



- 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.

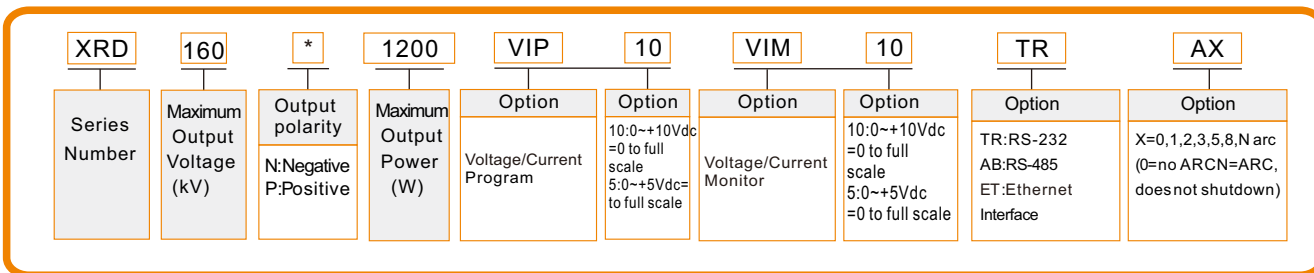
## TYPICAL APPLICATIONS

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 <sup>D</sup>

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 <sup>D</sup>

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

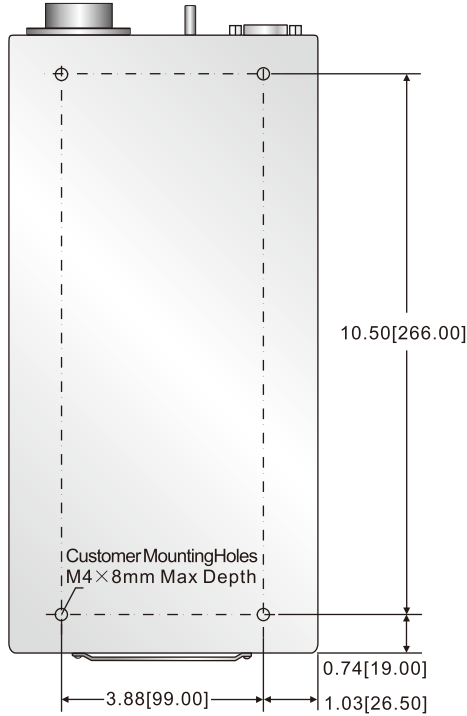
## XRD DIMENSIONS

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X-RAY GENERATOR

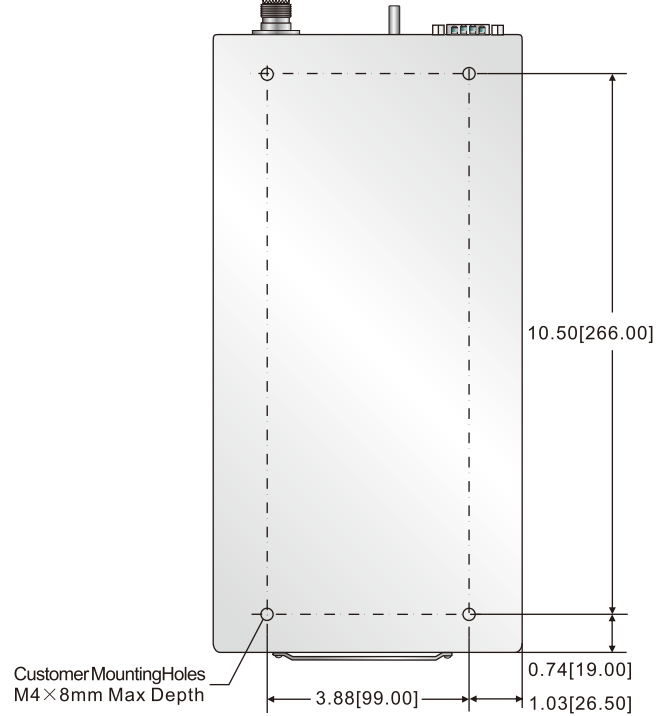
300~600 W:

