



- OPTIONAL INTERFACE RS-232/485 CONTROL
- OUTPUT VOLTAGE 20kV~160kV
- OUTPUT POWER 300W~1200W
- UNIVERSAL INPUT, POWER FACTOR CORRECTED
- OVER VOLTAGE, OVER TEMPERATURE, SHORT
- CIRCUIT AND ARC PROTECTION
- FLOATING FILAMENT OR GROUND FILAMENT
- LOCAL AND REMOTE CONTROL
- SAFETY INTERLOCK
- OEM CUSTOMIZATION AVAILABLE

INTRODUCTION

Wisman's XRD series x-ray generator are designed for all kinds of x-ray tubes from different manufacturers. It is the best choice of OEM applications, with output voltage ranges from 20kV to 160kV, output power 300W, 600W and 1200 watts option. Wisman's XRD series x-ray generator adopts wide voltage input, small package size, standard analog which makes it easier to integrate XRD series into your x-ray analysis system. XRD series can choose floating filament (negative HV polarity) or ground referenced filament (positive HV polarity). DSP based control circuitry provides excellent regulation of emission current, along with standing stability performance. With the RS232, RS485 and ET interface option.

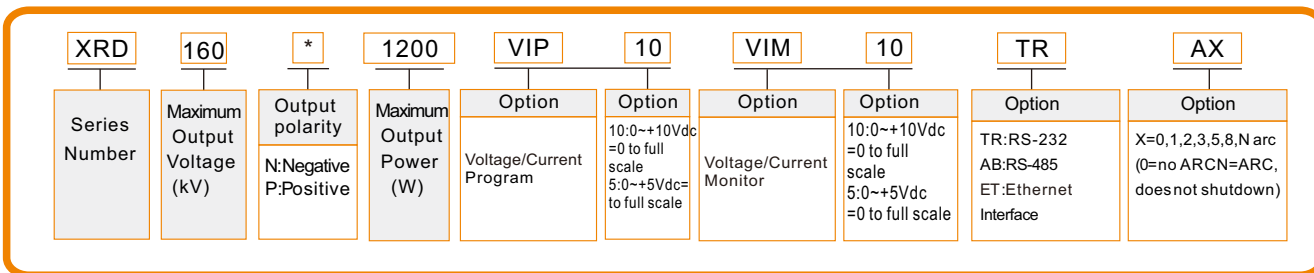
TYPICAL APPLICATIONS

Plastics Sorting, Crystal Inspection, Plating Measurement Diamond Inspection, Mineral Analysis, X-Ray Fluorescence, X-Ray Diffraction, Wavelength Dispersive Spectroscopy.

XRD SELECTION TABLE

| kV | mA | P(W) | MODEL | kV | mA | P(W) | MODEL | kV | mA | P(W) | MODEL |
|----|-----|------|------------|----|-------|------|------------|-----|-------|------|-------------|
| 20 | 15 | 300 | XRD20*300 | 50 | 6.0 | 300 | XRD50*300 | 75 | 4.00 | 300 | XRD75*300 |
| | 30 | 600 | XRD20*600 | | 12 | 600 | XRD50*600 | | 8.00 | 600 | XRD75*600 |
| | 60 | 1200 | XRD20*1200 | | 24 | 1200 | XRD50*1200 | | 16.00 | 1200 | XRD75*1200 |
| 30 | 10 | 300 | XRD30*300 | 60 | 5 | 300 | XRD60*300 | 100 | 3.00 | 300 | XRD100*300 |
| | 20 | 600 | XRD30*600 | | 10 | 600 | XRD60*600 | | 6.00 | 600 | XRD100*600 |
| | 40 | 1200 | XRD30*1200 | | 20 | 1200 | XRD60*1200 | | 12.00 | 1200 | XRD100*1200 |
| 40 | 7.5 | 300 | XRD40*300 | 70 | 4.28 | 300 | XRD70*300 | 160 | 1.88 | 300 | XRD160*300 |
| | 15 | 600 | XRD40*600 | | 8.56 | 600 | XRD70*600 | | 3.75 | 600 | XRD160*600 |
| | 30 | 1200 | XRD40*1200 | | 17.12 | 1200 | XRD70*1200 | | 7.50 | 1200 | XRD160*1200 |

