



ROSE

A Phoenix Mecano Company



OPERATING AND DISPLAY ENCLOSURES



In 1969 ROSE Systemtechnik GmbH was founded in Porta Westfalica, Germany. Today ROSE is one of the world's leading and innovative providers of industrial enclosure system engineering, employing over 350 people at the German headquarter.

In association with Phoenix Mecano AG, Switzerland, we develop and manufacture high-quality industrial enclosures and system solutions for areas such as mechanical and plant engineering, automation engineering, potentially explosive atmospheres, instrumentation, control and automation technology, as well as the foodstuff and beverage industry.

Our product range comprises the following:

- Standard industrial enclosures made of aluminum, stainless steel and plastics for individual installations of electrical connection technology and electronic components.
- Operating and display enclosures based on aluminum profile systems and stainless steel materials for HMI applications with industrial PCs, PLC control systems and visualization units, including suspension systems.
- Components for explosion protection with junction boxes and control stations for worldwide use in potentially explosive atmospheres, as well as the petrochemical and chemical industry in both onshore and offshore environments.

Our business success is based on a wide range of products, a high quality standard, constant innovation and an exceptional level of service. You decide the condition of delivery – the un-machined enclosure, a partial assembly or a completely assembled and tested customized system solution.

Take advantage of our worldwide sales and marketing network for your international projects.



Due to their variable profile structure, ROSE operating and display enclosures are flexible in terms of height and width.

A wide selection of different profile depths offers the required space for your installations.

ROSE suspension systems made of aluminium profile offer the same flexibility.

They are available in both standard and customised lengths.

Your benefit: we provide you with your customized solution starting at 1 item - quick, cost effective and reliable.

You decide what we can do for you!

We offer you all the options – from individual components, to completely assembled and fitted combinations of operating enclosures and suspension systems.

Individual Executions based on your CI concept are no problem for us.

We would be pleased to support you - starting with the design up to the complete system, including testing and approval.

Our operating and display enclosures and suspension systems correspond to the current state of technology. Furthermore, our operating enclosures show all necessary approvals including UL approval for use in the US. Our enclosures are listed in almost all operating equipment regulations of renowned automotive manufacturers both within Germany and worldwide.



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General technical information

Enclosure selection criteria

Enclosures are generally required to protect the installed equipment from external hazards. These hazards can be varied in nature and are of decisive significance when determining the criteria for the choice of an enclosure.

Essential for appraising whether an enclosure meets safety requirements is a precise definition of the hazards expected at an installation location. The most important conditions to consider are the following:

1. Protection against contact and penetration of foreign bodies
2. Protection against water penetration
3. Protection against internal and external radio interference
4. Chemical resistance
5. Temperature stability
6. Impact resistance
7. Corrosion resistance

Enclosure ratings

ROSE enclosures are classified in enclosure rating in accordance with the generally applicable guidelines contained in EN 60529 and IEC 144.

The enclosure rating is indicated by an abbreviation, which is always composed of the two letters IP and two digits relating to the protection level.

Protection class for contact and foreign bodies protection

First digit	Designation
0	No protection
1	Protection against large foreign bodies
2	Protection against medium-sized foreign bodies
3	Protection against small foreign bodies
4	Protection against granular foreign bodies
5	Protection against dust deposits
6	Protection against dust entry

Water protection class

Second digit	Designation
0	No protection
1	Protection against vertical falling drip water
2	Protection against obliquely falling drip water
3	Protection against water spray
4	Protection against splashing water
5	Protection against water jets
6	Protection when flooded
7	Protection when immersed
8	Protection when submerged

Note: The enclosure ratings given apply to unmodified enclosures as supplied. Wear and tear and temperature fluctuations may lead to a reduction in the enclosure rating.

Temperature stability

The definition of temperature stability for enclosures is based on the maximum continuous temperature at which the enclosure remains dimensionally stable and the enclosure rating remains guaranteed. The permissible brief peak temperatures are often considerably higher.

Corrosion resistance of aluminium enclosures

The corrosion resistance of aluminium enclosures is rated as good, even without special surface treatment. The use of special aluminium alloys with low copper content increases the corrosion resistance. Additional treatments including

- chromating
 - lacquering (powder coating) and
 - the combination of chromating and lacquering
- further increase corrosion resistance.

We offer the following for critical external areas:

SWB Execution (seawater-resistant):

Purified - chromated - powder-coated

Standard colour RAL 5009, other colours on request.

For application areas with extreme UV radiation we recommend coating with a special Polyester powder.

SBG/SBGL Execution only for wet painting processes

SBG = Purified - alodine-primed

SBGL = Purified - alodine-primed - painted

General technical information

Chemical resistance enclosure materials

Chemicals	Aluminium	Stainless steel	Polycarbonate	Polyester	Polystyrene	Polyamide
Acetone	+	+	-	-	-	•
Formic acid	•	+	30 %	10 %	•	-
Ammonia	+	+	-	-	+	20 %
Petrol	+	+	•	+	•	+
Benzene	+	+	-	+	-	-
Brake fluid	/	/	-	+	/	60°
Butane	+	/	+	/	-	+
Butanol	/	/	/	+	/	+
Calcium chloride	+	+	+	+	+	+
Chloral benzene	+	/	-	+	-	•
Diesel oil	/	/	•	+	•	/
Vinegar	+	+	10 %	40 %	+ max. 50 %	-
Formaldehyde	+	+	/	30 %	+ max. 40 %	+
Freon 113	/	/	+	+	/	/
Fruit juice	/	+	+	+	/	+
Glycerine	+	+	•	+	+	+
Fuel oil	+	+	•	+	•	+
Hydraulic oil	/	/	+	+	•	+
Caustic potash solution /		+	-	-	+ max. 50 %	-
Potassium chloride	•	+	+	+	+	+
Potassium hydroxide	-	+	/	-	+	/
Linseed oil	+	+	+	+	+	+
Methane	+	+	-	-	+	•
Methylene chloride	+	+	-	-	-	-
Lactic acid	+	+	10 %	+	+ max. 80 %	10 %
Mineral oils	/	/	+	+	+	+
Motor oils	/	/	+	+	+	+
Sodium carbonate	•	+	+	+	+	+
Sodium chloride	•	•	+	+	+	10 %
Sodium hydroxide	+	+	/	-	/	/
Soda lye	/	+	-	40 %	+ max. 50 %	10 %
Nitric acid	+	+	10 %	10 %	+ max. 25 %	-
Hydrochloric acid	/	+	20 %	+	+ max. 10 %	-
Lubricating oil	+	+	+	+	/	+
Carbon toulphide	+	+	-	-	-	•
Sulphuric acid	•	+	50 %	70 %	+ max. 50 %	-
Suds	/	+	•	+	/	+
Cleansing agent	/	+	+	/	/	/
Terpentine oil	/	/	/	+	-	+
Carbon tetrachloride	+	/	/	+	-	•
Toluene	+	/	-	+	-	+
Trichlorethylene	+	/	/	-	-	-
Water (dest. water, river-, mains-, sea water)	/	+	+	+	+	+
Tartaric acid	/	/	10 %	+	+	+
Xylene	+	/	-	+	-	+
Zinc sulfate	•	/	+	+	+	/
Citric acid	+	/	10 %	+	+	10 %

The investigations, unless stated otherwise, were carried out at room temperature. Resistances can vary when two different materials come into contact with one another. We cannot therefore accept liability for this data.

Explanation of symbols

- + resistant to all concentrations
- % resistant against maximum % concentration
- C° resistant to maximum C°
- limited resistance
- not resistant
- / no information

General technical information

Chemical resistance enclosure seals and accessories

Chemicals	Chloroprene	EPDM	NBR	Pocane	Polyure- thane	PVC	Silicone
Acetone	+	+	-	+	-	-	•
Formic acid	+	+	-	10 %	/	< 50 %	•
Ammonia	+	+	+	10 %	/	•	+
Petrol	+	•	+	+	+	+	+
Benzene	-	-	-	+	+	-	-
Brake fluid	•	-	/	+	/	/	+
Butane	+	/	+	+	/	50 %	-
Butanol	+	/	-	+	/	•	-
Calcium chloride	/	/	/	10 %	/	+	/
Chloral benzene	-	-	-	-	-	-	-
Diesel oil	•	•	/	+	+	•	•
Vinegar	-	/	-	10 %	/	25 %	-
Formaldehyde	-	/	+	/	/	40 %	+
Freon 113	+	/	+	+	/	/	/
Fruit juice	+	+	/	+	+	+	+
Glycerine	+	+	+	+	+	+	+
Fuel oil	•	•	+	+	+	•	•
Hydraulic oil	+	/	/	+	/	/	•
Caustic potash solution	+	/	/	10 %	/	+	/
Potassium chloride	+	+	+	10 %	+	+	+
Potassium hydroxide	+	+	+	-	-	/	•
Linseed oil	+	+	+	+	+	+	•
Methane	+	/	•	+	/	/	+
Methylene chloride	-	/	-	-	-	-	-
Lactic acid	+	+	+	/	/	10 %	/
Mineral oils	•	•	+	+	+	+	+
Motor oils	•	•	+	+	+	/	+
Sodium carbonate	/	/	/	10 %	/	/	/
Sodium chloride	+	+	+	10 %	+	+	+
Sodium hydroxide	+	+	•	-	-	•	•
Soda lye	50 %	/	-	/	/	60 %	-
Nitric acid	•	+	•	10 %	-	30 %	-
Hydrochloric acid	+	+	< 65 % •	10 %	-	30 %	/
Lubricating oil	•	•	+	+	+	+	+
Carbon toulphide	-	/	-	+	/	•	-
Sulphuric acid	50 %	/	25 %	10 %	/	80 %	25 %
Suds	+	/	+	10 %	•	•	+
Cleansing agent	+	•	/	+	•	/	+
Terpentine oil	-	/	+	+	/	+	-
Carbon tetrachloride	-	-	-	+	-	•	-
Toluene	-	-	-	•	-	-	-
Trichlorethylene	-	-	-	•	-	-	-
Water (dest. water, river-, mains-, sea water)	+	+	80 C°	+	+	40 C°	+
Tartaric acid	+	+	+	/	+	10 %	+
Xylene	-	-	-	•	-	-	-
Zinc sulfate	+	+	+	/	/	40 %	+
Citric acid	+	+	+	10 %	/	10 %	+

The investigations, unless stated otherwise, were carried out at room temperature. Resistances can vary when two different materials come into contact with one another. We cannot therefore accept liability for this data.

Explanation of symbols

- + resistant to all concentrations
- % resistant against maximum % concentration
- C° resistant to maximum C°
- limited resistance
- not resistant
- / no information

Enclosure and EMC

General

In electronic engineering, enclosures are required to fulfil two tasks:

- to protect equipment against external mechanical hazards and radio interference
- to protect the environment against mechanical and electrical hazards or radio interference caused by equipment

Electromagnetic compatibility (EMC) is becoming an increasingly important factor in the choice of enclosures due to sustained advances in the development of electronic components and increased density of components on circuit boards - this being connected with increased emission of electromagnetic radio interference into the environment.

