thickness F >> H	20 mm
Scan Res. R >> L	16
Scan Res. A >> P	16
Interpol. Res. R >> L	16
Interpol. Res. A >> P	16
Hamming	Off
Dimension	2D
Phase Encoding	Full
Vector Size	1024
Normalize	Off

Geometry - Common

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
FoV A >> P	120 mm
FoV R >> L	120 mm
Thickness F >> H	20 mm

Geometry - Common

VoI A >> P	60 mm
VoI R >> L	60 mm
Fully Excited VoI	Off

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Advanced
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	On

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	60 mm
R >> L	60 mm
F >> H	20 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Common

Sequence Name	csi_se
Preparation Scans	4
Delta Frequency	0.00 ppm
Measurements	1
Dimension	2D
Save Uncombined	Off
Bandwidth	1000 Hz
Acquisition Duration	1024 ms
Remove Oversampling	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\csi_slaser

TA: 6:56 min Coil Selection: Auto Voxel Size: 7.5×7.5×20.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
FoV R >> L	120 mm
FoV A >> P	120 mm
Thickness F >> H	20 mm
VoI R >> L	60 mm
VoI A >> P	60 mm
TR	1600.0 ms
TE	135.00 ms
Averages	1
Coil Elements	BC

Contrast - Common

TR	1600.0 ms
TE	135.00 ms
Flip Angle	90 deg
Preparation Scans	4
Averages	1
Water Suppression	Water Saturation
Water Suppr. BW	35 Hz

Resolution - Common

FoV A >> P	120 mm
FoV R >> L	120 mm
Thickness F >> H	20 mm
Scan Res. R >> L	16
Scan Res. A >> P	16
Interpol. Res. R >> L	16
Interpol. Res. A >> P	16
Hamming	Off
Dimension	2D
Phase Encoding	Full
Vector Size	1024
Normalize	Off

Geometry - Common

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
FoV A >> P	120 mm
FoV R >> L	120 mm
Thickness F >> H	20 mm
VoI A >> P	60 mm
VoI R >> L	60 mm

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Advanced
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	On

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	60 mm
R >> L	60 mm
F >> H	20 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Common

Sequence Name	csislsr
Preparation Scans	4
Delta Frequency	0.00 ppm
Measurements	1
Dimension	2D
Save Uncombined	Off
Bandwidth	1000 Hz
Acquisition Duration	1024 ms
Remove Oversampling	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\csi_st

TA: 6:30 min Coil Selection: Auto Voxel Size: 5.0×5.0×10.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
FoV R >> L	80 mm
FoV A >> P	80 mm
Thickness F >> H	10 mm
VoI R >> L	40 mm
VoI A >> P	40 mm
TR	1500.0 ms
TE	20.00 ms
Averages	1
Coil Elements	BC

Contrast - Common

TR	1500.0 ms
TE	20.00 ms
TM	10.00 ms
Flip Angle	90 deg
Preparation Scans	4
Averages	1
Water Suppression	Water Saturation
Water Suppr. BW	35 Hz

Resolution - Common

FoV A >> P	80 mm
FoV R >> L	80 mm
Thickness F >> H	10 mm
Scan Res. R >> L	16
Scan Res. A >> P	16
Interpol. Res. R >> L	16
Interpol. Res. A >> P	16
Hamming	Off
Dimension	2D
Phase Encoding	Full
Vector Size	1024
Normalize	Off

Geometry - Common

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
FoV A >> P	80 mm
FoV R >> L	80 mm
Thickness F >> H	10 mm
VoI A >> P	40 mm

Geometry - Common

VoI R >> L	40 mm

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Advanced
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	On

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	40 mm
R >> L	40 mm
F >> H	10 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Common

Sequence Name	csi_st
Preparation Scans	4
Delta Frequency	0.00 ppm
Measurements	1
Dimension	2D
Save Uncombined	Off
Bandwidth	1000 Hz
Acquisition Duration	1024 ms
Remove Oversampling	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\CV_nav

TA: 8 sec Coil Selection: Auto Voxel Size: 2.3×2.3×10.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	10.0 mm
TR	200.0 ms
TE	1.87 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	200.0 ms
TE	1.87 ms
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	70 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	10.0 mm
Base Resolution	128
Phase Resolution	96 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	10.0 mm
TR	200.0 ms
Multi-Slice Mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
Base Size Phase	400 mm
Base Size Read	400 mm
Thickness	10 mm
Navigator	2
Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
Base Size Phase	400 mm
Base Size Read	400 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None

Geometry - Inversion

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	200.0 ms
Segments	3
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
Trufi Delta Freq.	0.00 Hz
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	96 %
Cine	Off
Trajectory	Cartesian
Dynamic Mode	Standard
Dummy Heartbeats	1

Physio - PACE

Resp. Control	Gate & Follow

Physio - PACE

Scout Mode	Off
Scout Duration	19 s
Scout TR	100 ms
Accept Window ±	4.00 mm
Accept Position (green)	128.00 mm
Search Window ±	32.00 mm
Search Position (red)	128.00 mm
Tracking Factor	0.60
Chronologic Position	Before Echo
RF Pulse Type	Crossed Pair
Resp. Motion Adaptation	On
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Flip Angle	70 deg
Measurements	1
Multiple Series	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	1.87 ms
TR	200.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tfi
Dimension	2D
Sequence Type	Trufi
Excitation	Slice-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	558 Hz/Px
Echo Spacing	3.74 ms
Asymmetric Echo	Off
Optimization	Min. TE
Define	Segments
Segments	3

Sequence - Part 2

Introduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\dess

TA: 27:20 min Coil Selection: Auto Voxel Size: 2.3×2.3×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	200.00 ms
TE	25.00 ms
Averages	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	200.00 ms
TE	25.00 ms
Flip Angle	30 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	128
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	200.00 ms
Multi-Slice Mode	Sequential
Series	Interleaved

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	128 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
TE	25.00 ms
TR	200.00 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	de
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	130 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep2d_asl

