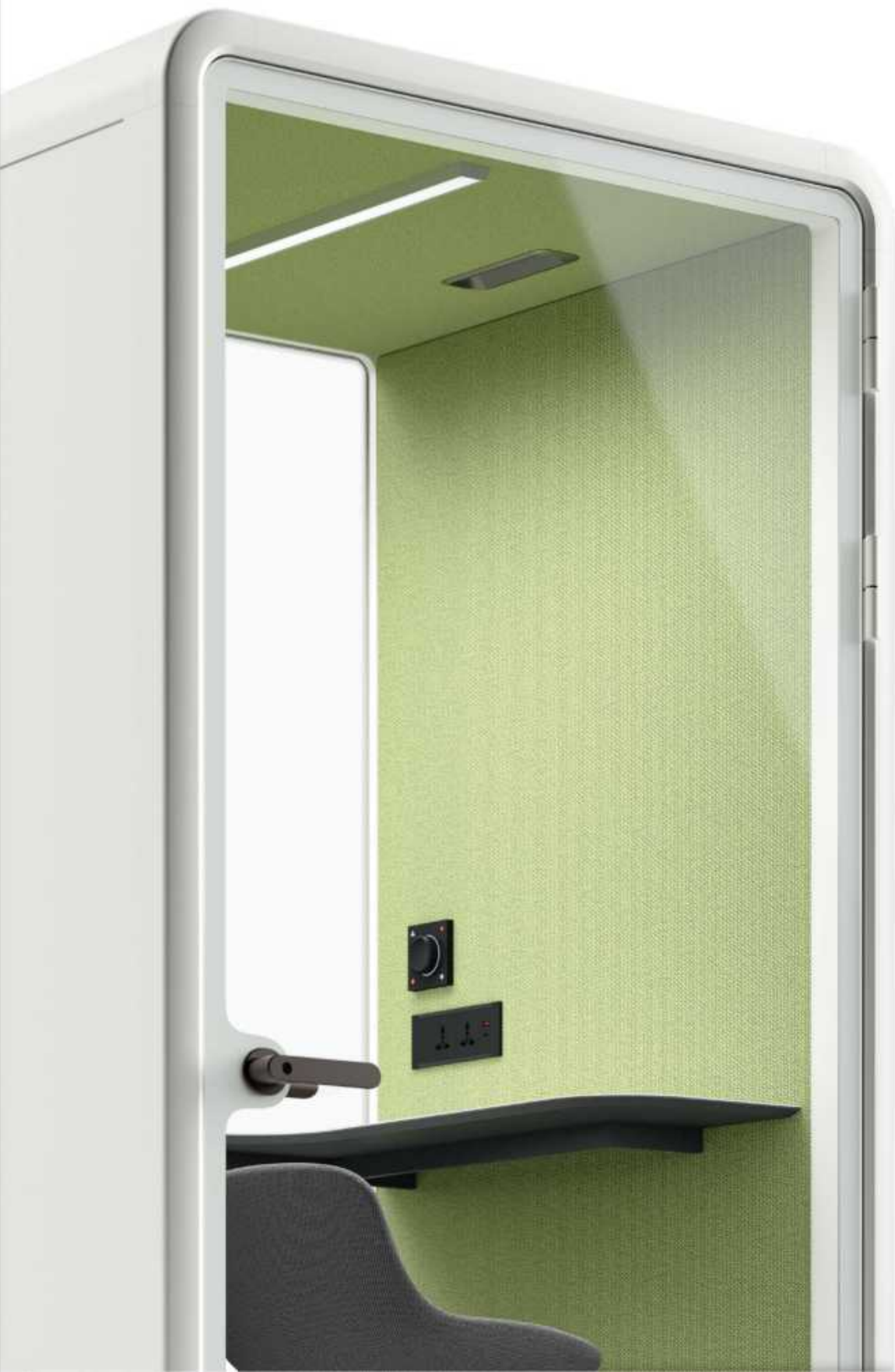


# Acoustic Booth

2024.





# Unlocking Productivity Acoustic and Privacy Factors in Open-Plan Offices

"Open-plan" has become the major trend in modern workplaces design. The concept of an open-plan office is based on the idea of creating a collaborative and flexible work environment. However, while this layout offers certain advantages, it also comes with its fair share of challenges, particularly in terms of acoustics and privacy.

The Major issue encountered in open-plan offices is the problem of noise. With multiple employees working in close proximity, noise levels can quickly escalate, leading to distractions and reduced productivity. Phone conversations, discussions between colleagues, and even the sound of typing can all contribute to a noisy and disruptive atmosphere. This constant background noise can make it difficult for employees to concentrate on their tasks and can be especially problematic for those who require a quiet environment to focus.

Another drawback of open-plan offices is the lack of privacy. In a space where there are no physical barriers between worksta-

tions, personal conversations and confidential meetings can become challenging. Employees may feel uncomfortable discussing sensitive matters or engaging in private phone calls due to the lack of privacy. This can lead to a sense of unease and hinder effective communication within the team.

To address the acoustic and privacy issues in open-plan offices, employers have several viable options. Installing sound-absorbing panels, partitions, or cubicles can effectively reduce noise levels and create designated zones for focused work. Another popular solution is the inclusion of acoustic booths, which provide employees with enclosed spaces for private conversations or concentrated tasks. These purpose-built booths are equipped with sound-absorbing materials to create a quiet environment amidst a bustling office. By offering these options, employers can cater to different work needs and create a more harmonious and productive workspace.



## 30mins

an active worker loses on average thirty minutes of work per day because of annoyance related to noise.

- JNA association

## 66%

office workers are 66% less productive in an open-plan office than when left on their own.

