

BCA PLUS - *Dynamic Series*



Product Data **Digital Mobile C-Arm**

COMPOSITION	I.I. Tube	X-ray Tube	# Monitor	Memory	Collimator	
CODE	MODEL					
MI1012	BCA-9RK Plus	9"	Rotating Anode	n° 2- Monochrome	Dynamic 15fr/sec acq.	Iris and parallel shutters
MI1013	BCA-12RK Plus	12"	Rotating Anode	n° 2- Monochrome	Dynamic 15fr/sec acq.	Iris and parallel shutters

OPTIONAL

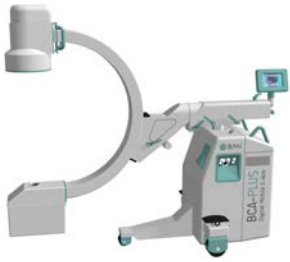
- 24x30 cm cassette holder for 9" I.I. Tube
- 30x40 cm cassette holder for 12" I.I. Tube
- Laser localizer
- Dose Area Product (DAP)
- Preview collimator
- Sterile drapes set
- Exporting software for 1Kx1K images recording (BMP or AVI format) on USB memory stick
- Dicom Store
- Dicom Worklist
- DICOM Image Storage function for USB Memory Stick recording
- DICOM Image Storage function for CD/DVD burning
- Thermostatically controlled forced ventilation
- Hybrid graphic printers

ELECTRICAL CHARACTERISTICS

- | | |
|-------------------------|--|
| • Voltage | Standard: 230 Vac (±10%) single phase
Optional: 115 Vac (±10%) single phase |
| • Frequency | 50/60 Hz |
| • Max. Absorbed current | 4.5 A @ 230 Vac in fluoro mode
20 A @ 230 Vac in radiography mode |
| • Line compensation | Automatic |
| • Line resistance | < 0.4 Ω (supply at 230 Vac) |
| • Standard mains plug | 16 A (for supply at 230 Vac) |



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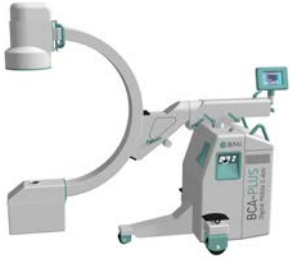


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RADIOLOGICAL DATA		ROTATING ANODE TUBE
Generator power (IEC 60601-2-7)		8.0 kW @ 100kV
High frequency generator		40 kHz
Max. ripple		< 2%
High voltage range (Rad & Fluoro)		40 ÷ 120 kV
Current range in Continuous Fluoroscopy		0.2 ÷ 4 mA
Current range in Pulsed Fluoroscopy		8 mA - 12 mA
Current range in Radiography		25 mA ÷ 100 mA
mAs range		1 ÷ 125 mAs
Exposure time in Radiography		0.02 ÷ 3 sec
Total filtration		> 3.2 mm/Al
X- RAY TUBE		
Model		X20P
Anode		Rotating
Anode slope		10°
Focal spot size according to IEC 336		0.3 Small Focus / 0.6 Large Focus
Anode power rating		5kW SF / 17kW LF
Max. Anode heat content		150 kJ (200 kHU)
Max. continuous anode thermal dissipation		300 W (400 HU/s)
MONOBLOC		
Monobloc thermal capacity		650 kJ (865 kHU)
Max. continuous thermal dissipation		85 W, 115 HU/sec, 6900 HU/min
COLLIMATOR		
Automatic type		
Iris and parallel shutters type		<ul style="list-style-type: none"> • Iris shutters: beam collimation from the smallest field to the selected I.I. input field • Semi transparent shutters: n°2 parallel shutters, Cu 0.6 mm, 360° rotating
Preview collimator (<i>Optional</i>)		Adjustment of the collimation on the displayed image without making x-ray. Automatic positioning of the iris and parallel shutters to the selected position, when x-ray is ON



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IMAGE INTENSIFIER

Size	9"	12"
Model	E5830SD-P4A	E5796SD-P2A
Number of fields	3 (9" / 6" / 4.5")	3 (12" / 9" / 6")
Input nominal diameter	230 mm	310 mm
Central Resolution (typ.)	52 / 58 / 68 lp/cm	46 / 50 / 56 lp/cm
Conversion factor (cd*s/m ² *μGy)	29	34
Contrast ratio (10% area)	30:1	30:1
Contrast ratio (10 mm dia.)	19:1	18:1
DQE (IEC Standard)	65%	65%