TA: 1:47 min Coil Selection: Auto Voxel Size: 7.8×7.8×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	2
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	5000.0 ms
TE	52.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	5000.0 ms
TE	52.00 ms
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Weak
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	21
Multiple Series	Off
Delay in TR	0.00 ms

Contrast - ASL

Perfusion Mode	PICORE Q2T
Quality check	On
Bolus Duration	700.00 ms
Inversion Time	1800.00 ms
Flow Limit	100.00 cm/s

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	64
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	2
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	5000.0 ms
Multi-Slice Mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	Parallel F
Gap	25.00 mm
Thickness	100.00 mm

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	13 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	5000.0 ms
Concatenations	1

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.40 ms
Free Echo Spacing	Off
EPI Factor	64

Sequence - Part 2

Introduction	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep2d_bold

TA: 7 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	219.0 ms
TE	96.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	219.0 ms
TE	96.00 ms
MTC	Off
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	20
Delay in TR	0.00 ms

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off

Resolution - Filter

Hamming	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	219.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	219.0 ms
Concatenations	1

BOLD

GLM Statistics	On
Ignore Meas. at Start	0
Ignore After Transition	0
Model Transition States	On
Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	20
Meas[1]	Active
Meas[2]	Active
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Ignore
Meas[12]	Ignore
Meas[13]	Ignore
Meas[14]	Ignore
Meas[15]	Ignore
Meas[16]	Ignore
Meas[17]	Ignore
Meas[18]	Ignore
Meas[19]	Ignore
Meas[20]	Ignore
Motion Correction	On
Spatial Filter	Off
Measurements	20
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.38 ms
Free Echo Spacing	Off
EPI Factor	128

Sequence - Part 2

Introduction	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep2d_diff

TA: 1 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	500.0 ms
TE	200.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	500.0 ms
TE	200.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	Fat Saturation
Fat Saturation	Weak
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Delay in TR	0.00 ms

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	6/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D

Resolution - Filter

Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	500.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	500.0 ms
Concatenations	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Diff

Diffusion Mode	Read
Diff. Directions	1
Diffusion Scheme	Bipolar
Diff. Weightings	1
b-value	0 s/mm²
Averages	1
Dynamic Field Correction	Off
Invert Gray Scale	Off
Diff. Weighted Images	On
Trace Weighted Images	Off
Tensor	Off
FA Maps	Off
ADC Maps	Off
Exponential ADC Maps	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.38 ms
Free Echo Spacing	Off
Optimization	None
EPI Factor	128

Sequence - Part 2

Introduction	Off
Phase Correction	Internal

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep2d_fid

TA: 6 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	199.0 ms
TE	96.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	199.0 ms
TE	96.00 ms
MTC	Off
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	15
Multiple Series	Off
Delay in TR	0.00 ms

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off

Resolution - Filter

Elliptical Filter	Off
Hamming	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	199.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	199.0 ms
Concatenations	1

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.38 ms
Free Echo Spacing	Off
EPI Factor	128

Sequence - Part 2

Introduction	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep2d_pace

TA: 7 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	219.0 ms
TE	96.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	219.0 ms
TE	96.00 ms
MTC	Off
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	20
Delay in TR	0.00 ms

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off

Resolution - Filter

Hamming	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	219.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	219.0 ms
Concatenations	1

BOLD

GLM Statistics	On
Ignore Meas. at Start	0
Ignore After Transition	0
Model Transition States	On
Temp. Highpass Filter	On
Threshold	4.00
Paradigm Size	20
Meas[1]	Active
Meas[2]	Active
Meas[3]	Active
Meas[4]	Active
Meas[5]	Active
Meas[6]	Active
Meas[7]	Active
Meas[8]	Active
Meas[9]	Active
Meas[10]	Active
Meas[11]	Ignore
Meas[12]	Ignore
Meas[13]	Ignore
Meas[14]	Ignore
Meas[15]	Ignore
Meas[16]	Ignore
Meas[17]	Ignore
Meas[18]	Ignore
Meas[19]	Ignore
Meas[20]	Ignore
Motion Correction	On
Spatial Filter	Off
Measurements	20
Delay in TR	0.00 ms

Sequence - Part 1

Sequence Name	epfid
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.38 ms
Free Echo Spacing	Off
EPI Factor	128

Sequence - Part 2

Introduction	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep2d_se

TA: 1 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	286.0 ms
TE	183.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	286.0 ms
TE	183.00 ms
MTC	Off
Magn. Preparation	None
Fat-Water Contrast	Fat Saturation
Fat Saturation	Weak
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off
Delay in TR	0.00 ms

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	286.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never

System - Adjustments

Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	286.0 ms
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	183.00 ms
TR	286.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	epse
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.38 ms
Free Echo Spacing	Off
EPI Factor	128

Sequence - Part 2

Introduction	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep_seg_fid

TA: 3 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	24.0 ms
TE	5.20 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	24.0 ms
TE	5.20 ms
MTC	Off
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	98 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off

Resolution - Filter

Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	24.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	24.0 ms
Concatenations	1

Sequence - Part 1

Sequence Name	epfid
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.56 ms
Free Echo Spacing	Off
EPI Factor	3

Sequence - Part 2

Introduction	Off
RF Spoiling	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\ep_seg_se

TA: 3 sec Coil Selection: Auto Voxel Size: 3.9×3.9×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	29.0 ms
TE	9.50 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	29.0 ms
TE	9.50 ms
MTC	Off
Magn. Preparation	None
Flip Angle	90 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	98 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off

Resolution - Filter

Hamming	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	500 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	29.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	29.0 ms
Concatenations	1

Sequence - Part 1

Sequence Name	epse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	752 Hz/Px
Echo Spacing	1.56 ms
Free Echo Spacing	Off
EPI Factor	3

Sequence - Part 2

Introduction	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\FastView

TA: 11 sec Coil Selection: Auto Voxel Size: 5.0×5.0×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	100 %
Position	L0.0 A33.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
FoV Read	480 mm
FoV Phase	87.5 %
Slice Thickness	5.0 mm
TR	2.6 ms
TE	1.44 ms
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	2.6 ms
TE	1.44 ms
Fat-Water Contrast	Standard

