LINE-LINK
PRODUCTS

www.linelink-linsen.com

Line-Link
Cleanroom Total Solution

LINE-LINK PURIFICATION TECHNOLOGY (SHANGHAI) CO.,LTD
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PUTUO DISTRICT, SHANGHAI, CHINA

Line-Link
Cleanroom Total Solution

LINE - LINK
CLEANROOM TOTAL SOLUTION
LINSEN GROUP

FOCUS ON CLEANROOM TECHNOLOGY
TO BUILD INTERNATIONAL BRANDS

COMPANY PROFILE

COMPANY PROFILE

EACH PRODUCT IS A
MINIATURE OF THE
WHOLE COMPANY

Founded in 2003, Linsen Group is a national high-tech enterprise integrating R&D, design, manufacturing and sales.

Based on the domestic market and expanding into the world, Linsen Group has established 1 overseas center (Line-Link) in Shanghai, 1 design center in Suzhou, 2 engineering construction centers in Suzhou and Wuhan, 4 manufacturing centers in Suzhou, Tianjin, Wuhan, and Chengdu, to become the world-wide leading company in cleanroom industry.

Dedicating to become the most professional and influential company in the global cleanroom engineering industry, Linsen Group actively invests in staff training, facilities and system qualification construction. At the same time, Linsen Group constantly improves manufacturing standards, design service and innovation capabilities.

1	1	2	4
OVERSEAS CENTER	DESIGN CENTER	ENGINEERING CENTER	MANUFACTURE CENTER

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LINE-LINK
WORKSHOP

MANUFACTURING &
QUALITY ASSURANCE

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LINE-LINK
WORKSHOP

The first domestic company that perfectly integrated self-foaming technology with cleanroom doors, thoroughly solved the problem of easy aging and easy shrinkage of cleanroom door seals.

Fully automatic laser cutting center

ACCURPRESS CNC Hybrid Bending line from Canada

CNC Turret Punch MOTORUM 2048LT

In 2003, Linsen Group introduced the CNC adjustable handmade panel forming production line, which has greatly promoted the development process of clean room modularization.

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LINE-LINK
CERTIFICATE

HONOR CERTIFICATE

18 Patents

High-tech Enterprise Certificate

CE Certificate for HEPA Filter

Material Certificate

16 Inspection Reports

Safety Production Standardization Certificate

Fire Resistance Certifcate for Door

Fire Resistance Certifcate for Panel

Fire Resistance Certifcate for Window

Quality Management Certificate

Measurement Confirmation Certificate

Suzhou Famous Brand Product Certificate

Technology Enterprise Certificate

Quality Management System Certificate

Occupational Health And Safety Management System Certificate

Environmental Management System Certificate

Quality Management Certificate

Top 10 Growing Companies

Three A Credit Rating

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LINE-LINK
PROJECT

PROJECT REFERENCE

Partial clients list only and no preference ranking

Laboratorios SL S.A.	Perth Children's Hospital	SHARIF Pharmaceuticals Ltd.	KARMAN PHARMA	SciVac
InvaPharm, Inc	tpc	Ramy	MEVAC	
MSD	UTS	RENATA LIMITED	PHARCO PHARMACEUTICALS	MEDIPHAR LABORATORIES
Pfizer	Incepta	ZISKA PHARMA	UBM UNITED BioMed	JUHEL
Pharmatech	JMI JMI Hospital Requisite Manufacturing Limited	MicroVet	SANOFI	Emzor
AstraZeneca	Opsonin Opsonin Pharma Ideas for healthcare	Beta Sharma	INNA PHARMACEUTICAL	citi PHARMA Care to Cure
Corplex	POPULAR	Global Pharma	BIO PHARMAX	Asian Continental

Hoora PHARMA	prosaludfarma		belpharm	BOE
Getz pharma	LAROPHARM	Umeda	Dentafill	Foxconn
Rasco	perfect care	YSPH	JURABEK Laboratories Ltd	HUAWEI
SHROOQ PHARMACEUTICALS (Pvt.) Ltd.	ADVANCED PHARMA Advanced Pharmaceutical Industries	Plastic Electromechanic Company	RMF	HITACHI Inspire the Next
STANDPHARM	ESCO LIFESCIENCES GROUP	Rebul 1895	Bidiphar	LG
Young's		PHARMA TAWALU	FRESENIUS KABI caring for life	SAMSUNG
Lasca Laboratorios	PIC Pharma Innova	VETAL	intel.	northvolt

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LINE-LINK
PRODUCTS

LL-CRSW-50 series

50mm Metal Cleanroom Panel Handmade, rock wool

Structure Type

The 50mm metal surface handmade rock wool sandwich panel with MGO adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and the rock wool is filled with single or double layers of 5mm glass magnesium board as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm,1160mm,1180mm,1200mm Other size customizable
Diagonal Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm、0.6mm、1.0mm
Insulation Material	Rockwool (Density: 100~120 kg/m³),1 or 2 layers of MGO are available
Panel Frame	0.8mm, galvanized steel
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Flexural Capacity	0.9KN/m²
Bonding Performance	0.15MPa
Peeling Performance	≥85%—≤98%
Heat-transfer Coefficient	0.73W/m²·K
Fire Resistance	1.0h
Connection Type	Aluminum joint type, continuous type

1h
FIRE RESISTANCE

LL-CRSW-50 series

50mm Metal Cleanroom Panel Handmade, PU/EPS/PIR

Structure Type

The 50mm metal surface handmade PU/EPS/PIR sandwich panel adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and-PU/EPS/PIR is infilled as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm,1160mm,1180mm,1200mm Other size customizable
Diagonal Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm、0.6mm、1.0mm
Insulation Material	PU/EPS/PIR (Density: 12~24 kg/m³)
Panel Frame	0.8mm, galvanized steel
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Flexural Capacity	1.233KN/m²
Bonding Performance	0.027MPa
Peeling Performance	≥85%—≤94%
Heat-transfer Coefficient	1.012W/m²·K
Fire Resistance	0-0.5h
Connection Type	Aluminum joint type, continuous type

0.5h
FIRE PROOF

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PRODUCTS

LL-CRSW-50 series

50mm Metal Cleanroom Panel Handmade, Aluminum honeycomb

Structure Type

The 50mm metal surface handmade Aluminum honeycomb sandwich panel with MGO adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and Aluminum honeycomb is infilled and with double layers of MGO as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm,1160mm,1180mm,1200mm Other size customizable
Diagonal Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm、0.6mm、1.0mm
Insulation Material	Aluminum honeycomb (Aperture 21mm, <21mm customizable) +2 layers MGO
Panel Frame	0.8mm, galvanized steel
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Flexural Capacity	0.9KN/m²
Bonding Performance	0.15MPa
Peeling Performance	≥ 85%—≤ 98%
Heat-transfer Coefficient	0.73W/m²·K
Fire Resistance	1.0h
Connection Type	Aluminum joint type, continuous type

1h
FIRE RESISTANCE

LL-CRSW-50 series

50mm Metal Cleanroom Panel Handmade, paper honeycomb

Structure Type

The 50mm metal surface handmade paper honeycomb sandwich panel with MGO adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and paper honeycomb is infilled and with double layers of MGO as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm,1160mm,1180mm,1200mm Other size customizable
Diagonal Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm、0.6mm、1.0mm
Insulation Material	Paper honeycomb (Aperture 21mm, <21mm customizable) +2 layers MGO
Panel Frame	0.8mm, galvanized steel
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Flexural Capacity	1.222KN/m²
Bonding Performance	0.028MPa
Peeling Performance	≥ 85%—≤ 95%
Heat-transfer Coefficient	1.068W/m²·K
Fire Resistance	1.0h
Connection Type	Aluminum joint type, continuous type

1h
FIRE PROOF

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PRODUCTS

LL-CRSW-50 series

50 Metal Cleanroom Panel Handmade, Aluminum honeycomb with Gypsum board

Structure Type

The 50mm metal surface hand-made Aluminum honeycomb sandwich panel with gypsum board adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and paper honeycomb is infilled and with double layers of gypsum board as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm,1160mm,1180mm,1200mm Other size customizable
Diagonal Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm、0.6mm、1.0mm
Insulation Material	Aluminum honeycomb (Aperture 21mm,<21mm customizable) + 2 layers gypsum board
Panel Frame	0.8mm, galvanized steel
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Flexural Capacity	1.236KN/m^2
Bonding Performance	0.028MPa
Peeling Performance	≥ 85%—≤93%
Heat-transfer Coefficient	0.86W/m^2·K
Fire Resistance	1.0h
Connection Type	Aluminum joint type, continuous type

1h FIRE RESISTANCE

LL-CRSW-50 series

50 Metal Cleanroom Panel Handmade, Magnesium oxysulfide

Structure Type

The 50mm metal surface hand-made magnesium oxysulfide sandwich panel adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and paper honeycomb is infilled and with double layers of gypsum board as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm,1160mm,1180mm,1200mm Other size customizable
Diagonal Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm、0.6mm、1.0mm
Insulation Material	Magnesium oxysulfide, (200Kg/m^3, ＞200Kg/m^3 customizable)
Panel Frame	0.8mm, galvanized steel
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Flexural Capacity	1.483KN/m^2
Bonding Performance	0.068MPa
Peeling Performance	≥ 85%—≤93%
Heat-transfer Coefficient	0.86W/m^2·K
Fire Resistance	1.0h
Connection Type	Aluminum joint type, continuous type

1h FIRE RESISTANCE

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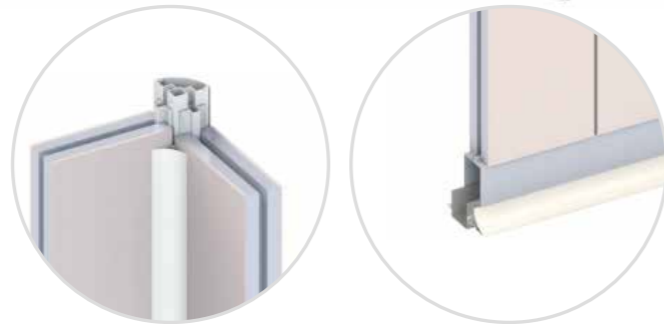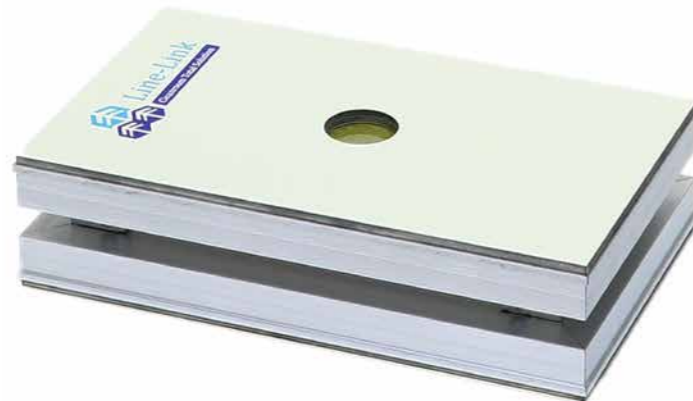
LL-CRHW-50 series

50 HPL Cleanroom Panel Handmade, rock wool

HPL surface clean room
Selection of handmade made
Sandwich Panel

Structure Type

The HPL surface handmade
made sandwich panel adopts
one layer of 5mm HPL as the
surface, and the surrounding
galvanized steel strips, inner
filling core material.