ANTI-SCATTER GRID

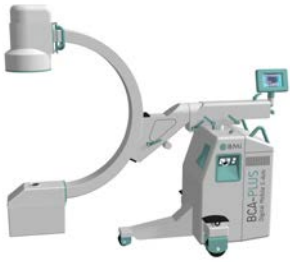
Ratio	14:1	14:1
Focus	100 cm	100 cm
# of lines	60 lp/cm	60 lp/cm

CCD CAMERA 1K × 1K

Matrix	1024 x 1024 pixels
Technology	interline transfer CCD progressive scan with microlenses
Acquisition	1024 x 1024 x 14 bits
Contrast resolution	16384 grey levels
Signal - Noise Ratio	61 dB



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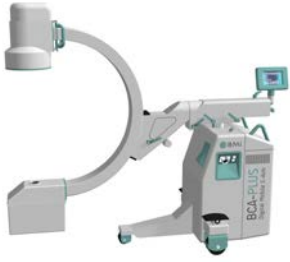
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DIGITAL IMAGE SYSTEM		MEMORY DYNAMIC 15 fr/sec
ACQUISITION		
Image acquisition		1024 x 1024 x 14 bit
Video output		DVI-A & VGA 1280 x 1024
REAL TIME PROCESSING		
# of images on hard disk		100.000 images 1k x 1K x 14 bit on H.D. SATA >250 Giga Byte
Images acquisition rate		0.5/ 1 / 2 / 4 / 7.5 / 15 fps
Continuous Digital image rotation		Yes
Window, Level, Brightness adj. tool		Yes
Vertical image inversion		Yes
Left/right image inversion		Yes
Gray scale inversion		Yes
Recursive filter - Noise reduction		Yes - 4 selections: F0, F1, F2, F3
Max. Opacification during fluoroscopy acquisition		No
Image Subtraction (DSA)		No
Road mapping		No
Teleinjector management		No
POST PROCESSING		
Grey scale inversion		Yes
Window, Level, Brightness adj. tool		Yes
Continuous Digital image rotation		Yes
Overview windowing		Yes, 7 images with scrolling function
Vertical image inversion		Yes
Left/right image inversion		Yes
Electronic zoom (2x, 4x, 8x, 16x)		Yes
Spatial filters, edge enhancement		Yes - Sharpness 3x3
Land marking		No
Cineloop		Yes - (Display of two different sequences simultaneously)
Auto play		Yes
Image subtraction		No
Road mapping		No
Image Snap-Shot		Yes
Preview collimator		Yes - Optional
MEASURES <i>(indicative)</i>		
Distance calculation		Yes
Angles measuring		Yes
UTILITY		
Exporting software for 1Kx1K images recording (BMP for AVI format) on USB memory stick		Yes - Optional
DICOM Store		Yes - Optional
DICOM Worklist		Yes - Optional
DICOM Image Storage function for USB Memory Stick recording		Yes - Optional
DICOM Image Storage function for CD/DVD burning		Yes - Optional





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MONOCHROME MONITOR

Size	19" (483 mm)
Active area	14.80" x 11.85" (376 x 301 mm)
Type	LCD TFT grey scale, medical

CONNECTIVITY AND CONTROL

Analog video input	VGA HD
Digital video input	DVI-D

ELECTRICAL CHARACTERISTICS

Standard power supply	110-240V
Line frequency	50-60 Hz

DISPLAY CHARACTERISTICS

Resolution	1MPixel (1280 x 1024)
Contrast	900:1
Luminance	1000 nit
Visibility angle	170° H / 170° V
Pixel pitch	0.294 mm
Aspect ratio	5:4
ALC (Ambient light compensation)	YES
BLOS (Backlight Output Stabilization)	YES

MECHANICAL CHARACTERISTICS

Dimensions	430 x 384 x 85 mm
Weight	9.8 kg
Mounting	VESA 100

APPROVALS

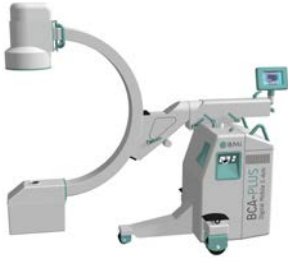
CEI 60601-1 12/98, CEI 60601-1 04/98, CEI 60601-1 02/98

ENVIRONMENT

Operation	From 0 °C to +45 °C Humidity: 8% to 80% (not condensing)
Storage	From -30°C to +70°C Humidity: 8% to 80% (not condensing)