Contrast - Dynamic

Dynamic Mode	Standard

Resolution - Common

FoV Read	480 mm
FoV Phase	87.5 %
Slice Thickness	5.0 mm
Base Resolution	96
Phase Resolution	100 %

Resolution - Acceleration

Phase Partial Fourier	6/8

Resolution - Filter

Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	100 %
Position	L0.0 A33.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
FoV Read	480 mm
FoV Phase	87.5 %
Slice Thickness	5.0 mm

Geometry - Common

TR	2.6 ms

Geometry - AutoAlign

Slice Group	1
Position	L0.0 A33.0 H0.0 mm
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - FastView

Range Start	0 mm
Range Start	H
Total FoV	500 mm
Total FoV	H >> F
Slices	1
Slice Thickness	5.0 mm
Distance Factor	100 %
FoV Read	480 mm
FoV Phase	87.5 %
Table Speed	46.00 mm/s
FastView Adjustments	Off

Geometry - Tim Planning Suite

Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
Adjustment Tolerance	Maximum
Adjust with Body Coil	On
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	Off
FastView Adjustments	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	flct
Dimension	2D
Bandwidth	801 Hz/Px

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fast_tse

TA: 1:53 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	11.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	11.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	98 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	98 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	11.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On

Inline - MIP

MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	ftse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	130 Hz/Px
Echo Spacing	11.0 ms
Define	Turbo Factor
Turbo Factor	7
Echo Trains per Slice	36

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
Hyperecho	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fid

TA: 3 sec Coil Selection: Auto Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

TR	1500.0 ms
TE	0.35 ms
Averages	2
Coil Elements	BC

Contrast - Common

TR	1500.0 ms
TE	0.35 ms
Flip Angle	90 deg
Preparation Scans	0
Averages	2
Water Suppression	Water Saturation
Water Suppr. BW	35 Hz

Resolution - Common

Vector Size	512
Normalize	Off

Geometry - AutoAlign

Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	On

System - Adjust Volume

Position	Isocenter

System - Adjust Volume

Orientation	Transversal
Rotation	0.00 deg
A >> P	500 mm
R >> L	500 mm
F >> H	500 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	1500.0 ms

Sequence - Common

Sequence Name	fid
Preparation Scans	0
Measurements	1
Phase Cycling	Two Step
Save Uncombined	Off
Acquisition Delay	0.10 ms
Bandwidth	1000 Hz
Acquisition Duration	512 ms
Remove Oversampling	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fl3d_ce

TA: 8 sec Coil Selection: Auto Voxel Size: 2.3×2.3×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	3.05 ms
TE	1.00 ms
Averages	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3.05 ms
TE	1.00 ms
Magn. Preparation	None
Flip Angle	25 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	3.2 s

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	128
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	6/8

Resolution - Acceleration

Slice Partial Fourier	6/8
Asymmetric Echo	Allowed
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	3.05 ms
Multi-Slice Mode	Sequential
Series	Ascending

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Maximum
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3.05 ms
Segments	1

Angio - Dynamic

Dynamic Mode	Standard
Flip Angle	25 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	3.2 s

Angio - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Motion Correction	None
Save Original Images	On

Angio - Cardiac

Magn. Preparation	None
Motion Correction	None
Save Original Images	On
TE	1.00 ms
TR	3.05 ms

Angio - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Angio - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	490 Hz/Px
Asymmetric Echo	Allowed
Optimization	Min. TE TR
Segments	1

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Phase Enc. Rewinder	On
Motion Correction	None

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE TR

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fl3d_rd

TA: 1:08:20 h Coil Selection: Auto Voxel Size: 0.9×0.9×4.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	500.0 ms
TE	27.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	500.0 ms
TE	27.00 ms
MTC	Off
Flip Angle	15 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	256
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off
Slice Partial Fourier	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	500.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto

System - Adjustments

Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
TE	27.00 ms
TR	500.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	fl_rd
Dimension	3D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	On
Bandwidth	108 Hz/Px

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fl3d_vibe

TA: 1:07 min Coil Selection: Auto Voxel Size: 2.3×2.3×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	20.0 ms
TE	1.17 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	20.0 ms
TE	1.17 ms
Flip Angle	10 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	26.9 s
Burn Time to Center	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	128
Phase Resolution	100 %
Slice Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Slice Partial Fourier	6/8
Asymmetric Echo	Weak
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	20.0 ms
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine

System - Miscellaneous

Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Dynamic

Dynamic Mode	Standard
Temporal Interpolation	1
Flip Angle	10 deg
Measurements	1
Multiple Series	Each Measurement
3D Reordering	Standard
Time to Center	26.9 s
Burn Time to Center	Off

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
Contrasts	1
TE	1.17 ms
TR	20.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off

Inline - MIP

Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Soft Tissue

Wash-in	Off
Wash-out	Off
TTP	Off
PEI	Off
MIP Time	Off
Measurements	1

Inline - Composing

Inline Composing	Off

Inline - MapIt

MapIt	None
Flip Angle	10 deg
Measurements	1
Contrasts	1
TE	1.17 ms
TR	20.0 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	490 Hz/Px
Asymmetric Echo	Weak
Optimization	Min. TE

Sequence - Part 2

Introduction	Off
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fl_pc

TA: 40 sec Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	150.0 ms
TE	10.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	150.0 ms
TE	10.00 ms
Flip Angle	15 deg
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off

Resolution - Filter

Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	150.0 ms
Multi-Slice Mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	150.0 ms
Segments	1
Concatenations	1

Angio - Common

Flow Mode	Single Dir.
Encodings	1
Velocity Enc.	90 cm/s
Direction	Through Plane
Rephased Images	On
Magnitude Images	On
Magnitude Sum	Off
Phase Images	On

Angio - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Angio - Cardiac

Save Original Images	On
Contrasts	1
TE	10.00 ms
TR	150.0 ms

Angio - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Angio - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	pc
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None

Sequence - Part 1

Bandwidth	260 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fl_peri_tof

TA: 27 sec Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	100.0 ms
TE	10.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	100.0 ms
TE	10.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	30 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	100.0 ms
Multi-Slice Mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never

