

rgonomics and health

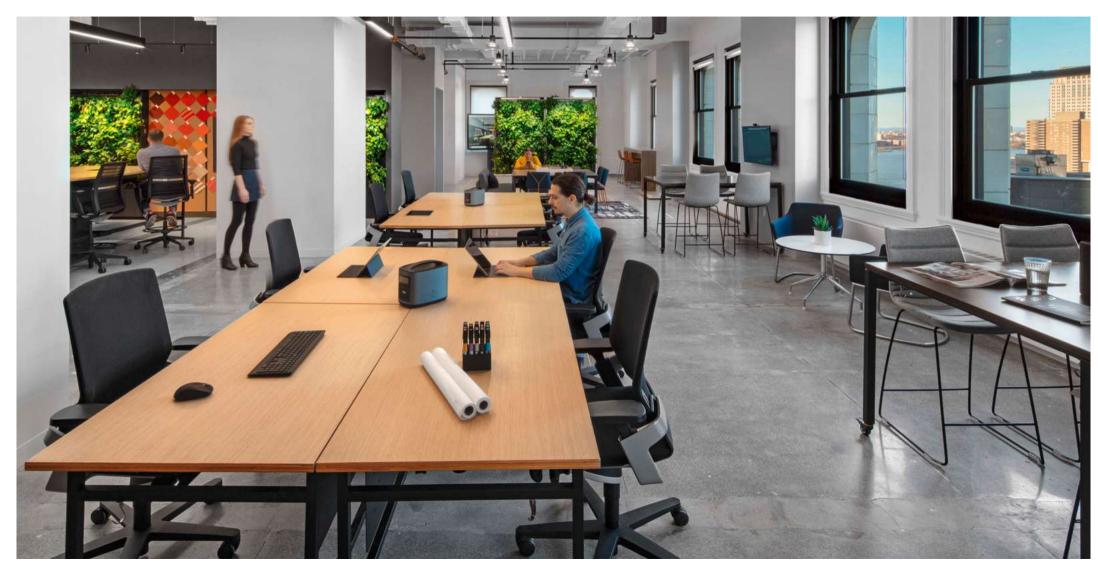


### ON.

The range stands for the latest milestones in office-chair development. For the first time, the patented Trimension® technology offered by ON® has succeeded in perfectly synchronising three-dimensional flexibility with our bodies. And what's more it offers superb design and an extensive product family that caters to virtually all requirements. The three backrest heights are adjustable by 60 mm (mediumhigh, high and high with a headrest), three upholstered types (Fiberflex, soft padding and management grade upholstery) and three types of 3D armrest (standard, soft, leather) add up to 27 basic designs for the task chairs alone ...

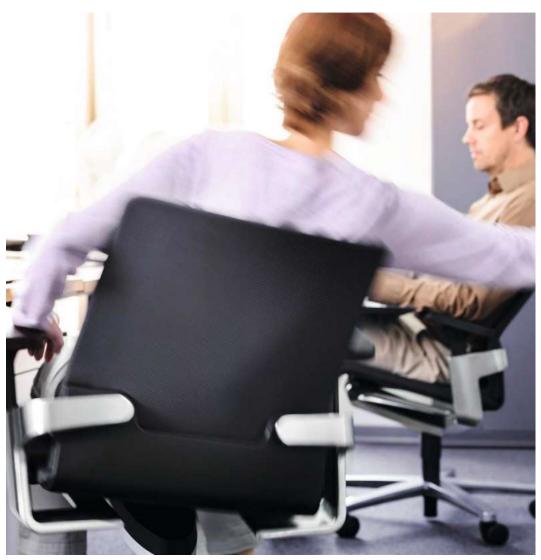
Design: wiege

Model: 175/71, photo: Vojislav Nikolic



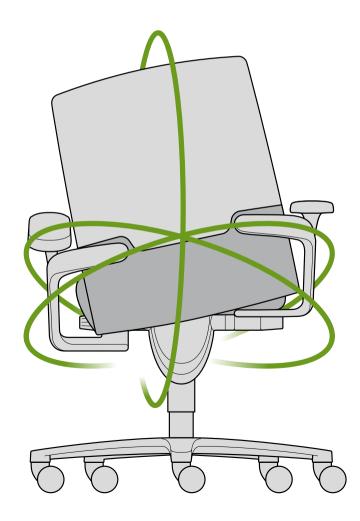








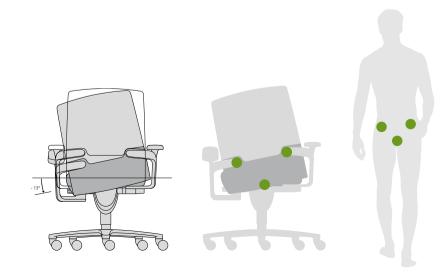




All health experts agree that our muscles, bones, joints, cardiovascular and digestive systems, our ability to combat stress and powers of concentration depend on movement. On the other hand, sitting still for long periods of time makes us lethargic and is harmful in the long term. Primarily, it's the three-dimensional movement of the hips that has the biggest impact on a healthy metabolism. For this reason, Wilkhahn joined forces with the German Sport University Cologne to develop free-tomove kinematics, which prompts people to move their bodies in all directions while sitting down.

