Power-up

1. Safety units ON
2. Backing pumps ON
3. Main PC START
4. TMPs STOPPED
5. Inlet valve CLOSED
6. HV interlock ON

Vacuum < 5 mbar?
- Yes: TMPs RUNNING
- No: Inlet valve CLOSED

Inlet valve CLOSED:
- Yes: HV interlock ON
- No: HV interlock OFF

HV interlock ON:
- Yes: Low power mode?
- No: Continuous pressure monitoring and control

Low power mode?
- Yes: Windows programs running
- No: Inlet valve OPEN

Inlet valve OPEN:
- Yes: Vacuum < 3x10^-6 mbar?
- No: Barrel pressure > 800 mbar?

Vacuum < 3x10^-6 mbar?
- Yes: HV interlock OFF
- No: Particle detection ON

Barrel pressure > 800 mbar?
- Yes: All units ready?
- No: Sampling activation after take-off

Data acquisition

Pre-flight energy saving

Windows programs running:
- Low power mode ON

Overheat check active?
- Yes: Overheat detected?
- No: Low power mode OFF

Take-off timer active?
- Yes: Altitude check active?
- No: Sampling activation after take-off

Altitude check active?
- Yes: Safe altitude reached?
- No: Sampling activation after take-off

Safe altitude reached?
- Yes: Sampling activation after take-off
- No: Sampling activation after take-off

Sampling activation after take-off:
- No: Sampling activation after take-off

Overheat detected?
- Yes: Overheat check active?
- No: Sampling activation after take-off

Overheat check active?
- Yes: Low power mode OFF
- No: Sampling activation after take-off

Low power mode OFF:
- Yes: Sampling activation after take-off
- No: Sampling activation after take-off

Sampling activation after take-off:
- No: Sampling activation after take-off

Data acquisition