System - Adjustments

Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	100.0 ms
Segments	1
Concatenations	1

Angio - Dynamic

Dynamic Mode	Standard
MTC	Off
Flip Angle	30 deg
Measurements	1
Multiple Series	Each Measurement

Angio - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Angio - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	10.00 ms
TR	100.0 ms

Angio - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Angio - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	fl_r
Gradient Mode	Fast
Flow Compensation	On
Bandwidth	260 Hz/Px

Sequence - Part 1

Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	On
RF Spoiling	On
Phase Stabilisation	Off

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\fl_tof

TA: 1:52 min Coil Selection: Auto Voxel Size: 1.2×1.2×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	-50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	21.0 ms
TE	10.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	21.0 ms
TE	10.00 ms
MTC	Off
Flip Angle	20 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
3D Reordering	Standard

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	256
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	6/8

Resolution - Acceleration

Slice Partial Fourier	6/8
Asymmetric Echo	Allowed
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	-50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	21.0 ms
Multi-Slice Mode	Sequential
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Angio - Dynamic

Dynamic Mode	Standard
MTC	Off
Flow Direction	H >> F
TONE Ramp	70 %
Flip Angle	20 deg
Measurements	1
3D Reordering	Standard

Angio - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Angio - Cardiac

Save Original Images	On
Contrasts	1
TE	10.00 ms
TR	21.0 ms

Angio - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Angio - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	fl_r
Dimension	3D
Excitation	TONE

Sequence - Part 1

Gradient Mode	Fast
Flow Compensation	On
Bandwidth	78 Hz/Px
Asymmetric Echo	Allowed

Sequence - Part 2

Introduction	Off
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\gre

TA: 14 sec Coil Selection: Auto Voxel Size: 2.3×2.3×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	100.0 ms
TE	10.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	100.0 ms
TE	10.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	25 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
SWI	Off
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Acceleration

Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	100.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Saturation Mode	Standard
Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up

System - Adjustments

B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	100.0 ms
Segments	1
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	10.00 ms
TR	100.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off

Inline - MIP

MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Soft Tissue

Wash-in	Off
Wash-out	Off
TTP	Off
PEI	Off
MIP Time	Off
Measurements	1

Inline - Composing

Inline Composing	Off

Inline - MapIt

MapIt	None
Flip Angle	25 deg
Measurements	1
Contrasts	1
TE	10.00 ms
TR	100.0 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	fl
Dimension	2D
Excitation	Slice-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	260 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	On
RF Spoiling	On
Acoustic noise reduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\gre_field_mapping

TA: 4:20 min Coil Selection: Auto Voxel Size: 2.3×2.3×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	1000.0 ms
TE 1	10.00 ms
TE 2	12.46 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	1000.0 ms
TE 1	10.00 ms
TE 2	12.46 ms
MTC	Off
Flip Angle	90 deg
Fat-Water Contrast	Standard
Contrasts	2
Reconstruction	Phase

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	1000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never

System - Adjustments

Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	fm_r
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	On
Bandwidth	260 Hz/Px
Asymmetric Echo	Off

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\haste

TA: 5 sec Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	68.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	68.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	4/8

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Single Shot
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto

System - Adjustments

Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	68.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	h
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	195 Hz/Px
Echo Spacing	8.46 ms
Turbo Factor	256

Sequence - Part 2

Introduction	On
Hyperecho	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\medic

TA: 2:10 min Coil Selection: Auto Voxel Size: 0.9×0.9×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	500.0 ms
TE	27.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	500.0 ms
TE	27.00 ms
MTC	Off
Flip Angle	30 deg
Fat-Water Contrast	Standard
Combined Echoes	6
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off

Resolution - Common

FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off

Resolution - Filter

Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	500.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	230 mm
R >> L	230 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	500.0 ms
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Save Original Images	On
TE	27.00 ms
TR	500.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	me_r
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	On
Bandwidth	391 Hz/Px

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\petra

TA: 2:12 min Coil Selection: Auto Voxel Size: 1.2×1.2×1.2 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Slices per Slab	256
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	1.2 mm
TR 1	5.0 ms
TE	0.07 ms
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR 1	5.0 ms
TE	0.07 ms
Magn. Preparation	None
Flip Angle	6 deg
Fat-Water Contrast	Standard
Contrasts	1

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	1.2 mm
Base Resolution	256
Radial Views	25000

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal

Geometry - Common

Slices per Slab	256
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	1.2 mm
TR 1	5.0 ms

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	Petra
Dimension	3D
Gradient Mode	Whisper
Bandwidth	399 Hz/Px

Sequence - Part 2

Introduction	Off
Acoustic noise reduction	On

\\DEFAULT\Sequence Region\Siemens Sequences\Default\psif

TA: 27:20 min Coil Selection: Auto Voxel Size: 2.3×2.3×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	200.00 ms
TE	5.53 ms
Averages	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	200.00 ms
TE	5.53 ms
Flip Angle	30 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	128
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Slice Partial Fourier	Off
Asymmetric Echo	Off
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	200.00 ms
Multi-Slice Mode	Sequential
Series	Interleaved

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	128 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - PACE

Resp. Control	Off

Diff

Diffusion Mode	None

Sequence - Part 1

Sequence Name	ps_rr
Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	Read
Bandwidth	130 Hz/Px
Asymmetric Echo	Off
Optimization	Min. TE
Segments	1

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\qDWI

TA: 38 sec Coil Selection: Auto Voxel Size: 1.0×1.0×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	5
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE 1	261.00 ms
TE 2	460.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE 1	261.00 ms
TE 2	460.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1

Resolution - Common

FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	192
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Accel. Mode	None
Phase Partial Fourier	Off
Readout Segments	7

Resolution - Filter

Raw Filter	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	5
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	35 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Diff

