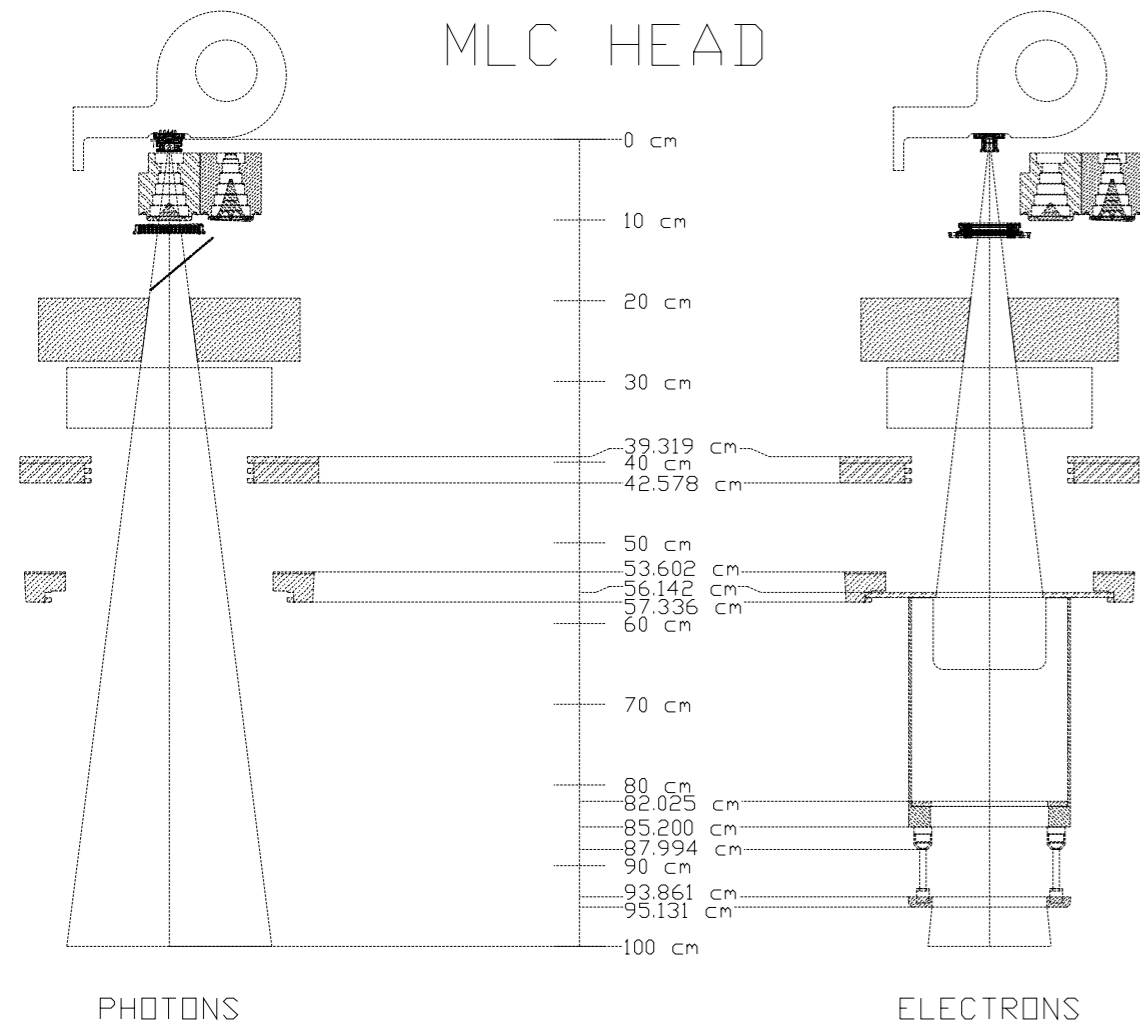


# Beam Path



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

The information in this document contains general technical descriptions of specifications and options, as well as standard and optional features that do not always have to be present in individual cases.

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

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

Please find fitting accessories:

[www.siemens.com/medical-accessories](http://www.siemens.com/medical-accessories)

OPTIFOCUS, PRIMUS, ONCOR, SIMTEC AFS, SIMTEC IM-MAXX, VIRTUAL WEDGE, and OPTIVUE are trademarks of Siemens Medical Solutions USA, Inc.

