

## Expect nothing less

Philips Ingenuity TF PET/MR



## The image quality

The image quality you demand comes from advanced technology for each modality.

### Time-of-Flight PET



Time-of-Flight technology enhances PET image quality and reduces noise.

#### Improved contrast and fast scanning

Time-of-Flight provides up to 30% improved contrast compared to non-TOF PET imaging. With multiple RF sources, MultiTransmit allows up to a 40% increase in scanning speed and increased image uniformity and consistency compared to conventional 3T MR.

#### Simplified workflow

Simplify your workflow through an integrated user interface and protocol management for the entire PET/MR exam, and expand the clinical possibilities.

## you demand

Time-of-Flight for PET. MultiTransmit for MR. Only from Philips. For you. For your patients. For the future of PET/MR.



## True clinical leadership



Philips Ingenuity TF is the only PET/MR system that leverages both Time-of-Flight PET and MultiTransmit MR to provide cutting-edge clinical research capability through high image quality. The system provides a full spectrum of applications and analysis to facilitate research in personalized molecular medicine for enhanced diagnostic confidence, treatment planning, and care.

Ingenuity TF PET/MR drives leadership for your facility through the potential for increased publication, grant opportunities, and wide range of clinical referrals.



## Enhance diagnostic confidence, treatment planning, and care



# Unleash

### Combine the superb molecular imaging



# the full potential

capabilities of Philips Time-of-Flight PET and MultiTransmit 3.0T MR





Fused PET/MR





## Clinical and technological





## leadership

#### Time-of-Flight lives up to its name

Time-of-Flight PET technology provides enhanced diagnostic confidence with up to 30% improved contrast resolution over non-TOF.

### Addressing the fundamental challenges of 3T at the source

The MultiTransmit 3.0T capability of Ingenuity TF PET/MR takes 3T clinical performance to the next level with MultiTransmit parallel RF transmission technology. 3.0T TX addresses fundamental challenges of 3T at the source to provide enhanced image uniformity, consistency, and speed.

#### Eliminate X-ray radiation associated with CT

Compared to PET/CT, PET/MR eliminates the X-Ray radiation associated with CT, lowering overall radiation dose to the patient.\*

\* The system does not expose the patient to ionizing radiation, but only to the dose contribution from the PET radiopharmaceutical.

## Communication, collaboration



Ingenuity TF PET/MR offers simplified and improved workflow through an integrated user interface and protocol management for the entire PET/MR examination.



### Transforming care, together

At Philips, we share your vision for the future of imaging science. We recognize that radiology is the cornerstone of diagnosis and treatment, and that clinical integration and collaboration are key to more personal care, better patient outcomes, and lower costs.

## and diagnostic confidence

### Philips IntelliSpace Portal

#### Advanced visualization for real-time radiology

The Philips IntelliSpace Portal option is a highly scalable server-client based multimodality processing and review environment, providing a comprehensive suite of molecular imaging applications that are accessible virtually anywhere, anytime.

#### Accelerate the speed of quality care

You can share clinical images and data with peers, specialists, and referring physicians in real time so that they can see the same images you see – at the same time you do – to streamline communication, increase collaboration, and enhance diagnostic confidence.

#### Turns any PC into a powerful multimodality workspace

Improve workflow efficiency with convenient access to the full suite of multimodality applications on a PACS terminal or from any standard configuration PC.



The IntelliSpace Portal<sup>†</sup> allows easy communication and collaboration.

\*Web Collaborator enables viewing and sharing – not intended for diagnosis.
<sup>†</sup> Images are not for diagnosis except when using cleared software for mobile application.

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\*Some products referenced may not be licensed for sale in Canada.

## 1. PET and MR platforms



#### 1.1 PET and MR platforms

PET platform	Time-of-Flight
MR platform	Achieva 3.0T TX

#### 1.2 General specifications

Attenuation correction	MR Segmentation
Maximum patient weight	200 kg (440 lb)
Patient scan range	190 cm
Horizontal speed	180 mm/s (max)
Minimum table height	66 cm

## 2. Time-of-Flight

Ingenuity TF PET/MR offers true Time-of-Flight (TOF) performance for exceptional speed and full-fidelity PET imaging to enhance patient care. See fully listmode reconstructed images within minutes of acquisition.