Statutory regulations

The Electromagnetic Compatibility guideline Act (EMC) had been revised on 14 December 2016 and transposes the 2014/30/EU Directive on electromagnetic compatibility into German law. The law applies to equipment that can cause electromagnetic interference or whose operation can be impaired by electromagnetic interference.

According to § 4 - Basic requirements - these equipment must be designed and manufactured in accordance with the generally recognised rules of technology in such a way that the following two conditions are met: Firstly, the electromagnetic disturbances caused by the equipment must not render the operation of other equipment impossible. Secondly, the equipment itself must be sufficiently insensitive to interference from other equipment.

Enclosure requirements

Enclosures in themselves are not covered by the EMC legislation as they are not by definition electrical or electronic devices.

Enclosures are however largely responsible for the strength of radiation emissions and/or interference (outgoing or incoming interference) of a device. The enclosure material is also a decisive factor in the screening effect, which is the combined reflection and absorption damping properties of an enclosure.

Plastics alone have no filtering effect in the case of radio interference. Screening characteristics can be achieved with additional expensive treatments (metal vaporisation or the application of a conductive coating).

Metal enclosures on the other hand offer a highly effective basic protection against radio interference without any further treatment. Large surface area contact of individual enclosure parts (cover, enclosure sections) is an important factor in this.

Where special safety requirements exist, EMC compatibility can be increased by

- conductive seals,
- contact-uninsulated ends and
- EMC-compliant cable connections.

SL 4000



- + Modern enclosure system for control and display systems
- + Flexible size variability in height and width with 6 enclosure profiles
- + Easy mounting of door hinge
- + Integrated handle system

Included in delivery

Complete enclosure system incl. corners, seals, fixing elements, rear panel or door, front panel fixing set.

Technical data

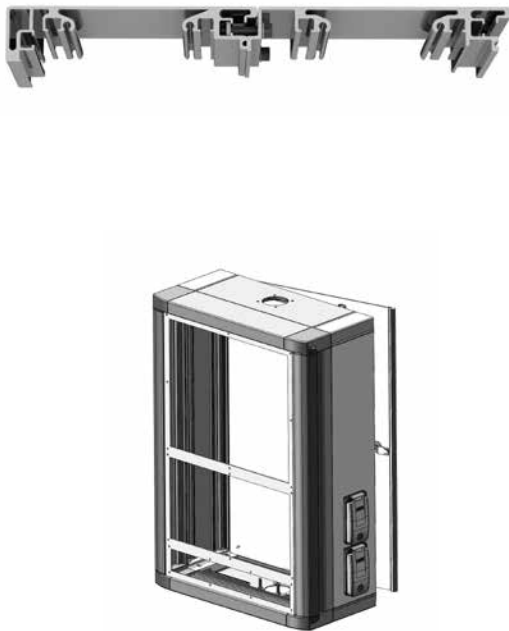
Material	Profile: DIN EN 573 EN AW-ALMgSi Cast corner: DIN EN AC-ALSi 12 Cu 1 (Fe)
Painting	Powder coating or natural anodized
Colour	Profile: optional RAL 7035 or natural anodized, Corner element: optional RAL 7035, light grey or RAL 9007, grey aluminium special colour on request
Ingress protection	IP65 to EN 60529
Temperature range	-30 °C to +80 °C



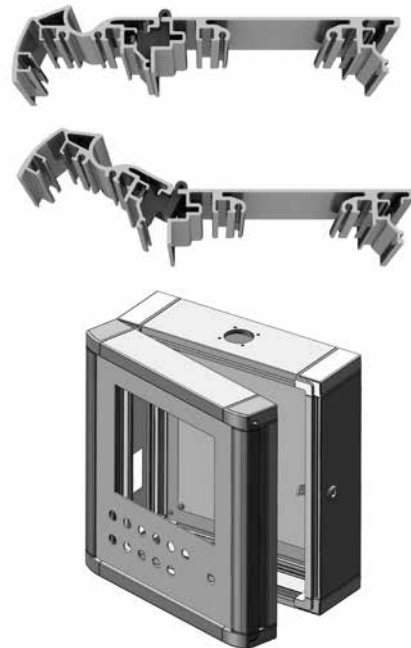
SL 4000

Profile connecting Executions

fixed



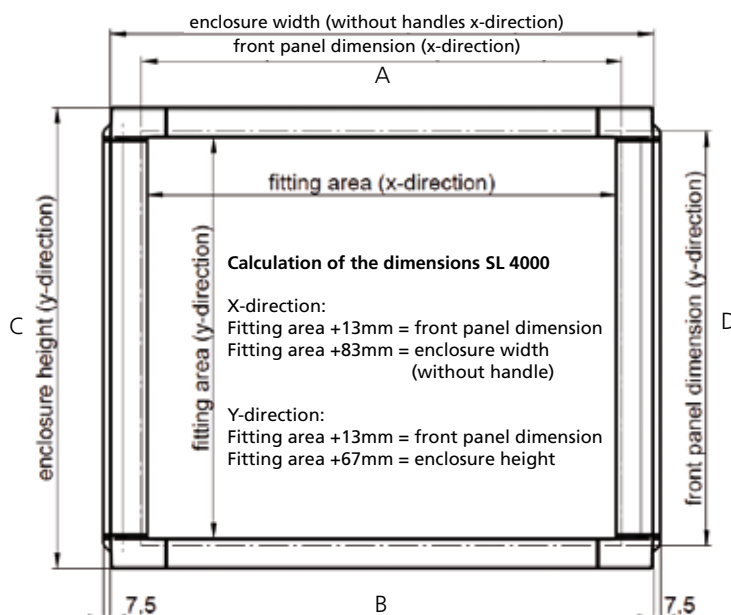
hinged



Possible combinations

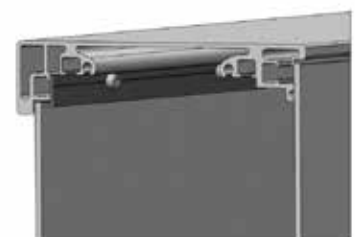
Profile single	Combinations with hinge	Combinations fixed
Profile 1 (Mounting depth = 80 mm)	P 1 + 4 (Mounting depth = 220 mm) door front	P 1 + 4 (Mounting depth = 220 mm)
Profile 2 (Mounting depth = 130 mm)	P 2 + 4 (Mounting depth = 270 mm) door front	P 2 + 4 (Mounting depth = 270 mm)
Profile 3 (Mounting depth = 190 mm)	P 5 + 6 (Mounting depth = 135 mm) door front	P 5 + 6 (Mounting depth = 135 mm)
Profile 5 (Mounting depth = 55 mm)	P 1 + 6 (Mounting depth = 160 mm) door front	P 1 + 6 (Mounting depth = 160 mm)
	P 2 + 6 (Mounting depth = 210 mm) door rear	P 2 + 6 (Mounting depth = 210 mm)
	P 5 + 4 (Mounting depth = 195 mm) door front	P 5 + 4 (Mounting depth = 195 mm)
	P 3 + 6 (Mounting depth = 270 mm) door rear – on request	P 3 + 6 (Mounting depth = 270 mm)

Front plate fitting



Front plate mounting

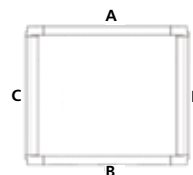
Front panel is mounted from inside. Quick and easy installation with four clamping bars.



Product range

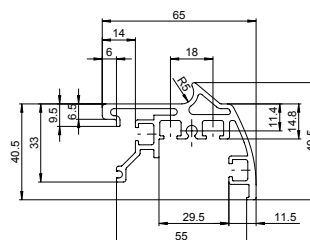
Overview profile depth

Basic profile



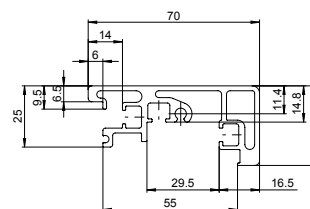
Profile 5 Handle profile Side C/D

External dimensions 65/70 mm
Mounting depth 55 mm



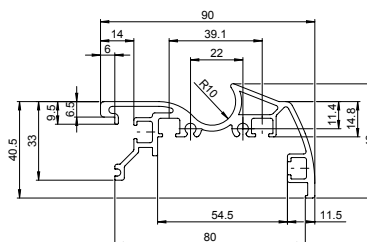
Profile 5 Body profile Side A/B

External dimensions 65/70 mm
Mounting depth 55 mm



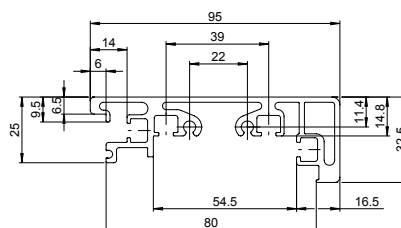
Profile 1 Handle profile 90 Side C/D

External dimensions 90/95 mm
Mounting depth 80 mm



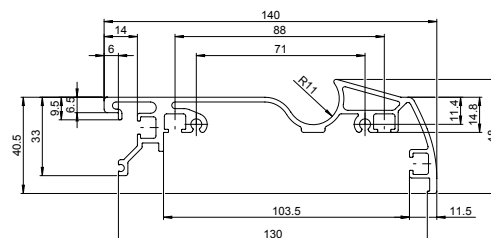
Profile 1 Body profile 90 Side A/B

External dimensions 90/95 mm
Mounting depth 80 mm



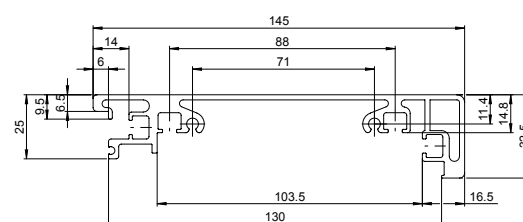
Profile 2 Handle profile 140 Side C/D

External dimensions 140/145 mm
Mounting depth 130 mm



Profile 2 Body profile 140 Side A/B

External dimensions 140/145 mm
Mounting depth 130 mm

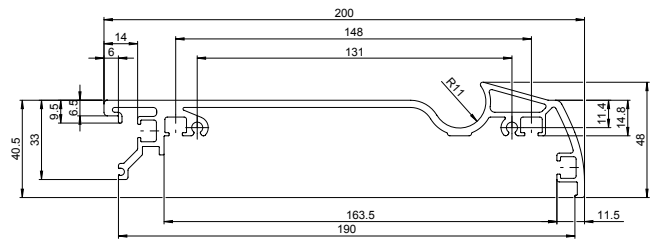


SL 4000

Basic profile

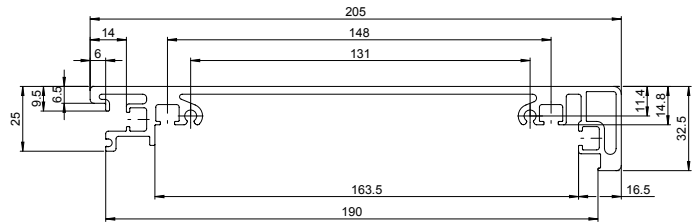
Profile 3 Handle profile 200 Side C/D

External dimensions 200/205 mm
Mounting depth 190 mm



Profile 3 Body profile 200 Side A/B

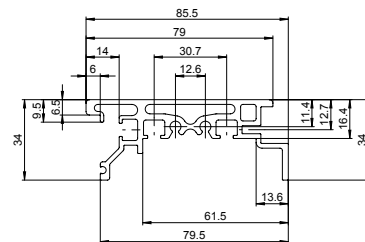
External dimensions 200/205 mm
Mounting depth 190 mm



