

Omnia Series

Specifications Sheet

V2.0



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Contact Information

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Inquires may be made Monday through Friday, 7 a.m. - 5 p.m. US Central Time.

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Omnia Series Process Dimensions

	Maximum Uniform Beam Width	Maximum Web Width	Web Entry Height ¹
910	910 mm	1,210 mm	620 or 830 mm
	36 in	47.6 in	24.4 or 32.7 in
1370	1,370 mm	1,670 mm	620 or 830 mm
	54 in	65.7 in	24.4 or 32.7 in
1825	1,825 mm	2,125 mm	830 mm
	72 in	83.6 in	32.7 in
2740	2,740 mm	3,040 mm	830 mm
	108 in	119.7 in	32.7 in

Omnia Series Dose Rate Capacities and Power Supply Combinations

	33 kW, 110 kV Power Supply	50 kW, 125 kV Power Supply	125 kW, 150 kV Power Supply	150 kW, 125 kV Power Supply
910	9,000 kGy*m/min	12,000 kGy*m/min	12,000 kGy*m/min	N/A
1370	6,000 kGy*m/min	8,000 kGy*m/min	12,000 kGy*m/min	N/A
1825	4,500 kGy*m/min	6,000 kGy*m/min	11,250 kGy*m/min	12,000 kGy*m/min
2740	N/A	N/A	N/A	10,000 kGy*m/min

¹ Web entry height is dependent on shield roll diameter. The web entry heights are listed for the 457 mm (18 in) and 610 mm (24 in) shield rolls, respectively.

Performance Specifications	
Operating Voltage Range	80 kV to 125 kV [457 mm (18 in) shield roll] 80 kV to 150 kV [610 mm (24 in) shield roll]
Dose Uniformity	≤ ±8.0% cross web variation
Surface Radiation Specification	1 μSv/hr or less at 100 mm (4 in) from all surfaces and slots
Maximum Production Speed	400 mpm (1,300 fpm)
Maximum Recommended Product Thickness, Including Splices	1.25 mm (0.050in)
Beam Window Construction	Single solid copper window; drilled holes; internal cooling
Beam Direction	Side fire (horizontal)
Web Direction as Viewed from Operating Position	Left to right (270°) or right to left (90°) Must be specified at time of order

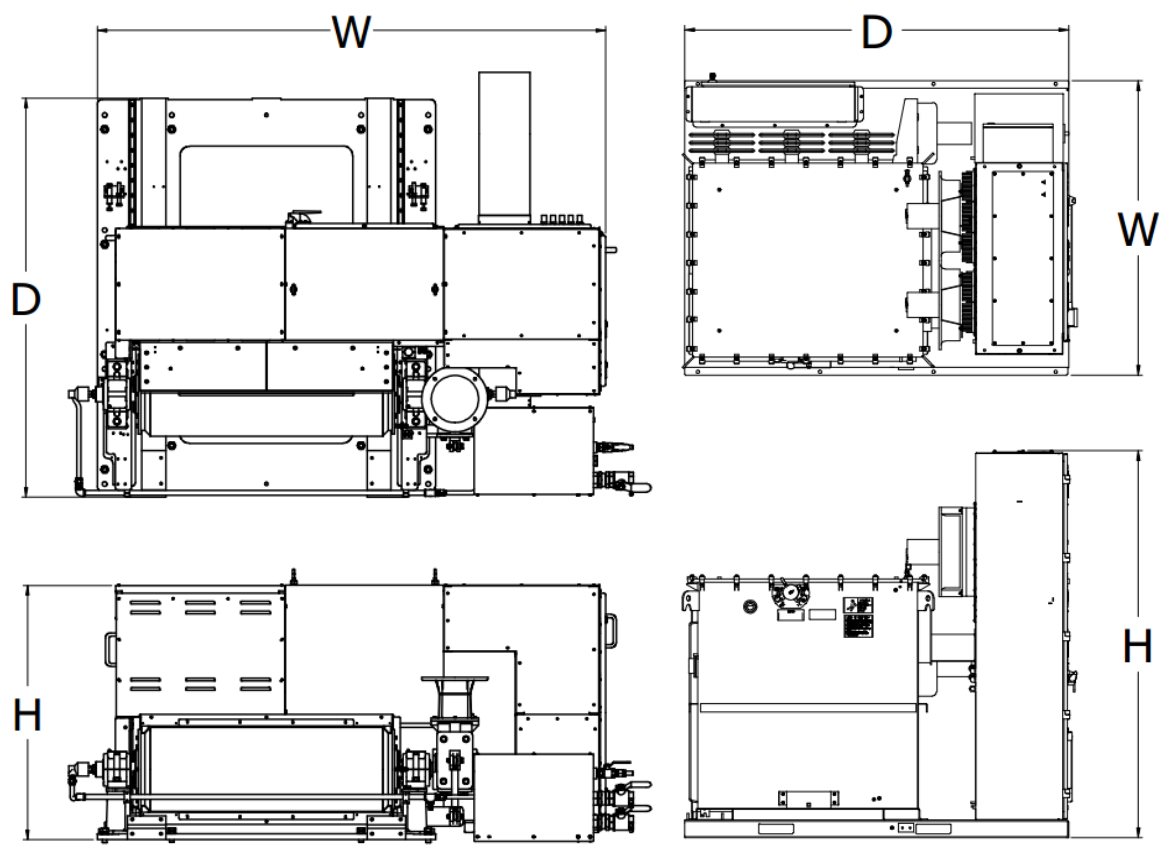
Web Support	
Integrated Shield Roll	457 mm (18 in) or 610 mm (24 in) nominal. Nickel plated and hard chromed construction with 16 RA finish.
Emergency Stop Time	3 seconds from 400 mpm (1,300 fpm) to stop
Bearing Lubricants	Synthetic, food-machinery grade