Diffusion Mode	Read
Diff. Directions	1
Diffusion Scheme	Bipolar
Diff. Weightings	1
b-value	0 s/mm²
Averages	1
Invert Gray Scale	Off
Diff. Weighted Images	On
Trace Weighted Images	Off
Tensor	Off
FA Maps	Off
ADC Maps	Off
Exponential ADC Maps	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	qDWI
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	213 Hz/Px
Echo Spacing	1.00 ms
Optimization	Min. TE
EPI Factor	192

Sequence - Part 2

Introduction	On
Acoustic noise reduction	On
Reacquisition Mode	On

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\resolve

TA: 26 sec Coil Selection: Auto Voxel Size: 1.0×1.0×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	5
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	2000.0 ms
TE 1	114.00 ms
TE 2	190.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	2000.0 ms
TE 1	114.00 ms
TE 2	190.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Contrasts	2
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1

Resolution - Common

FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	192
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Accel. Mode	None
Phase Partial Fourier	Off
Readout Partial Fourier	Off

Resolution - Acceleration

Readout Segments	7

Resolution - Filter

Raw Filter	Off
Distortion Correction	2D
Normalize	Off

Geometry - Common

Slice Group	1
Slices	5
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	200 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	2000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off

System - Adjustments

Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	200 mm
R >> L	200 mm
F >> H	35 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	1

Diff

Diffusion Mode	Read
Diff. Directions	1
Diffusion Scheme	Bipolar
Diff. Weightings	1
b-value	0 s/mm²
Averages	1
Invert Gray Scale	Off
Diff. Weighted Images	On
Trace Weighted Images	Off
Tensor	Off
FA Maps	Off
ADC Maps	Off
Exponential ADC Maps	Off
Calculated Image	Off

Sequence - Part 1

Sequence Name	resolve
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	620 Hz/Px
Echo Spacing	0.36 ms
Optimization	Min. TE
EPI Factor	192

Sequence - Part 2

Introduction	On
Reacquisition Mode	On

Sequence - Assistant

SAR Assistant	Off
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\se

TA: 12:53 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	25.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	25.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle 1	90 deg
Flip Angle 2	180 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Blood Suppression	Off
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Acceleration

Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm

System - Adjustments

Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	25.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	se
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	130 Hz/Px
Asymmetric Echo	Off

Sequence - Part 2

Introduction	On
Acoustic noise reduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\semac

TA: 27:29 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	10.00 ms
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	10.00 ms
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D

Resolution - Filter

Normalize	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	0 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter

System - Adjust Volume

Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Sequence - Part 1

Sequence Name	tseS
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	199 Hz/Px
Echo Spacing	10.04 ms
Turbo Factor	7

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
WARP	On
VAT	100 %
SEMAC	15
SAR Optimization	Automatic

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\se_15b130

TA: 1:20 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	300.0 ms
TE	15.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	300.0 ms
TE	15.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	90 deg
Fat-Water Contrast	Standard
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off

Resolution - Filter

Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	300.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	300.0 ms
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	15.00 ms
TR	300.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	se
Dimension	2D
Bandwidth	130 Hz/Px

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\se_17rb130

TA: 1:20 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	300.0 ms
TE	17.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	300.0 ms
TE	17.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle 1	90 deg
Flip Angle 2	180 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off

Resolution - Filter

Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	300.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	300.0 ms
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	17.00 ms
TR	300.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	se_r
Flow Compensation	On
Bandwidth	130 Hz/Px

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\se_mc

TA: 12:53 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	100 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	13.20 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	13.20 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	100 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never

System - Adjustments

Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Inline - Liver

Liver Registration	Off
Save Original Images	On

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	13.20 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Inline - MapIt

MapIt	None
Flip Angle	180 deg
Measurements	1
Contrasts	1
TE	13.20 ms
TR	3000.0 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	se
RF Pulse Type	Low SAR
Gradient Mode	Fast
Bandwidth	130 Hz/Px

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\space

TA: 6:47 min Coil Selection: Auto Voxel Size: 1.2×1.2×3.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.00 mm
TR	3000.0 ms
TE	122.00 ms
Averages	1.0
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	122.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle Mode	T2 Var
Fat-Water Contrast	Standard
Dark Blood	Off
Blood Suppression	Off
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.00 mm
Base Resolution	256
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Allowed
Slice Partial Fourier	Off
Elliptical Scanning	On

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.00 mm
TR	3000.0 ms
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
Trigger Delay	0 ms
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	122.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off

Inline - MIP

MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	spc
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Reordering	Linear
Bandwidth	501 Hz/Px
Echo Spacing	3.92 ms
Turbo Factor	96
Echo Train Duration	306 ms

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\space_nav

TA: 6:45 min Coil Selection: Auto Voxel Size: 1.2×1.2×3.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.00 mm
TR	3000.0 ms
TE	122.00 ms
Averages	1.0
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	122.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle Mode	T2 Var
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.00 mm
Base Resolution	256
Phase Resolution	100 %
Slice Resolution	100 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Allowed
Slice Partial Fourier	Off
Elliptical Scanning	On

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	64
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	3.00 mm
TR	3000.0 ms
Multi-Slice Mode	Sequential
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Navigator	1
Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
Base Size Phase	400 mm
Base Size Read	400 mm
Thickness	10 mm
Navigator	2
Position	Isocenter
Orientation	Sagittal
Rotation	0.00 deg
Base Size Phase	400 mm
Base Size Read	400 mm
Thickness	10 mm

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Gate & Follow
Scout Mode	Off
Scout Duration	19 s
Scout TR	100 ms
Accept Window ±	4.00 mm
Accept Position (green)	128.00 mm
Search Window ±	32.00 mm
Search Position (red)	128.00 mm

Physio - PACE

Tracking Factor	0.60
Chronologic Position	Before Echo
RF Pulse Type	Crossed Pair
Resp. Motion Adaptation	On
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	122.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	spc
Dimension	3D
Excitation	Non-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Reordering	Linear
Bandwidth	501 Hz/Px
Echo Spacing	3.92 ms
Turbo Factor	96
Echo Train Duration	306 ms

Sequence - Part 2

Introduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\svs_se

TA: 1:42 min Coil Selection: Auto Vol: 20 ×20 ×20 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
Vol R >> L	20 mm
Vol A >> P	20 mm
Vol F >> H	20 mm
TR	1500.0 ms
TE	135.00 ms
Averages	64
Coil Elements	BC

