

Automated Flow Chemisorption Analyzer request form for Internal User

Instrument Name: Chemisorption analyser (Anton Paar) Model: - ChemBET Pulsar

Instructions:

1. **Sample Form:** Powder (~100 mg).
 2. **Degassing Temperature Range:** From Room Temperature to 300 °C. The analysis cannot be carried out if degassing and analysis conditions are not specified.
 3. TGA data is required
 4. **Prohibited Samples:** Explosive, poisonous samples, or those releasing toxic/obnoxious gases/fumes upon heating cannot be analysed.
 5. The user must ensure that samples will not melt or change during degassing.
 6. **Repeat Analysis:** A new form must be filled out for each repeat analysis, and the sample will be analysed as per the queue.
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Personal Information

1. **Name of the User:** _____
2. **Roll No:** _____ **Mobile Number:** _____
3. **User Email ID:** _____
4. **Department / Institution:** _____
5. **Name of Guide:** _____ **Lab Intercom No:** _____
6. **Guide Email ID:** _____
9. **Nature of Project (Select one):**
[1] PhD [2] Dual Degree [3] BTech [4] MTech [5] Consultancy
[6] Sponsored Project [7] Other: _____
10. **Number of Samples (Max. 1 at a time):** _____
11. **Sample Code:** _____
12. **Degassing Temperature.** _____
13. **Degassing Duration (in hours):** _____
14. **Type of Analysis required: Select any one as per requirement.**
 - a) TPR with reducing gas – H₂+He (10+90)
 - b) TPO with oxidising gas – O₂+ He (10+90)
 - c) TPD with desorption gas – H₂ /Pure CO₂ / Pure NH₃
14. **Additional Information (If any):** _____

Note: Final data will be shared in ASCII and PDF format to your email.

TPR/TPO Analysis flow chart (User has to fill out all required information)

	Parameter	Recommended Setting
1	Degassing Temp	
2	Degassing Atmosphere	Inert gas
3	Degassing Time	
4	Degassing Pressure	Atmospheric
5	TPR/Reducing Gas	
6	TPR Temp Range	
7	Ramp Rate	20 °C/min
8	Flow Rate	~30–50 mL/min (total)

TPD Analysis flow chart (User has to fill out all required information)

	Parameter	Recommended Setting
1	Degassing Temp	
2	Degassing Atmosphere	Inert gas (He or N ₂)
3	Degassing Time	
4	Degassing Pressure	Atmospheric
5	TPD/adsorptive gas	
6	Adsorption Temp	
7	Adsorption Time	
8	TPD Temp Range	
9	Ramp Rate	20 °C/min
10	Flow Rate	~30–50 mL/min (He or N ₂)

Pulse Titration (User has to fill out all required information)

	Parameter	Recommended Setting
1	Name of Adsorbent Metal	
2	Metal Loading (in %)	
3	Reducing Gas / oxidising gas	H2 /
4	Titration Gas	
5	Degassing Temp	
6	Degassing Atmosphere	Inert gas (He or N ₂)
7	Degassing Time	
8	Degassing Pressure	Atmospheric
9	Time for Adsorptive gas flow over sample	In minutes-
9	Temperature at which Adsorptive gas to be flow over sample	
10	Adsorption Time	
11	Pulse titration Temp Range	
12	Injection volume	500 Micro litre
13	Number of injections	