HF Mobile Digital C-arm System (Flat Panel Detector)

CCX7100A

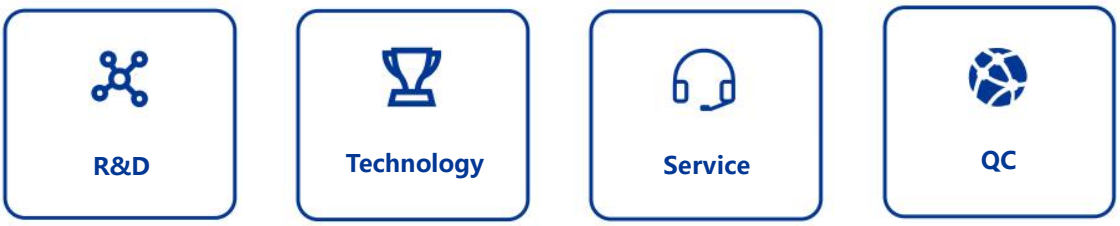
BROCHURE

Part 1. Company Introduction

➢ Company Profile

➢ Company Strength

- ✧ More than 200 patents of R&D
- ✧ 30+ years of technology accumulation
- ✧ Quality control system
- ✧ Nationwide service network



Part 2. Product Description

CCX7100A is a digital mobile large flat-panel C-arm that provides an excellent and stable digital image chain with better image quality while significantly reducing radiation exposure.

The C C X 7 1 0 0 A can be used for intervention. With good mobility, low operating room space requirements and high-level performance, the device can meet the demand for long time X-ray fluoroscopy and adds unique vascular image processing functions, making it an ideal device for performing interventional procedures.

Package: 1#3150*1450*1610mm,2#1070*700*830mm total 8.5m³, Gross weight: 900kg, Net Weight:630kg

I. Application:

It can be used for orthopedics, general surgery, orthopedics, traumatic surgery, urology, spinal surgery, pain surgery,gastroenterology, gynecology , Peripheral angiography ,interventional sugery ERCP etc

II. Configuration:

1	five-dimensional electric mobile C-arm main frame	1unit
2	high-frequency high-voltage X-ray generator and high-frequency inverter power supply（25.0kW、60kHZ、125kV）	1unit
3	21 inch 2M gray scale medical LCD display	2units
4	Dynamice Flat Panel Detector 30*30cm	1unit
5	Digital workstation with DICOM3.0 port, DAP dose monitoring	1unit
6	dense grain filter wire grid	1unit
7	electric adjustable beam limiter	1unit
8	Human Graphical touch screen	2units
9	Hand controller for mechanical movement	1unit
10	Foot brake for exposure	2units
11	X-ray image transmission and processing software	1unit
12	Table side control system with angiography kit (Land mark, Road map)	1 unit

III.Technical specification:

Category	Items	Content
Generator	High frequency high voltage generator	Power output：25kW Inverter Frequency：60kHz **Continuous fluoroscopy** Tube voltage：40kV～125kV、continuous adjustable Tube current：0.3mA～5mA、continuous adjustable **Pulse Fluoroscopy** Tube voltage：40kV～125kV、continuous adjustable Tube current：0.3mA～100mA、continuous adjustable

		Digital radiography Radiography tube voltage：40kV～125kV Radiography mAs：0.1mAs～320mAs
X-ray tube	X-ray tube special for high frequency	Dual focus:0.6/1.3mm thermal capacity: 1000kJ
Imaging system	Detector	Mode：THALES Pixium Surgical 3030 Effective area size is：30cm×30cm Maximum pixel size：1956×1956 Pixel size:154μm 16-bit analog-to-digital converter
	Display	21-inch 2M gray-scale medical liquid crystal display
	Digital image processing system	Image acquisition module: real-time zoom, real-time rotation of any angle, vertical / horizontal mirror, real-time enhanced processing, sub-window display, single frame / sequence image storage and echo Image processing module: For the images that have been collected or saved, the images can be processed in this module: labeling, zooming, measuring, window display, 90 ° rotation, horizontal mirror and vertical mirror. Report module: provide a variety of diagnostic terms that can be modified to facilitate the user to write a report and to provide the report print function Film print module: complies with the DICOM standard medical film typesetting and printing functions
	C-arm movement	(SID)Focus - Image receiver distance：955～1155mm （Detector can be motorized lifting up& down) C arm Slide angle along the rail arc：≥120° C arm Rotate along the horizontal axis：±180° C arm swing left to right：±15° Forward and backward：200mm Upward and downward：400mm C arm opening：744～944mm C arm depth：826mm Guide Wheels can be rotated in any direction，main wheel0～90°