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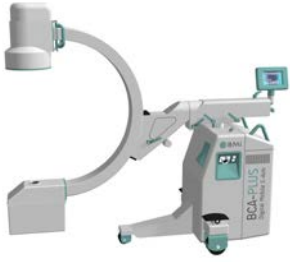
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FUNCTIONALITY	DESCRIPTION	DATA
User's interface	Touch-screen 7" LCD monitor for all the operation parameters and messages concerning possible faulty conditions. The LCD Monitor can be rotated $\pm 180^\circ$	
Languages	Italian, English, French, German, Spanish (selection at setup)	
I.I. field selection	Electronic zoom selection according to the number of I.I. fields with automatic limitation of the irradiated field.	
Thermal units	Real time control and visualization of monobloc thermal capacity percentage (% HU) according to the selected parameters (kV - mA). Continuous Fluoro up to 4'30" then there is an acoustic alarm. At the 5 th minute of continuous fluoro the x-ray is stopped and the timer is re-setted.	
Fluoroscopy control	Multi-functioning footswitch: <ul style="list-style-type: none"> • One pedal for continuous, pulsed, single shot (boost) and low dose pulsed fluoroscopy (the selection occurs from the console) 	
Radiography control	Two-step hand switch complete of spiral cable	
Monitor positioning	Two adjustable 19" Monochrome LCD monitor mounted on trolley	
Safeties devices	<ul style="list-style-type: none"> • General automatic magneto-thermic circuit breaker switch • Safety key switch • Emergency pushbutton • Filament current • Monobloc temperature • Overload • kV min/max. or faulty H.V. • Stored data check 	



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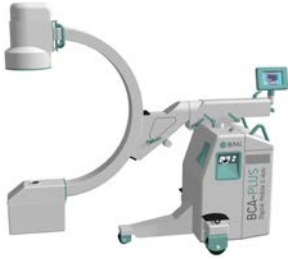
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OPERATIONAL MODES	CHARACTERISTICS	PERFORMANCES
Continuous Fluoroscopy	Dose control (kV - mA)	Automatic or manual
	mA fluoro variation range	0.2 ÷ 4 mA on Small Focus
	kV - mA correlation	Automatic
	Safety timer	<ul style="list-style-type: none"> • Acoustic alarm resettable after 4'30" fluoroscopy exposure. • Automatic stop after 5 minutes of continuous X-ray emission
Boost fluoroscopy	mA on all kV range	12 mA fixed on Small Focus
	X-ray pulse time	36 msec
	X-ray pulse rate	6 Selections. 0.5 - 1 - 2 - 4 - 7.5 - 15 pulses/sec
	Safety timer	<ul style="list-style-type: none"> • Acoustic alarm resettable after 4'30" fluoroscopy exposure. • Automatic stop after 5 minutes of continuous X-ray emission
HCFLD <i>(High Contrast Fluoro Low Dose)</i>	mA on all kV range	8 mA fixed on Small Focus
	X-ray pulse time	36 msec
	X-ray pulse rate	6 Selections. 0.5 - 1 - 2 - 4 - 7.5 - 15 pulses/sec
	Safety timer	<ul style="list-style-type: none"> • Acoustic alarm resettable after 4'30" fluoroscopy exposure. • Automatic stop after 5 minutes of continuous X-ray emission
Digital Radiography <i>(One Shot)</i>	mA on all kV range	12 mA fixed on Small Focus
	X-ray flash time	66 msec
Film Cinematography	mA Range	80 - 70 - 60 - 50 - 40 - 30 mA
	X-ray pulse rate	15 pulses/sec
	Acquisition rate	0.5 - 1 - 2 - 4 - 7.5 - 15 fps
	Sequence run time	12 sec
Radiography	mA Range	25mA ÷ 100 mA
	Exposure time	0.02 ÷ 3 sec
	Selection x-ray parameters	kV, mA, time





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ENVIRONMENTAL CONDITIONS

Environmental conditions in standard use

- Temperature: from +10 °C to +40 °C
- Humidity: 30% to 75% (not condensing)
- Pressure: from 700 to 1060hPa

Environmental conditions in transport and warehouse

- Temperature: from -25 °C to +70°C
- Humidity: 10% to 90% (not condensing)
- Pressure: from 500 hPa to 1060 hPa

WEIGHT AND DIMENSIONS

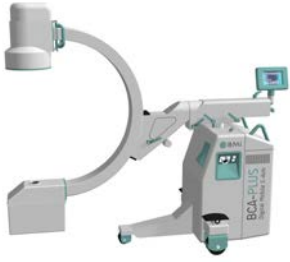
Description	C-Arm 9"	C-Arm 12"	Trolley
Weight	~ 340 Kg	~ 340 Kg	~ 100 Kg
Width	779 mm	779 mm	860 mm
Depth	1940 mm	1940 mm	686 mm
Height	1763 mm	1853 mm	1776 mm

