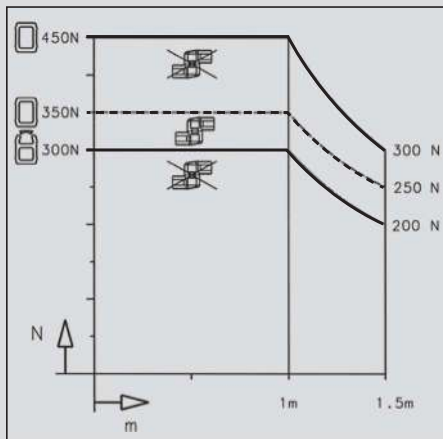


Light-Duty Suspension System CS-2000 SL 45 / 60

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 version in white aluminium RAL 9006 is now available that elegantly complements our CC-3000, CC-4000 / CC-4000 SL and CC-5000 neXt 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 114 / 115 is designed to help you determine the load bearing capacity of all BERNSTEIN suspension systems.



CS-2000 SL Standard
RAL 7035 light grey or
RAL 9006 white aluminium

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: white aluminium RAL 9006
- Connecting section:
silver (natural) anodised

System features

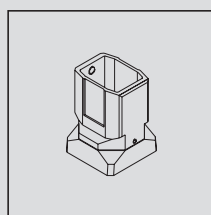
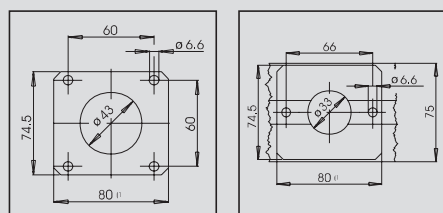
Installation opening at all joints

- 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
- Protection class IP65 (closed aluminium connection section)

Enclosure preparation for mounting couplings

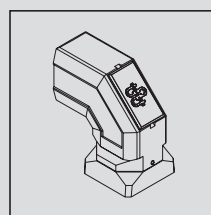
The geometry of the flange on the straight coupling and on the elbow coupling makes it possible to mount even extremely narrow enclosures. Two centrally arranged threads, with which the coupling is secured to narrow enclosures, are additionally provided for this purpose.

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).



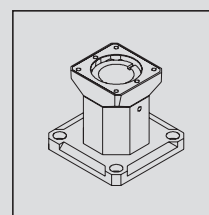
Straight coupling

Article number
1015163000
1015328000



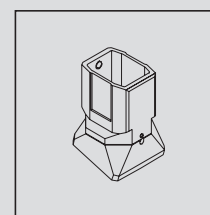
Elbow coupling

Article number
1015165000
1015329000



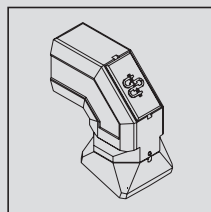
Base coupling

Article number
1015167000
1015343000



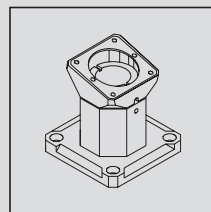
Tilt coupling

Article number
1015164000
1015330000



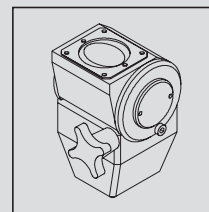
Tilt elbow coupling

Article number
1015166000
1015331000



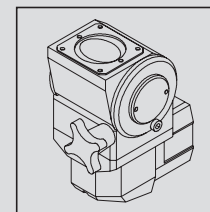
Tilt base coupling

Article number
1015168000
1015344000



Turn / tilt coupling

Article number
1015169000
1015332000

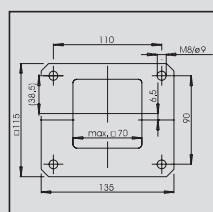


Turn / tilt elbow coupling

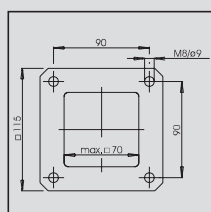
Article number
1015170000
1015333000

Machining mounting surfaces for suspension systems

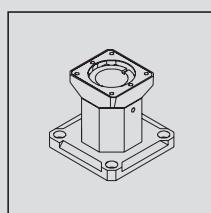
The various elements of the suspension systems can be mounted on walls or floors as well as on or at machines and systems. The corresponding machining drawings for the individual components of the suspension system are shown here.