Contrast - Common

TR	1500.0 ms
TE	135.00 ms
Flip Angle	90 deg
Preparation Scans	4
Averages	64
Water Suppression	Water Saturation
Water Suppr. BW	35 Hz
Spectral Suppr.	None

Resolution - Common

Vector Size	512
Normalize	Off

Geometry - Common

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
Vol A >> P	20 mm
Vol R >> L	20 mm
Vol F >> H	20 mm

Geometry - AutoAlign

AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Advanced
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	On

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	20 mm
R >> L	20 mm
F >> H	20 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	1500.0 ms

Physio - PACE

Resp. Control	Off

Sequence - Common

Sequence Name	svs_se
Preparation Scans	4
Delta Frequency	0.00 ppm
Ref. Scan Mode	Off
Measurements	1
Phase Cycling	Auto
Save Uncombined	Off
Bandwidth	1000 Hz
Acquisition Duration	512 ms
Remove Oversampling	On
Freq. Corr. Accumulation	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\svs_st

TA: 1:42 min Coil Selection: Auto VoI: 20 ×20 ×20 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
VoI R >> L	20 mm
VoI A >> P	20 mm
VoI F >> H	20 mm
TR	1500.0 ms
TE	136.00 ms
Averages	64
Coil Elements	BC

Contrast - Common

TR	1500.0 ms
TE	136.00 ms
TM	10.00 ms
Flip Angle	90 deg
Preparation Scans	4
Averages	64
Water Suppression	Water Saturation
Water Suppr. BW	35 Hz

Resolution - Common

Vector Size	1024
Normalize	Off

Geometry - Common

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
VoI A >> P	20 mm
VoI R >> L	20 mm
VoI F >> H	20 mm

Geometry - AutoAlign

AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T

System - Miscellaneous

Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Advanced
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off
Adj. Water Suppr.	On

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	20 mm
R >> L	20 mm
F >> H	20 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Image Scaling	1.000

Sequence - Common

Sequence Name	svs_st
Preparation Scans	4
Delta Frequency	0.00 ppm
Ref. Scan Mode	Off
Measurements	1
Phase Cycling	Auto
Save Uncombined	Off
Bandwidth	1200 Hz
Acquisition Duration	853 ms
Remove Oversampling	On
Freq. Corr. Accumulation	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tfl

TA: 4 sec Coil Selection: Auto Voxel Size: 4.7×4.7×8.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
TR	2000.0 ms
TE	1.20 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	2000.0 ms
TE	1.20 ms
Magn. Preparation	Slice-sel. IR
TI	300 ms
Flip Angle	8 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
Base Resolution	64
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Allowed

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
TR	2000.0 ms
Multi-Slice Mode	Single Shot
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	Slice-sel. IR
TI	300 ms
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	Slice-sel. IR
Save Original Images	On
TE	1.20 ms
TR	2000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Inline - MapIt

MapIt	None
Flip Angle	8 deg

Inline - MapIt

Measurements	1
TE	1.20 ms
TR	2000.0 ms
Save Original Images	On

Sequence - Part 1

Sequence Name	tfl
Dimension	2D
Excitation	Slice-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	490 Hz/Px
Echo Spacing	2.84 ms
Asymmetric Echo	Allowed
Turbo Factor	64

Sequence - Part 2

Introduction	On
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tfl_b1map

TA: 12 sec Coil Selection: Auto Voxel Size: 4.7×4.7×8.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	100 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
TR	5000.0 ms
TE	1.83 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	5000.0 ms
TE	1.83 ms
Magn. Preparation	None
Flip Angle	8 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
Base Resolution	64
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Allowed

Resolution - Filter

Raw Filter	Off

Resolution - Filter

Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	100 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
TR	5000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter

System - Adjust Volume

Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	1.83 ms
TR	5000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tfl
Dimension	2D
Excitation	Slice-sel.
RF Pulse Type	Low SAR
Gradient Mode	Normal
Flow Compensation	None
Bandwidth	490 Hz/Px
Echo Spacing	4.12 ms
Asymmetric Echo	Allowed
Turbo Factor	64

Sequence - Part 2

Introduction	On
RF Spoiling	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tfl_cb

TA: 4 sec Coil Selection: Auto Voxel Size: 4.7×4.7×8.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
TR	2000.0 ms
TE	1.17 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	2000.0 ms
TE	1.17 ms
Magn. Preparation	Slice-sel. IR
TI	500 ms
Flip Angle	8 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
Base Resolution	64
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off
Asymmetric Echo	Allowed

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	8.0 mm
TR	2000.0 ms
Multi-Slice Mode	Single Shot
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	2000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	Slice-sel. IR
TI	500 ms
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	100 %
Dynamic Mode	Standard

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	Slice-sel. IR
Save Original Images	On
TE	1.17 ms
TR	2000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tfl
Dimension	2D
Excitation	Slice-sel.
RF Pulse Type	Fast
Gradient Mode	Fast
Flow Compensation	None

Sequence - Part 1

Bandwidth	490 Hz/Px
Echo Spacing	4.52 ms
Asymmetric Echo	Allowed
Turbo Factor	64

Sequence - Part 2

Introduction	On
RF Spoiling	On
Incr. Gradient Spoiling	Off

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tgse

TA: 1:17 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	55.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	55.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Fat Saturation
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	98 %
Interpolation	Off

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never

System - Adjustments

Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Fat Saturation
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	98 %
Dynamic Mode	Standard

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	55.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tgse
RF Pulse Type	Normal
Gradient Mode	Fast

Sequence - Part 1

Bandwidth	391 Hz/Px
Echo Spacing	3.04 ms
Turbo Factor	7
EPI Factor	3

Sequence - Part 2

Introduction	On
Compensate T2 Decay	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tgse_asl

