

SHIMADZU

PRODUCT DATA

Radiography System

RADspeed fitPlus version



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GENERAL

Radiography System RADspeed fit plus version is an X-ray radiographic system suitable for radiography for each region of a patient in horizontal or vertical position.

This system can be used for the following radiography:

- Digital radiography using a flat panel detector
- General radiography using an X-ray film cassette or CR cassette

The TM and ® symbols are omitted in this document.

FEATURES

(1) Inverter Method

This device generates a low ripple high voltage that can produce X-rays with efficiency, using a high frequency inverter. Since it can terminate X-ray asynchronous with the power source, photo timer exposure in an extremely short time range can be operated in a highly accurate manner.

Furthermore, the adoption of a feedback control method for X-ray output enables it to generate a stable X-ray without being affected by the fluctuation of the power source voltage.

(2) X-ray High Voltage Generator Control Panel

The adoption of sheet keys for the X-ray high voltage generator control panel prevents dust and dirt from entering through the interstices of the keys, enhancing the reliability of key operations.

The X-ray high voltage generator control panel is also a compact wall-hanging type, which does not occupy much installation space.

(3) Switching Control Methods

The radiography condition methods include two methods, that is, a 3-control method where tube voltage (kV), tube current (mA) and exposure time (sec) are set, and a 2-control method where tube voltage (kV) and tube current time product (mAs) are set. In the 2-control method, the tube current (mA) is automatically set to its allowable maximum value and the exposure time (sec) is set to its minimum value.

(4) Anatomical Program Key (APR)

The suitable exposure conditions according to position or body thickness are preset.

Also, original exposure condition is easy to change.

(5) One-touch Guide Function

This function makes exposure preparation easier by displaying film size, grid setting, and exposure distance suitable for radiography technique and position on the X-ray high voltage generator control panel.

(6) Vertical, Longitudinal and Crosswise (Front/Rear) Travels of X-ray Tube Assembly

The X-ray tube assembly can be moved in the vertical, longitudinal and crosswise (front/rear) directions for smooth positioning as suits the radiograph to be taken.

(7) Heavy Duty 4-way floating table

The bucky table can support up to 320kg. Patient positioning is made easier with the extremely smooth moving tabletop.

(8) Bucky tracking function

Easily synchronize the travel of a bucky unit with the X-ray tube support position thanks to mechanical linkage. Oblique projection is also available by detach the linkage.

(9) Energy saving collimator with a bright irradiation field

LED is adopted as the light source to indicate the irradiation field. This reduces power consumption and improves brightness levels and durability.

(10) Dose Management

A calculated Dose Area Product(DAP) is displayed after exposure, using the actual exposure parameters. The measured exposure parameters and calculated DAP can be displayed on a Generator console.

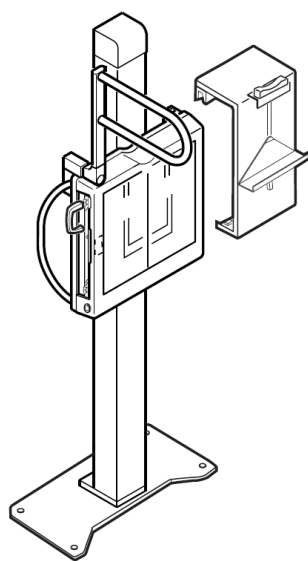
(11) Removable Grid

Removing the grid during radiography allows reducing the exposure dose level in pediatric and orthopedic applications.

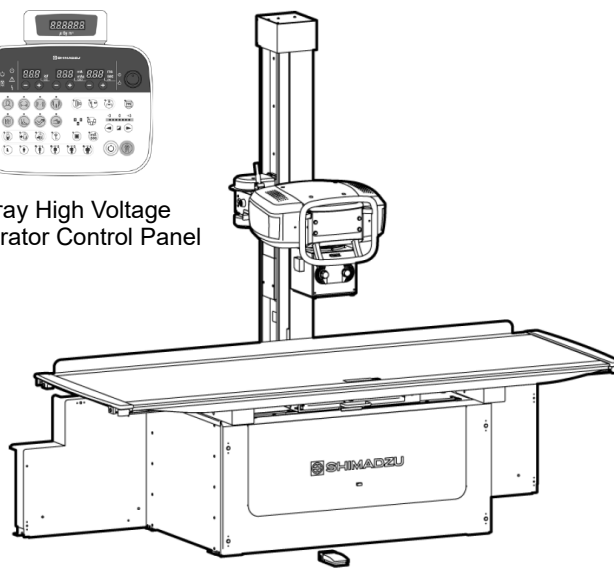
(12) AEC radiography (option)

When the AEC option is combined, the Automatic Exposure Control is available.

