

Forma 5

TECHNICAL FEATURES

**KINEO**



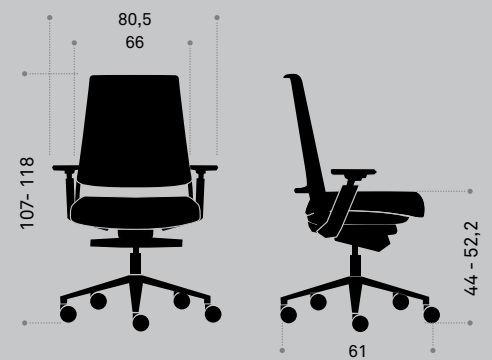
# SWIVEL CHAIR | MESH BACKREST

For anti-electrostatic solutions, please ask us the conditions.



## DIMENSIONS

	Mesh backrest WITHOUT ARMS	Mesh backrest 3D-NPR ARMS	Mesh backrest 3D-K ARMS
Height	107-118 cm	107-118 cm	107-118 cm
Seat height *1	44-52,2 cm	44-52,2 cm	44-52,2 cm
Width *2	66 cm	80,5 cm	68,5 cm
Depth (mesure on the base *3)	61 cm	61 cm	61 cm
Fabric meters seat/backrest	0,83/0,3 m	0,83/0,3 m	0,83/0,3 m
Weight *4	16,714 kg	19,09 kg	18,674 kg



\*1 Measured according to EN 1335. \*2 Kineo has two kinds of arms. The chair width corresponds to the outer dimension between arms, positioning these in the position that maximizes the useful seating space. In the case of chair without arms, its width corresponds to the width of the base. \*3 The depth of the chair corresponds with sliding seat closed. \*4 Task chair weight with standard options (polyamide pyramidal base, soft double-wheel casters, without lumbar adjustment), 3.60 motion mechanism.

Forma 5

Dimensions in centimeters

KINEO | 02

## ELEMENT DESCRIPTION

### BACKREST

Backrest in the shape of a truncated pyramid, with rounded edges and vertex. Structure made of polyamide with fiberglass. Upholstered backrest with breathable 3D Runner mesh. The backrest frame is always in black.



### ASYMMETRIC LUMBAR ADJUSTMENT

It is formed by separate pieces of polypropylene, vertically adjustable and the possibility of asymmetric adjustment ensuring permanent contact in the lower back. The pieces generate a tension in the mesh which is the working principle of the system. These pieces are in black, match the colour of the backrest frame.



### ARMS

There are two options for arms, 3D-K with depth, height and swivel adjustment; and 3D NPR, with height, width and depth adjustment.

They are integrated in the backrest, could be in option for stationary chairs. The swivel chairs without the “side 2 side” movement have the option without arms or with one of the 3D arms that we offer in option. The swivel chairs with the “side 2 side” movement will always have one of the options of 3D arms.



