

PRODUCT DATA

# ARCO Rk.5

Digital Mobile C-Arm



## INTRODUCTION

Designed with the latest technology throughout, the **ARCO Rk.5** set new standards for the excellence image quality ease of use across a wide range of surgical applications:

- *ABDOMINAL SURGERY*
- *ORTHOPEDIC SURGERY*
- *CARDIOLOGY*
- *UROLOGY*
- *INTERVENTIONAL PROCEDURES*
- *PAIN THERAPY*

### Mains features:

X Ray dose saving

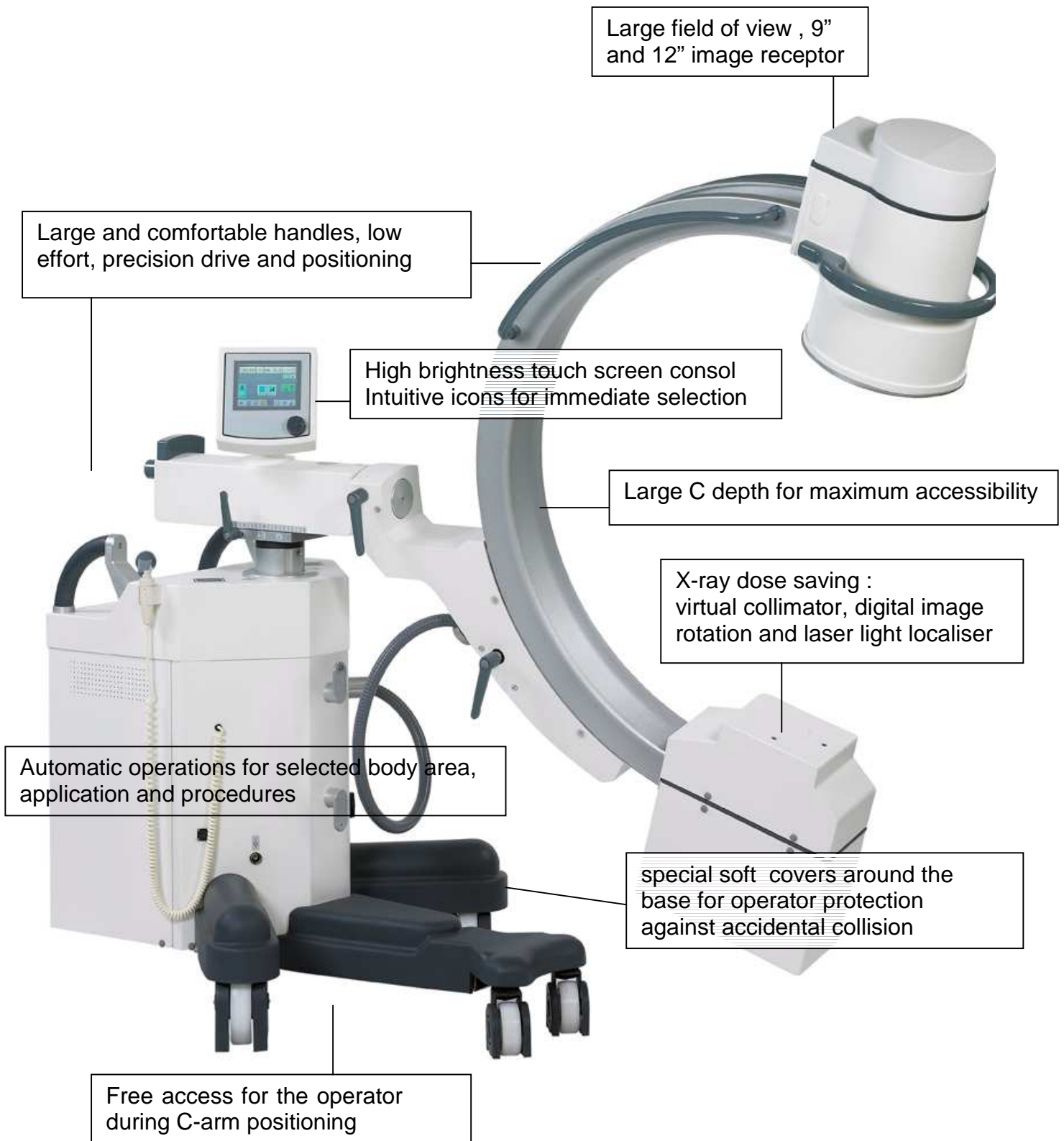
Lower weight with higher manoeuvrability

Excellence in image quality

Images archiving and communications capability

Exceptional commitment was given to the mechanical design to produce an ingenious solution, combining **low weight** with outstanding strength, resulting in a compact, cost effective, reliable mobile system.





