

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\Quin_pilot_250V

TA: 0:59 PAT: Off Voxel size: 1.1x1.1x5.0 mm Rel. SNR: 1.00 SIEMENS: tfl

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	Off
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	11
Dist. factor	80 %
Position	L0.0 A18.9 F0.7
Orientation	Sagittal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Slice group 2	
Slices	3
Dist. factor	100 %
Position	L0.0 A16.2 H45.9
Orientation	Transversal
Phase enc. dir.	A >> P
Rotation	0.00 deg
Slice group 3	
Slices	5
Dist. factor	100 %
Position	L0.0 A8.1 H1.7
Orientation	Coronal
Phase enc. dir.	R >> L
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	220 mm
FoV phase	100.0 %
Slice thickness	5.0 mm
TR	3000 ms
TE	3.12 ms
Averages	1
Concatenations	19
Filter	None
Coil elements	A32

Contrast

TD	0 ms
Magn. preparation	Slice-sel. IR
TI	1100 ms
Flip angle	6 deg
Fat suppr.	None
Water suppr.	None
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	1
Multiple series	Each measurement

Resolution

Base resolution	192
Phase resolution	100 %
Phase partial Fourier	Off

Interpolation Off

PAT mode None

Image Filter Off

Distortion Corr. Off

Prescan Normalize Off

Normalize Off

B1 filter Off

Raw filter Off

Elliptical filter Off

Geometry

Multi-slice mode Sequential

Series Ascending

Table position H

Table position 0 mm

Inline Composing Off

System

V32 Off

A32 On

Positioning mode REF

MSMA S - C - T

Sagittal R >> L

Coronal A >> P

Transversal F >> H

Save uncombined Off

Coil Combine Mode Adaptive Combine

AutoAlign ---

Auto Coil Select Default

Shim mode Tune up

Adjust with body coil Off

Confirm freq. adjustment Off

Assume Silicone Off

! Ref. amplitude 1H 220.000 V

Adjustment Tolerance Auto

Adjust volume

Position Isocenter

Orientation Transversal

Rotation 0.00 deg

R >> L 350 mm

A >> P 263 mm

F >> H 350 mm

Physio

1st Signal/Mode None

Dark blood Off

Resp. control Off

Inline

Subtract Off

Std-Dev-Sag Off

Std-Dev-Cor Off

Std-Dev-Tra Off

Std-Dev-Time Off

MIP-Sag Off

MIP-Cor Off

MIP-Tra Off

MIP-Time Off

Save original images On

Sequence

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Introduction	On
Dimension	2D
Asymmetric echo	Off
Bandwidth	240 Hz/Px
Flow comp.	No
Echo spacing	6.4 ms
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RF pulse type	Normal
Gradient mode	Fast
Excitation	Slice-sel.
RF spoiling	On

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\low_3DVASO_2x3_flash_CAIPF_PF_low_res

TA: 12:16

PAT: 6

Voxel size: 3.0x3.0x3.0 mm

Rel. SNR: 1.00

USER: VASO_109

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L0.0 A23.4 H9.9
Orientation	T > C-11.1
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	32
FoV read	180.0 mm
FoV phase	100.0 %
Slice thickness	3.00 mm
TR	1524.0 ms
TE	12 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perfusion mode	Picore Q2TIPS
TI2	1050 ms
TI1	50 ms
TI1s	50 ms
Flip angle	17 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1050.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	60
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	7/8
Slice partial Fourier	7/8
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	36
Accel. factor 3D	2
Ref. lines 3D	12
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A22.6 H8.8
! Orientation	Sagittal
! Rotation	10.29 deg
! F >> H	85 mm
! A >> P	178 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
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BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1852 Hz/Px
Free echo spacing	Off
Echo spacing	0.64 ms
EPI factor	60

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RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
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Ampl	95
BWDTH	150 3.1kHz
thickness	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	0.50
dummy prepsan time	3 s
z shim	0.00 mT/m*ms
RF duration	5120 us
RF BWTP	25.0
EFFECTIVE TR	21336 ms
PatPartitions	14
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	On
CAIPI shift kz	0
CAIPI shift ky	1