3D-K arms

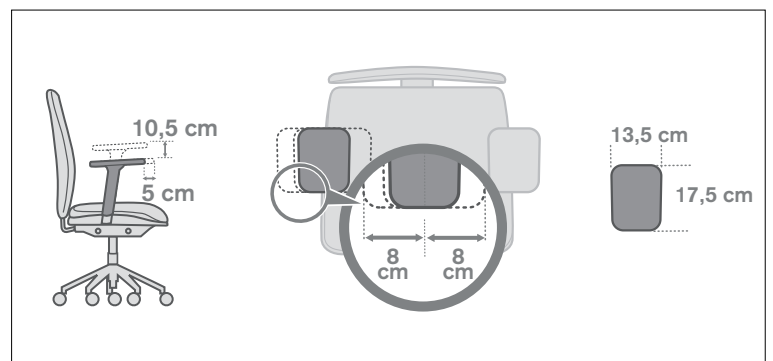
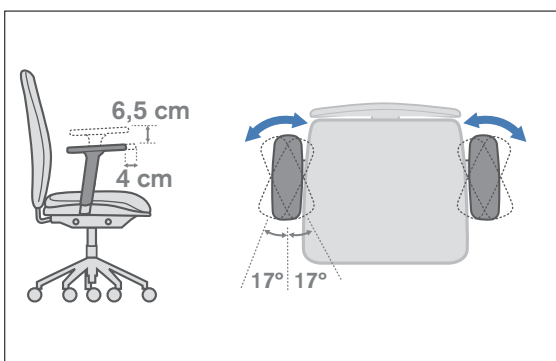
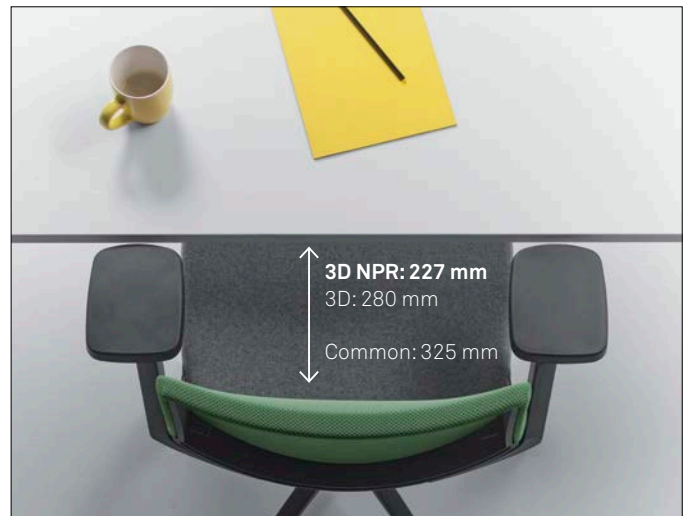


3D NPR arms

**3D-K ARMS:** 3D arms with polyamide structure and polyurethane armrest. Easy 3D adjustment (3 movements): 8 height positions (6,5 cm), 5 depth positions (4 cm) and 3 swivel positions on either side (17°).

**3D NPR ARM:** 3D NPR arms (13,5 x 17,5 cm) with polyamide structure, polyurethane armrest and a generous size. Easy 3D adjustment (3 movements): 12 height positions (10,5 cm), 6 depth positions (5 cm) and 11 width positions on either side (8 cm). The compact aesthetic and the generous size of 3D NPR armrest are similar to 4D armrest, keeping the same function and can be adjusted in height, width, depth and pitch.

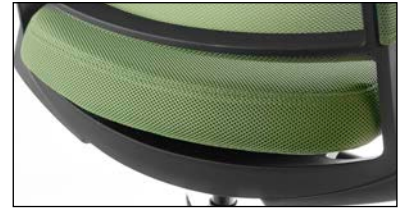
These arms have been carefully designed not to clash with the front edge of the worksurface. The chair can be positioned so that the back of the chair is 277mm from the front edge of the desk.



## ELEMENT DESCRIPTION

### SEAT

The seat is a structural shell made of polyamide with fiberglass. Inner polypropylene tray serves as support for the injected foam that slides over the structural seatshell, thereby regulating the seat depth tray 100 mm. This foam, 62 kg/m<sup>3</sup> density, it is then upholstered with 3D Runner mesh or any of the fabrics of the Forma 5.



### BASE

**POLYAMIDE STAR:** 69 cm diameter.  
5 trapezoidal branches with rounded corners.

**POLISHED ALUMINIUM STAR:** 69 cm diameter.  
5 trapezoidal branches with rounded corners.



Polyamide star 69 base



Polished aluminium star 69 base

### FLOOR SUPPORT

Three options for floor support:



Double-wheel  
(standard)



Soft  
double-wheel

### THE 3.60 CONCEPT, ALSO FOR KINEO

Kineo is a chair conceived from the study of ergonomics and the kinematics of the human body that was realized for the 3.60 task chair. It focuses, like 3.60, on the postural development in the work office throughout the day. Thus, positions evolve due to the way now we work. It has been a perennial front position, with a stack of papers aside, to a more dynamic job where user interacts with other tools and devices that make the movement more natural to use.