MECHANICAL CHARACTERISTICS

	C-Arm 9"	C-Arm 12"
Vertical travel	400 mm motorized in 30 sec.	400 mm motorized in 30 sec
Horizontal travel	200 mm	200 mm
Panning movement	± 210°	± 210°
Orbital rotation	146° (+90° ÷ - 56°)	146° (+90° ÷ - 56°)
Pivotal rotation	± 10.5°	± 10.5°
Free Space	829 mm	802 mm
Depth	721 mm	721 mm
S.I.D.	983 mm for Rotating Anode	973 mm
Focus skin distance	200 mm	200 mm
Movement	Manual. Operator manual control of rear wheels. Swivelling front wheels. Stationary foot-brake.	
C-Arm wheels diameter	<ul style="list-style-type: none"> • Rear: Two double wheels ø 150 x 51 mm • Front: Double wheels ø 80 x 46 mm 	
Protection against cables squashing	Semi-rigid rubber core-hitch on wheels.	



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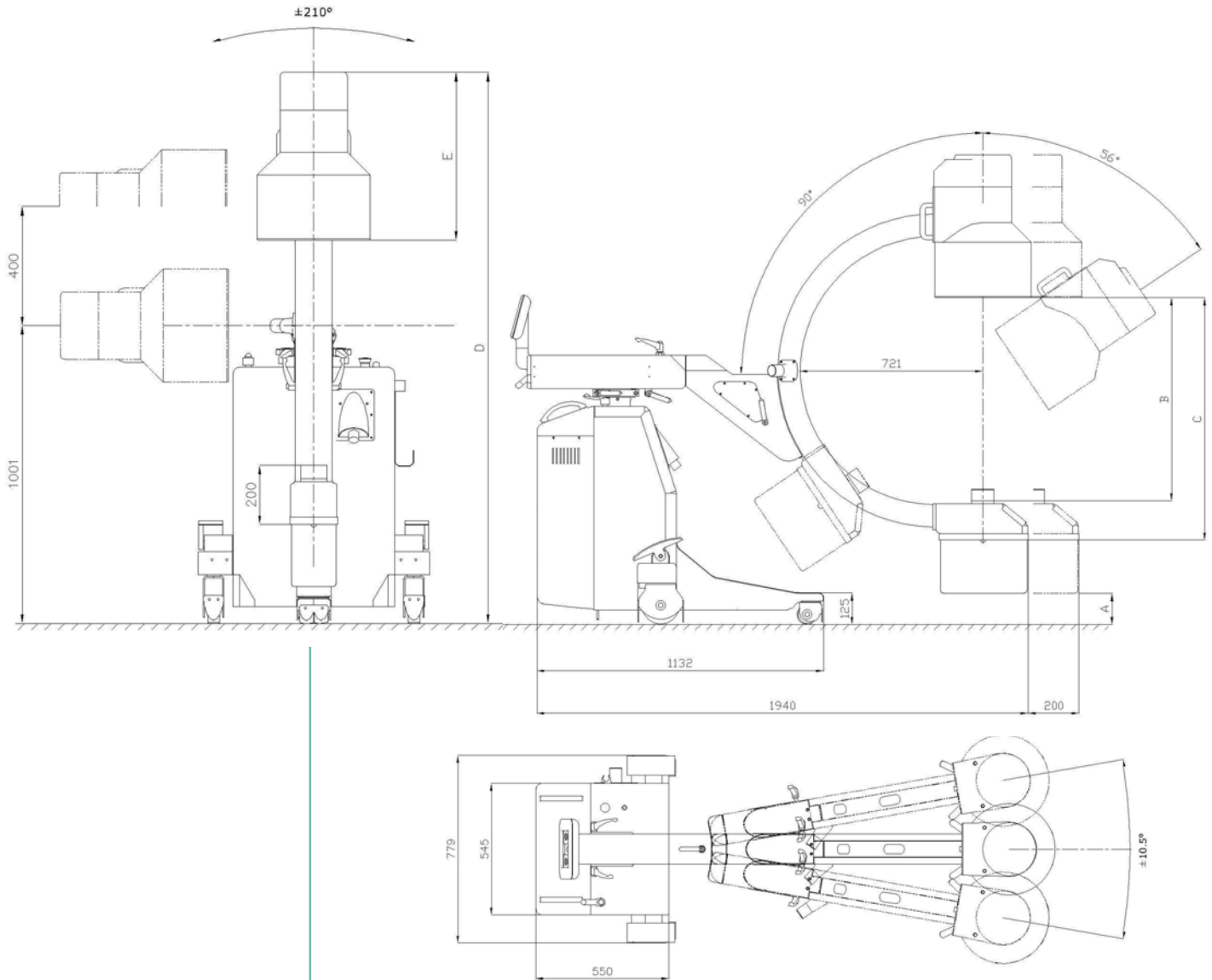
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TECHNICAL DATA

