

BCA 9SK Plus

Product data

Digital Mobile C-Arm

ELECTRICAL CHARACTERISTICS

• Voltage	230 Vac \pm 10% monophase standard 105 / 115 / 125 / 220 / 240 Vac \pm 10% monophase on request
• Frequency	50 Hz standard 60 Hz on request
• Absorbed current on Stationary Anode Unit	4.5 A @ 230 Vac and 7.5 A @ 115 Vac in fluoro mode 20 A @ 230 Vac and 28 A @ 115 Vac in radiography mode
• Line compensation	Automatic
• Line resistance	< 0.4 Ω (supply at 230V) < 0.2 Ω (supply at 115V)
• Standard mains plug	16 A (for supply at 230 Vac)

RADIOLOGICAL DATA

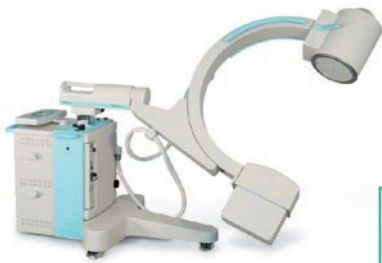
• Generator power in DC current	Max 3.5 kW (100 Kv, 35 mA, 100 ms)
• High frequency inverter	40 kHz
• Max. Ripple	<2% @ 100 kV
• Max high voltage (radiography and fluoroscopy)	110 kVp
• Max current in continuous fluoroscopy	8 mA
• Max current in fluoroscopy "Boost"	10 mA
• Max current in radiography	35 mA @ 230 V 18 mA @ 115 V
• Max mAs in radiology	125 mAs @ 230 V 90 mAs @ 115 V
• Exposure Time in radiography	0.03 \pm 5 sec

MONOBLOC

• Anode	Stationary
• Anode inclination	12°
• Focal Spot size according to IEC 336	0.6 mm small focus 1.5 mm large focus
• Nominal anodic power	800 W small focus 4000 W large focus
• Anode Heat storage capacity	40 kJ (54 kHU)
• Max anode cooling speed	400 W, 19 kJ/min, 536 HU/sec, 25.4 kHU/min
• Monobloc thermal capacity	500 kJ (670 kHU)
• Max continuous thermal dissipation of the monobloc	75 W, 102 HU/sec, 6120 HU/min
• Max. Fluoroscopy time	HU safety after 21' of fluoroscopy @ 110 kV, 5 mA (550 W)
• Max fluoroscopy time @75W	75 kV - 1mA - Continuous fluoro (no limits)
• Max fluoroscopy time @280W	80 kV - 3.5 mA - 44 Minutes
• Max fluoroscopy time @525W	70 kV - 7.5 mA - 24 Minutes
• Max fluoroscopy time @400W	100 kV - 4 mA - 29 Minutes
• Max fluoroscopy time @550W	110 kV - 5 mA - 21 Minutes
• Total filtration	> 2.8 mm Al



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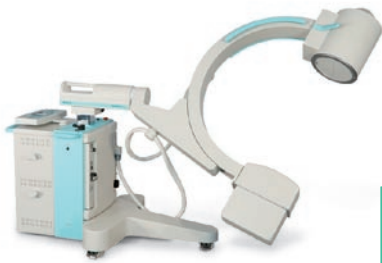
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COLLIMATOR	• Type	Standard: Iris Optional: Iris + parallel shutters
	• Iris	Control by console with adjustable continuous opening until the max. allowed in function of the I.I. field selected. Iris automatic limitation on the I.I. field selected
	• Orientable shutters	Control by console for the opening/closing and clockwise/anti-clockwise rotation
IMAGE INTENSIFIER TUBE - 9/6/4"	• Field Number	3
	• Input nominal diameter	230mm
	• Resolution (central)	48 / 56 / 64 lp/cm
	• Conversion factor	240 (cd · m ⁻² / mR · s ⁻¹)
	• Contrast Ratio	23:1 / 25:1 / 30:1
	• DQE @ 59.5 kV	65%
	• MTF	60% / 65% / 70% @ 10 lp/cm 25% / 30% / 40% @ 20 lp/cm
	• Integral Distortion	4% / 2% / 1%
CCD CAMERA 1K X 1K	• "All metal" Technology	Yes
	• Input screen "Hi-Res"	Yes
	• Antiscatter fixed grid	Ratio 8:1, 36 shutters/cm, focus 80 cm
	• Technology	CCD interline progressive scanning
	• Active pixels	1024 x 1024
	• Acquisition	Matrix 1024 x 1024, 10 bits
	• Contrast resolution	1024 grey levels
	• Sensitivity	0.2 lux (PB20 light)
	• Signal - Noise Ratio	60 dB