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\\USER\UserProtocols\Renzo\3D_SMS_template\low_SMSVASO_79_SMSfor_3DEPlcomparison1.3x1.3x1.3

TA: 12:09 PAT: 3 Voxel size: 3.0x3.0x3.0 mm Rel. SNR: 1.00 UNKNOWN:

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Descending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

Routine

Slice group 1	
Slices	33
Dist. factor	0 %
Position	L0.0 A23.4 H9.9
Orientation	T > C-11.1
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	192 mm
FoV phase	100.0 %
Slice thickness	3.0 mm
TR	1500.0 ms
TE	14 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A22.6 H8.8
! Orientation	Sagittal
! Rotation	10.29 deg
! F >> H	85 mm
! A >> P	178 mm
! R >> L	157 mm

Contrast

Perf / VASO mode	SS-SI VASO
TI2	1100 ms
TI1	50 ms
TI1s	50 ms
Flip angle	90 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1100 ms
Flow limit	100.0 cm/s

Physio

1st Signal/Mode	None
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BOLD

Sequence

Introduction	On
Contrasts	1
Bandwidth	1860 Hz/Px
Free echo spacing	Off
Echo spacing	0.64 ms
EPI factor	64
RF pulse type	Normal
Gradient mode	Normal
Ampl	90
BWDTH	300 3.1kHz
thickness	100
Phase skip	30
Opt. TI2	1106
Volumes per TI	1
FatSat flip angle	110 deg
SMS factor	3

Resolution

Base resolution	64
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	3
Ref. lines PE	36
Reference scan mode	Separate

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CAIPI shift	2
SMS online recon	On
SMS-RF phase optim.	On
log physio files	Off
altern z-shim	0 uT/m
fixed z-shim	0 uT/m
EPI phase correction	normal
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	15
RF pulse duration	7680 us
FFT scale	0.8

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\\USER\UserProtocols\Renzo\3D_SMS_template\1.5_SMS_VASO_79_24slic_POCS_1.5x1.5x1.5

TA: 12:09 PAT: 2 Voxel size: 1.5x1.5x2.0 mm Rel. SNR: 1.00 UNKNOWN:

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	24
Dist. factor	0 %
Position	L0.0 A11.6 H18.0
Orientation	T > C-10.0
Phase enc. dir.	P >> A
Rotation	180.00 deg
Phase oversampling	0 %
FoV read	180 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	1500.0 ms
TE	17 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perf / VASO mode	SS-SI VASO
TI2	1000 ms
TI1	50 ms
TI1s	50 ms
Flip angle	63 deg
Fat suppr.	Fat sat.
Fat sat. mode	Weak

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off

Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1000 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	120
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	48
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A14.2 H16.9
! Orientation	Sagittal
! Rotation	-0.07 deg
! F >> H	86 mm
! A >> P	166 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
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BOLD

Sequence

Introduction	On
Contrasts	1
Bandwidth	1666 Hz/Px
Free echo spacing	Off
Echo spacing	0.7 ms
EPI factor	120
RF pulse type	Normal
Gradient mode	Normal
Ampl	90
BWDTH	300 3.1kHz
thickness	100
Phase skip	30
Opt. TI2	1106
Volumes per TI	1
FatSat flip angle	110 deg
SMS factor	2

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CAIPI shift	3
SMS online recon	On
SMS-RF phase optim.	On
log physio files	Off
altern z-shim	0 uT/m
fixed z-shim	0 uT/m
EPI phase correction	normal
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	15
RF pulse duration	5120 us
FFT scale	0.5

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\1.5_3DVASO_2x3_flash_CAIPF_PF_1.5x1.5x1.5

