

# Anti-scatter grids for DR Systems

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## User Manual

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## Scope of this Manual

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This manual contains information for safe and effective use of anti-scatter grids on DR systems.

Anti-scatter grids are used to reduce scattered radiation and improve image quality. Grids are available as an option.

## Anti-scatter grids

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Anti-scatter grids are used to reduce scattered radiation and improve image quality. Grids are available as an option.

For DR detectors focused grids are used. Focused grids require centering of the X-ray source to the detector and a specific distance range between X-ray source and detector. The color of the handle of the grid indicates which distance the grid is used for.

To change the grid in the radiographic table or the radiographic wall stand:

1. Pull out the grid using the handle.
2. Store the grid in a safe place to avoid damage.
3. Insert the grid with labels facing up in the appropriate slit of the bucky. Make sure the grid is pushed up to the end.



**Warning:** Using a focused anti-scatter grid with the X-ray source not centered or on a wrong distance may cause reduced image quality.



**Caution:** Injury of the patient or damage to the equipment can be caused by the anti-scatter grid if it is not properly inserted in the bucky.



**Caution:** Handle anti-scatter grids with care and store them in a safe place when not in use. Dropping the grid can cause damage and create visible image artifacts or reduce image quality.

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## Safety directions

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**Warning:** When inserting the anti-scatter grids, it is essential that the grid corresponds to the intended source-image-distance (SID) to which the grid is focussed. Because of the focussing of the grids, the tube head unit must be centered onto the bucky.

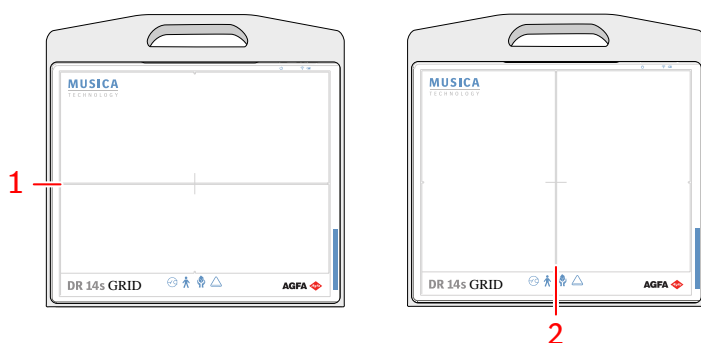


**Warning:** Damaged grid. Reduced image quality. Please handle the grids with special care.

## Orientation of the gridlines

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The orientation of the gridlines of an anti-scatter click-on grid, is indicated by a centerline.



1. The gridlines are oriented in the long dimension of the grid.
2. The gridlines are oriented in the short dimension of the grid.

**Figure 1: Orientation of the gridlines**

## DR 10e DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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[DR Retrofit System](#) on page 13

## DR 10s DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DR 14e DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al, SD (gridlines oriented in short dimension of the grid)
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 10:1, Pb/Al

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DR 14s DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al, SD (gridlines oriented in short dimension of the grid)
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 10:1, Pb/Al

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DR 17e DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 10:1, Pb/Al

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DX-D 10C, DX-D 10G DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, aluminum cover
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 10:1, aluminum cover

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DX-D 40C, DX-D 40G DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, Pb/Al, SD (gridlines oriented in short dimension of the grid)
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 10:1, Pb/Al

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DX-D 20C, DX-D 20G DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 6:1, aluminum cover
- 100 cm - 180 cm (40 inch - 72 inch), 85 lines/cm (215 lines/inch), 10:1, aluminum cover

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

**Related information**

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## DX-D 30C DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 6:1, aluminum cover
- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 6:1, aluminum cover, gridlines oriented in short dimension
- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum cover

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## DX-D 35C DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 6:1, aluminum cover
- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum cover

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.

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## XD 14, XD<sup>+</sup>14 and XF<sup>+</sup>14 DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 6:1, aluminum cover
- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 6:1, aluminum cover, gridlines oriented in short dimension
- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum cover

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.



**Note** The XD 14 DR detector does not support the use of grids with 85 lines/cm (215 lines/inch). The XD\*14 and XF\*14 DR detectors do support these grids.

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## XD 17, XD\*17 and XF\*17 DR Detector

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The DR Detector supports the use of following click-on grids, available in the Agfa assortment:

- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 6:1, aluminum cover
- 100 cm - 180 cm (40 inch - 72 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum cover

The DR Detector supports the use of the grids that are part of the the X-ray system. Refer to the sections further on in this document.



**Note** The XD 17 DR detector does not support the use of grids with 85 lines/cm (215 lines/inch). The XD\*17 and XF\*17 DR detectors do support these grids.