DIMENSIONS: in.[mm]

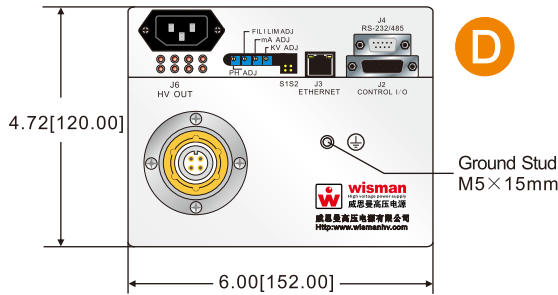
BOTTOM VIEW



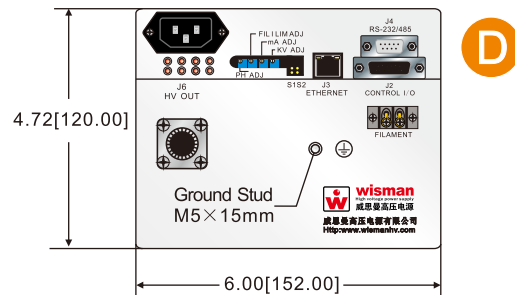
BOTTOM VIEW



FRONT VIEW



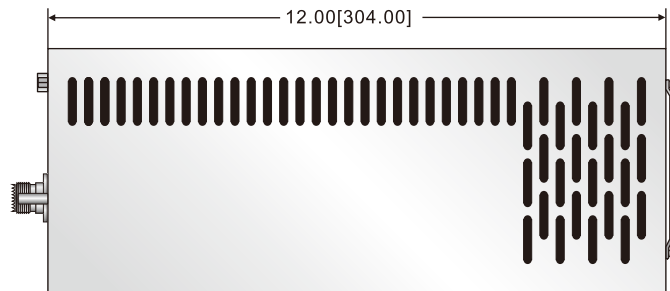
FRONT VIEW



SIDE VIEW



SIDE VIEW



Negative polarity -Floating Filament:

Positive polarity -Floating Filament:

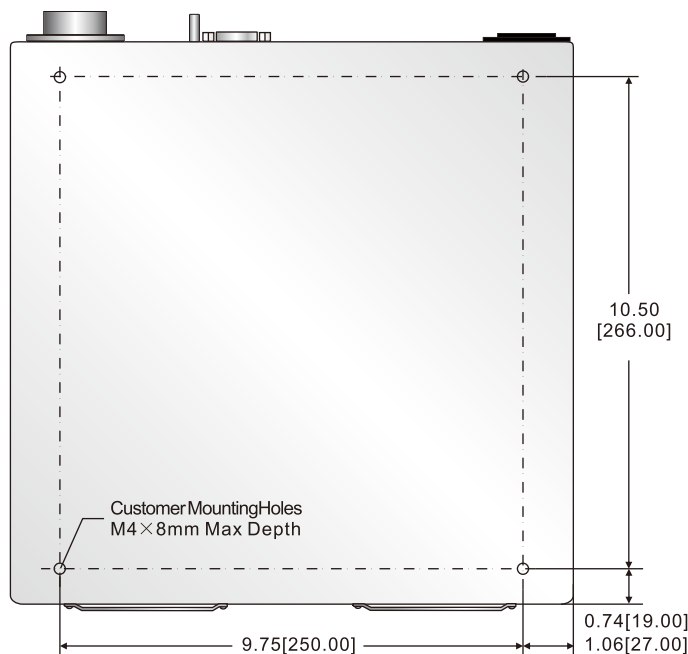
**XRD DIMENSIONS**

ISO9001:2015

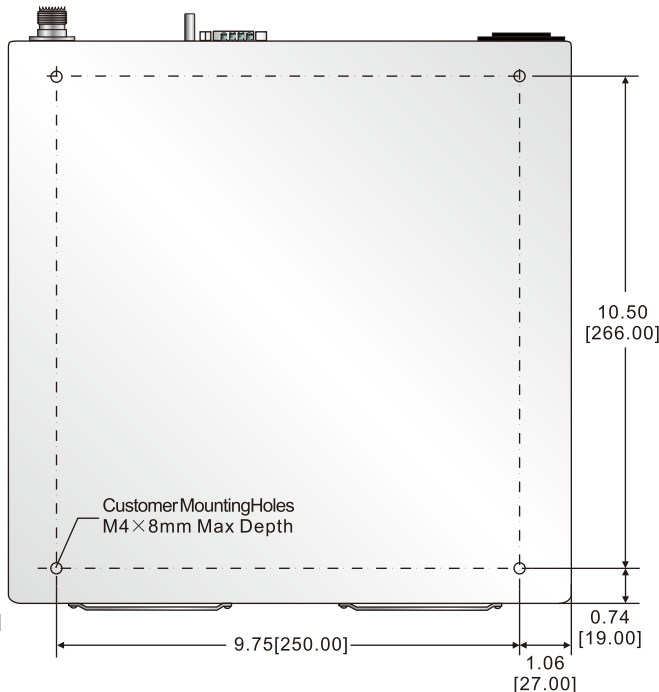
1200 W(20kV~70kV):

DIMENSIONS: in.[mm]

BOTTOM VIEW

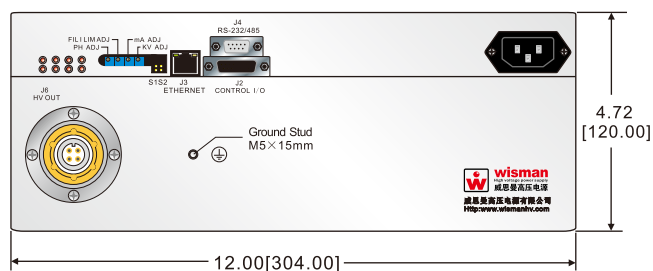


BOTTOM VIEW



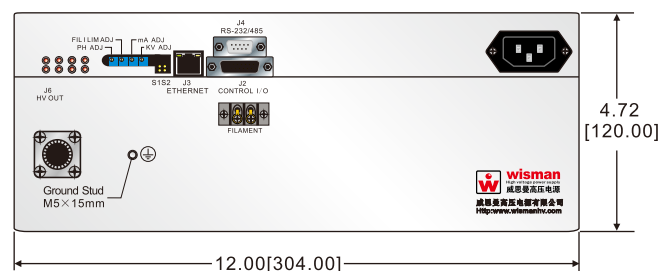
**D**

FRONT VIEW

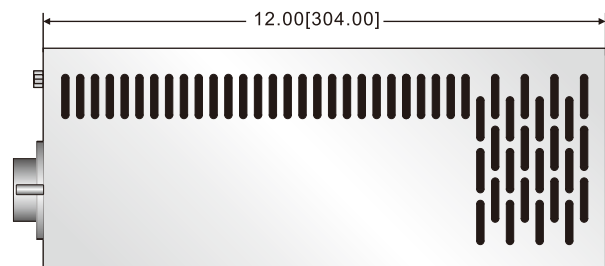


**D**

FRONT VIEW



SIDE VIEW



SIDE VIEW



Negative polarity -Floating Filament:

Positive polarity -Floating Filament:

**D**  
**X-RAY GENERATOR**

## XRD DIMENSIONS

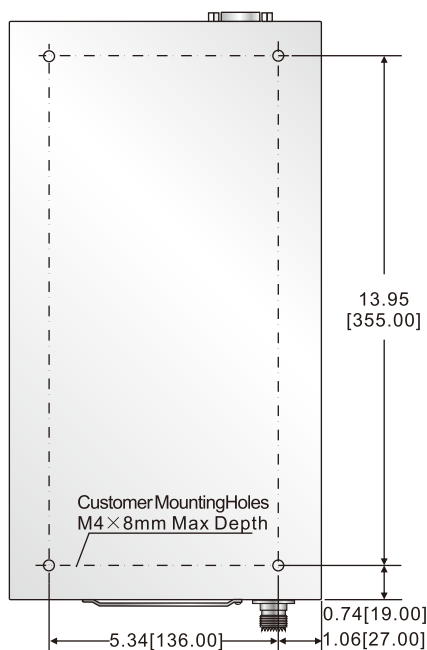
ISO9001:2015

D X-RAY GENERATOR

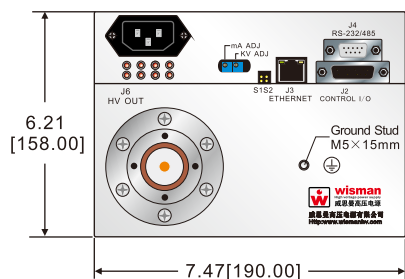
DIMENSIONS: in.[mm]

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

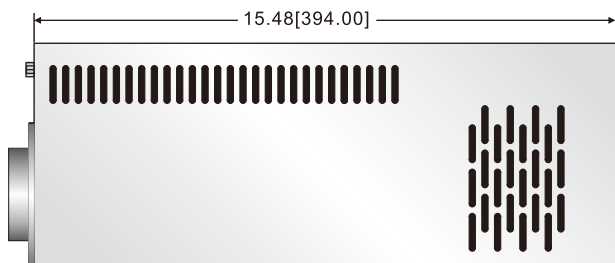
BOTTOM VIEW



D FRONT VIEW



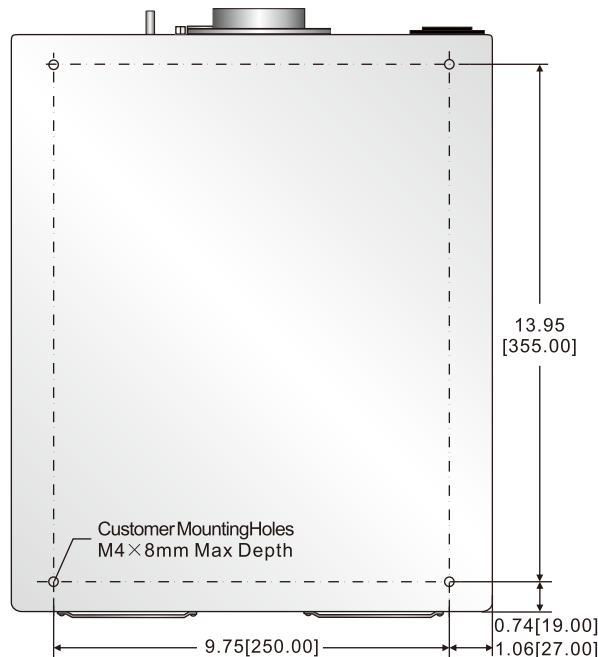
SIDE VIEW



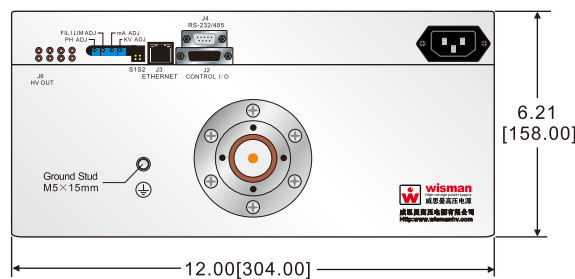
Negative polarity -Floating Filament:

1200W(80kV~100kV):

BOTTOM VIEW



D FRONT VIEW



SIDE VIEW



Negative polarity -Floating Filament:

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XRD DIMENSIONS

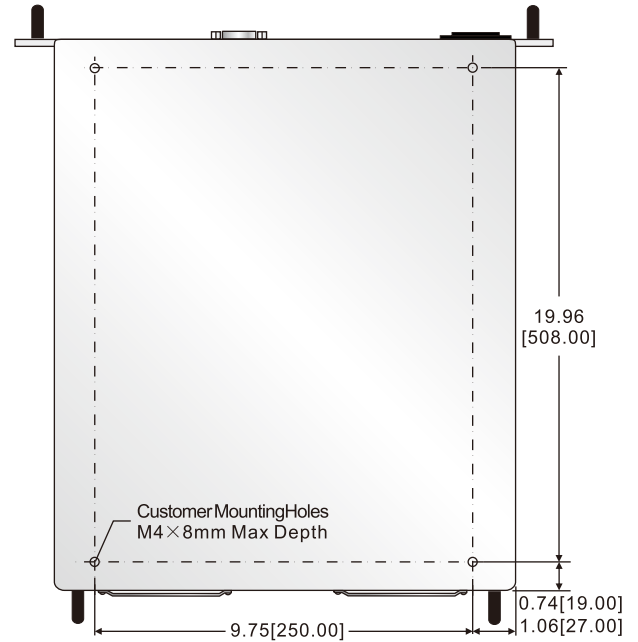
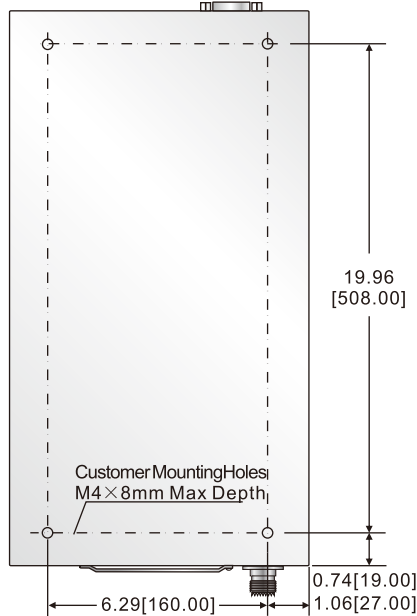
DIMENSIONS: in.[mm]

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

1200W(110kV~160kV)

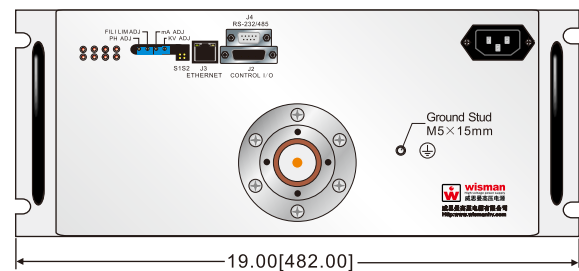
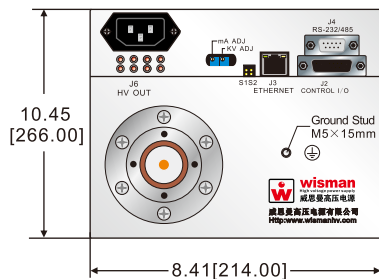
BOTTOM VIEW

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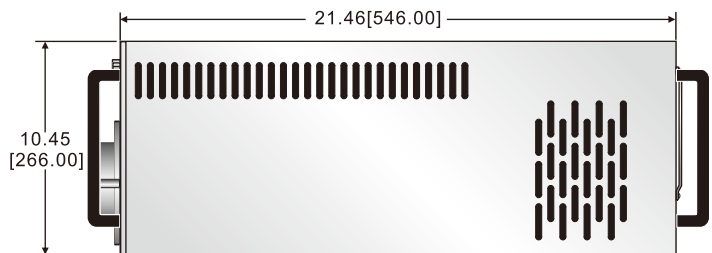
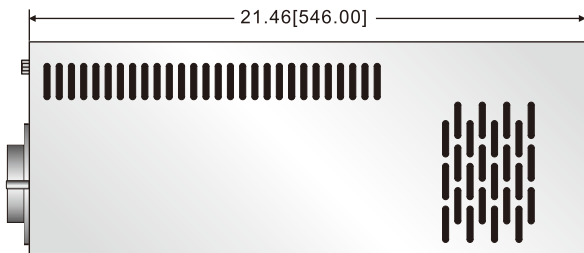
**D** FRONT VIEW

**D** FRONT VIEW



SIDE VIEW

SIDE VIEW



Negative polarity -Floating Filament:

Negative polarity -Floating Filament:

**D**  
**X-RAY GENERATOR**