



**Complete Range
Enclosure Systems**



BERNSTEIN AG – A Success Story



Safety for man and machine

In-depth market knowledge, the close proximity to end users as well as years of experience in mechanical engineering and electronics are reflected down to the last detail in our products.

Against this backdrop, BERNSTEIN ranks among the world's leading providers of industrial safety technology. With our comprehensive range of switches, sensors, enclosures and operator terminals, we offer our customers effective and versatile solutions. By conforming to international safety guidelines, our products perfectly integrate in individual system solutions. Our focus is complete commitment to safety for man, machine and industrial processes.

Our expertise for your safety

With sound application expertise we support our customers from all branches of industry in the planning and implementation of systems designed to meet stringent safety requirements. In addition to classic plant and machine construction, we look after customers in the lift construction, automotive, agriculture, conveyor construction, automation engineering, wood-working, renewable energy and medical technology industries.

We welcome direct dialogue with our customers to enable us to provide them with the best possible solutions for their specific applications.



Future-proof solutions

Our objective is to actively influence technical innovation and modern application solutions. BERNSTEIN has therefore always been at the centre of defining trends in technology. With an unwavering commitment to the future we will continue providing the best possible answers in terms of technology, ecology and economic efficiency.

That is our definition of progress!

BERNSTEIN AG

The Product Lines

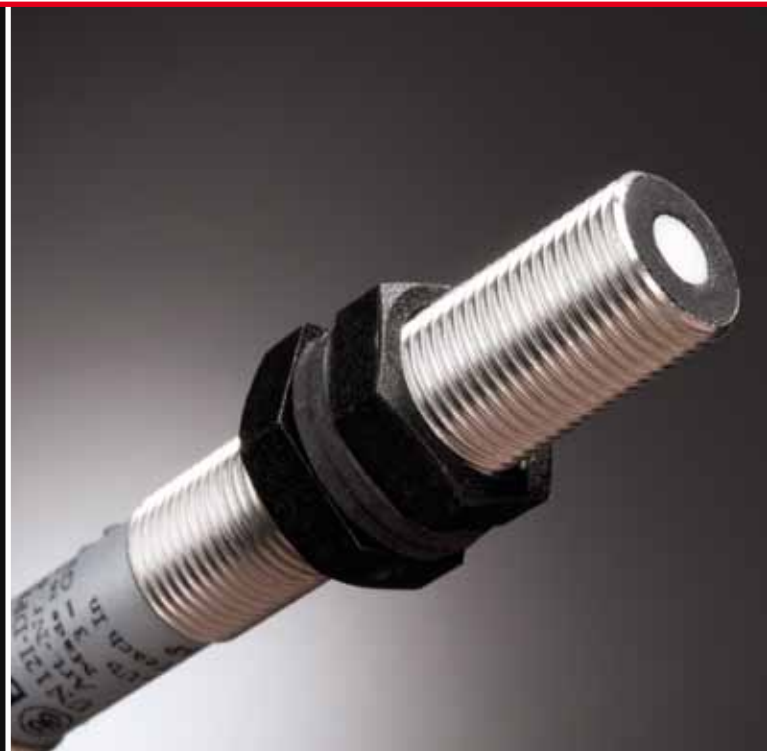
Switch system



Switch system – Economy meets safety

BERNSTEIN electromechanical switches offer a convincing price/performance ratio and impress with their extreme reliability for many different operating voltages. The range extends from limit switches, encapsulated in insulating material or metal, through foot switches to safety switching devices. The AS-i compatible products save time and material in installation and provide cost advantages in operation. The comprehensive range of designs and sizes, the possible switching functions and the choice of actuators make virtually any application reality.

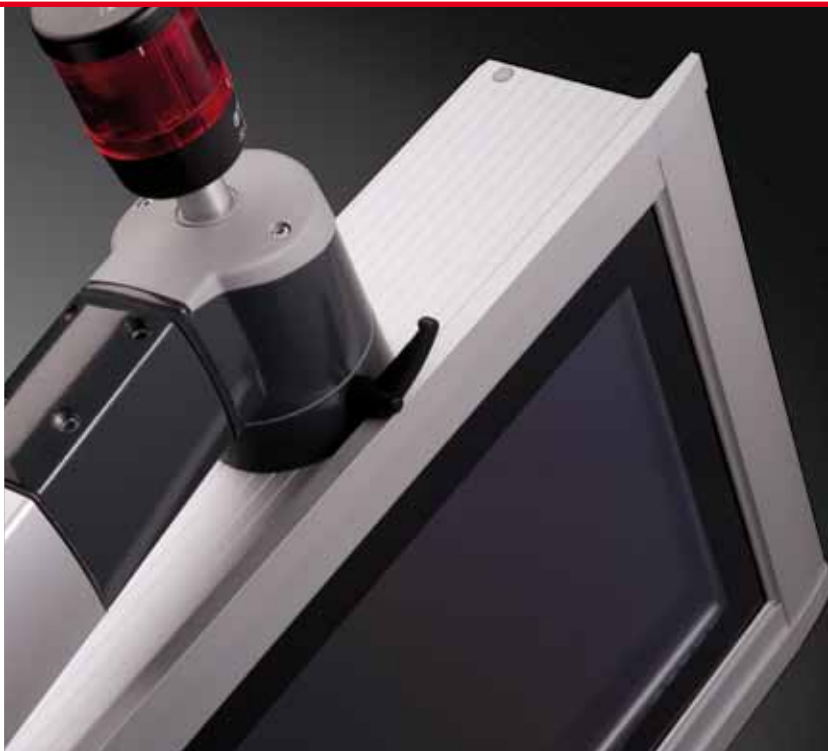
Sensor systems



Sensor systems – Compact intelligence

The extremely fast and exceptionally precise BERNSTEIN sensors operate without interference and wear in all applications. The tried-and-tested reliability and the compact dimensions are greatly appreciated in all branches of industry. Matching the specific application, in addition to ultrasonic sensors and level switches, customers can choose from a wide range of inductive, capacitive, magnetic or optical sensors. Alongside the comprehensive standard range of sensors, we also offer comprehensive development and design for individual solutions.

Enclosure systems



Enclosure systems – Function and design

With its long tradition in manufacturing enclosures, BERNSTEIN combines superior enclosure technology, designed for encapsulating a diverse range of applications, with ultramodern and variable suspension systems. An extensive range of aluminium and plastic terminal boxes as well as the wiring and circuitry in standard and control enclosures conforming to specific customer requirements round off the product portfolio. Our enclosures conform to standards used in medical technology, industry as well as food and EX applications.

Product Line

Enclosure Systems



Enclosure systems – Function and design

Functional design, high quality and durability are essential prerequisites for effective system integration. We incorporate customised wiring and specific component configurations in our expanded enclosure production process, which includes the preassembly of mounting rails or the installation of PLC/IPS solutions of all renowned manufacturers. In cooperation with our customers, this extremely pragmatic project planning results in fast and exceptionally reliable solutions.

In the modular aluminium control enclosure systems we combine state-of-the-art design with outstanding technical features to individually and efficiently encapsulate industrial controllers and operator panels. Our extensive range of suspension systems perfectly enhance this product portfolio. The same meticulous attention to detail is reflected in our range of stainless steel control enclosures.

These products are ideally suited for applications where the use of stainless steel is essential on account of special requirements and ambient conditions. With special sizes, different surface finishes and the comprehensive range of stainless steel suspension systems we offer unlimited scope for individualisation.

All state-of-the-art BERNSTEIN suspension systems are characterised by variable layout, advanced design and ease of installation.

Integrated diversity

Modern industrial design, perfected ergonomics and a host of combinable components create innovative system solutions based on modular principles. BERNSTEIN standard enclosures with quick-release fasteners, flexible internal articulated hinges and international approvals give our customers ample scope in the choice of enclosures best suited



for their specific application. With a range of materials such as plastic, metal and stainless steel, BERNSTEIN has the ideal solution for all applications. Backed by our quality manufacturing guarantee we will do whatever it takes to make sure that BERNSTEIN enclosures provide the perfect solution.

Services and standards

- Bespoke solutions
- Lower costs thanks to all-encompassing system
- Supply of complete systems and their project integration
- System components procured by BERNSTEIN
- Compliance with applicable product and industrial standards
- International approvals

System solutions/ATEX

Type Page



BERNSTEIN 12
System solutions
Comprehensive range of services from BERNSTEIN enclosure systems



ATEX 14
ATEX-approved products for potentially explosive atmospheres

Selection criteria and general technical information on enclosures 16
(IP classification, chemical resistance, etc.)

Standard enclosures

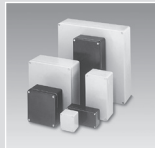
Type Page



Aluminium enclosure 24
Type CA
• High mechanical loading capacity
• High corrosion resistance
• IP65
• Accessories
• Assembly, aluminium enclosures



Polycarbonate enclosure 44
Type CT
• Medium mechanical loading capacity
• Conditional suitability, for outdoor use
• IP65
• Accessories
• Assembly, polycarbonate and ABS enclosures



ABS enclosures
Type CT
• Low mechanical loading capacity
• Limited suitability for outdoor use
• IP65
• Accessories

Polyester enclosures 58
Type CP
• High mechanical loading capacity
• Very high corrosion resistance
• Excellent suitability for outdoor use
• IP65
• Accessories



Accessories 70
Screwed cable glands

Control enclosures

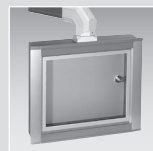
Type Page



Light-duty control enclosure 72
Type CC-3000
• Modular, flat aluminium slimline concept
• Direct installation of commercially available controllers
• Different front panel installation options
• Customer-specific dimensions



Control enclosures 76
Type CC-4000/CC-4000 SL
• Modular aluminium enclosure concept
• Direct installation of commercially available controllers
• Different front panel installation options
• Customer-specific dimensions
• Stand



Accessories 82
Control enclosures

Checklists 106

Workstation

Type Page

Industrial workstation Type WS-6000

- Easy-to-service design
- Fflexible concept for tailor-made solutions



Suspension systems

Type Page

Selection criteria for suspension systems



Mini suspension system 114 CS-1000

- Complete suspension system for light loads
- Horizontally/vertically and vertically adjustable systems



Light-duty suspension system 116 Typw CS-2000 SL 45/60

- Modular suspension system concept in two colours for light mechanical loads
- Aluminium connecting sections with/without cable duct
- Installation openings at joints



Medium-duty suspension system 130 Typw CS-3000

- Modular suspension system concept for medium mechanical loads
- Anodised aluminium tubing as connecting element and cable duct
- Installation openings at joints

Accessories 148 CS-3000



Heavy-duty suspension system 150 Type CS-2000 System 80

- Modular suspension system concept for heavy mechanical loads
- Steel tubing as connecting element and cable duct
- Installation openings at joints

Accessories for suspension 160 CS-2000 SL and System 80

Stainless steel range

Type Page



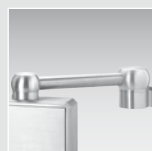
Stainless steel enclosure 162 CC-800

- Material 1.4301
- Protection class IP65
- Modern design



Suspension system for light to medium loads 164 Type CS-480 NR

- Material 1.4305
- Protection class IP66



Suspension system 172 for medium to high loads Type CS-600 NR

- Material 1.4305
- Protection class IP66
- Modular system

Expertise from under one roof

Comprehensive range of services from BERNSTEIN enclosure systems

BERNSTEIN specialises in products that reliably protect your technical equipment from damage, the environment or unauthorised access.

Bespoke, individually designed system solutions are based on tried-and-tested enclosure technology combined with BERNSTEIN suspension systems.

Tailored wiring and the installation of components can now be integrated directly in the expanded enclosure production process. Starting with the preassembly of mounting rails and terminals through cable configuration to component mounting and complete wiring in the enclosure.

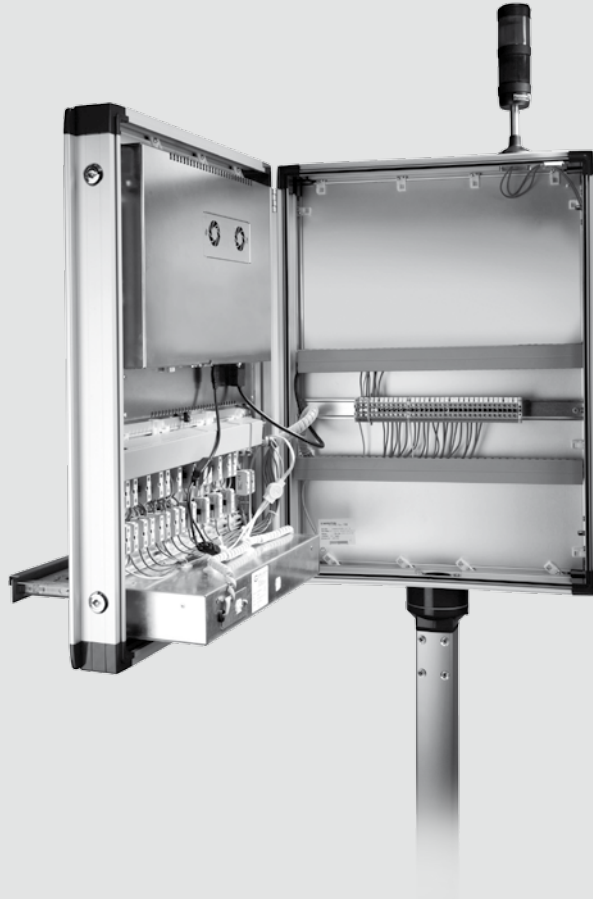
BERNSTEIN – Your solution specialist.

New system integration approaches such as the installation and preassembly of:

- Power supply systems
- Operating and control elements
- Membrane keypads
- Displays, power supply and data cables
- I/O assemblies
- Ethernet components
- PLC/IPC solutions of all renowned manufacturers

Your benefits:

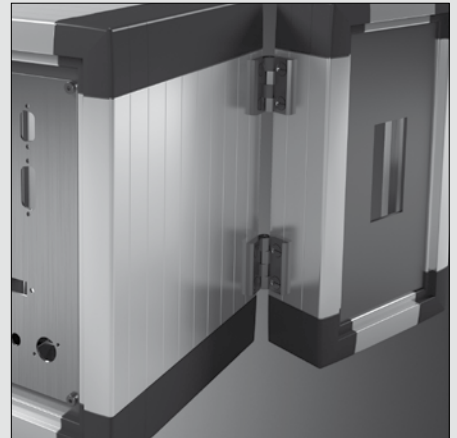
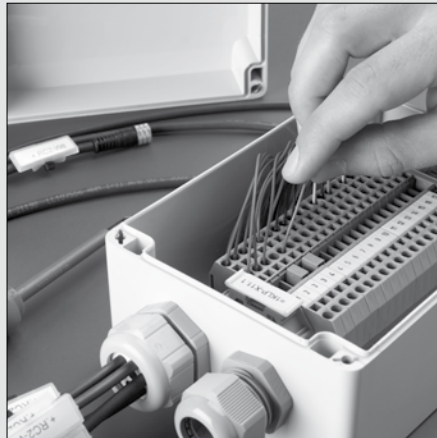
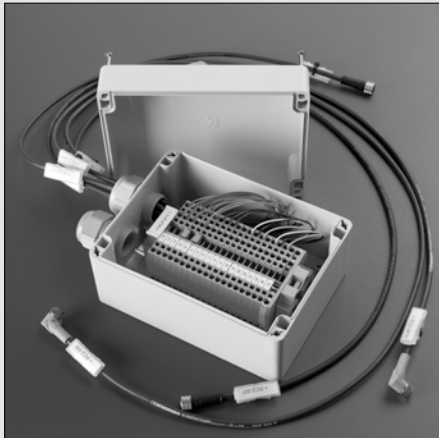
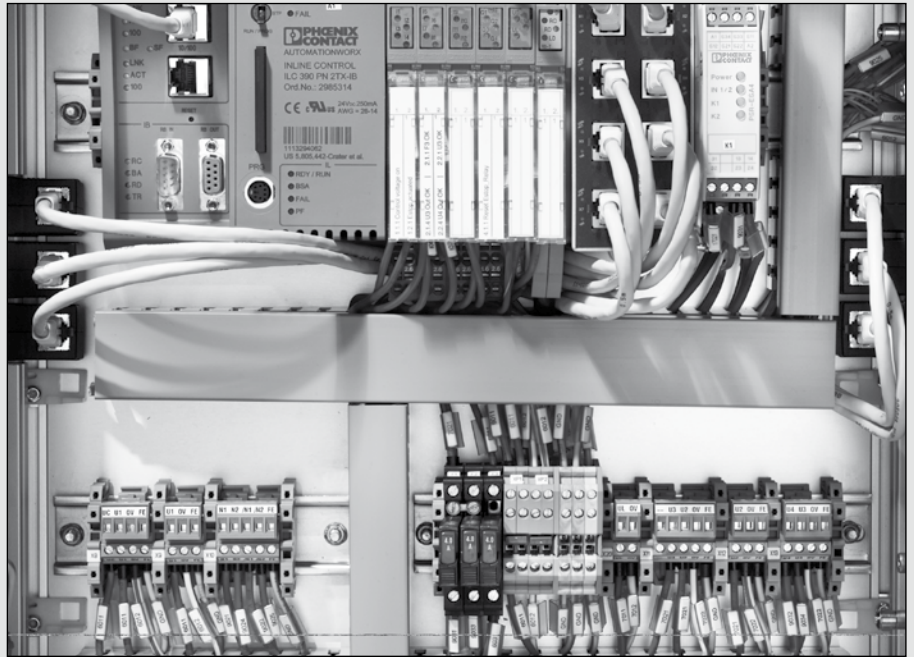
- **Solution specifically tailored** to customer requirements
- System solution phased directly into production process
- Compliance with **applicable product and industrial standards** (ATEX, IP-classes)
- Administration expenditure and costs reduced by
 - **Purchase and stockkeeping** of components by BERNSTEIN
 - No residual quantities of individual components
 - Use of standard components
 - No costs incurred for **assembling individual components** – delivery of complete systems
 - Acceptance of part projects by BERNSTEIN, therefore, reduced assembly and component mounting costs
- **Integration** of BERNSTEIN switch and sensor systems
- System components procured by BERNSTEIN



Combination of BERNSTEIN enclosures and customer technologies

As a solution specialist, BERNSTEIN has available core expertise in mechanical applications and a comprehensive range of tools to suit the most diverse configuration requirements.

- **Customised enclosure modifications, freely selectable dimensions and configurations created by:**
 - Holes
 - Threads
 - Apertures
 - Pre-punched blanks
- **Preassembly, mounting and wiring of:**
 - Mounting panels and support rails
 - Hinges and mounting brackets
 - Terminals and screwed cable glands
 - Circular connectors
- **Individual powder coating also available in special colours in own production process**

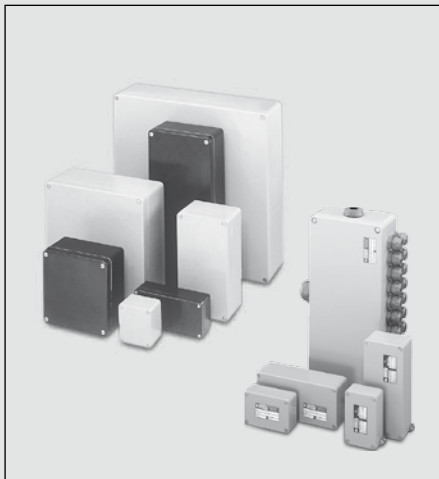


ATEX-approved products for potentially explosive atmospheres

- Exe, Ex ia and Ex e\ia terminal boxes made from polyester and aluminium
- Ex d limit switches, cable pull switches and foot switches
- Ex mb/Ex tD magnetic switches



Services, training, system solutions, project- and customer-specific solutions.



Terminal boxes and empty enclosures

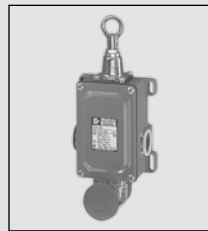
Only materials that correspond to the temperature range T6 required for Ex enclosures are used in these enclosures and components.

The minimum type of protection rating of all enclosures and screw connections is IP64, other protection classes available on request.

The latching devices on the enclosures are optionally available as captive screw connections or quick-release fasteners.

Various CA versions are available with flange plates.

All built-in components must conform to the relevant approvals.



Momentary contact, cable pull and footswitches

An Ex d-certified switching element lies at the core of these Ex-approved switches.

It is mounted in the corresponding switch enclosures. The mechanical actuator and its installation are certified separately.

The approval of additional actuators and switch enclosures from other series is possible on request.

All switches and momentary contact switches feature one NO contact and one NC contact.



Magnetic switches









The magnetic switches are fitted at the factory with an up to 7 m long connection cable.

The cable is permanently connected to the enclosure and is part of the approval.

All sensors are certified for a maximum ambient temperature of 80°C.

Services offered by the BERNSTEIN-ATEX experts:

- Approval of a stainless steel enclosure with freely definable dimensions
- Approvals assistance for plant operators
- Approval of switching and control elements in all enclosures
- Approval of plug-in devices in all enclosures
- Component mounting and wiring of enclosures according to customer specifications
- Training courses for planners and plant operators
- Cross-product system solutions
- Customer-specific development and project management on request
- Gost (Russia) and NEC (North America) approvals on request

	II2G	Ex	ia	IIC	T6	TÜV	2008	ATEX	1234	-
Type approval in accordance RAL 94/9/EG	Application	Explosion protection	Type of protection	Device group	Temperature class	Inspection authority	Year	As per Directive 94/9/EG	Consecutive number	Additional conditions
Types of protection for gas-explosion hazardous areas										
Symbol		Type of protection							Standard	
	Ex „d“	Flameproof encapsulation Switching devices, motors, transformers etc.							IEC60079-1	
	Ex „p“	Pressurised encapsulation Control cabinets px = Use in Zone 1, 2 py = Use in Zone 1, 2 pz = Use in Zone 2							IEC60079-2	
	Ex „q“	Powder-filled encapsulation Transformers, capacitors							IEC60079-5	
	Ex „o“	Oil immersion encapsulation Transformers, load resistors							IEC60079-6	
	Ex „e“	Increased safety Terminal boxes, control cabinets, enclosures for installing devices of other protection class							IEC60079-7	
	Ex „i“	Intrinsically safe Terminal boxes, control cabinets, sensors, measurement and control equipment ia = Use in Zone 0, 1, 2 ib = Use in Zone 1, 2							IEC60079-11	
		Intrinsically safe systems							IEC60079-25	
	Ex „n“	Non sparking Systems that, due to their design, cannot spark							IEC60079-15	
	Ex „m“	Encapsulation Command and signalling devices, sensors, display/indicator devices ma = Use in Zone 0, 1, 2 mb = Use in Zone 1, 2							IEC60079-18	
	Ex „op“	Optical radiation op is = Intrinsically safe optical radiation op pr = Protected optical radiation op sh = Shutdown optical radiation							IEC60079-28	
IP Protection Classes										
IP 1 st digit	Contact	Foreign bodies			IP 2 nd digit	Water		Max. permissible surface temperature	Temperature classes for gases	
0	No protection	No protection			0	No protection				
1	Large body parts	Solid object > 50 mm			1	Water dripping vertically				
2	Finger	Solid object > 12.5 mm			2	Water dripping at angle up to 15°		450°	T1	
3	Tool > 2.5 mm	Solid object > 2.5 mm			3	Water sprayed at an angle up to 60°		300°	T2	
4	Tool > 1 mm	Solid object > 1 mm			4	Sprayed water 360°		200°	T3	
5	Complete protection	Dust accumulation			5	Water jet 360°		135°	T4	
6	Complete protection	Dust infiltration			6	Strong water jet 360°		100°	T5	
					7	Temporary submersion		85°	T6	
(see Page 17 for further information on IP Classes)					8	Submersion		Explosion groups for gases		
Device group I Mining								Group	Typical gas	Ignition energy
I M1	Safety provided by 2 safety measures, 2 faults							I	Methane	280 µJ
I M2	Shutdown on occurrence of explosive atmosphere							IIA	Propane	> 180 µJ
Device group II All potentially explosive atmospheres except mining								IIB	Ethylene	60...180 µJ
II 1	Zone 0	Zone 20	Safety provided by 2 safety measures, 2 faults					IIC	Hydrogen	< 60 µJ
II 2	Zone 1	Zone 21	Safety in the event of frequent equipment malfunctions, 1 fault					Additional conditions		
II 3	Zone 2	Zone 22	Safety in trouble-free operation							
Zone categories, device group II								-	No restriction	
Hazard			Gas as per IEC		Dust as per IEC			X	Special conditions	
Permanent or frequent			Zone 0		Zone 20					
Occasional			Zone 1		Zone 21			U	Component certification, parts certification	
Rare, temporary no longer than 30 min per year			Zone 2		Zone 22					

Blank enclosures for use in potentially explosive atmospheres

ATEX-U certified standard aluminium CA enclosures

BERNSTEIN CA enclosures have been tested by an internationally recognised and certified inspection authority and certified through type approval testing for use in areas with potentially explosive dust and gas atmospheres. Used as terminal and control enclosures, the aluminium pressure die-cast enclosures are designed to accept corresponding mechanical and electrical equipment. The enclosures come with operating instructions, type identification plate, EU Type Approval Certificate and CE Declaration of Conformity. Either an EPDM or silicone seal can be used. The enclosures can be fitted at the factory with external hinges.

External dimensions in mm	Type	Art. No. with silicone seal	Art. No. with EPDM seal
58 x 64 x 36	CA-060	1064005000	1064000000
98 x 64 x 36	CA-080	1084005000	1084000000
150 x 64 x 36	CA-100	1104005000	1104000000
75 x 80 x 57	CA-130	1134005000	1134000000
75 x 80 x 57	CA-140	1144005000	1144000000
125 x 80 x 57	CA-150	1154005000	1154000000
125 x 80 x 57	CA-160	1164005000	1164000000
175 x 80 x 57	CA-170	1174005000	1174000000
175 x 80 x 57	CA-180	1184005000	1184000000
250 x 80 x 57	CA-190	1194005000	1194000000
122 x 122 x 80	CA-210	1214005000	1214000000
122 x 122 x 90	CA-215	1214005050	1214000050
122 x 122 x 80	CA-220	1224005000	1224000000
220 x 122 x 80	CA-230	1234005000	1234000000
220 x 122 x 90	CA-235	1234005050	1234000050
220 x 122 x 80	CA-240	1244005000	1244000000
360 x 122 x 80	CA-250	1254005000	1254000000
160 x 160 x 90	CA-270	1274005000	1274000000
160 x 160 x 90	CA-280	1284005000	1284000000
260 x 160 x 90	CA-290	1294005000	1294000000
260 x 160 x 90	CA-300	1304005000	1304000000
360 x 160 x 90	CA-310	1314005000	1314000000
560 x 160 x 90	CA-330	1334005000	1334000000
200 x 230 x 110	CA-350	1354005000	1354000000
200 x 230 x 180	CA-360	1364005000	1364000000
280 x 230 x 110	CA-370	1374005000	1374000000
330 x 230 x 110	CA-380	1384005000	1384000000
330 x 230 x 180	CA-390	1394005000	1394000000
400 x 230 x 110	CA-400	1404005000	1404000000
600 x 230 x 110	CA-420	1424005000	1424000000
402,5 x 310 x 110	CA-450	1454005000	1454000000
402,5 x 310 x 180	CA-460	1464005000	1464000000
600 x 310 x 110	CA-470	1474005000	1474000000
600 x 310 x 180	CA-480	1484005000	1484000000

Technical Data:

- Protection class depending on type of seal IP66 to DIN EN 60529
- Identification
Ex II G Ex e II
Ex II D Ex tD A21 IP65
- Impact strength > 7 Joules
- Enclosure colour RAL 7001 (silver grey)
- Powder-coating corrosion protection

ATEX-U certified standard polyester CP enclosures

BERNSTEIN CPG and CPS enclosures have been tested by an internationally recognised and certified inspection authority and certified through type approval testing for use in areas with potentially explosive dust and gas atmospheres. Used as terminal and control enclosures, the glass-fibre reinforced polyester enclosures are designed to accept corresponding mechanical and electrical equipment. The enclosures come with operating instructions, type identification plate, EU Type Approval Certificate and CE Declaration of Conformity. Either an EPDM or silicone seal can be used. The enclosures can be fitted at the factory with external hinges.

External dimensions in mm	Type	Art. No. with silicone seal	Art. No. with EPDM seal	Type	Art. No. with silicone seal	Art. No. with EPDM seal
80 x 75 x 55	CP-140	4144005000	4144000000	CPS-140	5144005000	5144000000
80 x 75 x 75	CP-145	4144005050	4144000050	CPS-145	5144005050	5144000050
110 x 75 x 55	CP-150	4154005000	4154000000	CPS-150	5154005000	5154000000
110 x 75 x 75	CP-155	4154005050	4154000050	CPS-155	5154005050	5154000050
160 x 75 x 55	CP-170	4174005000	4174000000	CPS-170	5174005000	5174000000
160 x 75 x 75	CP-175	4174005050	4174000050	CPS-175	5174005050	5174000050
190 x 75 x 55	CP-190	4194005000	4194000000	CPS-190	5194005000	5194000000
190 x 75 x 75	CP-195	4194005050	4194000050	CPS-195	5194005050	5194000050
122 x 120 x 90	CP-220	4224005000	4224000000	CPS-220	5224005000	5224000000
220 x 120 x 90	CP-240	4244005000	4244000000	CPS-240	5244005000	5244000000
160 x 160 x 90	CP-280	4284005000	4284000000	CPS-280	5284005000	5284000000
260 x 160 x 90	CP-300	4304005000	4304000000	CPS-300	5304005000	5304000000
360 x 160 x 90	CP-320	4324005000	4324000000	CPS-320	5324005000	5324000000
360 x 160 x 90	CP-320 with external articulated hinge	4324006000	4324001000	CP-320 with external articulated hinge	5324006000	5324001000
560 x 160 x 90	CP-330	4334005000	4334000000	CPS-330	5334005000	5334000000
560 x 160 x 90	CP-330 with external articulated hinge	4334006000	4334001000	CP-330 with external articulated hinge	5334006000	5334001000
255 x 250 x 120	CP-370	4374005000	4374000000	CPS-370	5374005000	5374000000
400 x 250 x 120	CP-400	4404005000	4404000000	CPS-400	5404005000	5404000000
400 x 250 x 120	CP-400 with external articulated hinge	4404006000	4404001000	CP-400 with external articulated hinge	5404006000	5404001000
400 x 405 x 120	CP-450	4454005000	4454000000	CPS-450	5454005000	5454000000
400 x 405 x 120	CP-450 with external articulated hinge	4454006000	4454001000	CP-450 with external articulated hinge	5454006000	5454001000
400 x 405 x 165	CP-460	4464005000	4464000000	CPS-460	5464005000	5464000000
400 x 405 x 165	CP-460 with external articulated hinge	4464006000	4464001000	CP-460 with external articulated hinge	5464006000	5464001000

Technical Data:

- Protection class depending on type of seal IP66 to DIN EN 60529
- Identification
Ex II 2 G Ex e II
Ex II D Ex tD A21 IP64
- Up to CP 230 tested at 4 Joules
- As from CP 240 tested at 7 Joules
- Operating temperature depending on type of seal -55 °C to 100 °C
- Enclosure colour RAL 7000 (squirrel grey) CPG
- Enclosure colour RAL 9005 (jet black) CPS

Enclosure selection criteria

The following questions are designed to help you find the optimum enclosure for your specific application. In addition to the given criteria, your individual requirements are also of decisive importance.

1. How big should the enclosure be?

- PC-board size
- Number of terminals
- Number of screwed cable glands per side
- etc.

2. What ambient conditions should be taken into account?

- Moisture
- Climatic conditions
- Temperature
- Chemical exposure in the form of cleaning agents, oils, lubricants, etc.
- Electromagnetic compatibility
- etc.

3. What mechanical loads will the enclosure be subjected to?

- Impact
- Pressure
- Bending
- etc.

4. What additional features are required?

- Special coating:
- Special colour, special finish (chromalizing, EMC protective paint, etc.), screenprint and labels etc.
- Connectors
- Screw connections (number per side)
- Inspection window
- Preassembly with mounting panel, mounting rails, terminals, external and internal articulated hinges, etc.
- etc.

5. What other components can be install for you?

- Power supply systems
- Operating and control elements
- Membrane keypads
- Displays, power supply and data cables
- I/O assemblies
- Ethernet components
- PLC/IPC solutions of all renowned manufacturers
- etc.

You will find further details in Section "System Solutions" from Page 12 onwards.

6. What else can we install for you?

Talk to us, we will help you realise your challenge.

Definition of Protection Classes in accordance with IEC60529, VDE 470 T 1

The protection class of an enclosed device denotes the degree of protection. The degree of protection includes the protection of persons against contact with parts under voltage and the protection of equipment against the infiltration of foreign bodies and water. BERNSTEIN standard enclosures largely correspond to protection class IP65.

Protection class designation

In accordance with IEC60529 the protection class designation consists of a two-digit code.

Meaning of 1st digit:

Protection class against contact and infiltration of foreign bodies

Meaning of 2nd digit:

Protection class against infiltration of water

Example: Protection class IP65

1. Digit (6):

Complete protection against contact with components under voltage or with internal moving parts = protection against dust infiltration

2. Digit (5):

A water jet directed from all directions at the enclosure must not have damaging effects = protection against water jets (hoseproof)

Foreign body protection			Moisture protection		
1 st digit	Meaning	Explanation	2 nd digit	Meaning	Explanation
IP0X	No protection		IPX0	No protection	
IP1X	Protection against foreign bodies with a diameter of 50 mm or greater	Solid object (sphere, Ø 50 mm) must not fully penetrate	IPX1	Protection against dripping water	Vertically falling droplets must not have a damaging effect
IP2X	Protection against foreign bodies with a diameter of 12.5 mm or greater	Solid object (sphere, Ø 12.5 mm) must not fully penetrate	IPX2	Protection against dripping water when the enclosure is tilted at an angle of up to 15°	Vertically falling droplets must not have a damaging effect when the enclosure is tilted at an angle of up to 15° either side of the perpendicular
IP3X	Protection against foreign bodies with a diameter of 2.5 mm or greater	Solid object (sphere, Ø 2.5 mm) must not fully penetrate	IPX3	Protection against spray water	Water sprayed at an angle of up to 60° either side of the perpendicular must not have a damaging effect
IP4X	Protection against foreign bodies with a diameter of 1 mm or greater	Solid object (sphere, Ø 1 mm) must not fully penetrate	IPX4	Protection against splash water	Water sprayed against the enclosure from any direction must not have a damaging effect
IP5X	Protection against harmful dust deposits	Dust penetration is not completely prevented. However, the amount of penetration must not impair the function or safety of the device.	IPX5	Protection against hose water	Water sprayed in jet from against the enclosure from any direction must not have a damaging effect
IP6X	Protection against dust penetration, dustproof	No penetration of dust at a negative pressure of 20 mbar in the enclosure	IPX6	Protection against strong hose water	Water sprayed in strong jet from against the enclosure from any direction must not have a damaging effect
			IPX7	Protection against the effect when temporarily submerged in water	Water must not enter in harmful quantities when the enclosure is submerged under standardised pressure and time conditions
			IPX9K	Protection against water during high pressure/steam jet cleaning (as per DIN EN 40050, Part 9)	Water sprayed at greatly increased pressure against the enclosure from any direction must not have a damaging effect

General Technical Information

Mechanical strength

Selection is based on the corresponding properties of the material to be used.
The table below provides an overview of the main material properties of aluminium, polycarbonate, ABS, polyester and stainless steel.

Material property	Standard	Unit	Aluminium	Polycarbonate	ABS	Polyester	Stainless steel
Density	DIN 53479	g/cm ³	2.65	1.2	1.05	1.8	7.9
Impact resistance	DIN 53453	mJ/mm ²	150 - 300	65	60	80	
Toughness	DIN 53453	mJ/mm ²	90 - 200	20	10	4	
Tensile strength	DIN 53455	N/mm ²	180 - 300	65	43	45	500 - 700
Elongation of break	DIN 53455	%	60 - 90	90	20	20	< 60
Modulus of elasticity (bending test)	DIN 53457	N/mm ²	75000	2300	2100	6500	200000
Flexural stress at given strain	DIN 53452	N/mm ²		95	90	100	
Flammability	UL 94	Class		V 2	HB	V 0	
Volume resistivity	DIN 53482	Ohm x cm		10 ¹⁵	10 ¹³	3 x 10 ¹⁴	
Surface resistance	DIN 53482	Ohm x cm		≥ 10 ¹⁵	4 x 10 ¹⁴	> 10 ¹²	
Dielectric strength	DIN 53481	kV/mm		25 - 40	24	25 - 40	
Thermal conductivity (20°C)	DIN 52612	W/mK	120 - 160	0.21	0.18	0.25	16.3
Electrical conductivity (20°C)		m/Ohm mm ²	15 - 22				

Chemical resistance

The table below provides an overview of the chemical resistance of BERNSTEIN aluminium, polycarbonate, ABS, polyester and stainless steel enclosures to chemicals commonly used. The specified values are reference values relating to different concentrations and ambient temperatures that have varying influences on materials. This also applies to simultaneous exposure to several chemicals. Corresponding trials are therefore recommended.

All tests were carried out at room temperature. The chemical resistance may change in combination with different media. Therefore, no responsibility can be accepted for the correctness of this information.

Chemical	ABS	Polycarbonate	Polyester	Aluminium	Stainless steel
Acetone	-	-	-	+	+
Formic acid	40%	-	+	o	+
Ammonia	25%	-	-	+	□
Benzene	-	o	+	+	+
Benzene	-	-	+	+	+
Brake fluid	o	-	+	□	(+)
Butane	+	+	+	+	(+)
Butanol	□	□	+	□	(+)
Calcium chloride	+	+	+	+	o
Chlorobenzene	-	-	+	+	+
Diesel oil	+	o	+	□	(+)
Acetic acid	25%	10%	5%	+	+
Formaldehyde	30%	□	30%	+	+
Freon 113	-	+	+	□	□
Fruit juice	+	+	+	□	+
Glycerine	+	o	+	+	+
Fuel oil	o	o	+	+	+
Hydraulic oil	□	+	+	□	+
Caustic potash solution	50%	-	-	□	□
Potassium chloride	□	+	+	o	o
Potassium hydroxide	< = 50 %	□	5%	-	+
Linseed oil	+	+	+	+	+
Methanol	+	-	+	+	+
Methylene chloride	-	-	+	+	□
Lactic acid	80%	+	+	+	o
Mineral oils	+	+	+	□	+
Engine oils	+	+	+	□	+
Sodium carbonate	+	+	10%	o	+
Sodium chloride	+	+	+	o	+
Sodium hydroxide	+	□	5%	+	+
Caustic soda	50%	-	40%	□	□
Nitric acid	-	10%	10%	+	+
Hydrochloric acid	o	20%	+	+	-
Lubricating oil	□	+	+	+	+
Carbon disulphide	-	-	-	+	+
Sulphuric acid	50%	50%	10%	o	+
Soap solution	□	o	+	□	□
Detergent	□	+	□	□	(+)
Turpentine oil	□	o	+	□	+
Carbon tetrachloride	-	-	+	+	+
Toluene	-	-	+	+	□
Trichloroethylene	-	-	+	+	+
Water (distilled water, river water, tap water, sea water)	+	+	+	□	+
Tartaric acid	+	+	+	□	+
Xylene	-	-	+	+	+
Zinc sulphate	+	+	+	o	+
Citric acid	+	10%	+	+	o

+: Resistant to all concentrations
 %: Resistant to max. % concentrations
 o: Conditionally resistant
 -: Not resistant
 □: No data
 (): Estimated value

General Technical Information

Chemical resistance of enclosure seals

The following table provides an overview of the chemical resistance of enclosure seals. The specified values are reference values relating to different concentrations and ambient temperatures. This also applies to simultaneous exposure to several chemicals. Corresponding trials are therefore recommended.

All tests were carried out at room temperature. The chemical resistance may change in combination with different media. Therefore, no responsibility can be accepted for the correctness of this information.

Chemical	CR	Silicone	EPDM	NBR	Polyurethane	PVC
Acetone	o	-	+	-	-	-
Formic acid	o	+	o	-	-	-
Ammonia	10%	+	+	o	-	o
Benzine	o	-	-	o	+	+
Benzene	-	-	-	-	-	-
Brake fluid	o	+	+	-	+	□
Butane	+	-	-	+	+	50%
Butanol	+	-	+	o	o	o
Calcium chloride	□	□	+	+	-	+
Chlorobenzene	-	-	-	-	-	-
Diesel oil	o	-	-	□	+	o
Acetic acid	-	o	-	-	□	+
Formaldehyde	□	+	40%	o	□	-
Freon 113	o	□	□	+	□	□
Fruit juice	+	+	+	o	-	+
Glycerine	+	+	+	+	+	+
Fuel oil	o	o	-	+	+	o
Hydraulic oil	□	o	-	o	□	□
Caustic potash solution	+	-	< 50%	o	-	+
Potassium chloride	+	+	+	+	-	+
Potassium hydroxide	o	o	+	+	-	□
Linseed oil	+	+	o	+	o	+
Methanol	+	+	+	o	□	+
Methylene chloride	-	-	-	-	-	-
Lactic acid	+	□	< 10%	o	< 10%	10%
Mineral oils	o	o	-	+	o	+
Engine oils	o	+	-	+	o	+
Sodium carbonate	□	+	+	+	□	□
Sodium chloride	+	+	+	+	+	+
Sodium hydroxide	50%	o	+	o	-	+
Caustic soda	50%	< 10%	+	o	□	60%
Nitric acid	-	< 10%	-	-	-	< 30%
Hydrochloric acid	o	< 10%	+	-	-	< 20%
Lubricating oil	o	+	o	+	+	+
Carbon disulphide	-	-	-	-	-	-
Sulphuric acid	50%	o	-	-	-	< 60%
Soap solution	□	+	□	+	o	o
Detergent	o	+	o	+	o	□
Turpentine oil	□	-	-	o	□	+
Carbon tetrachloride	-	-	-	-	-	-
Toluene	-	-	-	-	-	-
Trichloroethylene	-	-	-	-	-	-
Water (distilled water, river water, tap water, sea water)	+	+	+	80°C	-	40°C
Tartaric acid	o	+	+	+	+	+
Xylene	-	-	-	-	-	-
Zinc sulphate	+	+	+	+	□	+
Citric acid	+	+	+	+	□	10%

+: Resistant to all concentrations
 %: Resistant to max. % concentrations
 o: Conditionally resistant
 -: Not resistant
 □: No data

Quality manufacturing guarantee

Reliable, flexible, personal: BERNSTEIN System Solutions

Outsourcing is a matter of trust. You need a competent service provider who you can rely on, who is flexible and who is always prepared to listen.

BERNSTEIN is your dependable partner.

With more than 30 years of experience to look back on, we offer comprehensive know-how in enclosure technology and corresponding applications.

Take advantage of the BERNSTEIN system solution service for enclosures with personal on-site support.

Benefit from all the advantages offered by BERNSTEIN!

You will find further information on system solutions on Page 12.

Our range of services for standard enclosure modifications:

- Standard enclosures perfectly tailored to your requirements
- Mechanical machining (even complicated contours) by CNC machining centres
- RoHS-compliant surface treatment for use in corrosive environments
- Special coating in accordance with RAL specification
- Screen print or engraving of enclosure surface
- Special coating and conductive seal for HF-proof version
- Installation of individual components from the BERNSTEIN range of accessories as well as other customer-specific components
- Electrical wiring of components according to your specifications

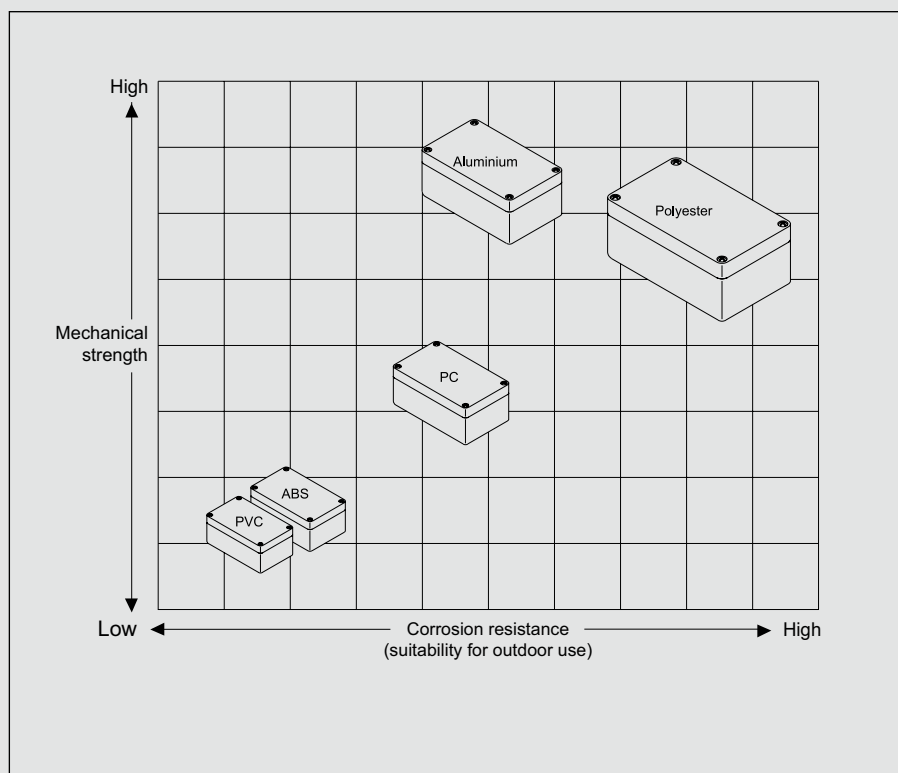
Your benefits:

- Personal advice on site.
- Reduced vertical integration.
- The enclosure modified to your specification can be directly incorporated in your production process.

Standard Enclosures - General Technical Information

Mechanical strength of standard enclosures

The illustration shows the suitability of different enclosure materials (standard enclosure) in terms of mechanical stress and corrosive environments.



Manufacturing standard for standard enclosures

Technical information on enclosure manufacture

As an ISO-9001-2008-certified company, BERNSTEIN has defined a manufacturing standard that applies to all machining orders (unless other requirements are specified).

Dimensional tolerances

Per the clamping operation, tolerances in accordance with ISO 2768-mH apply to the dimensioning in the initial enclosure machining process, as illustrated in the machining example (position of mechanical stop).

Deviating dimensioning or reference edge result in the maximum general tolerances for the products as shown in the table on the right for initial enclosure machining (per clamping operation).

Machining tolerances of ± 0.1 mm are maintained for varying dimensions.

General tolerances Standard range

Material/enclosure type	General tolerance
CA-020 to CA-480	
Cast aluminium	DIN 1688
CT-50 to CT-91	
PC/ABS	DIN 16901
CP-140 to CP-460	
Polyester mats	DIN 16901

Minimum purchase quantities

In order to keep enclosure machining as cost-effective for the user as possible, the following minimum purchase quantities are suggested:

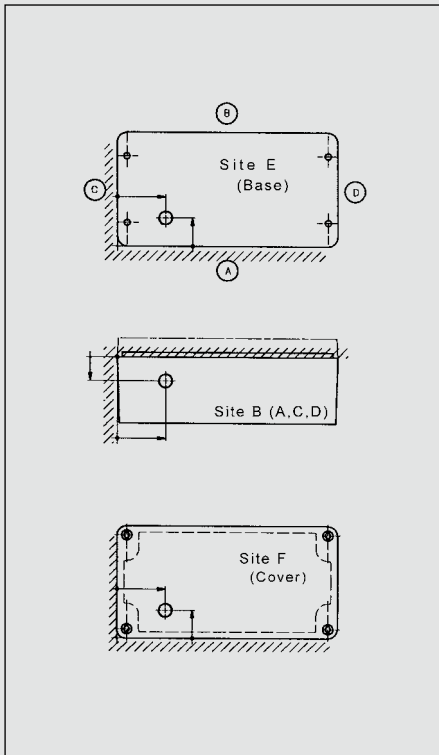
Designation	Minimum purchase quantity
CA-020 ... CA-080	20 pieces
CA-100 ... CA-190	10 pieces
CA-210 ... CA-310	10 pieces
CA-330 ... CA-480	5 pieces
CP-140 ... CP-195	20 pieces
CP-220 ... CP-320	10 pieces
CP-330 ... CP-460	5 pieces
CT-50 ... CT-76	20 pieces
CT-78 ... CT-89	10 pieces

These quantities should be regarded as the minimum, if the customised enclosures are to be produced economically. Production includes mechanical machining, special coating, screen-printing, engraving or assembly of accessories. BERNSTEIN distributors will of course be pleased to advise you

Reference edges for manufacturing standard

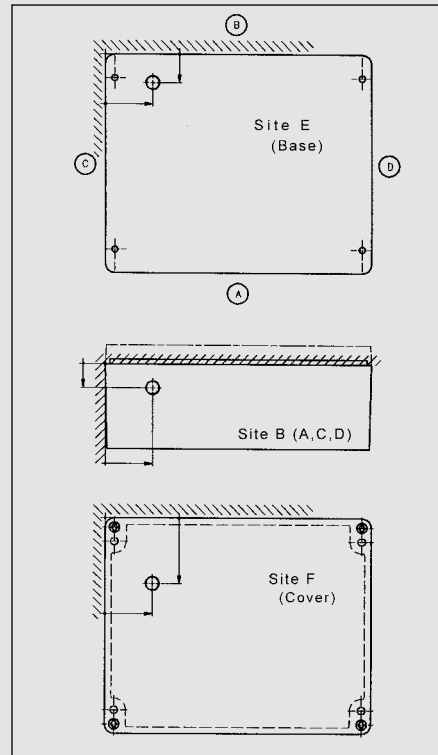
Series

CA-020 to CA-240, CA-270 to CA-300
CT-50 to CT-82, CP-140 to CP-300



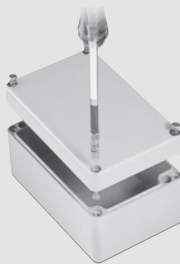
Series

CA-250, CA-310 to CA-480
CT-84 to CT-91, CP-320 to CPS-590



The BERNSTEIN quick-release fastener and flexible internal articulated hinge

Invented and patented by BERNSTEIN – the quick-release fastener and its internal articulated hinge



- Reduced time and costs
- Easy to use

1. Press and turn by 90°

- Easy opening and closing

2. Simple connection check

- No need for mechanical testing

3. Safe

- Quick-release fastener is tensioned and snaps firmly in. Cover will not open when subjected to shaking and vibration.

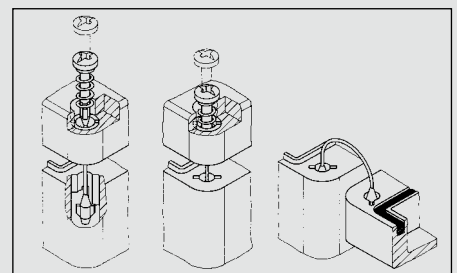
4. Effortless mounting

- Self-latching and locking function ensures straightforward mounting or retrofit.

Quick-release fastener/internal articulated hinge – for securing covers to enclosure bodies.

- Subsequent mounting possible without the need for mechanical machining.
- Strain relief and captive mounting of the cover are guaranteed.

The flexible internal articulated hinges can be easily fitted in the enclosures without the need for mechanical machining and reliably hold the enclosure cover after opening. The hinges provide effective strain relief and captive mounting of the enclosure cover



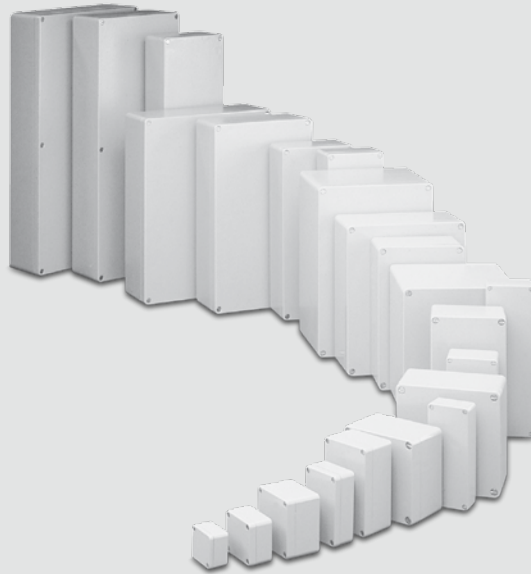
Aluminium Enclosure Series CA

BERNSTEIN aluminium enclosures have a well proven record of success in encapsulating electrical, electronic or pneumatic components, while also being ideally suited for applications in potentially explosive atmospheres. All enclosures achieve protection class IP65 in accordance with IEC529 (optionally IP67).

BERNSTEIN aluminium enclosures feature earthing screws (copper-plated, M4 or M6) in the body and in the cover for connecting PE conductors. The surfaces under the earthing screws are left blank. The screws for mounting the covers on BERNSTEIN enclosures are made from stainless steel and are held captive by the self-latching hinge integrated in the cover. The protection class (on the standard enclosure) is ensured by a factory-fitted seal. BERNSTEIN aluminium enclosures are finished as standard in RAL 7001 (silver grey).

BERNSTEIN uses pressure die-casting or gravity die-casting moulds to manufacture the aluminium enclosures.

The mounting flanges or even the earthing socket on the inside of the enclosure can be used for mounting and securing built-in components (mounting rail, mounting plate, pc board etc.). These mounting points on the inside of the enclosures are located at different levels and in different positions. The dimensioned drawings on the following pages show the relevant positions.



Technical data

Material

Aluminium pressure die-casting or gravity die-casting

Seal

Neoprene (CR) round cord (siliconized) alternatively:

Neoprene (CR) round cord (silicone-free), silicone round cord, EPDM round cord

Cover screws

Stainless steel, captive, cross recessed head alternativ:

- Stainless steel, captive hexagon socket head cap screws
- Sealed cover screws, steel (9 S 20 K), slot head (on request)

Coating

Standard: RAL 7001 (silver grey)

optionally:

- Special RAL colours
- Special coatings
- The standard coating is salt spray resistant in accordance with IEC60068-2-52, severity level 1. A chromalized surface finish is additionally available on request.

Temperature range of CA enclosures, standard powder-coated finish

-30°C to +80°C

(Please contact us for higher temperature ranges.)

Temperature range of seals

-30°C to +80°C (Neoprene seal)

alternatively:

-60 °C to +130°C (silicone seal)

bzw. -35°C to +100°C (EPDM seal)

Protection class

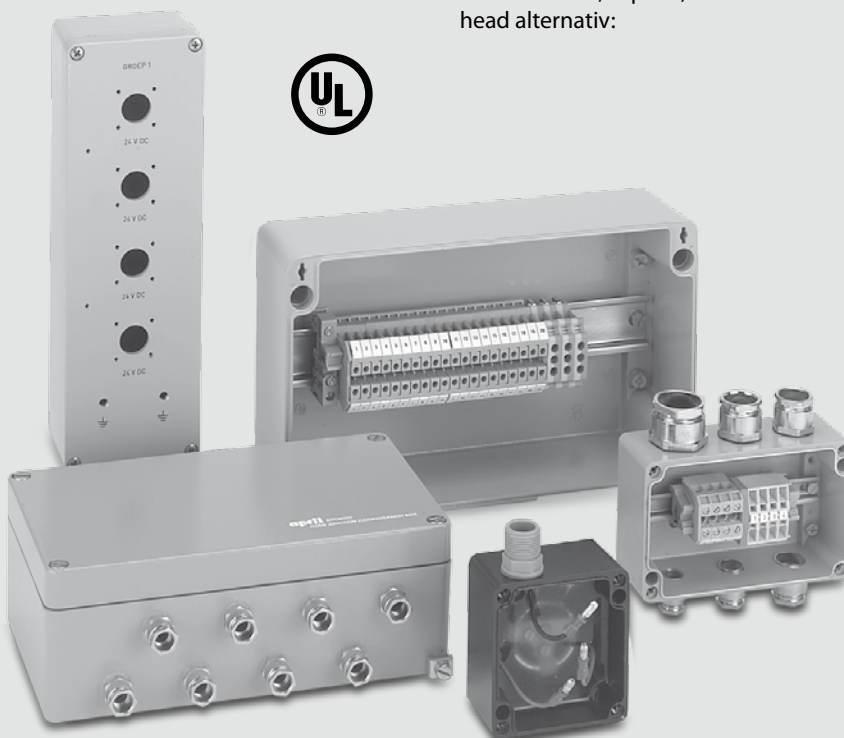
IP66

IP67 on request

Approbations

Germanischer Lloyd

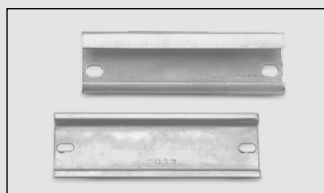
UL





Mounting plates

made from galvanised steel plate (thickness: CA-060 to CA-310, CA-350 to CA-400: 1.5 mm; CA-330, CA-420 to CA-480: 2.5 mm) for versatile mounting of built-in components.



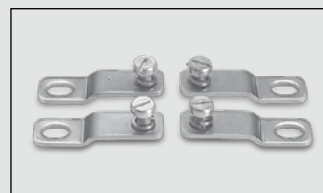
Mounting rails

conforming to Standards TS 15 or TS32 and TS 35 made from steel; surface treated for accepting terminal blocks.



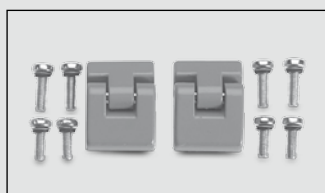
Earthing bars

made from galvanised steel for combining and connecting PE conductors.



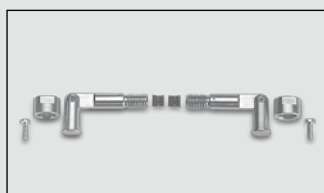
External mounting brackets

made from stainless steel for mounting enclosures without opening the covers. Variable mounting in 90°-steps thanks to contour in base of enclosure.



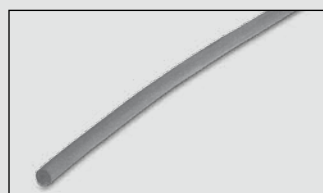
External articulated hinges

for hinged mounting of enclosure cover. Opening range of cover approx. 155°. Cast aluminium, painted in RAL 7001. Machining is required for mounting on enclosures. Supplied with drilling template.



Internal articulated hinges

for hinged mounting of enclosure cover. Opening range of cover approx. 95°. Stainless steel. Machining is required for mounting on enclosures.



Silicone cover seal

with increased temperature resistance for subsequent fitting or for replacing standard cover seal. Expanded silicone by the metre.

