Scatter Grids

Scatter grids are the most important and most effective means of reducing the incidence of secondary rays on the image receiver, for clearly improved contrast rendering.

The MAVIG range of grids can considerably enhance the image quality of your X-rays.

The effect of the scatter grid is due to its directional effect. The scattered radiation, which strikes at a different angle to the primary beam, is absorbed by the lead strips, while the primary beam travelling in the direction of the strips passes through with minimal attenuation.

The quality of a grid is greatly determined by the choice of the interspacer (interspace material). In order for the image-producing primary beam to pass through the grid largely unattenuated, MAVIG uses only the highest quality aluminium as the interspace material between the lead strips.

The grid surfaces, which protect the lead strips and interspacer, are also quality-relevant. If these are not well-constructed, they can cause unwanted attenuation of the primary beam or fail to meet the protection requirement for the sensitive internal features of the grid.

Parallel Versus Focussed Grids

Parallel grids are mainly used in cases where the radiography technique cannot guarantee the high requirements of a focussed grid in terms of precise centring and focussing, e.g. bedside X-rays or in the emergency department.

The great advantage of parallel grids is that the absorber strips are not inclined and so exact focussing of the central beam is less important.

Inserted Versus Tunnel Grids

The tunnel grid (grid bridge) design offers the following advantages:

- One scatter grid can be used for any number of cassettes of the same size with different screen combinations
- Additional protection of the grid against mechanical damage
- Practical for use in bedside X-rays

It is worth paying particular attention to the clever design of the frame structure in the MAVIG tunnel grids.

MAVIG tunnel grids are only available as parallel grids.

Interspace Ratio, Number of Lines

The characteristics of a scatter grid depend on the following variables:

- Height of the lead strips
- Thickness of the lead strips
- Thickness of the interspace medium
- Number of lines per cm

These characteristics determine the parameters which define the final grid design: ratio (height of lead strips versus distance between each strip) and lines/cm (number of lines per cm).

Course of Lines

The lines run parallel to the long side of the grid (standard).

On request, grids with "transverse lamellae", i.e., with lines running parallel to the narrow side of the grid, can also be supplied.

Lines *per cm*	Interspace Ratio *(ratio)*			
	Parallel grid			
	6:1	8:1	10:1	12:1
30 L/cm	x	x		
40 L/cm	x	x	x	x
70 L/cm	x	x	x	x

Film Format *in cm*	Tunnel Grid *parallel*
24.0 x 30.0	x
35.6 x 43.2	x

Our grids ensure ideal protection against mechanical damage and penetration of moisture and at the same time ensure first-class image quality.

User-friendliness and toughness, together with considerably longer service life of the scatter grid, are of highest importance.

Note

As standard, the cassette drawer is intended to be on the narrow side of the grid in all formats.

However, on request, the drawer can be placed on the long side of the grid in a customised version for the format 35.6 cm x 43.2 cm.