Insulation

Physical Parameters

Total Thickness	50mm
Standard Size	980mm, 1000mm, 1180mm
Max. Length	≤3000mm
HPL Thickness	5mm
Insulation material	Rock wool, Paper honeycomb, Aluminum honeycomb
Panel Frame	Aluminum
Protection Film	0.06mm, customizable if t>0.06mm
Connection Type	Aluminum joint type
Advantage-1	Can connect with regular wall panel system: save budget
Advantage-2	Resistant to H2O2, No scratching; strong

LL-CRSW-50 series

50 Metal Cleanroom Panel Machine made

For metal surface clean
room Selection of Machine
made Sandwich Panel

Structure Type

The metal surface machine
-made sandwich panel adopts
color-coated galvanized steel
sheets as the surface, and the
surrounding galvanized steel
strips and galvanized corners
are sealed, inner filling core ma-
terial, through high-speed con-
tinuous automation,The mold-
ing machine is heated, pressur-
ized, compounded, trimmed,
slotted, and formed by blanking
A new generation of building
decoration panels; with thermal
insulation, convenient installa-
tion, etc.

Physical Parameters

Total Thickness	50mm、75mm、100mm、150mm、200mm
Standard Size	950mm、1150mm
Max. Length	≤10000mm
Coating	PE
Sheet Thickness	0.426mm、0.45mm、0.476mm、0.5mm
Insulation material	Rock wool, silica rock, foam, polyurethane, paper honeycomb, hollow glass magnesium, magnesium oxysulfide, etc. ,
Panel Frame	0.45mm, 0.5mm (thickness optional)
Protection Film	0.06mm thick, more than 0.06mm can be customized
Connection Type	Continuous type
Type	H board (flat plate, profiled), grooved board, corrugated sandwich board

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LL-CRSW-100 series

## 100 Metal Cleanroom Panel Handmade, Gypsum board

Structure Type

The 100mm metal surface cleanroom handmade double gypsum board with air return adopts color-coated or stainless steel sheet as the surface and the surrounding galvanized steel strips and galvanized corners are sealed, and gypsum board as the inner core layer. Manufactured through processes such as heating, pressing, and curing.

Physical Parameters

Total Thickness	100mm
Standard Size	960mm,1160mm, Other size customizable
Tolerance	≤1mm
Max. Length	≤10000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm,0.45mm,0.476mm,0.5mm,0.6mm,1.0mm
Insulation material	Double 12mm gypsum board
Panel Frame	1.0mm
Corner Connection	1.0mm, galvanized steel
Protection Film	0.06mm, customizable if t>0.06mm
Connection Type	Aluminum joint type

LL-CRSW-76/100 series

100 Clip Cleanroom Panel Handmade, Gypsum board
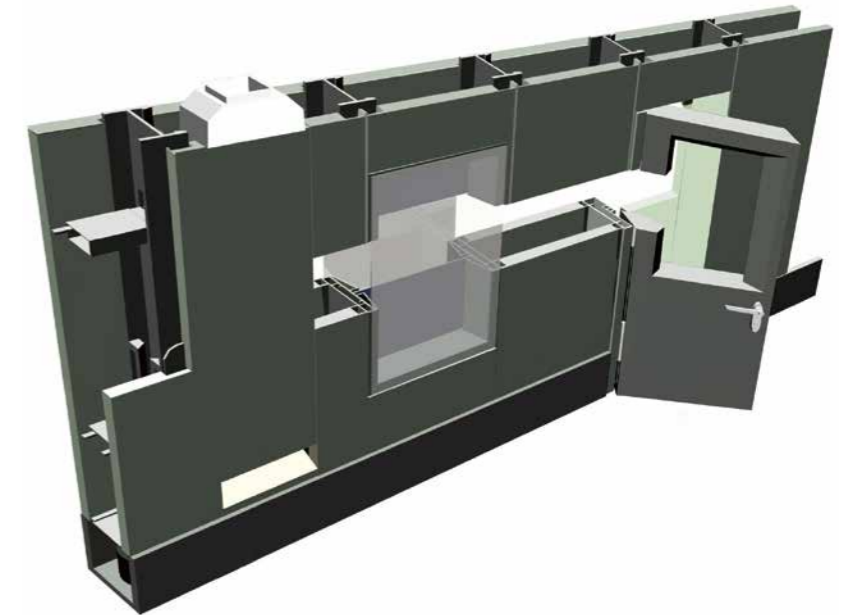
Structure Type

76mm/100mm metal surface detachable wall, using special shrapnel edge gypsum board, with adjustable ground rail, H-shaped vertical keel, reinforced horizontal keel, elastic buckle and other accessories assembled, 100mm thick wall can be built with air return unit.

Physical Parameters

Total Thickness	76mm/100mm
Standard Size	960mm,1160mm,Other size customizable
Diagonal Tolerance	≤1mm
Max. Length of vertical keel	20000mm
Coating	PE, PVDF, Antistatic, Stainless steel and HDP etc.
Sheet Thickness	0.426mm,0.45mm,0.476mm,0.5mm,0.6mm,1.0mm
Insulation material	12mm gypsum board (fireproof 4H interior needs to be filled with rock wool)
Panel Frame	1.2mm
Protection Film	0.06mm, customizable if t>0.06mm
Fire Resistance	1.0h/4.0h
Connection Type	Keel construction, spring buckle

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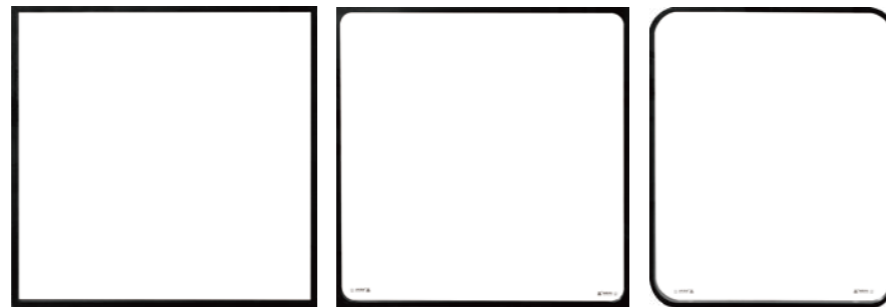
LINE-LINK
PRODUCTS

LL-CRDW series

Cleanroom window

Structure Type

Unique perfomace in sealing.
Flush with wall.Injected with
Nitrogen gas.
Flexible installation.
S.S inner frame Beautiful appear-
ance.Customizable thickness.

Double-layer tempered glass cleanroom window

Available Corner Type

| Rectangular Corner | Rectangular and Round Corner | Round Corner |

Parameters

Thickness	50mm / 75mm / 100mm (Other size available)
Frame Color	Black/ White
Glass Thickness	5mm/ 6mm/ 8mm
Corner Type	Rectangular,Rectangular and Round, Round, (S.S inside)
Glass Performance	Tempered glass/ Fireproof glass
Sealing Performance	Four-side sealing, built-in desiccant, filled with N2 gas

LL-CRSD series

Cleanroom door

Structure Features

Galvanized steel plate
bending and pressing
together.
Three sides sealing with
self styrofoam tape.
Automatic drop seal.
European quality
Customizable.

Steel Door

Parameters

Standard size	900*2100/1300*2100/1500*2100 (Door size customizable)
Door Frame Structure	Flat type / Clamp type (Door frame size customizable)
Door Frame	1.5mm Galvanized steel
Door Leaf	1.0/1.2mm Galvanized steel
Door leaf thickness	50mm
Insulation Material	Paper honeycomb/ Alu. honeycomb / Rockwool
Window on the door	Double layered with square or round corner
	Window Size：500*800mm, customizable；Window Color：
	Black or White；Glass：T=5mm tempered glass (can be fireproof)；
	N2 gas and desiccant inside
Door Hardware	Lock：Split lock, Non-split lock, Press lock, Push bar Lock etc.
	Hinge：：SS304 lift-off type
	Door closer：Regular or Concealed (with or without positioner)
	Interlock：Electromagnetic type or electric bolt type
Door Seal	Automatic drop seal
Coating	Electrostatic spraying (color card available for choosing)

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LINE-LINK
PRODUCTS

LL-CRSD-S series

Cleanroom door

S. S Door

Structure Features

S.S plate bending and
pressing together,
Three sides seal with
self styrofoam tape.
Automatic drop seal.
Waterproof.

