TECHNICAL BRIEF

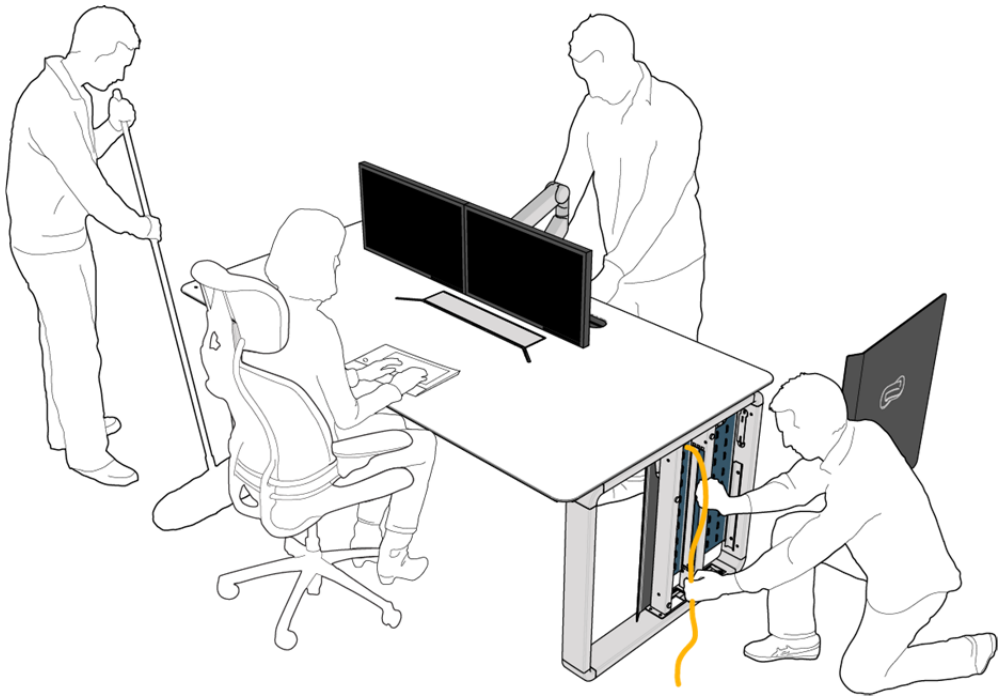
advantis

NEW GENERATION

Gesab®

ADVANTIS NG

BEYOND TECHNOLOGY



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1 ADVANTIS NEW GENERATION professional console

A new era requires imagination and talent to create innovative solutions. **ADVANTIS NG** brings to the market a minimalist design and cutting-edge technology that stand the test of time. GESAB, with more than 20 years of experience and the track record of being a leader in control consoles, has taken another step towards the future: it has created a new generation for the new challenges for operating centers of the 21st century.

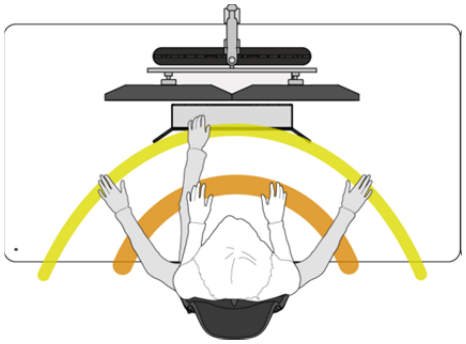
The **ADVANTIS NG** system favors maximum connectivity with optimum cable organization. Its modular design allows it to adapt to all the requirements and configurations of 24/7/365 operating environments.

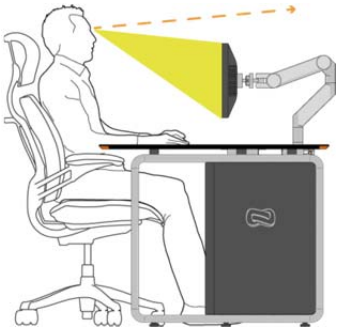
ADVANTIS NG is an organization and management tool designed to meet the needs of the portion of the market that aims to create cutting-edge corporate workspaces. It is a product that is capable of transmitting innovative organizational concepts and has many possibilities when adapting to the different spaces of the company, whether they are control centers, monitoring centers, trading desks, call centers, decision centers, or any other type of conventional work setting that requires the technical specifications necessary to manage dynamic, high added value settings, as well as the management of all the necessary information systems, paying special attention to both electrical and network cabling.

ADVANTIS NG is protected by international convention patent, community design, and laws governing industrial and intellectual property, author's rights and copyright.

ERGONOMICS

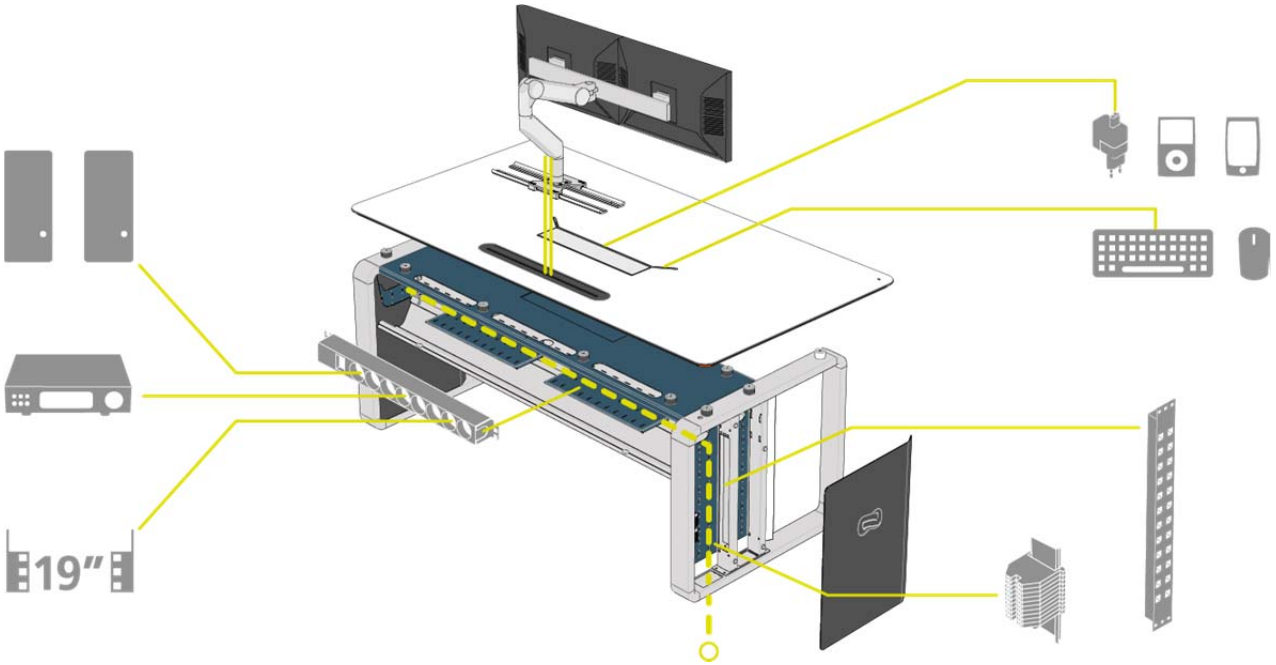
The **ADVANTIS NG** has been designed to meet the requirements of a 24/7 operating station and the strictest standards (UNE-EN: 527-2011, NTP602, ISO-11064-3) and to achieve the optimum control platform for all stages of use, from installing technicians, operators, and maintenance technicians to cleaning personnel.





CONNECTIVITY

The innovative systems that make up the **ADVANTIS NG**, such as **Nexus Gate**, the **Spine Beam**, the **Personal Dock** and the integrated **Under-Desk Server Cabinets** provide maximum ease and safety for the complete management of cabling, equipment and connections. Each piece has been designed to offer maximum performance both independently and with respect to its use with the other components of the console, thus improving the overall performance of the product.



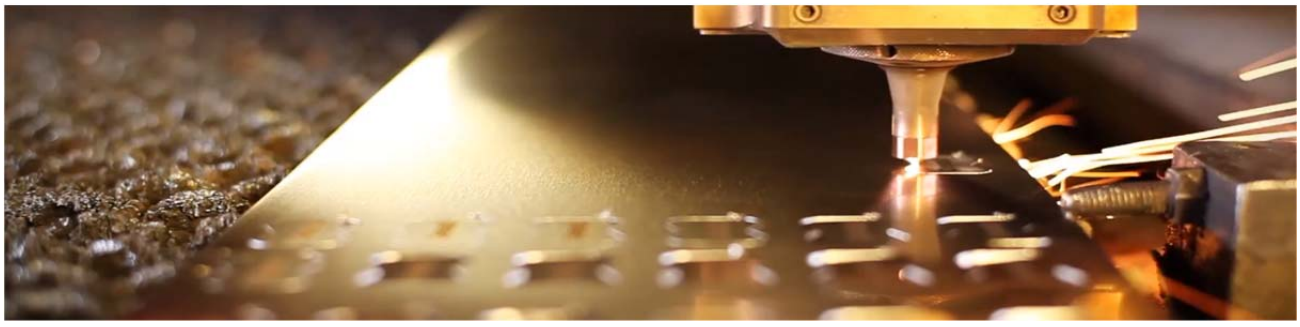
DESIGN

The meticulous design, understood to be part of the intrinsic value of the product, from its conception to the smallest details, has been studied and analyzed by GESAB's design, innovation and engineering teams in order to achieve the definitive control platform. A console capable of surprising all of its potential users, from the installer to the maintenance personnel, and of course the operator himself, with its quality and features.

A rational and intelligent design, but one that enhances the idea of technology that the cutting-edge settings where it is installed and used should transmit. The heart of the design is the details, and for that reason GESAB has invested all of its resources into studying and improving every one of the new product's functional and quality aspects, relying on its more than 20 years of experience in designing and contributing new solutions to the industry.

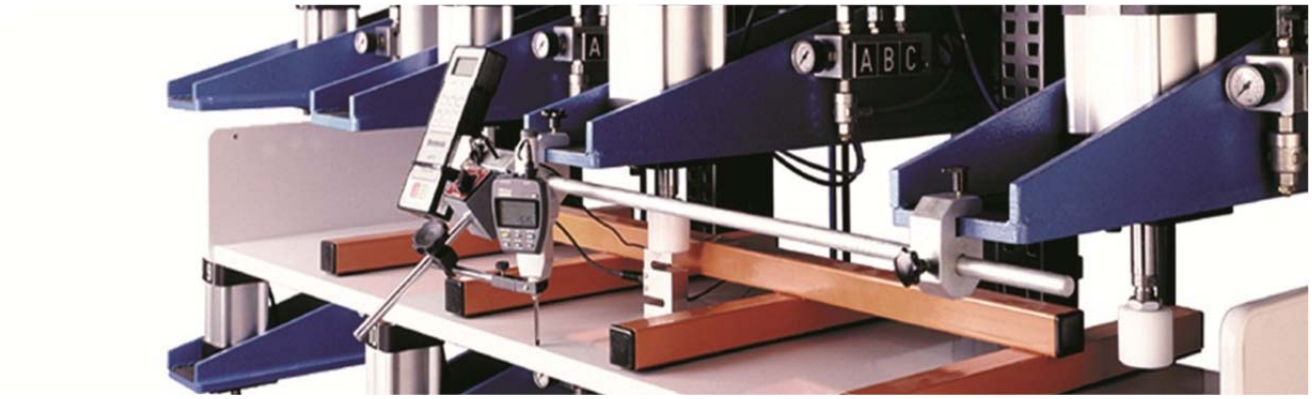
QUALITY

The challenge for GESAB with this new product has been to combine the most advanced technology with a high degree of innovation and maximum quality. ADVANTIS NG has been certified by official agencies in the strictest standards (ISO 9001 and ISO 14001) to always ensure the best quality, from the materials, design process and manufacturing to internal quality controls, and always with efficiency as a priority at each stage in the process, as supported by our –CO2 certificate (Voluntary Agreement to Reduce CO2).



WARRANTY

The careful selection of materials to be used, the use of innovative production processes, and the most rigorous quality controls allow us, exclusively, to offer a **10 year warranty**. Our respect for the environment is our best action at present to **guarantee for the future.**



SUSTAINABILITY

GESAB designs its products and solutions with global mindset, sustainable, and bearing the future in mind. We design, manufacture and assemble with the awareness that the planet's resources are limited. That is why ADVANTIS NG is made of highly recyclable materials that guarantee long life to the product. Such selective recycling process begins at the precise moment of its removal, after its useful life.

Due to our commitment to society, we work respecting the environment, supported by the environmental management system (ISO 14001) implanted in all processes and facilities of the company to minimize the environmental impact. This system includes the analysis of the life cycle of the product as well as the packaging, environmental evaluations to suppliers and environmental monitoring plans for each project. Our commitment to the environment does not stop there. We have also joined a new initiative to reduce CO2 emissions: the Voluntary Agreements Program, sponsored by the Catalan Office for Climate Change

GESAB and Sponsor a Tree Foundation signed in 2011 the cooperation agreement by which GESAB sponsors 1000 trees for a minimum of five years. The main objective is to provide support for the creation of a unique natural area, linking the city with nature so that is a reflection of its importance to our lives.

GESAB works with honesty and commitment in the present to be a **Guarantee for the Future**.

2 General Specifications

ADVANTIS NG is the new ideal in technical workspace organization, with an unlimited configuration capacity that clearly differentiates the space meant for information systems from the space meant for the user.

The main structure formed by the **ADVANTIS NG** core is composed of the **Nexus Gate** system (sides) and the **Spine Beam** (beam). The joint of these two structural supports provides incredible stability and robustness thanks to Nexus Gate's steel and aluminum frame and the **Spine Beam's** T-section, which creates an open but highly durable section that optimizes available material and space. Nexus Gate channels the cabling from the raised floor up to the **Spine Beam** and provides separate electrical and networking routes, as well as 19" spaces included in the structure itself for housing patch panel connections or rackable components that improve information distribution and centralization. Nexus Gate makes station management and maintenance easier by using magnetic access doors that provide completely unrestricted access to the technical area.

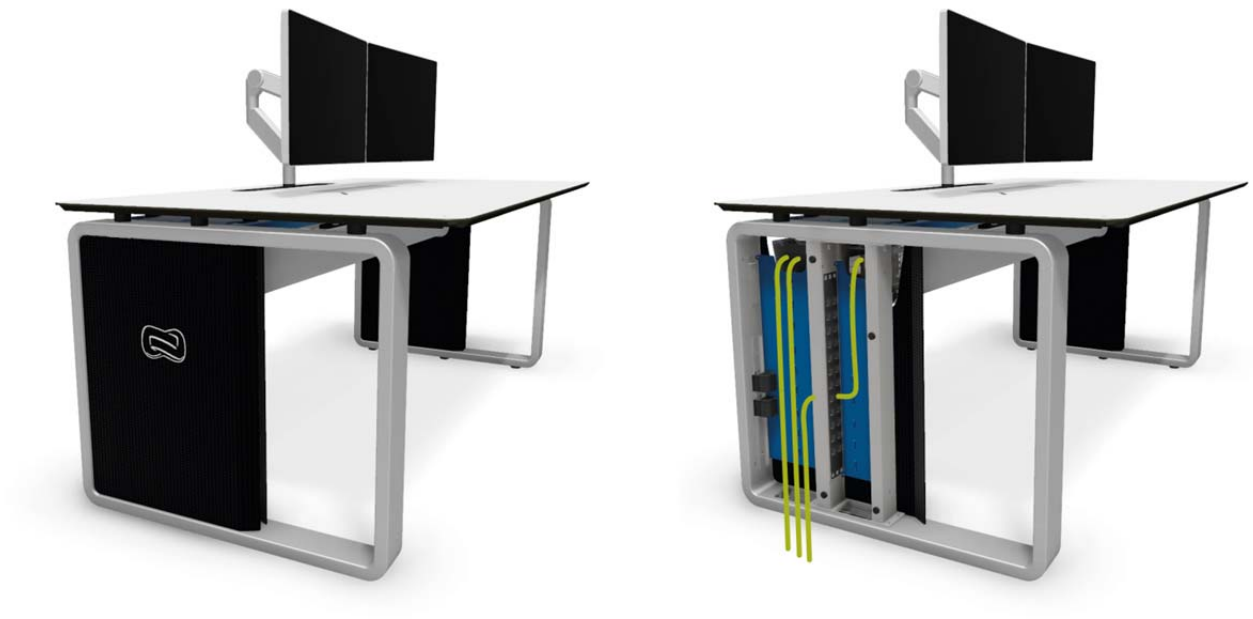
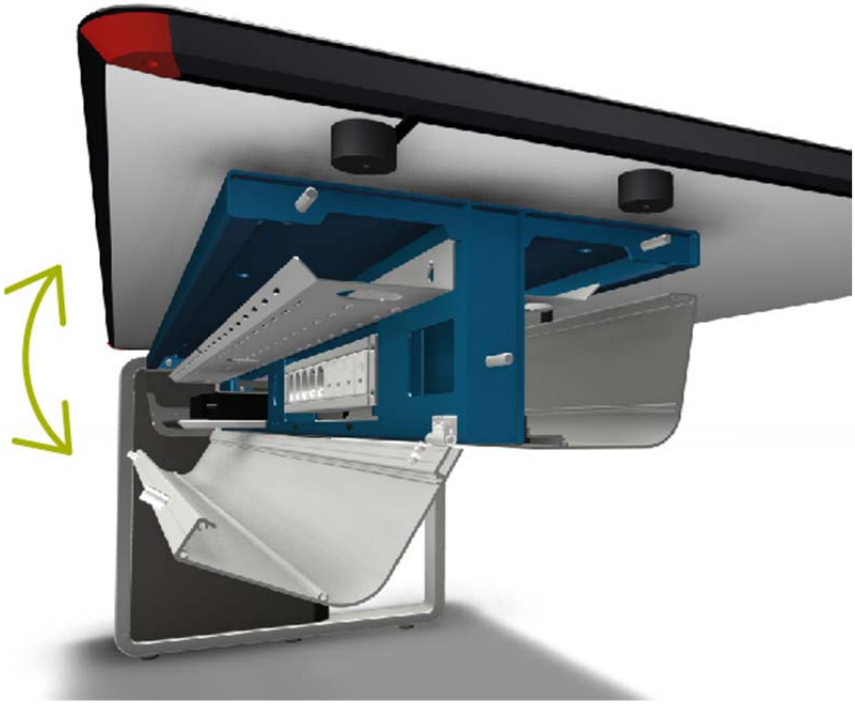


Figure 1. Nexus Gate system.

