

Company	Applied Materials	Document N°	0230-20336
Document	Technical Construction File	Issue	1
Equipment	300 mm Metallization System	Date	April 24, 1998
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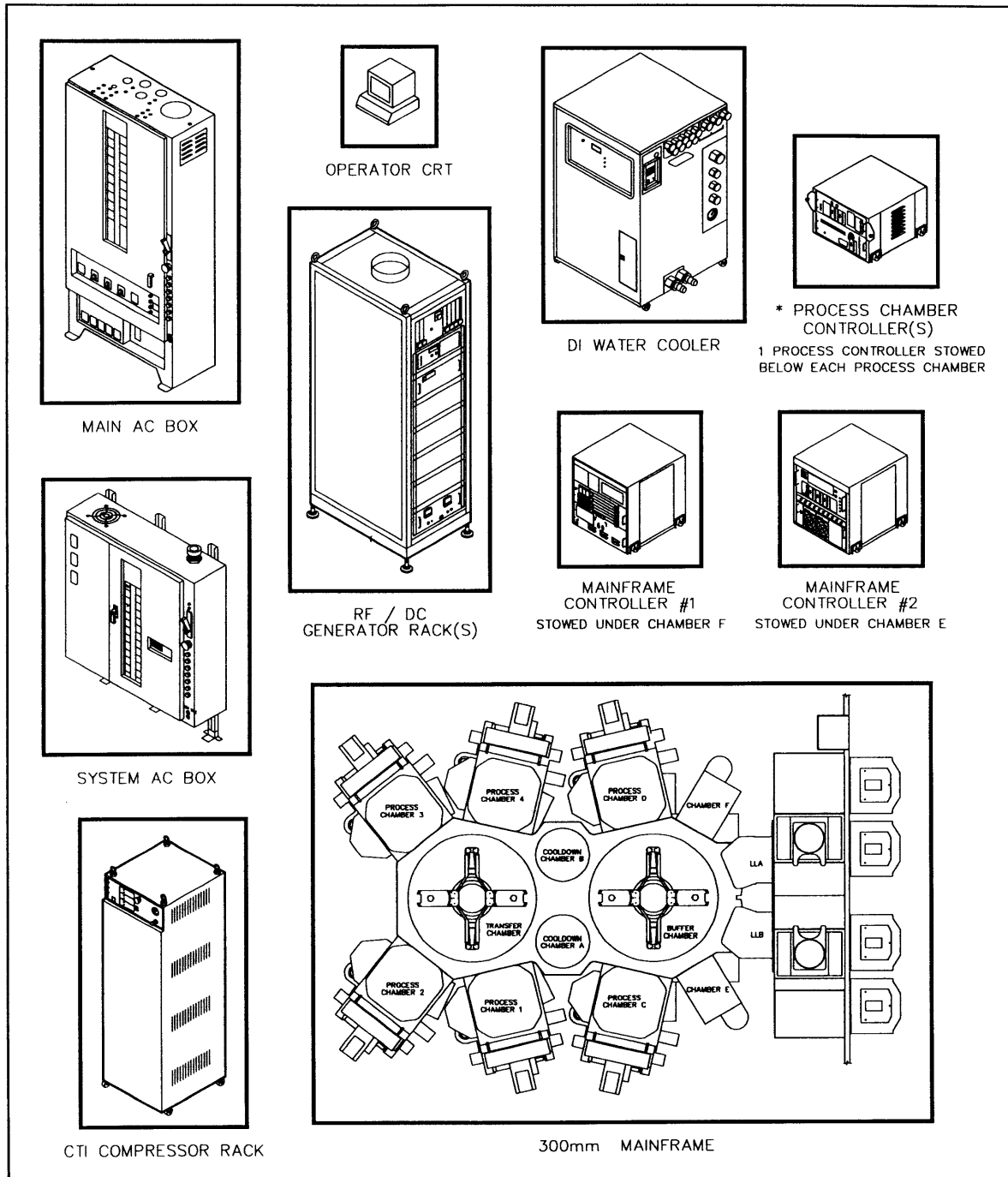


Figure 2.2 Overall Illustration - 300mm System Sub-Components Identification

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2.5 GENERAL INFORMATION

The product identified within this TCF consist of the following equipment with the dimensions shown below. A detailed technical description of the overall systems may be found in the appropriate service manuals referenced in Annex E.