SYSTEM CONFIGURATION



X-ray Radiography Stand (option)


X-ray High Voltage
Generator Control Panel


Device Main frame

| Component | Model Name |
|---|--|
| X-ray high voltage generator | D150L-FT32 D150L-FT56 |
| X-ray tube assembly *1 | E7239X E7843X 0.6/1.2P13DK-85 0.6/1.2P18DE-85 1/2P13DK-85 1/2P18DK-85 0.6/1.2P164DK-85 |
| X-ray collimator | R-20J |
| X-ray tube support and patient table *2 | HR-150 |

| Component | Model Name |
|-------------------------------------|------------|
| X-ray radiography stand (option) *2 | BR-120FIT |

*1: Select one of the listed X-ray tubes.

*2: An applied part that contacts the patient's body

SPECIFICATIONS
X-ray High Voltage Generator 32 kW type D150L-FT32

| Item | | Description |
|---|---|--|
| Radiography technique | | General radiography, Bucky radiography, DR radiography (option) |
| Setting range *1, *2, *3 | Tube voltage | 40 to 150 kV |
| | Tube current | 10 to 500 mA |
| | | Max. 6 positions can be selected from the following values for one focus. 500, 450, 400, 360, 320, 280, 250, 220, 200, 180, 160, 140, 125, 110, 100, 90, 80, 71, 63, 56, 50, 45, 40, 36, 32, 28, 25, 22, 20, 18, 16, 14, 12, 11, 10 |
| | mAs | 0.5 mAs to 500 mAs Select from the following 61 positions. 0.50, 0.56, 0.63, 0.71, 0.80, 0.90, 1.0, 1.1, 1.25, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12.5, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 110, 125, 140, 160, 180, 200, 220, 250, 280, 320, 360, 400, 450, 500 |
| | Time | 0.001 to 10 sec Select from the following 81 positions. Can be selected within mAs of 0.5 to 500. 1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 110, 120, 140, 160, 180, 200, 220, 250, 280, 320, 360, 400, 450, 500, 560, 630, 710, 800, 900 ms, 1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10 sec |
| Exposure technique | | 432 programs |
| Nominal output | | 32 kW (100 kV, 320 mA / 80 kV, 400 mA) |
| Short time ratings *2 | | 150 kV 200 mA 125 kV 250 mA 100 kV 320 mA 80 kV 400 mA 60 kV 500 mA |
| The nominal maximum tube voltage and the maximum tube current that can be fed at the nominal maximum tube voltage*2 | | 150 kV 200 mA |
| The nominal maximum tube current and the maximum tube voltage that can be fed at the nominal maximum tube current*2 | | 60 kV 500 mA |
| Nominal shortest exposure time (using photo timer) | | 3 ms |
| Choice of focus | | Large focus/small focus selectable |
| Power source *4, *5 | Line Voltage | Single-phase, 200/220/230/240 V |
| | Line Frequency | 50 Hz or 60 Hz |
| | Permissible line voltage Fluctuation rate (no load)/Impedance | 200 V -5 % to +10 % 220 V +/-10 % 230 V +/-10 % 240 V +/-10 % 0.08 ohm |
| | Current rating of the Circuit Breaker | 100 A |
| | Electric capacity | 60 kVA |
| | Recommended transformer capacity | 30 kVA or more |

*1: The setting range differs according to the type of X-ray tube unit.

*2: Restrictions apply depending on the type of X-ray tube unit.

*3: The settable range depends on the X-ray tube unit installed on the equipment.