TA: 12:38 PAT: 4 Voxel size: 1.5x1.5x2.0 mm Rel. SNR: 1.00 USER: VASO_109

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L0.0 A14.4 H32.1
Orientation	T > C-13.6
Phase enc. dir.	P >> A
Rotation	180.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	24
FoV read	180.0 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1568.60 ms
TE	16 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perfusion mode	Picore Q2TIPS
TI2	950 ms
TI1	50 ms
TI1s	50 ms
Flip angle	17 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	950.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	120
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	2
Ref. lines 3D	12
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A13.1 H29.5
! Orientation	Sagittal
! Rotation	13.29 deg
! F >> H	45 mm
! A >> P	178 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
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BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1894 Hz/Px
Free echo spacing	Off
Echo spacing	0.66 ms
EPI factor	120

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RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
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Ampl	95
BWDTH	150 3.1kHz
thickness	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	0.50
dummy prepsan time	3 s
z shim	0.00 mT/m*ms
RF duration	5120 us
RF BWTP	25.0
EFFECTIVE TR	18823 ms
PatPartitions	12
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	On
CAIPI shift kz	1
CAIPI shift ky	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\Valsalva_SMS_VASO_79_24slic_1.5x1.5x2_realTR

TA: 9:50 PAT: 2 Voxel size: 1.5x1.5x2.0 mm Rel. SNR: 1.00 UNKNOWN:

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

Routine

Slice group 1	
Slices	24
Dist. factor	0 %
Position	L0.0 A3.7 H24.9
Orientation	T > C-10.0
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	180 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	1497.6 ms
TE	17 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A10.0 H24.9
! Orientation	Sagittal
! Rotation	-0.07 deg
! F >> H	86 mm
! A >> P	166 mm
! R >> L	157 mm

Contrast

Perf / VASO mode	SS-SI VASO
TI2	1000 ms
TI1	50 ms
TI1s	50 ms
Flip angle	63 deg
Fat suppr.	Fat sat.
Fat sat. mode	Weak
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	391
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1000 ms
Flow limit	100.0 cm/s

Physio

1st Signal/Mode	None
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BOLD

Sequence

Introduction	On
Contrasts	1
Bandwidth	1736 Hz/Px
Free echo spacing	Off
Echo spacing	0.68 ms
EPI factor	120
RF pulse type	Normal
Gradient mode	Normal
Ampl	100
BWDTH	300 3.1kHz
thickness	100
Phase skip	30
Opt. TI2	1106
Volumes per TI	1
FatSat flip angle	110 deg
SMS factor	2

Resolution

Base resolution	120
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	48
Reference scan mode	Separate

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CAIPI shift	3
SMS online recon	On
SMS-RF phase optim.	On
log physio files	Off
altern z-shim	0 uT/m
fixed z-shim	0 uT/m
EPI phase correction	normal
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	15
RF pulse duration	5120 us
FFT scale	1.0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\Valsalva_3DVASO_2x3_flash_CAIPF_PF_1.5x1.5x2_real_TF

TA: 9:45 PAT: 4 Voxel size: 1.5x1.5x2.0 mm Rel. SNR: 1.00 USER: VASO_109

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L0.0 A3.7 H24.9
Orientation	T > C-10.0
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	24
FoV read	180.0 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1496.80 ms
TE	16 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perfusion mode	Picore Q2TIPS
TI2	975 ms
TI1	50 ms
TI1s	50 ms
Flip angle	17 deg
Fat suppr.	Fat sat.
Fat sat. mode	Weak
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	391
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	975.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	120
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	2
Ref. lines 3D	12
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A10.0 H24.9
! Orientation	Sagittal
! Rotation	-0.07 deg
! F >> H	86 mm
! A >> P	166 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
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BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1894 Hz/Px
Free echo spacing	Off
Echo spacing	0.66 ms
EPI factor	120

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
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Ampl	95
BWDTH	150 3.1kHz
thickness	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	0.50
dummy prepscan time	3 s
z shim	0.00 mT/m*ms
RF duration	5120 us
RF BWTP	25.0
EFFECTIVE TR	17961 ms
PatPartitions	12
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	On
CAIPI shift kz	1
CAIPI shift ky	0

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\3DVASO_ONE_Hemisphere_GRAPPA2_PF68_10Slices_SC