## ARCO Rk.5 COMPOSITION

### C – ARM STAND

- Large C depth ensures maximum versatility and accessibility.
- Balanced mechanical movements for a fast and light manual C-arm positioning.
- Manual brakes ensure maximum safety during transport.
- Easy control with 315° rotational touch screen control



### HIGH FREQUENCY X-RAY GENERATOR COMPUTERISED CONTROL UNIT

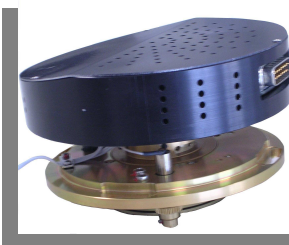
- 5 kW Monobloc with rotating anode x-ray tube



### COLLIMATOR

- X-ray collimator with CAN-bus communication interface
- Motorised iris and rotating blades
- Digital control for on screen **virtual collimation**

### CCD TV CAMERA



Ultra compact CCD Camera  
1024x1024 pixels resolution  
Progressive readout  
320Mbits/s. high-speed digital  
video-communication

### IMAGE INTENSIFIER

9" or 12" triple mode field of view



# HIPER IMAGE

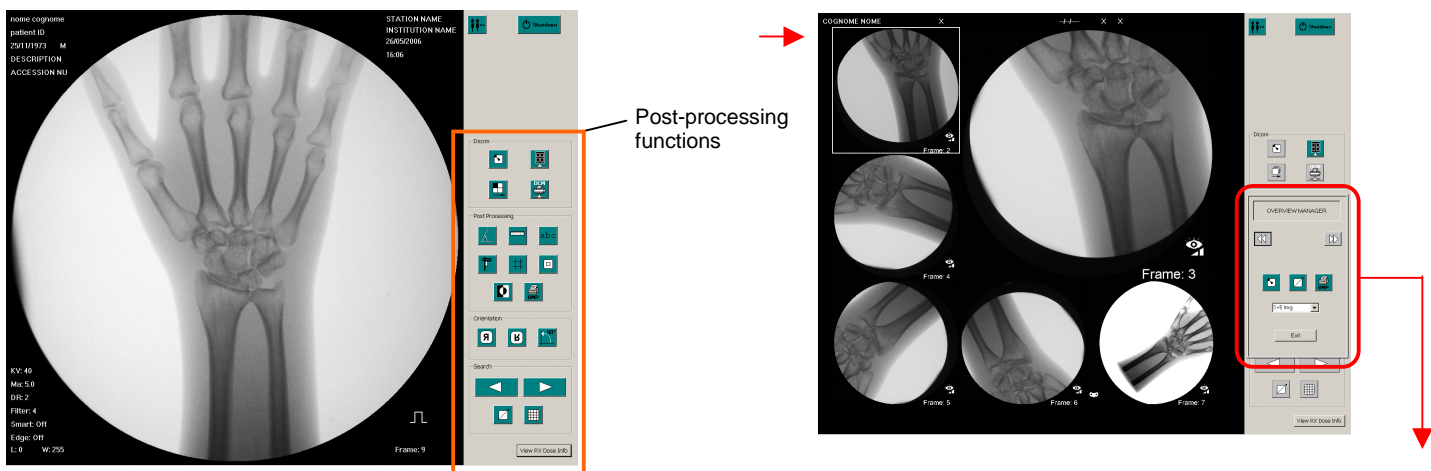
(High perceptivity image)

**HIPER image** is an exceptional x-ray image quality obtained by an intelligent combination of acquisition techniques with advanced image processing:

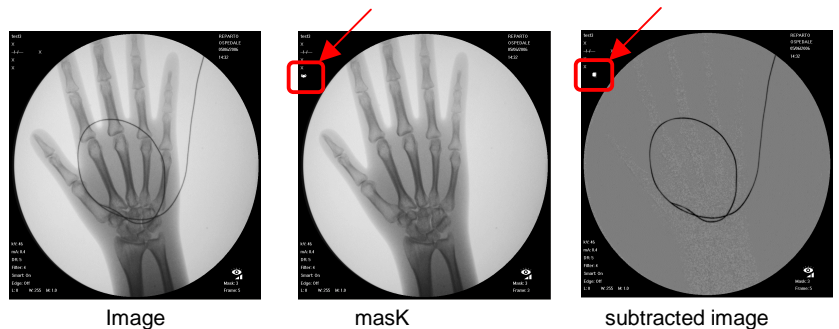
- 1kx1k CCD TV camera resolution and Medical Imaging LCD display
- ms-X-ray pulsed fluoroscopy, **image sharpness**
- **High contrast low noise** image with high mA/pulse ratio (30mA) in fluoroscopy
- Applied **low dose** with selectable pulse rate, from 0,5i/s up to 25i/s
- Integral image intensifier **distortion compensation (optional)**
- **Digital image rotation** ,real time continuous mode
- **Virtual collimators**
- Body parts dedicated image processing , **smart filters, cine-loop,etc.**

## HIRIS ACK WORKSTATION

### Post processing



- **Windows user interface**
- **Mouse drive windowing , W/L**
- **Electronic shutter**
- **Mosaic images display**
- **Zoom**
- **Graphic overlay, distance/ angle measurements**

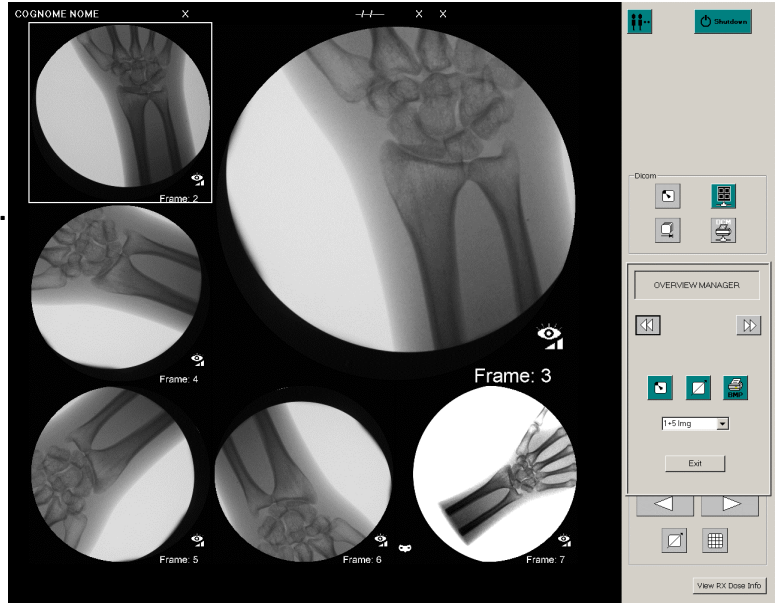
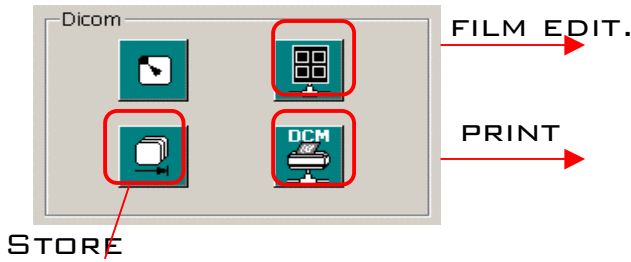


- **Easy image printing with Windows O.S. USB, parallel interface**
- **Images subtraction**

