

MODULAR ELECTRONIC WORKSTATIONS

145 to 150



MODULAR WORKSTATION FOR ELECTRONICS ENGINEERS

Combinable modules, that meet all technological requirements with numerous practical features!

Experience, know-how, competence:

For over 25 years Knürr has been a recognised specialist for electronic workstations for applications in the electronics industry, automotive engineering, and research and development.

Configurations for individual requirements:

- Test and service
- Assembly and production workstation
- Development workstation

The Knürr Electronic Workstation is a modular workstation system, that grows with changing requirements:

A continuous evolution of the technology to be integrated requires a high degree of flexibility with workstation superstructures.

From the basic version with integrated horizontal cable duct to an extended solution with additional electronics small distribution enclosure.

The mature Knürr Elicon® desk system can fully contribute its strengths here; these have been continuously developed over many years.

In addition to its tried, tested and proven modularity, the Electronic Workstation also consistently meets workstation-specific ergonomic requirements.

ESD workstations

	Knürr ESD workstation	10 ⁶ - 10 ⁸ Ohm
	Safety range for personnel 50 kOhm - infinite	
Safety range: MOS components		
Danger area for personnel	Safety area for personnel and MOS components	Danger area for MOS components
10 ³ Ohm	10 ⁵ Ohm	10 ⁹ Ohm

- When computers go crazy, alarm systems no longer function or cash registers simply refuse to work, the gremlin at work is quite often easy enough to identify: Static Electricity.

- The constant development of highly integrated circuits results in increasingly more efficient (but also increasingly smaller!) equipment. Therefore it is all the more important to determine the growing sensitivity of **electrostatic sensitive devices (ESD)**. Even voltages of just 100 – 200 volt are enough to damage microprocessors or MOSFETs.

- High voltages are often triggered by modern plastics, artificial fibres in clothing and carpets, and by low humidity in centrally-heated rooms. Depending on the shoe material, speed and humidity, a person walking across a carpet can be loaded with between 2000 and 20,000 volts.

- There is no doubt about it! The safety of electronic components (not to mention the well-being of the operating personnel) can no longer be guaranteed under these conditions.

- In order to safely neutralize static charges at non-hazardous currents, the electric resistance between the respective component and ground must be between 1MΩ and 1GΩ. Worktops made from electrically conductive particle board and special conductive HPL-surfaces offer this defined conductivity. Further we recommend to always connect work-places via a 1MΩ Safety Resistor to building-earth in order to avoid possibly inaccurate earthing resistances on building level.

- With the **ESD workstations from Knürr**, the perfect operational workstation equipment is now available.

- Site insulation in accordance with VDE 0100, § 24 and DIN 57 680 part 2.
- Protection of electronic components against static electricity (EN 61340)



ELI00473

The Basics

- Generation of electrostatic charges cannot always be prevented. Therefore the discharge must be specifically "influenced". Influenced means: All discharge processes must be run controlled and calculable. The calculable discharge process is described by the following exponential function:

$$U(t) = U_0 \cdot e^{-t/RC}$$

U₀ = Initial voltage of the capacitor

R = Leakage resistance

C = Capacity

- By activating the equation towards R, an equation is generated with which an ideal leakage resistance can be ascertained.

$$R_e = \frac{t_{zul}}{C \cdot \ln(U_0/U_{zul})}$$

- The optimal discharge curve is consequently achieved. Assuming that the voltage (U₀) must be reduced within 0.1 sec (t_{zul}) to 50 V (U_{zul}) so that the electrostatic endangered components are not under high voltage for too long, the leakage resistance therefore acts as the regulator for a controlled discharge.