Several scientific case studies corroborated the healthy, performance-enhancing effects of the free-to-move office chairs. These chairs encourage users to move more frequently and in different ways, therefore boosting their feeling of wellbeing, powers of concentration and the metabolism of the muscles in the lumbar region (which is very often plagued by backache). The scientists have proved the impact of free-to-move capability in preventing complaints typically caused when people sit down for long periods of time. And over 500,000 users worldwide are already benefiting from Wilkhahn's new office chair generation.

The free-to-move models with ESP offer the best of both worlds by providing a healthy way of sitting and encouraging users to embrace sit-to-stand options.



ON. 170 range. Free-to-move. More active, more dynamic, healthier.

### Wilkhahn

### A new approach to ergonomics in the office

### Lab study:

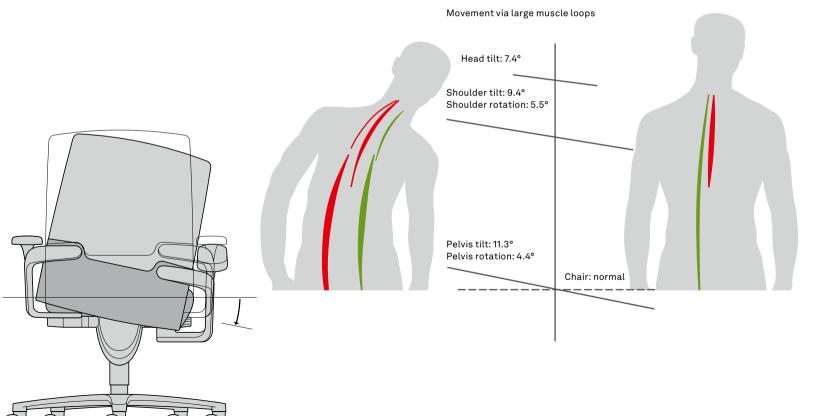
The lab study examined how the concept correlated with our bodies, the biomechanical impact and the subjective feeling of comfort that Trimension® provides in the ON® office chair.

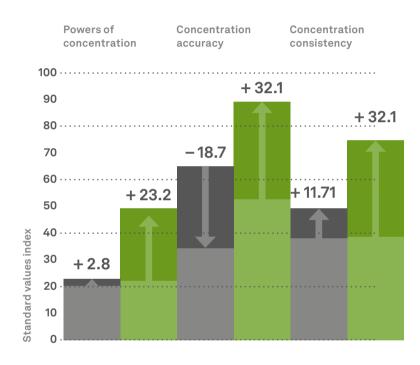
### Results:

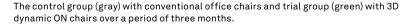
- Pressure is distributed evenly while people are sitting down and perceived to be very comfortable.
- By motivating people to bend, stretch, lean sideways and rotate their pelvis, Trimension® stimulates the body to engage in a range of natural movements where the head, shoulder and pelvis form a functioning unit when moving with the chair.
- In addition to the large muscle loops, the physiological rotation of the torso activates the muscles deep in the back which are key to stabilizing the spine.
- Some 90% of the test persons would like this sort of sitting concept in their workspace.

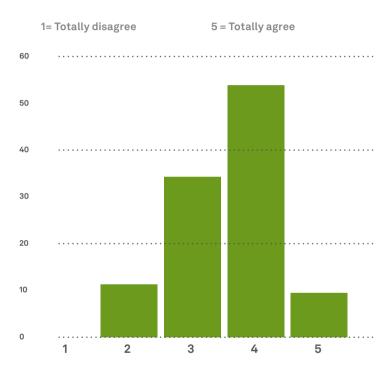
### Conclusion drawn by the university:

Free-to-move, powered by Trimension®, coordinates with the body's natural range of motion and stimulates us to try out new dimensions of flexibility. Typical complaints associated with sitting at desks won't arise in this case.









My physical fitness has improved thanks to ON over the past 11 months.

### Three-dimensional dynamic seating for better performance in offices

### Comparative field study:

The researchers then investigated whether, along-side wellbeing, this sitting concept while using ON® also boosted people's performance. The study was carried out with 80 test persons in an insurance company's office complex over a period of 12 weeks. Recognized, standard tests and questionnaires were used to identify powers of concentration.

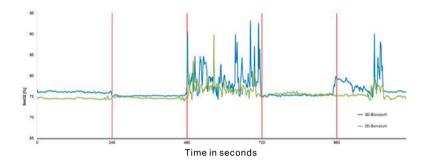
### Results:

- Compared with the control group, the metrics used to gauge the free-to-move group's powers of concentration had improved in every respect at the end of the three months. They were faster, made fewer mistakes and worked more consistently.
- After a short space of time, the free-to-move group got used to and were confident about applying the new movement options.
- The free-to-move group's wellbeing didn't just improve in relative but also in absolute terms.

