



Captair Smart

High precision safety weighing cabinets



**Combining
high weighing accuracy
data stability
and
user's safety**



www.erlab.com

High precision safe

Designed for the safe weighing of hazardous chemical powders and liquids

Erlab's unique Flex Filtration technology allows to filter liquid and solid chemicals in molecular and HEPA filters.

Sensor to detect filters saturation with solvents, acids or formaldehyde (optional)

Double bag waste port with protective housing



Remote control of the safety of your Smart weighing cabinets with eGuard APP installed on your mobile or on a computer.

LED pulsation and coded sounds alarming possible fan failure, low face velocity, filter saturation, low airflow, fan failure, filter clogging (HEPA) or molecular filter saturation.

LED internal lighting 600 lux

Pneumatic arm
Easier to add or remove the balance or other big objects

Slanted sash for ergonomic working position

Air foils to create a turbulence-free airflow

Stable solid laminate worktop (optional)

Flexible filtration column(s) for a variety of weighing applications

Captair Smart weighing cabinets can be equipped with HEPA H14 or ULPA17 filters for the weighing of powders, or with high efficiency Carbon filters for the weighing of liquid chemicals or with both, HEPA / ULPA and carbon filters.



Type 1P: filtration column with HEPA filter for the weighing of powders



Type 1C: filtration column with carbon filter for the weighing of liquids









Type 1P1C: filtration column with HEPA and carbon filter for the weighing of powders and liquids




safety weighing cabinets

Standard range*






Length : 32 " or 800 mm		L	Dimensions (mm)		H
			D (at worktop level)		
Model	Applications	EXT	EXT	EXT	
S321 W	  	800	556	968 up to 1154	
321 W	  	800	615	1106 up to 1292	
Technical specifications					
Class (according to NFX15-211:2009)	class 2 (1 molecular filter and/or 1 H 14 filter per column)				
Volume of air treated	220 m ³ /h	Number of column(s)	1		
Average air face velocity	>0.4 m/s	Total power consumption	65 W		
Voltage	External connection: 100 - 240 V Inside circuit : 24 V-DC	Max. amperage absorbed	0.65 A		
		Noise level	52 dbA		
Frequency	50 - 60 Hz	Door openings	Total		






Length : 39 " or 1005 mm		L	Dimensions (mm)		H
			D (at worktop level)		
Model	Applications	EXT	EXT	EXT	
391 W	  	1005	615	1106 up to 1292	
Technical specifications					
Class (according to NFX15-211:2009)	class 2 (1 molecular filter and/or 1 H 14 filter per column)				
Volume of air treated	220 m ³ /h	Number of column(s)	1		
Average air face velocity	>0.4 m/s	Total power consumption	65 W		
Voltage	External connection: 100 - 240 V Inside circuit : 24 V-DC	Max. amperage absorbed	0.65 A		
		Noise level	52 dbA		
Frequency	50 - 60 Hz	Door openings	Total		



Length : 39 " or 1005 mm		L	Dimensions (mm)		H
			D (at worktop level)		
Model	Applications	EXT	EXT	EXT	
392 W	  	1005	750	1332 up to 1518	
Technical specifications					
Class (according to NFX15-211:2009)	class 2 (1 molecular filter and/or 1 H 14 filter per column)				
Volume of air treated	440 m ³ /h	Number of column(s)	2		
Average air face velocity	>0.4 m/s	Total power consumption	105 W		
Voltage	External connection: 100 - 240 V Inside circuit : 24 V-DC	Max. amperage absorbed	1.05 A		
		Noise level	55 dbA		
Frequency	50 - 60 Hz	Door openings	Total		



Length : 48 " or 1298 mm		L	Dimensions (mm)		H
			D (at worktop level)		
Model	Applications	EXT	EXT	EXT	
483 W	  	1298	750	1332 up to 1518	
Technical specifications					
Class (according to NFX15-211:2009)	class 2 (1 molecular filter and/or 1 H 14 filter per column)		Number of fan(s)	3	
Volume of air treated	660 m ³ /h	Number of column(s)	3		
Average air face velocity	>0.4 m/s	Total power consumption	160 W		
Voltage	External connection: 100 - 240 V Inside circuit : 24 V-DC	Max. amperage absorbed	1.6 A		
		Noise level	58 dbA		
Frequency	50 - 60 Hz	Door openings	Total		

* Waste box and laminate worktop are optional

High user's safety guaranteed by the “Containment Measurement Testing Method” of the ISPE (International Society for Pharmaceutical Engineering):

The containment measurement is designed to verify that the chemical powders used in a fume hood are well “contained” in the enclosure and don't return to the chemist through the front sash or through the HEPA filter. The International Society for Pharmaceutical Engineering (ISPE) guideline specifies how to measure it with a surrogate (generally lactose) to simulate the powder weighing process. The US testing company Golder Associates Consulting Ltd. assessed* the containment capacity of the Captair 321W Smart weighing cabinet with a containment performance target (CPT) set at 1µg/m³. The results found are as follow:

Operator / Location	Measured concentration (µg/m ³)		
	Test Run 1	Test Run 2	Test Run 3
Background prior to operation	<0.0804	<0.0779	<0.0791
Background during operation	<0.0524	<0.0576	<0.0591
Left side	<0.0517	<0.0577	<0.0591
Right side	<0.0513	<0.0576	<0.0590
Front opening	<0.0516	<0.0577	<0.0592
Waste transfer port	<0.0518	<0.0578	<0.0592
HEPA exhaust on the top	<0.0513	<0.0575	<0.0590
Operator	<0.0515	<0.0578	<0.0599

All values are much below 1µg/m³ and show that the Captair 321W Smart can be used with chemical powders classified as OEB 5 (Occupational Exposure Band 5, the highly dangerous ones!) by most pharmaceutical companies!