Parameters

Standard size	900*2100/1300*2100/1500*2100 (Door size customizable)
Door Frame Structure	Flat type / Clamp type (Door frame size customizable)
Door Frame	1.2/1.5mm stainless steel sheet
Door Leaf	1.0/1.2mm stainless steel sheet, Lining: 1.2 mm galvanized steel reinforcement board
Door leaf thickness	50mm
Insulation Material	Paper honeycomb/ Alu. honeycomb / Rockwool
Window on the door	Double layered with square or round corner
	Window Size：500*800mm, customizable；Window Color：Black or White；Glass：T=5mm tempered glass (can be fireproof)；N2 gas and desiccant inside
Door Hardware	Lock：Split lock, Non-split lock, Press lock, Push bar Lock etc.
	Hinge：SS304 lift-off type
	Door closer：Regular or Concealed (with or without positioner)
	Interlock：Electromagnetic type or electric bolt type
Door Seal	Automatic drop seal
Coating	Electrostatic spraying (color card available for choosing)

LL-CRHD series

Cleanroom door

HPL Door

Structure Features

Aluminum door frame
Three sides seal with
self styrofoam tape.
Automatic drop seal.
Anti-scratching
Against H2O2

Parameters

Standard size	900*2100/1300*2100/1500*2100 (Door size customizable)
Door Frame Structure	Flat type / Clamp type (Door frame size customizable)
Door Frame Material	Aluminum frame, Lining:1.2 mm galvanized steel reinforcement board
Door Leaf	5mm HPL door leaf with Aluminum alloy edging around
Door leaf thickness	50mm
Insulation Material	Paper honeycomb/ Alu. honeycomb / Rockwool
Window on the door	Double layered with square or round corner
	Window Size：500*800mm, customizable；Window Color：Black or White；Glass：T=5mm tempered glass (can be fireproof)；N2 gas and desiccant inside
Door Hardware	Lock：Split lock, Non-split lock, Press lock, Push bar Lock etc.
	Hinge：SS304 lift-off type
	Door closer：Regular or Concealed (with or without positioner)
	Interlock：Electromagnetic type or electric bolt type
Door Seal	Automatic drop seal
Coating	Electrostatic spraying (color card available for choosing)

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PRODUCTS

LL-CRSD series

Cleanroom door

PCGI Door

Structure Features

PCGI door leaf Aluminum
door frame,
Three sides seal with
self styrofoam tape.
Automatic drop seal.

Parameters

Standard size	900*2100/1300*2100/1500*2100 (Door size customizable)
Door Frame Structure	Flat type / Clamp type (Door frame size customizable)
Door Frame	1.5mm Aluminum alloy
Door Leaf	50.5/0.6mm PCGI
Door leaf thickness	50mm
Insulation Material	Paper honeycomb/ Alu. honeycomb / Rockwool
Window on the door	Double layered with square or round corner
	Window Size：500*800mm, customizable；Window Color：
	Black or White；Glass：T=5mm tempered glass (can be fireproof);
	N2 gas and desiccant inside
Door Hardware	Lock：Split lock, Non-split lock, Press lock, Push bar Lock etc.
	Hinge：:SS304 lift-off type
	Door closer：Regular or Concealed (with or without positioner)
	Interlock：Electromagnetic type or electric bolt type
Door Seal	Automatic drop seal
Coating	Electrostatic spraying (Color:RAL9002 or blue)

LL-CRAD Series

Cleanroom door

Airtight Door

Structure Features

Airtight emergency typeInflatable
sealing strip, inflating anddeflat-
ing control system. The inflatable
sealing strip is embedded in the
frame groove of the door leaf and
is safe and reliable.
Widely used in health and safety
field such as high-level biosafety
laboratories, disinfection rooms,
isolation rooms, etc.

Emergency button
Buzzing alarm
Push bar
Touch screen
Air source connection pipe
Stainless steel hinge
Installation cover
Window

Parameters

Emergency Stop	In case of emergency, press the red emergency button and the system will be powered off
Inflation	Airbag pressure reaches the set value
Deflation	Airbag air pressure reduced to 0Pa
Air tightness	No leakage when closed
Out of gas alarm	When the air source pressure is lower than a certain pressure, the buzzer will alarm
Power supply	220V/50Hz
Airbag pressure	0.15-0.2MPa
Waiting time	nflation ≤5s; Deflation ≤5s

Product Advantages

Door frame Door leaf	The door frame adopts one-piece welded surrounding frame to ensure the sealing effect of the airtight door；The four corners of the door frame and door leaf are designed with concentric circles to better ensure the air-tight effect ;
Material	The material can be 304 stainless steel or sprayed plastic , and it can also be baked-on VHP resistant surface
Window	Rectangular double-layer windows , with reliable sealing performance
Sealing	The inflatable sealing strip is made of silicone rubber , which has the properties of acid resistance , heat resistance , cold resistance , and atmospheric aging resistance, and can withstand harsh disinfection and sterilization conditions

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PRODUCTS

LL-CRSD series

Cleanroom door

Emergnecy Door

Structure Features

fireproof glass windows.
Suitable for the fire separation of fire passages, elevator halls and corridor areas.
High-quality fire-proof and heat-insulating materials Excellent heat and sound insulation effects.
Three sides sealing with self styrofoam tape. Automatic drop seal. European quality Customizable.

Parameters

Standard size	900*2100/1300*2100/1500*2100 (Door size customizable)
Door Frame Structure	Flat type / Clamp type (Door frame size customizable)
Door Frame Material	Stainless steel frame, steel spraying frame, aluminum alloy frame and other structures
Door leaf material	Stainless steel frame, steel spraying frame, aluminum alloy frame and other structures
Door leaf thickness	50mm
Insulation Material	Paper honeycomb/ Alu. honeycomb / Rockwool
Window on the door	Double layered with square or round corner
	Window Size：500*800mm, customizable；Window Color:
	Black or White；Glass：T=5mm tempered glass (can be fireproof)；
	N2 gas and desiccant inside
Door Hardware	Lock：Split lock, Non-split lock, Press lock, Push bar Lock etc.
	Hinge:：SS304 lift-off type
	Door closer：Regular or Concealed (with or without positioner)
	Interlock：Electromagnetic type or electric bolt type
Door Seal	Automatic drop seal
Coating	Electrostatic spraying (color card available for choosing)

LL-CRSD series

Cleanroom door

Medical Cleanroom Door

Structure Features

Suitable for hospitals, operating rooms, etc. Galvanized steel pressing together, Three sides sealing with self styrofoam tape. Automatic drop seal. European quality Customizable.

Parameters

Standard size	900*2100/1300*2100/1500*2100 (Door size customizable)
Door Frame Structure	Flat type / Clamp type (Door frame size customizable)
Door Frame Material	S.S sheet, painted steel sheet, PCGI steel sheet, Aluminum alloy
Door leaf material	S.S sheet, painted steel sheet,HPL, PCGI steel sheet
Door leaf thickness	50mm
Insulation Material	Paper honeycomb/ Alu. honeycomb / Rockwool
Window on the door	Double layered with square or round corner
	Window Size：500*800mm, customizable；Window Color:
	Black or White；Glass：T=5mm tempered glass (can be fireproof)；
	N2 gas and desiccant inside
Door Hardware	Lock：Split lock, Non-split lock, Press lock, Push bar Lock etc.
	Hinge:：SS304 lift-off type
	Door closer：Regular or Concealed (with or without positioner)
	Interlock：Electromagnetic type or electric bolt type
Door Seal	Automatic drop seal
Coating	Electrostatic spraying (color card available for choosing)

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PRODUCTS

Door Hardware Selection

Locks

Split lock	Integral lock	Press lock	Push bar

Push plate	Press-down bar	Push plate & Pull handle

Door Closer

Regular	Concealed	Slide

Door sequencer	Automatic door closer

Hinges
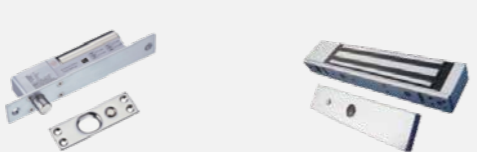
S.S. hinges	Hidden hinges	Automatic drop seal

Interlocks

Electric bolt type	Electromagnetic type	Stainless steel concealed latch

Steel Door Color Selection

Note: Due to different processing batches, the color of the Color selection is slightly different from the actual color.

001 Matt white gray	002 Ivory	003 Medium gray	021 Snow white
005 Matt blue	023 Baosteel sea blue	007 Matt Sea blue	008 Sea blue sand pattern
009 Peacock blue	010 Lake Blue	011 Antistatic black	012 Emerald green
013 Bright red	014 Light pink	015 Orange	016 Brown
017 Pale blue	018 Light yellow	019 Bean green	022 Bright blue

Other Colors In RAL Is Also Available

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LINE-LINK
PRODUCT IDEAS

FRESH AIR
FOR YOUR LIFE

Focus On Cleanroom Technology
To Build International Brands

**LINE-LINK
FRESH AIR**

Energy Saving

Product materials with high efficiency and low resistance

Line-Link adopts the best quality raw materials from domestic to imported, which is resistant to oil and water. The filter paper has fine fibers and is evenly distributed.Filter paper has high efficiency, uniform wind speed and low resistance. The bag-type dust-holding layer adopts finer fiber melt - blown molding, which makes it more fluffy. The actual measured dust holding capacity is more than double of common products.

Advanced processing equipment

Line-Link adopts the imported reciprocate pleat machine DOUBLE WIN for folding paper and gluing. The folding paper is firm and the folding distance is even . We have obtained the best folding distance after repeating adjustment of the folding distance test to reach the minimum resistance of air filter. The resistance of our filters are 15% -20% lower than the same efficiency of products in the market.

Large filtration area

Line-Link adopts filters with large filter area, which can increase the filter area by 50% and the service life can be doubled.

Strict Quality Control

If there is a filter leakage in a high-cleanliness cleanroom, the entire cleanroom will not meet the standard. Therefore, filters must be tested one by one to ensure that the efficiency, air volume, resistance, and leakage rate are all qualified.

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LINE-LINK
QUALITY

R&D and Testing
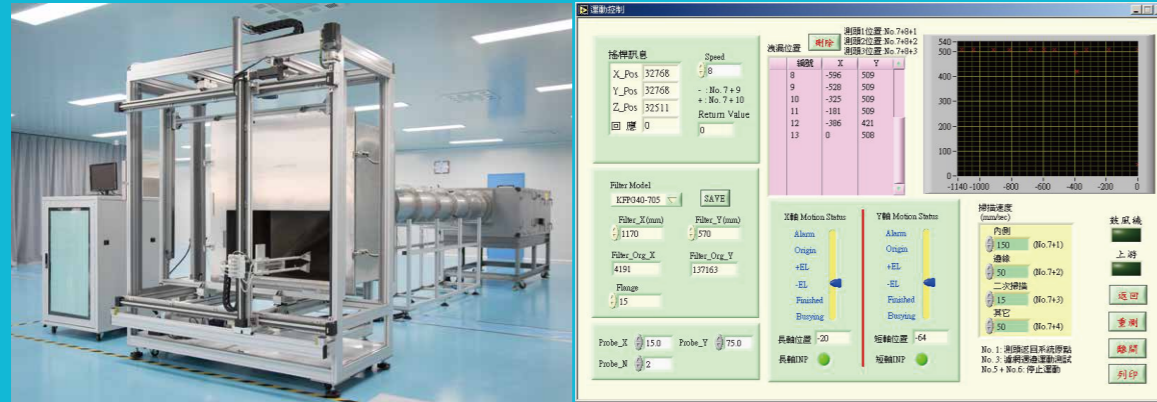
MPPS leakage scanning system for HEPA filters ▲

MPPS testing ▲

Darkroom inspection ▲

In order to ensure the reliability of HEPA filter, each filter is tested

Line-Link has built a comprehensive performance testing platform for HEPA filters with international leading level. We carry out tests on the filter efficiency, resistance, air volume, dust holding capacity etc. and issue test report efficiently.

