

STOCK CODE
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SCIENTZ FREEZE DRYER

Expert in freeze-drying technology solutions



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NINGBO SCIENTZ BIOTECHNOLOGY CO., LTD.

A National High-Tech Enterprise

Top Ten Well-Known Brands of Life Science Instrument

N series freeze-drying machine is compact, with large-scale freeze dryer flexibility, less space, can handle more flexible samples, cost-effective. Suitable for small laboratory, and can choose a variety of configurations:

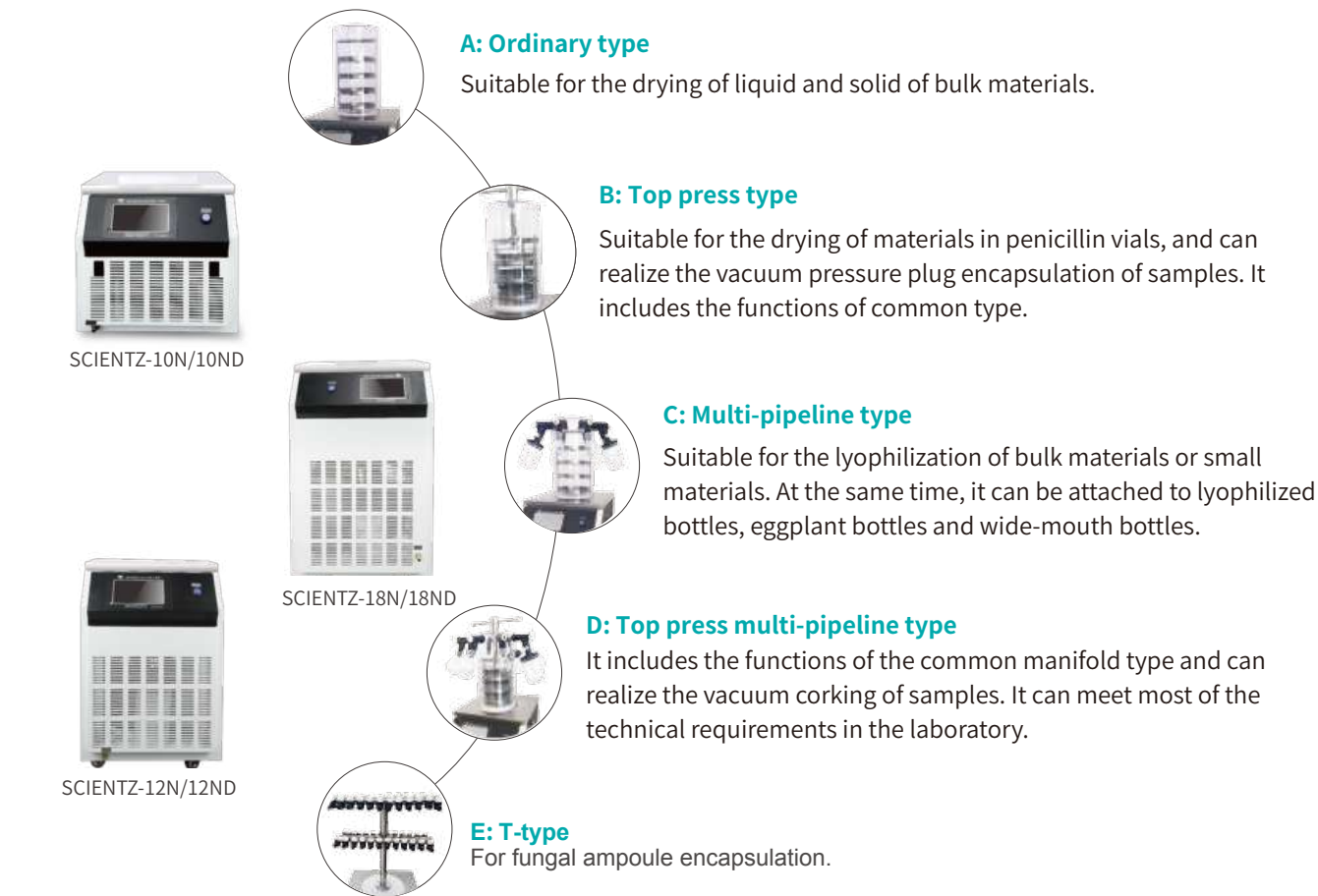
Ordinary type: suitable for bulk materials, liquid and solid dry

Top press: suitable for Schering bottled material drying, can achieve sample vacuum pressure package. Contains general type of use function.

