

Climate Office



Furniture for people





Solutions for Office 4.0

C+P Climate Office is the consistent continuation of our corporate philosophy: **People first, products second.**

Our mission is to make work easier for people. That is why we believe everyone has the right to feel comfortable at their workplace. Work results improve, productivity increases, and health is promoted.

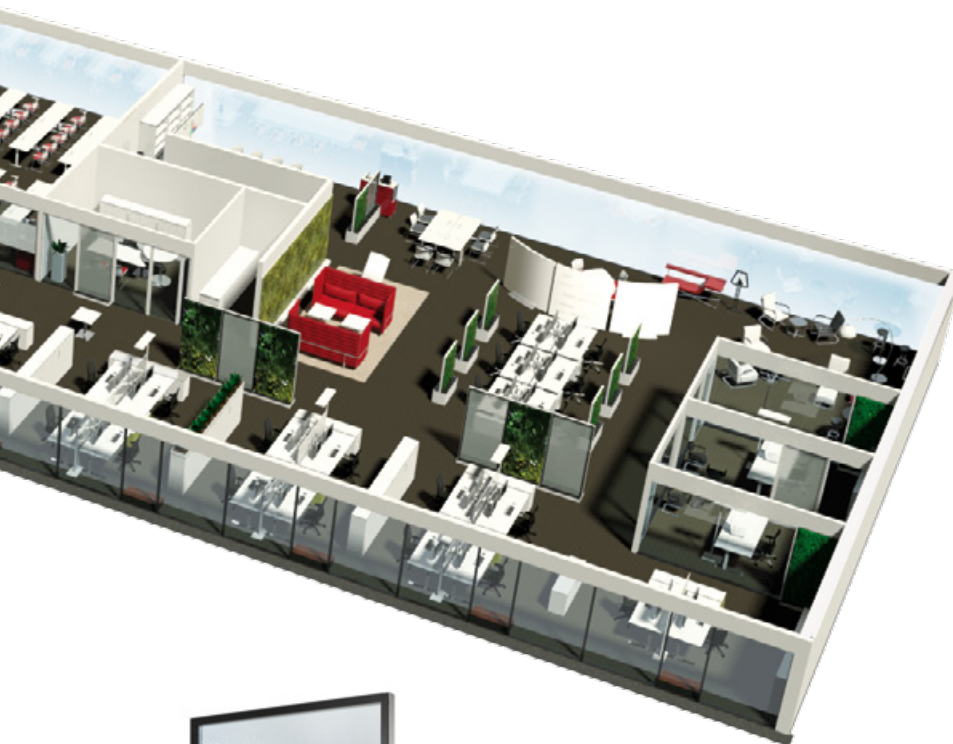
It is no longer sufficient to focus on furnishings alone. In collaboration with the Fraunhofer Institute for Building Physics IBP, we have developed solutions to optimize indoor climate and to improve employee satisfaction especially in open-plan offices.

Noise level, air quality, room temperature, and relative humidity in the room are positively influenced by the use of plants, water, and acoustically effective materials.

Wellbeing and motivation in the workplace are important issues not only in the office. These measures can be instrumental in increasing motivation and lowering sickness rates in production halls and workshops as well.

The object is to create the optimal human comfort zone. That calls for a wide product range which meets the requirements of Office 4.0 and provides creative freedom for architects and planners.

C+P offers solutions for designing spaces for people in a sustainable way.



Your room requirements solved professionally

Climate Office is an integrated and sustainable solution for climate control, air purification, acoustics, and greening.

Based on the **biophilic design** principle, we bring a piece of nature into the work environment by using natural elements such as water and plants to create a healthy indoor climate and to increase human wellbeing. Not only pleasant indoor air quality but also acoustics are crucial: work, meeting, and quiet zones must be divided sensibly in order to optimize sound intensity in a room and to ensure adequate speech intelligibility in the respective areas.

With our acoustically effective climate, water, and green walls as well as the C+P partition systems, we offer innovative and resource-saving solutions for a beneficial indoor climate and pleasant acoustics. Analytical and creative consultation comes first to ensure optimum combination of design, function, and efficiency into a harmonious whole.



Background information:

The trend is shifting from individual or two-person offices to open-plan offices. Although this results in reduced room costs per workplace, other problems often arise instead:

- Disturbances due to long reverberation time caused by insufficient sound absorbers
- Simultaneously disturbances caused by undesirable speech intelligibility and distraction

- Lack of privacy
- Problems with climate, humidity, and air quality
- Lack of wellbeing and motivation due to austere and sterile surroundings

The costly effects of these problems soon appear: According to studies conducted by the Fraunhofer IBP, employee satisfaction and thus motivation is the lowest in open-plan offices.



Pleasant room temperature

In the new C+P office world, the optimal open-plan office was implemented in an exemplary manner based on a scientific study conducted by the Fraunhofer Institute for Building Physics IBP.