	Power conditions	Power supply voltage: 220V ± 22V Power frequency: 50Hz ± 1Hz Single Phase

IV.Features:

uses imported large-size flat panel detector, with larger view-filed, access to high-definition distortion-free images to ensure accurate and reliable image information to meet a variety of clinical special surgical needs.

Product Features:

1, high dynamic display range, can achieve the best human soft tissue and bone tissue imaging.

2, cesium iodide amorphous silicon dynamic flat panel detector, the limit spatial resolution of 2.7LP / mm, gray 16bit.

3, a complete image processing system, with extraordinary processing power, to ensure that you get what you want.

4, built-in automatic optimization of advanced image processing, enhanced module, real-time display automatically optimized after a clear clinical image.

5.Real-time histogram equalization and real-time dynamic Gamma correction through real-time Laplacian pyramid enhancement.

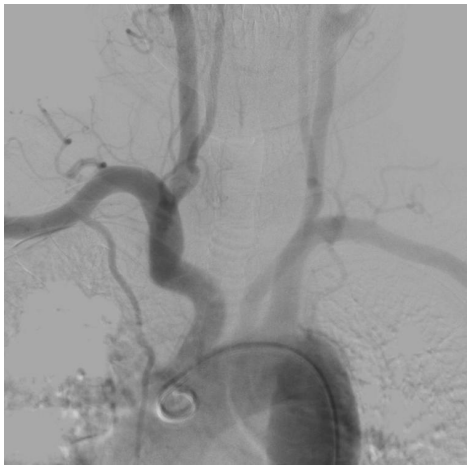
6, real-time window width and window adjustment, real-time arbitrary angle rotation, real-time zoom, pan, point of interest, reverse phase, noise reduction, smoothing, sharpening and other rich and powerful image processing function gives you a stronger diagnostic confidence.

7, dedicated high-definition medical LCD display system, presented to you with high brightness, high contrast to the clinical image; contrast to nature, useful for diagnosis of the image details show clearer, more richer level.

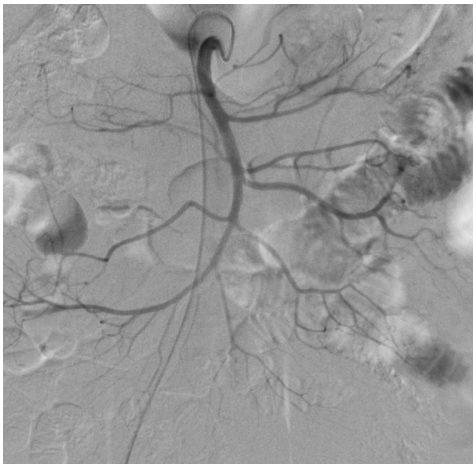
8, the perfect digital image chain, to ensure that you can easily deal with multiple sections of a variety of conventional surgery.