- Julian Treasure, The Sound Agency

## 23mins

it takes an average of 23 minutes and 15 seconds, to return to the original task after an interruption

- Gloria Mark, University of California, Irvine

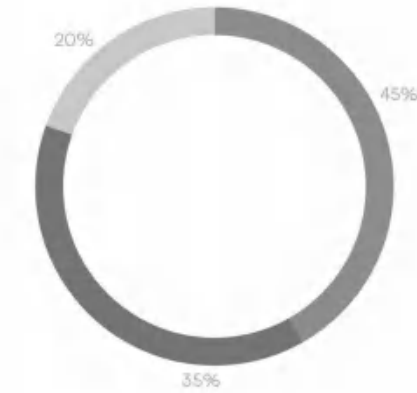
## 48%

short-term memory recall decreases when employees are exposed to high noise levels compared to those in a quieter environment.

- Journal of Applied Psychology

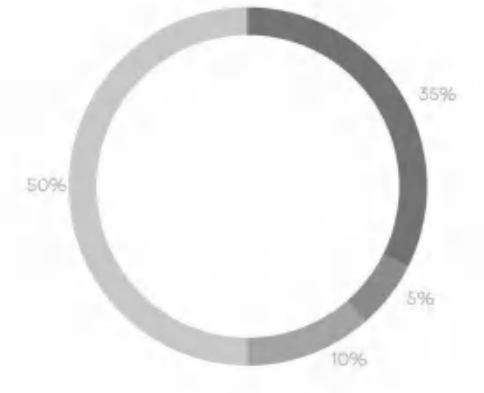
The results of office sound environment survey

- Very much disturbed by noise
- Slightly disturbed
- Not at all disturbed



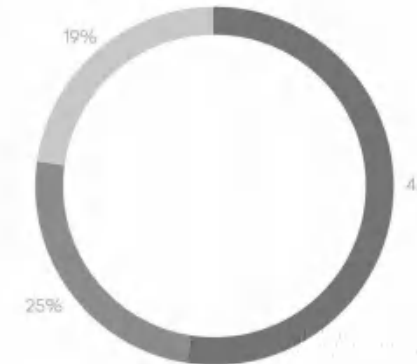
Influence of environmental requirements on concentration

- Noise
- Inadequate lighting
- Inadequate microclimate
- Residual concentration



Noise sources were found to be disturbing

- Conversations
- Office machines
- Telephones



Ratio of employees that report feeling often bothered by noise

- Unreported
- Reported



\* Acoustic Satisfaction in Open-Plan Offices: Review and Recommendations by Maria Navai, Jennifer A. Veitch

\* Acoustic Issues in Open Plan Offices: A Typological Analysis by Sara Delle Macchie, Simone Secchi \*ORCID and Gianfranco Calli

Excessive noise in the office environment can have a detrimental impact on productivity, concentration, and overall well-being. Distractions from conversations, phone calls, equipment, and other sources of noise can disrupt concentration, making it difficult for employees to focus on their tasks. This not only leads to decreased productivity but also increases the likelihood of errors and mistakes. Prolonged exposure to high levels of noise can also cause stress, fatigue, and even physical health issues

such as headaches and elevated blood pressure. Additionally, noise pollution can affect communication and collaboration among team members, hindering effective teamwork and contributing to misunderstandings. Overall, the harmful effects of noise in the office underscore the importance of creating a quiet and conducive work environment for optimal performance and well-being.

05

## Why an office needs ZUM?

Our primary objective in developing the ZUM Acoustic Booth is to offer organizations a complete and all-encompassing solution that not only effectively tackles the prevalent acoustic challenges and privacy concerns faced in modern office spaces but also prioritizes user-friendliness and environmental sustainability. We understand the crucial role that a harmonious and conducive work environment plays in promoting employee productivity, overall wellbeing, and successful collaboration. With this in mind, our meticulously designed acoustic booths are thoughtfully crafted to create a sanctuary that facilitates focus,

minimizes distractions, and provides individuals with a sense of privacy when needed. Moreover, we are committed to environmentally conscious practices, ensuring that our booths are constructed using eco-friendly materials and incorporating energy-efficient features. By choosing the ZUM Office Acoustic Booth, organizations can embrace a holistic approach to workspace design that not only enhances performance and collaboration but also contributes to a greener future.

03

### Improve Concentration

The soundproofing properties of the booth effectively block out external noises, allowing employees to concentrate without interruptions. The enhanced concentration fostered by acoustic booths ultimately leads to increased productivity and quality of work.

01

### Enhance Privacy

The soundproofing enclosures provide individuals with a dedicated space to have confidential conversations. This is particularly important in industries such as finance, health-care, and legal services, where sensitive data must be protected.

04

### Versatility

The acoustic booth is available in multiple sizes that are thoughtfully planned to fit most of the office situation. The modular design makes it easy to customize, build, and extend. Moreover, the castor wheel enables easy relocation, providing flexibility to adapt to changing needs.

06

### Being an asset

All features of the acoustic booth makes it an compliant asset rather than an expense to a company. The rebuildable property allows businesses to adapt their workspace at minimum costs or resell the booth for liquidity, providing long-term value and contributing to a dynamic and efficient office environment.

02

### Boost communication

The materials used in acoustic booth construction effectively insulate ambient noise, reducing echoes and reverberations that can interfere with audio quality. This improves sound quality and ensures that phone calls and video conferences are more intelligible and efficient, enabling effective communication and collaboration even in a busy office environment.

05

### Sustainability

Not just for using certificated material, the booth was modular designed and manufactured to avoid the disadvantage of the conventional way to build a room such as: "wet work" which creates waste and stains, and the heavy power tool that produces loud noise. That makes it the best way to upgrade an in-use office.

06



# Why an office needs ZUM?

ZUM, a thoughtfully designed space that takes into consideration the diverse work patterns and activities that employees engage in throughout the day. Not only does it provide excellent sound isolation, but it also offers a range of amenities and equipment within arm's reach, allowing for seamless and efficient daily work. With

adjustable lighting, ventilation, and power supply, our booth enhances productivity, fosters collaboration, and promotes personal well-being. Experience the difference with ZUM Acoustic Booth and discover a new level of productivity and comfort in your workday.



