



Changshu Catec Electronic Intl Ltd

#188 Suzhou Road, Yushan Hi-Tech Park, Changshu-city 215500, Jiangsu, China

Tel:+86-512-52899768
Fax:+86-512-52780868
Service line: 400-6099-878
URL: www.labprovide.com
Email: catec@labprovide.com

Skype: cscatec2012,natalie213@hotmail.com,terryoKing



CATEC SAFETY EQUIPMENT

RELIABLE SAFETY STORAGE SOLUTION



Keeping your items secure from

humidity fire and harmful theft oxidation chemical erosion



COMPANY PROFILE

We are manufacturer for safety equipment like safety cabinets, fume hoods, dry cabinets, n2 gas cabinets, drying ovens, auto lockers and other electronic appliances that can keep your items secure from fire and explosion, harmful pollution, humidity damage, theft or dust etc. With modern manufacture machines, advanced technology and strict quality control in production and constant technical innovating, our products are welcomed all over the world for industries of electronics, military projects, chemical engineering, research institute, lighting, optics, pharmacy, and so on.

CATEC SAFETY EQUIP, HOLDING YOUR SAFETY STORAGE CONCERNS

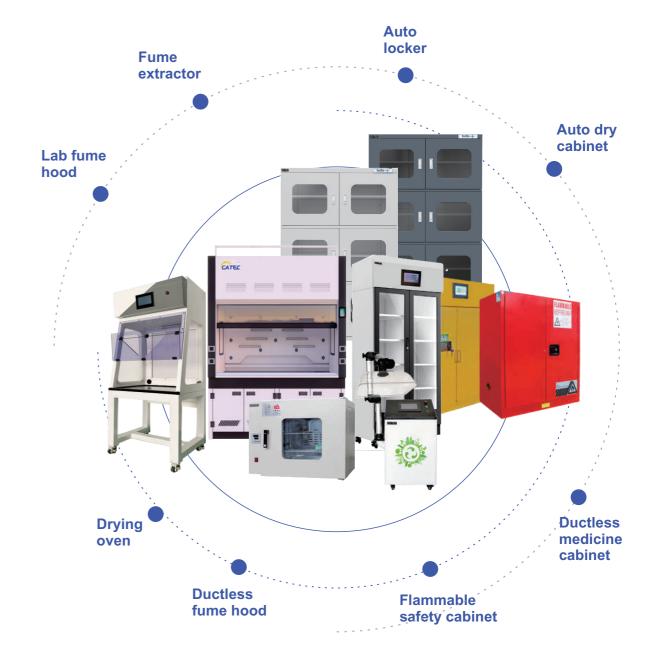














-01-



DUCTLESS SMART FILTRATION FUME HOOD



Functions



Clean the air in laboratory



Overall filtering system



Air intake to create new circulation



clean the working space air



Technical details

Spec	CFS-DS800	CFS-DS1000	CFS-DM1275	CFS-DM1600	CFS-DL1600		
Outer Size (W*D*H/mm)	800*620*2070mm	1000*620*2070mm	1275*620*2070mm	1600*620*2070mm	1600*790*2070mm		
Inner Size (W*D*H/mm)	764*540*860mm	971*512*885mm	1172*552*866mm	1497*522*1014mm	1497*692*1014mm		
Air Handling Capacity	230m³/h	230m³/h	690m³/h	690m³/h	690m³/h		
Avg. Surface Wind Velocity	0.4-0.6m/s	0.4-0.6m/s	0.4-0.6m/s	0.4-0.6m/s	0.4-0.6m/s		
Power	220V-240V 50/60Hz	220V-240V 50/60Hz	220V-240V 50/60Hz	220V-240V 50/60Hz	220V-240V 50/60Hz		
Avg.Power	42W 2A	42W 2A	126W 2A	126W 5A	126W 5A		
Volume	52dBA	52dBA	52dBA	55dBA	55dBA		
Qty of Molecular Filter(set)	2	2	6	6	6		
Qty of Primary Filter(pcs)	1	1	3	3	3		
Qty of Fan(pcs)	1	1	3	3	3		
Other Details	filter*1 set fan*1 LED light*1 7 inch LCD display epoxy resin worktop power cord alarming system						
Parts Options	fixed/movable base ceramics/SS/tempered glass worktop filter options: organic gas filter / inorganic gas filter / integrated filter / HEPA						

-03-

LAMINAR FLOW CLEAN BENCH



Features

- 1. Applicable for experimental protection of biotechnology, pharmaceutical, life sciences and precision electronics.
- 2. Excellent airflow mechanical design to create a partial purification of working environment to ensure that experiments to be carried out successfully.
- 3. Designed as per standards of EN12469 and AS1386.5, clean grade per IS014644.1CL ASS5 (U.S. Federal 209E, 100 level).
- 4. CE and RoHS certified, factory IS09001 certified.
- 5. Advanced filtration system with AAF high efficiency filter with clapboard HEPA to catch pollution particles, of which the retention efficiency is ≥99.995%@MPPS, class H14 per EN1 822, pressure drop 110Pa+15%@0.45m/s, size 570*1170*59mm.

- 6. Made of quality 8mm PP, polypropylene, with excellent anticorrosion, better than the hood made of metal.
- 7. User-friendly design, with sterilization, lighting, interlock mechanism to protect the operator from UV light burning and ensure safe operation.
- 8. Wind speed multi-level and the air volume are adjustable as per demand.
- 9. Centrifugal wind wheel low-power motor, based on airflow mechanics principle, arc-shaped large-diameter inlet design to reduce turbulence for low noise in operation.
- 10. Reasonable duct design, optimized net press box, with micro-mesh design layer outflow wind deflector, convex, no dead ends, for uniformity and stability of the airflow.

Technical details

Spec	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)	Filtering Efficiency	Pressure Drop	Work Top Material	Power
CFS-CBW1500	1500*750*2000	1200*730*1600	≥99.995% @MPPS	110Pa±15% @0.45m/s	SUS304 stainless steel	220V-240V 50/60Hz

-04-



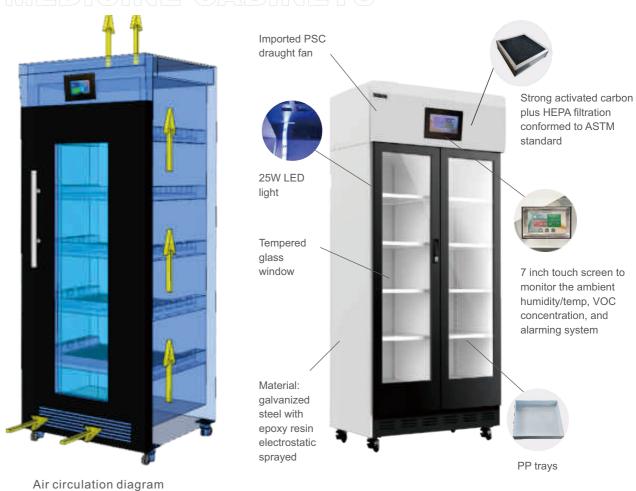
DUCTLESS SMART FILTRATION MEDICINE CABINET



