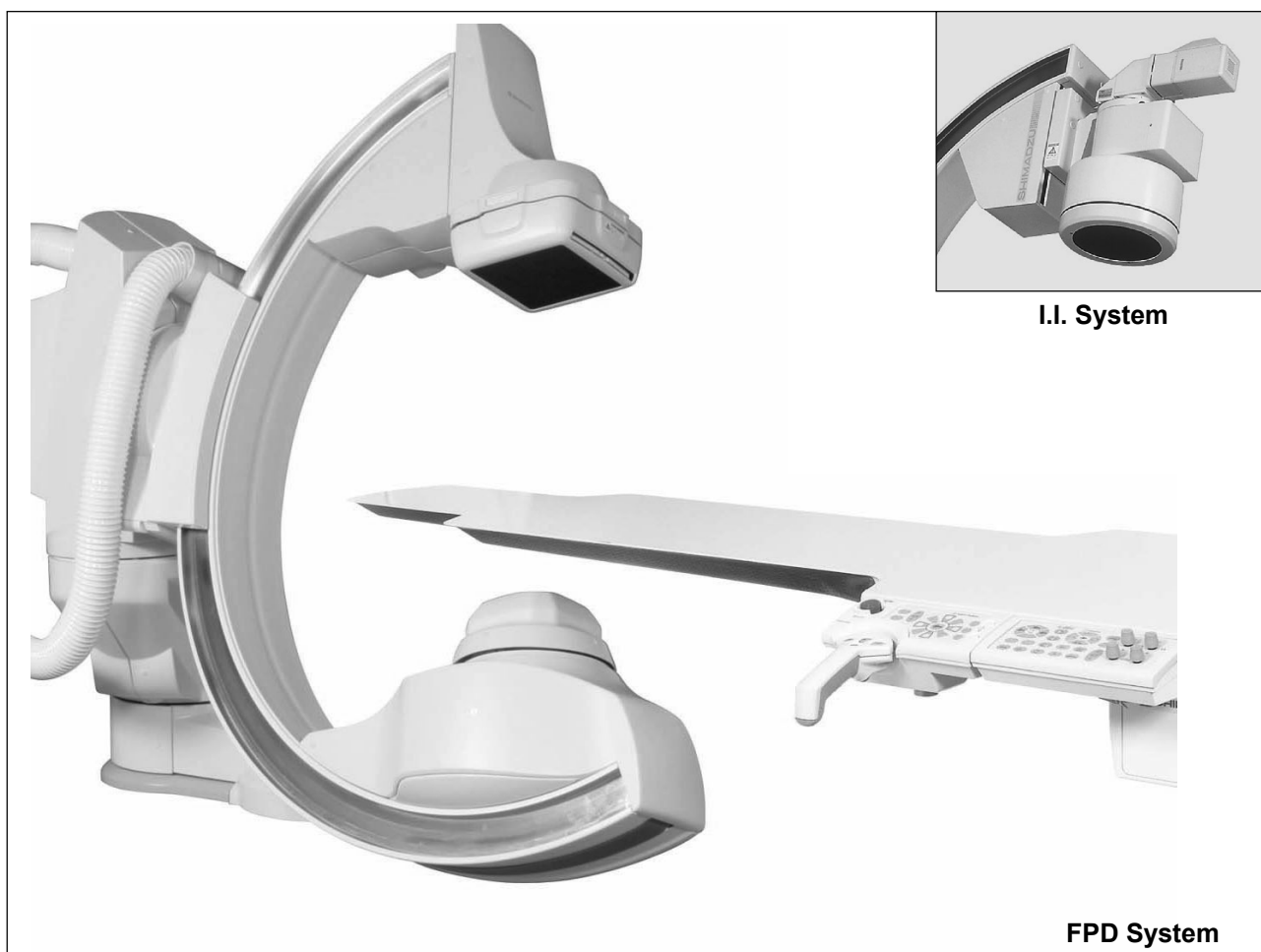


SHIMADZU

PRODUCT DATA

Floor-Mounted
C-Arm System

MH-300

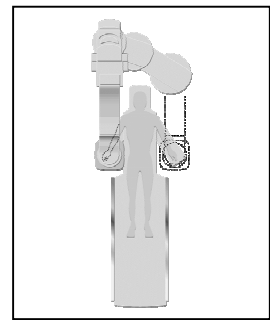


MH-300 C-arm system pictured here shows the 9" FPD unit, the 12" I.I. unit, and the KS-70 catheterization table.

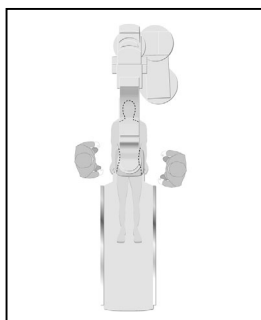
The MH-300 Series C-arm system is designed for a variety of cardiac and general angiographic/digital subtraction procedures, including interventional studies, neural studies, and peripheral run-off exams.

FEATURES

- (1) Compact, floor-mounted design
 - Equipment for interventional procedures can be positioned around the table for efficient use of floor space.
 - No rails interfere with cleaning of floors, helping maintain a clean examination room environment.
 - Automatic re-positioning of C-arm.
- (2) Full access to hands and wrists
 - The MH-300 features the world's first floor-mounted C-arm that provides a wide range of lateral movement. 140 cm of lateral coverage ensures sufficient fluoroscopic field-of-view to allow catheterization from the wrist or arm without moving the patient.
- (3) Pivot mechanism
 - Shimadzu's newly developed Triple-Pivot design provides up to 190 cm of longitudinal coverage, allowing head-to-foot examinations without moving the patient.

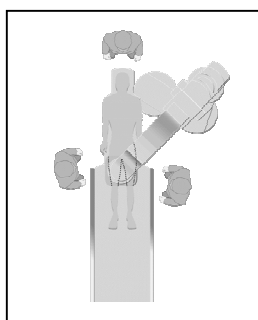


Hand Access



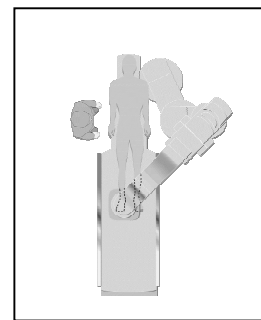
Home Position

When conducting standard examinations and applications.



Multi Position

When conducting abdominal examinations or for puncturing during catheterization from the groin.



Peripheral Position

When conducting imaging of lower extremities. Allows complete observation of lower extremities, including feet and toes.

- (4) Direct-conversion Flat-Panel
 - 9" or 17" detector can be attached.
- (5) Excellent maneuverability
 - Up to 72 projection angles for routine examinations can be programmed for one-touch recall. (Direct Memory in CyberGrip)
 - For safety, all C-arm movements are controlled by microcomputer to prevent a collision with the table or the patient.
- (6) Safety features
 - Contact-type collision sensors are standard on I.I./9" FPD and X-ray tube front.
 - INTELLISHIELD is a contact avoidance sensors embedded around the 17" FPD to automatically stop C-arm operation when the patient is detected
 - Provides deep positioning such as CRAN 50° (Home position for 9"/12" I.I. , 9"FPD)
 - Remote Console makes it easy to control C-arm movement from the control room (optional).
- (7) One-hand operation (CyberGrip)
 - Simply twist the grip to move the C-arm up/down and left/right. Moreover, C-arm movement speed instantly changes according to how fast the grip is moved, directly reflecting the user's style of operation.