Wall joints

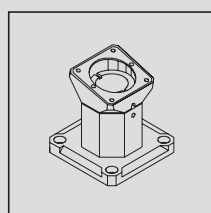


Base and top joint components



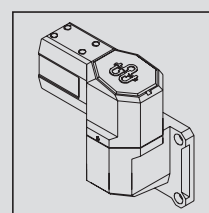
Base coupling

Article number
1015167000
1015343000



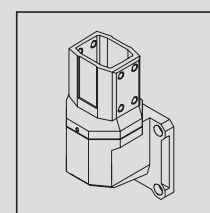
Tilt base coupling

Article number
1015168000
1015344000



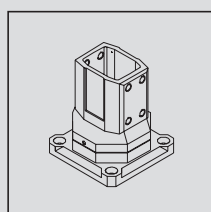
Wall joint, horizontal outlet

Article number
1015176000
1015339000



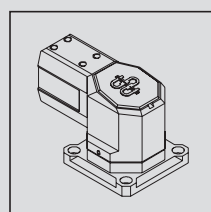
Wall joint, vertical outlet

Article number
1015177000
1015338000



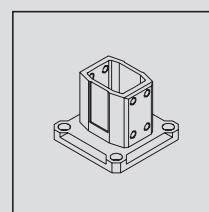
Rotary base

Article number
1015178000
1015341000



Top joint

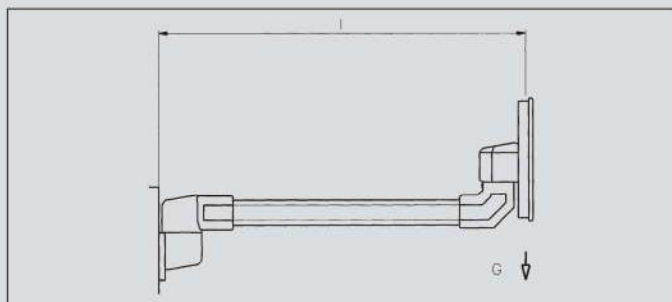
Article number
1015175000
1015340000



Base / wall flange

Article number
1015179000
1015342000

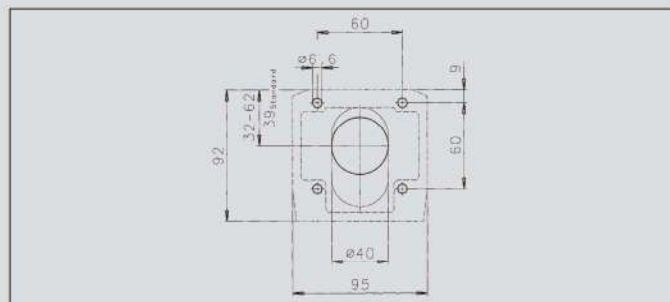
Light-Duty Suspension System CS-2000 SL 45 / 60



Load, panel components

Mechanical properties

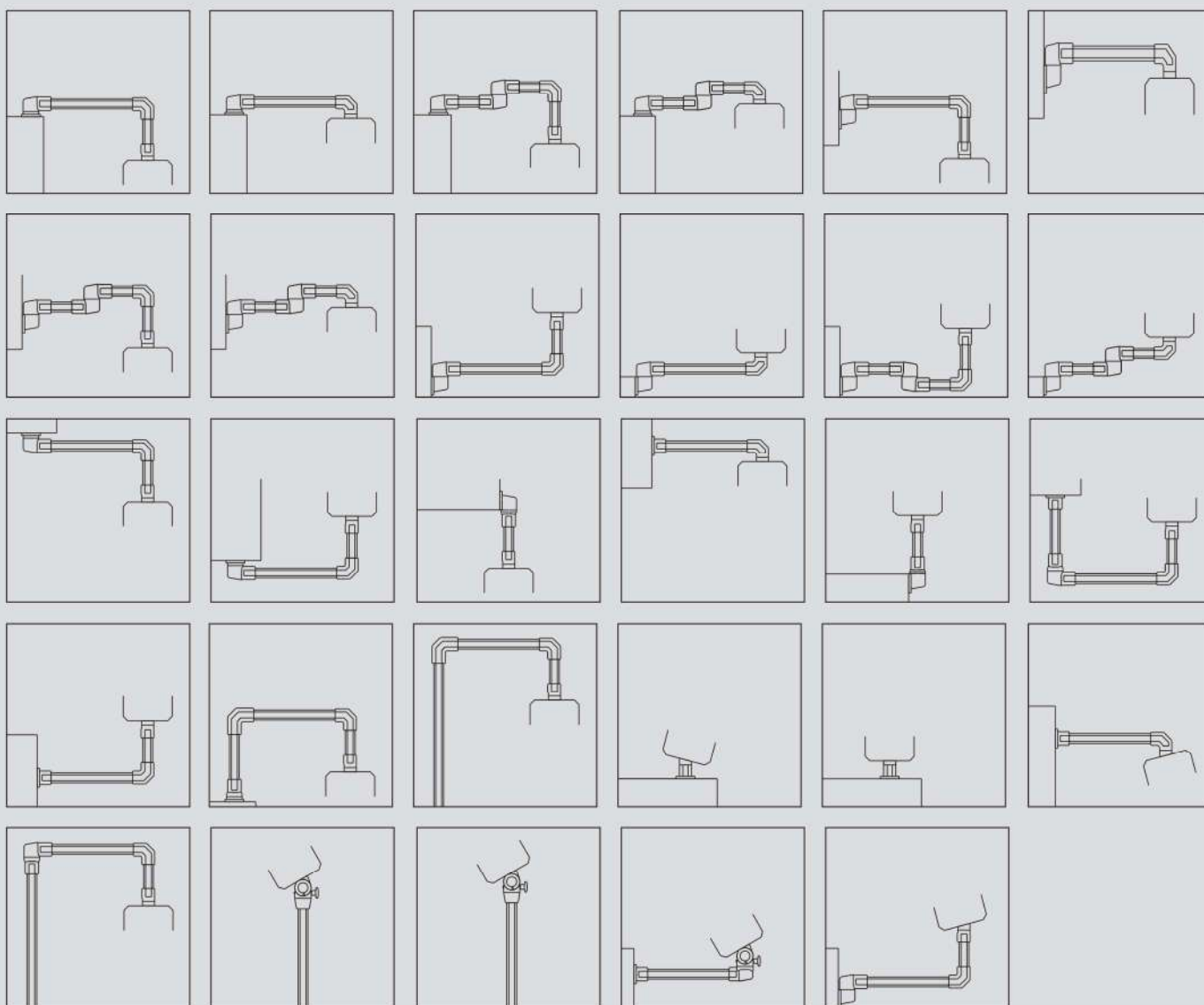
Max. load G	250 N
Max. System length L	1500 mm