Combination profile

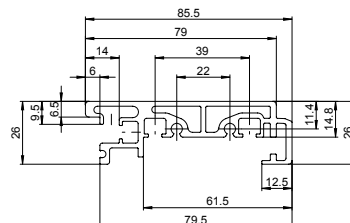
Profile 6 Side C/D

External dimensions 85,5 mm
Mounting depth 80 mm



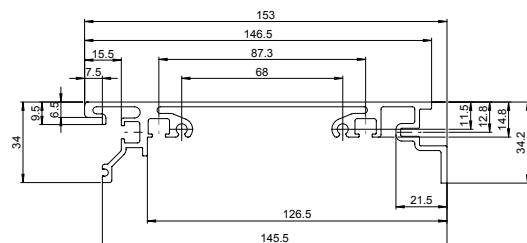
Profile 6 Side A/B

External dimensions 85,5 mm
Mounting depth 80 mm



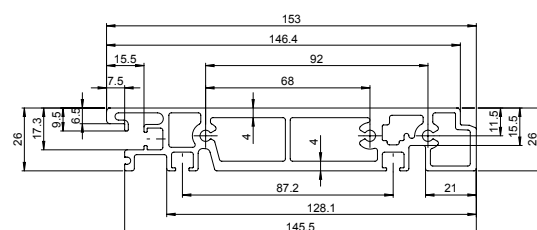
Profile 4 Side C/D

External dimensions 153 mm
Mounting depth 140 mm



Profile 4 Side A/B

External dimensions 153 mm
Mounting depth 140 mm



Overview profile combinations

Profile 1 and 4 Side C/D

Mounting depth 220 mm



Profile 1 and 4 Side A/B

Mounting depth 220 mm



Profile 2 and 4 Side C/D

Mounting depth 270 mm



Profile 2 and 4 Side A/B

Mounting depth 270 mm



Profile 5 and 6 Side C/D

Mounting depth 135 mm



Profile 5 and 6 Side A/B

Mounting depth 135 mm



Profile 1 and 6 Side C/D

Mounting depth 160 mm



Profile 1 and 6 Side A/B

Mounting depth 160 mm



Profile 2 and 6 Side C/D

Mounting depth 210 mm



Profile 2 and 6 Side A/B

Mounting depth 210 mm



Profile 5 and 4 Side C/D

Mounting depth 195 mm



Profile 5 and 4 Side A/B

Mounting depth 195 mm



Connection to suspension system

	GTS GTKe	GT 48/2	GTN II	GT 50/2	GT 60/2	GT 80/2	GTK 80	GTL	Moterm
Operating enclosure									
Profile 1	•	•							•
Profile 2	•	•	•	•	•				•
Profile 3			•	•	•	•	•	•	•
Profile 1+4			• Profile 4	• Profile 4	• Profile 4	• Profile 4		• Profile 4	•
Profile 2+4			• Profile 4	• Profile 4	• Profile 4	• Profile 4		• Profile 4	•
Profile 5+6	• Profile 6 only GTS								•
Profile 5									only possible via rear wall
Profile 1+6	• Profile 6 only GTS								•
Profile 2+6			• Profile 2	• Profile 2	• Profile 2				•
Profile 5+4			• Profile 4	• Profile 4	• Profile 4	• Profile 4		• Profile 4	•



SL 4000 with hinged rear wall



Hinged profile combination with fixed rear wall



Integrated handle profile



SL 4000 with additional fittings

Accessories

Fixing set



Order No.	Execution
10.03 60 04	M4, set = 8 pcs
10.03 60 01	M5, set = 8 pcs

Handle



set = 2 pcs

Order No.	Handle length	Front plate width/height (mm)
20.60 40 02	250	265-314
20.60 40 03	300	315-364
20.60 40 04	350	365-414
20.60 40 05	400	415-464
20.60 40 06	450	465-514
20.60 40 07	500	515-614
20.60 40 09	600	615-664
20.60 40 10	650	665-714
20.60 40 11	700	715-764
20.60 40 12	750	765-814
20.60 40 13	800	815

Hinge set



Order No.	Execution
20.10 90 50	for profile 1 and 2
20.10 90 60	for profile 3

Wall holder



Order No.	Execution
20.10 90 30	for SL 4000 profile 2 and 3

Wall mounting set

Order No.	Execution
45.80 10 99	Locking plate GTN II with „Lütze“ cable entry and 4 spacers for wall mounting

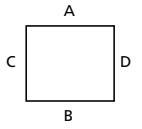
Aerator set



Order No.	Execution
45.80 10 02	Lüfterset bestehend aus 3 Lüftern zur Fixierung in SL 4000

Further accessories see Commander system accessories

Company _____ Telephone _____
 Contact _____ Telefax _____
 Address _____ E-Mail _____
 Project _____ Quantity _____ Lot size _____

☐ Operating enclosure

Profiles

☐ Profile 1 (Mounting depth = 80 mm) ☐ Profile 2 (Mounting depth = 130 mm) ☐ Profile 3 (Mounting depth = 190 mm) ☐ Profile 5 (Mounting depth = 55 mm)

Profile combination

☐ Profile 1 + 4 (Mounting depth = 220 mm) ☐ Profile 2 + 4 (Mounting depth = 270 mm) ☐ Profile 5 + 6 (Mounting depth = 135 mm)
☐ Profile 1 + 6 (Mounting depth = 160 mm) ☐ Profile 2 + 6 (Mounting depth = 210 mm) ☐ Profile 5 + 4 (Mounting depth = 195 mm)

Connection ☐ fixed ☐ hinged side (C or D) _____ (rear wall screwed)

Lock types ☐ Square (7 mm) ☐ Triangular (7 mm) ☐ Double ward (3 mm)
☐ Square (8 mm) ☐ Triangular (8 mm) ☐ Special lock type _____

Front plate

☐ without front plate
☐ Panel direct mounting by mounting frame / control type _____
☐ with front plate required connector surface W x H (mm) _____ x _____
 required front panel dimension W x H (mm) _____ x _____

Colour

Standard

☐ Profile RAL 7035, corner pieces RAL 7035
☐ Profile natural anodized, corner pieces RAL 9007
☐ Special colour RAL (please specify RAL colour for each) ☐ Profile RAL _____ Corner RAL _____
☐ Profile anodized Corner cap RAL _____

Door / Rear wall

☐ Rear wall screwed (always with hinged profile combination)
☐ Door ☐ left hinged (side C) ☐ right hinged (side D)
 Lock types turn bolt fastener - small turn bolt fastener - large
☐ Square (6 mm) ☐ Square (8 mm) ☐ Triangular (7 mm)
☐ Triangular (6.5 mm) ☐ Square (7 mm) ☐ Triangular (8 mm)
☐ Slot (1.5 mm) ☐ Double ward (3 mm)
☐ Special lock type _____ (note: reduction of IP rating)
☐ Further information of machining _____
☐ Modified acc. drawing no. _____ (please enclose)

Modifications

☐ Modified acc. drawing no. _____ (please enclose)

Front plate

☐ Cutting W x H (mm) _____ x _____
☐ and/or manufacturer/type of controller _____
☐ Drill holes diameter (mm) _____ number _____
 Other front plate modifications / special Executions _____

Profile

☐ Modified acc. drawing no. _____ (please enclose)
☐ Cutting W x H (mm) _____ x _____
☐ Drill holes diameter (mm) _____ number _____
 Other information for profile processing (items, etc.) _____

**Connection -
Suspension system**☐ Side A (top)☐ Side B (bottom)☐ Rear wall (on request)☐ GTKe☐ GT 48/2☐ GTS☐ GTN II☐ GT 50/2☐ GT 60/2☐ GT 80/2☐ GTK 80☐ Moterm☐ External system (please name drawing and manufacturer)

	GTKe	GT 48/2	GTS	GTN II	GT 50/2	GT 60/2	GT 80/2	GTK 80	GTL	Moterm
Profile 1	x	x	x							x
Profile 2	x	x	x	x	x	x				x
Profile 3				x	x	x	x	x	x	x
Profile 5	only possible via rear wall									
Profile 1+4				x	x	x	x		x	x
Profile 1+6	x	x	x							x
Profile 2+4				x	x	x	x		x	x
Profile 2+6				x	x	x				x
Profile 5+4				x	x	x	x		x	x
Profile 5+6			x							x

Further notes**Accessories****Handles**
(additionally)

Number _____ Side(s) _____

☐ Standard (Order No.): _____☐ Special length (mm) _____**Hinge set**
(only single profile)

Hinge side

☐ Side C (left)☐ Side D (right)

Any further information of the position _____

**Wall holder set**
(only single profile)

Position (side)

☐ Side C (left)☐ Side D (right)

Any further information of the position _____

**Document holder**

Position (side)

☐ C (left)☐ D (right)

Any further information of the position _____

**Fixing set**☐ Spring nut set M4 (8 pieces) number _____☐ Spring nut set M5 (8 pieces) number _____**Single interfaces (IP 65)** ☐ USB☐ RJ45

Any further information to front panel interfaces (requirements, position etc.) _____

Multiple interfaces

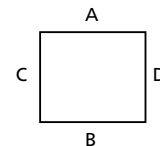
Interfaces and power supplies for optional mounting on the front plate, rear wall or side of the profile 2, 3 and 4.