Mpps, namely Most Penetratiable Particulate Size

MPPS is a scanning test method to measure the filtration efficiency of the filter for the most difficult penetraiable particles. For HEPA and ULPA filtration at the end of the cleanroom , currently this method has become the main testing method internationally. It is based on the European official standard EN1822-1998.

World class testing equipment

■ Line-Link has MPPS testing equipment that meets the latest European official standard EN1822-1998.

■ According to the EN1822-1998 standard, it is stipulated to carry out accurate efficiency test and classification of the filter during the whole test period . And at the same time the filter under-goes a leakage scanning test to ensure that the filter efficiency reaches the efficiency level required by the customer.

■ This method uses DEHS aerosol to do performance test of the filter. This efficiency classification method is also currently the most popular and authoritative testing method in the world.

What customers expect is exactly what Line-Link insists on. Pursuing high-quality, high-efficiency air purification products, ensuring clean air quality is the style that Line-Link has always adhered to.

ATI-2I photometer

Anemometer KA23

Noise meter

Noise meter

Aerosol generator

lumeter

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LINE-LINK
WORKSHOP

Workshop

Imported HEPA Filter Production Line ▲

Imported MPPS Testing Line ▲

Imported Primary and Medium Filter Production Line ▲

Potting Area ▲

Packing Area ▲

Corridor ▲

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LINE-LINK
SOLUTION

Cleanroom Solution Application

5　High Temperature Filter

6　HEPA Box

7　Weighing/Sampling Booth

8　Movable LAF

9　Pass Box

10　Clean Bench
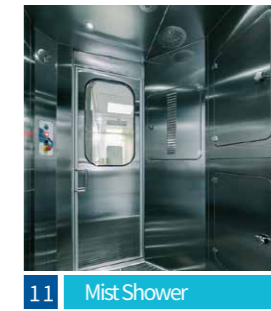
11　Mist Shower

12　VHP Pass Box

1　Panel-type Primary Filter

2　Bag-type Medium Filter

3　W-type Filter

4　Gel-type HEPA Filter
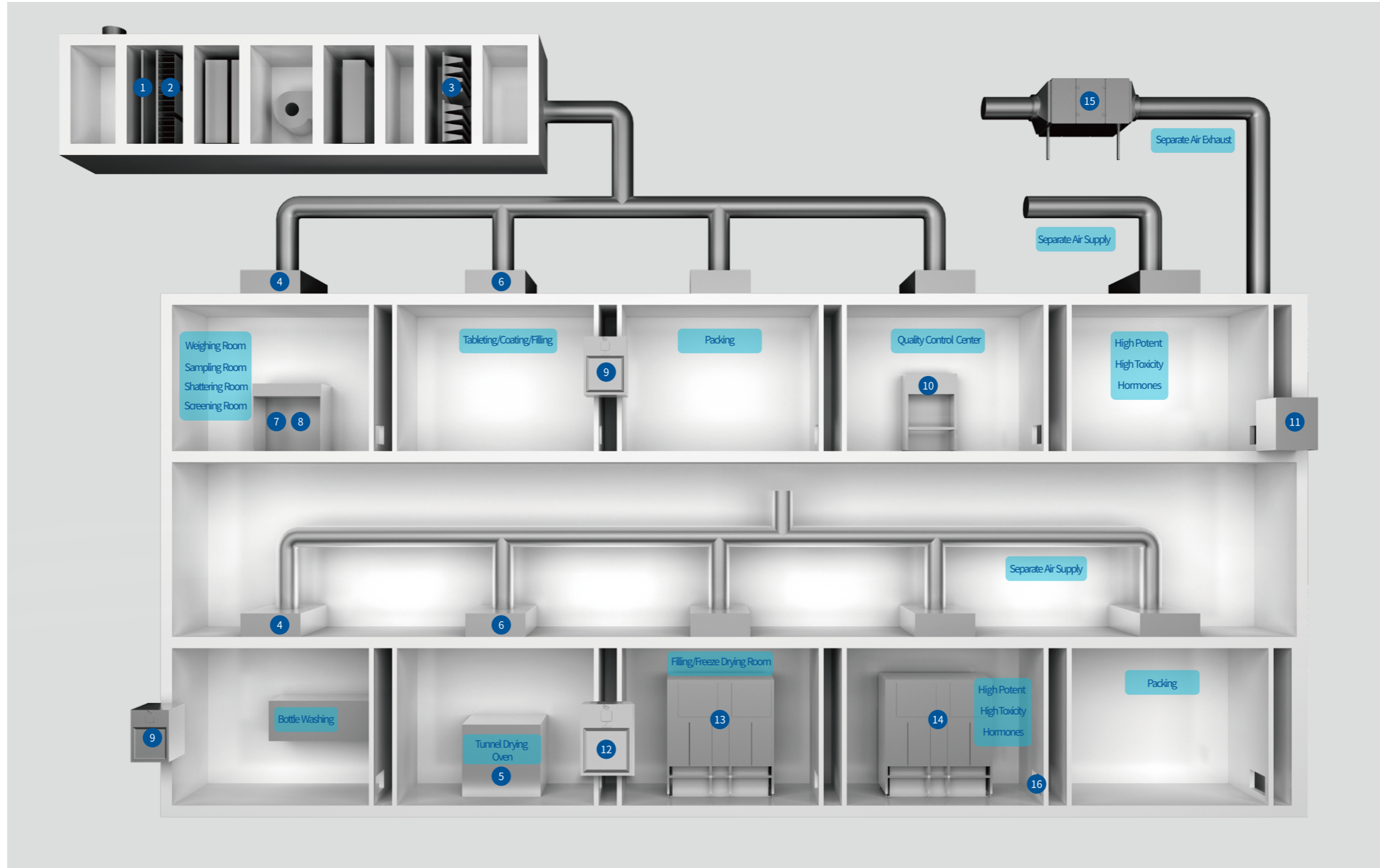
13　Laminar Air Flow

14　ORABS

15　BIBO Bag in Bag out

16　Exhaust Outlet with HEPA Filter

Separate Air Exhaust

Separate Air Supply

Weighing Room
Sampling Room
Shattering Room
Screening Room

Tableting/Coating/Filling

Packing

Quality Control Center

High Potent
High Toxicity
Hormones

Separate Air Supply

Bottle Washing

Tunnel Drying Oven

Filling/Freeze Drying Room

High Potent
High Toxicity
Hormones

Packing

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PRODUCTS

Primary & Medium Efficiency Filter

Primary & medium efficiency filters are mostly used in general ventilation, clean ventilation and air conditioning systems. The main function is to prolong the service life by protecting the subsequent filters and the surface cooler heating coil of the air conditioning unit from blockage. According to its structure, it can be divided into panel-type primary filter, bag-type, W-type and pleated medium efficiency filter.

Imported Ultrasonic Filter Bag Production Line

Raw Material Inspection

Automatic Assembly Line

General Ventilation Filter Detection Line

Qualified Products
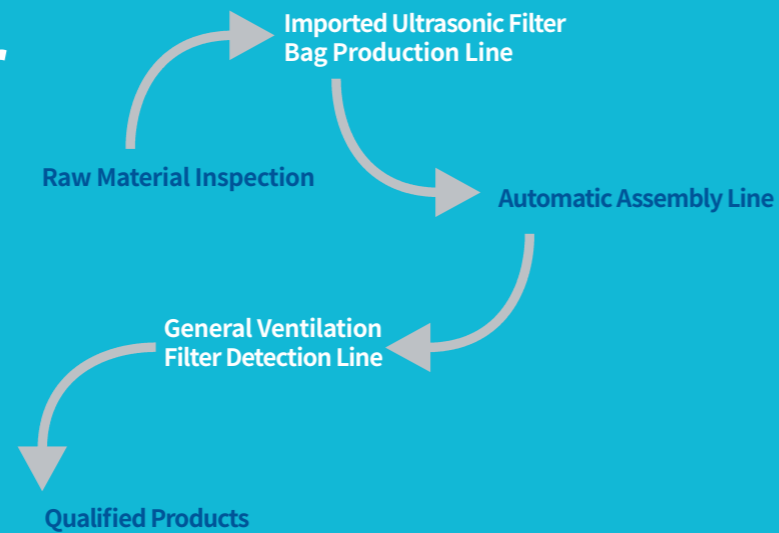
LL-BAN series

Panel-type Primary Filter

Panel-type primary filter is compact in structure, small in size, light in weight, easy to purge and disassemble, and it can be installed separately or stacked in front of the bag-type filter. The panel-type primary filter is mainly used to filter out dust particles ≥5μm in the air conditioning system to protect the medium efficiency filter and prolong the service life.

Frame Material	Galvanized steel sheet /Aluminum Profile /Paper Frame
Filter Paper	PP/PET
Seal	PU Sealing Strip
Operating Condition	100%RH,80°C Maximum 100%RH,80°C

Model	Specifications (W×H×D)	Rated Air Volume (m³/h)	Initial Resistance (Pa)		
			Weight Efficiency(G2) 65%≤A<80%	Weight Efficiency(G3) 80%≤A<90%	Weight Efficiency(G4) 90%≤A
BAN 592.592-46	592×592×46	3200	35	40	45
BAN 592.287-46	592×287×46	1600			
BAN 492.492-46	492×492×46	2200			

LL-DAI series

Bag-type Medium Efficiency Filter

Bag - type medium efficiency filter is mainly used to filter out dust particles ≥1μm in the air conditioning system, protect the subsequent HEPA filter and prolong its service life. The inner part of the bag is equipped with dividing grids, which can effectively increase the filtering area of the bag.