Drawing for preparing enclosure rear panel
for attaching panel couplings

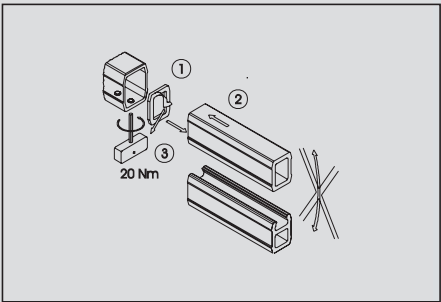
System combinations

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



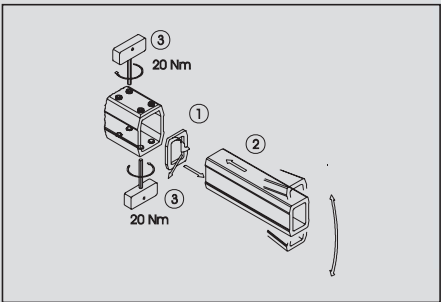
Connecting Section CS-2000 SL 45 / 60

Assembling the connecting sections



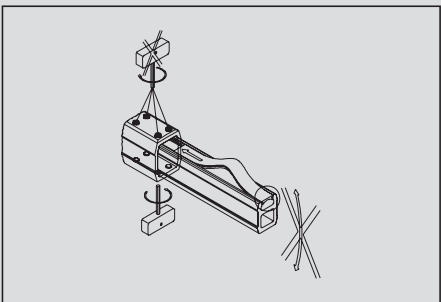
[A] Open or closed section in straight coupling and elbow coupling:

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



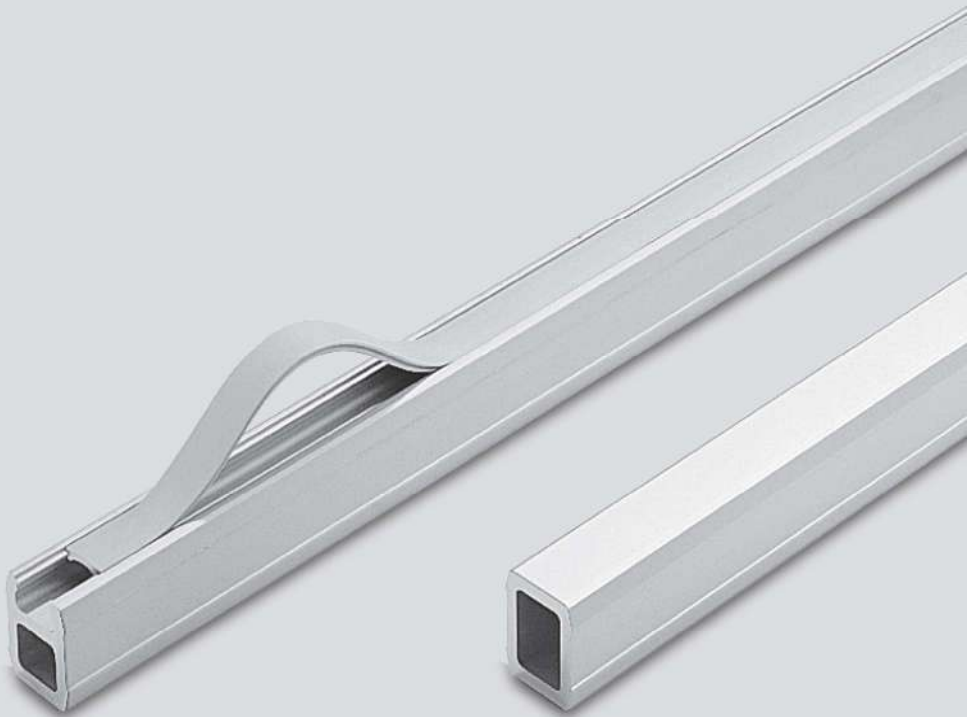
[B] Closed section in suspension system components with eight mounting screws:

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.

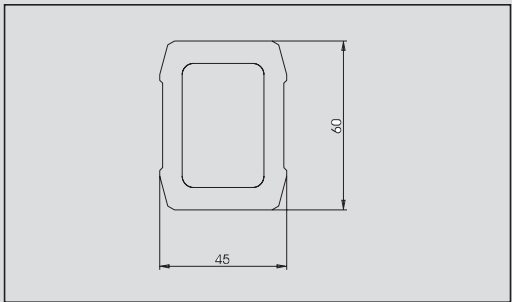
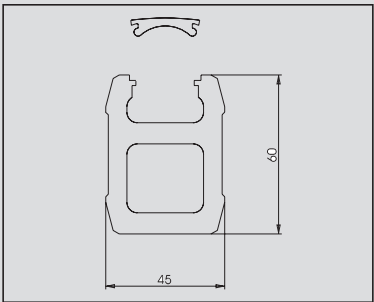


Connecting sections

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	Weights in kg
45 x 60 x 250	9524301000	0.90
45 x 60 x 500	9524302000	1.80
45 x 60 x 750	9524303000	2.60
45 x 60 x 1000	9524304000	3.50
45 x 60 x 1250	9524305000	4.40
45 x 60 x 1500	9524306000	5.20
45 x 60 x 2000	9524308000	6.90



You will find an aid for selecting the load bearing capacity on pages 114 / 115.

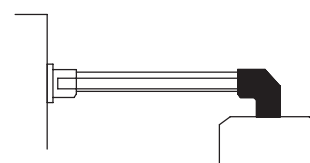
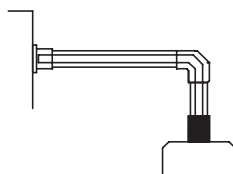
Light-Duty Suspension System CS-2000 SL 45 / 60

Article		Straight coupling CS-2000 SL		Elbow coupling CS-2000 SL	
Article number	(colour)	1015163000	RAL 7035 light grey	1015165000	RAL 7035 light grey
		1015369000	RAL 9006 white aluminium	1015370000	RAL 9006 white aluminium

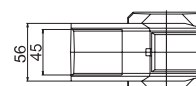
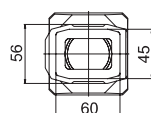
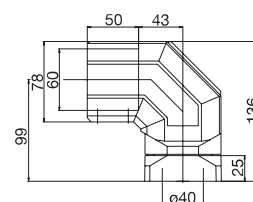
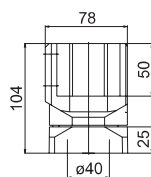
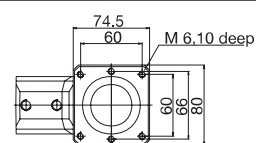
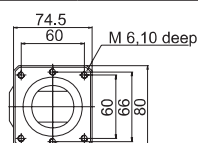


Details	Angle of rotation 300° with stop. Complete with installation material and seals	Installation opening with snap-on plastic cover. Angle of rotation 300° with stop. Complete with installation material and seals
Weight in g	740	960
Material	Aluminium	Aluminium
Accessories (retrofitable) see pages 166 / 167	Swivel angle limiter 9805129000	Swivel angle limiter 9805129000

