

## Philips Achieva 1.5T Magnet

- Length: 5.15 ft (1.57m)
- Weight: 6393 lbs (2900 kg)
- Fringe Field Footprint: 3.8m x 2.4m - compact for maximum sitting flexibility
- Helium Consumption: as low as 0.03 l/hr - typical - allows for extended refill times
- Wide patient opening: 110cm (43in.) flare
- Patient bore diameter: 60cm (23.6 in., length 60cm)
- Patient Comfort: Supports patients weighing up to 250kg (550 lbs) comfortably

## Philips Achieva 1.5T Technical Specifications (Tech Specs)

### Gantry - Philips Achieva 1.5T

Bore diameter/height of patient opening, cm 110

Overall bore length, cm 157

Bore length with minimum opening, cm 60

In-bore patient comfort features Indirect lighting, adjustable airflow, 2-way headset, soft mattresses, head coil mirror, knee wedge cushion

### Magnet - Philips Achieva 1.5T

Strength: 1.5 Tesla

Configuration: Short-bore cylindrical

Homogeneity, ppm V-RMS 1.4 ppm @ 53 cm, 1.18 ppm @ 50 cm, 0.5 ppm @ 40 cm, 0.07 ppm @ 30 cm, 0.03 ppm @ 20 cm, 0.01 ppm @ 10 cm

Dimensions of maximum useful FOV and homogeneity (x, y, z): 53 x 53 x 48 cm

Frequency drift: Shielding: Active

Main magnet shimming: Combination

Patient specific shimming: Yes

Cryogen refill frequency: 3 years

### Planning and Installation

Overall gantry dimensions (including covers) (W x H x L): 2.2 x 2.1 x 1.8 m

Minimum ceiling height: 3 m

Extent of fringe field (0.5 mT, 5 gauss) in x, y, z directions: 2.4 x 3.8 m

Total weight w/cooling, shielding, gradient/body coil: 6,380 kg (14,065 lbs)

Minimum dimensions of opening required for installation, (W x H): 2.1 x 2.5 m

Minimum installation area for magnet (W x L): 3.6 x 5.4 m

Minimum total installation area for system: 19.5 m<sup>2</sup>

Total number of cabinets required: 6

**Power Consumption**

Line Voltage: 480 VAC

Kva: 100

Clinical Use: Whole body

DICOM (Gantry)

**Range of Movement**

Modality worklist SCU: Standard

MR Image Storage SCU: Standard

Query/Retrieve SCU and SCP: Optional

Storage commitment SCU: Standard

IHE profiles supported: MWL, PPS

Clock speed, GHz (Reconstruction): 3.2

Operating system: Windows

Dedicated RAM: 4 GB

**Reconstruction**

Maximum number of 256 x 256 slices per acquisition sequence: 230

Number of slices per sec (256 matrix): 1230

Maximum matrix: 2048 x 2048

Minimum slice thickness 2-D/3-D: 0.05 mm

Minimum FOV: 0.5 cm

Maximum FOV: 53 cm

**Quantitative image analysis tools**

Perfusion imaging: Optional

fMRI: Optional

Diffusion imaging: Standard

Diffusion tensor imaging: Optional

Cardiac imaging: Standard

Body imaging: Standard

3-D image reconstruction: Standard

**Scanning Techniques**

Echo Planar Imaging: Yes, standard

Single shot: Standard

Multi shot: Standard

EPI pulse sequences: MS-EPI, SS-EPI

Maximum EPI factor: 256

Neurologic imaging: Standard

Perfusion: Optional

Diffusion weighted imaging: Standard  
Functional MRI: Optional  
Spectroscopy (nuclei of interest): Optional  
MRA: Standard  
Time of flight: Standard  
Peripheral: Standard  
Bolus tracking: Standard  
Interventional MR: Optional  
Cine: Standard  
Coronary artery: Optional  
Ecg gating: VCG standard  
Motion compensation: Standard  
Prospective respiratory gating: Standard  
Maximum number of dimensions: 2

