

**SOMATOM Force**

# Get two steps ahead with Dual Source CT

[siemens-healthineers.com/somatom-force](http://siemens-healthineers.com/somatom-force)



International version.  
Not for distribution or use in the U.S.

**SIEMENS**  
Healthineers

# Expanding precision medicine

Healthcare institutions need to keep pace with global trends and their impact on care delivery. Societies are aging fast and demanding care that's geared to older and older patients. Obesity is creating new challenges for diagnostics and therapy. At the same time, the growing prevalence and cost of chronic diseases calls for innovative answers.

Radiology can play a key role in managing these issues. SOMATOM® Force, Siemens Healthineers' leading Dual Source CT system, keeps you at the forefront when it comes to acquiring more precise data and a deeper understanding of human health.

## SOMATOM Force – Get two steps ahead with Dual Source CT



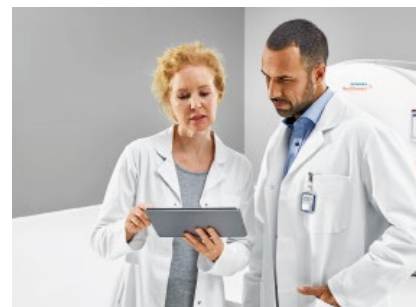
### Get two steps ahead in clinical excellence

- Bring image quality to the next level – with free-breathing and powerful imaging
- Improve patient care – with kidney-friendly and ultra-low-dose scanning
- Make sound decisions – with 4D imaging at half the dose and dose-neutral Dual Energy



### Get two steps ahead in workflow performance

- Position patients precisely – with FAST Integrated Workflow
- Accommodate the smallest to the tallest – with personalized scanning
- Zero-click postprocessing – with Rapid Results Technology



### Get two steps ahead in expert leadership

- Advance your research – with professional tools
- Connect with peers and lead a global community
- Expand your capabilities and rethink your way of working

## Get two steps ahead in clinical excellence

SOMATOM Force supports high-precision diagnosis, reliable therapy response evaluation, and improved care for every individual.



### Bring image quality to the next level

#### Free-breathing imaging:

Motion blur and unwanted artifacts can obscure diagnostic image quality. Scanning with a native temporal resolution high enough for patients to breathe freely provides significant clinical benefits. Thanks to SOMATOM Force's extended coverage, you can scan an entire heart in approximately 150 ms. Combining an acquisition speed of up to 737 mm/s and a generator power of up to 2x120 kW, SOMATOM Force facilitates freezing motion at outstanding image quality.

#### Powerful imaging:

When the smallest details count – such as in the inner ear and bone imaging, or stent visualization – the quality of the entire imaging chain is essential. With its powerful Vectron™ X-ray tubes and the highly sensitive Stellar<sup>Infinity</sup> detectors, SOMATOM Force is the ideal scanner for high-speed, large-volume coverage at outstanding image quality.



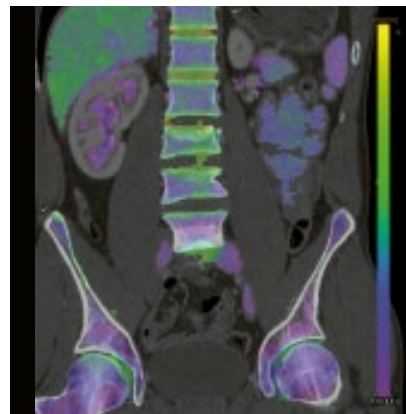
### Improve patient care

#### Kidney-friendly scanning:

SOMATOM Force allows you to routinely perform exams at 70-90 kV, even with adults. This may reduce the quantity of contrast media required. As a result, residual renal function can be maintained and the kidneys are less likely to be harmed by nephrotoxic effects.

#### Ultra-low-dose scanning:

SOMATOM Force comes with the unique Tin Filter technology, which shields your patients from clinically irrelevant low-energy radiation. The result: You can deliver excellent results at dose levels comparable to conventional X-ray.



### Make sound decisions

#### Precise and dose-neutral Dual Energy (DE):

The reliable evaluation of patient-specific therapies can significantly improve patient outcomes and prevent costly, ineffective treatment. Dual Energy CT can add tissue and material information to morphology. Improved DE acquisition speeds of up to 258 mm/s and a much broader range of applications, for example, for obese patients, permit a more precise differentiation of tissue types in oncology, cardiovascular, and acute care cases.

