



## HSDF 1704-51 Dry Cabinet



### Outstanding performance fast recovery time

The HSDF-1704-51 cabinet has an outstanding performance for drying moisture sensitive components and PCB's as a result of a high performance drying unit. Therefore it is very suitable for operation with frequent approach.

The 5000 series Dynamic Drying Unit reaches very reliable, low humidity values of 0.5% RH and automatically regenerates when necessary.

Humidity, temperature and alarm functions can be adjusted on a digital display. A temperature read out is available.

Data can be exported from the cabinet through RS232 with optional software.



## Features

### ESD safe design

### Lockable doors Data logging

### Online read out Door & humidity alarm buzzer Lockable doors Transport Shelves U 5000 series drying unit Accuracy of sensor RH% & T°C Power supply

Norm (IEC 61340-5-1)  
ESD metal painted body ( $10^6$  Ohm/sq)  
Dissipative glazing (inside and outside  $10^8$  Ohm/sq)  
4 doors, locked with key  
Integrated data logger over sensor with standard 2000 measuring points (optional software is required)  
RS 232 interface for data (optional software is required)  
Longer door openings are detected, high RH levels are detected  
Every door can be locked individually with a key  
Castors  
5 height adjustable chrome steel shelves  
< 0.5% RH, made in Germany  
+/- 3% RH, +/-0.3 °C  
5 meter power cord with IEC plug

## Benefits

### Recovery time after door opening Energy saving consumption Network IPC European Quality Maintenance

< 6 minutes (with 1 door opening)  
Average power consumption of 58 W/h  
Optional  
According to IPC/JEDEC J- STD 033C & IPC-1601  
Made in Germany  
Easy to service, low maintenance



## Technical Data Cabinet

External dimensions:	(W x H x D) 1200 x 1675(1840) x 960 mm
External dimensions:	(WxHxD) 1190 x 1533 x 910 mm
Weight:	197 kg
Weight on shelf:	50 kg
Max. loading capacity:	300 kg
Body:	Steel, conductive coated $10^6$ - $10^8$ $\Omega$ /sq
Shelves (W x D):	5 pcs, 1150 x 780 mm adjustable
Volume:	1700 L
Voltage:	230 V AC (120 V AC optional)
Power consumption:	Average 58 W/h
Protection class:	hard grounded, Class 1
Humidity level cabinet:	<0,5 % RH
Sensor Accuracy:	$\pm 0,8$ % RH, $\pm 0,3$ °C

## Technical Data 21 Display

### Settings:

- Nominal value humidity
- Nominal value humidity alarm (light)
- Delay time humidity alarm
- Nominal value temperature
- Door alarm buzzer
- Offset possibilities



## Technical Data N<sup>2</sup> (Auto) Flow

Power supply:	90 - 240 V AC (110 V AC optional)
N <sup>2</sup> Connection:	8 mm hose connection
N <sup>2</sup> Pressure:	1 – 6 bar
N <sup>2</sup> Standby- amount:	0 – 25 L/min
N <sup>2</sup> Purge:	0 – 100 L/min
(Purge-Time):	0 – 99 min