Technical details

Spec	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)	Filtering Rate	Power	Volume	Other Details	Parts Option
CFS-G800P	800*510*2170	710*450*1750	220m³/h	220V/50Hz 76W 3A	160bottles (500ml)	Filter*1 set fan*1 PP tray*5 LED light*1 7 inch LCD display alarming system	spare PP tray spare filter

DUCTLESS SMART FILTRATION MEDICINE CABINETS



Technical details

Spec	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)	Filtering Rate	Power	Volume	Shelf	Other Details	Parts Option
CFS- G800	800*510 *2150	760*432 *1720	220m³/h	220V/50Hz 76W 3A	160bottles (500ml)	PP tray*10	filter*1 set	
CFS- G1600	1600*510 *2150	1560*432 *1720	220m³/h	220V/50Hz 110W 3A	320bottles (500ml)	PP tray*10	fan*1 LED light*1 7 inch LCD display alarming	spare PP tray galvanized steel shelf spare filter
CFS- GS819	819*354 *725	753*322 *519	75m³/h	220V/50Hz 42W, 3A	48bottles (500ml)	PP tray*2	system	

-06-

-05-



DUCTLESS FLAMMABLE REFRIGERATOR WITH SMART FILTRATION SYSTEM

Flammable material refrigerators or freezers are designed to prevent ignition of flammable vapors inside the storage compartment. The flammable liquid is defined by the fire code of the flash point less than 100°F (38°C). In the biochemical research, low temperature storage is the solution to maintain biological activity. With filtration system installed, CATEC flammable refrigerator will not only keep the stored chemicals safe, but also protect the researchers safe from the pollution.





Technical deta	
Part No.	CFS-JL518F
Dimension	Outer size: W690*D661*H2072mm, Inner size: W545*D550*H1430mm(subject to ±3% difference for different lots
Filtration system	Special designed outside loop filtration system, to keep your laboratory away from pollution that caused by stored reagents. As per standard of ASTM, for particles of 0.3um, the filtration rate is up to 99.995%.
Refrigeration system	Default refrigeration target is 5°C. The resettable temperature range is 0°C~RT (room temp.). Users can reset the refrigeration target as per their demand. Twin-motor system to avoid the mutual interference of refrigeration and filtration and to enable the smooth air circulation.
Max filtration capacity	240m³/h
Inner cubage	0.4m³
Storage capacity	64 bottles (500ml/bottle)
Max power	76watt
Max current	3A
Noise	40dba
Net weight	70kg (subject to ±5% difference for different lots)
Power output/input	Output 24V DC, input 100~240V.
Cabinet material	Aluminum alloy profile cabinet, acrylic window
Shelf loading	25kg
Locking system	Electric locking system with code reading via the touch screen
Material holding plank	4 pcs SS planks with option of PP trays
LCD Control screen	1.Smart control system via LCD 7' touch screen, with resolution 800*480, and with operation instruction attached for user's easy working. 2.Real-time monitoring for temperature/humidity and VOC (volatile organic compounds), any of which reaches the set limitation, the buzzer will ring for alarming. 3.Auto switching blower when VOC1 or VOC2 reaches the set limitation, which can be shut off manually. And the volume of fanning will be based on the pollution degree. 4.Filter working life monitoring, with defaulted working life as 20000hrs (resettable) to be cut down when working 5.Display error: ±2%RH / ± 0.2 °C。

FUME HOOD

Features

- 1. Fume Hood, also called fume cupboard or fume cabinet: main structure is made of high quality PP board, perfect for resisting corrosion and heat. It is applicable to various kinds of laboratories with high requirement for cleanliness, for example: pharmaceutical laboratory, food laboratory, semiconductor laboratory, trace metal laboratory, biology laboratory, etc. It is widely used in the industries such as chemical, medical, car, steel plant, university and pharmaceutical scientific research institute.
- 2. Panoramic view sash: vertical movable 5mm tempered glass, low turbulence, easy positioning.
- 3. Worktop: PP board, optional for epoxy resin, or ceramics for specific needs.
- 4. Lighting: 30W/40W fluorescent lamp and switch.
- 5. Power: AC220V,50-60HZ, or as demanded.
- 6. Exhaust system: subuliform gas collecting hood.









Technical details

Model spec.	CF1200	CF1500	CF1800			
Outer dimension(L*W*H)	1200*850*2350mm	1500*850*2350mm	1800*850*2350mm			
Max door open		820mm(vertically adjustable)				
exhaust flux at air speed 0.5m/s	23.4CMM/840CFM	30.6CMM/1100CFM	50.8CMM/1825CFM			
Working board material		ness 8MM, bending designed to avoid physiochemical board or epoxy re				
operation window	Tran	sparent tempered glass, thickness	5MM			
Gas collecting hood		Conical necking type				
Standard parts						
Lighting device	All cover fluorescent 30Wx1	All cover fluorescent 30Wx1	All cover fluorescent 40Wx1			
Power socket		AC220V/10A X 4pcs				
Power switch board	For light	t, operation panel and general on/of	f control			
Remote control water valves	For pure water and pipe water					
PP sink		1pcs				
Options for other parts						

Cups, sinks, air cocks, water cocks, air blowers, power sockets, explosion-proof lighting, Venturi valve control, Butterfly valve control, converter control, touch pad, Surface wind speed detection, sound and light alarm, etc.

-08-



POLYPROPYLENE CHEMICAL CABINET



Functions



White PP board, with strong acid and alkali resistance and anti-corrosive characteristics.



Special designed cabinet top, available for working table



Two padlocks design, for higher level security.



The layer is removable and adjustable for improving the space usage.



Reduce environment pollution, and protect safety of operator.

Technical details

Spec	Capacity (litre)	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)	Weight(kg)	Parts
CFS-P004	15	430*430*560	350*330*460	34	one door/manual, 1 PP shelf.
CFS-P012	45	590*460*890	510*360*790	60	two padlocks
CFS-P022	83	600*460*1650	520*360*1550	90	two doors/manual,
CFS-P030	114	1090*460*1120	1010*360*1020	100	1 PP shelf, two padlocks
CFS-P045	170	1090*460*1650	1010*360*1550	138	
CFS-P060	207	860*860*1650	780*760*1550	165	two doors/manual, 2 PP shelves, two padlocks
CFS-P090	340	1090*860*1650	1010*760*1550	190	two padiocks
CFS-MP900	170	900*450*1800	820*350*1700	160	two /four doors/manual, 2 PP shelves
CFS-CP900	170	900*450*1800	820*350*1700	160	two /four doors/manual, 2 perforated shelves