Ordinary multi-pipeline type: suitable for a variety of different materials, small freeze-dried, and can be linked to freeze-dried bottles, eggplant bottles, jars.

Top press multi-pipeline type: Contains the function of ordinary multi-manifold type, can achieve the sample vacuum pressure package, to meet the vast majority of the laboratory technical requirements.

T-frame: for fungal ampoule tube package.



Optional Function

- Eutectic point test function, master the material better sublimation temperature;
- Vacuum control function to maximize heat transfer;
- Double-stack refrigeration system, mature technology, low temperature, for -80 °C freeze dryer;
- Wide mouth manifold freeze-dried bottle configuration, easy to install the material, with the import standard freeze-dried bottle valve supporting the connection. Standard 6 tubes;
- Optional power defrost function, speed up the defrost speed, shorten the drying cycle;
- Optional multi-brand imported vacuum pump.

Features

- The machine uses international brands EMBRACO or SECOP compressor refrigeration, refrigeration quickly, cold trap temperature is low.
- 7-inch true color touch LCD screen control system, easy to operate, and powerful.
- Industrial embedded operating system, ARM9 core control circuit design, 32M memory 128M FLASH, the operation response speed, large amount of stored data.
- The control system automatically saves the freeze-dried data, and can be real-time curve and historical curve in the form of view, the entire freeze-drying process clear.
- Drying room with a colorless transparent injection molding polycarbonate drying trap, corrosion-resistant, non-friable, non-adhesive, high transparency, strong sealing, the sample is clear and intuitive, can observe the freeze-drying of the whole product.
- Vacuum pump and host connection using international standard KF quick connector, simple and reliable.
- The machine can store multiple freeze-drying curve, and use U disk to extract data to the computer, with the host computer software in the computer to browse print and a variety of options.
- Equipped with inflatable valve, can be filled with dry inert gas.

Main Technical Parameters

| Model | SCIENTZ-10N | | | | SCIENTZ-12N | | | | SCIENTZ-18N | | | |
|--------------------------------------|---|-----------|-------------------------|--------------------------|--------------------------|-----------|-------------------------|--------------------------|--------------------------|-----------|-------------------------|--------------------------|
| Type | Ordinary | Top press | Ordinary multi-pipeline | Top-press multi-pipeline | Ordinary | Top press | Ordinary multi-pipeline | Top-press multi-pipeline | Ordinary | Top press | Ordinary multi-pipeline | Top-press multi-pipeline |
| Dryer area(m²) | 0.12 | 0.08 | 0.12 | 0.08 | 0.12 | 0.08 | 0.12 | 0.08 | 0.18 | 0.09 | 0.18 | 0.09 |
| Ability to capture water(Kg/batch) | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 |
| Vials quantity | Φ12mm | 920 | 560 | 920 | 560 | 920 | 560 | 920 | 1320 | 990 | 1320 | 990 |
| | Φ16mm | 480 | 285 | 480 | 285 | 480 | 285 | 480 | 698 | 349 | 698 | 349 |
| | Φ22mm | 260 | 165 | 260 | 165 | 260 | 165 | 260 | 360 | 184 | 360 | 184 |
| Eggplant shaped flask | 0 | 0 | 8 | 8 | 0 | 0 | 8 | 8 | 0 | 0 | 8 | 8 |
| Plate load capacity (L) | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 2 | 1 | 2 | 1 |
| Plate size(mm) | Φ200 | Φ180 | Φ200 | Φ180 | Φ200 | Φ180 | Φ200 | Φ180 | Φ240 | Φ200 | Φ240 | Φ200 |
| Plate distance (mm) | 70 | | | | | | | | | | | |
| Tray quantity (pc) | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 |
| Cold chamber size(mm) | Φ250×150 | | | | Φ250×250 | | | | Φ300×405 | | | |
| Cold trap the lowest temperature(°C) | ≤-56 (No load) | | | | | | | | | | | |
| Ultimate vacuum(Pa) | ≤5 (No load) | | | | | | | | | | | |
| Power Kw(220V50Hz) | 0.95 | | | | 1 | | | | 1.3 | | | |
| Amibient temperature(°C) | ≤25 | | | | | | | | | | | |
| Overall dimension (mm) | 590(L)×460(W)×450(H)+440 | | | | 600(L)×450(W)×720(H)+440 | | | | 670(L)×525(W)×910(H)+480 | | | |
| Special note | The device size and weight not included in the external vacuum pump Top press model height not included in manual gland handle (The handle height 701mm) | | | | | | | | | | | |