COMPONENTS

STANDARD ITEMS

- (1) Main Unit 1
- (2) CyberGrip 1
- (3) Bedside Console..... 1
- (4) Display Unit(for I.I. system)..... 1
- (5) Information Display (for FPD. system) 1
- (6) Control Cabinet..... 1
- (7) Transformer Unit..... 1
- (8) Accessories
 - I.I./FPD Front Sensor..... 1
 - TV Camera Rotation Mount (for I.I. system) 1
 - Collimator F-50..... 1

OPTIONAL ITEMS

- Monitor Support (MTA Series)
- Remote Console or Collimator Console
- Peri Console (for I.I. system)
- Console Cart (for Bedside Console)

INSTALLATION REQUIREMENTS

Space required for installation	Including monitor support for MTA-30/40C Series 400 cm × 550 cm × 260 cm (depth × width × ceiling height)
Operational service weight	700 kg (not including base plate)
Power supply	Single phase: 100 V AC ± 10%, 0.5 kVA, 50/60 Hz Three phase: 400 V AC/200 V AC ± 10%, 2 kVA, 50/60 Hz
Type/degree of protection against electrical shock	Class I, Type B equipment
Grounding	Grounding resistance of 100Ω or less, with annealed 1.6 mm dia. copper wire
Ambient conditions (excluding FPD unit *1)	
• Temperature	+10°C to +40°C
• Humidity	30% RH to 85% RH
• Atmospheric pressure	700 hPa to 1060 hPa

*1 Refer to product data for DAR-9400f/9000 and UD150G-40/B40.

IMAGE SYSTEM/C-ARM SPECIFICATIONS

Item		Description			
Image system	Grid	X-ray image recording unit	I.I.	9" FPD	17" FPD
		Type	D242, D310	260 × 248	482x452
		Grid ratio	10	10	10
		Grid density	44 lines/cm	44 lines/cm	50 lines/cm
		Intermediate material	Fiber (non-metal)		
	SID	9" I.I. and 12" I.I.	PA: 90 to 115 cm	AP: 90 to 110 cm	
		9" FPD	PA: 90 to 115 cm	AP: 90 to 105 cm	
		17" FPD	PA: 95 to 120 cm	AP: 95 to 110 cm	
	Distance between focus and center of rotation	73 cm			
	Magnification at center of C-arm	x1.23 to x1.58 (9" I.I. /9" FPD and 12" I.I. (standard)) x1.30 to x1.65 (17" FPD)			
Travel distance of image system	25 cm				
Travel speed of image system	Max. 6.0 cm/sec. (I.I.)	Max. 8.0cm/sec. (FPD)			
C-arm	Rotation around body axis	Home position	LAO120° to RAO120°		
		Femoral position	LAO90° to RAO90°		
		Peripheral position	LAO15° to RAO15°		
		Speed	Max. 25°/sec., variable (at home position)		
	Rotation in direction of body axis	Home position	CRAN50(45)° to CAUD45°: () indicates 17" FPD is used.		
		Femoral position	CRAN50(45)° to CAUD45°: () indicates 17" FPD is used.		
		Peripheral position	CRAN15° to CAUD15°		
		Speed	Max. 15°/sec., variable (at home position)		
	Longitudinal movement	Home position	30 cm		
		Femoral position	30 cm		
		Peripheral position	30 cm		
		Speed	10 cm/sec., variable		

IMAGE SYSTEM/C-ARM SPECIFICATIONS (cont.)

Item		Description	
C-arm	Right/Left movement	Home position	±45 cm
		Femoral position	To left: 20 cm, to right: 40 cm
		Peripheral position	±15 cm
		Speed	10 cm/sec., variable
	AP position	Possible (transfer to AP is possible in home position)	
	Position change	Home position: C-arm insertion from head side Multi position: C-arm inclination angle to patient is 45° Peripheral position: C-arm inclination angle to patient is 40° Changeover speed: minimum 10 seconds (Home femoral position)	
	Radius within C-arm	90 cm	
Height of center of rotation	107 cm (excluding base plate)		