-09-

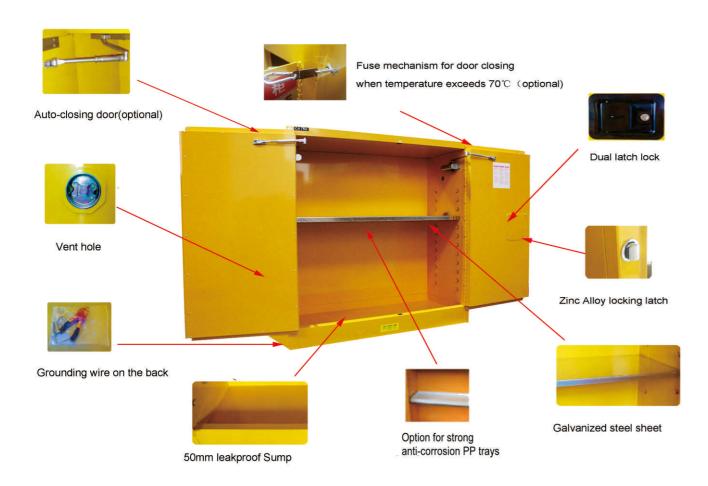
FLAMMABLE SAFETY CABINET



-10-



OPTIONAL SPECIAL DESIGNS





Yellow indicates flammable liquids

Red indicates combustible liquids

Blue indicates weak acids and weak bases

Technical details of flammable safety cabinet

Model name	Material	Length (mm)	Width (mm)	Thickness (mm)	Applicable spec	Remarks
Shelf	Galvanized steel sheet	348	330	25	CFS-G004	
Shelf	Galvanized steel sheet	508	360	25	CFS-G012	_
Shelf	Galvanized steel sheet	1008	360	25	CFS-G030 CFS-G045	For STD spec
Shelf	Galvanized steel sheet	778	760	25	CFS-G060	
Shelf	Galvanized steel sheet	1008	760	25	CFS-G090	
Pallet	Galvanized steel sheet/PP board	340	330	10/58	CFS-G004	
Pallet	Galvanized steel sheet/PP board	500	360	10/58	CFS-G012	
Pallet	Galvanized steel sheet/PP board	1000	360	10/58	CFS-G030 CFS-G045	For options
Pallet	Galvanized steel sheet/PP board	770	760	10/58	CFS-G060	
Pallet	Galvanized steel sheet/PP board	1000	760	10/58	CFS-G090	

Model name	Capacity (liters)	Outer dimention (W*D*H/mm)	Inner dimention (W*D*H/mm)	Weight (kg)	Parts
CFS-G004	15	430*430*560	350*330*460	34	One door/manual、1 shelf, one earthing cable
CFS-G012	45	590*460*890	510*360*790	60	One door/manual、1 shelf, one earthing cable
CFS-G022	83	600*460*1650	520*360*1550	90	One door/manual, 3 shelves, one earthing cable
CFS-G030	114	1090*460*1120	1010*360*1020	100	2 doors/manual、1 shelf, one earthing cable
CFS-G045	170	1090*460*1650	1010*360*1550	138	2 doors/manual、2 shelves, one earthing cable
CFS-G060	207	860*860*1650	780*760*1560	165	2 doors/manual、2 shelves, one earthing cable
CFS-G090	340	1090*860*1650	1010*760*1550	190	2 doors/manual、2 shelves, one earthing cable

-11-



DRUM SAFETY STORAGE CABINET

Drum safety cabinet is specially used for the storage of one or two international standard vertical drums.

Unique double-wall design and explosion-proof function make sure the safety of environment.

Optional single or double drum rollers at the bottom for easy moving.

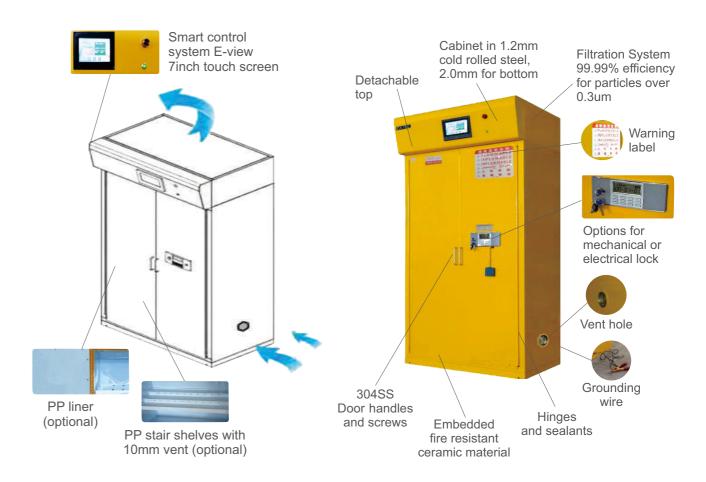


Technical details

Spec	Capacity (gallon)	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)	Weight (kg)	Door Type	Parts	
CFS-55OS	60	860*860*1650	780*760*1550	195	manual	two doors one shelf	
CFS-55OSA	00	000 000 1030	700 700 1330	193	auto closing	one earthing cable one drum roller	
CFS-1100D	440	4500*000*4050	4.400*700*4550	255	manual	two doors one shelf	
CFS-1100DA	110	1500*860*1650	1420*760*1550	355	auto closing	one earthing cable two drum rollers	

-13-

SMART FLAMMABLE & HAZARDS SAFETY CABINET



Technical details

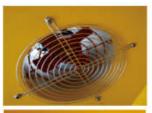
Spec	Outer Size (W*D*H/mm)	Power	Capacity	Color	Shelf qty	Other Details	Parts Option
CFS-ZY030	1090*460*1400		30 gallon	yellow	galvanized		PP liner PP stepped
CFS-ZB030	1000 400 1400	220V/50Hz 40W 2A		blue	steel board*1	electric secure lock Filter*1set fan*1	
CFS-ZY045	1090*460*1930		45 gallon	yellow	galvanized	7 inch LCD display power line alarming system	shelves spare shelf spare filter
CFS-ZB045	1030 400 1330		45 gallon	blue	steel board*2		

-14-



GAS CYLINDER STORAGE CABINET











Features

- Welded 1.2mm thickness steel, designed to meet international standards of OSHA and NFPA (CODE30).Double-walled steel structure for fire proof.
- 2. Explosion-proof cabinet with explosion-proof glass windows and all the other accessories are explosion-proof.
- 3. Industrial special locking system for security.
- 4. Vent hole on the side of the cabinet to ensure the gas flow in the cabinet.
- 5. Quality fixed belts to keep the gas cylinder stand firmly.
- 6. Special options:
- Combustible gas detection alarm: when the gas alarm detects that the gas concentration reaches the critical point of the lower or upper explosion limit, it will send out an alarm signal.
- Special gas detection alarm: select special gas detection alarm device according to the storage condition of gas cylinder, with high sensitivity and accuracy, more safe and reliable.
- Automatic exhaust system: When the sensor in the cabinet detects the gas leakage and gives an alarm, the top fan will automatically work to discharge the gas out of the room through the exhaust pipe.
- Alarming system for temperature or humidity limitations.
- Smoke alarm: alarm when the inside smoke concentration exceeds the setting value.
- Auto-closing door(optional).
- Adjustable fold down ramp, for easy loading or unloading the gas cylinder.