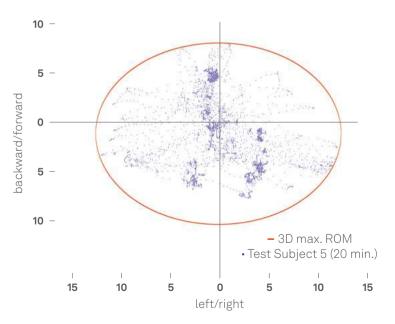
### Conclusion drawn by the university:

Free-to-move dynamic sitting is used intuitively, frequently and perceived as being beneficial. And improved powers of concentration means it pays dividends in no time.

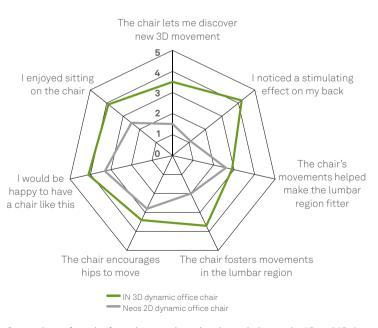




The metabolism of muscles in the lumbar region is much more active when people sit on the 3D dynamic office chair.



3D dynamic chair: Movement frequency pattern and maximum ranges of motion.



Comparison of results from the questionnaire about sitting on the 3D and 2D dynamic office chair

### More movement in sedentary workspaces

# A study on the impact of Trimension 3D kinematics on dorsal muscles, the range of motion and physiological stimulation

Based on standardized office processes (static and dynamic), new measurement methods were applied to examine metabolic activity in the particularly important muscles in the lumbar region. The results measured while people were sitting on the IN free-to-move office chair were compared with those of people sitting on the very good Neos 2D dynamic office chair.

#### Results:

- The test persons used the whole three-dimensional range of motion that Trimension® offers.
- When people lean sideways, there are significant differences between a 2D synchro-adjustment mechanism and Trimension.
- Importantly, people sitting on an IN free-to-move chair alternate between tensing and relaxing their muscles to a greater extent than on the chair used as a comparison.
- The test persons rated the free-to-move office chair better on all criteria.

### Conclusion drawn by the university:

Dynamic sitting on IN with Trimension® is shown to make muscles in the lumbar region healthier, so we can assume that muscle-based backache can be reduced.

All figures: Center for Health at the German Sport University Cologne



171/7 Conference/visitor chair, medium-height backrest, on glides



174/7 Task chair, medium-height backrest, on castors



175/7 Task chair, high back on castors



175/7 Task chair, high back with headrest



175/72 Task chair, heigh back, elevated sitting position (ESP)



171/71 Conference/visitor chair, medium-height backrest, on glides, management grade upholstery



174/71 Task chair, medium-height backrest, on castors, management grade upholstery



175/71 Task chair, high back, on castors, management grade upholstery



175/71 Task chair, high back with headrest, management grade upholstery



176/7 Conference/visitor chair, with four legs, normal height backrest



178/7 Cantilever chair, normal height backrest (with management grade upholstery 178/71)



176/71 Conference/visitor chair, with four legs, normal height backrest, management grade upholstery



174/1 Counter stool medium-height backrest, on castors

not pictured

- · 176/8 Conference/visitor chair
- · 176/81 Conference/visitor chair

ON. 170 range. Upholstery types.

### Wilkhahn









Seat and back with Fiberflex fabric

Fiberflex with soft padding

Seat and back covered with fabric

Management grade upholstery in leather

### Upholstery material (not all upholstery materials apply to all types)



















35 Fiberflex | 47 Nova | 54 Pitch | 60 Blend | 66 Lona | 68 Kvadrat Remix | 69 Granit | 74 Leather | 87 Leather | 91 Kvadrat Steelcut Trio 3 | You can find all upholstery materials and more colours in our media center

ON. 170 range. Upholstery types.

### Wilkhahn







Contoured upholstery

### Upholstery material (not all upholstery materials apply to all types)











35 Fiberflex | 47 Nova | 54 Pitch | 60 Blend | 62 Bond | 63 Auris | 66 Lona | 68 Kvadrat Remix 2 | 69 Granit | 74 Leather | 87 Leather | 91 Kvadrat Steelcut Trio 3 | You can find all upholstery materials and more colours in our media center





Polished aluminium star base





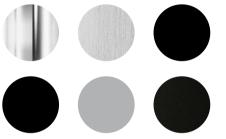
Aluminium bright chrome-plated star base





Mechanism cover coated in a silver satin finish

### Frame surfaces, star bases and swivel arms



Bright chrome-plated or polished aluminium, coated in a black textured matt finish or in a silver, satin finish Five-star base also in black plastic

### Mechanism cover





Shot blasted, black or silver-coated matt satin finish

The digital sample colours differ from the originals.

You can find our current fabric collection in our media center.



