



PTW ASIA PTE LTD

| ASM International A412 Doped Poly Vertical LPCVD Furnace | |
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| Manufacturer | ASM |
| Model | A412 |
| Product Description | Vertical LPCVD Furnace |
| Year of Manufacture | TBD |
| Serial Number | 30265 |
| Software version | 6.80C |
| Heater Type | MRL |
| Loader configuration, 4 or 5 loader - 4 | |
| Quartzware Configuration | |
| Outer tube | Quartz |
| Inner tube | Quartz |
| Boat | SiC boat |
| Boat fix ring/Cap quartz | Quartz |
| Adiabatic plate quantity | 6 |
| Back N2, Qty | N/A |
| BCI3, Qty & Type (L-type, Straight, Diffuser, Shower) | N/A |
| SiH4, Qty & Type (L-type, Straight, Diffuser, Shower) | Multihole (1) U/D/L |
| O2, Qty & Type (L-type, Straight, Diffuser, Shower) | Multihole (1) E |
| PH3, Qty & Type (L-type, Straight, Diffuser, Shower) | Multihole (1) U/D/L |
| ClF3, Qty & Type (L-type, Straight, Diffuser, Shower) | N/A |
| Vacuum Line configuration | |
| Design | original config |
| 10 Torr Baratron model | MKS |
| 10 Torr Baratron full scale setting | 10(F/S) |
| 1000 Torr Baratron model | MKS |
| 1000 Torr Baratron full scale setting | 1000(F/S) |

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| ATM sensor model | MKS |
| Vent Valve 1 (VV1) normally closed/open,plunger, diaphragm | Normally open,plunger Check valve model |
| Check valve model | Fujikin |
| Check valve resistance pressure | 2.26 Kpa |
| Mainvalve type, Kitz or CKD | MKS |
| Slow valve, incorporated with mainvalve or separate(AV72,AV77) | Separate (PV003) |
| Slow valve orifice size | 2.0mm (PV003) |
| Pressure range of vacuum gauge(Inficon Pirani gauge) | 10T |
| Control Table | |
| Alarm Watch/Table setting | |
| Temp (Low Alarm Limit(deg)/High Alarm Limit(deg)/Check Time(min)) | |
| U | 0.7/0.7/30S |
| CU | 0.7/0.7/30S |
| C | 0.7/0.7/30S |
| CL | 0.7/0.7/30S |
| L | 0.7/0.7/30S |
| Pressure (Low Alarm Limit(Torr)/High Alarm Limit(Torr)/Check Time(S)) | 0.02/0.02/30S |
| MFC (Low Alarm Limit(%)/High Alarm Limit(%)/Check Time(S)) | |
| MFC1 | N2: 2%/2%/10sec |
| MFC2 | N2: 2%/2%/10sec |
| MFC3 | N2: 2%/2%/10sec |
| MFC4 | N2: 2%/2%/10sec |
| MFC5 | SiH4: 2%/2%/10sec |
| MFC6 | SiH4: 2%/2%/10sec |
| MFC7 | SiH4: 2%/2%/10sec |
| MFC8 | 1%O2/Ar: 1%/1%/10sec |
| MFC9 | 5%PH3/N2: 2%/2%/10sec |
| MFC10 | 5%PH3/N2: 2%/2%/10sec |
| MFC11 | 5%PH3/N2: 2%/2%/10sec |
| MFC12 | ClF3: 10%/10%/10sec |
| MFC13 | N/A |
| MFC14 | N/A |
| MFC15 | N/A |
| MFC16 | N/A |
| MFC17 | N/A |
| MFC18 | N/A |

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| MFC19 | N/A |
| MFC20 | N/A |
| MFC21 | N/A |
| APC Valve Action (High (%), Low (%), Time(s)) | N/A |
| Transfer Table | |
| Wafer Charge command (charge/discharge) | |
| Side Dummy | Upper:5 / Lower:10 |
| Product | 100 |
| Monitor | 5 |
| Product & Monitor | 105 |
| Time | |
| 2nd charge time(min) | 0 |
| wafer cool time(min) | 20min |
| Leak Rate Table | |
| Base pressure low Limit(Torr) | 1% |
| Base pressure High Limit(Torr) | 1% |
| Leak Check check time(s) | 60s |
| Leak Check delay time(s) | N/A |
| Leak limit(Torr) | 1% |
| Retry Limit(count) | 2 |
| Loadlock Settings | |
| Loadlock configuration | |
| O2 analyser model, NGK or Toray | PBI3.1 / PBI4.0 |
| Process | |
| L/A Keep Value (ppm) | 10ppm |
| N2 Flow max (L) | 1300L |
| N2 Flow min (L) | 300L |
| Check Stability Time(s) | N/A |
| Ready | |
| L/A Keep Value (ppm) | 10ppm |
| N2 Flow max (L) | 1300L |
| N2 Flow min (L) | 300L |
| Check Stability Time(s) | N/A |
| Idle | |
| L/A Keep Value (ppm) | 10ppm |
| N2 Flow max (L) | 1300L |
| N2 Flow min (L) | 300L |
| Check Stability Time(s) | N/A |
| L/A O2 check time (min) | N/A |
| L/A O2 limit (ppm) | 10ppm |

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| POD opener O2 limit (ppm) | N/A |
| POD O2 check time(min) | N/A |
| POD check retry | N/A |
| Missing/Damaged Parts List: None report, please inspect tool to reconfirm | |

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All Equipment is offered subject to prior sale. This item will be quoted based upon specific terms and configuration required. Interested parties may contact PTW Asia Pte Ltd at:

ask@ptwsingapore.com

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