About us

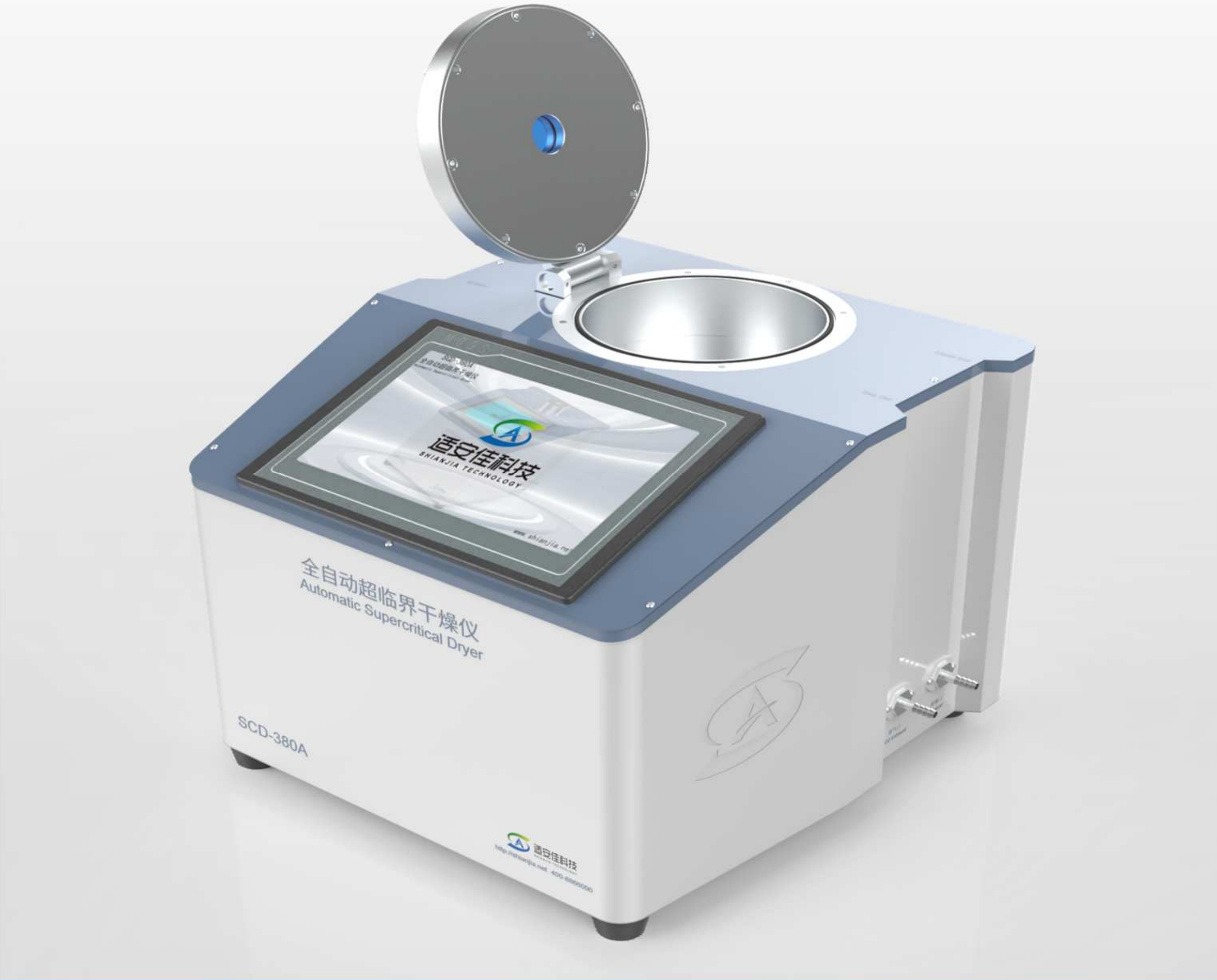
适宜安全佳品

Our Company's Name: ShiAnJia

- **Shi** (Fitness) ---- Design **Fits** your sample's need
- **An** (Safety) ---- Products are manufactured with high **Safety** Standards
- **Jia** (Excellence) ---- Resulted in **Excellent** products

