

BCA 9RK 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)

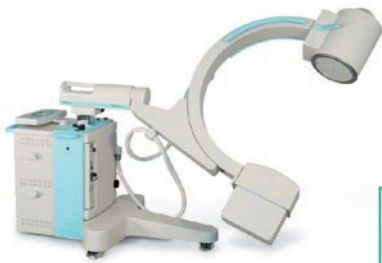
RADIOLOGICAL DATA

• Generator power in DC current	5 kW (100 kV, 50 mA, 64 ms)
• High frequency inverter	40 kHz
• Max. Ripple	<2% @ 100 kV
• Max high voltage (radiography and fluoroscopy)	120 kVp
• Max current in continuous fluoroscopy	8 mA
• Max current in fluoroscopy "Boost"	12 mA
• Max current in radiography	25 mA @ 230 V 18 mA @ 115 V
• Max mAs in radiology	125 mAs @ 230 V 90 mAs @ 115 V
• Exposure Time in radiography	0.04 \div 5 sec

MONOBLOC

• Anode	Rotating
• Anode inclination	10°
• Focal Spot size according to IEC 336	0.3 mm small focus 0.6 mm large focus
• Nominal anodic power	5 kW small focus 17 kW large focus
• Max anode cooling speed	33 kHU/min (25 kJ/min)
• Monobloc thermal capacity	600 kJ (670 kHU)
• Max continuous thermal dissipation of the monobloc	75 W, 102 HU/sec, 6120 HU/min
• Max. Fluoroscopy time	HU safety after 28' of fluoroscopy @ 120 kV, 5 mA (600 W)
• Max fluoroscopy time @75W	75 kV - 1mA - Continuous fluoro (no limits)
• Max fluoroscopy time @280W	80 kV - 3.5 mA - 54 Minutes
• Max fluoroscopy time @400W	100 kV - 4 mA - 38 Minutes
• Max fluoroscopy time @525W	70 kV - 7.5 mA - 31 Minutes
• Max fluoroscopy time @550W	110 kV - 5 mA - 30 Minutes
• Max fluoroscopy time @600W	120 kV - 5 mA - 28 Minutes
• Total filtration	> 2.7 mm Al





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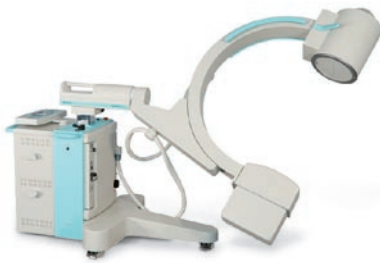
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COLLIMATOR	<ul style="list-style-type: none"> • Type • Iris • Orientable shutters 	<p>Standard: Iris + parallel shutters</p> <p>Control by console with adjustable continuous opening until the max. allowed in function of the I.I. field selected. Iris automatic limitation on the I.I. field selected</p> <p>Control by console for the opening/closing and clockwise/anti-clockwise rotation</p>
IMAGE INTENSIFIER TUBE - 9/6/4"	<ul style="list-style-type: none"> • Field Number • Input nominal diameter • Resolution (central) • Conversion factor • Contrast Ratio • DQE @ 59.5 kV • MTF • Integral Distortion • "All metal" Technology • Input screen "Hi-Res" • Antiscatter fixed grid 	<p>3</p> <p>230 mm</p> <p>48 / 56 / 64 lp/cm</p> <p>240 / 120 / 60 (cd · m⁻² / mR · s⁻¹)</p> <p>23:1 / 25:1 / 30:1</p> <p>65%</p> <p>60% / 65% / 70% @ 10 lp/cm 25% / 30% / 40% @ 20 lp/cm</p> <p>4% / 2% / 1%</p> <p>Yes</p> <p>Yes</p> <p>Ratio 8:1, 36 shutters/cm, focus 80 cm</p>
CCD CAMERA 1K X 1K	<ul style="list-style-type: none"> • Technology • Active pixels • Acquisition • Contrast resolution • Sensitivity • Signal - Noise Ratio 	<p>CCD interline progressive scanning</p> <p>1024 x 1024</p> <p>Matrix 1024 x 1024, 10 bits</p> <p>1024 grey levels</p> <p>0.2 lux (PB20 light)</p> <p>60 dB</p>