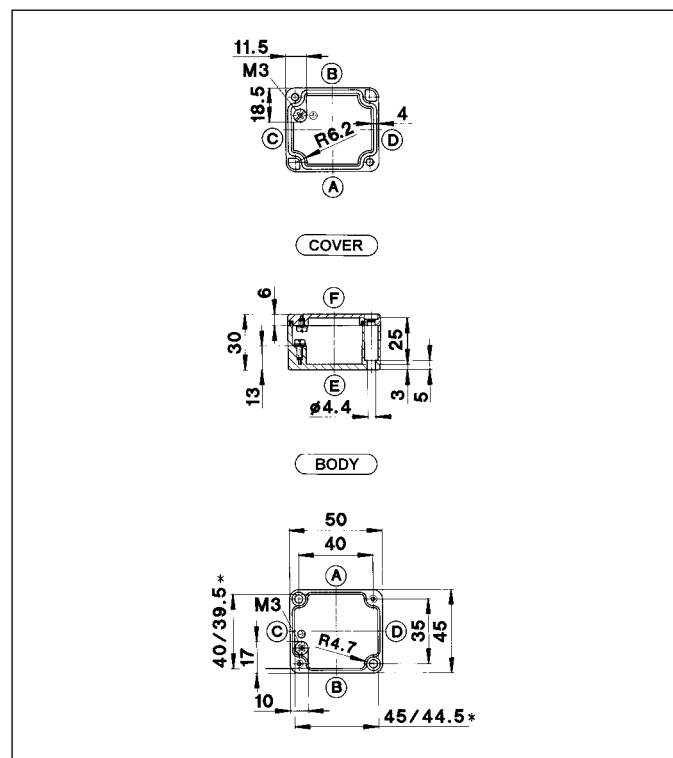
Aluminium enclosure						
Dimensions/mm					Article number	Type
L	x	B	x	H		
50	x	45	x	30	1020000000	CA-020
58	x	64	x	36	1060000000	CA-060
98	x	64	x	36	1080000000	CA-080
150	x	64	x	36	1100000000	CA-100
75	x	80	x	57	1130000000	CA-130
75	x	80	x	57	1140000000	CA-140
125	x	80	x	57	1150000000	CA-150
125	x	80	x	57	1160000000	CA-160
175	x	80	x	57	1170000000	CA-170
175	x	80	x	57	1180000000	CA-180
250	x	80	x	57	1190000000	CA-190
122	x	122	x	80	1210000000	CA-210
122	x	122	x	90	1210000050	CA-215
122	x	122	x	80	1220000000	CA-220
220	x	122	x	80	1230000000	CA-230
220	x	122	x	90	1230000050	CA-235
220	x	122	x	80	1240000000	CA-240
360	x	122	x	80	1250000000	CA-250
160	x	160	x	90	1270000000	CA-270
160	x	160	x	90	1280000000	CA-280
260	x	160	x	90	1290000000	CA-290
260	x	160	x	90	1300000000	CA-300
360	x	160	x	90	1310000000	CA-310
560	x	160	x	90	1330000000	CA-330
200	x	230	x	110	1350000000	CA-350
200	x	230	x	180	1360000000	CA-360
280	x	230	x	110	1370000000	CA-370
330	x	230	x	110	1380000000	CA-380
330	x	230	x	180	1390000000	CA-390
401	x	230	x	110	1400000000	CA-400
600	x	230	x	110	1420000000	CA-420
402	x	310	x	110	1450000000	CA-450
402	x	310	x	180	1460000000	CA-460
600	x	310	x	110	1470000000	CA-470
600	x	310	x	180	1480000000	CA-480

Aluminium Enclosures – Series CA

50 x 45 x 30 mm

CA-020

Aluminium enclosure



* Smaller dimension at mounting plate support

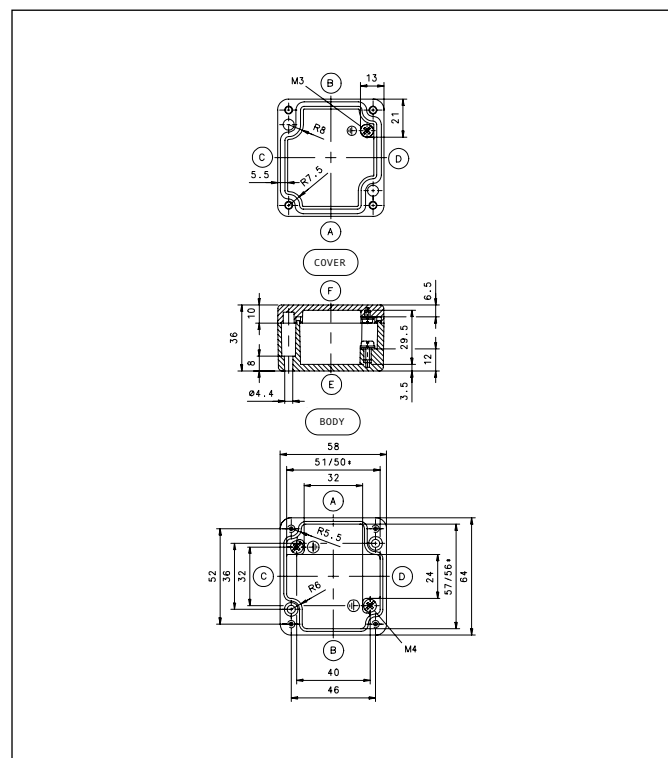
Type	CA-020
Weight (g)	70
External dimension (mm)	50 x 45 x 30
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1020000000
with hexagon socket head cap screws	-
Silicone seal and cover screws	-
HF seal and cover screws	-
Unwashed, not painted, loose accessories	1020034000
Accessories (individual part or installation kit)	
Mounting plate	-
Mounting rail TS 15	-
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	-
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	-
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	1 0 0 0 0 0 0 0
Side C/D	1 0 0 0 0 0 0 0

** Enclosure preparation required

58 x 64 x 36 mm

CA-060

Aluminium enclosure



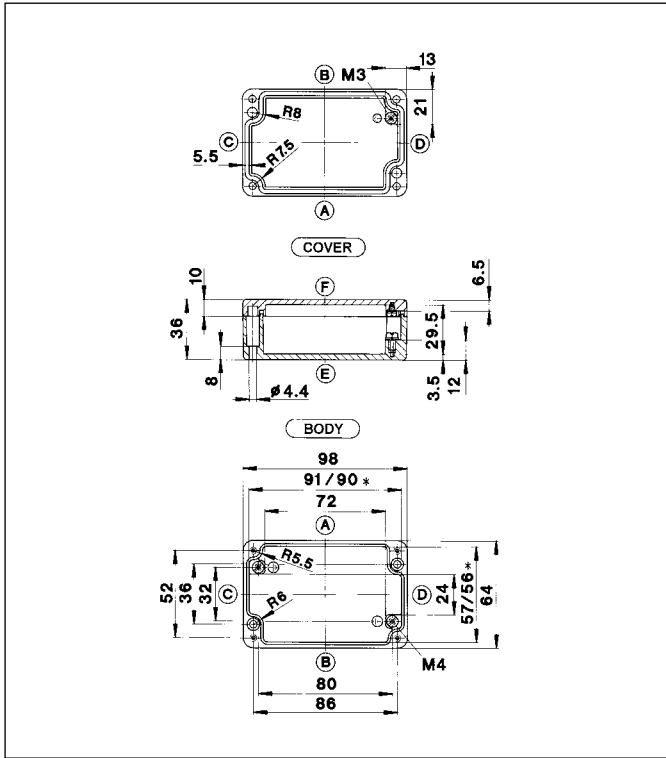
* Smaller dimension at mounting plate support

Type	CA-060
Weight (g)	160
External dimension (mm)	58 x 64 x 36
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1060000000
with hexagon socket head cap screws	-
Silicone seal and cover screws	1060094000
HF seal and cover screws	1060008000
Unwashed, not painted, loose accessories	1060038000
Accessories (individual part or installation kit)	
Mounting plate	9511001000
Mounting rail TS 15	9820000000
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	-
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	2 1 0 0 0 0 0 0
Side C/D	1 0 0 0 0 0 0 0

** Enclosure preparation required

98 x 64 x 36 mm

CA-080 Aluminium enclosure



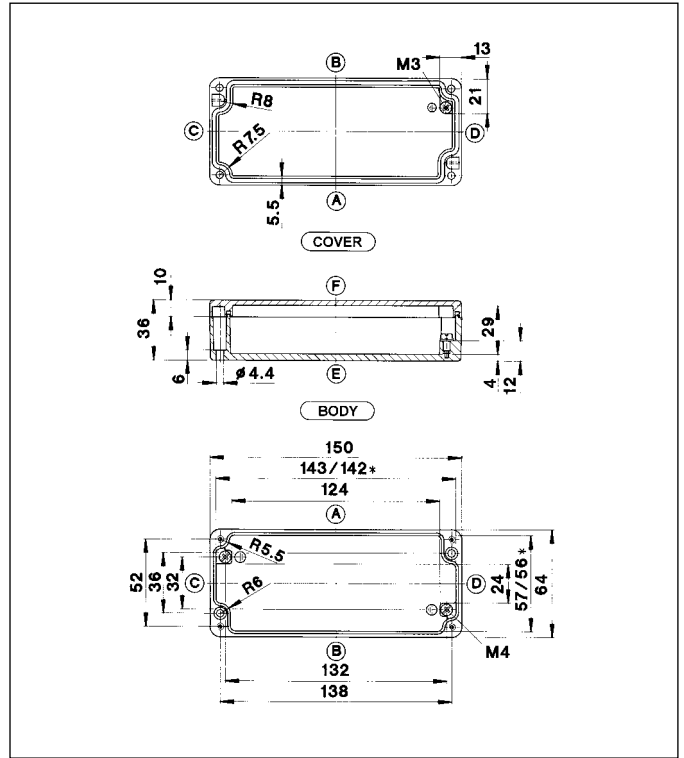
* Smaller dimension at mounting plate support

Type	CA-080
Weight (g)	220
External dimension (mm)	98 x 64 x 36
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1080000000
with hexagon socket head cap screws	-
Silicone seal and cover screws	1080009000
HF seal and cover screws	1080008000
Unwashed, not painted, loose accessories	1080042000
Accessories (individual part or installation kit)	
Mounting plate	9511002000
Mounting rail TS 15	9820005000
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	-
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	4 3 0 0 0 0 0 0
Side C/D	1 0 0 0 0 0 0 0

** Enclosure preparation required

150 x 64 x 36 mm

CA-100 Aluminium enclosure



* Smaller dimension at mounting plate support

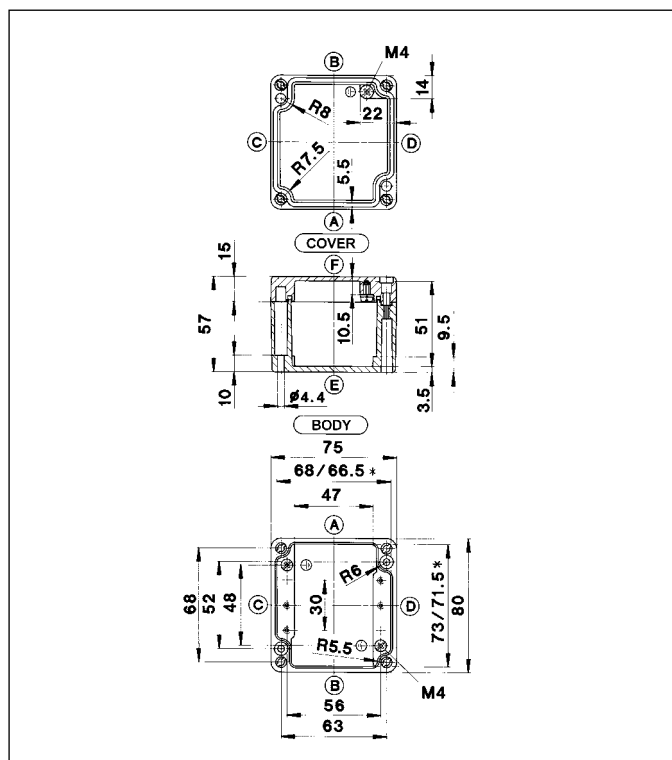
Type	CA-100
Weight (g)	330
External dimension (mm)	150 x 64 x 36
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1100000000
with hexagon socket head cap screws	-
Silicone seal and cover screws	1100076000
HF seal and cover screws	1100008000
Unwashed, not painted, loose accessories	1100053000
Accessories (individual part or installation kit)	
Mounting plate	9511003000
Mounting rail TS 15	9820011000
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	-
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	6 4 0 0 0 0 0 0
Side C/D	1 0 0 0 0 0 0 0

** Enclosure preparation required

Aluminium Enclosures – Series CA

75 x 80 x 57 mm

CA-130 Aluminium enclosure



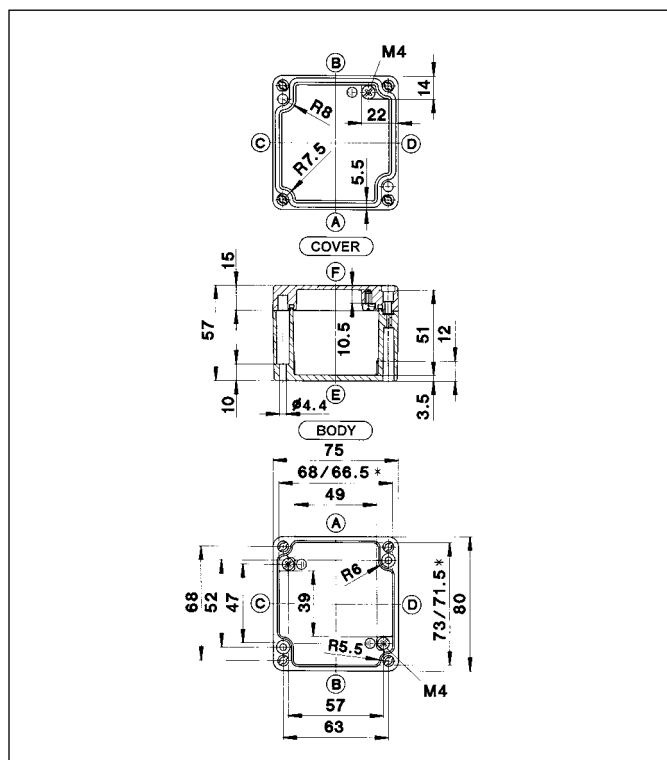
* Smaller dimension at mounting plate support

Type	CA-130
Weight (g)	280
External dimension (mm)	75 x 80 x 57
Ordering data	Part number
Enclosure (painted) with seal (CR)	1130000000
with cover screws	–
with hexagon socket head cap screws	–
Silicone seal and cover screws	1130082000
HF seal and cover screws	1130008000
Unwashed, not painted, loose accessories	1130057000
Accessories (individual part or installation kit)	
Mounting plate	9823015000
Mounting rail TS 15	9820002000
Mounting rail TS 32	–
Mounting rail TS 35	–
Earthing rail	–
External mounting brackets	–
External articulated hinges	9801044000
Internal articulated hinges with cover guide**	–
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	5 2 1 0 0 0 0 0
Side C/D	3 2 1 0 0 0 0 0

** Enclosure preparation required

75 x 80 x 57 mm

CA-140 Aluminium enclosure



* Smaller dimension at mounting plate support

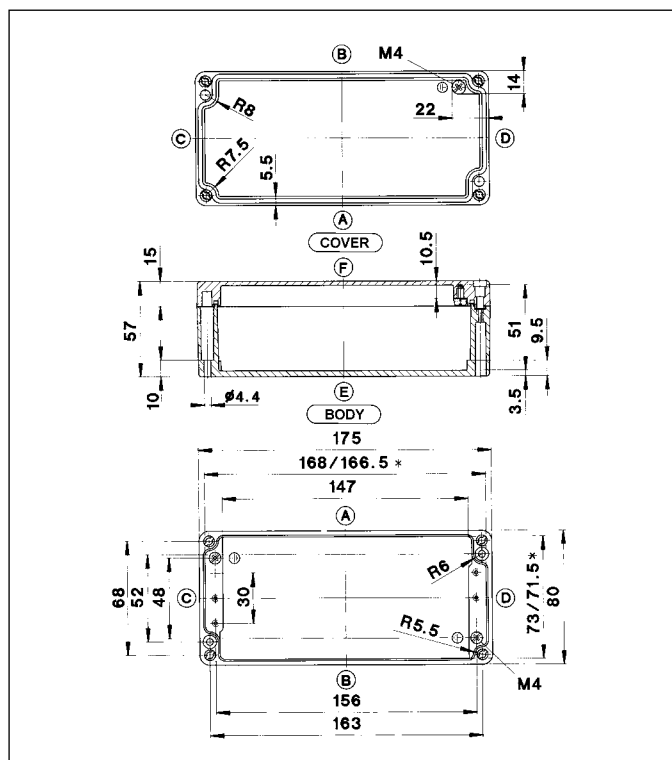
Type	CA-140
Weight (g)	280
External dimension (mm)	75 x 80 x 57
Ordering data	Part number
Enclosure (painted) with seal (CR)	1140000000
with cover screws	–
with hexagon socket head cap screws	–
Silicone seal and cover screws	1140086000
HF seal and cover screws	1140008000
Unwashed, not painted, loose accessories	1140080000
Accessories (individual part or installation kit)	
Mounting plate	9511004000
Mounting rail TS 15	9820035000
Mounting rail TS 32	–
Mounting rail TS 35	–
Earthing rail	–
External mounting brackets	–
External articulated hinges	9801044000
Internal articulated hinges with cover guide**	–
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	5 2 1 1 0 0 0 0
Side C/D	3 2 1 1 0 0 0 0

** Enclosure preparation required

Aluminium Enclosures – Series CA

175 x 80 x 57 mm

CA-170
Aluminium enclosure



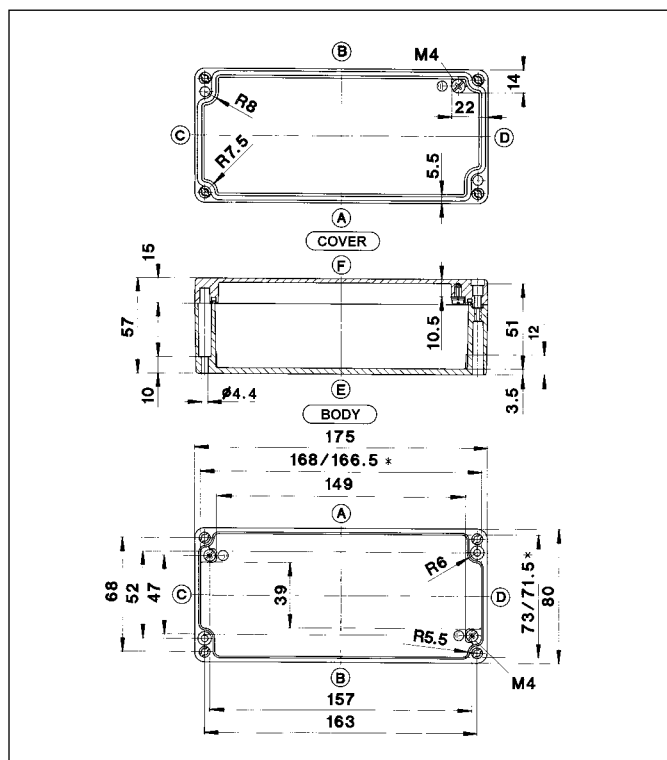
* Smaller dimension at mounting plate support

Type	CA-170
Weight (g)	530
External dimension (mm)	175 x 80 x 57
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1170000000
with hexagon socket head cap screws	-
Silicone seal and cover screws	1170009000
HF seal and cover screws	1170008000
Unwashed, not painted, loose accessories	1170016000
Accessories (individual part or installation kit)	
Mounting plate	9823017000
Mounting rail TS 15	9820014000
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	9801044000
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	14 6 4 4 0 0 0 0
Side C/D	3 2 1 0 0 0 0 0

** Enclosure preparation required

175 x 80 x 57 mm

CA-180
Aluminium enclosure



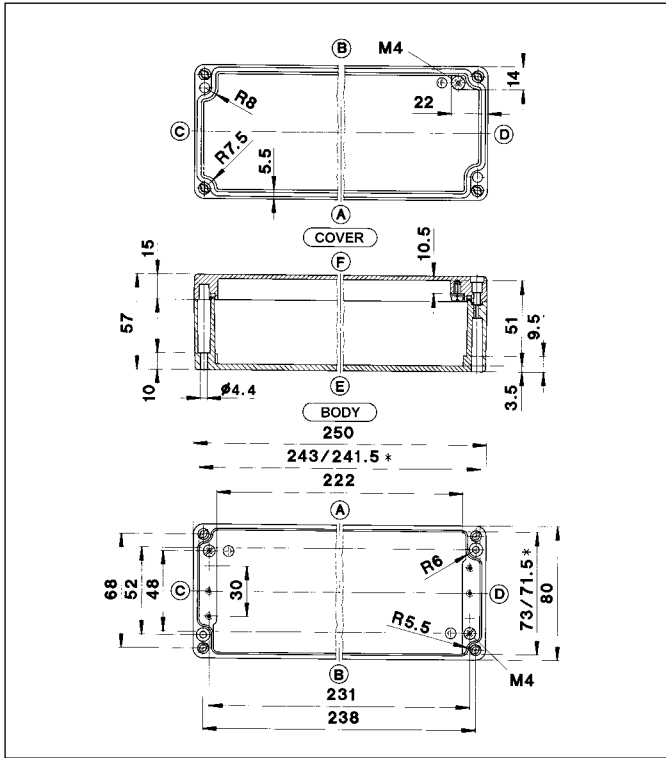
* Smaller dimension at mounting plate support

Type	CA-180
Weight (g)	530
External dimension (mm)	175 x 80 x 57
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1180000000
with hexagon socket head cap screws	-
Silicone seal and cover screws	1180044000
HF seal and cover screws	1180008000
Unwashed, not painted, loose accessories	1180040000
Accessories (individual part or installation kit)	
Mounting plate	9511006000
Mounting rail TS 15	9820037000
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	9801044000
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	14 6 4 4 0 0 0 0
Side C/D	4 2 1 1 0 0 0 0

** Enclosure preparation required

250 x 80 x 57 mm

CA-190 Aluminium enclosure



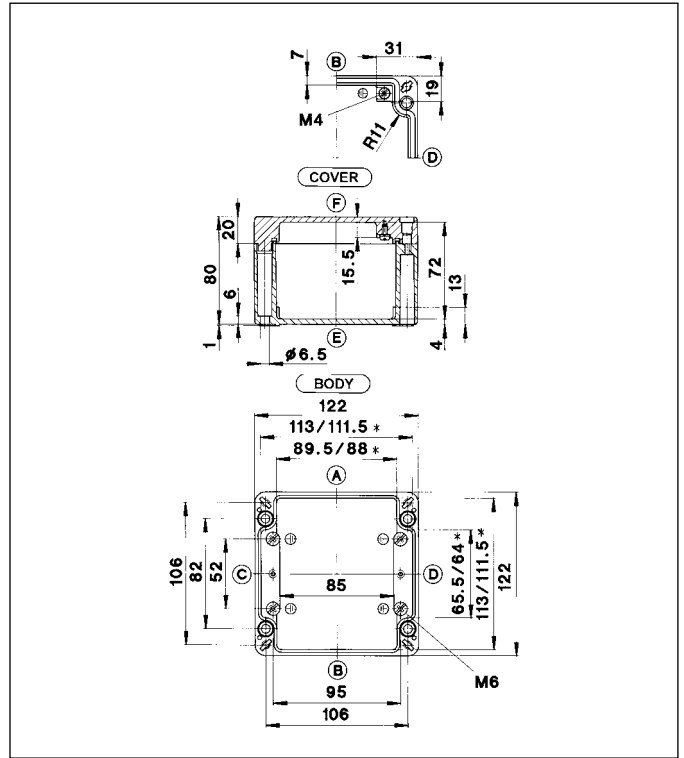
* Smaller dimension at mounting plate support

Type	CA-190
Weight (g)	710
External dimension (mm)	250 x 80 x 57
Ordering data	Part number
Enclosure (painted) with seal (CR)	1190000000
with cover screws	1190048000
with hexagon socket head cap screws	1190008000
Silicone seal and cover screws	1190026000
HF seal and cover screws	
Unwashed, not painted, loose accessories	
Accessories (individual part or installation kit)	
Mounting plate	9823021000
Mounting rail TS 15	9820019000
Mounting rail TS 32	-
Mounting rail TS 35	-
Earthing rail	-
External mounting brackets	-
External articulated hinges	9801044000
Internal articulated hinges with cover guide**	-
Silicone seal for extended temperature range (by the metre)	9231005000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	22 9 7 5 0 0 0 0
Side C/D	3 2 1 0 0 0 0 0

** Enclosure preparation required

122 x 122 x 80 mm

CA-210 Aluminium enclosure



* Smaller dimension at mounting plate support

Type	CA-210
Weight (g)	940
External dimension (mm)	122 x 122 x 80
Ordering data	Part number
Enclosure (painted) with seal (CR)	1210000000
with cover screws	1210001000
with hexagon socket head cap screws	1210015000
Silicone seal and cover screws	1210008000
HF seal and cover screws	1210016000
Unwashed, not painted, loose accessories	
Accessories (individual part or installation kit)	
Mounting plate	9511150000
Mounting rail TS 15	9820019000
Mounting rail TS 32	9821000000
Mounting rail TS 35	9822001000
Earthing rail	9810002000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	12 6 4 2 2 0 0 0
Side C/D	5 2 2 1 0 0 0 0

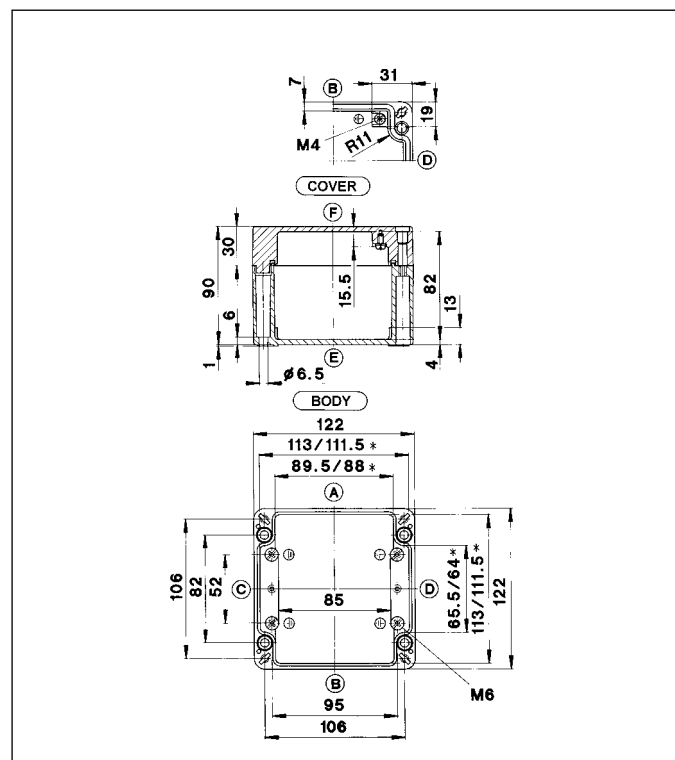
** Enclosure preparation required

Aluminium Enclosures – Series CA

122 x 122 x 90 mm

CA-215

Aluminium enclosure



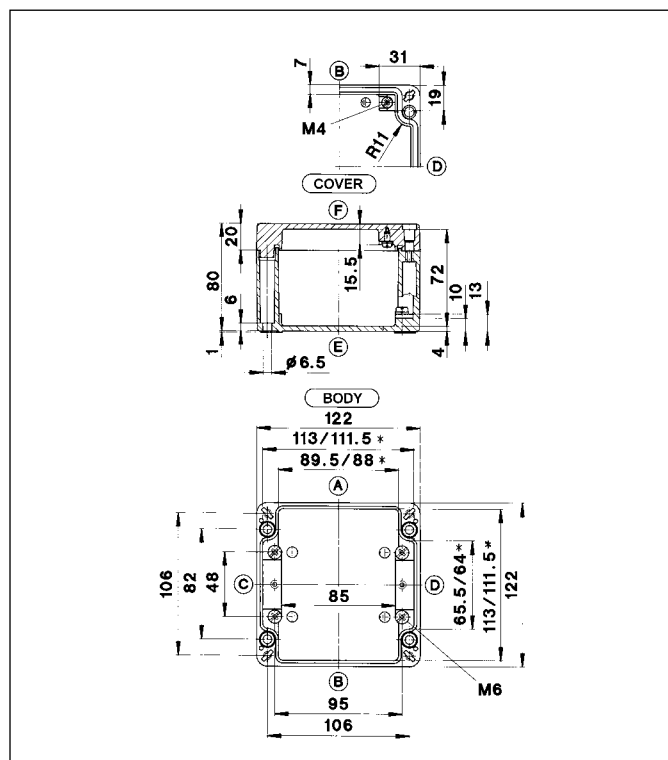
* Smaller dimension at mounting plate support

Type	CA-215
Weight (g)	940
External dimension (mm)	122 x 122 x 90
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1210000050
with hexagon socket head cap screws	1210001050
Silicone seal and cover screws	1210011050
HF seal and cover screws	1210008050
Unwashed, not painted, loose accessories	1210012050
Accessories (individual part or installation kit)	
Mounting plate	9511150000
Mounting rail TS 15	–
Mounting rail TS 32	9821000000
Mounting rail TS 35	9822001000
Earthing rail	9810002000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	12 6 4 2 2 0 0 0
Side C/D	5 2 2 1 0 0 0 0
** Enclosure preparation required	

122 x 122 x 80 mm

CA-220

Aluminium enclosure

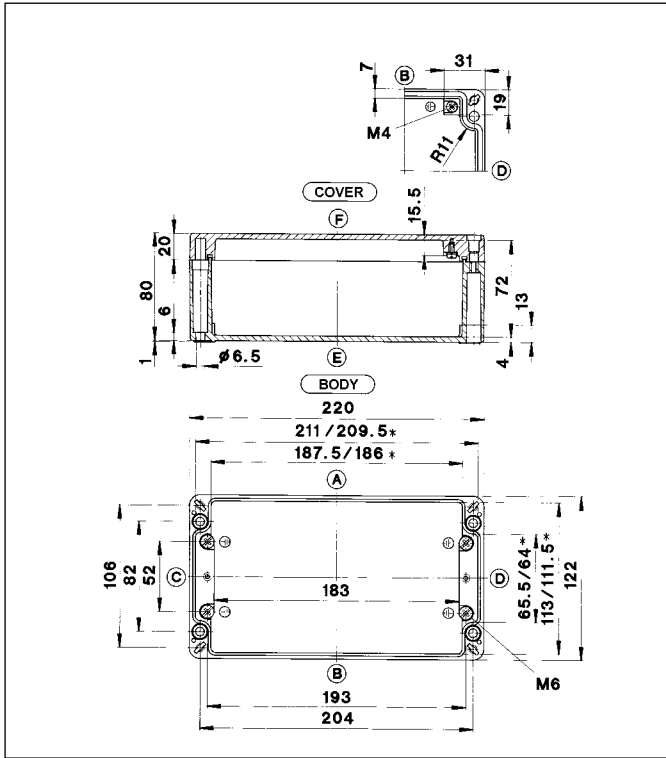


* Smaller dimension at mounting plate support

Type	CA-220
Weight (g)	940
External dimension (mm)	122 x 122 x 80
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1220000000
with hexagon socket head cap screws	1220001000
Silicone seal and cover screws	1220027000
HF seal and cover screws	1220008000
Unwashed, not painted, loose accessories	1220061000
Accessories (individual part or installation kit)	
Mounting plate	9511008000
Mounting rail TS 15	–
Mounting rail TS 32	9821000000
Mounting rail TS 35	9822001000
Earthing rail	9810002000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	12 6 4 2 2 0 0 0
Side C/D	5 2 2 1 0 0 0 0
** Enclosure preparation required	

220 x 122 x 80 mm

CA-230 Aluminium enclosure



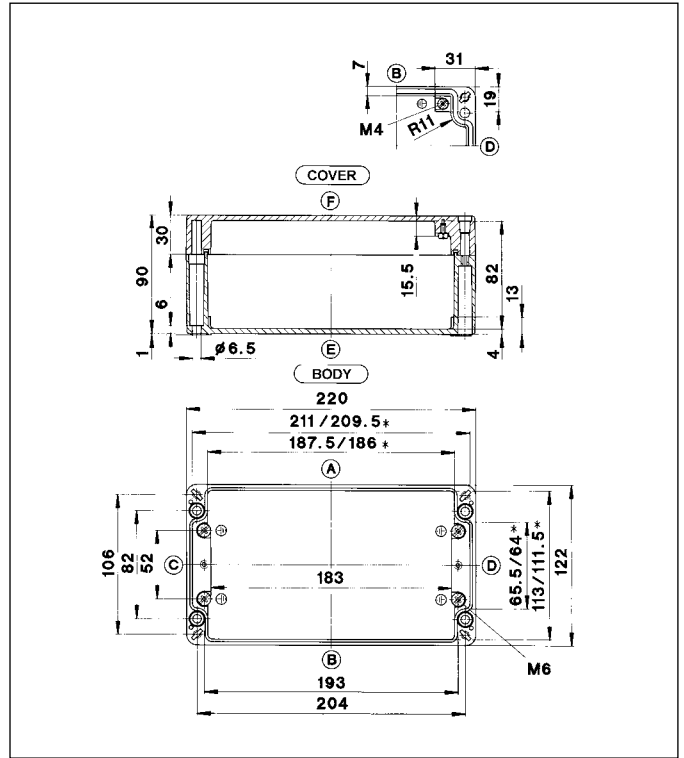
* Smaller dimension at mounting plate support

Type	CA-230
Weight (g)	1410
External dimension (mm)	220 x 122 x 80
Ordering data	Part number
Enclosure (painted) with seal (CR)	1230000000
with cover screws	1230001000
with hexagon socket head cap screws	1230016000
Silicone seal and cover screws	1230008000
HF seal and cover screws	1230015000
Unwashed, not painted, loose accessories	
Accessories (individual part or installation kit)	
Mounting plate	9511095000
Mounting rail TS 15	-
Mounting rail TS 32	9821005000
Mounting rail TS 35	9822007000
Earthing rail	9810008000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	27 12 8 5 4 0 0 0
Side C/D	5 2 2 1 0 0 0 0

** Enclosure preparation required

220 x 122 x 90 mm

CA-235 Aluminium enclosure



* Smaller dimension at mounting plate support

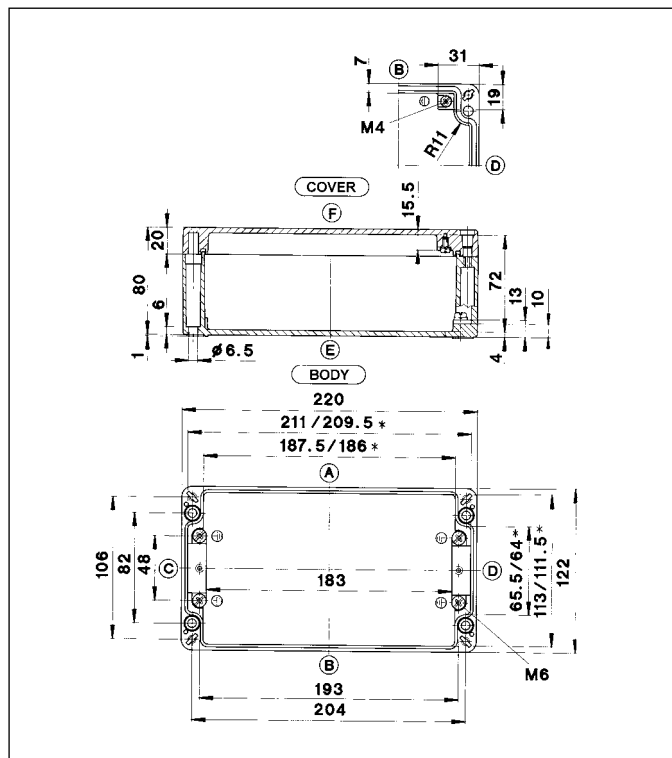
Type	CA-235
Weight (g)	1410
External dimension (mm)	220 x 122 x 90
Ordering data	Part number
Enclosure (painted) with seal (CR)	1230000050
with cover screws	1230001050
with hexagon socket head cap screws	1230011050
Silicone seal and cover screws	1230008050
HF seal and cover screws	1230012050
Unwashed, not painted, loose accessories	
Accessories (individual part or installation kit)	
Mounting plate	9511095000
Mounting rail TS 15	-
Mounting rail TS 32	9821005000
Mounting rail TS 35	9822007000
Earthing rail	9810008000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	27 12 8 5 4 0 0 0
Side C/D	5 2 2 1 0 0 0 0

** Enclosure preparation required

Aluminium Enclosures – Series CA

220 x 122 x 80 mm

CA-240 Aluminium enclosure

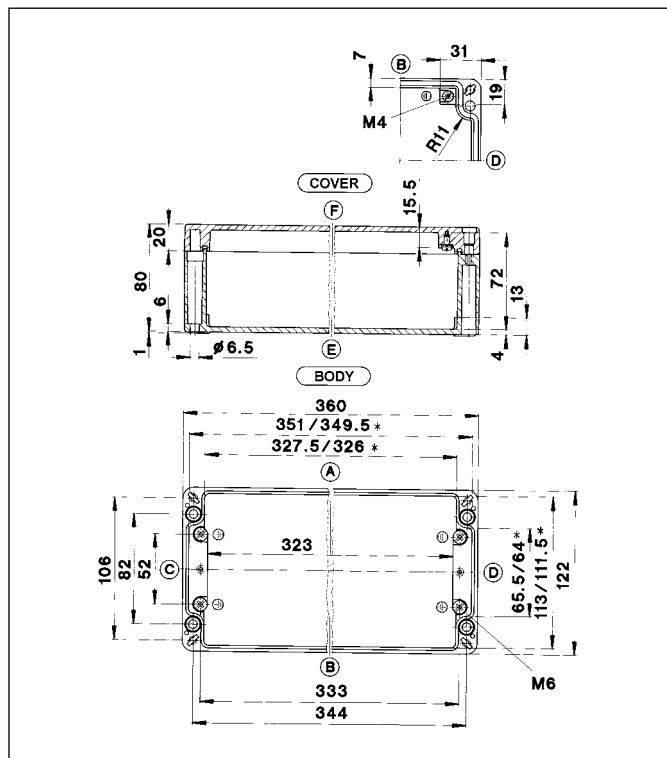


* Smaller dimension at mounting plate support

Type	CA-240
Weight (g)	1410
External dimension (mm)	220 x 122 x 80
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1240000000
with hexagon socket head cap screws	1240001000
Silicone seal and cover screws	1240097000
HF seal and cover screws	1240008000
Unwashed, not painted, loose accessories	1240082000
Accessories (individual part or installation kit)	
Mounting plate	9511009000
Mounting rail TS 15	–
Mounting rail TS 32	9821005000
Mounting rail TS 35	9822007000
Earthing rail	9810008000
External mounting brackets	9820024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	27 12 8 5 4 0 0 0
Side C/D	5 2 2 1 0 0 0 0
** Enclosure preparation required	

360 x 122 x 80 mm

CA-250 Aluminium enclosure



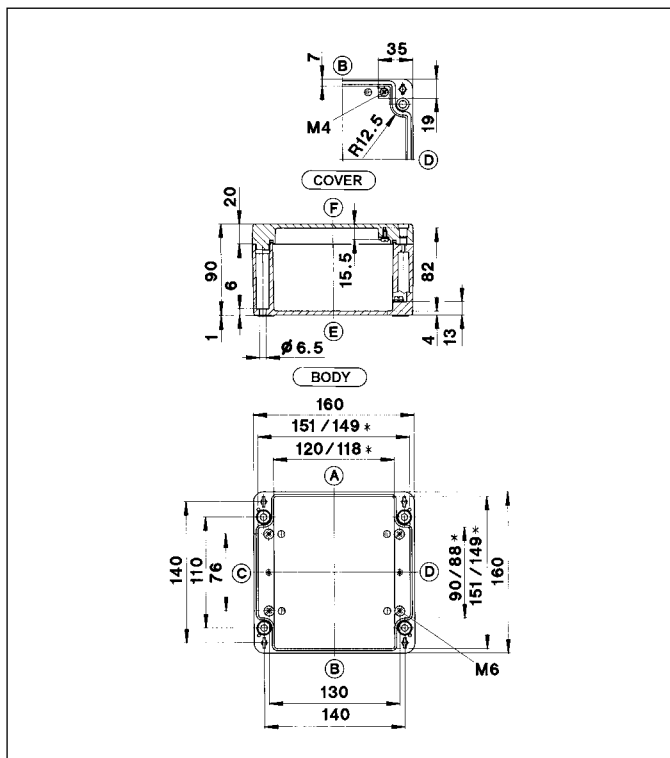
* Smaller dimension at mounting plate support

Type	CA-250
Weight (g)	1860
External dimension (mm)	360 x 122 x 80
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1250000000
with hexagon socket head cap screws	1250001000
Silicone seal and cover screws	1250124000
HF seal and cover screws	1250008000
Unwashed, not painted, loose accessories	1250011000
Accessories (individual part or installation kit)	
Mounting plate	9511174000
Mounting rail TS 15	–
Mounting rail TS 32	9821012000
Mounting rail TS 35	9822015000
Earthing rail	9810014000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801031000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	48 21 16 9 6 0 0 0
Side C/D	5 2 2 1 0 0 0 0
** Enclosure preparation required	

160 x 160 x 90 mm

CA-270

Aluminium enclosure

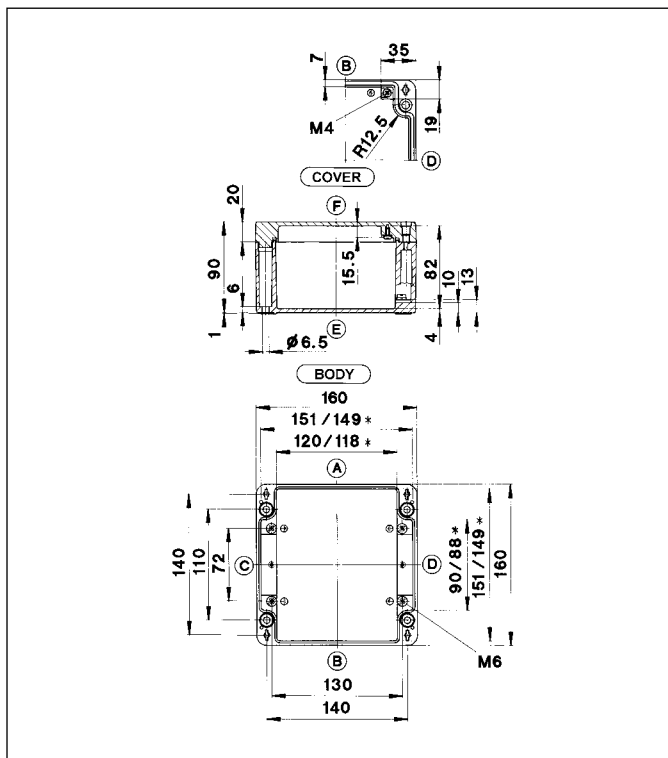


* Smaller dimension at mounting plate support

Type	CA-270
Weight (g)	1410
External dimension (mm)	160 x 160 x 90
Ordering data Enclosure (painted) with seal (CR)	Part number
with cover screws	1270000000
with hexagon socket head cap screws	1270001000
Silicone seal and cover screws	1270001200
HF seal and cover screws	1270008000
Unwashed, not painted, loose accessories	1270013000
Accessories (individual part or installation kit)	
Mounting plate	9511149000
Mounting rail TS 15	–
Mounting rail TS 32	9821002000
Mounting rail TS 35	9822003000
Earthing rail	9810004000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	20 9 6 4 2 2 1 0
Side C/D	8 4 3 2 2 0 0 0
** Enclosure preparation required	

CA-280

Aluminium enclosure



* Smaller dimension at mounting plate support

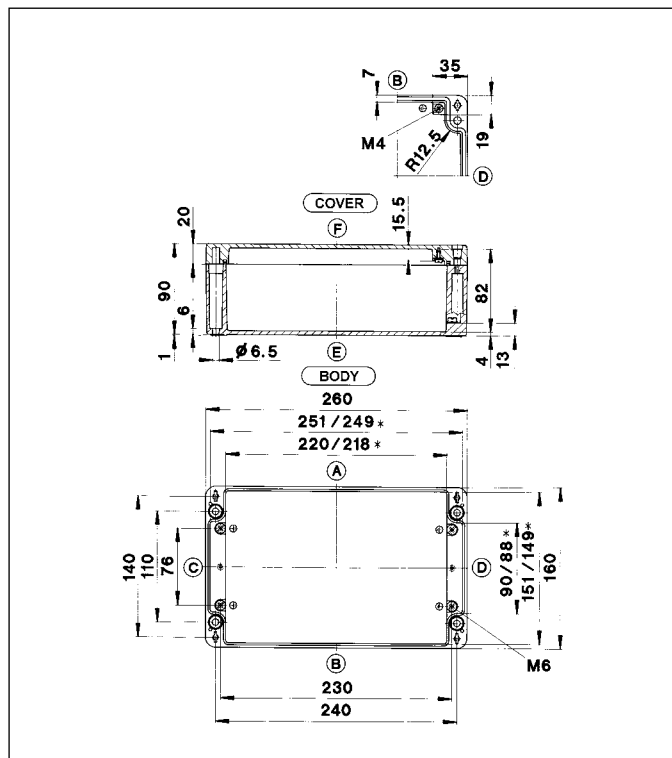
Type	CA-280
Weight (g)	1410
External dimension (mm)	160 x 160 x 90
Ordering data Enclosure (painted) with seal (CR)	Part number
with cover screws	1280000000
with hexagon socket head cap screws	1280001000
Silicone seal and cover screws	1280059000
HF seal and cover screws	1280008000
Unwashed, not painted, loose accessories	1280033000
Accessories (individual part or installation kit)	
Mounting plate	9511011000
Mounting rail TS 15	–
Mounting rail TS 32	9821002000
Mounting rail TS 35	9822003000
Earthing rail	9810004000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	20 9 6 4 2 2 1 0
Side C/D	8 4 3 2 2 0 0 0
** Enclosure preparation required	

Aluminium Enclosures – Series CA

260 x 160 x 90 mm

CA-290

Aluminium enclosure



* Smaller dimension at mounting plate support

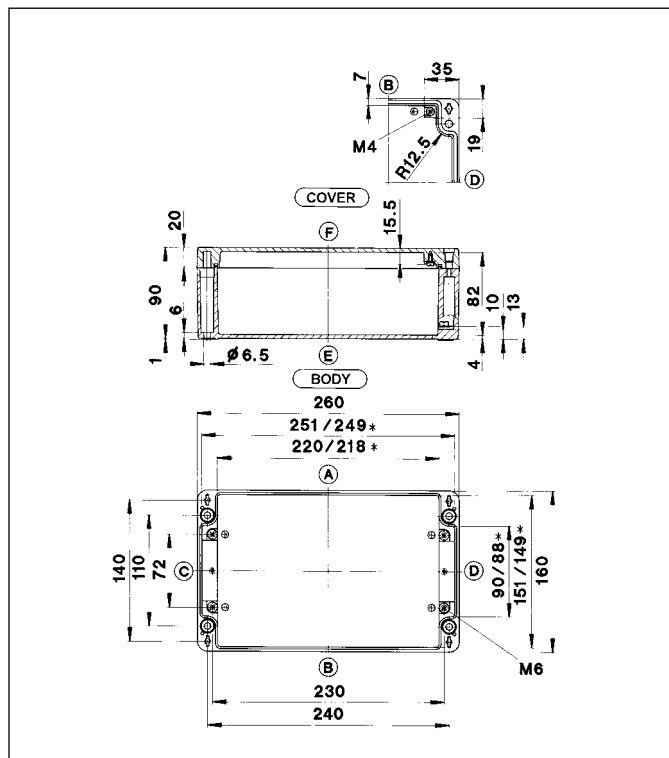
Type	CA-290
Weight (g)	1960
External dimension (mm)	260 x 160 x 90
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1290000000
with hexagon socket head cap screws	1290001000
Silicone seal and cover screws	1290047000
HF seal and cover screws	1290008000
Unwashed, not painted, loose accessories	1290011000
Accessories (individual part or installation kit)	
Mounting plate	9511096000
Mounting rail TS 15	–
Mounting rail TS 32	9821008000
Mounting rail TS 35	9822011000
Earthing rail	9810010000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	36 17 12 7 4 3 3 0
Side C/D	8 4 3 2 2 0 0 0

** Enclosure preparation required

260 x 160 x 90 mm

CA-300

Aluminium enclosure



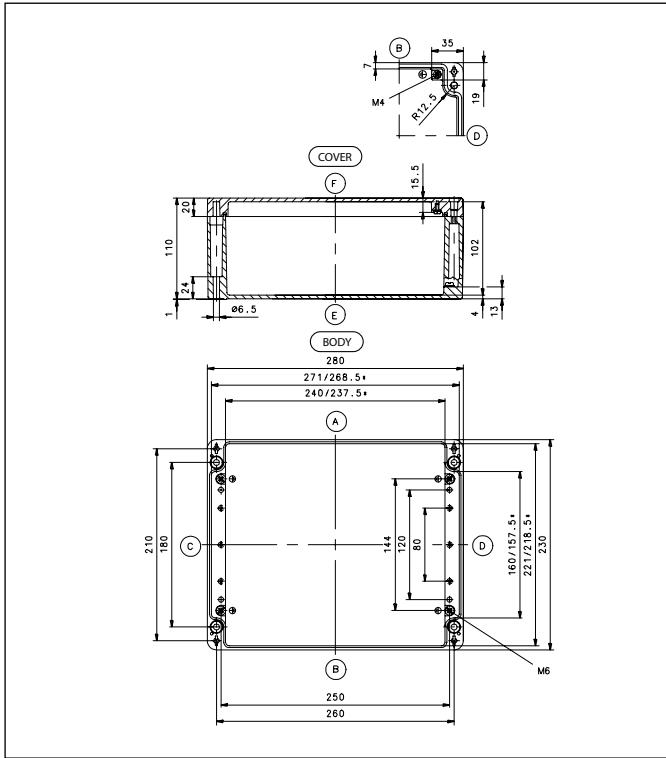
* Smaller dimension at mounting plate support

Type	CA-300
Weight (g)	1960
External dimension (mm)	260 x 160 x 90
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1300000000
with hexagon socket head cap screws	1300001000
Silicone seal and cover screws	1300064000
HF seal and cover screws	1300008000
Unwashed, not painted, loose accessories	1300041000
Accessories (individual part or installation kit)	
Mounting plate	9511012000
Mounting rail TS 15	–
Mounting rail TS 32	9821008000
Mounting rail TS 35	9822011000
Earthing rail	9810010000
External mounting brackets	9824024000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	36 17 12 7 4 3 3 0
Side C/D	8 4 3 2 2 0 0 0

** Enclosure preparation required

280 x 230 x 110 mm

CA-370 Aluminium enclosure

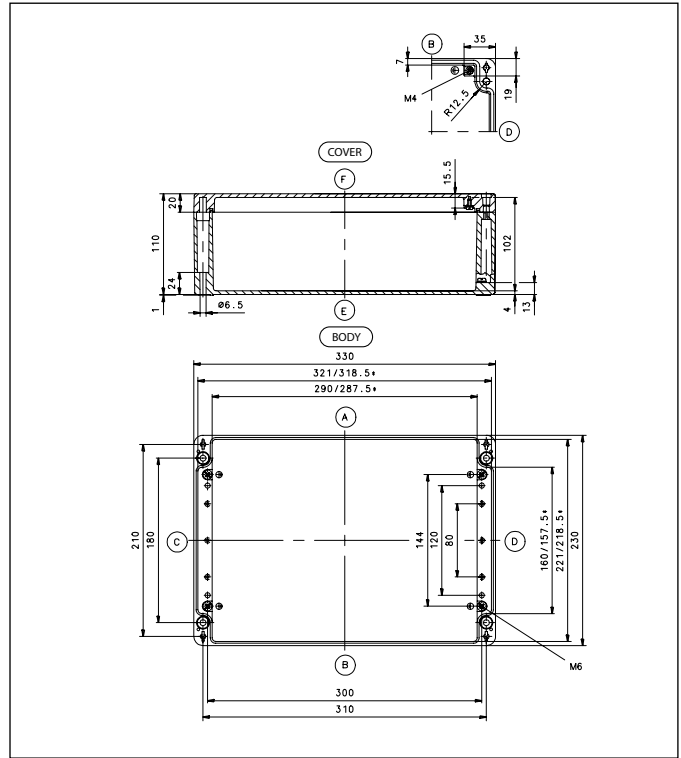


* Smaller dimension at mounting plate support

Type	CA-370
Weight (g)	3840
External dimension (mm)	280 x 230 x 110
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1370000000
with hexagon socket head cap screws	1370001000
Silicone seal and cover screws	1370073000
HF seal and cover screws	1370008000
Unwashed, not painted, loose accessories	1370015000
Accessories (individual part or installation kit)	
Mounting plate	9511016000
Mounting rail TS 15	–
Mounting rail TS 32	9821009000
Mounting rail TS 35	9822012000
Earthing rail	9810011000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	53 25 18 11 7 4 3 3
Side C/D	26 12 8 5 3 2 2 1
** Enclosure preparation required	

330 x 230 x 110 mm

CA-380 Aluminium enclosure



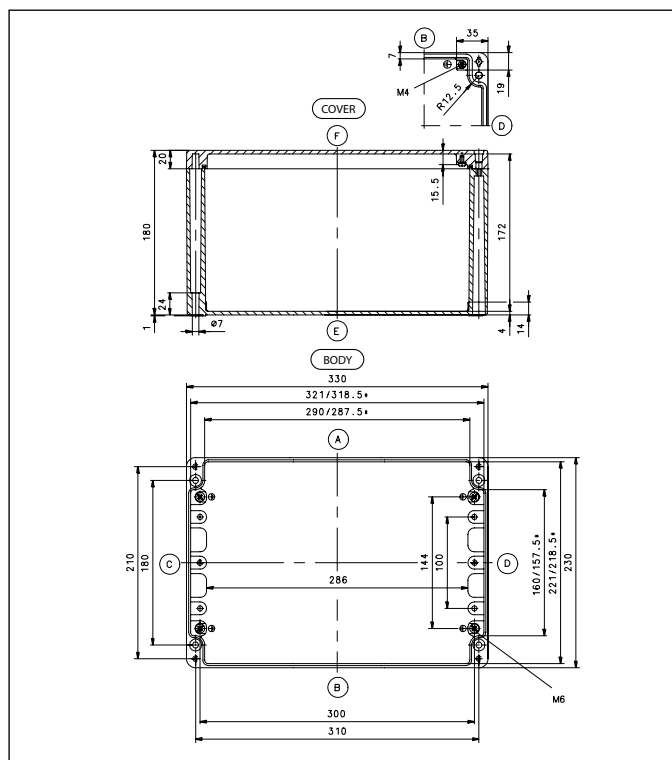
* Smaller dimension at mounting plate support

Type	CA-380
Weight (g)	4270
External dimension (mm)	330 x 230 x 110
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1380000000
with hexagon socket head cap screws	1380001000
Silicone seal and cover screws	1380052000
HF seal and cover screws	1380008000
Unwashed, not painted, loose accessories	1380014000
Accessories (individual part or installation kit)	
Mounting plate	9511017000
Mounting rail TS 15	–
Mounting rail TS 32	9821011000
Mounting rail TS 35	9822014000
Earthing rail	9810013000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	65 30 23 12 9 5 4 3
Side C/D	24 12 8 5 3 2 2 1
** Enclosure preparation required	

Aluminium Enclosures – Series CA

330 x 230 x 180 mm

CA-390 Aluminium enclosure

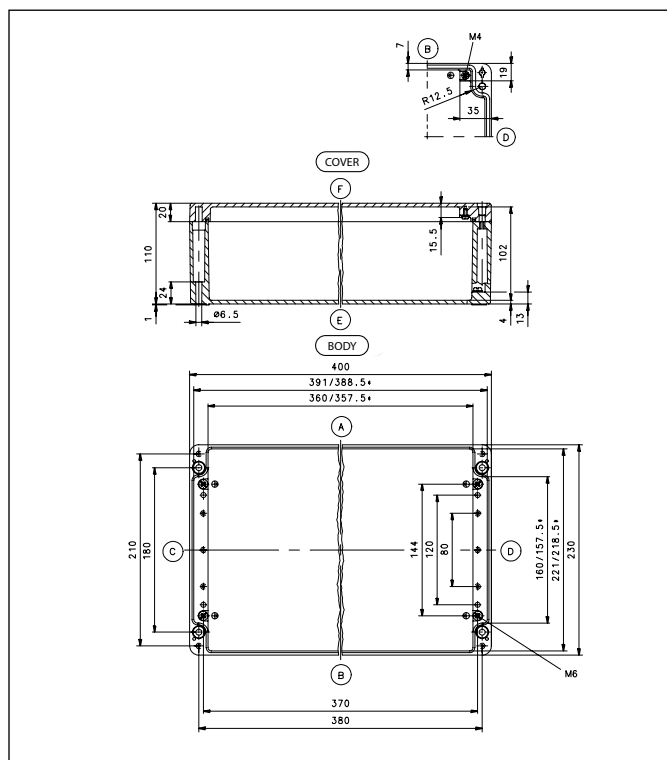


* Smaller dimension at mounting plate support

Type	CA-390
Weight (g)	5300
External dimension (mm)	330 x 230 x 180
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1390000000
with hexagon socket head cap screws	1390001000
Silicone seal and cover screws	1390020000
HF seal and cover screws	1390008000
Unwashed, not painted, loose accessories	1390012000
Accessories (individual part or installation kit)	
Mounting plate	9511017000
Mounting rail TS 15	–
Mounting rail TS 32	9821011000
Mounting rail TS 35	9822014000
Earthing rail	9810013000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	108 54 40 25 15 9 8 6
Side C/D	52 27 18 12 8 5 3 3
** Enclosure preparation required	

400 x 230 x 110 mm

CA-400 Aluminium enclosure

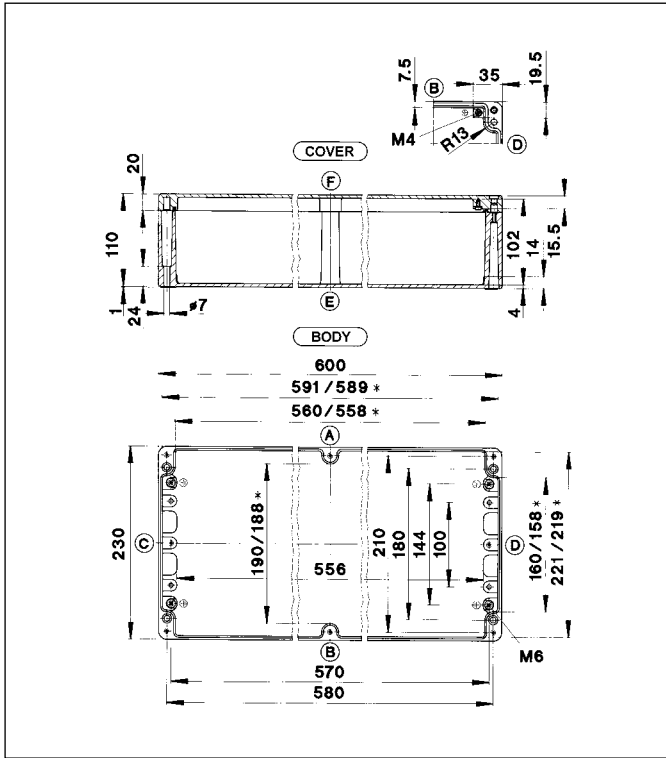


* Smaller dimension at mounting plate support

Type	CA-400
Weight (g)	4870
External dimension (mm)	400 x 230 x 110
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1400000000
with hexagon socket head cap screws	1400001000
Silicone seal and cover screws	1400062000
HF seal and cover screws	1400008000
Unwashed, not painted, loose accessories	1400013000
Accessories (individual part or installation kit)	
Mounting plate	9511294000
Mounting rail TS 15	–
Mounting rail TS 32	9821014000
Mounting rail TS 35	9822017000
Earthing rail	9810015000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	80 38 27 17 11 6 5 4
Side C/D	26 12 8 5 3 2 2 1
** Enclosure preparation required	

600 x 230 x 110 mm

CA-420 Aluminium enclosure



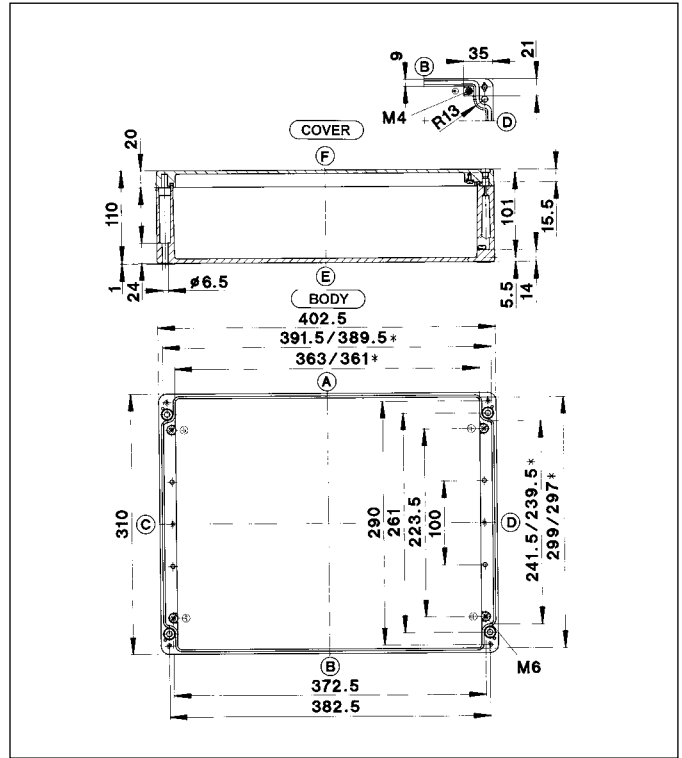
* Smaller dimension at mounting plate support

Type	CA-420
Weight (g)	6380
External dimension (mm)	600 x 230 x 110
Ordering data Enclosure (painted) with seal (CR)	Part number
with cover screws	1420000000
with hexagon socket head cap screws	1420001000
Silicone seal and cover screws	1420055000
HF seal and cover screws	1420008000
Unwashed, not painted, loose accessories	1420011000
Accessories (individual part or installation kit)	
Mounting plate	9511019000
Mounting rail TS 15	–
Mounting rail TS 32	9821016000
Mounting rail TS 35	9822019000
Earthing rail	9810017000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231006000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	120 56 42 24 16 8 8 6
Side C/D	28 13 8 5 3 2 2 1

** Enclosure preparation required

402,5 x 310 x 110 mm

CA-450 Aluminium enclosure



* Smaller dimension at mounting plate support

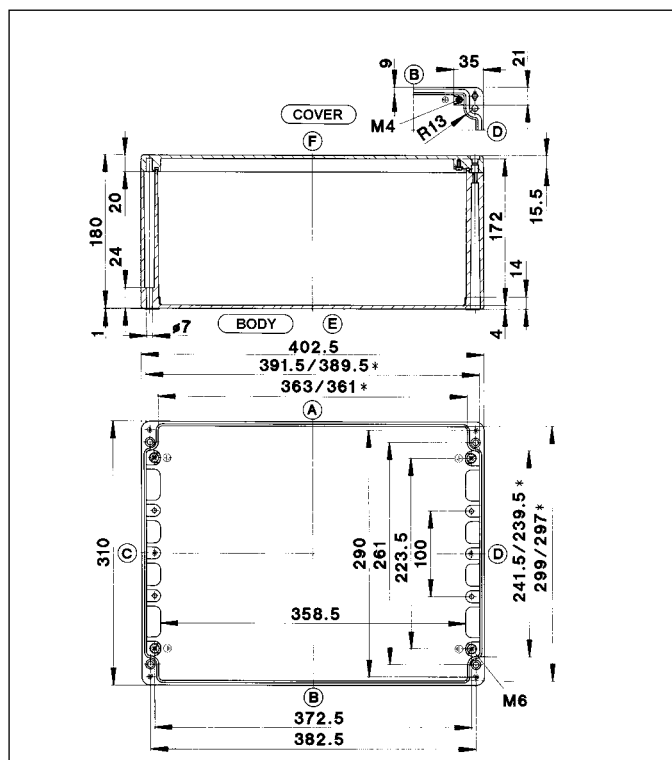
Type	CA-450
Weight (g)	5810
External dimension (mm)	402,5 x 310 x 110
Ordering data Enclosure (painted) with seal (CR)	Part number
with cover screws	1450000000
with hexagon socket head cap screws	1450001000
Silicone seal and cover screws	1450052000
HF seal and cover screws	1450008000
Unwashed, not painted, loose accessories	1450025000
Accessories (individual part or installation kit)	
Mounting plate	9511020000
Mounting rail TS 15	–
Mounting rail TS 32	9821014000
Mounting rail TS 35	9822017000
Earthing rail	9810015000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231009000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	80 38 27 17 11 6 5 4
Side C/D	38 21 13 7 5 4 3 2

** Enclosure preparation required

Aluminium Enclosures – Series CA

402,5 x 310 x 180 mm

CA-460
Aluminium enclosure



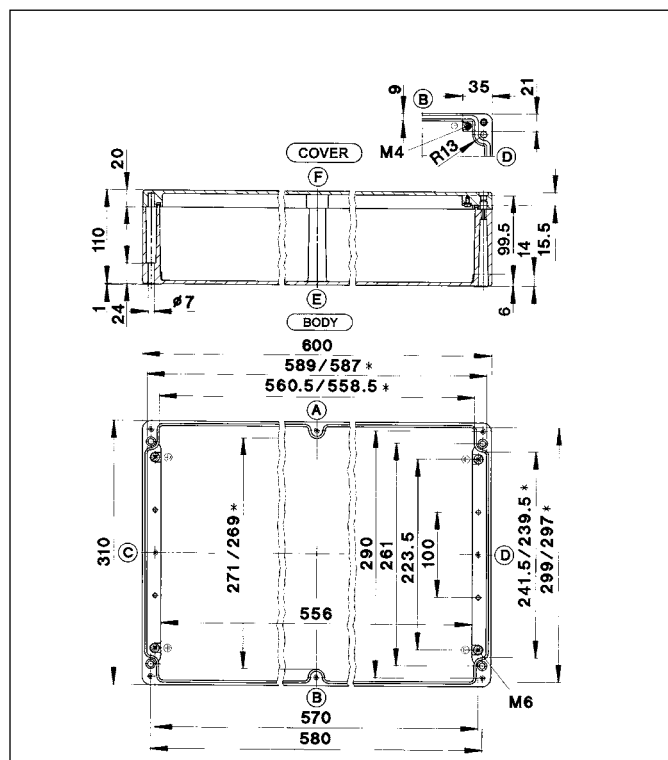
* Smaller dimension at mounting plate support

Type	CA-460
Weight (g)	7420
External dimension (mm)	402,5 x 310 x 180
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1460000000
with hexagon socket head cap screws	1460001000
Silicone seal and cover screws	1460013000
HF seal and cover screws	1460008000
Unwashed, not painted, loose accessories	1460049000
Accessories (individual part or installation kit)	
Mounting plate	9511020000
Mounting rail TS 15	–
Mounting rail TS 32	9821014000
Mounting rail TS 35	9822017000
Earthing rail	9810015000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231009000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	136 68 50 30 21 12 10 8
Side C/D	74 38 28 18 12 8 6 3

** Enclosure preparation required

600 x 310 x 110 mm

CA-470
Aluminium enclosure



* Smaller dimension at mounting plate support

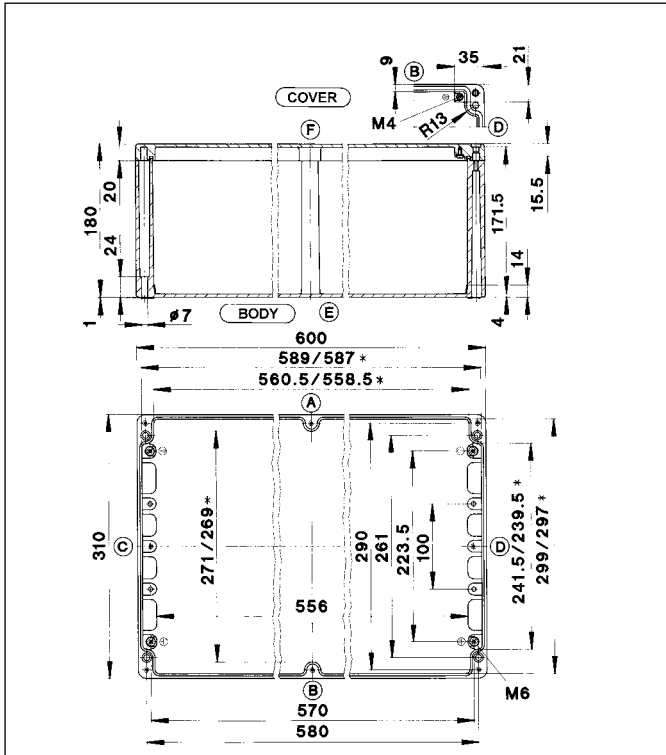
Type	CA-470
Weight (g)	8480
External dimension (mm)	600 x 310 x 110
Ordering data	Part number
Enclosure (painted) with seal (CR)	
with cover screws	1470000000
with hexagon socket head cap screws	1470001000
Silicone seal and cover screws	1470056000
HF seal and cover screws	1470008000
Unwashed, not painted, loose accessories	1470062000
Accessories (individual part or installation kit)	
Mounting plate	9511021000
Mounting rail TS 15	–
Mounting rail TS 32	9821016000
Mounting rail TS 35	9822019000
Earthing rail	9810017000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231009000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	120 56 42 24 16 8 8 6
Side C/D	38 17 13 7 5 4 3 2

** Enclosure preparation required

600 x 310 x 180 mm

CA-480

Aluminium enclosure



* Smaller dimension at mounting plate support

Type	CA-480
Weight (g)	10840
External dimension (mm)	600 x 310 x 180
Ordering data Enclosure (painted) with seal (CR)	Part number
with cover screws	1480000000
with hexagon socket head cap screws	1480001000
Silicone seal and cover screws	1480045000
HF seal and cover screws	1480008000
Unwashed, not painted, loose accessories	1480017000
Accessories (individual part or installation kit)	
Mounting plate	9511021000
Mounting rail TS 15	–
Mounting rail TS 32	9821016000
Mounting rail TS 35	9822019000
Earthing rail	9810017000
External mounting brackets	9824023000
External articulated hinges	9801047000
Internal articulated hinges with cover guide**	9801030000
Silicone seal for extended temperature range (by the metre)	9231009000
Maximum possible number of threads	
ISO M	12 16 20 25 32 40 50 63
Side A/B	200 100 76 46 30 18 14 12
Side C/D	74 38 28 18 12 8 6 5

** Enclosure preparation required

Polycarbonate and ABS Enclosures – Series CT

BERNSTEIN Series CT plastic enclosures are manufactured from high-grade polycarbonate or ABS. They are particularly suitable for encapsulating electrical and electronic components as well as complete small-scale controllers. All enclosures are available with a transparent polycarbonate cover. The enclosures correspond to protection class IP65 in accordance with IEC529.