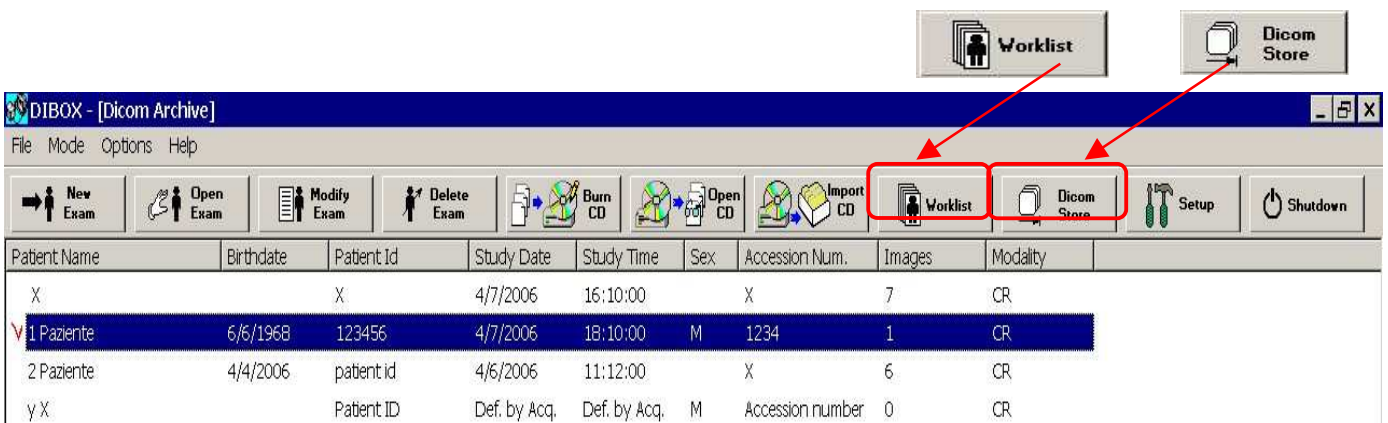
**NET WORKING**

**DICOM workstation :**

-image post processing



- easy image printing with Windows operating system
- USB, parallel interface
- -Dicom store SCU
- -Dicom print SCU
- -Dicom worklist SCU
- -Dicom multimedia exchange with CDROM recorder



## TECHNICAL DATA

### SAFETY CONFORMITY

EN 60 601-1 (1990)+[A1+A11+A12(1994)] +A2(1997)+A13(1997)  
EN 60 601-1-2 (2001)  
EN 60 601-1-3 (1994)  
EN 60 601-2-7 (1999)  
EN 60 601-2-28 (1993)  
EN 60 601-2-32 (1998)

### C-ARM

Horizontal movement	200mm (optional 210mm)
	I.I.9" I.I.12"
Motorised vertical movement	450 400
Wig-Wag	± 12° ± 10°
I.I. – X-ray focus distance (S.I.D.)	987mm 928mm
Angular movement	115°
Arc rotation around horizontal axis	> ± 200°
Arc depth	660mm 640mm

### POWER REQUIREMENTS

Mains voltage	230 Vac
Frequency	50 / 60 Hz
Fuses	16 A
Max impedance	0.4 Ohm

### X-RAY GENERATOR

Type	HF1/R2
High frequency	40kHz
Max voltage	120 kVp
Max mA in radiography	65 mA
Max mA in continuous fluoroscopy	<b>5 mA</b>
Max mA boosted fluoro	<b>30 mA</b>
Fluoro Pulse time	<b>20ms</b>
Conformity	IEC 60 601-2-7

## TECHNICAL DATA

### MONOBLOCK

Type	HF1 R/15
Total Filtration	3.4 mm Al
Inherent filtration	1.4 mm Al
Max power	5 kW
Thermal capacity	1.260(KHU)
Continuous dissipation	0,23 (KHU/s)

### X-RAY TUBE

Rotating Anode	Type	X20P 0.3/0.6
Anode target angle		10°
Focus		0.3 - 0.6 mm
Max anode load (SF/LF)		5 kW - 17 kW
Anode thermal capacity		150 kJ
Anode cooling		300 W
Conformity		IEC613-336 (CE0051)