Iliac artery

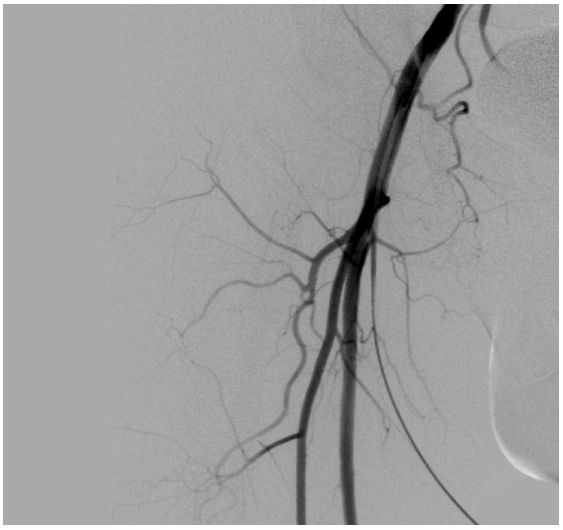
Carotid artery



Mesentery



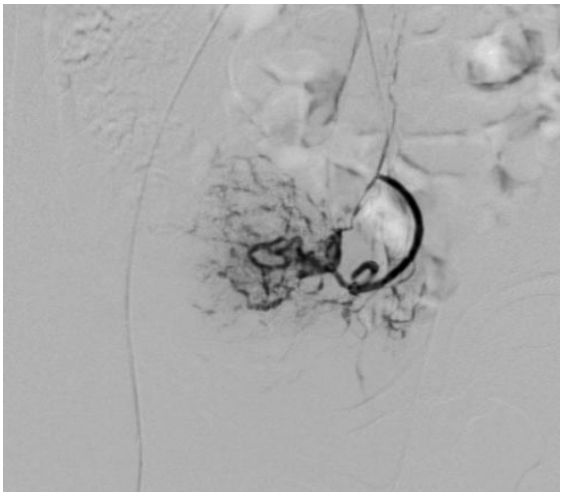
Bone Artery



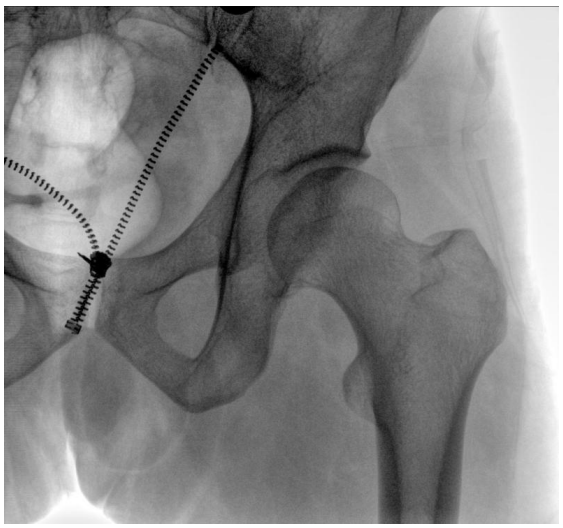
Spleen and stomach

Kidney

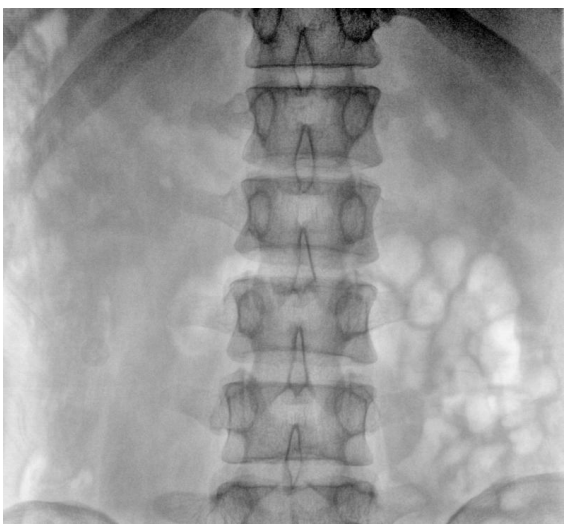
Uterine Artery Subtraction



Pelvis-femur



Lumbar



2.1Clinical Application

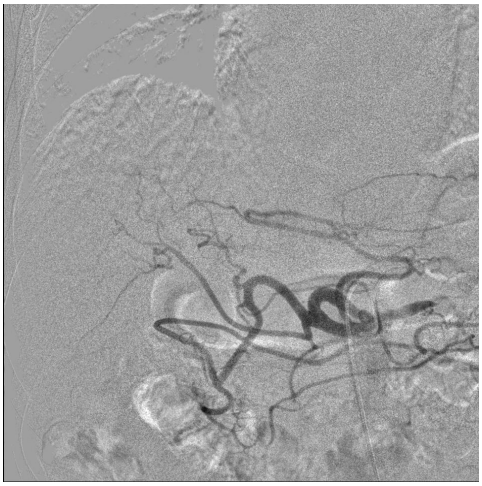
Dynamic FPD mobile C-arm integrates radiography, fluoroscopy with DSA, which can perform various examination of head, chest, abdomen and limbs, and can also complete high-definition spot imaging under visual conditions, effectively avoiding missed diagnoses and misdiagnosis caused by blind shots.

