



GENERAL MAINTENANCE OF MV3

Helps in reducing your maintenance cost and preventing unplanned outages

DO YOU HAVE MV3 AND THE BELOW QUESTIONS?



Is it your goal to reduce your OPEX and unexpected breakdowns?



Do you wish to increase the performance of your MV3 and lifetime by understanding its status?



Are you looking for replacement parts and optimized inventory?

Then, Plan your maintenance and choose it from Power Conversion’s structured and comprehensive maintenance programs.

AVAILABLE MAINTENANCE PROGRAM PACKAGES

PERFORMANCE MAINTENANCE

Annual which includes,

- Visual inspection
- Performance checks
- Basic maintenance tasks

EXTENDED PERFORMANCE MAINTENANCE

Every 3 years which includes,

- Visual inspection
- Performance checks
- Extended maintenance activities

MAJOR MAINTENANCE

Every 5 years which includes,

- Advanced visual inspections & performance checks
- First systematic replacement of parts based on ageing.

LIFECYCLE MAINTENANCE

Every 10 years which includes,

- Major maintenance extended by systematic lifecycle replacement of parts & components from cooling & power cubicles.



OUR MAINTENANCE PROCESS

Tailored to the needs of your plant – step by step

HOW DO WE DO IT?



1

Performing and recording preventive actions



2

Identifying safety critical and operational critical issues



3

Submitting reports with appropriate recommendations

Please refer the maintenance recommendations for MV3 from 125+ years old industry expert on the following pages

Step 1



- Drive inspection and health checks to assess the present condition of your drives.
- Air/water cooling system maintenance.
- Process cabinets & controller equipment maintenance.

Step 2



- Operational & safety critical issues identified will be brought to your attention with resolution.
- Prioritized dispatch of the required parts to attend the issue on safety critical scenarios.

Step 3



- Comprehensive report with recommendations for improved safety and better performance of your critical power equipment.



MAINTENANCE CONFIGURATIONS 1/3

CONVERTER	EVERY					
Operation description	1Y	3Y	5Y	10Y	15Y	20Y
Record convertor serial number	x					
Record serial numbers of DELTA Modules, controller, SMPS and MVM	x					
Event logs & History retrieval						
Record firmware version, and check if updates are available	x					
General maintenance activities on all cubicles						
Visual check of cubicle for any debris	x					
Visual check of cubicle for any signs of corrosion	x					
Visual check of cubicle for any signs of coolant leaks	x					
Check operation of interlock system (if fitted)	x					
Clean air filters and change filters if required	x					
Check fan operation (current measurement, insulation, noise, rotation)	x					
Replace cubicle fans			x	x	x	x
Check earth bonding using appropriate equipment	x					
Check electrical connections for tightness and signs of overheating	x					
Check heater operation	x					
Check smoke detector operation	x					
Check liquid cooled reactor for signs of leaks	x					
Renew coolant	x					
Change water cooling hoses (Parker type)					x	
Visual check of coolant hoses for signs of degradation/damage	x					
Control cubicle						
Check auxiliary power supply (Voltage measurement)	x					
Replace CPU battery (PECe Controller only)		x	x	x	x	x
Check security and connection tightness of contactors, relays etc.	x					
Replace power supplies (24VDC)			x	x	x	x
Power cubicle						
Check electrical connections to the DELTA Module(s) for tightness and signs of overheating	x					
Check coolant connections to the DELTA Module(s) for signs of leaks	x					



MAINTENANCE CONFIGURATIONS ^{2/3}

CONVERTER	EVERY					
	1Y	3Y	5Y	10Y	15Y	20Y
Operation description						
Check DELTA Module(s) vent valves (if fitted) for signs of leaks	x					
Check vent hose for signs of damaged (discoloration, cracking)	x					
Check cubicle and reactor PT100 senses for continuity and operation	x					
Reform DELTA Module(s) (if been in storage for more than 3 years)		x				
Incomer						
Check electrical connections to the ACB for tightness and signs of overheating	x					
ACB maintenance checks as per manufactures instructions, and always after a short circuit event	x					
Check ACB, MCCB trip units operate correctly	x					
Check grid connections for tightness and signs of overheating	x					
Filter						
Check electrical connections for tightness and signs of overheating	x					
Check electical connections of capacitors for tightness and signs of overheating	x					
Check capacitors for signs of leakage	x					
Check cubicle and reactor PT100 senses for continuity and operation	x					
Check reactors for signs of overheating. Note there is likely to be some discoloration	x					





MAINTENANCE CONFIGURATIONS 3/3

COOLING SECTION*	EVERY					
Operation description	1Y	3Y	5Y	10Y	15Y	20Y
Record water cooling unit serial number	x					
Cooling unit (CCU)						
Check water connections are tight and not leaking	x					
Check sensor values (temperature, pressure, flow, conductivity)	x					
Clean water filter	x					
Renew coolant (dispose of coolant according to manufacturers instructions)	x					
Check leakage detector	x					
Pumps functional check: current measurement, isolation, no noise		x				
Water cooling pump (1st and 2nd): Test of pump swap when low flow is detected. If redundant pump option		x	x	x	x	
Record pump(s) operating time	x					
Check the operation of the 3-way valve	x					
Check the settings of the three-way valve			x			
Expansion tank pressure control (inflate if required)	x					
Change expansion tank membrane			x			
Check solenoid valve control (if present in the cooling unit)			x			
Change the solenoid valve (if present in the cooling unit)			x			
Change sensors					x	
*applicable for water cooled drives						

Note : As indicated in the above table, the appropriate support will be provided in 3Y, 5Y, 10Y, 15Y & 20Y in addition to the annual maintenance plan.





ADDITIONAL SUPPORT

We also recommend the following services for your benefits



Critical spare parts

List of critical spares will be suggested

- To manage your unexpected breakdowns efficiently.
- To optimize your inventory for spare parts.



Replacement parts*

A form-fit-function replacement suggestion

- Based on the performance of existing components of MV3 drives and lifecycle status replacement parts will be suggested.



Proactive performance enhancement packages**

- To stick with state-of-the-art protection and safety technologies
- To enhance the efficiency, performance and life-span

* Power Conversion offers a lifecycle management including 'last time buy' notifications to mitigate critical impacts and obsolescence risk.

** Power Conversion offers various smaller upgrades as a part of our proactive maintenance.

Contact us : services.powerconversion@ge.com