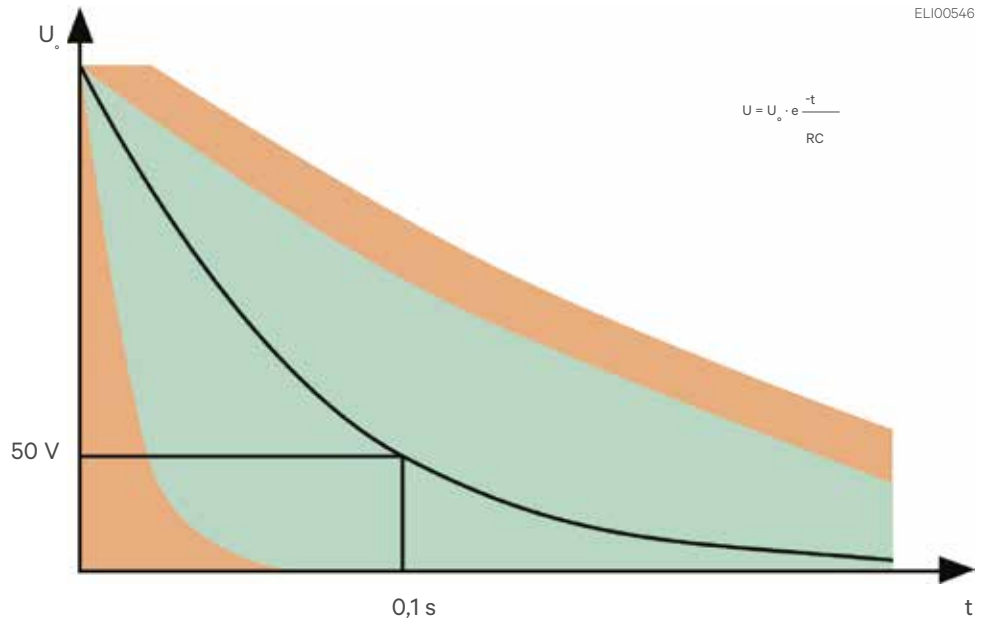
- Of course, for the safety of the endangered components it is also helpful if charges can be prevented before they are generated by equalising the different potentials. Conductive work and unit surfaces, plastic parts made of conductive materials, the connection of all parts with one another and with the ESD body are all required for this purpose.



*Electrostatic discharge

- Easily accessible connections for ESD potential equalization, e.g. for measuring and soldering equipment must be available at each workstation. A cable is provided for the safe connection between workstation and ESD potential equalization.
- Easy release connection points for wristbands and other potential equalization conductors are also provided.

Discharge curve of electrostatic charges



- Also included in safeguarding equipment are drawers and storage spaces inside and outside which are made of conductive material for further preventing charges from building up.
- With Knürr ESD workstations, all the necessary requirements are satisfied. For this very reason, both the complete workstation itself and work pieces, tools and operating personnel are all on an equipotential line. If potential differences occur as a result of rubbing or for whatever other reason, safe charge equalization or charge dissipation via earth is implemented immediately.

• Diverse areas of application

- Highly sensitive components do not require just direct protection at electronic workstations; the safety equipping of all other work areas is just as important in this respect. They must also be equipped with conductive desks, chairs, racks, transport trolleys and containers.

If you follow the path of electrostatic endangered components via transport – laboratory – test area – production

- goods output control – packaging through to dispatch, it soon becomes evident that ESD room equipment and ESD accessories have become an indispensable necessity.
- Each of these stations is a part of the quality chain, and as with every chain, a single weak link nullifies the capacities of the other segments.



• Conductive materials

- Last, and certainly by no means least, the safety equipping of Knürr ESD workstations has been made possible with the advances in the development of conductive materials (plastics, laminates, paints). Thanks to these materials we can now successfully unite both **ergonomic requirements** and **modern design** and **safety** in one system.

• Knürr ESD workstations provide a comprehensive safety solution to ensure efficiency

Workstations, integral planning

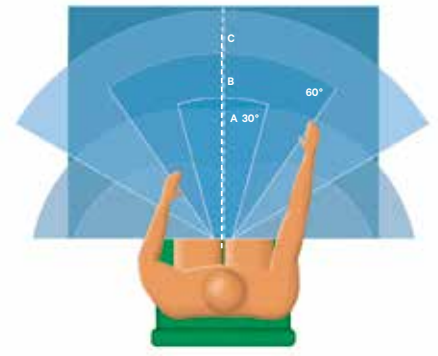
ERGONOMICS

The demands made on modern, ergonomic workstation designs are forever increasing. This is because the design of the working environment, among other factors of course, influences the worker's performance and motivation.