2.5.1 Dimension / Weight / Power Requirement

Due to the variable configuration of the 300mm Metallization System, along with support equipment, input power requirements will vary. The main circuit breaker for the system is rated at 800 Amps, 3 phases at 208VAC (50/60 Hz).

A complex matrix exists depending on user configuration. The Site and System Preparation Specification Manual (SSPS) contains additional details, referenced in Appendix E. An overview is provided herein.

Dimensions: Refer to the SSPS for exact details on all systems and support equipment. Annex G and H provide supporting information.

300mm System Mainframe and Sub-Components

Typical Dimensions and Weights				
Component	Depth in (cm)	Width in (cm)	Height in (cm)	Weight lbs (kg)
Factory Interface Unit	41.25 (105)	95 (241)	84.5 (215)	3000 (1360)
Mainframe	132 (342)	96 (245)	65 (166)	6115 (2775)
• Controllers 1, 2	23 (59)	21 (54)	23 (59)	200 (91)
• Cryo Pump (ea)				75 (34)
• Slit Valve (ea)				30 (14)
• Robot Assy (ea)				85 (39)
MDP Process Chamber (ea)	25 (64)	21 (54)	16 (41)	700 (318)
• Chamber Controller	23 (59)	21 (54)	16 (41)	200 (91)
• Gate Valve (ea)				70 (32)
• Cryo Pump (ea)				75 (34)
Main AC Box	18 (46)	39 (100)	84 (215)	900 (408)
System AC Box	13 (34)	48 (123)	48 (123)	600 (272)
RF/DC Generator Rack	42 (107)	24 (62)	81 (207)	1345 (610)
Cryo Compressor Rack	24 (62)	22 (56)	70 (179)	850 (386)
Heat Exchanger (DI Cooler)	33 (85)	33 (85)	55 (141)	610 (277)
System Pump (Leybold)	39 (100)	15.5 (49)	42 (107)	750 (340)
Loadlock Pump (Leybold)	39 (100)	15.5 (49)	42 (107)	750 (340)

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300mm Electrical Requirements- Main AC Box and Sub-Components			
Component	N° Phases	AC Line Voltage (V)	Current _{max} (A)
Main AC Box	3	208	670*
System AC Box	3	208	170*
Generator Rack (ea)	3	208	250*
Cryo Compressor	3	208	57
DI Cooler	3	208	11
Rough Pump (ea)	3	208	19.6
MCVD Heat Exchanger (optional)	3	208	20

* System configuration dependent

300mm Electrical Requirements- System AC Box and Sub-Components			
Component	N° Phases	AC Line Voltage (V)	Current _{max} (A)
Buffer/Transfer Chamber Heater (ea)	3	208	18.6
Loadlock Heater Driver (ea)	1	208	8
Degas Heater Driver (ea)	1	208	10
Mainframe Controllers 1, 2 (ea)	1	208	19.2
System UPS (optional)	3	208	20.8
Robot Motor Driver	1	120	23.6
Process Chamber	3	208	30

300mm Electrical Requirements- RF/DC Generator Rack Power Supplies			
Component	N° Phases	AC Line Voltage (V)	Current _{max} (A)
DC Sources			
Std PVD Al 40kW (2 supplies)	3	208	2 x 75
Std PVD Ti, TiN 20kW	3	208	75
PVD TiW 20kW	3	208	75
PVD IMP 20kW DC, 5kW 2MHz, 1.2kW 13.56MHz	3	208	75
RF Sources			
Preclean 1.2kW 13.56MHz	3	208	25
Preclean 2kW 2MHz	3	208	25
Vectra IMP 5kW 2MHz	3	208	40
Vectra IMP 1.2kW 13.56MHz	3	208	10