Frame Material	Galvanized steel sheet /Aluminum Profile/Paper Frame
Spacer	Non-woven Fabric
Filter Paper	PP/PET/ Glass Fiber
Seal	PU Sealing Strip
Operating Condition	100%RH,80°C Maximum 100%RH,80°C

Model	规格(W×H×D) Specifications (W×H×D)	Rated Air Volume (m3/h)	Initial Resistance (Pa)				
			Weight Efficiency(G4) 90%≤A	Counting Efficiency(F6) 60%≤E<80%	Counting Efficiency(F7) 80%≤E<90%	Counting Efficiency(F8) 90%≤E<95%	Counting Efficiency(F9) 95%≤E
AI592.592-381	592×592×381×6P	3400	40	60	100	120	140
AI592.287-381	592×287×381×3P	1200					
AI592.592-600	592×592×600×6P	3400					
AI592.287-600	592×287×600×3P	1700					
AI592.592-600	592×592×600×8P	4500					

LL-VWGB series

W-type Filter

W-type filter increases the filtering area and reduces the structural resistance of the filter. It has the advantage of large air volume, small resistance and long service life. It is mainly used in clean ventilation and air conditioning system. There are a variety of efficiencies from medium efficiency (F6-F9), sub high efficiency (H10-H12) to high efficiency (H13-H14).

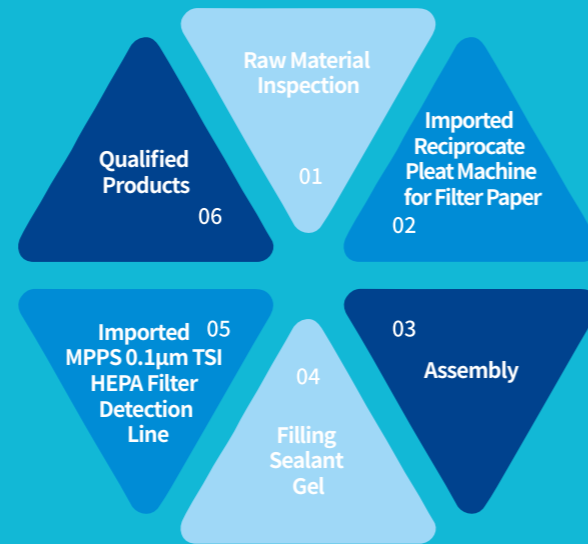| Frame Material	Galvanized steel sheet /Aluminum Profile/Paper Frame
Spacer	Non-woven Fabric
Filter Paper	EVA
Seal	PU Sealing Strip, Sealing for air outlet side
Operating Condition	00%RH,80°C Maximum 100%RH,80°C

Model		Specifications (W×H×D)	Rated Air Volume (m3/h)	Initial Resistance (Pa)				
				Counting Efficiency(F8) 90%≤E<95%	Counting Efficiency(F9) 95%≤E	Counting Efficiency(H10) MPPS 85%≤E<95%	Counting Efficiency(H12) MPPS 99.5%≤E<99.95%	Counting Efficiency(H13) MPPS 99.95%≤E<99.995%
ABS	4VWGB592.287	592×287×292	1700	60	90	110	160	220
	4VWGB592.492	592×492×292	2700					
	4VWGB592.592	592×592×292	2400					
Metal Plate	5VXWGB610.610	610×610×292	3000					
	4VXWGB610.305	610×305×292	1200					

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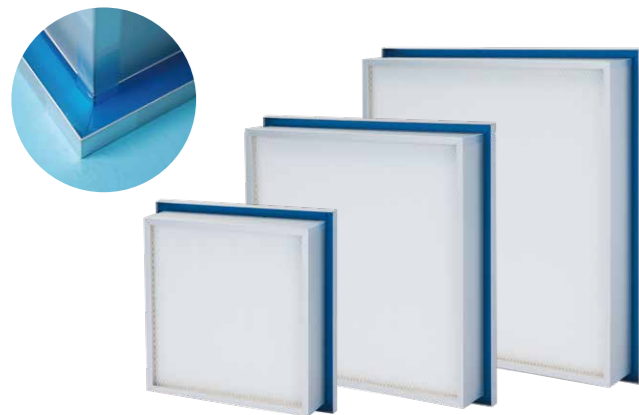
LINE-LINK
PRODUCTS

HEPA Filter

HEPA filter is mainly used for filtering out dust particles and various suspended solids below 0.3μm.

It can be widely used for air supply at the terminal of air conditioning in dust-free purification workshop for optical electronics, LCD manufacturing, biomedicine, precision instruments, beverages, food, aerospace and other industries.

Both HEPA and ULPA filters are used at the terminal of cleanroom, which can be divided into pleated HEPA filter, mini-pleated HEPA filter, super air flow HEPA filter, ULPA filter, etc.

01 Raw Material Inspection
02 Imported Reciprocate Pleat Machine for Filter Paper
03 Assembly
04 Filling Sealant Gel
05 Imported MPPS 0.1μm TSI HEPA Filter Detection Line
06 Qualified Products

LL-WGB series

Mini-pleate HEPA filter

Unidirectional flow mini-pleate HEPA filter has a lower wind speed, generally it is 0.45m/s. It has the advantage of high efficiency, low resistance and long service life.

Frame Material	Aluminum Profile
Spacer	EVA
Filter Paper	High-performance Glass Fiber Filter Paper
Seal	PU Foaming Seal / PU Sealing Strip
Operating Condition	100%RH,80°C Maximum 100%RH,80°C

Model	Specifications	Air Volume	Rated Wind Speed	Initial Resistance (PA)	Recommended Final Resistance	Efficiency@MPPS
WGB 610.610-69H14	610×610×69	1000	0.75	160	350	99.995%≤E <99.9995%
WGB 610.1220-69H14	610×1220×69	2000				
WGB 570.1170-70H13	570×1170×70	1100	0.45	125	300	99.99%≤E <99.995%
WGB 870.1170-70H13	870×1170×70	1700				
WGB 1170.1170-70H13	1170×1170×70	2200				

LL-YWGB series

Gel-type sealant mini-pleated HEPA Filter

The two-component gel sealant is filled into the liquid tank of gel sealant mini-pleated HEPA filter and used as an installation seal. It has good performance in sealing and is suitable for on-site DOP/ PAO testing. It is mainly used in the terminal of cleanroom and purification equipment in the pharmaceutical industry to filter out particles and microorganisms larger than 0.3μm. There are two types: side gel sealant and top gel sealant.

Frame Material	Aluminum Profile
Spacer	EVA
Filter Paper	High-performance Glass Fiber Filter Paper
Seal	Gel Sealant
Operating Condition	100%RH,80°C Maximum 100%RH,80°C

Model		Specifications (W×H×D)	Air Volume	Initial Resistance (Pa)	Recommended Final Resistance (PA)	Efficiency @MPPS
Side Gel Sealant	YWGB 410.410-93H14	410×410×93	500	250	450	99.995%≤E <99.9995%
	YWGB 550.550-93H14	550×550×93	1000			
	YWGB 650.650-93H14	650×650×93	1500			
Top Gel Sealant	YWGB 400.400-95H14D	400×400×95	500			
	YWGB 550.550-95H14D	550×550×95	1000			
	YWGB 630.630-95H14D	630×630×95	1500			

LL-UWGB series

Mini-pleate ULPA filter

Mini - pleate ULPA filter is mainly used in the terminal of cleanroom to filter out particles larger than 0.1μm. All the mini-pleate ULPA filters need leakage detection and performance test.

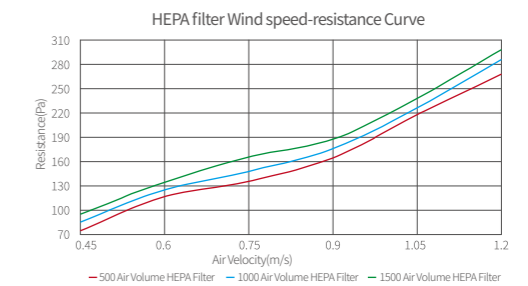|	
Frame Material	Aluminum Profile
Spacer	EVA
Filter Paper	High-performance Glass Fiber Filter Paper
Seal	High temperature resistance PU sealing strip
Operating Condition	100%RH,80°C Maximum 100%RH,80°C

Model	Specifications (W×H×D)	Rated Air Volume	Initial Resistance(Pa)	Recommended Final Resistance (PA)	Efficiency @MPPS
UWGB 610.610-70	610×610×70	600	≤250	450	≥99.9995%
UWGB 570.1170-70	570×1170×70	1100			
UWGB 870.1170-70	870×1170×70	1750			
UWGB 1170.1170-70	1170×1170×70	2200			

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LL-GB series

Pleated HEPA Filter

As a traditional product, pleated HEPA filter is widely used in cleanroom and other purification systems that require air cleanliness.

Frame Material	Aluminum Profile/Galvanized steel sheet/Stainless steel
Spacer	Aluminum foil/ Offset Paper
Filter Paper	Glass Fiber Filter Paper
Seal	PU Foaming Seal / PU Sealing Strip
Operating Condition	80%RH, 80°C Maximum 80% RH,80°C
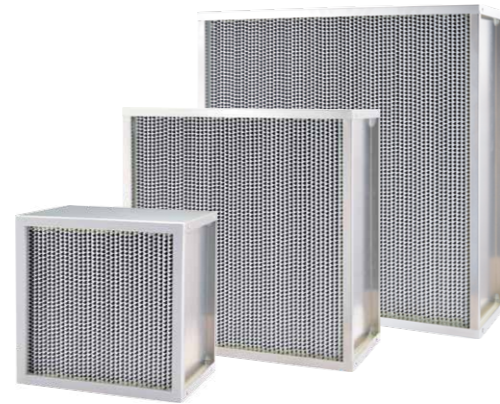
Model	Specifications (W×H×D)	Rated Air Volume	Initial Resistance(Pa)	Recommended Final Resistance (PA)	Efficiency @MPPS
GB 320系列-H14	320×320×220	500			
GB 484系列-H14	484×484×220	1000	250	450	H14
GB 630系列-H14	630×630×220	1500			
GB 968系列-H14	484×968×220	2000			

LL-NGB series

High Temperature HEPA Filter

The filter material of pleated high temperature HEPA filter is high temperature resistant ultra -fine glass fiber filter paper , and the spacer is aluminum foil. The filter paper is fixed and sealed in the outer frame of SUS304 stainless steel plate with special high temperature resistant silica gel or ceramic glue. The installation sealing material is silicone rubber , PTFE or glass fiber cotton. There are temperature resistant 250 ° C, 280 ° C, 350 ° C and other specifications for customers . It is mainly used in tunnel oven, super clean oven and other equipments and systems requiring high temperature air purification.