TA: 40 sec Coil Selection: Auto Voxel Size: 4.7×4.7×4.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	8
Phase Oversampling	0 %
Slice Oversampling	25.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	8000.0 ms
TE	93.40 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	8000.0 ms
TE	93.40 ms
Flip Angle	120 deg
Fat-Water Contrast	Fat Saturation
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off
Delay in TR	0.00 ms
Reordering	Centric

Contrast - ASL

Perfusion Mode	FAIR Q2T
Suppression	Gray-White
Bolus Duration	700.00 ms
Inversion Time	1800.00 ms
Inversion Array Size	1

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	64

Resolution - Common

Phase Resolution	98 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Slice Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Hamming	Off
Distortion Correction	3D
Normalize	Off

Geometry - Common

Slab Group	1
Slabs	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	8
Phase Oversampling	0 %
Slice Oversampling	25.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	8000.0 ms
Multi-Slice Mode	Interleaved
Series	Ascending
Concatenations	1

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P

System - Miscellaneous

Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	32 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	8000.0 ms
Segments	2
Concatenations	1

Sequence - Part 1

Sequence Name	tgse
Dimension	3D
Excitation	Standard
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Centric
Bandwidth	752 Hz/Px
Echo Spacing	1.40 ms
Turbo Factor	8
Segments	2
EPI Factor	63

Sequence - Part 2

Introduction	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\trufi

TA: 2 sec Coil Selection: Auto Voxel Size: 2.3×2.3×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3.94 ms
TE	1.97 ms
Averages	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3.94 ms
TE	1.97 ms
Magn. Preparation	None
Flip Angle	70 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off

Resolution - Filter

Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3.94 ms
Multi-Slice Mode	Sequential
Series	Interleaved

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	5 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3.94 ms
Segments	1

Physio - PACE

Resp. Control	Off

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
TE	1.97 ms
TR	3.94 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tfi
Dimension	2D
Excitation	Slice-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Reordering	Linear
Bandwidth	558 Hz/Px
Asymmetric Echo	Off
Segments	1

Sequence - Part 2

Introduction	On

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\trufi_freqScout

TA: 8 sec Coil Selection: Auto Voxel Size: 2.3×2.3×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	200.0 ms
TE	1.96 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	200.0 ms
TE	1.96 ms
Magn. Preparation	None
Flip Angle Mode	Constant
Flip Angle	70 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Off
Reordering	Linear

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	128
Phase Resolution	96 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None

Resolution - Acceleration

Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
POCS	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	20 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	200.0 ms
Multi-Slice Mode	Sequential
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	200.0 ms
Segments	3
Concatenations	1

Physio - Cardiac

Tagging	None
Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
Trufi Delta Freq.	0.00 Hz
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	96 %
Cine	Off
Trajectory	Cartesian
Dynamic Mode	Standard
Dummy Heartbeats	1

Physio - PACE

Resp. Control	Off
Concatenations	1

Sequence - Part 1

Sequence Name	tfi
Dimension	2D
Sequence Type	Trufi
Excitation	Slice-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Reordering	Linear
Bandwidth	558 Hz/Px
Echo Spacing	3.92 ms
Asymmetric Echo	Off
Optimization	Min. TE
Define	Segments
Segments	3

Sequence - Part 2

Introduction	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tse

TA: 1:53 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	12.00 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	12.00 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Standard
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	98 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None

Resolution - Acceleration

Phase Partial Fourier	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	1
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Standard
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	98 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	12.00 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On

Inline - MIP

MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tse
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	130 Hz/Px
Echo Spacing	12.3 ms
Free Echo Spacing	Off
Define	Turbo Factor
Turbo Factor	7
Echo Trains per Slice	36

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Compensate T2 Decay	Off
Hyperecho	Off
WARP	Off
Red. EC Sensitivity	Off
Acoustic noise reduction	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tse_dixon

TA: 3:41 min Coil Selection: Auto Voxel Size: 1.2×1.2×5.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	4
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
TE	8.40 ms
Averages	1
Concatenations	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3000.0 ms
TE	8.40 ms
MTC	Off
Magn. Preparation	None
Flip Angle	180 deg
Fat-Water Contrast	Dixon
Fat Saturation	Strong
Dark Blood	Off
Contrasts	1
Wrap-up Magn.	None
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	1
Multiple Series	Each Measurement

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
Base Resolution	256
Phase Resolution	98 %
Trajectory	Cartesian
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	Off
Asymmetric Echo	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	4
Distance Factor	50 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	5.0 mm
TR	3000.0 ms
Multi-Slice Mode	Interleaved
Series	Interleaved
Concatenations	1

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Navigator

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Standard
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	300 mm
R >> L	300 mm
F >> H	28 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Physio - Signal

1st Signal/Mode	None
TR	3000.0 ms
Concatenations	1

Physio - Cardiac

Fat-Water Contrast	Dixon
Magn. Preparation	None
Dark Blood	Off
FoV Read	300 mm
FoV Phase	100.0 %
Phase Resolution	98 %
Trajectory	Cartesian
Dynamic Mode	Standard

Physio - PACE

Resp. Control	Off
Concatenations	1

Inline - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	None
Save Original Images	On
Contrasts	1
TE	8.40 ms
TR	3000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On

Inline - MIP

MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	tse
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	751 Hz/Px
Echo Spacing	8.38 ms
Asymmetric Echo	Off
Define	Turbo Factor
Turbo Factor	7
Echo Trains per Slice	36

Sequence - Part 2

Introduction	On
Phase Correction	Automatic
Hyperecho	Off
Red. EC Sensitivity	Off
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s

\\DEFAULT\Sequence Region\Siemens Sequences\Default\tse_MDME

TA: 8:24 min Coil Selection: Auto Voxel Size: 0.9×0.9×4.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slice Group	1
Slices	20
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	6000.0 ms
TE 1	25.00 ms
TE 2	98.00 ms
Averages	1
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	6000.0 ms
TE 1	25.00 ms
TE 2	98.00 ms
Magn. Preparation	Slice-sel. IR
Flip Angle	150 deg
Fat-Water Contrast	Standard
Contrasts	2
Wrap-up Magn.	None
Reconstruction	Magn./Phase