Frame surfaces

(Cantilever chair and four-leg visitor chair)



Bright chrome-plated tubular steel



Armrest pads

(Cantilever chair and four-leg visitor chair)





Black plastic or leather

The digital sample colours differ from the originals.

You can find our current fabric collection in our media center.

109 42 7/8"

56

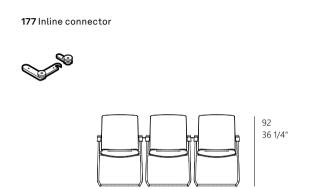
22"

176

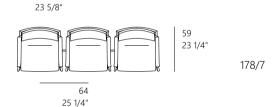
22"

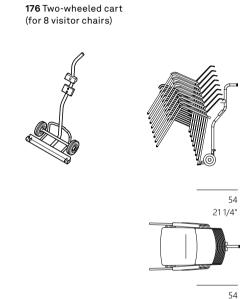
# ON. 170 range. Accessories and other items.

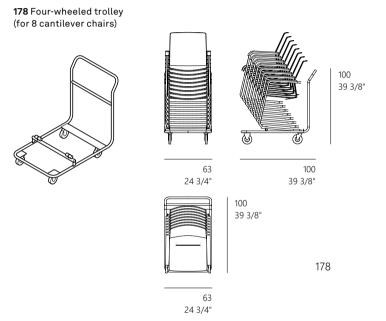
### Wilkhahn



60





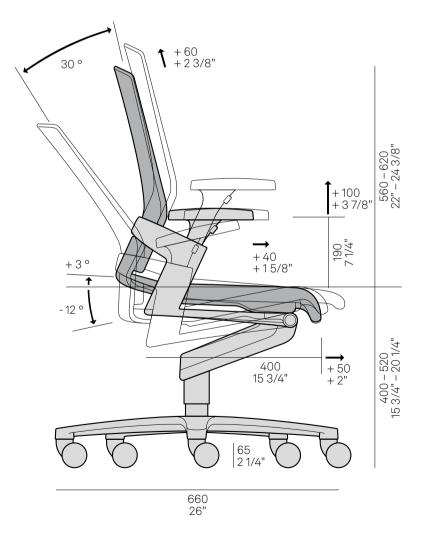


## ON. 170 range. Comfort and adjustments.

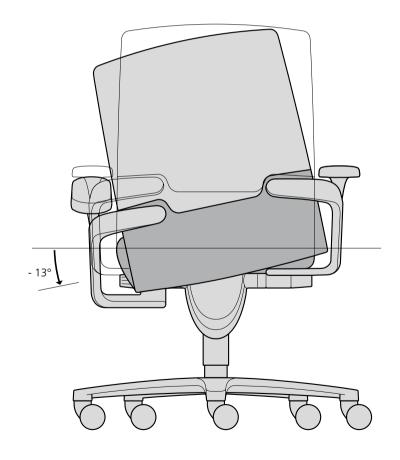
Trimension® lies at the heart of ON. It consists of the coordinated interaction of a two-part mechanism and an extremely flexible seat and back design (Flexframe®) and the Fiberflex back cover. This permanently elastic and breathable fabric adapts to any shape of back and any posture – just like a second skin.

Two separately flexible swing plates, just like two thighs, are connected near to the knees via a rotational axis. In the same position as the hip joints, they form fully flexible suspensions for the seat and backrest. The pivotal sections' positions and movement follow the knee and hip joints. Consequently, a completely natural flow of movement is encouraged that becomes a matter of course. In any position, the body's centre of gravity stays between the pivotal sections and therefore in perfect balance. Flexibility, elasticity and the breathable materials merge to provide excellent comfort without any additional cushioning.

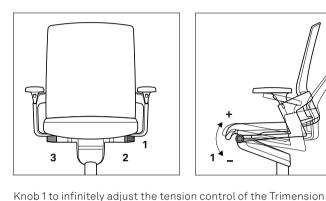
Synchronous forwards and backwards movements allow a tilt angle of +3° to -12° in the seat and up to 30° in the back. The seat and back can be tilted sideways by up to 13°. Anybody weighing between 45 – 120 kg can infinitely and quickly adjust the counterpressure in any direction to achieve their own personal levels of comfort.



### Wilkhahn

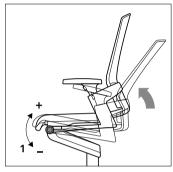


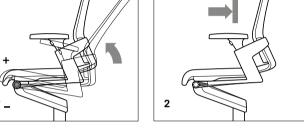


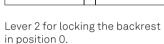


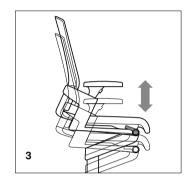
mechanics. Sitting upright, turn it downwards to decrease the

counterpressure, turn it upwards to increase.