© 10.2006, Siemens AG  
Order No. A91004-M2690-G006-01-4A00  
Printed in USA  
OCS-169 VH KL 2M CL

**Contact Address Germany**  
Siemens AG  
Medical Solutions  
Henkestrasse 127  
D-91052 Erlangen  
Germany  
Telephone: +49 (0 91 31) 84-0  
[www.siemens.com/medical](http://www.siemens.com/medical)

**USA**  
Siemens Medical Solutions USA  
51 Valley Stream Parkway  
Malvern, PA 19355  
USA  
Telephone: +888-826-9702  
[www.usa.siemens.com/medical](http://www.usa.siemens.com/medical)

Siemens Medical Solutions USA, Inc.  
Oncology Care Systems  
4040 Nelson Avenue  
Concord, CA 94520 USA

Siemens AG Medical Solutions  
Components Division  
Röntgenstrasse 19-21  
95478 Kemnath  
Germany

**Headquarters**  
Siemens Medical Solutions USA, Inc.  
Oncology Care Systems  
4040 Nelson Avenue  
Concord, CA 94520  
USA  
Telephone: +925-246-8200  
+888-826-9702 (US & Canada)  
[www.siemens.com/oncology](http://www.siemens.com/oncology)

[www.siemens.com/medical](http://www.siemens.com/medical)

## 3-D MLC and OPTIFOCUS

Fully Integrated Multileaf Collimators

[www.siemens.com/medical](http://www.siemens.com/medical)

**SIEMENS**  
medical

# 3-D MLC and OPTIFOCUS

## Fully Integrated Multileaf Collimators

Siemens always strives for ways to integrate cutting-edge technologies into its long-proven linear accelerator designs. The enhanced family of multileaf collimators (MLC) is another example of Siemens continuing commitment to elevate radiation therapy to a new level of treatment efficiency and cost-effectiveness.

Depending on customers' needs, the 3-D MLC with 58 leaves and the OPTIFOCUS™ full-field 82-leaf MLC are designed to optimize treatment delivery workflow by reducing the need to enter the treatment room multiple times per day to lift and position heavy, cumbersome blocks. Moreover, both MLCs allow for complete integration with the control console and the Oncology Information Management System to provide a seamlessly linked operation.

When combined with automation tools available on ONCOR™ and PRIMUS™ Linear Accelerators, such as the SIMTEC™ AFS, SIMTEC™ IM-MAXX, VIRTUAL WEDGE™, treatment tables, and OPTIVUE™, Siemens MLC solutions increase efficiency, minimize costs, and enable better patient outcomes.

The 3-D MLC and the OPTIFOCUS set new standards in innovation and design:

### Flexible

Clinical teams can treat a broader range of tumors using several technique options – from conventional and conformal treatments to Intensity-Modulated Radiation Therapy (IMRT).

### Safe

Every MLC field is fully verified prior to delivery.

### Fast

Siemens MLC solutions, combined with the SIMTEC delivery system, enable clinical teams to treat an unlimited number of fields faster than ever.

### Reliable

Both the 3-D MLC and the OPTIFOCUS MLC feature a unique ball bearing technology that allows for frictionless leaf movements, ultimately extending the life of the MLC components.