### COLLIMATOR

Type	CAN digital control Motorised Iris Motorised Rot. blades
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### LASER LOCALISER (optional)

Type	cross
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### IMAGE INTENSIFIER

9" Type	TH9428HP
Field	9" / 6" / 4"
Useful field	220typ./160typ./120typ.
Technology	all metal
Input screen	Hi-Res Csl
Typical central resolution	48 / 56 / 64 lp/cm
Contrast ratio	30:1 (4") - 25:1 (6") - 23:1 (9")
DQE at 59,5 keV	65% (IEC standard)
Conversion factor	240 Cd/m <sup>2</sup> /mR/s
12" Type	TH9432HP
Field	12" / 9" / 6"
Useful field	290/215/160
Technology	all metal
Input screen	Hi-Res Csl
Typical central resolution	44 / 50 / 56 lp/cm
Contrast ratio	30:1 (6") - 25:1 (9") - 22:1 (12")
DQE at 59,5 keV	65% (IEC standard)
Conversion factor	240 Cd/m <sup>2</sup> /mR/s

## TECHNICAL DATA

### GRID

Diameter	(9")235 mm	(12") 355mm
Material		Al
Ratio		8:1
Blades		103 Bl/ inch

### TV CAMERA

Type	CD1030ca
Technology	<b>Full digital, serial image data transmission</b>
CCD Matrix	<b>1024x1024 pixels</b>
Acquisition rate	<b>25 images/sec.</b>
Scanning	progressive scanning
Signal/noise ratio	60dB
Sensitivity	0,2lux(P20 light)

### LCD DISPLAY

Type	TFT active matrix LCD working and reference display
Active area	19", 376x301mm
Resolution	1280x1024 pixels
Contrast ratio	500:1 (typical)
Brightness	250 cd/m2 (typical)
Grey scale	DICOM LUT
Application	<b>Medical display</b>
Video input	Multistandard, analogue and digital

**IMAGE PROCESSING & DICOM WORKSTATION**

**Real time processing**

Type	<b>HIRIS ack</b>
Image resolution	<b>1024x1024 pixels,16bit acquisition</b>
RAM memory	<b>128 images for cine-loop view, 256 images (option)</b>
Image processing	4 pre-selectable LUT Lag-free image with motion detection algorithms
Noise suppression	
Image enhancement	3x3 Kernel edge enhancement Live and reference image, Last Image Hold
Image display mode	<b>Continuous, DIGITAL image rotation</b>
Image rotation	
Image presentation	H. image reverse <b>I.I. distortion : integral « pincushion » compensation</b>
Image distortion (option)	

**Post processing**

Image display mode	<b>Image with virtual collimator, cine-loop, mosaic/overview of 4/16 images, grey scale reverse (B/W), post acquisition image rotation, image zooming</b>
Archive images memory	<b>&gt;40.000 images</b>
Operating system	Windows 2000 , keyboard & mouse user interface Patient data and images management, angle and distances measurement, text editing, electronic collimator,
Additional functions	<b>USB/Parallel output for Windows O.S. photo quality printing</b>
Image printing	
Networking	DICOM 3.0 protocol (option) Dicom verify SCP & SCU, Dicom store SCU Dicom worklist SCU, Dicom print SCU, Dicom Media Interchange with CDROM recorder complete of integrated viewer
DICOM functions	

## EXPOSURE MODE

### FLUOROSCOPY

Focus	0.3 mm
kVp range	40 - 120 kV
mA range	0.2 - 5 mA
mA range in boost fluoro	<b>0.4 - 30mA</b>
Timer	5 min alarm
Display	kV - mA - alarm 30 sec ON / 90 sec OFF during 135 minutes at 100kV and 4.6 mA
Max load x-ray monobloc	

### PULSED FLUOROSCOPY

	Focus	0.3 mm
	kVp range	40 - 120 kV
	mA range	1.2 - 30 mA
<b>Excellent image quality in dynamic acquisition</b>	<b>Rate</b>	<b>from 0.5 - 25 i/sec</b>
	<b>Pulse duration</b>	<b>20ms</b>
	Timer	5 min alarm
	Display	kV - mA - alarm