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DIGITAL IMAGE SYSTEM WITH 1K x 1K CCD CAMERA

CHARACTERISTICS	HRC 1000 TYPE WITH STANDARD DICOM ESIDIC 3	
	• Image acquisition	1024 x 1024 with frame integrations up to 16 bit
	• Image storage	1024 x 1024 x 10 bit up to 256 frames.
	• D/A Converter	8 bits
REAL TIME PROCESSING	• Number of images	L.I.H Last Image Hold + 256 image, output for 2 monitors
	• Frame acquisition rate (fps)	Single store image, until to 256 ram image in ram or 50.000 frame on DICOM hard disk
	• Gamma correction	Yes, digital
	• Recursive filter / Smart filter	Yes, 0, 2, 4, 8, with smart filter, motion detector
	• Real time image rotation RDR/S	Yes
	• Digital rotation LIH	Yes
	• Edge enhancement	Yes, Sharp matrix 3 x 3
	• Dynamic range	1:2 1:3 1:4 1:5
POST PROCESSING	• Grey scale inversion	Yes
	• Contrast and brightness	Yes
	• Overview, Windowing	Yes, 4, 9, 16 frame , 1+5 frame or 1+7 frame
	• Image Rotation steps	Yes, 90° - 180° - 270° - 360°
	• Horizontal, Vertical image inversion	Yes
	• Electronic zoom	Yes, from 1, 2 to 3 factor
	• Angles measure	Yes
	• Length measure	Yes
	• Length calibration on reference object	Yes
	• Text overwriting	Yes, on image
	• Electronic Shutter for best quality image on printer	Yes
	• Print in BMAP format	Yes, on windows printers
ARCHIVES AND DATA PATIENTS	• Image storage	50.000 on DICOM hard disk
	• Data patient	Yes
	• SCU , Service Class Verify Connection Dicom toward server or printer connection	Standard supported by ESIDIC 3
	• SCU , Service Class Storage toward Dicom server	Standard supported by ESIDIC 3
	• SCU , Service Class Print with film composer toward Dicom printer	Standard supported by ESIDIC 3
	• SCU , Service Class Work List from Dicom server for downloading patient list	Standard supported by ESIDIC 3
	• Media Interchange CD Rom	Standard supported by ESIDIC 3



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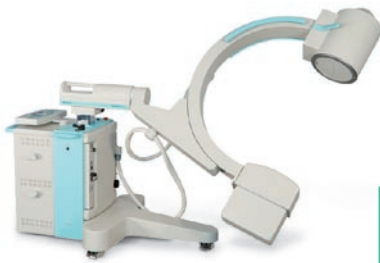
Digital Mobile C-Arm

MONITORS MONOCHROME LCD DISPLAY

VERSION	18"
	<ul style="list-style-type: none"> Panel size / type: 18.1" TFT active matrix LCD, anti-glare and hard coated, medical.
HARDWARE REQUIREMENTS	<ul style="list-style-type: none"> Brightness and contrast controls: OSD menu
ELECTRICAL CHARACTERISTICS	<ul style="list-style-type: none"> Standard power supply: 100 to 240Vac 60/50Hz Current absorbed: 1.4A Power absorbed: 60W
DISPLAY CHARACTERICS	<ul style="list-style-type: none"> Contrast: 400:1 Resolution: 1280 x 1024 Active Display area: 359 mm (H) x 287 mm (V) Pixel pitch: 0,2805 x 0,2805 mm Gray scale: 256 x 3 =768 levels Max luminance: 750 Cd /m² Aspect ratio: 4:3
ENVIROMENT AND RELIABILITY	<ul style="list-style-type: none"> Operative: Temperature: from 5° to +35°C Humidity: 20% to 80% (non condensing) Temperature and storage: Temperature: from -20° to +5°C Humidity: 10% to 90% (non condensing)