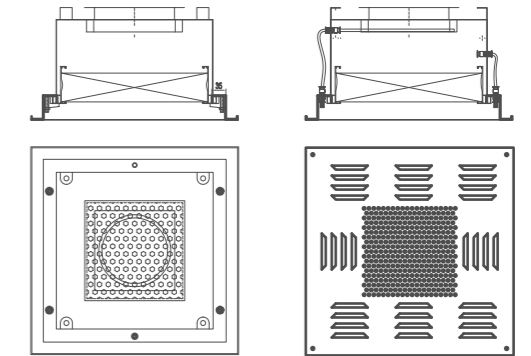|	
Frame Material	Stainless Steel
Spacer	Aluminum Foil
Filter Paper	High-performance Glass Fiber Filter Paper
Seal	Red Silicone Strip / PTFE Strip
Operating Condition	80%RH Maximum 80%RH

Model	Specifications (W×H×D)	Rated Air Volume	Initial Resistance(Pa)	Recommended Final Resistance (PA)	Efficiency @MPPS
NGB 484系列-H14	484×484×220	1000			
NGB 630系列-H14	630×630×220	1500			
NGB 457系列-H14	610×457×150	750	250	450	H14
NGB 610系列-H14	610×610×150	1000			
NGB 762系列-H14	610×762×150	1250			

Purification Equipment

LL-HB series
HEPA Box

HEPA box is the terminal device in the purification air supply system , in order to obtain the ideal static pressure before the air passes through the HEPA filter. It is widely used in hospitals , biopharmaceuticals , semiconductors , liquid crystal manufacturing , precision machinery, optics and other technical fields.The HEPA box that needs on-site leakage detection is equipped with PAO detection port.According to customers' requirements, it can be equipped with differential pressure detection port, down regulating air valve, etc. There are dry seal, wet seal, dry wet double seal negative pressure type and other sealing forms. The box material is steel plate spray, 304 stainless steel plate.

HEPA filter Wind speed-resistance Curve

500 Air Volume HEPA Filter   1000 Air Volume HEPA Filter   1500 Air Volume HEPA Filter

▶ Gel sealant type HEPA box

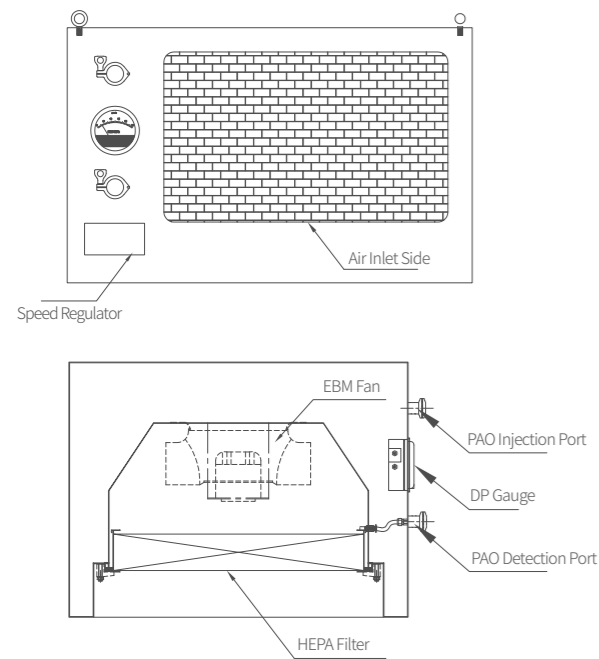| Model	Filter Size (L×W×D)	Box Size(mm)	Connector Size (mm)	Air Volume (m³/h)	Cutout Size (mm)
HB 410	410×410×93	460×460×250	200×200	500	470×470
HB 550	550×550×93	600×600×250	320×200	1000	610×610
HB 650	650×650×93	700×700×250	320×250	1500	710×710

LL-SZBH series

Automatic Air Volume Regulates HEPA Box

Automatic air volume regulates HEPA box adds air volume sensor and electric regulating valve on the basis of original HEPA box to monitor the air volume change of HEPA box in real time. According to the pressure difference requirements of different rooms, the air supply and exhaust air volume are adjusted automatically in real time to ensure the stability of room pressure difference. Firstly, it solves the cross contamination caused by unstable room pressure difference. Secondly, it greatly shortens the commissioning time of the new project, and it completely avoids the fluctuation of pressure difference caused by filter replacement in old project.
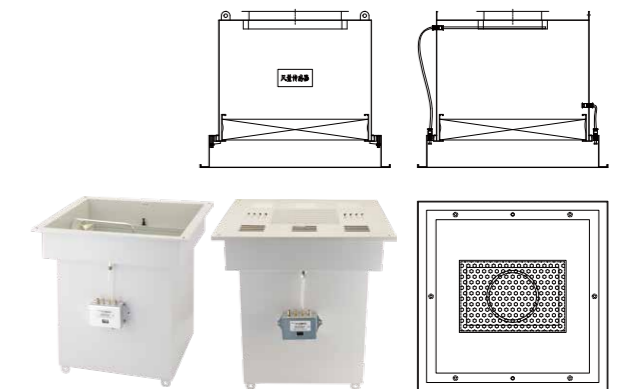
Model	Filter Size (L×W×D)	Box Size(mm)	Connector Size (mm)	Air Volume (m³/h)	Cutout Size (mm)
HB 410	410×410×93	460×460×510	200×200	500	470×470
HB 550	550×550×93	600×600×510	320×200	1000	610×610
HB 650	650×650×93	700×700×510	320×250	1500	710×710

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LL-LAF series

Class A Laminar Air Flow

Class A laminar air flow is an air purification equipment that provides Class A unidirectional flow and creates a local high cleanliness environment. Its working principle is to pass the air through the HEPA filter at a certain wind speed, and the pressure is equalized by the unidirectional membrane so that the clean air is unidirectionally flowed to the working area.

Class A laminar air flow can be used singly or in combination. The working area of Class A laminar air flow is the core sterile area, the operators need to open the equipment from the class-B area environment according to the defined SOP to carry out process operation and intervention. These actions need to be formulated according to the risk of the product. The operator should avoid contacting with the core sterile area. If contact is needed, it should be done through isolation gloves or body suit.

Speed Regulator

Air Inlet Side

EBM Fan
PAO Injection Port
DP Gauge
PAO Detection Port
HEPA Filter

01 Double-layer Negative pressure structure , no risk of leakage

02 Gel sealant high quality, high efficiency, and high cleanliness to ensure sterility

03 easy to clean

04 Different kinds of control modes available

05 Multiple pressure equalization, uniform wind speed, good unidirectional flow pattern

06 Imported EBM fan, large air volume margin, small pressure difference change, reliable performance

Model	External Size (L×W×H)	Internal Size (L×W×H)	Rated Speed (m/s)	Cleanliness of Working Area	Noise (dB)	Illumination (Lux)	Power Supply (KW)
UFH-120.60	1200×600×600	1200×600	0.45±20%	Class A	65	≥300	0.25
UFH-100.100	1000×1000×600	1000×1000					0.4
UFH-120.75	1200×750×600	1200×750					0.3
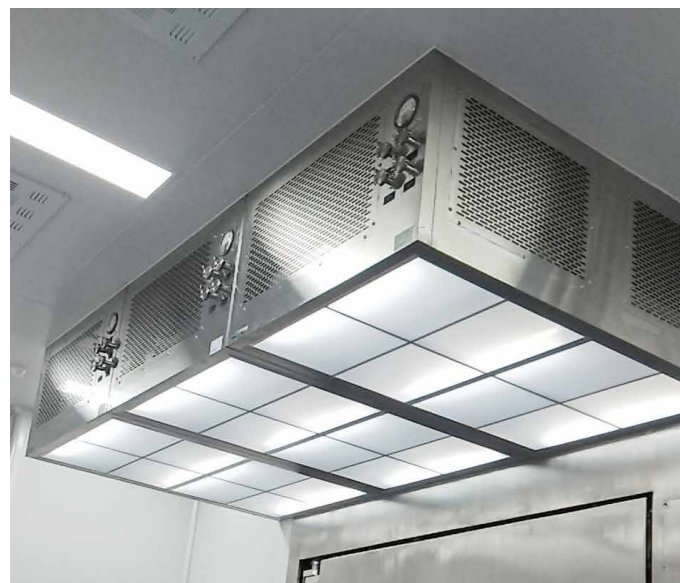
LL-SWB series
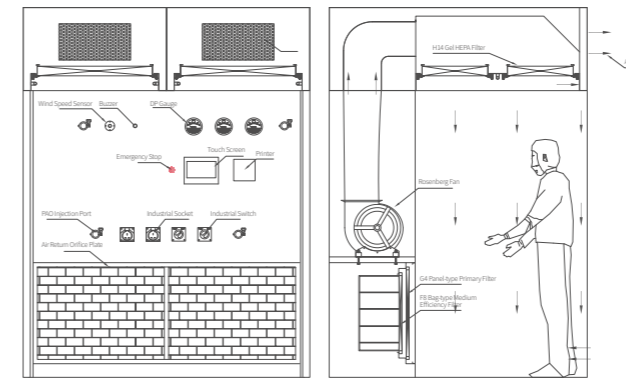
Sampling/ Weighing Booth

Sampling / Weighing Booth is a purification equipment designed for weighing raw materials and excipients , activated carbon and other solid matters with dust in the purification area. The working area of the weighing room is negative pressure relative to the background area . The air flow in the working area is vertical unidirectional , which ensures that the dust of the weighing material goes down with the air flow and does not diffuse to the background area . So it can prevent cross contamination and protect the cleanliness of environment and the safety of operators.

01 Working area arc design, no dead angle, no dust, easy to clean.

02 Air curtain isolation ,convenient for personnel and materials in and out, easy to operate.

03 Double negative pressure design, avoid cross contamination, protect the cleanliness of environment and the safety of operators.