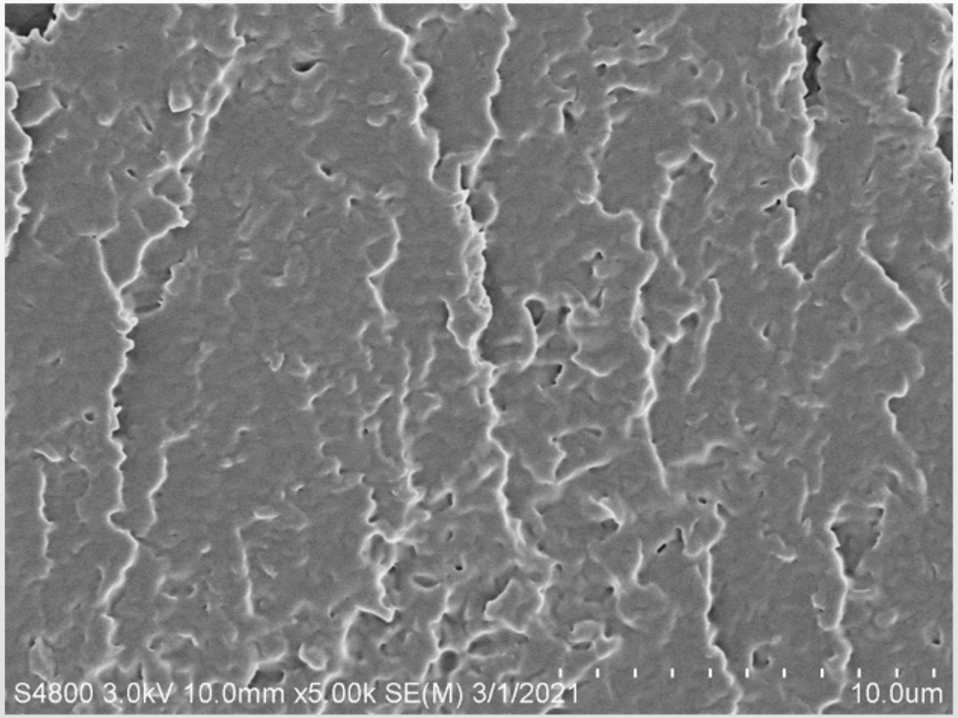
For many years, we focused in CO_2 Supercritical Fluid Technology and its applications. These efforts resulted in Supercritical Fluid Processing Equipment (Dryer, Extractor, and Reactor)