XRD SELECTION EXAMPLE





XRD SPECIFICATIONS

ISO9001:2015

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| PARAMETER | DESCRIBE | | |
|----------------------------|--|--------|------|
| Input | 90-264Vac, 47-63 Hz, for 300 watt units 180-264Vac, 47-63 Hz for 600 and 1200 watt units | | |
| Output | 20kV~100kV Maximum output voltage, 300W, 600W, 1200W output power option. | | |
| Stability | 25ppm per hours after a 2 hour warm-up period. | | |
| Temperature Coefficient | ~25ppm/°C | | |
| Ripple | ~1% rms (>20kHz), 0.1% rms (~20kHz) | | |
| Voltage/Current Monitor | 0 ~ +10 Vdc corresponds to 0 to maximum output, Zout=4.99kW, accuracy: ~ 1%. | | |
| Voltage Local Programming | Internal potentiometer to set voltage from 0 to maximum output voltage. | | |
| Voltage Remote Programming | 0 ~ +10Vdc proportional from 0 to maximum output voltage, Zin=10MW. | | |
| Current Local Programming | Internal potentiometer to set current from 0 to maximum output current. | | |
| Current Remote Programming | 0 ~ +10Vdc proportional from 0 to maximum output current, Zin = 10MW. | | |
| Voltage Load Regulation | 0.01% (no load to full load change). | | |
| Voltage Line Regulation | ±0.01% (input voltage line change ±10%). | | |
| Current Load Regulation | 0.01% (no load to full load change). | | |
| Current Line Regulation | ±0.01% (input voltage line change 30% - 100%). | | |
| Filament Supply | Output: 0-5amps at a compliance of 10 Vdc, maximum. The filament disabled when the kV output is less than 20% of full scale output to protect the X-Ray tube. Other filament levels available for special order. | | |
| Operating Temperature | 0°C~+50°C | | |
| Storage Temperature | -40°C~+85°C | | |
| Humidity | 20%~85% RH, non-condensing. | | |
| Dimensions | 300W/600W (20kV~70kV) 4.72" H x 5.98" W x 11.97" D (120.00mm x 152.00mm x 304.00mm). | Weight | 7kg |
| | 300W/600W (80kV~100kV) 6.21" H x 7.47" W x 15.48" D (158.00mm x 190.00mm x 394.00mm). | | 20kg |
| | 300W/600W (110kV~160kV) 10.45" H x 8.41" W x 21.46" D (266.00mm x 214.00mm x 546.00mm). | | 30kg |
| | 1200W (20kV~70kV) 4.72" H x 11.97" W x 11.97" D (120.00mm x 304.00mm x 304.00mm). | | 13kg |
| | 1200W (80kV~100kV) 6.21" H x 11.97" W x 15.48" D (158.00mm x 304.00mm x 394.00mm). | | 21kg |
| | 1200W (110kV~160kV) 10.45" H x 19" W x 21.46" D (266.00mm x 482.00mm x 546.00mm). | | 65kg |

D X-RAY GENERATOR

XRD ANALOG INTERFACE

| J2 | SIGNAL |
|--------------------------|---|
| 1 Power Supply Fault | Open Collector, 50Vdc @ 10mA Maximum |
| 2 Current Program In | 0~+10Vdc=0 to maximum output. zin=10MΩ |
| 3 Voltage Program In | 0~+10Vdc=0 to maximum output. zin=10MΩ |
| 4 Filament Limit Input | 0~+10Vdc=0 to maximum output. Zin=10MW |
| 5 Local Filament Limit | Multi-turn front panel potentiometer |
| 6 Filament Preheat Input | 0~+10Vdc=0 to maximum output. |
| 7 Local Filament Preheat | Multi-turn front panel potentiometer |
| 8 Voltage Monitor | 0~+10Vdc=0 to maximum output. Zout=10KW |
| 9 Signal Ground | Ground |
| 10 Current Monitor | 0~+10Vdc=0 to maximum output. Zout=10KW |
| 11 HV Enable Input | Connect to Pin 12 to HV Enable Supply |
| 12 HV Enable Output | +12Vdc @ Open, =15mA @ Closed |
| 13 Filament Monitor | 1Vdc=1 Amp, Zout=10kW |
| 14 HV on output signal | Open Collector, 35Vdc @ 10mA Maximum |
| 15 Reset | Ground Connection 3-5s, Protect circuit reset |