Optional function: double refrigeration system , cold trap up to -80°C defrost function import vacuum pump automatic nitrogen filling interface

T-type ampoule bottle rack

ND Series Freeze Dryer (electric heating type)

The ND freeze-dryer adds heating to the N-series, accelerating the drying process, saving energy, and providing heating curve settings with a variety of drying solutions for laboratory use.

This series of freeze dryer is divided into four configurations: ordinary type, top press type, Ordinary multi-pipeline type, Top press multi-pipeline, with pre-freeze function.



SCIENTZ-10ND



SCIENTZ-12ND



SCIENTZ-18ND



A: Ordinary type

Suitable for the drying of liquid and solid of bulk materials.



B: Top press type

Suitable for the drying of materials in penicillin vials, and can realize the vacuum pressure plug encapsulation of samples. It includes the functions of common type.



C: Ordinary multi-pipeline

Suitable for the lyophilization of bulk materials or small materials. At the same time, it can be attached to lyophilized bottles, eggplant bottles and wide-mouth bottles.



D: Top press multi-pipeline

It includes the functions of the common manifold type and can realize the vacuum corking of samples. It can meet most of the technical requirements in the laboratory.

Optional Function

- Eutectic point test function, master the material better sublimation temperature.
- Vacuum control function to maximize heat transfer.
- Double-stack refrigeration system, mature technology, low temperature, for -80 °C freeze dryer. In the case of
- Wide mouth multi-manifold freeze-dried bottle configuration, easy to install materials, with the import standard freeze-dried bottle valve supporting the connection.
- Optional electric defrost function, speed up the defrost speed, shorten the drying cycle.
- Optional multi-brand imported vacuum pump.

Features

- The machine uses the international brand EMBRACO or SECOP compressor refrigeration, refrigeration quickly, cold trap temperature is low.
- 7-inch true color touch LCD screen control system, easy to operate, and powerful.
- Industrial embedded operating system, ARM9 core control circuit design, 32M memory 128M FLASH, the operation response speed, large amount of stored data.
- The control system automatically save the freeze-dried data, and can be real-time curve and historical curve in the form of view, the entire freeze-drying process clear.
- The drying room with colorless transparent polycarbonate drying room, the sample is clear and intuitive, can observe the whole process of freeze-drying.
- Vacuum pump and host connection using the international standard KF quick connector, simple and reliable.
- The machine can store multiple freeze-drying curve, and use U disk to extract data to the computer, with the host computer software in the computer to browse print and a variety of options.
- The control system has 36 freeze-drying curve program options, each program contains 40 temperature control settings, can achieve a variety of materials freeze-drying process parameters recorded, a material freeze-dried time directly transferred to the corresponding program The
- The company's unique point heating curve calculation method, the temperature is more stable, no overshoot, temperature control more accurate.
- Equipped with inflatable valve, can be filled with dry inert gas;
- Partition temperature adjustable, controllable, can be explored, pilot and production process
- With manual and automatic two modes of operation, you can manually explore the new material freeze-dried curve