Single flap (possible at front panel, rear wall or lateral on profile 2, 3 and 4)**Metal**☐ Type 1 ☐ Type 2 ☐ Type 3**Plastic with knob**☐ Type 4 ☐ Type 5 ☐ Type 6**Plastic with double ward lock**☐ Type 7 ☐ Type 8 ☐ Type 9**Double flap** (possible only at front panel and rear wall)**Metal**☐ Type 11 ☐ Type 12 ☐ Type 13**Plastic with knob**☐ Type 14 ☐ Type 15 ☐ Type 16**Plastic with double ward lock**☐ Type 17 ☐ Type 18 ☐ Type 19**Schutzkontaktsteckdosen(Schraubklemmen)**

- ☐ USA (NEMA 5-15) ☐ Australia
- ☐ China (C C C) ☐ Denmark
- ☐ Germany (VDE) ☐ England (BS)
- ☐ Germany (VDE) orange ☐ France (UTE)
- ☐ Germany (VDE) yellow ☐ Italy (CEI 23-16)
- ☐ Switzerland ☐ India (IS 1293)
- ☐ Germany (VDE) with cutout for circuit breaker (only with double flap, plastic)
- ☐ Other _____

**Datenschnittstellen**

- ☐ SUB-D9 (socket) number _____
- ☐ SUB-D9 (plug) number _____
- ☐ UB-D15 (socket) number _____
- ☐ RJ12, 6-pol. plastic number _____
- ☐ RJ45, 8-pol. Metal, CAT5e (socket/socket) number _____
- ☐ USB (socket/socket) number _____
- ☐ Other _____ number _____



Combination (Specification see below)

Position☐ Front plate ☐ Rear wall (door) ☐ Side profile (profile 2 / 3)

Any further information to front panel interfaces (requirements, position etc.) _____

Further accessories _____

☐ Console attachment

Profile type

☐ Profile 1
(Mounting depth = 80 mm)☐ Profile 2
(Mounting depth = 130 mm)

Front plate

☐ without front plate☐ Panel direct mounting by frame / control type _____☐ with front plate required connector surface W x H (mm) _____ x _____

required front panel dimension W x H (mm) _____ x _____

Colour

- Standard** ☐ Profile RAL 7035, corner pieces RAL 7035
- ☐ Profile natural anodized, corner pieces RAL 9007
- ☐ Special colours (please specify RAL colour for each)

☐ Profile RAL _____ corner RAL _____☐ Profile anodized corner RAL _____

Door / Rear wall

Standard ☐ screwed☐ other (on request) _____

Modification

Front plate

☐ Modified acc. drawing no. _____ (please enclose)☐ Cutting W x H (mm) _____ x _____☐ and/or manufacturer/type of controller _____☐ Drill holes diameter (mm) _____ number _____

Other front plate modifications (Positionen usw.) _____

Profile

☐ Modified acc. drawing no. _____ (please enclose)☐ Cutting W x H (mm) _____ x _____☐ Drill holes diameter (mm) _____ number _____

Other profile modifications (Positionen usw.) _____





- + Universal control enclosure for automation technology
- + Variable size in height, width and depth
- + Hinged door profile at front and rear
- + Front plate insertion from front or rear

Included in delivery

Enclosure body with rear wall, fixing elements, cover profile with corners

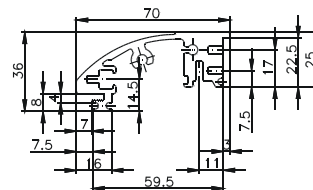
Technical data

Material	Profile: DIN EN 573 EN AW-ALMgSi Cast corner: DIN EN 1706 EN AC-ALSi 12 Cu 1 (Fe)
Painting	Powder coating
Colour	optional RAL 7035, light grey or natural anodized special colour on request
Ingress protection	IP65 to EN 60529
Temperature range	-30 °C to +80 °C

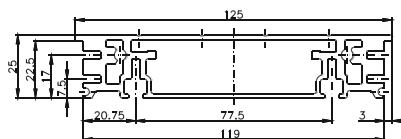
Product range

I. Profile for installation with front plate

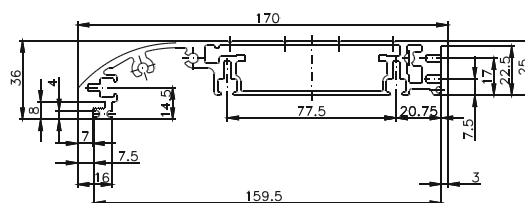
Profile 1 Hinged frame profile



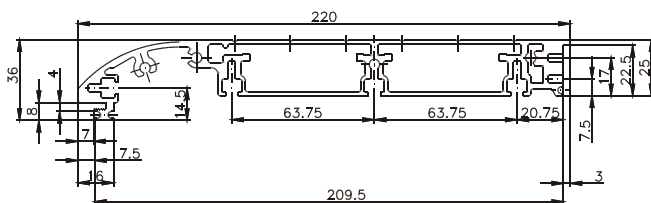
Profile 2 Intermediate frans



Profile 3 Body profile 170

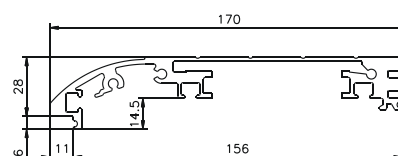


Profile 4 Body profile 220

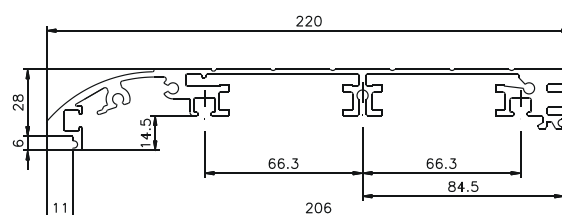


II. Profile for direct mounting of installation

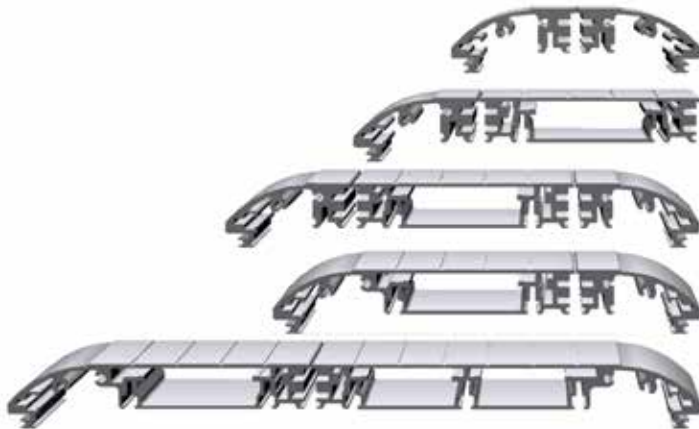
Profile 3 Direct mounting



Profile 4 Direct mounting



Example of profile combination options



Mounting depth 125 mm

Mounting depth 184 mm

Mounting depth 250 mm

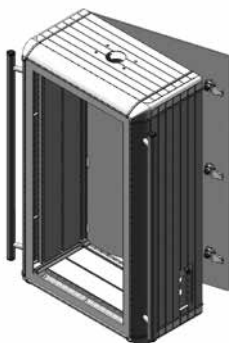
Mounting depth 225 mm

Mounting depth 375 mm

Other profile combinations on request

Profile connection options

Fixed



Hinged



Profile info:

- All profiles can be combined with one another
- Profiles can be attached with fixed or hinged connections.
- If straight profile side (see example 2) the rear panel can also be designed as a door.
- The max. mounting depth in the case of operational enclosures is 675 mm (Profile 4 + 2 + 2 + 4)
- The max. mounting depth with console attached is 425 mm (Profile 4 + 4)
- The max. enclosure size is limited by the front plate to 1000 x 1000 mm

Connection to suspension system

Profile	GTK electronic	GTS	GT 48/2	GTN II	GT 50/2	GT 60/2	GT 80/2	GTK 80	GTL
1	•	•	•	•	•	•			
1 + 1 (fixed or hinged)	•	•	•	•	•	•			
1 + 2 (hinged)	•	•	•	•	•	•			
1 + 2 (fixed)	•	•	•	•	•	•	•	•*	
1 + 2 (hinged) + 1 (hinged)	•	•	•	•	•	•	•		
1 + 2 (hinged + 1 (fixed)	•	•	•	•	•	•	•	•*	
1 + 2 (fixed) + 1 (fixed)	•	•	•	•	•	•	•	•	
2	•	•	•	•	•	•	•		
3	•	•	•	•	•	•	•		•
3 + 1 (hinged)				•	•	•	•		•
3 + 1 (fixed)				•	•	•	•	•**	•
3 + 2 (hinged) + 1 (hinged)				•	•	•	•		•
3 + 2 (fixed) + 1 (hinged)				•	•	•	•	•	•
4				•	•	•	•	•	•

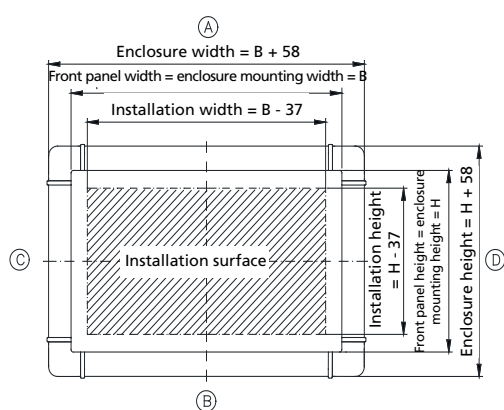
* 10 mm projection downstream of at rear

** every 5 mm projection to front and at rear

Front plate fitting

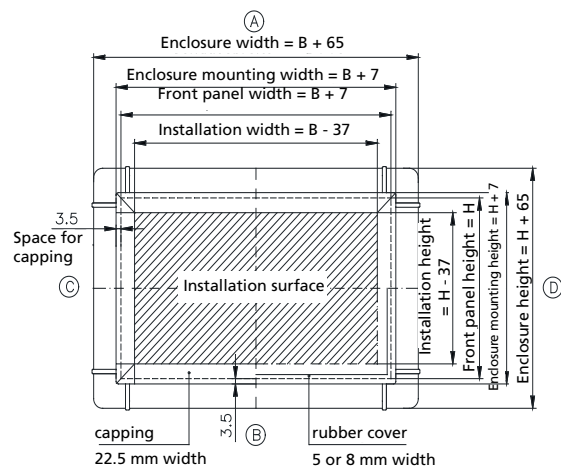
Execution I

Front plate without cover profile or rubber cover



Execution II

Front plate with cover profile or rubber cover surrounding



Front plate fastening

- Zinc diecast latch with slot for insertion of M4 or M5 rack connecting nuts screwed Execution
- Turn the catch round to enable the front plate to be screwed in directly from the back



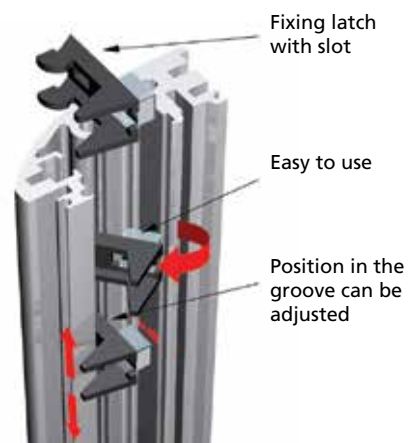
- Flush closure with profile



- With M4 or M5 rack connecting nut
- Concealed capping screw heads



- Latch reversed screwed into profile



Accessories

Fastening set



Order No.	Execution
20.60 10 01	M4
20.60 10 02	M5
20.60 10 03	Set for front plates

FCP - Foil Control Panel



Order No.	Execution
20.60 10 50	FCP 240/3
20.60 10 51	FCP 335/6
20.60 10 52	FCP 483/8

Handle



set = 2 pcs

Order No.	Handle length (mm)	Front plate width/height (mm)
20.60 40 02	250	265-314
20.60 40 03	300	315-364
20.60 40 04	350	365-414
20.60 40 05	400	415-464
20.60 40 06	450	465-514
20.60 40 07	500	515-614
20.60 40 09	600	615-664
20.60 40 10	650	665-714
20.60 40 11	700	715-764
20.60 40 12	750	765-814
20.60 40 13	800	815

Coupling flange



Order No.	Execution
20.60 10 07	GT 48/2 and GTK electronic

Mounting bracket set

Order No.
10.03 31 01

Installation rail set



Order No.	Execution
54.00 00 16	Rail length 80 mm
54.00 00 24	Rail length 160 mm
54.00 00 32	Rail length 240 mm

Accessories

Adapter plate P1/P2 onto GT 80/2

Order No.

