Remote Controlled R/F System

FLEXAVISION

Cassette (CR) SFD system

SF Package
The Ideal Multi-Purpose System

As examinations become increasingly diversified, R/F systems used typically for gastrointestinal examinations must now provide expanded functionality and improved performance to accommodate a wider range of examinations. The “FLEX” in “FLEXAVISION” stands for “flexibility”. True to its name, FLEXAVISION is an R/F system that meets the needs of the modern age by responding to the need for multi-purpose examinations.

- Easy-to-Operate, High-Throughput System
- Built-in Flexibility Expands the Scope of Examinations
- Entire System Designed to Ensure High Image Quality
- Digital Network Compatibility

Specifications
FLEXAVISION's wide range of functions supports chest imaging plus many other types of examinations, ensuring easy performance of cassette radiography. System operation is designed to be extremely simple, and allows easy selection of the optimum conditions for each patient's body type. The functionality of this system consistently produces images of the highest quality, regardless of the operator or patient.
Shimadzu’s Unique Imaging Chain Extension Function*

Extending the imaging chain 1.5 m (1.8/2.0 m is possible via option) for thoracic radiography expands the system’s imaging capability to include low magnification chest radiography. The radiography conditions automatically change to compensate for the change in source to object distance.

Wide Selection of Cassette Sizes

A selection of cassette sizes, from 18 X 24 cm to 35 X 43 cm, can be used to perform a wide range of examinations, from thoracic to orthopedic. Also, a xenon-filled phototimer (option) with 4 spot fields and minimal radiation scattering ensure that X-ray efficiency is high and radiography is stable.

Front-Loading Design

A simple cassette placement mechanism results in a quick and reliable cassette insertion and removal process at the SFD. The cassette automatically retracts out of the FOV allowing fluoroscopy to be performed.

Positioning and Setting of Radiography Conditions

“Memory Shot” Function Ensures Optimal Radiography Conditions

For spot film radiography performed during a fluoroscopy examination, the optimum radiography conditions for radiography of the region of interest, is instantly and automatically set from the required fluoroscopic exposure condition. Additionally, the system's APR function allows the presetting of up to 12 exposure conditions. This allows for quick and optimal imaging of common procedures.

Cassette Spot Filming Function

Advanced technology in the Spot Film Device gives precise radiography timing. Cassette movement from the “park” position to the "exposure" position is almost instantaneous, allowing perfect capture of the region of interest.

APR Function

<table>
<thead>
<tr>
<th>APR Function</th>
<th>(Sample program)</th>
<th>Users can create programs for any procedure, based on 12 types of radiography technique.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Chest, high voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Chest, low voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Abdomen, low voltage, contrast priority</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Abdomen, low voltage, time priority</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Gastrointestinal tract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Additional</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The key concept of FLEXAVISION is flexibility. FlexaVision can accommodate a wide range of radiology applications. These applications include chest imaging, general radiography, orthopaedic imaging, urology procedures and gastrointestinal examinations. Advanced functions incorporated into the system design give the operator a system that is quick and easy to use for general radiography through to the more specialized procedures.

**Spot Filming Function**
During orthopaedic examinations, radiography can be performed immediately when fluoroscopy identifies the desired projection, region or anatomy. We recommend that this function, which illustrates the merits of an R/F system, is used for orthopaedic examinations.

**Multiple Cassette Sizes Facility**
A selection of cassette sizes, from 18 X 24 cm to 35 X 43 cm, can be used to handle a broad range of examinations, from thoracic to orthopedic. This system’s phototimer(option) ensures consistent radiography and use of the 35 X 43 cm cassette allows capture of a large field in a single image.

**Bedside Switches**
Tabletop and imaging chain operation switches are provided on the tabletop to allow examinations and positioning while caring for the patient.

**Sub-divisional Spot Filming**
High-speed Sub-divisional spot filming function makes it easy to perform accurately timed left/right 2-frame radiography of the esophagus and other regions. (Top/bottom 2-frame imaging and 4-frame imaging are available as options.)

**Examination range:**
133 cm
(when using 35 X 43 cm cassette)

**Table tilting range:**
-30° to 90°
(trendelenburg position) (vertical position)

**Lateral table movement:**
22 cm

Wide coverage ensures a large examination area
Allows control of contrast media flow and performance of orthopaedic examinations
Allows easy imaging of peripheral anatomy without the need to shift the patient on the tabletop
Since developing the world’s first remote-control R/F system, Shimadzu has, with continued to provide cutting-edge technology and established an impressive track record throughout the world.

Using this experience, FLEXAVISION has been packed with the functions and performance required by clinical facilities. Its components, including the R/F table, X-ray generator, X-ray tube, and image intensifier, were all developed in-house to create a unified system that produces high-quality images.

**Entire System Designed to Ensure High Image Quality**

**Easy-to-Use Operating Console**
(Microphone with stand is an option.)

Designed considering the space restrictions of an operating room, a tabletop-type console that fits on a standard work desk is also available.

**High-Performance CCD**
A high-performance CCD camera allows immediate observation of fluoroscopic images on a monitor.

**“Last Image Hold” Function**
Holding the last fluoroscopic image displayed on the monitor during fluoroscopy makes it possible to reduce unnecessary exposure.

**“Memory Shot” Function**
Automatically and instantly set the optimum radiography conditions for the region of interest and operating procedure from the fluoroscopy conditions.
Improve examination efficiency by storing digital images acquired via the CR system using an electronic patient record system equipped with an image filing function and use them for observation and creating reports.