#### 4D imaging:

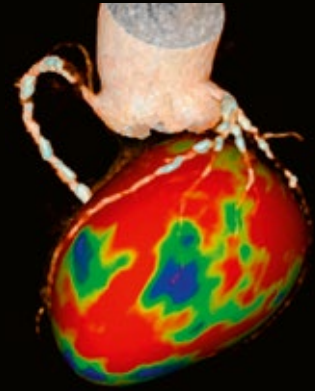
With diagnoses often stuck in a compromise between dose and data, the option to deliver high-quality yet dose-efficient 4D imaging can help make decisions more quickly and sustainably. 4D imaging adds functional information to morphology. With its Stellar<sup>Infinity</sup> detectors, SOMATOM Force enables body perfusion suitable for use in clinical practice. The increased coverage allows for a perfusion range of up to 22 cm, which easily covers entire organs.



Precise and dose-neutral Dual Energy imaging significantly increases precision<sup>1,2</sup>



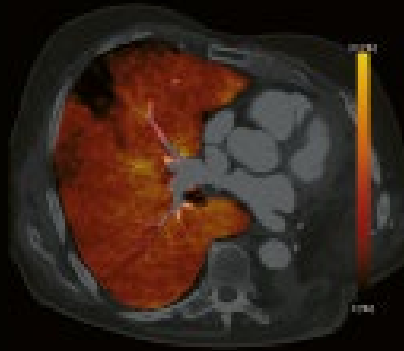
Sub-millisievert Turbo Flash cardiac imaging at 75-130 bpm – RCA irregularities without significant stenosis<sup>2,3</sup>



Dynamic myocardial stress perfusion – combining diagnostic and functional imaging at low dose (43.08 mGy; 70 kV) allows the most efficient possible use of radiation dose<sup>4</sup>



Visualization of coronaries in a 2-month-old free-breathing baby (1.16 mGy, 70 kV) at HR of 130 bpm<sup>5</sup>



Precise Dual Energy tissue differentiation – lung perfusion<sup>6</sup>



4D imaging at half the dose (Eff. dose: 1.39 mSv)<sup>2,7</sup>



Free-breathing and ultra-low-dose imaging (Eff. dose: 0.08 mSv)<sup>1</sup>



Turbo Flash Mode covers 50 cm within 0.6 s even showing coronary arteries in the finest detail (HR: 38-214 bpm; CM: 40 mL)<sup>2,3</sup>

## Get two steps ahead in workflow performance



### Position patients precisely – with FAST Integrated Workflow

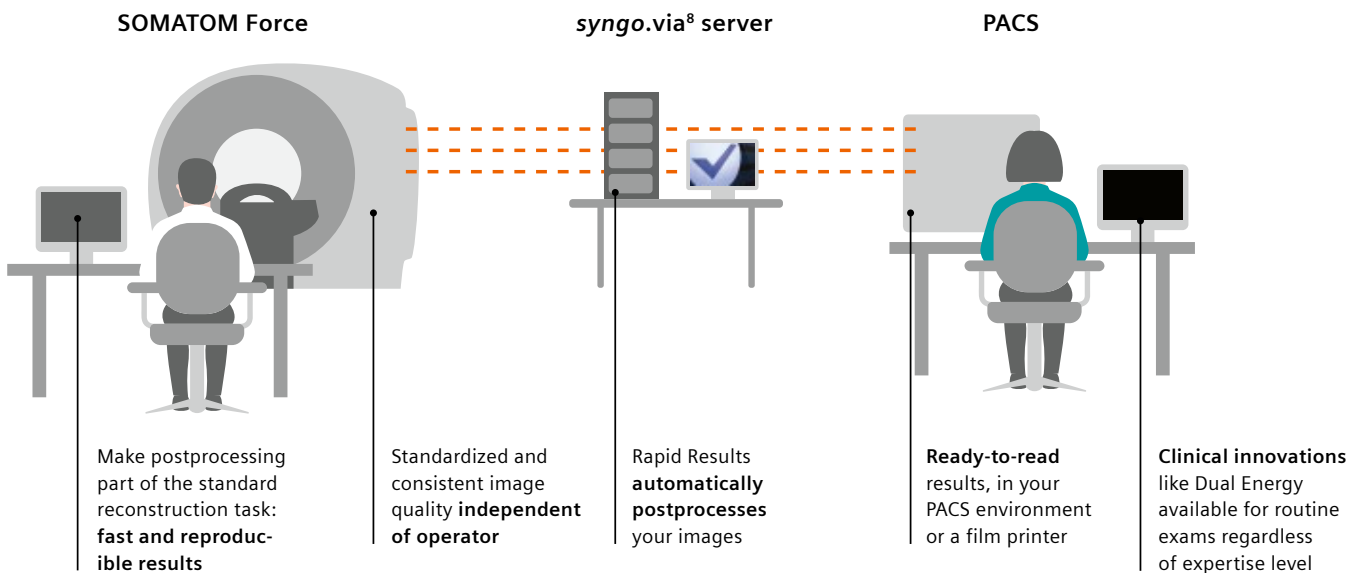
Accurate patient positioning is essential for safe, error-free CT imaging with no rescans and time loss. However, users are as individual as patients, and so the quality of results can differ enormously. With its game-changing FAST Integrated Workflow, SOMATOM Force helps technologists acquire the right body region at the right dose – in a reproducible way.