Main Technical Parameters

| Model | SCIENTZ-10ND | | | | SCIENTZ-12ND | | | | SCIENTZ-18ND | | | | |
|--------------------------------------|--|-----------|-------------------------|--------------------------|--------------------------|-----------|-------------------------|--------------------------|--------------------------|-----------|-------------------------|--------------------------|-----|
| Type | Ordinary | Top press | Ordinary multi-pipeline | Top press multi-pipeline | Ordinary | Top press | Ordinary multi-pipeline | Top press multi-pipeline | Ordinary | Top press | Ordinary multi-pipeline | Top press multi-pipeline | |
| Dryer area(m²) | 0.12 | 0.08 | 0.12 | 0.08 | 0.12 | 0.08 | 0.12 | 0.08 | 0.18 | 0.09 | 0.18 | 0.09 | |
| Ability to capture water(Kg/batch) | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 | |
| Vials quantity | Φ12mm | 920 | 560 | 920 | 560 | 920 | 560 | 920 | 560 | 1320 | 990 | 1320 | 990 |
| | Φ16mm | 480 | 285 | 480 | 285 | 480 | 285 | 480 | 285 | 698 | 349 | 698 | 349 |
| | Φ22mm | 260 | 165 | 260 | 165 | 260 | 165 | 260 | 165 | 360 | 184 | 360 | 184 |
| Eggplant shaped flask | 0 | 0 | 8 | 8 | 0 | 0 | 8 | 8 | 0 | 0 | 8 | 8 | |
| Plate load capacity (L) | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 1.5 | 1 | 2 | 1 | 2 | 1 | |
| Plate size(mm) | Φ200 | Φ180 | Φ200 | Φ180 | Φ200 | Φ180 | Φ200 | Φ180 | Φ240 | Φ200 | Φ240 | Φ200 | |
| Plate distance (mm) | 70 | | | | | | | | | | | | |
| Tray quantity(pc) | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | |
| Cold trap size(mm) | Φ250×150 | | | | Φ250×250 | | | | Φ300×405 | | | | |
| Cold trap the lowest temperature(°C) | ≤-56 (No load) | | | | | | | | | | | | |
| Ultimate vacuum(Pa) | ≤5 (No load) | | | | | | | | | | | | |
| Heating temperature (°C) | ≤60 | | | | | | | | | | | | |
| Power Kw(220V50Hz) | 1.11 | 1.07 | 1.11 | 1.07 | 1.16 | 1.12 | 1.16 | 1.12 | 1.46 | 1.42 | 1.46 | 1.42 | |
| Amibient temperature(°C) | | | | | ≤25 | | | | | | | | |
| Temperature range | -55°C -+60°C | | | | | | | | | | | | |
| Overall dimension (mm) | 590(L)×460(W)×400(H)+440 | | | | 600(L)×450(W)×720(H)+440 | | | | 670(L)×525(W)×910(H)+480 | | | | |
| Host weight(kg) | 59 | 65 | 61 | 67 | 67 | 74 | 69 | 76 | 83 | 89 | 86 | 91 | |
| Special note | The device size and weight not included in the external vacuum pump Top press model height not included in manual gland handle (The handle height 70mm) | | | | | | | | | | | | |

Optional function: double refrigeration system , cold trap up to -80°C defrost function import vacuum pump automatic nitrogen filling interface

T-type ampoule bottle rack Eutectic point test

YG Series Freeze Dryer

SCIENTZ-YG series silicone oil in-situ freeze-drying machine can be used to explore freeze-drying curves and process temperature-sensitive samples (especially medicines, microbiological products, precious medicinal materials, etc.). It can be used for small-scale and small-scale enterprise trials. Large-scale production is especially suitable for exploring the freeze-drying process.



Features

- Pre-freeze drying is carried out in situ, which reduces the complicated operation of the drying process and realizes automation;
 - The shelf temperature error is ≤1°C, and the drying effect is uniform;
 - The temperature of the partition is adjustable, controllable, groping, pilot-scale and production technology;
 - Embedded 7-inch touch screen operation, PID adjustment, display drying curve and historical curve, with USB download Interface, host computer software, curve printing.
 - The square tray is not easy to deform, easy to operate, and easy to clean;
 - Equipped with an inflation valve, which can be filled with dry inert gas;
 - The drying chamber adopts a high light-transmitting colorless transparent plexiglass door, which can clearly observe the changing process of the material during the operation.
 - Each partition has a separate sample probe to observe the sample temperature in real time.
 - Imported compressor, dual-machine cascade technology, large refrigeration capacity and low temperature.
- It can be operated in manual and fully automatic modes.