Application example



Dimensions in mm



CAD files available
at www.bernstein.eu

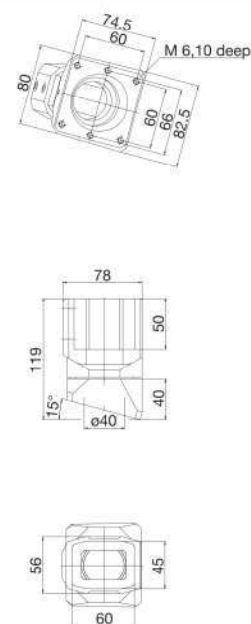
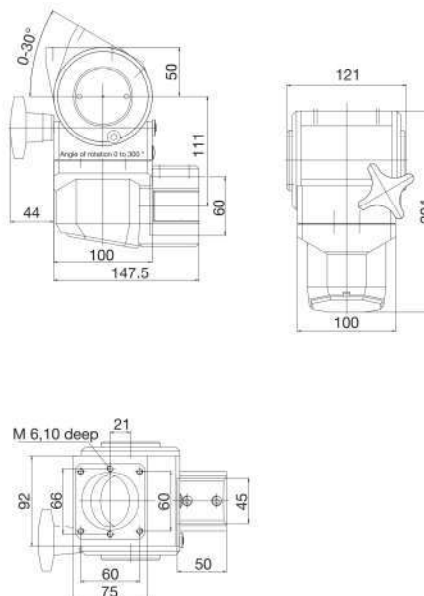
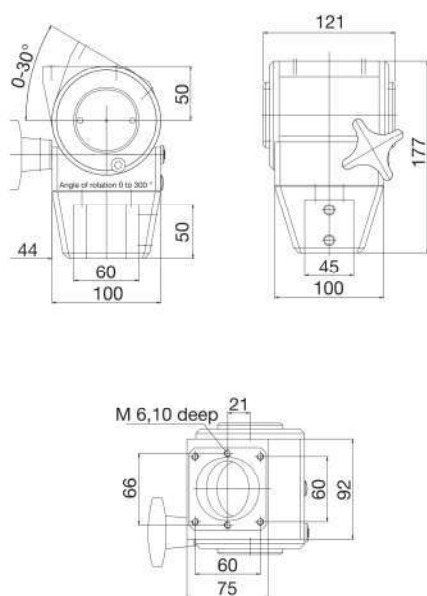
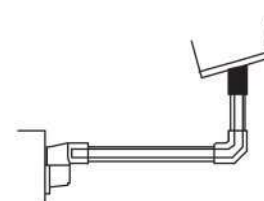
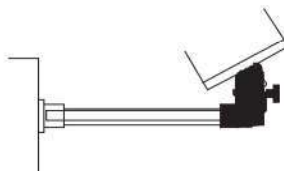
Turn / tilt coupling CS-2000 SL		Turn / tilt elbow coupling CS-2000 SL		Tilt coupling CS-2000 SL	
1015169000	RAL 7035 light grey	1015170000	RAL 7035 light grey	1015164000	RAL 7035 light grey
1015371000	RAL 9006 white aluminium	1015372000	RAL 9006 white aluminium	1015373000	RAL 9006 white aluminium



Angle of rotation 300° with stop. Infinitely variable inclination from 0 to 30°. Complete with installation material and seals. Enclosure max. 300 N	Angle of rotation 300° with stop. Infinitely variable inclination from 0 to 30°. Complete with installation material and seals. Enclosure max. 300 N	Tilt angle 15°. Angle of rotation 300° with stop. Complete with installation material and seals
--	--	---

3000	3300	1100
Aluminium	Aluminium	Aluminium

Swivel angle limiter	9805130000	Swivel angle limiter	9805130000	Swivel angle limiter	9805129000
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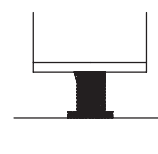
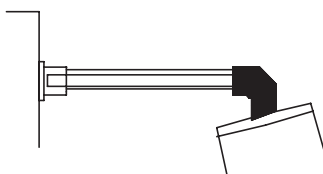
Light-Duty Suspension System CS-2000 SL 45 / 60

Article		Tilt elbow coupling CS-2000 SL		Base coupling CS-2000 SL	
Article number	(colour)	1015166000	RAL 7035 light grey	1015167000	RAL 7035 light grey
		1015374000	RAL 9006 white aluminium	1015375000	RAL 9006 white aluminium



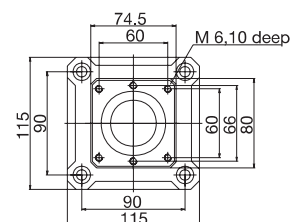
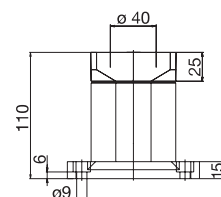
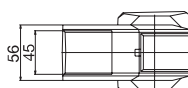
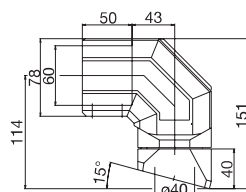
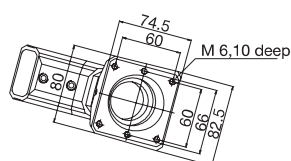
Details	Tilt angle 15°. Installation opening with snap-on plastic cover. Angle of rotation 300° with stop. Complete with installation material and seals	Angle of rotation 300° with stop. Complete with installation material for enclosure and seals
Weight in g	1400	1180
Material	Aluminium	Aluminium
Accessories (retrofitable) see pages 166 / 167	Swivel angle limiter 9805129000	Swivel angle limiter 9805129000