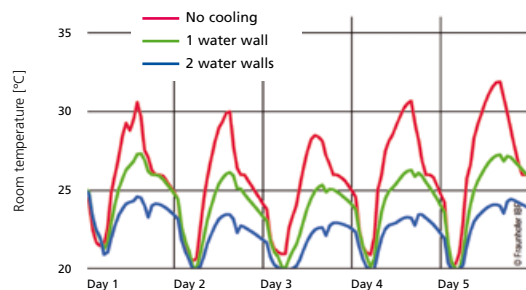
This included climate and acoustics calculations as well as an analysis of the building according to size, material selection, and alignment, ventilation system design, positioning of climate water walls according to ventilation specifications, and the placement of furniture.

The required cooling areas were determined using an area simulation. Finally, the economic attractiveness of this solution was also confirmed by a comparison of investment and maintenance costs.

Individual office

Room temperature measurements (July 2016) at Fraunhofer IBP.

More information: www.cp.de/climateoffice



Improved room acoustics



Further figures show that the number of short-term illnesses in open office structures is almost twice as high as in individual offices.

After a building is commissioned, attempts are often made to solve these problems by using greenery, stand-up walls, or additionally installed sound absorbers. Investments are also made in more cabinet space – not because more storage space is needed but just to facilitate room division and to provide privacy. Frequently, all these measures are implemented without a proper concept or an analysis of their costs and benefits, although they cost a huge amount of money.

Startling figures:

In Germany alone, 43% of all office workers do not have any greenery in their immediate surroundings, even though such natural elements help to increase employee wellbeing by 18% and even improve creativity and productivity by 20%.

Source: *Interface Human Spaces Report 2014*



Enormous leaf surface:

With a total leaf surface of approx. 6 m² (!), a 1980 x 1200 mm philodendron hedge can replace many individual potted plants.





Planting in a base:

The base of the hedge element contains the special soil-based substrate where the philodendron grows and twines up the wall.



Absorption or shielding:

The hedge element is equipped with a sound-absorbing or sound-insulating filling – depending on the local requirements.

Mobile hedge elements

Our hedge elements are planted with *philodendron* and, measuring 1980 x 1200 mm, have a total leaf surface of approx. 6 m²! A large number of individual potted plants can be replaced like that. One unique feature of C+P hedge elements is the possibility of equipping the wall with acoustically effective filling which has a sound-insulating or sound-absorbing effect. This acoustic filling is also “green” since it is made of recycling material.



Award-winning:

The C+P hedge and water elements received the Product Design Award at the Workspace trade show in Dubai.



Hedges make it easier to divide office space appropriately. They can be used to replace various furnishing elements like stand-up walls, planters, or even cabinets which are not needed for storage space but just for room partitioning.

Several investments can therefore be replaced or optimized by a single one – with a positive impact on acoustics and climate.

Studies conducted by the Fraunhofer Institute for Building Physics IBP confirm the positive impact of greened walls and higher employee acceptance.

The hedge elements are mobile and can therefore be used flexibly. They are planted on both sides as standard, however one-sided planting is also possible. In this case, the other side is used as a pin board or magnetic wall. Maintenance and care of the elements is easy, and a special irrigation cart is also available.



Cube planter – also acoustically effective!
Matches water and hedge elements – also available in micro-perforated steel lined with a sound absorber.





Chlorophytum



Syngonium pixie



Philodendron scandens



Ficus repens



Polystichum setiferum

Attractive **green walls**

When it comes to greening room walls completely, stationary green walls vertically equipped with many small plants are the ideal solution. The plants are automatically irrigated and fertilized by installed irrigation pipes at regular intervals. This requires an irrigation and fertilization control system which is centrally located near the green walls.

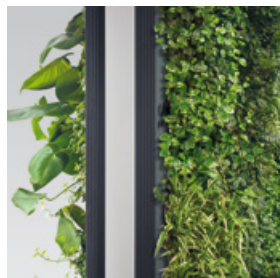
In contrast to the hedge element, it is possible to integrate and combine many different plantings in the green wall in order to create a very impressive look.



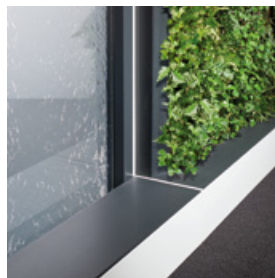


Apart from the positive psychological impact of greening, the green walls have a sound-absorbing as well as humidifying effect. They are also suitable, e.g., for representative areas. Like the hedge elements, the green walls require daylight or an adequate substitute for daylight.

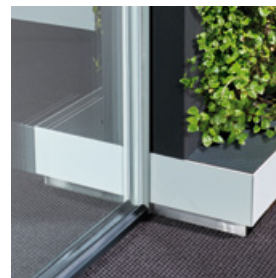
Acoustically effective:
Apart from their visual and motivating presence, the green walls also have a sound-absorbing effect.



Side paneling:
The side panels cover the edges of the planter boxes as well as the pipes of the automatic water and fertilizer supply system.



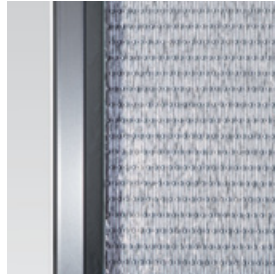
Homogeneous base look:
The base cover made of micro-perforated steel can be used either for green or water walls and enables aesthetic combination of both versions.