Nexus Gate directly communicates with the other main component of ADVANTIS NG: the **Spine Beam**, the part that supports the console and guides and distributes the electrical and network cabling. Its large size allows KVM, Mini PCs, Thin Client, etc. equipment to be housed inside it.

The **Spine Beam's** innovative T-shaped design and the double-access swinging doors, as well as a wide range of available accessories, provide the perfect space for managing any 24/7 operating station, no matter how demanding the conditions are.



The **ADVANTIS NG's Spine Beam** allows for the maintenance and management of cabling, even when the console is installed and operational, thanks to a unique system of swinging covers and the T-shaped structure. Therefore, if the user needs to add more electrical, voice, networking or equipment cabling, he can do so easily in the bottom part of the console and without having to power down the workstation.

Figure 2. Detailed view of Spine Beam

Floating Work Surface. In a highly demanding setting, the **ADVANTIS NG** console insulates the user in a safe and healthy environment, free of vibrations thanks to the insulated flat work surface.

The operating area is supported by GESAB **IsoBlock** spacers, made of polyamide 6 (PA6), a non-conductive material with a shock absorbing property that insulates the user in contact with the work surface from both electricity and any possible vibration created by the environment.

Figure 3. Floating Work Surface

The **ADVANTIS NG modular structure** is adaptable to any arrangement, regardless of the space or number of users. The new **ADVANTIS New Generation** system, thanks to its seamless console and under-desk cabinet integration, offers the best solutions for operating stations with lots of space.

For curved arrangements, it has a new angle generating system that allows any degree of curvature to be formed without interrupting cabling connections to the different modules.

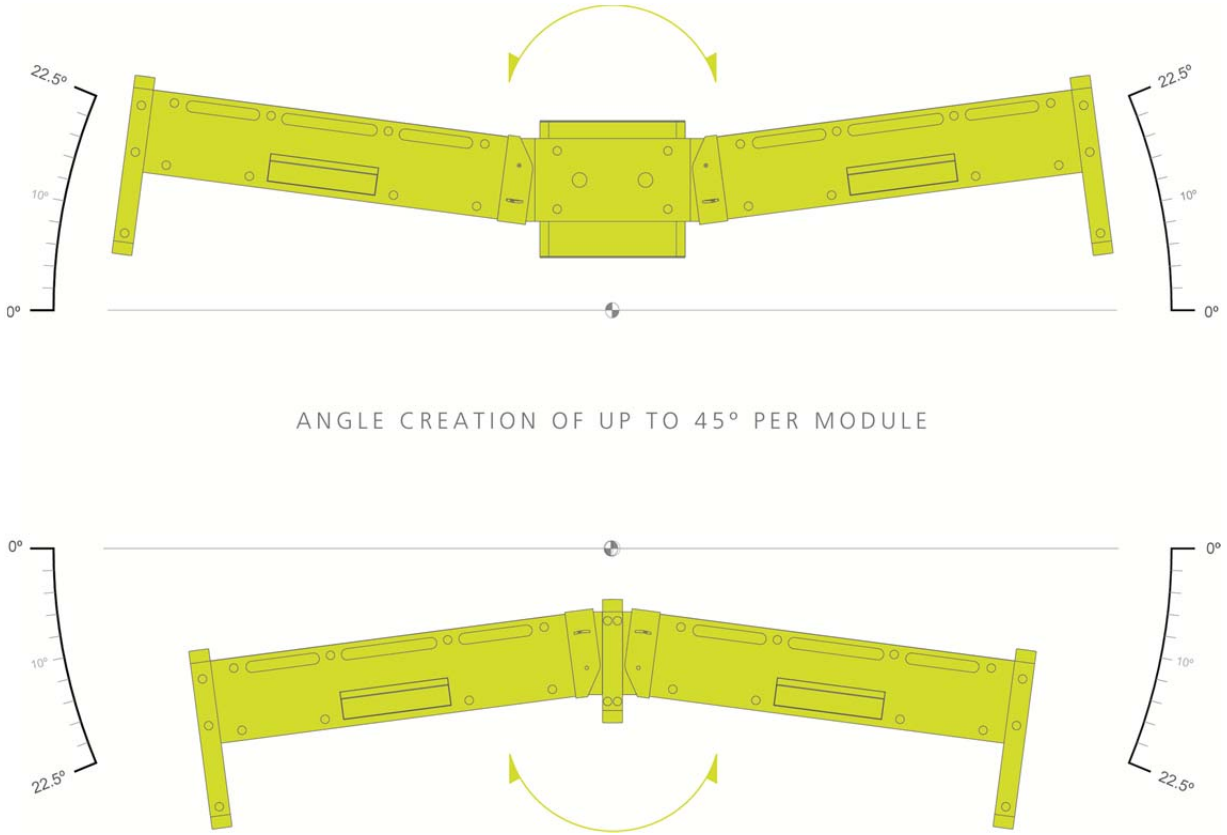


Figure 4. Angle creating system.

ADVANTIS NG allows closed **Under-Desk Server Cabinets** to be incorporated for computer and electronic equipment as part of the main structure. This creates an expanded area for a large number of machines to communicate directly with the **Spine Beam,** thus improving the management and maintenance of both the computer equipment and its cabling and connections. This design ensures full compliance with physical ergonomic standards (UNE-EN 527-2011, ISO-11064), since it offers a completely open and obstructed space under the work surface. The **Under-Desk Server Cabinets** include, on the top part, a cabling management rack that leads directly to the **Spine Beam**, so the path between modules is not interrupted by any component.

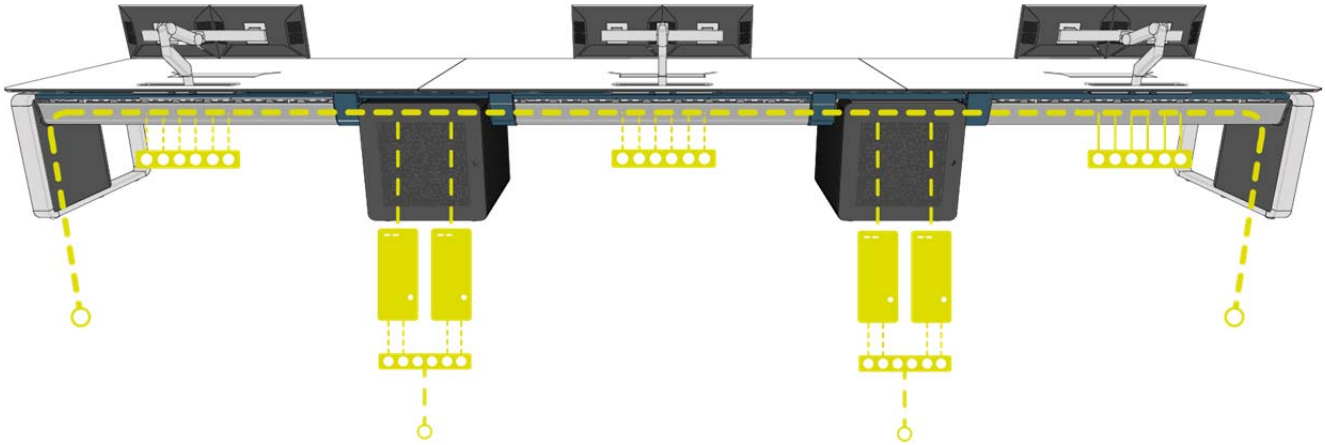


Figure 5. Integration of server cabinets and continuous cabling.

Personal Dock. This is a space for the user's personal belongings and connectivity. It is comfortable and flexible. Everything is within arm's reach without ever leaving the control station. Its design also allows the cabling to be run from the workstation to the **Spine Beam**, combining design, functionality and benefits to the operator.

The unique concept of GESAB's **Personal Dock** is the result of design and innovation studies carried out regarding control rooms and the detailed analysis of operators' day-to-day connectivity and functional needs. The **Personal Dock** offers the user a definitive solution: having everything he needs at arm's length to be able to focus 100% on his control responsibilities without distractions or obstacles.

The **ADVANTIS NG's Under-Desk Server Cabinets** provide a complete solution for operating stations with a high number of machines. Their seamless, durable aluminum structure profile allows them to be adapted to any possible measurement and configuration, in addition to making different accessories easier to adapt to create a specific **Technical Service Area (TSA)** for managing, administering and connecting all the machines, thus allowing for fast, comfortable and safe access. The aluminum frame designed by GESAB that is used in all the **Under-Desk Server Cabinets** provides a high degree of freedom of arrangement thanks to its high durability and its structural features.

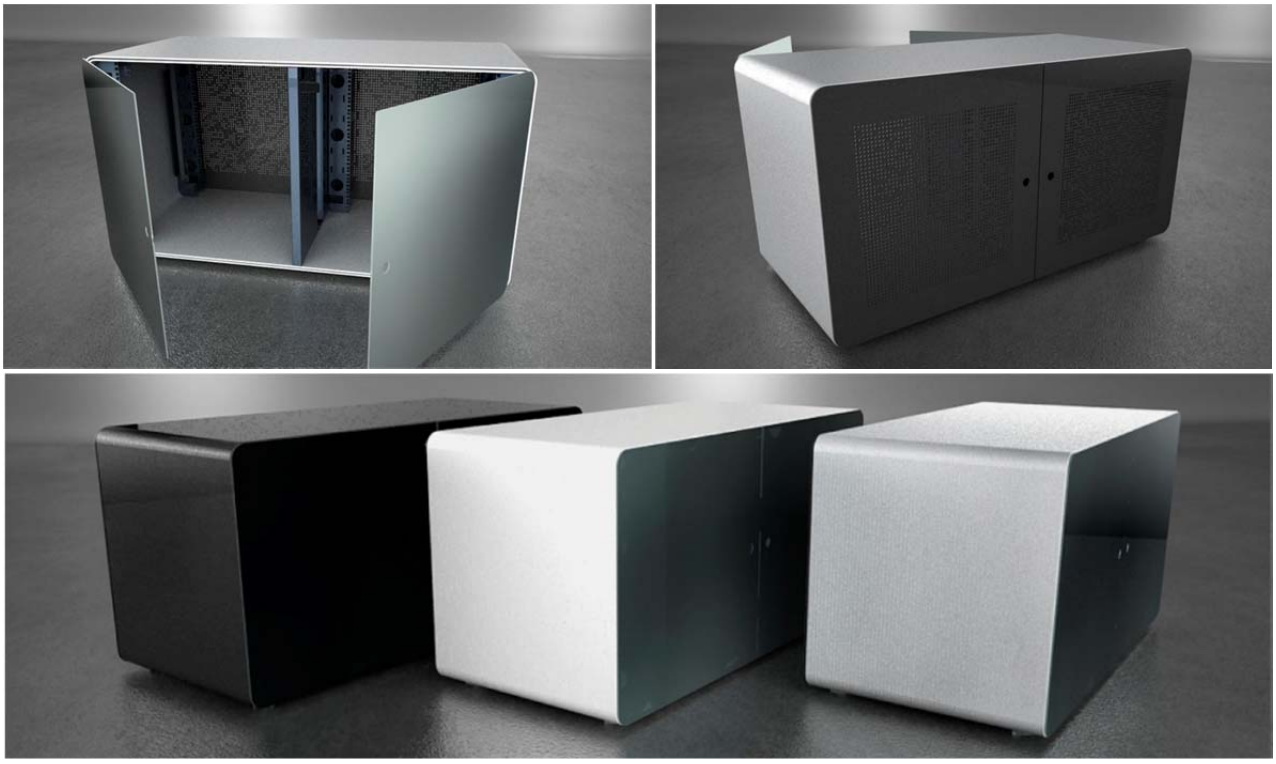
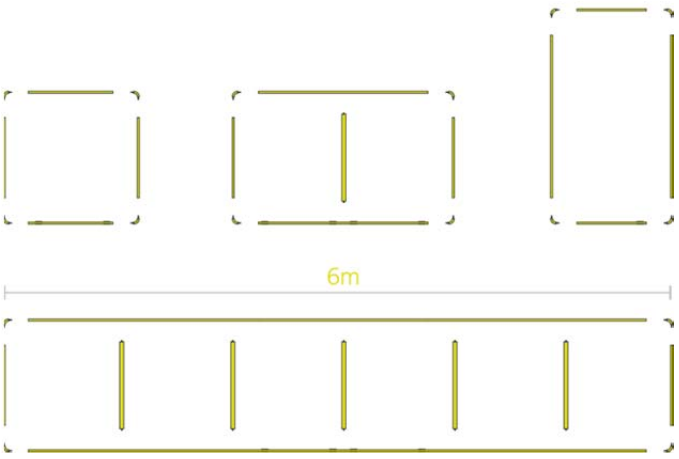
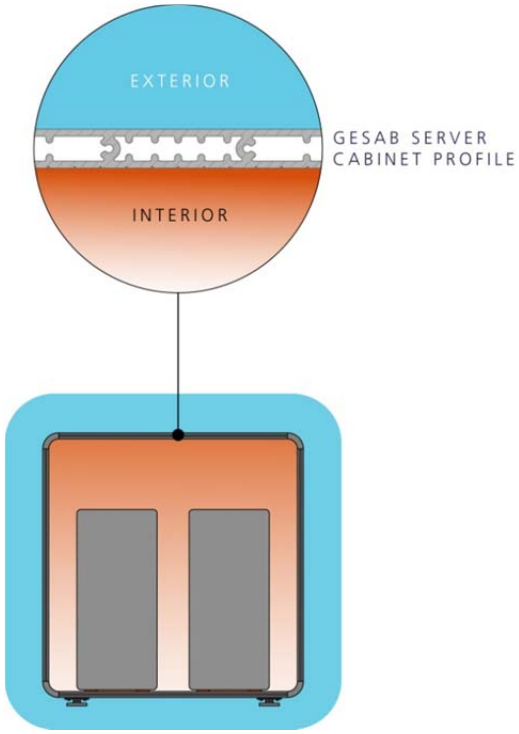


Figure 6. Double server cabinet



The **ADVANTIS NG's Under-Desk Server Cabinets** allow for a wide variety of specific accessories to be included and arranged inside, both in terms of height and depth, such as fixed shelves, removable shelves, or specific accessories for installing computer or communications equipment in 19" format. The **Technical Service Area (TSA)** integrated in the cabinets allows equipment cabling and connections to be managed and maintained safely and easily.

