Residence Connect

SPACESTOR®

Residence Connect

The ultimate *video conferencing* pod

Ventilation
Increased and user-adjustable airflow control for sustained comfort.

Lighting
Backlighting for an optimal inclusive VC experience. A bright, non-directional light that creates the best viewing experience and supports equitable visual representation, with user-controlled brightness.

Control Panel
User controls for the height-adjustable table, separately adjustable monitor height, fan speed and light dimming control. Designed for easier differentiation and dexterity.

Ergonomics
Height-adjustable table supports ergonomic postures; both sitting and standing. Separately height-adjustable monitor means users can set up their optimal viewing angle.

Audiovisual
All mounting bracketry and connections supplied for any screen, along with integral cable tidy and provision for USB-C charging point and power lead.

Acoustics
Speech intelligibility privacy provided by high acoustic performance materials and a patent-pending acoustic seal technique.

Fabrics
Upholstery choices based on the optimum light reflective values (LRV) for the best user experience, supporting the equitable visual representation of people of all skin tones

Visual Privacy
Visually obscured glass panel with frosted film allowing for privacy and avoiding any external visual distractions for the user.

MEP Coordination
Integral rear access chase available for easy installation and flexible connection of all MEP components, including sprinklers and electrics. Also accessible from inside pod for Day 2 serviceability.

Accessibility
A battery-powered push button door opener mechanism available on the ADA variation, plus a level threshold for easy access
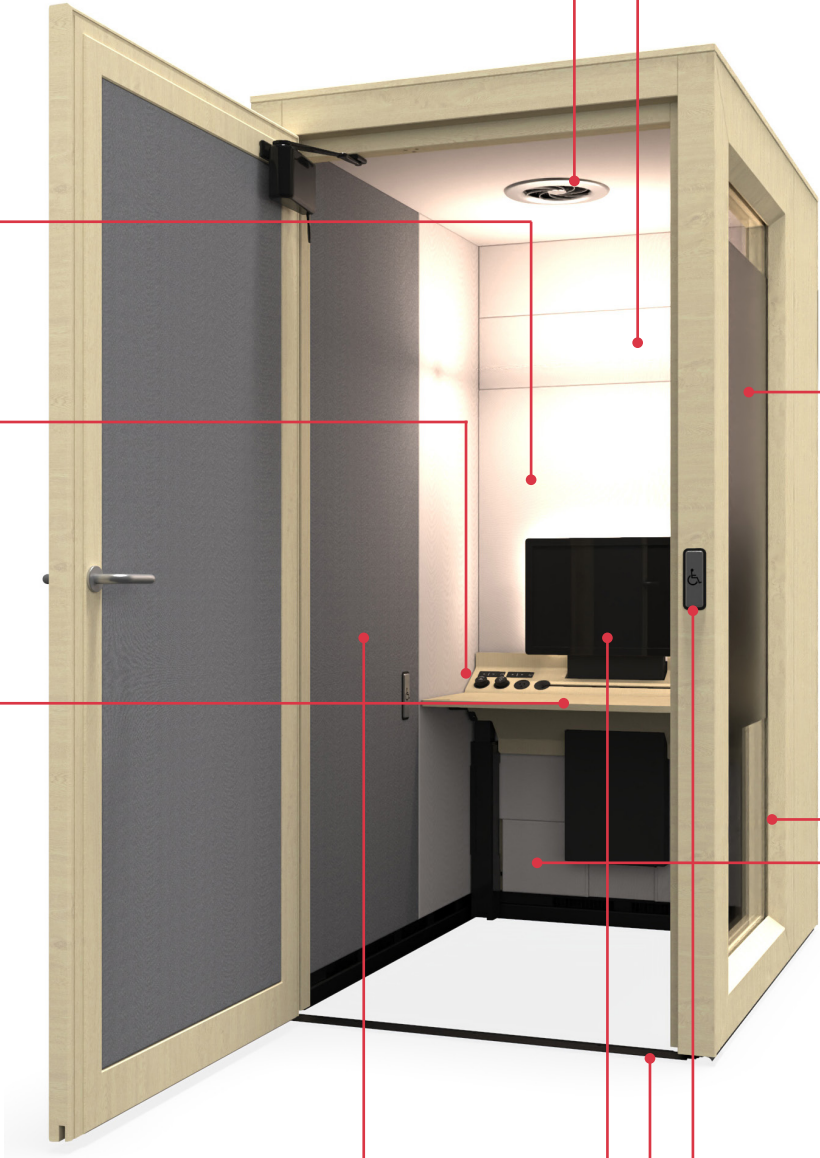
Virtually Connected

The workplace is changing fast. It's transforming into a hybrid model in which its workforce is distributed across more locations than ever before. Companies and their teams are heavily relying on virtual connectivity to maintain the same levels of collaboration and teamwork.

The opportunities for face-to-face collaboration are reducing and are being substituted with video conversations, which are increasingly becoming the norm. However, this will cause a problem for the workspace as it's designed now. A video conversation requires certain levels of privacy and acoustic control, and this is not easily achieved in an open plan workspace.