Main Technical Parameters

| Model | | SCIENTZ-10YG | | SCIENTZ-30YG | | SCIENTZ-50YG | | SCIENTZ-100YG | | SCIENTZ-200YG | |
|--------------------------------------|-------|--|-----------|-------------------------|-----------|--------------------------|-----------|-------------------------|-----------|-------------------------|-----------|
| Type | | Ordinary | Top press | Ordinary | Top press | Ordinary | Top press | Ordinary | Top press | Ordinary | Top press |
| Dryer area (m²) | | 0.2 | 0.1 | 0.3 | | 0.5 | | 1.02 | | 2.35 | |
| Ability to capture water (Kg/batch) | | 3 | 1.5 | 6 | | 10 | | 15 | | 30 | |
| Vials quantity | Φ12mm | 1300 | 650 | 1950 | | 3690 | | 7020 | | 14040 | |
| | Φ16mm | 814 | 388 | 1160 | | 1940 | | 4190 | | 8380 | |
| | Φ22mm | 643 | 205 | 615 | | 1020 | | 2210 | | 4420 | |
| Plate load capacity (L) | | 2 | 1 | 3 | | 6 | | 15 | | 40 | |
| Plate size | L/mm | 430 | | | | 430 | | 400 | | 500 | |
| | W/mm | 240 | | | | 320 | | 505 | | 900 | |
| Plate distance (mm) | | 70 | | | | | | | | | |
| Plate quantity(pc) | | 2 | 1 | 3 | | 4 | | 5+1 | | 5+1 | |
| Plate temperature range (°C) | | -40~+70(no load) | | | | | | | | | |
| Cold trap the Lowest temperature(°C) | | ≤-56 (no load) | | | | | | | | | |
| Ultimate vacuum(Pa) | | ≤5(no load) | | | | | | | | | |
| Power KW | | 2.3(220V) | | 2.8(220V) | | 3.5(380V) | | 5.4(380V) | | 15(380V) | |
| Amibient temperature(°C) | | ≤25 | | | | | | | | | |
| Overall dimension (mm) | | 750(L)*640(W)*1200(H) | | 1100(L)* 760(W)*1460(H) | | 1000(L)* 760(W)* 1460(H) | | 1300(L)*1100(W)*1480(H) | | 2630(L)*1100(W)*1770(H) | |
| Weight(Kg) | | 164 | | 224 240 | | 256 270 | | 570 | | 1800 | |
| Note | | The size and weight of the whole machine do not include the external vacuum pump, and the height of the gland type freeze dryer does not include the manual gland handle (increase the height by about 90mm) | | | | | | | | | |

SCIENTZ-F Series Freeze Dryer

SCIENTZ
FREEZE-DRIED

Features

- Pre-freeze drying is carried out in situ, with an observation window inside, and the drying process is intuitive and controllable;
- Dry room temperature difference ≤ ± 1 °C, uniform drying effect;
- The temperature of the partition is adjustable and controllable. It can explore the pilot test and the production process. Because the drying chamber and the cold trap are separated structures, the water catching ability is strong and the drying time is short; the inflatable valve can be configured to flush the dry atmosphere gas;
- The drying chamber adopts the aviation acrylic high transparent transparent colorless door, and the change process of the material can be clearly observed during the lyophilization process;
- Pre-freeze drying is carried out in situ, which reduces the cumbersome operation of the drying process and realizes automation;
- Embedded touch screen, PLC controller, PID temperature adjustment, display freeze-drying curve and historical curve;
- U disk dump data;
- Equipped with PC software, it can print, browse curves and data.