## Time-of-Flight offers enhanced quantitative assessment through:

• Enhanced lesion detectability

• Improves lesion detection\*

"TOF PET yielded a significant improvement in lesion detection in oncologic studies over all contrast and BMI's, and this improvement was greater for lower lesion contrasts."\*

#### 2.1 PET specifications

Detector design	PIXELAR with continuous light guide
Number of crystals	28,336
Crystal size	4 x 4 x 22 mm
Crystal material	LYSO
Number of detector rings	44
Hygroscopic	no
Number of PMTs	420
Ring diameter	90 cm
Transaxial FOV	67.6 cm
Axial FOV	18 cm
Coincidence window size	3.8 ns
Lower level discriminator	460 keV
Timing resolution	<550 ps
Sampling rate	25 ps
Sensitivity gain	2 - 5x, depending on patient size
Time-of-Flight System Sensitivity	>17650 cps/MBq (center)
	>18150 cps/MBq (10 cm)
Peak NECR	>91 kcps @ 15 kBq/ml
Clinical NECR	>57 kcps @ 5.3 kBq/ml
Time-of-Flight localization accuracy	8.25 cm
System sensitivity	>6000 cps/MBq (center)
	>6000 cps/MBq (10 cm)
Transverse spatial resolution @ 1 cm	< <b>4.9</b> mm
Transverse spatial resolution @ 10 cm	<5.5 mm
Axial spatial resolution @ 1 cm	< <b>4.9</b> mm
Axial spatial resolution @ 10 cm	<5.5 mm
Peak noise equivalent count rate 1R (NECR)	>76 kcps @ 15 kBq/ml
Clinical noise equivalent count rate 1R (NECR)	>51 kcps @ 5.3 kBq/ml
Max Trues	≥175 kcps
Scatter fraction	<32%
System energy resolution	<13%

<sup>&</sup>lt;sup>\*</sup> El Fakhri, et al. Improvement in Lesion Detection with Whole-Body Oncologic Time-of-Flight PET. J Nucl Med. 2011.

## 3. SmartExam

#### SmartExam lets you compare apples with apples

SmartExam provides consistent and reproducible MRI results for challenging exams and follow-up studies independent of most variables. Whether you use it for brain, spine, breast, shoulder or knee imaging, you can get consistent high-quality images for confident decision-making.

- Consistent and reproducible results for radiologists
- Increased time for technologists
- Increase staffing freedom and productivity for the department

#### 3.1 SmartExam Brain

With SmartExam Brain, brain studies can be consistently reproduced with enhanced scan quality and reproducibility, independent of patient, patient positioning or operator. SmartExam Brain seamlessly interfaces with ExamCards, enabling automatic planning, scanning, and processing of complete patient studies according to the ExamCard protocol specifics of your institution.

#### Optional

#### 3.2 SmartExam packages

In addition to SmartExam Brain, SmartExam packages are available for shoulder, spine and knee imaging. SmartExam uses Philips-exclusive technology for completely automated planning, scanning and processing of more than 80% of core applications, with a single mouse click, while ensuring consistency and reproducibility throughout.



Complete studies can be planned, scanned, and processed with a single mouse click.

## 4. MultiTransmit



#### **Ultra-high performance**

The Ingenuity TF PET/MR system is designed for excellent performance of clinical applications for routine day-to-day use with the benefits of ultra-high performance. MultiTransmit technology addresses dielectric shading and local specific absorption rate (SAR) issues at the source, thereby enabling body related applications to become mainstream at 3T.

#### Automatically adapts to each patient

By automatically adjusting the RF transmission signals to the size and shape of each individual patient, Ingenuity TF PET/MR provides superb diagnostic images in the most demanding high-field applications. The system allows fast imaging (e.g. subminute brain, spine, and knee scans) as well as high-resolution imaging (e.g. 100 um orthopedic scans).