### **Control Console Workflow**

Standard user interface: ScanTools  
Number of stored scanning protocols: 999  
Local hard disk capacity: 80 GB  
RAM: 4 GB  
Removable media: DVD  
Image protocol sharing: ExamCards  
Features designed to enhance workflow: SmartExam, NetForum, SameScan, ExamCards, SENSE, Utilization Management

### **Patient Table**

Detachable (Rotor): Trolley  
Horizontal speed: 2, 8, 18 cm/s  
Elevating: Yes  
Minimum height: 52 cm

### **Table Load limit**

Limited mobility: 250 kg (550 lb) horizontal travel  
Fully mobile: 159 kg (350 lb) vertical travel

### **Sequence Selection**

Spin echo (Minimum TR ms)  
Minimum TR, 256 matrix, 30 cm FOV: 0.8 msec  
Minimum TR, 256 matrix, 10 cm FOV: 0.8 msec  
Minimum possible TE: 0.6 msec  
Fast-spin-echo max train length: 256

### **Acoustic Noise**

Sound pressure level (SPL) at peak gradient amplitude and slew rate: Reduction technology: SofTone

### **Philips Achieva 1.5T RF System**

Power output: 18 kW

Amplifier type: Solid-state

Standard number of channels: 8

Optional channel configurations: 16, 32

Receiver bandwidth: 300 kHz

Location of coil connector (plug): Gantry face

Standard length of coil cables: 1.2 m

Number of coil connectors (plugs): 2

Coil tuning technique: Automatic

### **Calibration Technique Automatic**

Maximum parallel acquisition acceleration factor: 16 (coil dependent)

### **Gradient system**

Standard name: Pulsar HP

Standard strength, z-axis: 33 mT/m

Standard slew rate, z-axis: 100 T/m/s

Optional strength(s): 33, 66 mT/m

Optional slew rate(s): 180180 T/m/s

Cooling type: Liquid

Amplifier cooling type: Liquid

### **Philips Achieva 1.5T Coils**

Integrated body: Yes

Type: Linear/phase array

Number of elements: 8

Number of independent channels: 8

Head: Standard

Extremity: Lower: Foot/Ankle; Upper: SENSE wrist

Diameter, cm: Phased array

Number of elements: 8

Number of independent channels: 8

Parallel imaging compatible: Yes

Mirrors for patient head: Yes

Tmj: Flex S

Number of elements: 8

Number of independent channels: 8  
Neck: SENSE head/neck  
Coverage (head to foot): 43 x 35 cm  
Number of elements: 8  
CTL spine: SENSE head/spine  
Coverage (head to foot): 95 x 54 cm  
Number of elements: 8  
Number of independent channels: 8  
Cardiac/abdomen: SENSE torso, torso XL, cardiac  
Flexible: Yes  
Number of independent channels: Phased array  
Breast: Optional  
Bilateral: Yes  
Biopsy access: Yes  
Shoulder: Optional  
Dimensions (L x W): 13 x 18 x 20 cm  
Number of elements: 8  
Number of independent channels: 8  
Whole abdomen: SENSE torso XL  
Dimensions (L x W): 45 x 65 cm  
Number of elements: 8  
Number of independent channels: 8  
Endocavity: Optional  
Length: 30 cm  
Number of elements: 8  
Number of independent channels: 8  
Peripheral vascular: Coil combination  
Circular general-purpose: Flex L,M,S  
Dedicated parallel imaging: All anatomies  
Combined: Yes  
Additional (Alarms, high/low): Various, all SENSE compatible coils

### **Other - Philips Achieva 1.5T**

Other Attributes: Available in mobile configuration/ I/T; optional Ambient Experience; 480 V, 65 kVA, 80 A for the system; 480V, 9 kVA, 30 A for the cryocooler compressor; 480 V, 55 A for the Schreiber chiller.  
FDA CLEARANCE: Yes  
CE MARK (MDD): Yes