Main Technical Parameters

| Model | SCIENTZ-20F | | SCIENTZ-30F | | SCIENTZ-50F | | SCIENTZ-100F | | SCIENTZ-200F | | | |
|--------------------------------------|--|-----------|--------------------------|-----------|--------------------------|-----------|--|-----------|---|-----------------|---------------------------|--|
| Type | Ordinary | Top press | Ordinary | Top press | Ordinary | Top press | Ordinary | Top press | Ordinary | Top press | | |
| Dryer area (m²) | 0.21 | | 0.32 | | 0.54 | | 1.08 | | 2.16 | | | |
| Ability to capture water(Kg/ batch) | 4 | | 6 | | 10 | | 15 | | >35 | | | |
| Vials quantity | Φ12mm | 1300 | 1950 | | 3690 | | 7020 | | 14040 | | | |
| | Φ16mm | 814 | 1160 | | 1940 | | 4190 | | 7800 | | | |
| | Φ22mm | 430 | 615 | | 1020 | | 2210 | | 4100 | | | |
| Plate load capacity (L) | 3 | 1.5 | 4.5 | | 6 | | 15 | | 30 | | | |
| Plate size | L/mm | 400 | | | | 450 | | 600 | | 600 | | |
| | W/mm | 270 | | | | 300 | | 450 | | 900 | | |
| Plate distance (mm) | 70 | | | | | | | | | 90 | | |
| Plate quantity(pc) | 2+1 | | 3+1 | | 4+1 | | | | 4+1 | | | |
| Plate temperature range (°C) | -50~+70(no load) | | | | | | | | | | | |
| Cold trap the Lowest temperature(°C) | ≤-80 (no load) | | | | | | | | | ≤-70 (no load) | | |
| Ultimate vacuum(Pa) | ≤5(no load) | | | | | | | | | | | |
| Power KW (220V50Hz) | 3.0 | | 3.8 4.0 | | 5.0 5.6 | | 6.8 7.4 | | 15 (380V) | | | |
| Amibient temperature(°C) | ≤25 | | | | | | | | | | | |
| Overall dimension (mm) | 750(L)* 640(W)* 1200(H) | | 1100(L)* 680(W)* 1240(H) | | 1100(L)* 760(W)* 1300(H) | | 1150(L)* 1320(L)* 850(W)* 850W)* 1480(H) 1550(H) | | 1300(L)* 1500(L)* 1000(W)* 1100(W)* 1480(H) 1640(H) | | 2630(L)* 1100(W)* 1770(H) | |
| Weight(Kg) | 236 286 | | 335 360 | | 424 480 | | 610 780 | | 1380 1500 | | | |
| Special note | The device size and weight not included in the external vacuum pump Top press model height not included in manual gland handle (The handle height 200-350mm) top press model have defrost function | | | | | | | | | | | |

SCIENTZ-S Series (Production) Freeze Dryer

The SCIENTZ-S production type freeze dryer uses true color touch screen + PLC + PID as the control core. The instrument has the advantages of stable, reliable and convenient control system.

In addition, dozens of freeze-drying curve scheme options are built in, and each scheme includes 40-stage temperature control and setting refrigeration compressors, vacuum pump startup protection and other measures to extend the service life of the equipment. Ideal for large-scale freeze-drying of bulk (liquid, pasty, solid) substances.



Features

- **Automatic Operation:** Pre-freeze drying is performed in situ, reducing the tedious operation of the drying process and achieving automation
- **Accurate Temperature Control:** Silicone oil is a circulating medium, the temperature error of the separator is $\leq \pm 1\text{ }^{\circ}\text{C}$, and the drying effect is uniform
- **Smart Storage:** Transfer data from U disk, compensate the host computer software, print and view the freeze-dried curve
- **Fast And Efficient:** Drying chamber and cold trap are separated, with strong water catching ability and short drying time
- **Intelligent Control:** Touch screen operation, PLC control, PID adjustment
- **Mode Selectable:** Manual lyophilization mode, manual CIP mode, automatic lyophilization mode, automatic CIP mode
- The square tray is not easy to deform, easy to operate and easy to clean
- The drying room adopts a highly transparent colorless transparent plexiglass door, which can clearly observe the change of materials during operation
- **Multifunctional option:**
 1. Optional real-time monitoring of equipment operation, fault alarm
 2. APP remote control function is optional
 3. Gas filling valve can be filled with dry inert gas. Eutectic point test is optional