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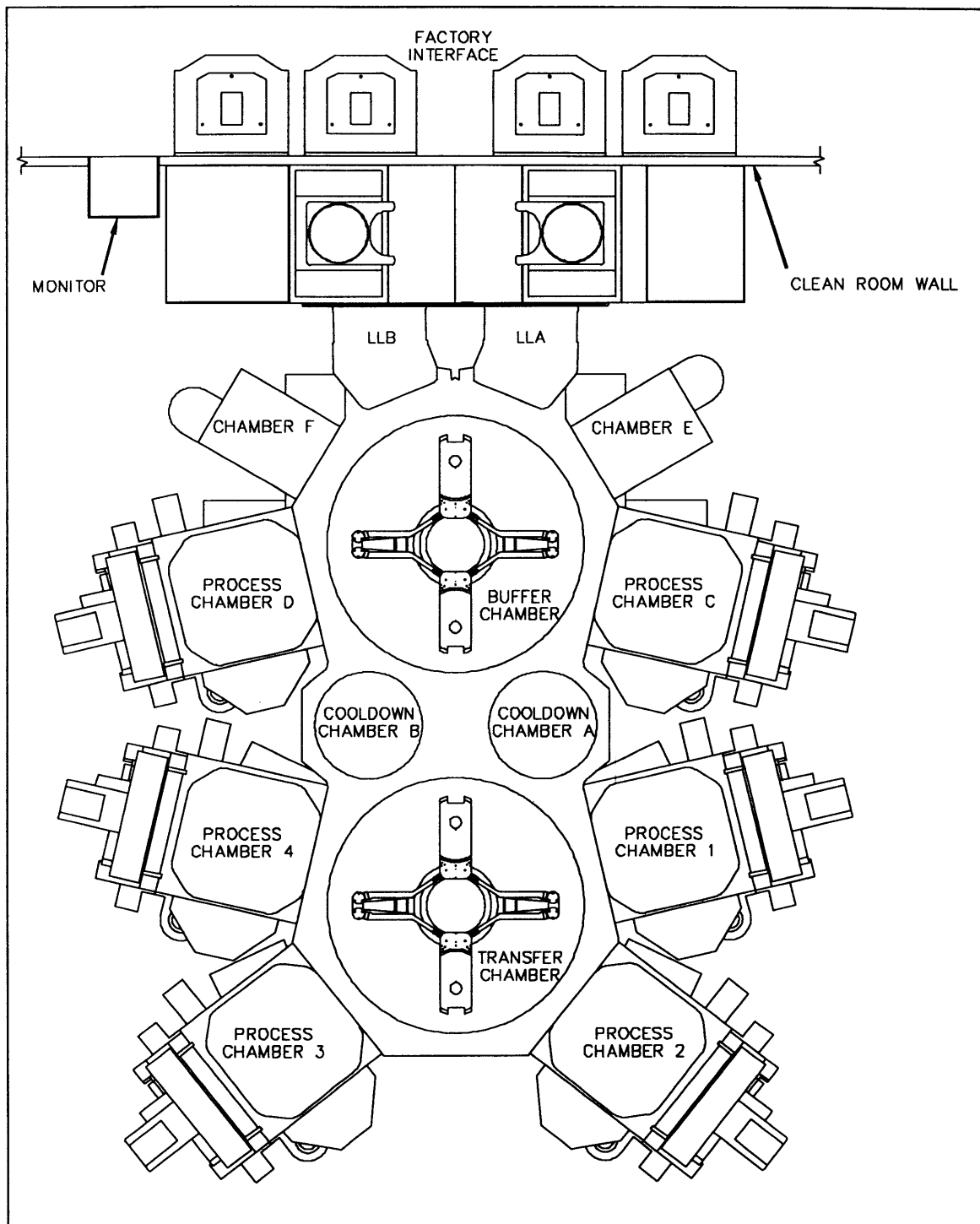