All NEW Supercritical CO_2 Dryer
SCD-380A



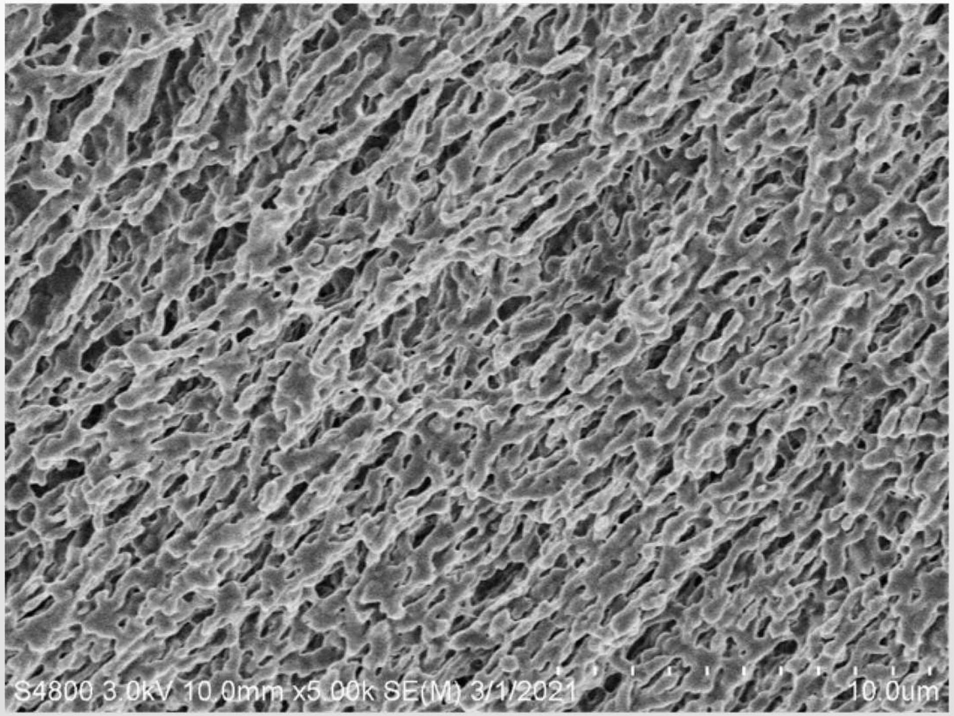
Application Example

Porous Nano-Material：Polyacrylate



空气干燥　　图片来自：中科院高能物理研究所东莞分部　顾森林博士

Air Dry



超临界干燥：SCD-380A　　图片来自：中科院高能物理研究所东莞分部　顾森林博士

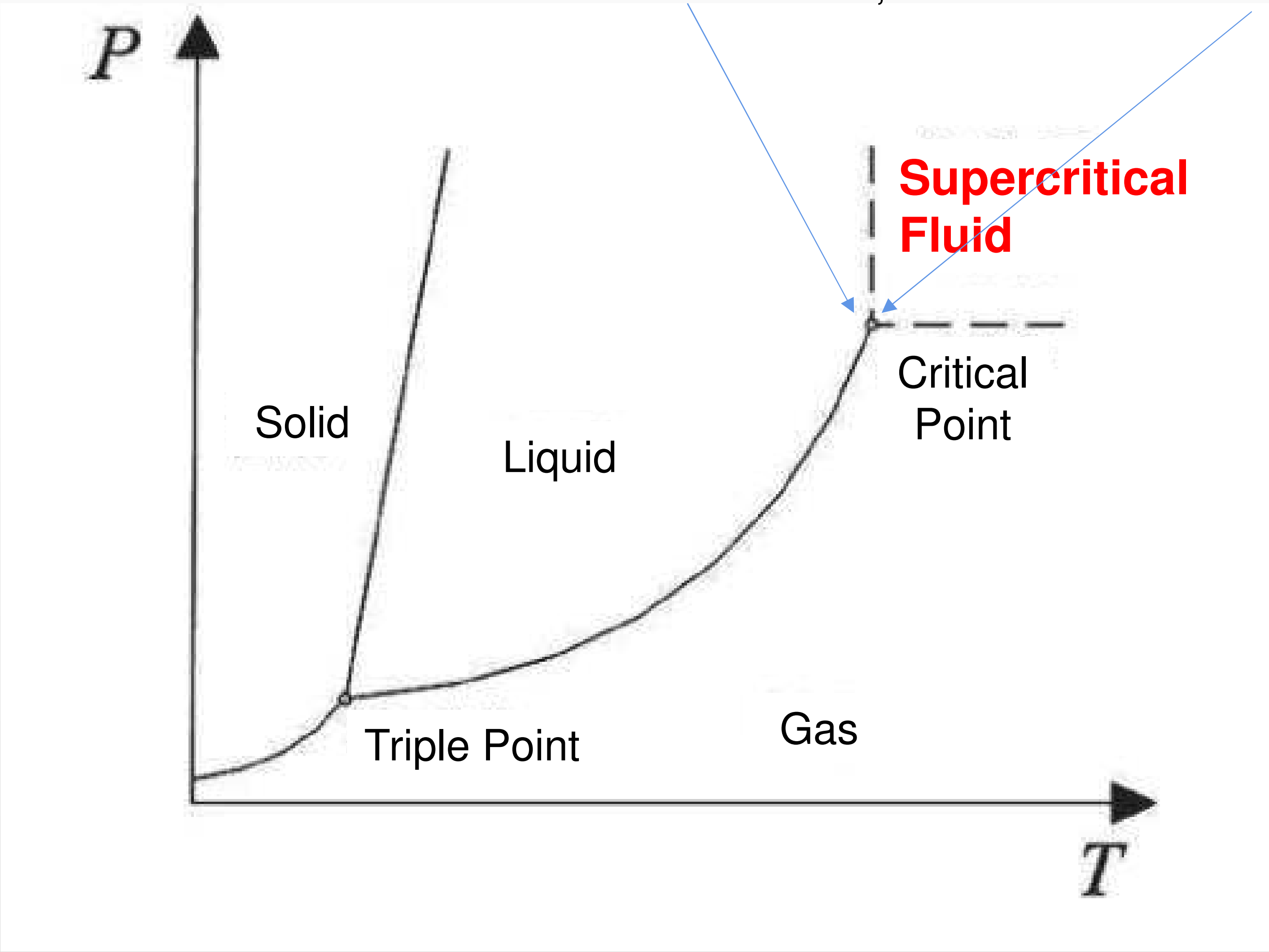
SF Dry SCD-380A

Source：Dr. S L Gu of China Academy of Science

Phase Diagram of CO_2

Supercritical CO_2 exists under conditions of:

P > 7.29 MPa; T > 31.26 ℃



Advantages of Supercritical CO_2 in Processing (Extraction, Drying and Reaction)

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Special properties of Supercritical Fluid：

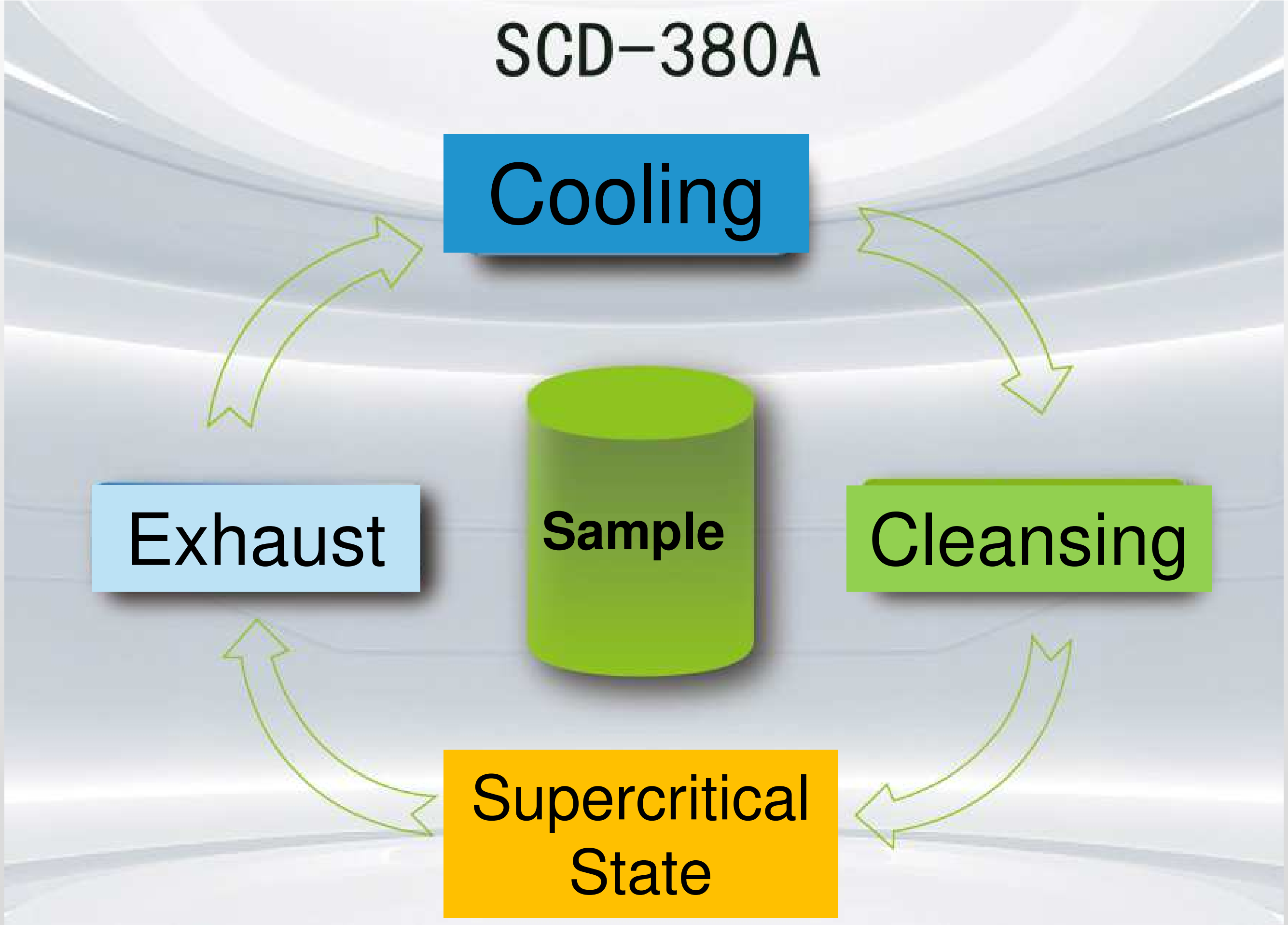
1. Gas-like diffusivity: easy to diffuse into meso- and micropores.
2. Liquid-like solvation power could be tuned by changing Pressure, Temperature, and Polarity with addition of modifier.
3. Low viscosity & Low surface tension