All the **ADVANTIS NG's Under-Desk Server Cabinets** are built using extruded aluminum frames designed by GESAB to maximize performance, improve the design, and ensure the highest quality materials. The design of the frame, once assembled, together with the rest of the components that make up the **Under-Desk Server Cabinets**, forms a robust unit designed to eliminate the heat generated by the computer and communications equipment inside the cabinet. The hot air inside is extracted through perforated doors or using forced ventilation. The shape of the structure itself favors the transmission of heat to outside the cabinet, which allows the heat to be eliminated without affecting the operator's comfort.



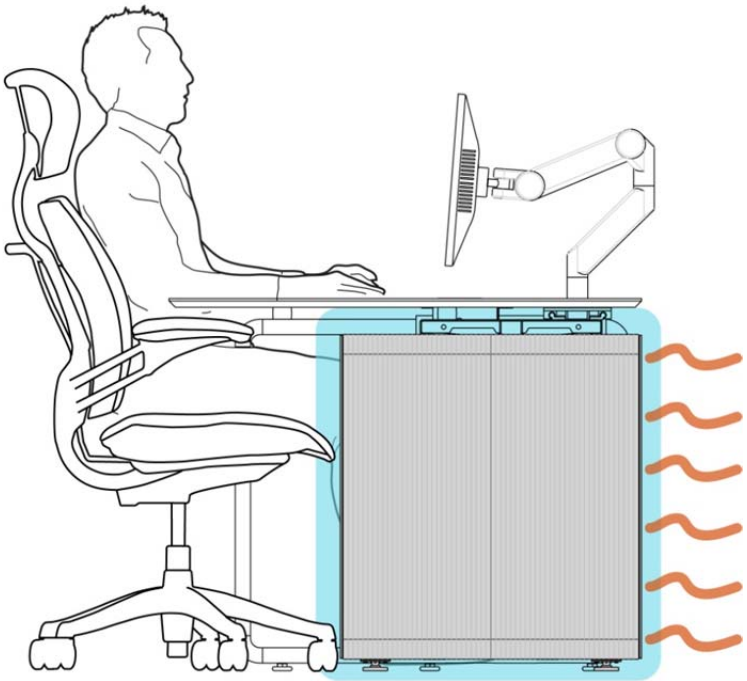


Figure 7. Insulating chamber, server cabinet profile

Every detail is important, which is why the **I-BOX**, a unique accessory, has been designed. It is an individual container for documents and personal objects that is integrated into the console and has the optimum dimensions for improving ergonomics for the operator.

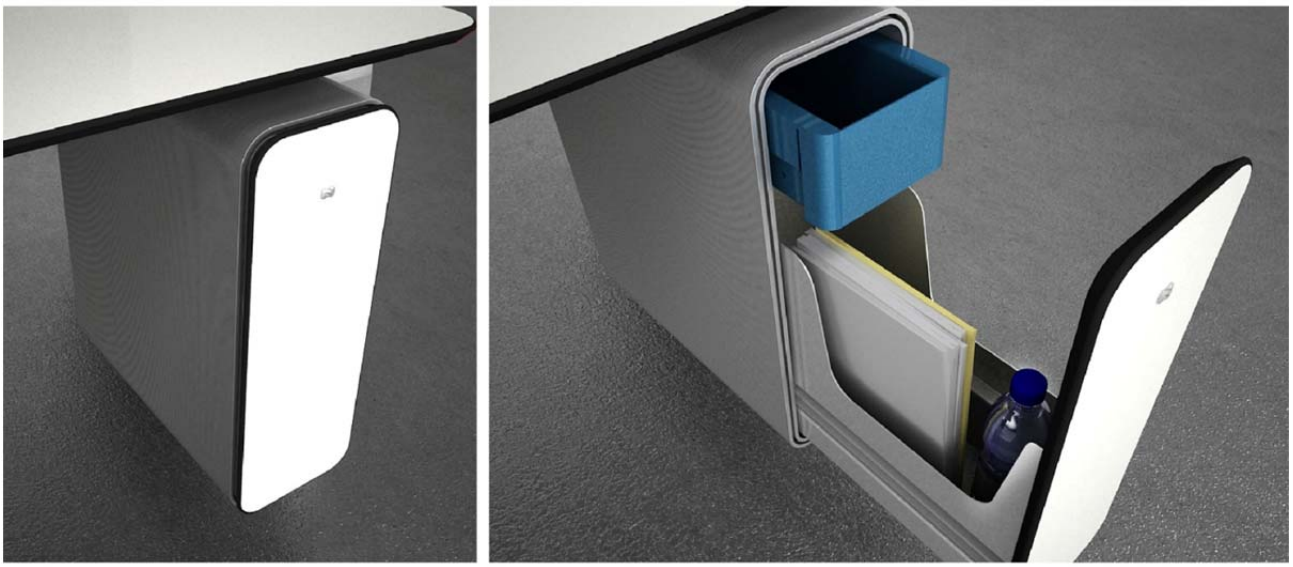


Figure 8. I-Box positions

ADVANTIS NG is unlimited when combining different structures, whether they are arrangements that are linear or curved, concave or convex, single or double… All accessories are designed with maximum compatibility in mind to offer a wide product range, capable of meeting the most demanding needs of high-technology work environments.

Figure 9. Different console arrangements.

ADVANTIS NG is a multipurpose organizational system capable of adapting to changing markets, where technological demands play an important role, as does the user's interaction with the systems. It allows the computer equipment installed in every configuration to be controlled and accessed, paying special attention to the entire flow of the cabling and the appropriate connections.

ADVANTIS NG SIT&STAND VERSION

The **SIT&STAND** version has been incorporated into the new **ADVANTIS NG** product line for operating stations where flexibility is an essential requirement. The **ADVANTIS NG SIT&STAND** system allows the operator to work sitting down or standing up with an adjustable work surface whose height can be increased by up to 450 mm without the movement of the work surface affecting the inherent characteristics of the product, such as monitor and cabling management, ergonomics or maintenance.

Companies increasingly need flexible spaces where operating stations can be quickly modified. The **SIT&STAND** version of **ADVANTIS NG** provides an unprecedented technical solution to the increasingly common need for functionality and ergonomics in open workspaces.

The work surface can be adjusted from a base height of 755 mm to a maximum height of 1205 mm, covering the ergonomic range set forth by the European standard UNE-EN 527-2011 for fully adjustable seating/standing and standing-only workstations.

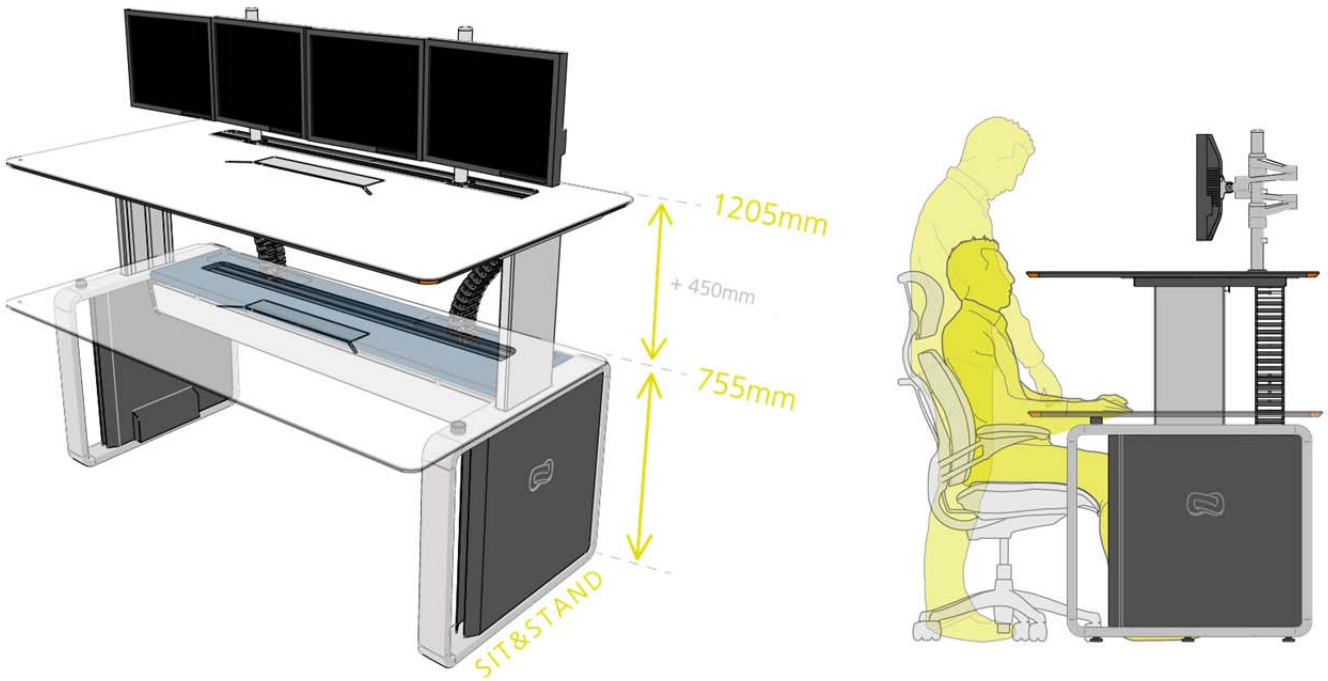


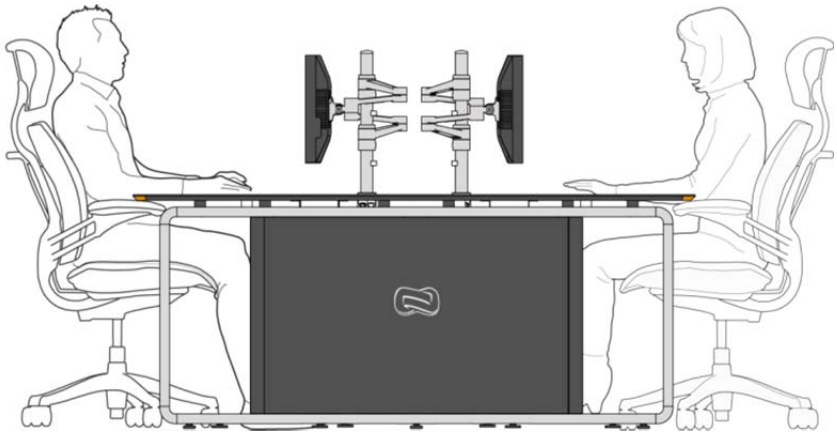
Figure 10. ADVANTIS NG SIT&STAND Version

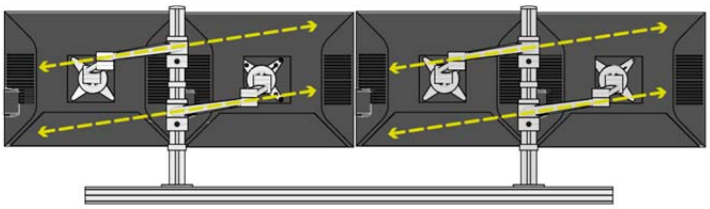
ADVANTIS NG TWO-SIDED/TRADING DESK VERSION

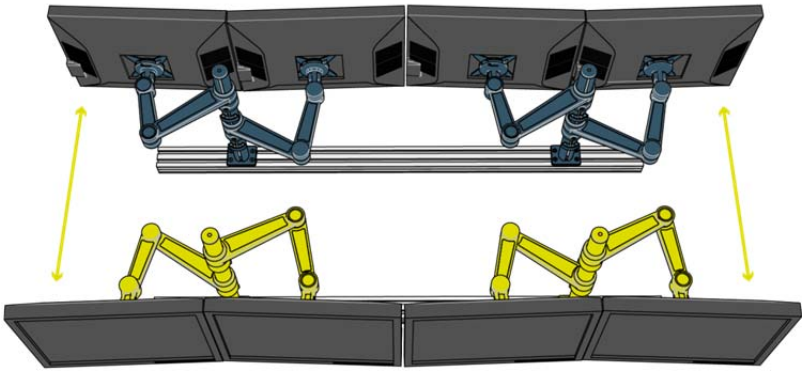
GESAB has designed the **ADVANTIS NG** two-sided/trading desk for projects where optimizing operating space is a necessity and there is a high volume of equipment and personnel. The two-sided version, with or without the **TSA** in the middle, allows the maximum space needed for each operating station to be reduced without affecting the ability to manage the equipment, cabling or ergonomics of each operator and maintaining the innovative look that distinguishes the new **ADVANTIS NG**.

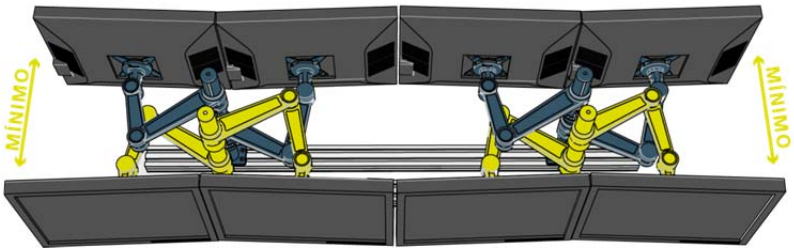
Figure 11. Two-Sided Version

As in the rest of the product line, the monitors can be arranged in different ways to ensure that each project has an optimum solution. Depending on the volume and number of computer and communications equipment the solution requires, a **TSA (Technical Service Area)** can be added between the modules, a space designed to organize, manage, and store different pieces of equipment and cabling, thus always ensuring ideal handling and maintenance.









Optimizing space in two-sided/trading configurations is essential, and for that reason GESAB has incorporated the **ViewLite** monitor organization system into the product line. These arms are designed with asymmetric geometry so as to reduce the space between the different lines of monitors without affecting their ability to be adjusted.

By centralizing the monitors as much as possible, the depth measures of the work surface can be considerably reduced, eliminating the empty middle area that would be between the monitors, without affecting visual ergonomics.

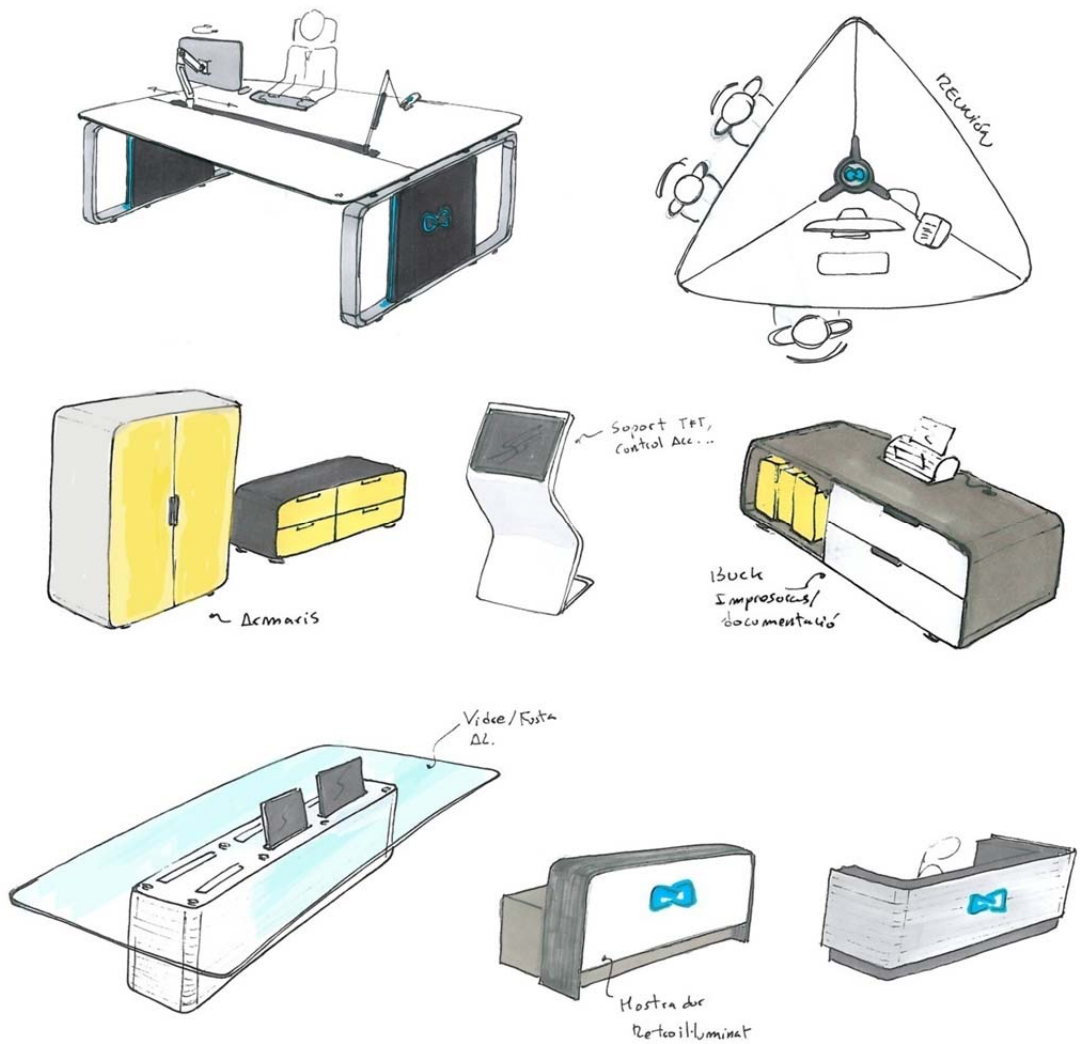
The space needed to manage cabling is also reduced, thus improving the handling and maintenance of this type of console.