### DIGITAL FLUOROGRAPHY

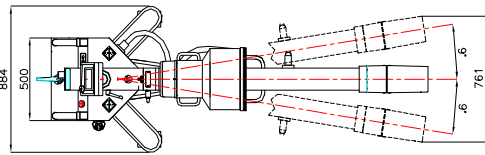
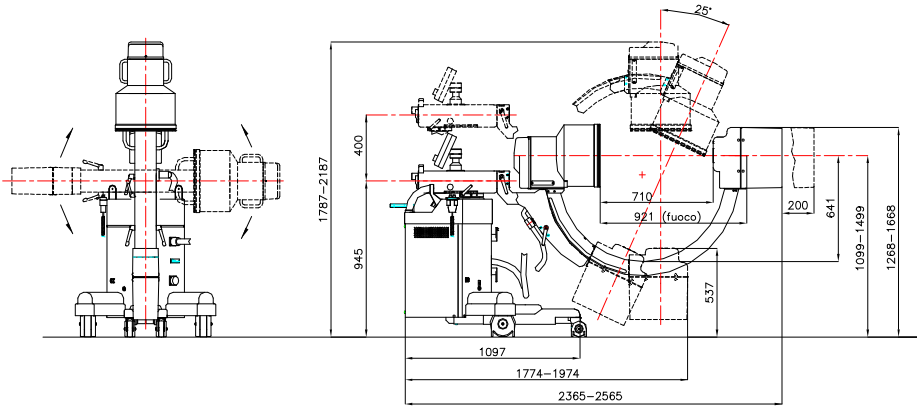
<b>Innovative one shot fluoroscopy</b>	Focus	0.3 mm
	kVp range	40 - 120 kV
	mA range	<b>1,2 - 30 mA</b>
<b>Excellent image quality for reporting</b>	<b>Pulse duration low dose</b>	<b>80ms</b>
	<b>Pulse duration standard</b>	<b>160ms</b>

### RADIOGRAPHY

Focus	0.6 mm
kVp range	40 - 120 kV
mA range	23.3 - 65 mA
mAs range	1 - 250 mAs
Utilization factor	1:14

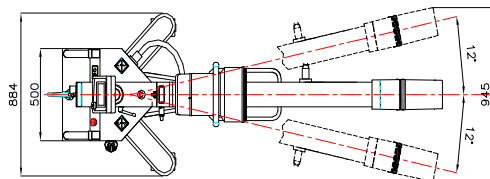
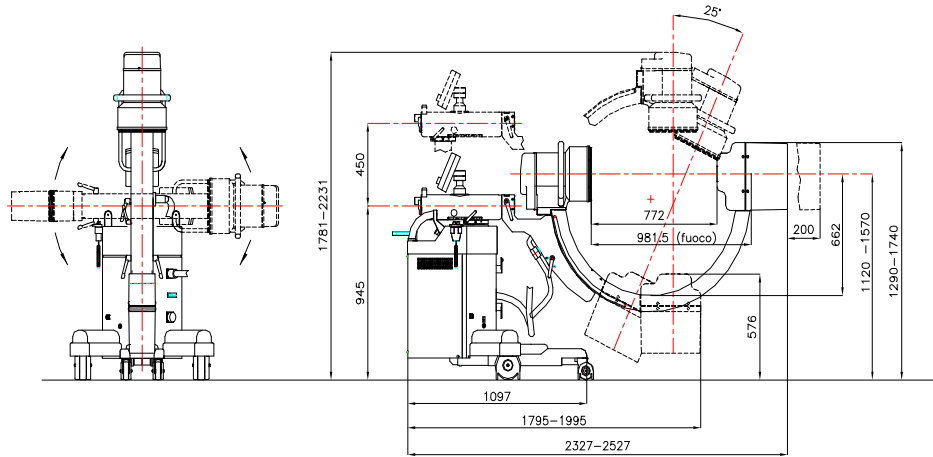
# DIMENSIONS

ARCO Rk.5-9"



Total net weight : 240 kg.

ARCO Rk.5 -12"



Total net weight : 250 kg.