CO_2 is a good Supercritical Fluid for processing because:

1. Critical temperature and pressure is CO_2 31.26℃, and 72.9 atm, respectively. These conditions are easy to achieve in laboratories.
2. CO_2 is safe to use and more affordable than organic solvent.
3. No waste to be disposed of.
4. And chemical processing is more efficient than traditional methods.
5. Processed samples are cleaner and ready to be used.

Supercritical CO_2 Drying Process (as an Example)

Fully Automatic Supercritical Fluid Dryer



SCD-380: Software Interfacing

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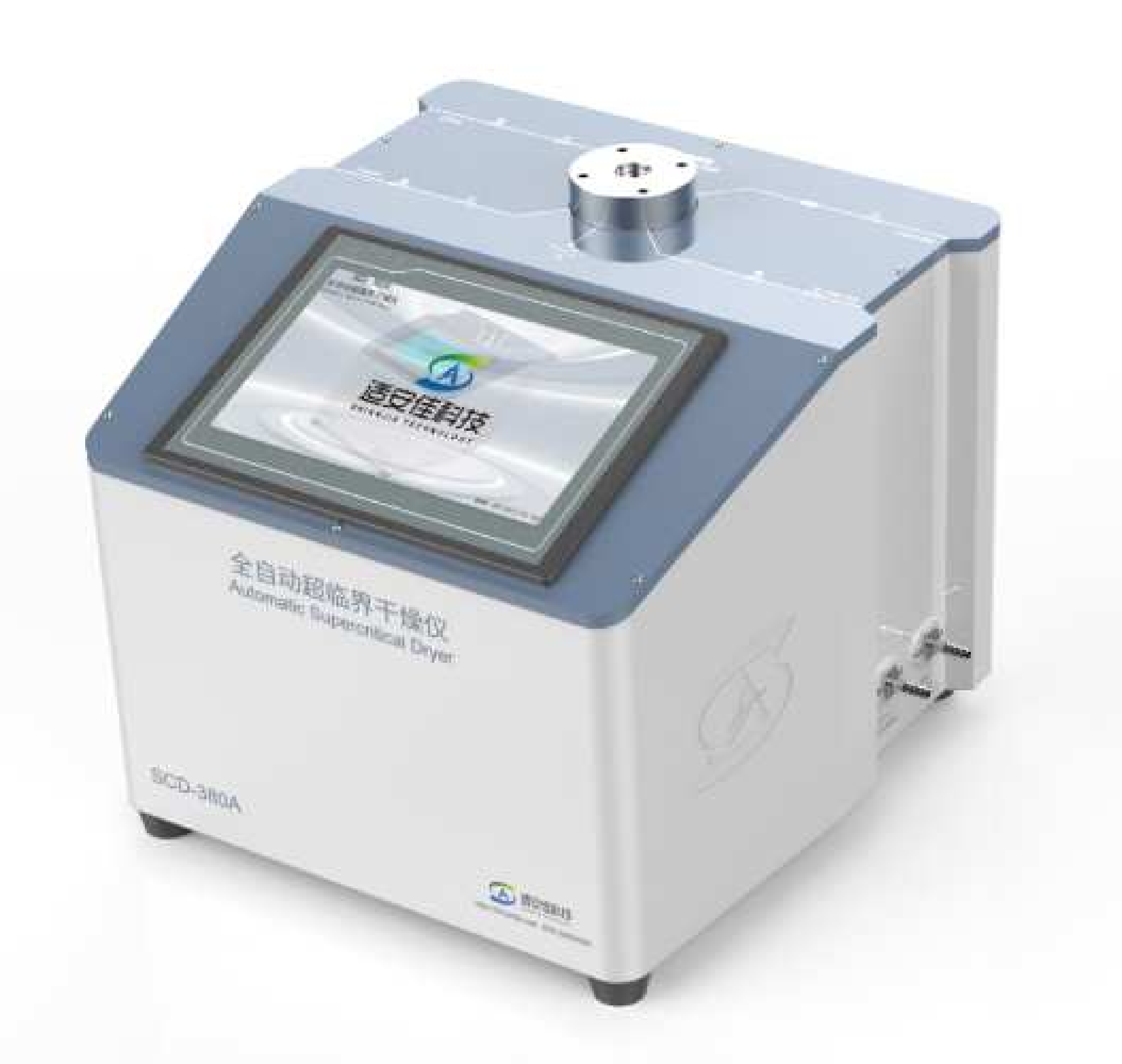