20.60 10 08

Locking plate

For closing of unneeded
coupling holes

Order No.

Execution

20.60 30 01	powdered GT 48/2 and GTK electronic
20.60 30 02	powdered GT 50/2 and GT 60/2
20.60 30 03	powdered GT 80/2
20.60 30 04	powdered GTK 80
20.60 30 05	powdered GTN II
20.60 30 11	anodized GT 48/2 and GTK electronic
20.60 30 12	anodized GT 50/2 and GT 60/2
20.60 30 13	anodized GT 80/2
20.60 30 14	anodized GTK 80
20.60 30 15	anodized GTN II

Controle attachment set



30° or 50° inclination possible
depending on assembly. Standard
length 300 mm, larger or smaller
lengths on request.

Insert bay



Available for Profiles 2, 3 and 4 . The ingress
protection is determined by the fitted
equipment. It is possible to modify the inte-
rior enclosure panel walls individually. The
size of the enclosure gives the maximum
connector area.
In the case of profile combinations it is
provided on the hinge side!

Linking bar



For installation of two or more front plates
within one enclosure

Further accessories see Commander system accessories

Company _____ Telephone _____
 Contact _____ Telefax _____
 Address _____ E-Mail _____
 Project _____ Quantity _____ Lot size _____

Dimensions Operating enclosures

For console versions, please also fill out the following page - „Console attachment enclosures“.

Mounting depth T (mm) _____ of combination of profiles (please always specify from front to rear):

Profile no. _____ + Profile no. _____ + Profile no. . _____ + Profile no. _____

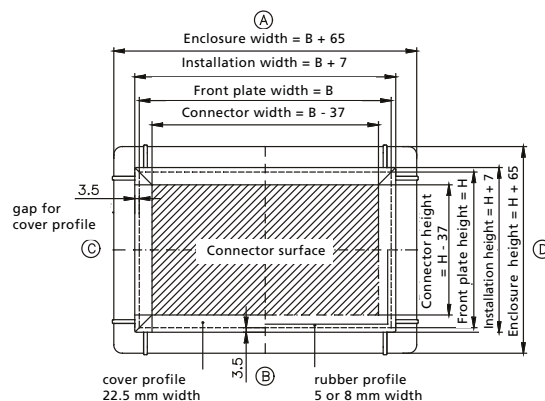
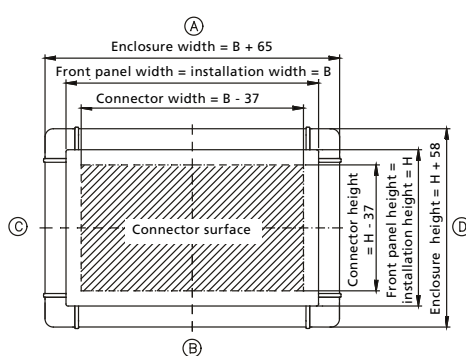
Connection: ☐ fixed ☐ fixed ☐ fixed
☐ hinged ☐ hinged ☐ hinged
side _____ side _____ side _____

Dimensions Please specify front panel dimensions W x H (mm) _____ x _____

and/or manufacturer/type _____

☐ Version I
Front panel without cover profile or rubber profile

☐ Version II
Front panel surrounding with cover profile or rubber profile



Front panel ☐ without front panel (direct mounting) ☐ with M4 fixing set or ☐ with M5 fixing set

☐ Front panel with stud bolts (flush without cover profile, dimensions, see drawing version I)

☐ Front panel with stud bolts (with cover profile, dimensions, see drawing version II)

☐ Front panel with drill holes

☐ Cover profile 22.5 mm (plastic black, dimensions s. version II)

☐ Cover profile for front panel, 5 mm rubber (Version II)

☐ Cover profile for front panel, 8 mm rubber (VersionII)

☐ other front panel _____

☐ Finish in accordance with drawing no.: _____ (please attach)

and/or specify manufacturer/controller type: _____

☐ Separation fin quantity Position in accordance with drawing-no.: _____

Drawing no.: D-SL 3000 - _____ Bl. 1

Accessories SL 3000 for enquiry / order

Company _____

Rear wall

with straight closure

☐ screwed☐ hinged, hinges side _____

with rounded closure

☐ screwed, flush☐ with stud bolts, flush☐ Modified according to drawing-no. _____ (please enclose if available)

Lock types

☐ Square 8 mm (Standard)☐ Square 7 mm☐ Triangular 7 mm☐ Triangular 8 mm☐ Double ward 3 mm☐ Other _____

Colour

Standard:

☐ Profile RAL 7035, corner pieces RAL 9006, corner caps RAL 7035 powdered or☐ Natural anodized profile, corner pieces RAL 9006, corner caps RAL 9007 powdered☐ Special colours (please specify RAL colour for each):

Profile RAL _____ Corner pieces RAL _____ Corner caps RAL _____

Suspension system

☐ GTK electronic, side _____☐ GT 48/2, side _____☐ GTS, side _____☐ GT 50/2, side _____☐ GT 60/2, side _____☐ GT 80/2, side _____☐ GTN II, side _____☐ GTK 80, side _____☐ GTL, side _____☐ Moterm☐ Moterm with console☐ Connection to console connector☐ Connection to profile☐ Other _____ Drawing-no.: _____ side _____

Total weight of fittings approx. _____ kg

for profile combination: Coupling hole on profile no. _____ or optional

specify weight distribution _____

Handle set

☐ Quantity _____ side _____☐ Special colour RAL _____

Other accessories

☐ Disc drive-/interface bay with flap (as for SL 2000), side _____☐ Insert slot for: _____ side _____☐ Finish in accordance with drawing-no.: _____

Other modifications/ special versions

Further modifications _____

in accordance with drawing-no.: _____

Drawing no.:

D-SL 3000 - _____ Bl. 2

stated by Rose

profile length: width _____ mm height _____ mm



Dimensions**Console attachment enclosures**

Company _____

Mounting depth

T (mm) _____ of combination of profiles (please always specify from front to rear):

Profile no. _____ + Profile no. _____

Connection: ☐ fixed ☐ hinged, page _____**Dimensions**

Front panel total dimensions (dimension sheet s. operational enclosure)

W x H (mm) _____ x _____ ☐ Version I ☐ Version II

and/or manufacturer/type of controller _____

Front panel☐ without front panel (direct mounting) ☐ with M4 fixing set or ☐ mwith M5 fixing set☐ Front panel with stud bolts (flush without cover profile, dimensions, see drawing version I)☐ Front panel with stud bolts (with cover profile, dimensions, see drawing version II)☐ Front panel with drill holes☐ Cover profile 22.5 mm (plastic black, dimensions s. version II)☐ Cover profile for front panel, 5 mm rubber (Version II)☐ Cover profile for front panel, 8 mm rubber (VersionII)☐ other front panel _____☐ Finish in accordance with drawing no.: _____ (please attach)

and/or specify manufacturer/controller type: _____

☐ Separation fin quantity _____ Position in accordance with drawing-no.: _____**Rear wall**with straight closure ☐ screwed ☐ hinged, hinges side _____with rounded closure ☐ screwed, flush ☐ with stud bolts, flush☐ Modified according to drawing-no. _____ (please enclose if available)**Lock types**☐ square 8 mm (standard) ☐ square 7 mm ☐ double ward 3 mm☐ triangular 7 mm ☐ triangular 8 mm ☐ Other _____**Colour**Standard: ☐ Profile RAL 7035, corner pieces RAL 9006, corner caps RAL 7035 powdered or☐ Natural anodized profile, corner pieces RAL 9006, corner caps RAL 9007 powdered☐ Special colours (please specify RAL colour for each):

Profile RAL _____ Corner pieces RAL _____ Corner caps RAL _____

Console attachment set☐ Standard 30° ☐ Standard 50°**Handle set**☐ Quantity _____ side _____ ☐ Special colour RAL _____**Other accessories**☐ Disc drive-/interface bay with flap (as for SL 2000), page _____☐ Insert slot for: _____ side _____☐ Finish in accordance with drawing-no.: _____**Other modifications/ special versions**

Further modifications _____

in accordance with drawing-no.: _____

Drawing no.:

D-SL 3000 - _____ Bl. 3

stated by Rose

profile length: width _____ mm height _____ mm



- + Enclosure system for control and display fittings
- + Variable size available in width and depth
- + All-round adaptation capabilities for accessories
- + Front panel insertion from front and rear

Included in delivery

Enclosure body with rear panel or door, front panel fixing set, cover profile and T-groove cover.

Technical data

Material	Profile: DIN EN 573 EN AW-ALMgSi Front plate, rear wall: DIN EN 573 EN AW-ALMg3 Corner pieces: DIN EN 1706 EN AC-AISI 12 (Fe)
Painting	Powder coating
Colour	RAL 7035, light grey Handle tube: powdered RAL 3003, ruby red
Ingress protection	IP65 to EN 60529
Temperature range	-30 °C to +80 °C

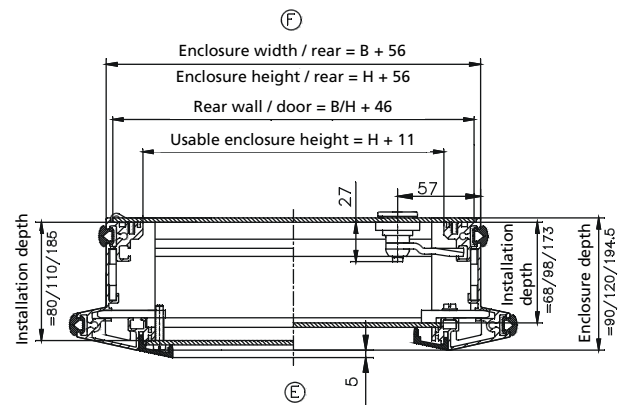
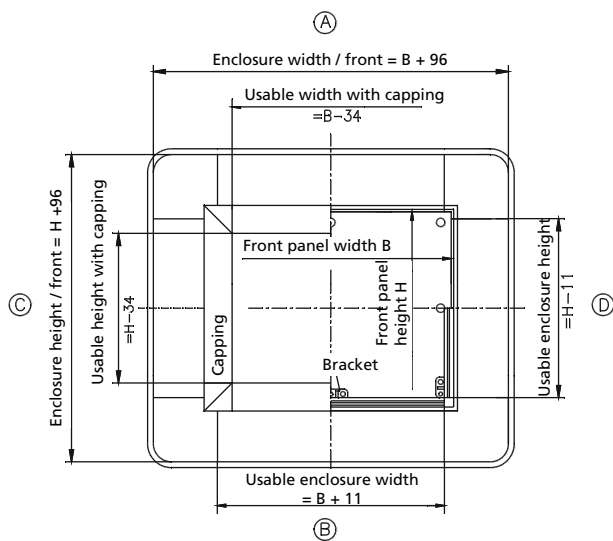