Technical details

Spec	Outer Size (W*D*H/mm)	Weight(kg)	Gas Cylinder	Door Type	Options
CFS-GC101	600*450*1900	63	single	single	alarm blower
CFS-GC102	900*450*1900	90	double	double	auto-closing door



Features

- 1. Epoxy ESD coated 1.2mm galvanized steel structure, endurable lead free paint, strong anti-erosion.
- 2. 7 inch LCD touch screen panel, smart control for real time VOC, temperature and humidity movement, with resettable alarming system.
- 3. High efficiency filtration system as per ASTM standard for acid and alkali gas(filtration rate 99% for VOC), also 99.995% filtration rate for particles over 0.3um.
- 4. Imported PSC fan made in USA, stable functioning, ultra-low noise, and no static sparkle.

Technical details

Spec	Outer Size (W*D*H/mm)	Fan Installed (pcs)	Filters (Layer)	Filtration Capacity(m³/h)	Power (W)	Noise	Gross Weight (kg)
CFS-MX600	600*460*460	1	4	240	160	≤60db	37.5

-15-



DRYING OVEN FOR HIGH TEMPERATURE BAKING



Application: for drying, baking, temp testing, heat aging, or sterilizing in mining industries, electronics, labs, research institutes, and other industries.



Safety structure mirror, stainless steel made inner container, and high quality steel for outer cabinet.



LED display and microcomputer control, LCD display optional.



Variety of blast drying ovens, vacuum drying ovens, incubators, and constant temperature/humidity cabinets, for your options!



Nano-material for door sealing and insulation on material for heat preservation.



Door glass with wide view for user's observation convenience.



VERTICAL VACUUM DRYING OVEN (250°C)



VERTICAL BLAST DRYING OVEN (250°C)



ULTRA HIGH TEMP

DRYING OVEN (400°C)







DESK TYPE BLAST DRYING OVEN (250°C)

Model name	Spec	Inner Size (W*D*H/mm)	Outer Size (W*D*H/mm)	Technical parameters	Shelf qty (pcs)
	DCTG-9023A	300*300*270	580*480*440		2
	DCTG-9053A	420*350*350	700*530*520	RT+10-250°C, AC220V,50Hz,	2
Desk-top blast drying	DCTG-9123A	550*350*550	830*530*720	error 0.1°C/±0.5°C, 500-1050W	2
oven	DCTG-9203A	600*550*550	880*730*770		2
	DCTG-9025A	300*300*270	580*480*440		2
	DCTG-9055A	420*350*350	700*530*520	RT+10-300℃, AC220V,50Hz,	2
	DCTG-9125A	550*350*550	830*530*720	error 0.1°C/±0.5°C, 500-2100W	2
	DCTG-9205A	600*550*550	880*730*770		2
	VCTG-9030A	340*320*320	490*500*560		2
	VCTG-9070A	400*350*500	550*530*760	RT+10-250°C, AC220V,50Hz, error 0.1°C/±0.5°C, 500-2100W	2
	VCTG-9140A	550*450*550	700*650*810	timing 0-9999min	2
	VCTG-9240A	500*600*750	650*800*1010		2
Vertical blast drying	VCTG-9420A	600*550*1300	750*750*1560		3
oven	VCTG-9620A	800*600*1300	950*800*1560	RT+10-250°C, AC220V,50Hz, error 0.1°C/±0.5°C, 500-6000W timing 0-9999min	4
	VCTG-9920A	1000*600*1600	1150*800*1860		4
	VCTG-9425A	600*550*1300	750*750*1560		3
	VCTG-9625A	800*600*1300	950*800*1560	RT+10-300°C, AC220V,50Hz, error 0.1°C/±0.5°C, 4000-7500W timing 0-9999min	4
	VCTG-9925A	1000*600*1600	1150*800*1860	, and the second	4
	VCTF-6020	300*300*275	580*450*450		1
	VCTF-6030	320*320*300	630*510*460	RT+5-250°C, AC220V,50Hz, error 0.1°C/±0.5°C, 500-3500W	1
Vacuum	VCTF-6050	415*370*345	720*525*535	timing 0-9999min vac.degree 133pa	2
drying oven	VCTF-6090	450*450*450	615*590*1470		2
	VCTF-6210	560*640*600	720*820*1750	RT+10-250°C, AC380V,50Hz, error 0.1°C/±0.5°C, 4100-5500W	3
	VCTF-6250	700*600*600	1050*760*910	timing 0-9999min vac.degree 133pa	3

-17--18-



Model name	Spec	Inner Size (W*D*H/mm)	Outer Size (W*D*H/mm)	Technical parameters	Shelf qty (pcs)
	HCTG-9030A	320*320*300	560*520*700		2
High-temp	HCTG-9050A	410*350*350	640*600*695	100-250°C,220V,50Hz, error 0.1°C/±0.5°C.	2
blast drying oven	HCTG-9100A	450*450*450	690*750*650	2000-5500W timing 0-9999min	2
	HCTG-9200A	600*600*600	945*850*840		2

Vacuum Pump Technical Data

Model		DM2	DM4	DM8	DM15
Displacement speed(L/S)		2	4	8	15
1116 (D.)	without gas ballast	≤4X10 ⁻²	≤4X10 ⁻²	≤4X10 ⁻²	≤4X10°
Ultimate partial pressure(Pa)	with gas ballast	≤8X10 ⁻²	≤8X10 ⁻²	≤8X10 ⁻²	≤8X10 ⁻²
	without gas ballast	≤5X10 ⁻¹	≤5X10 ⁻¹	≤5X10 ⁻¹	≤5X10 ⁻¹
Ultimate total pressure(Pa)	with gas ballast	≤8X10 ⁻¹	≤8X10 ⁻¹	≤8X10 ⁻¹	≤8X10 ⁻¹
Noise Lp/Lw dB(A)		52/63	54/65	58/71	59/72
Inlet port(DN)		25KF	25KF	40KF	40KF
Outlet port(DN)		25KF	25KF	40KF	40KF
Oil filling(L)		1.1	1.5	3	4
Rotational speed of pump(r/min)		1400	1430	1400	1420
Motor power(kw)		0.37	0.55	1.1	1.5(2.2
Weight(kg)		24	31	60	70
Overall dimensions(mm)		510*174*274	550*174*274	650*236*383	700*236*3



-19-

CUSTOMIZED VACUUM DRYING OVEN

Safety Guarantee System:







Under phase and phase loss protection



Over current protection



Prompt fusing system



Grounding protection



Features

- 1. Vacuum oven is designed specially for drying of material which is thermo-sensitive or decompounded and oxidative easily. Your materials will be processed correctly in the closed vacuumed space to bear the high temperature baking for resettable time as demanded.
- 2. The oven shell is made of high-quality cold-rolled steel plate, sprayed with electro static powder.
- 3. The working space is made of 304 stainless steel, with rounded corners, smooth and easy to clean.
- 4. Between the shell and the working room, filled with ultra-fine glass wool insulation materials, double-layer glass structure, for easy observing and heat insulation, keeping the operators safe from high temperature burning.
- 5. Strengthened glass door with heat-resistant rubber sealing ring to ensure a high vacuum in the box.
- Temperature control by microcomputer intelligent digital technology, to ensure high temperature control accuracy, strong anti-interference and convenient operation.