 **Integrated intervention** Tumor and non-vascular interventions, such as TACE and percutaneous biopsy, etc.	 **Gynecology** Fallopian tube recanalization, uterine artery embolization, etc.	 **ERCP** ERCP, PCT, etc.	 **Vascular Surgery** Stent and thrombolysis lower extremity vein and artery, carot, etc.
 **Urology** Urography, urethral stricture,ureteral calculi therapy, etc.	 **Orthopedic Surgery** Orthopedic reduction, pedicle screw placement etc.	 **Trauma Surgery** Help surgeons to accurately implant screws, improve the success rate of surgery and reduce the probability of post-operative complications.	 **Spine & Joint Surgery** Vertebroplasty, joint replacement and anatomical repositioning of elbow, hip and knee joints, etc.

Multiple Functions

➢ DSA

Digital subtraction angiography (DSA) is used extensively in interventional radiology for visualizing blood vessels. The pre-contrast image (so-called mask) is subtracted from the subsequent images in which the arteries/veins are filled with the contrast media and, thus, the bony or dense soft-tissue areas are removed from the final image, allowing for an accurate depiction of the blood vessels.



➢ Specific bedside controller

With the bedside controller, common operations can be completed, such as motion control of the equipment, adjustment of exposure parameters, viewing and saving of images. The flat panel detector, tube and catheter bed can cooperate with each other in order to obtain the best position angle, orientation and radiography distance during the examination or surgery. meet the requirements for patient position adjustment in interventional operations.

➢ High-pressure injector interface

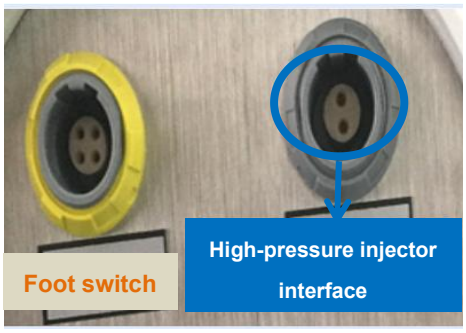
The high-pressure injector interface is reserved. When the C-arm starts fluoroscopy, the high-pressure injector automatically injects the contrast agent, which simplifies the imaging workflow of the surgeons and helps the surgeons to obtain high-quality images in a short time.

➢ Adjustable FPD

The flat panel detector can be raised and lowered in a wide range, and the SID can be flexibly adjusted to control the detector closer to the inspection area, allowing for clearer fluoroscopic images.

➢ Five-dimensional motion control

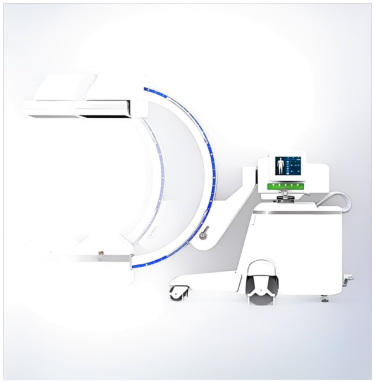
The motion control of the equipment adopts electric control mode, including electric lifting motion, electric horizontal motion, electric sliding along the track, electric rotation along the horizontal axis and electric FPD lifting motion, which can be adapted to different surgical beds and make it more convenient for surgeons to carry out surgeries.



High-pressure injector interface

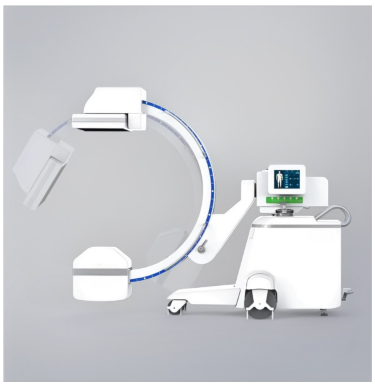
Adjustable FPD

Electric FPD lifting motion



Horizontal motion

Electric lifting



Orbital motion

Rotary motion

2.2 High-quality Digital Image Chain

➢ Large Dynamic Flat Panel Detector

adopts a 30cm×30cm (12 inch) large flat panel detector, which more than doubles the imaging area and presents a broader field of view during surgery.