*4: The various conditions are as follows (conform to IEC-standards):

Tube voltage (within +/-10 %), Tube current (within +/-20 %)
mAs within +/- (10 % + 0.2 mAs), Time within +/- (10 % + 1 ms)

*5: Grounding must be provided in accordance with all appli-cable legal requirements for medically used electrical equipment

X-ray High Voltage Generator 56 kW type D150L-FT56

| Item | | Description | |
|---|---------------------------------------|---|--|
| Radiography technique | | General radiography, Bucky radiography, DR radiography (option) | |
| Setting range for exposure *1, *2, *3 | Tube voltage | 40 to 150 kV | |
| | Tube current | 10 to 630 mA | |
| | | Max. 6 positions can be selected from the following values for one focus. 630, 560, 500, 450, 400, 360, 320, 280, 250, 220, 200, 180, 160, 140, 125, 110, 100, 90, 80, 71, 63, 56, 50, 45, 40, 36, 32, 28, 25, 22, 20, 18, 16, 14, 12, 11, 10 | |
| | mAs | 0.5 mAs to 500 mAs | |
| | | Select from the following 61 positions. 0.50, 0.56, 0.63, 0.71, 0.80, 0.90, 1.0, 1.1, 1.25, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12.5, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 110, 125, 140, 160, 180, 200, 220, 250, 280, 320, 360, 400, 450, 500 | |
| | Time | 0.001 sec to 10 sec | |
| | | Select from the following 81 positions. Can be selected within mAs of 0.5 to 500. 1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 110, 120, 140, 160, 180, 200, 220, 250, 280, 320, 360, 400, 450, 500, 560, 630, 710, 800, 900 ms, 1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10 sec | |
| Exposure technique | | 432 programs | |
| Nominal output | | 56 kW (100 kV, 560 mA) | |
| Short time ratings*2 | | 150 kV 360 mA 125 kV 450 mA 100 kV 560 mA 80 kV 630 mA 60 kV 630 mA | |
| The nominal maximum tube voltage and the maximum tube current that can be fed at the nominal maximum tube voltage*2 | | 150 kV 360 mA | |
| The nominal maximum tube current and the maximum tube voltage that can be fed at the nominal maximum tube current*2 | | 100 kV 560 mA | |
| The minimum tube current time product | | 0.5 mAs | |
| The maximum tube current time product | | 500 mAs | |
| Nominal shortest exposure time (using photo timer) | | 3 msec | |
| Choice of focus | | Large focus/small focus selectable | |
| Power source *4,*5 | Line Voltage | Three-phase, 380/400/415/440/480 V | (Three-phase, 200/220/240 V) |
| | Line Frequency | 50 Hz or 60 Hz | |
| | Permissible line voltage | 380 V +/-10 %: 0.16 ohm 400 V +/-10 %: 0.17 ohm 415 V +/-10 %: 0.19 ohm 440 V +/-10 %: 0.21 ohm 480 V +/-10 %: 0.25 ohm | 200 V +/-10 % 220 V +/-10 % 240 V +/-10 % 0.087 ohm |
| | Fluctuation rate (no load)/impedance | | |
| | Current rating of the Circuit Breaker | 100 A | |
| | Electric capacity | 90 kVA | |
| | Recommended transformer capacity | 50 kVA or more | |

*1: The setting range differs according to the type of X-ray tube unit.

*2: Restrictions apply depending on the type of X-ray tube unit, and FPD

*3: The settable range depends on the tube unit installed on the equipment.

*4: The various conditions are as follows (conform to IEC-standards):

Tube voltage (within +/-10 %), Tube current (within +/-20 %)

mAs within $\pm(10\% + 0.2 \text{ mAs})$, Time within $\pm(10\% + 1 \text{ ms})$

*5: Grounding must be provided in accordance with all applicable legal requirements for medically used electrical equipment