A GLOBAL CONCEPT

ADVANTIS NG is a universal concept for the communication and exchange of ideas among users, exactly what is required by new company cultures and current work dynamics.

The **ADVANTIS NG** system joins design, effectiveness and excitement. With its clean and architectural lines, its stylized and innovative design irradiates lightness. The minimalist aesthetic for different work dynamics allows for the creation of an individual workstation as well as collective areas for working as a team. Its flexibility can give shape to any type of station, area or space.

ADVANTIS NG equipment is the ideal solution for all communicative spaces that aspire to have a professional, creative and open atmosphere.



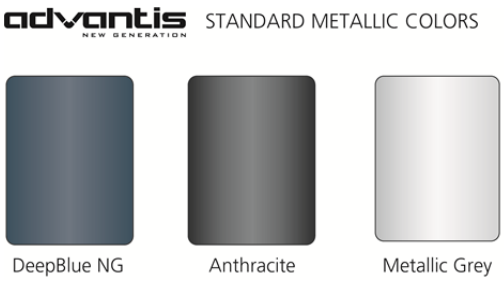
FINISHES

Finishes are an intrinsic part of the product, and for that reason GESAB has created colors and finishes that are ideal for the **ADVANTIS NG**, whose application is recommended for both aesthetic and functional purposes.

METAL STRUCTURES AND COMPONENTS

As part of the **ADVANTIS NG** design**,** the metal components that are directly related to managing cabling and connections are distinguished with the color **DeepBlue NG**. This color makes identifying cabling easy thanks to the contrast between the cabling and the bottom of the racks and parts painted with the **DeepBlue NG** color**.** This is yet another tool for installers and maintenance personnel.

Both the frame and the swinging doors are painted metallic grey in order to improve the appearance of the material and also because of the extra protection that the paint offers. This extends the life of the product. The removable **Nexus Gate** (side) covers are finished in anthracite colored paint.



PHENOLIC COMPACT LAMINATE WORK SURFACES

The material applied to the work surfaces is **MaxCompact** phenolic compact laminate by **Fundermax**, because of its excellent structural properties, high resistance to wear, and the freedom of design it provides, since it can be adapted to any shape, no matter how complex.

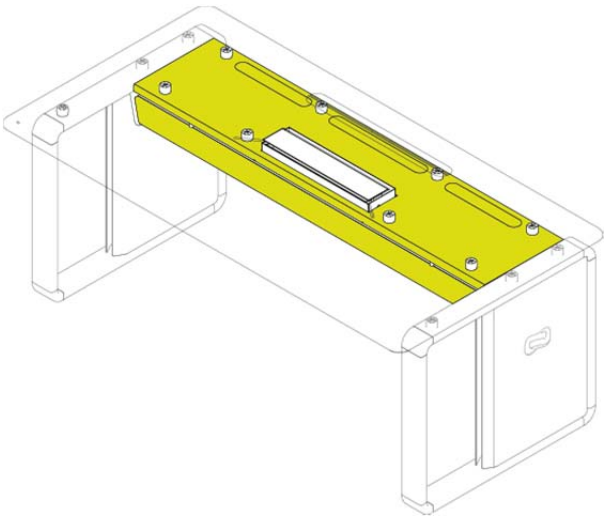
The standard product color is white with a low-gloss matte finish. The color white provides a refractive index that is appropriate for optimizing the natural or artificial light in the room, given that the color white has the highest refractive index: between 65% and 85%, depending on the surface. Additionally, the surface finish is matte in order to reduce the shine that could be produced by light sources, which could negatively affect the visual ergonomics of the operator.

GESAB also offers options for a wide variety of surface designs and a range of options for structural finishes (extra depending on the project, requirements, volume and cost).

3 ADVANTIS NEW GENERATION Technical Specifications

SPINE BEAM

Central T-shaped structure (dimensions: height 175mm, depth 370mm and length ranging from 1000 mm to 2800 mm in 300 mm intervals). Auxiliary components made 2.5 mm thick cold-rolled steel sheets in accordance with UNE EN 10130:1999; high-quality in accordance with UNE 48-098-90, UNE 48-031-80, UNE 48-026-80, UNE 48-024-80, UNE 48-032-80, UNE 48-183-84, UNE 48-024-80, UNE 48-032-80, UNE 48-183-84, and UNE 48-169-92; and subjected to rigorous aesthetic finish durability tests in accordance with ISO 7253 and DIN 50021, carried out in ENAC-certified laboratories.



Hinged extruded 6060/6063 series T5 aluminum profile doors with metallic grey micro-texured epoxy powder paint finish; subjected to rigorous tests in accordance with DIN 50939, ISO 2813, ISO 2360, ISO 2409, ISO 2815, ISO 1520 and ASTM D 2794, which guarantees quality and durability in fulfillment of the Qualicoat quality seal. General profile thickness of 2.5 mm.

Anti-fall movement and door opening adjustment using low-profile friction hinges included in the access door. Southco ST series hinge properties: made of zinc and steel; minimum useful life of 20,000 cycles; maximum static load: 1000 N.

Safety retention system in the doors using neodymium magnets; maximum strength per magnet: 90 N.

Aluminum channeling: 45 x 45 mm aluminum conduit for installing universal connectors and mechanisms, 6060 alloy in accordance with UNE 38-337-82, with an anodized surface finish in compliance with the requirements of the EWAA/EURAS (QUALANOD) quality seal, subjected to aesthetic finish durability tests in accordance with ASTM B-136 and CE marking.

Internal equipment and cabling management: The **ADVANTIS NG Spine Beam** has a wide variety of accessories to make installing, managing and maintaining the console easier and better.

The Beam has racks for cabling in the top part of the unit where the cabling is distributed to the different console components. In the middle section, there are 19" spaces for adding configurable connection conduits and 19" racks for managing equipment and accessories. The number of spaces designated for accessories varies depending on the size of the **Spine Beam.** It can have from 2 to 4 spaces with capacity for 2 19" units each.

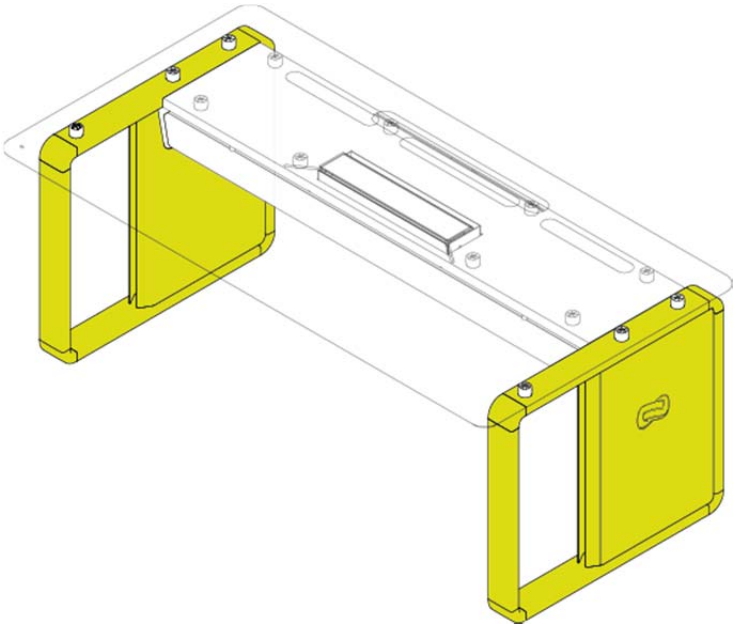
Cabling Management Rack: Rack that is easy to access using swinging doors, made of a cold-rolled steel sheet and painted with **DeepBlue** micro-textured epoxy powder paint (same characteristics as the central structure).

Equipment Management Rack: Support rack for non-rackable equipment, made of a cold-rolled steel sheet and painted with **DeepBlue** micro-textured epoxy powder paint (same characteristics as the central structure).

19" Accessory: Accessory for racking equipment with a variable depth of up to 350 mm, made of a cold-rolled steel sheet and painted with **DeepBlue** micro-textured epoxy powder paint (same characteristics as the central structure).

NEXUS GATE

The **Nexus Gate** system channels cabling from the raised floor to the **Spine Beam** which provides separate routes for electricity and information using independent racks, as well as integrated 19" spaces in the structure itself for housing patch panel accessories or rackable components that improve information distribution and centralization. **Nexus Gate** makes station management and maintenance easier by using magnetic access doors that provide completely free access to the technical area. The outside covers also serve a corporate purpose, since they allow for the company logo or image to be added without altering the product design.



- **Nexus Gate structure**

Perimetral structure that makes up the frame of the unit, available in the following dimensions: height 698 mm, width 90 mm and variable depth, from 550 mm in the intermediate Nexus Gate modules to 1650 mm in the Two-sided/Trading versions. Profile frame made of 2.5 mm-thick extruded 6060/6063 series T5 aluminum, assembled using profile and joint fitting without any welding, machining or screws. Surface finish with metallic grey micro-textured epoxy powder paint, subjected to rigorous tests in accordance with DIN 50939, ISO 2813, ISO 2360, ISO 2409, ISO 2815, ISO 1520 and ASTM D 2794, which ensures its quality and durability over time, in compliance with the **Qualicoat** quality seal. Central 2 mm-thick steel support structure, cold-rolled in accordance with UNE EN 10130:1999; painted with micro-textured epoxy powder paint in accordance with UNE 48-098-90, UNE 48-031-80, UNE 48-026-80, UNE 48-024-80, UNE 48-032-80, UNE 48-183-84, UNE 48-024-80, UNE 48-032-80, UNE 48-183-84, and UNE 48-169-92; and subjected to rigorous aesthetic finish durability tests in accordance with ISO 7253 and DIN 50021 carried out in ENAC-certified laboratories.

ADVANTIS NG is designed and equipped for grounding. The mechanical assembly by traction of the T-shaped **Spine Beam** with the **Nexus Gate** sides and metal areas ensures continuity and grounding.

- **Accessories**

Nexus Gate has a series of accessories to make connectivity and cabling handling easier and better. Racks for organizing cabling entering from the raised floor through the cabling entry points in the structure itself to the **Spine Beam**. These racks serve as separators from possible electric lines and have a specialized surface with grommets for channeling cables better. The racks are made of cold-rolled steel and finished with high-quality **DeepBlue** micro-textured epoxy powder paint in accordance with the standards listed above.

In addition to the racks and grommets, the **Nexus Gate** also has a 1U 19" space for including patch panels, which substantially improves network management, and a profile included in the frame for placing electrical terminals.

- **Side covers**

2.5 mm-thick steel sheet side cover, cold rolled in accordance with UNE EN 10130:1999; painted with high-quality micro-textured Anthracite epoxy powder paint in accordance with UNE 48-098-90, UNE 48-031-80, UNE 48-026-80, UNE 48-024-80, UNE 48-032-80, UNE 48-183-84, UNE 48-024-80, UNE 48-032-80, UNE 48-183-84, and UNE 48-169-92; and subjected to rigorous aesthetic finish durability tests in accordance with ISO 7253 and DIN 50021, carried out in ENAC-certified laboratories.

The outside covers also optionally serve a corporate purpose, since they allow for the company logo or image to be added without altering the product design.

Door fastening system using neodymic magnets with a maximum strength of 95 N per magnet.

- **Lighting systems**

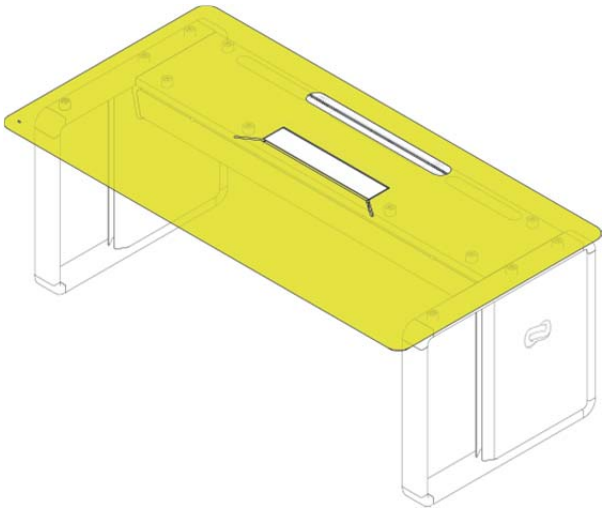
Each **Nexus Gate** includes an exclusive integrated lighting system using LED technology, designed to respond to safety and functionality demands. It has two well-defined areas: the front part of the **Nexus Gate** includes, hidden between the closing side covers, a vertical anodized aluminum profile bar with a diffuser and equipped with an SMD 3528 LED light, which aims the lighting towards the back part of the console; and the outside side part, integrating the GESAB logo into the removable outside cover, made of polycarbonate with a translucent acid retro finish and an SMD 3528 LED light. Both systems provide three important benefits: they create ventilation openings, indicate if the station is powered on or off, and provide an elegant and subtle courtesy light.

The LED technology applied to the **Nexus Gate** is employed by means of a flexible encapsulated SMD 3528 LED strip, auto-adhesive high brightness FPC series, with a brightness of 2400 mcd, a light emittance of 7 lm, and an angle of 120º. The connection is 12V, power is 14.4-19.2, consumption is 1700 mA, and the useful life is from 60,000 to 80,000 hours.

FLOATING WORK SURFACE

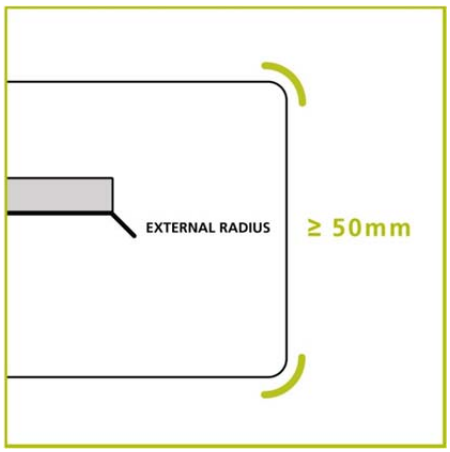
- **Work surface**

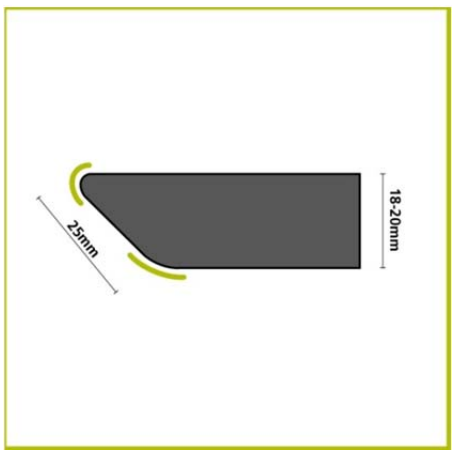
Surface upon which the operator performs all of his tasks interacting with the control platform. The work surface The work surface includes a swinging cover that reveals the **Personal Dock** personal connection area.
The back part is reserved for the articulated monitor arms, which can be distributed according to the configuration that is best suited to the visual needs of each station, as well as the management of the monitor cables that enter the **Spine Beam** through through a grommet included in the surface itself with a double brush to hide the cabling and prevent dirt from getting inside the **Spine Beam**.