## Technical Data Sensirion Sensor

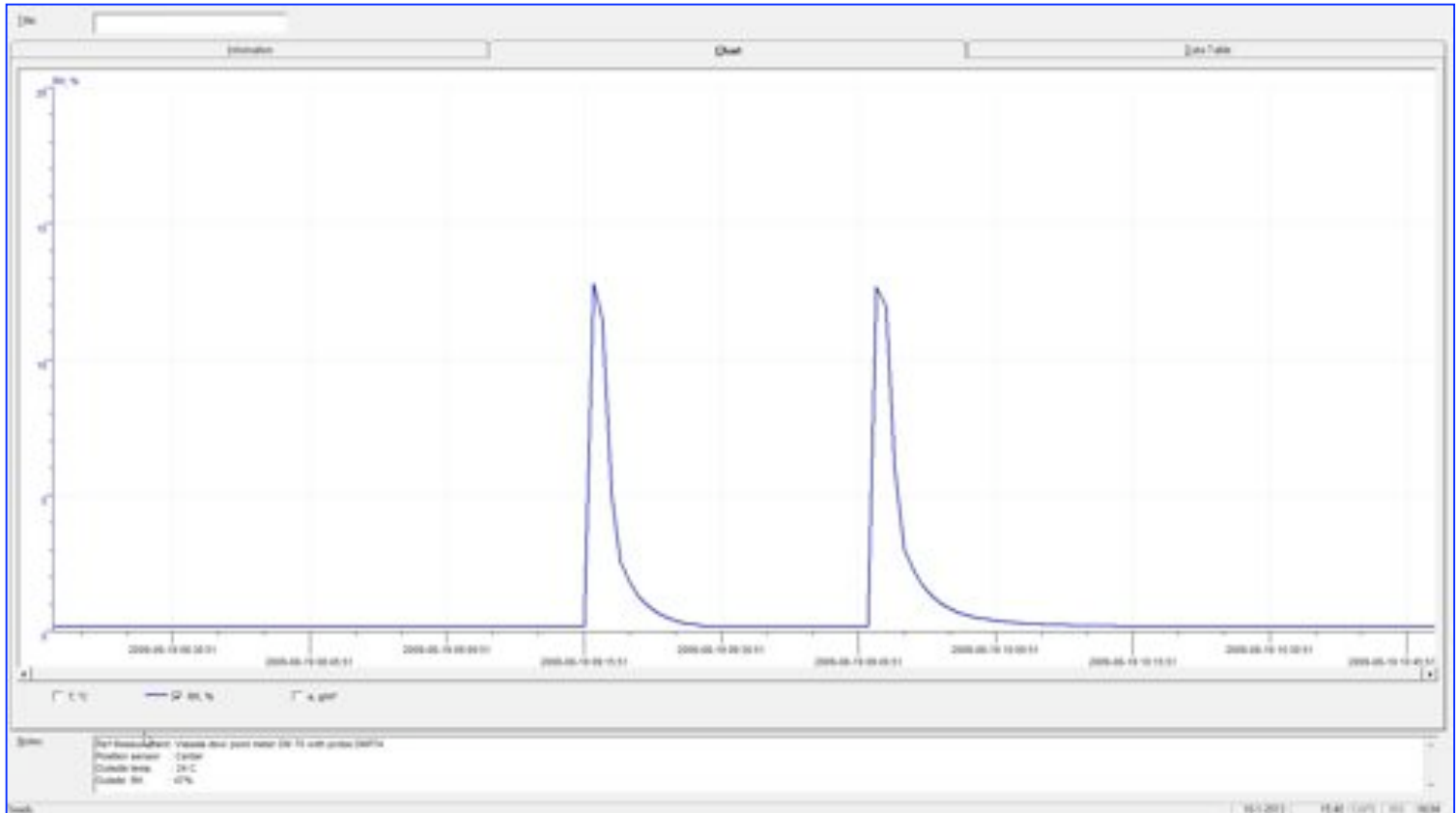
Info about sensirion sensor..... **Will follow**

## Technical Data Dry Unit U 5000 series

Dehumidifying performance: 120 g/h max.  
Minimal humidity: 0.2% RH  
Dehumidifying Temperature: 10 – 60° C  
Electric supply: 230 VAC (120 VAC available)  
Dimensions (L x B x H): 487 x 487 x 150 mm  
Weight: 14 kg



## Performance test



## Test conditions



Instrument:

Type of dew point sensor:

Accuracy of dew point sensor:  $\pm 0.2^{\circ}\text{C}$  at  $+ 20^{\circ}\text{C}$  ( $+ 68^{\circ}\text{F}$ )

Location of sensor:

Ambient conditions:

Door openings:

Vaisala.