The Distraction of One-sided Conversations

Not only are the increased noise levels a distraction, but only hearing half of a conversation is proven to be far more distracting than a dialogue between two people. This is because our brains constantly try to predict the inaudible utterances that constitute the other half of the conversation, hindering our ability to focus.

To achieve greater levels of privacy, it's not uncommon to see a whole meeting room in use for a video conversation. Whilst this removes potential distractions from the open space, the misuse of a large meeting room reduces the spatial capacity for face-to-face collaboration in the workspace.

A sound-proof pod is a perfect, space-efficient solution to this growing trend. However, most pods have primarily been designed for quiet focus work. A pod designed for communication is quite different. Not only does the acoustic quality of the pod need to be optimized, but so do the aesthetics and finishes of the interior to be able to support the visual representation of all people on camera, regardless of skin tone and clothing choice. As a smaller enclosed space, users also need as much control over their environment as possible to create the best personalized experience.

Residence Connect

The Residence Connect is a single person, tech integrated video conferencing pod. It is crafted to provide an optimal and inclusive virtual meeting experience with excellent acoustic properties. User comfort has been considered with attributes such as lighting adjustability, an integrated fan for personalized temperature control, an adjustable height desk surface as well as adjustable monitor heights.

The Development Story

Spacestor was approached by one of the world's leading tech companies with the challenge of designing and engineering a pod that took video conversations out of the open workspace and into an efficiently-sized acoustic pod. Every feature of this space needed to be optimized for the best user experience, with inclusivity in mind.

Three key principles shaped the development journey of this project, these were;


1 The Ultimate User Experience

Enhanced physical and virtual interaction allowing for a personalized environment with user-controlled aspects like lighting, airflow, desk and monitor positioning, alongside a seamlessly integrated tech experience.

2 Inclusivity & Equitability

An inclusive and equitable user experience with a simple user interface for people of all abilities.
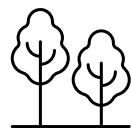
3 Sustainable & Healthy

Designed with a materials palette that is compliant with stringent global standards and is LBC Red List Compliant, ensuring the health, safety and comfort of users, as well as the least possible environmental impact.

After a two year development project, with numerous prototypes, we have crafted the ultimate video conferencing pod: Residence Connect.

Not only does the Residence Connect reduce the level of distractions in the open plan workspace, it has a number of other benefits too:

- Improves the capacity for collaboration in the workspace by increasing room availability
- Supports focus work in the workspace by removing phone and video calls from the desk areas
- Inclusive design affords equitable experience for users of many abilities
- Lifecycle cost savings achieved through the option to redeploy units rather than building / demolishing phone rooms.

Every aspect of the user journey was considered in depth, in view of building an optimal and inclusive user experience, from the physical user interface to the visual representation of the user virtually.

Accessibility

Following the principle of inclusivity, the design of Residence Connect affords an equitable experience for all users, regardless of their abilities. The accessible ADA model is designed for easy approach, entry and exit. Detailed features include:

- 32"/810mm door clearance
- Level threshold for easy access (ADA compliant)
- Other dimensions designed to ADA requirements
- Battery-powered push button door opener mechanism inside and out on the ADA model
- Usability and controls designed for people of all abilities - large knobs (1 ⅖"/35mm diameter) with contrast icons recessed
- Height adjustable monitor mount
- Height adjustable desk

Door width = 32"/810mm

Standard wheelchair width = 28"/710mm

Battery-powered push button door opener

Level threshold

250 lux

250 lux

Lighting

For optimal user comfort, bias lighting was chosen, which is proven to support the best viewing experience, reducing eye strain and enhancing image quality. The light source is positioned behind the monitor and illuminates the upholstered panels behind the screen. Whilst this light is considerably bright, it is non-directional which prevents eye strain and means users can experience sustained viewing comfort for longer time periods, as well as causing the brain to perceive a higher contrast on screen. Not only does bias lighting provide the best screen-viewing experience, but as the light source is front-facing, it's the best for illuminating the face during video calls. The upholstered panels behind the monitor reflect the bright light source, at a value of approximately 250 lux, directly onto the user's face. It evenly accentuates and brightens the skin and facial features, giving a clear, flattering quality to all skin tones, supporting the equitable visual representation of all people.

