

"SD Series I.I."
X-ray Image Intensifier
E5830SD-P7A
Triple Input Field:
230/160/120mm (9"/ 6"/ 4.5")
Output Image Diameter: 25mm

FEATURING:

- **High Resolution** : 52 Lp/cm
- **High Conversion Factor** : 29 $\frac{\text{cd/m}^2}{\mu\text{Gy/s}}$
- **High Contrast Ratio**
 - 10% area contrast** : 30:1
 - 10mm dia. contrast** : 19:1
- "SD Series I.I." E5830SD-P7A is used for medical radiographic diagnosis.
- This X-ray Image Intensifier is intended to be connected with IEC Class I equipment.

"SD Series I.I." E5830SD-P7A has been perfected by the integration of several aspects of advanced technology ;

The input window is of a thin metal plate, which has good X-ray transparency characteristics and reduces X-ray scatter.

It uses a thick input phosphor screen made with an extremely fine pillar shaped structure. This has high X-ray absorption and very high conversion efficiency. In addition, there is a thin output phosphor screen on a single thick-glass output window with an anti-reflective coating, offering very high contrast for small details, very low structure noise and high MTF characteristics.

The E5830SD-P7A, employing these manufacturing techniques, provides outstanding performance in resolution, brightness, contrast and noise.

The E5830SD-P7A is supplied in a housing, which provides mu-metal magnetic shielding and radiation shielding.

PERFORMANCE DATA

Item	N mode	M1 mode	M2 mode		
Central Resolution	52	58	68	Lp/cm	typ.
Conversion Factor (Gx)	29	-	-	(cd/m ²)/(μGy/s)	typ.
	250	-	-	(cd/m ²)/(mR/s)	typ.
Contrast Ratio	10% area	30:1	-	-	typ.
	10 mm dia.	19:1	-	-	typ.
DQE (IEC standard)	65	-	-	%	typ.

GENERAL DATA➤ **MECHANICAL:**

Item	
Overall Length	341±5 mm
Maximum Diameter	302±2 mm
Nominal Entrance Field Size	
N (9") mode	230 mm min.
Useful Entrance Field Size	
N (9") mode	215 mm min.
M1 (6") mode	160±5 mm
M2 (4.5") mode	120±5 mm
Output Image Diameter	25±0.5 mm
Weight (approx.)	18 kg
Dimensional Outline	Refer to page 5

➤ **POWER SUPPLY:**

Item	
High Voltage Power Supply	
Input Voltage	24±1 Vdc

➤ **ENVIRONMENTAL:**

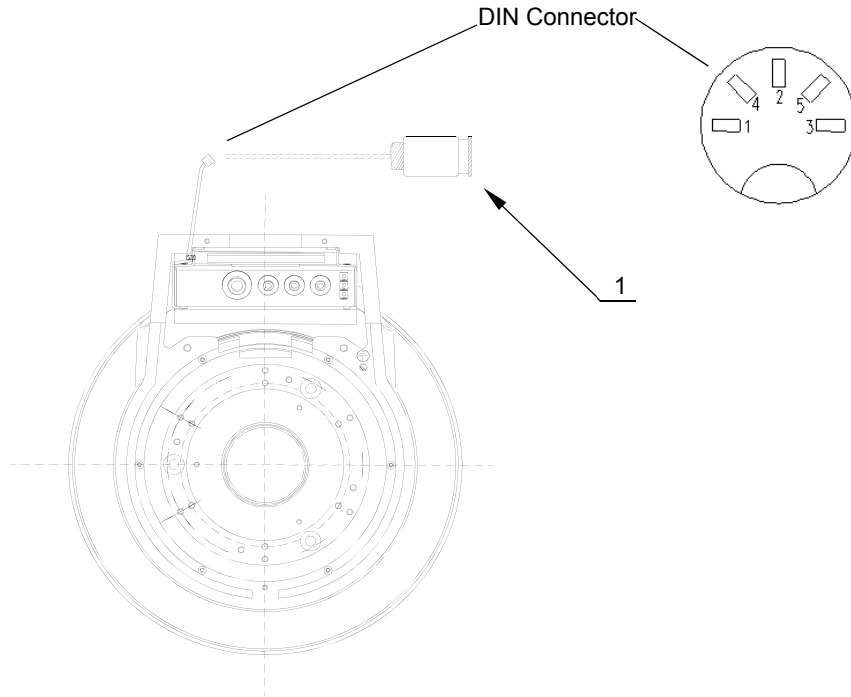
Item	Under delivery and stock	Under operating
Temperature	-15 to 45 °C	5 to 40 °C
Humidity	10 to 90 %	30 to 85 %
Pressure	50 to 106 kPa	70 to 106 kPa

ABSOLUTE MAXIMUM RATINGS

Item	
Anode Voltage	32 kV
G3 Electrode Voltage	12 kV
Potential Difference between Anode and G3 Electrode	30 kV
Potential Difference between G3 Electrode and G2 Electrode	12 kV
G2 Electrode Voltage	1200 V
G1 Electrode Voltage	250 V
Photocathode Current	
Continuous	0.2 μ A
Pulsed	2 μ A
Input X-ray Dose	8.73×10^{-3} Gy/min [1R/min]

ELECTRICAL WIRING AND CONNECTING

X-ray image intensifier is operated with 24Vdc input voltage applied to the high voltage power supply. Wiring and connecting are shown as follows.