We at Knürr therefore concentrate on occupational medicine know-how in the development of our products. In doing so, Knürr makes a significant positive contribution to the dynamics, efficiency and creativity in the

work process. Scientific studies show that ergonomically well-designed workstations reduce the number of days people cannot work or are ill.

The in-depth expertise of our qualified workstation experts guarantees that every single aspect of ergonomics and modern room planning is covered.



A: Optimal field of vision
B: Maximum field of vision without moving your head
C: Enlarged field of vision including proper head movement

ELI20022

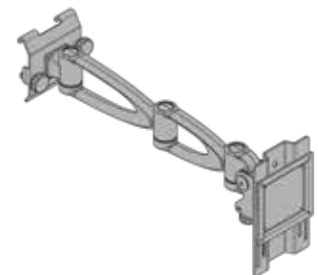
- 1 Tension in the head and neck area is countered by the ergonomic arrangement of the equipment and modules. Flexible height setting and variable tilt setting of +/- 5°.

Free desk top areas, as electronic components and equipment are integrated into the superstructures.



1

- 2 Optimum vision and access space with the adaption of flat screens on multi-functional rails with adjustable swivel arms.



2

- 3 Glare-free full lighting of the worktop surfaces with integrated underfit lamp.



3

- 4 An ergonomic and consequently comfortable working posture requires sufficient leg space. Without any obstructive desk legs in the link-up area, real leg space is guaranteed with full stability.



4

MODULAR WORKSTATION FOR ELECTRONICS ENGINEERS



Dimensions in mm: W = Width
H = Height
D = Depth
h = Installation height
d = Useful depth
L = Length
HU = Standard height unit, 1 HU = 44,45 mm
HP = Horizontal pitch
OU = Office unit
19" = 482,6 mm, (ideal for 19" components in acc. with DIN 41494)
UP = Unit of packaging



KNÜRR ELICON® ELECTRONIC WORKSTATION

151 to 158



INFO

Find the Standard version (non ESD) in the latest Elicon brochure
www.knuerr-consoles.com



Knürr Elicon® Classic

Strong points

- **Future-proof modular design**
 - Expand your existing table combinations, modify your current installation or supplement it with new accessories. The modular design and multi-functional T-grooves give you all the options for future upgrades.
- **Perfect ergonomics**
 - Freely selectable working height in 20 mm increments (can be changed retroactively), great ergonomics guaranteed.
- **Convenient cable management**
 - Spacious horizontal cable ducts with convenient access from above via sliding sections. Routing through vertical cable troughs via detachable covers on the inside and outside of the side sections.
- **Providing electricity**
 - Cable troughs and crosspieces are equipped with a cap extrusion for easy mounting and attachment of socket strips and installation components.
- **Flat-packed kit**
 - Preassembled modules are supplied as a flat-packed kit. This saves freight space and reduces time and space required for assembly.
- **Easy assembly**
 - Screw connections facilitate quick assembly. Simple assembly instructions describe the process.
- **Different working surface depths**
 - Working surface depths from 700 mm to 1000 mm (in 100 mm increments) allow for custom room planning in accordance with your requirements.
- **Maximum stability**
 - More than 20 years of proven stability of Elicon extruded aluminum profiles and die-cast stabilizers in conjunction with sheet steel make this system a reliable and stable choice.



**Knürr Elicon®
Connector Side Panels/Closing Side Panels**

Connector/closing side panels

- Vertical cable routing in the spacious cable duct
- Sheet steel cable duct covers with hinge function for easy cabling
- Mounted superstructures (rear), add-on levels, and other components
- Mounting option for additional foot stabilizer at the rear to increase stability with add-ons
- Preassembled lock strips for simple and secure work levels mounting (680-760 mm, increment 20 mm). Any work height can be set at any time simply by turning a screw.