Common specification

| Item | | Description |
|--|------------|---|
| Exposure condition setting method (3-control method (kV, mA, sec)) | | Method where kV, mA, and sec are set as exposure conditions. |
| Exposure condition setting method (2-control method (kV, mAs)) | | Method where setting kV and mAs for an exposure condition automatically sets the sec and mA to the minimum exposure time and the maximum tube current respectively in accordance with the allowable load for X-ray tube. |
| Selectable techniques | | General radiography, Horizontal radiography, Stand radiography |
| Number of connectable X-ray tubes | | 1 unit |
| Choice of focus | | Large focus/small focus selectable |
| Key for selecting position | | Head, Chest, Abdominal, Waist, Leg, Foot, Arm, Hand |
| Key for selecting direction | | Frontal, Lateral, Oblique |
| Key for selecting body thickness | | Baby, Child, Small, Medium, Large, Extra Large |
| Anatomical programs | | Memory of 432 anatomical programs is available: 3 techniques x 8 positions x 3 directions x 6 body thicknesses = 432 programs Each program contains the following: <ul style="list-style-type: none"> Exposure condition (kV, mAs, or kV, mA, sec) Exposure method (manual exposure or photo timer exposure) Exposure condition setting method (2-control method or 3-control method) Photo timer photo pickup field selection Photo timer film density setting |
| Dose Area Product display | | Calculated Dose Area Product is displayed on the Generator console, using measured X-ray conditions and aperture size of the collimator. Measured Dose Area Product is displayed on the Generator console, using physical DAP meter (option). These DAP values are an alternative. |
| AEC exposure (option) | | When combined with Shimadzu AEC detector (SPT-XD-A4A/-A1A/-A3B), the AEC Exposure is available. |
| Self-diagnosis function | | In case of any failure in each function, error codes for the contents of the failure are displayed. |
| Cabinet | Dimensions | 752(W) x 583(D) x 504(H) mm |
| | Weight | 118 kg |
| Console | Dimensions | 225(W) x 50(D) x 176(H) mm |
| | Weight | 1.1 kg |

Options

| Item | | Description |
|-----------------------|------------|--|
| Handheld X-ray switch | | Handheld switch for X-ray |
| Phototimer kit | | AEC controller |
| Communication unit | | Communication kit for DR system |
| Transformer Box | | A transformer rated at 56 kW to be used when the power voltage is 3-phase, 200/220/240 VAC |
| | Dimensions | 402(W) x 402(D) x 419(H) mm |
| | Weight | 70 kg |

X-ray Tube Assembly

| | Item | Description |
|------------------|----------------------------------|--|
| E7239X | Nominal X-ray tube Voltage | 125 kV |
| | Max. anode heat content | 100 kJ (140 kHU) |
| | Nominal focal spot | 1 / 2 mm |
| | Target angle | 16 degree |
| | Nominal Anode input power (0.1s) | 22.5 / 47 kW(60Hz) 21 / 42.5 kW(50Hz) |
| | Minimum total Filtration | 1.5 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 0.9 mm Al / 75 kV |
| | Mass | 16 kg |
| E7843X | Nominal X-ray tube Voltage | 150 kV |
| | Max. anode heat content | 111 kJ (150 kHU) |
| | Nominal focal spot | 0.6 / 1.2 mm |
| | Target angle | 12 degree |
| | Nominal Anode input power (0.1s) | 22 / 50 kW(60Hz) 20 / 46 kW(50Hz) |
| | Minimum total Filtration | 1.9 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 1.3 mm Al / 75 kV |
| | Mass | 16 kg |
| 0.6/1.2P13DK-85 | Nominal X-ray tube Voltage | 150 kV |
| | Max. anode heat content | 140 kJ (200 kHU) |
| | Nominal focal spot | 0.6 / 1.2 mm |
| | Target angle | 16 degree |
| | Nominal Anode input power (0.1s) | 14 / 37.5 kW(60Hz) 12.5 / 34.5 kW(50Hz) |
| | Minimum total Filtration | 1.7 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 1.0 mm Al / 75 kV |
| | Mass | 22.1 kg |
| 0.6/1.2P18DE-85 | Nominal X-ray tube Voltage | 150 kV |
| | Max. anode heat content | 140 kJ (200 kHU) |
| | Nominal focal spot | 0.6 / 1.2 mm |
| | Target angle | 12 degree |
| | Nominal Anode input power (0.1s) | 21 / 53 kW(60Hz) 18 / 48 kW(50Hz) |
| | Minimum total Filtration | 1.7 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 1.0 mm Al / 75 kV |
| | Mass | 22.5 kg |
| 1/2P13DK-85 | Nominal X-ray tube Voltage | 150 kV |
| | Max. anode heat content | 140 kJ (200 kHU) |
| | Nominal focal spot | 1 / 2 mm |
| | Target angle | 16 degree |
| | Nominal Anode input power (0.1s) | 30 / 70 kW(60Hz) 27.5 / 64 kW(50Hz) |
| | Minimum total Filtration | 1.7 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 1.0 mm Al / 75 kV |
| | Mass | 22.1 kg |
| 1/2P18DK-85 | Nominal X-ray tube Voltage | 150 kV |
| | Max. anode heat content | 140 kJ (200 kHU) |
| | Nominal focal spot | 1 / 2 mm |
| | Target angle | 12 degree |
| | Nominal Anode input power (0.1s) | 39 / 75 kW(60Hz) 35 / 68.5 kW(50Hz) |
| | Minimum total Filtration | 1.7 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 1.0 mm Al / 75 kV |
| | Mass | 22.1 kg |
| 0.6/1.2P164DK-85 | Nominal X-ray tube Voltage | 150 kV |
| | Max. anode heat content | 280 kJ (400 kHU) |
| | Nominal focal spot | 0.6 / 1.2 mm |
| | Target angle | 16 degree |
| | Nominal Anode input power (0.1s) | 13.8 / 37.3 kW(60Hz) 12.7 / 34.3 kW(50Hz) |
| | Minimum total Filtration | 1.7 mm Al / 75 kV (including added filter) |
| | Permanent Filtration | 1.0 mm Al / 75 kV |
| | Mass | 22.1 kg |

