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26/8/2026

Multiplex AOE Chamber Twelve Monthly Maintenance Schedule

Duration 5 days | System: _____ | Performed Year: _____

No	Task	Part No	Qty
	Note :- Before actioning this PM please ensure you have the following data:- Etch rate _____ Uniformity ____<5%_____ Turbo speed/current in standby Typical pk to pk and DC bias values running the process test B11 Pk to Pk _____ DC bias _____		
	Visual Checks and Replacement Parts		
A1	Visually check for fluid, pneumatic, water or DI Water leaks - rectify leaks.		
A2	Visually check for faulty indicators - replace faulty items.		
A3	Visually check for obvious signs of damage.		
A4	Perform a Chamber leak -up rate check Leak-up achieved - Should be better than 0.2mTorr.min-1 after 2 hrs pumping.		
A5	Perform a Helium leak -up rate check (<10mTorr/Min).		
A6	Isolate all hazardous gases to customer wall valve and pump out.		
A7	Carry out chamber O clean process before breaking vacuum		
A8	Check all chamber ceramics for signs of damage, replace if necessary and perform a mechanical clean.		
A9a	Upper 375 Chamber Assembly (AOE Source) Replace 'O'-ring(s)	E06987 E00025 E06719 E06063 E06721 E00278 E01422 206993	1 1 2 1 2 1 1 1
A9b	Lower Electrode Assembly Helium Manifold o rings	E06874 E06873 E00276 E06721 E01410 E01482 E06872 E01483 E06016 E06015 E06874	2 2 1 1 1 1 2 2 2 1 1

No	Task	Part No	Qty
A10	Change Optical Blank Soda lime disc O Ring	216931 110866E02 E00017	1 1 1
A11	Change the lip seal if necessary	Size Dependant	1
A12	VAT Hivac valves Ref to VAT Manual Replace 'O'- Ring Seals	E08031 E01484	1
A13	MKS APC Valve Ref to MKS Manual Replace O- Ring Seals		
A14	Clean pneumatic filter and set pressure to 80 to 90 PSI (5.4 to 6.0 bar)		
A15	Clean/replace chiller filter (if fitted) - check coolant flow. Check D.I. water cartridge life.		
A16	Check process gas supply pressures (Regulated at 5 to 20 PSI - 0.3 to 1.3 bar)		
A17	Check water supply is at specified pressure/flow. Note in line gauge required		
A18	Ensure all chamber Body Heaters are operational check with a Temp Probe Note values :-		
A19	Check operation of Bypass pumping and Autovent , as procedure		
A20	Perform a leak -up rate check after a minimum of 2 hours pumping. Leak-up achieved - Should be better than 0.2mTorr.min-1 (Compare with results in item A4) LUR ----- 0.11 mT/min		
A21	Check gas line leak up rates LUR - 0.4 mT/min		
A22	Perform a Helium leak -up rate check. (<10mTorr/Min) (Compare with item A5 but after calibration see B10) He LUR ----- 4 mT/min		
A23	Perform a pumping speed check. Pressure achieved without gas Pressure achieved 100 Sccm of gas (preferably N2) (Test figure's to be confirmed for individual system)		
A24	Depress the manual fault actuation switches in turn to simulate actual fault condition of the Pump Interface Panel. Reset system and test next switch. (If fitted)		
A25	Check other gas supplies are at specified pressures.		
A26	Check PC fan rotation		
A27	Check Coil enclosure fan operation		
A29	Inspect isolation valves i.e Foreline isolation valve, Bypass pumping valve, replace part or o rings if necessary		