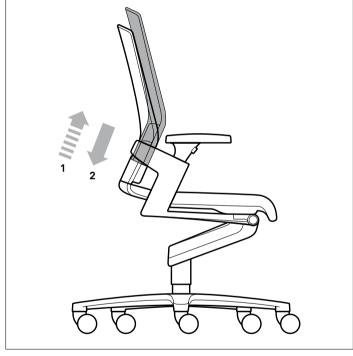






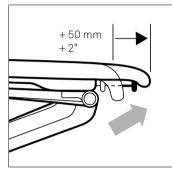


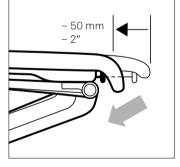
Lever 3 to infinitely adjust the seat height.



The backrest height is adjustable by up to 60 mm in six lockable positions. To adjust, push the backrest upwards from the lowest position to the position you require. To return to the lowest position, pull it right up to the top.

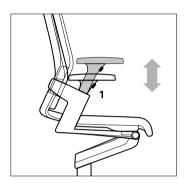




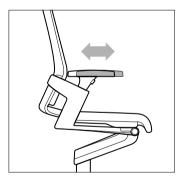


Optionally integrated seat depth adjustment while seated of up to 50 mm in all model types. To infinitely increase the seat depth, grasp the front edge of the seat with both hands and turn it diagonally upwards, to decrease turn it diagonally downwards.

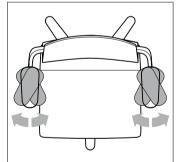
### Wilkhahn



Keep button 1 pressed down and adjust the armrest in 8 positions by up to 100 mm in height.



Adjust the depth of the armrest by up to 40 mm by pulling it forwards.

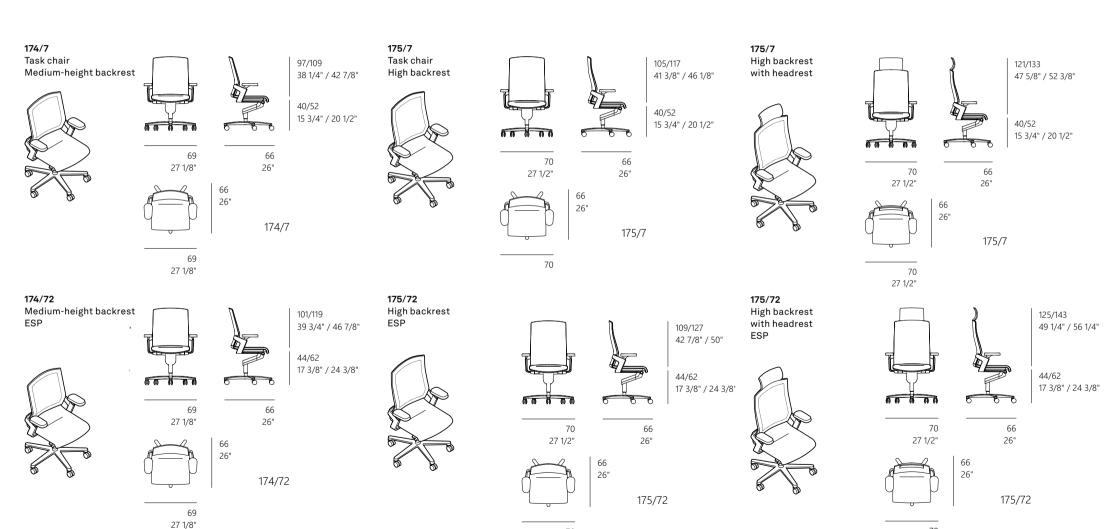


Armrest can be swivelled 30° inwards and outwards by rotating it.

70

# ON. 170 range. Models and dimensions.

## Wilkhahn

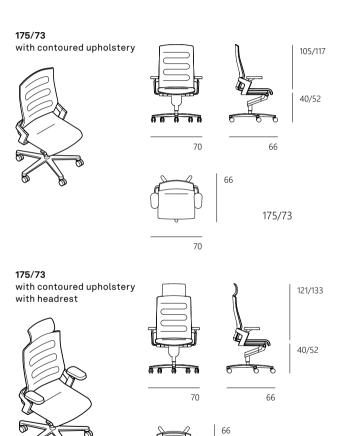


70 27 1/2"

# ON. 170 range. Models and dimensions.

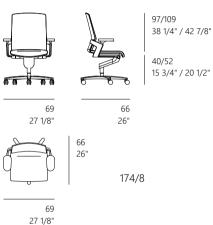
175/73

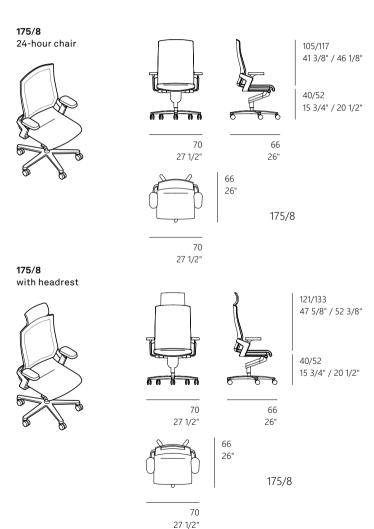
## Wilkhahn



70







25 1/4"