Attachment bosses are provided on the base of the plastic enclosures for mounting built-in components. The components can be simply secured with the self-tapping mounting screws that come with the enclosure. With their attachment bosses in the base, BERNSTEIN plastic enclosures offer many direct mounting options. Mounting rails can be installed without mounting plates on the central bosses.

BERNSTEIN Series CT enclosures are supplied as standard with the quick-release fastener developed and patented by BERNSTEIN. The quick-release fasteners that come with the enclosure are simply pressed and locked into the holes in the cover. They are made from stainless steel. The protection class (on the standard enclosure) is ensured by a factory-fitted seal. BERNSTEIN polycarbonate and ABS enclosures are produced as standard in the colour RAL 7035 (light grey). On account of its material properties, the polycarbonate version offers specific advantages in terms of impact strength, UV resistance and operating temperature range. Thanks to the many attachment bosses in the body, both versions provide many direct mounting options.



Technical data

Material

Polycarbonate, transparent polycarbonate or ABS

Seal

Neoprene (CR) round cord (siliconized)
alternatively:
Neoprene (CR) round cord (silicone-free)
Silicone round cord

Quick-release fastener

Stainless steel, self-locking, cross recessed head
alternatively:
Stainless steel cover screw, cross recessed head
Sealed cover screws, galvanised steel, (9 S 20 K), slot head

Colour

RAL 7035 (light grey)
Alternatively for large quantities:
Other colours (dyeing) available on request

Temperature range of CT enclosures

-40°C to +120°C (Polycarbonate)
-40°C to +80°C (ABS)

Temperature range of seals

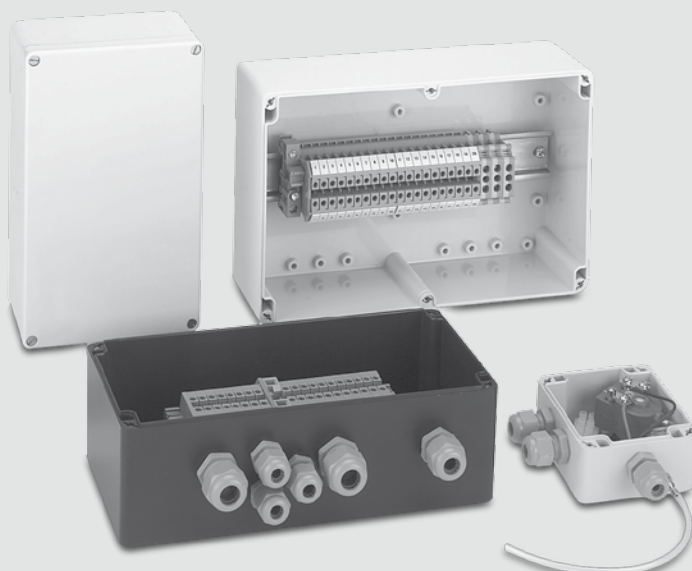
-30°C to +80°C (Neoprene seal)
alternatively:
-60°C to +130°C (silicone seal)

Protection class

IP65

Approbations

UL (only polycarbonate enclosures)
c CSA us (Enclosure NEMA Type 1, 4, 4X Indoor, 12 and 13)
(only polycarbonate enclosures)





Mounting plates

Made from laminated paper (Pertinax) (thickness: CT-50 to CT-60: 1.5 mm; CT-62 to CT-78: 2.0 mm; CT-80 to CT-91: 2.5 mm) for versatile mounting of built-in components



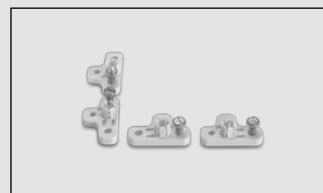
Mounting rails

conforming to Standards TS15 or TS32 and TS 35 made from steel; surface treated for accepting terminal blocks.



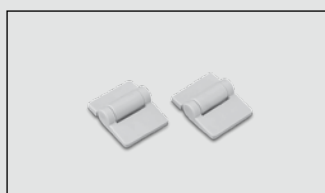
Earthing bars

made from galvanised steel for combining and connecting PE conductors.



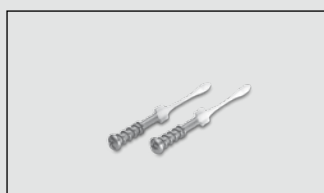
External mounting brackets

made from polycarbonate for mounting enclosures without opening the covers. Different bracket arrangement options offset by 90°. Colour RAL 7035.



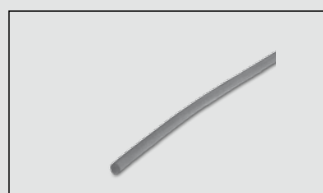
External articulated hinges

made from polycarbonate for hinged mounting of enclosure cover. Opening range of cover approx. 195°, latching at 170°, articulated hinges are simply pressed into holes (CT-88: secured by screws).



Flexible quick-release fastener/internal articulated hinges

for captive mounting and strain relief for enclosure cover. Cover opening range > 180°. Stainless steel with injection-moulded polyamide ends.



Silicone cover seal

with increased temperature resistance for subsequent fitting or for replacing standard cover seal. Expanded silicone by the metre.



Brass press-in bushes

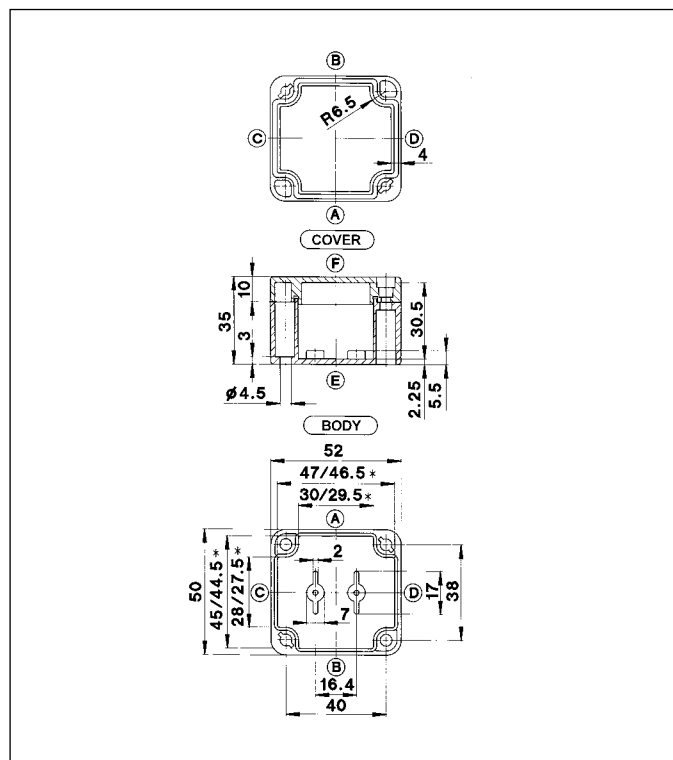
with metric fastening screws M3 (M4 on CT-88), for mounting built-in components with metric screws in the mounting bushes in the enclosure body.

Polycarbonate enclosure					Polycarbonate enclosure with transparent cover (PC)		ABS enclosure		ABS enclosure with transparent cover (PC)			
Dimensions/mm					Article number	Type	Article number	Type	Article number	Type	Article number	Type
L	x	B	x	H								
52	x	50	x	35	2500000000	CT-501	2501000000	CT-501 T	3500000000	CT-502	3501000000	CT-502 T
65	x	50	x	35	2520000000	CT-521	2521000000	CT-521 T	3520000000	CT-522	3521000000	CT-522 T
82	x	80	x	55	2540000000	CT-541	2541000000	CT-541 T	3540000000	CT-542	3541000000	CT-542 T
82	x	80	x	85	2560000000	CT-561	2561000000	CT-561 T	3560000000	CT-562	3561000000	CT-562 T
120	x	80	x	55	2580000000	CT-581	2581000000	CT-581 T	3580000000	CT-582	3581000000	CT-582 T
120	x	80	x	85	2600000000	CT-601	2601000000	CT-601 T	3600000000	CT-602	3601000000	CT-602 T
160	x	80	x	55	2620000000	CT-621	2621000000	CT-621 T	3620000000	CT-622	3621000000	CT-622 T
160	x	80	x	85	2640000000	CT-641	2641000000	CT-641 T	3640000000	CT-642	3641000000	CT-642 T
122	x	120	x	55	2660000000	CT-661	2661000000	CT-661 T	3660000000	CT-662	3661000000	CT-662 T
122	x	120	x	85	2680000000	CT-681	2681000000	CT-681 T	3680000000	CT-682	3681000000	CT-682 T
160	x	120	x	90	2720000000	CT-721	2721000000	CT-721 T	3720000000	CT-722	3721000000	CT-722 T
200	x	120	x	75	2760000000	CT-761	2761000000	CT-761 T	3760000000	CT-762	3761000000	CT-762 T
200	x	120	x	90	2780000000	CT-781	2781000000	CT-781 T	3780000000	CT-782	3781000000	CT-782 T
240	x	120	x	100	2800000000	CT-801	2801000000	CT-801 T	3800000000	CT-802	3801000000	CT-802 T
200	x	150	x	75	2820000000	CT-821	2821000000	CT-821 T	3820000000	CT-822	3821000000	CT-822 T
240	x	160	x	90	2840000000	CT-841	2841000000	CT-841 T	3840000000	CT-842	3841000000	CT-842 T
240	x	160	x	120	2860000000	CT-861	2861000000	CT-861 T	3860000000	CT-862	3861000000	CT-862 T
250	x	160	x	90	2900000000	CT-901	2901000000	CT-901 T	3900000000	CT-902	3901000000	CT-902 T
250	x	160	x	120	2910000000	CT-911	2911000000	CT-911 T	3910000000	CT-912	3911000000	CT-912 T
360	x	200	x	150	2880000000	CT-881	2881000000	CT-881 T	3880000000	CT-882	3881000000	CT-882 T
300	x	230	x	86	2870000000	CT-871	2871000000	CT-871 T	3870000000	CT-872	3871000000	CT-872 T
300	x	230	x	110	2890000000	CT-891	2891000000	CT-891 T	3890000000	CT-892	3891000000	CT-892 T

Polycarbonate and ABS Enclosures – Series CT

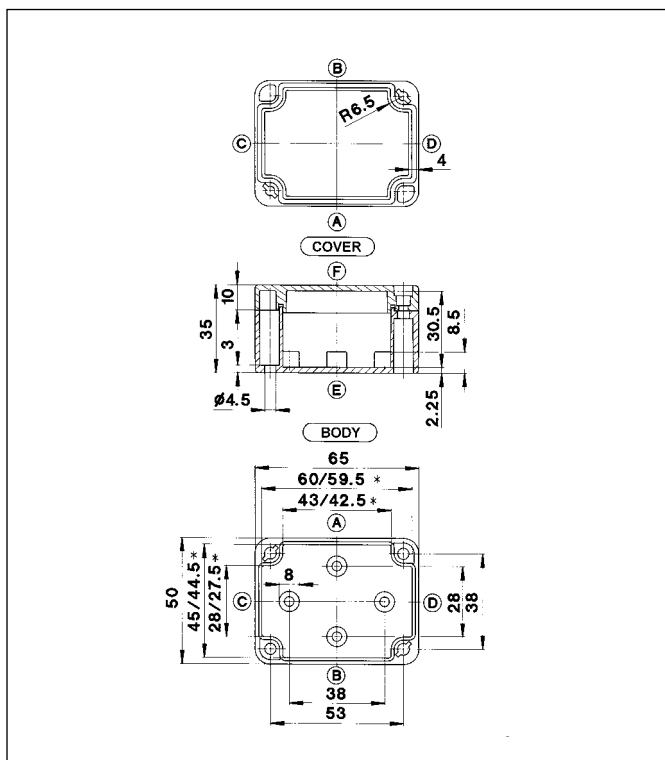
52 x 50 x 35 mm

CT-501 Polycarbonate enclosure
CT-502 ABS enclosure



65 x 50 x 35 mm

CT-521 Polycarbonate enclosure
CT-522 ABS enclosure



* Smaller dimension at mounting plate support

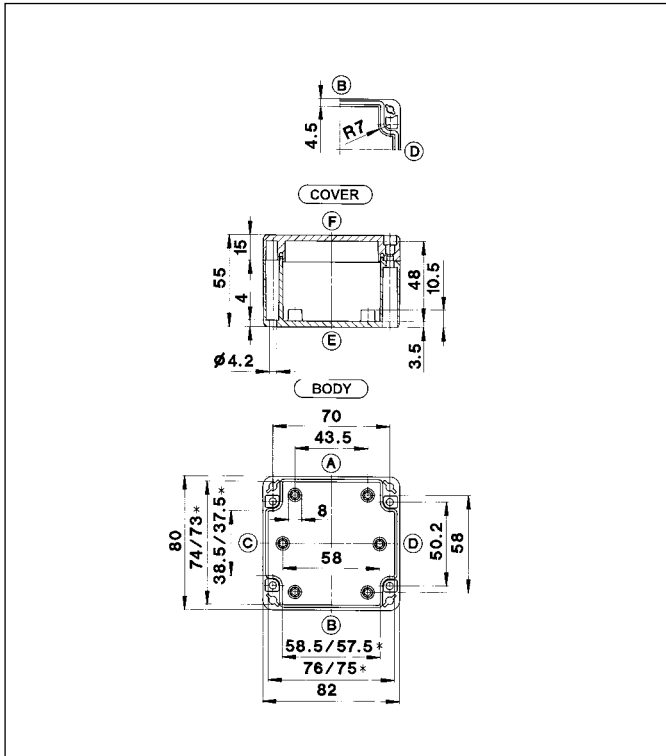
Type	CT-501 PC	CT-502 ABS
Weight (g)	40 (PC)	38 (ABS)
External dimension (mm)	52 x 50 x 35	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2500000000	
PC, with screw fastener	2500001000	
PC, with transparent cover (PC) and quick-release fastener	2501000000	
PC, with transparent cover (PC) and screw fastener	2501001000	
ABS, with quick-release fastener	3500000000	
ABS, with screw fastener	3500001000	
ABS, with transparent cover (PC) and quick-release fastener	3501000000	
ABS, with transparent cover (PC) and screw fastener	3501001000	
Accessories (individual part or installation kit)		
Mounting plate	9512009000	
Mounting rail TS 15	-	
Mounting rail TS 32	-	
Mounting rail TS 35	-	
Earthing rail (secured on central bosses C/D)	-	
External mounting brackets	-	
External articulated hinges**	-	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	-	
Silicone seal for extended temperature range (by the metre)	-	
Mounting bushes with 4 screws M3 x 8	-	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	1	0 0 0 0 0 0 0
Side C/D	1	0 0 0 0 0 0 0
** Enclosure preparation required		

* Smaller dimension at mounting plate support

Type	CT-521 PC	CT-522 ABS
Weight (g)	50 (PC)	47 (ABS)
External dimension (mm)	65 x 50 x 35	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2520000000	
PC, with screw fastener	2520001000	
PC, with transparent cover (PC) and quick-release fastener	2521000000	
PC, with transparent cover (PC) and screw fastener	2521001000	
ABS, with quick-release fastener	3520000000	
ABS, with screw fastener	3520001000	
ABS, with transparent cover (PC) and quick-release fastener	3521000000	
ABS, with transparent cover (PC) and screw fastener	3521001000	
Accessories (individual part or installation kit)		
Mounting plate	9512010000	
Mounting rail TS 15	9820001000	
Mounting rail TS 32	-	
Mounting rail TS 35	-	
Earthing rail (secured on central bosses C/D)	-	
External mounting brackets	-	
External articulated hinges**	-	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	-	
Silicone seal for extended temperature range (by the metre)	-	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	2	0 0 0 0 0 0 0
Side C/D	0	0 0 0 0 0 0 0
** Enclosure preparation required		

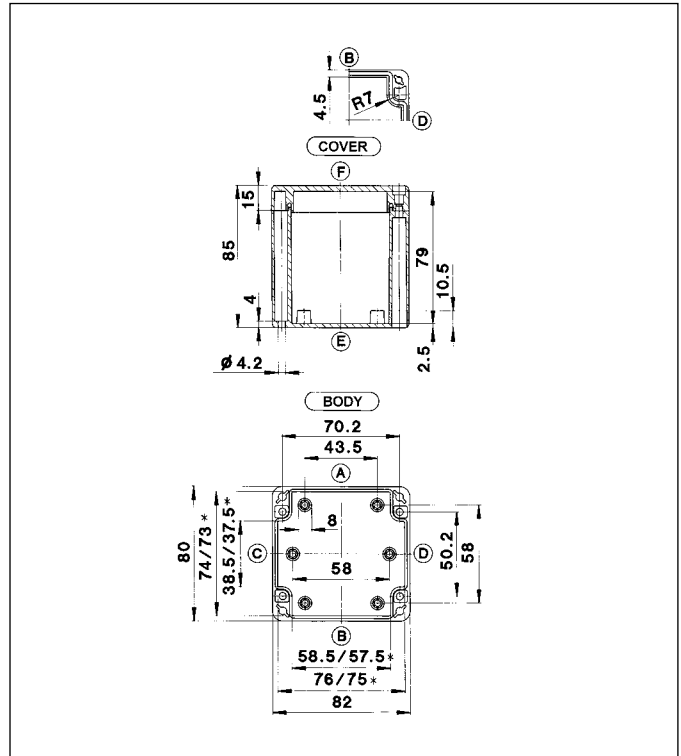
82 x 80 x 55 mm

CT-541 Polycarbonate enclosure
CT-542 ABS enclosure



82 x 80 x 85 mm

CT-561 Polycarbonate enclosure
CT-562 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-541 PC	CT-542 ABS
Weight (g)	140 (PC)	116 (ABS)
External dimension (mm)	82 x 80 x 55	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2540000000	
PC, with screw fastener	2540001000	
PC, with transparent cover (PC) and quick-release fastener	2541000000	
PC, with transparent cover (PC) and screw fastener	2541001000	
ABS, with quick-release fastener	3540000000	
ABS, with screw fastener	3540001000	
ABS, with transparent cover (PC) and quick-release fastener	3541000000	
ABS, with transparent cover (PC) and screw fastener	3541001000	
Accessories (individual part or installation kit)		
Mounting plate	9512011000	
Mounting rail TS 15	9820004000	
Mounting rail TS 32	-	
Mounting rail TS 35	9822000000	
Earthing rail (secured on central bosses C/D)	-	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	5	2 2 0 0 0 0 0
Side C/D	2	1 0 0 0 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

* Smaller dimension at mounting plate support

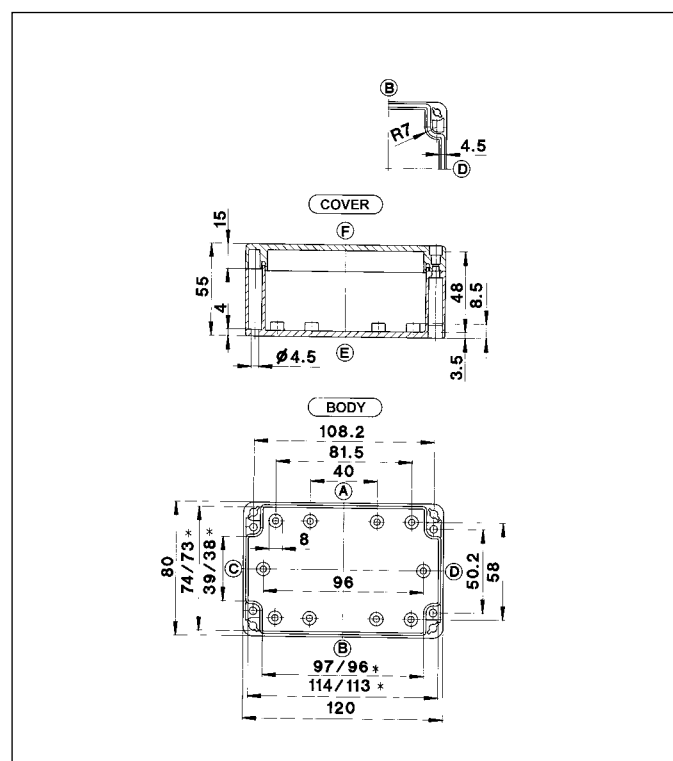
Type	CT-561 PC	CT-562 ABS
Weight (g)	175 (PC)	150 (ABS)
External dimension (mm)	82 x 80 x 85	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2560000000	
PC, with screw fastener	2560001000	
PC, with transparent cover (PC) and quick-release fastener	2561000000	
PC, with transparent cover (PC) and screw fastener	2561001000	
ABS, with quick-release fastener	3560000000	
ABS, with screw fastener	3560001000	
ABS, with transparent cover (PC) and quick-release fastener	3561000000	
ABS, with transparent cover (PC) and screw fastener	3561001000	
Accessories (individual part or installation kit)		
Mounting plate	9512011000	
Mounting rail TS 15	9820004000	
Mounting rail TS 32	-	
Mounting rail TS 35	9822000000	
Earthing rail (secured on central bosses C/D)	-	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	10	5 3 2 1 1 1 0
Side C/D	5	2 1 1 1 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

Polycarbonate and ABS Enclosures – Series CT

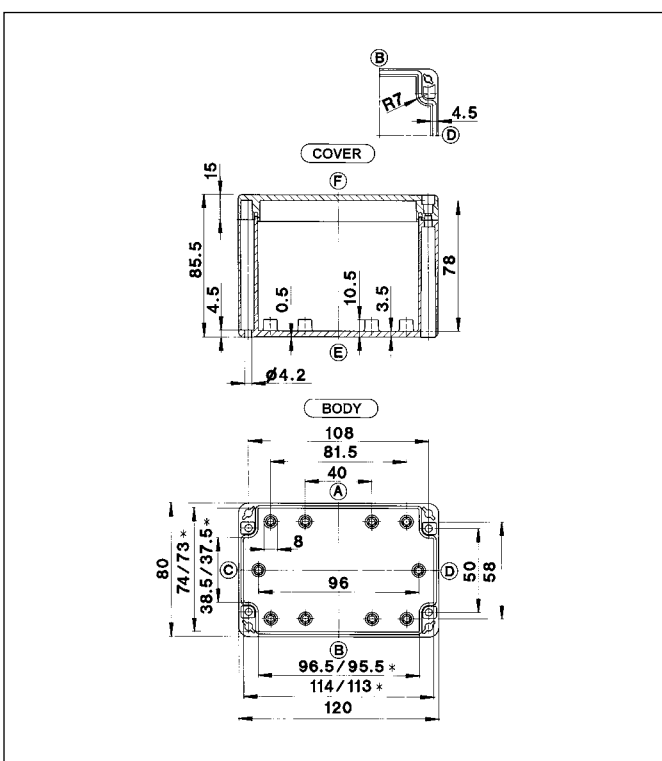
120 x 80 x 55 mm

CT-581 Polycarbonate enclosure
CT-582 ABS enclosure



120 x 80 x 85 mm

CT-601 Polycarbonate enclosure
CT-602 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-581 PC	CT-582 ABS
Weight (g)	180 (PC)	135 (ABS)
External dimension (mm)	120 x 80 x 55	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2580000000	
PC, with screw fastener	2580001000	
PC, with transparent cover (PC) and quick-release fastener	2581000000	
PC, with transparent cover (PC) and screw fastener	2581001000	
ABS, with quick-release fastener	3580000000	
ABS, with screw fastener	3580001000	
ABS, with transparent cover (PC) and quick-release fastener	3581000000	
ABS, with transparent cover (PC) and screw fastener	3581001000	
Accessories (individual part or installation kit)		
Mounting plate	9512012000	
Mounting rail TS 15	9820009000	
Mounting rail TS 32	-	
Mounting rail TS 35	9822002000	
Earthing rail (secured on central bosses C/D)	9810001000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800040000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	9	4 3 2 0 0 0 0
Side C/D	2	1 1 0 0 0 0 0

** Enclosure preparation required

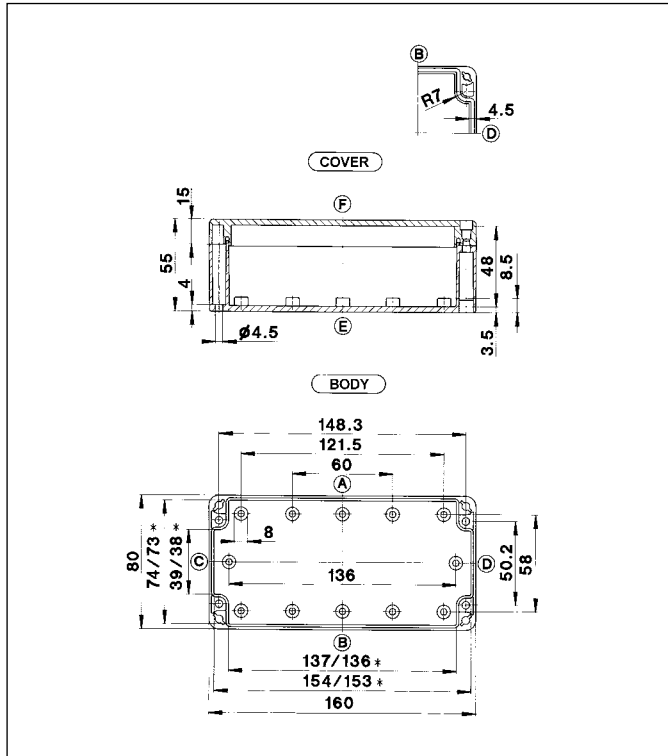
* Smaller dimension at mounting plate support

Type	CT-601 PC	CT-602 ABS
Weight (g)	225 (PC)	192 (ABS)
External dimension (mm)	120 x 80 x 85	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2600000000	
PC, with screw fastener	2600001000	
PC, with transparent cover (PC) and quick-release fastener	2601000000	
PC, with transparent cover (PC) and screw fastener	2601001000	
ABS, with quick-release fastener	3600000000	
ABS, with screw fastener	3600001000	
ABS, with transparent cover (PC) and quick-release fastener	3601000000	
ABS, with transparent cover (PC) and screw fastener	3601001000	
Accessories (individual part or installation kit)		
Mounting plate	9512012000	
Mounting rail TS 15	9820009000	
Mounting rail TS 32	-	
Mounting rail TS 35	9822002000	
Earthing rail (secured on central bosses C/D)	9810001000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	15	6 6 3 2 1 1 0
Side C/D	5	2 1 1 1 0 0 0

** Enclosure preparation required

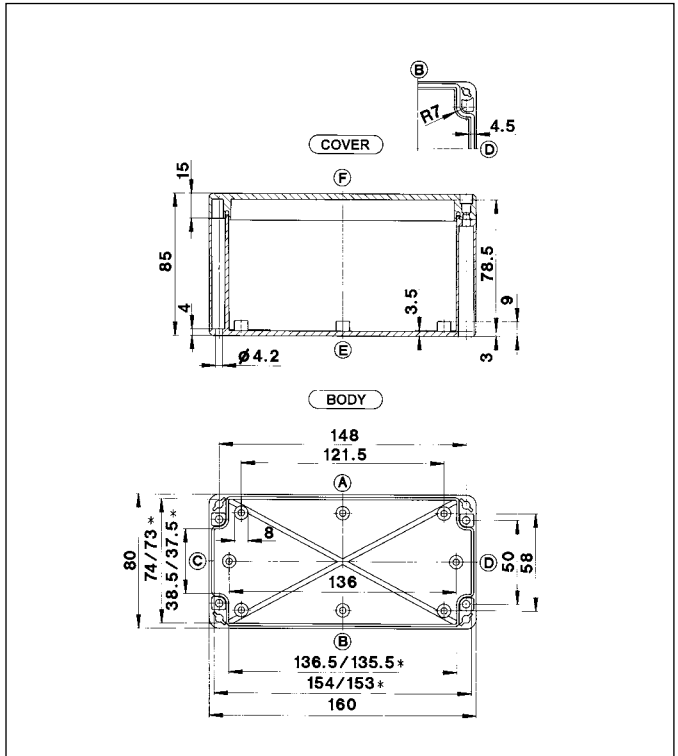
160 x 80 x 55 mm

CT-621 Polycarbonate enclosure
CT-622 ABS enclosure



160 x 80 x 85 mm

CT-641 Polycarbonate enclosure
CT-642 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-621 PC	CT-622 ABS
Weight (g)	225 (PC)	199 (ABS)
External dimension (mm)	160 x 80 x 55	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2620000000	
PC, with screw fastener	2620001000	
PC, with transparent cover (PC) and quick-release fastener	2621000000	
PC, with transparent cover (PC) and screw fastener	2621001000	
ABS, with quick-release fastener	3620000000	
ABS, with screw fastener	3620001000	
ABS, with transparent cover (PC) and quick-release fastener	3621000000	
ABS, with transparent cover (PC) and screw fastener	3621001000	
Accessories (individual part or installation kit)		
Mounting plate	9512013000	
Mounting rail TS 15	9820013000	
Mounting rail TS 32	–	
Mounting rail TS 35	9822028000	
Earthing rail (secured on central bosses C/D)	9810005000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800040000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	11	5 4 3 0 0 0 0
Side C/D	2	1 1 0 0 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

* Smaller dimension at mounting plate support

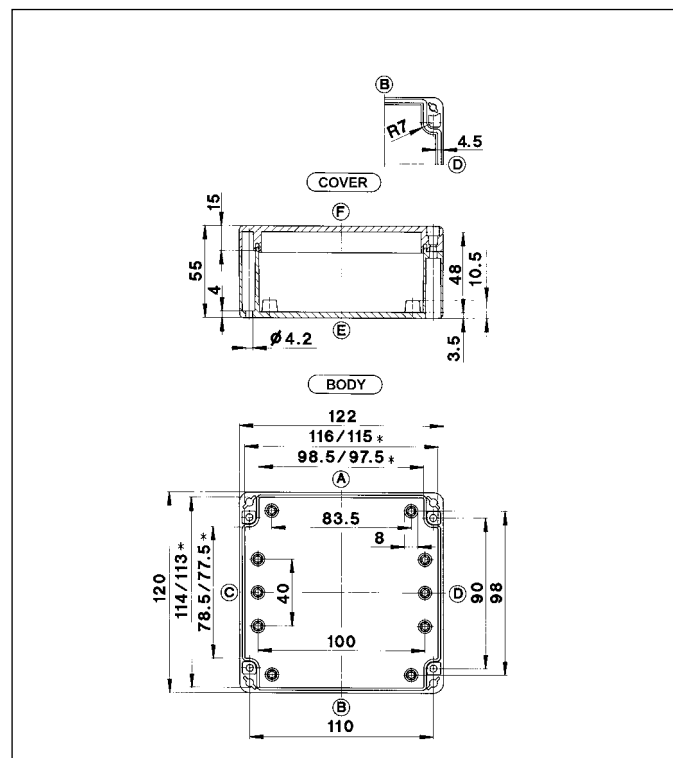
Type	CT-641 PC	CT-642 ABS
Weight (g)	240 (PC)	225 (ABS)
External dimension (mm)	160 x 80 x 85	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2640000000	
PC, with screw fastener	2640001000	
PC, with transparent cover (PC) and quick-release fastener	2641000000	
PC, with transparent cover (PC) and screw fastener	2641001000	
ABS, with quick-release fastener	3640000000	
ABS, with screw fastener	3640001000	
ABS, with transparent cover (PC) and quick-release fastener	3641000000	
ABS, with transparent cover (PC) and screw fastener	3641001000	
Accessories (individual part or installation kit)		
Mounting plate	9512013000	
Mounting rail TS 15	9820013000	
Mounting rail TS 32	-	
Mounting rail TS 35	9822028000	
Earthing rail (secured on central bosses C/D)	9810005000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	22	10 8 5 3 2 2 0
Side C/D	5	2 1 1 1 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

Polycarbonate and ABS Enclosures – Series CT

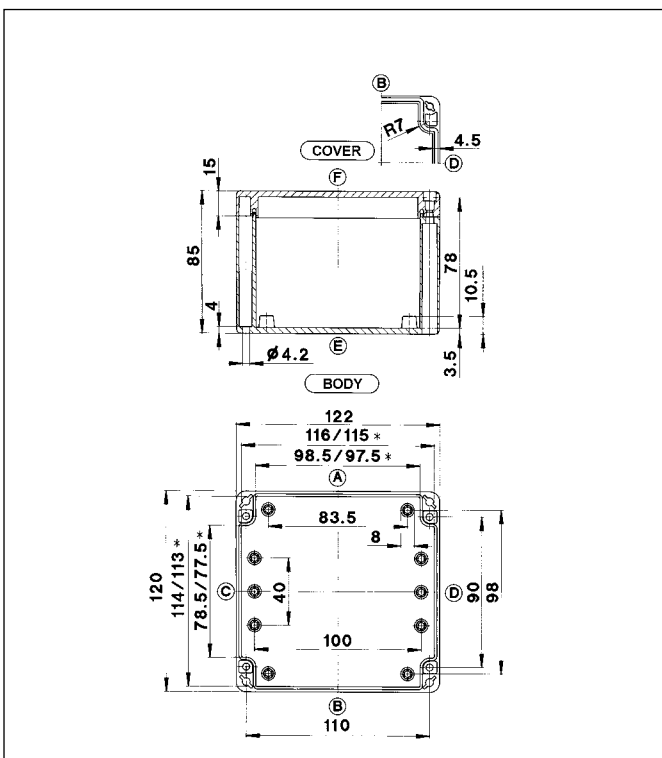
122 x 120 x 55 mm

CT-661 Polycarbonate enclosure
CT-662 ABS enclosure



122 x 120 x 85 mm

CT-681 Polycarbonate enclosure
CT-682 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-661 PC	CT-662 ABS
Weight (g)	240 (PC)	218 (ABS)
External dimension (mm)	122 x 120 x 55	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2660000000	
PC, with screw fastener	2660001000	
PC, with transparent cover (PC) and quick-release fastener	2661000000	
PC, with transparent cover (PC) and screw fastener	2661001000	
ABS, with quick-release fastener	3660000000	
ABS, with screw fastener	3660001000	
ABS, with transparent cover (PC) and quick-release fastener	3661000000	
ABS, with transparent cover (PC) and screw fastener	3661001000	
Accessories (individual part or installation kit)		
Mounting plate	9512014000	
Mounting rail TS 15	9820008000	
Mounting rail TS 32	–	
Mounting rail TS 35	9822002000	
Earthing rail (secured on central bosses C/D)	9810003000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	9	4 3 2 0 0 0 0
Side C/D	4	3 2 0 0 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

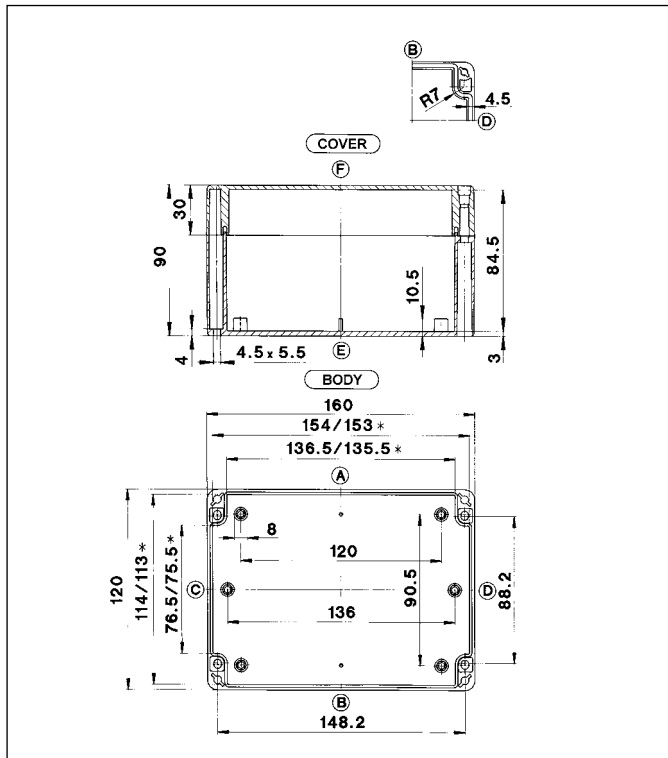
* Smaller dimension at mounting plate support

Type	CT-681 PC	CT-682 ABS
Weight (g)	295 (PC)	269 (ABS)
External dimension (mm)	122 x 120 x 85	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2680000000	
PC, with screw fastener	2680001000	
PC, with transparent cover (PC) and quick-release fastener	2681000000	
PC, with transparent cover (PC) and screw fastener	2681001000	
ABS, with quick-release fastener	3680000000	
ABS, with screw fastener	3680001000	
ABS, with transparent cover (PC) and quick-release fastener	3681000000	
ABS, with transparent cover (PC) and screw fastener	3681001000	
Accessories (individual part or installation kit)		
Mounting plate	9512014000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821001000	
Mounting rail TS 35	9822002000	
Earthing rail (secured on central bosses C/D)	9810003000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	15	6 6 3 20 1 1 0
Side C/D	10	3 3 2 1 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

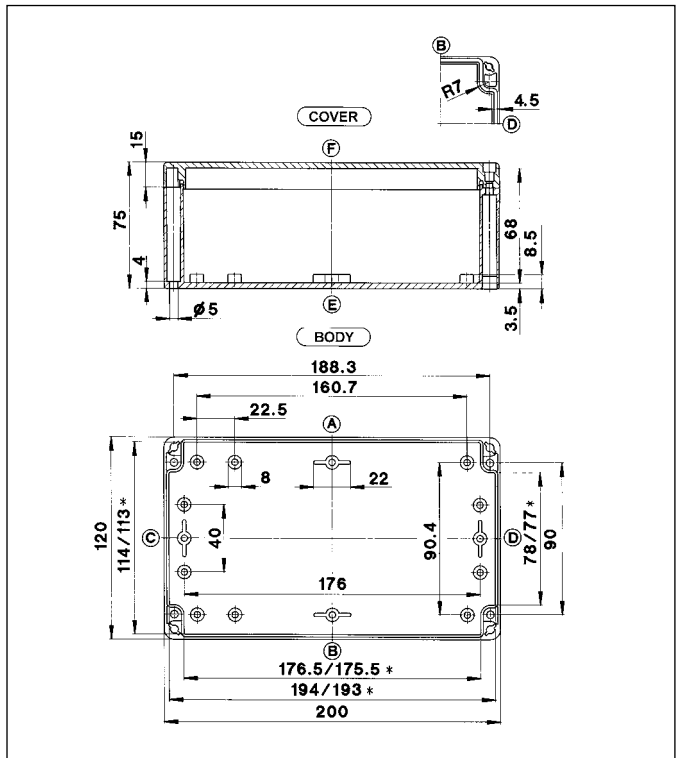
160 x 120 x 90 mm

CT-721 Polycarbonate enclosure
CT-722 ABS enclosure



200 x 120 x 75 mm

CT-761 Polycarbonate enclosure
CT-762 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-721 PC	CT-722 ABS
Weight (g)	360 (PC)	310 (ABS)
External dimension (mm)	160 x 120 x 90	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2720000000	
PC, with screw fastener	2720001000	
PC, with transparent cover (PC) and quick-release fastener	2721000000	
PC, with transparent cover (PC) and screw fastener	2721001000	
ABS, with quick-release fastener	3720000000	
ABS, with screw fastener	3720001000	
ABS, with transparent cover (PC) and quick-release fastener	3721000000	
ABS, with transparent cover (PC) and screw fastener	3721001000	
Accessories (individual part or installation kit)		
Mounting plate	9512036000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821025000	
Mounting rail TS 35	9822028000	
Earthing rail (secured on central bosses C/D)	9810040000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801079000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	18	10 7 3 3 0 0 0
Side C/D	9	5 2 2 1 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

* Smaller dimension at mounting plate support

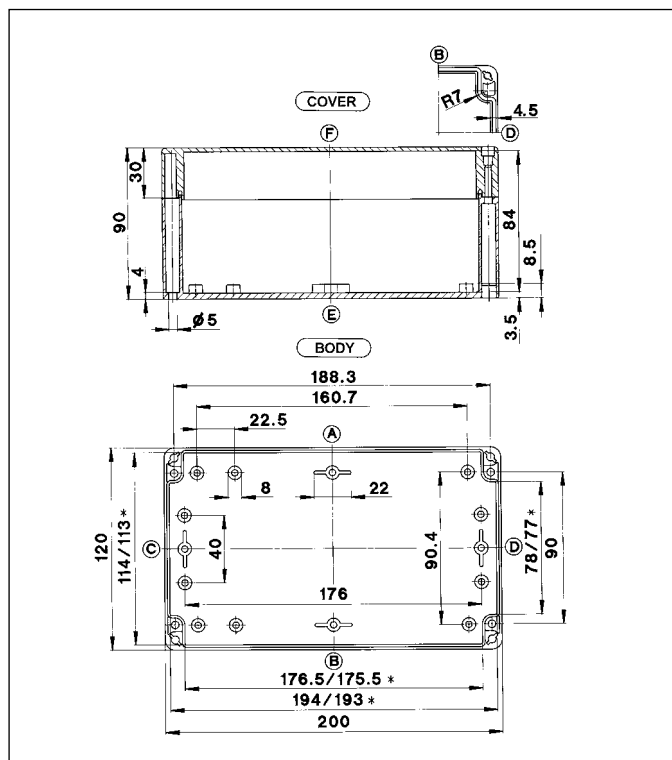
Type	CT-761 PC	CT-762 ABS						
Weight (g)	400 (PC)	373 (ABS)						
External dimension (mm)	200 x 120 x 75							
Ordering data Enclosure (painted) with seal (CR)	Part number							
PC, with quick-release fastener	2760000000							
PC, with screw fastener	2760001000							
PC, with transparent cover (PC) and quick-release fastener	2761000000							
PC, with transparent cover (PC) and screw fastener	2761001000							
ABS, with quick-release fastener	3760000000							
ABS, with screw fastener	3760001000							
ABS, with transparent cover (PC) and quick-release fastener	3761000000							
ABS, with transparent cover (PC) and screw fastener	3761001000							
Accessories (individual part or installation kit)								
Mounting plate	9512015000							
Mounting rail TS 15	-							
Mounting rail TS 32	9821004000							
Mounting rail TS 35	9822006000							
Earthing rail (secured on central bosses C/D)	9810006000							
External mounting brackets	9802002000							
External articulated hinges**	9802025000							
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000							
Silicone seal for extended temperature range (by the metre)	9231005000							
Mounting bushes with 4 screws M3 x 8	9800040000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	26	12	8	5	3	0	0	0
Side C/D	10	5	2	2	1	0	0	0
** Enclosure preparation required								

** Enclosure preparation required

Polycarbonate and ABS Enclosures – Series CT

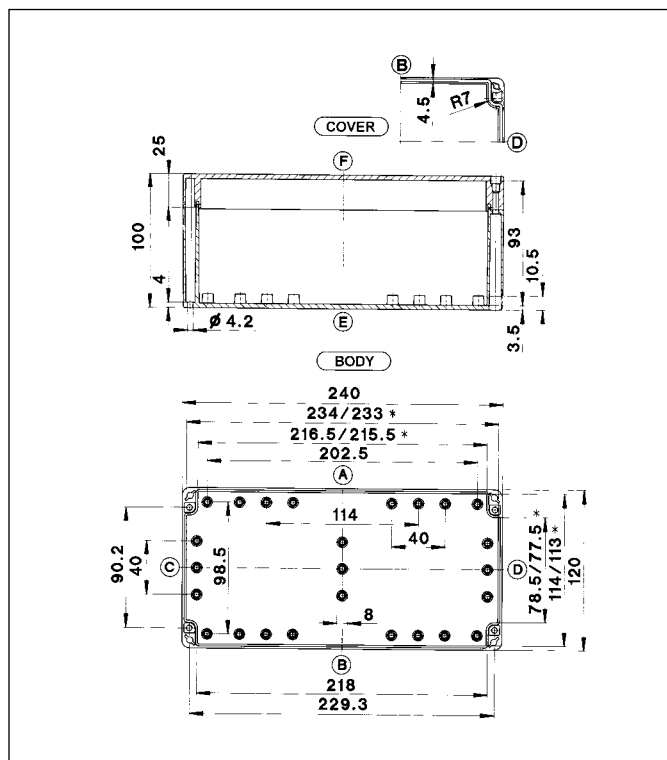
200 x 120 x 90 mm

CT-781 Polycarbonate enclosure
CT-782 ABS enclosure



240 x 120 x 100 mm

CT-801 Polycarbonate enclosure
CT-802 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-781 PC	CT-782 ABS
Weight (g)	420 (PC)	365 (ABS)
External dimension (mm)	200 x 120 x 90	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2780000000	
PC, with screw fastener	2780001000	
PC, with transparent cover (PC) and quick-release fastener	2781000000	
PC, with transparent cover (PC) and screw fastener	2781001000	
ABS, with quick-release fastener	3780000000	
ABS, with screw fastener	3780001000	
ABS, with transparent cover (PC) and quick-release fastener	3781000000	
ABS, with transparent cover (PC) and screw fastener	3781001000	
Accessories (individual part or installation kit)		
Mounting plate	9512015000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821004000	
Mounting rail TS 35	9822006000	
Earthing rail (secured on central bosses C/D)	9810006000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801079000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800040000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	26	12 8 5 3 0 0 0
Side C/D	10	5 2 2 1 0 0 0
** Enclosure preparation required		

** Enclosure preparation required

* Smaller dimension at mounting plate support

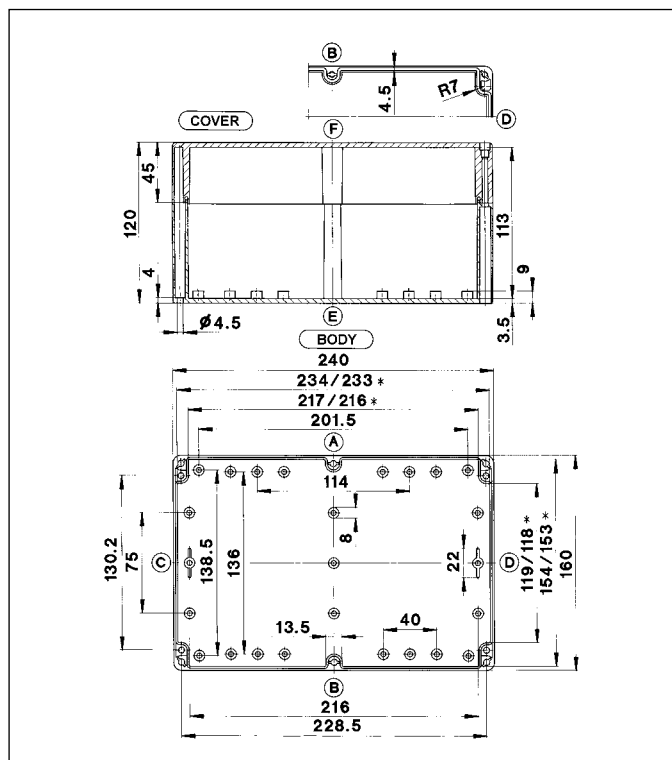
Type	CT-801 PC	CT-802 ABS
Weight (g)	540 (PC)	478 (ABS)
External dimension (mm)	240 x 120 x 100	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2800000000	
PC, with screw fastener	2800001000	
PC, with transparent cover (PC) and quick-release fastener	2801000000	
PC, with transparent cover (PC) and screw fastener	2801001000	
ABS, with quick-release fastener	3800000000	
ABS, with screw fastener	3800001000	
ABS, with transparent cover (PC) and quick-release fastener	3801000000	
ABS, with transparent cover (PC) and screw fastener	3801001000	
Accessories (individual part or installation kit)		
Mounting plate	9512016000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821006000	
Mounting rail TS 35	9822008000	
Earthing rail (secured on central bosses C/D)	9810009000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801078000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	34	17 12 6 5 3 3 2
Side C/D	10	6 3 2 1 1 0 0
** Enclosure preparation required		

** Enclosure preparation required

Polycarbonate and ABS Enclosures – Series CT

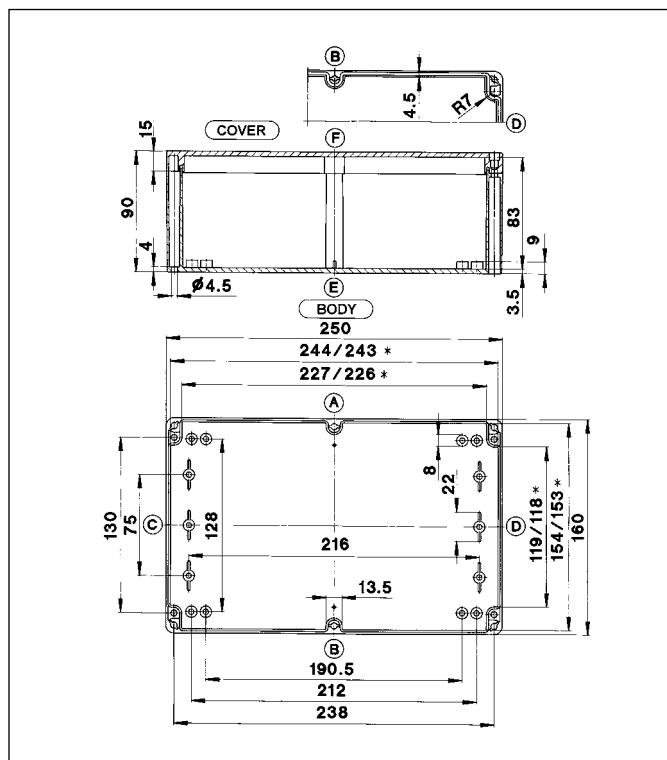
240 x 160 x 120 mm

CT-861 Polycarbonate enclosure
CT-862 ABS enclosure



250 x 160 x 90 mm

CT-901 Polycarbonate enclosure
CT-902 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-861 PC	CT-862 ABS
Weight (g)	785 (PC)	636 (ABS)
External dimension (mm)	240 x 160 x 120	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2860000000	
PC, with screw fastener	2860001000	
PC, with transparent cover (PC) and quick-release fastener	2861000000	
PC, with transparent cover (PC) and screw fastener	2861001000	
ABS, with quick-release fastener	3860000000	
ABS, with screw fastener	3860001000	
ABS, with transparent cover (PC) and quick-release fastener	3861000000	
ABS, with transparent cover (PC) and screw fastener	3861001000	
Accessories (individual part or installation kit)		
Mounting plate	9512018000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821006000	
Mounting rail TS 35	9822008000	
Earthing rail (secured on central bosses C/D)	9810009000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801080000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800040000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	36	16 12 8 4 2 2 2
Side C/D	17	8 5 3 2 2 1 0
** Enclosure preparation required		

** Enclosure preparation required

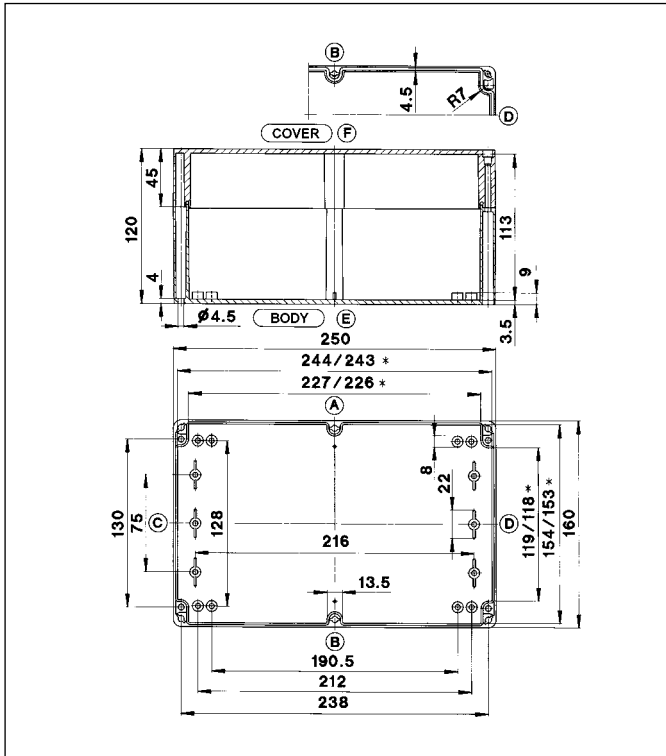
* Smaller dimension at mounting plate support

Type	CT-901 PC	CT-902 ABS
Weight (g)	680 (PC)	550 (ABS)
External dimension (mm)	250 x 160 x 90	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2900000000	
PC, with screw fastener	2900001000	
PC, with transparent cover (PC) and quick-release fastener	2901000000	
PC, with transparent cover (PC) and screw fastener	2901001000	
ABS, with quick-release fastener	3900000000	
ABS, with screw fastener	3900001000	
ABS, with transparent cover (PC) and quick-release fastener	3901000000	
ABS, with transparent cover (PC) and screw fastener	3901001000	
Accessories (individual part or installation kit)		
Mounting plate	9512187000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821006000	
Mounting rail TS 35	9822008000	
Earthing rail (secured on central bosses C/D)	9810009000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible, for enclosure with quick-release fastener	9801076000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800040000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	38	16 12 8 4 2 2 2
Side C/D	17	8 5 3 2 2 1 0
** Enclosure preparation required		

** Enclosure preparation required

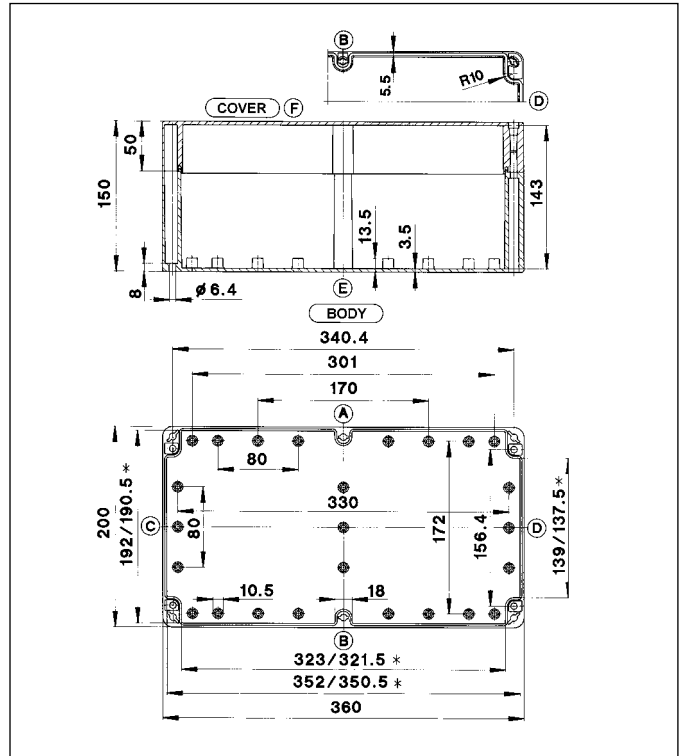
250 x 160 x 120 mm

CT-911 Polycarbonate enclosure
CT-912 ABS enclosure



360 x 200 x 150 mm

CT-881 Polycarbonate enclosure
CT-882 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-911 PC	CT-912 ABS
Weight (g)	830 (PC)	660 (ABS)
External dimension (mm)	250 x 160 x 120	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2910000000	
PC, with screw fastener	2910001000	
PC, with transparent cover (PC) and quick-release fastener	2911000000	
PC, with transparent cover (PC) and screw fastener	2911001000	
ABS, with quick-release fastener	3910000000	
ABS, with screw fastener	3910001000	
ABS, with transparent cover (PC) and quick-release fastener	3911000000	
ABS, with transparent cover (PC) and screw fastener	3911001000	
Accessories (individual part or installation kit)		
Mounting plate	9512187000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821006000	
Mounting rail TS 35	9822008000	
Earthing rail (secured on central bosses C/D)	9810009000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	9801080000	
Silicone seal for extended temperature range (by the metre)	9231005000	
Mounting bushes with 4 screws M3 x 8	9800004000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	38	16 12 8 4 2 2 2
Side C/D	17	8 5 3 2 2 1 0

** Enclosure preparation required

* Smaller dimension at mounting plate support

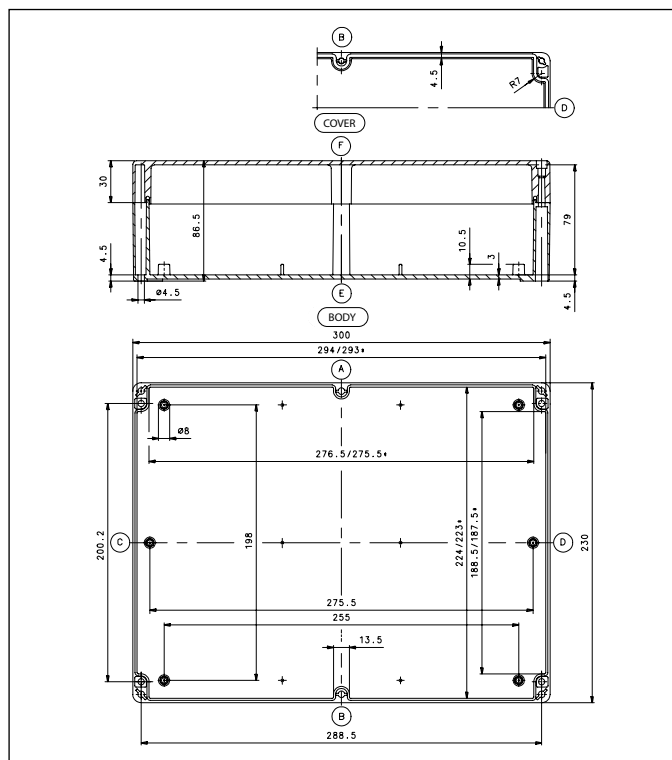
Type	CT-881 PC	CT-882 ABS
Weight (g)	1550 (PC)	1375 (ABS)
External dimension (mm)	360 x 200 x 150	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2880000000	
PC, with screw fastener	2880001000	
PC, with transparent cover (PC) and quick-release fastener	2881000000	
PC, with transparent cover (PC) and screw fastener	2881001000	
ABS, with quick-release fastener	3880000000	
ABS, with screw fastener	3880001000	
ABS, with transparent cover (PC) and quick-release fastener	3881000000	
ABS, with transparent cover (PC) and screw fastener	3881001000	
Accessories (individual part or installation kit)		
Mounting plate	9512020000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821013000	
Mounting rail TS 35	9822016000	
Earthing rail (secured on central bosses C/D)	9810034000	
External mounting brackets	-	
External articulated hinges**	9802026000	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	-	
Silicone seal for extended temperature range (by the metre)	9231006000	
Mounting bushes with 4 screws M3 x 8	9800026000 (M4 x 8)	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	70	32 24 16 10 6 4 4
Side C/D	26	11 8 5 3 2 2 1

** Enclosure preparation required

Polycarbonate and ABS Enclosures – Series CT

300 x 230 x 86 mm

CT-871 Polycarbonate enclosure
CT-872 ABS enclosure



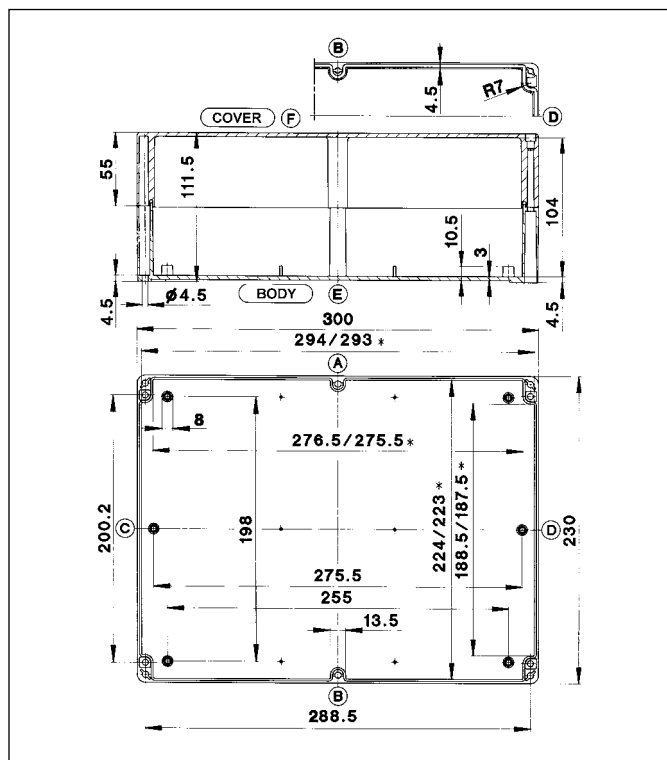
* Smaller dimension at mounting plate support

Type	CT-871 PC	CT-872 ABS
Weight (g)	915 (PC)	850 (ABS)
External dimension (mm)	300 x 230 x 86	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2870000000	
PC, with screw fastener	2870001000	
PC, with transparent cover (PC) and quick-release fastener	2871000000	
PC, with transparent cover (PC) and screw fastener	2871001000	
ABS, with quick-release fastener	3870000000	
ABS, with screw fastener	3870001000	
ABS, with transparent cover (PC) and quick-release fastener	3871000000	
ABS, with transparent cover (PC) and screw fastener	3871001000	
Accessories (individual part or installation kit)		
Mounting plate	9512019000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821010000	
Mounting rail TS 35	9822013000	
Earthing rail (secured on central bosses C/D)	9810012000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	9801079000	
Silicone seal for extended temperature range (by the metre)	-	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	34	14 10 6 4 0 0 0
Side C/D	21	13 5 4 2 0 0 0

** Enclosure preparation required

300 x 230 x 110 mm

CT-891 Polycarbonate enclosure
CT-892 ABS enclosure



* Smaller dimension at mounting plate support

Type	CT-891 PC	CT-892 ABS
Weight (g)	1155 (PC)	1000 (ABS)
External dimension (mm)	300 x 230 x 110	
Ordering data Enclosure (painted) with seal (CR)	Part number	
PC, with quick-release fastener	2890000000	
PC, with screw fastener	2890001000	
PC, with transparent cover (PC) and quick-release fastener	2891000000	
PC, with transparent cover (PC) and screw fastener	2891001000	
ABS, with quick-release fastener	3890000000	
ABS, with screw fastener	3890001000	
ABS, with transparent cover (PC) and quick-release fastener	3891000000	
ABS, with transparent cover (PC) and screw fastener	3891001000	
Accessories (individual part or installation kit)		
Mounting plate	9512019000	
Mounting rail TS 15	-	
Mounting rail TS 32	9821010000	
Mounting rail TS 35	9822013000	
Earthing rail (secured on central bosses C/D)	9810012000	
External mounting brackets	9802002000	
External articulated hinges**	9802025000	
Internal articulated hinges, flexible,		
for enclosure with quick-release fastener	9801082000	
Silicone seal for extended temperature range (by the metre)	-	
Mounting bushes with 4 screws M3 x 8	9800025000	
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	34	14 10 6 4 0 0 0
Side C/D	21	13 5 4 2 0 0 0

** Enclosure preparation required

Polyester Enclosures – Series CP

BERNSTEIN Series CP and CPS polyester enclosures are produced from highgrade glass fibre-reinforced polyester. Thanks to their reduced surface resistance ($R_o < 109 \text{ Ohm}$), the black polyester enclosures meet the requirements for Ex applications. Polyester enclosures are therefore particularly suitable for accepting and encapsulating electrical and electronic components as well as control components in harsh environments or potentially explosive atmospheres (see Page 14). All enclosures achieve protection class IP66 in accordance with IEC529 (optionally IP67).