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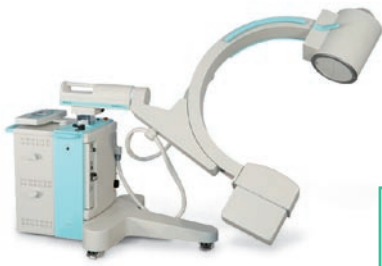
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Digital Mobile C-Arm

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.
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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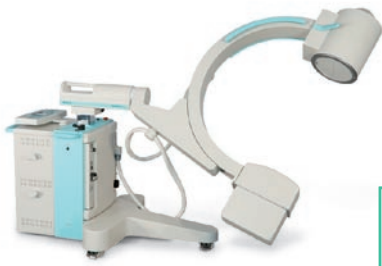
Digital Mobile C-Arm

MONITORS MONOCHROME LCD DISPLAY

VERSION	18"
• Panel size / type	18.1" TFT active matrix LCD anti-glare and hard coated, medical.
HARDWARE REQUIREMENTS	• Brightness and contrast controls OSD menu
ELECTRICAL CHARACTERISTICS	• Standard power supply 100 to 240 Vac 60 / 50 Hz • Current absorbed 1.4 A • Power absorbed 60W
DISPLAY CHARACTERICS	• Visibility angle 170° • 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 levelss • Max luminance 750 Cd /m ² • Aspect ratio 4:3
ENVIROMENT AND RELIABILITY	• 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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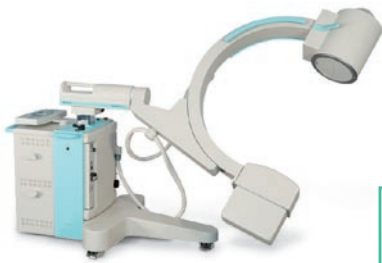
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FUNCTIONALITY	DESCRIPTION	DATA
	User's interface	Membrane keyboard with alphanumeric touch-screen 5.7" LCD display for all the operative parameters and messages of eventual faulty conditions. Microprocessor management. User interface control could 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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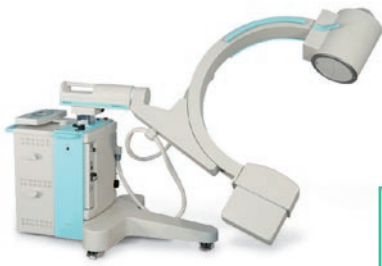
Digital Mobile C-Arm

OPERATIONAL MODES WITH 1K x 1K CCD CAMERA

OPERATIONAL MODES	MODE	CHARACTERISTIC	PERFORMANCES
Continuous fluoroscopy	Dose control (kV - mA)	Automatic or manual	
	Small Focus	0.3 mm (IAE Tube)	
	kV variation range	40 - 120 kV	
	mA variation range	0.5 - 8 mA	
	kV - mA correlation	Standard: 40 kV / 0.5 mA, 80 kV / 7.6 mA, 120 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	2.5 - 30 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, 120 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 120 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 120 kV / 5.5 mA	
	PR 2 mA High	Head, spinal column, pelvis from 1 mA to 15 mA 40 kV / 1 mA, 70 kV / 15 mA 120 kV / 9 mA	
	The curves cannot be modified by the operator		
Radiography	Working technique	2 points with kV and mAs setting	
	Large Focus	0.6 mm (IAE Tube)	
	kV variation range	40 - 120 kV	
	mA variation range	@ 230 Vac 25 mA fixed from 40 kV to 100 kV; 20 mA at 120 kV	@ 115 Vac 18 mA fixed from 40 kV to 100 kV; 15 mA at 120 kV
	mAs variation range	@ 230Vac 1 - 125 mAs from 40 to 100 kV 1 - 100 mAs from 101 to 120 kV in 42 steps, R 20 curve	@ 115Vac 1 - 90 mAs from 40 to 100 kV 1 - 71 mAs from 101 to 120 kV
	Times range	0.04 - 5 sec max	
	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 45mAs 80 kV 71mAs
	APR 2 Lungs	110 kV 11 mAs	107 kV 9 mAs 110 kV 14 mAs
	APR 3 Pelvis	85k V 22 mAs	82 kV 28 mAs 88k V 18 mAs
	Possibility to change and store with every APR: kV and mAs		



