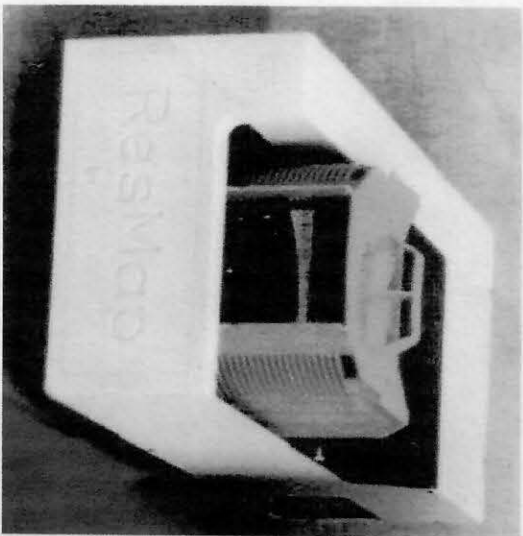




ResMap 168

The ResMap Model 168 is the most popular ResMap model for production requirements under 300mm - delivering the reliability, accuracy and repeatability that thin film engineers have to come to rely on. With its auto cassette load capability the Model 168 lowers the cost of ownership for thin film metrology for CMP, ion implant, diffusion process development and monitoring.

Wafer handling:	Auto cassette load
Wafer Size:	4"- 8" auto load; 2"- 8" manual load
Max Diameter:	8.2"
Max Square:	5.8" x 5.8"; 156mm x 156mm
Typical Measurement Time:	1 second per site
Typical Wafer Handling Time:	10 seconds each way
Typical Notch Find Time:	12 seconds with optional notch finder
Maximum Throughput:	40 wph (49 sites); 80 wph (5 sites)
Measurement Range:	2 mΩ/□ - 5 MΩ/□ (can be optimized to 1 mΩ/□)
Repeatability (1σ, typical):	≤ ±0.02% (static or Rs pack); ≤ ±0.1% (dynamic nearby spots)
Accuracy:	≤ ±0.5% using NIST traceable ResCal standards

Minimum Edge Exclusion:	1.5mm (center of probe to edge of film)
Computer System:	Pentium class; Windows XP Home (display not included)
SECS-II Option:	Available
Mapping Patterns:	Polar map (align with notch/flat, straddle, or follow flat); rectangular map (choose inside edge exclusion); line scan (diameter, radius or any point to point along diameter, minimum step 0.1mm); user defined (template)
Plots:	Contour (spacing choice, 1/3σ, fixed and auto %), 3D, line, data map, histogram, data sequence, radial and angular distributions; various modes of trend charts available
Data:	All ResMap data files may be ported to programs such as Excel® for further analysis.

CDE ResMap Probe Parameters [4pProbe.prm]

Drive Current Pref ☐ Lo ☐ Med ☒ Hi ☐ Xhi ☐ SelAt Ref 2 ☐ GVIn 10. ☒ AutoOpt

Calibration Factor 1. # of Refs 7

0: 9.9322 1: 100.498 2: 1001.72 3: 10001.5

Reference Resistors 4: 99107. 5: 926440 6: 1.20274e+007 7: 1.20274e+007

VinAmpGain [0]= 10. [1]= 100. [2]= 1000. [3]= 7126. GainOut 0.5

WhereGainSetCoord. ☒ Center ☐ 1st ☐ Manual R -5. Th -120. ☐ VinAl-

Auto Gain Control Param: YouSet 500 VinLowLmt 101 Probe Pin Spacing [mm] 1.

Data Taking Control Param YouInc 4 #Reads/5 Sample 3 Temperature Sensor Cor to 23.

2.5e-002 Deg/cet ALZero 2050

ContourSpacing

☒ Sigma ☐ % ☐ Fix 1. % Wafer Map 0.

Printer Res (DPI) X: 440 Y: 440 Ln/Pg 50 ☐ BW Only ☒

2" Wafer 50.8 15.9 3" Wafer 76.2 0. 4" Wafer 100. 32.5 5" Wafer 125. 42.5

Dia MajFlat Dia MajFlat Dia MajFlat Dia MajFlat

6" Wafer 150. 57. 8" Wafer 200. 57.

Auto Print Format ☒ Auto ☐ Long ☐ Short

Auto Probe Height ☒ No ☐ 1stSite ☐ AllSites ZStart 12. ZEnd 5.3 ZCmps 0.2 Rref# 7 ☒ PauseOnErr

HeadProbeFile

Cancel OK and Save File

DataRejectSigma > 3. #ReTryToProbe 3

ProbeRest -125.

RbtlClearCas 90.

RbtlInCas 241.5

RbtlARest -119.

RbtlInChuck 0.