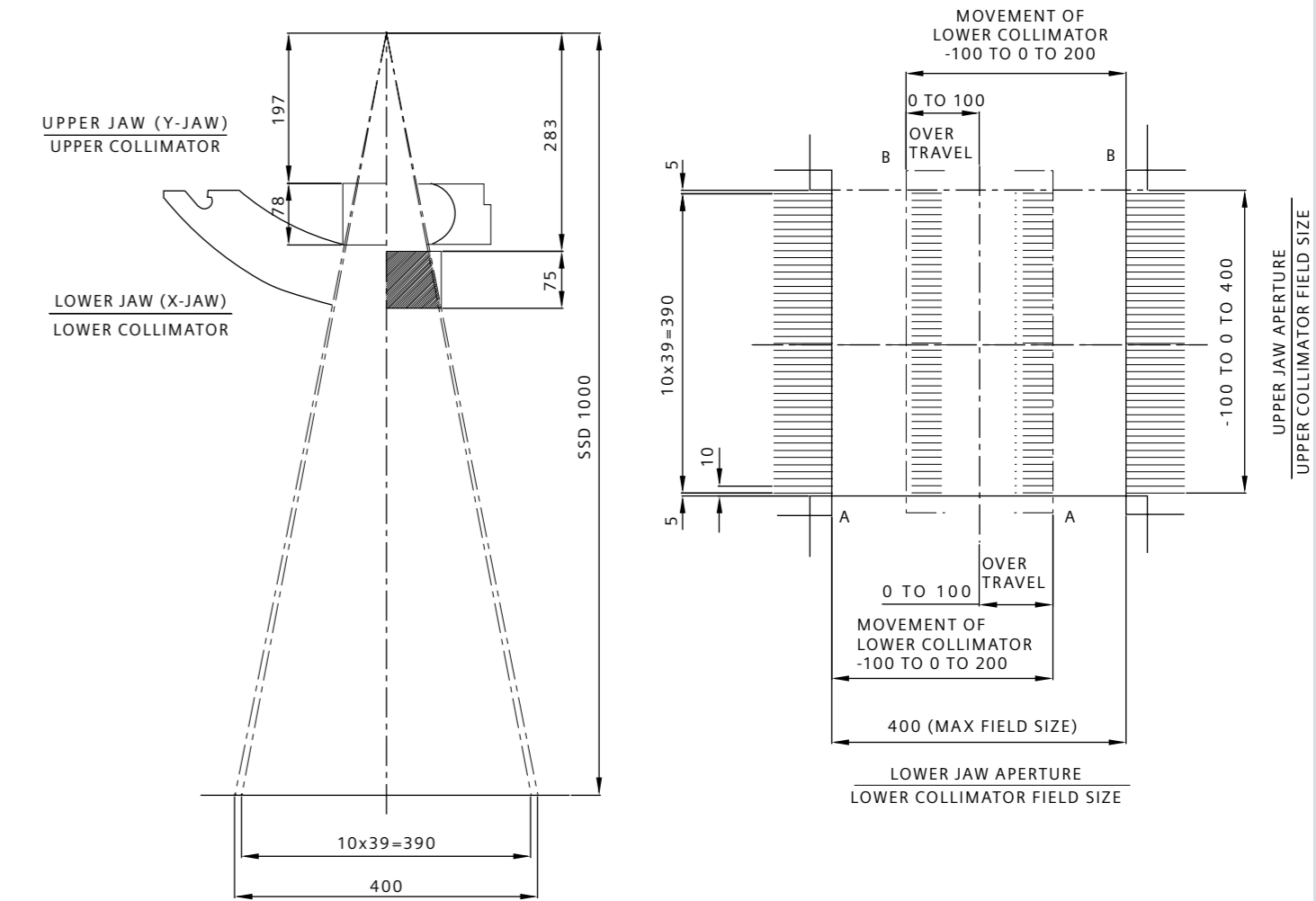
## Proven Technology for Fast, Safe Treatments

Siemens MLC solutions offer a combination of industry-leading specifications with outstanding performance and a high degree of reliability.

Technical Information			
	3D-MLC & OPTIFOCUS MLC	3-D MLC	OPTIFOCUS MLC
Number of leaves		58	82
Leaf position accuracy at isocenter (mm)		±2	±1 mm*
Maximum circular field diameter (cm)		29	40
Leaf width at isocenter (# of leaves x mm)		54 x 10 4 x 65	78 x 10 4 x 5
Servo-control speed			Yes
Calibration data backup support			Yes
Auto-initialization			Yes
Maximum field size (cm)	40 x 40		
Minimum field size (cm)	0 x 0		
Maximum leaf speed (mm/sec)	20		
Maximum leaf movement of a single leaf (cm)	30		
Leaf material	Tungsten		
Leaf height (mm)	75		
Double-focused design	Yes		
Transmission through leaves	< 1% (mean: 0.7%)		
Transmission between leaves	< 2% (mean: 1.5%)		
Mean transmission along in-plane profile of leaves	< 0.7% at 6 MV		
Penumbra (mm)	7 ± 2		
Isocenter clearance with accessory holder (cm)	43		
Isocenter clearance without accessory holder (cm)	53		
Ball bearing technology	Yes		
Tongue-and-groove design	Yes		
X-ray-to-light-field coincidence (from 5 x 5 cm to 35 x 35 cm)	2 mm or 1% of field size		
Leaf orientation when collimator at 0°	X direction		
Maximum number of MLC fields for an AFS treatment	Unlimited		
Maximum number of MLC segments per gantry angle for an IMRT treatment	Unlimited		

\* Greater of 1 mm or 1% of leaf distance from central axis

# OPTIFOCUS MLC Field Size



Values are in millimeters, unless defined otherwise.

3-D MLC and OPTIFOCUS MLC enable complex treatment fields by providing an extended over-travel distance while the double-focus design facilitates optimized dose distributions. Together, they provide flexible field shapes to optimize treatment fields. Treatment verification and recording are enabled through full integration with the ONCOR and PRIMUS Linear Accelerator systems. In addition, fast application from conventional to IMRT treatments is available through automation using SIMTEC IM-MAXX and SIMTEC IM-MAXX 2 for the 3-D MLC and OPTIFOCUS MLC, respectively.