Vaisala drycap 180M

In the direct surrounding of cabinet sensor

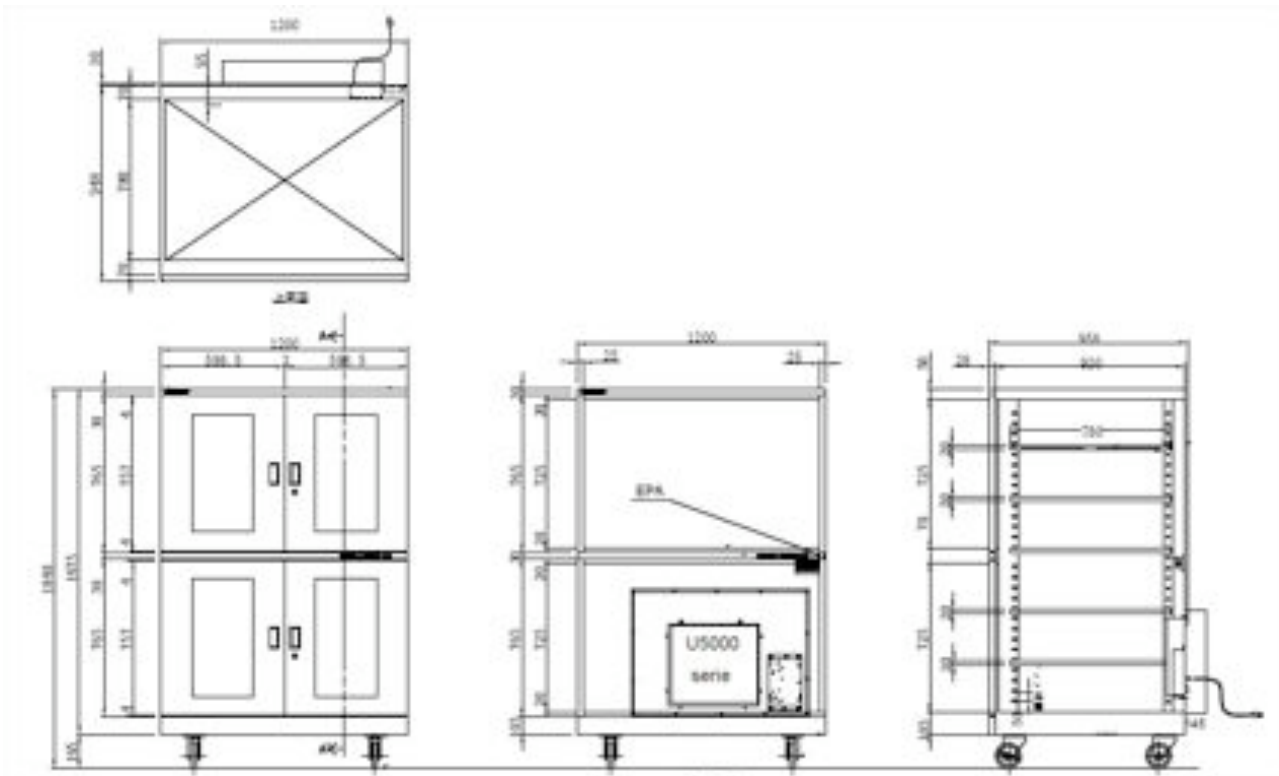
Humidity  $50 \pm 5\%$  rH,  $25^{\circ} \pm 2^{\circ}\text{C}$ , Pressure  $994 \pm 20\text{hPa}$ .

2 door openings, 15 sec. (average RH 0.70%)



## Technical Drawings

### HSDF 1704-51



Dimensions in mm.

Number of shelves bottom section	2	3	4	5
Distance (in mm) between shelves if equally spaced in bottom section	230	180	130	80
Remaining space between top shelf and middle beam	230	130	105	175
Remaining space between bottom shelf and bottom cabinet	225	175	75	125
Loading capacity shelves m <sup>2</sup> (1155 mm x 780 mm)	1,80	2,74	3,60	4,50
Number of shelves top section	2	3	4	5
Distance (in mm) between shelves if equally spaced (if bottom shelf is mounted at lowest possible position in top section)	330	230	180	130
Remaining space between top shelf and top beam	375	225	225	125
Remaining space between bottom shelf and middle beam	0	0	0	0
Loading capacity shelves m <sup>2</sup> (1155 mm x 780 mm)	1,80	2,74	3,60	4,50
Shelves are adjustable every mm	30	30	30	30

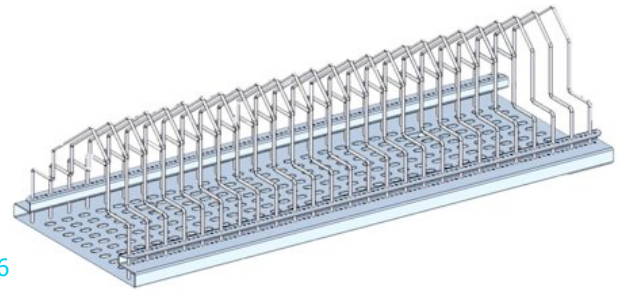
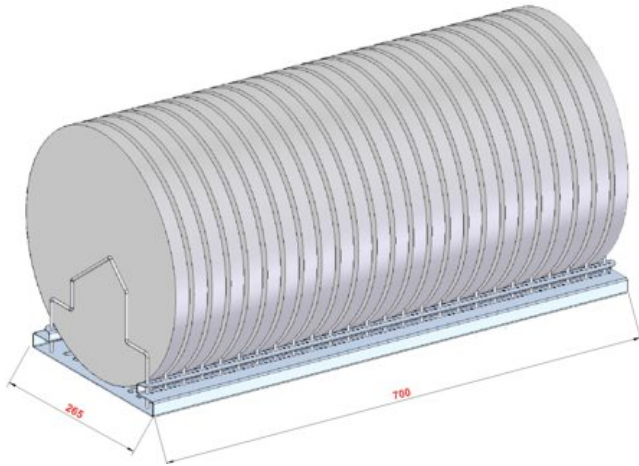
Measurements can slightly deviate.