Product range

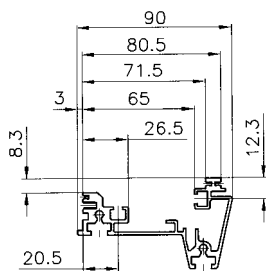
Front plate dimensions H x W (mm)	Profile 1 Mounting depth 80,5 mm	Weight (g)	Profile 2 Mounting depth 110 mm	Weight (g)	Profile 3 Mounting depth 185 mm	Weight (g)	Front plate with drill hole (insert from front)	Weight (g)	Front plate without drill hole (insert from rear)	Weight (g)
Rear wall screwed										
267 x 483	19.50 65 01	4700	19.50 95 01	5500	19.50 19 01	6700	19.60 00 01	1050	19.60 00 11	1030
312 x 483	19.51 65 01	5100	19.51 95 01	5900	19.51 19 01	7100	19.60 01 01	1200	19.60 01 11	1220
356 x 483	19.52 65 01	5400	19.52 95 01	6300	19.52 19 01	7500	19.60 02 01	1400	19.60 02 11	1400
155 x 483	19.53 65 01	4100	19.53 95 01	4600	-		19.60 04 01	600	19.60 04 11	600
Special sizes*	19.59 65 01		19.59 95 01		19.59 19 01		19.60 03 01		19.60 03 11	
Door at rear										
267 x 483	19.50 65 00	4900	19.50 95 00	5600	19.50 19 00	6600	19.60 00 01	1050	19.60 00 11	1030
312 x 483	19.51 65 00	5200	19.51 95 00	6000	19.51 19 00	7200	19.60 01 01	1200	19.60 01 11	1220
356 x 483	19.52 65 00	5500	19.52 95 00	6400	19.52 19 00	7600	19.60 02 01	1400	19.60 02 11	1400
155 x 483	19.53 65 00	4200	19.53 95 00	4700	-		19.60 04 01	600	19.60 04 11	600
Special sizes*	19.59 65 00		19.59 95 00		19.59 19 00		19.60 03 01		19.60 03 11	

* Please specify front panel dimensions

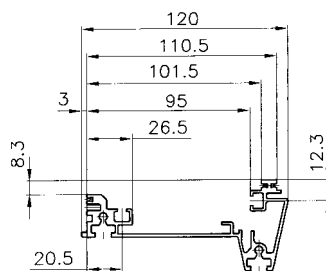
Technical details



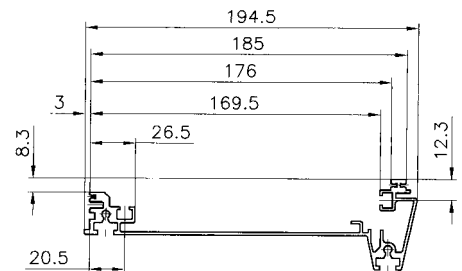
Profile



Profile 1



Profile 2

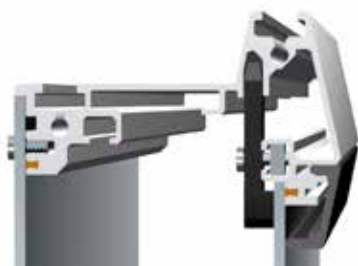


Profile 3

Front plate fastening



Front panel installation screwed from front



Front panel installation from rear



Front panel installation with stud bolts

Accessories

Handle set



Order No.	Execution
19.60 20 01	Set = 2 brackets, 1 tube, L = 256 mm
19.60 20 02	Handle corner set = 3 brackets, 1 tube, L = 556/395 mm
19.60 20 06	Set = 2 brackets, 1 tube, L = 472 mm
19.60 20 04	Set = 2 brackets, 1 tube, L = 301 mm
19.60 20 05	Set = 2 brackets, 1 tube, L = 345 mm
19.60 20 99	Set = 2 brackets, 1 tube, special length

Coupling flange



Order No.	Execution
19.60 20 03	Profile 1 for GT 48/2 and GTK electronic (GTK electronic only 49.45 73 00 and 49.45 75 00)
19.60 20 11	Profile 2 for GT 48/2 and GTK electronic
19.60 20 12	Profile 3 for GT 48/2 and GTK electronic
19.60 20 07	Profile 2 for GT 50/2, GT 60/2 and GTN II
19.60 20 08	Profile 3 for GT 50/2, GT 60/2 and GTN II
19.60 20 13	Profile 3 for GT 80/2 and GTK 80
19.60 20 14	Profile 2 for GT 80/2
19.60 20 15	Profile 1 for GTS
19.60 20 16	Profile 2 for GTS

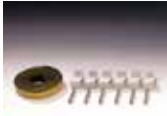
Control attachment set



Order No.	Execution
19.59 00 11	15° inclination fixed
19.59 00 12	30° inclination fixed
19.59 00 13	adjustable
19.59 00 98	Control attachment set, 15° inclination fixed, special length*
19.59 00 99	Control attachment set, 30° inclination fixed, special length*

Accessories

Control panel installation set



Order No.	Execution
19.60 10 03	for profile 3, (6 pcs)
19.60 10 00	for profile 1 and 2 (6 pcs)

Hinge set



Order No.
19.60 10 08

Quick fastener set



Order No.	Execution
19.60 10 07	für Frontplatte (Set = 12 Stk)

Linking bar



Order No.	Execution
19.59 00 20	483 mm
19.59 00 21	Special length

Spring nut set

Order No.	Execution
10.03 60 01	M5 (8 pcs)

Fixing set



Order No.	Execution
19.60 10 01	Fixing set 1 (12 spring nuts, brackets, screws)
19.60 10 02	Fixing set 2 (30 spring nuts, brackets, screws)

Further accessories see Commander system accessories

Company _____ Telephone _____
 Contact _____ Telefax _____
 Address _____ E-Mail _____
 Project _____ Quantity _____ Lot size _____

☐ **Operation enclosures****Execution**☐ Door ☐ rear wall screwed**Dimensions**☐ Profile 1 ☐ Profile 2 ☐ Profile 3☐ Recessed rear panel for _____ mm mounting depth

Please specify front panel dimensions or manufacturer/controller type:



W x H (mm) _____ x _____

or manufacturer/type _____



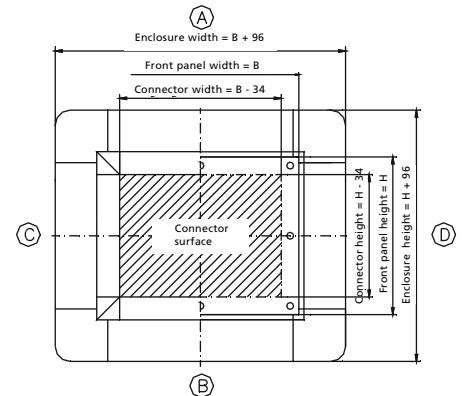
W x H (mm) _____ x _____

or manufacturer/type _____



W x H (mm) _____ x _____

or manufacturer/type _____

**Front panel**☐ 3 mm, with drill holes ☐ 3 mm, without drill holes ☐ other _____ mm☐ Finish in accordance with drawing (please attach)

or state manufacturer/controller type: _____

☐ **Keyboard enclosures****Execution**☐ Door ☐ rear wall screwed**Dimensions**☐ Profile 1 ☐ Profile 2

Please specify the number and dimensions of the front panel or the manufacturer and controller type.



W x H (mm) _____ x _____ or manufacturer/type _____



W x H (mm) _____ x _____ or manufacturer/type _____

Front panel☐ 3 mm, with drill holes ☐ 3 mm, without drill holes ☐ other _____ mm☐ Finish in accordance with drawing (please attach)

or state manufacturer/controller type: _____

Console attachment set☐ standard _____ (Order No.) ☐ Custom length _____ mm**Suspension system**

☐ GTK electronic / GT 48/2, on side _____ ☐ GT 50/2 / GT 60/2, on side _____
☐ GT 80/2 / GTK 80, on side _____ ☐ GTN II, on side _____
☐ GTS, on side _____ ☐ other _____ on side _____
☐ Moterm Operational enclosure from 236 mm front panel width
 Console enclosure (fixed inclination) from 440 mm front panel width
 Console enclosure (fixed inclination) from 580 mm front panel width

Handle set

☐ Standard _____ (Order No.) Mounting side _____
☐ Special length _____ mm Mounting side _____

Colour☐ Standard (RAL 7035, handle red RAL 3003) ☐ Special colour (RAL) _____**Other accessories**

☐ Disk mounting bay, mounting side _____ ☐ Hinge set, mounting side _____
☐ Keyboard holder ☐ Document holder ☐ Separating strip, number _____
☐ Panel mounting for profile 1 ☐ Panel mounting for profile 2 ☐ Panel mounting for profile 3
☐ Fixing set 12-piece ☐ Fixing set 30-piece ☐ Quick fixing set
☐ Spring nut set ☐ Rubber cover narrow 7 mm ☐ Rubber cover narrow 5 mm





- + Aluminium profile compact commander in 2 widths
- + Integrated cooling system
- + External system groove
- + Variable profile lengths

Included in delivery

Profile enclosure body, on rear side door or screwed wall; fastening elements for front panel; front panel order separately

Technical data

Material	Enclosure profile: DIN EN 573 EN AW-AlMgSi Enclosure lid: DIN EN 1706 EN AC-AISI 12 (Fe)
Painting	Powder coating
Colour	Enclosure body and enclosure lid: RAL 7035, light grey Multi function profile: RAL 9005, jet black
Ingress protection	IP65 to EN 60529
Temperature range	-30 °C to +65 °C

Product range

Type	Order No.	Order No. Front plate	Weight (g)
CT 110-350-S	20.80 10 10	20.80 91 01	7000
CT 110-520-S	20.80 10 20	20.80 91 02	8500
CT 110-SL-S	20.80 10 99	20.80 91 98	-
CT 110-350-S-GT	20.80 11 10	20.80 91 01	7000
CT 110-520-S-GT	20.80 11 20	20.80 91 02	8500
CT 110-SL-S-GT	20.80 11 99	20.80 91 98	-
CT 145-350-S	20.80 40 10	20.80 91 03	9600
CT 145-520-S	20.80 40 20	20.80 91 04	11400
CT 145-SL-S	20.80 40 99	20.80 91 99	-
CT 145-350-S-GT	20.80 42 10	20.80 91 03	9600
CT 145-520-S-GT	20.80 42 20	20.80 91 04	11400
CT 145-SL-S-GT	20.80 42 99	20.80 91 99	-