X-ray Collimator R-20J

| Item | | Description |
|--|---|---|
| Applicable X-ray tube maximum service voltage | | 150 kVp |
| Irradiation field | Irradiation field shape | Rectangular |
| | Maximum irradiation field | 430 mm x 430 mm (at SID 100 cm) |
| | Minimum irradiation field | 0 mm x 0 mm, Fin overlap type |
| Light field | Average illumination degree | Over 160 lx |
| | Displacement from X-ray irradiation field | Within 2% of SID |
| | Center indication | Black cross indication |
| | Lamp device | LED |
| | Lighting time | 30 seconds, automatic off timer |
| Opening degree indication | Indication SID (m) | 1, 1.5, 2 |
| | Indication dimensions (cm, inch in parentheses) | 20 (8), 23 (9), 25 (10), 28 (11), 30 (12), 36 (14), 43 (17) |
| Leaf driving method | | Manual |
| Pb equivalent of leaf | | 3 mm Pb (intermediate fin 2 mm Pb) |
| Filter (Inherent filtration) | | 1.0 mm Al equivalent at 70 kV |
| Filter (Added filter)*1 | | 0.5 mm Al |
| Irradiation field rotation | | Rotation around X-ray beam center axis +/-45 degree |
| Attachment method (focus - attachment face distance) | | 59 mm |
| Power source | | Power supply received from X-ray high voltage generator |

*1: Combination of X-ray tube assembly E7239,E7843: Added filter is 0.6 mm Al filter.

Options

| Item | Description |
|---------------------------|---|
| Line marker *2 | Laser pointer |
| Detent Assembly | Click stopping unit at each 45 degree |
| DAP meter attachment *2*3 | Attachment for the dose-area product meter to the front of the collimator |

*2: Line marker cannot be combined with a DAP meter.

*3: Calculated DAP display function and physical DAP meter are alternative.