Model	External Size (L×W×D)	Internal Size (L×W×D)	Rated Speed (m/s)	Cleanliness of Working Area	Noise (dB)	Illumination (Lux)	Power Supply (KW)
WR 1600	1600×1600×2580	1500×1000×2000	0.45±20%	The same as background area	75	≥300	0.55
WR 4000	4000×2500×2580	3900×1800×2000					3.3

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LL-DPB/SPB series

Dynamic Pass Box/ Static Pass Box

The dynamic pass box can transfer materials and appliances under Class A environmental protection, and the materials and appliances will enter the sterile area after being cleaned in the dynamic pass box. They are mostly used in the general area to pass to Class D, Class C area.

01	Interlock, DP gauge, UV light, PAO injection and detection port, control panel, EBM fan.
02	Integrated arc design, no dead angle, easy to clean.
03	Double-layer negative pressure design, no risk of leakage.
04	The partition is well sealed, easy to operate and easy to maintain. age time)
05	UV light can reckon by cumulative time , and it can be replaced (based on usage time)

Model	Specification (L×W×H)	Internal Size (W×D×H)	Rated Speed (m/s)	Cleanliness	Noise (dB)	Power (kw)
CDC4-50.50.50	700×560×1050	500×500×500				0.15
CDC5-60.60.60	800×660×1150	600×600×600	0.45±20%	Class A	65	0.15
CDC6-80.80.80	1000×860×1350	800×800×800				0.25
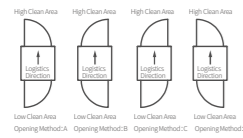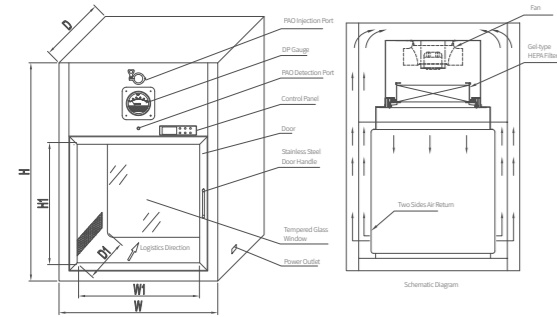
LL-AS series

Air Shower for Personnel / for Material

Air shower for personnel / for material series products are a purification equipment with strong versatility. They are generally installed between cleanroom and non-cleanroom.They are the passages for people or materials to enter the cleanroom. The clean air that is blown out can remove the dust carried by people and materials, and it can effectively block or reduce the dust source from entering the clean area . The front and rear doors of the air shower for personnel / for material are equipped with interlocks, which can also act as an air lock to prevent unpurified air from entering the clean area. The equipment is widely used in the fields of food, medicine, biological engineering and microelectronics, etc.
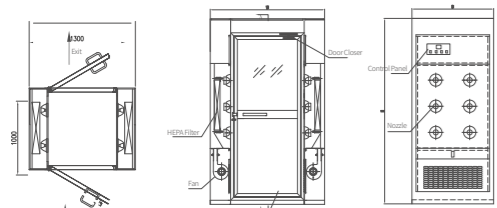
Model	Specification (W×D×H)	Internal Size (W×D×H)	Rated Speed (m/s)	Cleanliness of working area	Noise (dB)	Nozzle (Pcs)	HEPA size L×W×D
FLS 101	1300×1000×2270	800×900×2000				12	610×610×69×2
FLS 102	1300×2000×2270	800×1900×2000	25	Class A	75	24	610×610×69×4
FLS 103	1300×1500×2270	800×1400×2000				18	610×820×69×2
FLS 104	1300×3000×2270	800×2900×2000				36	610×820×69×6

LL-MLAF series

Class A Movable LAF

Class A Movable LAF is mainly used for aseptic transfer of materials and appliances between aseptic processes to realize aseptic docking.
According to the different types of sterile materials, you can choose using vertical unidirectional flow or horizontal movable LAF
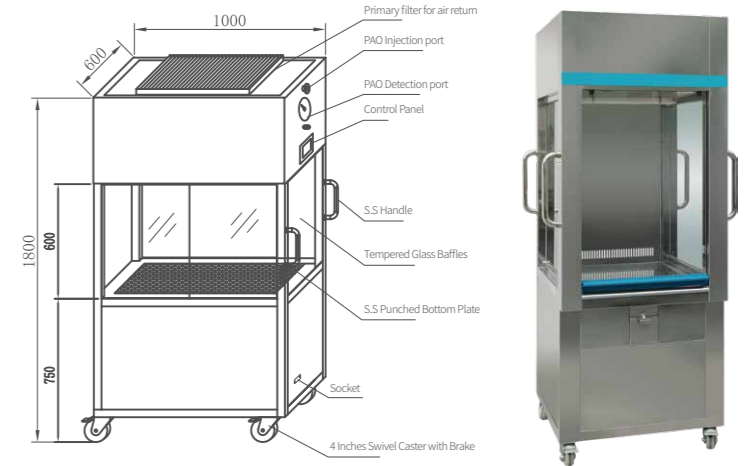
Model	External Size (L×W×H)	Internal Size (W×D×H)	Rated Wind Speed (m/s)	Working area cleanliness level	Noise (dB)	Ilumination (Lux)	Power（kw）
LL-MLAF-90.60	900×600×1800	820×580×750	0.45±20%	Class A	65	≥300	0.18
LL-MLAF-120.60	1200×600×1800	1120×580×750					0.25

LL-ORABS series

Open Restricted Access Isolation System

Open-RABS is through the forming of an airflow barrier between core area and background area to protect the sterile equipment in the core area. The operator can only operate with isolation gloves to prevent the risk of disturbing the sterile open area by direct contact.

Open-RABS can be equipped with wind speed, pressure difference and cleanliness level and other online monitoring devices.

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Biological Protection Equipment

LL-MS series
Mist Shower

The mist shower is used in special environment such as laboratories or workshops to ensure that the active or toxic dust particles adhering to the surface of the clean clothes are removed by mist when the personnel leave the workshop during the production process or after the production.

The equipment is composed of four major systems: enclosure structure, water system, spray system and automatic control system.
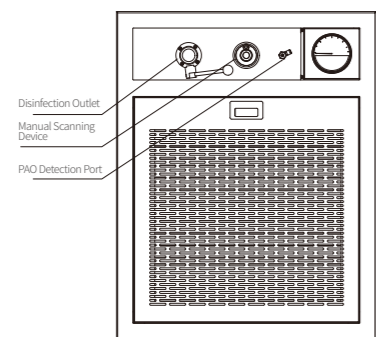

LL-HEV series
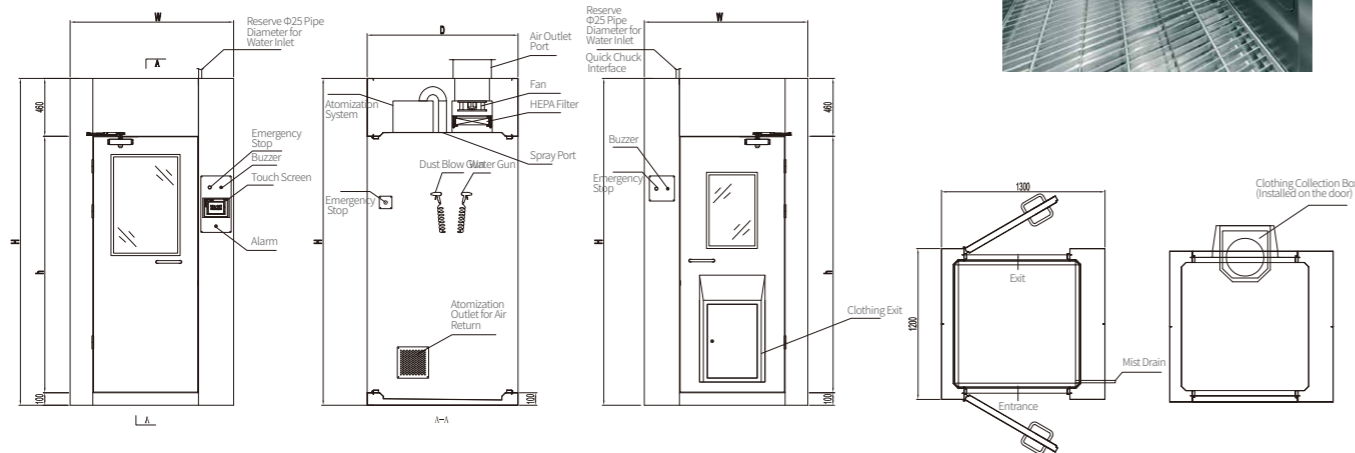
Exhaust Outlet With HEPA Filter

Exhaust outlet with HEPA filter is mainly used in pharmaceutical, food, biological laboratories, hospitals and other fields. It is composed of a box, a HEPA filter, a diffuser, etc.. The primary filter section, HEPA filter section, scanning test section, molecular filtration section, aerosol injection, pressure difference detection and other components can be set according to requirements. With embedded installation design, it can be directly installed on the side wall of the cleanroom, conforming to the operating specifications of the cleanroom in the pharmaceutical factory.

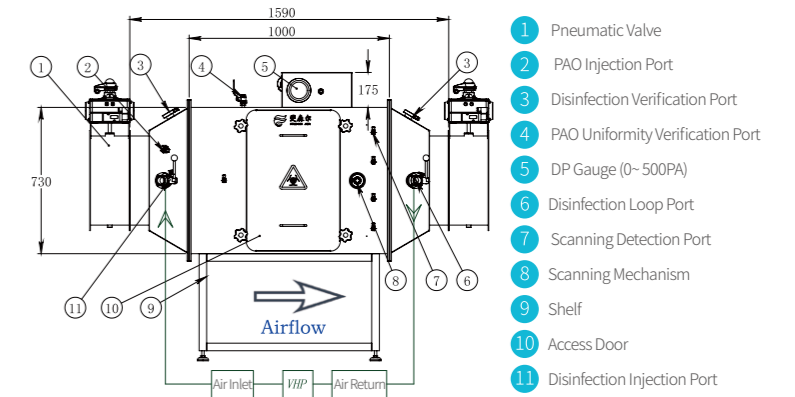|	
01	The box is seamlessly welded to ensure good air tightness
02	Exhaust grille: orifice panel
03	The exhaust grille is installed and fixed with a special structure, which is convenient to disassemble and invisible installation, which is beautiful and easy to clean
04	The DP gauge monitors the resistance of the HEPA filter in real time
05	In-situ scanning for leak detection, in-situ online disinfection
06	The filter efficiency level can be selected according to the indoor cleanliness requirements.