NOTE) * isn’t included in FLEXAVISION package.
SPECIFICATIONS

Responds to a Wide Variety of Needs

<table>
<thead>
<tr>
<th>R/F Table</th>
<th>Available</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation Function</td>
<td>65 cm X 210 cm</td>
<td>22 cm</td>
</tr>
<tr>
<td>Transverse Movement Range of Tabletop</td>
<td>69 cm to 95 cm</td>
<td>89 cm</td>
</tr>
<tr>
<td>Tabletilting Range</td>
<td>-30° (trendelenburg position) to 90° (vertical position)</td>
<td>90 cm</td>
</tr>
<tr>
<td>Oblique projection</td>
<td>+/- 30 degrees</td>
<td>*Not available with 1.8/2.0 m FFD extension</td>
</tr>
<tr>
<td>SID</td>
<td>110 cm</td>
<td></td>
</tr>
<tr>
<td>Cassettes</td>
<td>Inch format: 8 X 10, 10 X 12, 11 X 14, 14 X 14, 14 X 17</td>
<td>Center format: 18 X 24, 24 X 30, 35 X 35, 35 X 43</td>
</tr>
<tr>
<td>Cassette Multi-division Exposure</td>
<td>2 exp./sec</td>
<td></td>
</tr>
</tbody>
</table>

High-Voltage X-ray Generator

<table>
<thead>
<tr>
<th>50 kW Type</th>
<th>80 kW Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-time Rating</td>
<td>9-phase AC:</td>
</tr>
<tr>
<td>150 kV, 320 mA; 125 kV, 400 mA; 100 kV, 500 mA; 80 kV, 630 mA</td>
<td>9-phase AC: 125 kV, 500 mA; 100 kV, 800 mA; 80 kV, 1000 mA</td>
</tr>
<tr>
<td>Long-time Rating</td>
<td>125 kV, 4 mA</td>
</tr>
</tbody>
</table>

X-ray Tube

| 200, 300, or 400 kV (selectable) | |

Metal Image Intensifier (Representative Values)

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Contrast Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 (9-inch) / 46 (12-inch) lp/cm</td>
<td>30:1 (12-inch mode)</td>
</tr>
<tr>
<td>40 lp/cm</td>
<td>25:1</td>
</tr>
</tbody>
</table>

Monitor

| Color LCD (15-inch) or monochrome CRT (14-inch) | |

System Power Supply Requirements (Power for the R/F table is provided from the high-voltage X-ray generator)

<table>
<thead>
<tr>
<th>Usable Power Supply</th>
<th>Three-phase 200/220/240 V *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>50 kVA min.</td>
</tr>
<tr>
<td>Allowable Impedance</td>
<td>0.067 Ω max.</td>
</tr>
<tr>
<td>Ground Terminal (Grounding resistance)</td>
<td>10 Ω max.</td>
</tr>
<tr>
<td>Knife-switch Capacity</td>
<td>100 A max.</td>
</tr>
<tr>
<td>Molded-case Circuit-breaker Capacity</td>
<td>100 A max.</td>
</tr>
</tbody>
</table>

Gastrointestinal/General Radiography Unit

- Compression cone, Barium cup holder* |
- X-ray tube swing-out unit |
- Rolling step |
- Compression band |
- Mattress |
- Oblique projection unit * Note 1 |
- Imaging chain extension unit (1.8m/2.0m) (with cassette holder) * Note 1 |
- Lateral cassette holder |
- X-ray tube 180° swing unit |

Urological/Orthopedic Unit

- Drain bag |
- Leg supports |
- Endoscope support |
- Elbow rest |
- Auxiliary tabletop |

Other Options

- Local console |
- Footswitch |
- Monitor cart |
- Maximum allowable load UP kit * |
- 2nd tube option |
- Direct photometer |

A Variety of Options for Supporting Examinations

- Oblique projection unit |
- Drain bag |
- Leg supports |
- Auxiliary Tabletop |
- Rolling step

Note 1) The oblique projection unit and the imaging chain extension unit (1.8/2.0m) cannot be installed together.

Note 2) If the system is combined with the imaging chain extension unit, the SID 1.5m isn’t available. Fluoroscopy can not be performed with 1.8/2.0m FFD.

Note 3) Some options cannot be combined. Inquire separately for details.

<table>
<thead>
<tr>
<th>Installation Area</th>
<th>Approx. 350 cm (width) X approx. 230 cm (depth) min.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling Height</td>
<td>240 cm min.</td>
</tr>
<tr>
<td>Operating Weight</td>
<td>255 cm min. recommended.</td>
</tr>
<tr>
<td>Without table elevation function: 600 kg</td>
<td></td>
</tr>
<tr>
<td>With table elevation function: 730 kg</td>
<td></td>
</tr>
</tbody>
</table>

*An autotransformer (option) is required.

*Indicates options installed at the factory.

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Inch format: 8 X 10, 10 X 12, 11 X 14, 14 X 14, 14 X 17

Centimeter format: 18 X 24, 24 X 30, 35 X 35, 35 X 43

INCH and CM format cannot be used at the same time.

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*420 cm X 230 cm min. with thoracic radiography option.
DIMENSIONS

(R/F Table)

Units: mm

(Table shape is different if table elevation function is not available.)

(: Indicates dimensions in case of table elevation type.)

Remote Console

Control cabinet

NOTE: This picture includes optional items.
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technologies, has a distinguished history of innovation built on the foundation of
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Systems and ISO13485:2003 Medical Equipment Quality
Management Systems.

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• The performances and specifications are subject to change for
  reasons of improvement without notice.
• Certain configurations may not be available pending regulatory
  clearance. Contact your Shimadzu representative for information
  on specific configurations.
• Before operating this system, you should thoroughly review
  the Instruction Manual.