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Design of Drying Chamber

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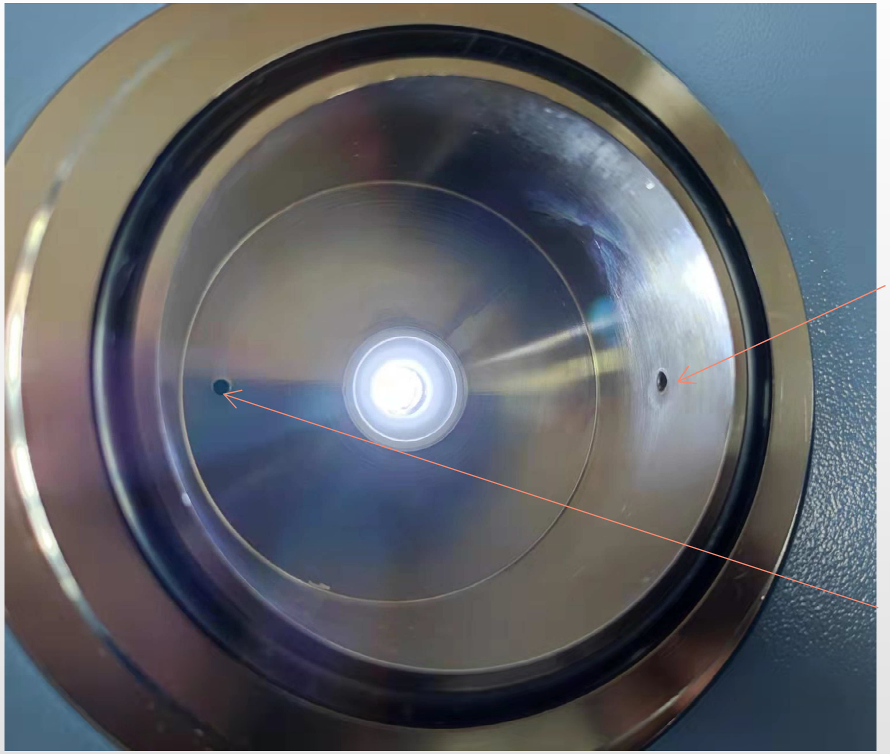


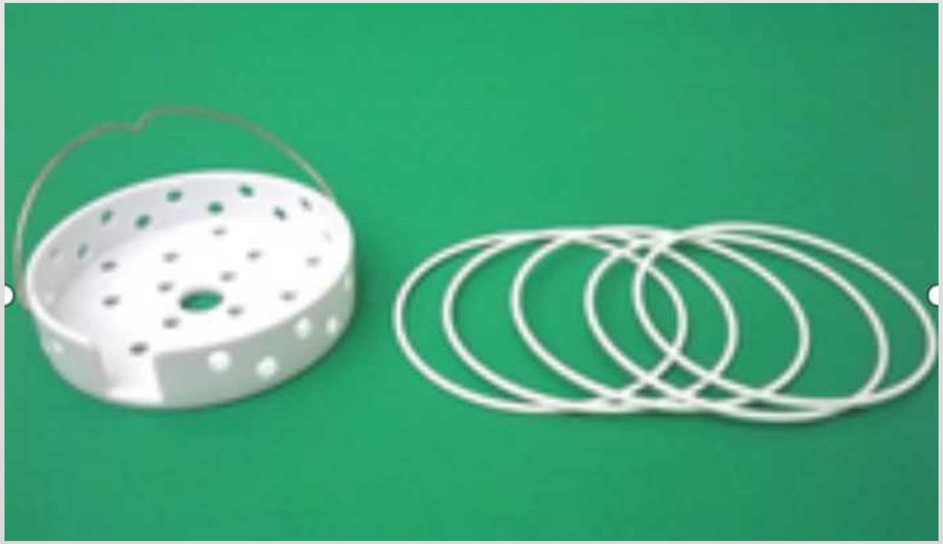
CO_2 Inlet on Top

Expelled liquid outlet at Bottom

- Saphire viewing window from the top, corrosion resistant
- Illuminating Saphire window at the bottom, convenient to light up the drying process for viewing
- Inlet from the top and outlet from the bottom for easy discharge of expelled solvent
- Optional large sample vessel

Sample Holder Options

Special sample holders are designed for satisfying the needs of samples



SCD-380: Software Interfacing

Operating Software shows the conditions of the whole process (Pressure, Temperature, Flow rate, and Time) in real time.