Technical details

-20-

VCTF-6600N	VCTF-6500N		
Outer:850*1080*2050 Inner:680*900*990	Outer:790*1310*1850 Inner: 630*810*845		
3			
RT+10∼250°C			
0.1 ℃			
± 0.1 ℃			
9500W			
<133Pa			
AC 380V±10% / 50Hz±2%			
	Outer:850*1080*2050 Inner:680*900*990 3 RT+10~ 0.11 ± 0.1 9500 <133		



CONSTANT HUMIDITY & TEMPERATURE CHAMBER

Features

- High precision microcomputer touch screen controller with high stability of platinum resistance temperature sensor and wind speed inspector in the circulatory system for temperature and humidity test.
- Temperature and humidity are well controlled and welldistributed, precisely and steadily.
- Complete independent system, separated for testing in high temperature, low temperature and constant temperature & humidity environment.
- 7 inches of touch screen controller, programmable for maximum 120 programs, 999 units.
- 3-layer observing window with LED light for observing the inside status.
- French Tecumseh Refrigerator, each with its own particular Code, with stable and reliable temperature control performance.



Model	CFS-150CHC	CFS-225CHC	CFS-1000CHC	
Loading Space (W*D*H)	500*400*600mm	500*600*750mm	1000*1000*1000mn	
Outer Size (W*D*H)	1150*1050*1600mm	1200*1200*1650mm	1450*1510*1860mn	
Volume (V)	150L	225L	1000L	
Temperature & Humidity Range	-20°C~150°C 20%-98%RH			
Deviation	±2°C / ±3%RH			
Fluctuation	±0.5°C / ±2%RH			
Controller Analytical Accuracy	±0.01°C / ±0.1%RH			
Evenness Index	±2°C / ±3%RH			
Refrigerator	France tecumseh compressor			
Heating Rate	2°C~4°C/min (from room temp to roof value, based on non-linear and zero load)			
Cooling Rate	0.7°C~1°C/min (from roon	temp to roof value, based on r	non-linear and zero load)	
Material	Inner SUS#304, outer galv vinegar foam for insolation	anized steel, embedded high d	ensity chlorine formic acid	
Refrigerants	R4O4A USA DuPont enviro	onmental protection refrigerant	(R23+R404)	
Cooling Mode	Air-cooling			
Heater	Spiral nickel chrome electr	c heater		
Humidifier	Semi-closed steam and wet			
Water Supplying Method	Automatic cycling water supply			
Wind Cycling Way	Centrifugal fan-broadband type forced air circulation			
Controller	7" touch screen in English or Chinese			

-21-

CONSTANT HUMIDITY & TEMPERATURE CABINET

Application

The Constant Temperature and Humidity Cabinet is a device that ensures long-term stable storage of items by precisely controlling the temperature and humidity environment. It is widely used in conditions such as chip storage, medical pharmaceuticals, cultural relics and archives, and precision parts, avoid oxidation, mold, and electrostatic damage.

Features

- Structure adopted quality 1mm cold rolled steel with high intensity bearing, insulated with cyclopentane foam, and using advanced powder coating technology with Dupont powder.
- The front of the device is equipped with two doors with automatic rebound structure.
- Integrated LED display for real-time temperature data.
- High control accuracy and stability, with adjustable temperature range according to customer requirements.
- Temperature and humidity data are displayed separately. The temperature sensor uses SENSIRION brand which is original imported from Switzerland, with a humidity display error within ±3%RH.
- Equipped with control loop current limiting protection and heater short-circuit protection.
- The cabinet can cool, heat, and dehumidify.
- Additional options to be added:
- ·Humidity&Temperature alarm function.
- •Optional networking function with RJ-45 network port, connecting to H&T monitoring software, and can be integrated with the customer's MES system.



Technical					
Model	HCT800A	HCT800B	HCT800C		
Temperature Range	5~60℃	5~60°C	15~60°C		
Humidity Range	20%~40%RH	10%~20%RH	Below 10%RH		
Humidity Fluctuation	≤±3%RH	≤±3%RH			
Humidity Uniformity	≤±3%RH				
Temperature Uniformity	≤±2°C				
Optional Functions	humidity or temperature alarm,data logging function (USB/RJ45)				
Outer size	W1170*D610*H1816mm	1			
Shelf	3 shelves (single-layer lo	oad capacity 80KG)			
Weight	аррх. 176КG				
Noise	≤55 db (average measured at 1m from the device)				
Power Consumption	Standby power ≤15W, maximum dehumidification power ≤800W, maximum heating power ≤800W, maximum cooling power ≤300W				

-22-



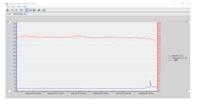
DRY CABINET FOR HUMIDITY CONTROL STORAGE



Display Panel



 $\ensuremath{\mathsf{U}}$ type: ultra low humidity control, less than 5%RH



Features

- 1. LED display, imported humidity sensor with error of ±3%RH.
- 2. Quality 1mm and 1.2mm cold rolled plate, reinforced structure design, high intensity bearing, every shelf can bear over 100kg.
- 3. 3.2mm toughened glass.
- 4. Zinc alloy lock with air press.
- 5. RoHs certified powder coating technology with Dupont powder, high anti-erosion performance to avoid your stored goods from pollution and static shock.
- 6. AC power 85V-265V 50/60Hz, compatible for worldwide application.
- 7. Smart control system and re-settable target humidity.

- 8. Compliant with IPC/JEDEC J-STD-033, and CE certified.
- 9. Additional options to be added:
- Data logging system by USB connection
- Security code lock
- Humidity/temp alarm system with buzzer or light tower
- Heating system up to 40°C or 60°C
- Nitrogen purging system
- Independent segregated compartments
- Stainless steel cabinet

Relative Humidity	Suitable items for storage
A/60~50%RH	Paintings, antiques, paper money, old books, Fax paper, copy paper, etc.
A/50~30%RH	Cameras, CD, LD, technical drawing, video cameras, lenses, microscopes, endoscopes, binoculars, magnetic tapes, disks, records, films, negatives, positive films, musical instruments, stamps, furs, medicinal materials, tea, coffee, cigarette, leather goods, etc.
A/30~20%RH	Precision dies, measurement instruments, all electronic parts to be stored within 45days, normal PCB, phosphor, metallic powders, semiconductors, medical supplies, etc.
B/20~10%RH	Precision electronic parts to be stored within 90days, IC, BGA, special chemicals, lead free PCB, photo couples, XTL, SCR, special samples, measuring tools, seeds, pollen, seedlings, etc.
C/10~1%RH	Materials which are typically sensitive to humidity, e.g., high precision IC, BGA, silver articles, copper articles, etc.
U/5~1%RH	Extremely humidity sensitive device with materials that are likely to go oxidized like silver, brass, bronze, tungsten, etc., and nitrogen condition is recommended most often.