Power Supply and Controls	
High Voltage Power Supply	High frequency IGBT switching design with integrated spark management control; remote mount; oil filled
Maximum High Voltage Power Supply Capacity	33 kW / 110 kV / 300 mA 50 kW / 125 kV / 400 mA 120 kW / 150 kV / 800 mA 150 kW / 125 kV / 1200 mA
Environment	Indoor rated; 40°C (100°F) maximum ambient temperature.
Insulating Oil	Dow Corning 561 Silicone
High Voltage Cable Length	15.25 m (50 ft) cable with end terminations included. Usable length of up to 10.6 m (35 ft) from HVPS to system.
Programmable Logic Controller	Siemens S7 Safety PLC
HMI Device	Siemens Comfort Panel, 230 mm (9 in) touch screen
System Software	Siemens TIA Portal
Communications Network	Profinet

Miscellaneous	
System Color	RAL 9016 white Customized colors available upon request.
Power Supply Color	ANSI 61 Industrial Gray

Ebeam Processor

High Voltage Power Supply



Ebeam Processor Approximate Dimensions (H x W x D) and Weight

910	1,350 x 2,660 x 2,100 mm	4,990 kg
	53 x 105 x 83 in	11,000 lbs
1370	1,350 x 3,120 x 2,100 mm	5,900 kg
	53 x 123 x 83 in	13,000 lbs
1825	1,500 x 4,050 x 2,600 mm	9,525 kg
	59 x 160 x 102 in	21,000 lbs
2740	1,500 x 4,500 x 2,600 mm	11,350 kg
	59 x 177 x 102 in	25,000 lbs

High Voltage Power Supply Approximate Dimensions (H x W x D) and Weight

33 kW / 110 kV Power Supply	2,290 x 1,500 x 1,980 mm	2,725 kg
	90 x 59 x 78 in	6,000 lbs
50 kW / 125 kV Power Supply	2,290 x 1,500 x 1,980 mm	2,725 kg
	90 x 59 x 78 in	6,000 lbs
125 kW / 150 kV Power Supply	2,290 x 1,500 x 1,980 mm	3,250 kg
	90 x 59 x 78 in	7,200 lbs
150 kW / 125 kV Power Supply	2,290 x 1,730 x 2,240 mm	2,725 kg
	90 x 68 x 88 in	6,000 lbs

Electrical Requirements

Estimated Power Consumption at Maximum Voltage and Throughput	Specific to system configuration. Consult with manufacturer.
Line Voltage	400 - 480 VAC, \pm 7%, 50/60Hz, 3-phase
Expected Total Line Current	Specific to system configuration. Consult with manufacturer.

Nitrogen Requirements

Inerting Level	200 ppm of O ₂ @ 400 mpm (1310 fpm)
Estimated Flow Required	Specific to system configuration. Consult with manufacturer.
Minimum Supply Pressure at Machine	6.8 bar (100 psig)
Maximum Supply Pressure at Machine	10.2 bar (150 psig)
Nitrogen Quality Requirements	Filtered to 40 μ m 99.999% pure N ₂ (less than 10 ppm of O ₂)

Cooling Water Requirements	
Total Water Requirement	Specific to system configuration. Consult with manufacturer.
Total Heat Load, Including Cryogenic System	Specific to system configuration. Consult with manufacturer.
Minimum Inlet Temperature	12.7°C (55°F) or 2.7°C (5°F) above dew point, whichever is higher
Maximum Inlet Temperature	29.4°C (85°F)
Minimum Supply Pressure at Machine	The supply pressure must exceed the return pressure by 4.1 bar (60 psi) at the listed flow. <i>Example:</i> If the return line pressure is 2 bar, then the return supply pressure must be no less than 6.1 bar. Also note that adding this flow may further raise the return pressure, which must also be compensated for.
Maximum Pressure at Machine	10.2 bar (150 psig)
Water Quality Requirements	Filtered to 50 µm pH between 7.0 and 8.3 Free of algae and other organics No zinc coated pipes or fittings at any point in the circuit
Cryogenic Compressor Flow	3.8 LPM (1 gpm)
Cryogenic Compressor Heat Load	3.5 kW (11,945 Btu/hr)