SCD-380: Software Interfacing

Software has build-in drying process methods. It also supports user-defined drying protocols. Once set, then it would be a ONE key stroke to start..

Software is also available in English)

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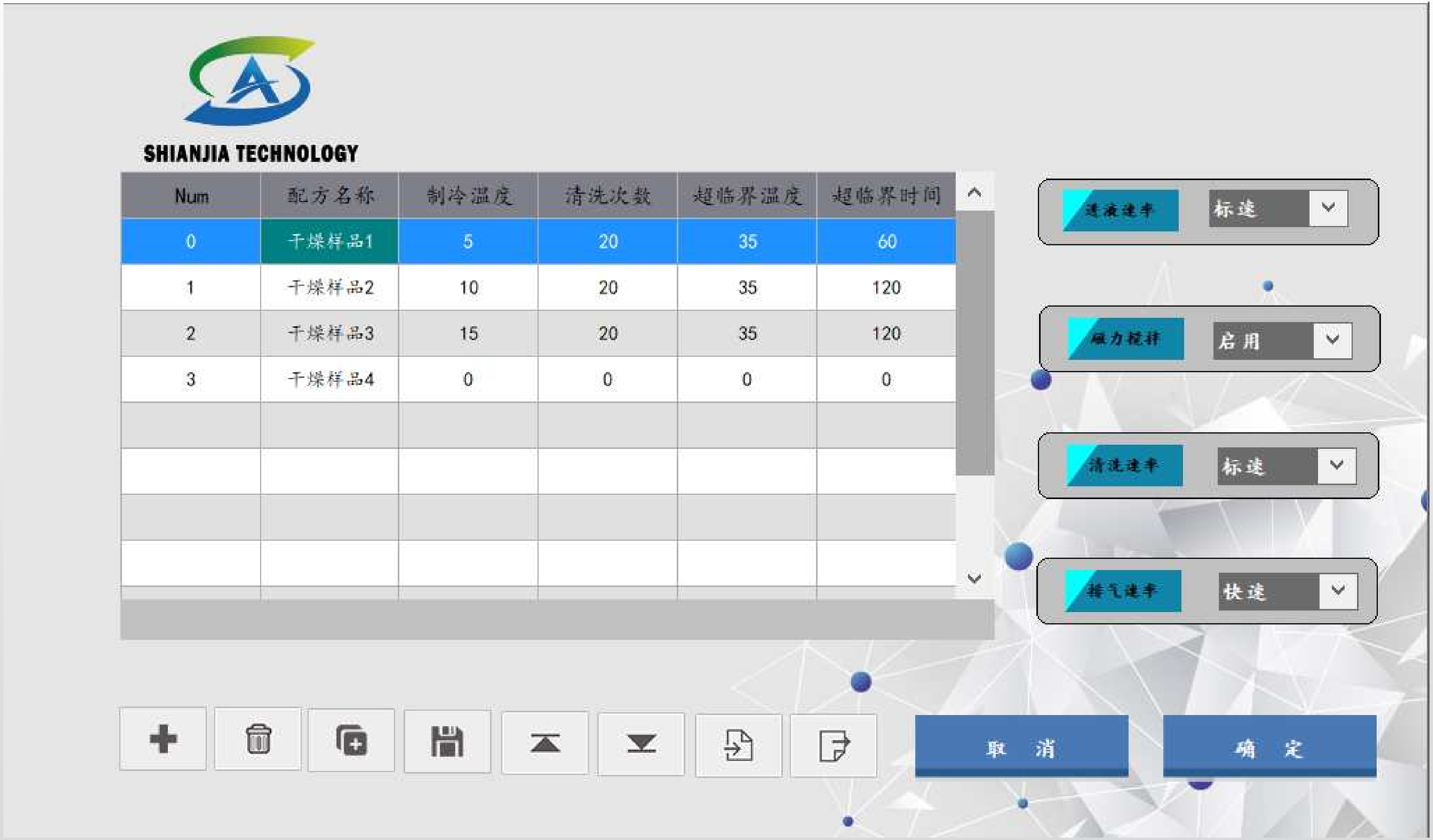
Num	配方名称	制冷温度	清洗次数	超临界温度	超临界时间	磁力搅拌	清洗速率	排气速率	进液速率
0	气凝胶干燥	10	20	35	60	1	2	20	15
1	微电子干燥	10	5	35	30	0	1	30	30
2	晶圆干燥	10	5	35	30	0	1	30	50
3	粉末样品干燥	10	8	35	60	1	1	30	30
4		0	0	0	0	0	0	0	0

返 回

确 定

SCD-380: Software Interfacing

For specific samples, user-defined drying process could be set up to suit the needs of these samples.



Num	配方名称	制冷温度	清洗次数	超临界温度	超临界时间
0	干燥样品1	5	20	35	60
1	干燥样品2	10	20	35	120
2	干燥样品3	15	20	35	120
3	干燥样品4	0	0	0	0

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SCD-380: Software Interfacing

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Remote monitoring of process is available.