X-ray tube support and patient table HR-150
X-ray Tube Support

| Item | | Description |
|--------------------|--|--|
| X-ray Tube Support | X-ray tube vertical movement | 500 to 1,800 mm manual operation, electromagnetic brake lock |
| | X-ray tube longitudinal movement | 1,835 mm manual operation, electromagnetic brake lock |
| | X-ray tube lateral movement | 0 mm and 200 mm manual operation manual operation, No brake lock in the intermediate point. |
| | X-ray tube rotation around horizontal axis | CW : 140 degree, CCW : 180 degree manual, electromagnetic brake lock |
| | X-ray tube rotation around vertical axis | 0 degree: Normal position CW 90 degree: Decubitus position CW 180 degree: Stretcher position manual, mechanical lock at 90 degree |
| Patient Table | Size of tabletop (width x length) | 2,350 mm x 810 mm |
| | Distance between tabletop and floor | 700 mm |
| | Tabletop moving distance | Longitudinal: +/- 550 mm, Lateral: +/- 125 mm |
| | Bucky device moving distance | 440 mm |
| | Tube support joint | Detachable (Oblique exam capable) |
| | Maximum distance between X-ray focal spot and film surface | 1,180 mm |
| | Distance between tabletop and film | 80 mm |
| | Grid Note) Select one of the listed Grids. | 10:1 40 lines/cm $f_0 = 100$ cm Al 10:1 40 lines/cm $f_0 = 150$ cm Al 8:1 52 lines/cm $f_0 = 100$ cm Al 8:1 52 lines/cm $f_0 = 150$ cm Al |
| | Grid removal availability | Grid removal available |
| | Cassette size applicable to the bucky device | Inch : max. 17 x 17 to min. 6 1/2 x 8 1/2 |
| | Attenuation equivalent for table | 1.7 mm Al or less |
| | Maximum allowable load | 320 kg (Uniform load) |
| Power source | | Power supply received from X-ray high voltage generator |
| Dimensions | | 2,350(W) x 1,277(D) x 2,042(H) mm |
| Weight | | 350 kg (w/ P-type X-ray tube) 336 kg (w/ E-type X-ray tube) |

Options for Patient Table

| Item | Description |
|----------------------|---|
| Side cassette holder | This holder is an auxiliary tool which holds a cassette in lateral radiography. |
| Grip switch | This switch is attached on the side of the table top assembly to operate the floating table top. |
| Compression band | This belt is an auxiliary tool which fixes a radiography region of a patient on the table top. |
| Grip bar | Grip bar can be chosen from the long type and the short type. Equipped with table top side and grasped by patient so that the patient position keeps steady. |
| CFRP table top | Carbon filter reinforced plastics table top |
| SPT-XD-A1A | AEC exposure Detector (1 field pick-up) |
| FPD rotation tray | The FPD tray can be rotated 90 degree to change the orientation of FPD. (Portrait ↔ Landscape) This option is only for 14 x 17 inch (35 x 43 cm) FPD. |

X-ray Radiography Stand BR-120FIT (option)

| Item | Description |
|---|--|
| Distance between bucky device chin rest and floor | 747 to 2,047 mm *1 |
| Distance between bucky device and film | 33.5 mm |
| Grid Note) Select one of the listed Grids. | 12:1 40 lines/cm $f_0 = 170$ cm Al 12:1 40 lines/cm $f_0 = 180$ cm Al 10:1 40 lines/cm $f_0 = 150$ cm Al 12:1 52 lines/cm $f_0 = 180$ cm Al 12:1 52 lines/cm $f_0 = 150$ cm Al |
| Grid removal availability | Grid removal available |
| Attenuation equivalent for front panel | 1.2 mm Al or less |
| Cassette size applicable to the bucky device | Inch : max. 17 x 17 to min. 6 1/2 x 8 1/2 |
| Power source | Power supply received from X-ray high voltage generator |
| Dimensions | 630(W) x 367(D) x 2,084(H) mm |
| Weight | 115 kg |

*1: When the base plate (option) is used, the stroke will change according to the base plate height.

Options for BR-120FIT

| Item | Description |
|----------------------|---|
| Side hand grip | Side hand grip supports the attitude of a patient. |
| Overhead hand grip | Overhead hand grip supports the attitude of a patient in radiographic of patient body side. |
| Compression belt | Compression belt fixes the radiography area of a patient on the bucky device. |
| Cassette holder | Cassette unit is attached on bucky device and holds a film cassette. |
| Base plate | Base plate for Bucky stand |
| Wall mounting option | Wall mounting kit for Bucky stand |
| SPT-XD-A3B | AEC exposure Detector (3 field pick-up) |
| SPT-XD-A4A | AEC exposure Detector (4 field pick-up) |
| FPD rotation tray | The FPD tray can be rotated 90 degree to change the orientation of FPD. (Portrait↔Landscape) This option is only for 14 x 17 inch (35 x 43 cm) FPD. |