- ① Air Ventilation
- ② Laminated Glass
- ③ Environment Control
- ④ Aluminum Frame

- ⑤ LED Ceiling Lights
- ⑥ PET Acoustic Felt Interior
- ⑦ Power Supply
- ⑧ Compact Laminated Furniture



**Solo Working**  
 Quiet and focused environment for an individual

**Phone Calls & Video Conferences**  
 Perfect setting for important phone calls or participating in virtual meetings

**Group Meetings**  
 Small group discussion could happen here without disturbing others

**Private Conversations**  
 Ideal for confidential discussions or one-on-one meetings

**Reading & Meditation**  
 Creating an ideal space for personal reflection or diving into a good book

**Rapid Installation**  
 The modular design allows an office to have a new room within several hours

## Environment Control

Tailor your experience

We implanted a self-developed environment control system. With the dimmer panel users have full control over the ventilation speed, light strength, and light temperature, allowing them to create a personalized and ideal working environment that promotes productivity and well-being.

The ability to adjust the ventilation speed ensures that users can maintain a comfortable airflow within the booth, preventing stuffiness or discomfort. Whether you prefer a gentle breeze or a more powerful air circulation, the choice is yours. This feature not only contributes to a pleasant atmosphere but also helps in maintaining focus and alertness throughout the workday.

The adjustable light strength and temperature further enhance the customization options available to users. Adequate lighting is crucial for reducing eye strain and promoting concentration. With the ability to control the light intensity, users can create the perfect balance between brightness and ambiance that suits their specific tasks and preferences. Additionally, being able to adjust the light tem-

perature allows users to set the mood according to their needs, whether it's a warm and cozy atmosphere or a cooler, more invigorating environment.

Incorporating an infrared (IR) sensor into the booth design adds convenience and energy efficiency. As soon as a user steps into the booth, the IR sensor detects their presence and automatically activates the ventilation system and lighting, eliminating the need for manual adjustment. This seamless experience ensures that users can quickly settle into their workspace without any interruptions or delays. When the user leaves the booth, the IR sensor is smart enough to detect their absence and automatically shuts off the lighting and reduces ventilation to conserve energy within certain time.

Users can also switch to manual mode through the power button to keep the lights and ventilation on and off for longer. These energy-saving features not only contribute to a more sustainable workplace but also saves costs on electricity bills.



## Air ventilation

Feel just like in the office

### 01

#### Balanced air pressure

Most insulated booth products vent air by positive air pressure which leads to ear uncomfot. In ZUM, fans are used for both air intaking and outtaking to keep the air pressure same from the outside, that keeps users away from the "Airplane-ear" (ear barotrauma)

### 03

#### Automatic refresh

Every 30 mins, the fan will start to ventilate the air automatically for 5 mins, which keeps the duct and booth dry, smelling fresh, and ready for the following user.

### 02

#### Centrifugal fan

The fan noise becomes apparent when it is quiet in the booth. We use centrifugal fans for air intaking to achieve smoother airflow at lower speeds, creating less noise.

### 04

#### Acoustic air duct

Inspired by the acoustic plenum, we applied sound-absorbing material in the duct to attenuate sound exchange between inside and outside maximally.



## Lighting

### Essential Eye-caring

With the OSRAM LED module and glare-reducing prismatic lenses, the light delivers a CRI (color rendering index) of 92, ensuring true-to-life colors that enhance visual accuracy in booth spaces.

The flicker-free emitting feature minimizes eye fatigue during extended work hours and provides a comfortable and soothing lighting experience, promoting focus and keeping eye health.

Ra 92

Flicker Free

Anti Glare



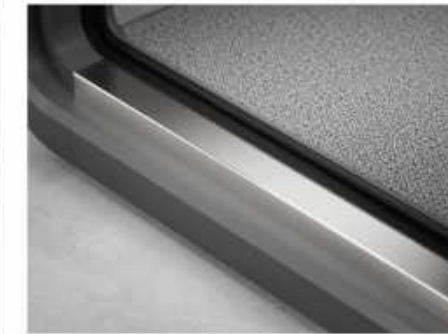
## Details

### More than just acoustic



#### Magnetic door lock

Lever handle lock with magnetic deadbolt.



#### Stainless steel door thread

Stainless steel made that you could customize your label on.



#### Concealed door closer

Concealed cam-action door closer.



#### 15W wireless charger

Optional 15W wireless charger embedded into table top.



#### Modular power outlet

With USB type A/C. Optional multitype socket and keystone module available.



#### Compact laminate table

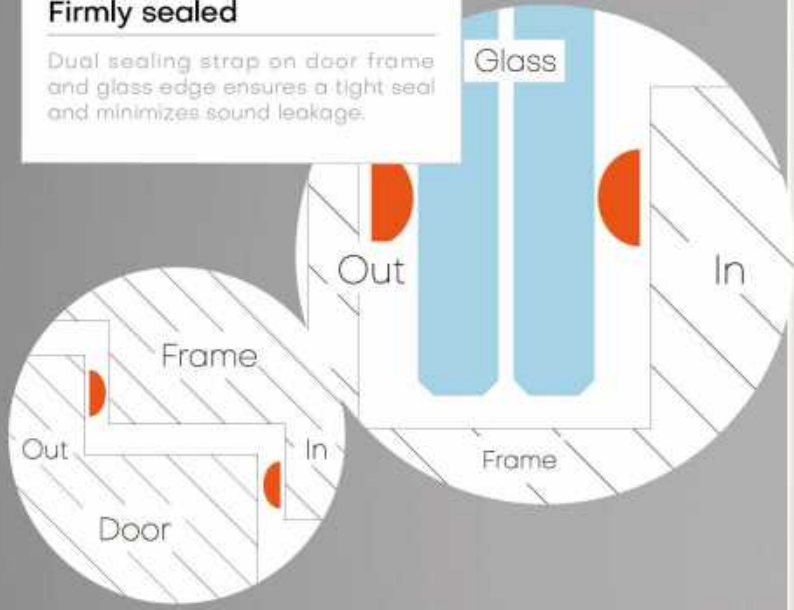
Compact laminate, scratch and chemical resistant, optional MDF board available.