SL = special length

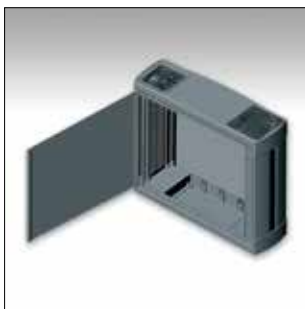
Suspension adaptation

for adaptation of ROSE suspension systems

- GT 48 and GTK electronic for ComTronic 110
- GTN II for ComTronic 145
- other machining by version "without coupling hole" available

Type	GT 48/2 GTS	GTK electronic	GTN II	without coupling hole
CT110-350-S				•
CT110-520-S				•
CT110-SL-S				•
CT110-350-S-GT	•	•		
CT110-520-S-GT	•	•		
CT110-SL-S-GT	•	•		
CT145-350-S				•
CT145-520-S				•
CT145-SL-S				•
CT145-350-S-GT			•	
CT145-520-S-GT			•	
CT145-SL-S-GT			•	

Rear wall mounting



1. Door with fast lock system

- Standard version
- Hinge side is fixed by pin screw with blind plugs
- Lock side is provided only by pin screws



2. Door with turn bolt fastener

- Option available
- Hinge side is fixed by pin screw with blind plugs
- Lock side is provided with two turn bolt fasteners



3. Rear wall completely closed

- Optional available
- Rear wall fixed by screws

Accessories

Front plate

Order No.	Execution
20.80 91 01	for 20.80 10 10; 20.80 11 10
20.80 91 02	for 20.80 10 20; 20.80 11 20
20.80 91 98	for 20.80 10 98; 20.80 11 99
20.80 91 03	for 20.80 40 10; 20.80 42 10
20.80 91 04	for 20.80 40 20; 20.80 42 20
20.80 91 99	for 20.80 40 99; 20.80 42 99

Handle set



Order No.	Execution
20.80 90 02	L = 350 mm (set = 2 pcs)
20.80 90 03	L = 500 mm (set = 2 pcs)
20.80 90 99	Special length (set = 2 pcs)

Mounting set

Order No.
10.03 31 01

Cover plate

Order No.	Execution
20.80 90 04	for CT 110 (4 pcs)
20.80 90 05	for CT 145 (4 pcs)

Wall holder



Order No.
20.80 90 01

Ventilator



Order No.	Execution
83.90 00 04	Ventilator 60 for ComTronic 110 (1 pc)
83.90 00 05	Ventilator 92 for ComTronic 145 (1 pc)

NoVoTronic-adapter



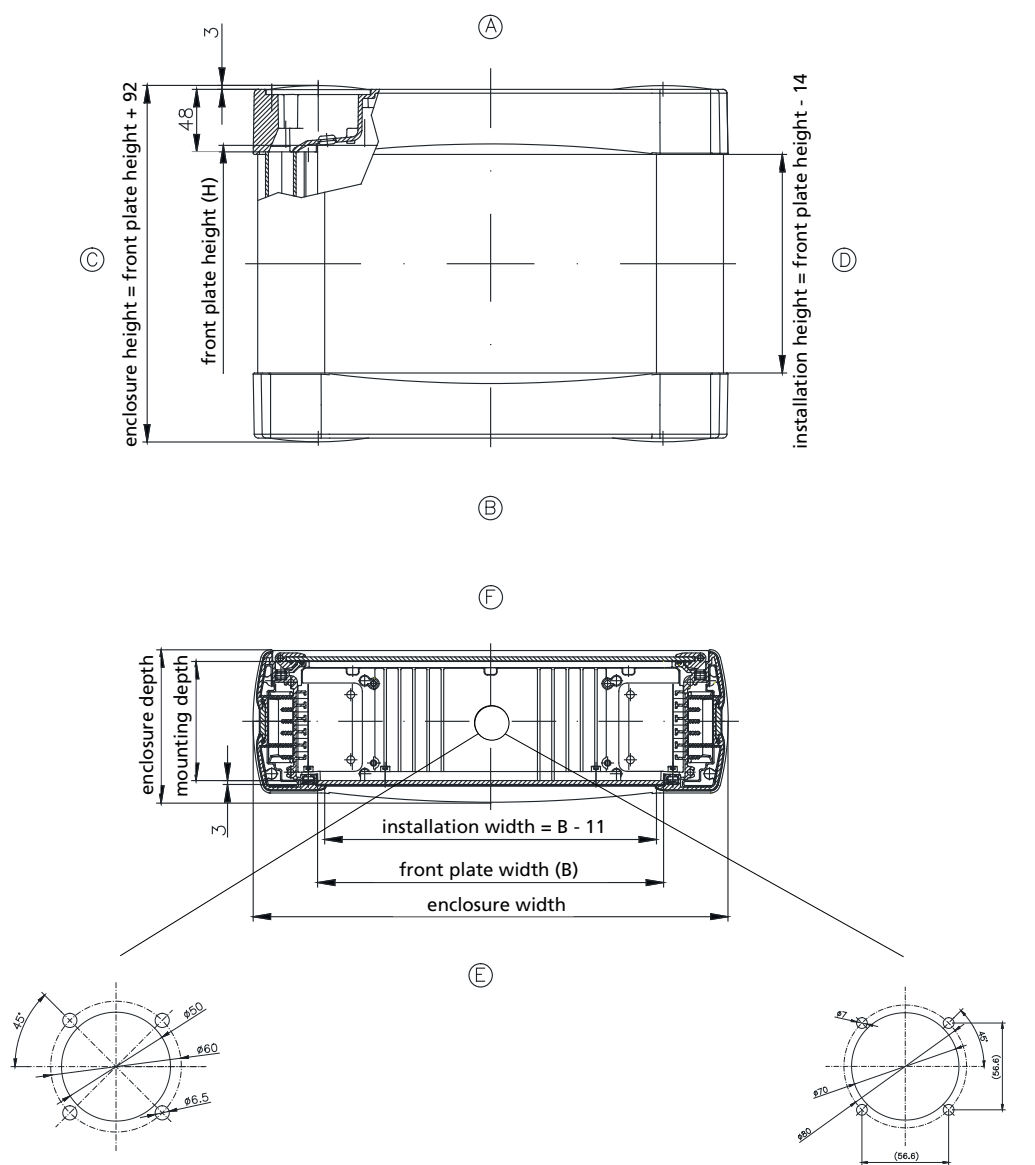
Order No.	Execution
20.80 90 06	NoVoTronic-adapter P80
20.80 90 07	NoVoTronic-adapter P100
20.80 90 08	NoVoTronic-adapter P160

Further accessories see Commander system accessories

Technical details

Type	Order No.	Front plate W x H (mm)	Installation W x H (mm)	Enclosure W x H (mm)	Mounting depth	Enclosure depth
CT 110-350-S	20.80 10 10	266 x 350	255 x 336	365 x 442	91	118
CT 110-350-S-GT	20.80 11 10	266 x 350	255 x 336	365 x 442	91	118
CT 110-520-S	20.80 10 20	266 x 520	255 x 506	365 x 612	91	118
CT 110-520-S-GT	20.80 11 20	266 x 520	255 x 506	365 x 612	91	118
CT 110-SL-S	20.80 10 99	266 x SL	255 x SL	365 x SL	91	118
CT 110-SL-S-GT	20.80 11 99	266 x SL	255 x SL	365 x SL	91	118
CT 145-350-S	20.80 40 10	351 x 350	340 x 336	453 x 442	127	153
CT 145-350-S-GT	20.80 42 10	351 x 350	340 x 336	453 x 442	127	153
CT 145-520-S	20.80 40 20	351 x 520	340 x 506	453 x 612	127	153
CT 145-520-S-GT	20.80 42 20	351 x 520	340 x 506	453 x 612	127	153
CT 145-SL-S	20.80 40 99	351 x SL	340 x SL	453 x SL	127	153
CT 145-SL-S-GT	20.80 42 99	351 x SL	340 x SL	453 x SL	127	153

SL = Special length



Drilling hole GT 48/2 and GTK electronic

Drilling hole GTN II

Company _____ Telephone _____
 Contact _____ Telefax _____
 Address _____ E-Mail _____
 Project _____ Quantity _____ Lot size _____

Dimensions operating enclosures

☐ ComTronic 110

☐ for front panel 266 x 350 mm (W x H) ☐ for front panel 266 x 520 mm (W x H)

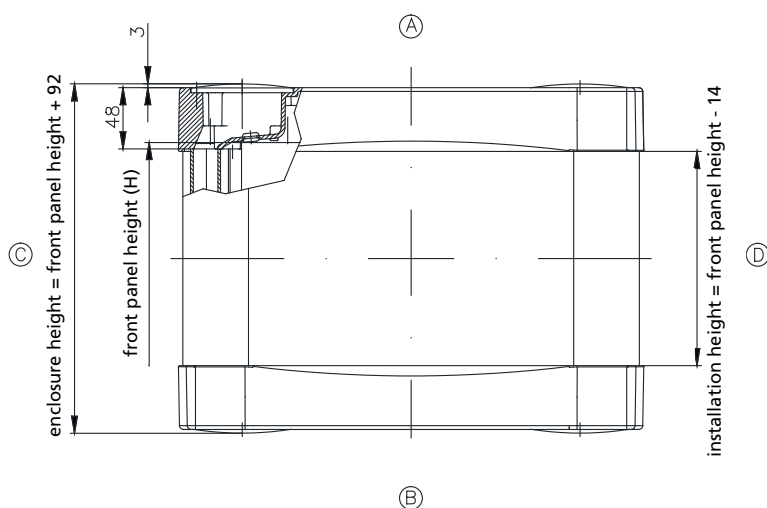
☐ for front panel 266 x special length mm (W x H)

☐ ComTronic 145

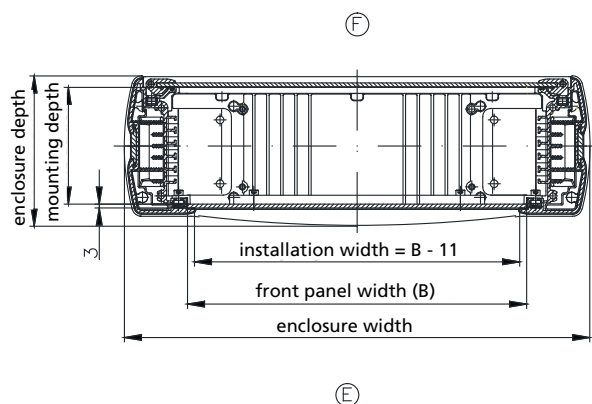
☐ for front panel 351 x 350 mm (W x H) ☐ for front panel 351 x 520 mm (W x H)

☐ for front panel 351 x special length mm (W x H)

front panel dimension special length H (mm) _____ (high)



	110	145
Mounting depth:	91	127
Enclosure depth:	118	153
Installation width:	255	340



☐ Front panel mounted: ☐ yes ☐ no

Modified acc. to drawing no.: _____

or specify manufacturer / control type _____

Accessory to inquiry / order

Company: _____

Rear wall

- ☐ With fast lock system (standard)
☐ With turn bolt fastener

Hinged side _____ (standard side D)

Hinged side _____ (standard side D)

- ☐
- Square 6 mm (standard)

☐ Triangular 6,5 mm☐ Slot 1,5 mm

- ☐
- Screwed

- ☐
- Rear wall machining acc. drawing no. _____

Colour

- ☐
- Standard: light grey, RAL 7035

- ☐
- Special colour (please specify RAL colour single):

Profile RAL _____ Lid RAL _____ Slot-in strip RAL _____ (standard: black)

Suspension system

- ☐
- without

- ☐
- GTK electronic or GT 48/2

Side _____ (standard side A by ComTronic 110)

- ☐
- GTS

Side _____ (standard side A by ComTronic 110)

- ☐
- GTN II

Side _____ (standard side A by ComTronic 110)

- ☐
- Moterm

- ☐
- other _____ Drawing no. _____ Side _____

Total weight of mountings ca. _____ kg

Handle set

- ☐
- Side C and D

- ☐
- Special colour RAL _____ (standard: black)

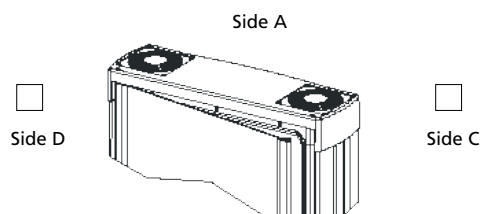
- ☐
- Special length _____ mm

Ventilator (1 pcs.)