90

35 3/8" 43

16 7/8"

90

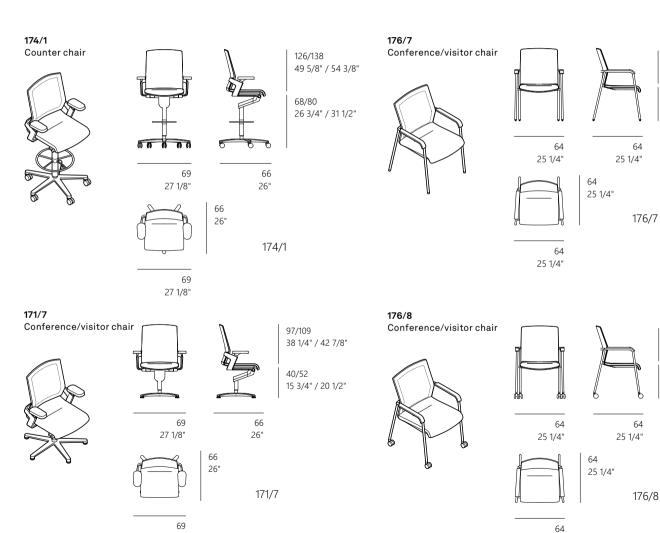
35 3/8" 43

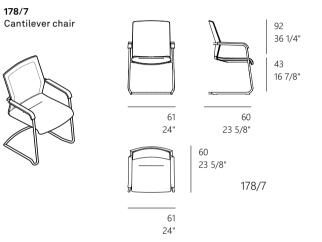
16 7/8"

# ON. 170 range. Models and dimensions.

27 1/8"

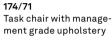
## Wilkhahn



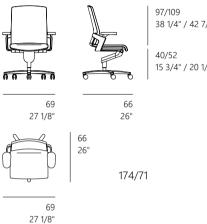


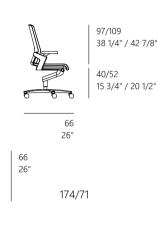
# ON. 170 range. Models and dimensions.

### Wilkhahn

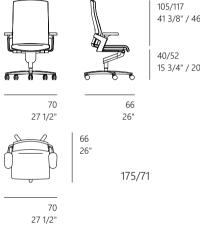


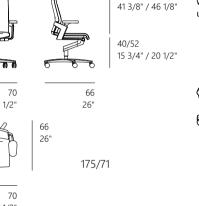


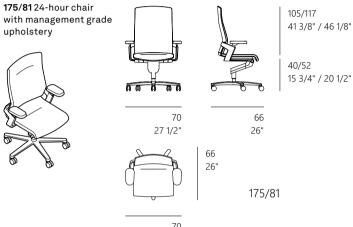


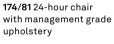




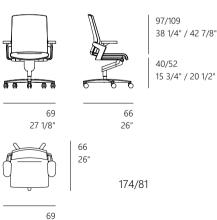




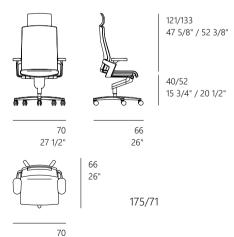










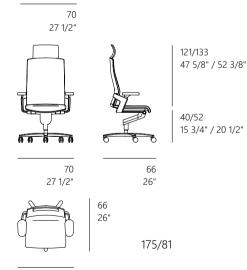


27 1/2"



175/81

with headrest



70 27 1/2"

27 1/8"

178/71

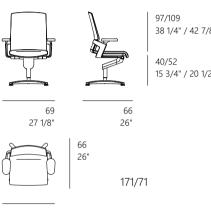
Cantilever chair

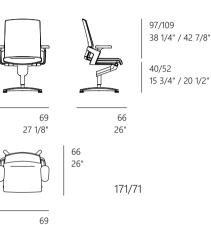
# ON. 170 range. Models and dimensions.

27 1/8"