※ Report dated November 14, 2018 available on request.



Weighing accuracy and stability certificate

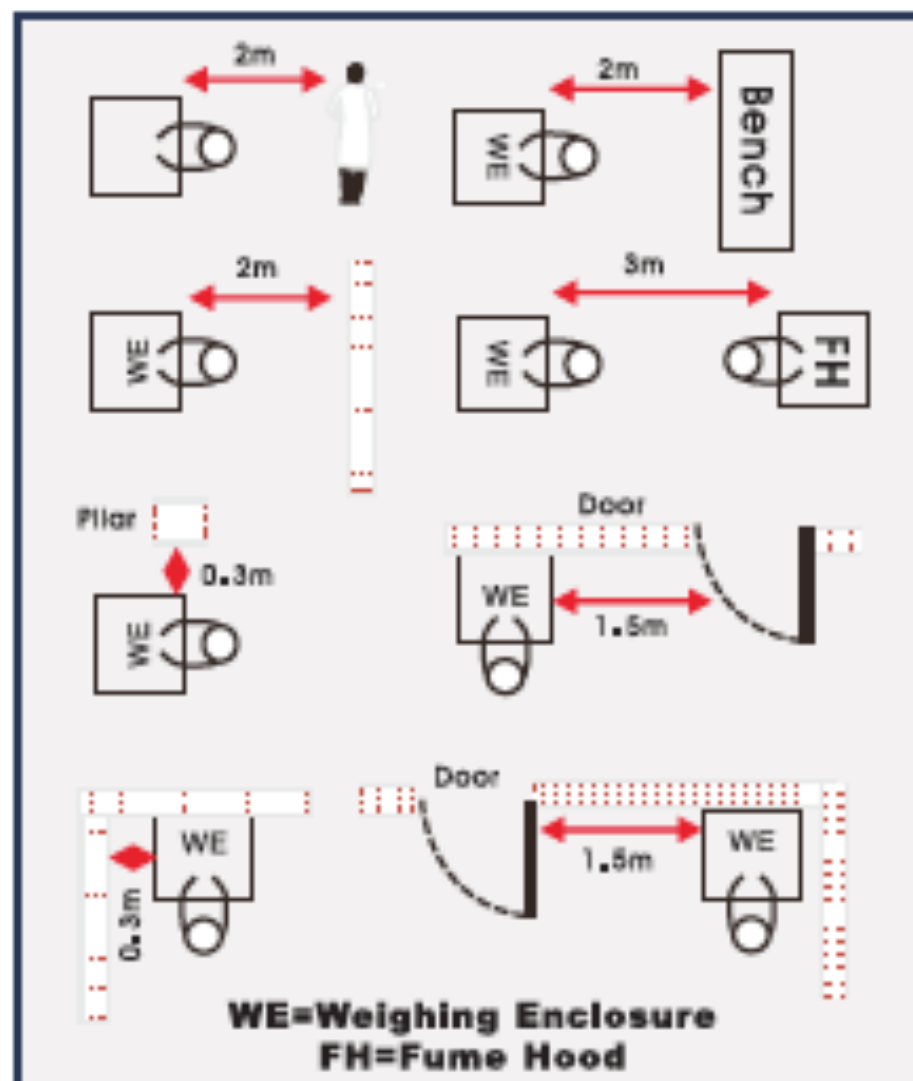
The reliability of the weighing results have been officially tested by SIMT (Shanghai Institute of Measurement and Testing Technology) using a high precision balance(10⁻⁶ g) installed in a 391W (Copy delivered on request).



Installation recommendations of a Captair Smart weighing cabinet

1 Install the weighing cabinet in a turbulent-free zone

As much as possible choose a quiet environment to install the **Captair Smart weighing cabinet** workstation. Turbulences provoked by people waling in front of the cabinet ,or air supply diffusers located near the cabinet , or doors being frequently opened near the cabinet or even other cabinets facing the weighing cabinet might disturb very much the stability of the air penetrating the cabinet and generate unstable data readings.