DA/DSA/RSM-DSA SPECIFICATIONS

Item		Details	
Rotation DA/DSA (Option) *1 (Home position)	Maximum range for radiography (Rotation DA)	Rotation of C-arm around body axis	LAO120° to RAO120° Inclination in direction of body axis: CRAN 30° to CAUD 30° Direction of rotation: RAO direction, LAO direction
		Rotation of C-arm in direction of body axis	CRAN45° to CAUD45° Inclination around body axis: RAO 30° to LAO 30° Rotation speed: 15°/ sec Direction of rotation: CRAN direction
	Maximum range for radiography (Rotation DSA)	Rotation of C-arm around body axis	LAO115° to RAO115°(15°/ sec) LAO105° to RAO105°(20, 25°/ sec) LAO100° to RAO100°(30 to 40°/ sec) Inclination in direction of body axis: CRAN 30° to CAUD 30° Direction of rotation: RAO direction, LAO direction
		Rotation of C-arm in direction of body axis	CRAN40° to CAUD40° Inclination around body axis: RAO 30° to LAO 30° Rotation speed: 15°/ sec Direction of rotation: CRAN direction
	Speed of C-arm around body axis	Max. 40°/sec. Range: 35°, 30°, 25°, 20°, 15°/sec. (selectable before installation)	
RSM-DSA*1	Rotation*	Same as rotation DA	
	Precession	Swing angle:Angulation : 30° (± 5°) Speed : 6 sec. / cyclerotation (mMax. 3 rotationcycles)	
	Pendulum	Swing angle:Angulation : Fixed to LAO 15° -to RAO 15° (± 5°) Speed : 6 sec/cyclerotation (mMax. 3 rotationcycles) Slant rangeInclination in the direction of body axis: CRAN30° -to CAUD30°	
3D-Recon (Optional)	Projection angle	<u>3D-Angiography</u> LAO105° to RAO95° (40°/s, 60°/s) Rotation direction: LAO RAO Rotation Speed : 40°/s or 60°/s (Selectable only during installation) <u>CT-Like Imaging</u> LAO120° to RAO95° (10°/s, 20°/s) Rotation direction: LAO RAO Rotation Speed : 10°/s (for Head) or 20°/s (for Head & Abdomen)	