Application example



Dimensions in mm

CAD files available
at www.bernstein.eu



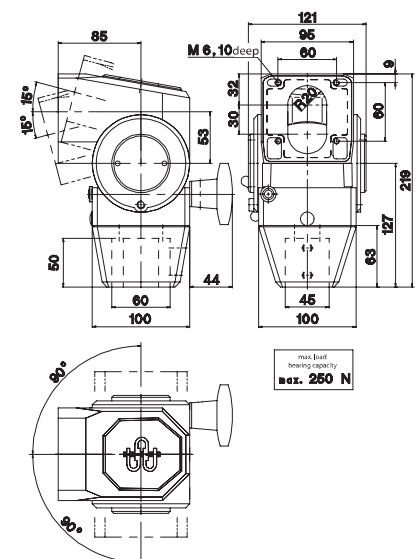
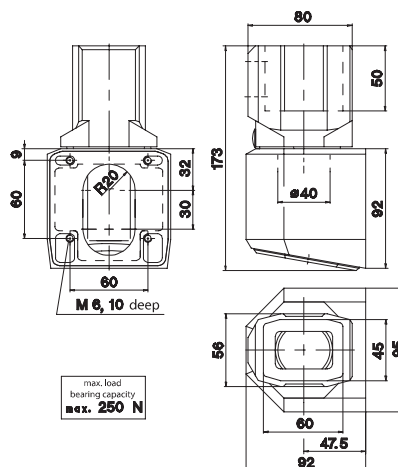
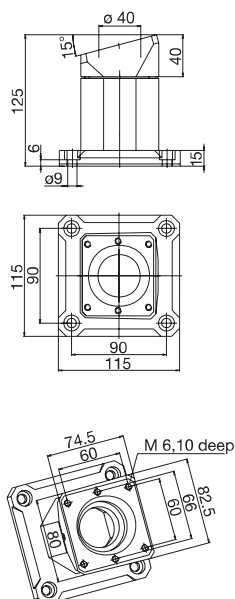
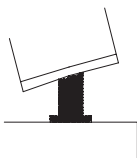
Tilt base coupling CS-2000 SL		Panel coupling		Panel turn / tilt coupling S	
1015168000	RAL 7035 light grey	1015232000	RAL 7035 light grey	1015235000	RAL 7035 light grey
1015376000	RAL 9006 white aluminium	1015377000	RAL 9006 white aluminium	1015378000	RAL 9006 white aluminium



Angle of rotation 300° with stop. Fixed inclination of 15°. Complete with installation material for enclosure and seals	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
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1200	3000	3400
Aluminium	Aluminium	Aluminium

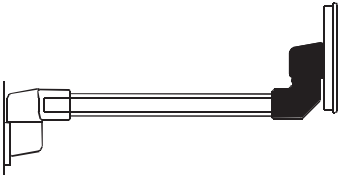
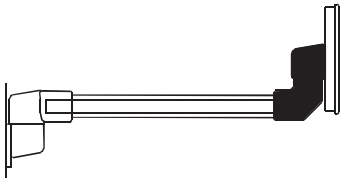
Swivel angle limiter	9805129000	
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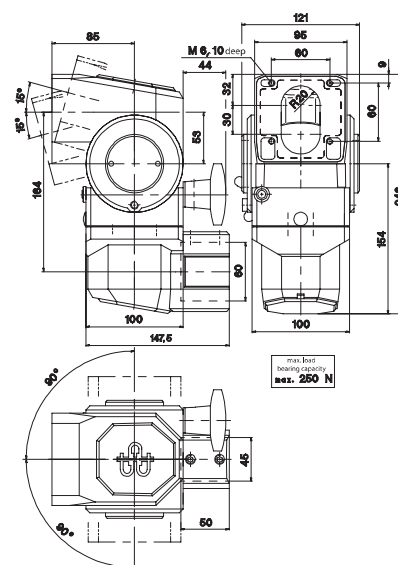
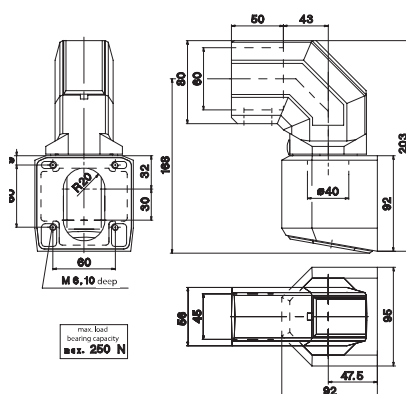
Light-Duty Suspension System CS-2000 SL 45 / 60