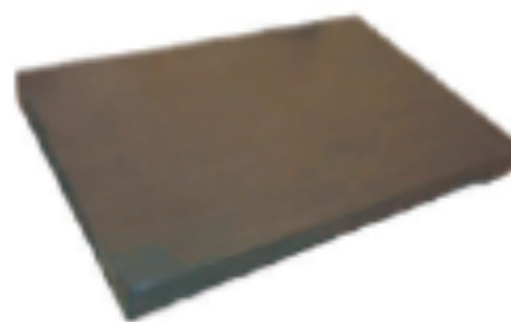


2 Install the weighing cabinet preferably on a stable, vibration-free work surface

Ideally use a balance table equipped with a marble top of a 50mm thickness , specifically designed to prevent the transfer of vibrations to the balance. Optionally you can also use an anti-vibration mat placed under the balance.



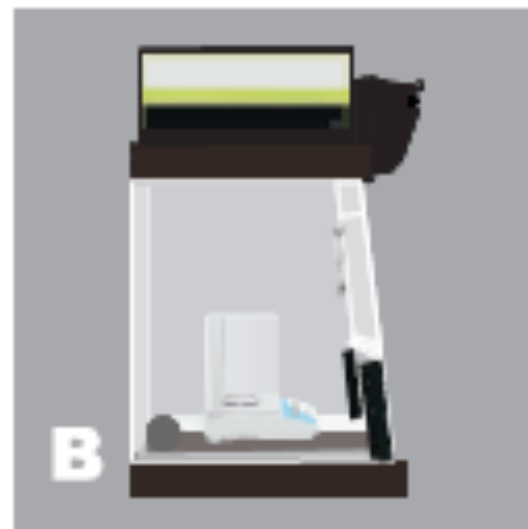
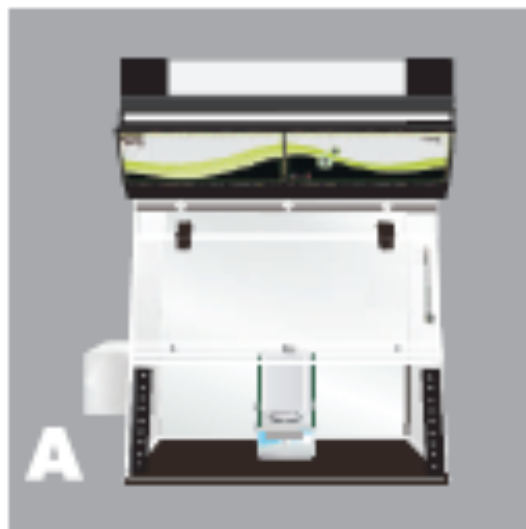
Balance table *



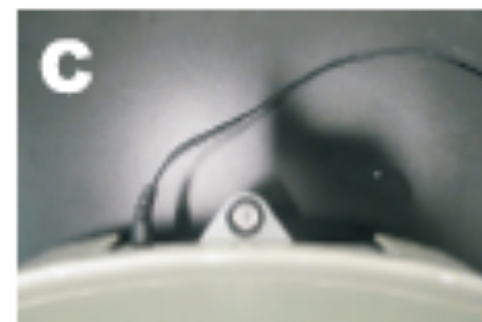
Anti vibration mat *

* Not provided by Eriab

- 1** Install the high precision balance in the middle of the worktop and at a certain distance of the sash opening (Pict. A and B)



- 2** Adjust the **horizontality** of the balance and verify that the control bubble is positioned at the very center of the circle. The balance should be turned off during the horizontality adjustment (**C**).



- 3** Adjust air face velocity

Air face velocity (air speed at the sash opening area) shall be well adjusted to guarantee a perfect protection of the operator and to limit air turbulences in the enclosure.

A- Check the set - up in user manual.

B- Adjust the fan speed according to the table below.

Unit / Type of filtration column	1P	1C	1C1P
S 321 W Smart	2100	2000	2300
321 W Smart	2100		
391 W Smart	2300		
392 W Smart	1650		
483 W Smart	1650		

C- The average air face velocity for the Smart weighing cabinets units to be >0.4 m/s.

- 4** Preheating of the balance (**very important!**)

After the fan speed has been adjusted, turn on the balance and keep it heating for up for 30 minutes before starting using it.

Recommendations

High precision weighing requires many precautions to ensure its reliability.
Please find hereunder important advises.



- Avoid the influence of electromagnetic waves (such as from mobile phones or printers placed too near to the balance)!



- Avoid electrostatic charges (inappropriate container material which can easily accumulate electrostatic charges)!



- Set the sample with the tare at room temperature before weighing!



- Avoid temperature and humidity fluctuations. They can create unstable readings. Recommended T : $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$. Recommended humidity: 45%–75% (better 50%)!
- If the sample to be weighed is too hot, the weighing value might be reduced!
- If the sample to be weighed is too cold, the weighing value might be increased!
- Start the weighing procedure: tare at 0!
- Use the lowest tare weight to reduced the effects of air flow!



- Do not touch the tare with your fingers, but use gloves or better handling tongs. A finger print can weigh as much as 0.0004g!
- Weigh hygroscopic samples in a closed tare!
- Avoid fast movements!
- Do not rest your elbows on the edge of the table or on the arm rest of the fume hood!
- Close the doors of the balance cage well!
- Wait for the balance to stabilize before reading the measurement!

Very important !

- Verify once a month the accuracy of the balances with calibration weights!
- Your balance shall be recalibrated by a certified company once a year!