Connector side panels

- Segmented cable duct cover on the outside and inside

Closing side panels

- Full-length cable duct cover on the outside
- Segmented cable duct cover on the inside

Variants

Type 1

- Side panel with short stabilizer for working levels with depth 700 mm

Type 2

- Side panel with long stabilizer for working levels with depths 800/900/1000 mm

Material/finish

- Extruded aluminum with die cast aluminum stabilizer and head piece, antistatic powder-coated texture
- Cable duct cover: Sheet steel, rolled, antistatic powder-coated texture

Color combination

Final digit of order number .2:

- Metal parts: RAL 7035 light gray
- Design elements: RAL 5003 sapphire blue

Final digit of order number .9:

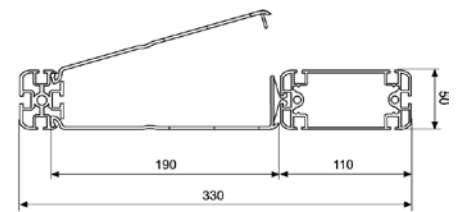
- Metal parts and design elements: RAL 7021 dark gray

How supplied

- Preassembled modules



CON20046



CON00065

Knürr Elicon® connector side panels

W	H	D	Model	Order no.	UP
760	650		Type 1	04.252.150.x	1 unit
760	800		Type 2	04.252.151.x	1 unit
1250	800		Type 2	04.252.155.x	1 unit
1656	800		Type 2	04.253.151.x	1 unit
2064	800		Type 2	04.253.152.x	1 unit

Knürr Elicon® closing side panels

W	H	D	Model	Order no.	UP
760	650		Type 1	04.252.160.x	1 unit
760	800		Type 2	04.252.161.x	1 unit
1250	800		Type 2	04.252.165.x	1 unit
1656	800		Type 2	04.253.161.x	1 unit
2064	800		Type 2	04.253.162.x	1 unit

**Knürr Elicon® Side Piece Cover, Full-Length
Optional for external side piece**

Material / Finish

- Sheet steel, rolled, antistatic powder-coated texture

Color combination

Final digit of order number .1:

- RAL 7035 light-grey

Final digit of order number .9:

- RAL 7021 dark-grey

Supply schedule

- 1 side panel

W	H	D	Order no.	UP
760			04.250.362.x	
1250			04.250.367.x	
1656			04.250.364.x	
2064			04.250.365.x	



CON20049

Dimensions in mm: w = Worktop width W = Set up width (w+30 mm)

H = Height HU = Standard height unit
 D = Depth 1HU = 44.45 mm
 h = Installation height HP = Horizontal pitch
 d = Useable depth OU = Office unit
 L = Length UP = Unit of packaging
 Ø = Diameter kg = Weight

Replace "X" with the number of your color choice
 .2 = RAL 7035 / RAL 5003
 .4 = RAL 7035 / RAL 5018
 .9 = RAL 7021