TA: 13:16 PAT: 2 Voxel size: 0.7x0.7x1.8 mm Rel. SNR: 1.00 USER: VASO_109

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L29.8 P1.9 H31.0
Orientation	T > S-22.8 > C-5.5
Phase enc. dir.	R >> L
Rotation	120.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	10
FoV read	32.8 mm
FoV phase	300.0 %
Slice thickness	1.80 mm
TR	1648.80 ms
TE	24 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perfusion mode	Picore Q2TIPS
TI2	900 ms
TI1	50 ms
TI1s	50 ms
Flip angle	30 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	900.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	44
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Ref. lines 3D	8
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	L24.9 P2.2 H31.4
! Orientation	S > T0.7
! Rotation	-0.26 deg
! F >> H	60 mm
! A >> P	72 mm
! R >> L	85 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1042 Hz/Px
Free echo spacing	Off
Echo spacing	1.08 ms
EPI factor	132

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
<hr/>	
Ampl	110
BWDTH	150 3.1kHz
thickness	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	1.00
dummy prepSCAN time	3 s
z shim	0.00 mT/m*ms
RF duration	2560 us
RF BWTP	25.0
EFFECTIVE TR	16488 ms
PatPartitions	10
EPI phase correction	local
PAT refscan mode	Flash
FlashRef BaseRes	44
FlashRef BW	1000 Hz/px
FlashRef TE	4800 us
FlashRef FA	5 deg
use CAIPI	Off

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\2DVASO_GRAPPA2_Pf6/8_ONE_Hemisphere

TA: 0:25 PAT: 2 Voxel size: 0.7x0.7x1.8 mm Rel. SNR: 1.00 USER: VASO_108

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	7
Dist. factor	0 %
Position	L33.8 A5.3 H79.3
Orientation	T > S-27.3
Phase enc. dir.	R >> L
Rotation	90.00 deg
Phase oversampling	0 %
FoV read	32.8 mm
FoV phase	300.0 %
Slice thickness	1.8 mm
TR	1673.9 ms
TE	24 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perf / VASO mode	SS-SI VASO
TI2	1175 ms
TI1	50 ms
TI1s	50 ms
Flip angle	90 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magn./Phase
Measurements	11
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1175 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	44
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A13.7 H64.7
! Orientation	S > T0.7
! Rotation	-0.26 deg
! F >> H	75 mm
! A >> P	120 mm
! R >> L	163 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Sequence

Introduction	On
Contrasts	1
Bandwidth	1052 Hz/Px
Free echo spacing	Off
Echo spacing	1.08 ms
EPI factor	132
RF pulse type	Normal
Gradient mode	Normal
Ampl	100
BWDTH	300 3.1kHz
thickness	100
Phase skip	30
Opt. TI2	1106
Volumes per TI	1
FatSat flip angle	110 deg
SMS factor	1

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

log physio files	Off
altern z-shim	0 uT/m
fixed z-shim	0 uT/m
EPI phase correction	local
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	25
RF pulse duration	2560 us
FFT scale	0.5

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\tSNR_SMS_VASO_79_12slic_POCS_1.5x1.5

TA: 2:15 PAT: 2 Voxel size: 1.5x1.5x0.3 mm Rel. SNR: 1.00 UNKNOWN:

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	12
Dist. factor	0 %
Position	L0.0 A14.3 H11.6
Orientation	T > C-10.0
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
FoV read	180 mm
FoV phase	100.0 %
Slice thickness	0.3 mm
TR	1559.4 ms
TE	22 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perf / VASO mode	SS-SI VASO
TI2	1000 ms
TI1	50 ms
TI1s	50 ms
Flip angle	63 deg
Fat suppr.	Fat sat.
Fat sat. mode	Weak
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	83
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1000 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	120
Phase resolution	100 %
Phase partial Fourier	6/8
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	48
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A18.4 H4.1
! Orientation	Sagittal
! Rotation	10.10 deg
! F >> H	81 mm
! A >> P	163 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Sequence