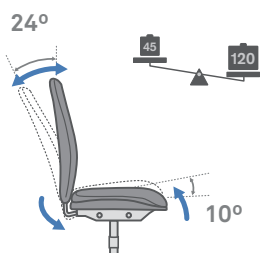
Keep in mind that the body is not prepared to support the sitting position so long and often they require work routines in which inevitably ends up suffering lumbar kyphosis. Kineo design has followed these guidelines. In order to provide a benefit to health from a “static comfort” at work, it has sought the dynamism, natural postures and freedom of movement in the human body that ultimately results a healthy and lasting wellness.

### THE SIDE 2 SIDE MOVEMENT

The movement of the Kineo chair, the 3.60 Synchro Motion “Side 2 Side”, results from the combination of two movements:

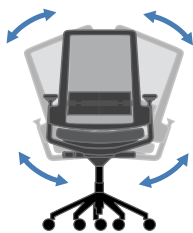
#### 3.60 SYNCHRO MOTION SYSTEM

System adapted to provide a floating support for the seat. Motion mechanism gives the seat the following possibilities of regulation and characteristics:



- 24° backrest leaning and 10° on the seat. Backrest leaning and seat rotation according to a 2,4:1 fixed ratio.
- Backrest tension to suit the user’s weight. Easy adjustment with only two turns.
- The resistance of the knob is constant, regardless of reduce or increase the tension.
- Infinite tension positions of the backrest for an optimal adjustment to users between 45 and 120 kg. Forward rotation axis that prevents for pressure on the user’s legs.
- 5 blocking positions of the backrest with anti-return protection.
- Height adjustment by actuator to the left of the seat.

#### SIDE TO SIDE MOVEMENT (SIDE 2 SIDE)



The lateral movement benefits to the user cause of the “floating” seat position, allowing to move the center of axis gravity to adopt complex positions without losing support surface, nor the seat nor the backrest, while maintaining a high comfort. The mechanism that governs the movement includes buffer elements that ensure controlled operation at all times. The effect got is comfortable chair, inviting the user to the dynamism and providing support in a greater range of positions.

The longitudinal movement (synchronized) and the transversal (side to side) result a 360° rotation about the axis of the seat that makes that the back, upper trunk, and lower trunk found no obstacles to a natural movement.

Therefore, the back does not suffer unwanted pressure points, so the ergonomic benefit is obvious. Moreover, this mechanism includes:



SLIDING SEAT which enables regulation of the seat depth and allows it to slide up to 10 cm.



S2S SYSTEM, that allows a natural and smooth movement by a silent way.

### THE KINEO SYSTEM

Within the workplace, but also in the therapeutic environment, in recent years there has been much research on the benefits of using a dynamic surface for seating.



The paradigm of this type of surface is the pilates ball that is characterized by new attributes for the user such as:

- Improve the physical condition of back and core with support in the form of unstable equilibrium that produces a slight increase in muscle activity.
- Its spherical shape forces the user to open legs and keep back up straight leading to an improvement in the position of the lumbar curve.
- It has no back support and arms resulting in an increased load on the buttocks and thighs.

The 3.60 movement shares with this ball the unstable equilibrium produced by the release of side to side dynamic balancing system allowing oscillate freely with an effect of the whole spherical seat, backrest and armrest. It also provides other elements to consider:



- It has a floor support through a 5-spoke base, recommended in all studies of office chairs. This support eliminates the risk of falling and provides security and stability to the user.
- The support that provide backrest, lumbar support (asymmetric height) and 3D adjustable arms (height, width and depth) is a comfortable touch which together with the motion 3.60 system promotes a wide range of healthy posture.

### THE BENEFITS OF USING KINEO

The use of a chair as Kineo daily and particularly with the 3.60 Motion mechanism that combines longitudinal and lateral movements provides high improvements and benefits to health related to the use of swivel chairs traditionally used in the office.