A visual explanation of bias lighting
The bar running through the middle is the same colour from end to end, however our brain perceives the bar to be much darker against a light background. Bias lighting gives greater black level performance, enhancing the overall image equality of the screen for an improved viewing experience.
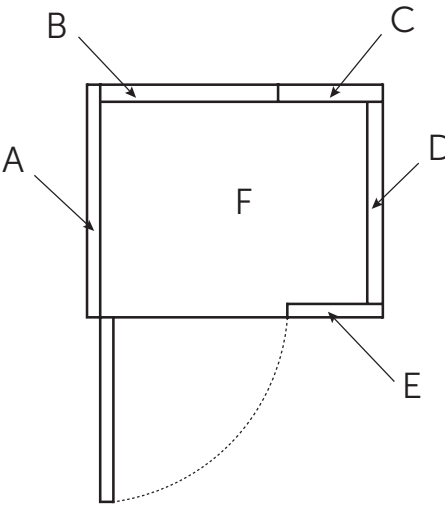
User-controlled
To give the user greater control over personal comfort, the lighting is adjustable and can be dimmed down to 10% so reduces to approx. 30 lux. The dimmer control knob is located on the angled dashboard at the back of the desk surface.

Fabrics

The upholstery fabrics and the light source are intrinsically interconnected; they depend on one another to optimise the visual representation of all users on camera. Textile offerings were pre-vetted and tested to ensure they were in support of VC equity guidelines, as well as being UL approved. Upholstery fabrics needed to be highly reflective, non-directional and have the ability to compliment a wide range of skin tones. After testing the lighting performance and location of a wide range of textiles within the pod, the optimal specification of upholstery fabric was arrived at. To work alongside lighting to ensure an equitable visual user representation, the light reflectance value (LRV) needed to fall in a specific range dependent on the location of each upholstery panel. Panels surrounding the screen and work surface needed to have a LRV of 50+% and upholstery panels surrounding the user needed to have a LRV of 15-25%.
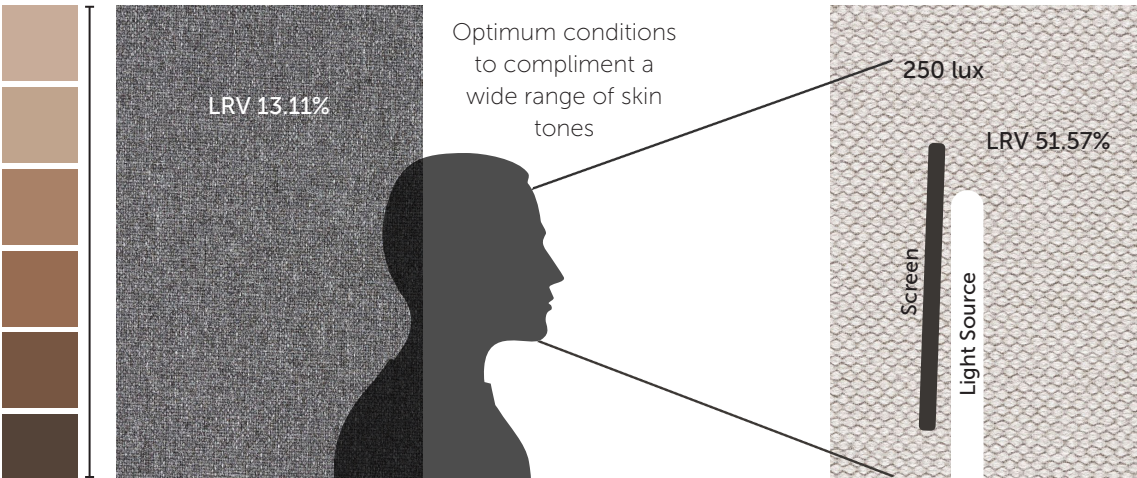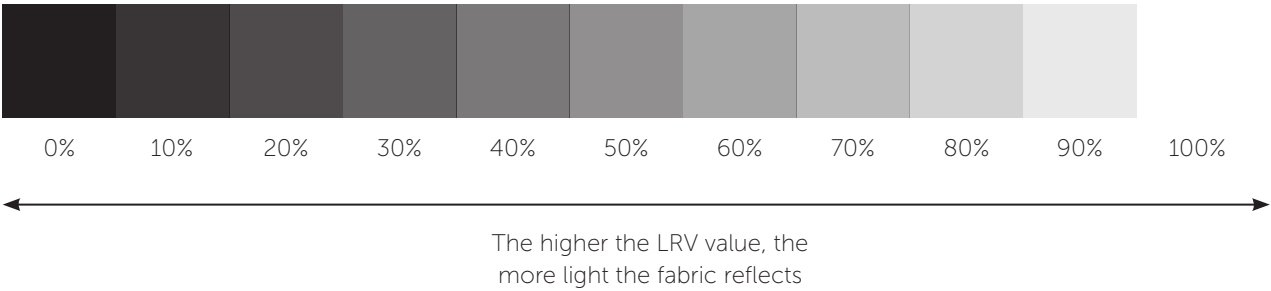
Upholstery panel designation

RECOMMENDED UPHOLSTERY PALETTE

Panels A & B	Panels C, D & E	Panel F
LUUM Heather Tech	LUUM Digi Tweed	LUUM Heather Tech
Crag Tech 4059-07	**Topaz Tweed** 4058-02	**Topaz Tech** 4059-02
LRV 13.11%	LRV 51.57%	LRV 50.21%

Broad range of standard upholstery fabrics also available. See last page for more detail.