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FUNCTIONALITY	DESCRIPTION	DATA
	User's interface	Membrane keyboard with alphanumeric touch-screen 5.7" LCD display for all the operative parameters and messages of eventual faulty conditions. Microprocessor management. User interface control could be rotate of 60°
	Selectable languages	Italian, English, French. German, Spanish (selection by set-up)
	I.I. field selection	Electronic zoom selection according to the number of I.I. fields with automatic limitation of the radiated field by the iris collimator.
	Thermal units	Check and visualization in real time of thermal units on the display according to the applied load. From 100% to 5% XR enabled. When there are 5 minutes of fluoroscopy (for the kV and mA values in use in that moment) to reach the 5% of the HUT, a particular audio-visible signal is activated. If more than 5 minutes are necessary to finish the exam, the fluoroscopy data have to be lowered. After reaching the 5% of the available HUT, the x-ray emission is stopped (*). In order to go on with the fluoroscopy, it is necessary to wait that the HUT have reached at least the 10%. (* In particular conditions it is possible to exclude this block and go on with the exam, under the direct responsibility of the qualified personnel or the doctor that uses the unit. In radiography it is not possible to control the x-ray emission any more when the 5% of the available HUT is reached.
	Fluoroscopy control	Multi-functioning foot switch: <ul style="list-style-type: none"> ➢ Pedal for continuous, pulsed and single shot (boost) fluoroscopy (functions selection by 3 different foot switches). ➢ Storage image on memory by foot switch without interrupting fluoroscopy
	On Stand	General magneto-thermic switch Key safety switch Emergency pushbutton Printer for Dose Area meter (optional)
	Monitor position	Directly on the stand with 1 monitor LCD orientable 17" NL series or: Monitor trolley with five wheels, two of them with stationary brake Lamp for x-ray emission warning Cable winding support Digital system with CCD 1K x 1K Two monitors LCD 18" Alphanumeric keyboard Memory HRC1000 Dicom Transmission Unit ESIDIC3
	Safeties	Filament current Monobloc temperature Overload kV min/max. or fault H.V. Stored data check



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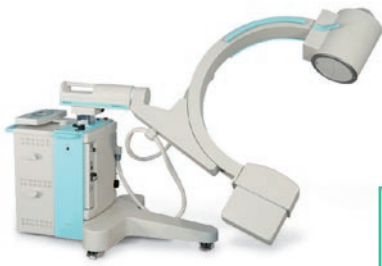
DIGITAL IMAGE SYSTEM WITH 1K x 1K CCD CAMERA