Minimum installation space

| Item | Description |
|--|-------------------------|
| Required space with BR-120FIT w/o Stretcher position | 4,500mm(W) x 3,000mm(D) |
| Required space w/o BR-120FIT w/o Stretcher position | 3,650mm(W) x 3,000mm(D) |
| Required ceiling height | 2,200mm(H) |

Environmental Conditions
Operation Environment

| Item | Description |
|------------------------|---------------------------------------|
| Atmosphere | No explosive or corrosive gases |
| Temperature | 10 to 40 degree C (without DR option) |
| Relative humidity | 30 % to 75 % (no condensation) |
| Atmospheric pressure | 800 to 1060 hPa |
| Environment luminosity | 150 to 500 lx |
| Ambient noise level | Under 70 dB |

Transportation and Storage Environment

| Item | Description |
|----------------------|------------------------------|
| Temperature | -10 to 55 degree C |
| Humidity | 30 to 70 % (no condensation) |
| Atmospheric pressure | 700 to 1060 hPa |

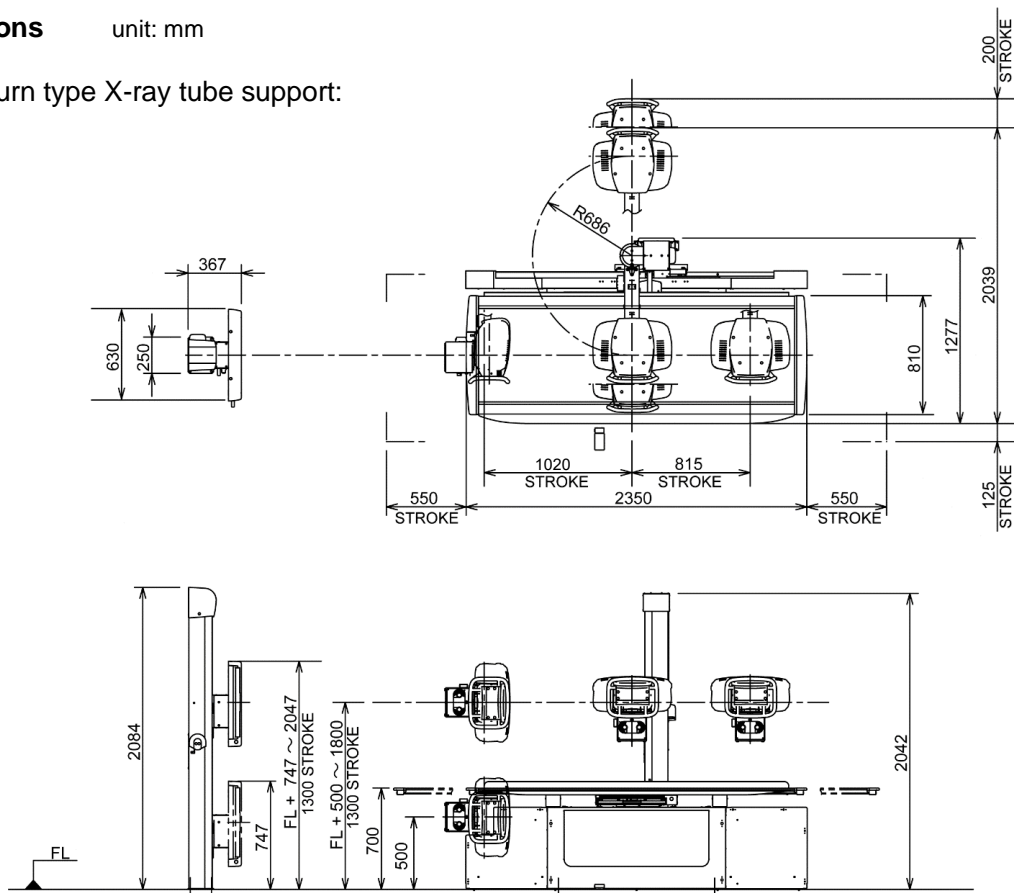
Power Supply

| System | Phases | Voltage | Power Supply Transformer Capacity | Frequency |
|---------------------------|--------------|--|-----------------------------------|------------|
| RADspeed fit (32 kW type) | Single phase | AC200, 220, 230, 240 V | 30 kVA or greater | 50 / 60 Hz |
| RADspeed fit (56 kW type) | 3 phase*1 | AC200, 220, 240 V AC380, 400, 415, 440, 480 V | 50 kVA or greater | 50 / 60 Hz |