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ENVIRONMENTAL CONDITIONS

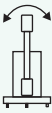
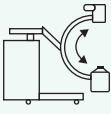
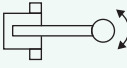
Environmental condition in Normal Use	Temperature: from +10° to +40° Celsius Humidity: from 30% to 75% non condensing Pressure: from 700 to 1060 hPa
Environmental condition in Transport and Warehouse	Temperature: from -25° to +70° Celsius Humidity: from 10% to 90% not condensing Pressure: from 500 to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

WEIGHT AND DIMENSION

Description	Stand	Trolley, mod. "Low"	Trolley, mod. "Standard"	Trolley, mod. "High"
Weight	About 360 kg	About 67 kg	About 97 kg	About 150 kg
(1) Width	859 mm	830 mm	870 mm	872 mm
(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

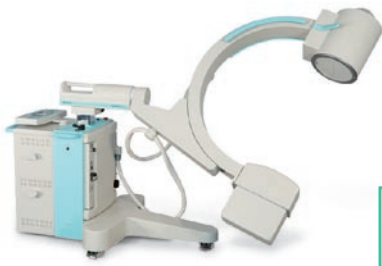
Weights and dimensions can vary with different accessories

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		690 mm
S.I.D.		970 mm
Focus Skin distance		200 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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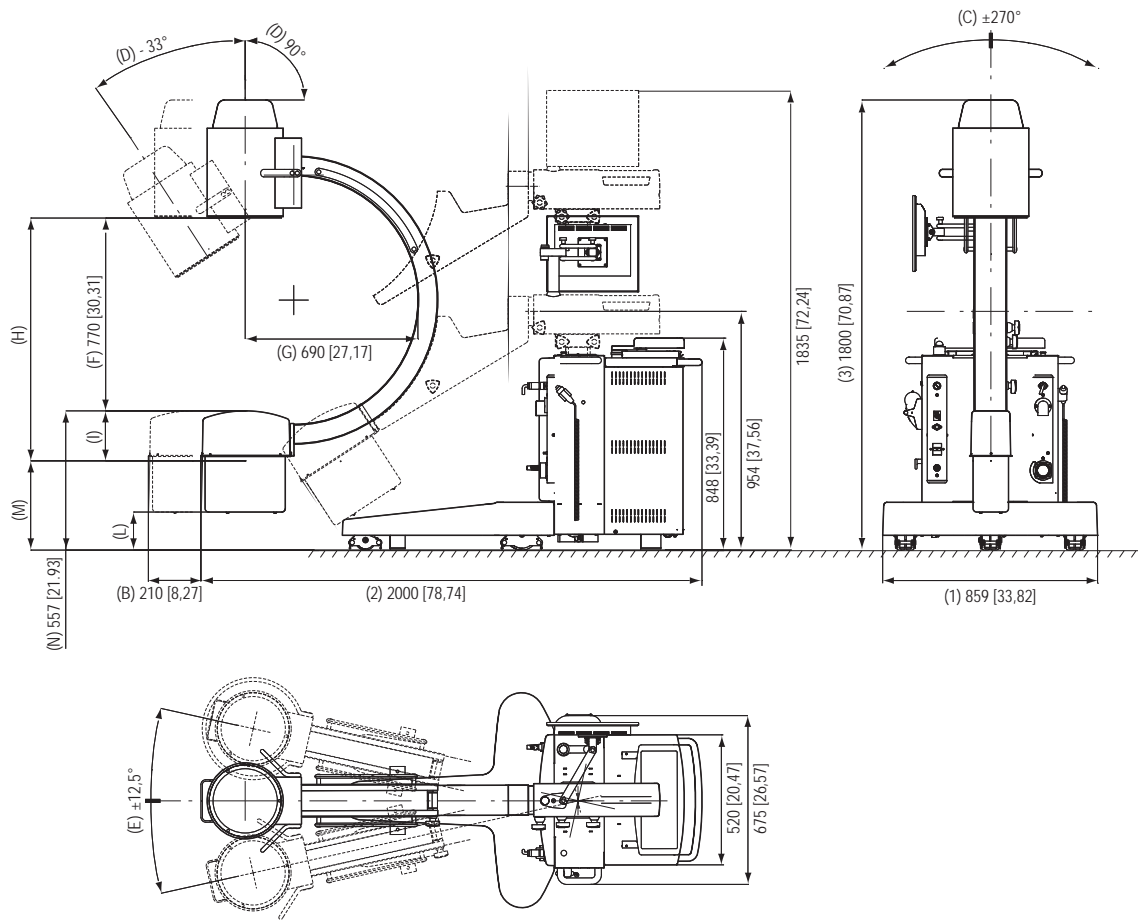
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TECHNICAL DATA