OPERATIONAL MODES

MODE	CHARACTERISTIC	PERFORMANCES		
Continuous fluoroscopy	Dose control (kV - mA)	Automatic or manual		
	Focus	0.6 mm (CEI Tube)		
	kV variation range	40 - 110 kV		
	mA fluoro variation range	0.5 - 8 mA		
	kV - mA correlation	Standard: 40 kV/0.5 mA, 80k V/7.6 mA, 110 kV/8 mA		
	Safety timer	Audible alarm resettable after 5' X-Ray X-Ray stop after 10' of continuous radiations according to IEC 60601-2-7 §29.1.104		
	Last image hold (LIH)			
Pulsed fluoroscopy	Range of exposure rate variation (Selectable by console)	From 2 image/sec to 1 image every 5 sec (2 image / 1s; 1 image / 1s; 1 image / 2s; 1 image / 3s; 1 image / 5s)		
	XR flash time	Minimum time for better image		
	Other characteristics as per the continuous fluoroscopy			
One-shot Digital Radiography	mA variation range	1 - 10 mA		
	XR flash time	< 1 sec		
	Acquisition obtained by integrating 16 following readings			
	Automatic storage of the image on RAM or "nonvolatile memory", according to the memory type			
	Other characteristics as for the continuous fluoroscopy			
mA 1/2 fluoroscopy	mA variation range	0.25 - 4 mA		
	kV - mA correlation	40 kV / 0.25 mA, 80 kV / 3.8 mA, 110 kV / 4mA		
	Other characteristics as per the continuous fluoroscopy			
Anatomic APR selection, in fluoroscopy	APR 1 mA Low	Anatomic fine parts or paediatric use from 0,7 mA to 6.6 mA 40 kV / 0.7 mA, 80 kV / 6.4 mA, 110 kV / 6.6 mA		
	APR 2 mA Low	Lungs from 0,5 mA to 7 mA 40 kV / 0.5 mA, 80 kV / 7 mA, 110 kV / 6 mA		
	The curves cannot be modified by the operator			
Radiography	Working technique	2 points with kV and mAs setting		
	Focus	1.5 mm (TOSHIBA and CEI Tube)		
	kV variation range	40 - 110 kV		
	mA variation range	@ 230 Vac 25 mA fixed from 40 kV to 100 kV 22 mA at 110 kV	@ 115 Vac 18 mA fixed from 40 kV to 100 kV 16 mA at 110 kV	
	mAs variation range	@ 230 Vac 1 - 125 mAs from 40 to 100 kV 1 - 100 mAs from 101 to 110 kV in 42 steps, R 20 curve	@ 115 Vac 1 - 90 mAs from 40 to 100 kV 1 - 80 mAs from 101 to 110 kV	
	Times range	0.04 - 5 sec max V		
	Use coefficient (duty cycle)	Calculated as per the anode dissipation		
APR anatomic selection in radiography	Description	Norm	Paediatric	Adult
	APR 1 Head	77 kV 56 mAs	74 kV 45 mAs	80 kV 71 mAs
	APR 2 Lungs	110 kV 11 mAs	107 kV 9 mAs	110 kV 14 mAs
	APR 3 Pelvis	85 kV 22 mAs	82 kV 28 mAs	88 kV 18 mAs
	Possibility to change and store with every APR: kV and mAs			



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ENVIRONMENTAL CONDITIONS

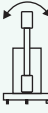
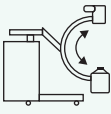
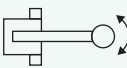
Environmental condition in Normal Use	Temperature: from +10° to +40° Celsius Humidity: from 30% to 75% non condensing Pressure: from 700 to 1060 hPa
Environmental condition in Transport and Warehouse	Temperature: from -25° to +70° Celsius Humidity: from 10% to 90% not condensing Pressure: from 500 to 1060 hPa

WEIGHT AND DIMENSION

Description	Stand	Trolley, mod. "Low"	Trolley, mod. "Standard"	Trolley, mod. "High"
Weight	About 340 kg	About 67 kg	About 97 kg	About 150kg
(2) Depth in transport position	2000 mm	855 mm	855 mm	577 mm
(3) Height in transport position	1800 mm	1605 mm	1605 mm	1603 mm

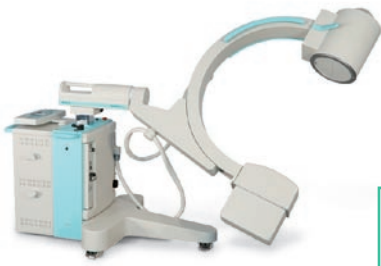
Weights and dimensions can vary with different accessories

MECHANICAL CHARACTERISTICS

Vertical motion		500 mm motorized in 60 sec
Horizontal motion		210 mm
Panning motion		± 270°
Orbital rotation		123° (+90° ÷ -33°)
Pivotal rotation		± 12.5°
Free Space		770 mm
Depth C arm		690 mm
S.I.D.		988 mm
Focus Skin distance		218 mm
Movement		Manual. Steering rear wheels with manual control by the operator, swiveling front wheel. Stationary brake by hand
Stand Wheels diameter		Rear: Double wheels 125 x 40 mm Front: Double wheels 80 x 30 mm
Trolley Wheels diameter		Base Trolley 5 x 80 x 35 mm with brake High configuration Trolley 4 x 125 x 30 mm with brake
Protection against cables squashing		Semi-rigid rubber core-hitch on all the wheels of the stand.