#### IMPROVED HEALTH AND FITNESS

It affects the flexibility and range of lumbar motion and muscle strength, stability, balance and the position of the core.

The side to side movement is unstable, which results in increased muscle activity of the core which are increased by the user thanks to the microoscillation in search of balance. Several studies have been shown that the seat on this type of dynamic surfaces influences positively in flexibility and lumbar mobility, stability and abdominal strength, balance and lumbar kyphosis correction.

Kineo helps the physical condition providing the same mechanisms of unstable equilibrium than the pilates balls.

**IMPROVEMENT UP TO 15.4% OF CONTACT COMFORT**

The biomechanical study of the 3.60 chair has certified that the dynamic balancing system walks the user through their movements and this always keep perpendicular to body. It improves epithelial pressures and prevents ischemia tingling.

**7.8% IMPROVEMENT OF POSTURAL COMFORT OF THE BACK**

The seatrest and backrest of the chair accompany the user while seeking balance with the 3.60 Motion 3.60 mechanism. These bearing surfaces are balanced in a new position which improves the user's back and reduce up to 3° degrees the deformation of the lumbar back. This improvement reduces postural lumbar kyphosis.

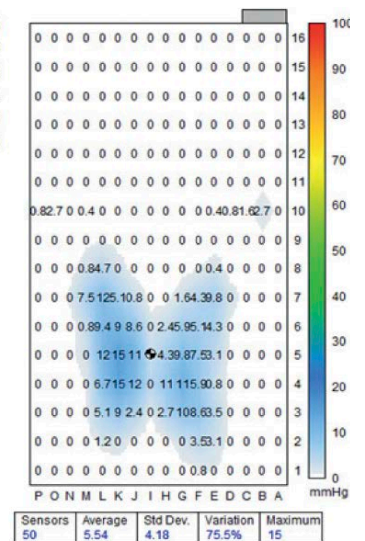
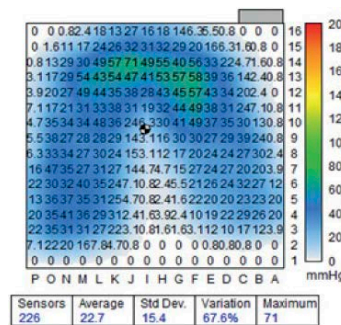


**THERMAL COMFORT IMPROVED**

When the user changes posture, he evacuates heat / convection ventilation, leading to a decrease in temperature areas in contact with the seat (buttocks, lower extremities and back). Furthermore, the seat reduces perspiration (evacuation of moisture from the skin) to produce a cooling effect that ultimately prevents sweating in these areas, so it improves thermal comfort.

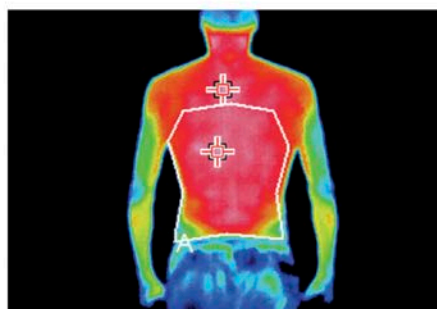
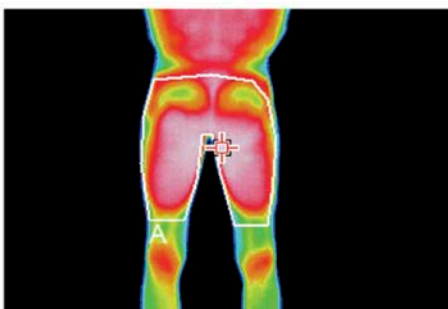
**STUDY OF CONTACT COMFORT**

	Asiento	Respaldo
P. Med. (mmHg)	22,7	5,5
P. Máx. (mmHg)	71,0	15,0
Desviación Est.	15,4	4,2