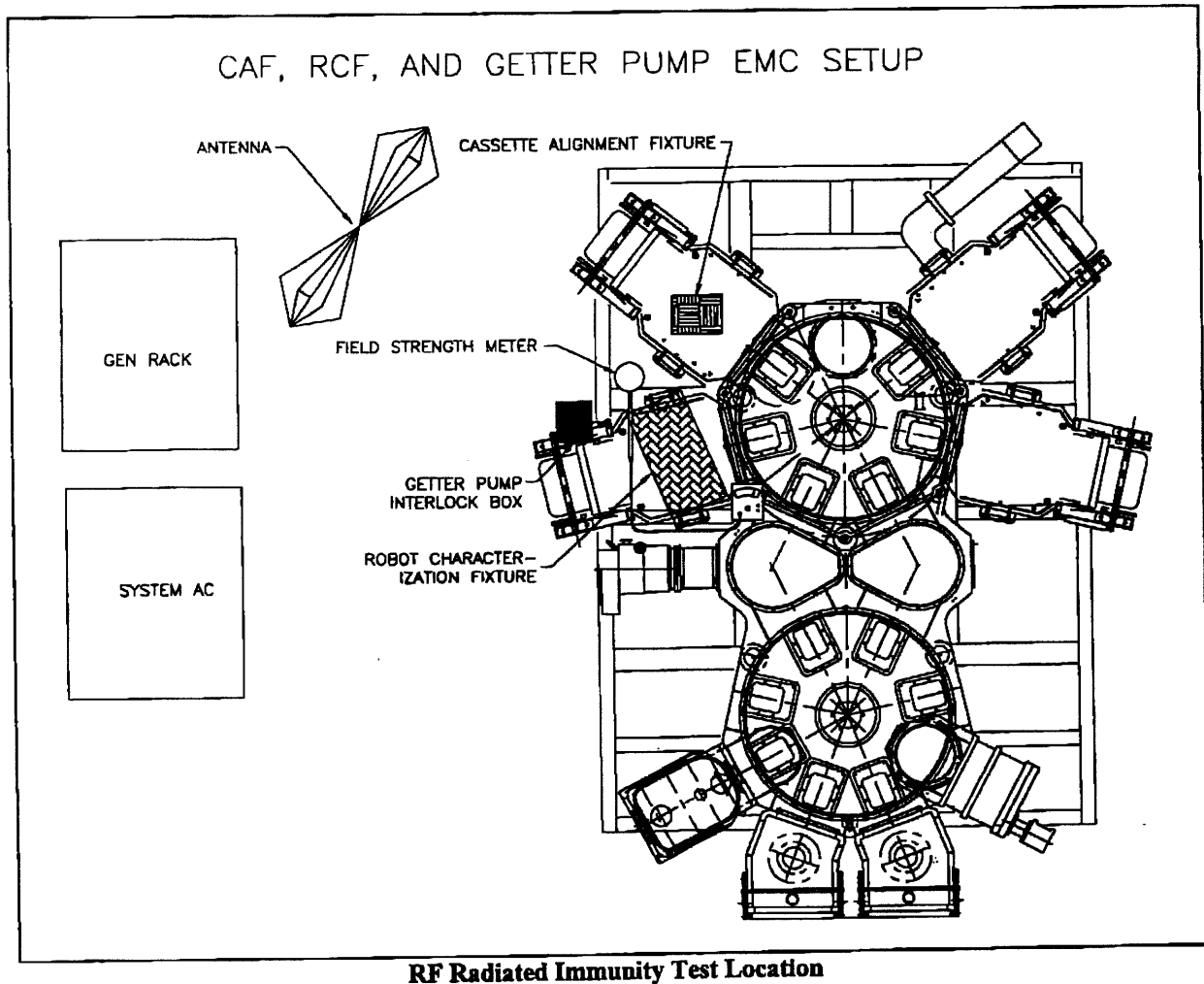
Figure 2.1 300mm System Mainframe Overhead View



Location of EMC Testing

The EMC testing was performed at the manufacturer's site at: Applied Materials, Inc., Building 25 Beta Lab, 2150 Mission College Drive, Santa Clara CA 95054.

See figure below for layout of equipment during testing.