XRD ANALOG INTERFACE

| PIN | SIGNAL | PIN | SIGNAL |
|-----|-----------------------------------|-----|-----------------------------------|
| S1 | Setting for Voltage local control | S2 | Setting for Current local control |

RS-232/RS-485 DIGITAL INTERFACE ^D

| SIGNAL | | SIGNAL | |
|--------|-------------------|--------|---------|
| 1 | N/C | 6 | N/C |
| 2 | TXD/Transmit Data | 7 | RS-485B |
| 3 | RXD/Receive Data | 8 | N/C |
| 4 | N/C | 9 | RS-485A |
| 5 | SGND | | |

ET DIGITAL INTERFACE ^D

| SIGANL | | | SIGANL | | |
|--------|-----|----------------|--------|-----|----------------|
| 1 | RX+ | Receive data+ | 5 | N/C | N/C |
| 2 | RX- | Receive data- | 6 | TX- | Transmit data- |
| 3 | TX+ | Transmit data+ | 7 | N/C | N/C |
| 4 | N/C | N/C | 8 | N/C | N/C |

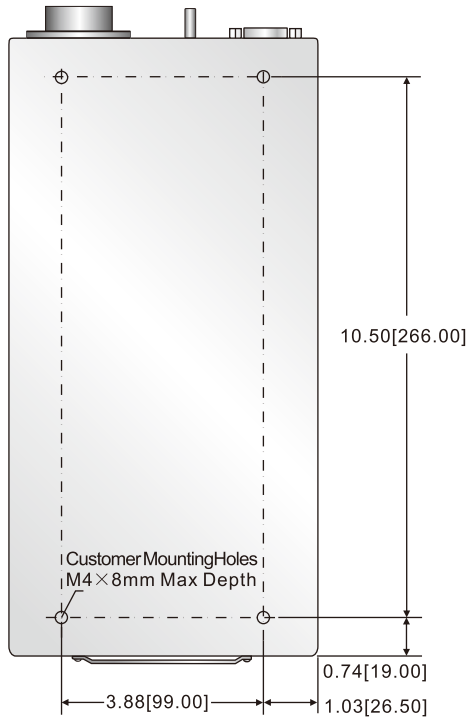
XRD DIMENSIONS

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X-RAY GENERATOR

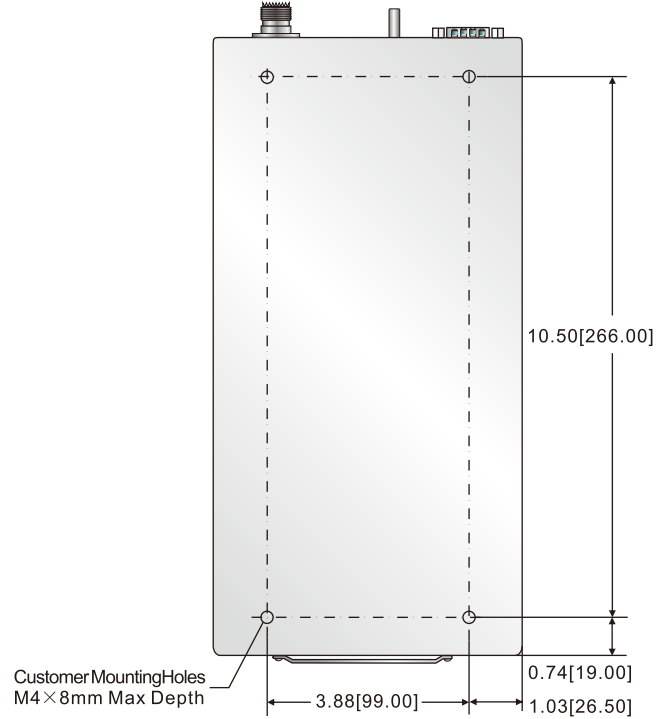
300~600 W:

DIMENSIONS: in.[mm]