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## DR 400 or DR 600 System

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The system supports the use of following interchangeable grids, available in the Agfa assortment:

- 100 cm (39 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum interspacing, carbon fibre cover
- 150 cm (59 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum interspacing, carbon fibre cover
- 180 cm (71 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum interspacing, carbon fibre cover

The system also supports the use of following interchangeable grids (not part of the standard assortment), available in the Agfa assortment, not applicable for XD 14 and XD 17 DR detectors:

- 100 cm (39 inch), 85 lines/cm (215 lines/inch), 10:1, aluminum interspacing, carbon fibre cover
- 150 cm (59 inch), 85 lines/cm (215 lines/inch), 10:1, aluminum interspacing, carbon fibre cover
- 180 cm (71 inch), 85 lines/cm (215 lines/inch), 10:1, aluminum interspacing, carbon fibre cover

<b>Grid</b>	
Manufacturer	JPI Healthcare Co. Ltd 608-ho, 28, Digital-ro 33 gil, Guro-gu, Seoul, 08377, Korea
<b>Type</b>	
100 cm	5523/XXX
150 cm	5523/XXX
180 cm	5523/XXX
<b>Dimensions</b>	
Dimension	480 mm x 455 mm (W x L)
Orientation of grid lines	Parallel to 455 mm side
Weight	1.6 kg

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## Anti-scatter grids environmental conditions

<b>Environmental Conditions (during storage and transport)</b>	
Temperature (ambient)	between -10° and 60° Celsius
Humidity (non condensing)	between 10 % and 90 % relative humidity
<b>Environmental Conditions (during normal operation)</b>	
Temperature (ambient)	between 0° and 40° Celsius
Humidity (non condensing)	between 20 and 70 % relative humidity

## DR 800 System

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The system supports the use of following static grids for the radiographic table, available in the Agfa assortment:

- 120 cm (47 inch), 85 lines/cm (215 lines/inch), 12:1
- 180 cm (72 inch), 85 lines/cm (215 lines/inch), 12:1

The system supports the use of following moving, non-interchangeable grids for the radiographic wall stand, available in the Agfa assortment:

- 180 cm (72 inch), 35 lines/cm (90 lines/inch), 12:1
- 180 cm (72 inch), 80 lines/cm (200 lines/inch), 12:1

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## DX-D 300 System

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The system supports the use of following interchangeable grids, available in the Agfa assortment:

- 100 cm (39 inch), 51 lines/cm (130 lines/inch), 8:1, carbon fibre
- 180 cm (71 inch), 51 lines/cm (130 lines/inch), 8:1, carbon fibre

The system supports the use of following interchangeable grids, available in the Agfa assortment, for use only with DR 10s, DR 14s, XD\*14 and XD\*17 DR detectors and on systems with a Pixium RAD 4343 fixed DR detector:

- 100 cm (39 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre
- 180 cm (71 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre

### Related information

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## DX-D 400 System

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The system supports the use of following moving, non-interchangeable grids, available in the Agfa assortment:

- 100 cm (39 inch), 52 lines/cm (132 lines/inch), 10:1, carbon fibre
- 150 cm (59 inch), 52 lines/cm (132 lines/inch), 10:1, carbon fibre
- 180 cm (71 inch), 52 lines/cm (132 lines/inch), 10:1, carbon fibre

The system supports the use of following moving, non-interchangeable grids, available in the Agfa assortment, for use with all DR detectors apart from DR 10s, DR 14s, DX-D 60C and DX-D 60G:

- 100 cm (39 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre
- 150 cm (59 inch), 85 lines/cm (215 lines/inch), 8:1, carbon fibre
- 180 cm (71 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre

The system supports the use of following interchangeable grids, available in the Agfa assortment, for use only with DR 10s, DR 14s, XD\*14 and XD\*17 DR detectors:

- 100 cm (39 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre
- 150 cm (59 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre
- 180 cm (71 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre

#### **Related information**

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## **DX-D 600 System**

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The system supports the use of following interchangeable grids, available in the Agfa assortment:

- 100 cm (39 inch), 52 lines/cm (132 lines/inch), 10:1, carbon fibre
- 150 cm (59 inch), 52 lines/cm (132 lines/inch), 10:1, carbon fibre
- 180 cm (71 inch), 52 lines/cm (132 lines/inch), 10:1, carbon fibre

The system supports the use of following interchangeable grids, available in the Agfa assortment, for use only with DR 10s, DR 14s, XD\*14 and XD\*17 DR detectors and on systems with a Pixium RAD 4343 fixed DR detector:

- 100 cm (39 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre
- 150 cm (51 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre
- 180 cm (71 inch), 85 lines/cm (215 lines/inch), 12:1, carbon fibre

#### **Related information**

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## Valory System

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The system supports the use of following interchangeable grids, available in the Agfa assortment:

- 100 cm (39 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum interspacing, carbon fibre cover (order code 56F97)
- 150 cm (59 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum interspacing, carbon fibre cover (order code 56GAC)
- 180 cm (71 inch), 52 lines/cm (132 lines/inch), 10:1, aluminum interspacing, carbon fibre cover (order code 56GBE)

### Related information

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## DR Retrofit System

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In a DR Retrofit system, the DR detector supports the use of the click-on grids in the Agfa assortment, or the use of third party grids that are equivalent to the grids recommended in this document.

Anti-scatter grid for the detector holder of the Full Leg Full Spine DR Retrofit system:

- 180 cm (71 inch), 52 lines/cm (132 lines/inch), 10:1
- 150 cm (59 inch), 52 lines/cm (132 lines/inch), 10:1 (not applicable when using the external collimator)

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