

FEATURES

- 25mm diameter clear aperture.
- Ptlr (Platinum Iridium) shutter blade, capable of blocking x-ray energy up to 30Kev.
- Exposure repetition rate continuously variable from DC to 10Hz.
- Electronic synchronization system optional.
- Activated by an electronic pulse through patented UNIBLITZ® shutter drive systems.
- Non-resonant design allows instantaneous changes repetition rate and duty cycle.
- No optical surface open provide 100% transmittance

The UNIBLITZ® XRS25 shutter series is especially designed for x-ray applications. The blade design allows beam extinction $>10^4$ up to 30Kev x-ray energy. The XRS25 shutter is well suited for specific x-ray applications such as x-ray crystallography and can open within 10.0msec at a maximum rate of 10Hz. Precision control and reliability can be expected as with all UNIBLITZ shutter products.

The shutter is equipped with dual actuators each actuator controls one of each of the two blades. The shutter is programmable, and is activated by an electronic pulse generated by Vincent's patented UNIBLITZ drive systems. The shutter will follow this pulse, which allows the user to program the exposure duration and frequency. This device will require two drive channels for operation and a specially modified cable (the 910C-D7) is required to connect to the driver.

The XRS25 has a 25mm clear aperture and can be equipped with the electronic synchronization system. Vacuum compatibility is also available, please consult customer service for further information

ELECTRICAL

Coil Resistance	12 ohms ²
Pulse Voltage to Open	+65VDC ²
Hold Voltage ¹	+5VDC ²

MECHANICAL

Wgt. Un-Cased	4.40 oz (.13 kg)
Wgt. Cased	12.98 oz (.37 kg)
Operating Temp.	0°C to +80°C
Max. Opening Bounce	15%
Max. Closing Bounce	5%
Max. Frequency of Operation (CONT/BURST) ³	2 Hz / 10 Hz
Number of Blades ⁴	2

TIMING

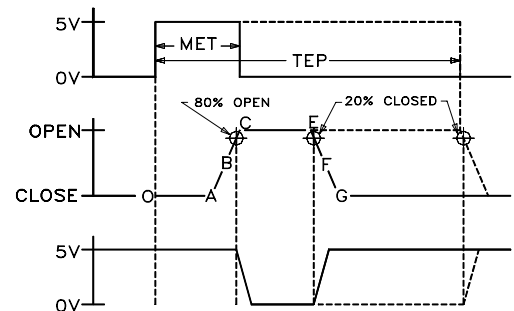
Typical timing values (msec.) using UNIBLITZ drive equipment and measured with UNIBLITZ shutters equipped with .010" Ptlr shutter blades.

TYPICAL PULSE INPUT TO CONTROLLER

SHUTTER STATE

TYPICAL ELECTRONIC SYNCHRONIZATION OUTPUT FROM CONTROLLER

TIMING OF PULSE INPUT AND SYNCHRONIZATION OUTPUT RELATIVE TO SHUTTER STATE



(Timing in msec.)

O-A Delay time on opening after current is applied	6.0
A-C Transfer time on opening	10.0
O-C Total opening time	16.0
B-F Min. equivalent exp. time	17.5
C-E Min. dwell time with min. input pulse	5.0
E-G Transfer time on closing	15.0
A-G Total window time	30.0

MET: Min. exposure time	20.0
TEP: Typical exposure pulse	>20.0

The question regarding enhancement of shutter speed with the application of user supplied lubricants has been repeatedly asked. It is our experience that lubricating the shutter blades will actually slow the shutter down and eventually render the shutter inoperable. UNDER NO CIRCUMSTANCES SHOULD ANY TYPE OF LUBRICANT BE APPLIED TO THE SHUTTER BLADE AREA.

PRODUCT OPTIONS

XRS25S 2 P 0 -100

APERTURE SIZE	HOUSING	BLADE FINISH	ELECTRONIC SYNCHRONIZATION	MOUNTING OPTIONS
XRS25S - 25mm	1 - UNCASED 2 - #2 CASE	P - .010" THICK Ptlr (10% Iridium, 90% PLATINUM)	0 - OMIT SYNC. 1 - ELECTRONIC SYNC.	- 21 ZEISS AXIOVERT TYPE - 22 OLD STYLE NIKON TYPE - 23 OLYMPUS TYPE - 24 OLYMPUS TYPE - 26 LEICA TYPE - 27 NIKON TYPE - 28 OLYMPUS IX TYPE - 29 NIKON TYPE - 30 LEICA TRANSMITTED TYPE - 31 NIKON/CONFOCAL TYPE - 32 NIKON 80i TYPE - 100 MOUNTING RING - 105 C-MOUNT ADAPTER (MALE) - 106 C-MOUNT ADAPTER (FEMALE) - 110 T-MOUNT ADAPTER - 126 F-MOUNT ADAPTER (MALE)

¹Voltage level required across actuator coil when being held in the open position.

²Each actuator.

³CONTinuous frequency rating specified at shutter's minimum exposure pulse. BURST frequency rating specified for (4) four seconds maximum with (1) one minute minimum between bursts. Frequency measurements are taken in free air, 25°C ambient, actuator coil equipped with heat sink. For additional information on maximum sustained frequencies obtainable, please contact one of our technical representatives.