## 5. Magnet system

#### 5.1 Magnet type and dimensions

Туре	Ultra-compact, zero boil-off,
	superconducting magnet
Shield type	Actively shielded
Field strength	3.0T
Length	1.57 m (5 ft. 2 in.)
Width	1.88 m (6 ft. 2 in.)
Height	2.45 m (8 ft. 1 in.)
Weight (with cryogens)	< 4,600 kg (10,141 lbs.)
Fringe field containment	
• 5G (axial x radial)	5.0 m x 3.1 m
	(16 ft. 5 in. x 10 ft. 2 in.)
• 1G (axial x radial)	7.5 m x 4.5 m
	(24 ft. 8 in. x 14 ft. 10 in.)
Patient Aperture	60 cm
Tunnel Length	60 cm
Tunnel Flare	110 cm

#### 5.2 Field homogeneity

50 x 50 x 4	5 cm
Both passiv	e and active
shimming; p	passive shimming
during insta	allation;
automatic a	active shim
(auto-shim)	) or 1st and 2nd
(high) orde	r Dynamic FOV
shimming fo	or each patient
Yes	
Typical	Guaranteed
(ppm)	(ppm)
0.5	0.7
0.12	0.16
0.03	0.04
0.004	0.007
< 0.1 ppm/hour	
< 876 ppm/	/year
	50 x 50 x 4 Both passiv shimming: p during insta automatic a (auto-shim) (high) orde shimming for Yes Typical (ppm) 0.5 0.12 0.03 0.004 < 0.1 ppm/ < 876 ppm/

\*Measured in 24 angles on 24 planes.

#### 5.3 Cryogens

Туре	Liquid helium; zero boil-off system
Vessel capacity	2025 liters
Boil-off rate <sup>†</sup>	0 liter/hour
Refill Interval	N.A.

<sup>†</sup>Under regular scanning conditions.



The straight central section of the MR patient bore ("tunnel") is only 60 cm long for patient comfort.



The PET open gantry design with 70 cm bore enhances patient comfort.

## 6. Gradient system

The exclusive Quasar Dual gradient system offers high MR performance with superb linearity for FOVs up to 50 cm. The Quasar Dual gradient system enables users to choose between two amplitude and slew rate combinations for critical applications.

Quasar Dual allows selection of either 40 mT/m peak amplitude combined with a slew rate of 200 mT/m/ms or – in studies that profit from high gradient amplitude such as diffusion-weighted imaging – an 80 mT/m peak amplitude. Both performance levels can be achieved over the entire FOV. The Quasar Dual gradient system delivers the advanced performance levels required for new and demanding clinical applications, including high-resolution short TE/TR and EPI acquisitions.



The force-balanced dedicated coil is designed to reduce vibrations and acoustic noise, enhancing patient comfort and patient acceptance.

#### 6.1 Gradient system

Туре	Non-resonant, self-shielded,
	3.0T dedicated coil design
Gradient performance*	
Max. amplitude	80 mT/m
Effective amplitude	139 mT/m
Max. slew rate	200 mT/m/msec
Effective slew rate	346 mT/m/msec
Mode	Dual
Mode 1	40 mT/m & 200 mT/m/msec
	with max. FOV
Mode 2	80 mT/m & 100 mT/m/msec
	with max. FOV
Duty cycle	100%
Gradient linearity	1.0%
(V-RMS <sup>†</sup> )	
at 40 cm DSV	
Coil cooling	Liquid
Amplifier cooling	Liquid

#### 6.2 Acoustic noise reduction

Hardware	Force-balanced technology gradient	
	coil, covers, and headset	
Software	SofTone	



SofTone, the Philips unique acoustic noise reduction technology helps control gradient acoustic noise for patient comfort.

\* On each axis.

<sup>†</sup> Measured in 12 angles on 19 planes.

## 7. FreeWave

At the heart of the Ingenuity TF PET/MR is FreeWave, an advanced modular 32-channel digital data acquisition system designed for exceptional SENSE parallel imaging and MultiTransmit parallel transmission. The FreeWave functionality also allows for use of other applications including 4D-TRAK, 4D-THRIVE, k-t BLAST and 2k imaging.



FreeWave is designed for top performance today and also to prepare the system for the future.