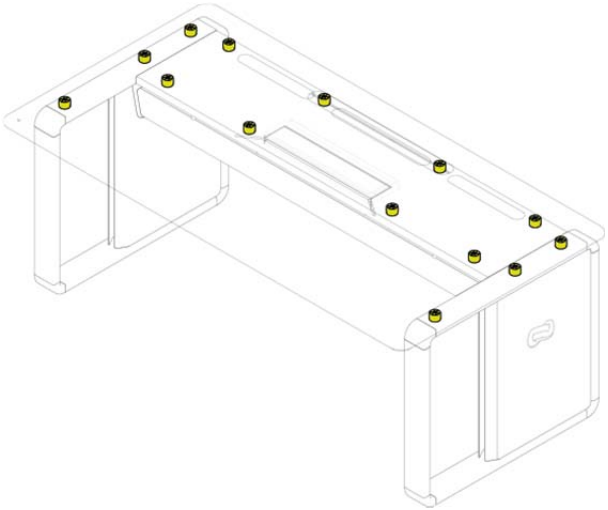
High-quality phenolic compact work surfaces with a thickness of 18 mm, white color with black core and FH surface (see page 19 for finish options). High pressure laminate (HPL) manufactured in accordance with EN 438 standard, made of cellulose impregnated with thermosetting resins and pressed at a high pressure and temperature. The inside core is standard black. When necessary, Max Compact "F quality" may be requested, which has a Euroclass B-s2,d0 fire behavior rating and for the application of a vertical coating of at least 6 mm thick in accordance with a B-s1,d0 test.

The work surface finish is designed with the recommendations of different studies included in the **"SALUD + GESAB"** ("HEALTH + GESAB") taken into account. In order to avoid microtraumas, the work surfaces are beveled and rounded at all points of contact, eliminating any potentially harmful edge or angle. Additionally, the surfaces rest on **IsoBlock** spacers, which create add an element of flexibility to avoid overpressure on any part of the body.



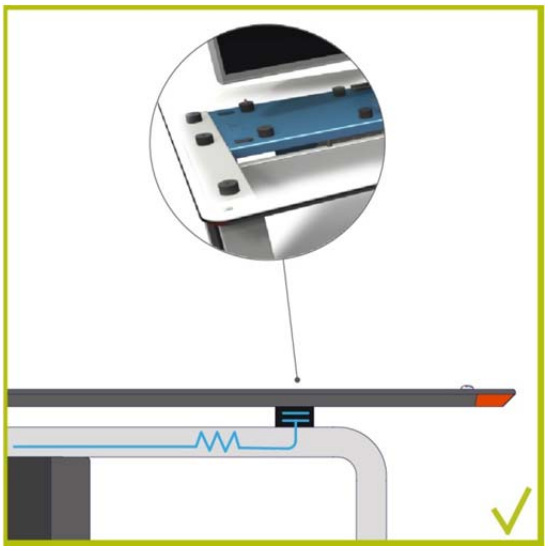


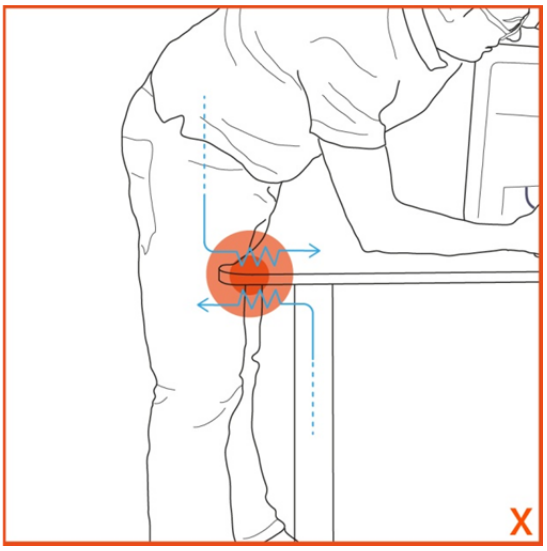
- **IsoBlock surface spacers**



The work surface spacers allow the table of the main console structure, as well as the adjoining surfaces, to be insulated both physically and electrically. The **IsoBlock** spacers reduce vibrations transmitted from the operator to the adjoining consoles, allowing configurations to be made with adjacent desktops but without vibrations. The GESAB **IsoBlock** spacers are made with thermostable nylon 6/6 (PA6), black in color, and using injection molding to ensure size uniformity among the pieces and to provide maximum precision for console assembly.

The **ADVANTIS NG** series is equipped with the **IsoBlock** spacer system to avoid bidirectional transfers of static electricity. The work surfaces are suspended above the metal structure by resting on the **IsoBlock Nylon** (PA6) spacers, creating an insulated and non-conductive surface.





OCCUPATIONAL SAFETY AND RISK PREVENTION

- **Occupational risk prevention lighting and space system.**

At the corners of every console, an occupational safety and risk prevention system is installed using LED lighting. The work surfaces have on the ends a specific compartment made of translucent polycarbonate injection molding that holds the encapsulated SMD 3528 LED lights. This system provides functional and safety benefits, is red, and marks the corners of the console. Just as the lights of a car identify it and can show if a door is ajar, the lights incorporated in the console also identify the corners of the table, thus serving the same passive safety purpose.

The applied LED technology is employed by means of a flexible encapsulated SMD 3528 LED strip, auto-adhesive high brightness FPC series, with a brightness of 2400 mcd, a light emittance of 7 lm, and an angle of 120º. The connection is 12V, power is 14.4-19.2, consumption is 1700 mA, and the useful life is from 60,000 to 80,000 hours.

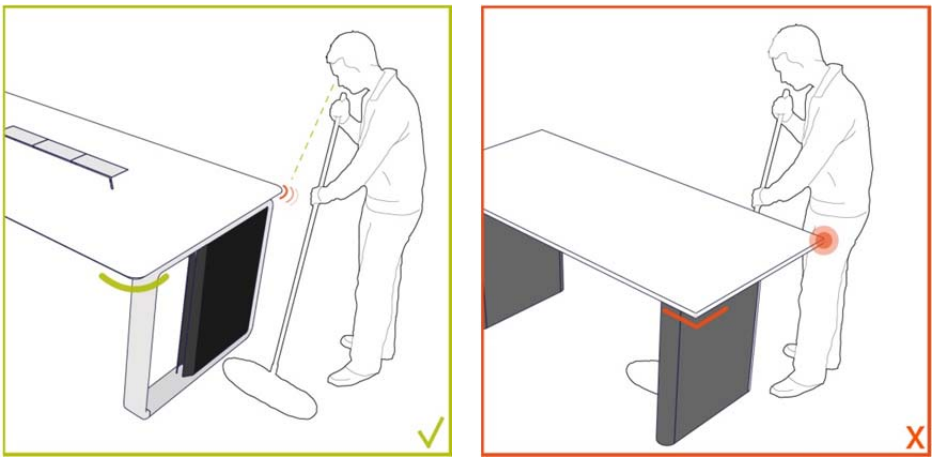
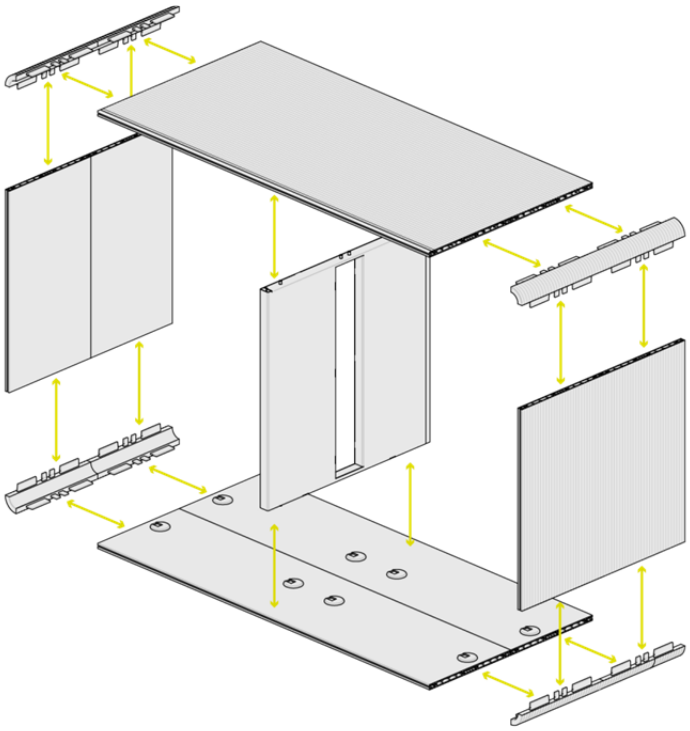
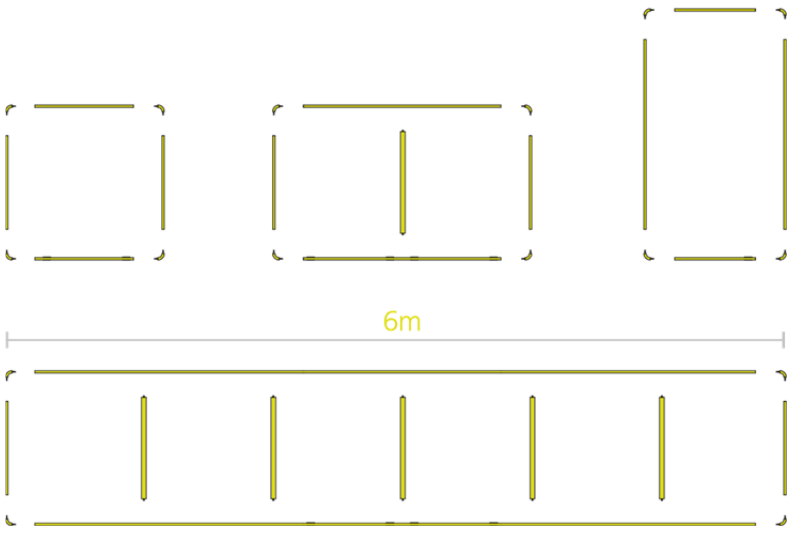


Figure 12. *LED surface indicators*

UNDER-DESK SERVER CABINET

The new **ADVANTIS NG Under-Desk Server Cabinets** have been designed to adapt to the highest technical demands and to increase dimensional flexibility in order to create unlimited configurations of different shapes and sizes thanks to the innovative structural aluminum profile system and the cast aluminum connector joint. This modular design provides an essential tool for storing computer equipment without limitations on space, needs or design.





Outside Structure

Extruded 6060/6063 series T5 aluminum profile structure with a general thickness of 2/7 mm, measuring 300 mm x 15 mm and with a maximum length of 6 m, with micro-textured epoxy powder paint surface finish subjected to rigorous tests in accordance with DIN 50939, ISO 2813, ISO 2360, ISO 2409, ISO 2815, ISO 1520 and ASTM D 2794, which guarantees quality and durability over time in compliance with the requirements of the Qualicoat quality seal. Outside structure is available in standard metallic grey and white colors. It can optionally be painted using colors chosen from the catalog if minimum purchase quantity is met.

The server compartment includes a joint system designed by GESAB that enhances the modular application of the profile and the cast joint, providing limitless design freedom.

- **Doors**

Back doors made of cold-rolled perforated steel sheets and painted with high-quality micro-textured epoxy powder paint. (Quality standards previously listed.)

Front doors made of tempered glass in accordance with standards and with a translucent acid finish.

The swinging doors, in both the front and back part of the console, have **Blum®** Blumotion movement retention system hinges, adjustable in 3 dimensions and with an opening angle of 107º, which guarantees that the doors will close softly and silently.

- **Levelers and Grommets**

The levelers in the closed compartments are made of polyamide (PA6) and the grommets are made of rigid PVC in accordance with UNE 23.737 and CE marking or of 6060 aluminum alloy in accordance with UNE 38-337-82 (upon request).

- **IP protection grade**

The closed compartments of the **ADVANTIS NG** line have been designed with the UNE 20324 standard for degrees of protection provided by enclosures (IP Code) in mind. This standard is the Spanish language version of the European standard EN 60529 and the international standard CEI 60529.

The IP code is a coding system to indicate the degrees of protection provided by an enclosure against access of dangerous parts, penetration of solid foreign objects, permeation of water, and to provide additional information together with the protection information.

The closed compartments and the under-desk server cabinets of the **ADVANTIS NG** line with a perforated door that house equipment have an IP protection degree of 20.

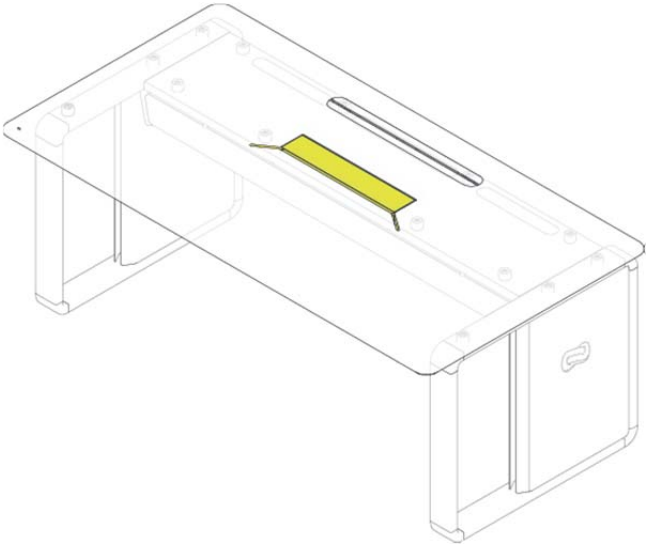
Thanks to the airtight design of the extruded aluminum compartment structure, solutions with even higher IP protection degrees can be created.

PERSONAL DOCK

The exclusive **Personal Dock** is a space for the operator's personal belongings and connectivity. It is comfortable and flexible. Everything is within arm's reach without ever leaving the control station.

Its design also allows for running the cables from the work area to the **Spine Beam**. It combines design, functionality and benefits to the operator.

The system, using a hidden swinging mechanism, includes the Facility Custom connection area with 3 spaces that can be configured with electrical, data and multimedia connectors depending on the needs of the project. The **Personal Dock** has a metallic grey finish.

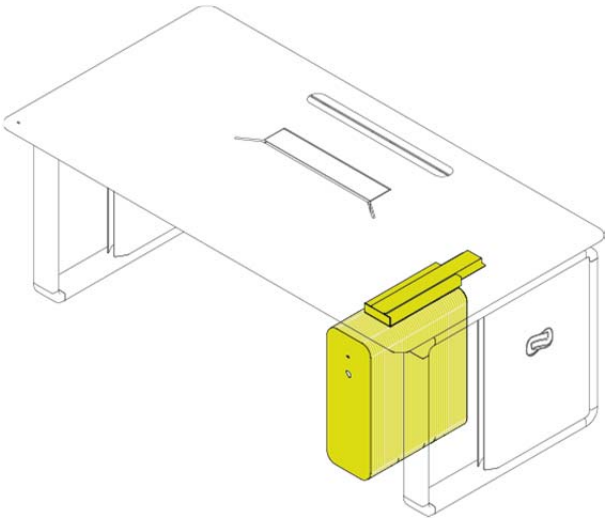


Thanks to its expandable power strip compartment and the **Facility Custom Modules** that offer a personalized arrangement of components, the Facility Custom system provides multiple paths for creating flexible connections. With its practical units, it provides a safe connection to networks on the table and, thanks to its elegant retractable supply systems, enables communication without difficulties for the operator and a long-term guarantee because of its maximum flexibility. By modifying the equipment, the user is able to able to update the system at any time with the most current technology. None of the electrified contacts can be touched thanks to the integrated insulator.

Unlimited installation possibilities: with just a few additional components, completely new possibilities for the electrical system are opened up. The wide Custom Module range gives the user the possibility to easily integrate audio, video and networks. Thanks to the 50 mm x 50 mm and 55 mm x 55 mm adapter frames, available in series, the Custom Modules optimally fit all switches usually used by leading manufacturers.

I-BOX

Every detail is important, which is why the **I-BOX**, a unique accessory, was designed. It is an individual container for documents and personal objects that is integrated into the console and has the optimum dimensions for improving ergonomics for the operator.



The **I-BOX** personal compartment is available in 2 versions. The model included as part of the structure has a fixed position under the work surface to ensure the proper distribution of space for the operator.