*1 Standard for DAR-9400f, Optional for DAR-9000

PRODUCT DATA MH-300

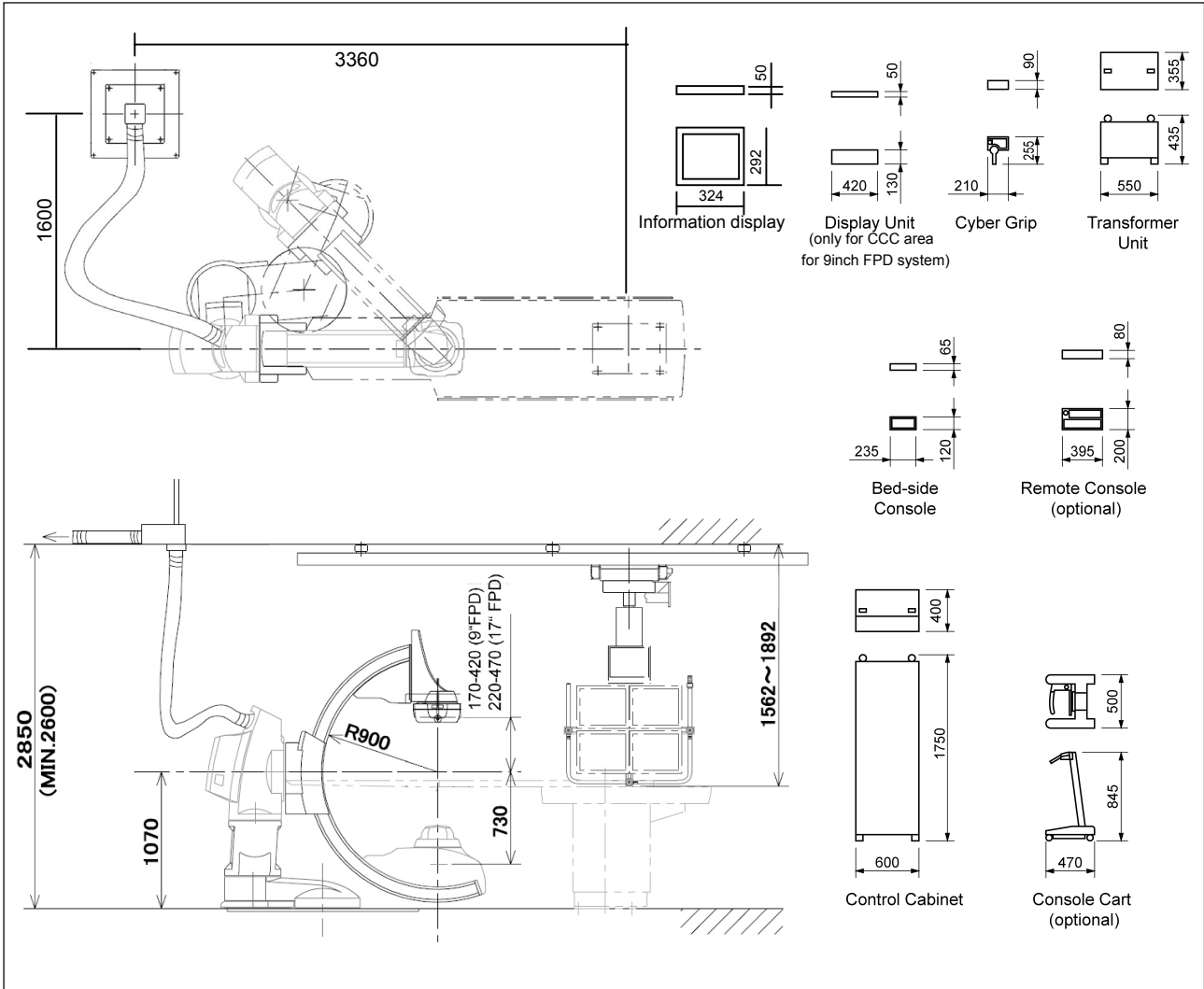
SYSTEM CONFIGURATION

Catheterization table		KS-60/70
X-ray tube ^{*1*2}		0.6/1J317C-282AX,LX-2011, LX-3081
X-ray image recording unit	I.I.	9L series 12L series, 12LT/HG series TH9438QX(9), TH9436QX(12)
	FPD	Direct-conversion 9" FPD (9" x 9" square) or 17" FPD (17" x 17" square)
X-ray high voltage generator		UD150G-40/D150GC-40 UD150B-40
Digital angiography system		DAR-9400f (with FPD combined system) DAR-9000 (with 9" or 12" I.I. combined system)

PRODUCT DATA MH-300

DIMENSIONS (9" and 17" FPD System)