Corresponding to their size, BERNSTEIN polyester enclosures feature M4 or M6 mounting elements in the enclosure body. These galvanised steel bushes are embedded in a flange on the narrow sides of the base and accept mounting plates, mounting rails, pc boards etc.

The captive stainless steel cover screws are retained by a self-latching element integrated in the cover. The threaded bushes for mounting the cover are also made from stainless steel. The protection class (on the standard enclosure) is ensured by a factory-fitted seal. The polyester enclosures are available as standard in grey (RAL 7000, squirrel grey) or black (RAL 9005, jet black) material.



Technical data

Material

Glass fibre-reinforced polyester in grey or black

Seal

Neoprene (CR) round cord (siliconized) alternatively:

Neoprene (CR) round cord (silicone-free)
Silicone round cord, EPDM round cord

Cover screws

Stainless steel, captive, cross recessed head alternatively:

Socket head cap screws, stainless steel, captive

Colour

RAL 7000 (squirrel grey)

bzw. RAL 9005 (jet black)

Alternatively for large quantities:

Other colours (coating or dyeing) available on request

Temperature range of CP enclosures

-100°C to +165°C

Temperature range of seals

-30°C to +80°C (Neoprene seal)

alternatively:

-60°C to +130°C (silicone seal) or

-35°C to +100°C (EPDM seal)

Protection class

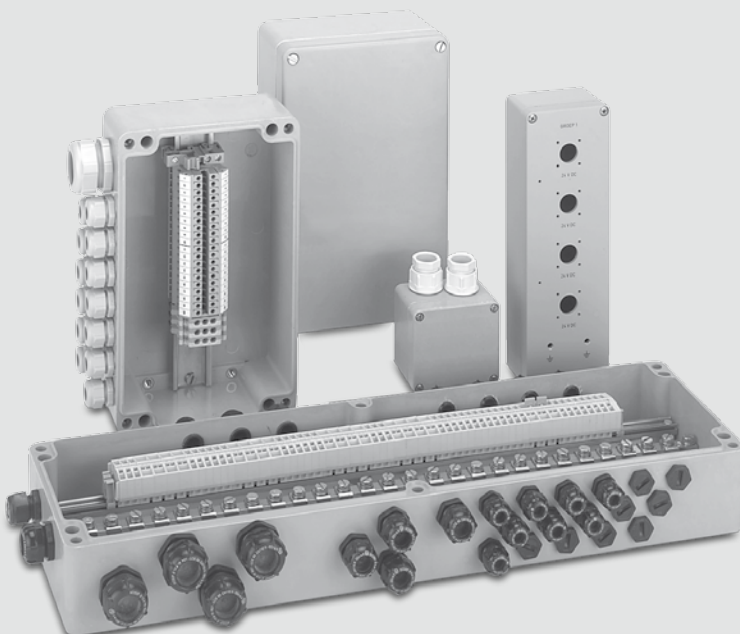
IP66

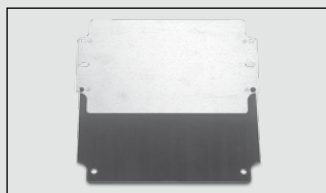
IP67 on request

Approbations

Germanischer Lloyd

UL





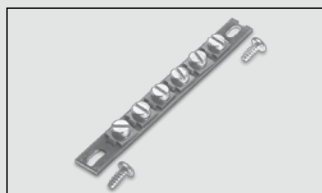
Mounting plates

made from galvanised steel plate or laminated paper (thickness: CP-140 to CP-195 laminated paper 1.5 mm; CP-220 to CP-320 and CP-370 to CP-460 steel plate 1.5 mm; CP-330 steel plate 2.5 mm) for versatile mounting of built-in components.



Mounting rails

conforming to Standards TS 15 or TS 32 and TS 35 made from steel; surface treated for accepting terminal blocks.



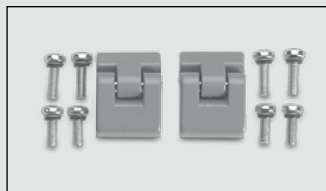
Earthing bars

made from galvanised steel for combining and connecting PE conductors.



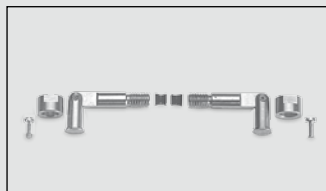
External mounting brackets

made from metal for mounting enclosures without opening the covers. The brackets are always arranged parallel to the narrow side of the enclosures.



External articulated hinges

for hinged mounting of enclosure cover. Opening range of cover approx. 155°. Cast aluminium, painted in RAL 7001 or RAL 9005. Machining is required for mounting on enclosures. Supplied with drilling template.



Internal articulated hinges

for hinged mounting of enclosure cover. Opening range of cover approx. 95°. Stainless steel. Machining is required for mounting on enclosures.



Silicone cover seal

with increased temperature resistance for subsequent fitting or for replacing standard cover seal. Expanded silicone by the metre.

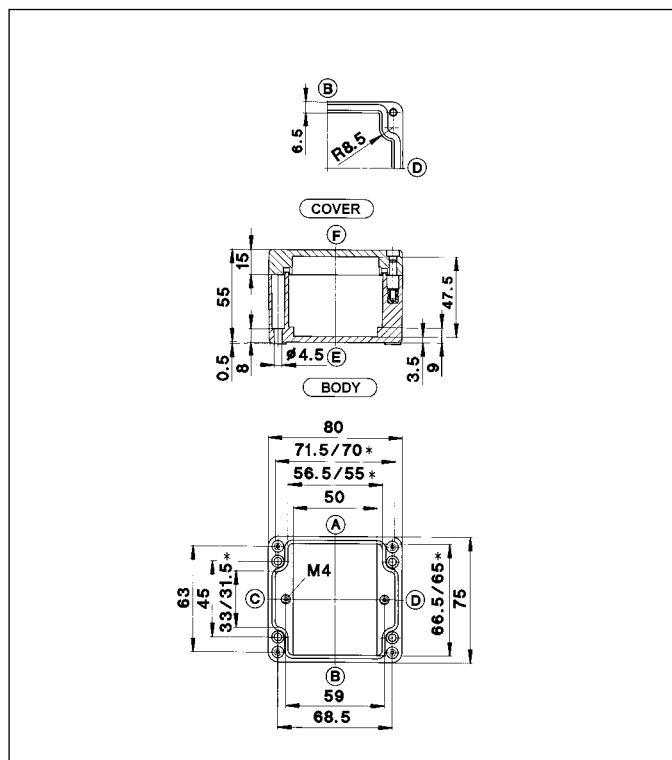
Polyester enclosure (grey)					Polyester enclosure (black)				
Dimensions/mm					Article number	Type	Article number	Type	
L	x	B	x	H					
80	x	75	x	55	4140000000	CP-140	5140000000	CPS-140	
80	x	75	x	75	4140000050	CP-145	5140000050	CPS-145	
110	x	75	x	55	4150000000	CP-150	5150000000	CPS-150	
110	x	75	x	75	4150000050	CP-155	5150000050	CPS-155	
160	x	75	x	55	4170000000	CP-170	5170000000	CPS-170	
160	x	75	x	75	4170000050	CP-175	5170000050	CPS-175	
190	x	75	x	55	4190000000	CP-190	5190000000	CPS-190	
190	x	75	x	75	4190000050	CP-195	5190000050	CPS-195	
122	x	120	x	90	4220000000	CP-220	5220000000	CPS-220	
220	x	120	x	90	4240000000	CP-240	5240000000	CPS-240	
160	x	160	x	90	4280000000	CP-280	5280000000	CPS-280	
260	x	160	x	90	4300000000	CP-300	5300000000	CPS-300	
360	x	160	x	90	4320000000	CP-320	5320000000	CPS-320	
560	x	160	x	90	4330000000	CP-330	5330000000	CPS-330	
255	x	250	x	120	4370000000	CP-370	5370000000	CPS-370	
400	x	250	x	120	4400000000	CP-400	5400000000	CPS-400	
400	x	405	x	120	4450000000	CP-450	5450000000	CPS-450	
400	x	405	x	165	4460000000	CP-460	5460000000	CPS-460	

Polyester Enclosures – Series CP

80 x 75 x 55 mm

CP-140 RAL 7000 (squirrel grey)

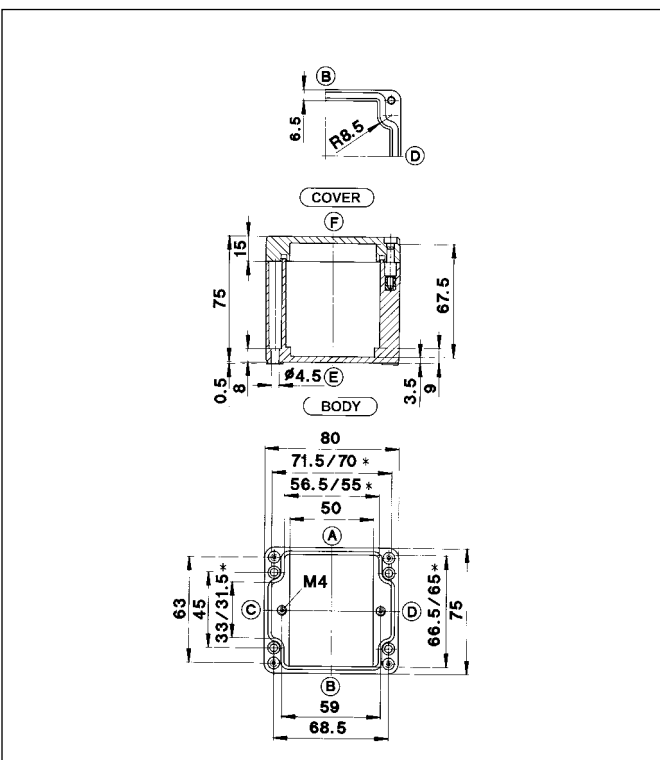
CPS-140 RAL 9005 (jet black)



80 x 75 x 75 mm

CP-145 RAL 7000 (squirrel grey)

CPS-145 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

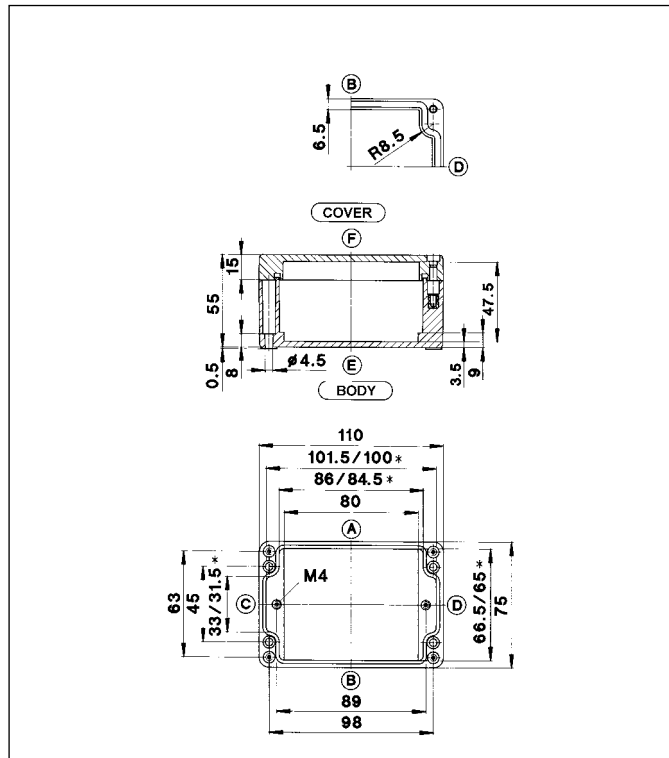
Type	CP-140	CPS-140						
Weight (g)	230	230						
External dimension (mm)	80 x 75 x 55							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4140000000							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4140001000							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4140014000							
RAL 9005 (jet black), with cover screws	5140000000							
RAL 9005 (jet black), with hexagon socket head cap screws	5140001000							
RAL 9005 (jet black), with silicone seal and cover screws	5140017000							
Accessories (individual part or installation kit)								
Mounting plate	9823000000							
Mounting rail TS 15	9820003000							
Mounting rail TS 32	–							
Mounting rail TS 35	–							
Earthing rail	–							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	–							
External articulated hinges for CPS** enclosures	–							
Internal articulated hinges with cover guide**	–							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	5	2	2	1	0	0	0	0
Side C/D	2	1	1	0	0	0	0	0
** Enclosure preparation required								

* Smaller dimension at mounting plate support

Type	CP-145	CPS-145						
Weight (g)	300	300						
External dimension (mm)	80 x 75 x 75							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4140000050							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4140001050							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4140010050							
RAL 9005 (jet black), with cover screws	5140000050							
RAL 9005 (jet black), with hexagon socket head cap screws	5140001050							
RAL 9005 (jet black), with silicone seal and cover screws	5140010050							
Accessories (individual part or installation kit)								
Mounting plate	9823000000							
Mounting rail TS 15	9820003000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	8	4	2	1	1	0	0	0
Side C/D	4	1	1	1	1	0	0	0
** Enclosure preparation required								

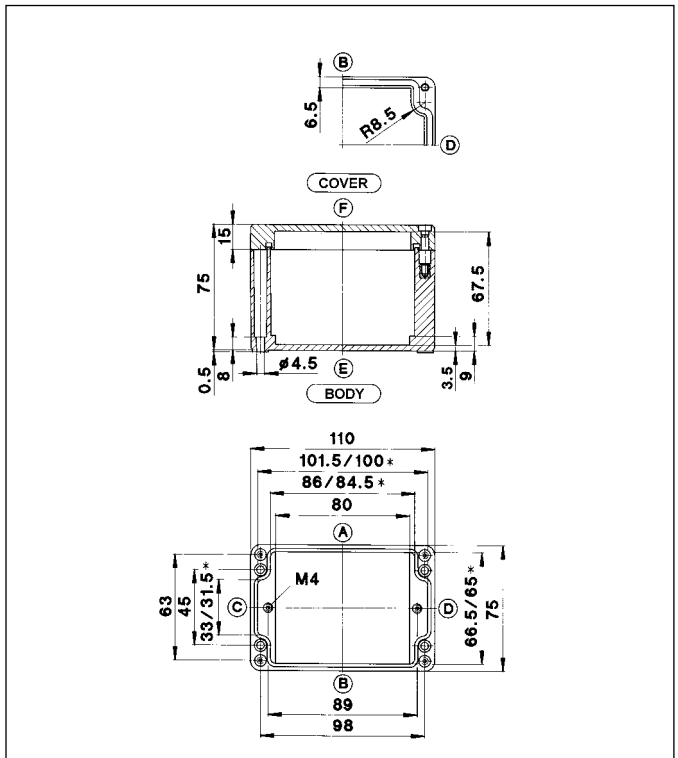
110 x 75 x 55 mm

CP-150 RAL 7000 (squirrel grey)
CPS-150 RAL 9005 (jet black)



110 x 75 x 75 mm

CP-155 RAL 7000 (squirrel grey)
CPS-155 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

Type	CP-150	CPS-150						
Weight (g)	295	295						
External dimension (mm)	110 x 75 x 55							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4150000000							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4150001000							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4150025000							
RAL 9005 (jet black), with cover screws	5150000000							
RAL 9005 (jet black), with hexagon socket head cap screws	5150001000							
RAL 9005 (jet black), with silicone seal and cover screws	5150031000							
Accessories (individual part or installation kit)								
Mounting plate	9823001000							
Mounting rail TS 15	9820006000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	8	3	2	2	0	0	0	0
Side C/D	2	1	1	0	0	0	0	0
** Enclosure preparation required								

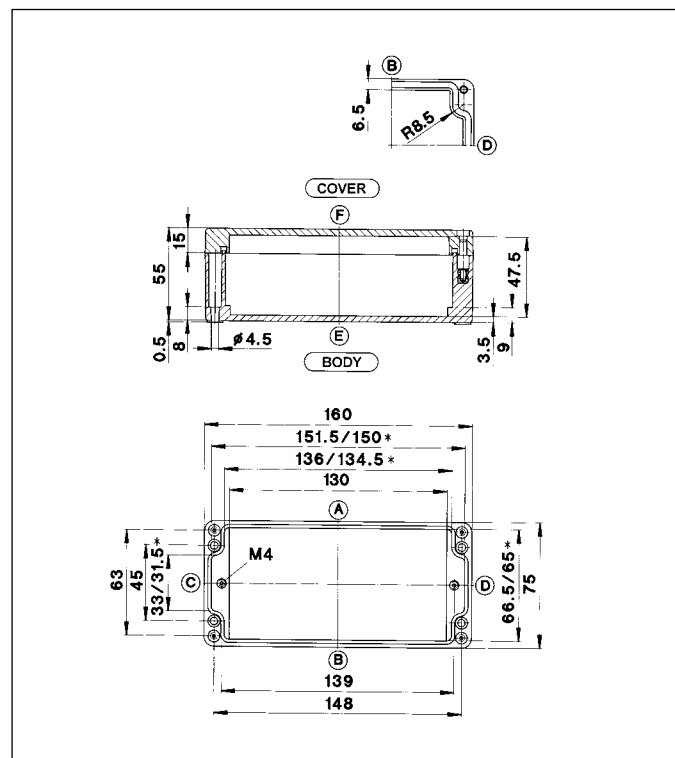
* Smaller dimension at mounting plate support

Type	CP-155	CPS-155						
Weight (g)	360	360						
External dimension (mm)	110 x 75 x 75							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4150000050							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4150001050							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4150010050							
RAL 9005 (jet black), with cover screws	5150000050							
RAL 9005 (jet black), with hexagon socket head cap screws	5150001050							
RAL 9005 (jet black), with silicone seal and cover screws	5150010050							
Accessories (individual part or installation kit)								
Mounting plate	9823001000							
Mounting rail TS 15	9820006000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	12	6	3	2	2	0	0	0
Side C/D	4	1	1	1	1	0	0	0
** Enclosure preparation required								

Polyester Enclosures – Series CP

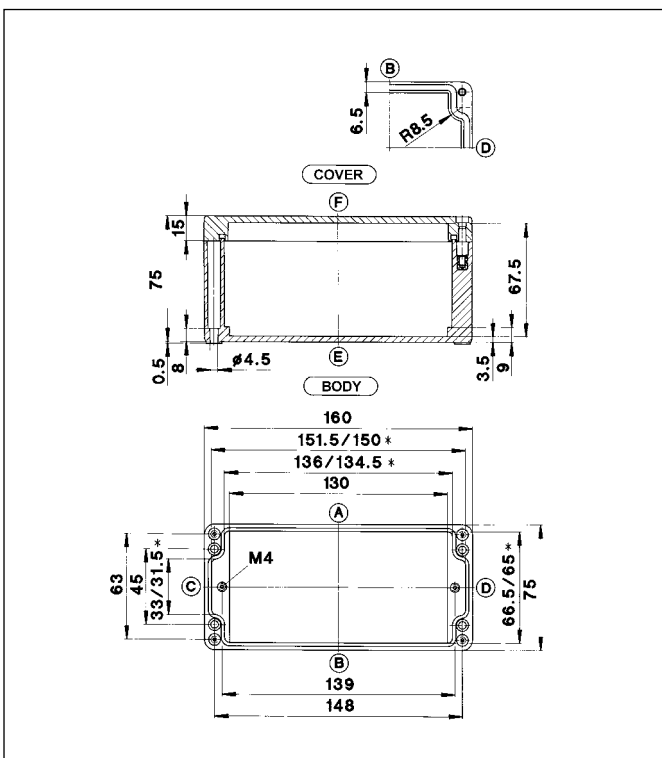
160 x 75 x 55 mm

CP-170 RAL 7000 (squirrel grey)
CPS-170 RAL 9005 (jet black)



160 x 75 x 75 mm

CP-175 RAL 7000 (squirrel grey)
CPS-175 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

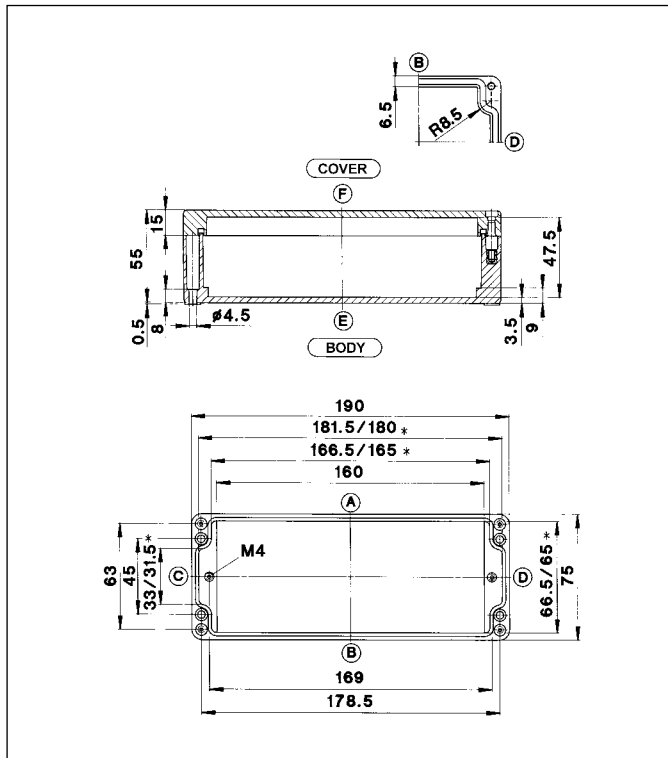
Type	CP-170	CPS-170						
Weight (g)	405	405						
External dimension (mm)	160 x 75 x 55							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4170000000							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4170001000							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4170016000							
RAL 9005 (jet black), with cover screws	5170000000							
RAL 9005 (jet black), with hexagon socket head cap screws	5170001000							
RAL 9005 (jet black), with silicone seal and cover screws	5170010000							
Accessories (individual part or installation kit)								
Mounting plate	9823002000							
Mounting rail TS 15	9820012000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	12	5	4	3	0	0	0	0
Side C/D	2	1	1	0	0	0	0	0
** Enclosure preparation required								

* Smaller dimension at mounting plate support

Type	CP-175	CPS-175						
Weight (g)	460	460						
External dimension (mm)	160 x 75 x 75							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4170000050							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4170001050							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4170010050							
RAL 9005 (jet black), with cover screws	5170000050							
RAL 9005 (jet black), with hexagon socket head cap screws	5170001050							
RAL 9005 (jet black), with silicone seal and cover screws	5170010050							
Accessories (individual part or installation kit)								
Mounting plate	9823002000							
Mounting rail TS 15	9820012000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	18	10	6	4	3	0	0	0
Side C/D	4	1	1	1	1	0	0	0
** Enclosure preparation required								

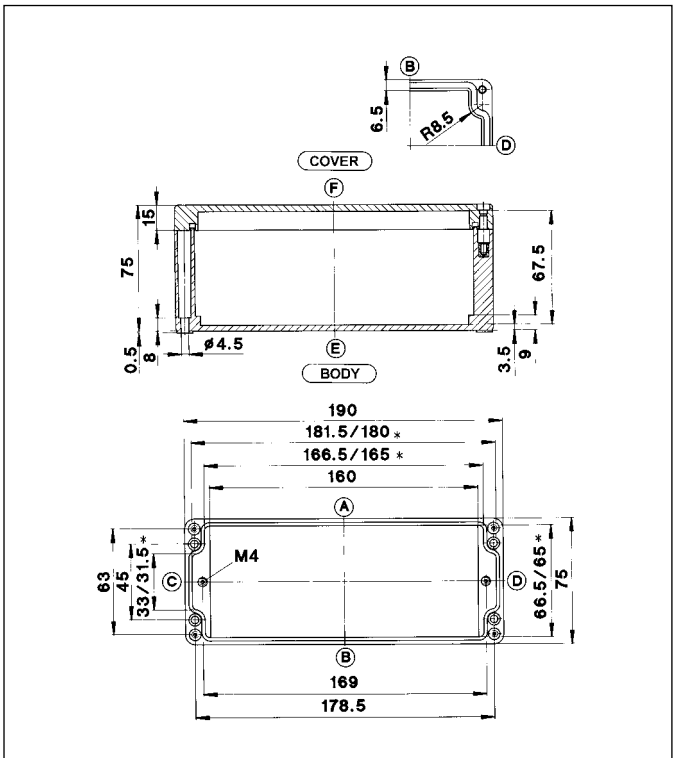
190 x 75 x 55 mm

CP-190 RAL 7000 (squirrel grey)
CPS-190 RAL 9005 (jet black)



190 x 75 x 75 mm

CP-195 RAL 7000 (squirrel grey)
CPS-195 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

Type	CP-190	CPS-190						
Weight (g)	450	450						
External dimension (mm)	190 x 75 x 55							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4190000000							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4190001000							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4190015000							
RAL 9005 (jet black), with cover screws	5190000000							
RAL 9005 (jet black), with hexagon socket head cap screws	5190001000							
RAL 9005 (jet black), with silicone seal and cover screws	5190010000							
Accessories (individual part or installation kit)								
Mounting plate	9823003000							
Mounting rail TS 15	9820015000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	16	7	5	4	0	0	0	0
Side C/D	2	1	1	0	0	0	0	0
** Enclosure preparation required								

* Smaller dimension at mounting plate support

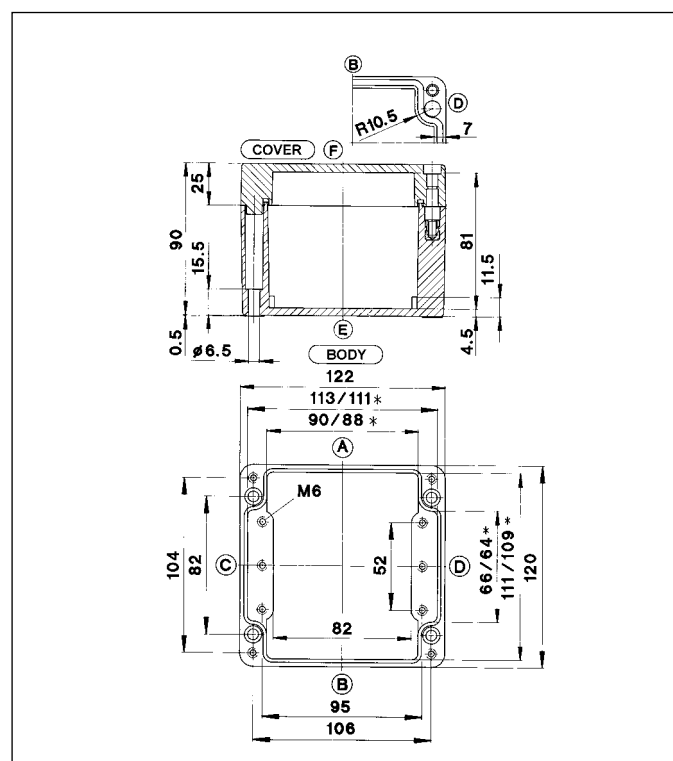
Type	CP-195	CPS-195						
Weight (g)	530	530						
External dimension (mm)	190 x 75 x 75							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4190000050							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4190001050							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4190010050							
RAL 9005 (jet black), with cover screws	5190000050							
RAL 9005 (jet black), with hexagon socket head cap screws	5190001050							
RAL 9005 (jet black), with silicone seal and cover screws	5190010050							
Accessories (individual part or installation kit)								
Mounting plate	9823003000							
Mounting rail TS 15	9820015000							
Mounting rail TS 32	-							
Mounting rail TS 35	-							
Earthing rail	-							
External mounting brackets	9824000000							
External articulated hinges for CP** enclosures	-							
External articulated hinges for CPS** enclosures	-							
Internal articulated hinges with cover guide**	-							
Silicone seal for extended temperature range (by the metre)	9231006000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	24	12	8	4	3	0	0	0
Side C/D	14	1	1	1	1	0	0	0
** Enclosure preparation required								

Polyester Enclosures – Series CP

122 x 120 x 90 mm

CP-220 RAL 7000 (squirrel grey)

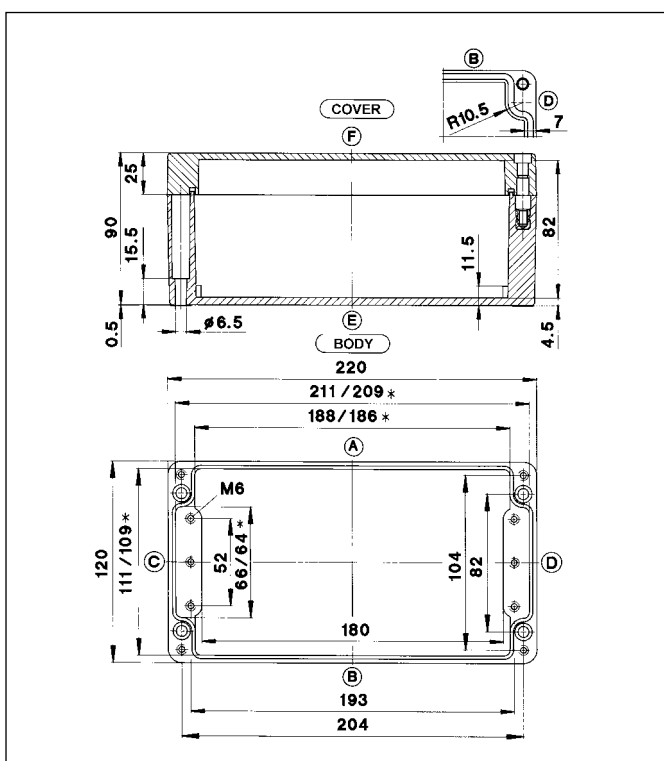
CPS-220 RAL 9005 (jet black)



220 x 120 x 90 mm

CP-240 RAL 7000 (squirrel grey)

CPS-240 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

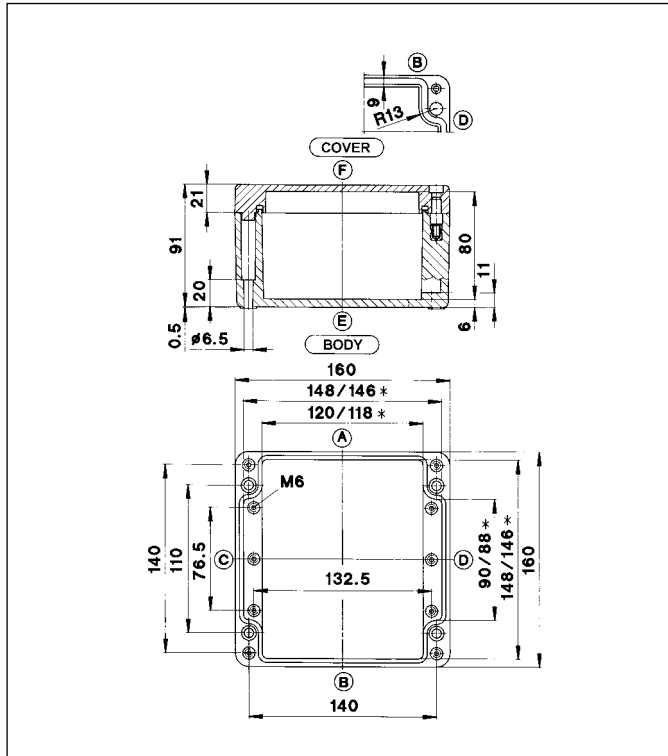
Type	CP-220	CPS-220
Weight (g)	750	750
External dimension (mm)	122 x 120 x 90	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4220000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4220001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4220018000
RAL 9005 (jet black), with cover screws		5220000000
RAL 9005 (jet black), with hexagon socket head cap screws		5220001000
RAL 9005 (jet black), with silicone seal and cover screws		5220040000
Accessories	(individual part or installation kit)	
Mounting plate		9823004000
Mounting rail TS 15		–
Mounting rail TS 32		9821000000
Mounting rail TS 35		9822001000
Earthing rail		9810002000
External mounting brackets		9824001000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		–
Silicone seal for extended temperature range (by the metre)		9231006000
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	13	6 4 3 2 1 0 0
Side C/D	6	3 2 2 1 0 0 0
** Enclosure preparation required		

* Smaller dimension at mounting plate support

Type	CP-240	CPS-240
Weight (g)	1060	1060
External dimension (mm)	220 x 120 x 90	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4240000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4240001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4240047000
RAL 9005 (jet black), with cover screws		5240000000
RAL 9005 (jet black), with hexagon socket head cap screws		5240001000
RAL 9005 (jet black), with silicone seal and cover screws		5240040000
Accessories	(individual part or installation kit)	
Mounting plate		9823005000
Mounting rail TS 15		–
Mounting rail TS 32		9821005000
Mounting rail TS 35		9822007000
Earthing rail		9810008000
External mounting brackets		9824001000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		–
Silicone seal for extended temperature range (by the metre)		9231006000
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	27	12 9 6 4 3 0 0
Side C/D	6	3 2 2 1 0 0 0
** Enclosure preparation required		

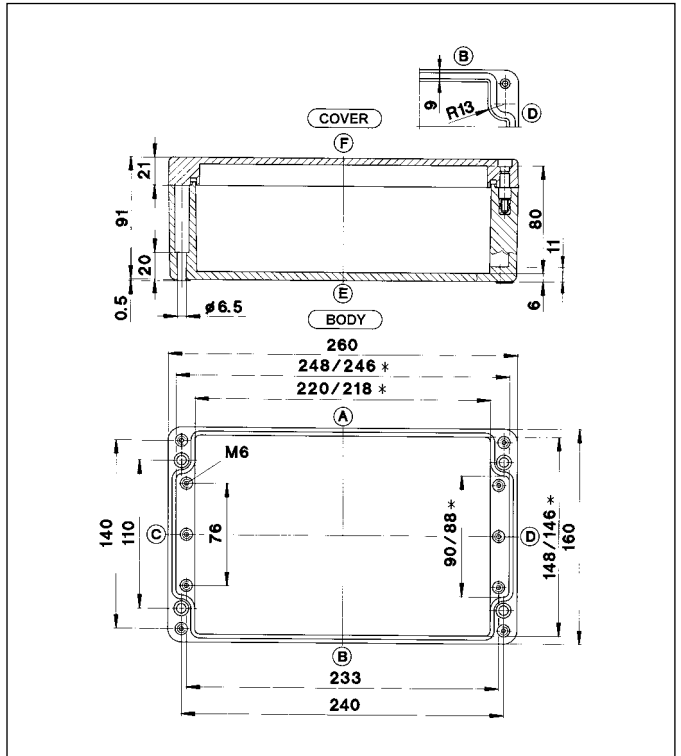
160 x 160 x 91 mm

CP-280 RAL 7000 (squirrel grey)
CPS-280 RAL 9005 (jet black)



260 x 160 x 91 mm

CP-300 RAL 7000 (squirrel grey)
CPS-300 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

Type	CP-280	CPS-280						
Weight (g)	1130	1130						
External dimension (mm)	160 x 160 x 91							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4280000000							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4280001000							
RAL 7000 (squirrel grey), with silicone seal and cover screws	4280020000							
RAL 9005 (jet black), with cover screws	5280000000							
RAL 9005 (jet black), with hexagon socket head cap screws	5280001000							
RAL 9005 (jet black), with silicone seal and cover screws	5280010000							
Accessories (individual part or installation kit)								
Mounting plate	9823006000							
Mounting rail TS 15	-							
Mounting rail TS 32	9821002000							
Mounting rail TS 35	9822003000							
Earthing rail	9810004000							
External mounting brackets	9824004000							
External articulated hinges for CP** enclosures	9801045000							
External articulated hinges for CPS** enclosures	9801046000							
Internal articulated hinges with cover guide**	9801032000							
Silicone seal for extended temperature range (by the metre)	9231009000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	18	8	6	4	2	2	1	0
Side C/D	9	4	3	2	2	1	0	0
** Enclosure preparation required								

* Smaller dimension at mounting plate support

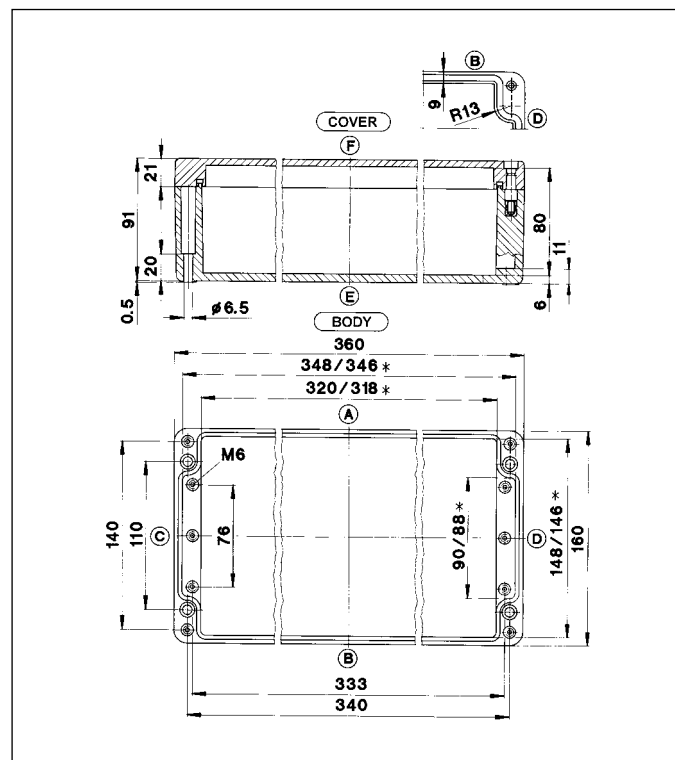
Type	CP-300	CPS-300						
Weight (g)	1710	1710						
External dimension (mm)	260 x 160 x 91							
Ordering data Enclosure with seal (CR)	Part number							
RAL 7000 (squirrel grey), with cover screws	4300000000							
RAL 7000 (squirrel grey), with hexagon socket head cap screws	4300001000							
RAL 7000 (squirrel grey),with silicone seal and cover screws	4300014000							
RAL 9005 (jet black), with cover screws	5300000000							
RAL 9005 (jet black), with hexagon socket head cap screws	5300001000							
RAL 9005 (jet black), with silicone seal and cover screws	5300034000							
Accessories (individual part or installation kit)								
Mounting plate	9823007000							
Mounting rail TS 15	-							
Mounting rail TS 32	9821008000							
Mounting rail TS 35	9822011000							
Earthing rail	9810010000							
External mounting brackets	9824004000							
External articulated hinges for CP** enclosures	9801045000							
External articulated hinges for CPS** enclosures	9801046000							
Internal articulated hinges with cover guide**	9801032000							
Silicone seal for extended temperature range (by the metre)	9231009000							
Maximum possible number of threads								
ISO M	12	16	20	25	32	40	50	63
Side A/B	33	15	12	8	4	3	3	0
Side C/D	9	4	3	2	2	1	0	0
** Enclosure preparation required								

Polyester Enclosures – Series CP

360 x 160 x 91 mm

CP-320 RAL 7000 (squirrel grey)

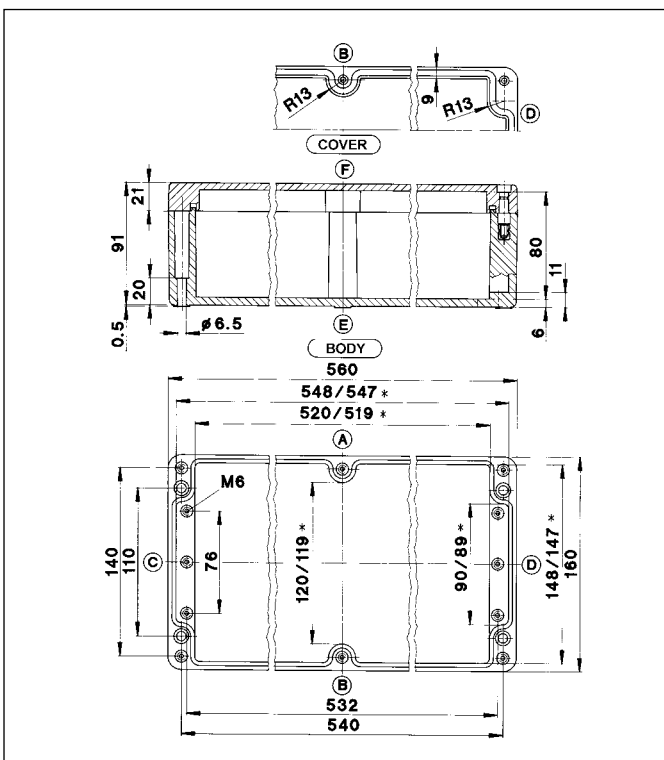
CPS-320 RAL 9005 (jet black)



560 x 160 x 91 mm

CP-330 RAL 7000 (squirrel grey)

CPS-330 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

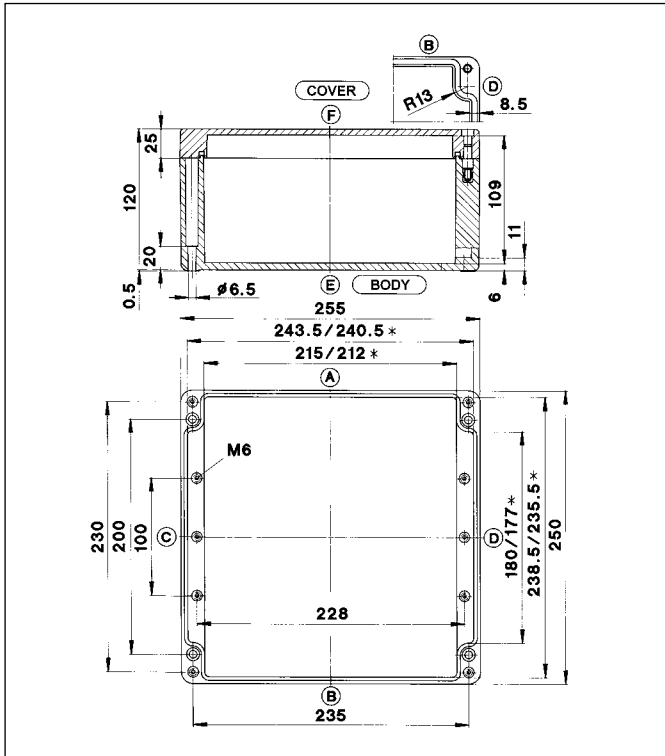
Type	CP-320	CPS-320
Weight (g)	2150	2150
External dimension (mm)	360 x 160 x 91	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4320000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4320001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4320031000
RAL 9005 (jet black), with cover screws		5320000000
RAL 9005 (jet black), with hexagon socket head cap screws		5320001000
RAL 9005 (jet black), with silicone seal and cover screws		5320021000
Accessories	(individual part or installation kit)	
Mounting plate		9823008000
Mounting rail TS 15		-
Mounting rail TS 32		9821012000
Mounting rail TS 35		9822015000
Earthing rail		9810014000
External mounting brackets		9824004000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		9801032000
Silicone seal for extended temperature range (by the metre)		9231009000
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	48	23 18 11 7 5 4 0
Side C/D	9	4 3 2 2 1 0 0
** Enclosure preparation required		

* Smaller dimension at mounting plate support

Type	CP-330	CPS-330
Weight (g)	3185	3185
External dimension (mm)	560 x 160 x 91	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4330000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4330001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4330010000
RAL 9005 (jet black), with cover screws		5330000000
RAL 9005 (jet black), with hexagon socket head cap screws		5330001000
RAL 9005 (jet black), with silicone seal and cover screws		5330010000
Accessories	(individual part or installation kit)	
Mounting plate		9823085000
Mounting rail TS 15		-
Mounting rail TS 32		9821015000
Mounting rail TS 35		9822018000
Earthing rail		9810016000
External mounting brackets		9824004000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		9801032000
Silicone seal for extended temperature range (by the metre)		9231009000
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	76	40 28 18 10 8 6 0
Side C/D	9	4 3 2 2 1 0 0
** Enclosure preparation required		

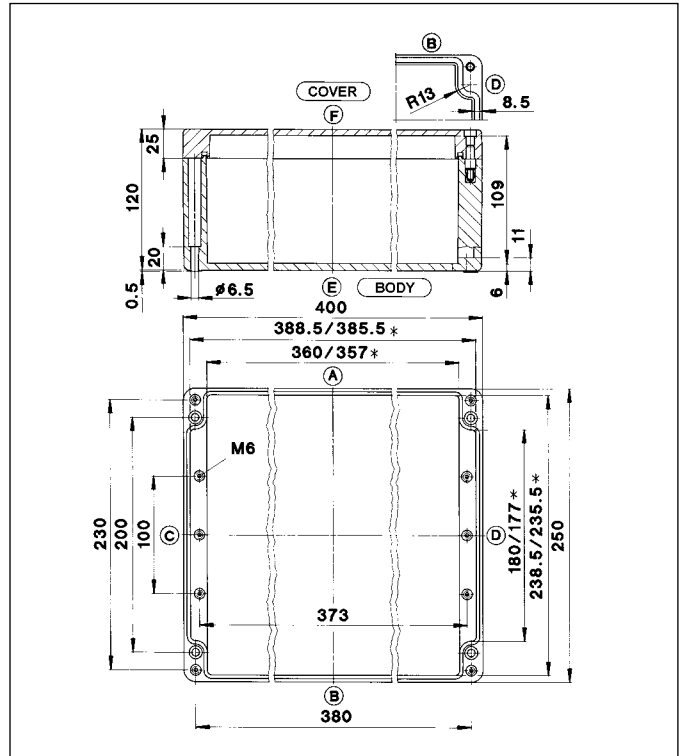
255 x 250 x 120 mm

CP-370 RAL 7000 (squirrel grey)
CPS-370 RAL 9005 (jet black)



400 x 250 x 120 mm

CP-400 RAL 7000 (squirrel grey)
CPS-400 RAL 9005 (jet black)



* Smaller dimension at mounting plate support

Type	CP-370	CPS-370
Weight (g)	2650	2650
External dimension (mm)	255 x 250 x 120	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4370000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4370001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4370010000
RAL 9005 (jet black), with cover screws		5370000000
RAL 9005 (jet black), with hexagon socket head cap screws		5370001000
RAL 9005 (jet black), with silicone seal and cover screws		5370023000
Accessories (individual part or installation kit)		
Mounting plate		9823009000
Mounting rail TS 15		-
Mounting rail TS 32		9821007000
Mounting rail TS 35		9822010000
Earthing rail		9810035000
External mounting brackets		9824011000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		9801032000
Silicone seal for extended temperature range (by the metre)		9231009000
Maximum possible number of threads		
ISO M	12 16 20 25 32 40 50 63	
Side A/B	42 23 17 11 7 4 3 3	
Side C/D	32 14 10 16 4 3 2 2	
** Enclosure preparation required		

* Smaller dimension at mounting plate support

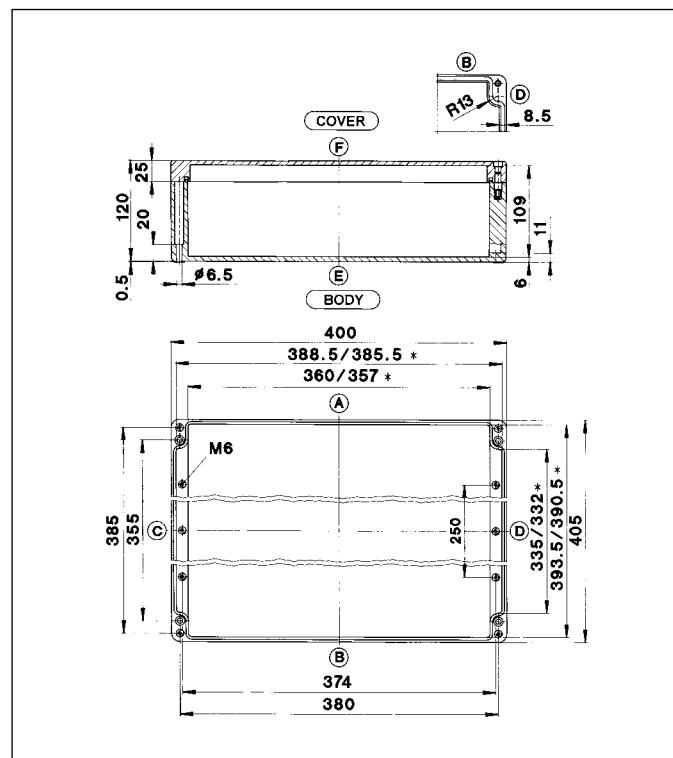
Type	CP-400	CPS-400
Weight (g)	3650	3650
External dimension (mm)	400 x 250 x 120	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4400000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4400001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4400077000
RAL 9005 (jet black), with cover screws		5400000000
RAL 9005 (jet black), with hexagon socket head cap screws		5400001000
RAL 9005 (jet black), with silicone seal and cover screws		5400010000
Accessories (individual part or installation kit)		
Mounting plate		9823010000
Mounting rail TS 15		-
Mounting rail TS 32		9821014000
Mounting rail TS 35		9822017000
Earthing rail		9810015000
External mounting brackets		9824011000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		9801032000
Silicone seal for extended temperature range (by the metre)		9231009000
Maximum possible number of threads		
ISO M	12 16 20 25 32 40 50 63	
Side A/B	74 38 27 17 13 6 5 4	
Side C/D	32 14 10 8 4 3 2 2	
** Enclosure preparation required		

Polyester Enclosures – Series CP

400 x 405 x 120 mm

CP-450 RAL 7000 (squirrel grey)

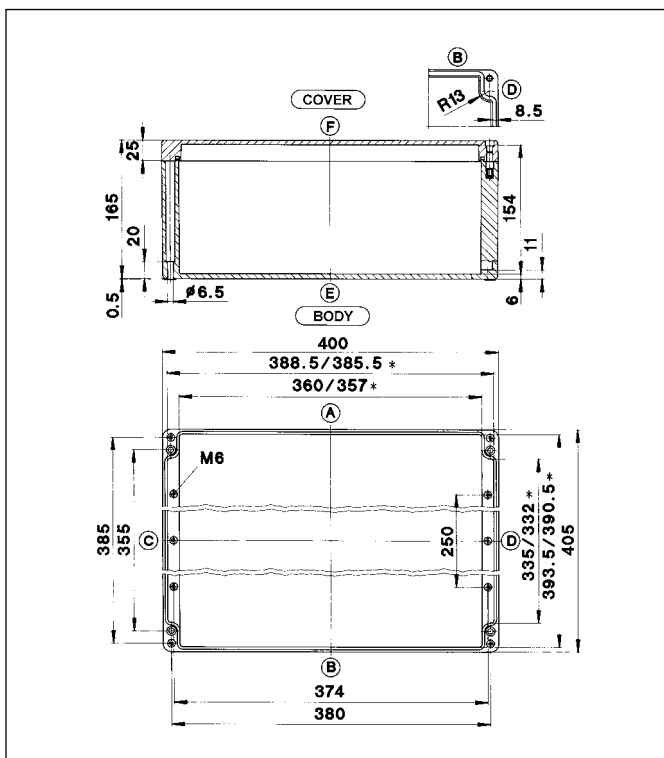
CPS-450 RAL 9005 (jet black)



400 x 405 x 165 mm

CP-460 RAL 7000 (squirrel grey)

CPS-460 RAL 9005 (jet black)




* Smaller dimension at mounting plate support

Type	CP-450	CPS-450
Weight (g)	5580	5580
External dimension (mm)	400 x 405 x 120	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4450000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4450001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4450013000
RAL 9005 (jet black), with cover screws		5450000000
RAL 9005 (jet black), with hexagon socket head cap screws		5450001000
RAL 9005 (jet black), with silicone seal and cover screws		5450010000
Accessories	(individual part or installation kit)	
Mounting plate		9823011000
Mounting rail TS 15		-
Mounting rail TS 32		9821014000
Mounting rail TS 35		9822017000
Earthing rail		9810015000
External mounting brackets		9824012000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		9801032000
Silicone seal for extended temperature range (by the metre)		9231009000
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	74	38 27 17 13 6 5 4
Side C/D	57	29 20 15 7 5 4 4
** Enclosure preparation required		


* Smaller dimension at mounting plate support

Type	CP-460	CPS-460
Weight (g)	7740	7740
External dimension (mm)	400 x 405 x 165	
Ordering data	Enclosure with seal (CR)	Part number
RAL 7000 (squirrel grey), with cover screws		4460000000
RAL 7000 (squirrel grey), with hexagon socket head cap screws		4460001000
RAL 7000 (squirrel grey), with silicone seal and cover screws		4460010000
RAL 9005 (jet black), with cover screws		5460000000
RAL 9005 (jet black), with hexagon socket head cap screws		5460001000
RAL 9005 (jet black), with silicone seal and cover screws		5460010000
Accessories	(individual part or installation kit)	
Mounting plate		9823011000
Mounting rail TS 15		-
Mounting rail TS 32		9821014000
Mounting rail TS 35		9822017000
Earthing rail		9810015000
External mounting brackets		9824012000
External articulated hinges for CP** enclosures		9801045000
External articulated hinges for CPS** enclosures		9801046000
Internal articulated hinges with cover guide**		9801032000
Silicone seal for extended temperature range (by the metre)		9231009000
Maximum possible number of threads		
ISO M	12	16 20 25 32 40 50 63
Side A/B	105	56 40 27 20 10 9 8
Side C/D	92	45 30 23 12 9 6 5
** Enclosure preparation required		



Screwed Cable Glands for Standard Enclosures

Perfekt screwed cable glands, plastic (for CA and CP standard enclosures)					
General technical data		Thread size	Cable ø (mm)	* 	Article number
Colour	RAL 7001	M12 x 1,5	3-6	15	9432462000
Temperature range	-20°C to +100°C	M16 x 1,5	5-10	20	9432463000
Protection class	IP68	M20 x 1,5	8-13	24	9432464000
Material	Polyamide PAG V-2	M25 x 1,5	11-17	29	9432465000
Sealing element	CR/NBR	M32 x 1,5	15-21	36	9432466000
		M40 x 1,5	19-28	46	9432467000
		M50 x 1,5	27-35	55	9432468000
		M63 x 1,5	32-42	68	9432469000
		PG7	3-6,5	15	9432291000
		PG9	4-8	19	9432292000
		PG11	5-10	22	9432293000
		PG13,5	6-12	24	9432294000
		PG16	10-14	27	9432295000
		PG21	13-18	33	9432296000
		PG29	18-25	42	9432297000
		PG36	22-32	53	9432298000
		PG42	30-38	60	9432299000
		PG48	34-44	65	9432300000

*  WAF (mm)

Perfekt screwed cable glands, brass (for CA standard enclosures)					
General technical data		Thread size	Cable ø (mm)	* 	Article number
Temperature range	-20°C bis +100°C	M12 x 1,5	3-6	14	9431280000
Protection class	IP68	M16 x 1,5	5-9	17	9431281000
Material	Brass	M20 x 1,5	9-13	22	9431282000
Sealing element	CR/NBR	M25 x 1,5	11-16	27	9431283000
		M32 x 1,5	14-21	34	9431284000
		M40 x 1,5	19-27	43	9431285000
		M50 x 1,5	24-35	55	9431286000
		M63 x 1,5	32-42	65	9431287000
		PG7	3-6,5	14	9431165000
		PG9	4-8	17	9431166000
		PG11	5-10	20	9431167000
		PG13,5	6-12	22	9431168000
		PG16	10-14	24	9431169000
		PG21	13-18	30	9431170000
		PG29	18-25	40	9431171000
		PG36	24-32	50	9431172000
		PG42	30-38	57	9431173000
		PG48	34-44	64	9431174000

*  WAF (mm)

Euro-2000 (Euro-Top) screwed cable glands, plastic (for CT standard enclosures), including integrated strain relief						
General technical data		Thread size		Cable ø (mm)	* 	Article number
Colour	RAL 7035		M12 x 1,5	3-6,5	15	9432549000
Temperature range	-30°C bis +80°C		M16 x 1,5	5-10	22	9432455000
Protection class	IP68		M20 x 1,5	6-12	24	9432548000
Material	Polyamide 6		M20 x 1,5	10-14	27	9432456000
Sealing element	Neoprene		M25 x 1,5	13-18	33	9432457000
			M32 x 1,5	18-25	36	9432458000
			M40 x 1,5	22-23	46	9432459000
			M50 x 1,5	30-38	60	9432460000
			M63 x 1,5	34-44	65	9432461000
			PG7	3-6,5	15	9432445000
			PG9	4-8	19	9432446000
			PG11	5-10	22	9432447000
			PG13,5	6-12	24	9432448000
			PG16	10-14	27	9432449000
			PG21	13-18	33	9432450000
			PG29	18-25	42	9432451000

*  WAF (mm)

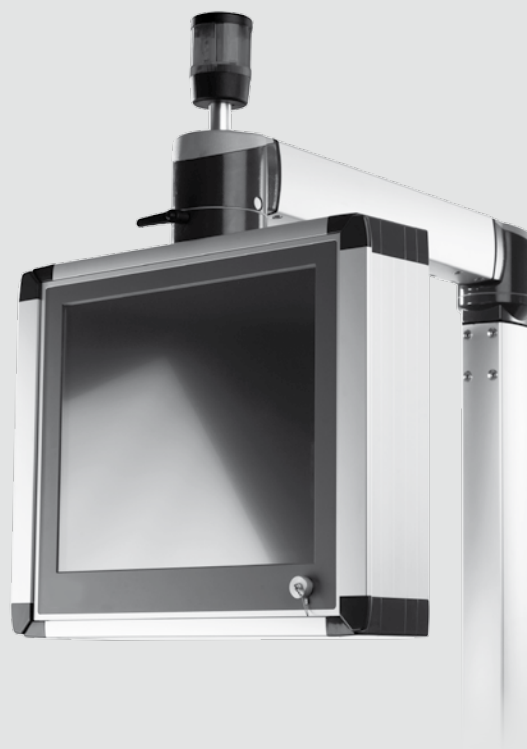
Other screwed cable glands available on request.