171/71 Conference/visitor chair with management grade upholstery







176/71

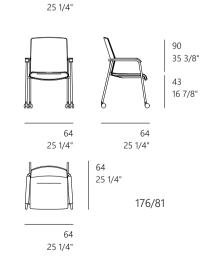
upholstery

Conference/visitor chair

with management grade

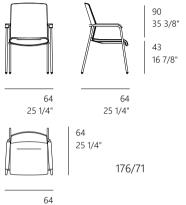


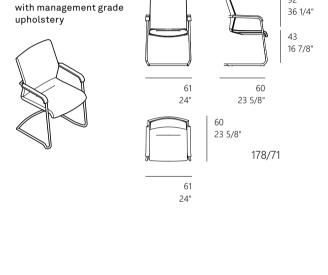




Wilkhahn

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#### **Function**

Task chairs with Trimension®, synchronous, three-dimensional kinematics to encourage three-dimensional dynamic sitting. The perfect interaction of the synchro-adjustment mechanism, seat and backrest automatically adapts to any posture the user adopts. The supporting counter pressure is quickly and precisely adjustable in any direction (4.5 rotations max.) for people weighing from 45 to 120 kg. The backrest height is adjustable by up to 60 mm in six lockable positions. The backrest and seat can be locked in the front sitting position. The seating height is precision adjustable between 400 mm and 520 mm at the touch of a button with a DIN 4550-compliant gas lift. All models are optionally available with seat-depth extension of 400 to 450 mm. (The height of the counter chairs is precision adjustable between 680 mm and 810 mm). Meeting/visitor chairs with Trimension, on request, available with swivel-mounted column, not height adjustable, alternatively as a four-leg variant or cantilever chair, optionally stackable.

### Frame

#### Task chairs and counter stool

Five-star base, optionally made of black through-dyed plastic or diecast aluminum, coated (black, black with a textured matte finish, or in a silver satin finish), polished or bright chrome-plated. Twin-wheel swivel casters with load-dependent braking, made of black polyamide compliant with DIN EN 12529 as the standard version for carpets; with gray soft polyurethane tire for hard floors. The casters are optionally electrically conductive. Swivel arms made of die-cast aluminum, coated (black or black with a textured matte finish or silver satin finish), polished or bright chrome-plated. Mechanism shell made of diecast, shot-blasted aluminum, optionally coated in black or with a silver satin finish, with top cover made of black, through-dyed polypropylene. The gas lift is covered by a telescopic protective tube made of black, through-dyed polypropylene.

Counter stool with extra height-adjustable foot ring, bright chromeplated, with lock screw to affix it and twin-wheel swivel casters with load-dependent braking.

#### 24-hour chairs

All have a die-cast aluminum star base with extra swivel arm supports, with a modified synchro-adjustment mechanism and exceptionally hard-wearing covers from Wilkhahn's fabric and leather collection. Designed for people weighing up to 120 kg, the models consequently comply with the DIN EN 1335 standard requirements for 24-hour use.

#### Visitor/conference chairs

Four-star base made of die-cast aluminum, coated (black, black with a textured matte finish or silver satin finish), polished or bright chrome-plated. Black, multipurpose glides made of plastic for all types of flooring. Swivel arms made of die-cast aluminum, coated (black or black with a textured matte finish or silver satin finish), polished or bright chrome-plated. Mechanism shell made of die-cast, shot-blasted aluminum, optionally coated in black or with a silver satin finish, with top cover made of black, through-dyed polypropylene. The gas lift is covered by a telescopic protective tube made of black, through-dyed polypropylene.

#### Cantilever chair

Frame made of bright chrome-plated tubular steel, 22 mm in diameter, with anti-tilt stopper made of black polyamide as the standard version for carpets, with extra glides for hard flooring, with felt inserts on request.

### Four-leg visitor chair

Frame made of bright chrome-plated tubular steel, legs 22 mm in diameter. Models 176/7 and 176/71 with multipurpose, POM (polyoxymethylene) glides in black for soft and hard floorings.

#### Seat

### Task, visitor, and conference chairs

Highly elastic, flexibly suspended seat shell with seat upholstery panel made of black, through-dyed polypropylene, polyurethane seat cushioning covered in the same material as the backrest cover in Fiberflex, or fabric. The seat is replaceable. All models optionally have seats with soft padding (with extra cut foam and facings at the sides). In models with management grade upholstery (174/71, 175/71, 171/71), seat cushioning also with extra padding and side facings, optionally covered in leather too. Optionally with seat-depth extension from 400 to 450 mm (all types with upholstery).

Model 175/73 with soft padding, as well as color-contrasting double seams and contour stitching. Seat cushioning with side facings. Task chair models 174/7, 174/72, 175/7, 175/72, 174/71, 175/71 optionally with a constant 6-degree tilt.

### **Backrest**

### Task, visitor, and conference chairs

Elastic backrest frame, height adjustable by 60 mm in six lockable positions, made of through-dyed, fiberglass-reinforced polyamide, covered with Fiberflex, optionally also with fabric (and extra padding).

All models optionally with soft padding (with extra cushion thickness). For models with management grade upholstery, the backrest frame also optionally comes with back cushioning and the front of the backrest also with concealed, cut foam fleece sewn into the cover and with side facings, optionally with a leather cover.

All models optionally with soft padding (with extra cut foam). Medium-high and high backrest, high backrest optionally with headrest (height 16 cm), either in the same material as the backrest cover, or covered in leather on the front. The backrest is replaceable. Model 175/73 with soft padding, as well as color-contrasting double seams and contour-defining stitching.

### Seat and backrest

### Cantilever chair/four-leg visitor chair

Unitary, shell frame made of through-dyed, fiberglass-reinforced polypropylene. Seat cushioning made of polyurethane one-piece molded foam, in models with management grade upholstery (models 176/71, 178/71) with additional padding and side facings. All models optionally with soft padding (with extra cut foam). In models 176/7, 178/7 seat cushioning covered in the same material as the backrest cover in Fiberflex or fabric, in models 176/71 and 178/71 with management grade upholstery optionally also in leather. The seat is replaceable.