Article		Panel elbow coupling		Panel tilt / turn elbow coupling W	
Article number	(colour)	1015233000	RAL 7035 light grey	1015236000	RAL 7035 light grey
		1015379000	RAL 9006 white aluminium	1015380000	RAL 9006 white aluminium



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) see pages 166 / 167		
Application example		
Dimensions in mm		

**CAD files available
at www.bernstein.eu**



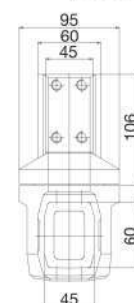
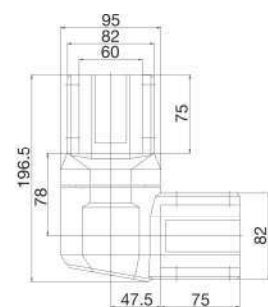
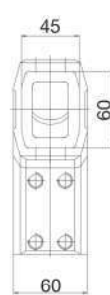
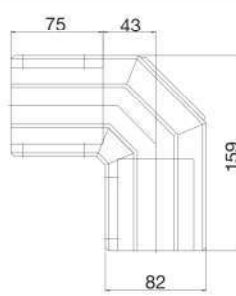
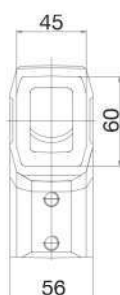
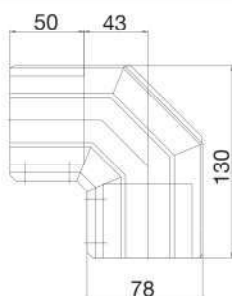
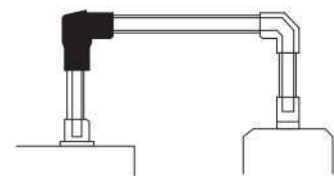
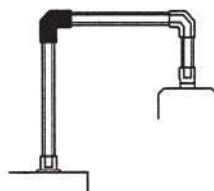
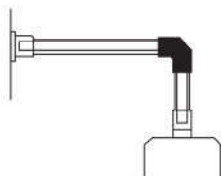
Elbow CS-2000 SL		Elbow for torque load CS-2000 SL		Plug-on joint CS-2000 SL	
1015171000	RAL 7035 light grey	1015172000	RAL 7035 light grey	1015173000	RAL 7035 light grey
1015381000	RAL 9006 white aluminium	1015382000	RAL 9006 white aluminium	1015383000	RAL 9006 white aluminium



Installation opening with snap-on plastic cover. Complete with seals	Increased wall strength. Adjustment facility. Installation opening with snap-on plastic cover. Complete with seals	Swivel angle 300° with stop. Installation opening with snap-on plastic cover. Complete with seals
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590	1000	1850
Aluminium	Aluminium	Aluminium

		Swivel angle limiter 9805132000
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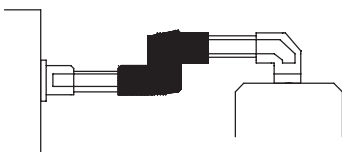
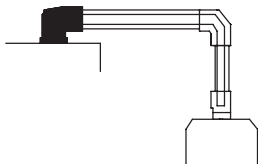


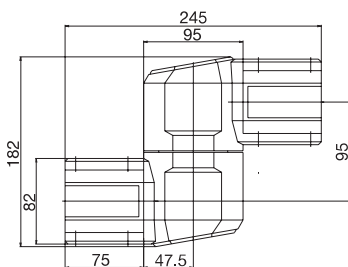
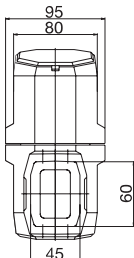
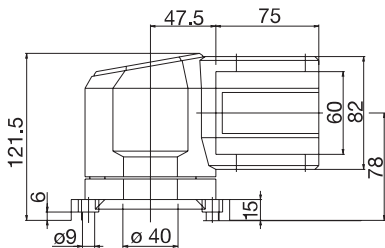
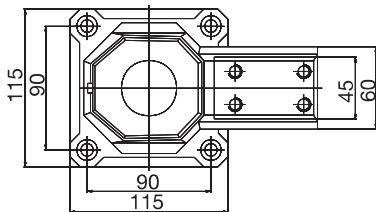
Light-Duty Suspension System CS-2000 SL 45 / 60

Article		Intermediate joint CS-2000 SL		Top joint CS-2000 SL	
Article number	(colour)	1015174000	RAL 7035 light grey	1015175000	RAL 7035 light grey
		1015384000	RAL 9006 white aluminium	1015385000	RAL 9006 white aluminium