Conversion: 1 inch = 25,4 mm 1 kg = 2,2046 pound

Knürr Elicon® Working Level ESD version

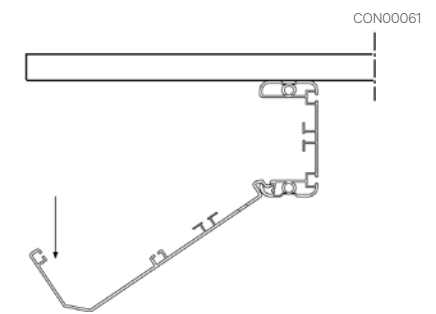
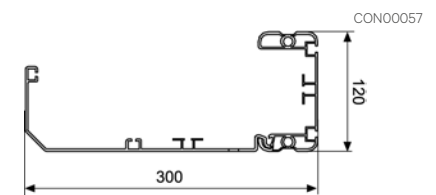
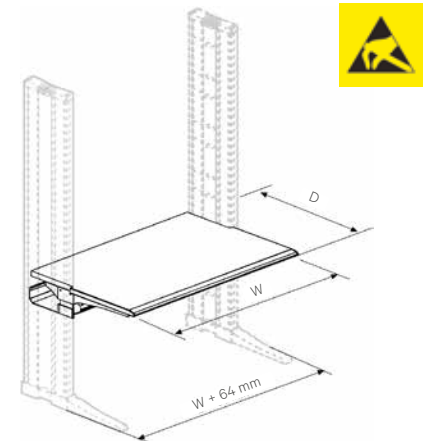
- ESD version for discharging electrostatic charges
 - Working level designed as sliding top for convenient access to the horizontal cable duct
 - The working level can be mounted at any height between two side panels and can be varied in the height at any time
 - Worktop (30 mm) with ergonomically shaped front edge
 - Spacious horizontal cable duct, can be accessed via sliding worktop and folding mechanism
 - Cable duct with integrated C-rail for mounting installation components and mounting slot for general accessories
- **Material / Finish**
 - Crosspiece: extruded aluminium, antistatic, powder-coated texture
 - Support arm: sheet steel, antistatic powder-coated texture
 - Worktop: three layer particle board, FP / Y E1 version, fire protectionclass B2, volume conductive
 - Worktop coating: high pressure plastic laminate
 - Cable duct, horizontal: sheet steel, rolled, antistatic powder-coated texture
 - **Color**
 - Worktop: light-grey
 - Metal parts: RAL 7035 light-grey
 - **Load rating**
 - 1500 N (static surface load)
 - **Standards**
 - DIN 68761 for worktops
 - EN 438 HGS class for high pressure plastic laminate
 - EN 61340 for electrostatic
 - **Supply schedule**
 - 1 worktop
 - 1 crosspiece
 - 2 desk stabilizers
 - 1 cable duct
 - 1 detailed mounting instructions
 - Mounting material
 - **How supplied**
 - Preassembled modules

W	H	D	ESD	Order no.	UP
800		900	•	04.272.110.1	1 unit
1200		900	•	04.272.111.1	1 unit
1600		900	•	04.272.112.1	1 unit
1800		900	•	04.272.113.1	1 unit
2000		900	•	04.272.114.1	1 unit

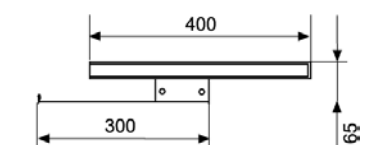
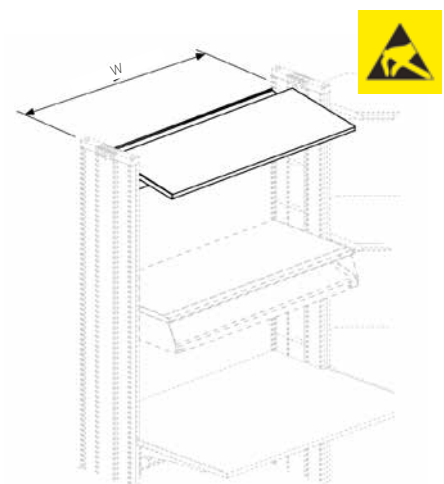
Knürr Elicon® Superstructure Level Standard, ESD version

- ESD version for discharging electrostatic charges
 - For utilizing the area above the worktop as storage and functional surface with additional cabling option
 - Worktop height easily adjustable
 - Cable duct integrated in the crosspiece
 - Tilttable 0–10°
 - Worktop thickness: 30 mm
- **Material / Finish**
 - Superstructure worktop: three layer particleboard, FP / Y E1 version, fire-protectionclass B2, melamine coated (directly coated) veneer, ABS 3mm thick fine textured, matt
 - Cable duct, horizontal: sheet steel, rolled, antistatic powder-coated texture
 - **Color**
 - Superstructure worktop: light-grey
 - Metal parts: RAL 7035 light-grey
 - **Load rating**
 - 750 N (static surface load)
 - **Standards**
 - DIN 68761 for superstructure worktop
 - DIN 68765 for direct coating
 - EN 61340 for electrostatic
 - **Note**
 - Caution with use in tilted state; use edge strip to prevent sliding
 - **Supply schedule**
 - 1 superstructure worktop
 - 1 cable duct
 - Mounting material
 - **How supplied**
 - Preassembled modules