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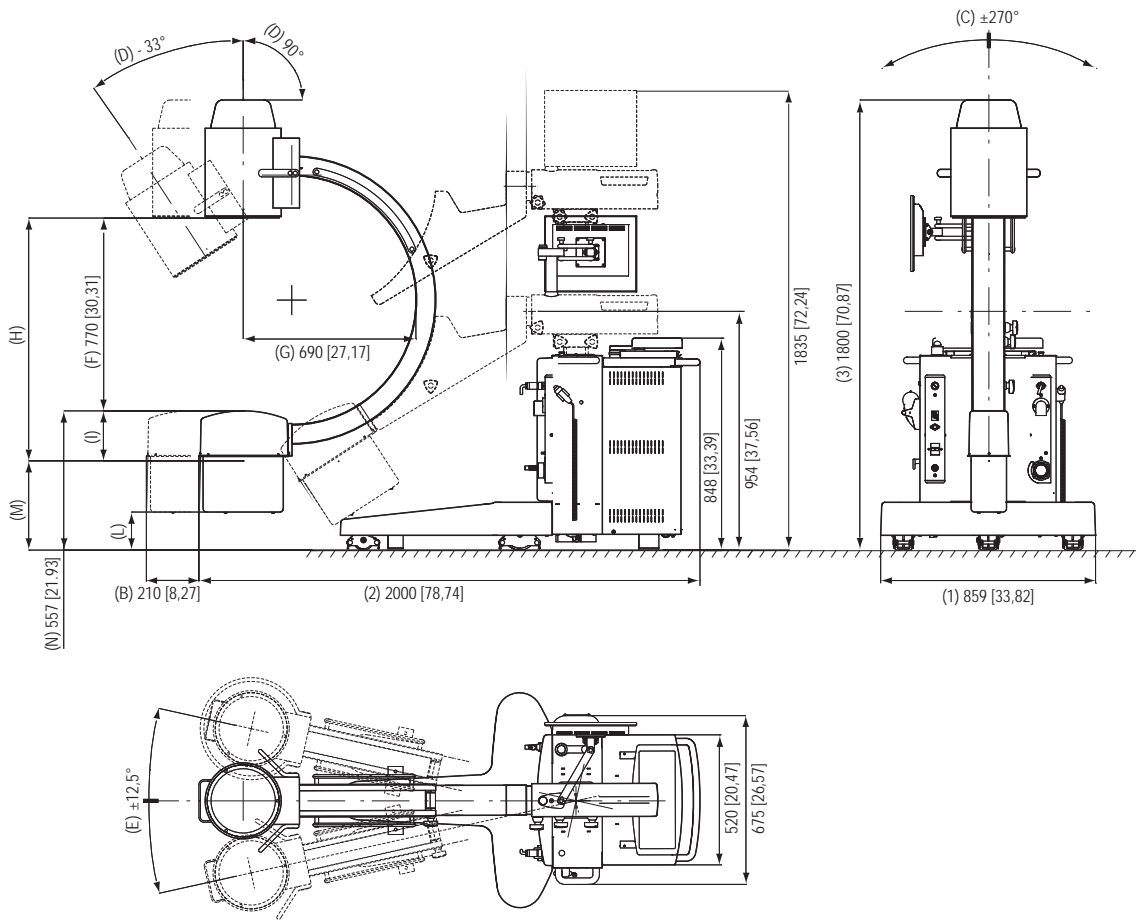
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TECHNICAL DATA

STAND Dimension in mm



	FIXED ANODE	ROTATING ANODE
(H)	988 mm	970 mm
(I)	218 mm	200 mm
(L)	172 mm	152 mm
(M)	339 mm	357 mm