LRV Scale

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

The higher the LRV value, the more light the fabric reflects

LRV 13.11%

Optimum conditions to compliment a wide range of skin tones

250 lux

LRV 51.57%

Screen

Light Source

Visual Privacy

One of the reasons many users would tend to seek out a meeting room for a video call is to experience some visual privacy. Space needs to be provided for calls that may be of a private and confidential nature, so by visually obscuring the view into the pod through the glass panel, either through the door or side panel, the user experience is enhanced. The application of a film with a dusted matt surface on the glass panel is set at a position that avoids passers-by being able to see the screen from outside the pod, as well as obscuring the external view in the camera's eye. Not only does this provide visual privacy, it also reduces visual distractions, improving the aura of focus.
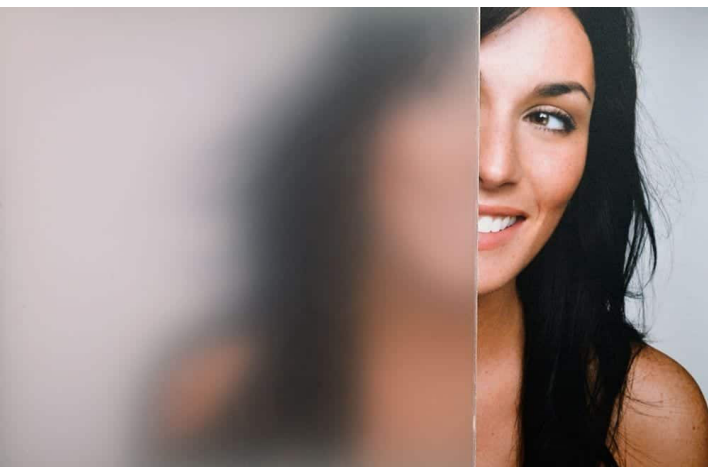
| Film location	21" AFF to bottom of film, film 48"H, 69" AFF
Film specification	SX-3131 Eco Dusted
Shading coefficient	.93%
Thickness	75 microns
Visible light transmission	69%
Visible light reflection	70%

48"
1220mm

69"
1750mm
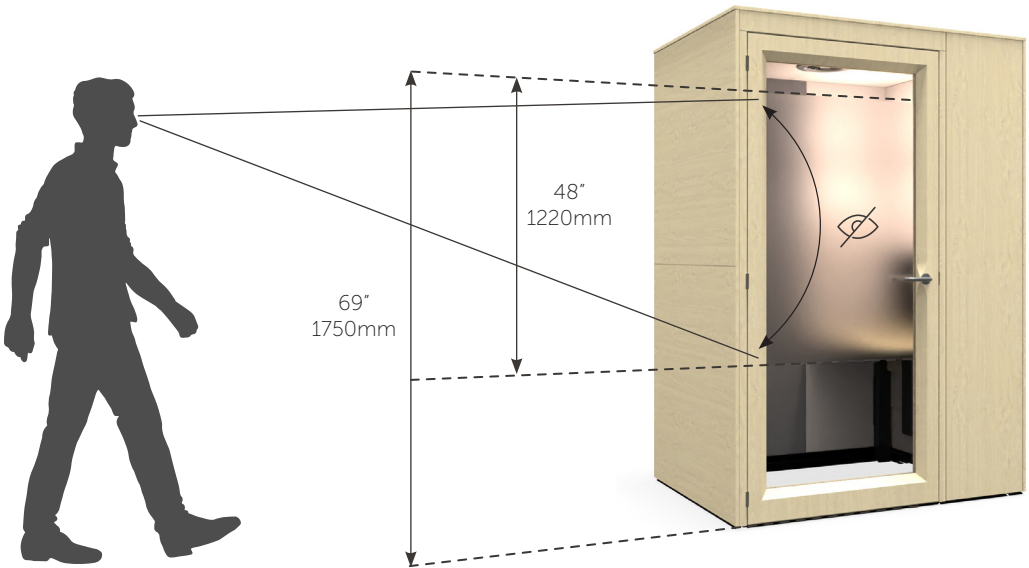
Acoustics

The high acoustic quality of Residence Connect is one of the most important factors in removing the noise distraction from the open office, encouraging greater levels of focus in the desking areas. Not only do people escape to meeting rooms for visual privacy, but acoustic privacy is likely to be the higher priority. Speech intelligibility privacy is achieved through high acoustic performance materials with a dB reduction rating of >35dB.
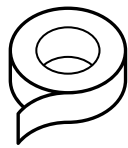
Spacestor have a unique technique in achieving sound privacy through the use of a patent pending acoustic seal. To ensure easy access for users of all abilities, the pod itself has no floor. Therefore, the structure needs to be sealed to the floor to avoid any loss of acoustic integrity. The acoustic seal follows the contour of the floor and can cope with a ¾"/20mm difference in surface level, avoiding the need for floors to be levelled prior to installation.

