Table B.1

TCP 9400SE II Physical Dimensions

Equipment	Width Inch/cm	Depth inch/cm	Height inch/cm	Weight lb./kg
TCP 9400SE II	44.0/111.8	79.25/201.3	64.0/162.5	2220/999

Table B.2

TCP 9400SE II Environmental Requirements

Equipment	Temperature °C	Humidity %	Vibration Sensitivity
TCP 9400SE II	22+/-2	<50	Slight

Table B.3

TCP 9400SE II Thermal Output (BTU/hr)

Equipment	Carrier by Water	Carrier by Exhaust	Dispersed to Environment	Total Output
TCP 9400SE II	9400	8400	20,000	38,000
RF generator (two per etcher)	-	5000	3000	8000

Table B.4

TCP 9400SE II Power Requirements

Equipment	VAC	Hz	Phase	# of Cond.	Type	Power (amps) max/norm	Receptacle Required
TCP 9400SE II	208	50/60	3	5	Wye	80/63	Hardwired

Table B.5

TCP 9400SE II Coolant Requirements (Water Supply and Return)

Decription	Tube Fitting Compression	Flow	Temp °C	Pressure (PSI)	Filter µm	Type
Lower electrode (coolant-in)	1/2-inch	4 GPM	5-80	≤50	-	TCU
Lower electrode (coolant-out)	1/2-inch	4 GPM	5-80	≤50	-	TCU
Turbo cooling supply	3/8-inch	2 ± .5 LM	20 ± 10	40 ± 5	200	House
Turbo cooling return	3/8-inch	2 ± .5 LM	≤60	-	-	Non-hazard
Generator cooling supply	3/8-inch	2 GPM	20 ± 10	≤100	200	House
Generator cooling return	3/8-inch	2 GPM	-	-	-	Non-hazard

Table B.6

TCP 9400SE II Vacuum Requirements

Equipment	Connection	Pump-down time (760 to 0.1 torr)	Process Requirements		Ultimate Pressure	Pumping Volume (liters)
			Pressure	Flow @ Pressure		
Chamber	NW 40 (1.5-in tube)	≤30 sec.	≤1 torr	=250 sccm	-	22
Entrance and Exit Loadlock	NW 40 (2.0-in tube)	≤30 sec.	20 mtorr	2000 sccm	≤50 mtorr	35

Table B.7

TCP 9400SE II Exhaust Requirements

Equipment	Draw cu.ft./min (CFM)	Inches H_2O	Exhaust Connection	Hazard	Duct Size (OD) in/cm	Temp °C
Etcher, cabinet	300	0.5-0.7	House	-	4.0/10.2	Ambient
Etcher, gas panel	100	0.5-0.7	Scrubbed	Possible	4.0/10.2	Ambient
Upper RF match box	50	0.5-0.7	Scrubbed	Possible	4.0/10.2	Ambient