Main Technical Parameters

| Model | SCIENTZ Production-scale freeze dryer | | | | | | | | | | | |
|-------------------------------------|---------------------------------------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| Dryer area (m²) | 1 | 2 | 3 | 5 | 8 | 10 | 15 | 20 | 25 | 30 | 40 | 50 |
| Effective plate area | 1.08 | 2.16 | 3.24 | 5.4 | 7.56 | 9.72 | 14.4 | 19.8 | 25.2 | 31.5 | 40.5 | 51.3 |
| Ability to capture water (kg/batch) | 20 | 40 | 60 | 90 | 130 | 180 | 300 | 400 | 500 | 600 | 800 | 1000 |
| Bottling capacity Φ16mm (pieces) | 4100 | 8200 | 12300 | 20000 | 30700 | 38900 | 55800 | 76800 | 97700 | 122000 | 157000 | 199000 |
| Bottling Capacity Φ22mm (pieces) | 2100 | 4200 | 6300 | 11000 | 15700 | 19900 | 29500 | 40590 | 51600 | 64500 | 83000 | 105000 |
| Volume of liquid (L) | 20 | 40 | 60 | 90 | 130 | 180 | 300 | 400 | 500 | 600 | 800 | 1000 |
| Plate size Width (mm) | 450 | 600 | 600 | 900 | 900 | 900 | 1200 | 1200 | 1200 | 1500 | 1500 | 1500 |
| Plate size Length (mm) | 600 | 900 | 900 | 1200 | 1200 | 1200 | 1500 | 1500 | 1500 | 1500 | 1800 | 1800 |
| Layer spacing (mm) | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Plate number (block) | 4+1 | 4+1 | 6+1 | 5+1 | 7+1 | 9+1 | 8+1 | 11+1 | 14+1 | 14+1 | 15+1 | 19+1 |
| Plate temperature range (°C) | -50 ~ + 80 (NO Load) | | | | | | | | | | | |
| Layer temperature difference (°C) | ± 1.0 (After Balancing) | | | | | | | | | | | |
| Cold trap minimum temperature (°C) | ≤ -70 (NO Load) | | | | | | | | | | | |
| Ultimate vacuum degree (pa) | ≤ 5 (NO Load) | | | | | | | | | | | |
| Length (mm) | 2100 | 2800 | 3000 | 3800 | 5000 | 5800 | 6500 | 7400 | 8200 | 8500 | 9000 | 9400 |
| Width (mm) | 900 | 1200 | 1200 | 1500 | 1500 | 2000 | 2300 | 2300 | 2300 | 2600 | 2600 | 2600 |
| Height (mm) | 2000 | 2000 | 2300 | 2900 | 3000 | 3200 | 3400 | 3800 | 4000 | 4000 | 4100 | 4500 |

Fruit and vegetable freeze-drying machine



Features

- The interior of the cabin is made of stainless steel, which meets the processing requirements of high standard products.
- Plate refrigeration ≤-50℃, cold trap refrigeration ≤-60℃. (excluding radiant type)
- R404a Environmental protection refrigeration, international brand high efficiency piston/screw compressor.
- The layer has a constant temperature function during refrigeration and sublimation.
- High efficiency vacuum pump with Roots pump, with oil and water separation function.
- Efficient water trap, fast frost function.