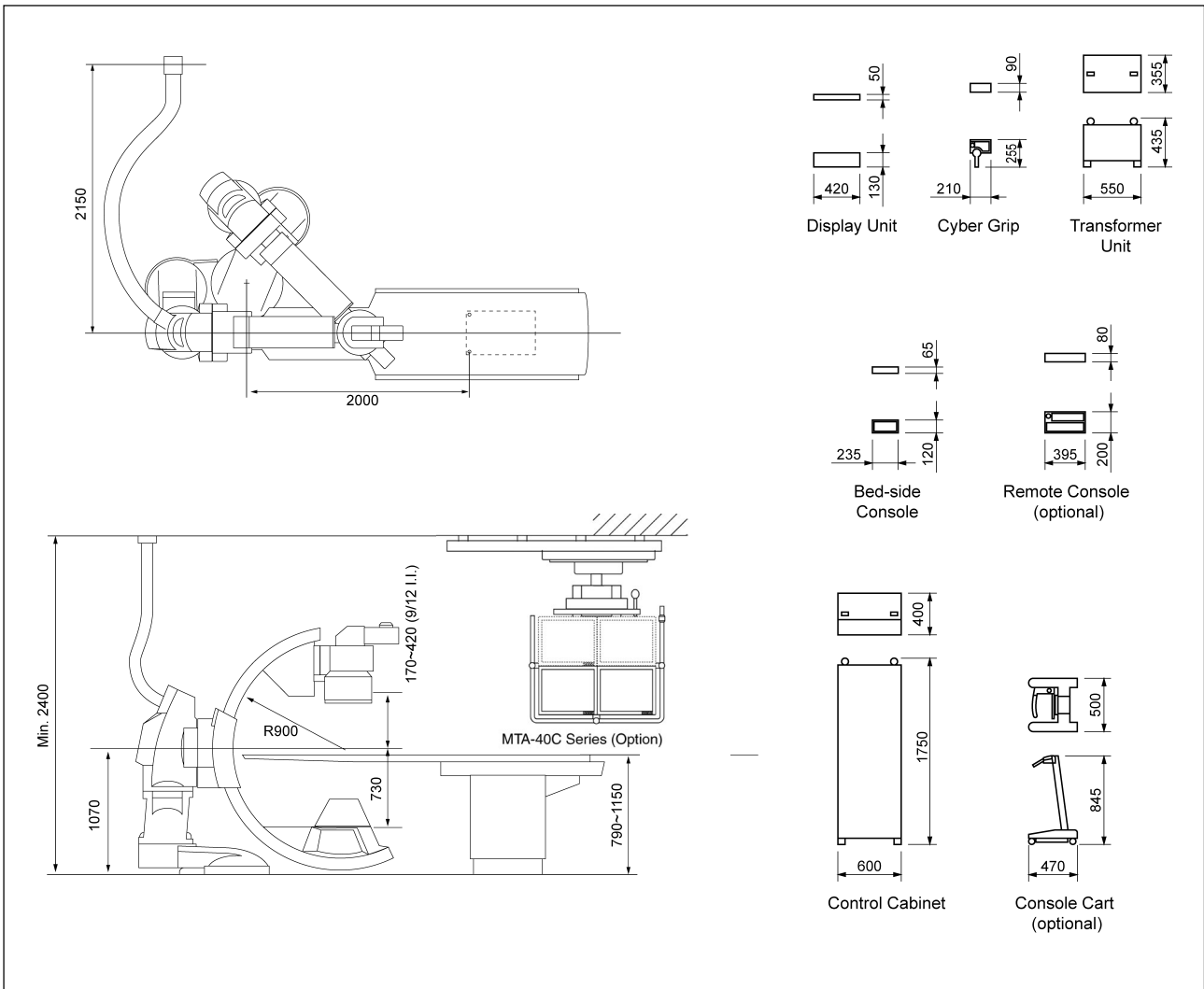
Unit : mm



PRODUCT DATA MH-300

DIMENSIONS (I.I. System)

Unit : mm



Remarks

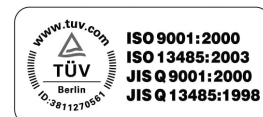
- * Every value in this Product Data Sheet is a standard value, and it may vary a little from the actual at each site.
- * The appearances and specifications are subject to change for reasons of improvement without notice.
- * Certain configurations may not be available pending regulatory clearance. Contact your Shimadzu representative for information on specific configurations.



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Shimadzu Corporation Medical Systems Group has been certified by TUV Rheinland as a manufacturer of medical equipment and systems in compliance with ISO9001:2000 Quality Management Systems and ISO13485:2003 Medical Equipment Quality Management Systems.