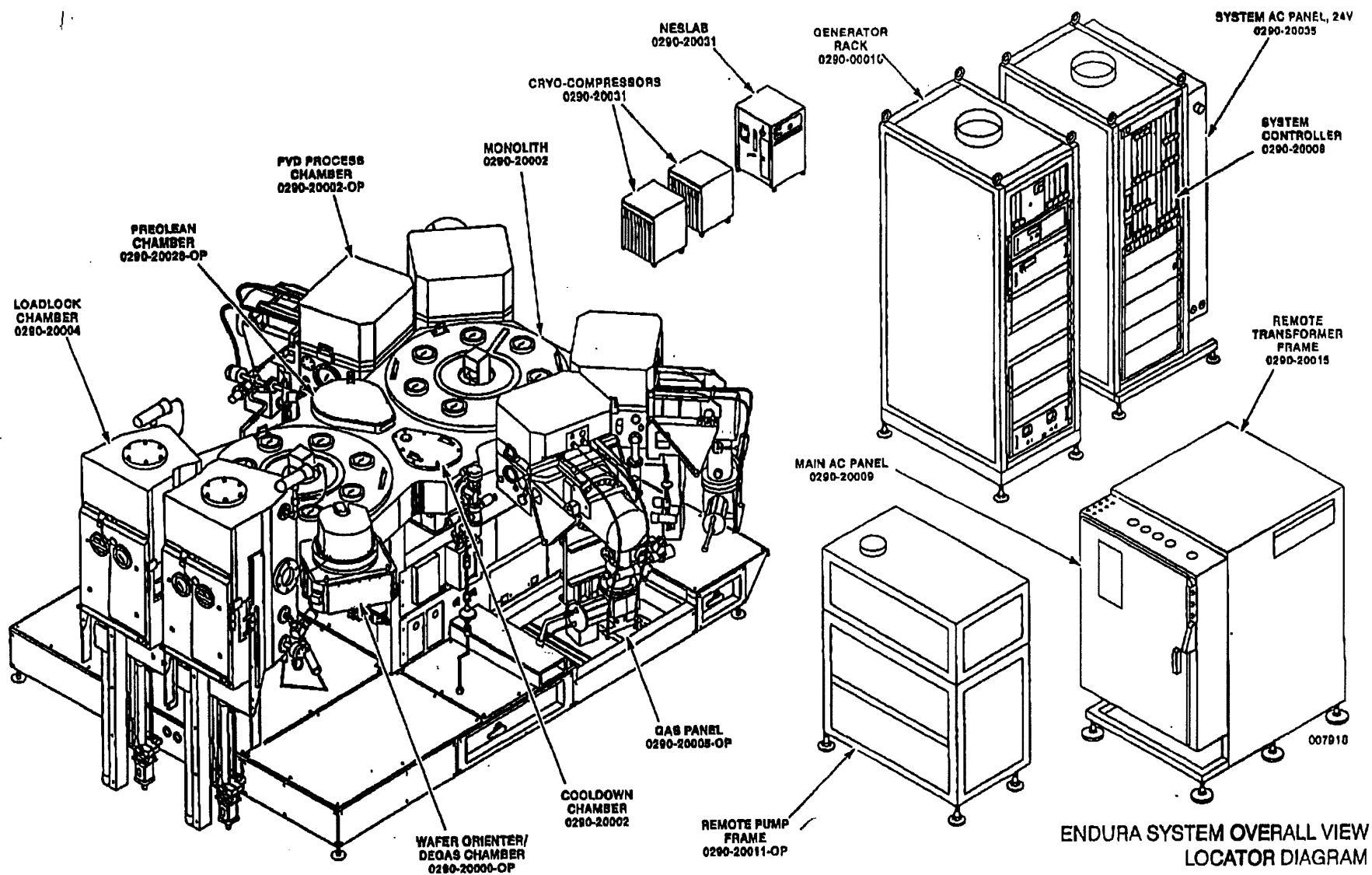


Operating Environment:

Testing was performed in a controlled environment maintained at a temperature of 23°C and a relative humidity of approximately 40%.

Appendix A, Attachment 1, Figure 1

1 GRAPHICAL LOCATOR



Appendix A, Attachment 1, Table I

Component	Height in. (cm)	Width in. (cm)	Depth in. (cm)	Weight lb. (kg)
Major Components				
Mainframe (Std) (Standard 4-chamber)	57.5 (146)*	88.5 (224)	115.0 (292)	6000 (2724)
Transformer frame (with Main AC box)	61.0 (155)*	39.0 (99)	50.0 (127)	2550 (1158)
System controller (with System AC box)	80.0 (203)*	34.0 (86.4)	39.0 (99)	1290 (586)
RF/DC Source Cabinet #1	80.0 (203)*	24.0 (61)*	36.0 (91)	1280 (581)
RF/DC Source Cabinet #2	80.0 (203)*	24.0 (61)*	36.0 (91)	1280 (581)
Cryo compressor	26.2 (66.5)*	19.5 (49.5)	21.0 (53)	500 (227)
Neslab System III Modified Heat Exchanger	36.0 (91)	23.5 (59.7)	26.0 (66)	400 (182)
Standard pump frame (with 3 pumps)	64.5 (164)*	24.0 (61)	36.0 (91)	1010 (459)
PVD chamber	12.5 (31.8)**	18.0 (45.7)	31.0 (78.7)***	500 (227)
Subcomponents				
D-25 Roughing Pump	11.8 (30)	9.8 (25)	25.0 (63)	85.0 (38.6)
WSU-151 Roots Blower	12.8 (32.5)	9.8 (25)	24.6 (62)	216.0 (98)
Cryo-Torr 8 Cryopump	7.0 (18)	8.0 (20)	22.6 (57)	45.0 (20)
TMP-360 Turbopump	8.3 (21)	7.9 (20)	7.9 (20)	20.4 (9.25)
System AC box	36.0 (91)	25.4 (64)	12.9 (33)	420 (191)
Main AC box	64.3 (163)	37.5 (95)	8.0 (20)	1165 (529)

*Does not include levelling pads or wheels.

**Measured from the top surface of the buffer chamber.

***Distance out from the process chamber interface, includes cryopump.