### Accommodate the smallest to the tallest – with personalized scanning

No two patients are the same, and some aren't easy to scan – but referring physicians and ordering clinicians always expect precise results. With its outstanding speed, power reserves, and sensitivity, SOMATOM Force adapts to every need. At the same time, intelligent automation adjusts scan parameters to each patient size and shape.

## Rapid Results Technology available with SOMATOM Force and *syngo.via*



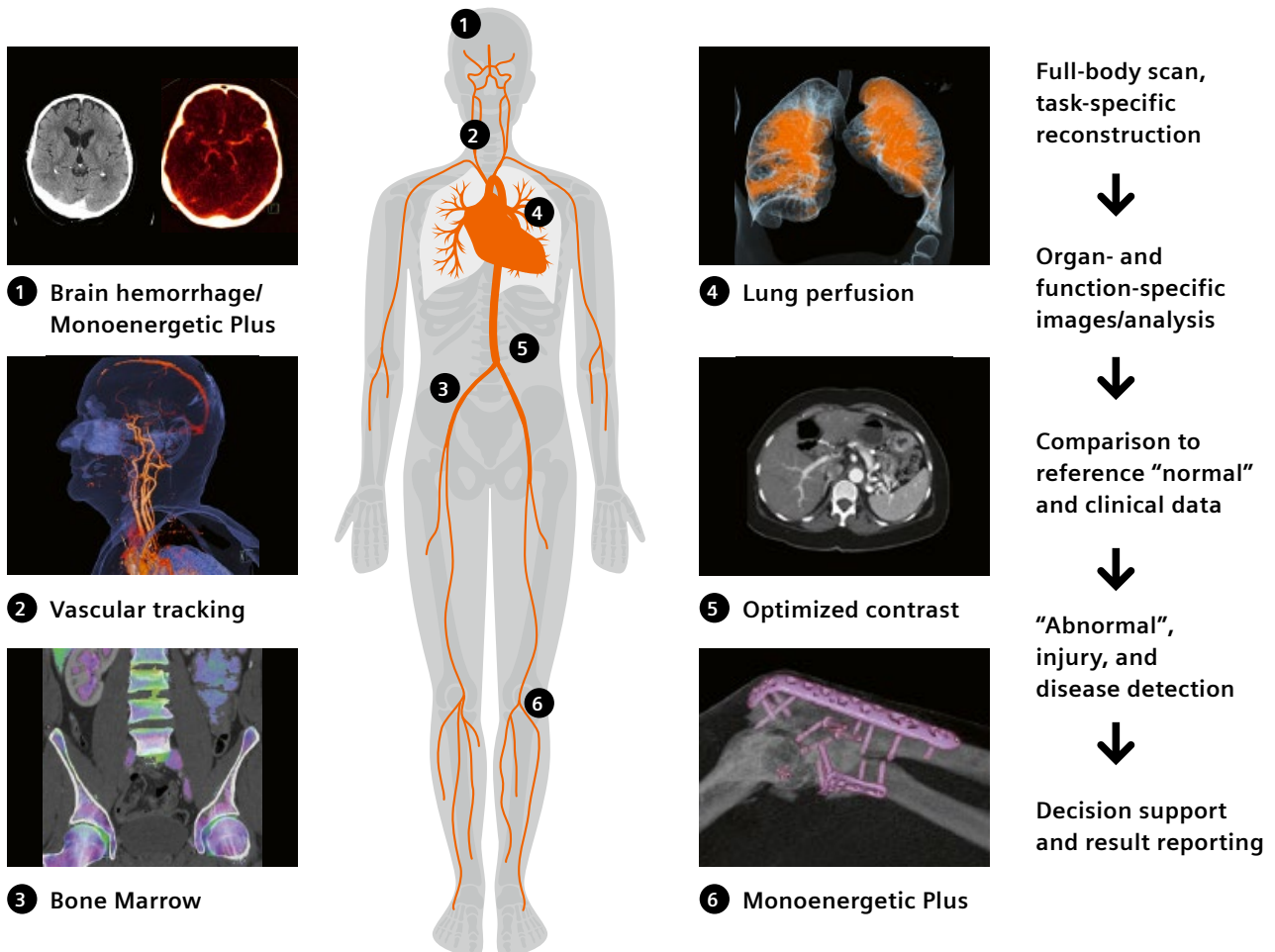
## Get two steps ahead in workflow performance

Expand your capabilities and rethink your way of working

With Dual Source imaging, CT started to transform care delivery. One of the most prominent examples of change is trauma imaging. SOMATOM Force combines a unique range of Dual Energy technologies like fast Dual Energy acquisition, Virtual Monoenergetic, virtual non-contrast (VNC), Iodine Maps, and Bone Marrow images that enable fast, high-quality decision-making for diverse patients and exams.