C-ARM Dimension in mm



	9" I.I. Tube	12" I.I. Tube
A	148 mm	149 mm
B	829 mm	802 mm
C	983 mm	973 mm
D	1763 mm	1853 mm
E	448 mm	563 mm



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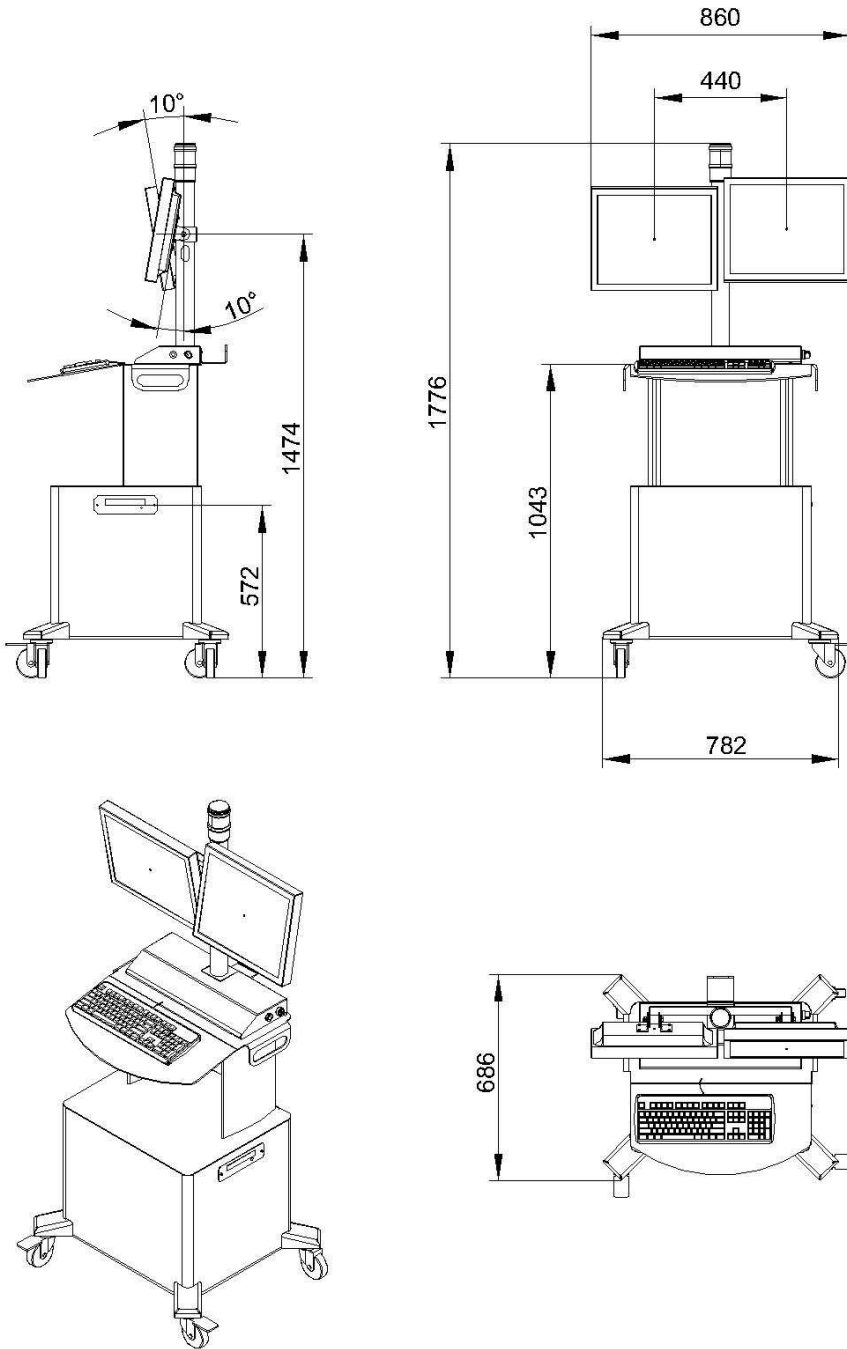
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TECHNICAL DATA

TROLLEY Dimension in mm



PD-71-E 12/02/2013 Rev.03

Note: Data subjected to alteration without prior notice



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