-23-

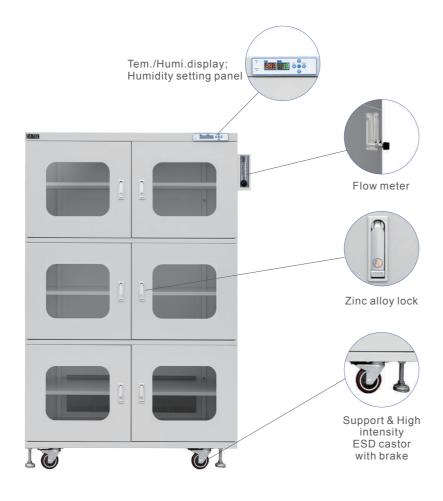
Capacity	Non-ESD	Anti-ESD	Controlled Humidity (RH)	Shelf qty (pcs)	Color	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)
	DRY98A	DRY98EA	20-60%				
081	98L DRY98B	DRY98EB	10-20%	1	White-Non ESD	448*400*688	440*070*500
JOL		DRY98EC	1-10%	1	Dark green- Anti-ESD	440 400 000	446*372*598
	DRY98U	DRY98EU	1-5%		Anti-Lob		
	DRY160A	DRY160EA	20-60%				
1001	DRY160B	DRY160EB	10-20%		White-Non ESD	440*450*4040	440*400*040
160L	DRY160C	DRY160EC	1-10%	3	Dark green- Anti-ESD	448*450*1010	446*422*848
	DRY160U	DRY160EU	1-5%		7414 200		
	DRY240A	DRY240EA	20-60%				
240L	DRY240B	DRY240EB	10-20%		White-Non ESD	500+400+4040	500+070+1110
240L	DRY240C	DRY240EC	1-10%	3	Dark green- Anti-ESD	598*400*1310	596*372*1148
	DRY240U	DRY240EU	1-5%		7414 200		
	DRY320A	DRY320EA	20-60%				
0001	DRY320B	DRY320EB	10-20%	0	White-Non ESD Dark green- Anti-ESD	900*450*1010	
320L	DRY320C	DRY320EC	1-10%	3			898*422*848
	DRY320U	DRY320EU	1-5%				
	DRY435A	DRY435EA	20-60%		White-Non ESD	900*600*1010	898*572*848
	DRY435B	DRY435EB	10-20%	0			
435L	DRY435C	DRY435EC	1-10%	3	Dark green- Anti-ESD		
	DRY435U	DRY435EU	1-5%				
	DRY540A	DRY540EA	20-60%			598*710*1465	596*682*1298
	DRY540B	DRY540EB	10-20%		White-Non ESD		
540L	DRY540C	DRY540EC	1-10%	3	Dark green- Anti-ESD		
	DRY540U	DRY540EU	1-5%		7 thu LOD		
	DRY718A	DRY718EA	20-60%				
	DRY718B	DRY718EB	10-20%	-	White-Non ESD		
718L	DRY718C	DRY718EC	1-10%	5	Dark green- Anti-ESD	598*710*1910	596*682*1723
	DRY718U	DRY718EU	1-5%				
	DRY870A	DRY870EA	20-60%				
	DRY870B	DRY870EB	10-20%		White-Non		
870L	DRY870C	DRY870EC	1-10%	5	ESD Dark green- Anti-ESD	900*600*1890	898*572*1698
	DRY870U	DRY870EU	1-5%		WIIII-E9D		
	DRY1436A-4/6	DRY1436EA-4/6	20-60%				
4.400'	DRY1436B-4/6	DRY1436EB-4/6	10-20%		White-Non	4000*740*1015	4400*000**=0=
1436L	DRY1436C-4/6	DRY1436EC-4/6	1-10%	5	ESD Dark green-	1200*710*1910	1198*682*1723
	DRY1436U-4/6	DRY1436EU-4/6	1-5%		Anti-ESD		

-24-



NITROGEN CABINET





Features

- 1. LED display, imported humidity sensor with error as ±3%RH.
- 2. Quality 1mm and 1.2mm cold rolled steel, reinforced structure design, high intensity bearing.
- 3. 3.2mm tempered glass.
- 4. Zinc alloy lock with air press.
- 5. High intensity truckle with brake.

- 6. RoHs certified advanced powder coating technology with Dupont powder, high anti-erosion performance to avoid your stored goods from pollution, static shock, and oxidation.
- 7. AC power 85V-265V 50/60Hz.
- 8. Available for nitrogen gas or compressed air for 1-60%RH.
- 9. Options for air flow ranges 5-25LPM,5-60LPM, 5-300LPM.

Non-ESD	Anti-ESD	Controlled Humidity (RH)	Average Power(W)	Outer Size (W*D*H/mm)	Inner Size (W*D*H/mm)
DRY98D	DRY98ED	1-60%RH	8	448*400*688	446*372*598
DRY160D	DRY160ED	1-60%RH	8	448*450*1010	446*422*848
DRY240D	DRY240ED	1-60%RH	8	598*400*1310	596*372*1148
DRY320D	DRY320ED	1-60%RH	8	900*450*1010	898*422*848
DRY435D	DRY435ED	1-60%RH	8	900*600*1010	898*572*848
DRY540D	DRY540ED	1-60%RH	8	598*710*1465	596*682*1298
DRY718D	DRY718ED	1-60%RH	8	598*710*1910	596*682*1723
DRY870D	DRY870ED	1-60%RH	8	900*600*1890	898*572*1698
DRY1436D-4	DRY1436ED-4	1-60%RH	8	1200*710*1910	1198*682*1723
DRY1436D-6	DRY1436ED-6	1-60%RH	8	1200 / 10 1910	1190 002 1723

MINI N2 GENERATOR

Technical spec

Model: CT-NG1815C

Outer size (W*D*H): W350*D500*H751mm

N2 produce capacity: 13L /min Purity of N2: over 99%

N2 concentration: 98% - 99.9%

Working condition: 0 ~ 50°C ambient temperature

Display: highlight LED

Power input: 220V 50Hz/60Hz self-adaption Stand-by power consumption: ≤10W Max power consumption: ≤40W Surface color: dark green, anti-ESD

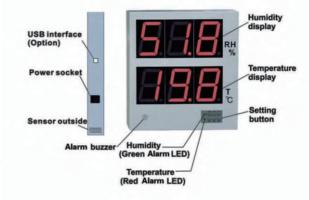


attachable for N2 cabinet

DIGITAL AMBIENT TEMPERATURE AND HUMIDITY MONITOR

Features

- 1. Humidity and temperature display and monitor range
- Temperature range: -9.9 to +70°C, error: ±1.0°C
- Humidity range: 0.1 to 99.9%RH, error ±3.0%RH
- Outer dimensions: W340*H360*D55mm
- Working voltage: 85- 240V AC
- Power: ≤5W
- 4-inch bright LED digital display, visible from 30m away
- 2. Alarming system with high decibel buzzer (>70dB) and indicators, when humidity or temperature exceeds the alarming value, the buzzer will flash and alarm



Technical details

Spec	Temperature Range (°C)	Humidity Range (RH)	Display Number	USB Connection (Y/N)
CTT-18D	-9.9 to +70°C(±1.0°C)	0.1 to 99.9%(±3.0%RH)	single	N
CTT-18DU	-9.9 to +70°C(±1.0°C)	0.1 to 99.9%(±3.0%RH)	single	Υ
CTT-18DT	-9.9 to +70°C(±1.0°C)	0.1 to 99.9%(±3.0%RH)	double	N
CTT-18DUT	-9.9 to +70°C(±1.0°C)	0.1 to 99.9%(±3.0%RH)	double	Y

-25-



DRY CABINET WITH COMPOUNDED FUNCTIONS TO RESIST OXIDATION AND HUMIDITY DAMAGE

Drying cabinet in stainless steel



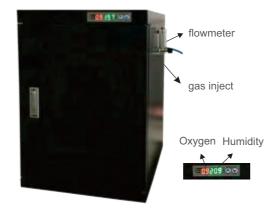
Drying cabinet with heating up to 40°C or 60°C

To meet the demands for some special items that require low temperature baking available for models of DRY320/DRY435/DRY870/DRY1436.