We understand that a well-designed booth not only attracts attention but also encourages engagement and interaction, so we place great importance on creating booth products that not only catch the eye but also provide an exceptional user experience. With meticulous attention to

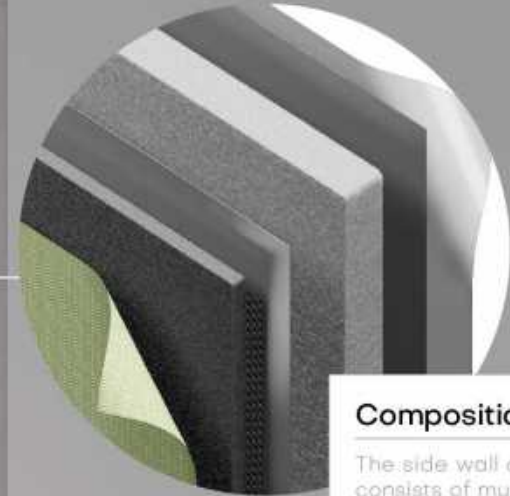
detail, we carefully designed every aspect of our booths to ensure optimal usability. Our goal is to create a seamless and enjoyable experience for all users, allowing them to effortlessly enjoy this acoustic sanctuary.



**Firmly sealed**  
 Dual sealing strap on door frame and glass edge ensures a tight seal and minimizes sound leakage.



**Low-frequency blocked**  
 Dampening material is used between feet and floor to reduce the structure-borne Low-frequency transmission.



**03**  
**Composition of wall**  
 The side wall of our acoustic booth consists of multiple layers of acoustic material, specifically designed to effectively block and absorb sound.



**04**  
**Reinforced transparency**  
 Laminate glass is used for better sound proofing while keeping the transparency.

# Easy to assemble, move and extend

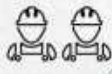
Born for the changing office need

Within merely one hour, a new booth will appear in your office with the work of minimal 2 people. The modular design enables a swift installation process. This efficient setup requires no trimming, bolt-

ing, or gluing, no waste generated during installation process, all packaging materials can be recycled, allowing immediate use.

**Build**  
in by

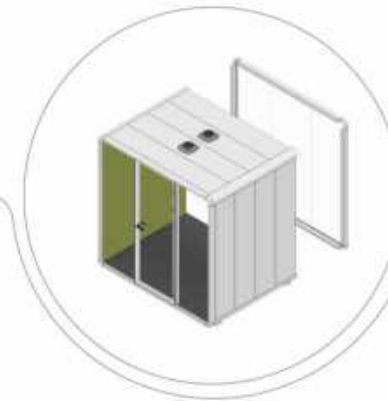
1hr




Optional castor wheels, making it easy to move and reposition as needed. This mobility ensures that you can adapt the booth's location according to your changing requirements or room configurations.

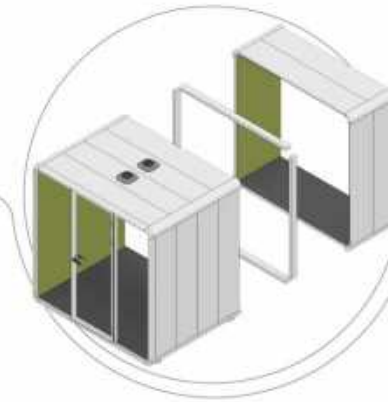
Additionally, ZUM can easily be extended to a larger size to cater to various client requirements. 2 or more booths could be combined into a bigger one for temporary use by using special connect parts, like

hosting large-scale events. You could also order new body parts to change permanently. Regardless of the challenges, ZUM can always swiftly adapt to meet new tasks with optimal performance.



Remove the back frame and glass of the booth

01



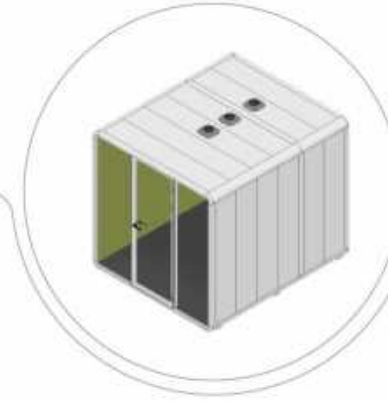
Connect the booth with the extensional parts by connect frame

02



Put the back frame and glass back.

03



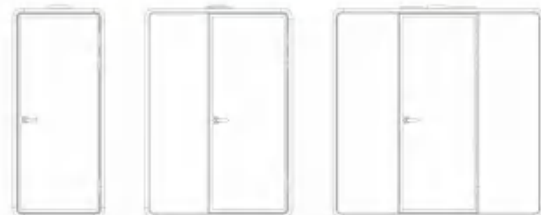
Finished

04



“ From petite to grand,  
ZUM is on your demand ”

Model specification



We understand that every workspace is unique, so we offers offers an extensive selection of models available in various sizes, to cope a wide range of requirements. At the same time, we offer customization service to tailor our booths

precisely to your needs. Whether you need individual booths for focused work or collaborative spaces for team discussions, we have the perfect solution for you.