Contrast - Dynamic

Dynamic Mode	Standard
Measurements	4
Pause after Meas. 1	0.0 s
Pause after Meas. 2	0.0 s
Pause after Meas. 3	0.0 s
Multiple Series	Off

Resolution - Common

FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
Base Resolution	256
Phase Resolution	39 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slice Group	1
Slices	20
Distance Factor	25 %
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Phase Oversampling	0 %
FoV Read	230 mm
FoV Phase	100.0 %
Slice Thickness	4.0 mm
TR	6000.0 ms
Multi-Slice Mode	Interleaved

Geometry - AutoAlign

Slice Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Adaptive Combine
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard
B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Auto
Adjust with Body Coil	Off

System - Adjustments

Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Inline - Subtraction

Subtract	Off
Measurements	4
StdDev	Off
Save Original Images	On

Inline - Cardiac

Magn. Preparation	Slice-sel. IR
Save Original Images	On
Contrasts	2
TE 1	25.00 ms
TE 2	98.00 ms
TR	6000.0 ms

Inline - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Inline - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	MDME
Dimension	2D
RF Pulse Type	Normal
Gradient Mode	Fast
Flow Compensation	None
Bandwidth	130 Hz/Px
Echo Spacing	12.28 ms
Define	Turbo Factor
Turbo Factor	5

Sequence - Part 2

Phase Correction	Automatic
Reduce Motion Sens.	Off

Sequence - Assistant

SAR Assistant	Off

\\DEFAULT\Sequence Region\Siemens Sequences\Default\twist

TA: 9 sec Coil Selection: Auto Voxel Size: 2.3×2.3×2.0 mm³ Acc:: None Rel. SNR: 1.00

Properties

Start measurement without further preparation	On
Wait for User to Start	Off
Start measurements	Single Measurement
Prio Recon	Off
Auto Open Inline Display	Off
Auto Close Inline Display	Off
Load Images to MR View&GO	On
Auto Store Images	On
Load Images to Stamp Segments	Off
Load Images to Graphic Segments	Off
Graphic segment	Default
Inline Movie	Off

Routine

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	3.05 ms
TE	1.00 ms
AutoAlign	---
Coil Elements	BC

Contrast - Common

TR	3.05 ms
TE	1.00 ms
Flip Angle	25 deg
Fat-Water Contrast	Standard
Reconstruction	Magnitude

Contrast - Dynamic

Dynamic Mode	TWIST
Central Region A	33 %
Sampling Density B	50 %
Reconstruction Scheme	Symmetric Share
Temporal Resolution	5.38 s
Temporal Interpolation	1
Measurements	1
Multiple Series	Each Measurement
Time to Center	2.3 s
Burn Time to Center	Off

Resolution - Common

FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
Base Resolution	128
Phase Resolution	100 %
Slice Resolution	100 %
Interpolation	Off

Resolution - Acceleration

Acceleration mode	None
Phase Partial Fourier	6/8
Slice Partial Fourier	6/8
Asymmetric Echo	Strong
Elliptical Scanning	Off

Resolution - Filter

Raw Filter	Off
Elliptical Filter	Off
Distortion Correction	2D
Normalize	Off
Image Filter	Off

Geometry - Common

Slab Group	1
Slabs	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
Slices per Slab	32
Phase Oversampling	0 %
Slice Oversampling	0.0 %
FoV Read	300 mm
FoV Phase	100.0 %
Slice Thickness	2.0 mm
TR	3.05 ms

Geometry - AutoAlign

Slab Group	1
Position	Isocenter
Orientation	Transversal
Phase Encoding Dir.	A >> P
AutoAlign	---
Initial Position	Isocenter
L	0.0 mm
P	0.0 mm
H	0.0 mm
Initial Orientation	Transversal
Initial Rotation	0.00 deg

Geometry - Saturation

Special Saturation	None

Geometry - Tim Planning Suite

Set-n-Go Protocol	Off
Table Position	0 mm
Table Position	H
Inline Composing	Off

System - Miscellaneous

Coil Selection	Default
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Coil Combination	Sum of Squares
Matrix Optimization	Off

System - Adjustments

Adjustment Strategy	Standard

System - Adjustments

B0 Shim	Tune up
B1 Shim	TrueForm
Adjustment Tolerance	Maximum
Adjust with Body Coil	Off
Confirm Frequency	Never
Assume Silicone	Off

System - Adjust Volume

Position	Isocenter
Orientation	Transversal
Rotation	0.00 deg
A >> P	263 mm
R >> L	350 mm
F >> H	350 mm
Reset	Off

System - Tx/Rx

Frequency 1H	123.263119 MHz
? Ref. Amplitude 1H	0.000 V
Reset	Off
Correction Factor	1.00
Image Scaling	1.000

Angio - Dynamic

Dynamic Mode	TWIST
Central Region A	33 %
Sampling Density B	50 %
Reconstruction Scheme	Symmetric Share
Temporal Resolution	5.38 s
Temporal Interpolation	1
Flip Angle	25 deg
Measurements	1
Multiple Series	Each Measurement
Time to Center	2.3 s
Burn Time to Center	Off

Angio - Subtraction

Subtract	Off
Measurements	1
StdDev	Off
Save Original Images	On

Angio - Cardiac

Save Original Images	On
TE	1.00 ms
TR	3.05 ms

Angio - MIP

MIP Sag	Off
MIP Cor	Off
MIP Tra	Off
MIP Time	Off
Radial MIP	Off
Save Original Images	On
MPR Sag	Off
MPR Cor	Off
MPR Tra	Off

Angio - Composing

Inline Composing	Off

Sequence - Part 1

Sequence Name	fl

Sequence - Part 1

Dimension	3D
Excitation	Slab-sel.
RF Pulse Type	Normal
Gradient Mode	Fast
Bandwidth	490 Hz/Px
Asymmetric Echo	Strong
Optimization	Min. TE TR

Sequence - Part 2

RF Spoiling	On
Phase Enc. Rewinder	On

Sequence - Assistant

SAR Assistant	Off
Allowed Delay	0 s
Optimization	Min. TE TR