Drying cabinet with oxygen content detection:

The main purpose of humidity control storage is to keep the MSD from oxidation. However, the low humidity does not necessarily mean a low oxygen content. So we add the oxygen content detection system is necessary for those components made of brass, bronze, silver, tungsten, gold, etc. that are most likely to go oxidized.



Drying cabinet with independent segregated compartments:

Each compartment is an independent working space, when you open one of the compartments, the others won't be affected. Available for models of DRY320/DRY435/DRY71 8/DRY870/DRY1436.



generator attached:Besides humidity controlled by the patent

Drying cabinet with nitrogen

Besides humidity controlled by the patented drying module, there's a N2 generator attached to produce endless nitrogen to purge into the cabinet to meet your demand of anti-oxidation. Available for models of DRY870/ DRY 1436.



Drying cabinet with buzzer or light tower alarming



Drying cabinet with drawers



-27-



AUTOMATIC DRY CABINET WITH NITROGEN GENERATOR EMBEDDED



Controller interface

Human machine interface: using an industrial grade 7-inch touch screen, with temperature real time display of humidity data inside the box

Display range and resolution

temperature: -40.0°C ~+85.0°C,

resolution 0.1℃

 $humidity\colon\ 0.1\%RH{\sim}99.9\%RH,\ resolution\ 0.1\%RH$

Panel flowmeter Nitrogen Generator Switch 7-inchtouch Screen Nitrography Pressure Gage Controller High Strength Tempered Glass Foma Wheels

Controller function

When the humidity inside the cabinet is not within the set humidity alarm range, a beep will sound, the humidity value on the standby interface changes to red. When the humidity inside the cabinet returns to the set humidity alarm range, the corresponding humidity value is restored to white. Can set humidity control values and humidity alarm interval values.

Features

System composition

- Composed of miniature nitrogen production system, nitrogen pipe line, and multi-point gas supply control system
- Industrial all-in-one machine operating system, real-time display of temperature and humidity data inside the cabinet
- Equipped with two independent storage spaces on the left and right with a capacity of approximately 700L

Product advantages

- Suitable for materials and products that require moisture and oxidation resistance, but in places lacking nitrogen pipelines.
- The increase in labor costs due to frequent replacement of nitrogen cylinders during daily operations or holidays.
- Fully automatic nitrogen production does not require pipelines or nitrogencylinders for gas supply, achieving cost savings in nitrogen input

Specification parameters

Structure	The cabinet is made of 1.0mm thick high-quality cold-rolled steel plate, and important components are made of 3mm material. The surface is treated with anti-static treatment, and the effect is permanent. The color is blue black. The sealing between the cabinet door and the cabinet body is made of a combination of soft polyvinyl chloride (PVC) and permanent magnetic sealing strips, which are resistant to high temperature and corrosion. The sealing plastic strips are pressed and sealed tightly						
Outer size	W1440*D710*H1888mm	Weight	Net weight:about 245 kgs				
Independent space size	W596*D682*H788mm	Door	4 doors 8 shlvesf				
Humidity control range	1-60%RH	Moisture control effect	Moisture-proof and antioxidant				
Humidity fluctuation	Set value ±3%RH	humidity uniformity	±5%RH(Empty cabinet tested)				
Noise	≤ 55 dB (Test average value at a distance of 1m from the device)	Total power	standby ≤ 15W,maximum≤ 60W				

-29-

CLEAN NITROGEN GAS CABINET

Application

Suitable for the storage of silicon wafers and wafer boxes during the production process of SMT front-stage mono-crystalline silicon, preventing the phenomenon of returning particles and mist on silicon wafers;

Due to common dry cabinet or nitrogen cabinet is designed to be fully closed and does not have self-cleaning function, there will be a large amount of dust inside the cabinet, which is highly likely to adhere to the material.

The clean cabinet is suitable for storing items that need to avoid dust pollution.



Technical			
Cleam class	Class 10、Class 100、Class 1000	Error	±3%RH
Inner size	W1258*D627*H1140mm, Appr 1115L	Noise	≤ 50 db
Outer size	W1300*D800*H1836mm	Power	Ave≤ 15W
Weight	N/W: 225 Kg	Option	ESD system
Humidity range	1-60%RH		

AUTO DOOR MOISTURE-PROOF NITROGEN CABINET

Technical – customi	zable	
Product name	Auto door moisture-proof nitrogen cabinet	
Function features	Use identity verification to open and close doors, access materials, and connect with AGVs, robots, and robotic arms to access materials	
Admin method	Facial recognition, IC card, password	
Outer dimensions	W1450*D710*H1785mm, customizable	
Humidity range	1-10%RH /10-20RH /20-60%RH/ 1-60%RH, Accuracy: Humidity ±3%RH,temperature ±1℃	
Base structure	Install 360 ° rotating casters at the bottom, with two wheels equipped with brake function for easy movement and fixation	
Shelf loading	High strength load-bearing shelf, adjustable for safer and more convenient storage of items	
Cabinet structure	Using 1.0mm cold-rolled steel plate, locally reinforced with 3.0mm, with a surface anti-static resistance value of 10 6 -10 $^{9}\Omega$	
Cabinet door	Moveble glass door, equipped with automatic opening and closing system	
Standard features	7-inch touch screen, real-time display of temperature and humidity data inside the cabinet; quality imported humidity sensor, precise digital display, and long service life Humidity setting, with memory function, no need to reset after power failure, and automatic fault recognition and tracking function	
Intelligent nitrogen charging system	The nitrogen injection will automatically stop when it reach target humidity; When the humidity exceeds nitrogen will input again, which is beneficial for rapid dehumidification, preventing oxidation of semiconductor and other devices, and effectively saving nitrogen gas.	

