

# AJA International ATC Orion-5 3 stage confocal RF Magnetron Sputtering System (Quick Start Guide)

- Turn on the cooling water, compressed air, N<sub>2</sub>, and Argon gas
- Main power on → Vacuum off (in case of vacuum's running) → N<sub>2</sub> purging (gate valve left open) → open the lid (when in atmospheric pressure) → take off a target (if mounted)
- Mount a target
- Mount a substrate
- Close the lid (little pressure on the lid or with the latch and turn on the vacuum
- Shut off N<sub>2</sub>
- Gate valve close until 25~30mTorr after turning on Ar
- Leave N<sub>2</sub> purging for 10 sec (removing chemicals)

## Pre-burn

- Making 5mTorr with the gate valve after setting the initial power (50W)
- Tune the reflective power to zero after showing up the voltage (This voltage bias can remove oxides)
- RF power ramping up to a set power by 10 W increment (in case of dielectric Targets)

## Sputtering

- open the target window and substrate rotation (if necessary) → running for a desired time
- **CAUTION:** Gate Valve should be all the way back to prevent bending when it is not used in sputtering.