

TECHNICAL SPECIFICATION

CR SYSTEM- SINGLE PLATE READER TYPE FOR DIGITAL RADIOGRAPHY

1. Digitizer (CR) system should have capacity to process more than 68 or more cassettes/films per hour.
2. Standard work station (Console) coupled with CR image storage capacity - at least 2000 images specify the numbers. It should have a resolution of 5 pixels/mm(Minimum) for standard resolution cassette & up to 20 pixels/mm or more
3. Separate DICOM workstation in ultra modality with all processing facilities in a centralized reporting.
4. Other feature of CR system
 1. Image post processing.
 2. Window leveling
 3. Annotation
 4. Area of interest Zoom
 5. Magnification
 6. Flipping & panning
 7. Automatic exposure correction
 8. Pre view software
 9. Edge enhancement stepwise
 10. Contrast/ Brightness adjustment
 11. Shuttering / ROI Finder
12. Application related software like Pediatric should be available- The system should have software & hardware to perform full leg/Full spine/Long Body imaging/ imaging stitching
13. DICOM Print
14. DICOM image output to network workstation.
15. Grid Pattern removal software & noise compression processing.
16. Gray Scale reversal .
17. Rotation .
18. Image preview time 25 to 60 Sec.(For large image)
19. System should be fully compliant with DICOM 3
20. Automatic cassette identification e.g. through bar code reader.
5. Dry Laser camera with more than two film size on line 14" X 17", 11" X 14"/ 10" X 14", 10" X 12" & 8" X 10".
6. Contrast spatial / Reading resolution 10 pixel / mm or more constant high resolution in all sizes.
True size printing should be possible from reader console
Automatic exposure correction & facility for maneuvering reading Sensitivity manually.
Gamma curves for multiple object intensity processing.
Registration & cassette identification should be possible to be done before & after the exposure (Pre /Post registration)
7. Specification for Laser Camera
 - 1) Mention Spatial resolution higher level preferable minimum 500 DPI/PPI
 - 2) Mention Gray Scale resolution : more than 12 bits preferable
 - 3) Mention processing capacity/hour for (14" x 17") films, it should have at least 70 films/Hour
8. **Acceptable film size:** 14" X 17", 11" X 14"/ 10" X 14", 10" X 12" & 8" X 10" etc.
 - 1) Online film sizes: At least 2 film size or more.
 - 2) DICOM compatible.
9. CR workstation should have following feature:
 1. Multiple image printing with multiple formats.
 2. Measurement of image, insert scale.
 3. Preloaded annotation.
 4. DICOM CD writing 8s reading.
 5. Image inverse, image flipping, image magnification, zooming.
 6. Addition of patient's photograph on image.
 7. Reporting format
 8. Image preview
 9. Image cropping
 10. Printing multiple patient on one film
 11. CD writing for multiple patient on one CD
 12. Should have a hard disk of 80 GB or more for storing image

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22

10. Please provide cassette for CR with PSP Plate (IP)

14"x17"
14"x14"
10"x12"
8"x10"



Four cassette of each size

11. Suitable online UPS more than 30 minutes backup for whole system.

12.1.5 Ton 5 Star split AC with voltage stabilizer should be supplied with machine with Complete installation (Hitachi/ O-general/ DAIKIN/ Mitsubishi).

Technical Specification for AC unit:

Additional Requirements for A/C unit:

- 3 mtr copper piping with superlon insulation for suction line (copper pipe of minimum 0.70 mm thickness)
- 3 mtr copper piping with superlon insulation for Discharge line (copper pipe of minimum 0.70mm thickness)
- 3 mtr PVC piping for drain or as required (15mm dia. flexible type)
- 3 Mts. Indoor-Outdoor unit connecting power cable and required cable from power socket to stabilizer and from stabilizer to A.C. unit with suitable MCB box & power socket top plug.
- Base plate for hanging indoor unit
- MS Stand for outdoor unit

13. OTHER REQUIREMENTS:

- **Guarantee:** Three years on whole system including CR, imaging screens, cassette, and camera from date of installation. Two years on AC and Voltage Stabilizer from date of installation. Five years on AC compressor from the date of the installation
- **CMC:** CMC may be given for seven year (on yearly basis) after guarantee period of three years.
- The product should be USFDA/European CE approved. (valid documentation should be submitted in technical bid)
- The company should submit technical compliance sheet as per technical specifications mentioning the make & model of quoted item in the Technical bid.
- The company should have a local Service center.
- Installation will be done by supplier free of cost.
- The Company should submit original catalogue and data sheet (signed & stamped) of quoted item at the time of bid submission. Any declaration/ undertaking in this regard shall not be considered.

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22

**Executive Director (EPM)
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