-30-



DRY CABINET WITH 60°C HEATING

Features

- LED display, imported humidity sensor with error of ±3%RH, ±1 °C.
- Quality 1mm and 1.2mm cold rolled steel, reinforced structure design, high intensity bearing.
- High strength explosion-proof tempered glass.
- Zinc alloy lock with plus pressure capability.
- RoHs certified advanced powder coating technology with Dupont powder, high anti-erosion performance to avoid your stored goods from pollution.
- AC power 85V~265V 50/60Hz.
- Smart control system and re-settable target humidity.
- Temperature baking up from room temperature to 60°C, and reliable dehumidifying effect.
- Designed as per IPC/JEDEC J-STD-033C; CE certified.
- Additional options to be added:
- ·Data logging system by USB connection
- ·Humidity alarm system with buzzer or tower light
- ·Nitrogen system



Technical	
Model	DRY-1000-H60
Inner Size	W1052*D625*H1520mm,1000L
Outer Size	W1200*D780*H1960mm
Weight	268 Kg
Humidity Range	1-10%RH (DRY-C1000-H60) / 1-5%RH (DRY-U1000-H60)
Temperature Range	Room temperature to 60°C
Accuracy	humidity: ±3%RH temp; ±1°C
Power Consumption	max:<2300W

-31-

INTELLIGENT MATERIAL RACK MOISTURE-PROOF CABINET

Features

Workflow

Inbound

Step1: Use PDA to scan the QR code on the material rack Cabinet.

Step2: Scan the QR code on the reel.

Step3: Put the reel in any empty rack to complete the Inbound.

Tips:The system will monitor the inbound process. The system will alarm and show wrong record when improper operation or skipping step 1 or 2

Outbound

Step1: Use PDA to scan the QR code on the mission list.

Step2: Scan the QR code of the reel to be took out.

Step3: The light corresponding to the reels in the list will be green automatically.

Step4: took out the reels in the list as perthe light indication.

Tips: The system will monitor the outbound process. The system will alarm and show wrong record when improper operation or skipping step 1 or 2

Error prevention and exception handling mechanisms

Storage error prevention

The storage mode does not require specifying a storage location for storage, and there is no problem of misplaced storage. The storage sensor is in a high-speed scanning state, and the scanning and storage induction are in a closed-loop logic. If it is placed in violation of regulations, the system will compare it with itself, alarm and kick it out.

Outbound error prevention

The non designated outbound position will be timely detected with alarm triggered after task order received. The exclusive function of ou tbound tasks can completely avoid the risk of cross retrieval errors. After the outbound task is initiated, the lights of the handheld termina I and the cabinet will be synchronized for reminding.

Inbound monitoring

All storage positions are in a high-speed sensor scanning monitoring state and continuously compared with system recorded messages. Any abnormal changes (illegal insertion or extraction) will be counted and a warning message will be issued.

Emergency mode

In case of power outage or cabinet malfunction, the handheld terminal can be temporarily switched to manual mode for convenient emergency inbound or outbound.

Technical		
Model	CTC1436BFD-ZNLJ	
Support system	support WMS、ERP、MES system	
Material	7-15 inch SMD; thickness 8mm-70mm, customizable	
Error prevention mechanism	inductive/QR code	
Storage capacity	13 inch reel:48 reels,15 inch reel:24 reels,Tray :18 trays	
Outersize(mm)	W1305*D560*H1915	
Deviation	±3.0%RH,±1.0℃	
Humidity range	1-10%RH	
Cabinet material	1.0mm quality steel board,Anti static index (10 ^{Λ5} -10 ^{Λ9} Ω)	
Software	error prevention, scan error prevention, and information management	
Optional function	humidity alarm, data logger(USB/R45), net-working, door open alarm, door open light, N2 injection	
Others	material and color are available for customizing, and sensing materials allows for real-time monitoring of their entry and exit status	

-32-



INTELLIGENT INDUCTION TYPE STEEL MESH CABINET

Workflow

Inbound

- Handheld terminal scanning steel mesh cabinet number (first time)
- Handheld terminal scanning steel mesh number
- The system receives the steel mesh number and compares it with the database file
- Insert the steel mesh freely into any empty storage space
- The system detectes steel mesh insertion and uploades storage location information to the system
- System binding scan number and storage location information and saving
- Steel mesh cabinet enters monitoring status

Outbound

- The MES system sends a demand steel mesh message based on the work order information
- After the management system receives it, it checks and matches with the system to generate tasks
- The management system sends outbound instructions to handheld devices and cabinet
- Select the corresponding task based on the handheld device and click on outbound
- The system sends an outbound instruction to the storage cabinet and returns the cabinet number/light color for the task
- After removing the steel mesh, the storage position senses a change in removal and returns a message of system status change

Error prevention and exception handling mechanisms

Storage error prevention

The storage mode does not require specifying a storage location for storage, and there is no problem of misplaced storage. The storage sensor is in a high-speed scanning state, and the scanning and storage induction are in a closed-loop logic. If it is placed in violation of regulations, the system will compare it with itself, alarm and kick it out.

Outbound error prevention

The non designated outbound position will be timely detected with alarm triggered after task order received. The exclusive function of ou tbound tasks can completely avoid the risk of cross retrieval errors. After the outbound task is initiated, the lights of the handheld termina I and the cabinet will be synchronized for reminding.

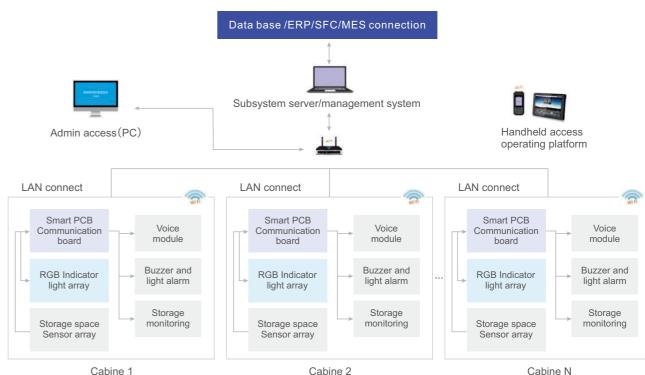
Inbound monitoring

All storage positions are in a high-speed sensor scanning monitoring state and continuously compared with system recorded messages. Any abnormal changes (illegal insertion or extraction) will be counted and a warning message will be issued.

Emergency mode

In case of power outage or cabinet malfunction, the handheld terminal can be temporarily switched to manual mode for convenient emergency inbound or outbound.

INDUCTION STENCIL TANK MANAGEMENT SYSTEM System structure diagram



Product advantages

High density storage with a spacing of 5mm between cells

Inductive storage combined with multi-color storage light prompts for easy searching

Patent elastic hook limit/pop-up retrieval, solving the problem of high-density storage and retrieval

Each storage location is equipped with sensor management to prevent misplacement/wrong retrieval, leakage, abnormal retrieval, etc

Model	CT-SISC
Dimension	W1300*D560*H1900mm(customizable as per the needs)
Applicable size	25mm/30mm/40mm all sizes and types of steel mesh with regular thickness
Cabinet material	The cabinet is made of 1.0mm high-quality cold-rolled steel plate, equipped with stainless steel slide rails, and coated with electrostatic powder
Capacity	20-30mm thickness: 40 pieces/layer \cdot 120 pieces/cabinet; 40mm thickness: 2 pieces/layer \cdot 96 pieces/cabinet
Management software	The independent steel mesh cabinet management system can be integrated with customers' ERP MES, and MRO systems
Software compatibility	Capable of steel mesh filing/import/model version management/system work order issuance/ life statistics/life warning, etc.
Configuration selection	Flexible configurations such as frame style, fully enclosed style, and door style can be selected according to needs.
	Inductive storage combined with multi-color storage light prompts for easy searching

-33-