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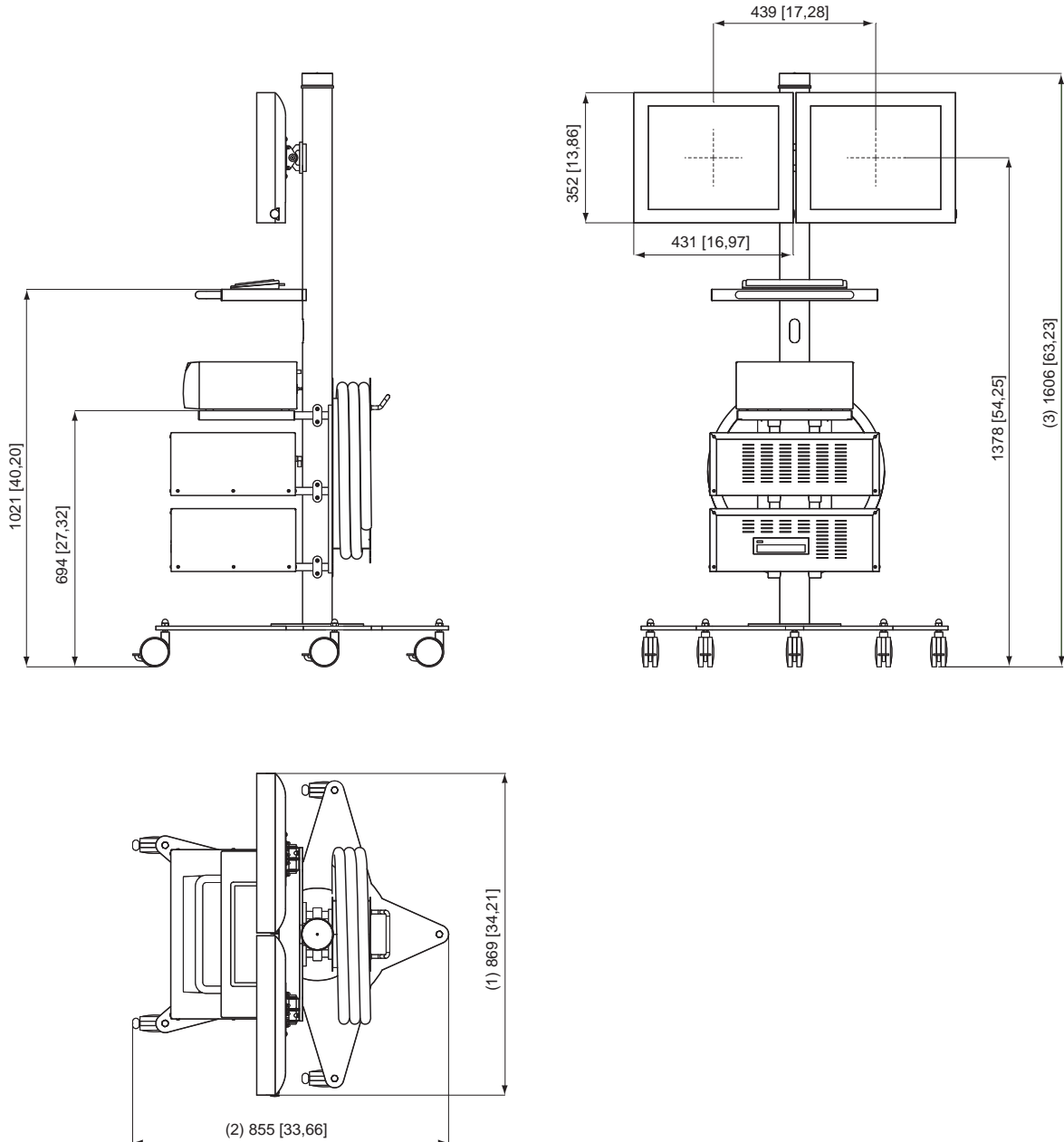
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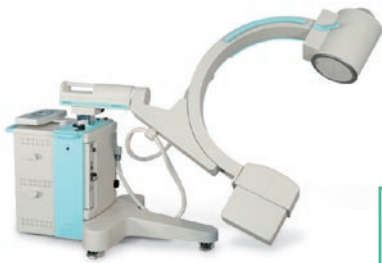
TECHNICAL DATA