+/-
20mm/¾"
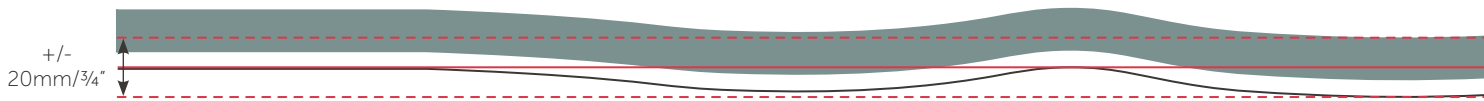
Ergonomics

In support of one of the defining principles of this development project, inclusivity and equitability, the Residence Connect is designed with necessary levels of user adjustment suited to people of all abilities. Every aspect of the user experience has been considered to ensure ultimate user comfort and control.

Height-adjustable Work Surface & Display

Supportive of ergonomic postures, a height adjustable table and separately height-adjustable monitor accommodates both sitting and standing work positions for all users of varying heights, sizes and abilities. The adjustable monitor height also ensures optimized viewing angles for the camera and screen, encouraging a healthy upright posture for everyone.

Desk height-adjustability measure: minimum height 24"/610mm, maximum height 46"/1170mm. Monitor height-adjustability measure: 8"/200mm adjustment above desk.
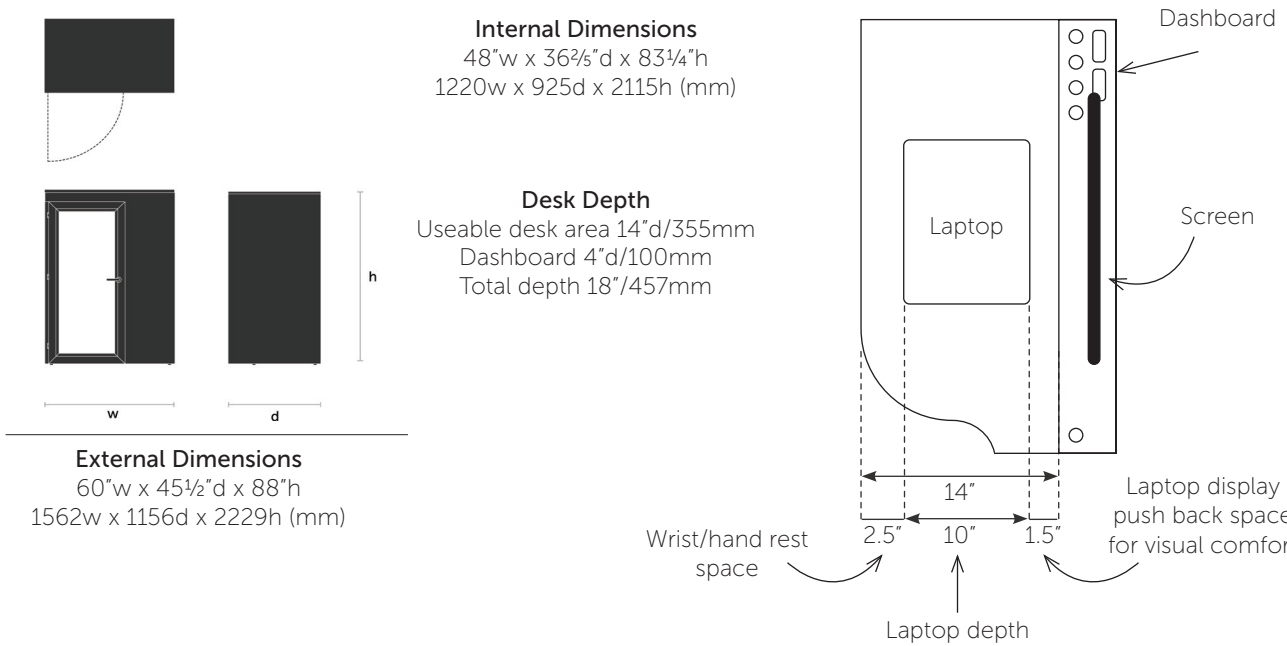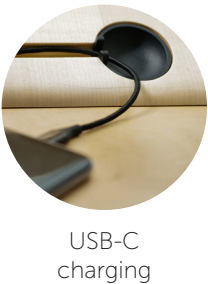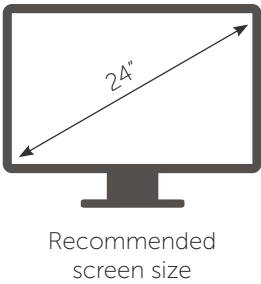
46"/1170mm