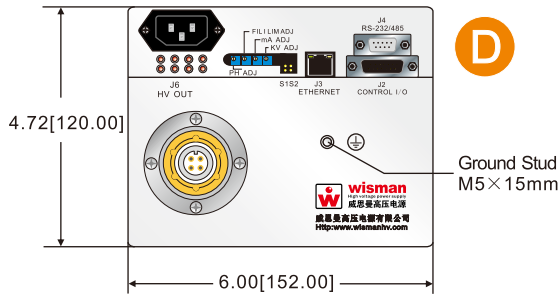
BOTTOM VIEW



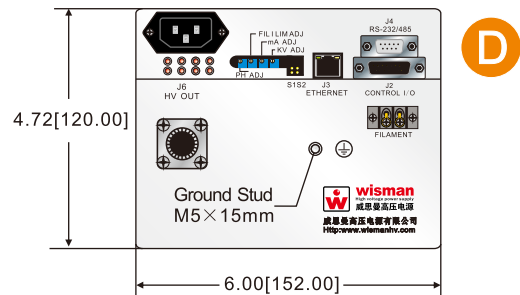
BOTTOM VIEW



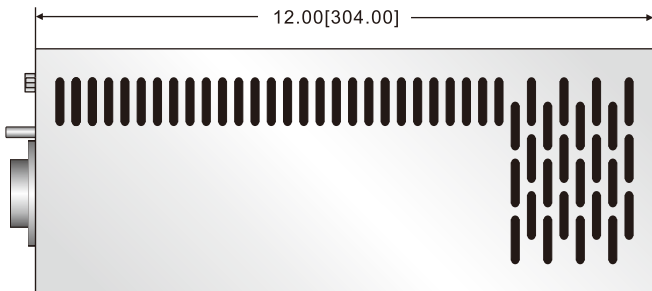
FRONT VIEW



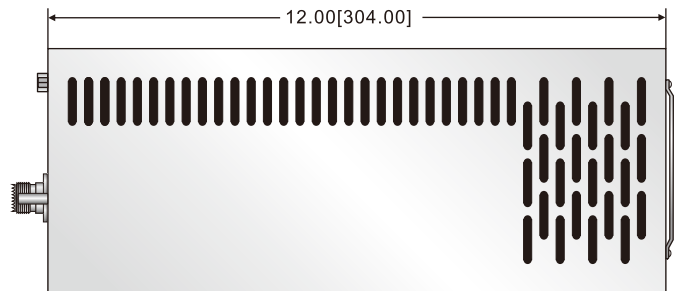
FRONT VIEW



SIDE VIEW



SIDE VIEW



Negative polarity -Floating Filament:

Positive polarity -Floating Filament:

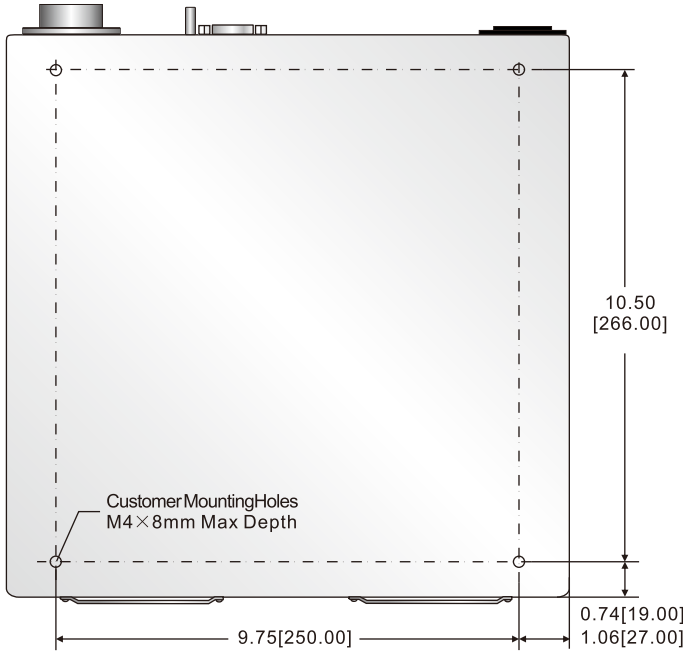
XRD DIMENSIONS

ISO9001:2015

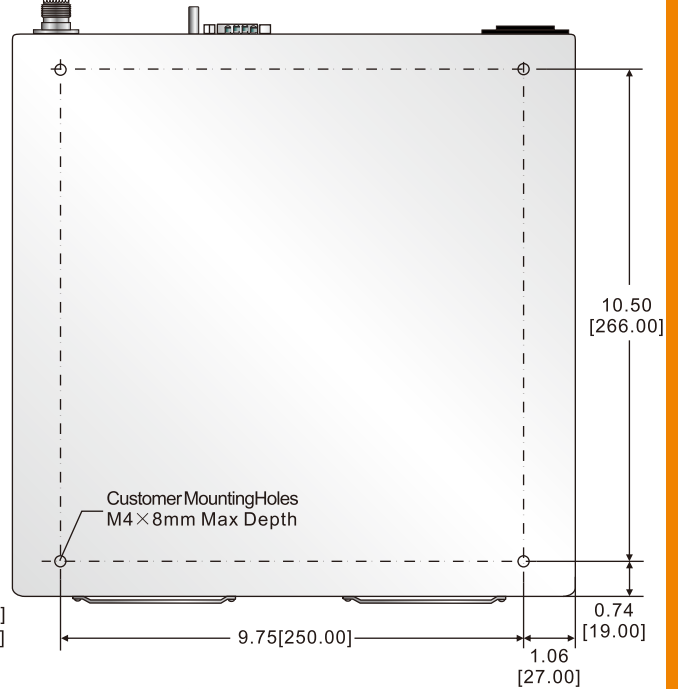
1200 W(20kV~70kV):

DIMENSIONS: in.[mm]

BOTTOM VIEW

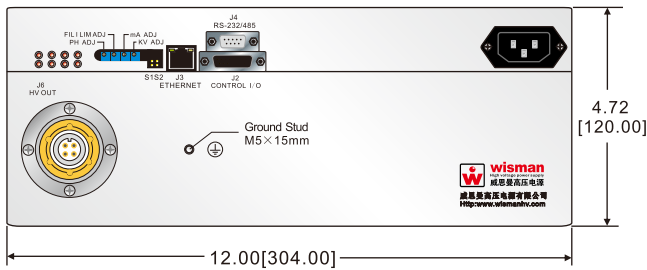


BOTTOM VIEW



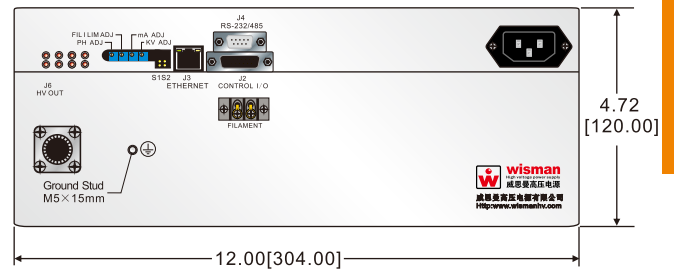
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FRONT VIEW

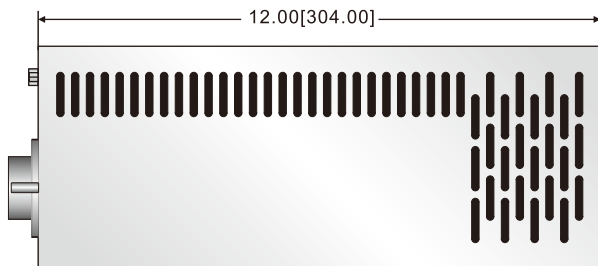


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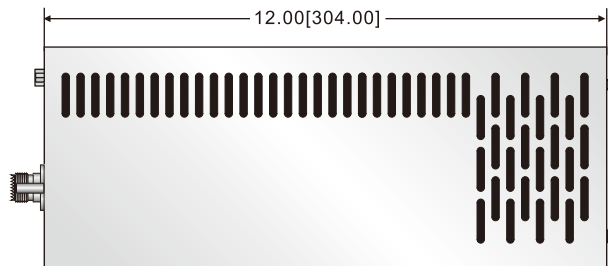
FRONT VIEW



SIDE VIEW



SIDE VIEW



Negative polarity -Floating Filament:

Positive polarity -Floating Filament:

D
X-RAY GENERATOR

XRD DIMENSIONS

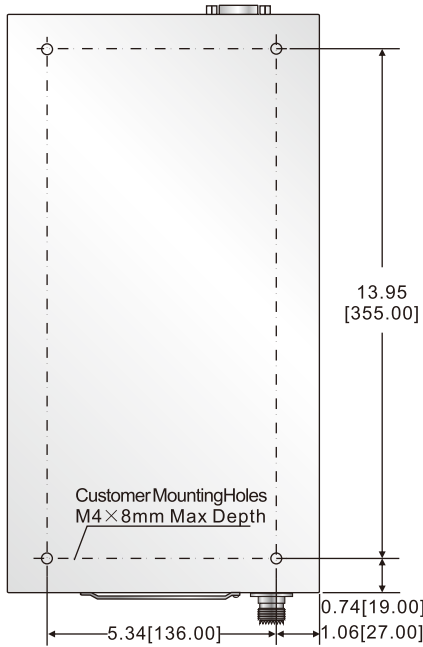
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D X-RAY GENERATOR