Table B.8

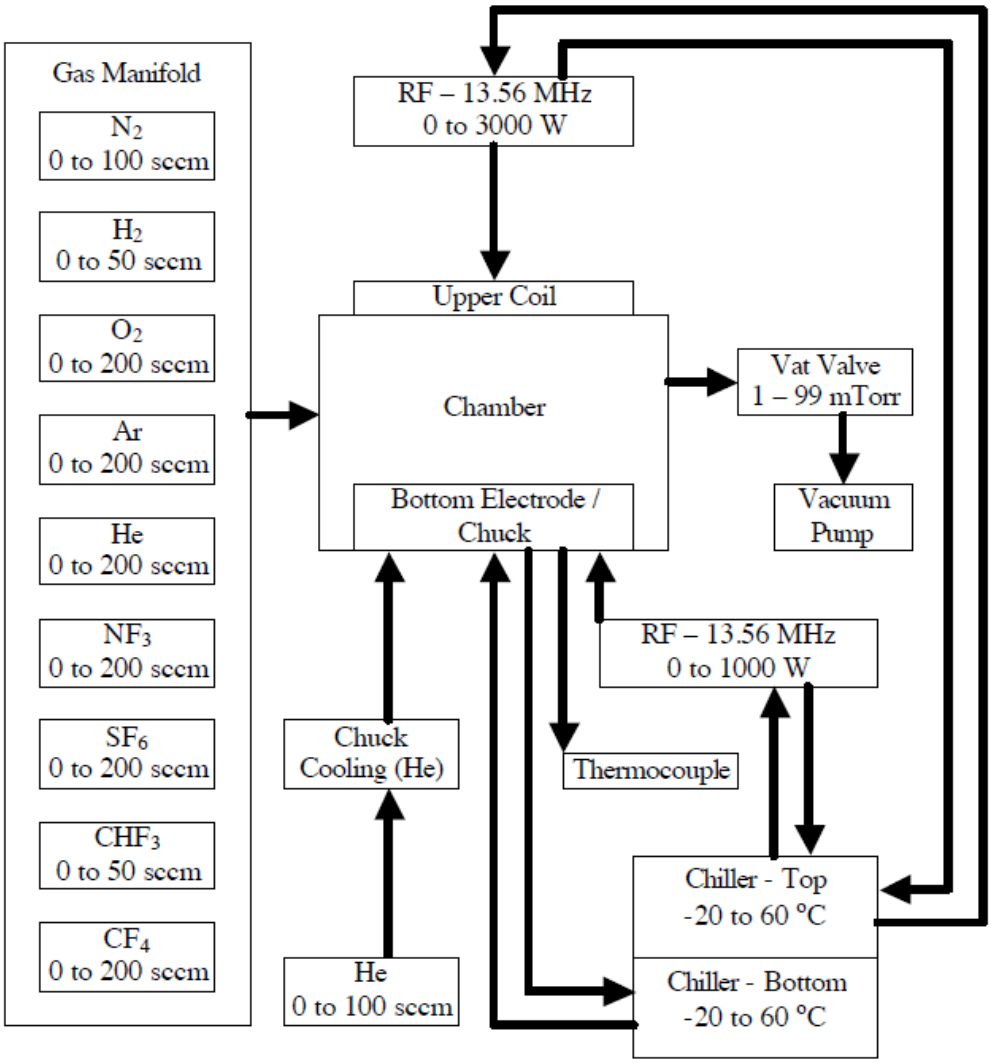
TCP 9400SE II Nitrogen Requirements

Description	Pressure psi	Pulsed Flow max. l/min. (LPM)	Type	Fitting Required size and type	Usage	Filter Required µm	Source
Etcher, Purge	20±5	8±2	Dry	1/4-inch VCR	Pulsed	0.05	House
Etcher, Vent	40±5	8±2	Dry	1/4-inch VCR	Pulsed	0.05	House
Turbo Pump, Ballast	20 to 100	5±2	Dry	1/4-inch compression	Pulsed	0.05	House
Etcher Pneumatic	90±20	10±4	Dry	3/8-inch compression	Pulsed	0.05	House or CDA

Table B.9

TCP 9400SE II Systems Common Process Gases and Requirements

Gas Name	Symbol	Purity %	Flow Rate (sccm)	Regulator Pressure (psi)	Filter (μm)	VCR size
Nitrogen	N	99.999	100	20	<0.05	.25-in
Argon	Ar	99.999	200	20	<0.05	.25-in
Helium	He	99.999	200	20	<0.05	.25-in
Helium (wafer cooling)	He	99.999	100	-15	<0.05	.25-in
Oxygen	O_2	99.995	200	20	<0.05	.25-in
Hydrogen	H_2	99.999	50	20	<0.05	.25-in
Sulfur Hexafluoride	SF_6	99.996	200	20	<0.05	.25-in
Nitrogen Trifluoride	NF_3	99.999	200	20	<0.05	.25-in
Trifluoromethane	CHF_3	99.999	50	20	<0.05	.25-in
Carbon Tetrafluoride	CF_4	99.999	200	20	<0.05	.25-in



Block Diagram of Parameters Associated with the Chamber of the TCP 9400SE II system