Large dynamic flat panel detector with smaller pixel size, so the images are distortless with high clarity; 12-inch field of view can achieve large full coverage of the thoracic, abdominal and pelvic cavity parts, avoiding overlap and omission, reducing exposure time, lowering radiation dose and shortening the operation time.

➢ Stable High Voltage Generator

The maximum output power of the equipment is up to 25kW, which effectively ensures the imaging requirements of pulse fluoroscopy for obese patients or thicker parts of high-density tissues, fully satisfying the need for high-power instantaneous exposure during digital radiography, especially suitable for clinical applications of peripheral intervention and comprehensive interventional treatment.

➢ High Heat Capacity Tube

The device adopts rotating anode tube with high heat capacity, and with intelligent heat capacity management technology and advanced heat dissipation technology of the tube, the comprehensive heat dissipation efficiency of the device is greatly improved, and the lasting working ability of the device is greatly enhanced. It can support multiple interventional procedures to be carried out continuously.

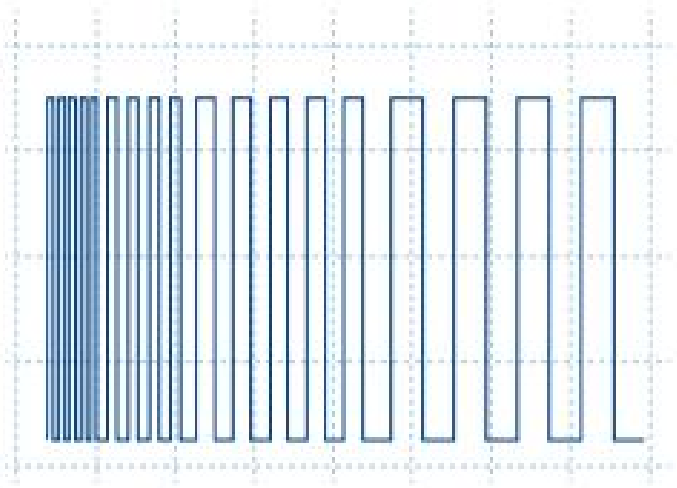
2.3 Multiple Dose Protection

➢ Intelligent Pulse Control

New intelligent pulse control technology is adopted, so the pulse width can be intelligently adjusted, improving the instantaneous X-ray quantity and the image quality of each frame. Service time of the equipment can be extended to more than 3 times of continuous fluoroscopy under the same X-ray condition.

➢ Intelligent Dose Control

Intelligent dose control technology is adopted, so the dose can be accurately adjusted according to different body types and different parts, so that the surgeon can obtain clear images with low radiation under any environment.



➢ Collimator Preview Function

It is equipped with a collimator preview function, which can reduce unnecessary testing exposures by previewing the effective exposure field of view in the screen, thus reducing the radiation damage to medical staff and patients

➢ Removable grid

Equipped with a pluggable high-density filter grid, it can effectively filter scattered X-rays, and improve image contrast and reduce haze. At the same time, for dose-sensitive people, the filter grid can be easily and manually pulled out, which can significantly reduce the dose required for exposure and reduce dose intake.

2.4 Mobile Design

➢ Easy Installation

The operating room does not need to be modified and install ground rails and hangers, reducing the initial construction cost of intervention department.

➢ Mobile design

The equipment can be freely moved to any operating room, which greatly improves the utilization rate of the equipment.

➢ Small footprint

The equipment covers an area of only about 2 m^2 saving the operating room space to place other equipment, which is convenient for the construction of a composite operating room.

Part 3.After-sales Service

Move forward steadily, keep improving

Professional service team for pre-sales, in-sales and after-sales

More than 100 overseas local engineers in 60 countries

More than 100 Chinese after-sales engineers serve the world

Cooperate with professional sea, air and land logistics to ensure safe delivery