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
see pages 166 / 167		

Application example		
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Dimensions in mm	 	 
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CAD files available
at www.bernstein.eu

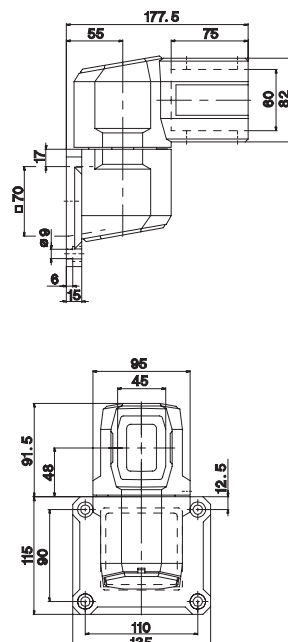
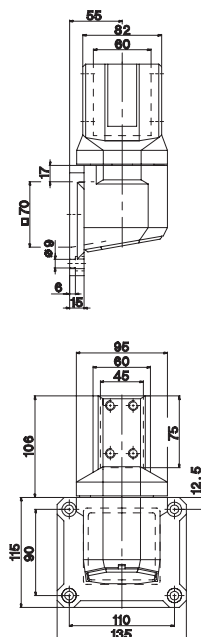
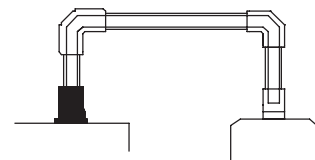
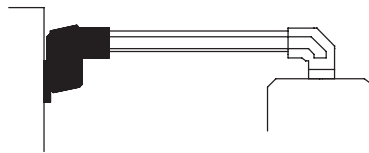
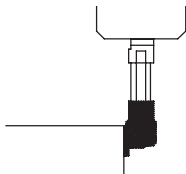
Wall joint, vertical outlet CS-2000 SL		Wall joint, horizontal outlet CS-2000 SL		Base, rotary CS-2000 SL	
1015177000	RAL 7035 light grey	1015176000	RAL 7035 light grey	1015178000	RAL 7035 light grey
1015386000	RAL 9006 white aluminium	1015387000	RAL 9006 white aluminium	1015388000	RAL 9006 white aluminium



Swivel angle 300° with stop. Adjustment facility. Installation opening with snap-on plastic cover. Complete with seals	Swivel angle 300° with stop. Adjustment facility. Installation opening with snap-on plastic cover. Complete with seals	Angle of rotation 300° with stop Adjustment facility. Complete with seals
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1840	2090	1460
Aluminium	Aluminium	Aluminium

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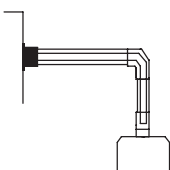
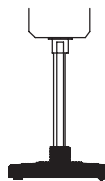


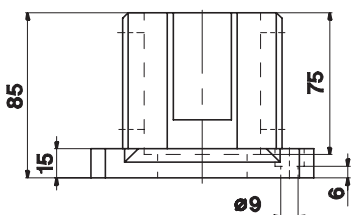
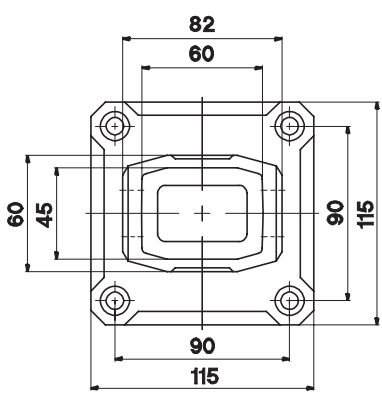
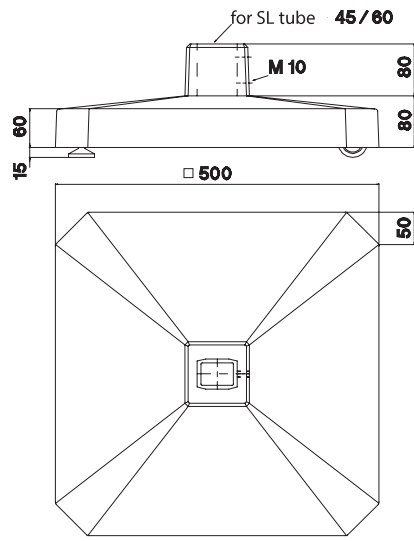
Light-Duty Suspension System CS-2000 SL 45 / 60

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
		1015389000	RAL 9006 white aluminium	1015390000	RAL 9006 white aluminium



Details	Adjustment facility. Complete with seals	Base for free-standing applications
Weight in g	690	11820
Material	Aluminium	Aluminium
Accessories (retrofitable)		Castors and support feet see page 167

Application example		
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Dimensions in mm	 	
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CAD files available
at www.bernstein.eu