Portable versions are also available with the following measurements: a width of 200 mm or 300 mm by a depth of 450 mm and a height of 530 mm with the portable kit. The internal arrangement is the same in all three models and is made up of a document filing area that can hold A-Z type folders, and a space for personal objects that is 100 mm tall. It is made of 6060 extruded aluminum alloy with rounded edges and the finish can be chosen individually. All rails are completely removable and have shock-absorbing stoppers. The outside finish is micro-textured epoxy powder paint that meets the standards mentioned above.

Extruded 6060/6063 series T5 aluminum profile structure with air chamber, with micro-textured epoxy powder paint surface finish subjected to rigorous tests in accordance with DIN 50939, ISO 2813, ISO 2360, ISO 2409, ISO 2815, ISO 1520 and ASTM D 2794, which guarantee quality and durability over time in compliance with the requirements of the Qualicoat quality seal. Outside structure is available in standard metallic grey and white colors. It can optionally be painted using colors chosen from the catalog if minimum purchase quantity is met.

Removable drawers made of cold-rolled steel sheets and painted with high-quality micro-textured epoxy powder paint. (Quality standards mentioned above.)

The **I-BOX** includes high-quality **Accuride** brand rails that are completely removable and incorporate a shock-absorbing stop system.

High-quality front pieces made of 18 mm-thick phenolic compact laminate, white with black core and FH surface. Cellulose compound impregnated with thermosetting resins and pressed at a high pressure and temperature. The inside core is standard black. When necessary, Max Compact "F quality" may be requested, which has a Euroclass B-s2,d0 fire behavior rating and for the application of a vertical coating of at least 6 mm thick in accordance with a B-s1,d0 test.

4 Monitor organization systems

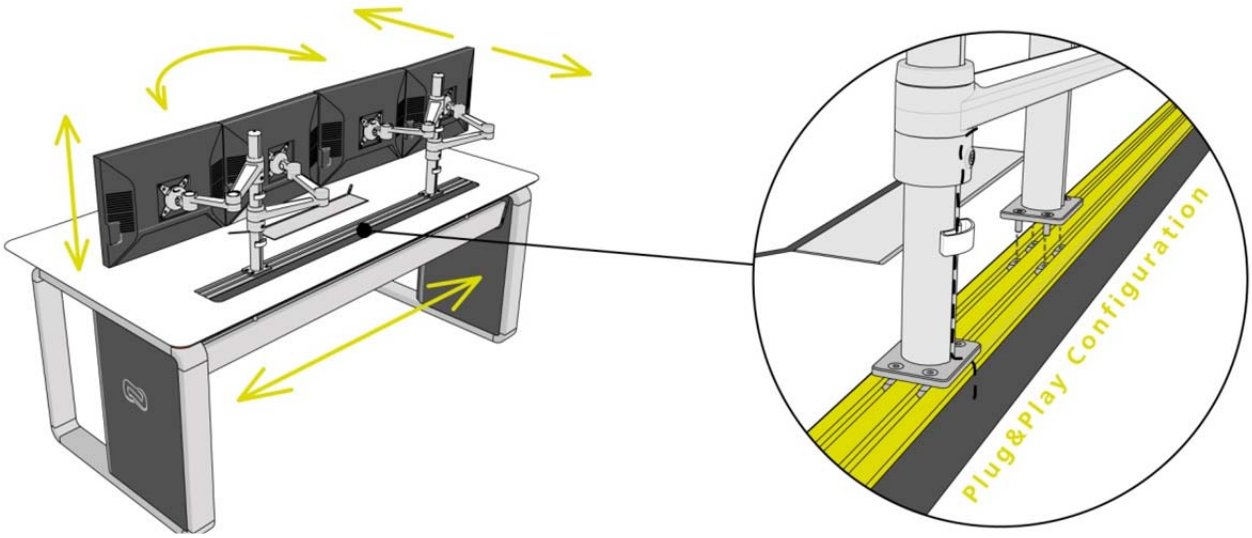
For the **ADVANTIS NEW GENERATION**, different alternatives have been designed and patented for adapting the articulated arms to provide every project with the optimum solution in terms of the specific adaptability, installation, management and ergonomic needs of each console.

The new monitor organization systems perfect the integration of the articulated arms, facilitating the management of monitor cabling and connections, increasing the adjustability of the arms themselves, and of therefore creating ergonomic improvements for the operator.

The monitor organization systems are solutions designed by GESAB and can work with any articulated arm on the market.

WI-RAIL SYSTEM

Complete horizontal adjustability system for articulated arms using a highly-resistant, dual track extruded aluminum profile measuring 43 mm x 60 mm and with adjustable length, completely coplanar with the work surface, with anodized treatment for easily removing the shaft from the padded base. The aluminum profile directly attaches to the **Spine Beam** and this beam has highly resistant fastening points.



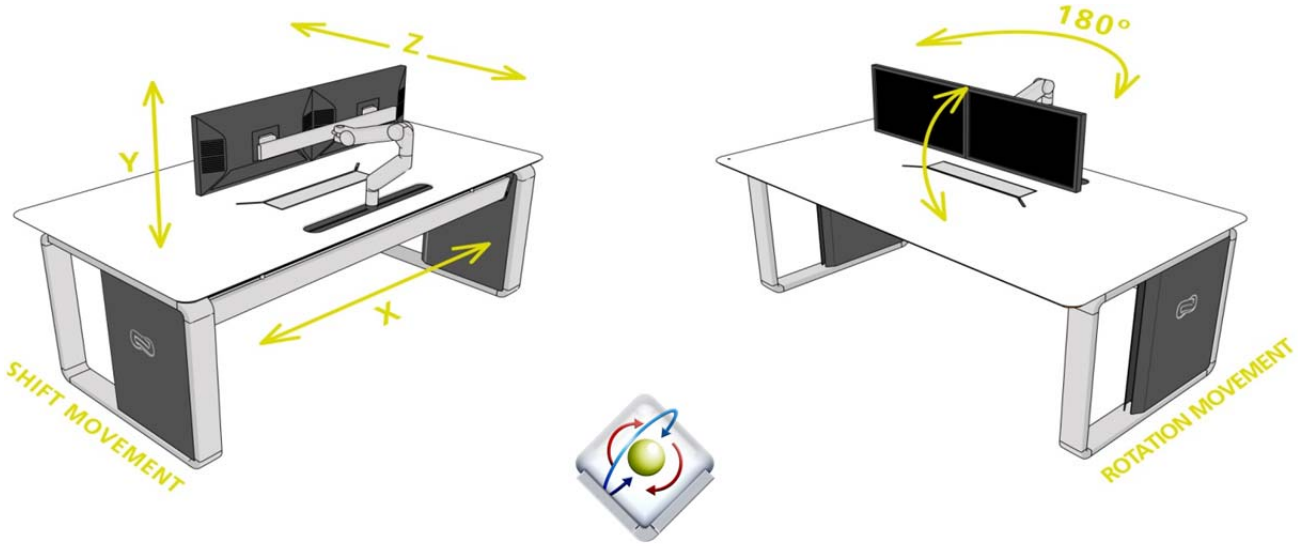
The shaft base is fastened to the profile by using four sliding fastening points and spring nuts that are easily inserted once the profile is in place. The system allows for each station to be easily, quickly and comfortably reconfigured. The aluminum alloy and treatment is: EN AW-6060/6063-T5.

For two-sided/trading projects, the combination of the **WI-RAIL** system with the **ViewLite** articulated arms is the ideal solution because of the space saved thanks to its asymmetric design (see page 16).

WI-4D SYSTEM

Hidden organization system that increases the standard adjustability of the articulated arms in one direction, allowing the X-axis (lengthwise across the table) to be shifted without the need to disassemble the arm.

The new and exclusive system that is integrated in the **Spine Beam** structure allows for adding adjustability without interrupting the path of the cables in order to facilitate the installation and management of cables, since, because of the very shape of the console, the monitor cables enter the connection area of the **Spine Beam** directly.

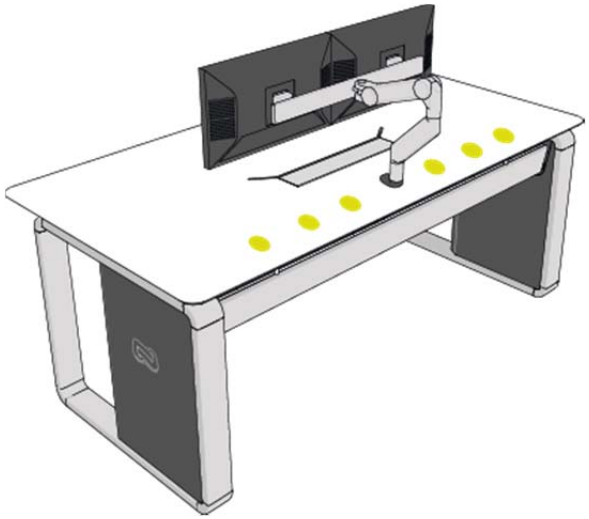


The sliding **WI-4D** system is composed of a modular unit of linear tracks and high-quality rollers. The anodized aluminum rails offer the best results both in terms of friction and wear, and the absence of lubrication makes the system extremely resistant to dirt. Materials: hard anodized aluminum rail (optional: AISI316 stainless steel version). Iglidur® J200 sliding element. Zinc frame (optional: AISI316 stainless steel version).

The **WI-4D** system enhances the adjustable properties of the articulated arms and also improves the look of the unit, since it hides the cabling under the longitudinal grommets which includes a double brush that prevents dirt from entering and hides the cabling entrance. The monitor organization systems are solutions designed by GESAB and can be used with any articulated arm on the market.

WI-STANDARD SYSTEM

The **WI-STANDARD** system is installed using a "Bold" fastening screw that comes with the articulated arm. In this case, the longitudinal adjustability of the unit is replaced by different predetermined fastening points. The **WI-STANDARD** system maintains the cabling and connection improvements thanks to the grommet included in the surface and the direct access to the connection area and cabling racks in the **Spine Beam**. This system has a fixed position and therefore does not increase adjustability.



5 Articulated monitor arms

In high-performance settings, each operator's requirements vary depending on his daily activities. Ergonomics, flexibility and adaptability are indispensable elements for each station and all of those things are achieved thanks to professional systems.

For the new generation of products, GESAB has a wide range of options for adapting to any need related to managing monitors, whether it is related to visual or physical ergonomics, equipment installation and maintenance, or workstation reconfiguration.

To ensure that the product meets the greatest number of requirements depending on the project, there are articulated arms available in all different shapes and sizes from prestigious market leaders.

WI-RAIL SYSTEM

WI-4D SYSTEM

WI-STANDARD SYSTEM

Teamwork creates perfect pairs, and this has been the case here: close collaboration between engineers and GESAB and our ergonomics partners has managed to give the **ADVANTIS NG** another dimension in visual ergonomic system organization. This mixed team's experience, knowledge and desire to innovate has been the foundation for turning something that until now had been unimaginable into reality: the perfect adaptation to the visual operating world.

A commitment to continued improvement backs the future evolution of the ADVANTIS NG series

M8 is the perfect combination of style and strength. Because of its unique design, the M8 can hold monitors weighing up to 19 kg or dual configurations of up to 18 kg. With its combination of robust design and elegant look, the M8 is the ideal solution for workstations that require heavier monitors or those that may require multiple monitors in the future.

Its versatility supports work with small and light monitors beginning at just 3.6 kg. This is especially important for workstations requiring one monitor now but which may require two in the future. The M8 has an interior counterweight that is easily adjustable to provide the correct amount of tension.

Figure 13. M8 System

Thanks to its high maximum load weight, the M8 can easily accommodate a dual configuration by using an optional compatible bracket for 2 monitors side by side. With a discreet integrated leveler, we can perfectly align 2 monitors. The height of the monitors mounted on the bar can be simultaneously adjusted, allowing the user to easily reposition the entire configuration and thus improving the ergonomic conditions of the workstation.

Features

- Modular design: interchangeable pieces and elements for adapting to any use
- Integrated anti-theft system
- Fine-tune capability, ensuring the perfect horizontal alignment of both monitors
- 180° blocking mechanism protects walls and panels
- Integrated hidden cabling management system, improving organization and appearance

Figure 14. Detailed view of M8

Features

- Interchangeable fastening options for mounting.
- Integrated cabling management for hiding cables inside.
- Supports up to 19 kg.
- Capacity for two monitors up to 61 cm wide.
- Height can be adjusted by 27.9 cm.
- Depth can be adjusted by 55.9 cm.
- Weight: 6.8 kg
- Finish options: polished aluminum with white fittings, or silver grey with grey fittings.
- Contains 62% recycled material. Made with 99% recyclable material.
- Counts towards LEED-CI, NC and EB credits.
- 10 year warranty for 24/7 use.

ViewLite is a scalable monitor support system. The VL system offers versatile and simple configurations without interfering with existing equipment and without the need to add new components, in order to provide unprecedented flexibility and support up to 4 monitors per shaft, from a simple single-arm configuration to up to 8 monitors with only two shafts.

Figure 15. ViewLite System

ViewLite+ A timeless, ergonomic, and light design that can be manually adjusted to any position with a simple movement thanks to its exclusive parallel mechanism. It allows for easy adaptation for installing notebooks or tablets. These characteristics won the ViewLite Plus the **Red Dot Award.**

Features

- Adjustable depth without predetermined levels above 450 mm
- VL+ Dynamic height adjustment with a range of 240 mm and depth adjustment of up to 543 mm
- 360° rotation, +90°/-55°angling
- VESA: compatible with MIS-D 75 x 75/100 x 100 mm
- VESA Quick Release Plug & Play system with safety lock
- Adjustable anti-rotation safety for monitor
- Maximum weight capacity: 8 kg/monitor
- Monitors up to 24"/24"W
- Integrated cabling management

Figure 16. Detailed view of ViewLite

VL Features

- Shafts expandable by 450 mm
- Supports up to 4 monitors with just one shaft
- Saves space between consoles
- “LAYERED” organization system
- Allows the Dynamic ViewLite+ model to be used
- Allows for on-the-spot reconfigurations without interfering with existing equipment.
- Personalized configuration options.
- 5 year warranty for 24/7 use.

M/FLEX is the most scalable monitor support solution. The M/FLEX system offers versatile and simple configurations without interfering with existing equipment and without the need to add new components. It provides unprecedented flexibility and supports up to 6 monitors with a single-arm configuration and up to 12 monitors held by two connected arms.

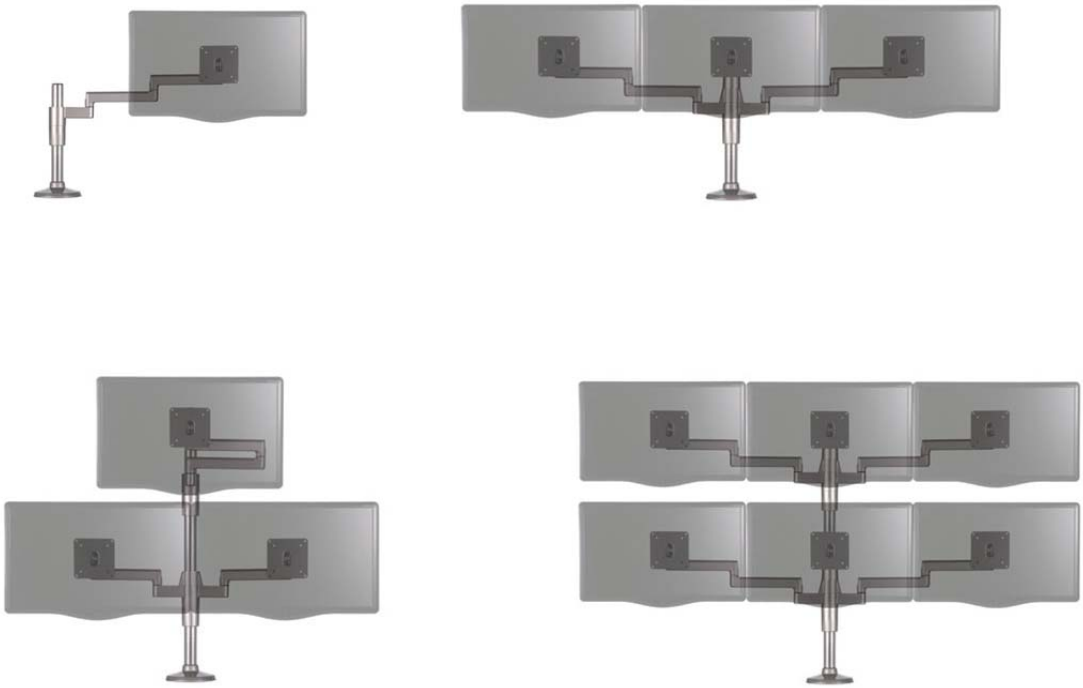


Figure 17. M-Flex System

Features

- Mounting options on the surface, vertically or tailored to needs
- Elements can be added to the shafts without altering the configuration
- Up to a total of five different heights per shaft
- Adaptable to one or two rows
- The user can have up to 3 monitors per row
- The support integration design allows for simply adding elements to the unit
- Single support system can be easily converted into double support system
- Double support system can be converted into triple support system
- Additional configurations can be added without removing the supports or installations

Figure 18. Detailed view of M-Flex

Features

- Supports up to 6 monitors with just one arm
- Supports up to 12 monitors held by two connected arms
- Uses the award-winning M2 and M8 monitor arms
- Allows for on-the-spot reconfigurations without interfering with existing equipment.
- Personalized configuration options
- 15 year warranty.