Aluminium Light-Duty Control Enclosure CC-3000

Individual modular-design enclosures

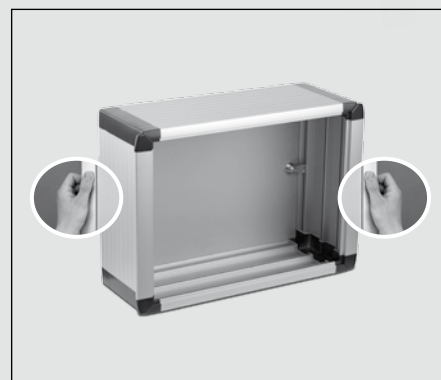
The BERNSTEIN CC-3000 light-duty control enclosure is particularly suitable for encapsulating operator control panels, industrial computers and display components and, thanks to its modular concept, can be simply adapted to versions tailored to specific customer requirements. Its height and width can be varied up to a maximum recommended size of approx. 600 x 600 mm. The aluminium sections can be simply cut to the required lengths and assembled with aluminium corner modules. The depth of the enclosure is achieved by variably combining 120 and 200 mm wide aluminium sections that can be further extended by an additional 55 mm wide door section. In this way, the enclosure depth can be varied to suit specific requirements. By combining different sections, it is possible to create a total of 5 different enclosure designs. Standard version sections and sections with handles are available for this purpose.



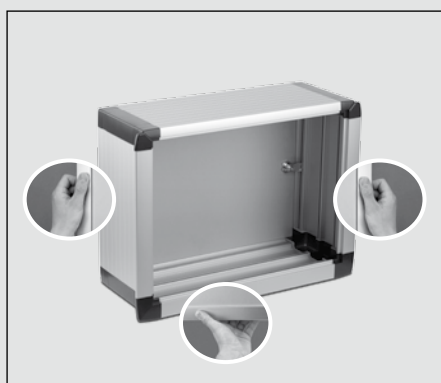
No handles



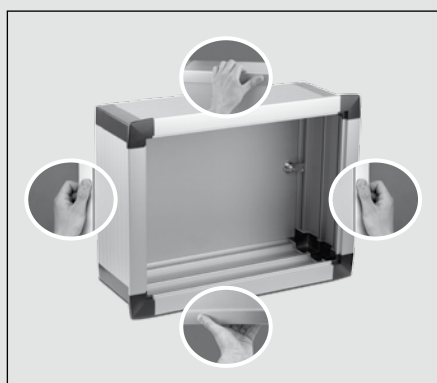
Handle only at bottom



Handles on left and right



Handles on left, right and bottom (U-shaped)



Handles all round

Besides the width, height and depth, many other enclosure properties are freely selectable to create a customised configuration, e.g.:

- door hinge mounted on left or right
- enclosure preparation for suspension systems
- colour of corner modules

Ready-to-use front panels with screen print or engraving can, of course, be used according to customer specifications.

The BERNSTEIN product range also offers complete system solutions including specific preparation and wiring (see Page 12 for details).

A checklist will help you to define the required enclosure configuration while also serving as enquiry and order form (see Page 106).



Aluminium section depth comparison: 200 mm (left) and 120 mm (right) 120 mm section with additional door extension (55 mm)

Different enclosure depths are created by standard 120 mm and 200 mm wide sections or by combining with the 55 mm door extension for a total depth of 175 mm and 255 mm respectively. The corresponding installation depths are listed on the page after next.



Fixed rear panel



Hinged rear panel with lock

The rear panel can be screwed down (left photo) or configured as a door without restricting the installation space by using hinges or articulated hinges (right photo).



Internally-mounted front panel

A practical quick assembly system with plastic fold-up retaining elements is used to secure the internally-mounted front panel. No changes need to be made to the front panel. The retaining elements can be shifted to freely selectable and reversible positions within the sections in the enclosure.



Externally-mounted front panel

Mounting screws are screwed through the externally-mounted front panel into captive nuts that are inserted in the moveable retaining elements that can be positioned as required. As a further mounting option, threaded studs welded on the back of the front panel (concealed from the outside) are locked with nuts behind the retaining elements thus holding the front panel. Even when the door extension is used, the rear panel can still be secured in the described manner.

Aluminium Light-Duty Control Enclosure CC-3000

Suspension system preparation

In most applications it is necessary to mount the enclosure on a machine or wall. The following BERNSTEIN suspension systems are ideally suited for this purpose:

- CS-2000 SL light-duty suspension system (Page 116)
- CS-3000 suspension system (Page 130)
- CS-2000 System 80 suspension system (Page 150)

The enclosure sections are prepared (machined) corresponding to the specific suspension system (coupling components).

Product features

- Modular system: Freely selectable width and height of enclosure
- 5 possible enclosure designs
- Modern industrial design with homogeneous appearance and distinctive identification features
- Recognition features
- Single-walled sections provide outstanding heat dissipation (the air trapped in double-walled sections acts as thermal insulation, thus inhibiting heat dissipation)
- Rectangular front panels (this allows direct installation of commercially available controllers)
- Front panels externally-mounted or internally-mounted
- Quick assembly system for internally-mounted front panel
- No need to subsequently fit external rubber seals
- Standard protection class IP65
- Rear panel fixed with screws or mounted on integrated hinge or articulated hinge
- Rear panel attachments can be used without restricting installation space
- Internal grooves for simple mounting with spring nuts
- Configuration corresponding to customer specifications (CC-3000 check list, see Page 106)
- Extensive range of accessories (see Page 82)



Heat dissipation

The single-wall configuration gives the aluminium section particularly good passive heat dissipation properties while conforming to protection class IP65. In many cases there is no need to use active coolers. To meet increased heat dissipation requirements, it is possible to use internal (not outward blowing), low-wear and maintenance-free fans. You will find further details and corresponding components in the range of accessories for control enclosures from Page 82 onwards.

Built-in components

The extruded aluminium section features an all-round grooves, allowing components to be simply secured with spring nuts without the need for mechanical modification to the enclosure.



All-round mounting grooves simplify installation.

Technical data

Dimensions

Single section configuration				
	Front panel	Rear panel	Section depth	Installation depth
A.	Internally mounted	Fixed or hinged	120	103
			200	183
B.	Externally mounted	Fixed or hinged	120	111
			200	191
Configuration with combination of two sections (as door)				
	Front panel	Rear panel	Section depth	Installation depth
C.	Internally mounted	Internally mounted	120+55	149
			200+55	229
D.	Externally mounted	Internally mounted	120+55	157
			200+55	237
E.	Internally mounted	Externally mounted	120+55	157
			200+55	237
F.	Externally mounted	Externally mounted	120+55	166
			200+55	246

Materials

Extruded aluminium section	Al Mg Si 05
Pressure die-cast aluminium corners	Al Si 12
Seals between section and corner module	Plastic
Seal between front panel and rear panel	CR
Hinge, articulated hinge	Al Mg Si 05
Front panel, rear panel	Al Mg

Colours

Sections	Anodised, neutral
Front panels, rear panels	Anodised, neutral
Corner module	RAL 7016

Approbations

UL 50 Type 12

Modular Aluminium Control Enclosures CC-4000/CC-4000 SL

Modular Control Enclosures CC-4000 and CC-4000 SL

The CC-4000/CC-4000 SL are modular aluminium enclosure systems. With their outstanding technical features, the enclosures simply and efficiently encapsulate industrial controllers and operator control panels for centralised and decentralised automation in production processes.

Produkteigenschaften:

- Modern monitor-based industrial design
- Modular system made from high-grade cast aluminium with functional surface finish
- Colour surfaces accentuating design features, choice of other colours (RAL) on request
- Freely selectable width and height
- Single-walled aluminium sections for optimum heat dissipation
- Integrated handle elements that make the enclosure easy to handle while underscoring the monitor characteristics
- Protection class IP65
- Heat dissipation suitable for industrial applications without reducing protection class
- Extensive range of accessories (siehe Seite 82)
- All-round mounting grooves for built-in components, no need for modifications
- Quick front panel mounting
- Internally or externally mounted front panel
- Direct installation of controller or visualisation unit, display and operator control panel...
- Door configurations for direct access
- Configuration corresponding to customer specifications (CC-4000 and CC-4000 SL check lists, see Pages 108 to 111)



Approbations

- UL 50 Type 12
- TÜV

Suspension system preparation

In most applications it is necessary to mount the enclosure on a machine or wall. The following BERNSTEIN suspension systems are ideally suited for this purpose:

- SL light-duty suspension system CS-2000 SL (Page 116)
- suspension system CS-3000 (Page 130)
- System 80 suspension system (Page 150)

The enclosure sections are prepared (machined) corresponding to the specific suspension system (coupling components).



CC-4000

Thanks to a comprehensive modular system, the enclosure depth can be adapted precisely to your controller. Based on aluminium frame sections with depths of 52, 80, 140, 200 and 290 mm with extension sections with depths of 68, 128 and 228 mm, depending on the size of the controller, you can choose depths between 52 mm and 646 mm. Your selected width or height is produced by correspondingly cutting and machining the aluminium sections.

You determine the type of access

- Hinged rear panel
- Frame sections as front door, also for hinge-mounted controller
- Frame or extension section (rear door) with articulated hinge (fixed or detachable). The detachable version makes it possible to replace the complete module together with the built-in controller for servicing purposes.



The single-walled aluminium section offers outstanding heat dissipation properties which are significantly superior to two-walled enclosures where the air trapped between the walls acts as an insulator. For more demanding requirements, the heat dissipation can be further enhanced and adapted to defined operating conditions by incorporating optional measures such as heat sink rear panel, internal fans or even an air conditioner. You will find further details in our range of accessories for control enclosures from Page 82 onwards.

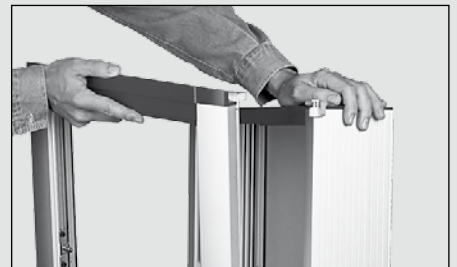
The BERNSTEIN suspension systems CS-2000 SL, CS-3000 and CS-2000 System 80 provide ideal attachment to machine or wall (see Pages 116 to 161). Selection of the suitable system depends on the arm length and the total weight of the enclosure. We would be pleased to assist you in selecting the right system for your application.



Opening CC-4000 enclosure from front with hinged frame section.



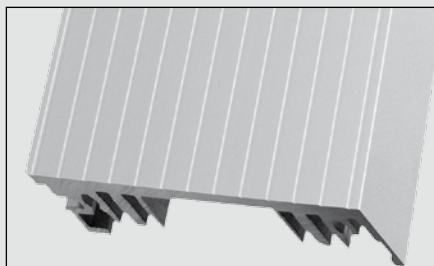
Opening CC-4000 enclosure from rear with flush-closing door.



Opening CC-4000 enclosure and detaching entire frame section at articulated hinges.



The ergonomically formed handles at the front of the enclosure make safe handling easy.



External view of aluminium section. Generously sized cable channels on the inside. Direct screw mounting of components or mounting with easy-to-fit spring nuts.



Combined, frame and expansion sections with different widths make up your specified control enclosure depth.

Modular Aluminium Control Enclosures CC-4000/CC-4000 SL

Dimensions

Thanks to the different section depths, BERNSTEIN CC-4000 control enclosures are available in depths from 52 mm up to 646 mm (see drawings below).

Frame sections

52 mm
80 mm
140 mm
200 mm
290 mm

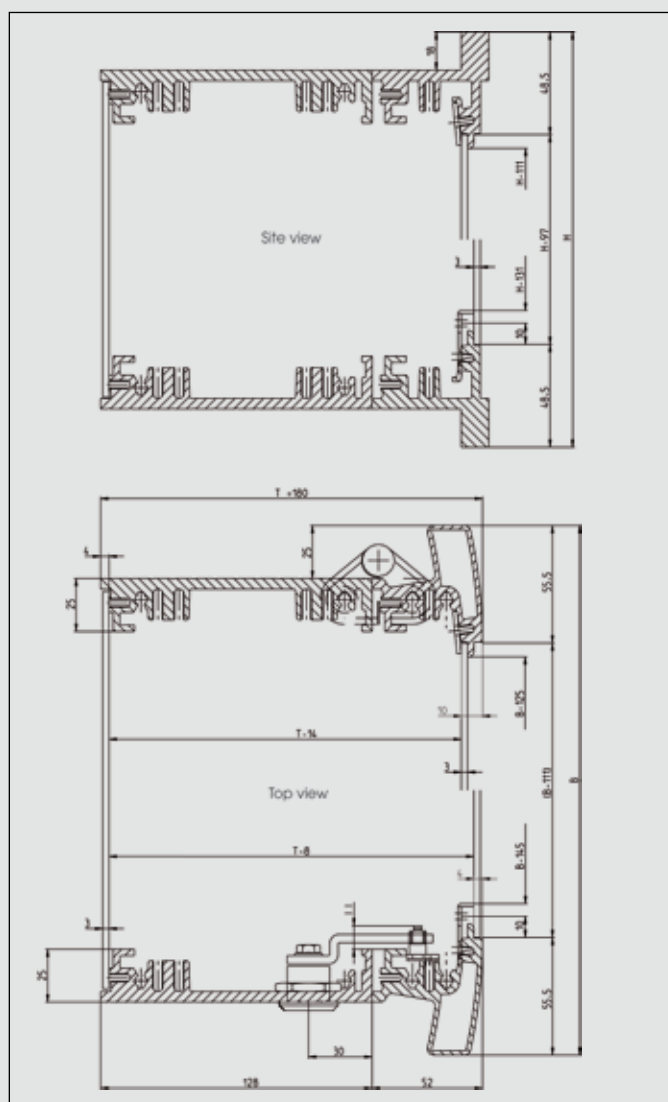
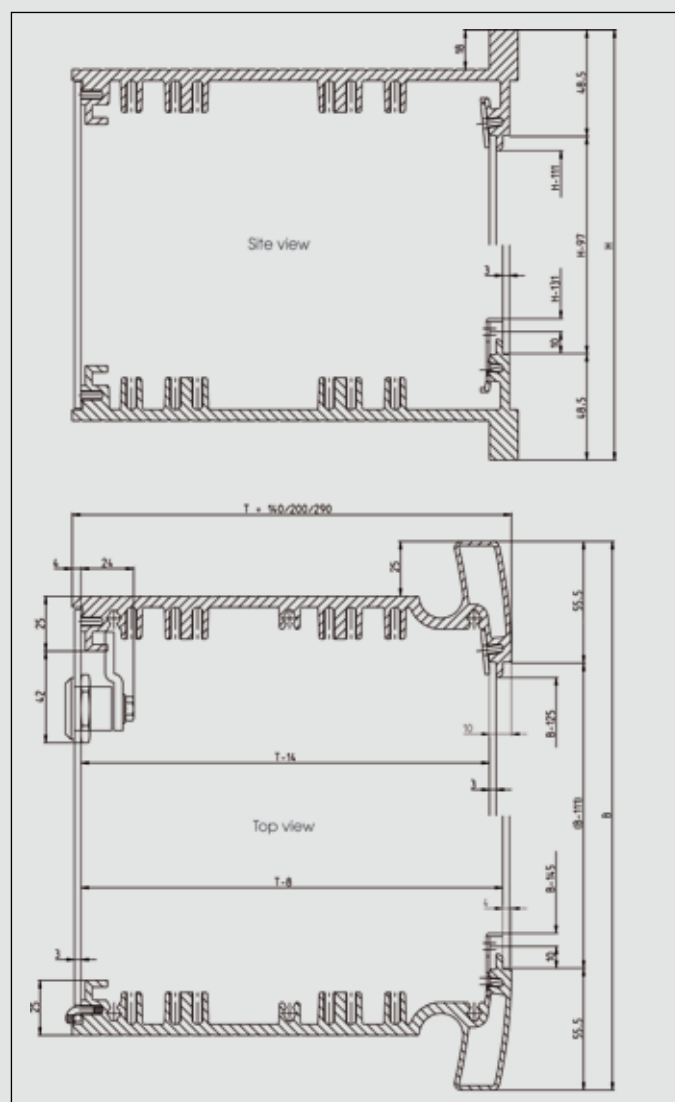
Extension sections

68 mm
128 mm
228 mm

The width and height are freely selectable up to a size of 800 x 800 mm. Different sizes may be possible from case to case.

Requirements for front-mounted front panel:

- Front panel support 3.0 mm deep for 140, 200 and 290 sections
- Front panel support 6.5 mm deep for 52 and 80 sections



Stand/console version CC-4000

In addition to the options for mounting the CC-4000 control enclosures on type CS-3000, CS-2000 System 80 and CS-2000 SL suspension systems (see Page 116 onwards), BERNSTEIN also offers the configuration on a terminal stand as well as a suspended or upright console version.

With components specifically developed for this purpose, the user has available an ergonomically arranged and attractive industrial PC workstation. In all three variants the inclination of the control enclosure and of the keyboard console is adjustable, providing an optimum field of view and ideal access to the control panel for the user, corresponding to size and light conditions.

The cable gland in the stand itself is located in a cable duct integrated at the rear, concealed by a cover panel. Cables and connectors can be routed directly to the attached control enclosure or keyboard console through the coupling head combined with the stand. This renders external cable ducts superfluous.



You will find the terminal stand, the stand/console version as well as the console coupling head for creating a suspended console configuration in our range of accessories from Page 82 onwards. Using the BERNSTEIN checklist (see Page 106), with corresponding preparation, the type CC-4000 and CC-3000 control enclosures can be configured to enable direct connection. Vertically adjustable support feet as well as a set of castors for mobile applications that can be fitted directly to the stand without the need for additional modifications, are available as accessories.

Delivery specification

- Single stand, stand/console, console coupling head suspended, support feet and set of castors come with assembly material and instructions
- Single stand, stand/console and coupling head suspended in colour RAL 7035
- Special colours available on request



Modular Aluminium Control Enclosures CC-4000/CC-4000 SL

CC-4000 SL

The ideal addition to the CC-4000 control enclosure range

Thanks to its elegant, slimline design, the CC-4000 SL is the ideal addition to the BERNSTEIN CC-4000 range of control enclosures.

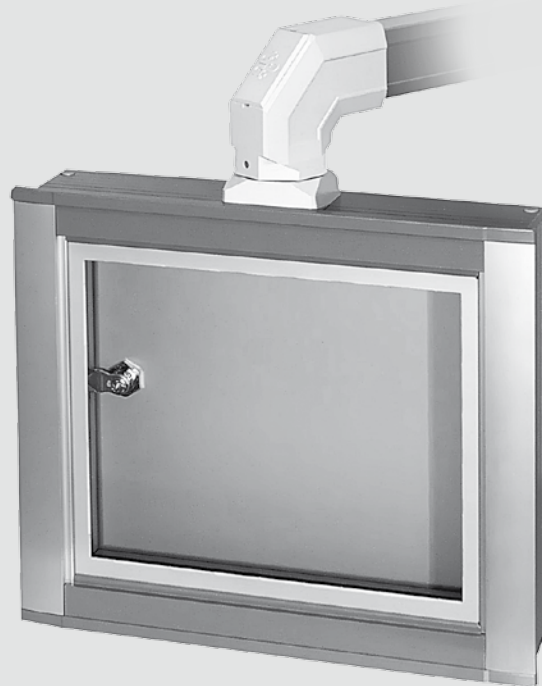
The modern, dynamic industrial design of the enclosure gives the entire machine or system a high-quality appearance. Tailored to the size of the controller or operator control panels, a corresponding aluminium section configuration can be selected from the extended range of enclosures.

With its many outstanding technical features the enclosure makes it easy to encapsulate the controllers cost-effectively.

Product features (additionally to CC-4000):

- Two enclosure depths (external dimensions: 55 and 99 mm)
- Slimline design for configuring small visualisation systems

Without the need for mechanical modifications, built-in components are easy to mount and remove with the aid of spring nuts in the all-round mounting grooves in the enclosure.



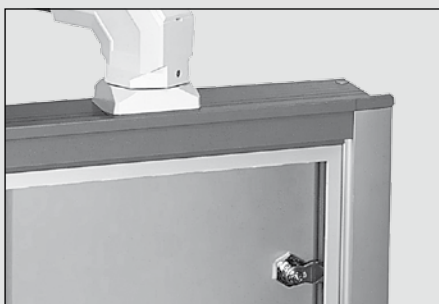
Comparison of handle sections:
Left: CC-4000 SL, right: CC-4000



Application with control unit, partition
and two-row operator control panel



Application with control unit



CC-4000 SL with suspension system attach-
ment CS-2000 SL and front panel aperture



CC-4000 SL with partition and externally-
mounted two-row operator control panel.

- Externally mounted front panel:
Inner depth = Outer depth - 14 mm
- Internally mounted front panel:
Inner depth = Outer depth - 20 mm
- Rationalisation effects thanks to time-
saving installation and servicing.

Accessories for control enclosures CC-3000, CC-4000 and CC-4000 SL

BERNSTEIN not only offers innovative control enclosures that can be perfectly configured to suit your specific requirements with our comprehensive range of accessories that you will find on the following pages but our system solution service also realises complete enclosure solutions.

The range of accessories covers the following areas:

- **Attachment solutions**

Whether suspended, upright or mobile – we have the right system for any configuration.

- **Interface solutions**

With the interfaces laptops, programming devices, diagnostic facilities, modems etc. can be easily connected to built-in components for servicing purposes. Simply open the cover and connect. Protection class IP65 is retained (cover closed).

- **Keyboard solutions**

Data input devices do not always have to be in the way. We have available excellent solutions for storing such devices and cleverly integrating them in the overall concept while retaining the user-friendly ergonomics of the system.

- **Handle solutions**

The BERNSTEIN range of accessories also includes practical handles to ensure the enclosures are handled safely.

- **Safety solutions**

Your safety is our concern – we therefore offer a range of accessories that help and protect.

- **Heat dissipation solutions**

Heat dissipation is a key problem which we will gladly resolve for you. Take the easy way out and contact us. We have the right enclosures, suitable equipment and the necessary know-how to effectively solve heat dissipation problems.

- **Cable solutions**


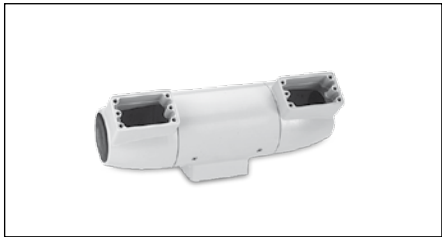
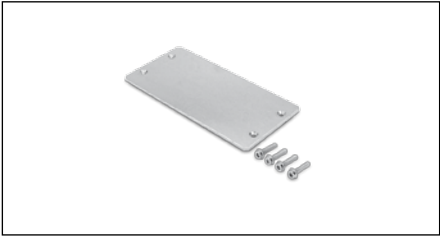
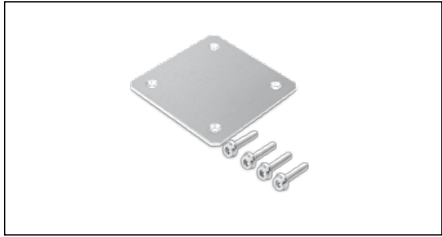


It is often necessary to route cables into the enclosure – whether single core or preassembled cables, we have the right solution

- **Front panel solutions**

The front is the most important side of the enclosure. Here everything must be right and should look exactly as you imagined. Take advantage of our service to help you find the appropriate accessories.

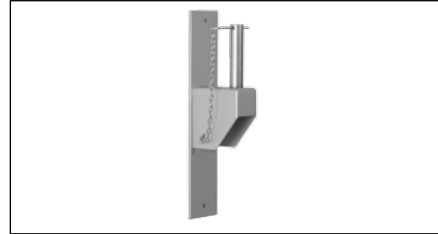
Our comprehensive range of accessories is listed on the following pages.

Accessories for control enclosures

Article	Console connector kit	Console coupling head, single
Article number	9806493000	9808013100
Attachment solutions		
	Rigid elements for connecting upper section of console to lower section, set of 2 connectors, finish similar to RAL 9006.	For connecting upper section of console to lower section, including infinitely variable adjustment of lower section of console from 0 to 30°. Finish similar to RAL 7035. Also available in RAL 9006 on request.
Design		
Article	Suspension system cover, adapter flange	Suspension system covers CS-2000 SL
Article number	9806512000	9806495000
		
	For closing off unused BERNSTEIN adapter flange connection points in the enclosure. Finish similar to RAL 9006.	Flange size 60 mm. For closing off unused BERNSTEIN suspension system connection points. Finish similar to RAL 9006. Other RAL colours available on request.
Design		
Article	Stand CC-3000	Stand CC-4000
Article number	1016509100	See specification
		
	Upright stand with straight column for mounting control enclosures. Finish similar to RAL 7035. Please order castors and coupling components separately.	Upright stand with integrated coupling head for infinitely variable, pivoted attachment of CC-4000 and CC-3000 control enclosures (infinitely variable from 0° to 30°). Finish similar to RAL 7035. 1016786000 with integrated coupling head 1016787000 with integrated console coupling head that additionally allows infinitely variable, pivoted (0° to 20°) attachment of keyboard consoles.
Design		

Thin Client wall mount bracket – enclosure attachment
9805332000


Particularly suitable for mounting an enclosure on safety gate posts that can accept 40, 60 and 80 mm post attachments. The plastic mount is silicone-free. Designed for standard M6 attachment. The maximum load for central mounting is 20 kg. The wall/post attachment, Art. No. 9805333000, is additionally required for a complete system.

Thin Client wall mounting bracket – wall/ pillar attachment
9805333000


Particularly suitable for mounting an enclosure on safety gate posts that can accept 40, 60 and 80 mm post attachments. The plastic mount is silicone-free. Designed for standard M6 attachment. The maximum load for central mounting is 20 kg. The enclosure attachment, Art. No. 9805332000, is additionally required for a complete system.

Adapter flange
9806213000


For simple "one-man mounting" of a control enclosure on the suspension system. Finish similar to RAL 7035.

Suspension system cover CS-2000 System 80
9806499000


Flange size 80 mm. For closing off unused BERNSTEIN suspension system connection points. Finish similar to RAL 9006. Other RAL colours available on request.

TFT monitor mounting bracket
9806679000


Commercially available displays can be easily secured in modern control enclosures, thus encapsulating them in a way that meets industrial standards.

Transparent Makrolon front panel
On request


Please contact us regarding the protection of a commercially available monitor that is secured in the enclosure by means of a TFT monitor mounting bracket.

Industrial castors
9808012800


Set of castors, consisting of 4 swivel castors with brake. Load-bearing capacity of each castor 50 kg.

Equipment castors
9808015300


Set of castors, consisting of 2 swivel castors and 2 swivel castors with brake. Load-bearing capacity of each castor 70 kg.

Support feet
9808012900


Vertically adjustable feet (4x) for upright stands.

Accessories for control enclosures

Article	Tabletop feet, adjustable	Tabletop feet (StopChoc)
Article number	9806014000	9806500000

Attachment solutions



Design	Simple plastic tabletop feet for control enclosures; feet can be set upright to adjust enclosure inclination.	Vibration-absorbing tabletop feet for control enclosures, ideal for mobile use in close proximity to machines or sensitive electronic equipment.
--------	---	--

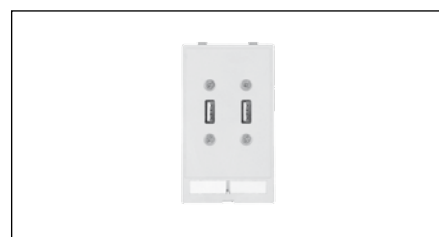
Article	CD-ROM cover	Floppy disk cover
Article number	9806486000	9806258000

Interface solutions



Design	Aluminium interface cover, 177 x 119 x 8 mm, finish similar to RAL 9006, with snap-in fastener. Also available with turn-lock fastener.	Aluminium interface cover, 120 x 92 x 8 mm, finish similar to RAL 9006, with snap-in fastener.
--------	---	--







Article	Interface insert	Interface insert
Article number	9421308000	9421284000







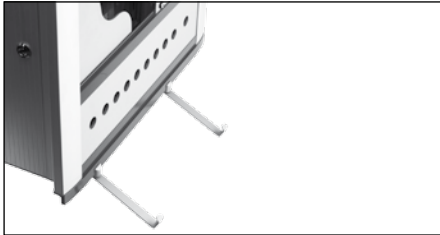


Design	1x Sub-D9/1xSub-D15, female/female	2x USB 2.0 Type A with 0.7 m cable and connector
--------	------------------------------------	--

External articulated hinge, fixed 9806021000  <p>For wall mounting of control enclosures, set of 2 (2 sets are required for fixed mounting). Finish similar to RAL 9006.</p>	External articulated hinge, detachable 9806123000  <p>For wall mounting of control enclosures or swivelling away from wall. (1x 980.6123.000 and 1x 980.6021.000 are required for this application.) Finish similar to RAL 9006, set of 2.</p>	External mounting bracket 9806017000  <p>For fixed wall mounting of an enclosure.</p>
Front panel interface, single 9421283000  <p>Metal interface cover, various snap-in inserts for modular configurations. Plastic version available on request.</p>	Front panel interface, double 9421306000  <p>Metal interface cover, various snap-in inserts for modular configurations. Plastic version available on request.</p>	Interface insert 9421311000  <p>1x RJ45 / USB BF-A / Sub-D9</p>
Interface insert 9421300000  <p>2x USB 2.0 Type A shielded</p>	Interface insert 9421307000  <p>Earthed socket outlet 250V</p>	Interface insert 9421310000  <p>1x Sub-D9/1xSub-D15, female/male</p>

Accessories for control enclosures

Article	Interface insert	Interface insert
Article number	9421312000	On request
Interface/ keyboard solutions		
Design	Flat dummy panel	Other inserts available on request. Please contact us.
Article	Keyboard drawer 483 x 89 x 155 mm (19"/2HM)	Keyboard drawer 483 x 134 x 155 mm (19"/3HM) 20° inclination
Article number	9806744000	9806497000
		
Design	With mounting pin, no lock, IP65 rating when closed, including German keyboard with USB connector. Other language-version keyboards and drawer with lock available.	With mounting pin, no lock, IP65 rating when closed, including German keyboard with PS2 connector. Other language-version keyboards and drawer with lock available.
Article	Keyboard shelf	Keyboard support bracket, straight
Article number	9806175000	9806326000
		
Design	Sheet metal, finish similar to RAL 9006. 2x M5 holes required in enclosure. Stainless steel version available on request.	Keyboard support bracket for individual positioning on enclosure. Finish similar to RAL 9006. Can be tucked away under the enclosure when not in use. No modifications required on enclosure (the adapter kit is required for CC-3000 without lower handle strip).

USB interface 9421319000	RJ-45 interface 9806519000	Keyboard drawer 483 x 89 x 155 mm (19"/2HM) 9806496000
		
Single USB interface with captive dust cap, protection class IP65. Mounted in a 22.5 mm hole in enclosure or front panel.	Single RJ-45 interface with captive dust cap, protection class IP65. Mounted in a 22.5 mm hole in enclosure or front panel.	With mounting pin, no lock, IP65 rating when closed, including German keyboard with PS2 connector. Other language-version keyboards and drawer with lock available.
Keyboard drawer 483 x 134 x 155 mm (19"/3HM) 20° inclination 9806745000	Integrated keyboard drawer On request	Fold-down keyboard panel 9806488000
		
With mounting pin, no lock, IP65 rating when closed, including German keyboard with USB connector. Other language-version keyboards and drawer with lock available.	We can integrate our IP65 keyboard drawers, straight or 20° inclination, directly in your customised front panel. Please contact us.	Made from coated sheet steel, finish similar to RAL 9006. Dimensions: 483x249x50 mm. IP54 rating when open.
Keyboard support bracket, 30° inclination 9806487000	Separate keyboard with PS2 connector See specification	Separate keyboard with USB connector See specification
		
Keyboard support bracket for individual positioning on enclosure. Finish similar to RAL 9006. Can be tucked away under the enclosure when not in use. No modifications required on enclosure (the adapter kit is required for CC-3000 without lower handle strip).	84 short-stroke keys. PS2 connector. Dimensions (suitable for 19" keyboard drawers): 370 x 20 x 139 mm. Other versions available on request. 9286109000 German 9286110000 US English 9286107000 French	84 short-stroke keys. USB connector. Dimensions (suitable for 19" keyboard drawers): 370 x 20 x 139 mm. Other versions available on request. 9286159000 German 9286117000 US English 9286188000 French

Accessories for control enclosures

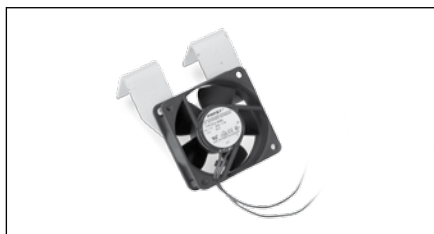
<p>Article</p> <p>Article number</p>	<p>Clipboard</p> <p>9806388000</p>	<p>Mouse pad</p> <p>9806480000</p>
<p>Keyboard/ handle solutions</p>		
<p>Design</p>	<p>For placing production documents for instance (DIN A4) at the enclosure. Sheet steel, finish similar to RAL 9006. No modifications required on enclosure (the adapter kit is required for CC-3000 without lower handle strip).</p>	<p>Adjustable mouse pad with storage tray for mouse. Finish similar to RAL 9006. No modifications required on enclosures with side handle strip (the adapter kit is required for CC-3000 without side handle strip).</p>
<p>Article</p> <p>Article number</p>	<p>Positioning handle</p> <p>See specification</p>	<p>Carrying handle</p> <p>9806490000</p>
<p>Handle/ safety solutions</p>		
<p>Design</p>	<p>Anodised, ergonomically designed, formed aluminium positioning handle. 9808015100 Length 250 mm 9808015200 Length 350 mm</p>	<p>Black carrying handle especially for small enclosures in mobile applications.</p>
<p>Article</p> <p>Article number</p>	<p>Earthing kit, internally mounted front panel</p> <p>9806505000</p>	<p>Earthing kit, door and externally mounted front panel</p> <p>9806506000</p>
<p>Safety/ heat dissipation solutions</p>		
<p>Design</p>	<p>Additional earthing kit for earthing internally mounted front panels.</p>	<p>Additional earthing kit for earthing externally mounted front panels or doors (green/yellow).</p>

Adapter kit RAL 9006 9806489000 For attaching the clipboard or keyboard mounting brackets to enclosure sections without handle strip.	CC handle See specification  Straight, anodised aluminium handle. 9808015000 Length 140 mm 9808014900 Length 200 mm 9808014600 Length 350 mm	Corner handle set 9806026000  2x black foam-coated corner handles.
Bump guard 1 m, yellow/black 9231731000 	Corner and mounting system reinforcements On request 	Door arrester 9806503000 
For protecting edges and corners, self-adhesive foam material.	Made to suit your enclosure on request. Please specify required sizes or enclosure article number.	For locking door inn open position and for limiting opening range (approx.100°).
Earthing kit, door and externally mounted front panel 9806507000 	Heat sink, rear panel On request 	Internal fan 9806421000 
Copper strap	Made to suit your enclosure on request. Please contact us.	24 V, 40 m³/h

Accessories for control enclosures

Article	Fan mounting bracket set	Filter fan set PF1000
Article number	9806491000	9806492000

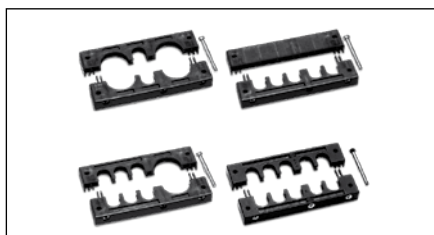
Heat dissipation solutions



Design	Set of 2 brackets for axial or radial fan, RAL 7035.	230 V filter fan + outlet filter 24 m ³ /h, IP54
--------	--	---

Article	Cable gland strips 16/4	Cable gland strips 24/5
Article number	9806501000	9806502000

Cable solutions



Design	For entry of preassembled cables in enclosures (machining necessary).	For entry of preassembled cables in enclosures (machining necessary).
--------	---	---

Article	Cable grommets	Screwed cable glands
Article number	On request	On request



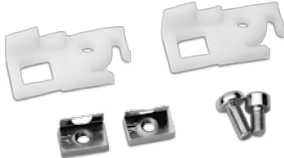
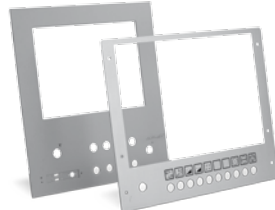
Cable/ front panel solutions



Design	Other cable grommets available on request. Please contact us.	We have available a large selection of metal and plastic cable glands Matching your enclosure. Please contact us.
--------	---	---

Internal filter set or filter fan set On request Higher power rating or 24 V/230 V units available on request.	Air conditioner 230 V, 320 W, L35L35 9421279000	Air conditioner 230 V, 400 W, L35L35 9421276000
		
	270 x 520 x 110 mm, 13,3 kg	520 x 340 x 110 mm, 14,8 kg
Cable grommets, cable diameter 3-4 mm 9432613000	Cable grommets, cable diameter 6-7 mm 9432617000	Dummy plug 9432614000
		
Grommets for cable gland strips	Grommets for cable gland strips	Grommets for cable gland strips
Mounting rail service On request	Front panel sealing kit 9806373000	Mounting brackets 9806008000
		
On request we will cut mounting rails to size for your enclosure (TS32/TS35 for accepting terminal blocks). Please contact us.	2 m front panel flat seal, 6 x 2 mm, grey	For attaching mounting plates or other built-in components in enclosures.

Accessories for control enclosures

Article	Set of spring nuts M4	Set of spring nuts M6
Article number	9806006000	9806007000
Front panel solutions		
		
Design	Set of 10	Set of 10
Article	19" Mounting kit	Front panel preparation service
Article number	9806112000	On request
		
Design	Set of 4, used only together with front panel mounting brackets, e.g. in front panel mounting kits or in enclosures already supplied by BERNSTEIN.	We machine front and rear panels individually to suit your specific requirements. Engraving or various printing processes also possible on request. Simply provide us with a drawing with your requirements.

Set of clamping elements (PC670/PC677)

9806324000



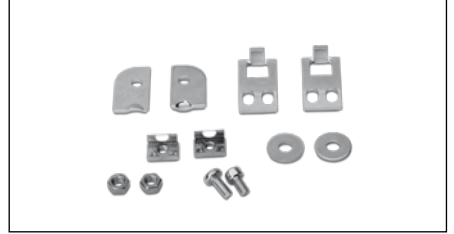
Front panel mounting kit CC-3000

9806508000



Front panel mounting kit CC-4000

9806509000



Set of 6 clamping elements for direct installation
of Siemens PC 670/677

Set of 10 mounting elements

Set of 10 mounting elements

Mounting plates

On request

Made to suit your enclosure on request. Please specify
required size or enclosure article number.

Robust for harsh production environments



All industrial workstations look good on paper. It is only when they are put to the test in harsh everyday production conditions do they show what they are really worth. Therefore, the BERNSTEIN WS-6000 not only looks good, but also has the intrinsic qualities to back this up:

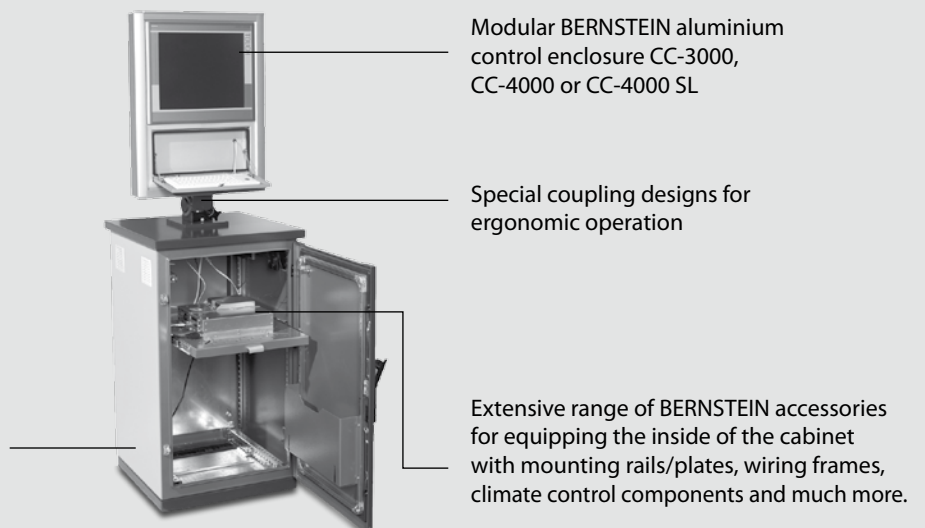
With its robust sheet steel cabinet and modular aluminium control enclosure, the workstation provides permanent and reliable protection for sensitive control electronics in harsh production environments. Whether vibration, impact, dust or moisture – the WS-6000 is completely unaffected while impressing with its well-conceived, unsurpassed ergonomics.

With numerous variation options and a comprehensive range of accessories, the BERNSTEIN WS-6000 is the tailor-made solution for your demanding applications: e.g. system controllers, QA workplace or signalling station.

Product features

- Coordinated system in terms of design and configuration
- Sheet steel and aluminium design
- individual colour schemes in most RAL shades available on request
- Protection class IP65 (cabinet IP55)
- Perfected ergonomics
- Compact design
- Service-friendly layout
- Flexible concept for tailored solutions
- Extensive range of accessories
- Complete solutions from under one roof

Completely closed sheet metal cabinet with protection class IP55. Different heights and variable colour scheme available. Standard version 600 x 600 x 1042 mm and colour RAL 7035.



Modular control enclosures

Together with the tried-and-tested Series CC-3000 and CC-4000/CC-4000 SL aluminium control enclosures, the BERNSTEIN WS-6000 workstation offers a wide variety of solutions for encapsulating operator control panels, visualisation units and IPCs. Thanks to their modular design, the control enclosures are extremely well suited for customer-specific solutions.

The width and height can be freely selected in the enclosure configuration. Base elements of different depths are simply combined to create the required enclosure depth: This makes it possible to achieve graduated installation depths from 103 mm to 246 mm for the CC-3000 and from 80 mm to more than 600 mm for the CC-4000.

As all enclosure sections feature internal grooves, components can be effortlessly mounted simply using spring nuts.

The method used to secure the internally mounted front panels is just as simple. A quick assembly system ensures the front panel can be mounted directly without the need for additional work.

You will find detailed information on our range of control enclosures from Page 72 onwards.

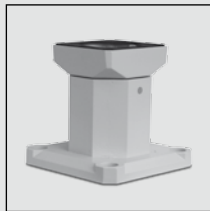
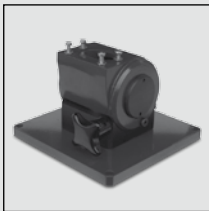
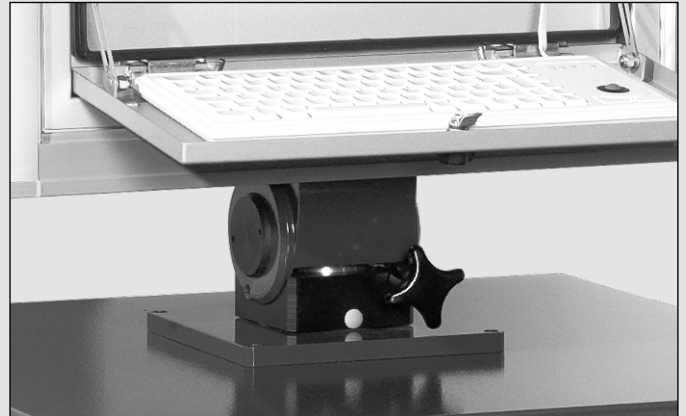
From Page 82 onwards you will also find the extensive range of accessories for the control enclosures used in connection with the BERNSTEIN WS-6000 workstation. All accessories are designed to provide a wide variety of ergonomic solutions that ensure safe operation of the BERNSTEIN WS-6000 industrial workstation without fatigue.



Industrial Workstation WS-6000

Special coupling systems

Corresponding to requirements, various coupling systems can be utilised for the purpose of connecting the control enclosure and bottom cabinet. Each coupling has its own specific features. The turn/tilt coupling for instance provides the best possible ergonomics thanks to unlimited variability it offers in aligning the control enclosure. The special design of the rotary coupling suppresses the 'chimney effect', thus preventing dust and heat from the bottom cabinet entering the control enclosure. The two base couplings, on the other hand, are particularly suitable for narrow panel enclosures.



Four coupling systems are available:
Rotary coupling, turn/tilt coupling,
base coupling, base tilt coupling

Highly effective heat dissipation

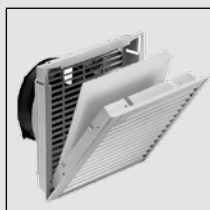
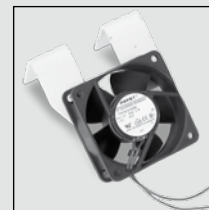
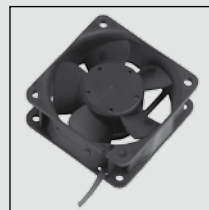
The more powerful the computer, the more heat it produces. The risk of overheating rises exponentially in configurations where the electronics are completely enclosed. To effectively prevent heat failure of sensitive components, the control enclosure and bottom cabinet can be equipped with various systems for both passive and active heat dissipation.

In order to create the most favourable prerequisites for heat transfer, great importance was attached to passive heat dissipation when designing the BERNSTEIN WS-6000 industrial workstation.

The range of accessories for the WS-6000 features many well-proven options specifically designed for thermal management in the bottom cabinet. The majority of heat build-up problems can be easily solved with filter fans fitted in the enclosure. The fans can be thermostatically controlled or speed-regulated to ensure increased reliability and longer service life. High-performance mini climate control units are the first choice for applications where fans cannot provide sufficient cooling capacity or should not be used.

The single-wall configuration gives the aluminium section particularly good passive heat dissipation properties while conforming to protection class IP65. In many cases, therefore, there is no need to use active coolers. To meet increased heat dissipation requirements, it is possible to use internal (not outward blowing), low-wear and maintenance-free fans.

Thermal management is an important subject that should not be left to chance. Our technicians would be pleased to advise you on the most effective solution to the specific cooling requirements of your application.





Extremely sturdy bottom cabinets

The bottom cabinet is the load-bearing base of an industrial workstation. Stability and torsional rigidity are the decisive factors that govern the mechanical integrity of the overall construction. BERNSTEIN therefore uses only the highest quality materials as well as a sturdy frame structure for the cabinet body and door of the WS-6000 workstation.

Accordingly, the body of the bottom cabinet is made from solid, 2 mm thick, welded steel side panels. Together with the frame sections, this structure ensures maximum stability. The stability is further enhanced by the base guide rails and the reinforcements in the top section. Two internal reinforcement elements are additionally used for the sheet steel worktop.

The WS-6000 workstation has a static load bearing capacity of up to 150 kg. The door structure with maintenance-free 4-point bar lock and 180° opening angle (rear door 120° opening angle) provides unobstructed

access. However, it is not only the mechanical qualities of the WS-6000 bottom cabinet that are of an exceptionally high standard, but, in addition to the IP55 protection rating, the efficient EMC protection and the numerous equipotential bonding options via earthing connections also contribute to the effective protection of the sensitive electronics.

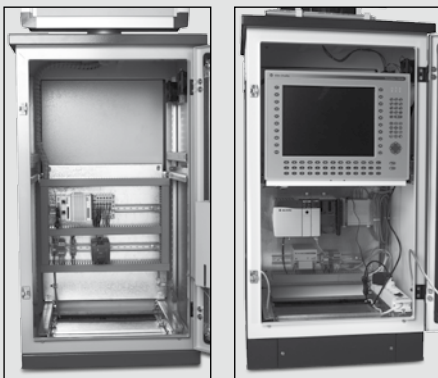
Thanks to its uncompromising long-term quality, the WS-6000 workstation is predestined for use in harsh industrial environments and offers the ideal prerequisites for individually configuring workstations to your specifications. For this purpose, the comprehensive BERNSTEIN range of accessories includes everything you will need to optically configure the inside of the WS-6000 cabinet:

mounting plates, mounting rail systems, installation frames, various rear panel/door solutions, holders for circuit diagram, etc. The appealing appearance of the cabinet is further enhanced by coloured design elements on the door and inspection door. Find out more. We would be pleased to show you what's possible with the WS-6000.

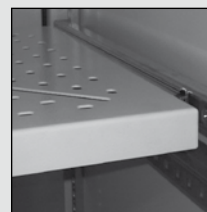


Instead of a closed sheet steel door, a door with a safety glass inspection window is also available, featuring design trim panels on the door and inspection window. The rear panel can also be designed as a door.

The WS-6000 is available with a fixed base or on castors.



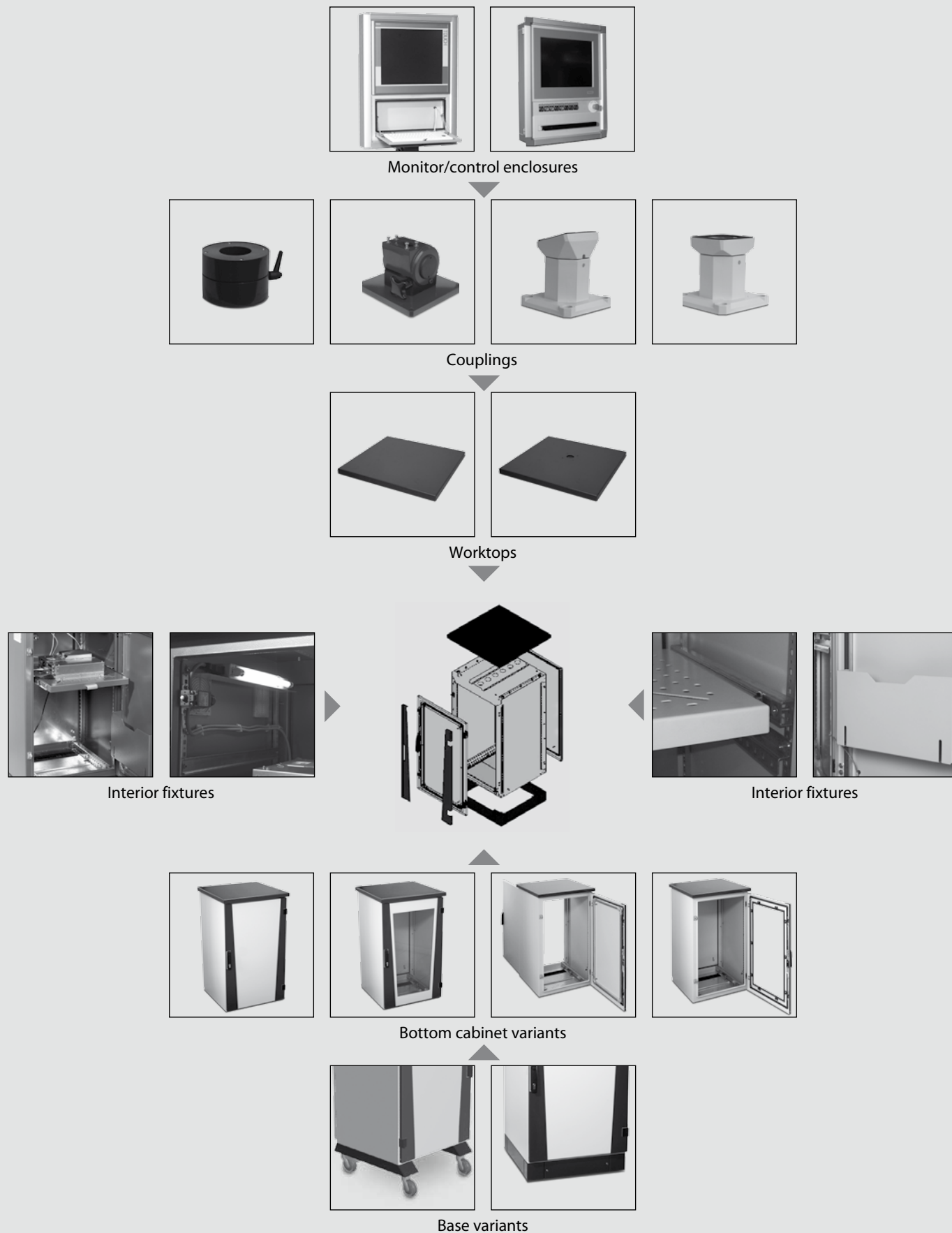
Open for your applications: Thanks to a comprehensive range of accessories, the WS-6000 can be perfectly adapted to your requirements.



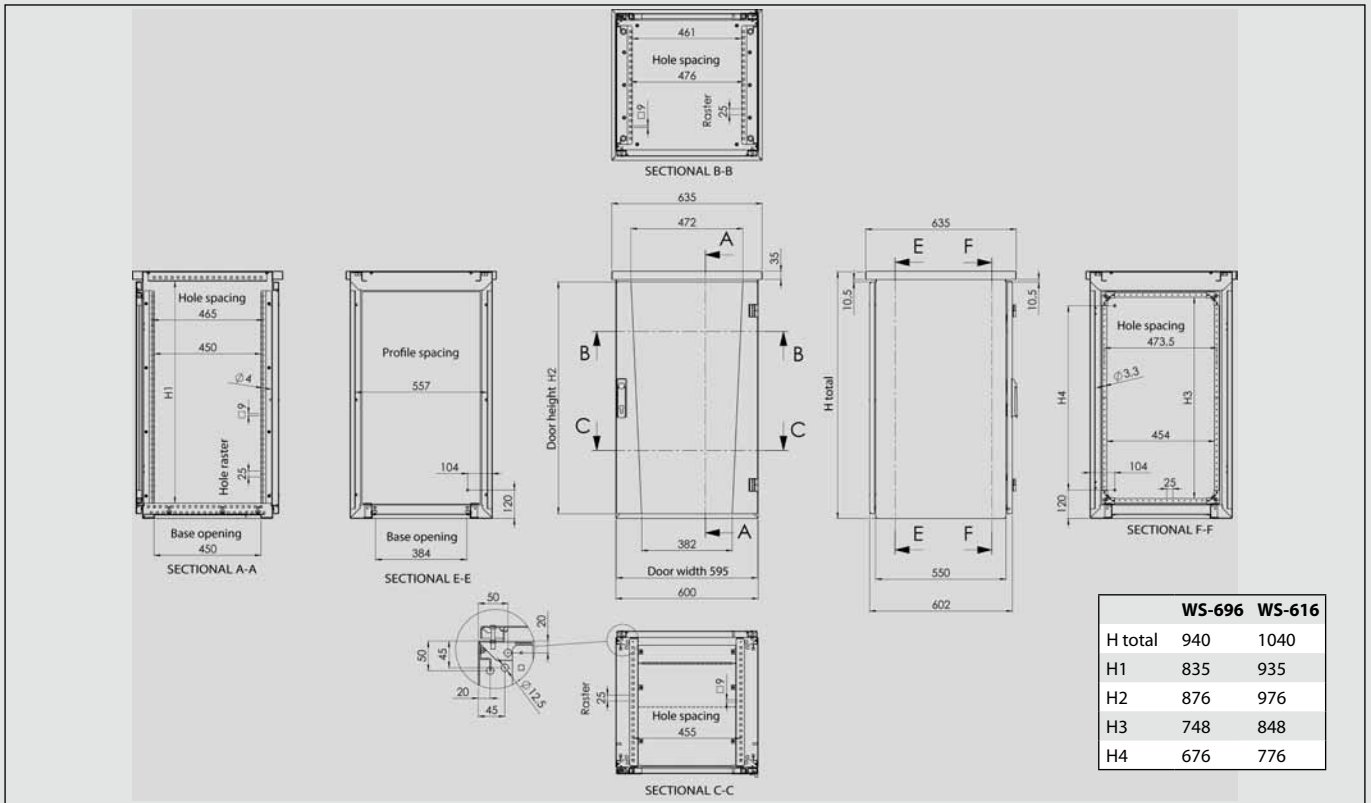
The interior of the WS-6000 bottom cabinet can be customised for any application. Interior lighting, fixed shelves and circuit diagram holders are just a few examples.

Endless possibilities

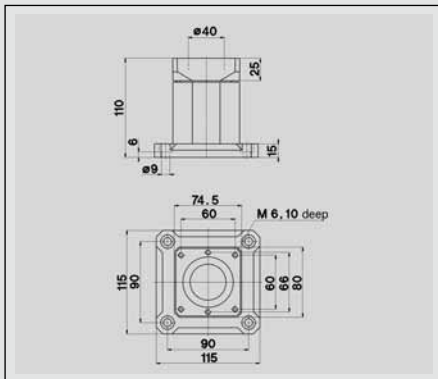
How to put together your individual BERNSTEIN WS-6000 workstation:



Bottom cabinets with sheet metal worktop

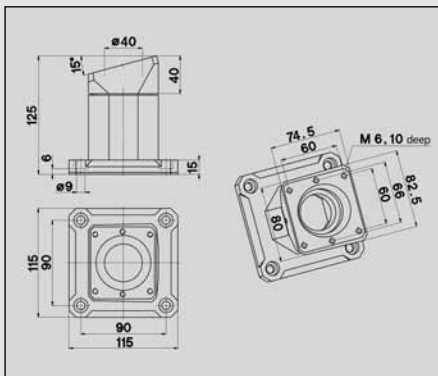


Couplings



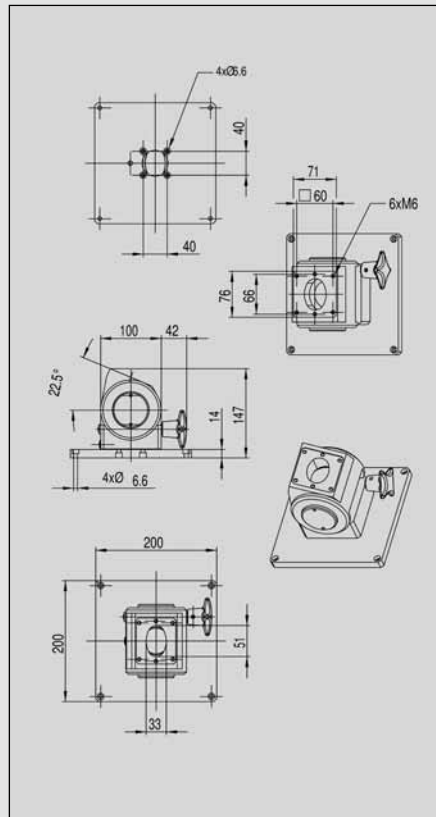
Base coupling

Article number: 1015167000



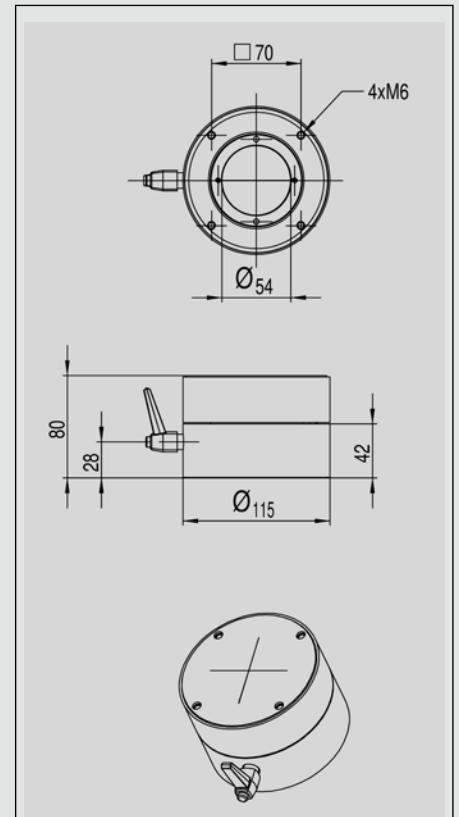
Tilt base coupling

Article number: 1015168000



Turn/tilt coupling

Article number: 1016329000



Rotary coupling

Article number: 1014100001

Industrial Workstation WS-6000

Please refer to Page 82 for control enclosure accessories

Coupling components



WS coupling 78

Rotary coupling, angle of rotation 90°, left and right stop, locked in position with clamping lever, RAL 7016
Height 78 mm

Order No.
1014100001

WS coupling 140

Same as 1014100001 but height 140 mm, RAL 7016

Order No.
1014100002



WS turn/tilt coupling

Angle of rotation 300° with stop, infinitely variable tilt from 0 to 30°, RAL 7016

Order No.
1016329000



Base coupling

Angle of rotation 300° with stop, RAL 7035
RAL 7016

Order No.
1015167000

Order No.
1015343000



Tilt base coupling

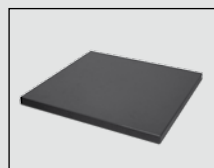
Angle of rotation 300° with stop, Fixed inclination of 15°, RAL 7035

Order No.
1015168000

Order No.
1015344000

Worktop RAL 7016

(other colours on request)



Material	Machining	Art. No.	Order No.
Sheet steel	❶	WS-201	B
	❷	WS-201	BX

❶ Non-machined

❷ Machined to customer specifications

Handle, size 330 mm GR-4300 **9806544000**

Handle, size 430 mm GR-4400 **9806545000**

Bottom cabinets

Versions, including top reinforcement, 4 OPTIMA inner sections, 3-piece base plate. 2 base guide rails, front door opening 180° (rear door 120°), right hinged, cabinet RAL 7035, worktop and trim strips in RAL 7016, welded side panels. Add-on configuration available on request.