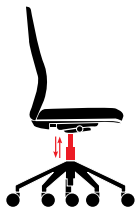
**STUDY OF THERMAL COMFORT**

Asiento		t (min)	Respaldo	
T <sup>med</sup> (°C)	T <sup>max</sup> (°C)		T <sup>med</sup> (°C)	T <sup>max</sup> (°C)
31,2	35,3	20	31,1	32,9
33,1	35,7	40	32,2	33,7
33,8	36,4	60	33,8	35,4
33,8	36,4	Límite	33,8	35,4



# ERGONOMICS

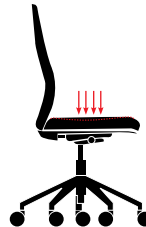
TAKING CARE OF OUR BODY DOES NOT ONLY DEPEND ON GOOD NUTRITIONAL HABITS AND SPORT. THERE ARE OTHER FACTORS THAT CAN INFLUENCE HEALTH, LIKE A CORRECT POSITION AT THE WORKSTATION. FOR THIS REASON, TO KEEP THE BODY IN A GOOD SHAPE AND FREE OF PHYSICAL DISORDERS IS NECESSARY TO HAVE GOOD FURNITURE AND USE IT CORRECTLY.



## CHAIR WITH HEIGHT ADJUSTMENT

Chairs should have an option to lift or lower the seat's height, through a mechanical or a pneumatic system. The position will be the correct one, when the feet rest firmly on the floor and the thighs remain in a horizontal position.

The mechanism should be easily accessible from a seating position.



## SEAT AND BACKREST LEANING

The chair should include a mechanism to control the seat leaning movement and keep a well-balanced position at work. The synchro system is the most extended one, but there are other versions which are more advanced, like the Atom synchro. This last one is Forma 5 exclusive and it self-adjusts to the user's weight



## LUMBAR ADJUSTMENT

Many chairs are designed with an adjustable back support. It is very suitable that this backrest may regulate the movements to the front and to the back, allowing to free or block the mechanism as desired. Many chairs also include a mechanism to adjust the chair curve to that of the back, providing a better comfort to the user.



## 5 BRANCHES BASE

To facilitate a movement with less effort and to provide the chair stability and firmness, the base should have 5 support points for the casters.



## SEAT CONSISTENCY

We spend a long time on the seat, so this one should provide firmness and adapt to the user's features. Both the high density foam and the injected foam are very resistant, durable and comfortable.



## ADJUSTABLE ARMS

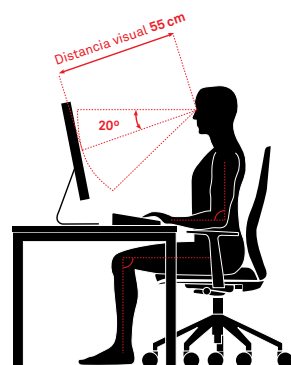
El apoyo de los brazos es fundamental para mantener una buena postura y no sobrecargar los brazos, además de servir para tomar asiento y levantarse del mismo.



## UPHOLSTERY

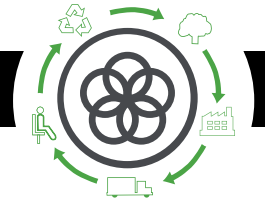
The upholstery should be chosen depending on the chair location and the environmental conditions.

CONSIDERING THE ABOVE MENTIONED ADVICES, HERE ARE SOME COMMENTS ABOUT THE POSITION TO BE ADOPTED WHILE SEATING AT WORK



- 1 The distance between the screen and the eyes should be at least 55 centimeters. The screen should also be located in front of the user and not on one side.
- 2 The upper side of the screen should be located at eye level.
- 3 Thighs should be horizontal regarding the seat and the feet should rest firmly on the floor, having enough space below the desk.
- 4 Breaks should be done often for muscle stretching and moving, changing the position every once in a while.
- 5 Eyes should rest often, so that we do not get eyestrain. For example, focusing on different places and distant objects.