Sustainability

All products offered by GESAB meet our most rigorous sustainability requirements, are manufactured using high-quality recyclable materials and are efficiently packaged, which means that less materials and energy are used in manufacturing and transporting the product and that it can be easily recycled.

NOTE: Only the models selected for this technical brief have been included in this section. **ADVANTIS NG** allows for the adaptation of a wide range of solutions and systems for organizing monitors with components, elements and adaptations developed by GESAB.

Ergonomic benefits of articulated arms

Problems with traditional systems:

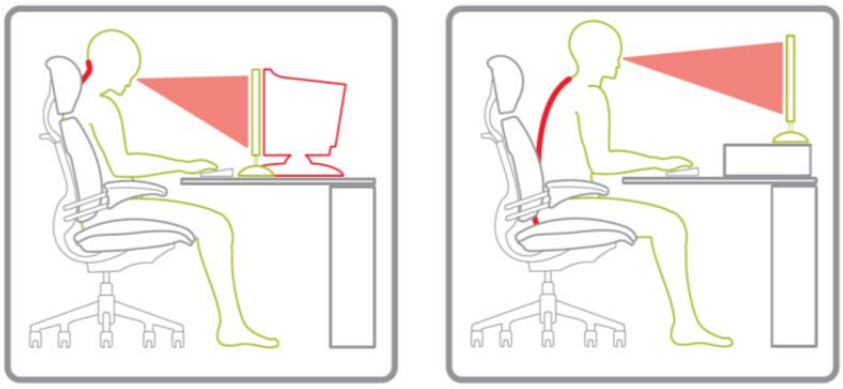


Figure 19. Monitor positioning problems

- Correct distance from the screen but incorrect height, which places stress on the neck
- Correct height but incorrect distance from the screen, which causes visual fatigue and back and neck pain

Articulated arms for TFT/LCD monitors provide the correct height and distance from the screen, thus ensuring the proper working position and optimizing the workspace.

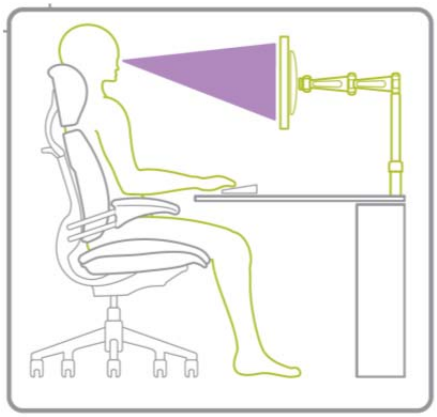


Figure 20. Correct positioning using articulated arm

6 Console electrification and cableways

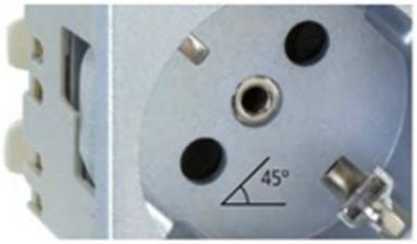
Both in the **Spine Beam** and in the **TSA (Technical Service Area)** of the **Under-Desk Server Cabinets**, the aluminum cableways are installed for voice, data and multimedia connections, and the K45 system makes installation easy since the components are installed by snapping them in without the need for tools. The K45-line clips are compatible with all connectors on the market and are manufactured using self-extinguishing materials that are halogen-free, ensuring the safety of people, equipment and information.

Multibases:

Multibases can be combined using the AC11 joint accessory.

High-density connections:

45° holes that allow for a high-density connection.

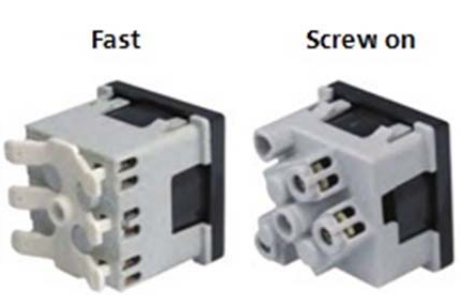


Shutter caps for:

All our bases have a protective shutter cap to avoid direct contact with charged parts.

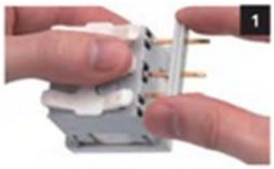
They protect the UPS line, permitting only the connection of computer quipment.

Fast and screw clamps:



Permits rigid or flexible 2.5 mm² cable.

Multibase fastening using connection block.



Insert the connection block on the contacts of the base.

Press until the connection block is completely attached to the contacts.

Repeat the process with the next base and so on.

K45 VOICE AND DATA SOCKETS

Flat sockets:

The flat caps are flush with boxes and strips.

1 connector for several types of cables:

The RJ11 and RJ12 cables fit perfectly inside RJ45 female connectors.

Electrical sockets available:

K45 MULTIMEDIA SOCKETS (VDM)

New, easier clamping system. No welding.

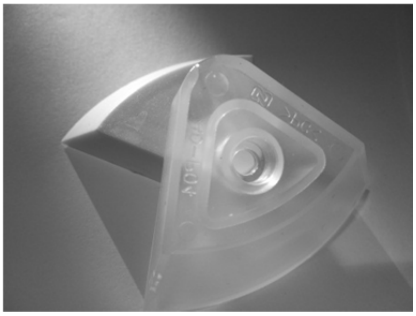
Screw-on clamping.

Female – Female.

7 Traceability

To ensure the traceability of our product and to be able to always provide our clients with quality service, all GESAB products are identified with a label showing the model, year of manufacture, reference number, and product code. In this way, we would be able to act quickly and diligently in the event of any defect.

The set of established procedures and the identification of pieces and their markings allows us to know the history, location and record of our products at any point in time during manufacturing, supply and installation.



8 Product Ergonomics

One of the most important aspects for operators is applied ergonomics, both in terms of products (consoles, visualization systems, chairs, equipment, etc.) and their application and use. For this reason, GESAB has created and applied solutions specifically aimed at health: the use and safety of workstations.

Ergonomics has been one of the primary foundations when designing the **ADVANTIS NG** control platform, understanding ergonomics not as only the correct positioning and space distribution of the operator, but rather as a concept incorporated in the console's function. The ergonomics applied to the **ADVANTIS NG** encompasses everything from the operator's visual comfort to the positions used for maintenance tasks.

Usage sequence ergonomics: beginning with the initial design phase, this concept of ergonomics was applied without focusing exclusively on improvements to the primary user, which in this case is the operators that use the console, but rather on the objective of improving the work methods of all the users involved in the control platform's usage sequence. The **Spine Beam** can be easily accessed from any part of the console, and this ensures an optimal management time and minimum impact on the console's functionality for both installers and maintenance technicians.

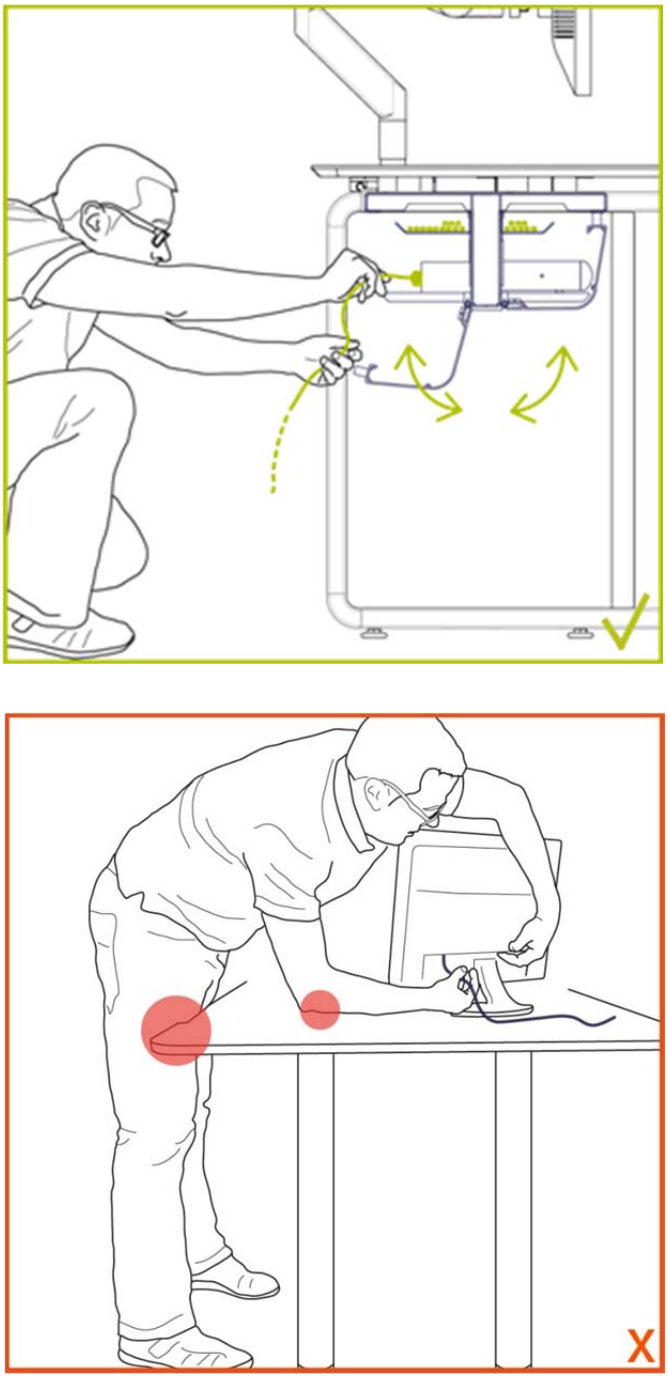
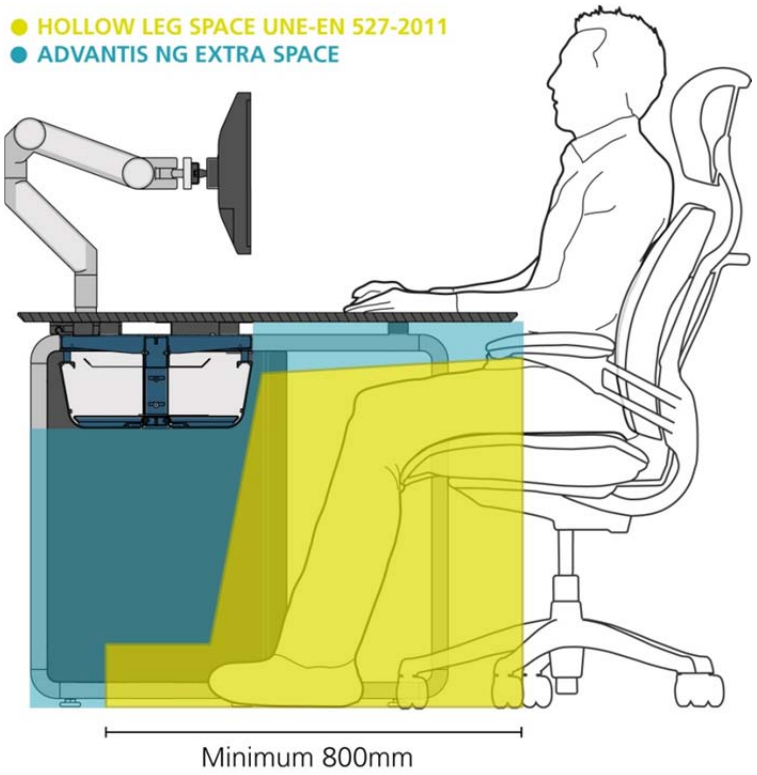


Figure 21. Spine beam cabling positions

Physical ergonomics (UNE-EN 527-2011, ISO 11064-3): All of the following considerations regarding work surfaces have been applied to the **ADVANTIS NG**:

- The dimensions and distribution of the work table have been designed taking into account that they have a significant impact n the positions the worker is in while doing his job.
- The height of the work surface is appropriate for the worker's hand placement while performing his job in accordance with the effort and degree of visual attention required by operator stations during a 24/7 operating schedule.
- Likewise, in order to avoid forced positions while interacting with equipment on the desktop, the **ADVANTIS NG** line's different configurations allow for the objects, tools and devices handled by the worker to be within his reach so that they are easily accessible. The normal (primary) reach area refers to the area that can be comfortably reached with the arm bent at a 90° angle; the maximum (secondary) reach area, however, is the entire area that can be covered with the arm fully extended. The personal connection area is located in this second area, under a swinging cover that hides the connections.



- **ADVANTIS NG** increases by more than 55% the space available at each station thanks to its rigorous compliance with the UNE-EN 527-2011 standard which improves operator comfort, ergonomics and autonomy. In Two-sided or Trading configurations, the improvement can reach up to 65%.

Horizontal Reach: The following illustration shows the primary reach areas in orange and the secondary reach areas in yellow:

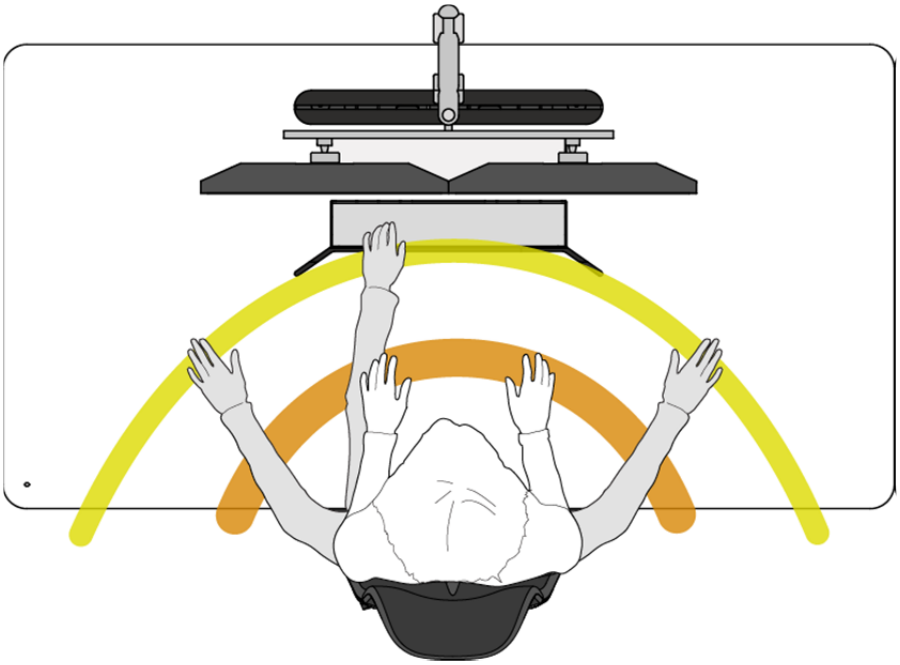
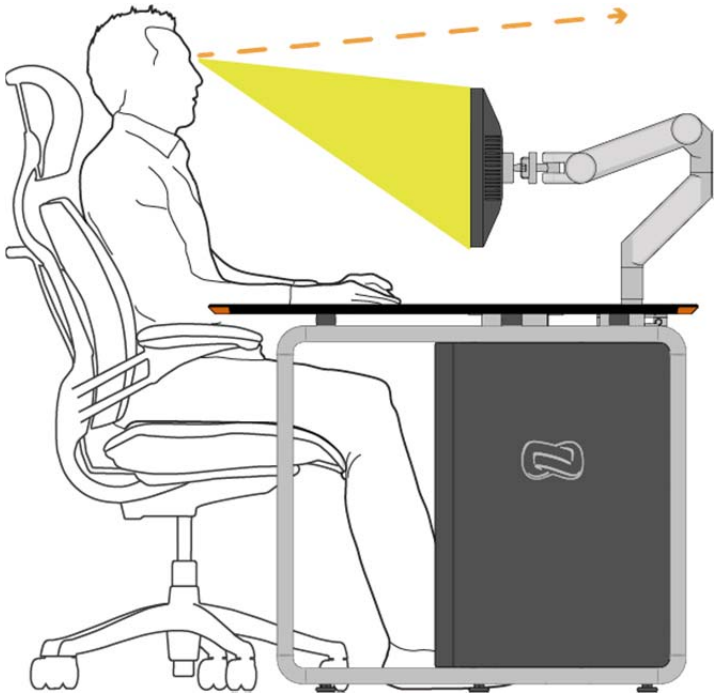


Figure 22. Horizontal user reaches

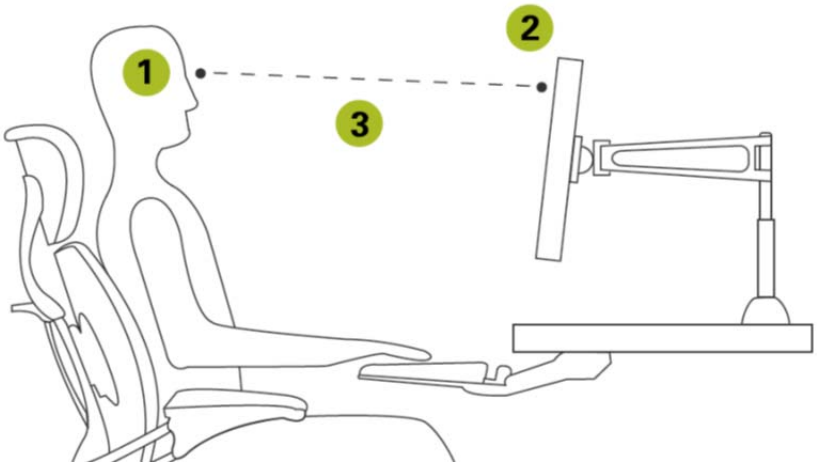
The width and length of the table or work surface will primarily depend on the number and size of items used during the tasks. The work surface must have the adequate dimensions for all items to be comfortably placed within the person's reach area. The **ADVANTIS NG** line offers a wide range of solutions depending on the workstation needs, the width, length, and shape can be adapted to each specific need.