The backrest frame is covered in Fiberflex, in models 176/7, 178/7 optionally with back covered in fabric (with additional padding). In models with management grade upholstery optionally with backrest upholstery in fabric or leather, with additional padding, as well as on the front of backrest also with concealed, cut foam fleece sewn into the cover and side facings, backrest cover can be replaced.

#### Armrests

#### Task chairs

3D armrests made of fiberglass-reinforced, black through-dyed polyamide. Armrest pads made of black, through-dyed polyurethane (TPU), optionally also made of polyurethane foam and covered in leather if desired. Upholstered, leather-covered armrests (optional) in model 175/73 with color-contrasting stitching. Armrest covers made of black, through-dyed polypropylene. Height of armrests adjustable by 100 mm (eight lockable positions), depth by 40 mm, can be swivelled 30° inwards and outwards in each case.

#### Conference/visitor chairs

Fixed armrests made of fiberglass-reinforced, black, through-dyed polyamide. Armrest pads made of black, through-dyed polyurethane (TPU), optionally also made of polyurethane foam and covered in leather if desired. Armrest covers made of black, through-dyed polypropylene.

### Cantilever/four-leg visitor chair

Armrest pads made of black, through-dyed polypropylene. With chairs that are not stackable, optionally with upholstered armrests, when covered in fabric with black leather 74/99, when covered in leather to match the color of the leather.

#### Standards

The ON task chairs and visitor/meeting chairs comply with the type A or B DIN EN 1335 office-chair, ANSI/BIFMA X5.1 and IGR standards. If required, NPR 1813 models are available.

The ON cantilever chairs and four-leg visitor chairs comply with the DIN EN 16139-L1 and ANSI/BIFMA X5 standards.





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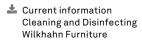
Optionally, the ON task, visitor and conference chairs (without headrest) can also be shipped with dismantled backrests in boxes.

All visitor and conference chairs have glides for soft flooring (e.g. carpets). On request, available with swivel-mounted column, not height adjustable, (at no additional charge).

### Accessories

Optionally for visitor chair model 176/7: Inline connector model 177 made of zinc-plated steel.

Optionally for cantilever chair, model 178/7, four-wheeled trolley, model 178 for 8 cantilever chairs.



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### Wilkhahn and sustainability





In over 100 years of its corporate history, Wilkhahn can look back on a sustainability philosophy that has grown over decades. Aspects such as durability, social fairness, environmental responsibility and cultural orientation have been evolving as corporate principles since the 1950s. Wilkhahn today is regarded internationally as a model of excellence, not only on account of its products but also because of its modern corporate philosophy. This is because the company realized early on that sustainable design should embrace environmental aspects, improve social relationships and define the cultural role of a company. This approach to the way we do business creates a bond between us and our customers throughout the world. There is surely no more rewarding task than working together for a successful future that is worth living in.

Current sustainability report with environmental statement

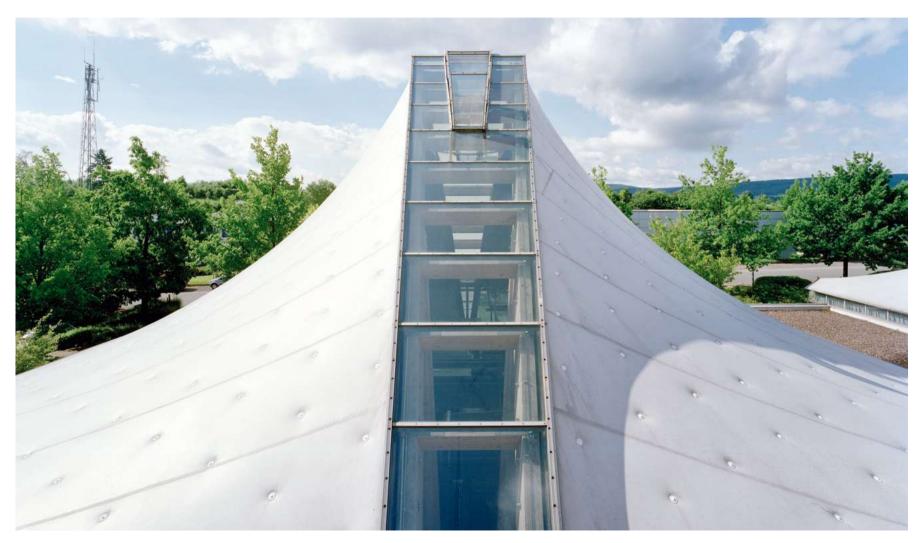








### For further information please contact us!



## Wilkhahn

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Roof of one of the four pavilions, which were designed by architect Frei Otto, on the Wilkhahn site. Photo: Klemens Ortmeyer