Design door
Rear panel,
screw-mounted

Height
1000 mm **Art. No.**
900 mm **WS-616**
WS-696



Design door with
inspection window
Rear panel, screw-
mounted

1000 mm **WS-616-ST**
900 mm **WS-696-ST**

(inspection window made of ESG safety glass)



Design door at front
and sheet metal door
at rear

1000 mm **WS-6160**
900 mm **WS-6960**



Design door with ins-
pection window, front

1000 mm **WS-6160-ST**
900 mm **WS-6960-ST**

Sheet metal door, rear
(inspection window made of ESG safety glass)

Lock systems



Standard escutcheon plate, two-way bit 3 mm

Escutcheon plate complete with lock and key catch

Art. No.
SV-920



Swinging lever handle without actuator/without cover

Please select actuator required

Art. No.
SV-5341



Swinging lever handle without actuator/with cover

Please select actuator required

Art. No.
SV-5343

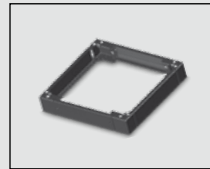


Swinging lever handle, E1 complete

Barrel with synchronous locking EK333

Art. No.
SV-5348

Base RAL 7016 (other colours on request)

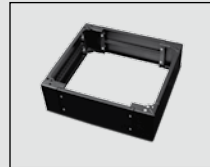


Base 100

Multi-piece set
600 x 100 x 550 mm

Art. No.
SO-1150-WS

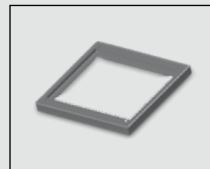
Order No.



Base 200

Multi-piece set
600 x 200 x 550 mm

Art. No.
SO-2250-WS



Base 50

Single piece,
including cable gland at rear,
600 x 50 x 550 mm

Art. No.
SO-6506-WS



Base panel

Single piece,
including cable gland at rear,
600 x 50 x 550 mm

Art. No.
SO-1030-WS

Order No.
9806522000

Base accessories

Lock actuator SV-5400

Art. No.
SV-5400

Barrel with synchronous locking EK 333

Barrel, non-synchronous locking

Art. No.
SV-5401

3 mm two-way key bit

Art. No.
SV-5402

5 mm two-way key bit

Art. No.
SV-5403

6 mm square

Art. No.
SV-5404

7 mm square

Art. No.
SV-5405

8 mm square

Art. No.
SV-5406

6,5 mm Cnomo triangle

Art. No.
SV-5407

7 mm triangle

Art. No.
SV-5408

8 mm triangle

Art. No.
SV-5409

Daimler-Chrysler

Art. No.
SV-5410

Radial pin

Art. No.
SV-5411

Pushbutton

Art. No.
SV-5412

Polyamide, dummy plug

Art. No.
SV-5413

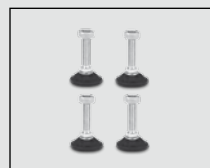


Base on castors

Including crossbar and 4 swivel castors
Height 200 mm

Art. No.
SO-2950-WS

Order No.
9806523000



Levelling feet

Including retainer,
for use with SO-11 and SO-22, galvanised

Art. No.
SO-2800-WS

Order No.
9806524000



Snap-on brush strip

2 x 430 mm

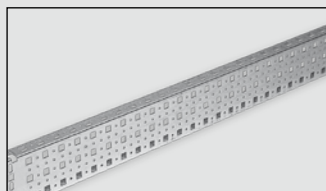
Art. No.
BÜL-430

Order No.
9806584000

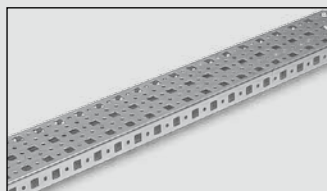
Interior fixtures

Mounting rail systems

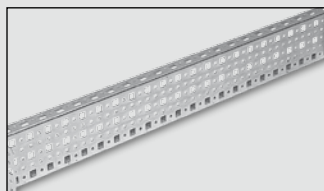
Description	Qty.	Art. No.	Order No.
Mounting rail system, 490 x 74 x 21 mm, side mounting, galvanised	4 ea.	ML-490	9806525000
Mounting rail system, 592 x 74 x 23 mm, horizontal top mounting, galvanised	4 ea.	ML-590	9806526000
Mounting rail system, 550 x 74 x 23 mm, horizontal intermediate mounting, low or high fitting, galvanised	4 ea.	ML-550	9806527000
Mounting rail system, 592 x 74 x 23 mm, between ML rails, galvanised	4 ea.	ML-570	9806528000
Bracket for securing various rails at rear, 50 x 65 x 54 mm, galvanised	10 ea.	ML-6670	9806529000
Spacer, 2 mm, for all ML rails, galvanised	50 ea.	ML-6660	9806530000
Self-tapping screw DIN 7976, BZ 4.8 x 9.5 mm, galvanised	100 ea.	ML-6661	9806531000
Carriage bolt DIN 603, M8 x 16 mm, short square, galvanised	50 ea.	ML-6663	9806532000
Captive nut M6, galvanised	100 ea.	ZB-5080	9806533000
Captive nut M5, galvanised	100 ea.	ZB-5085	9806534000
Pre-drilled side rail, 483 x 34 x 12.5 mm, for cabinet depth 600 mm, galvanised	6 ea.	LS-550	9806535000
Pre-drilled door rail, 491 x 30 x 22.5 mm, for door width 600 mm, galvanised	6 ea.	LS-475	9806536000
Cable support rail, 40 x 40 x 515 mm, angle section 40 x 40 x 4 mm, galvanised	1 ea.	KS-610	9806537000
Lightweight section rail, C35 x 18 x 460 mm, for cabinet width 600 mm, galvanised	1 ea.	CPO-600	9806538000
Lightweight section rail, C35 x 18 x 496 mm, for cabinet width 600 mm, galvanised	1 ea.	CPO-496	9806539000



ML-490



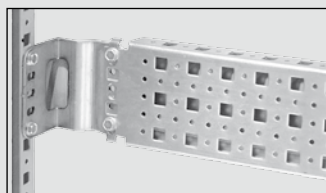
ML-590



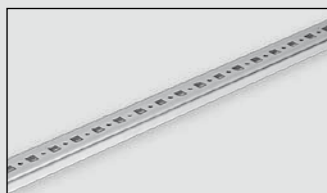
ML-550



ML-6660



ML-6670



LS-550




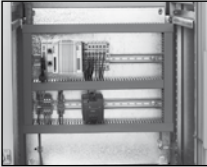
KS-610



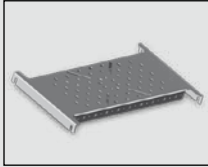
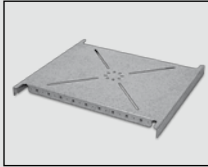
CPO-600

Mounting plates (galvanized, d = 2,5 mm)

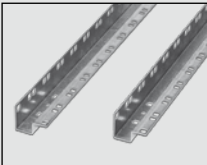
	Height	Art. No.	Order No.
	Mounting panel , including mounting material		
	Mounting panel 800 mm for cabinet height 900 mm	MP-610	9806546000
	Mounting panel 900 mm for cabinet height 1000 mm	MP-609	9806547000

	Mounting rack for cabinet width 600 mm, can only be installed together with ML-490 (optional)		
	198 mm	TM-620	9806548000
	398 mm	TM-640	9806549000
	498 mm	TM-645	9806550000
	598 mm	TM-660	9806551000


Shelves RAL 7035

		Art. No.	Order No.
	Fixed, with perforation and cross-holes, load-bearing capacity 30 kg	ZBP-660	9806559000
	Pull-out version, including telescopic rails, mounting sections and handle, with perforation and cross-holes, load-bearing capacity 30 kg	ZBA-660	9806560000

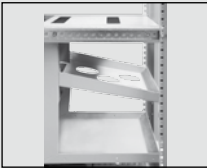
19" Inner sections (galvanised)

	Height	Art. No.	Order No.
	1000 mm	LS-1910	9806552000
	900 mm	LS-1909	9806553000


Equipotential bonding (always select as not included as standard)

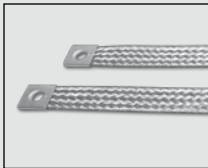
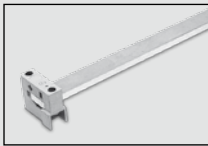
		Art. No.	Order No.
	Green/yellow, M8 cable lugs either end, Quality NYAF (Ho7 V-K)		
	Earthing strap 4 mm, 200 mm long	EB-204	9806561000
	Earthing strap 16 mm, 200 mm long	EB-216	9806562000
	Earthing strap 16 mm, 300 mm long	EB-316	9806563000
	Earthing strap 25 mm, 300 mm long	EB-325	9806564000

Printer drawer module

		Art. No.	Order No.
	RAL 7035 including telescopic rails	ES-6660	9806554000

Document holders

	Width	Art. No.	Order No.
	DIN A3 for door width 600 mm	ZB-5630	9806555000
	Sheet metal RAL 7035		
	DIN A4 Sheet metal RAL 7035	ZB-5333	9806556000
	DIN A4 Self-adhesive, polystyrene	ZB-5026	9806557000
	DIN A4 Self-adhesive, plastic pocket	ZB-5036	9806558000

		Art. No.	Order No.
	Copper braided strap, tin plated M8 connections both ends		
	Braided strap 16 mm, 200 mm long	EB-216-EMV	9806565000
	Braided strap 16 mm, 300 mm long	EB-316-EMV	9806566000
	Braided strap 16 mm, 500 mm long	EB-516-EMV	9806567000
	Busbars E-CE 30/5 Including bar carrier, length suitable for 600 mm cabinet width	PE-600	9806568000

Industrial Workstation WS-6000


Climate control

	Heat sink, rear panel Custom-made as required. Please contact us.	Order No.
	Internal fan 24 V, 40 m³/h Higher power rating or 230 V units available on request	9806421000
	Fan mounting bracket set Set of 2 brackets for axial or radial fan, RAL 7035	9806491000
	Filter fan set PF1000 230 V filter fan + outlet filter 24 m³/h, IP54 higher power rating or 24 V units available on request	9806492000
	Climate control unit 230 V, 320 W, L35L35 270 x 520 x 110 mm, 13,3 kg 230 V, 400 W, L35L35 520 x 340 x 110 mm, 14,8 kg Higher power rating or 24 V units available on request	9421279000 9421276000



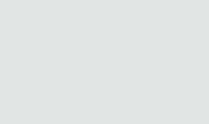
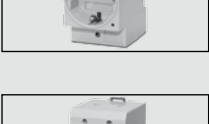
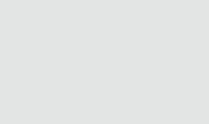
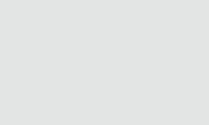
Lighting

	System lamp SL Lamp 14 W, 230 V, 50 Hz with earthed socket outlet	Art. No. SL-4014	Order No. 9806570000
	Magnetic lamp Lamp with magnetic base for mounting in any position with 3 m cable, 11 W, 230 V, 50 Hz	SL-027	9806571000
	Power cable 2 m, orange, 3-core, with plug	SL-170	9806572000
	Switching cable with door contact switch 1 m, orange, with plug matching lamps		9806573000

Door arrester

	For mounting on tubular door frame	Art. No. ZB-5335	Order No. 9806569000
--	------------------------------------	---------------------	---------------------------------------

Socket outlets

	Socket strip 5-socket „adaptus“ with switch 5-fach with overvoltage protection 7-socket with switch 3-socket with switch	Art. No. SD-2405 SD-2405-ÜS SD-2507 SD-2403	Order No. 9806576000 9806577000 9806578000 9806575000
	Socket outlet with miniature fuse, quick-connect cable, single VDE (earthed) for TS3 25 (Germany)	SD-3500	9806579000
	Steckdose with miniature fuse, quick-connect cable, single CEBEC for TS 35 (Switzerland)	SD-3501	9806580000
	Socket outlet with miniature fuse, quick-connect cable, single for TS 35 (USA/Canada)	SD-3504	9806581000
	Earthed socket outlet Grey (downstream of main current) for TS 35	SD-3600	9806582000
	Earthed socket outlet Yellow with LED (upstream of main current) for TS 35	SD-3601	9806583000

You will find further accessories for control enclosures on Page 82.

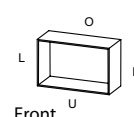
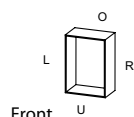
This image shows a full page of blank graph paper. The background is a solid light gray color. Overlaid on this background is a precise grid of thin, dark gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares that cover the entire area of the page, leaving no margins or other markings.

Checklist - Enclosure CC-3000

Customer	*Product group	*Code	*Article number
Address			Customer No.
Telephone	Telefax	Industry	
Contact person		Department	
<input type="checkbox"/> Pricing enquiry			
		Target price	Quantity
<input type="checkbox"/> Enquiry			
*Enquiry No.		Annual requirement	
<input type="checkbox"/> Order			

1 Enclosure

- ☐ Standard
☐ Console enclosure, upper section
☐ Console enclosure, lower section



Anticipated installation weight _____ kg

2 Dimensions (mm) (always referred to the standard section)

External enclosure dimensions

Width x height (W x H) _____ x _____

Front panel dimensions (e x f)

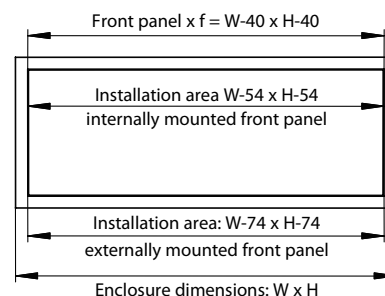
e x f = W - 40 x H - 40 _____ x _____

Rear panel dimensions W x H

_____ x _____

Screw-fixed rear panel: W x H = W - 7 x H - 7

Hinged rear panel: W x H = W - 9 x H - 9



3 Front design (handle selection)



☐ None



☐ Bottom



☐ Left + right



☐ Left + right + bottom



☐ All-round

(Important! The external enclosure dimensions increase by 16.5 mm on the side where a handle strip is selected)

4 Enclosure without door section

Enclosure depth

External depth

☐ 120 mm

☐ 200 mm

Front panel position

Installation depth

Internal ☐ 103 mm

External ☐ 111 mm

Internal ☐ 183 mm

External ☐ 191 mm

Rear panel position

Screw-fixed or hinged

☐ Screw-fixed

☐ With standard hinge

☐ With screw-mounted rear panel hinge

5 Enclosure with door section 55 (FP = Front panel, RP = Rear panel)

Front door or

or

Rear door

☐ 55 + 120

☐ 120 + 55

FP and RP internal

☐ Installation depth 149 mm

FP external and RP internal

☐ Installation depth 157 mm

FP and RP external

☐ Installation depth 166 mm

☐ 55 + 200

☐ 200 + 55

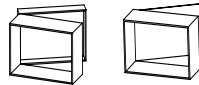
☐ Installation depth 229 mm

☐ Installation depth 237 mm

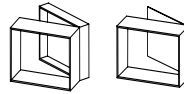
☐ Installation depth 246 mm

* Completed by BERNSTEIN AG

6 Door mounting

☐ Left


or



or

☐ Right

7 Lock

Square (mm): ☐ 6

☐ 7

☐ 8 (Standard)

☐ T-handle without lock

Triangle (mm): ☐ 7

☐ 8

☐ 6,5 (CNOMO)

☐ T-handle with lock

Two-way bit (mm): ☐ 3

☐ 5

☐ E1 (without key)

Daimler Benz: ☐
☐ Special lock/customer specification

☐ T-handle E1 (without key)

8 Front panel

☐ None

☐ With

Keyboard drawer

from 175 mm depth

(2HE = 89 mm, 3HE = 134 mm)

☐ Without keyboard, 0°, without lock, 2HM

19" Installation kit _____ Qty.

9 Rear panel

☐ None

☐ With

☐ Without keyboard, 20°, without lock, 3HM

☐ Clamping element for Simatic

☐ With keyboard, 0°, without lock, German, PS2, 2HM

☐ With keyboard, 20°, without lock, German, PS2, 3HM

☐ To customer specification (description under Point 14)

10 Partition (partition height 13 mm)

☐ Vertical

_____ Qty.

☐ Not mounted (standard)

☐ Mounted on right

☐ Mounted on left

☐ Horizontal

_____ Qty.

☐ unmounted (standard)

☐ Bottom mounted

☐ Top mounted

11 Partial front panels

☐ none

1st operator panel: _____ Width x _____ Height

☐ Not mounted

☐ INTERNALLY mounted

☐ EXTERNALLY mounted _____ (Art. No. BP)

2nd operator panel: _____ Width x _____ Height

☐ Not mounted

☐ INTERNALLY mounted

☐ EXTERNALLY mounted _____ (Art. No. BP)

12 Preparation for suspension system ☐ None

☐ Standard preparation (flange SL/CS-3000)

☐ Turn/tilt coupling

☐ Tilt adapter (only section 200)

☐ Flange coupling 80 (only section 200)

☐ Console connector

☐ Automotive adapter

☐ WS coupling

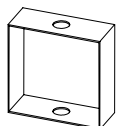
☐ CS-3000/48

☐ Special preparation to

customer specification (see below)

☐ Top

Side

☐ Bottom

☐ TS cover, top ☐ TS cover, bottom

13 Surface finish

Basic sections:

Door sections:

Corner modules/end caps:

Partition:

Front panels:

Rear panels:

Standard

☐ Anodised, natural

☐ Anodised, natural

☐ RAL 7016, powder-coated

☐ Anodised, natural

☐ Anodised, natural

☐ Anodised, natural

Customer specification

☐ _____

☐ _____

☐ _____

☐ _____

Article number FP: _____

Article number RW: _____

14 Accessories, Remarks (included in delivery specification: key (except E1 lock) and earthing kit)

☐ KDL 16/4

☐ KDL 24/5

☐ Grommet 3-4 mm

☐ Grommet 6-7 mm

☐ Dummy grommet

Only with automotive adapter or without TS preparation (KDL = cable gland strip)

_____ Qty.

_____ Qty.

_____ Qty.

Additionally: _____

☐ Annexes

Vkf. _____ TAV _____ TAV _____

☐ No Annexes

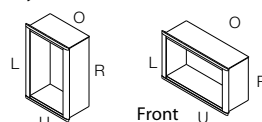
Checklist - Enclosure CC-4000

Customer	*Product group	*Code	*Article number
Address			Customer No.
Telephone	Telefax	Industry	
Contact person		Department	
<input type="checkbox"/> Pricing enquiry		Target price	Quantity
<input type="checkbox"/> Enquiry		Annual requirement	
<input type="checkbox"/> Order			

1 Enclosure

- ☐ Standard
- ☐ Console enclosure, upper section
- ☐ Console enclosure, lower section

Delivery date



Anticipated installation weight _____ kg

2 Dimensions (mm)

External enclosure dimensions

Width x height (W x H) _____ x _____

19" Enclosure

_____ x _____

$H = (n \times HM) + 97 - 1 HM = 44,45 HM =$ _____

Front panel dimensions

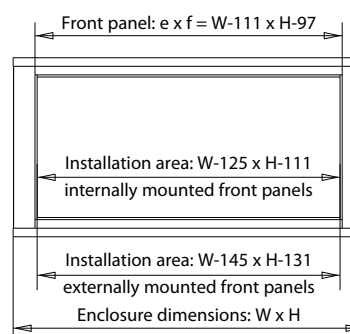
$e \times f = W - 111 \times H - 97$ _____ x _____

Rear panel dimensions W x H

_____ x _____

$W \times H = W - 61 \times H - 47$

$W \times H = W - 63 \times H - 47$ (hinged rear panel)



3 Type of section

☒ Section without ribbing

4 Enclosure depth, external

Frame section with 3 mm deep FP support

Extension

*Internal depth for internally mounted front panel with 3 mm FP support.

or _____ \rightarrow ☐ 140 ☐ 200 ☐ 290

☐ 68 ☐ 128 ☐ 228 ☐ 128 ☐ 68

_____ \rightarrow ☐ 52 ☐ 80

☐ 68 ☐ 128 ☐ 228 ☐ 128 ☐ 68

The internal depth is reduced by 3.5 mm for 6.5 mm FP support

Frame section with 6.5 mm deep FP support


Section	52	80	120	140	148	180	188	200	208	216	248	268	276	280	290	308	328	336	348	358	368	376	396	408	418	426	428	436	456	486	496	518	A		
	38	66	106	126	134	166	174	186	194	202	234	254	262	266	276	294	314	322	334	344	354	362	382	394	404	412	414	422	442	472	482	504	I*		
52	●		●			●	●				●			●		●			●					●										Expansion	
80		●			●				◆	●			◆			◆		■				●						◆							
140				●					●			●	●					●			●		●					●			●				
200								●				◆					●	◆					◆				●			●		◆			
290														●						●					●	●					●		●		
68			●		●		●		●	●	●	◆	◆	●				◆	●	●	●		●	◆			●		●		●	◆			Frame section
68							●			●			●					◆								●									
128						●			◆		●	●	◆			●	●	■	●				◆	●	●			◆	●	●	●	●			
128																●		■					●							●					
228														●		◆			●			●	●		●			●	◆	●		◆	●	●	

A = External depth, I = Internal depth

Internal depth is increased by 6 mm for external mounting.

◆ = Alternative combination

5 Door mounting (suspension system)

<input type="checkbox"/> Automotive version	<input type="checkbox"/> Rear panel <input type="checkbox"/> 2 nd extension <input type="checkbox"/> 1 st extension Section/fixed rear panel		<input type="checkbox"/> 2 nd extension <input type="checkbox"/> 1 st extension <input type="checkbox"/> Frame section (from 140) Suspension system position
---	---	---	---

6 Partition

<input type="checkbox"/> Not mounted (standard) <input type="checkbox"/> Vertical Qty. ____	<input type="checkbox"/> Mounted on right <input type="checkbox"/> Mounted on left	<input type="checkbox"/> Horizontal Qty. ____	<input type="checkbox"/> Bottom mounted <input type="checkbox"/> Top mounted	<input type="checkbox"/> Operator panel, anodised, internally mounted Dimensions: g x h (g = Width, h = Height) <input type="checkbox"/> 1st operator panel ____ x ____ <input type="checkbox"/> 2st operator panel ____ x ____ <input type="checkbox"/> 3st operator panel ____ x ____
---	---	--	---	---

(Important! Partition height for frame section with 3 mm FP support = 20 mm/front panel support 6.5 mm = 25 mm)

7 Front panel (3 mm)

☐ None

Rear panel (3 mm)

☐ None

with

☐ Internally mounted
☐ Externally mounted

☐ Externally screw-mounted
☐ Heat sink rear panel

☐ Standard hinge

☐ Screw-mounted rear panel articulated hinge

Accessories, front panel

- ☐ For INTERNALLY mounted panels: seal strip and mounting material
- ☐ For EXTERNALLY mounted panels: seal strip/washers/nuts M5
- ☐ 19" installation kit (9806232000): screws and captive nuts M6
- ☐ Set of clamping elements for SIMATIC Panel PC

Keyboard drawer from 180 mm depth (2HM = 89 mm, 3HM = 134 mm)

- ☐ Without keyboard, 0°, without lock, 2HM
- ☐ Without keyboard, 20°, without lock, 3HM
- ☐ With keyboard, 0°, without lock, German, PS2, 2HM
- ☐ With keyboard, 20°, without lock, German, PS2, 3HM
- ☐ To customer specification (description under 13)

8 Lock

Square (mm): ☐ 6 ☐ 7 ☐ 8 (Standard) Triangle (mm): ☐ 7 ☐ 8

Two-way bit (mm): ☐ 3 ☐ 5

☐ Daimler Benz ☐ T-handle without lock ☐ T-handle with lock ☐ T-handle with E1 lock ☐ Customer specification

9 Preparation for suspension system

Type of coupling

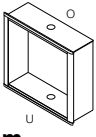
- | | |
|--|---|
| <input type="checkbox"/> Turn/tilt coupling (from section 128) | <input type="checkbox"/> Console connector |
| <input type="checkbox"/> Flange (see System) | <input type="checkbox"/> Automotive adapter |
| <input type="checkbox"/> Tilt adapter (from section 200) | <input type="checkbox"/> WS coupling |
| <input type="checkbox"/> Coupling head CC-4000 | <input type="checkbox"/> CS-3000/48 |
| <input type="checkbox"/> Special preparation to customer specification | TS im Profil _____ |

☐ KDL 16/4 ☐ KDL 24/5

Only with automotive adapter without TS preparation (KDL = cable gland strip)

☐ No

System

- | | |
|---|---|
| <input type="checkbox"/> SL (only section 80) | <input type="checkbox"/> Top |
| <input type="checkbox"/> CS-3000 (from section 128) |  |
| <input type="checkbox"/> 80 (from section 128) | <input type="checkbox"/> Bottom |
| <input type="checkbox"/> TS cover, top | |
| <input type="checkbox"/> TS cover, bottom | |

☐ Grommet 3-4 mm ☐ Grommet 6-7 mm ☐ Dummy grommet

____ Qty. ____ Qty. ____ Qty.

10 Surface finish

Horizontal sections:

Vertical sections:

Partition:

Front panels:

Rear panels:

Standard

- ☐ RAL 7043, painted
- ☐ Anodised, natural
- ☐ RAL 7043, painted
- ☐ Anodised, natural
- ☐ Anodised, natural

Customer specification

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

11 ☐ Automotive version: double GK seal, braided earthing strap, front door arrester

12 ☐ Climate control data for checking heat dissipation over enclosure surface

____ (Pv) total installed power loss ____ (°C) ambient temperature at enclosure location

____ (°C) max. temperature, installation (e.g. PC) ____ (V) power supply for active cooling

13 Accessories, Remarks (included in delivery specification: key (except E1 lock) and earthing kit)

☐ Annexes Vkf. _____ TAV _____ TAV _____ Enquiry _____

☐ No Annexes _____ _____ _____ Order _____

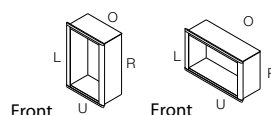
Checklist - Enclosure CC-4000 SL

Customer	*Product group	*Code	*Article number
Address			Customer No.
Telephone	Telefax	Industry	
Contact person		Department	
<input type="checkbox"/> Pricing enquiry			
		Target price	Quantity
<input type="checkbox"/> Enquiry			
		*Enquiry No.	Annual requirement
<input type="checkbox"/> Order			

Delivery date

1 Enclosure

- ☐ Standard
☐ Console enclosure, upper section
☐ Console enclosure, lower section



Anticipated installation weight _____ kg

2 Dimensions (mm)

External enclosure dimensions

Width x height (w x h) _____ x _____

19" Enclosure

H = (n x HM) + 73 - 1 HM = 44.45 HM = _____

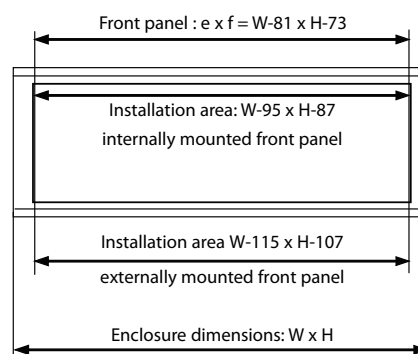
Front panel dimensions (e x f) _____ x _____

x f = W - 81 x H - 73

Rear panel dimensions (w x h) _____ x _____

b x h = W - 31 x H - 23

b x h = W - 33 x H - 23 (Hinged rear panel)



3 Type of section

- ☒ Section without ribbing

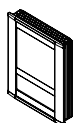
4 Enclosure depth, external (frame section with 6.5 mm deep FP support)

- ☐ 55 ☐ 99

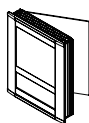
Section	55	99	External depth (mm)
	35	79	Internal depth (mm)

(Internal depth increased by 6 mm for external mounting)

5 Door mounting



- ☐ Fixed rear panel



Door mounting, **left**

- ☐ Standard hinge
☐ Screw-mounted rear panel articulated hinge



Door mounting, **right**

- ☐ Standard hinge
☐ Screw-mounted rear panel articulated hinge

6 Partition (Important! Partition height for frame section = 25 mm)

☐ Not mounted (Standard)

☐ Vertical

_____ Qty.

☐ Mounted on right

☐ Mounted on left

☐ Horizontal

_____ Qty.

☐ Bottom mounted

☐ Top mounted

☐ Operator panel anodised, natural
(not mounted for inside) s = 3

Dimension:: g x h

(g = Width, h = Height)

1. Bedienplatte _____ x _____

2. Bedienplatte _____ x _____

7 Front panel

☐ None

with: ☐ 3 mm, internally mounted

☐ 3 mm, externally mounted

Rear panel

☐ None

with: ☐ 3 mm, externally screw-mounted

☐ 3 mm, hinged

Accessories, front panel

☐ For INTERNALLY mounted panels: seal strip and mounting material

☐ For EXTERNALLY mounted panels: seal strip/washers/nuts M5

☐ 19" installation kit (9806232000): screws and captive nuts M6

☐ Set of clamping elements for SIMATIC Panel PC 670/870

8 Lock

Square (mm): ☐ 6

☐ 7

☐ 8 (Standard)

Triangle (mm): ☐ 7

☐ 8

Two-way bit (mm): ☐ 3

☐ 5

Daimler Benz: ☐

☐ T-handle without lock

☐ E1

☐ Special lock/customer specification

9 Preparation for suspension system ☐ No

Type of coupling/system

☐ SL flange / turn/tilt coupling (only section 99)

☐ CC-3000 Adapter for narrow sections (only section 99)

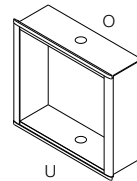
☐ Coupling head CC-4000

☐ Special preparation to customer specification

☐ Top

Side:

☐ Bottom



10 Surface finish

Horizontal sections:

Vertical sections:

Partition:

Front panels:

Rear panels:

Standard

☐ RAL 7043, power-coated

☐ Anodised, natural

☐ RAL 7043, power-coated

☐ Anodised, natural

☐ Anodised, natural

Customer specification

☐ _____

☐ _____

☐ _____

☐ _____

☐ _____

11 EMV-Version (electromagnetic compatibility)

☐ Conductive connection between enclosure body, door, FP and RP

12 ☐ Automotive version; braided earthing strap

13 ☐ Climate control data for checking heat dissipation over enclosure surface

_____ (PV) total installed power loss

_____ (°C) ambient temperature at enclosure location

_____ (°C) max. temperature of installation (e.g. PC)

_____ (V) power supply for active cooling

14 Accessories, Remarks (included in delivery specification: key (except E1 lock) and earthing kit)

☐ Annexes

Vkf. _____ TAV _____ TAV _____ Enquiry _____

☐ No Annexes

_____ Order _____

Selection criteria for suspension systems

Mechanical load

Different types of suspension systems can support different loads. The most important parameter when determining the right type of suspension system is the mechanical load in the respective application, which consists of the suspended enclosure with its built in components and the length of the extension arm.

After determining the suspended weight and the length of the extension arm in the suspension system, the overview opposite will help you select the right system.

Please note that when using a turn/tilt coupling for mounting the enclosure at the end of the suspension system, the enclosure itself should not exceed a load of 300 N.

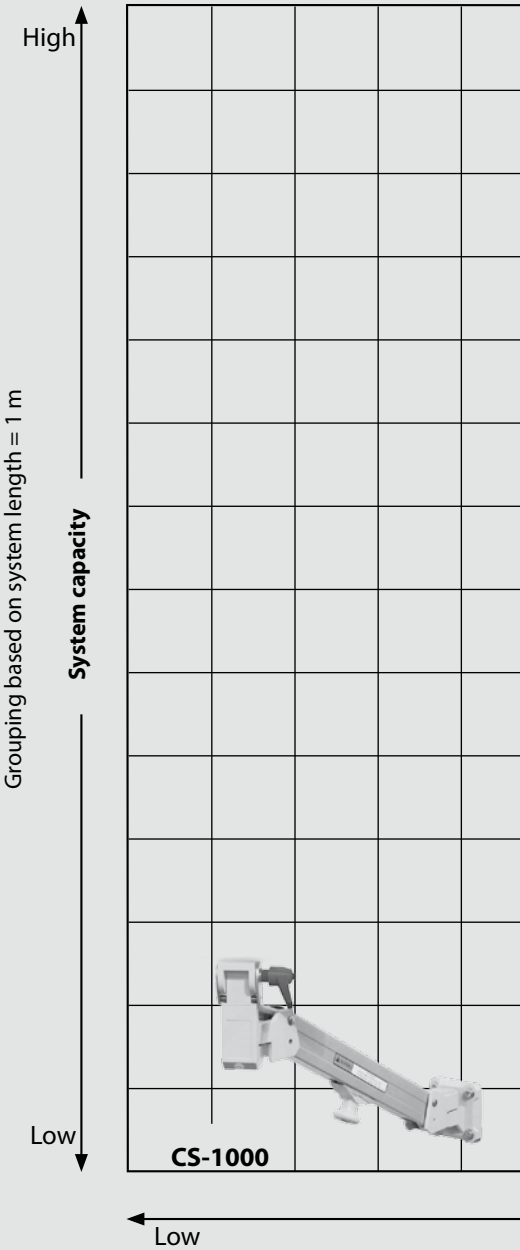
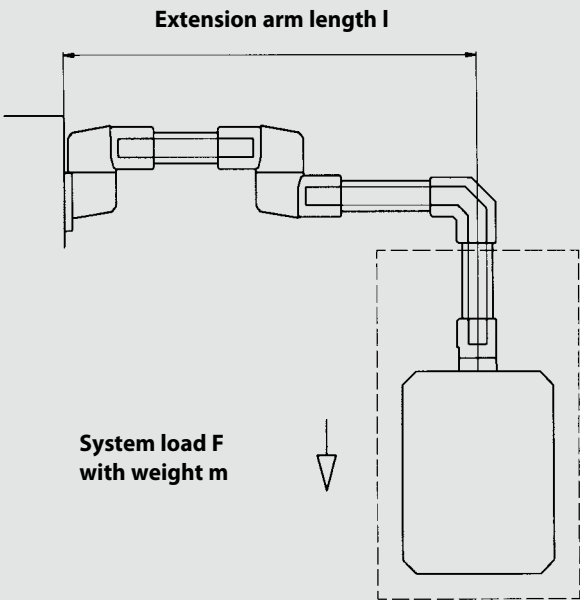
Calculation of force F (system load) as a function of enclosure weight m:

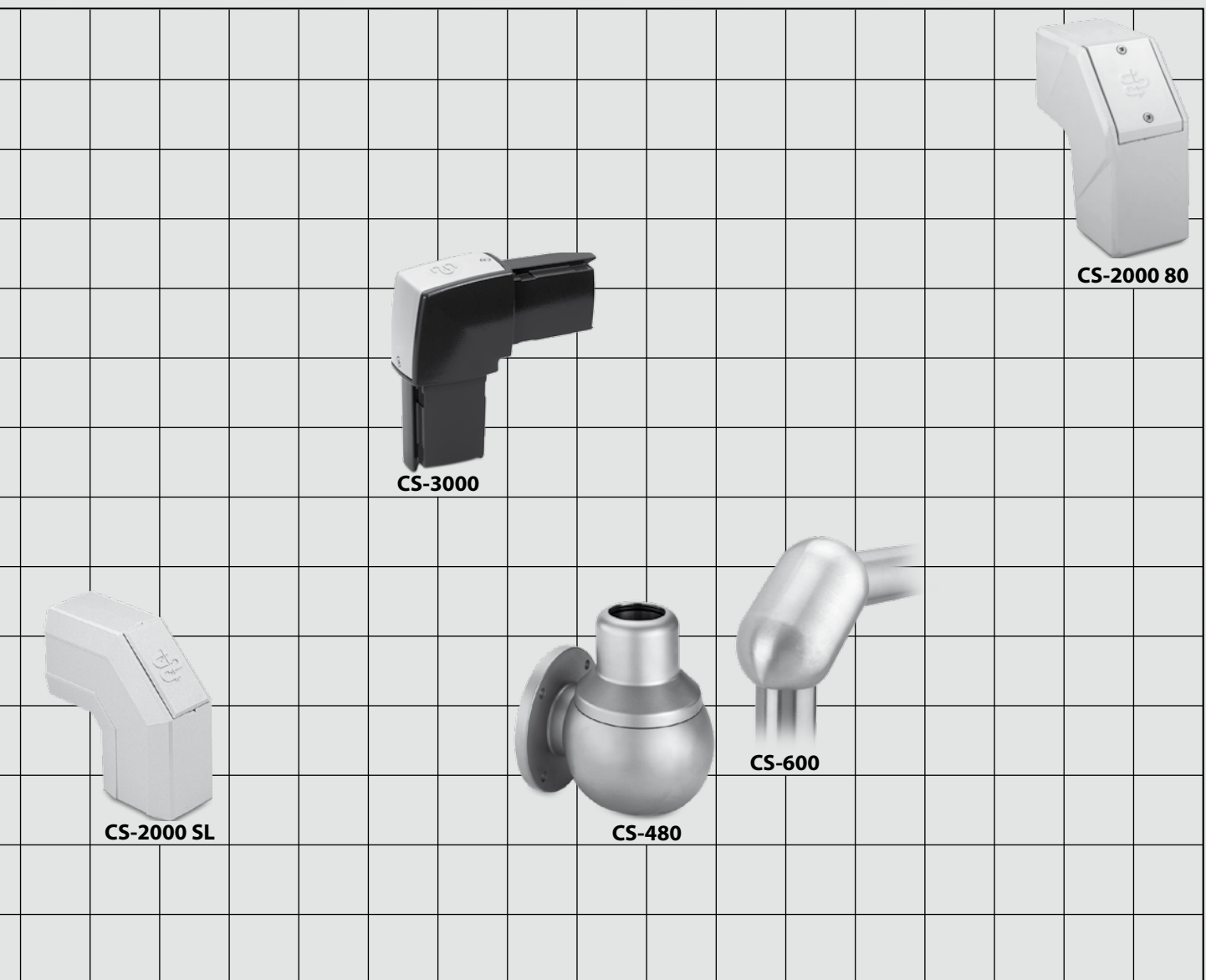
$F\text{ (N)} = m\text{ (kg)} \times g\text{ (ms-2)}$

System load F = enclosure weight m multiplied by acceleration due to gravity

$F\text{ (N)} = m\text{ (kg)} \times 9,81\text{ (ms-2)}$

The illustration opposite shows an overview of the various suspension systems. You will find more detailed information on the exact loads of the individual systems in the following sections.





Performance

- Configuration options
- Mechanical stability
- Resistance

High →

Mini-Suspension System CS-1000

Trends in the technical development of machine controllers are leading towards ever smaller operator control and display units. With the CS-1000 suspension system, devices can be simply mounted with a wide range of adjustment options.

The CS-1000 is a complete suspension system where the user does not have to select any of the individual components. The selection criteria for this system are its length and height.

System features

- Already preassembled, ready-to-use suspension system is four model variants
- Vertical adjustment range $\pm 45^\circ$ with respect to the horizontal in two models with system length of 0.5 and 0.8 m
- Horizontal adjustment range $\pm 90^\circ$ with respect to centre axis in all four models
- Safety locking with self-latching at the set height
- Infinitely variable rotation through 90° to either side
- Infinitely variable rotation and inclination of enclosure mounting flange
- Easy-to-open cable duct with plastic covers for cable diameters up to 10 mm



Product characteristics

A mechanism integrated in the vertically adjustable suspension system makes it possible to simply move the system upwards up to the limit stop with one hand. The system automatically locks in the required position. To lower the support arm disengage the system and, after pulling the spring-locked lever, simply move the system to the required position.

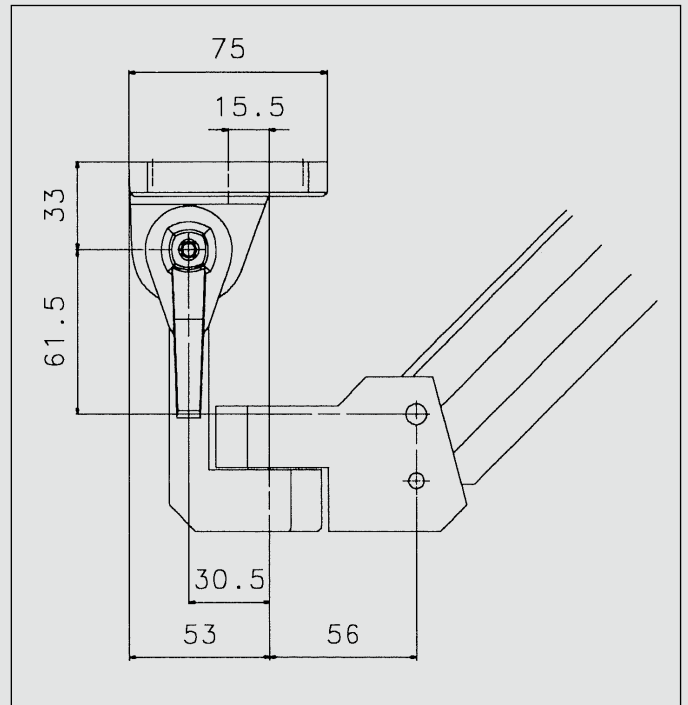
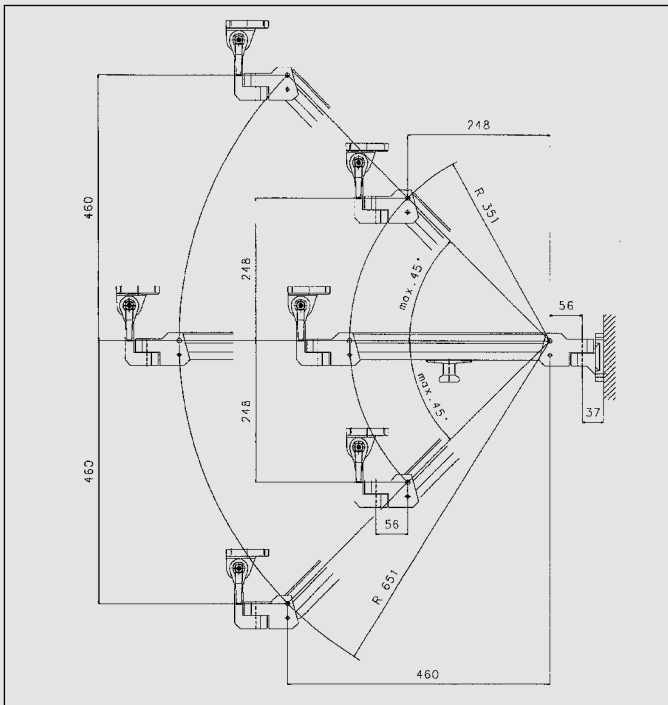
The suspension system can be mounted on a wall with the aid of a wall flange or a machine. The mounting flange for attaching the enclosure (supplied preassembled) can be fitted in two directions for suspended or top-mounted control enclosures.

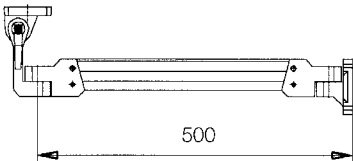
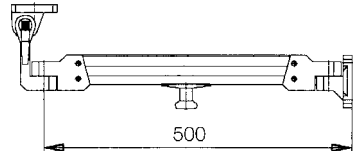
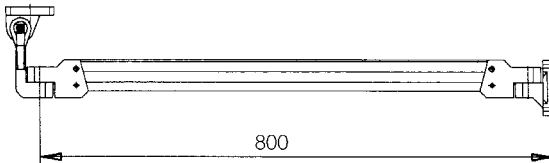
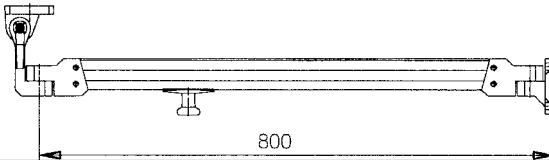
The user can subsequently adjust the ease of movement as required.

The clamping lever located on the flange carrier locks the enclosure at the required tilt angle.

Colours

All components in light grey RAL 7035 (except anodised extruded section and clamping lever in dark grey RAL 7043)



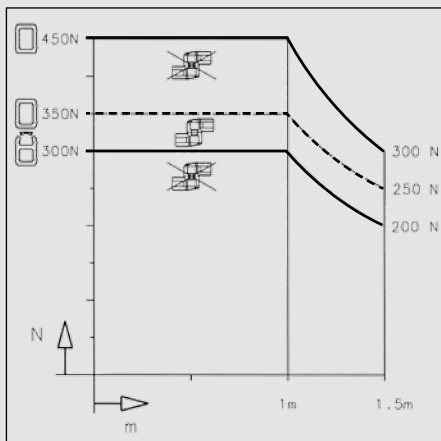
Art. No.	System length	Max. load	Possible setting angle	
			Horizontal	Vertical
				
1012000900	500 mm	13 kg	+/- 90°	
				
1012001100	500 mm	11 kg	+/- 90°	+/- 45°
				
1012001000	800 mm	9 kg	+/- 90°	
				
1012001200	800 mm	7 kg	+/- 90°	+/- 45°

Light-Duty Suspension System CS-2000 SL 45/60

The CS-2000 SL light-duty suspension system is specially designed for accepting small, lightweight control enclosures and features short extension arms. In addition to the components in light grey RAL 7035, a new version in anthracite grey RAL 7016 is now available that elegantly complements our CC-3000 and CC-4000/CC-4000 SL control enclosures (see Page 72 onwards).

System structure

Individual components of the suspension system are combined with an optionally closed or partially open aluminium connection section to achieve the required configuration in accordance with the load diagram (with the exception of panel couplings).



Load diagram

The above diagram shows the load bearing capacity of the CS-2000 SL range of suspension systems (with the exception of panel couplings).

The load bearing capacity of the system changes depending on the type of connecting section used (partially open or closed) or whether an intermediate joint is used.

The following safety factor generally applies:

With an additional load of 75 kg, the suspension system can be subjected to load for 5 seconds without plastic deformation occurring.

The overview on Pages 112/113 is designed to help you determine the load bearing capacity of all BERNSTEIN suspension systems.



CS-2000 SL Standard
RAL 7035 light grey and
RAL 7016 anthracite grey

Materials

- Components: Cast aluminium
- Installation opening: POM
- Bearing: POM
- Seals: CR
- Extruded aluminium connecting section
- Connecting section covers on open section: EPDM

Colours

- Suspension system components:
Light grey RAL 7035
alternatively: anthracite grey RAL 7016
- Connecting section:
silver (natural) anodised

System features

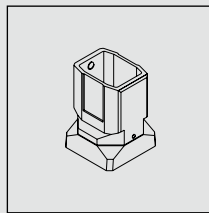
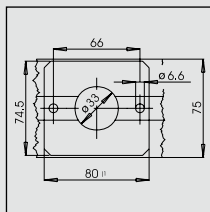
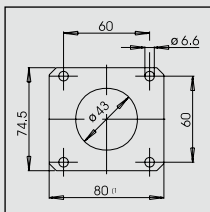
Installation opening at all joints

- Optionally closed or open connecting section can be used
- Clear passage opening in closed system:
 $\varnothing 40 \text{ mm} = 12.5 \text{ cm}^2$ at narrowest point (bearing opening)
- Clear passage opening in partially open system:
– 2.76 cm^2 at narrowest point (entry of section in components)
– 7.40 cm^2 in closed tube
- Easily retrofittable swivel angle limitation on couplings and joints
- Couplings have a small narrow flange for mounting on very narrow enclosures
- Overhead installation of all components possible
- Modern industrial design

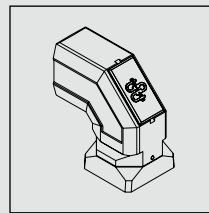
Enclosure preparation for mounting couplings

The geometry of the flange on the straight coupling and on the elbow coupling makes it possible to mount even extremely narrow enclosures. Two centrally arranged threads, with which the coupling is secured to narrow enclosures, are additionally provided for this purpose.

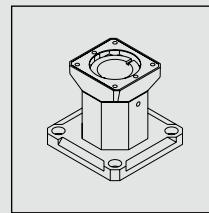
However, the coupling is mounted as standard by means of the four outer flange mounting threads, compatible and interchangeable with the flange mounting pattern of the CS-3000 suspension system. With a diameter of 43 mm, the hole for the cable leadthrough is adapted to the narrowest point in the suspension system (a minimum diameter of 40 mm is available in the bearing opening in the components).



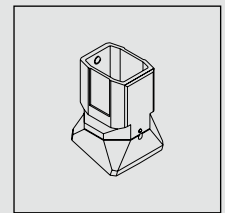
Straight coupling
Article number
1015163000
1015328000



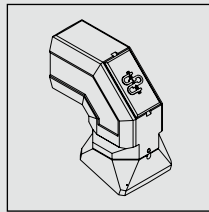
Elbow coupling
Article number
1015165000
1015329000



Base coupling
Article number
1015167000
1015343000

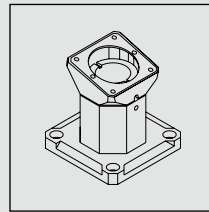


Tilt coupling
Article number
1015164000
1015330000



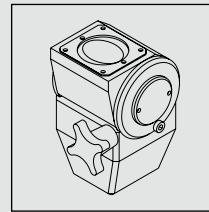
Tilt elbow coupling

Article number
1015166000
1015331000



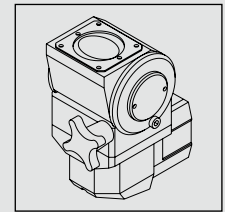
Tilt base coupling

Article number
1015168000
1015344000



Turn/tilt coupling

Article number
1015169000
1015332000

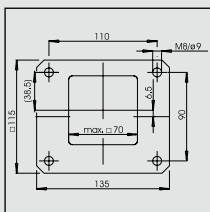


Turn/tilt elbow coupling

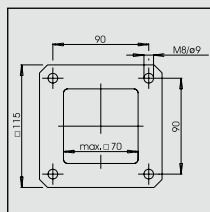
Article number
1015170000
1015333000

Machining mounting surfaces for suspension systems

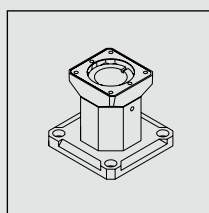
The various elements of the suspension systems can be mounted on walls or floors as well as on or at machines and systems. The corresponding machining drawings for the individual components of the suspension system are shown here.



Wall joints

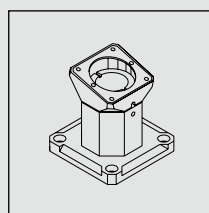


Base and top joint components



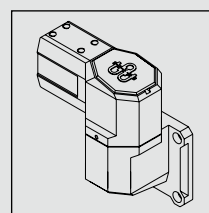
Base coupling

Article number
1015167000
1015343000



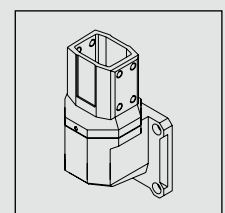
Tilt base coupling

Article number
1015168000
1015344000



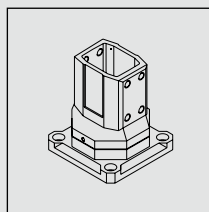
Wall joint, horizontal outlet

Article number
1015176000
1015339000



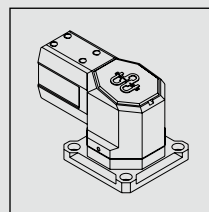
Wall joint, vertical outlet

Article number
1015177000
1015338000



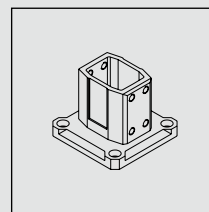
Rotary base

Article number
1015178000
1015341000



Top joint

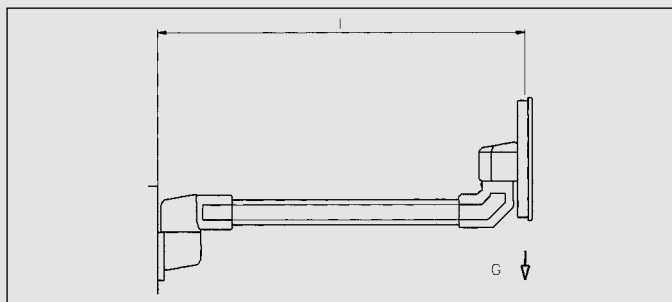
Article number
1015175000
1015340000



Base/wall flange

Article number
1015179000
1015342000

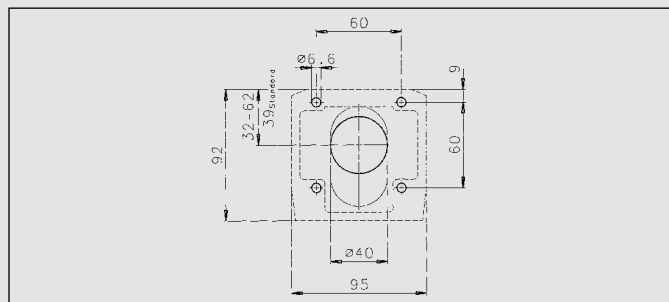
Light-Duty Suspension System CS-2000 SL 45/60



Load, panel components

Mechanical properties

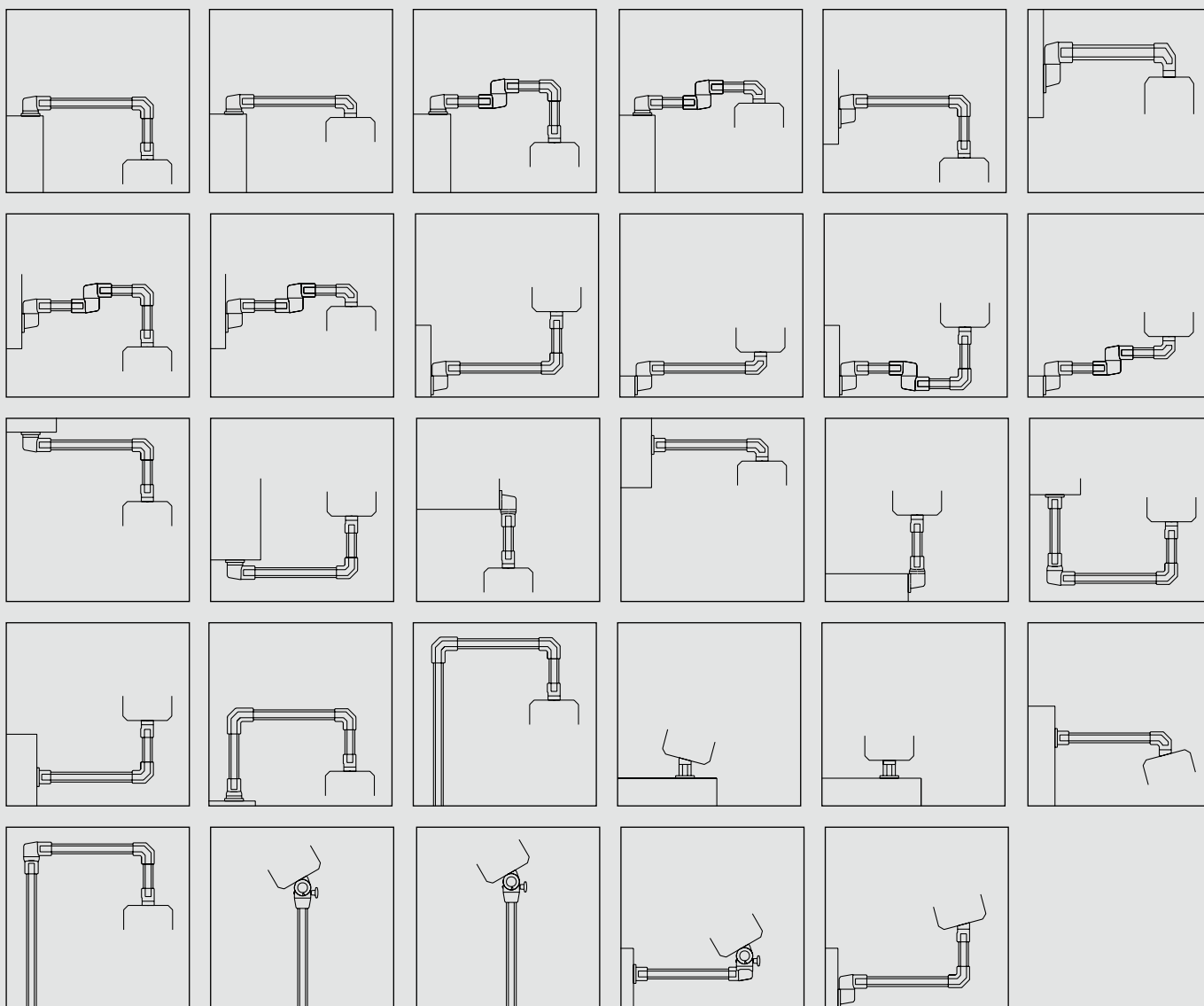
Max. load G	250 N
Max. System length L	1500 mm



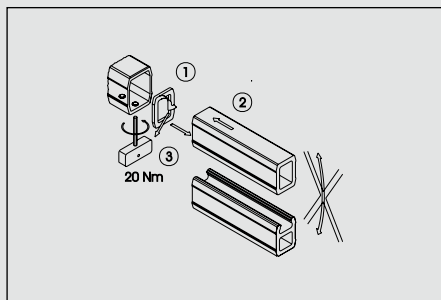
Drawing for preparing enclosure rear panel
for attaching panel couplings

System combinations

The large number of components and different versions of the connecting sections enable many different combinations. A selection of the possible configuration is shown below.

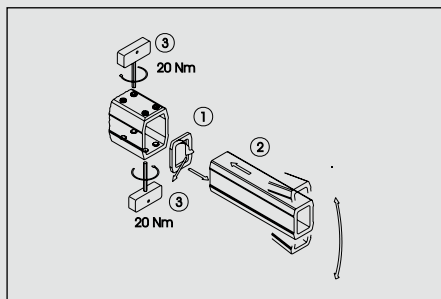


Assembling the connecting sections



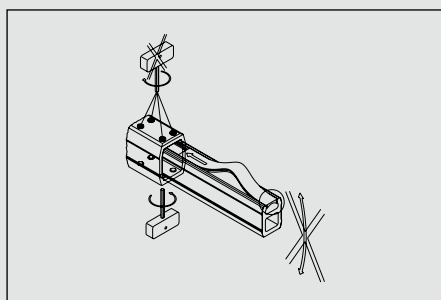
[A] Open or closed section in straight coupling and elbow coupling:

Adhere seal to connecting section (1), fit connecting section in suspension system component (2, 3).



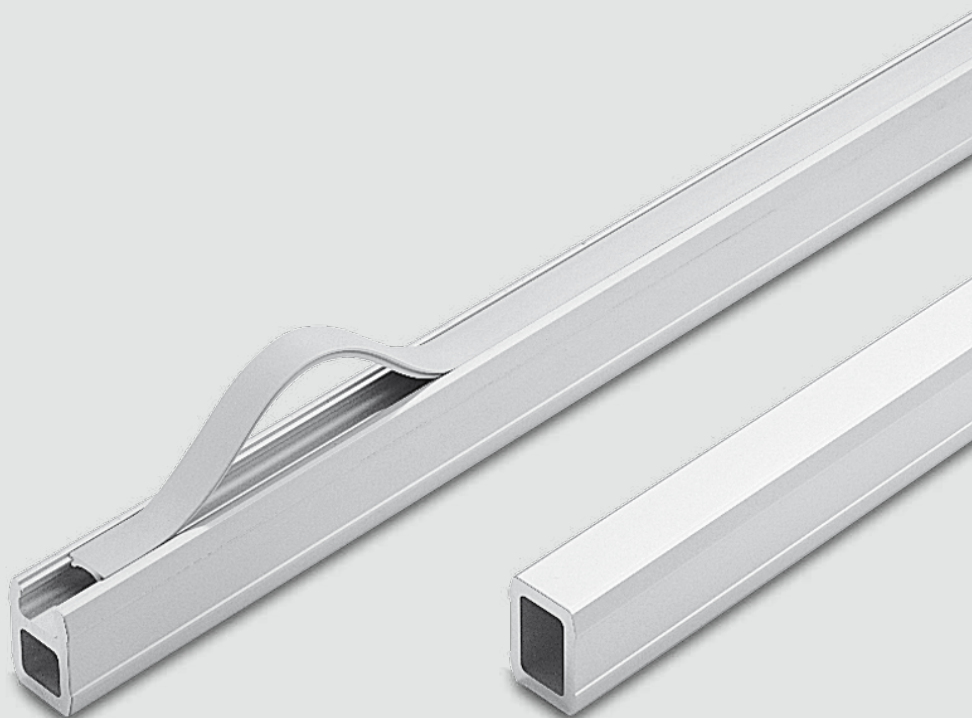
[B] Closed section in suspension system components with eight mounting screws:

Adhere seal to connecting section (1), fit connecting section in suspension system component (2, 3) while adjusting the section.