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SCD-380: Software Interfacing

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Processing Data are stored automatically after process is done for future reviews

20211124.log - 记事本

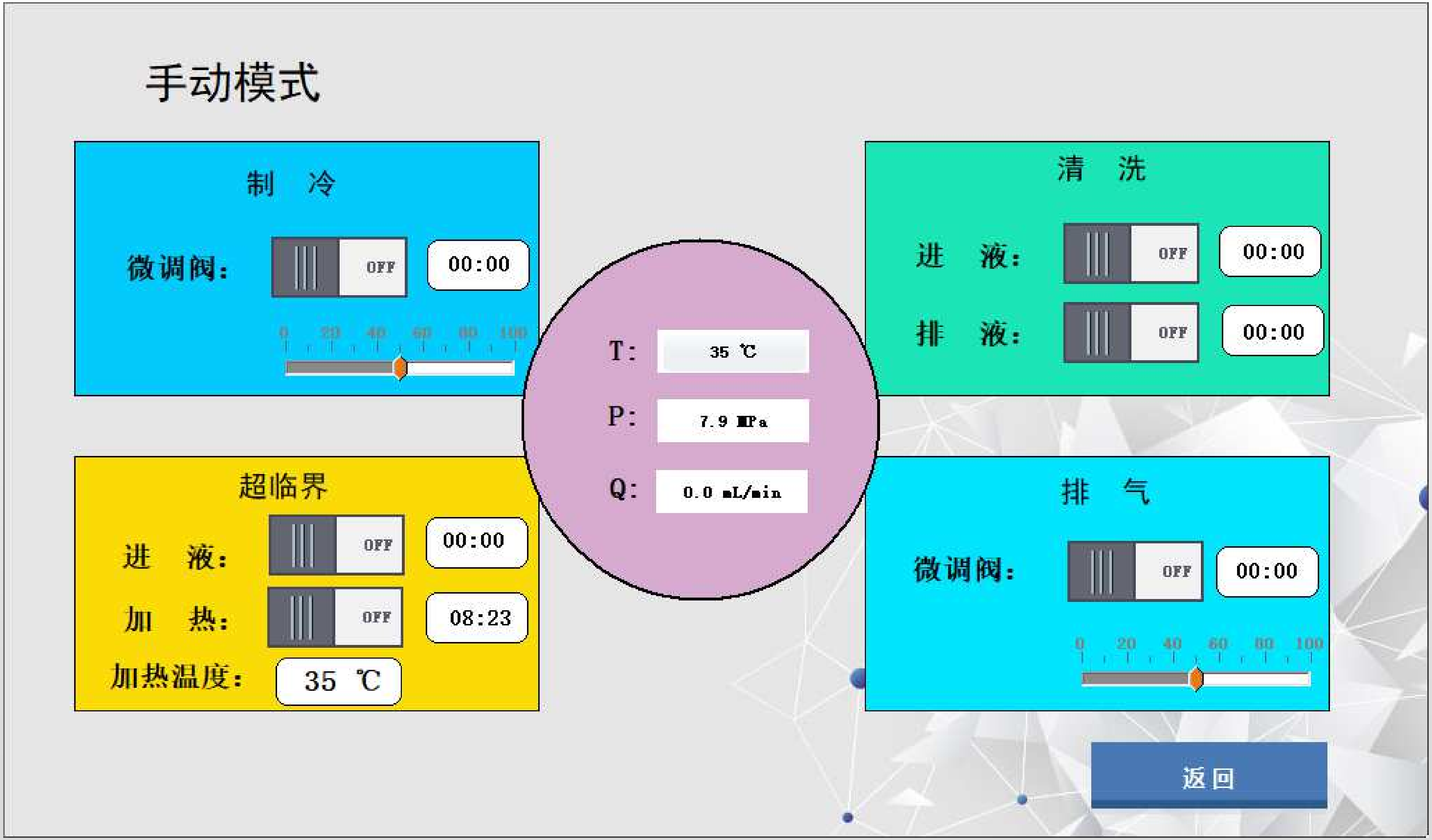
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

```
流量 608 压力 773  开度 21  设定 500


[2021-11-25 21:44:30.778]# RECV ASCII FROM 39.144.12.57 :35099>
data_p640
data602.687988
data597.687988
流量 597 压力 772  开度 21  设定 500


[2021-11-25 21:44:31.296]# RECV ASCII FROM 39.144.12.57 :35099>
data_p634
data581.287781
data576.287781


[2021-11-25 21:44:33.257]# RECV ASCII FROM 39.144.12.57 :35099>
data_p635
data584.854492
data579.854492


[2021-11-25 21:44:33.879]# RECV ASCII FROM 39.144.12.57 :35099>
温度 34.5  压力 7.71  流量 579
总 46021s  排气 6753s
流量 579 压力 771  开度 21  设定 500
```

名称	修改日期	类型	大小
20210820.log	2021/8/24 19:44	文本文档	1,545 KB
20210825.log	2021/8/26 8:46	文本文档	2,154 KB
20210826.log	2021/8/27 9:47	文本文档	2,864 KB
20210827.log	2021/8/28 9:55	文本文档	392 KB
20210828.log	2021/8/30 20:10	文本文档	529 KB
20210831.log	2021/9/2 11:46	文本文档	1,408 KB
20210902.log	2021/10/8 9:18	文本文档	14,355 KB
20211008.log	2021/10/8 9:18	文本文档	14,355 KB
20211008-1.log	2021/10/15 8:07	文本文档	22 KB
20211015.log	2021/11/7 19:32	文本文档	164 KB
20211108.log	2021/11/14 19:15	文本文档	176 KB
20211114.log	2021/11/15 0:11	文本文档	744 KB
20211115.log	2021/11/24 10:37	文本文档	41,139 KB
20211124.log	2021/12/2 23:54	文本文档	31,985 KB

