

## Varian Medium Current E220HP Implanter Configuration

| Configuration Match |                                       |              |              |        |
|---------------------|---------------------------------------|--------------|--------------|--------|
| No.                 | Item                                  | tsmc request | config table | Remark |
| 1                   | <b>Vacuum system</b>                  |              |              |        |
| 1-1                 | 2 stage pump                          | Edward QDP   |              |        |
| 1-2                 | E/S rough pump                        | Edward QDP   |              |        |
| 1-3                 | Source Roughing pump                  | Edward QDP   |              |        |
| 1-4                 | Compressor                            | CTI-9600     |              |        |
| 1-5                 | He line                               | Yes          |              |        |
| 1-6                 | Target Cryo                           | CT-250F      |              |        |
| 1-7                 | Load Lock pump                        | V300HT       |              |        |
| 1-8                 | Source Pump                           | STP-1000C    |              |        |
| 1-9                 | Aperture pump                         | STP-301      |              |        |
| 1-10                | Scanner pump                          | STP-1000C    |              |        |
| 1-11                | Vacuum system                         | CCIG         |              |        |
| 1-12                | Cooling system                        | Yes          |              |        |
| 1-13                | Vacuum system centerring and clamp    |              |              |        |
| 1-14                | Source and beamline foreline TC guage | No           |              |        |
| 2                   | <b>Software</b>                       |              |              |        |
| 2-1                 | Software Version                      | V13.20       |              |        |
| 2-2                 | Dual HD                               | No           |              |        |
| 3                   | <b>Wafer handler system</b>           |              |              |        |
| 3-1                 | Wafer Size                            | 8"           |              |        |
| 3-2                 | Hand off type                         | No           |              |        |
| 3-3                 | Handler motor                         | Yes          |              |        |
| 3-4                 | Platen(E-Clamp)                       | Yes          |              |        |
| 3-5                 | Roplat head E-clamp                   | Yes          |              |        |
| 3-6                 | Roplat cable                          | Yes          |              |        |
| 3-7                 | Tilter Assy P/N                       | Yes          |              |        |
| 3-8                 | Linear motor servo controller         | Yes          |              |        |
| 3-9                 | PlatenTilter servo controller         | Yes          |              |        |
| 3-10                | Rotating Platen/ ScanFara controller  | Yes          |              |        |
| 3-11                | Ropins motor                          | Yes          |              |        |
| 3-12                | Scan field forcer                     | Yes          |              |        |
| 3-13                | Heat Exchange                         | Yes          |              |        |
| 3-14                | Orienter motor encoder                | Yes          |              |        |
| 3-15                | Orienter controller                   | Yes          |              |        |
| 3-16                | Orienter lifter controller            | Yes          |              |        |
| 3-17                | Orentor DD motor orientor stage       | Normal Type  |              |        |
| 3-18                | Wafer walk out                        | Yes          |              |        |
| 3-19                | Right elevator controller             | Yes          |              |        |
| 3-20                | Left elevator controller              | Yes          |              |        |
| 3-21                | Mapping sensor                        | Yes          |              |        |
| 3-22                | cassette/Tilt sensor                  | Normal Type  |              |        |
| 3-23                | Cassette present                      | Normal Type  |              |        |
| 3-24                | Service Monitor                       | No           |              |        |
| 3-25                | Door open sensor                      | Normal Type  |              |        |
| 3-26                | Cassette nest                         | Yes          |              |        |
| 4                   | <b>Gas supply system</b>              |              |              |        |
| 4-1                 | Gas bottle type                       | SDS          |              |        |
| 4-2                 | Gas bottle                            | 3            |              |        |

|           |                                        |     |  |  |
|-----------|----------------------------------------|-----|--|--|
| 4-3       | Gas box type                           | HP  |  |  |
| 4-4       | Gasline                                | Yes |  |  |
| <b>5</b>  | <b>Beam generation/ source</b>         |     |  |  |
| 5-1       | Ion Source                             | Yes |  |  |
| 5-2       | Vaporizer                              | No  |  |  |
| 5-3       | Arc PS                                 | Yes |  |  |
| 5-4       | Filament PS                            | Yes |  |  |
| 5-5       | Extraction PS                          | Yes |  |  |
| 5-6       | Extraction suppression PS              | Yes |  |  |
| 5-7       | AMU power supply                       | Yes |  |  |
| 5-8       | Lens power supply                      | Yes |  |  |
| 5-9       | Source Bushing P/N                     | Yes |  |  |
| 5-10      | 2 Step Reducer                         | Yes |  |  |
| <b>6</b>  | <b>Beam generation/ Beam-line</b>      |     |  |  |
| 6-1       | Trek amplifier                         | Yes |  |  |
| 6-2       | Acceleration PS                        | Yes |  |  |
| 6-3       | Acceleration suppression PS            | Yes |  |  |
| 6-4       | Acceleration column                    | Yes |  |  |
| 6-5       | Mirror PS                              | No  |  |  |
| 6-6       | Decel P.S.                             | Yes |  |  |
| 6-7       | Accel/Decel switch hardware            | No  |  |  |
| 6-8       | Scan generator PCB                     | Yes |  |  |
| 6-9       | Scan generator controller              | Yes |  |  |
| <b>7</b>  | <b>beam measurement and scan check</b> |     |  |  |
| 7-1       | Uniformity controller                  | Yes |  |  |
| 7-2       | Dose integrator control                | Yes |  |  |
| 7-3       | Beam purity check                      | Yes |  |  |
| 7-4       | Faraday                                | Yes |  |  |
| <b>8</b>  | <b>Main power</b>                      |     |  |  |
| 8-1       | 50A CVCF                               | No  |  |  |
| 8-2       | 80KVA UPS                              | No  |  |  |
| <b>9</b>  | <b>Quality kit</b>                     |     |  |  |
| 9-1       | Metal reduction kit                    | Yes |  |  |
| 9-2       | Hall Probe                             | No  |  |  |
| 9-3       | Energy probe                           | Yes |  |  |
| 9-4       | Camera                                 | Yes |  |  |
| <b>10</b> | <b>Automation</b>                      |     |  |  |
| 10-1      | Host                                   | Y   |  |  |
| <b>11</b> | <b>Manpower</b>                        |     |  |  |
| 11-1      | Tool installation                      |     |  |  |