## Model S

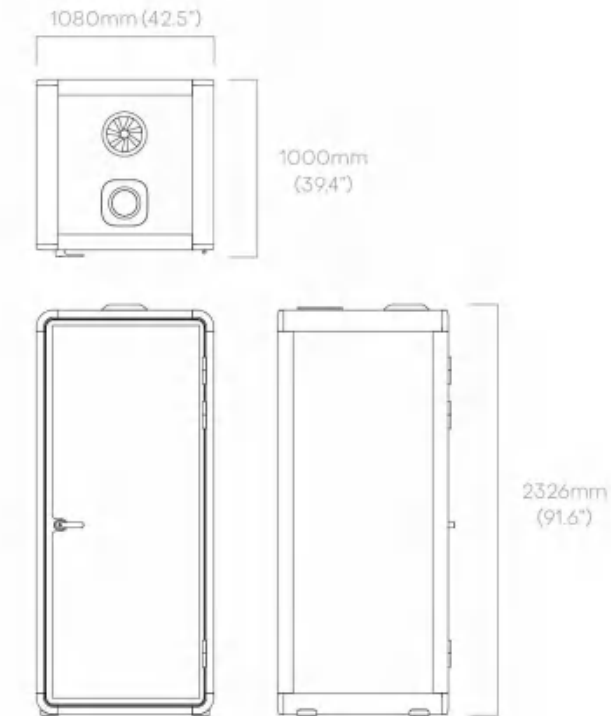
Your Personal Oasis in the Office!

Model S, a versatile and compact work-space solution that is perfect for solo working, phone calls, and meditation. With its dimensions of 1m<sup>2</sup>, this booth can be

easily placed anywhere in the office, providing a private and quiet space for focused work or confidential conversations.



## Parameter



### Internal Size

W: 942mm (37.1")  
D: 960mm (37.8")  
H: 2146mm (84.5")

### Door Passage

W: 918mm (36.1")  
H: 2118mm (83.4")

### Floor Space

1m<sup>2</sup> (10.8ft<sup>2</sup>)

### Net Weight

276 kgs (609 lbs)

### Packaging Size

W: 2320mm (91.3")  
D: 580mm (22.8")  
H: 1265mm (49.8")

## Technical Features

Capacity	1
Power Input	85~264VAC, 47~63hz.
Ventilation	0~70m <sup>3</sup> (91yd <sup>3</sup> ) /hr adjustable, 1.6mins/change maximum, auto-refresh;
Lighting	3000k~6000k, 0~1800lm, adjustable, Anti-glare index 20, CRI 92Ra, flicker-free;
Maximum Power	40W;
Power Supply	5 Hole universal outlet x 2, USB TypeA x 1, USB TypeC x 1;



WM perch seat  
+  
WM shelf table



Pneumatic adjustable stool  
+  
WM L-shape shelf table



Square bench  
+  
C-shape coffee table

## Model M

Maximizing Productivity, Privacy, and Peace

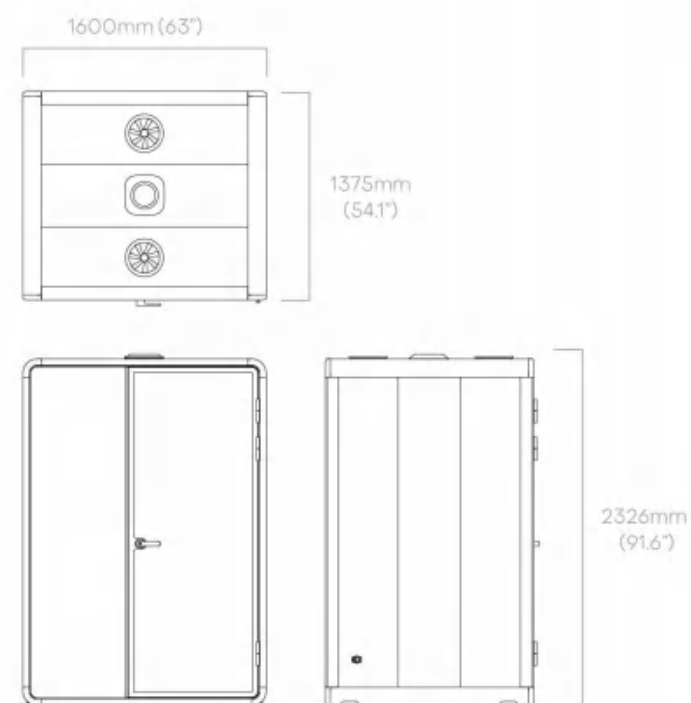
With its spacious dimensions of 2.2 m<sup>2</sup>, Model M offers a flexible and adaptable space that caters to your various needs. Whether you require a personal workstation, a conversation room, or a quiet reading nook, the M booth provides the per-

fect environment for focused work, private meetings, or relaxation. It is an ideal acoustic solution for businesses of all sizes, providing a cost-effective option for creating dedicated spaces within the office.



## Parameter

External size



Internal Size

W: 1462mm (57.6")  
D: 1335mm (52.6")  
H: 2146mm (84.5")

Door Passage

W: 741mm (29.2")  
H: 2118mm (83.4")

Floor Space

2.2m<sup>2</sup> (23.7ft<sup>2</sup>)

Net Weight

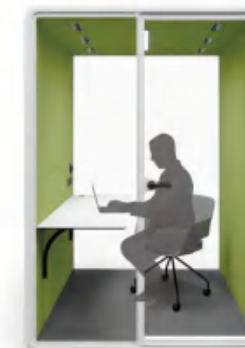
409kgs (902lbs)

Packaging Size

W: 2320mm (91.3")  
D: 900mm (35.4")  
H: 1265mm (49.8")

## Technical features

Capacity	2
Power Input	85~264VAC, 47~63hz;
Ventilation	0~110m <sup>3</sup> (143yd <sup>3</sup> )/hr, adjustable, 2.3mins/change, auto-refresh;
Lighting	3000k~6000k, 0~1800lm, adjustable, Anti-glare index 20, CRI 92Ra, flicker-free;
Maximum Power	52W;
Power Supply	5 Hole universal outlet x 2, USB TypeA x 1, USB TypeC x 1;