[C] Open section in suspension system components with eight mounting screws:

Adhere seal to connecting section, fit connecting section in suspension system component, only fit the four mounting screws on the closed part of the tubing, install cover seal.

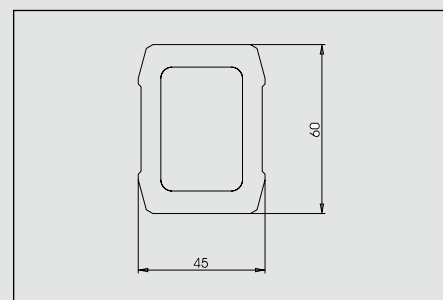
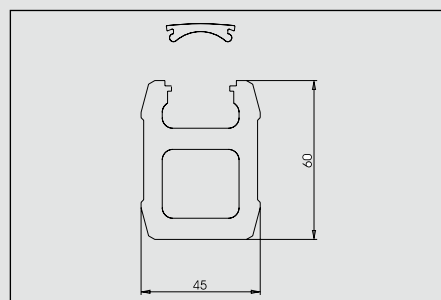


Connecting sections

The connecting section is a drawn aluminium AlMgSi 0.5 bar. The surface is anodised and therefore corresponds to a colour similar to RAL 9006. The connecting section can be used both in open as well as in completely closed cable ducts. The partly open section has an EPDM cover, coloured similar to RAL 7042. This flexible plastic cover can be easily withdrawn and reinserted.

Open section	
Dimensions (mm)	Article number
45 x 60 x 250	9524001000
45 x 60 x 500	9524002000
45 x 60 x 750	9524003000
45 x 60 x 1000	9524004000
45 x 60 x 1250	9524005000
45 x 60 x 1500	9524006000
45 x 60 x 2000	9524008000

Closed section	
Dimensions (mm)	Article number
45 x 60 x 250	9524301000
45 x 60 x 500	9524302000
45 x 60 x 750	9524303000
45 x 60 x 1000	9524304000
45 x 60 x 1250	9524305000
45 x 60 x 1500	9524306000
45 x 60 x 2000	9524308000

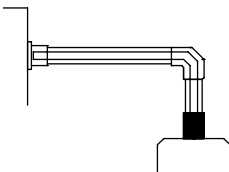
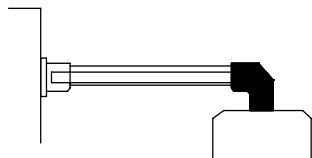
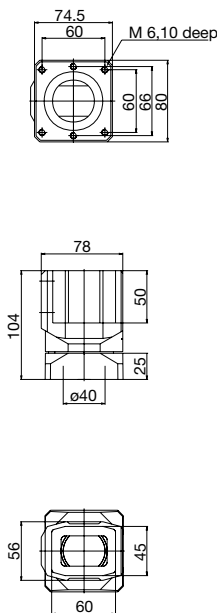
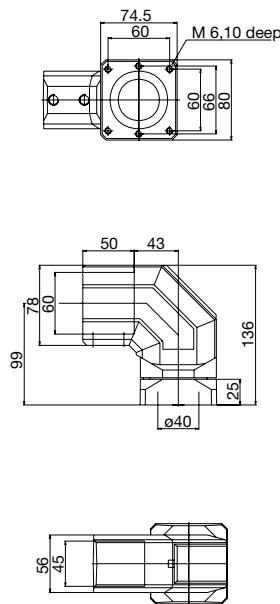


You will find an aid for selecting the load bearing capacity on Pages 112/113.

Light-Duty Suspension System CS-2000 SL 45/60

Article		Straight coupling CS-2000 SL	Elbow coupling CS-2000 SL
Article number	(colour)	1015163000 RAL 7035 light grey 1015328000 RAL 7016 anthracite grey	1015165000 RAL 7035 light grey 1015329000 RAL 7016 anthracite grey



Details	Angle of rotation 300° with stop. Complete with installation material and seals	Installation opening with snap-on plastic cover. Angle of rotation 300° with stop. Complete with installation material and seals
Weight in g	740	960
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805129000	Swivel angle limiter 9805129000
Application example		
Dimensions in mm		

Turn/tilt coupling CS-2000 SL

1015169000 RAL 7035 light grey
1015332000 RAL 7016 anthracite grey


Turn/tilt elbow coupling CS-2000 SL

1015170000 RAL 7035 light grey
1015333000 RAL 7016 anthracite grey


Tilt coupling CS-2000 SL

1015164000 RAL 7035 light grey
1015330000 RAL 7016 anthracite grey



Angle of rotation 300° with stop. Infinitely variable inclination from 0 to 30°. Complete with installation material and seals. Enclosure max. 300 N

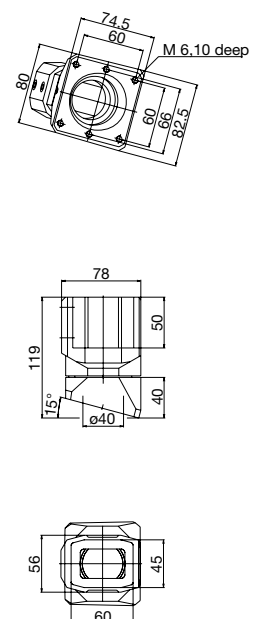
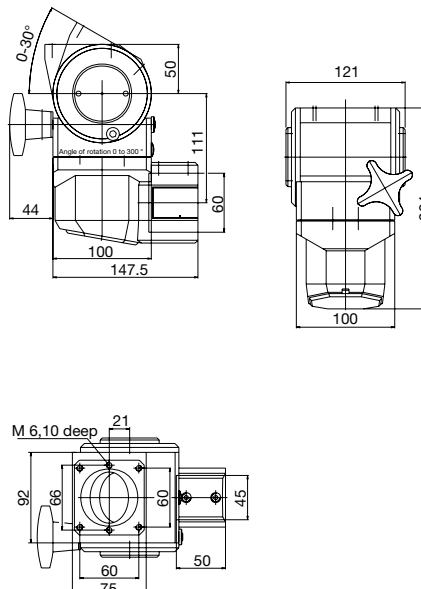
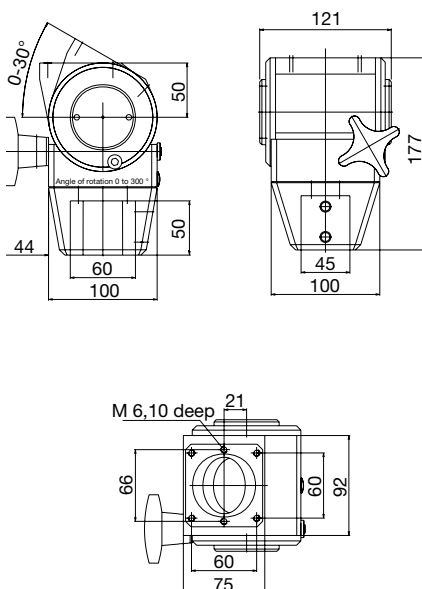
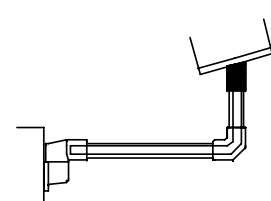
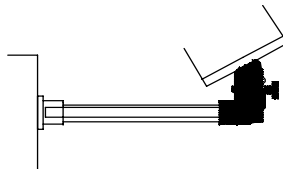
3000
 Aluminium

Angle of rotation 300° with stop. Infinitely variable inclination from 0 to 30°. Complete with installation material and seals. Enclosure max. 300 N

3300
 Aluminium

Tilt angle 15°. Angle of rotation 300° with stop. Complete with installation material and seals

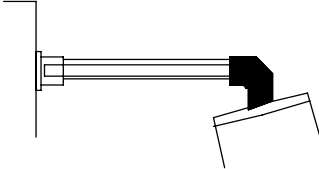
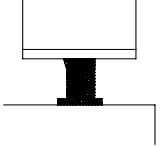
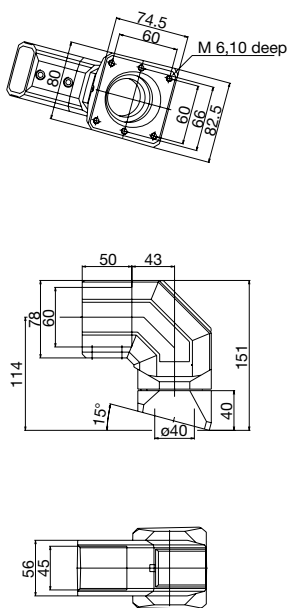
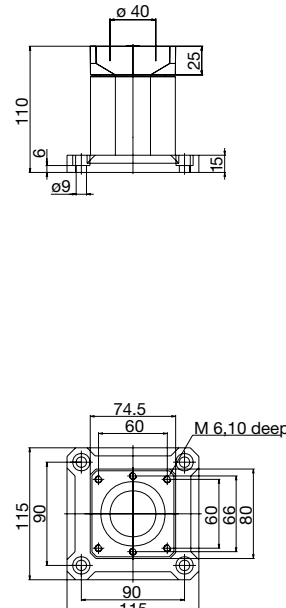
1100
 Aluminium

Swivel angle limiter 9805130000
Swivel angle limiter 9805130000
Swivel angle limiter 9805129000


Light-Duty Suspension System CS-2000 SL 45/60

Article		Tilt elbow coupling CS-2000 SL	Base coupling CS-2000 SL
Article number	(colour)	1015166000 RAL 7035 light grey 1015331000 RAL 7016 anthracite grey	1015167000 RAL 7035 light grey 1015343000 RAL 7016 anthracite grey


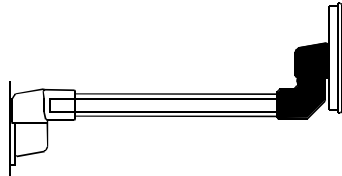
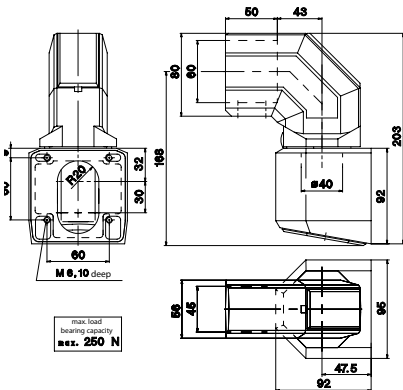
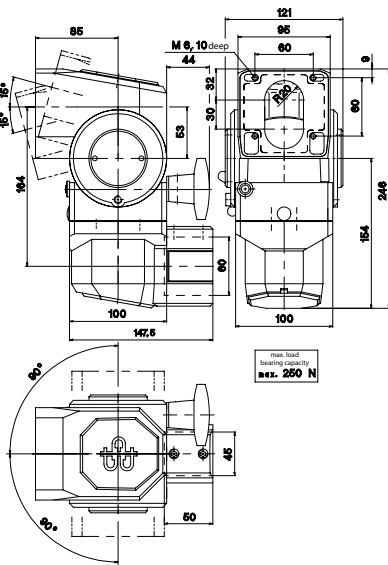


Details	Tilt angle 15°. Installation opening with snap-on plastic cover. Angle of rotation 300° with stop. Complete with installation material and seals	Integrated component. Angle of rotation 300° with stop. Complete with installation material for enclosure and seals
Weight in g	1400	1180
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805129000	Swivel angle limiter 9805129000
Application example		
Dimensions in mm		

Light-Duty Suspension System CS-2000 SL 45/60

Article		Panel elbow coupling		Panel tilt/turn elbow coupling W	
Article number	(colour)	1015233000	RAL 7035 light grey	1015236000	RAL 7035 light grey
		1015348000	RAL 7016 anthracite grey	1015349000	RAL 7016 anthracite grey



Details	For rear connection of narrow and lightweight controller panels to the CS-2000 SL light-duty suspension system; the maximum load of this component is 250 N at a maximum system length of 1500 mm	For rear connection of narrow and lightweight controller panels to the CS-2000 SL light-duty suspension system; the maximum load of this component is 250 N at a maximum system length of 1500 mm
Weight in g	3000	3460
Material	Aluminium	Aluminium
Accessories (retrofitable)		
Application example		
Dimensions in mm	 <p>max. load bearing capacity max. 250 N</p>	 <p>max. load bearing capacity max. 250 N</p>

Elbow CS-2000 SL

1015171000
1015334000

RAL 7035 light grey
RAL 7016 anthrazit-grau


Elbow for torque load CS-2000 SL

1015172000
1015335000

RAL 7035 light grey
RAL 7016 anthracite grey


Plug-on joint CS-2000 SL

1015173000
1015337000

RAL 7035 light grey
RAL 7016 anthracite grey



Installation opening with snap-on plastic cover.
Complete with seals

590
Aluminium

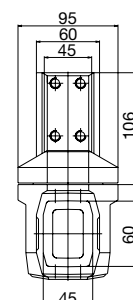
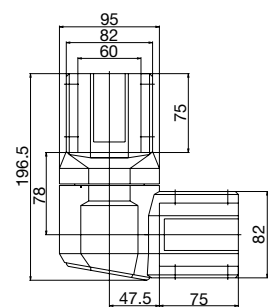
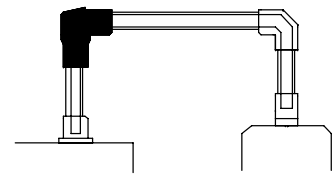
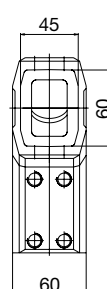
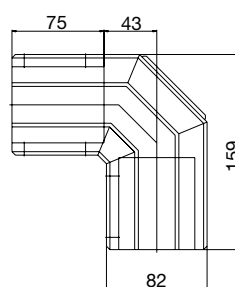
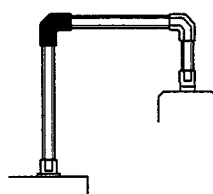
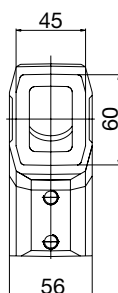
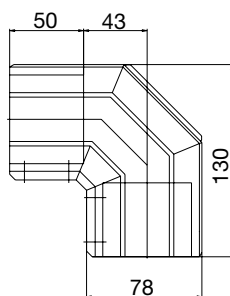
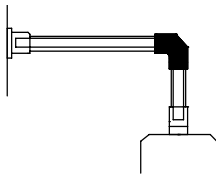
Increased wall strength. Adjustment facility.
Installation opening with snap-on plastic cover.
Complete with seals

1000
Aluminium

Swivel angle 300° with stop.
Installation opening with snap-on plastic cover.
Complete with seals

1850
Aluminium

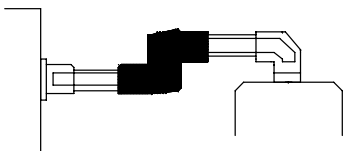
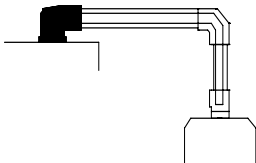
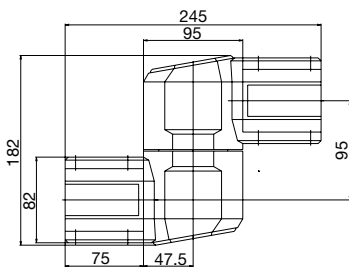
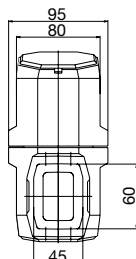
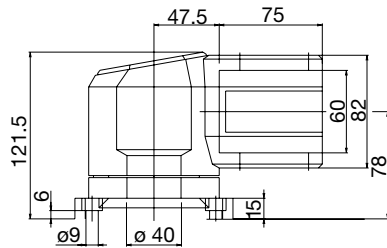
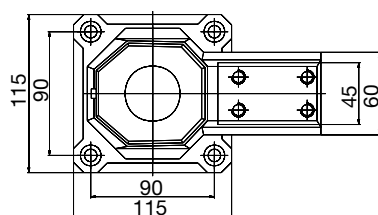
Swivel angle limiter 9805132000



Light-Duty Suspension System CS-2000 SL 45/60

Article		Intermediate joint CS-2000 SL		Top joint CS-2000 SL	
Article number	(colour)	1015174000	RAL 7035 light grey	1015175000	RAL 7035 light grey
		1015336000	RAL 7016 anthracite grey	1015340000	RAL 7016 anthracite grey



Details	Swivel angle 360° with limit stop. Installation openings both ends. Adjustment facility. Complete with seals	Swivel angle 300° with stop. Adjustment facility. Installation opening with snap-on plastic cover. Complete with seals
Weight in g	2130	1720
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805132000	Swivel angle limiter 9805132000
Application example		
Dimensions in mm	 	 

Wall joint, vertical outlet CS-2000 SL

1015177000 RAL 7035 light grey
1015338000 RAL 7016 anthracite grey


Wall joint, horizontal outlet CS-2000 SL

1015176000 RAL 7035 light grey
1015339000 RAL 7016 anthracite grey


Base, rotary CS-2000 SL

1015178000 RAL 7035 light grey
1015341000 RAL 7016 anthracite grey



Swivel angle 300° with stop. Adjustment facility.
 Installation opening with snap-on plastic cover.
 Complete with seals

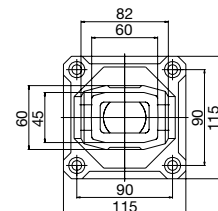
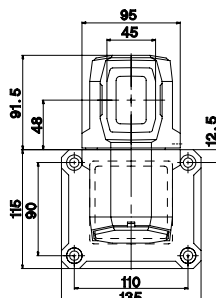
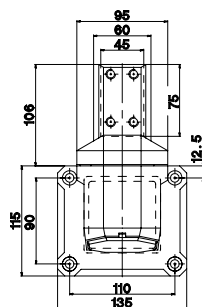
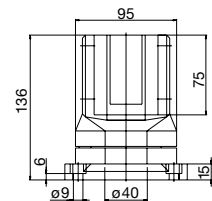
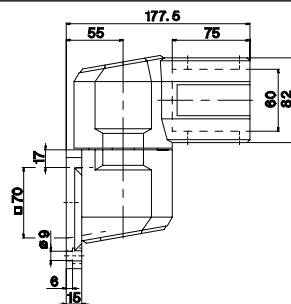
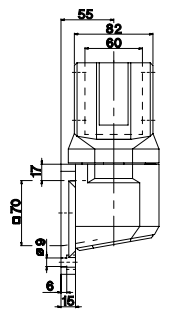
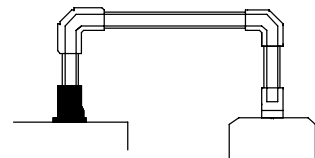
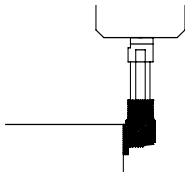
1840
 Aluminium

Swivel angle 300° with stop. Adjustment facility.
 Installation opening with snap-on plastic cover.
 Complete with seals

2090
 Aluminium

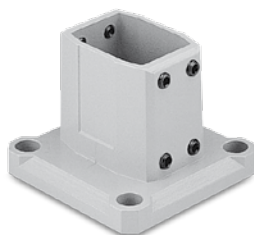
Angle of rotation 300° with stop Adjustment facility.
 Complete with seals

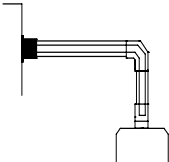
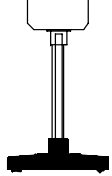
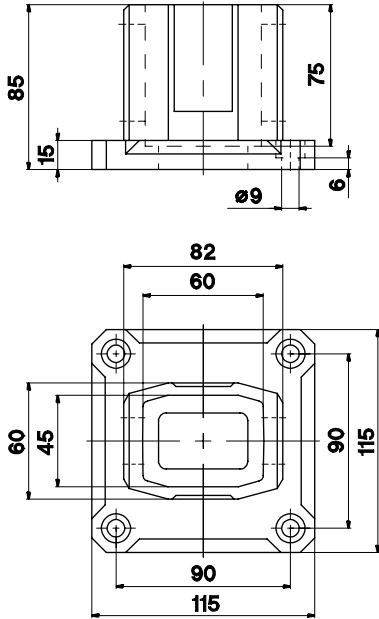
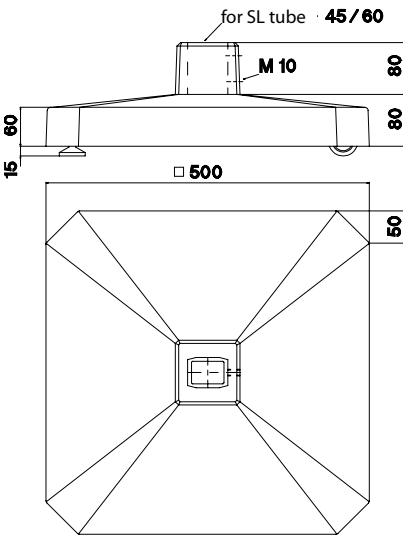
1460
 Aluminium

Swivel angle limiter 9805132000
Swivel angle limiter 9805132000
Swivel angle limiter 9805132000


Light-Duty Suspension System CS-2000 SL 45/60

Article		Base, wall flange CS-2000 SL		Free-standing base CS-2000 SL	
Article number	(colour)	1015179000	RAL 7035 light grey	1015180000	RAL 7035 light grey
		1015342000	RAL 7016 anthracite grey	1015345000	RAL 7016 anthracite grey



Details	Adjustment facility. Complete with seals	Base for free-standing applications
Weight in g	690	11820
Material	Aluminium	Aluminium
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Suspension System CS-3000

Flexible and efficient: The BERNSTEIN CS-3000

In the main, system constructors expect modern suspension systems to feature variable configuration, progressive design and complete ease installation.

BERNSTEIN sets standards with the CS-3000: Modern industrial design, well-conceived ergonomics and host of combinable components create an innovative system solution based on modular principles for attaching enclosures, especially the BERNSTEIN CC-3000, CC-4000 and CC04000 SL enclosures (see Page 72 onwards), to machines and systems.

The particular ease of assembly and installation of the CS-3000 is reflected in substantial time savings and cost efficiency.

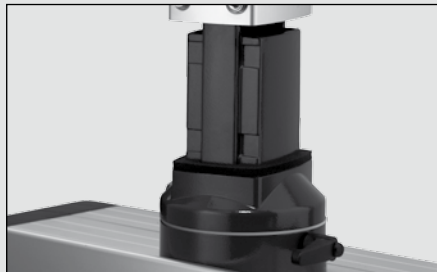


In addition to the positively locking tube mounting screws other features include:

- **Six-fold form-fit** thanks to component contour in tube attachment area (the otherwise optional safety hole additionally required for overhead installation is rendered unnecessary)
- **One-man installation** of complete system possible
- **Infinitely variable system alignment** by means of tube mounting screws
- **Subsequent alignment** possible at any time without dismantling complete system
- Cable and installation openings at all joints in the system
- Different tube lengths for variable configuration
- Tube machined at one end can be cut to required length (machining templates supplied)
- **Adjustable torque** (firmness) of all rotary components (coarse adjustment), fine adjustment by means of clamping lever or screw



Intelligent design with smooth flowing transition lines for ease of cleaning



Six-fold form-fit thanks to component contour in tube attachment area

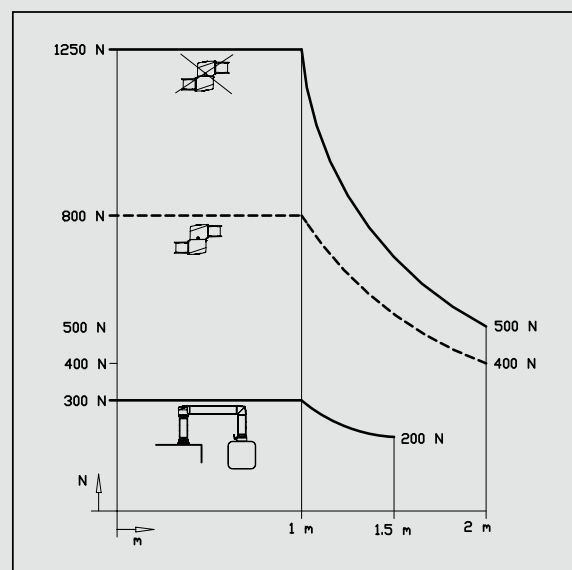


Effortless readjustment possible at any time without the need to dismantle the complete system

Other system features:

- Anodised aluminium tubes for long service life and reliable operation
- Smooth flowing transition lines from the tube to other components prevent dirt built-up (easy to clean)
- Coated tube mounting screws for sealing threaded holes and secure screw connections
- Elegant appearance with narrow sections connected by adapting the cross section from square to round tube
- Modular coupling configurations possible (also subsequently), e.g. with adapter for narrow enclosures or tilt adapter
- Well-conceived ergonomics for easy and virtually fatigue-free operation
- An ideal single-source solution for BERNSTEIN control enclosures
- Protection class IP65

Load diagram



The overview on Pages 112/113 is designed to help you determine the load bearing capacity of all BERNSTEIN suspension systems.

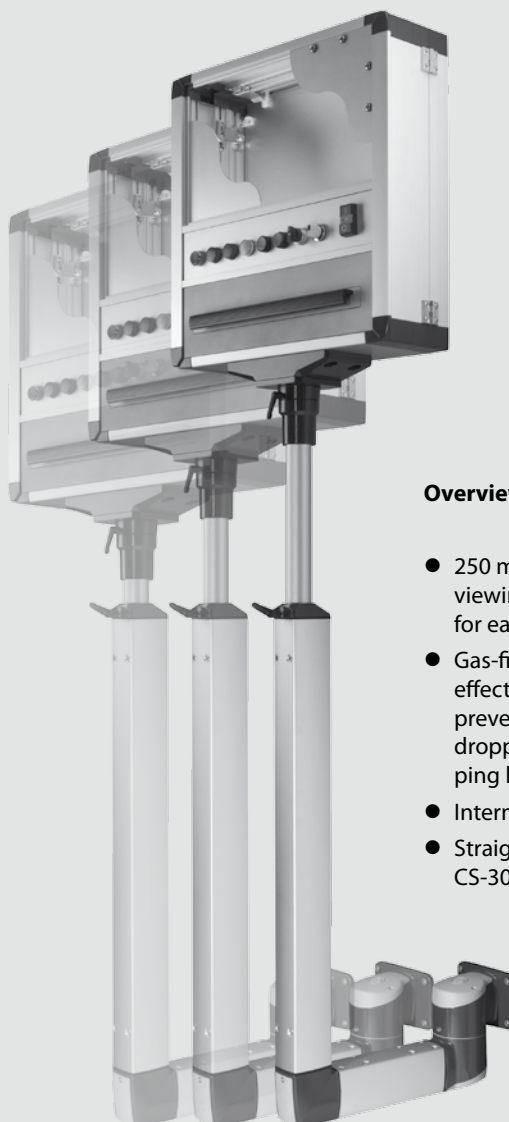
Suspension System CS-3000

CS-3000 HV – Vertically adjustable modules for optimum ergonomics

With the vertically adjustable CS-3000 HV, BERNSTEIN offers an innovative expansion to the CS-3000 suspension system. Flexible height adjustment and internal cable routing make the HV version even easier to install and operate.

With a variable lift range of 250 mm, the support system can be adjusted infinitely variable to the required working height. The integrated gas-filled damper system ensures the enclosure can be raised with minimum effort while preventing it from dropping suddenly after the clamping lever is released. This means added convenience but above all greater safety.

The CS-3000 HV is available as an optionally mobile stand base or wall-mounted version and can be easily integrated in an existing CS-3000 system.



Overview of advantages:

- 250 mm variable lift; the ideal viewing height can be adjusted for each operator
- Gas-filled damper system provides effective support during lifting and prevents the supported enclosure dropping suddenly after the clamping lever is released
- Internal cable routing
- Straightforward integration in CS-3000 suspension system

Selection criteria

- Selection of the size of gas-pressurised damper depends on the total weight and the ambient temperature
- The total weight is calculated from:
Enclosure + installed equipment + coupling components

Ambient temperature	40°C	100 N (6-11 kg)	150 N (11-19 kg)	200 N (19-29 kg)	300 N (29-39 kg)
	30°C	100 N (5.5-10.5 kg)	150 N (10.5-18 kg)	200 N (18-27.5 kg)	300 N (27.5-37 kg)
	20°C	100 N (5-10 kg)	150 N (10-17 kg)	200 N (17-26 kg)	300 N (26-35 kg)
		Damper force/total weight			

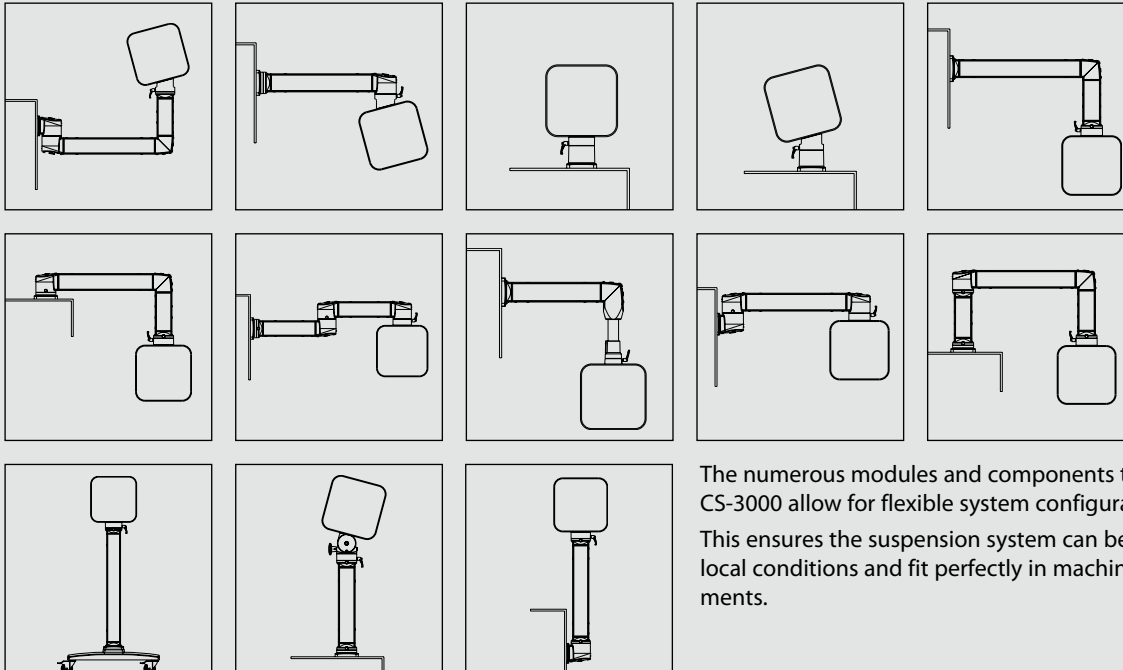
Materials

- Anodised aluminium tubing
- Pressure die-cast aluminium components
- Polyamide covers for installation openings
- POM bearing
- Neoprene seals

Colours

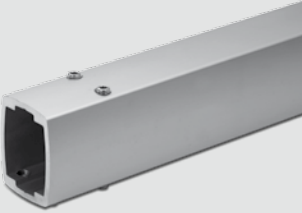
- Suspension system components: anthracite grey RAL 7016
- Connecting tubes: silver (natural) anodised

Application examples for CS-3000 suspension system – Versatile configuration options




The numerous modules and components that make up the CS-3000 allow for flexible system configuration. This ensures the suspension system can be uniquely adapted to local conditions and fit perfectly in machine and system environments.

Square aluminium tubing

	Standard lengths (available from stock)	Article number
	Length 70 x 90 x 250 mm	9524500001
	Length 70 x 90 x 500 mm	9524500002
	Length 70 x 90 x 750 mm	9524500003
	Length 70 x 90 x 1000 mm	9524500004
	Length 70 x 90 x 1250 mm	9524500005
	Length 70 x 90 x 1500 mm	9524500006
	Length 70 x 90 x 1750 mm	9524500007
	Length 70 x 90 x 2000 mm	9524500008
	Tubes machined at one end (machining templates supplied, available from stock)	
	Length 70 x 90 x 1000 mm	9524500009
	Length 70 x 90 x 2000 mm	9524500010
	If one of our standard lengths does not suit your requirements, we can also supply tubes machined at one end. Simply shorten to the required length and use the supplied template to machine the shortened end.	
	Machined tubes to required lengths We can also supply completely machined tubes to the length you require (price and delivery time on request). Or use our Express Service.	Express Service: Order by 12 noon for next-day delivery! Prices on request

Round aluminium tubing

Round aluminium tubes in different lengths. We can also supply completely machined tubes to the length you require. (prices and delivery time on request)

	Length 48 x 4 x 250 mm	9521400000
	Length 48 x 4 x 500 mm	9521401000
	Length 48 x 4 x 750 mm	9521402000
	Length 48 x 4 x 1000 mm	9521403000

Tube cross sections



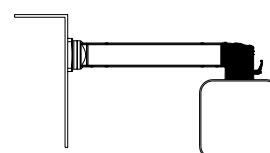
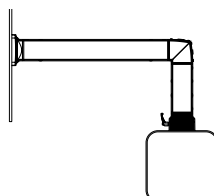
Suspension System CS-3000

Article		Straight coupling	Elbow coupling
Article number	(colour)	1015300001 RAL 7016 anthracite grey	1015300002 RAL 7016 anthracite grey

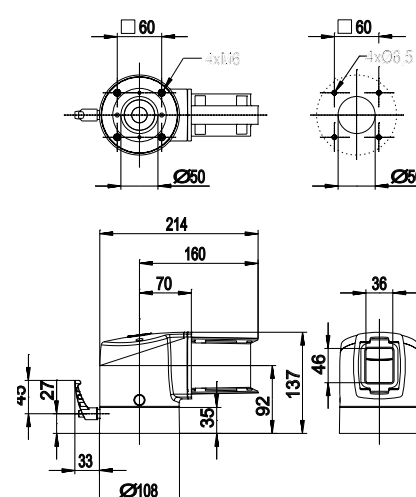
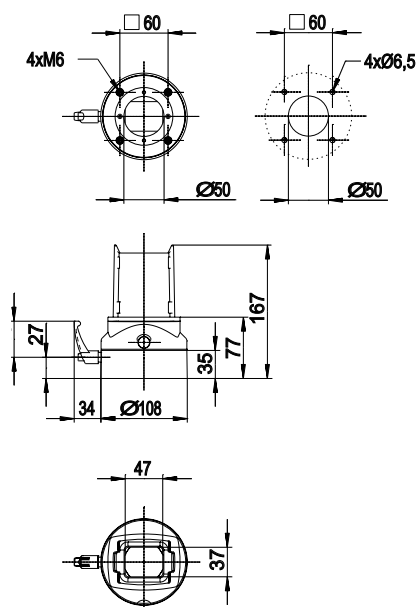


Details	Angle of rotation 300° with stop (Adapter 101.5300.011 is required for attachment to sections < 120 mm)	Angle of rotation 300° with stop, installation opening including screw-fit plastic cover
Weight in g	1450	2070
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805296000	Swivel angle limiter 9805296000

Application example



Dimensions in mm



Tilt coupling 15° A
1015300013

RAL 7016 anthracite grey


Tilt coupling 15° B
1015300014

RAL 7016 anthracite grey


Tilt elbow coupling 15° A
1015300015

RAL 7016 anthracite grey


Angle of rotation 300° with stop, fixed tilt of 15°
(variant A tilted back)

1680

Aluminium

Angle of rotation 300° with stop, fixed tilt of 15°
(variant B tilted forward)

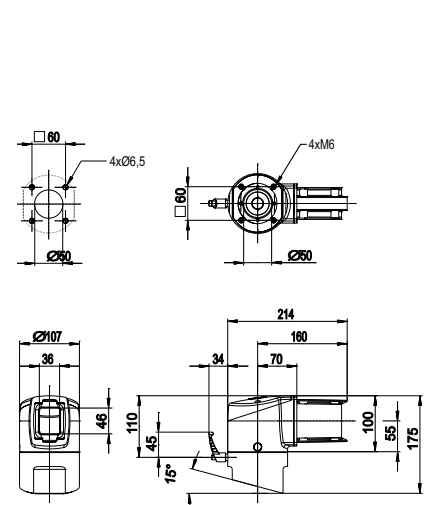
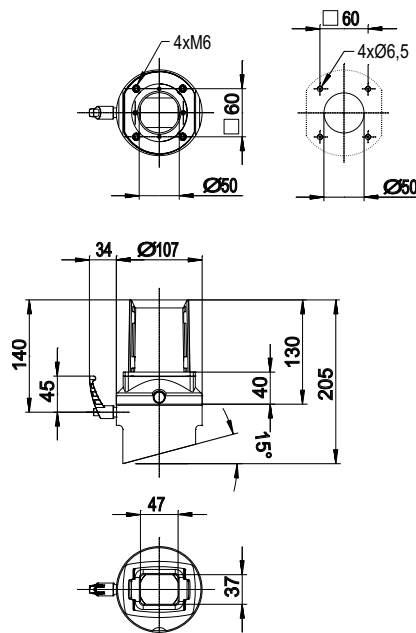
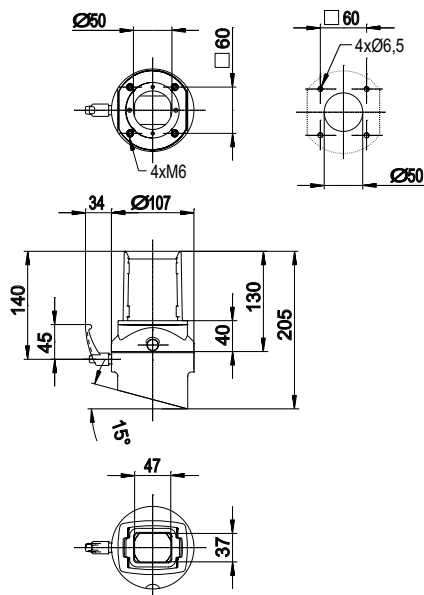
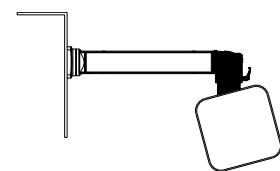
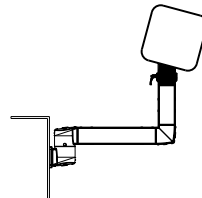
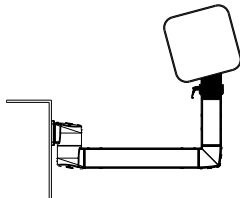
1680

Aluminium

Angle of rotation 300° with stop, fixed tilt of 15°,
installation opening including screw-fit plastic
cover (variant A tilted back)

2160

Aluminium

Swivel angle limiter 9805296000
Swivel angle limiter 9805296000
Swivel angle limiter 9805296000


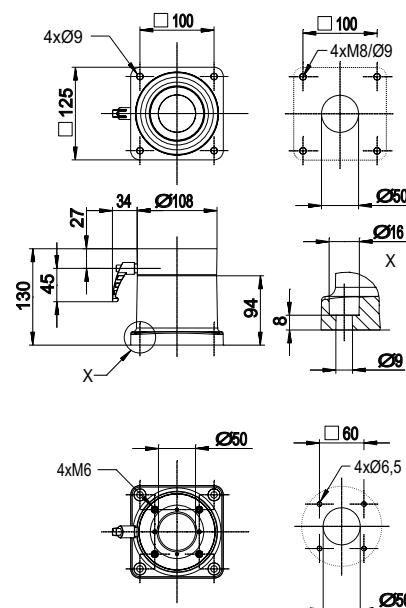
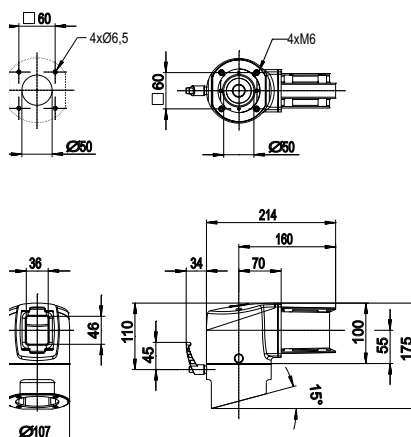
Suspension System CS-3000

Article		Tilt elbow coupling 15° B	Base coupling
Article number	(colour)	1015300016RAL 7016 anthracite grey	1015300017RAL 7016 anthracite grey



Details	Angle of rotation 300° with stop, fixed tilt of 15°, installation opening including screw-fit plastic cover (variant B tilted forward)	Angle of rotation 300° with stop
Weight in g	2160	2120
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805296000	Swivel angle limiter 9805296000
Application example		

Dimensions in mm



Tilt base coupling 15° A
1015300018

RAL 7016 anthracite grey


Tilt base coupling 15° B
1015300019

RAL 7016 anthracite grey


Straight coupling 48
1013050000

RAL 7016 anthracite grey


Angle of rotation 300° with stop, fixed tilt of 15°
(variant A tilted back)

2340

Aluminium

Angle of rotation 300° with stop, fixed tilt of 15°
(variant B tilted forward)

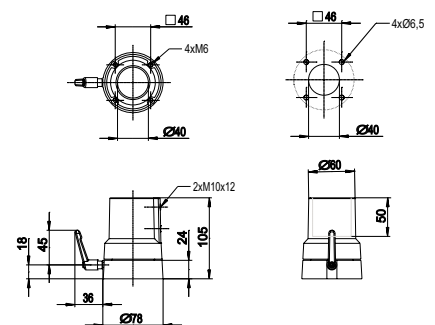
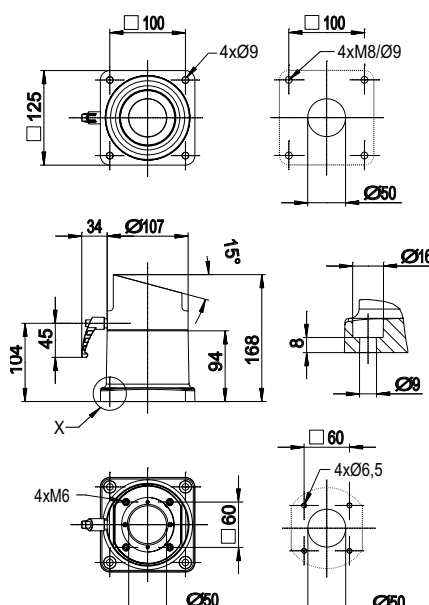
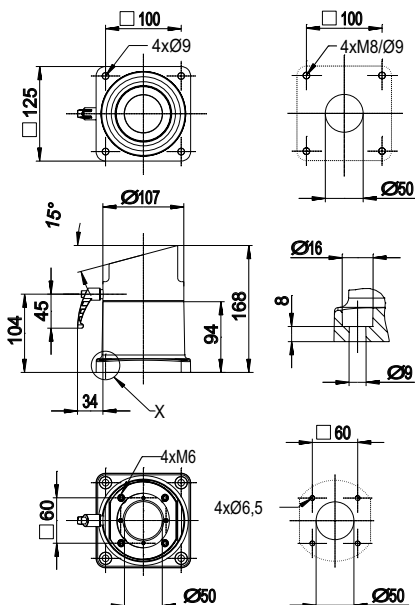
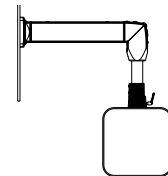
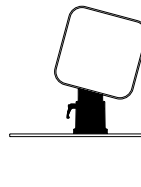
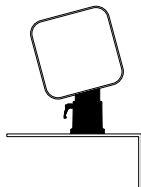
2340

Aluminium

Angle of rotation 300° with stop, only compatible
with 48 mm round tube, **adapter 9806520000** is
required for attachment to 80 mm section

1760

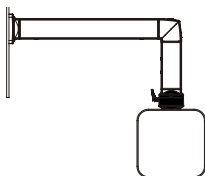
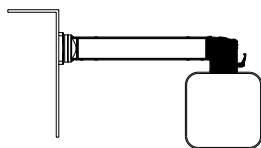
Aluminium

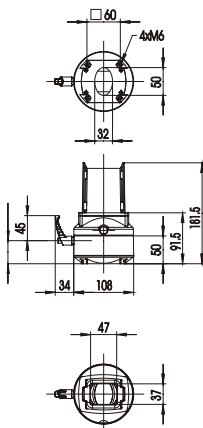
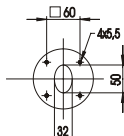
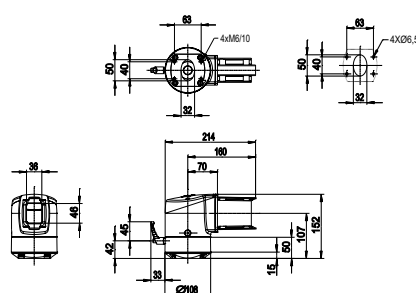
Swivel angle limiter 9805296000
Swivel angle limiter 9805296000


Suspension System CS-3000

Article		Coupling for Siemens SIMATIC Pro®	Elbow coupling for Siemens SIMATIC Pro®
Article number	(colour)	1015300043 RAL 7016 anthracite grey	1015300074 RAL 7016 anthracite grey



Details	Customised coupling for Siemens SIMATIC Pro®, angle of rotation 300° with stop.	Customised coupling for Siemens SIMATIC Pro®, angle of rotation 300° with stop, installation opening including screw-fit plastic cover
Weight in g	1580	2200
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805296000	Swivel angle limiter 9805296000
Application example		

Dimensions in mm	 	
------------------	--	---

Base coupling for Siemens SIMATIC Pro®
1015300075

RAL 7016 anthracite grey


Tilt coupling 15° for Siemens SIMATIC Pro®
See Details

RAL 7016 anthracite grey


Tilt elbow coupling 15° for Siemens SIMATIC Pro®
See Details

RAL 7016 anthracite grey


Customised coupling for Siemens SIMATIC Pro®,
angle of rotation 300° with stop.

2250

Aluminium

Customised coupling for Siemens SIMATIC Pro®,
angle of rotation 300° with stop, fixed tilt of 15°
(variant A tilted back, variant B tilted forward)

1015300076 Tilt elbow coupling 15° A
1015300077 Tilt elbow coupling 15° B

1810

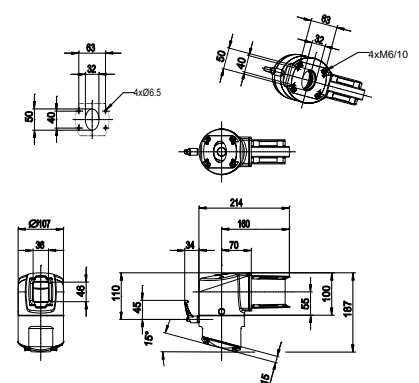
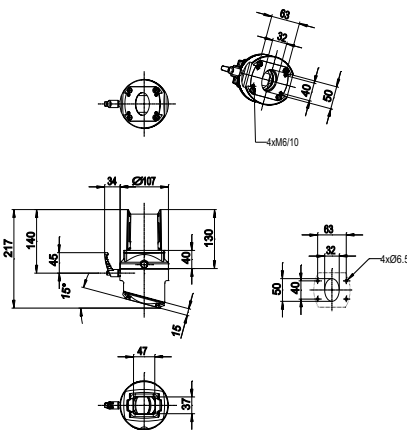
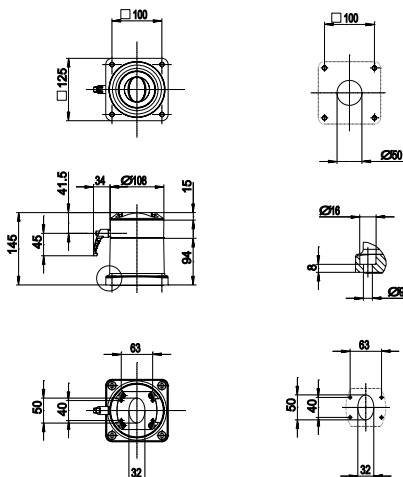
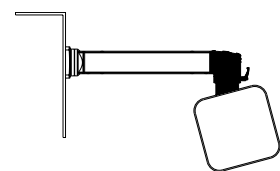
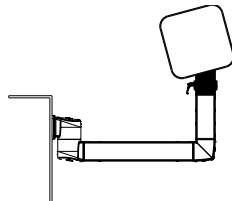
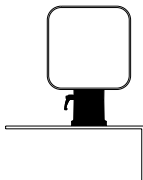
Aluminium

Customised coupling for Siemens SIMATIC Pro®, angle
of rotation 300° with stop, fixed tilt of 15°, installation
opening including screw-fit plastic cover (variant A
tilted back, variant B tilted forward)

1015300078 Tilt elbow coupling 15° A
1015300079 Tilt elbow coupling 15° B

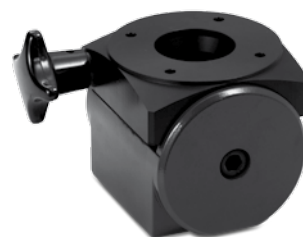
2290

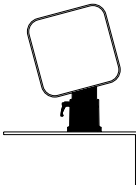

Aluminium

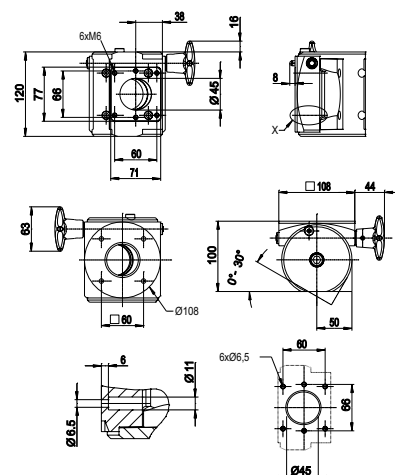
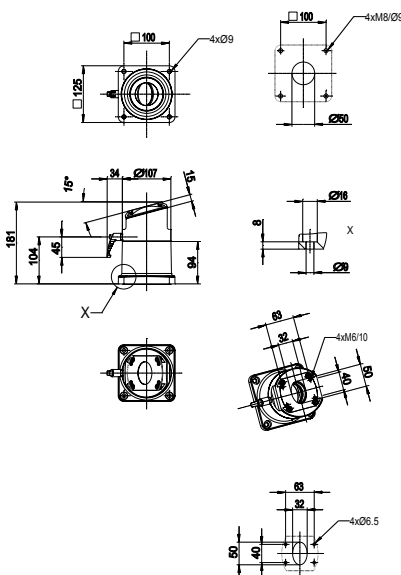
Swivel angle limiter 9805296000
Swivel angle limiter 9805296000
Swivel angle limiter 9805296000


Suspension System CS-3000

Article		Tilt base coupling 15° for Siemens SIMATIC Pro®	Tilt adapter (30° infinitely variable)
Article number	(colour)	See Details RAL 7016 anthracite grey	1015300012 RAL 7016 anthracite grey



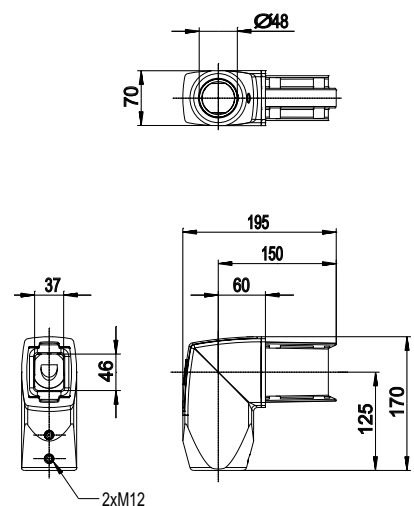
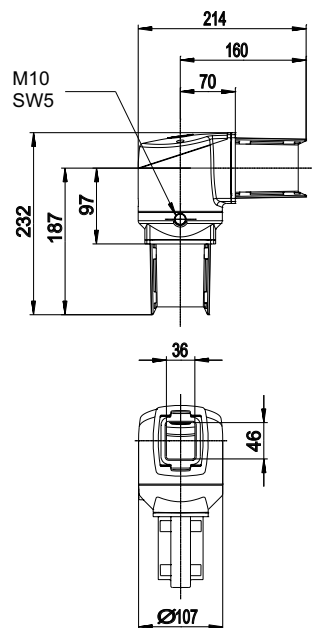
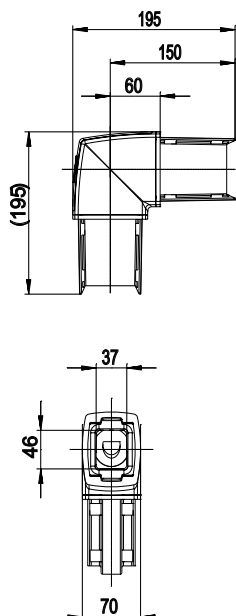
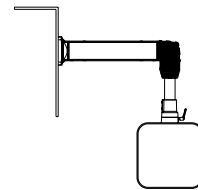
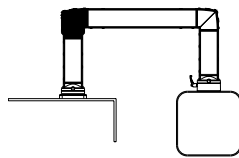
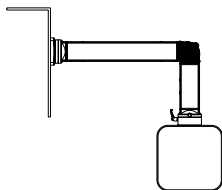
Details	<p>Customised coupling for Siemens SIMATIC Pro®, angle of rotation 300° with stop, fixed tilt of 15° (variant A tilted back, variant B tilted forward)</p> <p>1015300080 Tilt base coupling 15° A 1015300081 Tilt base coupling 15° B</p>	<p>Used only together with couplings, infinitely variable tilt up to 30°, maximum load max. 300 N, not compatible with 1013050000, as well as Siemens SIMATIC Pro® couplings</p>
Weight in g	2470	1840
Material	Aluminium	Aluminium
Accessories (retrofitable)	<p>Swivel angle limiter 9805296000</p>	
Application example		
Dimensions in mm		



Elbow		Elbo, rotary		Elbow, reduced RD 48	
1015300008	RAL 7016 anthracite grey	1015300009	RAL 7016 anthracite grey	1015300020	RAL 7016 anthracite grey



With installation opening including screw-fit plastic cover	Angle of rotation 300° with stop, installation opening including screw-fit plastic cover	Reducer elbow from the square tube to 48 mm round tube
1680	2460	1920
Aluminium	Aluminium	Aluminium
	Swivel angle limiter 9805296000	



Suspension System CS-3000

Article	Top joint	Wall joint S
Article number (colour)	1015300003 RAL 7016 anthracite grey	1015300006 RAL 7016 anthracite grey

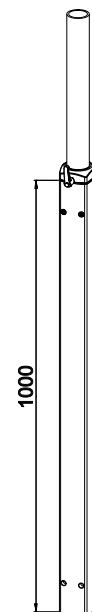
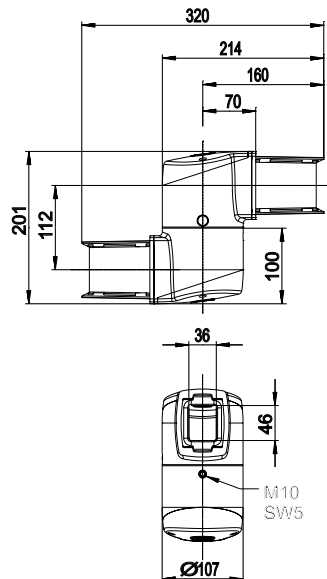
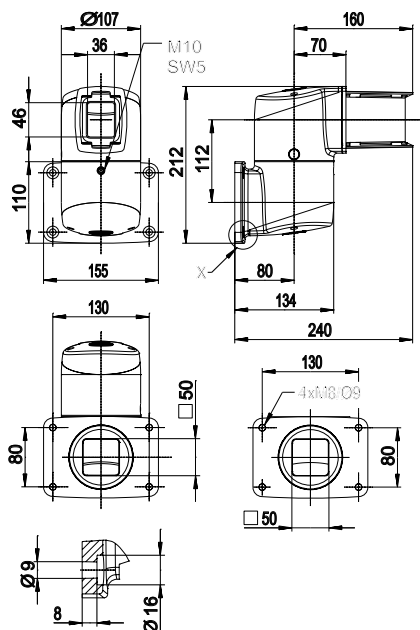
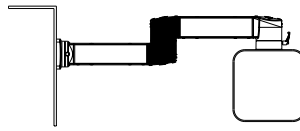
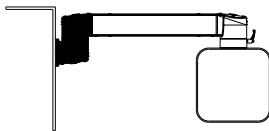


Details	Angle of rotation 300° with stop, installation opening including screw-fit plastic cover	Angle of rotation 300° with stop, installation opening including screw-fit plastic cover
Weight in g	2250	2450
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805296000	Swivel angle limiter 9805296000
Application example		
Dimensions in mm	<p>Technical drawing of the 9805296000 swivel angle limiter. Dimensions include: Ø50, 100, 214, 160, 70, 137, 92, 35, 125, 8, Ø9, Ø16, 36, Ø107, 46, M10 SW5, 4xM8/Ø9.</p>	<p>Technical drawing of the 9805296000 swivel angle limiter. Dimensions include: 242, 187, 80, 97, 134, 47, 37, 130, 155, 80, 110, 50, 130, 80, 50, 4xM8/Ø9, Ø9, Ø16, 8.</p>

Wall joint W		Intermediate joint		CS-3000 HV module, vertically adjustable	
1015300007	RAL 7016 anthracite grey	1015300004	RAL 7016 anthracite grey	See Details	RAL 7016/anodised aluminium



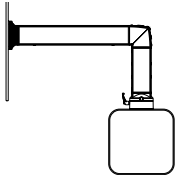
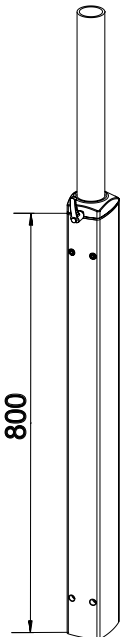
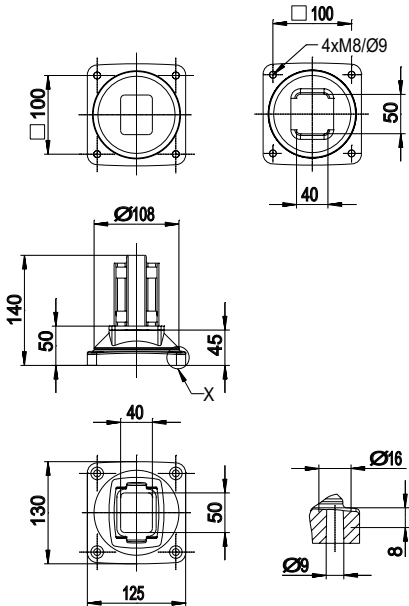
Angle of rotation 300° with stop, 2 installation openings including screw-fit plastic covers	Angle of rotation 300° with stop, 2 installation openings including screw-fit plastic covers	1015300022 CS-3000 HV 1000/100 1015300029 CS-3000 HV 1000/150 1015300031 CS-3000 HV 1000/200 1015300033 CS-3000 HV 1000/300 Modular height 1000 mm; see Page 132 for detailed information on selection of suitable damper force.
2930	2940	7030
Aluminium	Aluminium	Aluminium
Swivel angle limiter 9805296000	Swivel angle limiter 9805296000	



Suspension System CS-3000

Article		CS-3000 HV module, vertically adjustable	Base/wall flange
Article number	(colour)	See Details RAL 7016/anodised aluminium	1015300010 RAL 7016 anthracite grey

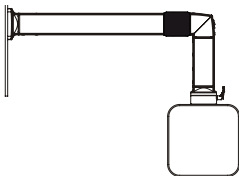
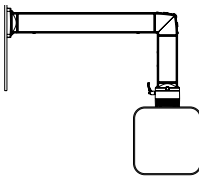
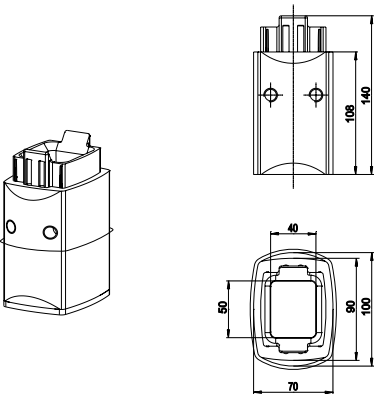
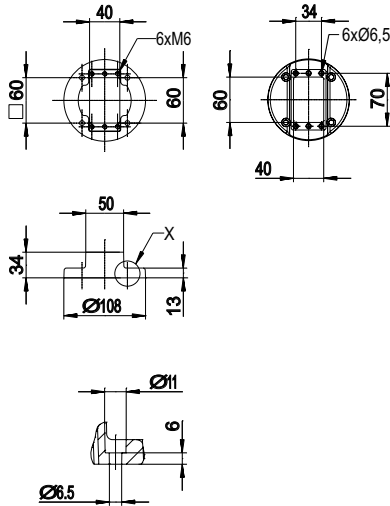


Details	1015300023 CS-3000 HV 800/100 1015300030 CS-3000 HV 800/150 1015300032 CS-3000 HV 800/200 1015300034 CS-3000 HV 800/300 Modular height 800 mm; see Page 132 for detailed information on selection of suitable damper force.	
Weight in g	6020	1300
Material	Aluminium	Aluminium
Accessories (retrofitable)		
Application example		
Dimensions in mm		




Suspension System CS-3000




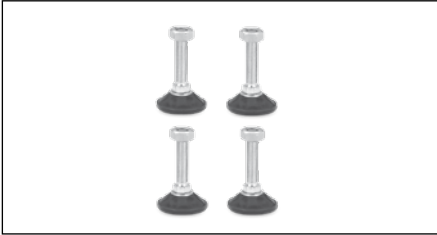

Article		Tube adapter	Adapter (narrow section)
Article number	(colour)	1015300039	1015300011
		RAL 7016 anthracite grey	RAL 7016 anthracite grey



Details	Required for connecting tubes shortened directly at place of installation: Tubes machined at one end and of unspecified lengths can be cut to size and connected to the system with the tube adapter.	Only to be used together with couplings (for attachment to BERNSTEIN enclosures with depths <120 mm)
Weight in g	720	300
Material	Aluminium	Aluminium
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Accessories for Suspension System CS-3000

Article Article number	Adapter flange 9806649000	Adapter plate 9806678000
		
Design	For enclosure with door section and/or keyboard.	For connecting adapter flange to coupling 48
Article Article number	Set of caps 9806590000	Industrial castors 9808012800
		
Design	Plastic caps similar to RAL 9006 for closing off the hexagon sockets on tube mounting screws. Set of 50	Set of castors, consisting of 4 swivel castors with brake. Load-bearing capacity of each castor 50 kg

CS-3000 Signal lamp adapter See specification	Adapter plate 9806520000	Swivel angle limiter 9805296000
		
For connecting commercially available 25 mm diameter signal lamps to CS-3000 suspension system components 9805317000 joint components 9805318000 elbow components	Required together with coupling RD 48 for attachment to CC-4000 section 80	Retrofit swivel angle limiter for coupling and joint components for CS-3000 system. Adjustable in steps of 13.7°. Contains ten ø 10 mm steel balls
Equipment castors 9808015300	Support feet 9808012900	Floor anchoring brackets 9808014100
		
Set of castors, consisting of 2 swivel castors and 2 swivel castors with brake for free-standing bases. Load-bearing capacity of each castor 70 kg	Vertically adjustable feet (4x) for free-standing bases.	Set of floor anchoring brackets for large base

Heavy-Duty Suspension System CS-2000 System 80

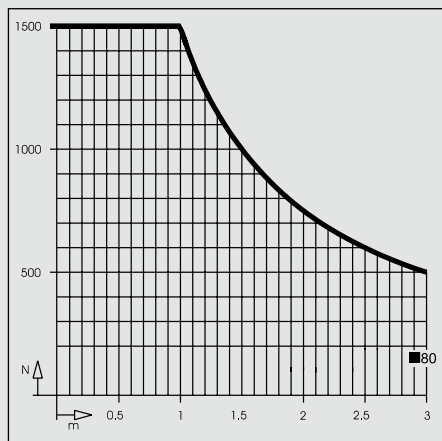
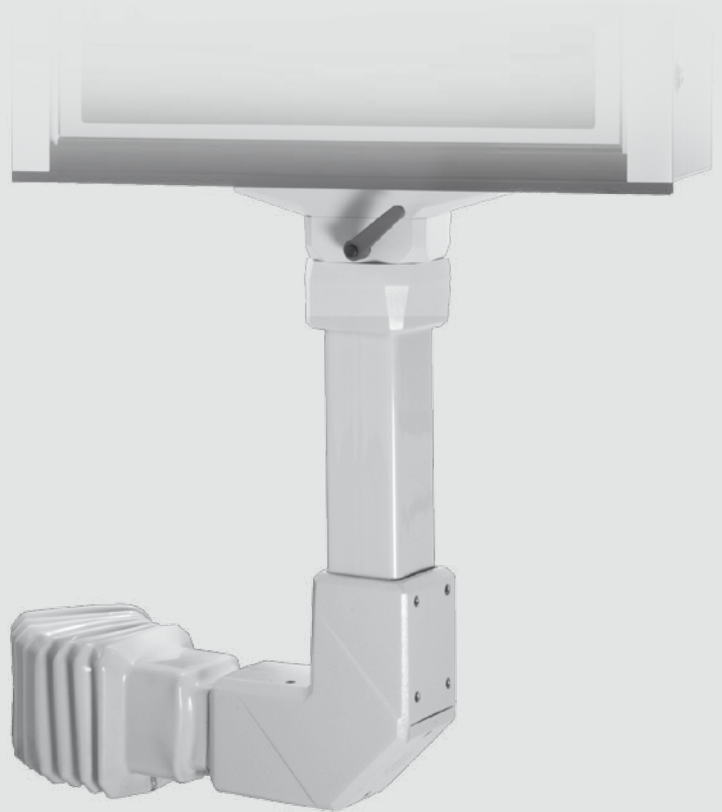
With its large number of components, the BERNSTEIN CS-2000 System 80 suspension system offers technically perfected solutions for a wide range of applications.