No	Task	Part No	Qty
A30	Replace Transfer Gate o rings Non Mesc Mesc i.e VAT valve	E08023 E06721 D-02010-CA24 E01485	1 1 1 1
	Calibrations (Note:- with all calibrations please place a calibration label with date and initials on all items below indicating calibration values if applicable)		
B1	With a HV probe check the pk to pk calibration on the antenna of the coil An oscilloscope will be required . 1400 Volts indicated both sides of the antenna		
B2	Test operation of Anti condensation purge board and solenoid		
B3	Turbo Purge (Version 2) Mag 2000/900		
B4	Pfieffer TurboTest		
B5	Loadlock Pump Purge Panel		
B6	Loadlock Handling setup also to chamber Mk4 Loadlock procedure Non Mesc loadlock ensure chamber / loadlock flag operation plus handling setup.		
B7	DR4 Setup (If electrostatic) Also ensure that the "Dechuck.set " receipe parameters are correct Check clamp declamp operation.		
B8	APC Setup VAT STS MKS		
B9	Helium Backside Cooling (HBC) Electrostatic chuck Weighted Clamp HBC2		
B10	Check Both RF generators to a dummy load with a Birdwattmeter in line Coil generator ____ (list model and s/n) Platen Generator ____ (list model and s/n) ____ Run basic RF tests and confirm correct operation of matching units and RF power supplies. Check for correct indication of RF power levels , DC Bias , Peak Readings and load and Tune cap positions Basic Test 600W Coil (auto match) start pos 50%L. 50%T 30w Platen (auto match) start pos 50%L 70%T 20sccm's N2 5mT(auto apc) 10Torr HBC / 20Degrees Platen temp		
B11	Check Magnet strength in the source with a Gauss meter		
B12	Air Booster Setup		

No	Task	Part No	Qty
B13	Check the manometer calibration against the Base Pressure measurement Gauge		
B14	Configure SMC Pressure switch		
B15	Set vent regulator in gas box		
B16	Test auto-vent procedure by venting chamber to atmosphere		
	Interlock Checks		
C1	Check that the following + 24v I/Ls disable the flow of gas and indicate a fault of the same description on the VDU. Overpressure switch Compressed Air Hi Vac Transfer Gate open N2 Purge		
C2	Overpressure Trip (Software) Select a process which runs ~100 Sccm of gas (preferably N) 2 Close APC so that pressure rises above trip level (normally ~90mT). Check gas switches off.		
C3	Check switched +24V: N Flow trip (purge panel). 2 Select a process using any gas. Switch off N to purge panel. 2 Check the gas switches off.		
C4	Check all EMO'S disable tool, that includes loadlock and IQDP80 EMO.		
C5	Check RF interlocks work correctly and are displayed on the interlock display module, please tick alongside each interlock:- DI water RF Enclosure HBC Gate Valve RF Top MU Clamp up RF Bottom MU Coolant 1 Coolant 2		
C6	Check side panel interlocks (Non Mesc) power down system.		
	Ancillary Equipment		
D1	Test Operation of Chillers , Use appropriate procedure:- General Huber Chiller Setup procedure Huber T326 specific Setup procedure Chiller Settings Table (This table will indicate temperature ranges , please confirm the system is being run with the correct fluid)		
	Process Standard Tests		

MULTIPLEX AOE PARTS LIST NEEDED FOR 12 MONTH MAINTENANCE PROCEDURE

E06987	1	O RING	CTP 53
E00025	1	O RING	CTP 25
E06719	2	O RING	CTP 22
E06063	1	O RING	CTP 19
E06721	2	O RING	CTP 23
E00278	1	O RING	CTP 06
E01422	1	O RING	CTP 09
206993	1	O RING	CTP 35
E06874	3	O RING	CTP 26
E06873	2	O RING	CTP 25
E00276	1	O RING	CTP 05
E06721	1	O RING	CTP 23
E01410	1	O RING	CTP 08
E01482	1	O RING	CTP 10
E06872	2	O RING	CTP 24
E01483	2	O RING	CTP 11
E06016	2	O RING	CTP 18
E06015	1	O RING	CTP 17
216931	1	OPITCAL BLANK	CTP 01
110866E02	1	SODA LIME DISC	CTP 38
E00017	1	O RING	CTP 03
Size Dependant	1	LIP SEAL	
E08023	1	O RING	CTP 157
E06721	1	O RING	CTP23
D-02010-CA24	1	VAT TRANSFER GATE SEAL	CTP 41
E01485	1	O RING	CTP68
E08031	1	O RING	CTP 31
E01484	1	O RING	CTP 153