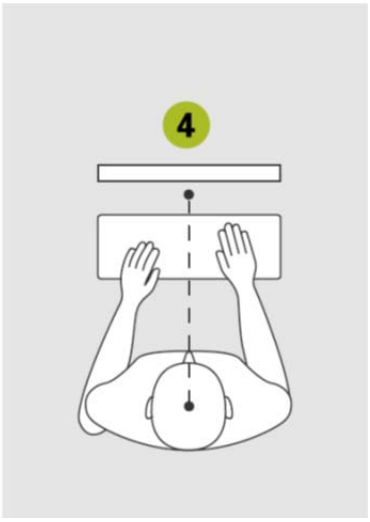
Visual ergonomics (ISO UNE-EN 9241):



GESAB offers a wide range of articulated arms for installing TFT/LCD monitors using 75 x 75 mm/100 x 100 mm VESA mounting. The arms should be used with control consoles in 24/7 settings. Integrating these arms will ensure and facilitate the operator's proper ergonomic position in order to minimize the risk of short- or long-term injuries resulting from excessively stiff positions in the work environment. Additionally, the arms will make organizing all the monitoring system that the operator must manage easier, within his own setting or workstation, to ensure the proper arrangement and save space.

Basic monitor positioning options:





Height: The top edge of the screen must be at or slightly below eye level.

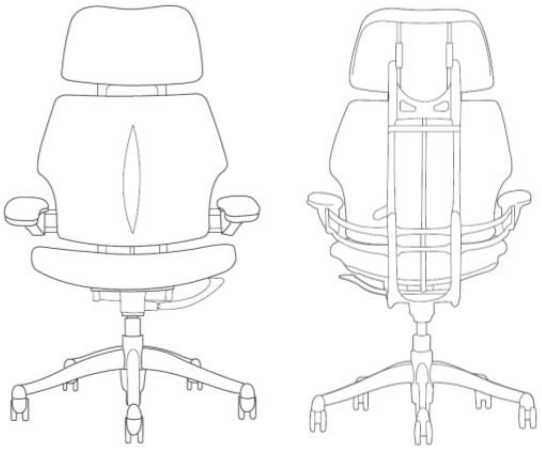
Angle: Angle the top part of the monitor back so that the screen surface is perpendicular to the user.

Distance: The distance depends directly on the resolution and size of the monitor, but as a general rule, it should be positioned at arm's length when fully extended. It is imperative that the user's back rests on the back of the chair so as to minimize harm caused by bad posture when sitting.

Alignment: The monitors must be aligned with the middle of the user's body to minimize neck and torso rotation. If several monitors are present, the configuration that best avoids repeated neck and torso rotation must be sought.

Ergonomic Chairs.

The use of ergonomic chairs with conductive upholstery is very important for 24/7 operating environments. Synthetic fibers create static charges, one of the risk factors that can cause semicircular lipoatrophy (SL).

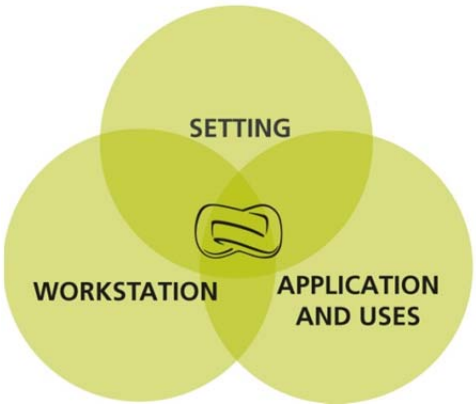


9 Health

Health at the workstation, and even more so in 24/7 operating stations, is one of our company's priorities. The studies carried out and recommendations made on this topic show three clear groups to take into account:

All of these factors affect one of the most worrisome conditions in today's workstations: semicircular lipoatrophy.

Although the possible causes of this disease are not clearly known, there are three hypotheses for eliminating or reducing the condition by controlling the following risk factors at the workstation:



- Microtraumas: Caused by repeated stress on the worker's body.
- Electromagnetic fields: Effect of electromagnetism on humans.
- Static electricity: Transmission of static electricity.

To eliminate these risks, the design of the **ADVANTIS NG** series is based on recommendations from different studies which we describe in detail in each section.

To avoid microtraumas, the work surfaces are made with 18 mm (20 mm optional) phenolic material and are beveled and rounded, eliminating any type of harmful edge or angle. To avoid potential transfers of electromagnetic energy from metal parts, the work surfaces are separated from the metal by 25mm **IsoBlock** Nylon PA6 spacers, created a safe area and at the same time providing an element of flexibility that avoid overpressure on any part of the body.

To eliminate possible electromagnetic fields created by the cabling, it is necessary to create an electromagnetic shield while at the same time grounding electrical connections.

The **ADVANTIS NG** system, with its T-shaped **Spine Beam** and folding covers, creates a metal enclosure around all cabling and minimizes the effect of electromagnetic fields, in addition to being prepared for grounding. The strategic positioning of the **Spine Beam** in the back part separates and distances the operator from possible contact and transfer with the metal parts.

Static electricity is an avoidable and controllable factor. Its eliminating allows different parameters to be controlled, such as relative humidity (between 45% and 65%), materials used (insulators and conductors), appropriate grounds, and operators' clothing (recommendation not to use synthetic clothing).

Setting: Where the activity is done

Materials: correct insulators, minimizing or reducing static charges, use of sound materials, colors and finishes for eliminating environmental stress, etc. All of this for improvements for the workers, which will affect efficiency and effectiveness.

Lighting: Lighting studies that ensure proper workspace illumination and that must be specific to each use or task.

Climate control: Relative humidity control in the setting; it is recommended that it always be above 45%, and that constant air circulation be above 35%.

Workstation: The items that make up the station.

Consoles: Professional solutions designed specifically for operating settings. All high-performance settings require a lot of technology with numerous pieces of equipment that must be properly placed and managed. The adaptation of equipment and abundant cabling, for both electricity and information, requires specific procedures for reducing potential operator injuries and to minimize the electromagnetic field risks that they create (risk of semicircular lipoatrophy).

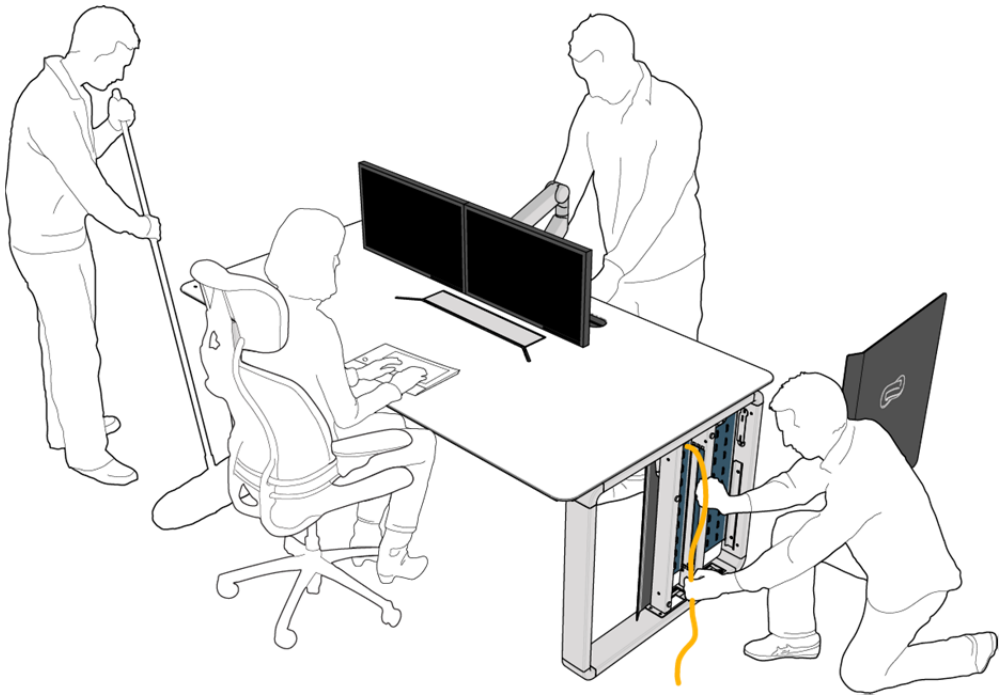
Visual solutions: In high-performance settings, the requirements of each operator vary depending on his daily activities. Ergonomics, flexibility, and adaptability are indispensable qualities for the station and they are achieved thanks to professional systems.

Ergonomic chairs: The use of ergonomic chairs with conductive upholstery is very important for 24/7 operating environments. Synthetic fibers create static charges, one of the risk factors that can cause semicircular lipoatrophy.

Application and use: The correct products for each station and the appropriate use of said products.

ADVANTIS NG professional consoles for operating settings are designed in accordance with UNE-EN-527-1, ISO 11064-3 and ISO TC159 in order to ensure full compliance with the requirements and specifications of these standards and to improve upon risks shown in studies and recommendations.

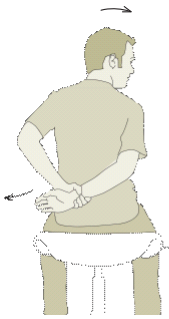
As an additional benefit to users, GESAB has published an exercise guide for operators in high-performance settings, which we wholeheartedly recommend to avoid injuries and improve health.



Recommended exercises diagram

1 Deep breathing

Fix your sight on one point and place your hands on your stomach, just under your ribs. Inhale deeply through your nose and exhale slowly out your mouth until emptying your lungs. Gradually look at different spots beyond the computer screen. x 3

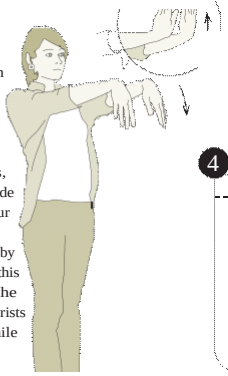


2 Neck and shoulder stretch

Sit up straight, use your left hand to grab your right hand behind your back and gently pull while turning your head to the right. Hold this position for 20 seconds, then switch sides. x 3

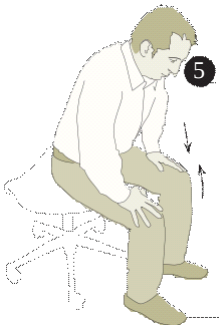
3 Arm warmup

While standing, extend your arms with your palms facing down. Slowly rotate your hands as if drawing circles with your fingertips, alternating between clockwise and counter-clockwise rotations. Relax your arms, allowing them to gently fall to your side as you move your fingers. Extend your arms again with your palms facing down and gently extend your wrists by stretching up with your fingers; hold this position for a few seconds. Repeat the movement, this time bending your wrists with your fingers pointing down while holding the position.



4 Muscle activator
Full body energizer

Sit comfortably in your chair with your knees slightly separated and your hands resting on your thighs. Lean forward and press your heels against the ground as if you were going to stand up. Flex your leg and core muscles and hold this position for a few seconds. Gently relax your muscles, allowing yourself to gently fall back into your chair. x 3



5 Leg warmup

Place your hands on your thighs and place your feet on the ground, gently pressing with them. Push up with your legs as if trying to take your foot off the ground. Use your left hand to push against the upward thrust of your legs. Relax and do the same thing with the other leg. Feel how your leg muscles and also your abdominal muscles tighten. x 3

6 Back stretcher

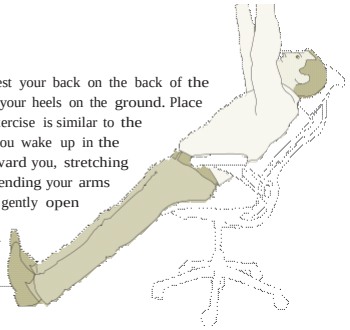
Slightly separate your legs. Allow your abdomen, chest and head to gently fall between your thighs. Place your hands on your ankles, with your elbows straight and your arms relaxed. Slowly arch your back as if sitting up, forming a "C" with your spinal column. Do not remove your hands from your ankles and feel the tightness in your back. Breathe deeply as you feel your muscles begin to stretch. Rest for a few seconds. x 3

7 Recharge your body and mind

Cross your feet with your knees separated in a relaxed position. Put your elbows on the table and cover your eyes with your hands without pressing your eyes. Close your eyes and deeply inhale as you imagine a large sphere. Breathe gently as you trace its shape.

8 Complete stretch

Sit on the edge of your chair and rest your back on the back of the chair. Stretch out your legs and put your heels on the ground. Place your arms above your head. This exercise is similar to the stretching that you may do when you wake up in the morning. To do it, lift your toes toward you, stretching the back part of your legs while extending your arms and core. As you stretch your legs, gently open and close your hands, stretching your fingers and then making a fist again. x 3



Gesab
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10 Applicable laws, regulations, standards and studies

All products designed by **GESAB** comply with regulations in effect regarding ergonomics, relevant UNE standards, and standards published by prestigious institutions regarding the design of stations with data visualization screens and control centers.

- UNE-EN 527-2011
- ISO 11064-3 / ISO TC159
- NTP 602 (*Technical Prevention Notes*, from the Spanish acronym): Ergonomic design of visual display workstations.
- Law 31/1995 of November 8 on Occupational Risk Prevention.
- Royal Decree 39/1997, of January 17, approving the Prevention Services Regulations.
- Royal Decree 486/1997, of April 14, establishing minimum health and safety regulations in the workplace.
- Royal Decree 488/1997, of April 14, on minimum health and safety regulations in the workplace where visual display workstations are present.
- Royal Decree 1801/2003, of December 26, on general product safety.
- UNEEN ISO 11064 (parts 1,2,3,4,6, and 7). Ergonomic design of control centers. AENOR (Spanish Association for Standardization and Certification).
- Technical guide for evaluating and preventing risks related to the use of visual display workstations. INSHT (National Spanish Occupational Health and Safety Institute).
- Manual of technical standards for the ergonomic design of visual display workstations. INSHT (National Spanish Occupational Health and Safety Institute).
- Ergonomic checkpoints. International Labor Organization.
- Recommendations guide for designing and selecting ergonomic office furniture. Instituto de Biomecánica de Valencia (Valencia Biomechanics Institute).

11 Quality certificates and Certifications

Quality, environmental and occupational risk prevention certificates:

Certifications and ratings:

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