Swivel armchair  
+  
WM working table



Pneumatic adjustable stool x 2  
+  
WM bar table



Corner bench x 2  
+  
WM F2F table



Privacy couch  
+  
C-shape coffee table

## Model SL

Elevate Communication, Inspire Collaboration

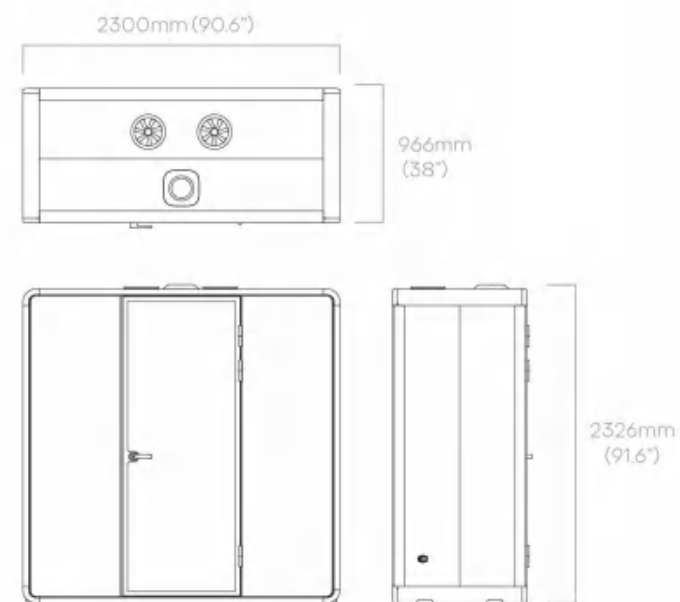
Model SL is specifically designed to fit in narrow areas such as corridors, optimizing the use of available space. Its slim body of 2.3m\*1.0m makes it incredibly convenient to set up in any office setting for a comfortable acoustic chat room, providing employees with easily accessi-

ble areas for face-to-face conversations. Whether it's a quick catch-up or a confidential meeting, the SL booth offers a seamless and hassle-free solution for fostering effective communication in the workplace.



## Parameter

External Size



Internal Size

W: 2162mm (85.1")  
D: 926mm (36.5")  
H: 2146mm (84.5")

Door Passage

W: 741mm (29.2")  
H: 2118mm (83.4")

Floor Space

2.2m<sup>2</sup> (23.7ft<sup>2</sup>)

Net Weight

471kgs (1038lbs)

Packaging Size

W: 2320mm (91.3")  
D: 760mm (29.9")  
H: 1265mm (49.8")

## Technical features

Capacity	2
Power Input	85-264VAC, 47-63hz;
Ventilation	0-110m <sup>3</sup> (143yd <sup>3</sup> ) /hr adjustable, ≈2.3mins/change, auto-refresh;
Lighting	3000k-6000k, 0-1800lm, adjustable, Anti-glare index 20, CRI 92Ra, flicker-free;
Maximum Power	60W;
Power Supply	5 Hole universal outlet x 2, USB TypeA x 1, USB TypeC x 1;



82 couch x 2  
+  
Trapezoidal coffee table



82 couch x 2+ Back pilaster  
+  
Trapezoidal coffee table

# Model L

Seamless Meetings, seamless creativity

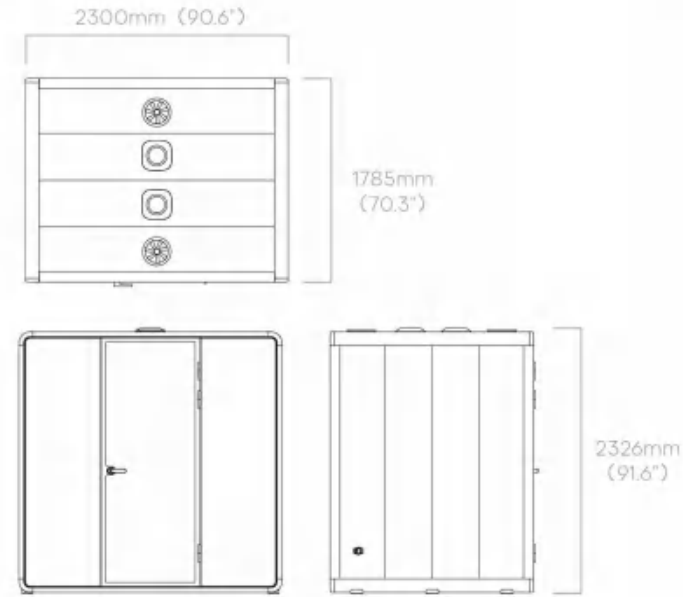
Model L, a versatile and innovative 2.3m\*1.8m room that effortlessly accommodates up to 4 people for meetings or serves as a spacious supervisor office. Its exceptional acoustic features ensure crystal-clear sound during video conferences, eliminating echo or external noise

disruptions. With its clever design and ample space, the L booth provides a tranquil environment for focused work and privacy, making it a perfect solution for both collaborative sessions and individual productivity.



# Parameter

External Size



Internal Size

W: 2162mm (85.1")  
D: 1745mm (36.5")  
H: 2146mm (84.5")

Door Passage

W: 741mm (29.2")  
H: 2118mm (83.4")

Floor Space

≈4.1m² (44ft²)

Net Weight

606kgs (1336 lbs)

Packaging Size

W: 2320mm (91.3")  
D: 1100mm (43.3")  
H: 1265mm (49.8")

# Technical features

Capacity	👤👤👤👤
Power Input	85~264VAC, 47~63hz;
Ventilation	0-218m³ (283yd³) /hr adjustable, ≈2.2mins/change, auto-refresh;
Light	3000k-6000k, 0-1800lm, adjustable, Anti-glare index 20, CRI 92Ra, flicker-free;
Maximum Power	100W;
Power Supply	5 Hole universal outlet x 2, USB TypeA x 1, USB TypeC x 1.