W	H	D	ESD	Order no.	UP
800		400	•	04.278.025.1	1 unit
1200		400	•	04.278.016.1	1 unit
1600		400	•	04.278.017.1	1 unit
1800		400	•	04.278.018.1	1 unit
2000		400	•	04.278.019.1	1 unit



CON00062



CON00075

Knürr Elicon® Superstructure Level System, ESD version

- ESD version for discharging electrostatic charges
- Superstructure level designed as sliding top for convenient access to the horizontal cable duct
- For utilizing the area above the worktop as storage and functional surface with additional cabling option
- Stable crosspiece with spacious, folding, and consequently easily accessible cable duct
- Easy integration of system components for perfect electricity provision with C-rails and mounting slots
- Worktop height easily adjustable
- Can be fitted at any time with keyboard shelves
- Worktop thickness: 30 mm

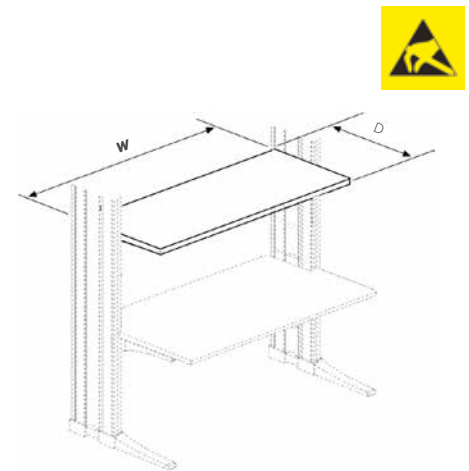
- **Color**
 - Superstructure worktop: light-grey
 - Metal parts: RAL 7035 light-grey
- **Load rating**
 - 1500 N (static surface load)
- **Standards**
 - DIN 68761 for superstructure worktop
 - DIN 68765 for direct coating
 - EN 61340 for electrostatic
- **Supply schedule**
 - 1 superstructure level
 - 2 stabilizers
 - 1 crosspiece
 - 1 cable duct
 - Mounting material

• **Material / Finish**

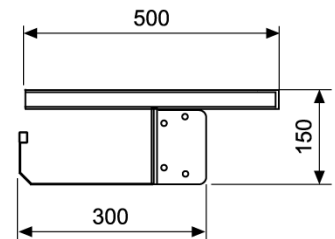
- Superstructure worktop: three layer particleboard, FP / Y E1 version, fire-protectionclass B2, melamine coated (directly coated) veneer, ABS 3mm thick fine textured, matt
- Crosspiece: extruded aluminium, antistatic, powder-coated texture
- Support arms: sheet steel, antistatic powder-coated texture
- Cable duct, horizontal: sheet steel, rolled, antistatic powder-coated texture

• **How supplied**

- Preassembled modules



CON00064



CON00037

W	H	D	ESD	Order no.	UP
800		500	•	04.278.025.1	1 unit
1200		500	•	04.278.026.1	1 unit
1600		500	•	04.278.027.1	1 unit
1800		500	•	04.278.028.1	1 unit
2000		500	•	04.278.029.1	1 unit



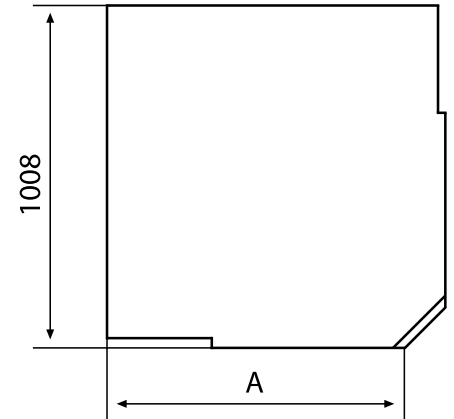
Suitable monitor mounting accessories can be found from page 179

Dimensions in mm: W = Width
 H = Height
 D = Depth
 h = Installation height
 d = Useful depth
 L = Length
 HU = Standard height unit, 1 HU = 44.45 mm
 HP = Horizontal pitch
 OU = Office unit
 19" = 482.6 mm, (ideal for 19" components in acc. with DIN 41494)
 UP = Unit of packaging
Conversion: 1 inch = 25,4 mm
 Replace „x“ with the number of your color choice