LL-BIBO series

Bag In Bag Out

Bag In Bag Out Filter, commonly known as BIBO, also referred to as the duct-type air return filter device. Since the filter has retained highly active or highly toxic harmful aerosols during the working process, it is necessary to ensure that the filter does not have any contact with the external environment during the replacement process. It can effectively prevent the spread of harmful aerosols and avoid biological hazards to personnel and the environment. It is a filter device used in a specific biological environment to remove harmful biological aerosols in the air return process. At present, it is mainly used in high-level biosafety laboratories, hospital isolation rooms, pharmaceutical equipment, microelectronics environments, food processing areas, industrial processing exhaust systems, chemical processing equipment, air supply or exhaust air processing systems for animal disease research laboratories.

Function Segment Selection

Frame Material Seal Operating Condition	Upstream and Downstream Detection Ports
DP Gauge, Differential Pressure Sensor	Manual/Automatic Scanning Test Section
Aerosol Generation Section, Mixing Section	Biological Sealing Valve

1. Pneumatic Valve
2. PAO Injection Port
3. Disinfection Verification Port
4. PAO Uniformity Verification Port
5. DP Gauge (0~ 500PA)
6. Disinfection Loop Port
7. Scanning Detection Port
8. Scanning Mechanism
9. Shelf
10. Access Door
11. Disinfection Injection Port

LL-BIBO series
Airtight Valve

The airtight valve is a key sealing device to prevent harmful gases from entering or discharging to other areas. The airtight valve has good air tightness. The airtight valve complies with the European and American EN12266-2 standard and the American ASMEN509 standard. And after 5000 times of opening and closing in the case of ISO10648-2 standard of 2500Pa, the net volume of the leakage rate is not higher than 0.2%h-1, ensuring zero leakage.

Material	SUS 304
Operation Method	Manual, Electric, Pneumatic
Surface Treatment	Brushed, Sandblasting

ISO10648-2 Standard

American ASMEN509 Standard

Comply with European and American EN12266-2 Standard

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LL-VHP series

Vaporized Hydrogen Peroxide Sterilization Pass Box

The vaporized hydrogen peroxide sterilization pass box includes: a box, a sterilization cavity for placing sterilized products inside the box , a hydrogen peroxide generator, a hydrogen peroxide liquid adding device, a cavity dehumidification device, and hydrogen peroxide degradation device, heating device, Clean fan, booster fan, clean pipeline, HEPA filter, control system, etc.

The clean pipeline connects the fan, the sterilization chamber, the hydrogen peroxide generator, the dehumidification device, the degradation device, and the heating device to circulate the air inside the sterilization chamber. The hydrogen peroxide generator changes the liquid hydrogen peroxide from liquid to gaseous after high-temperature flash evaporation, flows with the internal gas to the sterilization chamber, so as to sterilize the items inside the sterilization chamber.
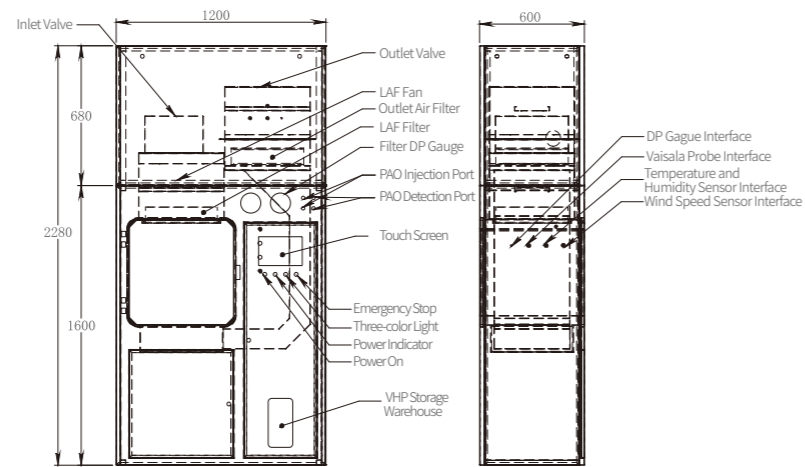
Project	Parameter
VHP Pass Box Volume	Customized
Vaporization Temperature	≤100℃
Airflow Type	Vertical Unidirectional Flow
Sterilizer	30% Hydrogen Peroxide Solution
Sterilization Cycle	≤90 min
Sterilization Rate	lg6 (Bacillus stearothermophilus ,ATCC1298 /ATCC7953)
Filter Level	H14 (EN1822)
Noise	≤68 dBA
Power Supply	AC 220V/1 PH
Rated Power	2500 w
Alarm	High/Low Pressure, Door Open Overtime, Door Lock
VHPS Maximum Residual Level	Determined by Process Requirements
VPH Pass Box Cleanliness (Particle Level)	Class A
Exhaust Interface	DN100 Sanitary Interface
Sterilization Cycle Interface	DN32 Sanitary Interface
Data Integration Function	Data Saving and Printing Function

LL-FFU series

Fan Filter Unit

The fan filter unit is a ceiling-mounted unit equipped with a fan, used in turbulent flow and laminar flow cleanroom. The overall design of the unit is flexible. According to the design specifications, it can be easily matched with any ceiling frame to achieve the cleanliness level 1000 to level 1.

With this unit, high-quality air can be delivered to the cleanroom. It is suitable for semiconductor, electronics, flat panel display and disk drive manufacturers, optics, biological industries and other industries. It is used in cleanroom, clean work benches, clean production lines, clean sheds and local 100-level cleanness occasions and other places.

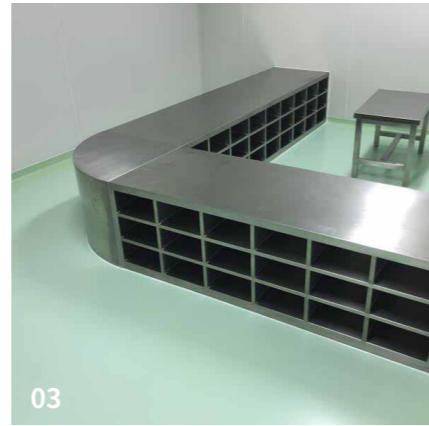| Model	Specification (L×W×D)	Rated Air Volume and Speed (m³/h)(m/s)	Initial Resistance (Pa)		Noise (dB)	Power Supply (kW)
			Counting Efficiency (H14) @MPPS≥99.995%	Counting Efficiency (U15) 0.1μm≥99.9995%		
LFFU10-117.57	1175×575×320	1100/0.45	100	160	57	0.18
LFFU15-117.87	1175×875×320	1700/0.45	100	160	60	0.25
LFFU20-117.117	1175×1175×350	2200/0.45			63	0.37

LL-CB series

Clean Bench

The clean bench is a purification equipment with strong versatility. According to the air flow pattern, it is divided into two major forms: vertical unidirectional flow and horizontal unidirectional flow. The clean benches are widely used in industries such as pharmaceutical, laboratories, foods, scientific researches, electronics, national defense, and precision instrumentation.
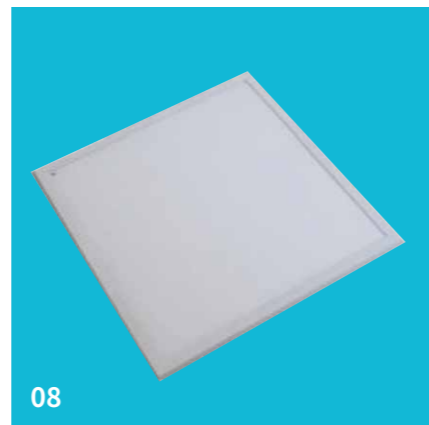
Model	Specifications (L×W×D)	Working Area (W×D×H)	Cleanliness Class	Rated Wind Speed (m/s)	Noise (dB)	HEPA Filter Size
GZT-1000	1000×740×1620	840×680×520	Class A	0.45±20%	65	610×800×70×1
GZT-1480	1480×740×1620	1320×680×520				610×1280×70×1

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Other Products

01 Sink
02 Locker
03 Cross Over Bench
04 Free door
05 Translation door
06 Fast door

Other Products list

01. Sink
02. Locker
03. Cross Over Bench
04. Free door
05. Translation door
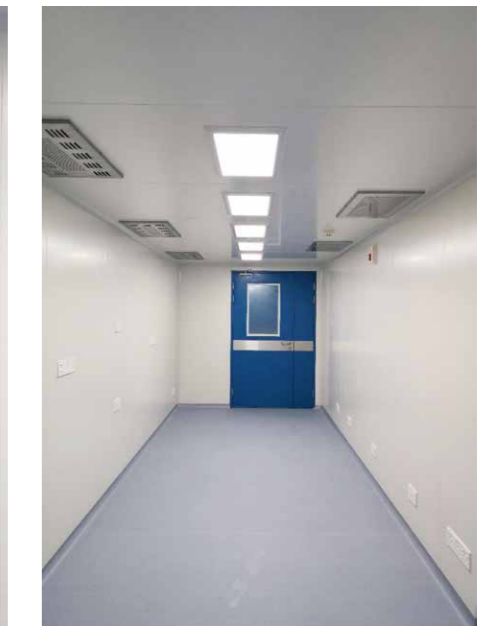**06.** Fast door
07. Airlock System
08. LED light

Flooring
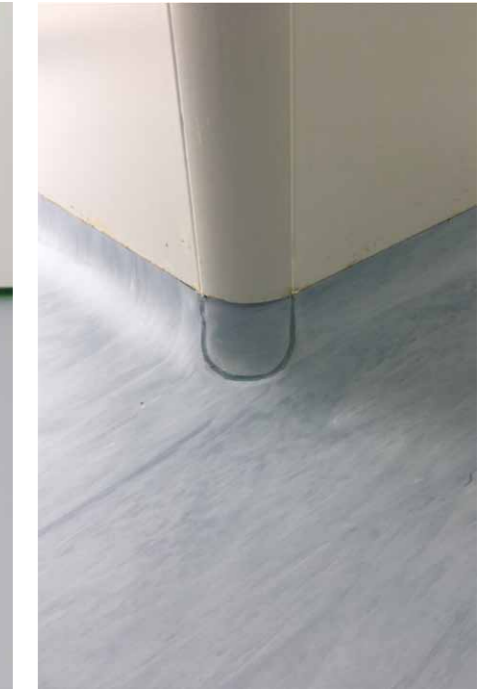
Epoxy color sand floor

Epoxy floor

PVC floor

Mobile PCR test center

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