Integration in partition system:
Thanks to their consistent design, the green walls can also be integrated homogeneously in C+P partition systems – a truly unique feature!



Glass water wall:
With or without cooling function: the smooth water film is an eye-catcher, a privacy shield, and an air washer at the same time.



Mesh water wall:
Made of stainless steel, produces a quiet trickle, thus helping to create a sound masking effect in order to reduce undesirable and disturbing speech intelligibility.

Stationary water walls:
With permanently installed water supply and drain. As a standard water wall or as a cooling water wall with an efficient climate control function ensured by an external cooling unit.

Cooled and uncooled **water walls**

A relatively small water object can noticeably increase humidity and create a healthy indoor climate. Water objects are air washers which bind and remove suspended particles such as dust or pollen from indoor air, while neutralizing fractions e.g. of food odors or toxins adhering to the dust.

The water walls are available

- As a **glass water wall** which creates a smooth, almost silent, and impressive water film
- As a **mesh water wall** where water flows over a latticed stainless steel mesh creating a pleasant trickle which helps to reduce undesirable speech intelligibility in the room
- As a **mobile or permanently** installed version



Mobile water objects:
Can be used anywhere, with stainless steel tank and circulation pump. Simply connect it to an available socket.



■ **Without or with cooling and climate control function:**

When equipped with the cooling function (only if the water wall is permanently installed), cooled water which is tempered by a separate cooling unit is supplied to the water wall. This enables absolutely novel, clean, energy-saving, and healthy room cooling. It eliminates or compensates all of the disadvantages of air conditioning systems or the limited capacity of cooling ceilings. The advanced concept dehumidifies and cools the ambient air without any bothersome or even noticeable air flow. In winter mode the system is operated as a normal water wall without cooling. Indoor air is humidified and made more pleasant in this mode. Incidentally, the system is almost completely silent in operation, that is, without "gurgling."

In the C+P office world, this concept was implemented in an exemplary and scientifically substantiated manner together with the Fraunhofer Institute for Building Physics IBP.

For example, the cooled water walls were placed under the vents of the room ventilation system to ensure homogeneous and efficient distribution of the cooling effect. This **local cooling** takes effect exactly where it is needed, requires less cooling area, and has a shorter reaction time.



Cooled water film:

Absolutely novel and energy-saving climate control concept – e.g. to enhance cooling ceilings: The dew point is shifted to the cold water film to prevent water condensation on the ceiling.



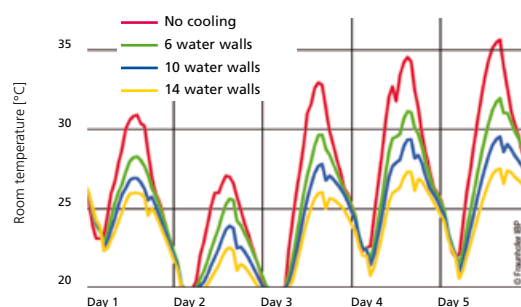
Base cover:

Light water splashes are caught by the micro-perforated base cover which also serves as panel for the water inlets and outlets.

Open-plan office

Room temperature measurements (July 2016) at Fraunhofer IBP.

More information: www.cp.de/climateoffice



Ingenious combinations

Especially in open-plan offices, places of retreat are required for concentrated work or confidential phone calls. These think tanks or think spaces, however, are often uninspiring and poorly air-conditioned. Not like the C+P solutions: With integrated hedge or water elements, they ensure the right climate as well as pleasant surroundings. So it is only logical that better results can be achieved here. And the elegant glazing without framing turns the think zone into an architectural highlight.

Think tank:

While many employees preferably avoid well-known, austere think spaces, the C+P think tank, greened or equipped with a water wall, promotes concentrated work – and enables definitely better work results.



Air-conditioned individual office with integrated water wall:

Only available at C+P: The water wall with cooling function is an integral component of the partition system – top marks for design, technology, and space requirements!



The choice is yours

In the *Climate Office* range, you will find the right solution for every application. For variability is one of our top priorities. We bet we have just what you need!

Your specialized C+P advisor will be happy to develop your optimal climate and office concept with you.

Climate Office

Mobile elements

Step widths	800, 1000, 1200
Step heights	1310, 1635, 1980
Base H x D	400 x 400, 750 x 400

Automatic stationary walls

Step widths	800, 1000, 1200
Step heights	as required
Base H x D	100 x 400

Mobile hedge elements



Mobile water objects with glass



Automatic green wall



Mobile water objects with stainless steel mesh



Automatic glass water wall



Sideboard tops and cube planters



Automatic mesh water wall



Our scientific cooperation partner and licensor for the patented principle of the cooling water walls is the Fraunhofer Institute for Building Physics IBP



Incidentally:

C+P is the specialist in tasteful and efficient furnishings and fittings made of steel. We have been specializing in the field for decades. So it is no wonder that our customers have enabled C+P to become the market leader in numerous product segments.

For more information about the *Climate Office* range, please contact

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