

# Diffraction Technology XMR



## High Power Microradiography system

2kW typical depending on tube and generator

Uses X-ray Diffraction components manufactured By GBC Scientific ® of Dandenong , Melbourne.

Tube anodes from Cr to W. Fine Focus  
0.4 x 0.8 mm source.

Can use existing generator if HT cable  
is compatible.

Contact microradiography mode distance 400 mm

Magnification mode factors 2 x and 4 x.

Vacuum stage to fix object to film in contact mode.

X-ray enclosure is X-ray and light tight.

Exposures with film can be done in ambient light.

Double safety interlocking of access door to X-ray  
enclosure.

Opening door closes X-ray shutter. If shutter does  
not close completely, generator is shut down.

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Typical X-ray Generator, suitable for the XMR. This unit is an XLF1200® manufactured by Spellman High Voltage Electronics Corp. of Hauppauge NY U.S.A. It is air cooled, so does not need water cooling

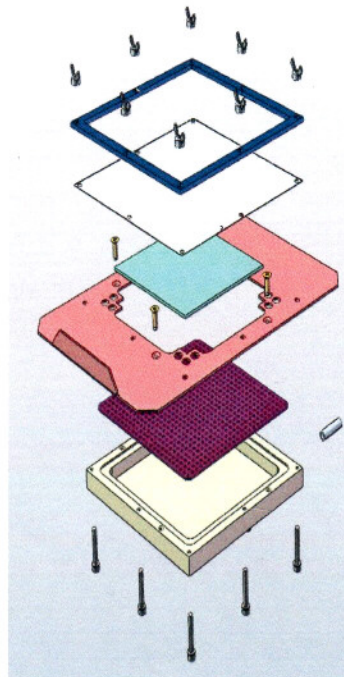


Typical water circulator/chiller, suitable for the XMR. This unit is a Polyscience model 6706P manufactured by Polyscience Inc. of Niles IL U.S.A. Water is only required for heat dissipation from the X-ray tube if an air cooled generator is used.

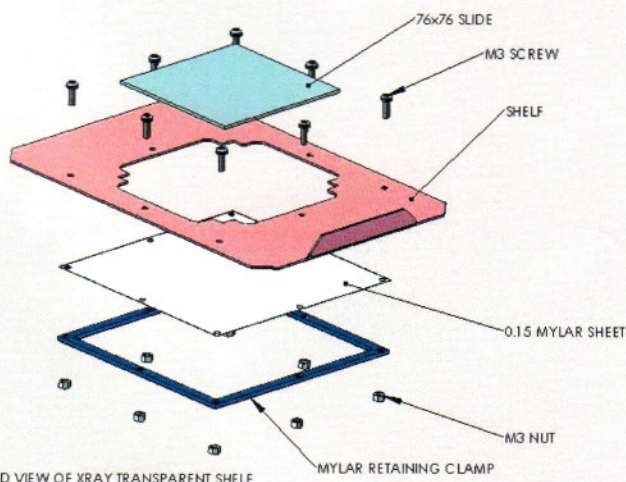
### Sample Introduction.



The Vacuum sample stage for contact microradiography.



Exploded view of the Vacuum stage, showing vacuum chamber, film plate, slide-in tray, perforated plate, cover plastic foil and plastic foil clamping frame.



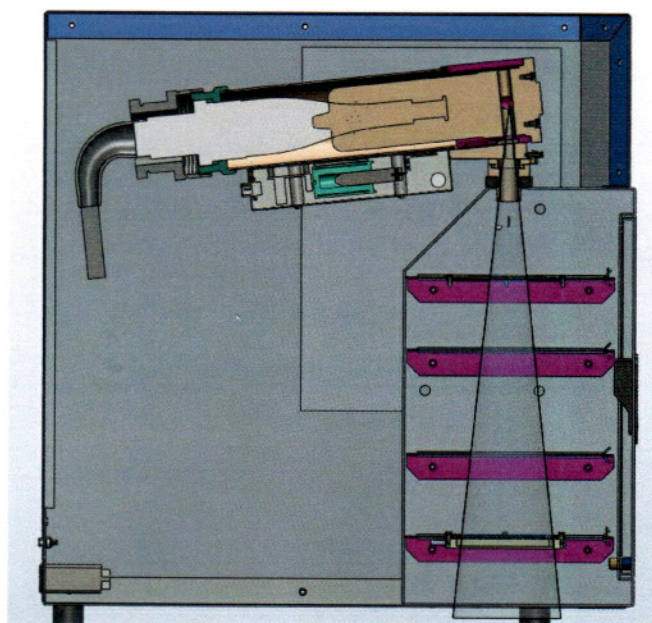
EXPLODED VIEW OF XRAY TRANSPARENT SHELF

The "transparent" shelf for transmission microradiography.

The plastic film supports the sample with very little X-ray absorption. It is inserted in the top shelf.

The Vacuum shelf with the film or imaging device is placed on the shelf below, which gives 2 x magnification or on the second shelf down which gives 4 x magnification.

Drawing of the X-ray beam path showing the 4 tray positions, the top for the transmission stage and the stages below to hold film for either contact work (bottom position) or magnified images.



Fail-Safe X-rays ON warning Lamp.

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