Life Cycle Analysis  
**KINEO Program**



RAW MATERIALS		
Raw Material	Kg	%
Steel	5,74 Kg	34,3%
Polyamide	7,28 Kg	43,5%
Aluminium	0,55 Kg	3,3%
Polypropylene	1,13 Kg	5,83 %
Upholstered/ Filling material	2,03 Kg	12,13 %

% Recycled materials= 18%  
 % Recyclable materials= 81,1%

## Ecodesign

Results reached during the life cycle stages



### MATERIALS

**Polyamide**  
 Between 30% and 40% recycled material.

**Steel**  
 Between 15% and 99% recycled material.

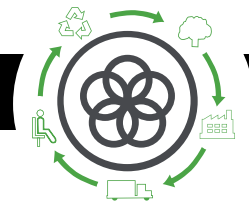
**Aluminium**  
 60% recycled material.

**Polypropylene**  
 Between 30% and 40%.

**Paintings**  
 Powder painting without COV emissions.

**Upholsteries / Filling material**  
 Filling without HCFC and upholsteries without COVs emissions. Accredited by Okotext.

**Packings**  
 100% recyclable with inks with no solvents.



**PRODUCTION**

**Raw materials use optimization**  
Board, upholstery and steel tubes cut.

**Renewable energies use**  
reducing the CO2 emissions. (Photovoltaic pannels)

**Energy saving measures**  
in all production process

**COV global emission reduction**  
of the production processes by 70%.

**Podwer painting**  
ecovery of 93% of the non deposited painting

**Glue removal from the upholstery**

**The facilities**  
have an internal sewage for liquid waste.

**Green points**  
at the factory

**100% waste recycling**  
at production process ans dangerous waste special treatment.



**TRANSPORT**

**Cardboard use opmitization**  
of the packings

**Cardboard and packing materials use reduction**

**Flat packings and small bulks**  
to optimize the space.

**Solid waste compacter**  
which reduces transport and emissions.

**Light volumes and weights**

**Transport fleet renewal**  
reducing by 28% the fuel consumption.

**Suppliers area reduction**  
Local market power and less pollution at transport.



**USE**

**Easy maintenance and cleaning**  
without solvents.

**Forma 5 guarantee**

**The highest quality**  
for materials to provide a 10 year average life of the product.

**Useful life optimization**  
of the product due to a standarized and modular design.

**The boards**  
with no E1 particle emission.



**END LIFE**

**Easy unpacking**  
for the recyclability or compound reuse.

**Piece standarization**  
for the use.

**Recycled materials used for products (% recyclability):**  
Steel is 100% recyclable.  
Aluminium is 100% recycable.  
Plastics are from 70 to 100% recyclable.

**With no air or water pollution**  
while removing waste.

**Returnable, recyclable and reusable packing**

**Product recyclability 81,1%**

# CHAIR MAINTENANCE AND CLEANING GUIDE

LINES FOR A CORRECT CHAIR CLEANING AND MAINTENANCE, CONSIDERING THE DIFFERENT MATERIALS:

## FABRICS

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- 1 Vacuum often.
- 2 Rub the dirty spot with a wet cloth with PH neutral soap.  
Test first on a hidden spot.
- 3 Dry foam for carpets can be alternatively used.

## METAL PIECES

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- 1 Rub the dirty spots with a wet cloth with PH neutral soap.
- 2 Polished aluminium pieces can have their polish bak by covering and rubbing them with a dry cotton cloth.

## PLASTIC PIECES

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Rub the dirty spots with a wet cloth with PH neutral soap.

Do not use abrasive products in any case.

# LEGAL TERMS

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## CERTIFICATES

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Forma 5 certifies that the Kineo program has passed all tests provided by our intern Quality Department, as well as the Technological Research Center (TECNALIA) with "satisfactory" results:

UNE-EN 1335-1-2001: Office furniture. Task chairs for offices. Part 1: Dimensions. Defining the dimensions.

UNE-EN 1335-2-2009: Office furniture. Task chairs for offices. Part 2: Security requirements.

UNE-EN 1335-3-2009: Office furniture. Task chairs for offices. Part 3: Security testing methods.

Developed by ITO DESIGN