24"/610mm

8"/200mm
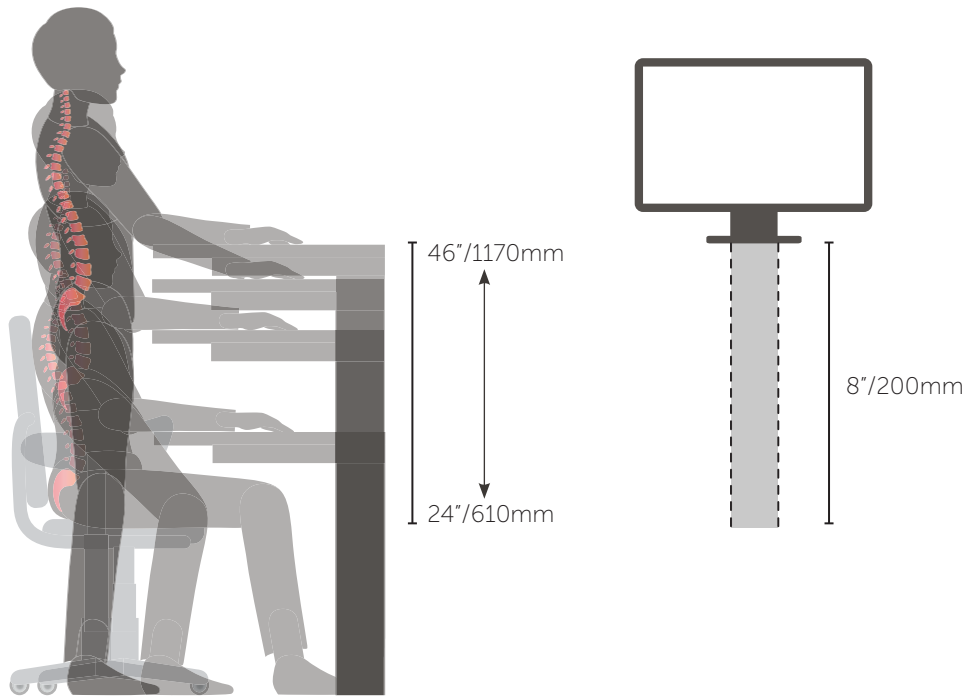
Dimensions

The internal dimensions have been optimised for the best camera view and the user's comfort. Unlike the average quiet working pod, Residence Connect has an increased depth dimension, allowing the camera to be positioned at a comfortable distance, avoiding mugshot-like views of the user which can feel slightly invasive. The monitor height adjustability has been designed to center the end user on screen and works in parallel with the desk adjustability. The screen can be adjusted no lower than 6"/150mm from the desk surface. The depth of the internal space for seating allows for both operator chairs and wheelchairs. The depth of the desk surface has been carefully calculated to accommodate the best user experience, taking into account several factors including the average laptop depth, the ergonomic wrist/hand rest space depth, the laptop display push back angle for visual comfort and the depth of the integrated touch display and mounting system and brackets. We recommend having a 3" clearance around all sides of the Residence Connect to allow for install the external clad panels. To move the pod after installation can damage the acoustic base seal and affect the acoustic performance of the pod.
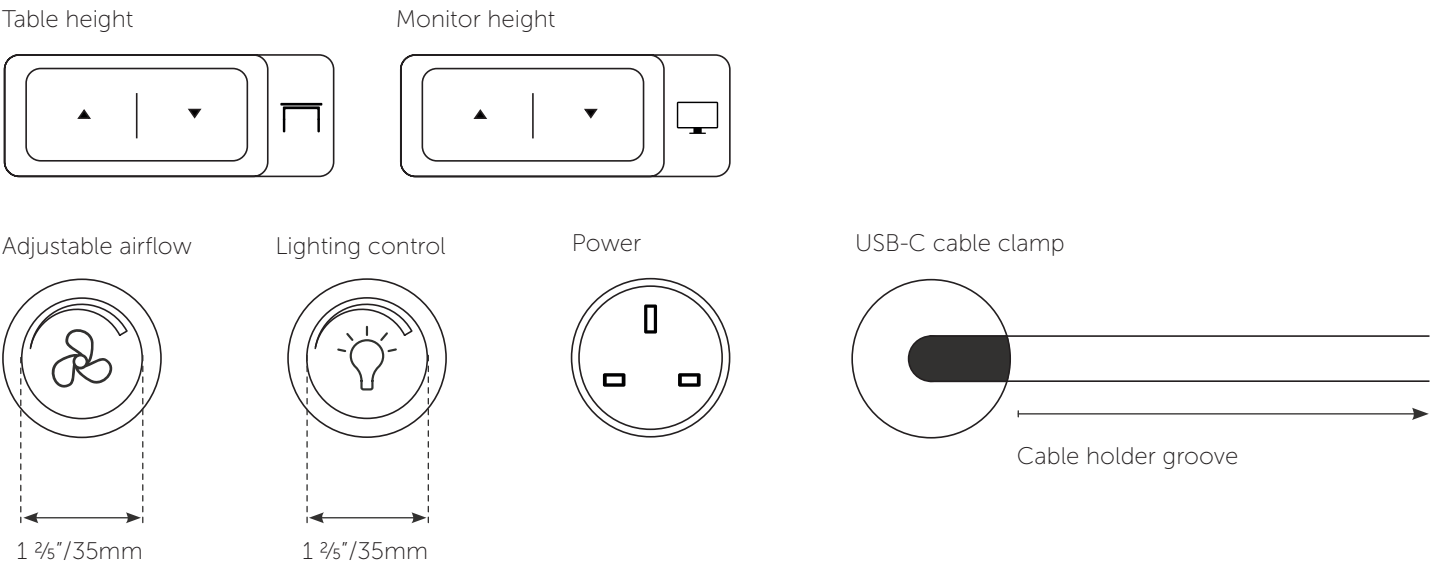
Dashboard