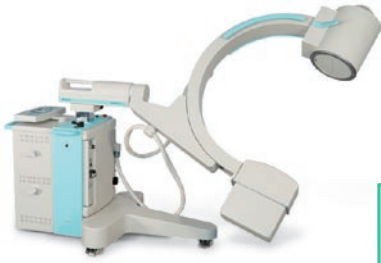
STAND Dimension in mm



	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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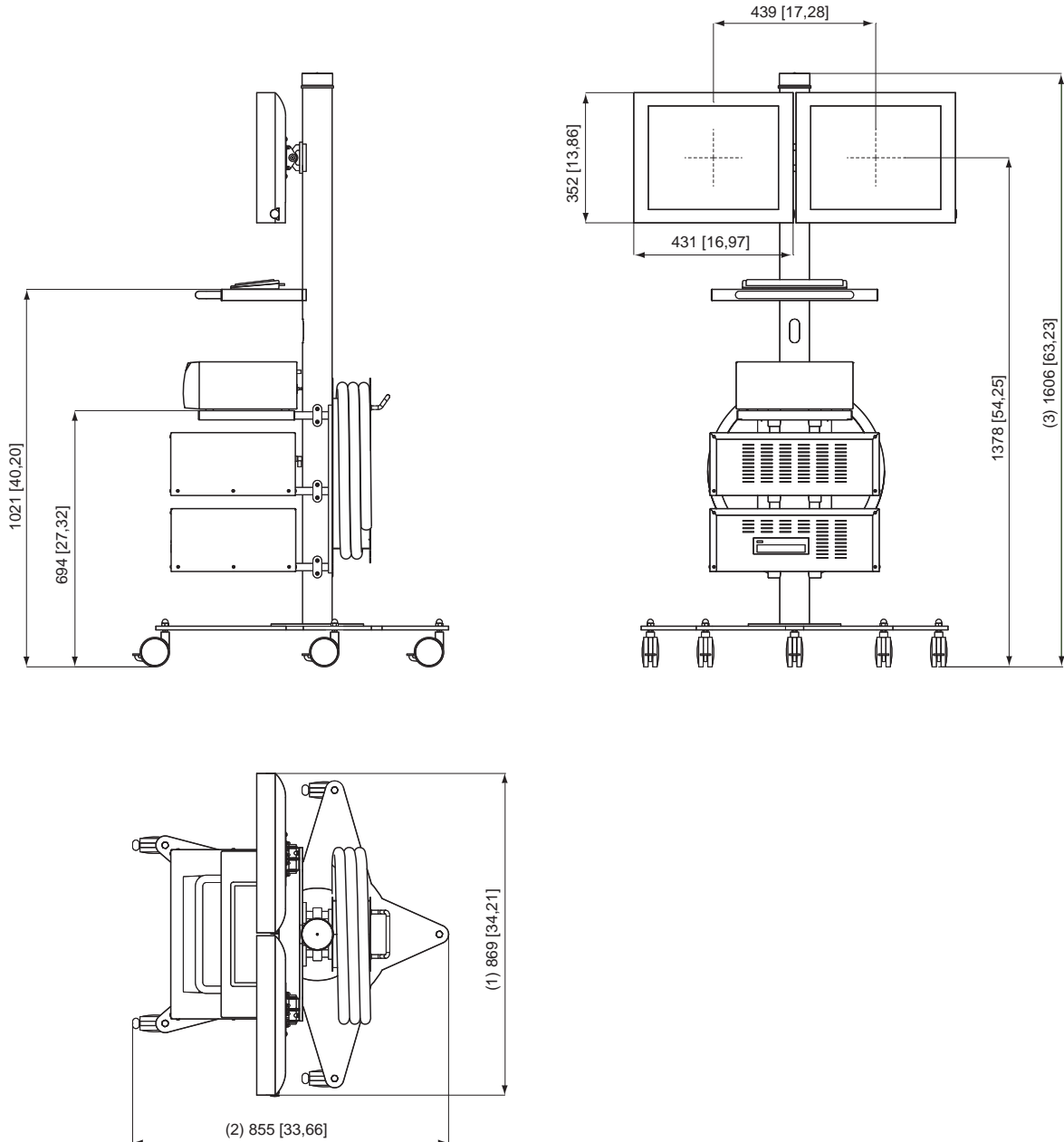
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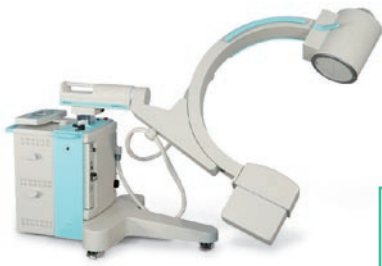
TECHNICAL DATA