System structure

The following conditions are decisive for selecting the right system:

- Load of overall system
- Clear cable leadthrough if necessary
- Design
- System constellation

After determining the correct size of suspension system, the corresponding components and tubes are selected to build up the required system constellation.



Load diagram

The overview on Pages 112/113 is designed to help you determine the load bearing capacity of all BERNSTEIN suspension systems.

Materials

- Aluminium components: Cast aluminium
- Cast steel components: GGG 40
- Welded steel structures: St 37
- Support tubes: St 37
- Bearings: St/PTFE or POM
- Seals: CR
- Installation openings: Cast aluminium
- Gaiters: PVC

Colours

- Suspension system components: Light grey, RAL 7035
- Gaiters: Light grey, RAL 7035
- Tubing: Light grey, RAL 7035

System features

- Installation openings at all joints for easy cable installation
- Integrated strain relief for gripping cables
- Wide range of available components for variable configurations
- Maintenance-free no-play bearings in all joints and couplings
- Adjustment facilities for precisely aligning support tubes
- Wall and intermediate joints with adjustable torque and retrofitable swivel angle limiter (available as accessory)
- Flange couplings with adjustable firmness and retrofitable rotation angle limiter
- Overhead installation of all components possible

The steel tubes for the CS-2000 System 80 suspension system are available in different lengths (tube lengths in accordance with DIN 7168).

Weight: 11.0 kg/m

[illegible]

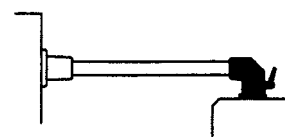
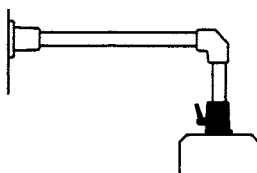
Heavy-Duty Suspension System CS-2000 System 80

Article		Standard coupling, flange CS-2000	Elbow coupling, flange CS-2000
Article number	(colour)	1016702000 RAL 7035 light grey	1016705000 RAL 7035 light grey

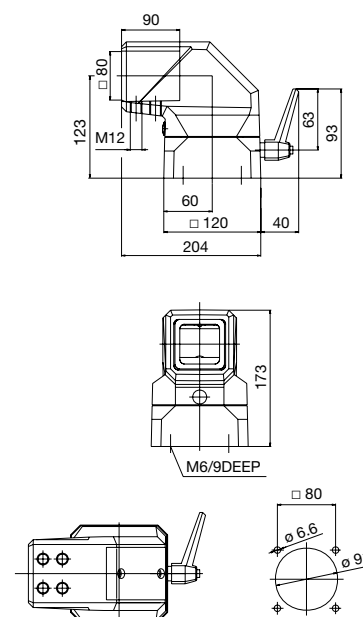
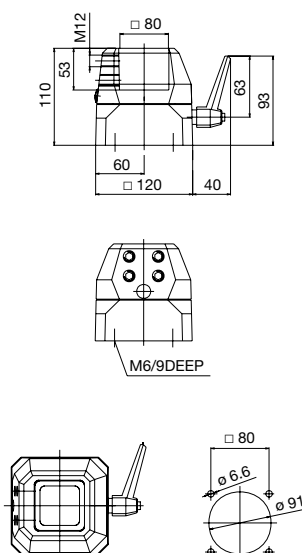


Details	Angle of rotation 300° with stop. Complete with seals and mounting screws. Adjustable torque.	Angle of rotation 300° with stop. Complete with seals and mounting screws. Adjustable torque. Installation opening.
Weight in g	3270	4100
Material	Aluminium	Aluminium
Accessories (retrofitable)	Swivel angle limiter 9805176000	Swivel angle limiter 9805176000 Signal lamp adapter 9805189000

Application example



Dimensions in mm



Turn/tilt coupling CS-2000
1016321000

RAL 7035 light grey


Elbow CS-2000
1016708000

RAL 7035 light grey


Elbow for torque load CS-2000
1016711000

RAL 7035 light grey



Angle of rotation 300° with stop. Infinitely variable inclination from 0 to 30°. Complete with seals and mounting screws.

2900

Aluminium and PA

Installation opening. Complete with seals

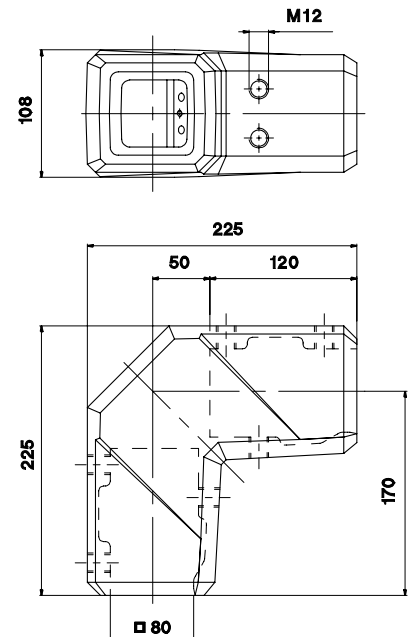
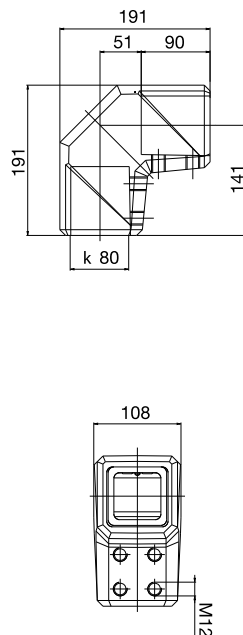
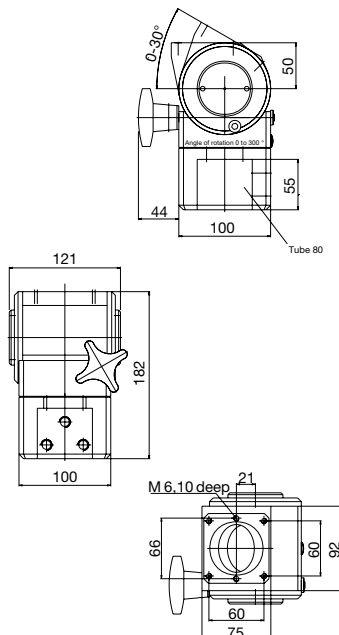
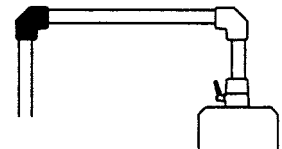
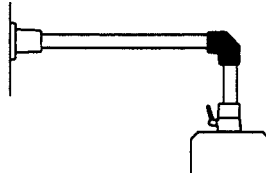
2900

Aluminium

Increased load bearing capacity. Complete with seals. Installation opening.

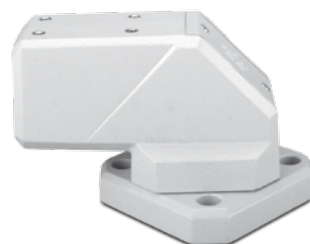
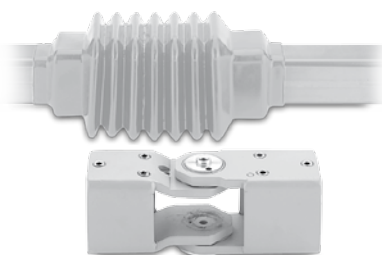
8500

GGG

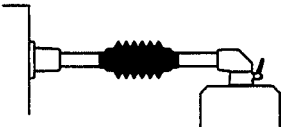
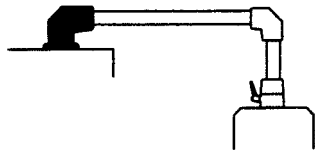
Swivel angle limiter 9805130000
Signal lamp adapter 9805189000
Signal lamp adapter 9805189000


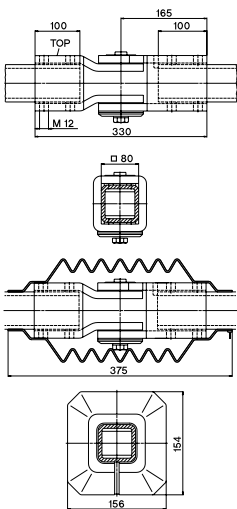
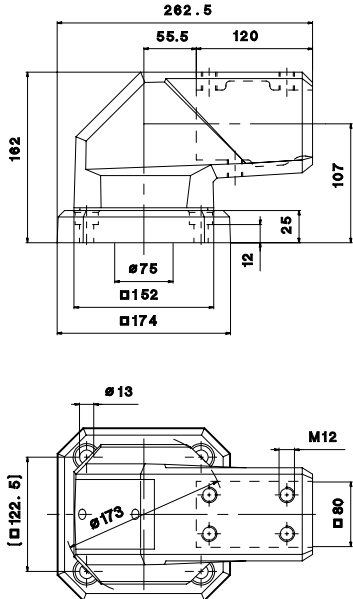
Heavy-Duty Suspension System CS-2000 System 80

Article		Intermediate joint CS-2000	Top joint CS-2000
Article number	(colour)	1016471000 RAL 7035 light grey	1016714000 RAL 7035 light grey



Details	With gaiter attached with zip fastener. Swivel angle 180° with stop on both sides. Torque adjustment	Angle of rotation 306° with stop. Complete with seals and mounting screws.
Weight in g	9700	20620
Material	Steel	GGG
Accessories (retrofitable)	Swivel angle limiter 9805062000	Swivel angle limiter 9805177000 Signal lamp adapter 9805188000

Application example		
---------------------	---	---

Dimensions in mm		
------------------	---	---

Wall joint CS-2000
1016473000

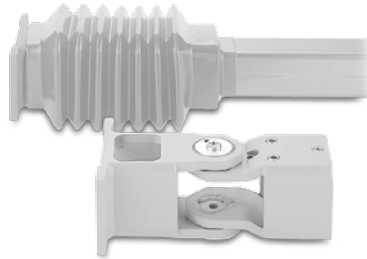
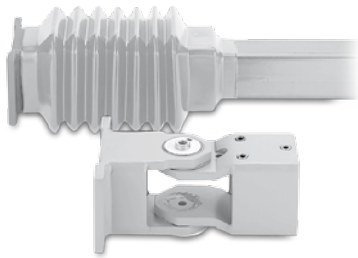
RAL 7035 light grey

Wall joint for cable leadthrough CS-2000
1016474000

RAL 7035 light grey

Wall flange CS-2000
1016472000

RAL 7035 light grey



With gaiter attached with zip fastener.
Swivel angle 180° with stop on both sides.
Torque adjustment

9250

Steel

With gaiter attached with zip fastener.
Swivel angle 180° with stop on both sides.
Torque adjustment

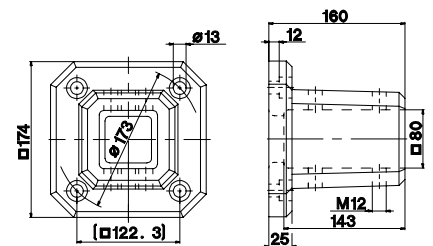
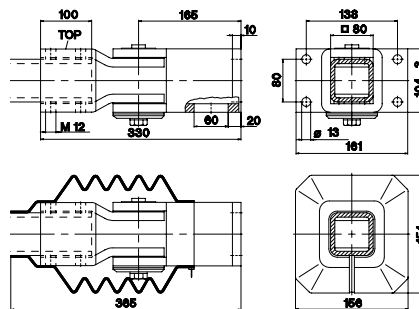
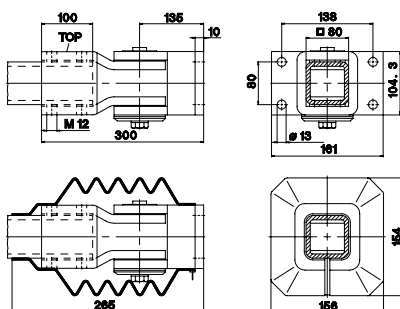
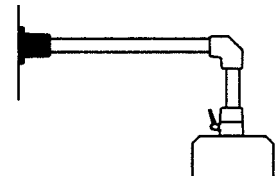
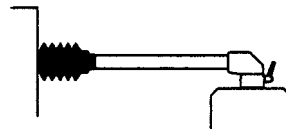
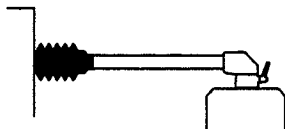
9500

Steel

Complete with seals

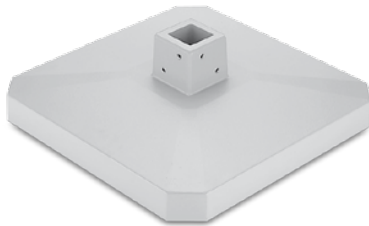
9100

GGG

Swivel angle limiter
9805062000
Swivel angle limiter
9805062000


Heavy-Duty Suspension System CS-2000 System 80

Article		Base CS-2000	Free-standing base CS-2000
Article number	(colour)	1016475000RAL 7035 light grey	1016323000RAL 7035 light grey



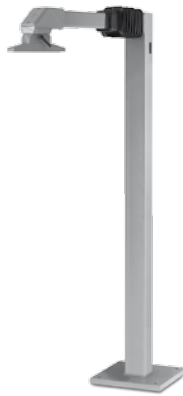
Details	Complete with seals	For free-standing applications
Weight in g	9240	14300
Material	GGG	Aluminium
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Support column, upright version
1016558000

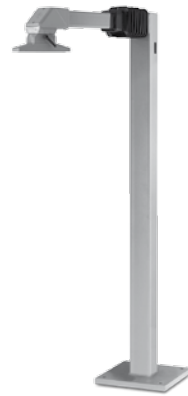
RAL 7035 light grey


Support column, suspended version, 250 mm tube
1016555000

RAL 7035 light grey


Support column, suspended version, 500 mm tube
1016556000

RAL 7035 light grey



27220

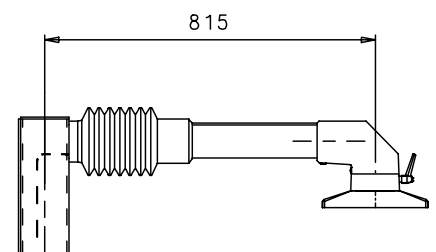
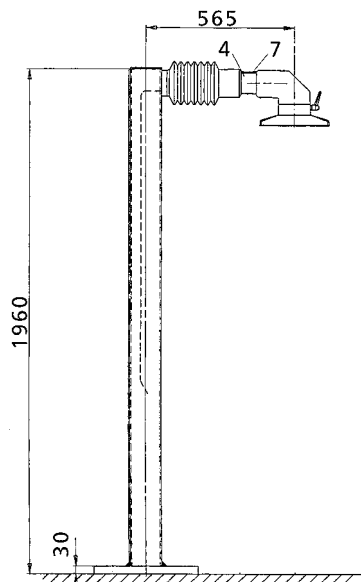
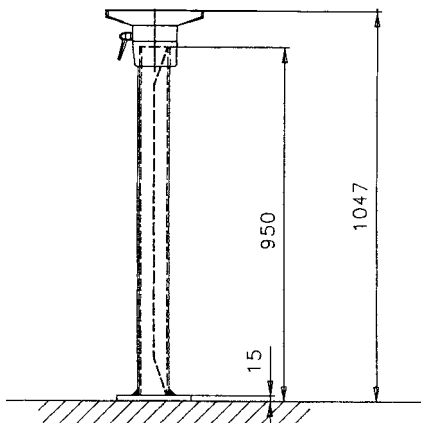
Steel / Aluminium

102000

Steel / Aluminium

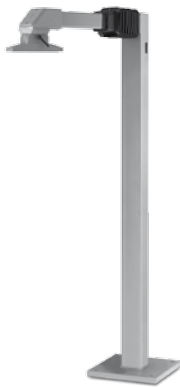
105000

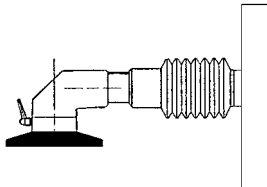
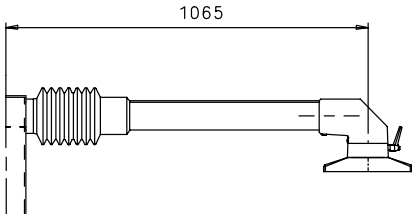
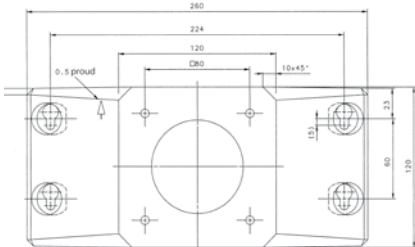
Steel / Aluminium



Heavy-Duty Suspension System CS-2000 System 80

Article		Support column, suspended version, 750 mm tube	Adapter flange CS-2000
Article number	(colour)	1016557000RAL 7035 light grey	9806213000RAL 7035 light grey



Details		
Weight in g	41000	1100
Material	Steel / Aluminium	Aluminium
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Tilt adapter CS-2000 15° = 460
1016459000

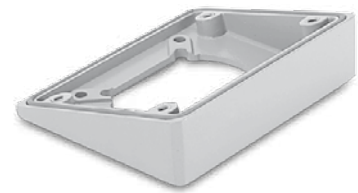
RAL 7035 light grey

Tilt adapter CS-2000 30° = 600
1016460000

RAL 7035 light grey

Tilt adapter CS-2000 60° = 800
1016461000

RAL 7035 light grey



A = 15°, B = 39

A = 30°, B = 66

A = 60°, B = 111

460

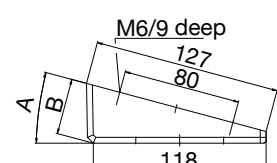
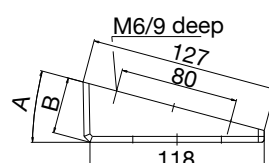
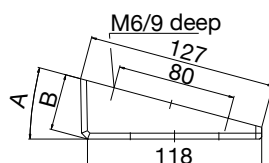
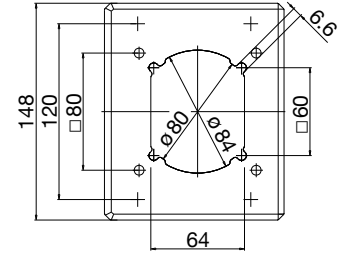
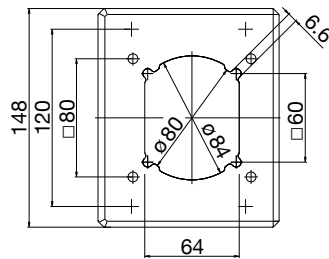
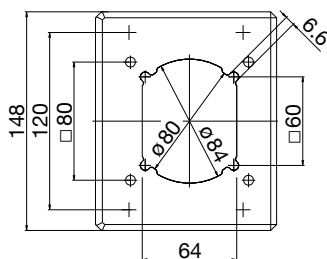
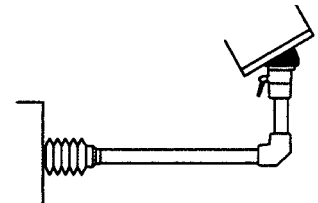
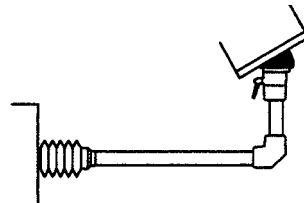
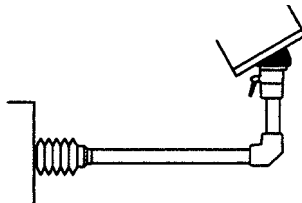
Aluminium

600

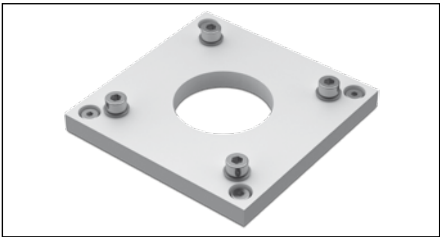
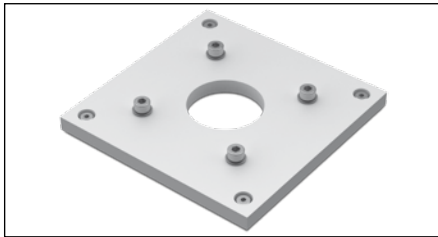
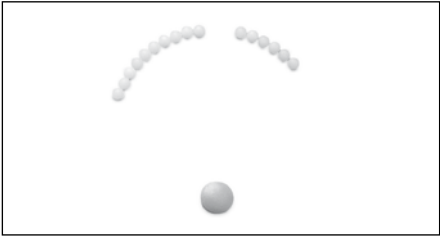
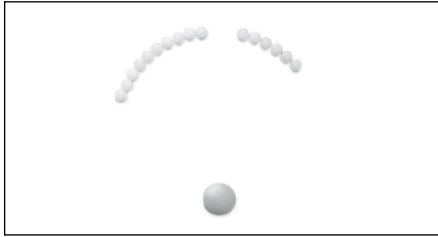


Aluminium

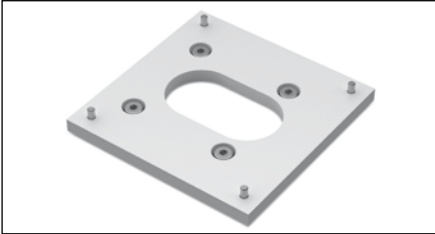
800

Aluminium

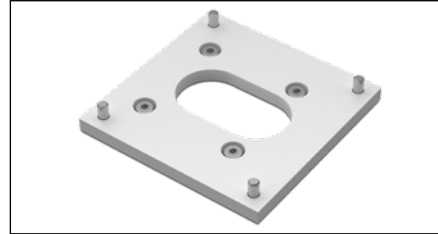


Accessories for Suspension Systems CS-2000 SL and System 80

Article	CS-1000 VESA 75/M4	CS-1000 VESA 100/M4
Article number	9806675000	9806676000
		
Design	For rear attachment of monitors or similar with VESA 75 flange on CS-1000 suspension arm system	For rear attachment of monitors or similar with VESA 100 flange on CS-1000 suspension arm system
Article	Swivel angle limiter for coupling components, CS-2000 SL system	Swivel angle limiter for coupling components, CS-2000 System 80
Article number	9805129000	9805176000
		
Design	Easy-to-retrofit swivel angle limiter. After installation, the balls limit the swivel angle. Adjustable in steps of 8.5°. Material PA.	Easy-to-retrofit swivel angle limiter. After installation, the balls limit the swivel angle. Adjustable in steps of 9°. Material PA.
Article	Signal lamp adapter CS-2000 System 80	Fixed castors for large free-standing bases CS-2000 SL and CS-2000 System 80
Article number	9805189000	9806043000
		
Design	Easy-to-retrofit signal lamp adapter. Installation opening for signal lamp tubes with outside diameter of 25 mm, secured on side with setscrews. Colour: RAL 7035 light grey Material aluminium.	Complete with installation material and instructions for large free-standing bases. Set of 2.

CS-2000 SL Panel VESA 100/M4
9806677000


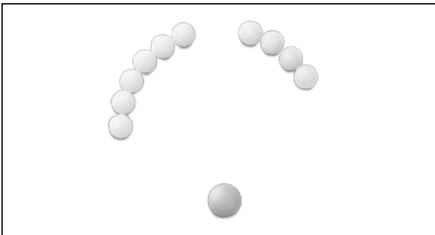
For rear attachment of monitors or similar with VESA 100 flange by means of CS-2000-SL panel couplings (with M4 thread for monitors)

CS-2000 SL Panel VESA 100/M6
9806698000


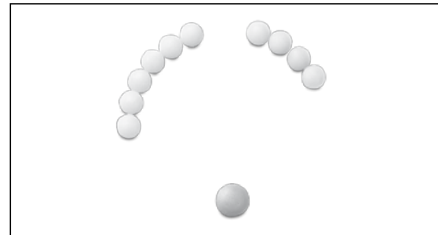
For rear attachment of monitors or similar with VESA 100 flange by means of CS-2000-SL panel couplings (with M4 thread for monitors)

Swivel angle limiter for wall and intermediate joints CS-2000 System 80
9805062000

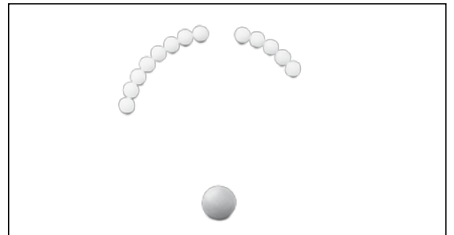

Swivel angle limiter as retrofittable accessory kit for wall and intermediate joints. Swivel angle range adjustable and fixed in steps of 15°. Material steel.

Swivel angle limiter for joint components System CS-2000 SL
9805132000


Easy-to-retrofit swivel angle limiter. After installation, the balls limit the swivel angle. Adjustable in steps of 14°. Material PA.

Swivel angle limiter for joint components CS-2000 System 80
9805177000


Easy-to-retrofit swivel angle limiter. After installation, the balls limit the swivel angle. Adjustable in steps of 8.5°. Material PA.

Swivel angle limiter for turn/tilt couplings System CS-2000 SL and CS-2000 System 80
9805130000


Easy-to-retrofit swivel angle limiter. After installation, the balls limit the swivel angle. Adjustable in steps of 8.5°. Material PA.

Swivel castors for large free-standing bases CS-2000 SL and CS-2000 System 80
9806044000


Complete with installation material and instructions for large free-standing bases. Set of 2.

Adjustment feet for large free-standing bases CS-2000 SL and CS-2000 System 80
9806045000


Complete with installation material and instructions for large free-standing bases. Set of 2.

Stainless Steel Enclosure CC-800

Stainless steel technology to the highest standards

An enclosure created to protect

Thanks to its specific, individual concept, the redesigned CC-800 range of stainless steel control enclosures provides maximum security for your applications.

It is ideally suited for use in applications where the use of stainless steel is a legal requirement.



Features such as high-quality workmanship, modern design and high-grade, durable material makes the CC-800 the first choice over enclosures made from other materials.

With BERNSTEIN customer service you can be sure that our CC-800 will provide the perfect solution to your specific application: We make your application requirements reality. And we can do a lot more for you: The combination of customer technology and BERNSTEIN stainless steel enclosures is the foundation for complete system integration. Special sizes, different surface finishes and suspension systems are only a few of the additional options that BERNSTEIN can realise for you.

Product features

- Various standard sizes
- Modern design
- Foam seals
- Including earthing material and mounting plates
- Protection class IP65
- Lock and hinges mounted laterally outside the protected area
- Reinforced seal frame for improved stability

Material

- Enclosure, including mounting plate and lock, stainless steel 1.4301, copper earthing strap

Surface finish

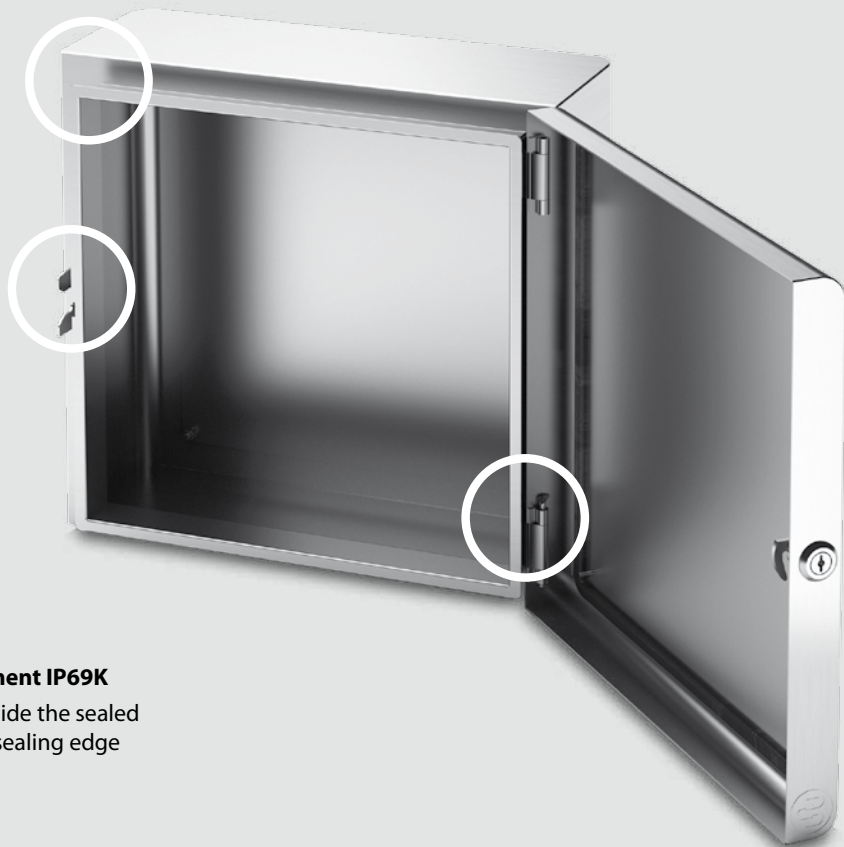
- Enclosure and front door, brushed finish, grain size 320

Available on request

- Special sizes
- Protection class IP66/IP69K
- Different surface finishes
- Wall mounting (e.g. with brackets)
- Special handles
- Additional components such as suspension systems, handles and keyboard shelf
- Alternative materials

Overview of IP classes (also refer to Page 17)

	1 st digit		2 nd digit
Protection class	Contact protection	Foreign body protection	Moisture protection
IP65	Complete contact protection	Protection against dust penetration, dustproof	Protection against hose water
IP66	Complete contact protection	Protection against dust penetration, dustproof	Protection against strong hose water
IP67	Complete contact protection	Protection against dust penetration, dustproof	Protection against the effect when temporarily submerged in water
IP69K	Complete contact protection	Protection against dust penetration, dustproof	Protection against water during high pressure/steam jet cleaning (as per DIN EN 40050, Part 9)



Minimum requirement IP69K

Lock and hinge outside the sealed area with all-round sealing edge

Article	Size in mm	Mounting plate dimensions (included in delivery specification)	Article number	Design
1 CC-800 control enclosure prepared for suspension system CS-480 NR	310 x 300 x 180	245 x 245 x 2	1801121000	Standard front door – attached on right, at top for suspension system
	410 x 350 x 180	345 x 295 x 2	1801122000	
	410 x 400 x 180	345 x 345 x 2	1801123000	
	510 x 400 x 180	445 x 345 x 2	1801124000	
	610 x 550 x 250	545 x 495 x 2	1801125000	
2 CC-800 control enclosure prepared for suspension system CS-600 NR	310 x 300 x 180	245 x 245 x 2	1801421000	
	410 x 350 x 180	345 x 295 x 2	1801422000	
	410 x 400 x 180	345 x 345 x 2	1801423000	
	510 x 400 x 180	445 x 345 x 2	1801424000	
	610 x 550 x 250	545 x 495 x 2	1801425000	

Stainless Steel Suspension System CS-480 NR

Product features

The CS-480 NR suspension system was specifically developed for mounting control enclosures in hygienic areas in the food and pharmaceuticals industries.

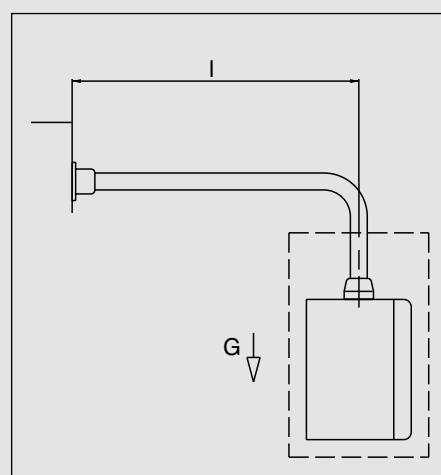
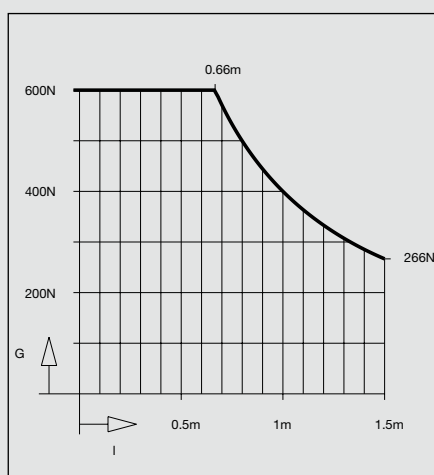
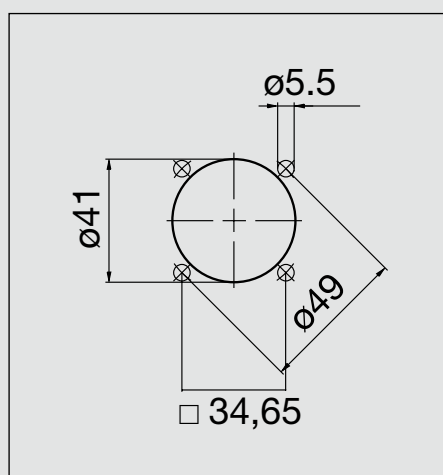
Thanks to the variety of different models, the CS-480 NR ensures absolute flexibility. You have the choice between a combination of tubes shaped to customer specifications and suspension system components or, if time is pressing, you can combine the pre-shaped tubes and coupling sleeves available from stock with the suspension system components.

System features

- Installation openings at bearing components with horizontal outlet
- Easy mounting by clamping the support tubes
- Load bearing capacity 400 N at 1 m
- Protection class IP66/NEMA 4X
- Material 1.4305
- Torque preset at factory

Enclosure preparation for mounting couplings

The dimensions of the coupling hole pattern for preparing the enclosure are shown in the following drawing.



Materials and surfaces

Stainless steel support tubes 1.4301
 Stainless steel components 1.4305
 Bearings POM
 O-rings NBR

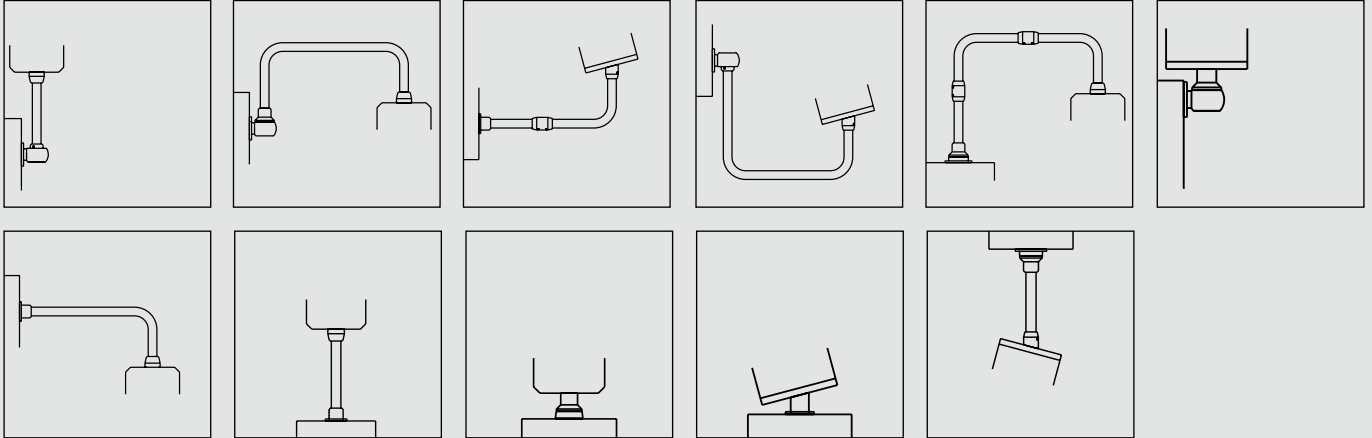
Load diagram

Refer to the diagram for the load bearing capacity of the CS-480 NR suspension system. Approval for higher loads is to be obtained separately. The system length l refers to the length specification in the diagram.

The overview on Pages 112/113 is designed to help you determine the load bearing capacity of all BERNSTEIN suspension systems.


System combinations

The following selection illustrates the high degree of flexibility that can be achieved in configuring the suspension system:




Support tubes

Support tubes with 48.3 mm outside diameter; wall thickness 3.6 mm, straight tubes

	Length mm	Article number
	250	9523501000
	500	9523502000
	750	9523503000
	1000	9523504000
	1250	9523505000
	1500	9523506000

Increased flexibility with L-shaped tubes and coupling sleeves

The use of L-shaped tubes and coupling sleeves together with straight support tubes can render unnecessary time-consuming manufacture of support tubes to customer specifications, L-shaped tubes

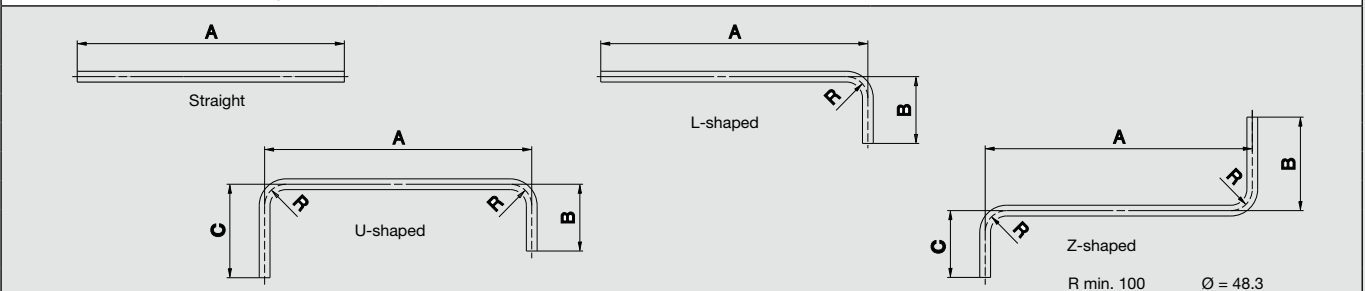
	250 x 250	9523500001
	500 x 500	9523500011
	Coupling sleeve	1013051200

Support tubes to customer specifications

Different versions of formed support tubes for the BERNSTEIN CS-480 NR suspension system are available on request. To order customised tubes simply quote the shape (e.g. straight, L-, U- or Z-shaped) and the dimensions.

Note:

Dimension B and C min. 220 mm; dimension A in U and Z version min. 320 mm

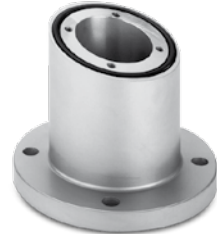


Stainless Steel Suspension System CS-480 NR

Article	Straight coupling (for attaching enclosure)	Tilt coupling (for attaching enclosure)
Article number	1013050100	1013050300



Details	Flange coupling for mounting enclosures. Angle of rotation 340° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals and mounting material.	Rigid flange coupling with 15° tilt for mounting enclosures. Complete with seals and mounting material.
Weight in g	1400	1000
Material	Stainless steel	Stainless steel
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Rotary base coupling, external mounting
1013050700
Rotary base coupling, internal mounting
1013050800
Base tilt coupling
1013050400


Rotary base coupling (external mounting) for directly mounting enclosures on machines or floors. Angle of rotation 340° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals and mounting material.

4500

Stainless steel

Rotary base coupling (internal mounting) for directly mounting enclosures on machines or floors. Angle of rotation 340° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals and mounting material.

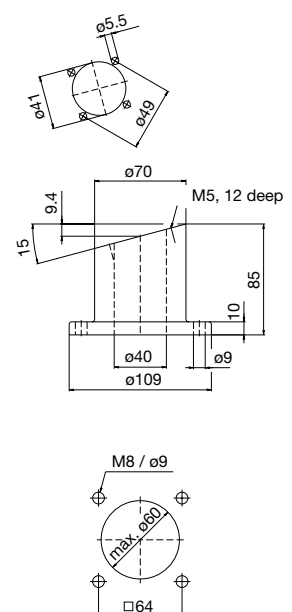
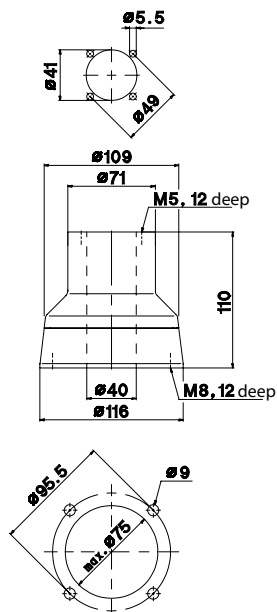
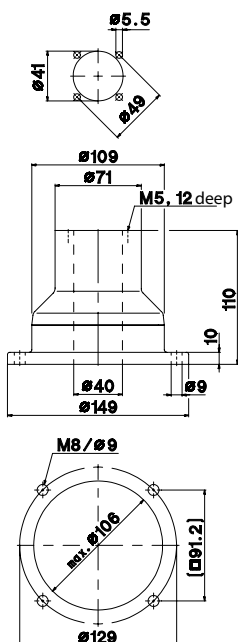
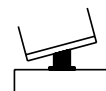
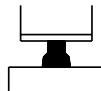
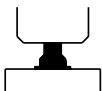
4100

Stainless steel

Rigid tilt coupling with 15° tilt for directly mounting enclosures on horizontal surfaces. Complete with seals and mounting material.

1900

Stainless steel



Stainless Steel Suspension System CS-480 NR

Article	Coupling sleeve	Wall joint S
Article number	1013051200	1013050900



Details	Coupling sleeve for easy assembly and disassembly of tube configurations. Complete with seals.	Wall joint with vertical outlet for mounting on vertical surfaces. Cover for easy cable installation. Angle of rotation 340° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals.
Weight in g	1500	7300
Material	Stainless steel	Stainless steel
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Wall coupling S
1013051000

Wall bracket S
1013051100

Rotary base socket, external mounting
1013050500


Rotary wall coupling for directly mounting on vertical machine surfaces. Angle of rotation 340° with limit stop. Cover for easy cable installation. Preset torque. Maintenance-free bearings. Complete with seals and mounting material.

7300

Stainless steel

Wall bracket with vertical outlet for mounting on vertical surfaces. Cover for easy cable installation. Complete with seals.

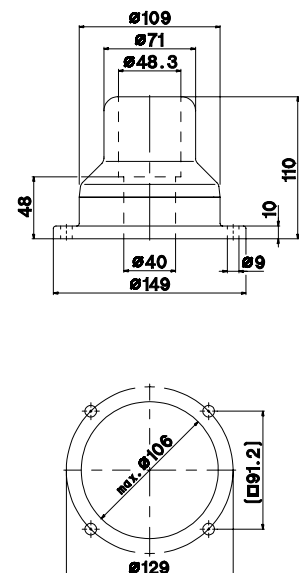
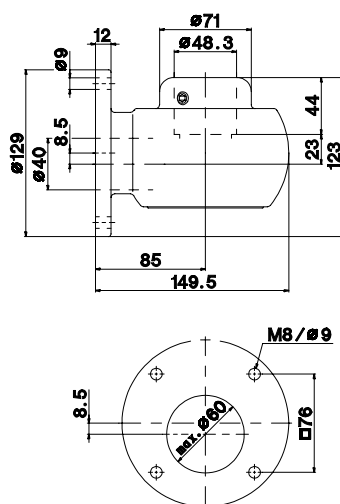
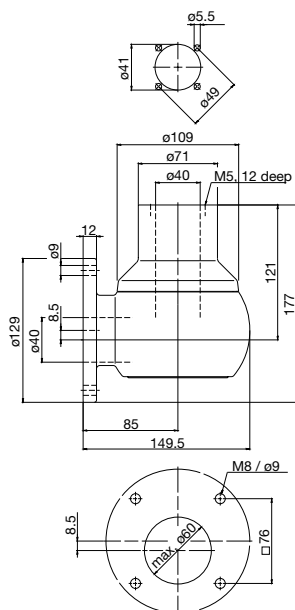
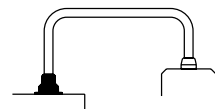
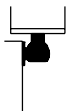
7700

Stainless steel

Rotary base for mounting on machines or floors. Angle of rotation 340° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals.

4200

Stainless steel



Stainless Steel Suspension System CS-480 NR

Article	Rotary base socket, internal mounting	Base/wall flange
Article number	1013050600	1013050200



Details	Rotary base for mounting on machines or floors. Angle of rotation 340° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals.	Base or wall flange for mounting on horizontal and vertical surfaces. Complete with seals.
Weight in g	3800	1400
Material	Stainless steel	Stainless steel
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Stainless Steel Suspension System CS-600 NR

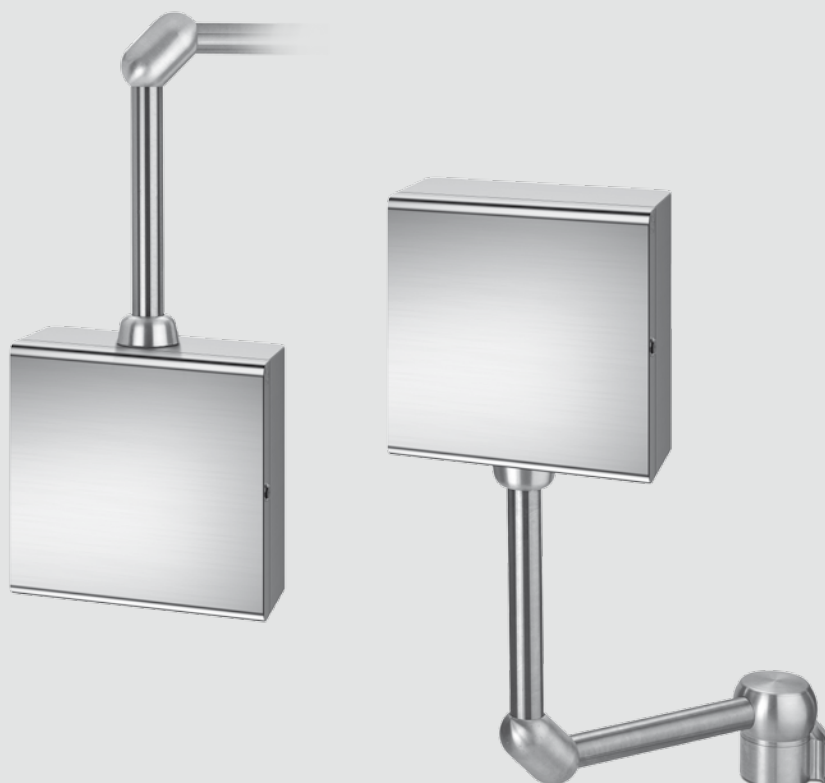
Product features

The CS-600 NR suspension system was specifically designed for mounting control enclosures in hygienic areas in the food and pharmaceuticals industries.

Compared to the conventional suspension systems, the CS-600 NR is characterised by its outstanding suitability for hygiene applications and its flexible modular concept.

The CS-600 NR makes it possible to mount units at an angle without the need for formed tubes, thus rendering time-consuming procurement of specially formed support tubes unnecessary.

The user can build up the modular suspension system easily, flexibly and variably from individual components available from stock.

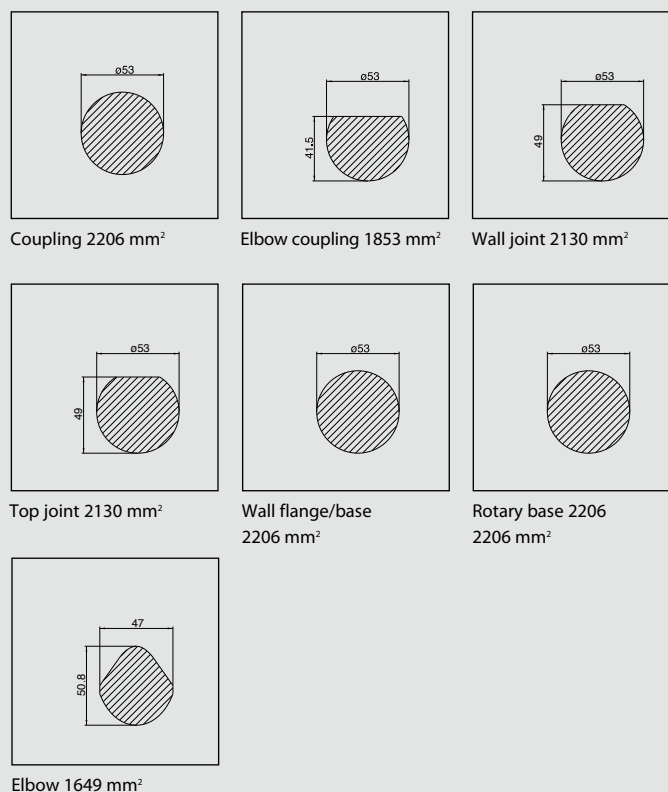


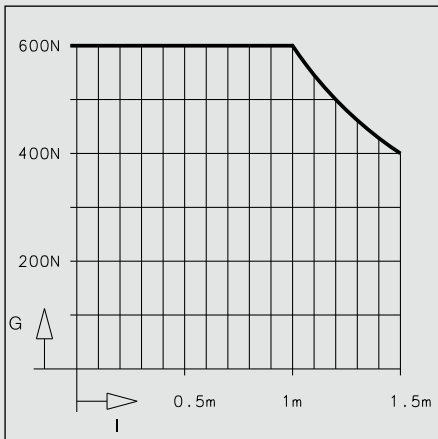
System advantages

- Installation openings at bearing components with horizontal outlet
- No external screws or dirt-collecting edges – ideal for cleaning
- Easy mounting by clamping the support tubes
- All components vibration-protected
- Load bearing capacity 600 N at 1 m
- Protection class IP66/NEMA 4X
- Torque preset at factory
- Modern design
- Diverse range of components for unlimited combination options
- Choice of component materials: stainless steel 1.4305 or anodised aluminium

Cable leadthrough

Due to different cross sections, the various suspension system components have available varying degrees of space. The dimensioned openings at the narrowest point within the components are specified below.





Load diagram

The diagram shows the load bearing capacity of the CS-600 NR suspension system

The system length (l) refers to the length specification in the diagram.

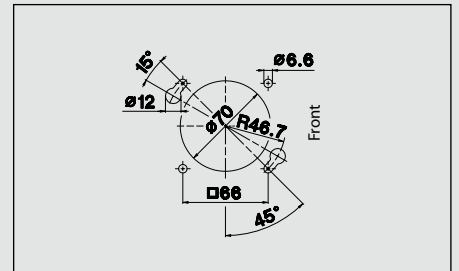
The overview on Pages 112/113 is designed to help you determine the load bearing capacity of all BERNSTEIN suspension systems.

Enclosure preparation for mounting couplings

The dimensions of the coupling hole pattern for preparing the enclosure are shown in the drawing opposite.

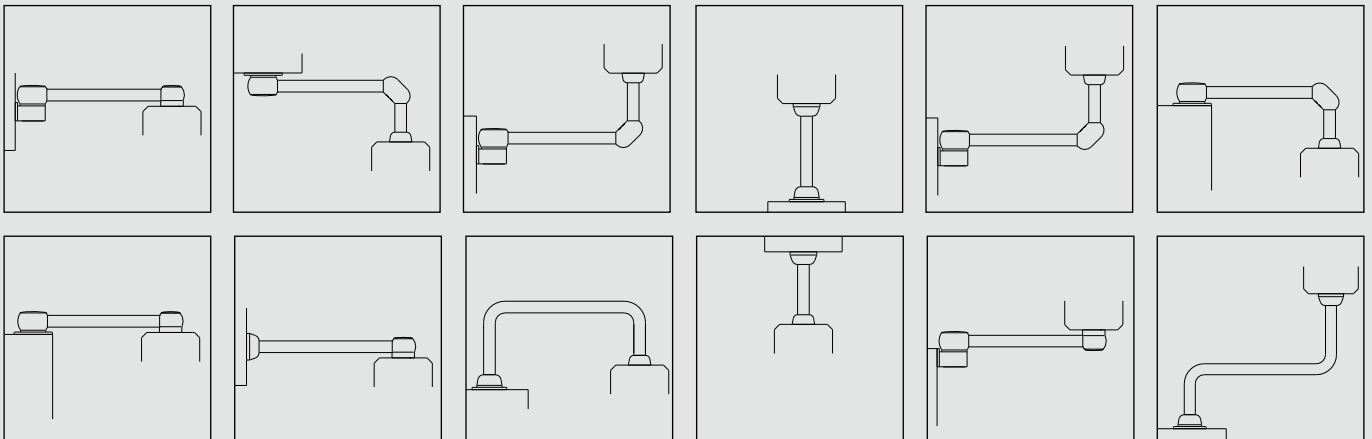
Materials and surfaces

Stainless steel support tubes	1.4301
Aluminium components	AlMgSi 1
Stainless steel components	1.4305
Bearings	POM
O-rings	NBR




System combinations

The following selection illustrates the high degree of flexibility that can be achieved in configuring the suspension system:



Support tubes

Stainless steel support tubes, 60.3mm outside diameter, wall thickness 3.6mm

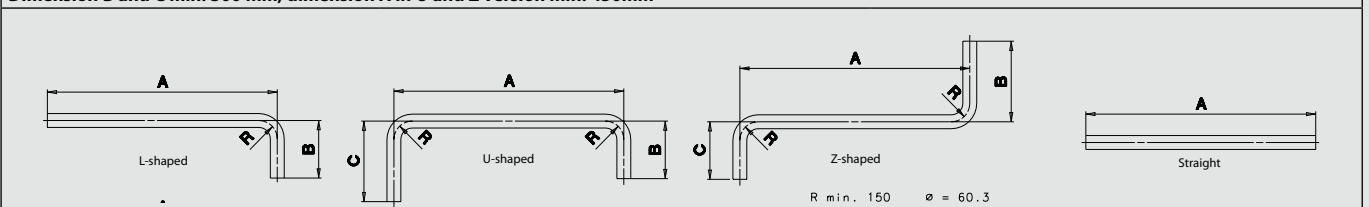
	Length mm	Article number
	250	9523001000
	500	9523002000
	750	9523003000
	1000	9523004000
	1250	9523005000
	1500	9523006000

Support tubes to customer specifications

Different versions of formed support tubes for the BERNSTEIN CS-600 NR suspension system are available on request. To order customised tubes simply quote the shape (e.g. straight, L-, U- or Z-shaped) and the dimensions.

Note:

Dimension B and C min. 300 mm; dimension A in U and Z version min. 450mm



Stainless Steel Suspension System CS-600 NR

Article	Straight coupling (for attaching enclosure)	Elbow coupling (for attaching enclosure)
Article number	1014050100	1014050200



Details	Flange coupling for mounting enclosures. Angle of rotation 300° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals and mounting material.	Flange elbow coupling for mounting enclosures. Installation opening cover seals off the screws hygiene-safe. Angle of rotation 300° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals and mounting material.
Weight in g	2180	6520
Material	Stainless steel	Stainless steel
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Stainless Steel Suspension System CS-600 NR

Article	Rotary base socket, external mounting	Rotary base socket, internal mounting
Article number	1014050400	1014051500



Details	Rotary base for mounting on machines or floors. Angle of rotation 300° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals.	Rotary base for mounting on machines or floors. Angle of rotation 300° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals.
Weight in g	5720	6020
Material	Stainless steel	Stainless steel
Accessories (retrofitable)		
Application example		
Dimensions in mm		

Wall joint
1014050500
Wall flange/base
1014050300


Wall joint for mounting on horizontal surfaces. Installation opening cover seals off the screws hygiene-safe. Angle of rotation 300° with limit stop. Preset torque. Maintenance-free bearings. Complete with seals.

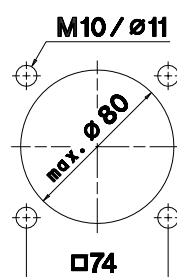
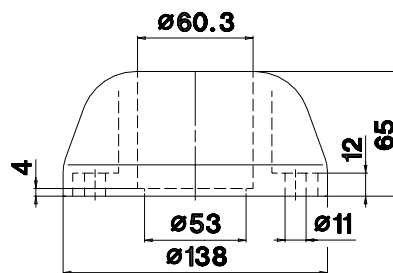
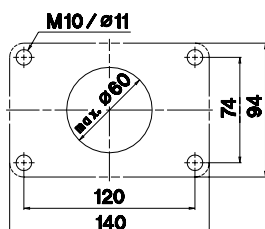
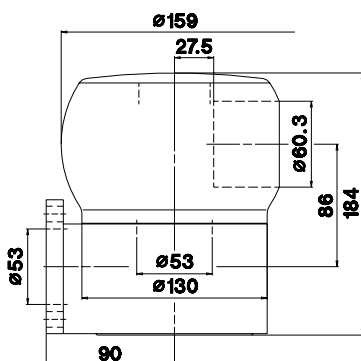
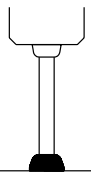
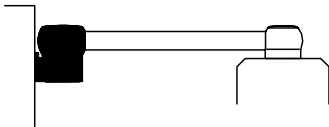
15990

Stainless steel

Wall flange or base for mounting on horizontal and vertical surfaces. Complete with seals.

3700

Stainless steel





**Switch systems –
Economy meets safety**



**Sensor systems –
Compact intelligence**



**Enclosure systems –
Function and design**

www.bernstein.eu

Contact

**International Headquarters
BERNSTEIN AG**
Tieloser Weg 6
32457 Porta Westfalica
Tel. +49 571 793-0
Fax +49 571 793-555
info@de.bernstein.eu
www.bernstein.eu

**Denmark
BERNSTEIN A/S**
Tel. +45 7020 0522
Fax +45 7020 0177
info@dk.bernstein.eu

**France
BERNSTEIN S.A.R.L.**
Tel. +33 1 64 66 32 50
Fax +33 1 64 66 10 02
info@fr.bernstein.eu

**Netherlands
BERNSTEIN BV**
Tel. +31 314 366088
Fax +31 314 361256
info@nl.bernstein.eu

**Italy
BERNSTEIN S.r.l.**
Tel. +39 035 4549037
Fax +39 035 4549647
info@it.bernstein.eu

**United Kingdom
BERNSTEIN Ltd.**
Tel. +44 1922 744999
Fax +44 1922 457555
info@uk.bernstein.eu

**Austria
BERNSTEIN GmbH**
Tel. +43 2256 62070-0
Fax +43 2256 62618
info@at.bernstein.eu

**Switzerland
BERNSTEIN (Schweiz) AG**
Tel. +41 44 775 71-71
Fax +41 44 775 71-72
info@ch.bernstein.eu

**China
BERNSTEIN Safe Solutions
(Taicang) Co., Ltd.**
Tel. +86 512 81608180
Fax +86 512 81608181
info@bernstein-safesolutions.cn

**Hungary
BERNSTEIN Kft.**
Tel. +36 1 4342295
Fax +36 1 4342299
info@hu.bernstein.eu

Service Hotlines:
For products: +49 571 793-3000
For orders: +49 571 793-3010