The user has full control over their environment with four key adjustable elements, including work surface height, monitor height, airflow, and lighting. The controls for each of these elements are located on the 45 degree angled dashboard sitting directly behind the flat work surface, to the left of the monitor. In addition, the ADA unit includes an automatic door opener and easily accessible charging cables. With inclusivity in mind, these controls have been designed for easy differentiation and all levels of dexterity. The control dashboard includes large, raised height adjustable buttons for the monitor and desk, each clearly identified with relevant icons. Set just below these buttons are the knobs for fan and lighting control, these have a large diameter of 1 ⅖"/35mm with contrast icons debossed into the surface. The internal automatic door opener button is recessed into the upholstered panel to the side of the user, just in front of the desk. The USB-C cable clamp and holder groove is set within the angled dashboard, running along the top of the work surface.

Internal Dimensions
48"w x 36⅖"d x 83¼"h
1220w x 925d x 2115h (mm)

Desk Depth
Useable desk area 14"d/355mm
Dashboard 4"d/100mm
Total depth 18"/457mm

External Dimensions
60"w x 45½"d x 88"h
1562w x 1156d x 2229h (mm)

Dashboard
Laptop
Screen
Laptop display push back space for visual comfort
Laptop depth
Wrist/hand rest space
2.5" 10" 1.5"
14"

Table height

Monitor height

Adjustable airflow
1 ⅖"/35mm

Lighting control
1 ⅖"/35mm

Power

USB-C cable clamp
Cable holder groove

Audiovisual

Residence Connect was developed to support the fully integrated connection of most common monitor specifications. The size of the screen has an effect on the lighting experience, so a recommended screen size would be 24" to avoid impacting the bias lighting. Mounting bracketry is supplied as linked with the electric height adjustability of the monitor. The pod is prewired with a whip or plug cord and power is then received via a duplex receptacle at the adjacent wall or from a floor box. A data cable can be connected via jacks in a finished face plate at the bottom rear of the pod. An electrical socket is provided internally for a power supply unit and USB-C charging connections for a seamlessly integrated tech experience. All Day 2 AV serviceability is achievable without specialist tools.

Recommended screen size

USB-C charging

Ventilation

Residence Connect was developed using a ventilation technique unique to Spacestor; our patent pending 'airflow through the walls' system. As air enters the top of the unit, the fan pulls ambient air into the unit from the exterior of the pod or underfloor supply via a diffuser. Once inside, the air then moves up behind the upholstery panels and exits the unit at the top. This allows pods to be positioned together in a row without affecting the ventilation experience within each unit. The air flow rate is 21 cubic feet/minute (cfm), which means there's a change of air within the pod every 4 minutes.

Airflow through the walls

To contribute to the best user experience, Residence Connect features user-adjustable airflow for sustained comfort. This can be controlled by turning the round airflow knob featured on the control panel behind the desk surface. The adjustable 7.1"fan has a speed adjustability range of 600 - 1200 RPM, airflow 35 cfm - 70 cfm (a change of air on average every 4 minutes), and static pressure 0.5 mm H_2O - 2.18mm H_2O.

400rpm 25cfm   1500rpm 140cfm
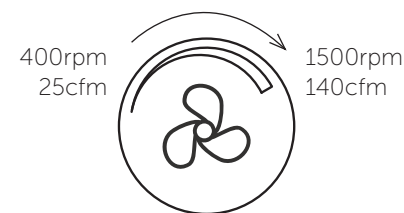
An additional feature for healthier ventilation is the concept of UV cleansed air. This is an extension of the ventilation development whereby ambient air entering the pod travels through a hood, passing over a UV lamp which purifies the air by germicidal irradiation technology. The UV air purifier uses ultraviolet light (UV-C light) to inactivate airborne pathogens and microorganisms like mold, bacteria and viruses by altering their DNA or destroying them.

MEP Coordination

For easy installation and servicing, the Residence Connect has been designed with an optional integral rear access chase for the flexible connection of all MEP components, for example, a fire sprinkler and electrics, and for Day 2 serviceability. This service chase also includes a 3"/75mm opening at the floor so service connections, for elements like sprinklers and power and data, can be fed from the floor, side or top. For any pods that have been installed in a corner, leaving the rear chase inaccessible from the outside, access panels have been included within the interior of the pod so the chase can still be accessed.

Internal access panels for rear service chase

Electrical

Residence Connect can be powered by a standard voltage cord and plug connection to a convenience or dedicated receptacle on site. In some applications, the pod may be hardwired to the building electrical system.