Pin No.	Signal
1	DC24V input
2	NC
3	0V
4	M1
5	M2

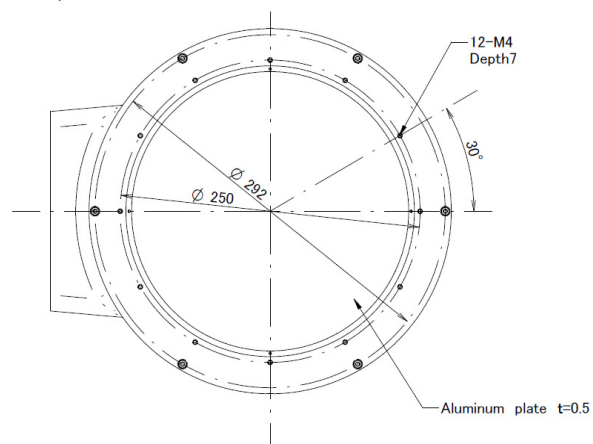
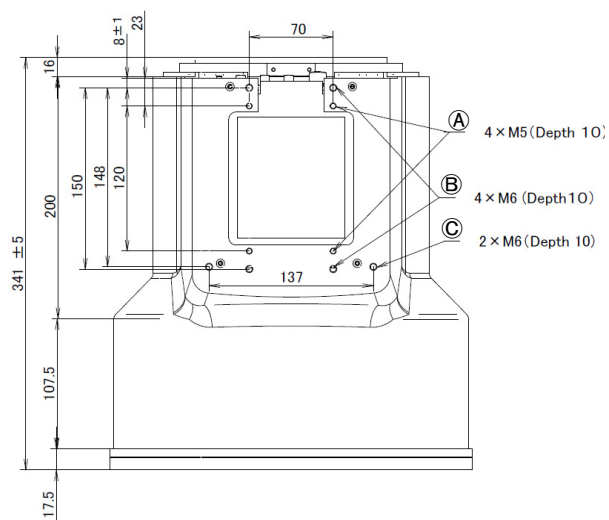
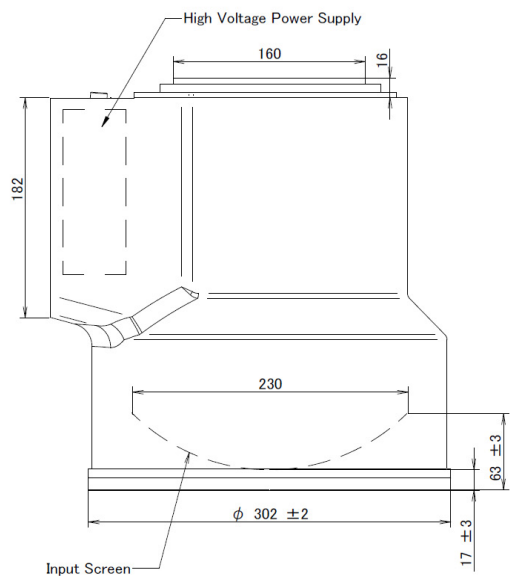
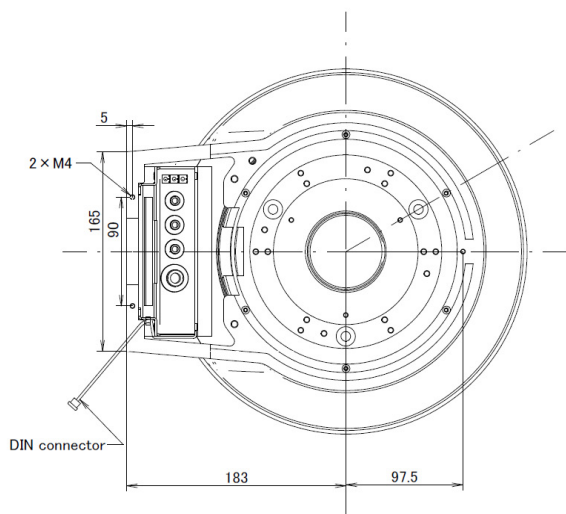
Switching of entrance field size

- * N mode 4, 5 Open
- * M1 mode 1-4 Close (apply DC24V to Pin No.4)
- * M2 mode 1-5 Close (apply DC24V to Pin No.5)

1. DIN connector..... 1 pc

DIMENSIONAL OUTLINE

Unit: mm



Ⓐ, Ⓑ, Ⓒ: Screw holes for fixing to apparatus



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