TROLLEY MOD. "STANDARD"

Dimension in mm



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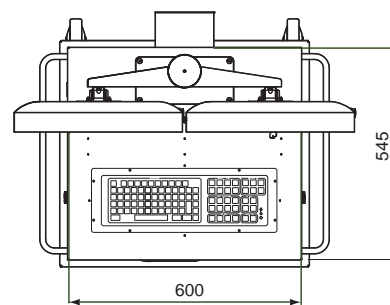
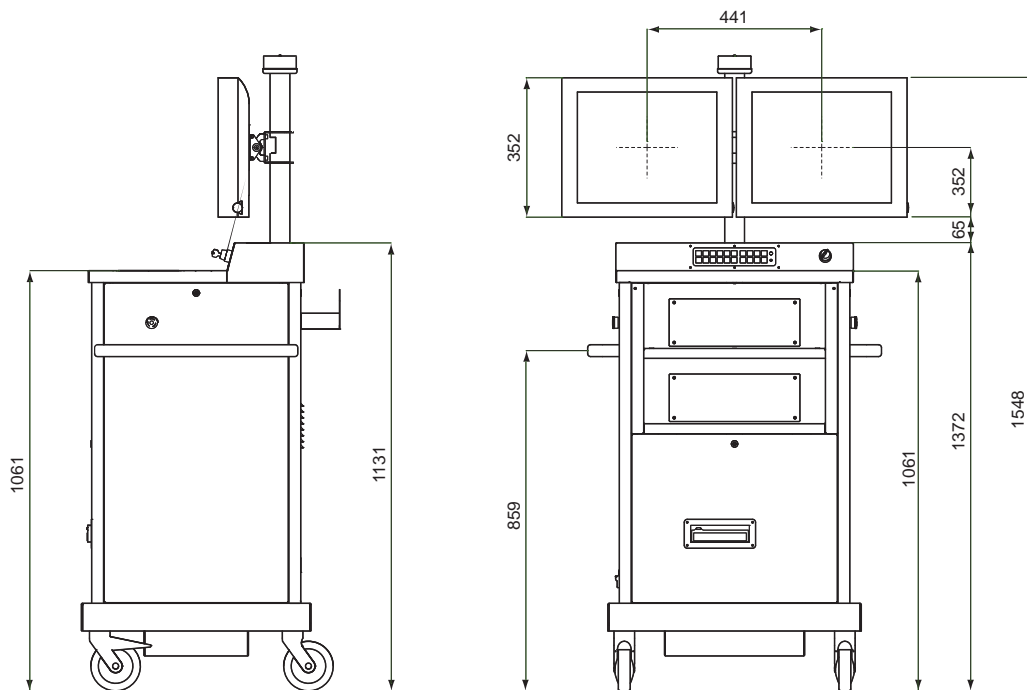
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TECHNICAL DATA

TROLLEY MOD. "HIGH"



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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