ZChkRest 12.

ZChkBlade 0.

ZChkBladeWferDn -1.

ZChkSeparate 8.8

ZChkContact 5.8

ZChkContactSlow 0.

CasBladeWferDn -0.25

ZCasBladeWferUp 0.3

CASSETTE Param:

TopSlot#: 25

BottomSlot#: 1

dThFlatAngle 0.

PosDnNegRadiusPref -1

Probe Condition

Has Builtin ☐

nPress= 5

R= -67.

Th= -30.

dTh= 0.1

ZDeeper= 0.1

Lateral<.1|= 5.e-002

Has Slot Map Type

ZOffset -0.4

XPreScan -10.

XMap -30.

ZStart -1.

ZEnd 25.

SlotMapper

UseBladeWferCll ☐

UseChuckVacCll ☐

HasCasPresenceSensor ☐

Has200mmCasPrsnSensor ☐

HasWferWalkoutSensor ☐

Has Hokuyo PID ☐

StopOnEmptyCasSlot ☐

Pod Lock Type

No Podlock

Wafer Notch/Flat

Sensor Type

No WferLoc

Probe Changer Type:

No Probe Changer

WferPreGround ☐

R= -250.

Th= 0.

Z= 1.

Pod Load Z -13.75

4pRobotMotNum

2

4pRobotMotNum

153.

4p2RobotMotNum

3

Read Coord. File

Cancel

OK And Save

CDE ResMap Motor Parameters [ApMot8.prm]

Active

0 ☒

1 ☒

3 ☒

4 ☒

Motor Name

ChkElvMot

ChkRotMot

PriBArmMot

CasElvMot

DrvPulse

19 19 12 64

22 22 96 16

20 20 80 14

24 24 17 11

Mask Port

240 777

240 777

240 777

240 777

Scale Unit

215.973 mm

31.746 deg

71.991 mm

1370.25 s/h

Lower Limit

-2.2

-750.

-272.5

-1.9

Upper Limit

12.5

750.

98.

24.5

Slew Delay

1500

1500

1000

1000

Drive Delay

12000

3000

10000

11000

Home Sensor Parameters

Mask Port Dir

1 777 -1

2 777 -1

4 777 -1

8 777 -1

Home Coord.

9.9087

-14.5949

-259.143

-0.4379

Park Coord.

12.

-120.

-272.

-0.25

MxSh

50.

360.

450.

28.

MxDf

20

50

50

20

AccelT able

InitDelay 40000

FinalDelay 992

a0 0.54

a1 0.

Read Param. File

Cancel

Ok and Save

Motor Interlock Parameters

Drive Motor Parameters

#	XMin	XMax	OK Dx	#1	XMin	XMax	#2	XMin	XMax
	-110.	110.	0.2	0	-100.	7.4	-1	0.	0.
	-1000.	1000.	1.	0	-100.	7.4	3	-110.	110.
	-100.	5.2	0.5	3	-110.	110.	-1	0.	0.
	-100.	100.	0.9	3	-40.	1000.	-1	0.	0.
	-40.	1000.	0.	4	-100.	-0.5	-1	0.	0.
	0.	0.	0.	-1	0.	0.	-1	0.	0.

Crash Into Motor Parameters

OK

Cancel

Controls

GainSet/1pt Meas

Rs vs. Pressure

Vac Control
Blade Chuck
☐ Switch ☒
☐ Status ☐

Load from Cass

Set Probe Contact Z

Data(Single)

Cycle Loader

Upload to Cass

Set Home @ Zero

Data(Dual)

Exercise Motor

Pop Chuck

Cass to Robot

Chuck to Robot

Probe Condition

Probe Press

Robot to Cass

Robot to Chuck

Repeatability

Test

Parameter Files

PostProcess

4p_PostP.prm

Probe

4pProbe.prm

Motion Coord

4pMtlCrd8.prm

Motor Param

4pMot8.prm

Motor Interlock

4pMotInt.prm

WaferLocator Cmd

POD/FDUP Cmd

ProbeChanger Cmd

CassJobMap Cmd

Automation EB4/F10

Light Tower Control

Cassette

Position

-0.250s1t

Home

0.250

▼

▲

↑

↓

K

Probe To

Park All Motor

Home All Motor

ProbeArm

Position

-271.99mm

Home

12.50

▼

▲

←

→

0 P

ChuckRot

Position

-119.98deg

Home

10.00

▼

▲

←

→

R T

ChuckElev

Position

12.00mm

Home

▼

▲

1.27

▼

↑

U

↓

J

Probe Contact

↑

↓

↑

↓

Probe Separate

Other

Temp 20.6 C

Dk: 0.1

111110111

111110110

2.3

111111111

111111111

Close