## Exploration of the role of quantitative imaging in trauma



## Technical specifications

Detectors	2 × Stellar <sup>Infinity</sup> detectors with anti-scatter 3D collimator grid
X-ray tubes	2 × Vectron™ X-ray tubes
Number of acquired slices	384 (2 × 192) slices
Rotation time	up to 0.25 s <sup>8</sup>
Temporal resolution	up to 66 ms <sup>8</sup>
Generator power	240 kW (2 × 120 kW)
kV settings	70 – 150 kV at 10 kV Steps
Spatial resolution	0.24 mm <sup>8</sup>
Max. scan speed	737 mm/s <sup>8</sup> with Turbo Flash
Table load	up to 307 kg/676 lbs <sup>8</sup>
Gantry opening	78 cm

## Technical overview



### Dual Source CT imaging with the revolutionary Vectron™ X-ray tube

- 1,300 mA at 70, 80, 90 kV
- 0.4 × 0.5 (IEC) focal spot
- 70–150 kV in steps of 10 kV



### Dual Source CT imaging with the exceptional Stellar<sup>Infinity</sup> detector

- With anti-scatter 3D collimator grid
- TrueSignal technology with full electronic integration
- Edge technology enabling the generation of 0.5 mm slices



### 66 ms “native” temporal resolution

- Independent of the heart rate
- An entire heart can be covered, in the end-systolic phase, in approximately 150 ms



### Tin Filters

- Low-dose early detection
- Tin-filtered topogram



### 737 mm/s acquisition speed

- Reduce the need for sedation
- Most versatile scan mode in the industry
- Freeze motion artifacts



### 50% less dose in dynamic imaging and 30% more energy separation in DE

- Effective separation of energy spectra
- Enables advanced Dual Energy applications such as Bone Marrow



### FAST Integrated Workflow with FAST 3D Camera

- Precise isocentering
- Correct patient positioning
- Exact topogram



### Adaptive 4D Spiral

- Advanced CT perfusion up to 22 cm
- Extended dynamic angiography up to 80 cm
- Adaptive Dose Shield

SOMATOM Force is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

On account of certain regional limitations of sales rights and service availability, we cannot guarantee that all products/services/features included in this brochure are available through the Siemens Healthineers sales organization worldwide. Availability and packaging may vary by country and are subject to change without prior notice.

The information in this document contains general descriptions of the technical options available and may not always apply in individual cases.

Siemens Healthineers reserves the right to modify the design and specifications contained herein without prior notice. Please contact your local Siemens Healthineers sales representative for the most current information.

In the interest of complying with legal requirements concerning the environmental compatibility of our products (protection of natural resources and waste conservation), we may recycle certain components where legally permissible. For recycled components we use the same extensive quality assurance measures as for factory-new components.

Any technical data contained in this document may vary within defined tolerances. Original images always lose a certain amount of detail when reproduced.

1 Courtesy of University of Tuebingen, Tuebingen, Germany.

2 Requires the license syngo.via Cinematic VRT. Cinematic VRT is recommended for communication, education, and publication purposes and is not intended for diagnostic reading.

3 Courtesy of Baotou City No. 8 Hospital, Baotou, P.R. China.

4 Courtesy of Peking University Medical College, Beijing, P.R. China.

5 Courtesy of University of Karolinska, Solna, Sweden.

6 Courtesy of University Hospital Calmette, Lille, France.

7 Courtesy of University Medical Center Mannheim, Mannheim, Germany.

8 syngo.via can be used as a stand-alone device or together with a variety of syngo.via-based software options, which are medical devices in their own right. syngo.via and the syngo.via-based software options are not commercially available in all countries. Due to regulatory reasons their future availability cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

9 Option.

Heart image on page 3:  
Courtesy of University Hospital Calmette, Lille, France.

Vascular image on page 3:  
Courtesy of University Medical Center Mannheim, Mannheim, Germany.

Bone marrow image on page 3:  
Courtesy of University of Tuebingen, Tuebingen, Germany.

International version.

Not for distribution or use in the U.S.

---

### Siemens Healthineers Headquarters

Siemens Healthcare GmbH  
Henkestr. 127  
91052 Erlangen, Germany  
Phone: +49 9131 84-0  
siemens-healthineers.com