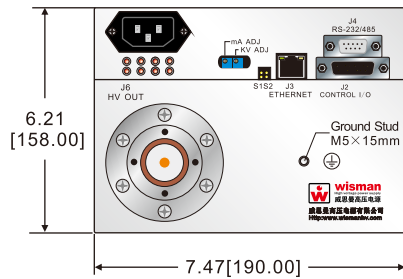
DIMENSIONS: in.[mm]

300W~600W(80kV~100kV)

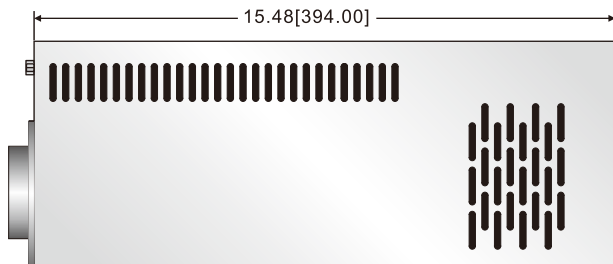
BOTTOM VIEW



D FRONT VIEW



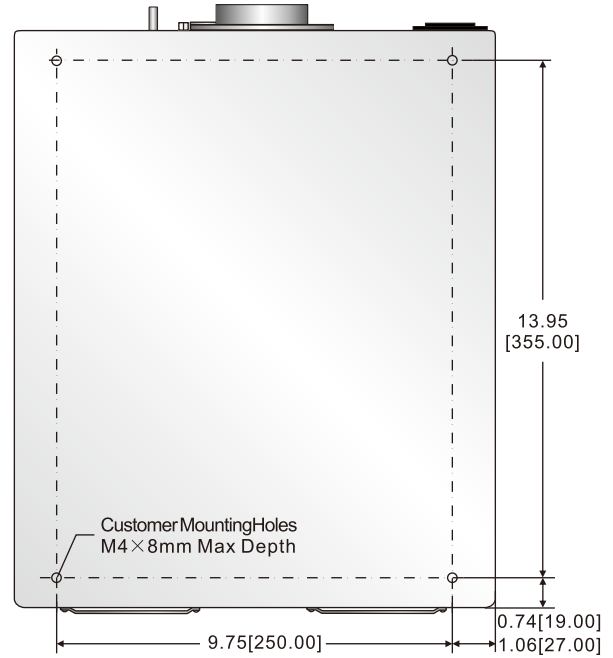
SIDE VIEW



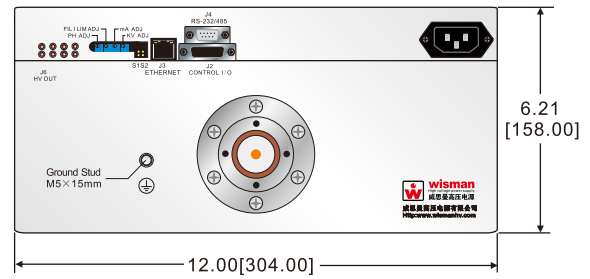
Negative polarity -Floating Filament:

1200W(80kV~100kV):

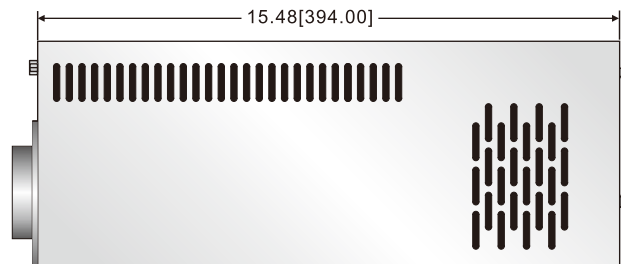
BOTTOM VIEW



D FRONT VIEW



SIDE VIEW



Negative polarity -Floating Filament:

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XRD DIMENSIONS

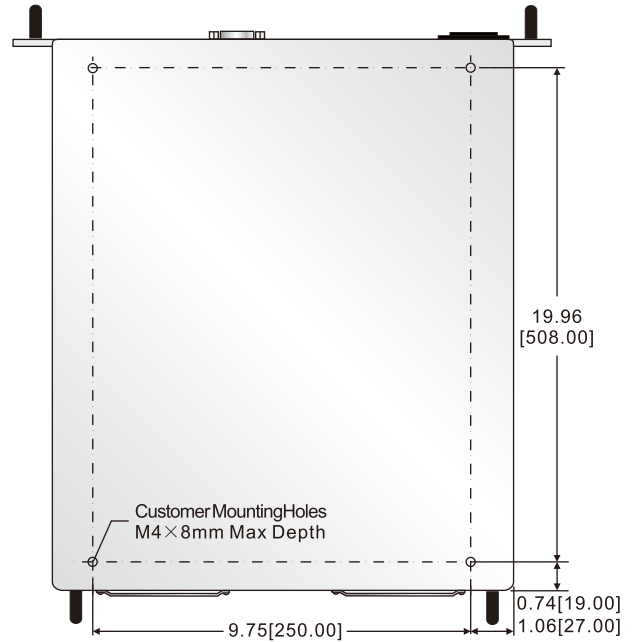
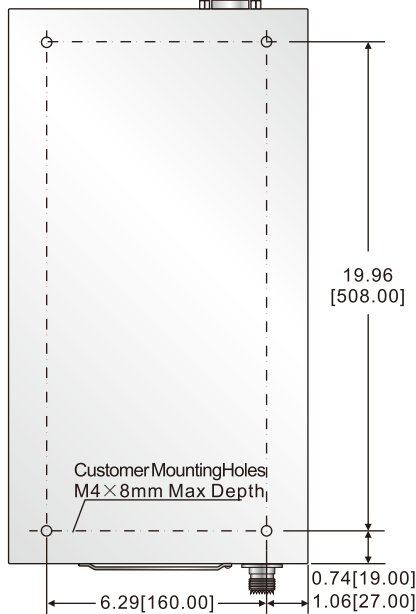
DIMENSIONS: in.[mm]

300W~600W(110kV~160kV)

1200W(110kV~160kV)

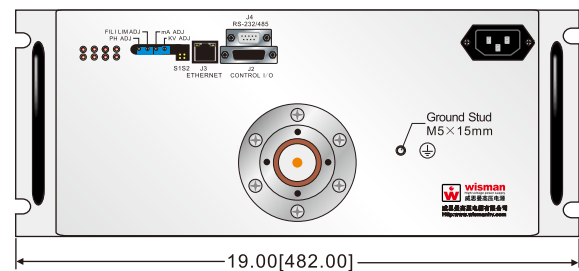
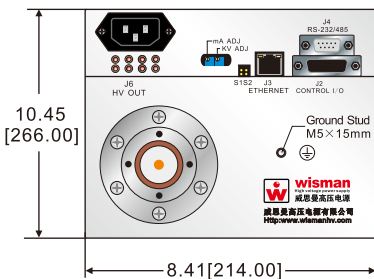
BOTTOM VIEW

BOTTOM VIEW



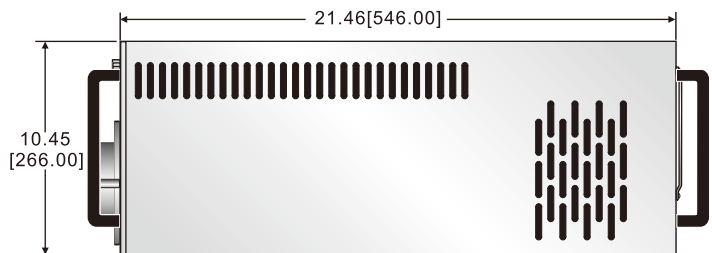
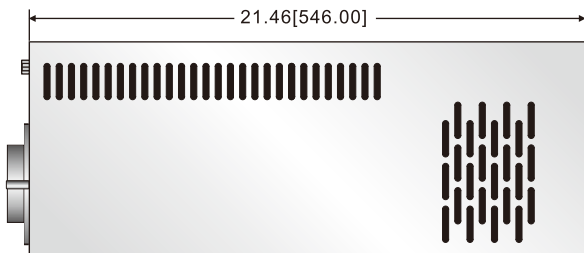
D FRONT VIEW

D FRONT VIEW



SIDE VIEW

SIDE VIEW



Negative polarity -Floating Filament:

Negative polarity -Floating Filament:

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X-RAY GENERATOR