Knürr Elicon® 90° Wall Corner, ESD



- ESD version for discharging electrostatic charges
 - The ergonomically formed front edge ensures optimal working conditions
 - Height variable for exact adjustment to operator and hardware
 - With support arms for direct connection to the side pieces
 - Spacious horizontal cable duct, can be accessed via removable corner panel and folding mechanism
 - Cable duct with integrated C-rail for mounting installation components and T-slot for mounting general accessories
 - With side panels which can also be used as workstation end points
- **Material / Finish**
 - Crosspiece: extruded aluminium, anti-static, powder-coated texture
 - Support arms: sheet steel, antistatic powder-coated texture
 - Worktop: three layer particle board, FP / Y E1 version, fire protectionclass B2, volume conductive
 - Worktop coating: high pressure plastic laminate
 - Cable duct, horizontal: sheet steel, rolled, antistatic powder-coated texture
 - **Color combination**
 - Worktop: light-grey
 - Metal parts: RAL 7035 light-grey
 - **Load rating**
 - 1500 N (static surface load)
 - **Standards**
 - DIN 68761 for worktops
 - EN 438 HGS class for high pressure plastic laminate
 - EN 61340 for electrostatic
 - **Supply schedule**
 - 1 corner panel
 - 1 worktop support complete with crosspiece
 - 2 stabilizers and cable duct
 - 1 support foot, can be set for desk heights, 680-760 mm
 - Mounting material
 - **How supplied**
 - Preassembled modules



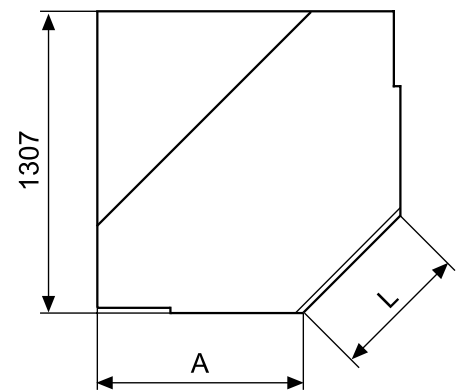
CON00031

W	H	D	A	ESD	Model	Order no.	UP
			900	•	90°, wall	04.272.556.1	1 unit

Knürr Elicon® Trapezoid Wall Corner, ESD



- ESD version for discharging electrostatic charges
 - The ergonomically formed front edge ensures optimal working conditions
 - Height variable for exact adjustment to operator and hardware
 - With support arms for direct connection to the side pieces
 - Spacious horizontal cable duct, can be accessed via removable corner panel and folding mechanism
 - Cable duct with integrated C-rail for mounting installation components and T-slot for mounting general accessories
 - With side panels which can also be used as workstation end points
- **Material / Finish**
 - Crosspiece: extruded aluminium, antistatic, powder-coated texture
 - Support arms: sheet steel, antistatic powder-coated texture
 - Worktop: three layer particle board, FP / Y E1 version, fire protectionclass B2, volume conductive
 - Worktop coating: high pressure plastic laminate
 - Cable duct, horizontal: sheet steel, rolled, antistatic powder-coated texture
 - **Color combination**
 - Worktop: light-grey
 - Metal parts: RAL 7035 light-grey
 - **Load rating**
 - 1500 N (static surface load)
 - **Standards**
 - ESD version
 - DIN 68761 for worktop
 - EN 438 HGS class for high pressure plastic laminate
 - EN 61340 for electrostatic
 - **Supply schedule**
 - 1 corner worktop
 - 1 worktop support complete with crosspiece
 - 2 stabilizers and cable duct
 - 1 support foot, can be set for desk heights, 680-760 mm
 - Mounting material
 - **How supplied**
 - Preassembled modules