Main Technical Parameters

| Unit | | | Traditional heating methods | | | | | Radiation heating method | | | | | | |
|-----------------|-------------------------------------|--------------|-----------------------------|---------|---------|---------|---------|--------------------------|-----------------------|---------|----------|----------|----------|----------|
| | | | XZ-CG10 | XZ-CG15 | XZ-CG20 | XZ-CG35 | XZ-CG50 | XZ-CG75 | XZ-CF50 | XZ-CF75 | XZ-CF100 | XZ-CF125 | XZ-CF150 | XZ-CF200 |
| Capacity | Effective shelf area (㎡) | | 10 | 15 | 20 | 35 | 50 | 75 | 54.4 | 75.7 | 100.9 | 126.1 | 150.3 | 204.3 |
| | Water vapor condenser capacity(g/B) | | 200 | 300 | 400 | 700 | 1000 | 1500 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 |
| Basic parameter | Cabin | Diameter(mm) | 1300 | 1300 | 2000 | 2000 | 2200 | 2200 | 2200 | 2200 | 2200 | 2600 | 2600 | 2600 |
| | | Length(mm) | 2230 | 3010 | 2350 | 3300 | 3650 | 4650 | 7570 | 9770 | 11620 | 13000 | 13580 | 16100 |
| | Shelf dimension | Width(mm) | 600 | 600 | 1000 | 1000 | 1000 | 1000 | 540 | 540 | 540 | 540 | 580 | 580 |
| | | Length(mm) | 1520 | 2300 | 1250 | 2200 | 2500 | 3750 | 3280 | 4880 | 6680 | 6520 | 7120 | 9720 |
| | Shelf spacing(mm) | | 70 | | | | | | 76 | | | | | |
| | Number of shelf layers(No) | | 11+1 | 11+1 | 16+1 | 16+1 | 20+1 | 20+1 | 17*2 | 17*2 | 17*2 | 21*2 | 21*2 | 21*2 |
| | Shelf temperature range(°C) | | - 50 ~ + 90°C | | | | | | Ordinary temp - 120°C | | | | | |
| | Shelf temperature difference(°C) | | ±3°C | | | | | | ≤ ± 3°C | | | | | |
| | Minimum cold trap temp(°C) | | ≤ - 60°C | | | | | | ≤ 60°C | | | | | |
| | Ultimate vacuum (Pa) | | 13Pa | | | | | | | | | | | |
| Basic supply | Cooling water (m³/hr) | | 12 | 17 | 21 | 25 | 36 | 34 | 45 | 52 | 82 | 90 | 106 | |
| | Compressed air volume(min) | | 0.45 | | | | | | | | | | | |
| | Defrost water volume (m³/hr) | | 0.5 | 0.7 | 1 | 1.6 | 2.3 | 3.5 | / | | | | | |
| | Installed power(kw) | | 40 | 50 | 70 | 120 | 140 | 200 | 75+12 | 100+19 | 160+23 | 195+30 | 270+36 | 315+45 |
| Dimensions | Length(mm) | | 2300 | 3100 | 2400 | 3300 | 3700 | 5000 | 7600 | 9800 | 12000 | 13000 | 136000 | 161000 |
| | Width(mm) | | 2000 | 2000 | 2700 | 3400 | 3400 | 3400 | 9100 | 7000 | 4700 | 5000 | 5000 | 6000 |
| | Height(mm) | | 2000 | 2000 | 2500 | 2500 | 2500 | 2500 | 5000 | 5000 | 5000 | 5500 | 5500 | 5500 |
| | Nominal area (㎡) | | 10 | 15 | 20 | 35 | 50 | 75 | 50 | 75 | 100 | 125 | 150 | 200 |

Freeze-drying technology

Application area



Pharmaceutical industry



Freeze-drying of drug production



Freeze-drying of precious Chinese medicine



Freeze-drying of chemical raw material



Food Industry



Freeze-drying of fruits and vegetables



Freeze-drying of various bacterial strains



Freeze-drying of pet food



Soil inspection and remediation



Soil sample pretreatment



Freeze-drying and preservation of soil



Mineral freeze-drying



Other applications



Cultural relics protection



Freeze-drying of flowers



Preparation of specimen

Pharmaceutical industry: Freeze-drying is the most stable and effective drying technology, no degradation and molecular modification, no damage to biological activity, and easy preservation of products.

Food industry: Used for freeze-drying of traditional Chinese medicine, fruits and vegetables, pet food, cosmetics, etc., in addition to keeping food shape and nutrition unchanged, it is more conducive to long-term storage and transportation.

Others: aerospace thermal insulation ceramic production, preservation of kapok products in archaeology, specimen preparation, preparation of special materials and other applications.

Soil testing and remediation:

- High retention rate: volatile substances can be retained during the drying process, maintaining soil properties and making test results more accurate.
- Low moisture content: the sample moisture content is low after lyophilization, and the sample is crisp and easy to grind
- Simple and efficient: several times the efficiency of natural air drying.
- Large processing capacity: a professional equipment can prepare hundreds of soil samples a day to meet the needs of sample pretreatment
- Avoid cross-contamination: Cross-contamination of different batches and the same batch can be completely avoided
- Convenient and fast: For the detection of semi-volatile organic compounds, freeze-dried storage treatment.