#### 7.1 RF transmit

Parallel RF transmission	Yes
Number of fully	2
independent RF amplifiers	
RF amplifier type	Solid state, microprocessor
	controlled, air-cooled
RF control	Fully flexible for each
(power, amplitude,	source
phase, waveform)	
Optimization RF transmit	Patient and anatomy
(power, amplitude,	adaptive for each source,
phase, waveform)	automatic
Output power	2x18 kW (distributed)
Output frequency	127.728 MHz (3.0T)
Bandwidth	720 kHz
	(± 360 kHz around
	operating frequency)
Amplitude resolution	16 bits
Frequency resolution	0.07 Hz/bit
Phase resolution	16 bits (0.005 degrees)

#### 7.2 Receive

Number of channels	32 standard
Channel bandwidth	3 MHz per channel
	(20 ns temporal resolution)
Sampling	Direct digital sampling
	(DDS)
Demodulation filtering	Digital
Filter accuracy	2 x 24 bits
Amplitude resolution	$2 \times 16$ bits, 20 ns resolution
Dynamic range	Up to 150 dB
Pre-amplifiers	All RF coils include
	built-in dedicated
	low-noise preamplifiers
	for improved SNR
Pre-amplifier noise figure	< 0.5 dB

			U							
Sequence	Matrix	2D	2D	2D	2D	3D	3D	3D	3D	3D
		Min TE	Min TR		Min Gr.	Min TE	Min TR	Min Spin	Min Gr.	Max no.
				Echo				Echo	Echo	
SE/IR	128	3.66	29.6			5.43	42			
	256	3.82	29.6			5.52	42			
TSE/	128	2.03	71.7	2.03		5.04	87.1	5.04		
IR-TSE	256	2.29	71.7	2.29		5.30	86.8	5.30		1024
	512	3.17	71.7	3.17		6.18	85.9	6.18		
	1024	4.96	71.7	4.96		7.97	84.9	7.97		
Ssh TSE	256			96.3 ms mini	imum shot o	duration				1024
FFE/TFE	64	0.27	0.77			0.27	0.77			
	128	0.33	0.80			0.33	0.80			1024
	256	0.43	1.09			0.43	1.09			
GRASE	128	4.79	65.0	4.79	0.40	7.80	84.9	7.80	0.40	
	256	6.19	65.0	6.19	0.76	9.18	84.9	9.18	0.76	1024
FFE-EPI	64	0.73	1.76		0.245	0.73	1.76		0.314	
	128	0.86	2.16		0.346	0.86	2.16		0.379	1024
	256	1.29	3.65		0.675	1.29	3.65		0.708	
Ssh EPI	128			7.9 ms minim	num shot du	Iration				1024
SE-EPI	64	3.69	29.6		0.245	6.65	42.0		0.314	
	128	3.79	29.6		0.346	6.80	42.0		0.379	1024
	256	4.47	29.6		0.675	7.47	42.7		0.708	
DWI	128			Single-Shot,	b=1000, mi	nimum TE =	= 37 ms			
				Single-Shot,	b=25000, n	ninimum TE	= 87 ms			

#### 7.3 Parameter values, Quasar Dual gradients

**Notes:** The Ingenuity TF PET/MR system can perform all of the sequences mentioned above with matrix sizes from 64 to 1024 (2048 optional). This table is limited to commonly used matrices. A combination of the stated parameters is not always possible; some parameters may require optional packages. Scan parameters are compliant with I.E.C. S.A.R. regulations.

## 8. RF-SMART

The Philips unique RF-SMART (Radio Frequency Superior Management ARrchiTecture), has been developed for 3.0T systems in order to manage the specific absorption rate (SAR) and to improve scanner performance.

The system features a short, highly efficient transmit/ receive body coil for which the form factor, component topology and power distribution are supported with the use of a prior knowledge of SAR distribution in the human body.



RF-SMART provides fast and efficient imaging, with excellent image quality.

Feature	Benefits
Body coil designed to map RF excitation field only to where it is needed without compromising FOV, amplitude, or uniformity	Efficient use of a high RF duty cycle reduces the occurrence of dielectric artifacts in body imaging, and increases SNR
SENSE for all sequences and a comprehensive range of SENSE coils	Accelerated scan times at reduced RF exposure
Flip Angle sweeps in TSE sequences	SAR reduction
Flexible RF field amplitude control for constant flip angle at exceptional SAR	Reduces contrast compromises
CLEAR homogeneity correction and SPAIR fat suppression	High image quality in all applications
Body-tuned CLEAR filter	Superb homogeneous signal
Independent parallel RF sensing hardware	Integral feedback control on the peak and average RF field at the patient (applicable to all transmitting coils)
Synergetic real-time digital RF power management with three independent hardware and software paths (persistent consensus over all paths	Allows for expanded use of RF power with limited exposure to the patient
Anatomy-specific dynamic SAR limits	Enhanced performance in applications and for SENSE RF coils
Fully automatic, real-time protocol optimization	Exceptional scan performance at constant SAR

#### 8.1 Advantages of RF-SMART

## 9. Standard RF coils

The Ingenuity TF PET/MR system has built-in preamplifiers in all receiver coils for superb SNR. The coils described below come standard with the system. A full range of optional SENSE compatible coils is available.