⁴When blades are closed, the gap between blades is .040 inches. Device is not optically light tight. For additional information or for more detailed drawings, please contact one of our technical representatives and ask for drawing L-0272.

UN-HOUSED STYLE

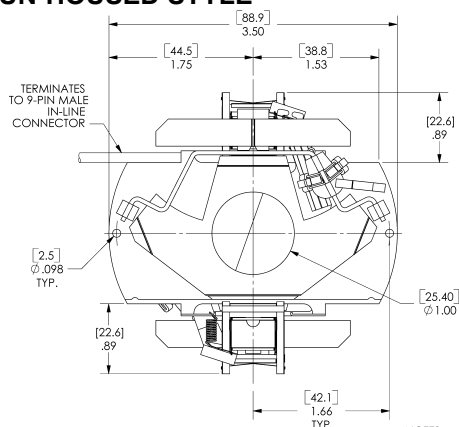
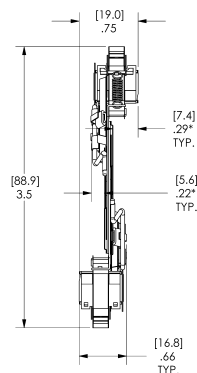


Figure 1



NOTES-

1. "X" INDICATED DIMENSION ABOVE GUIDE PLATE SURFACE. [MM]
2. ALL DIMENSIONS MAXIMUM. INCH

HOUSED STYLE

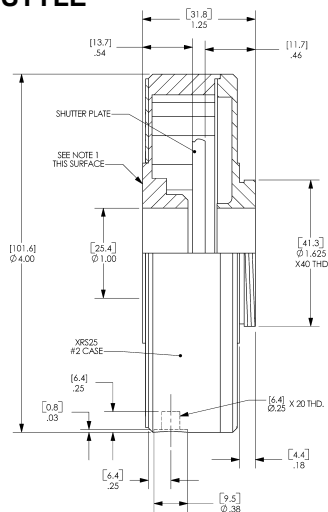


Figure 2

NOTES:

1. (3) 2-56 MOUNTING HOLES
ON A ϕ 1.204 BOLT CIRCLE,
120° APART
(3) 2-56 MOUNTING HOLES
ON A ϕ 1.578 BOLT CIRCLE,
120° APART.

ALL DIMENSIONS MAXIMUM

[MM]

HOUSING/CONNECTOR LAYOUT

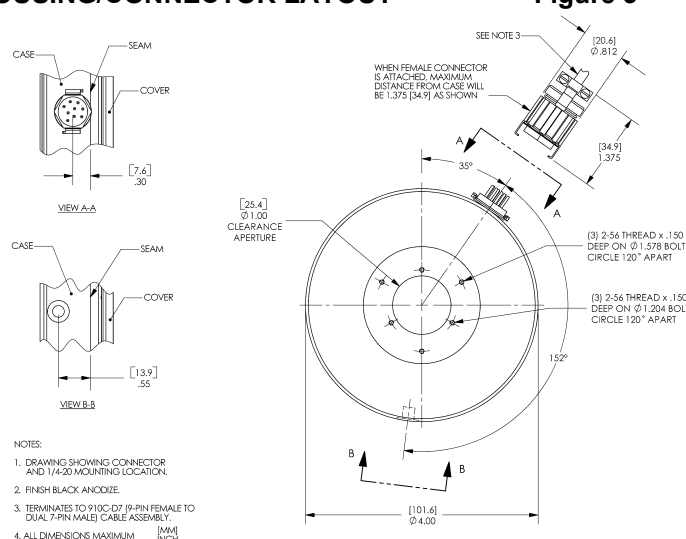


Figure 3

The XRS25 uncased style is the basic configuration of this series and is best suited for OEM applications. Mounting can be accomplished through two 2.5mm holes on either side of the aperture. The unit's dual actuator construction will necessitate spacing the shutter on stand-offs at a minimum of 18mm in length to clear the shutters' mechanisms when mounting to a flat surface. Gap between closed blades is .04 inches. Not optically light tight. The unit terminates to a 9-pin male in-line connector through a six-inch cable assembly.

The XRS25 #2 case style allows a number of mounting configurations. A 1/4-20 threaded hole is provided for post mounting. The 1.625in x 40TPI external thread, rear side, and the six 2-56 threaded holes, front side (Figure 3), can be interfaced directly into your application or fitted with variety of specific mounting options. See the “MICROSCOPE, VIDEO and UNIVERSAL MOUNTING SYSTEMS” data sheets for additional information. The unit terminates with a 9-pin male connector.

This drawing illustrates 9-pin connector and 1/4-20 threaded hole layout for the XRS25 series #2 case style. The cable required is non-standard, the 910C-D7 (9-pin female connector to dual 7-pin male connectors, 10ft. in length). This shutter device requires two driver channels for proper operation and each of the 7-pin connectors of the 910C-D7 would be connected to the SHUTTER output of two separate VMM type driver channels. The drive channels should be triggered simultaneously to achieve published typical timing specifications.