







<p>Date: 26.02.2021 Authorized user: M. Wolff Work area: Deposition Room, 00.19 Workplace: Centech-I, Cleanroom</p>	<h1>Safety Instruction</h1> <h2>Aja Orion Magnetron Sputtering System</h2>	<p>WWU Münster Nanofabrication Facility (MNF) Center for NanoTechnology (CeNTech) Heisenbergstraße 11 48149 Münster</p>
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Range of Application		
	<p>Working with vacuum/high-vacuum with high-energetic plasma and deposition of metals (rare earths) and insulators via magnetron sputtering operating under high voltage</p>	
Hazard for People and the environment		
	<ul style="list-style-type: none"> • Risk of shock due to high voltage electrical discharge • Hazard due to ionized radiation • Hazard due to electron radiation • Hazard of explosion of high-pressure lines (cryopump + compressed air) • Hazard of blinding due to plasma radiation • Danger of implosion by improper handling or using unsuitable materials, parts can flying around • Risk of flooding due to leakage in the cooling water system • Risk of burn by hot surfaces • Risk of injury by moving components • Pinch point hazard by load lock hatch, main chamber, vacuum valves, gas valves, and PC-workstation 	
Safety Measures and Rules of Behavior		
	<ul style="list-style-type: none"> • The instrument is to be used only by designated Persons • No improper handling of switches, buttons etc. • Wear protective eye wear against plasma radiation • Powering and shutting down the machine must only be done by instructed staff • Constantly observe nitrogen, argon and pressured air pressure indicators • The instrument is cooled with a chiller • Do not damage service connections • People with pacemaker or metal implants must keep a sufficient distance to the machine • Wear protective gear (Protection garment and gloves) • Follow the instruction manual of the manufacturer • Point out dangers to other users 	
Action in Failure		
	<ul style="list-style-type: none"> • Shut down machine and vacuum pump, only in case of fire push the emergency stop button • Report defects and damage to the instrument manager • Only experts should eliminate malfunctions 	
Action in Accident, First Aid		
	<ul style="list-style-type: none"> • -Protect yourself and remove injured people out of the danger area, react quickly, involve primary responsible person, • In case of stronger injury call emergency services (112) • If important, switch off the instrument by the emergency stop button at the machine • Firefighting only with CO₂ fire extinguisher • Report accident 	

	Maintenance and Disposal	
	<ul style="list-style-type: none"> • Instrument must be repaired only by authorized persons • Dispose used material and hazardous scraps in an environmentally sound manner 	
	Consequences in Nonobservance	
	Damage to the instrument, malfunction, costly damage, damage of people	