#### 9.1 Quadrature Transmit/Receive Body Coil

This built-in transmit/receiver Quadrature coil features high SNR to perform whole-body imaging without additional surface coils.



Applications for the Quadrature Transmit/Receive Body Coil include large body parts such as neck, spine, abdomen, and extremities.



Aperture dimensions are 60 cm length x 60 cm opening.



Philips RF coils allow for superb SNR.

## 10. Head coils

#### 10.1 SENSE Head 3.0T Coil

The SENSE Head 3.0T Coil is compatible with Software Release 3 and requires 32-channel FreeWave. Maximum SENSE factor of 16 requires appropriate ScanTools level. The SENSE Head 3.0T Coil is not available in Canada.



#### 10.2 Quadrature Transmit/Receive Head Coil



Coil dimensions are 28 cm length x 26 cm free height from headrest.



Applications are head and foot with high RF amplitude using transmit and receive feature.

#### 10.3 SENSE Head Coil

#### (optional alternative for Quadrature Head Coil)

This receive-only phased array coil is for the head and has eight channels. Max SENSE factor is 8 with ScanTools Pro and factor 4 with ScanTools Plus.



Enhanced crown design for increase of SNR in lateral and cortex areas and permits reduced scan times.



Increased BOLD sensitivity – 8-ch SENSE Head (left) and 32-ch SENSE Head (right).

## 11. Patient environment

#### Designed for enhanced patient comfort

The patient environment is open and spacious:

- Ultra compact, short-bore magnet
- Wide, flared opening

**11.1 Patient comfort** 

- Soft lines
- Soothing colors
- 60 cm bore and a large 50 cm FOV
- PET open-gantry design with 70 cm bore also enhances patient comfort
- The state-of-the-art design allows easy access to the patient and good patient visibility for the operator
- During many examinations the patient can easily see outside the magnet
- Unique SofTone feature helps control and reduce gradient-induced acoustic noise for imaging sequences
- An acoustic noise-suppression headset further decreases acoustic noise perceived by the patient



Patient aperture	60 cm
MR tunnel length	60 cm
MR tunnel flare	110 cm
PET open	70 cm bore
gantry design	
Illumination	Adjustable indirect DC lighting
Viewing angle	51 degrees (from isocenter)
Air flow	Adjustable
Patient headset	Operator-patient communication,
	acoustic noise reduction up to
	25 dB(A); can provide music for
	patient comfort (option)
Communication	Two-way intercom communication
	with the patient; hand-held nurse
	call button; optional camera and
	monitor are available (up to four
	cameras can be connected)
Comfort	Soft mattress with headrest;
accessories	head coil mirror; patient position
	and comfort pad kit including
	knee bolster, positioning wedges,
	sandbags, and patient restraint
	straps of various sizes

#### 11.2 Patient support

Patient controls	Magnet front: located on left side
	Magnet rear: subset of controls
Coil connections	Integrated into front patient control unit
Patient positioning	Laser light reference cross for accurate
	patient positioning
Horizontal drive	Patient Control Unit or console operation.
	Automatic movement for selected slice
	to the isocenter of the magnet and also
	for multi-station imaging (MobiTrak).
Vertical drive	Electrically powered with the patient
	control unit
Scanning length	190 cm (6 ft. 2 in.)
Tabletop accuracy	+ 0.5 mm (0.02 in.)
Weight capacity	250 kg (550 lbs) with horizontal motion
	150 kg (330 lbs) with vertical motion
Patient table height	Working position 89 cm (35.2 in.)
	Min. 52 cm (20.5 in.)

#### **11.3** Physiology synchronization

Туре	Vector ECG (VCG) and respiratory –
	standard peripheral pulse (with optional
	PP sensors)
Imaging methods	Gating, triggering
Waveform display	On operator console; optional LCD
	physiology display monitor mounted on
	the system displays waveforms in the
	examination room

## 12. Computer system

The Ingenuity TF PET/MR computer utilizes an innovative parallel multiprocessor design to deliver the performance and capacity for advanced levels of clinical operation. This allows simultaneous operation for increased efficiency, flexibility, and streamlined data management. The system provides full parallel scanning and reconstruction capabilities. Advanced software functionality on the console reduces the workload on the operator.