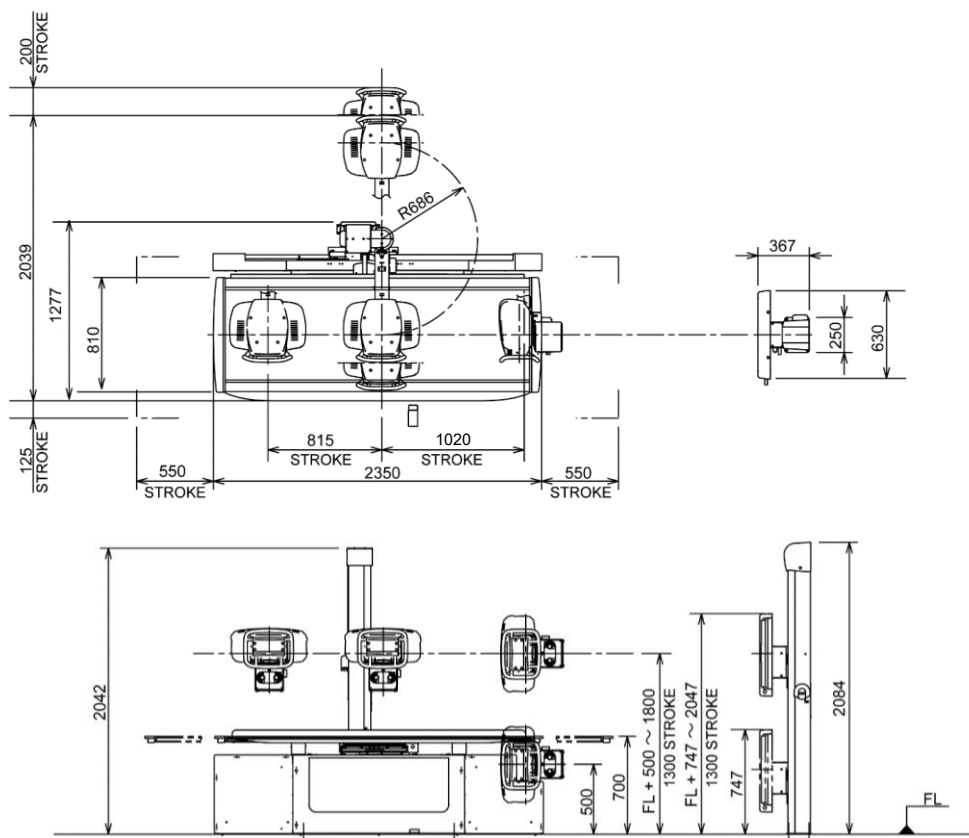
*1: When the power supply voltage is 200/220/240 V AC (3 phase), the trans box option is necessary.

Dimensions unit: mm

Left-turn type X-ray tube support:



Right-turn type X-ray tube support:



LABEL Description: Radiography System RADspeed fit

Founded in 1875, Shimadzu corporation, a leader in the development of advanced technologies, has a distinguished history of innovation built on the foundation of contributing to society through science and technology. We maintain a global network of sales, service, technical support and applications centers on six continents, and have established long-term relationships with a host of highly trained distributors located in over 100 countries. For information about Shimadzu, and to contact your local office, please visit our Web site at www.shimadzu.com

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Shimadzu Corporation Medical Systems Division has been certified by TÜV Rheinland as a manufacturer of medical systems in compliance with ISO9001:2015 Quality Management Systems and ISO13485:2016 Medical Devices Quality Management Systems.

Remarks:

- Every value in this document is a standard value, and it may vary a little from the actual at each site.
- The appearances and specifications are subject to change for reasons of improvement without notice.
- Items and components in the photos may include optional items. Please confirm with your sales representative for details.
- Certain configurations may not be available pending regulatory clearance.
- Contact your sales representative for information on specific configurations.
- Before operating this system, you should first thoroughly review the Instruction Manual.