TROLLEY MOD. "STANDARD"

Dimension in mm



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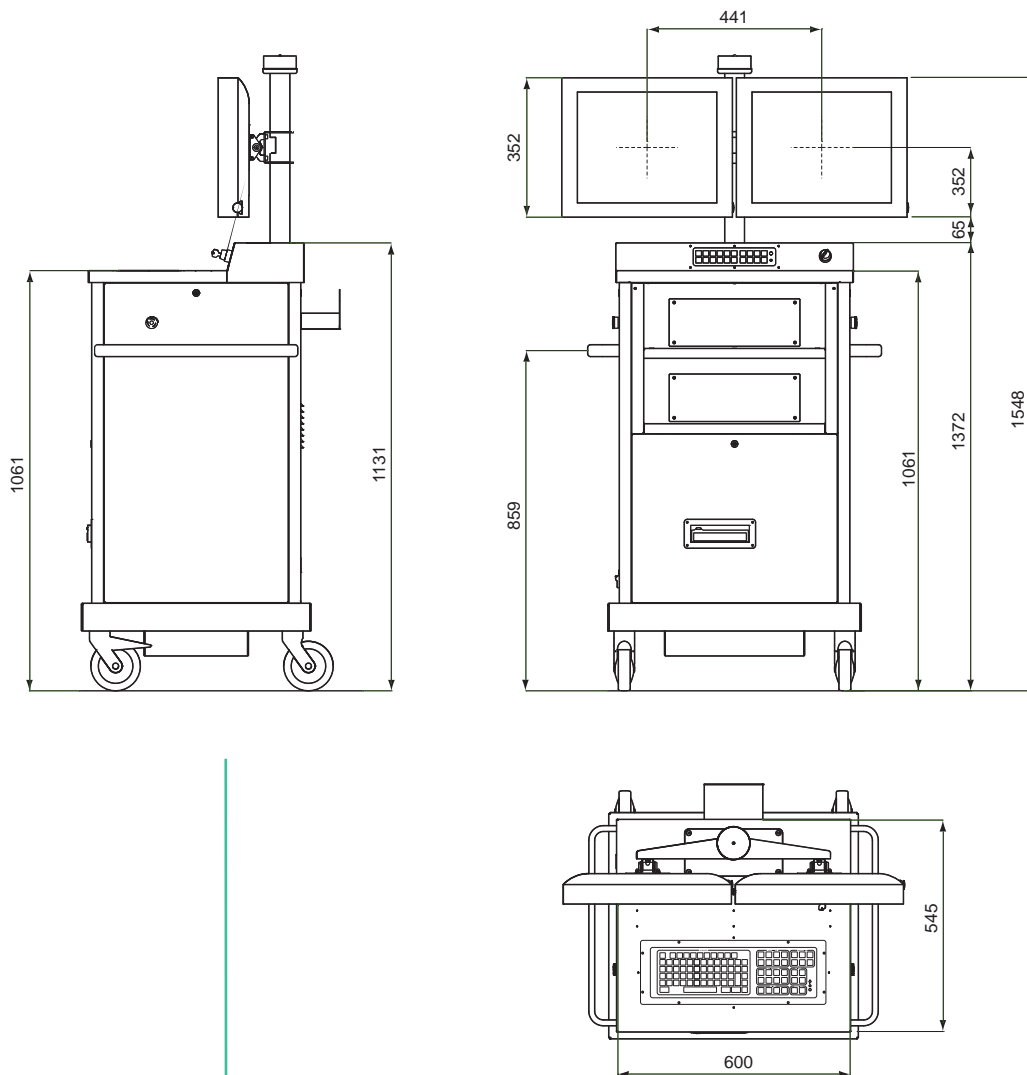
Product data

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TECHNICAL DATA

TROLLEY MOD. "HIGH"

Dimension in mm



Note

Technical Specs can be subject to changes, in order to grant the highest quality levels, and so they can vary without notice obligation



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