Structural

The pod is seismically engineered with floor fixing positions built into the base frame, making it suitable for installation on a raised-access floor, as well as carpet and concrete floors. It also has adjustable levelers with up to ¾"/20mm tolerance. Calculations indicate that when anchored in this way, Residence Connect is seismically compliant with 2018 International Building Code and 2019 California Building Code.

Fire

Where fire sprinkler and life safety connections are required, the pod includes a 3"/75mm cavity inside one wall of the unit to accommodate connections of this type. For raised floor applications, this cavity can also be accessed either from above or below. If a fire alarm is required, a cutout for the standard specification of a 4"/100mm square extra deep junction box will be provided or a different size cutout for other specifications.

Residence Connect is UL Listed in the USA & Canada.

Residence Connect

Crafted to provide an optimal and inclusive video conferencing experience with excellent acoustic properties.

Variations

Residence Connect
PCN-SDP

Residence Connect ADA
PCN-DDA

Product Features

Optional USB-C charging point

Controls designed for easier differentation and dexterity

Increased & adjustable airflow for longer VC use

Ergonomically adjustable table and separately adjustable monitor height

Backlit screen for optimal inclusive VC experience

Integral cable tidy with provision for USB-C power lead

Auto Door opener inside & outside on ADA booth

Level access booths (ADA compliant)

Clad Style

LPL
M18

Plywood
P18

Desk & Lighting Options

Connect Cockpit & Bias Lighting
CBL

Max Desk & Spotlights
MDS

AV Options

Chromebase All-in-One PC
CRM

Supply Your Own Hardware
BYH

Glazing Style Options

No Film
NPF

Privacy Film
DPF

Other Features

- Integral rear access chase for easy installation and flexible connection of all MEP components (sprinkler & electrics) and Day 2 access
- Access to rear chase from inside Residence Connect
- Acoustically designed construction for private video conferencing conversations to avoid distraction to surrounding occupants

- Seismically engineered with floor fixing positions in base frame
- FSC compliant timber used
- Choice of wipeable anti-microbial upholstery fabric
- Suitable for installing on raised-access floor, carpet or concrete floors
- 32"/810mm ADA Door clearances

Dimensions

Left-hand or Right-hand option available

Residence Connect
60"w x 45½"d x 88"h
1562w x 1156d x 2229h (mm)

Residence Connect ADA
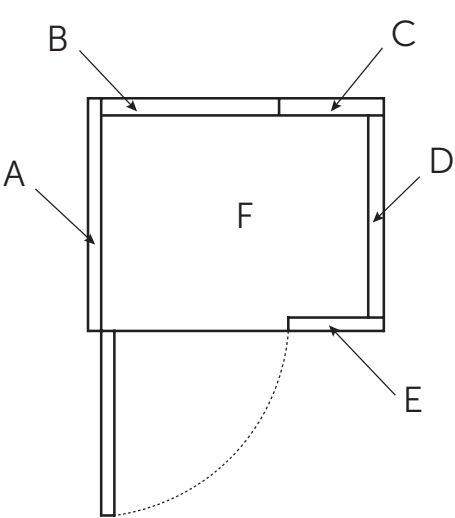60"w x 45½"d x 88"h
1562w x 1156d x 2229h (mm)

Finishes

Clad Finishes

Lacquered Plywood

Plywood

LPL

Platinum White

Light Grey

Onyx Grey

Upholstery Finishes

Upholstery panel designation

Recommended SkinPerfect Upholstery Palette

Panels A & B
Camira Era
Generation CSE02
LRV 24.51%

Panels C, D & E
Camira Era
Futurist CSE01
LRV 49.88%

Panel F
Camira Era
Futurist CSE01
LRV 49.88%

This recommended finishes palette has been curated from our standard upholstery finishes collection based on our learnings on creating the optimum lighting conditions for the equitable visual representation of all pod users.

Select finishes contribute to the UL Listing of Residence Connect.
Please contact us for further information.

Standard Ranges

Cladding

UL Approved Finish: Lacquered Plywood
UL Approved Finish: Swisskrono Be.Yond (see spacestor.com for more details)

LPL 1:	White
LPL 2:	Premium White, Coastal White
LPL 3:	Alabaster White, Vanilla Yellow, Dust Gray, Taupe Gray, Black, Silver Grey, Fog Grey, Black, Hardrock Maple, Natural Maple
LPL 4:	Amber Pearwood, Choclate Pearwood, Espresso, Floral Mahogany

Upholstery

Group 3:	Camira Main Line Flax, Camira Synergy
Group 4:	Camira Blazer
UL Approved Finish: Skinperfect range	Luum Heather Tech Crag Tech, Camira Era Generation, Camira Era Late, Camira Era Futurist, Luum Heather Tech Topaz Tech, Camira Era Analogue, Luum Digi Tweed Topaz Tweed, Camira Era Allowance, Camira Era Transition