Note: Calculations measured from the bottom shelf (each section) on the lowest possible position.





## Technical Drawings



Dimensions of SMD reel rack with reel support, item number 20014006



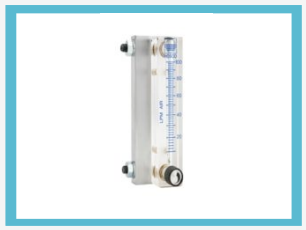
## Options



### **N2 auto flow system,**

The Auto-Flow-System is developed to use in combination with a Totech drying cabinet. The device is used for the quick removal of moisture in the cabinet after the doors has been opened. The drying process is realized by using nitrogen ( $N_2$ ), which is add automatically after the doors have been closed. (by means of adjustable timer function).

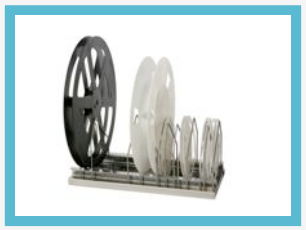
Item number 22613000.



### **N2 flow system,**

The Flow-System is developed to use in combination with a Totech drying cabinet. The device is used for adding nitrogen ( $N_2$ ).

Item number 20010020



### **SMD Reel rack with reel supports,**

700 mm length, ESD coated

Item number: 20014006



### **Reel support,**

additional reel supports for 20014006

Item number: 20014200



### **Humidity alarm signal Lamp,**

two-color, (orange/green), magnetically fixed, providing optical signals on operational states and exceeded limit values. Operates on 24 V.

Item number: 20016030



### **Humidity calibrator Hygropalm 22,**

precision measuring device for calibrating sensors

Set including Hygroclip sensor, case and cable

Item number 20001019

Hygropalm only

Item number 20001016





## Options



### MSL Basic software,

Software solution for the monitoring of moisture sensitive components and their MSL States during storage and processing in the production. With the software the exact drying state individually for each component is monitored and displayed. Here, a complete history for each component is traceable up to the full processing. The evaluation of the drying conditions is based on the requirements of the IPC / JEDEC J-STD-033C directive.

Item number 20017450



### MSL software upgrade,

Upgrade to monitor moisture sensitive components and your MSL were to an another storage facility (dry cabinet, dry room).

Item number 20017452



### HW4-E software,

Standard edition for use with 1 cabinet . Rotronic HW4 is a process oriented, validated software for use with the Rotronic line of digital humidity-temperature instruments.

Item number 47000034



### HW4-P software,

Professional Edition for use with several cabinets. Rotronic HW4 is a process oriented, validated software for use with the Rotronic line of digital humidity-temperature instruments.

Item number 47000031



### Rotronic datalogger set,

Including Software HW4-E-V3 and Cable AC3006

Item number 47000580



### HygroClip 2,

Probe with maximum accuracy for all climate measurements

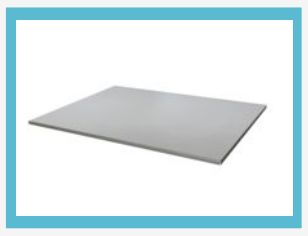
Item number 47000027

Exchange calibrated sensor:

Item number 47000040



## Options

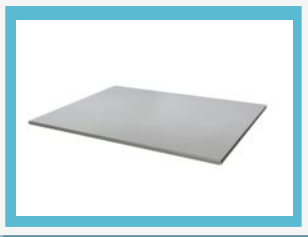


### Shelf standard,

For cabinets type SDF-1704

Item number 20001001

Brackets 2 pcs, item number 30005019



### Shelf,

For cabinets with 2 drying units.

Item number 20001002

Brackets 2 pcs, item number 30005019



### RS 232 Ethernet interface,

Ethernet to 1 x RS-232 ports.

Item number 47000041



### X Feeder System,

This feederrack is suitable for Siemens X Feeder systems.

Item number: 46204030



### S Feeder System,

This feederrack is suitable for Siemens S Feeder systems.

Item number: 46204031



### Adjustable legs

4 in height adjustable legs (63 – 80 mm).

Item number 20010010

Version 12-03