Introduction	On
Contrasts	1
Bandwidth	1666 Hz/Px
Free echo spacing	Off
Echo spacing	0.7 ms
EPI factor	120
RF pulse type	Normal
Gradient mode	Normal
Ampl	90
BWDTH	300 3.1kHz
thickness	100
Phase skip	30
Opt. TI2	1106
Volumes per TI	1
FatSat flip angle	110 deg
SMS factor	1

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

log physio files	Off
altern z-shim	0 uT/m
fixed z-shim	0 uT/m
EPI phase correction	normal
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	15
RF pulse duration	5120 us
FFT scale	0.5

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\tsNR_3DVASO_2x3_flash_CAIPi_PF_1.5x1.5

TA: 2:17 PAT: 2 Voxel size: 1.5x1.5x0.3 mm Rel. SNR: 1.00 USER: VASO_109

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L0.0 A14.3 H11.6
Orientation	T > C-10.0
Phase enc. dir.	A >> P
Rotation	0.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	12
FoV read	180.0 mm
FoV phase	100.0 %
Slice thickness	0.30 mm
TR	1647.8 ms
TE	22 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perfusion mode	Picore Q2TIPS
TI2	950 ms
TI1	50 ms
TI1s	50 ms
Flip angle	17 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	83
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	950.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	120
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	6/8
Slice partial Fourier	Off
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	1
Ref. lines 3D	12
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A18.4 H4.1
! Orientation	Sagittal
! Rotation	10.10 deg
! F >> H	81 mm
! A >> P	163 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1894 Hz/Px
Free echo spacing	Off
Echo spacing	0.66 ms
EPI factor	120

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
<hr/>	
Ampl	95
BWDTH	150 3.1kHz
thickness	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	0.50
dummy prepscan time	3 s
z shim	0.00 mT/m*ms
RF duration	5120 us
RF BWTP	25.0
EFFECTIVE TR	19773 ms
PatPartitions	12
EPI phase correction	local
PAT refscan mode	segm LIN->PAR
use CAIPI	On
CAIPI shift kz	0
CAIPI shift ky	1

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\1.2_SMS_VASO_79_24slic_noPF

TA: 14:40 PAT: 2 Voxel size: 1.2x1.2x2.0 mm Rel. SNR: 1.00 UNKNOWN:

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slice group 1	
Slices	24
Dist. factor	0 %
Position	L0.0 A13.5 H28.6
Orientation	T > C-10.0
Phase enc. dir.	P >> A
Rotation	180.00 deg
Phase oversampling	0 %
FoV read	180 mm
FoV phase	100.0 %
Slice thickness	2.0 mm
TR	1809.1 ms
TE	35 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perf / VASO mode	SS-SI VASO
TI2	1000 ms
TI1	50 ms
TI1s	50 ms
Flip angle	80 deg
Fat suppr.	Fat sat.
Fat sat. mode	Weak

Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off

Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	1000 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	150
Phase resolution	100 %
Phase partial Fourier	Off
Interpolation	Off
PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	48
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A13.3 H27.0
! Orientation	Sagittal
! Rotation	10.86 deg
! F >> H	86 mm
! A >> P	166 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Sequence

Introduction	On
Contrasts	1
Bandwidth	1666 Hz/Px
Free echo spacing	Off
Echo spacing	0.76 ms
EPI factor	150
RF pulse type	Normal
Gradient mode	Normal
Ampl	90
BWDTH	300 3.1kHz
thickness	100
Phase skip	30
Opt. TI2	1106
Volumes per TI	1
FatSat flip angle	110 deg
SMS factor	2

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

CAIPI shift	3
SMS online recon	On
SMS-RF phase optim.	On
log physio files	Off
altern z-shim	0 uT/m
fixed z-shim	0 uT/m
EPI phase correction	normal
PAT refscan mode	FLEET
FLEET dummies	15
FLEET flip angle	15
RF pulse duration	5120 us
FFT scale	0.5