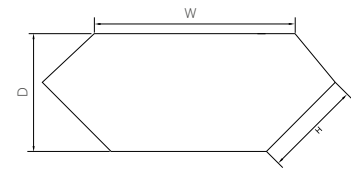
CON00032

W	H	D	A	ESD	L	Model	Order no.	UP
			900	•	600	Trapezoid corner	04.272.560.1	1 unit

Knürr Elicon® Superstructure Level Corner, ESD
Standard depth, 400 mm

- ESD version for discharging electrostatic charges
 - For utilizing the area above the worktop as storage and functional surface with additional cabling option
 - Worktop height easily adjustable
 - Cable duct integrated in the crosspiece
- **Material / Finish**
 - Superstructure worktop: three layer particle board, FP / Y E1 version, fire protection class B2, melamine coated (directly coated) veneer, ABS 3mm thick, fine textured, matt
 - Cable duct, horizontal: sheet steel, antistatic powder-coated texture
 - **Color combination**
 - Superstructure worktop: light-grey
 - Metal parts: RAL 7035 light-grey
 - **Load rating**
 - 750 N (static surface load)
 - **Standards**
 - DIN 68761 for superstructure worktop
 - DIN 68765 for direct coating
 - EN 61340 for electrostatic
 - **Supply schedule**
 - 1 superstructure worktop
 - 1 cable duct
 - Mounting material
 - **How supplied**
 - Preassembled modules

W	H	D	ESD	Model	Order no.	UP
824	400	495	•	90° wall	04.278.032.1	1 unit
1247	400	495	•	Trapez. and trapez. wall	04.278.033.1	1 unit



CON20007

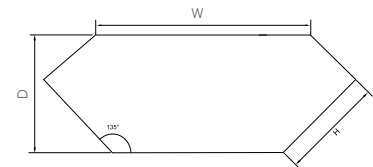


CON20008

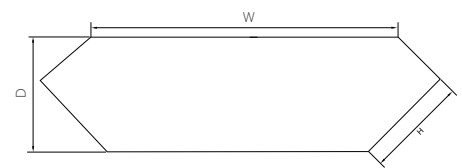
Knürr Elicon® Superstructure Level Corner, ESD
System depth, 500 mm

- ESD version for discharging electrostatic charges
 - For utilizing the area above the worktop as storage and functional surface with additional cabling option
 - Stable crosspiece with spacious, folding, and consequently easily accessible cable duct
 - Easy integration of system components for perfect electricity provision with C-rails and mounting slots
 - Worktop height easily adjustable
 - Can be fitted at any time with keyboard shelves
- **Material / Finish**
 - Superstructure worktop: three layer particle board, FP / Y E1 version, fire protection class B2, melamine coated (directly coated) veneer, ABS 3mm thick, fine textured, matt
 - Crosspiece: extruded aluminium, antistatic powder-coated texture
 - Support arms: sheet steel, antistatic powder-coated texture
 - Cable duct, horizontal: sheet steel, antistatic powder-coated texture
 - **Color combination**
 - Superstructure worktop: light-grey
 - Metal parts: RAL 5003 light-grey
 - **Load rating**
 - 1500 N (static surface load)
 - **Standards**
 - DIN 68761 for superstructure worktop
 - DIN 68765 for direct coating
 - EN 61340 for electrostatic
 - **Supply schedule**
 - 1 superstructure worktop
 - 2 stabilizers
 - 1 crosspiece
 - 1 cable duct
 - Mounting material
 - **How supplied**
 - Preassembled modules

W	H	D	ESD	Model	Order no.	UP
907	500	595	•	90° wall	04.278.036.1	1 unit
1319	500	595	•	Trapez. and trapez. wall	04.278.037.1	1 unit



CON20009



CON20010

Dimensions in mm: W = Width
 H = Height
 D = Depth
 h = Installation height
 d = Useful depth
 L = Length

HU = Standard height unit, 1 HU = 44.45 mm
 HP = Horizontal pitch
 OU = Office unit
 19" = 482.6 mm, (ideal for 19" components in acc. with DIN 41494)
 UP = Unit of packaging

Conversion: 1 inch = 25,4 mm
 Replace „x“ with the number of your color choice