163 couch x 2  
+  
125 meeting table



163 couch x 2 + Back pilaster  
+  
WM 125 meeting table



Ergonomic office chair  
+  
Electrical adjustable desk



200 L-shape couch  
+  
C-shape coffee table

# Model XL

## Unleash Collaborative Excellence

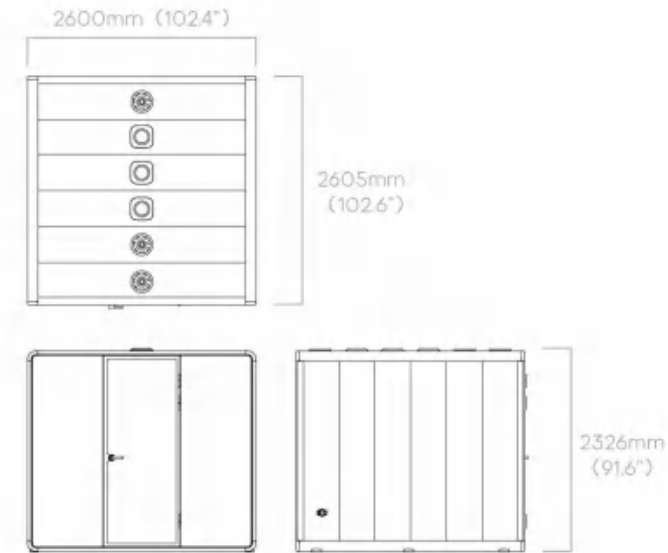
Model XL is a highly adaptable and spacious meeting room of 2.6m\*2.5m, comfortably accommodating up to six individuals. Its strategic positioning near the workstation area ensures quick and

seamless communication among project teams. With the ability to customize its size, the XL booth offers flexibility to meet the need for larger meetings or other scenarios more than just in the office.



# Parameter

## External Size



## Internal Size

W: 2462mm (96.6")  
 D: 2565mm (101")  
 H: 2146mm (84.5")

## Door Passage

W: 741mm (29.2")  
 H: 2118mm (83.4")

## Floor Space

6.8m<sup>2</sup> (72.9ft<sup>2</sup>)

## Net Weight

784kgs (1728.4lbs)

## Packaging Size

W: 2320mm (91.3")      W: 2620mm (103.1")  
 D: 760mm (29.9")      +      D: 760mm (29.9")  
 H: 1265mm (49.8")      H: 1265mm (49.8")

# Technical features

Capacity	👤👤👤👤👤👤
Power Input	85-264VAC, 47-63hz;
Ventilation	0-327m <sup>3</sup> (425yd <sup>3</sup> )/hr adjustable, 4mins/change, auto-refresh;
Light	3000k-6000k, 0-1800lm, adjustable, Anti-glare index 20, CRI 92Ra, flicker-free;
Maximum Power	120W;
Power Supply	5 Hole universal outlet x 2, USB TypeA x 1, USB TypeC x 1.



Meeting chair x 6  
+  
180 meeting table



Pneumatic adjustable stool x 6  
+  
Back pillar  
+  
WM 180 bar table



Swivel armchair x 4  
+  
Rounded table



230 L-shape couch  
+  
C-shape coffee table

# 99% Recyclable

By choosing recyclable materials, we contribute to reducing our carbon footprint and preserving the earth's resources. Our dedication to sustainability extends to every aspect of our production process, from sourcing to manufacturing. We take pride in using materials of exceptional quality and eco-friendliness in our products. We are committed to offering you the best while caring for the environment.



## Surface Materials

### Exterior Cladding - Powder coating & Vinyl film

			
S-01	S-02	S-04	S-05
			
S-06	S-07	S-08 <small>For side wall only</small>	S-09

### Interior - PET acoustic felt

			
LY-803	LY-817	PB2024	PC2002

### Interior - Fabric















			
DK-82	DK-12	DK-86 <small>Furniture standard</small>	DK-88
			
DK-22	DK-48	DK-40	DK-43
			
DK-63	DK-68	DK-53	DK-58
			
HY-5003	HY-5005	HY-5012	HY-5014
			
HY-5019	HY-5021	HY-5028	HY-5032

### Furniture - Melamine & Powder coating













			
T-01 <small>For compact laminate</small>	T-02 <small>For compact laminate</small>	T-03 <small>For powder coating MDF</small>	T-04 <small>For powder coating MDF</small>

- \* More fabric colours available, please contact us for details.
- \* Customer-provide fabric accept.

Tables

			
S   WM side shelf table 820mm x 300mm x 150mm (1050mm top height.)	S   WM back shelf table 550mm x 940mm x 42mm (1050mm top height.)	S   WM L-shape shelf table 800mm x 940mm x 42mm (1050mm top height.)	S   C-shape coffee table 950mm x 378mm x 650mm
			
M   WM working table 1285mm x 600mm x 400mm (750mm top height.)	M   WM F2F table 1200mm x 630mm x 750mm	M   WM bar table 1440mm x 420mm x 1050mm	
			
SL   Trapezoidal coffee table 700mm x 400mm x 450mm	L   125 meeting table 650mm x 1250mm x 750mm	L   WM 125 meeting table 430mm x 1250mm x 750mm	L   Electrical adjustable desk 1480mm x 650mm x 730-1420mm
			
XL   180 meeting table 800mm x 1800mm x 750mm	XL   WM 180 bar table 765mm x 1800mm x 1050mm	XL   Rounded table 800mm x 750mm	