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

\\USER\UserProtocols\Renzo\3D_SMS_template\1.2_3DVASO_2x3_flash_CAIPi_noPF

TA: 14:55 PAT: 4 Voxel size: 1.2x1.2x2.0 mm Rel. SNR: 1.00 USER: VASO_109

Properties

Prio Recon	Off
Before measurement	
After measurement	
Load to viewer	On
Inline movie	Off
Auto store images	On
Load to stamp segments	Off
Load images to graphic segments	Off
Auto open inline display	Off
Start measurement without further preparation	On
Wait for user to start	Off
Start measurements	single

Routine

Slab group 1	
Slabs	1
Dist. factor	50 %
Position	L0.0 A13.5 H28.6
Orientation	T > C-10.0
Phase enc. dir.	P >> A
Rotation	180.00 deg
Phase oversampling	0 %
Slice oversampling	0.0 %
Slices per slab	24
FoV read	180.0 mm
FoV phase	100.0 %
Slice thickness	2.00 mm
TR	1852.60 ms
TE	35 ms
Averages	1
Concatenations	1
Filter	None
Coil elements	A32

Contrast

Perfusion mode	Picore Q2TIPS
TI2	900 ms
TI1	50 ms
TI1s	50 ms
Flip angle	17 deg
Fat suppr.	Fat sat.
Fat sat. mode	Strong
Averaging mode	Long term
Reconstruction	Magnitude
Measurements	483
Delay in TR	0 ms
Multiple series	Off
Perfusion mode	PICORE Q2T
Inversion time 1	50 ms
Saturation stop time	50 ms
Inversion time 2	900.0 ms
Flow limit	100.0 cm/s

Resolution

Base resolution	150
Phase resolution	100 %
Slice resolution	100 %
Phase partial Fourier	Off
Slice partial Fourier	Off
Interpolation	Off

PAT mode	GRAPPA
Accel. factor PE	2
Ref. lines PE	24
Accel. factor 3D	2
Ref. lines 3D	12
Reference scan mode	Separate

Prescan Normalize	Off
Raw filter	Off
Elliptical filter	Off
Hamming	Off

Geometry

Multi-slice mode	Interleaved
Series	Ascending
Special sat.	Parallel F
Gap	25.0 mm
Thickness	100 mm
Table position	H
Table position	0 mm
Inline Composing	Off

System

V32	Off
A32	On
Positioning mode	FIX
MSMA	S - C - T
Sagittal	R >> L
Coronal	A >> P
Transversal	F >> H
Save uncombined	Off
Coil Combine Mode	Sum of Squares
AutoAlign	---
Auto Coil Select	Default
Shim mode	Standard
Adjust with body coil	Off
Confirm freq. adjustment	Off
Assume Silicone	Off
! Ref. amplitude 1H	220.000 V
Adjustment Tolerance	Auto
Adjust volume	
! Position	R1.4 A13.3 H27.0
! Orientation	Sagittal
! Rotation	10.86 deg
! F >> H	86 mm
! A >> P	166 mm
! R >> L	157 mm

Physio

1st Signal/Mode	None
-----------------	------

BOLD

Motion correction	Off
Spatial filter	Off

Sequence

Introduction	On
Dimension	3D
Reordering	Linear
Contrasts	1
Bandwidth	1588 Hz/Px
Free echo spacing	Off
Echo spacing	0.75 ms
EPI factor	150

SIEMENS MAGNETOM Investigational_Device_7T syngo MR B17

RF pulse type	Normal
Gradient mode	Normal
Excitation	Slab-sel.
RF spoiling	On
<hr/>	
Ampl	95
BWDTH	150 3.1kHz
thickness	30
use Ernst angle	Off
Maxwell Correction	Off
log physio files	Off
FFT scale	0.50
dummy prepscan time	3 s
z shim	0.00 mT/m*ms
RF duration	5120 us
RF BWTP	25.0
EFFECTIVE TR	22231 ms
PatPartitions	12
EPI phase correction	local
PAT refscan mode	Flash
FlashRef BaseRes	150
FlashRef BW	1000 Hz/px
FlashRef TE	4800 us
FlashRef FA	5 deg
use CAIPI	On
CAIPI shift kz	1
CAIPI shift ky	0