SCD-380: Software Interfacing

User-defined processing conditions could be set



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SF Dryer SCD-350M（Manual）

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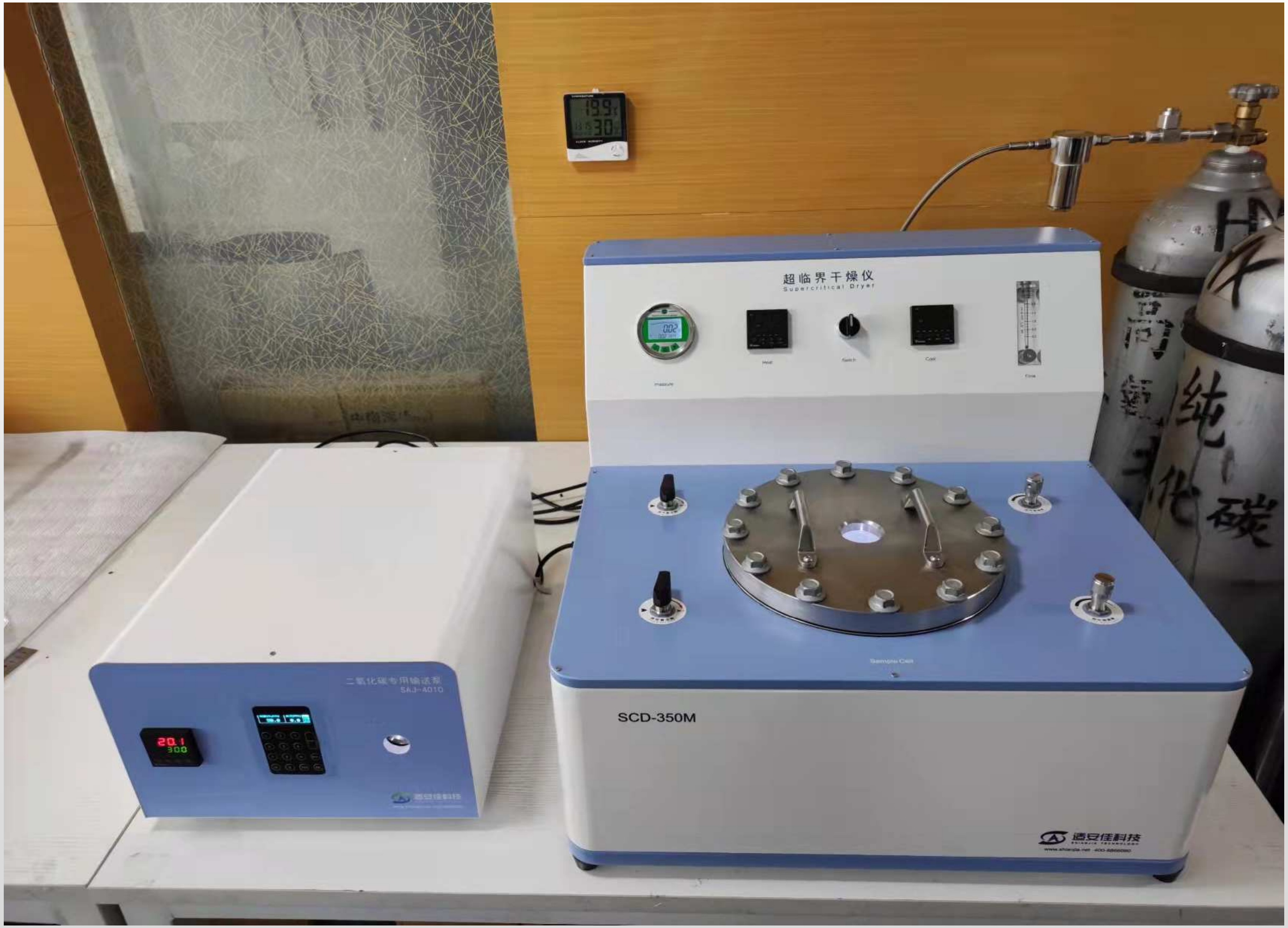
Special Dryer for Silicon and MEMS wafers



Technical Specifications:

1. Easy top loading of sample with expelled liquid (water) released from the bottom;
2. Saphire viewing window with 30 - 2,000 mL volume， other volume is available as option;
3. Cooling and heating operate independent with each other and regulated with PID @ -5℃ to 60℃， other temperature range is available as optional；
4. Built-in compressor cooling and electrical heating devices; Sample chamber is temperature control
5. Working Pressure: 0-10 MPa; Factory safety setting: 15 MPa (2,150 psi);
6. Instrument equipped with pressure release valve for safe operation;
7. Metering valve system provides accurate Liquid CO_2 flow rate and prolong the operating life of the instrument

For more information please contact us

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