System offers simplified and enhanced workflow through a user interface and protocol management for the entire PET/MR examination.

#### 12.1 Host computer

Processor	Intel <sup>*</sup> Core <sup>*</sup> 2 Quad Processor
	(2.6 GHz)
Processor memory	8 Gbyte
Image disk	≥140 Gbyte
	Approx. ≥250,000
	uncompressed images
	(256 × 256)
Software disk	≥140 Gbyte
Image storage	External storage via USB port
	DVD+RW 4.7 Gbyte (optional)
	Approx. 40,000 uncompressed
	images (256 x 256)
	DICOM STD-CTMR format
Parallel scanning	Yes
and saving images	

#### 12.2 RapidView reconstructor

Processor	Dual Intel <sup>*</sup> Core <sup>*</sup> 2 Quad
	Processors (2.6 GHz)
Processor memory	16 Gbyte
Parallel scanning and	Yes
reconstruction	

#### 12.3 Connectivity

Protocol	Ethernet TCP/IP standards-
	based image transfer with
	DICOM 3.0 over standard
	Ethernet IEEE 903
Network connection	10BaseT/100BaseT/1 Gbyte
VCR interface	Transmits series of images
	to standard VHS connection;
	supports color PAL or
	NTSC color

\* Intel and Intel Core are trademarks of Intel Corporation in the U.S. and/or other countries.

## 13. Siting

Philips site-planning specialists will assist in all aspects of site and installation planning. Detailed data concerning installation requirements is given in specific site planning documentation (Planning Reference Book). Please refer to the local Philips organization for detailed specifications for the installation.

#### 13.1 Floor plan



#### 13.2 Equipment layout ceiling height clearances

Procedure room	2515 mm (8 ft. 3 in.)
RF shielding	3200 mm (10 ft. 6 in.)
Equipment room	3200 mm (10 ft. 6 in.)
Control room	3000 mm (9 ft. 10 in.)

#### 13.3 Examination room

Floor space	42 m² (6 m x 7 m)
(Recommended)	450 sq. ft. (19 ft. 8 in. x 23 ft.)
Floor space	19.1 m <sup>2</sup> (3.6 m x 5.3 m)
(Minimum)	206 sq. ft. (11 ft. 10 in. x 17 ft. 5 in.)
Ceiling height	3.2 m (10 ft. 6 in.)
(Recommended)	
Ceiling height	2.9 m (9 ft. 7 in.)
(Minimum)	
Temperature	20 – 24 °C
Humidity	40 – 60 %
(Non-condensing)	
Heat dissipation	2 kW

\* Note: The examination room must be RF-shielded.

#### 13.4 Control room

Temperature	18 – 24 °C
Humidity	30 – 70 %
(Non-condensing)	
Heat dissipation	0.5 kW

#### 13.5 Technical room

Floor space	15.2 m² (6.1 m x 2.5 m)
(Recommended)	163 sq. ft. (20 ft. x 8 ft. 2 in.)
Floor space	6.4 m² (3.6 m x 1.8 m)
(Minimum)	68 sq. ft. (11 ft. 9 in. x 5 ft. 10 in.)
Ceiling height	3.2 m (10 ft. 6 in.)
(Recommended)	
Ceiling height	2.6 m (8 ft. 6 in.)
(Minimum)	
Temperature	15 – 24 °C
Humidity	30 – 70 %
(Non-condensing)	
Heat dissipation	
• Standby	2 kW
• Peak	12 kW

#### **13.6 Power requirements**

Mains voltage	400 or 480 V +/- 10 %, 3 phase,
	neutral and earth. Surge
	Protection: Complies with
	IEC 60601. A voltage stabilizer
	or power conditioner is not
	required if customer site meets
	the above mains requirements.
Mains frequency	50 or 60 Hz +/- 1%
Power ratings	
(including magnet	
cryocooler)	
• Standby	9 kW
• Ready for	13 kW
measurement	
• Average <sup>†</sup>	19 kW
• Peak	50 kW

<sup>†</sup> Estimated power consumption during measurement.

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