Seats

			
S   WM perch seat 700mm x 130mm x 250mm	S   Square bench 940mm x 560mm x 440mm	M   Corner bench 600mm x 560mm x 450mm	M   Privacy couch 1480mm x 340mm x 1550mm
			
SL   82 couch 620mm x 420mm x 800mm	L   163 couch 1630mm x 650mm x 800mm	L   200 L-shape couch 2000mm x 1650mm x 800mm	XL   230 L-shape couch 2500mm x 2300mm x 800mm
			
Pneumatic adjustable stool 460mm x 450mm x 1000mm (Seat 550-800mm)	Swivel armchair 815mm x 660mm x 720mm	Ergonomic office chair 620mm x 640mm x 1180mm (Seat 450-530mm)	Meeting chair 640mm x 480mm x 640mm (Seat 450-530mm)

			
Safety Hammer	Cloth hook	Occupancy Light	Wall mounted screen holder
			
Embedded power socket	15W Wireless charger	Spring arm screen holder	Concealed adjustable table module
			
Bluetooth audio module	Glass white board	Door closer	Pull handle
			
Electric drop bolt lock	Door access panel	Air conditioner	PDLc privacy glass

- More customization service available, please contact us for details.
- Customer-provide add-on accept.

We offer an extensive range of furniture options and add-ons to meet every user's needs and preferences. We understand that different organizations and locations have unique requirements regarding booth setups. We have curated a wide selection of furniture pieces that fit the booth space to address this. Additionally, we provide various add-ons, such as monitor brackets and Bluetooth music modules. This compre-

hensive assortment allows our customers to customize their booth according to their specific objectives and create a truly personalized space. Whether creating a cozy lounge area or a well-equipped meeting room, our diverse range of furniture options and add-ons ensures that every booth can be tailored to individual requirements, enhancing the overall experience for both organization and users.

### Special customization

More than just standard options



Solid back wall

Cloth hook

White board

Concealed electric adjustable table



Extended width and depth

White board

Door access panel

Front pilaster

Door with pull handle and special placement

# Special customization

More than just standard options



S model with soft pad interior

L model with soft pad interior and couch.

## Acoustic information

### What is ISO 23351-1:2020 ?

ISO 23351-1:2020 is a recently introduced standard that assesses the extent to which phone booths, work pods, and other furniture combinations reduce speech levels. Through a designated test, it calculates a metric known as "speech level reduction," represented as  $D_{S,A}$  (decibels/dB). This standard marks the first of its kind specifically dedicated to booths and similar partially enclosed furniture units. Based on the degree of speech level reduction they offer, office pods are categorized into classes A+, A, B, C, or D. Office pods in classes A+, A, and B ensure the highest level of speech privacy.

### How to reduce sound propagation ?

- Utilize high-density soundproofing materials, such as metal, concrete and glass, on primary surfaces to effectively attenuate the transmission of sound waves.
- Optimize gap sealing through the application of waterproof adhesive, sealing strips, or other appropriate sealing materials to ensure minimal noise leakage.
- In areas where achieving complete insulation is impracticable, like ventilation ducts, maximize the distance for sound travelling and apply sound-absorbing materials along the path, such as PET acoustic felt, to dissipate sound energy.

### What is STC and NIC?

STC (Sound Transmission Class) is a way to measure how well a material can block sound. It's often used to test partitions, like walls and screens. The higher the STC number, the better the partition is at stopping sound. STC is important for evaluating partitions that separate areas where people talk.

NIC (Noise Isolation Class) measures how well two rooms are insulated from sound after construction. Higher NIC values mean better sound insulation between rooms.

STC and NIC are similar, but they also have differences. NIC is a field measurement, which means it's taken in the actual space, while STC is a laboratory measurement. Since STC is not done in the actual space, it doesn't consider factors like sound absorption in the room receiving the sound. This makes NIC more comprehensive for evaluating sound insulation in both rooms, not just the partition between them. Both measurements can be helpful for checking sound insulation.

### What is Speech intelligibility ?

Speech intelligibility refers to the ability of a listener to understand and comprehend spoken words or messages. It measures how clear and easily understandable speech is in various contexts, such as public address systems, telecommunications, broadcast media, or live performances. Factors that affect speech intelligibility include pronunciation, articulation, volume, background noise, and the quality of the audio transmission system. High speech intelligibility is desirable to ensure effective communication and minimize misunderstandings.

### What is Centrifugal fan ?

Different from axial fan which is commonly encountered, centrifugal fan is normally constructed as a fixed drum shape with a number of impellers. Centrifugal fans move air radially. The airflow created passes through a system of tubes or ducts which creates a higher pressure airflow, making them ideal for aspirating, cooling, ventilating and conveying air.

### What is PET acoustic felt ?

PET acoustic felt is a material made of polyethylene terephthalate (PET) fibers, which are commonly used in the production of textiles and fibers. It is a type of sound-absorbing material that is commonly used in various acoustic applications, such as in the construction of sound-proof rooms, studios, and other spaces where noise control is important.

PET acoustic felt is typically made by compressing and heating PET fibers together to form a dense, porous material. The pores in the material help to absorb and dissipate sound waves, thereby reducing the amount of noise that passes through the material. The felt-like texture of the material also helps to scatter and diffuse sound waves, further enhancing its sound-absorbing properties.

### What is Laminate glass?

Laminate glass, also known as safety glass, is widely used for soundproofing purposes due to its unique construction. Comprised of multiple layers of glass bonded together with a polyvinyl butyral (PVB) interlayer, laminate glass effectively reduces noise transmission by absorbing and dissipating sound waves. This design minimizes the transfer of external noise into the interior environment, creating a quieter and more peaceful atmosphere. Additionally, laminate glass offers enhanced security, protection against UV rays, and is commonly utilized in windows, doors, and partitions to achieve better soundproofing in areas exposed to high levels of noise.