- ☐
- Standard 2 pcs.

- ☐
- Side _____ (standard: side A)

divergent by inset of only one ventilator



Cover elements (4 pcs.)

- ☐
- (or hygienic areas) attention: none optimal cooling effect!

NoVoTronic adapter

- ☐
- Side _____ (standard: side D)

Wall holder-CT

- ☐
- Side _____ (standard: Side C)

Other machining / special versions

acc. drawing no.: _____

Commander 1



- + Small control enclosure in aluminium diecast with protective bumper bars
- + Robust aluminium diecast enclosure body with front panel
- + Transparent cover and handle set (optional)

Included in delivery

Enclosure body with front frame and fastening screws (2 or 4 pcs.).
Please order front panel separately

Technical data

Material	DIN EN 1706 EN AC-ALSi 12 (Fe)
Painting	Powder coating
Colour	Enclosure body: RAL 7038, agate grey Front frame: RAL 7043, traffic grey B Special colour on request
Ingress protection	IP65 to EN 60529 with transparent cover IP54

Commander 1

Product range

Type	Dimensions H x W x D (mm)	Enclosure without front panel	Enclosure drilled for attachment of handle, without front panel	Weight (g)	1 set single handle for side A + B 	1 set single handle for side C + D 	Handling frame for side A + B 	Handling frame for side C + D 
13.05	230 x 100 x 128	13.05 00 00		2170				
13.07	260 x 160 x 108	13.07 00 00		2450				
13.08	360 x 160 x 108	13.08 00 00		2730				
13.09	560 x 160 x 108	13.09 00 00		5390				
13.10	230 x 200 x 128	13.10 00 00	13.10 10 00	3100	13.34 00 01	13.34 00 01		13.34 10 01
13.11	230 x 200 x 198	13.11 00 00	13.11 10 00	4495	13.34 00 01	13.34 00 01		13.34 10 01
13.12	230 x 330 x 128	13.12 00 00	13.12 10 00	4280	13.34 00 03	13.34 00 01	13.34 12 02	13.34 12 01
13.13	230 x 330 x 198	13.13 00 00	13.13 10 00	6000	13.34 00 03	13.34 00 01	13.34 12 02	13.34 12 01
13.14	230 x 400 x 128	13.14 00 00	13.14 10 00	5305	13.34 00 04	13.34 00 01	13.34 14 02	13.34 14 01
13.15	230 x 400 x 242	13.15 00 00	13.15 10 00	6840	13.34 00 04	13.34 00 01	13.34 14 02	13.34 14 01
13.17	230 x 280 x 130	13.17 00 00	13.17 10 00	4000	13.34 00 02	13.34 00 01		
13.20	310 x 400 x 128	13.20 00 00	13.20 10 00	5200	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01
13.21	310 x 400 x 198	13.21 00 00	13.21 10 00	8215	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01
13.22	310 x 600 x 128	13.22 00 00	13.22 10 00	9720	13.34 00 05	13.34 00 02	13.34 22 02	13.34 22 01
13.23	310 x 600 x 198	13.23 00 00	13.23 10 00	10300	13.34 00 05	13.34 00 02	13.34 22 02	13.34 22 01
13.24	310 x 400 x 244	13.24 00 00	13.24 10 00	8700	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01
13.25	310 x 400 x 158	13.25 00 00	13.25 10 00	7085	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01

Connection to suspension system

for type	GT 48/2 GTK electronic	GTS	GT 50/2	GT 60/2 GTN II	GT 80/2
13.05	•				
13.07	•				
13.08	•				
13.09	•				
13.10	•	•	•		
13.11	•	•	•	•	•
13.12	•	•	•		
13.13	•	•	•	•	•
13.14	•	•	•		
13.15	•	•	•	•	•
13.17	•	•	•		
13.20	•	•	•		
13.21	•	•	•	•	•
13.22	•	•	•		
13.23	•	•	•	•	•
13.24	•	•	•	•	•
13.25	•	•	•	•	•



Commander 1

Accessories

Type	Front plate	Mounting plate	Transparent cover with knurled lock	DIN rail TS 35/7.5	Silicone seal
13.05	10.01 30 05	10.01 10 14		10.06 14 29	10.05 10 15
13.07	10.01 30 07	10.01 10 11		10.06 14 24	10.05 13 07
13.08	10.01 30 08	10.01 10 12		10.06 14 25	10.05 13 08
13.09	10.01 30 09	10.01 10 13		10.06 14 26	10.05 13 09
13.10	10.01 30 10	10.01 10 15	13.33 10 10	10.06 14 30	10.05 13 10
13.11	10.01 30 10	10.01 10 15	13.33 10 10	10.06 14 30	10.05 13 10
13.12	10.01 30 12	10.01 10 17	13.33 12 10	10.06 14 32	10.05 13 12
13.13	10.01 30 12	10.01 10 17	13.33 12 10	10.06 14 32	10.05 13 12
13.14	10.01 30 14	10.01 10 18	13.33 14 10	10.06 14 27	10.05 13 14
13.15	10.01 30 14	10.01 10 18	13.33 14 10	10.06 14 27	10.05 13 14
13.17	10.01 30 17	10.01 10 16		10.06 14 31	10.05 13 17
13.20	10.01 30 20	10.01 10 20	13.33 20 10	10.06 14 27	10.05 13 20
13.21	10.01 30 20	10.01 10 20	13.33 20 10	10.06 14 27	10.05 13 20
13.22	10.01 30 22	10.01 10 21	13.33 22 10	10.06 14 28	10.05 13 22
13.23	10.01 30 22	10.01 10 21	13.33 22 10	10.06 14 28	10.05 13 22
13.24	10.01 30 20	10.01 10 20	13.33 20 10	10.06 14 27	10.05 13 20
13.25	10.01 30 20	10.01 10 20	13.33 20 10	10.06 14 27	10.05 13 20

Internal hinge



Swivel range 95°
set = 2 pcs

Order No.

10.02 20 01

External hinge



Swivel range 150°
set = 2 pcs

Order No.

10.02 70 43

Lock



Order No.

Execution

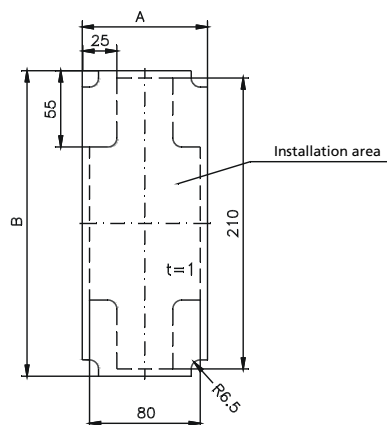
10.12 04 07	Square 7 mm
10.12 04 08	Square 8 mm
10.12 04 09	Triangular 7 mm
10.12 04 10	Triangular 8 mm
10.12 04 11	Daimler Benz
10.12 04 12	Double ward
10.12 04 13	Knob with lock

Commander 1

Accessories

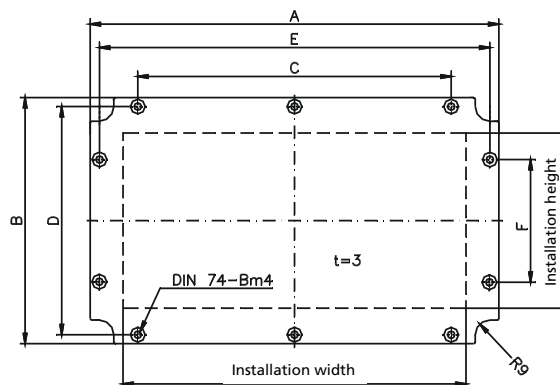
Front plate

Type	Order No.	A	B	Installation width	Installation height
13.05	10.01 30 05	90,5	220,5	80	210



Front plate

Type	Order No.	A	B	C	D	E	F	Installation width	Installation height
13.07	10.01 30 07	251	151	205	140	240	-	220	120
13.08	10.01 30 08	351	151	305	140	340	-	320	120
13.10	10.01 30 10	192,5	223	-	210	179	-	154	184
13.11	10.01 30 10	192,5	223	-	210	179	-	154	184
13.12	10.01 30 12	320,5	220,5	140	207	307	-	284	184
13.13	10.01 30 12	320,5	220,5	140	207	307	-	284	184
13.14	10.01 30 14	389,5	219	140	207	377	-	354	184
13.15	10.01 30 14	389,5	219	140	207	377	-	354	184
13.17	10.01 30 17	272	222	-	208	258	-	234	184
13.20	10.01 30 20	390,5	300,5	300	287	377	150	354	264
13.21	10.01 30 20	390,5	300,5	300	287	377	150	354	264
13.24	10.01 30 20	390,5	300,5	300	287	377	150	354	264
13.25	10.01 30 20	390,5	300,5	300	287	377	150	354	264

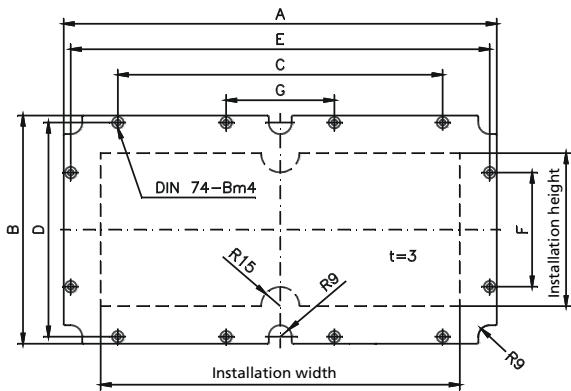


Commander 1

Accessories

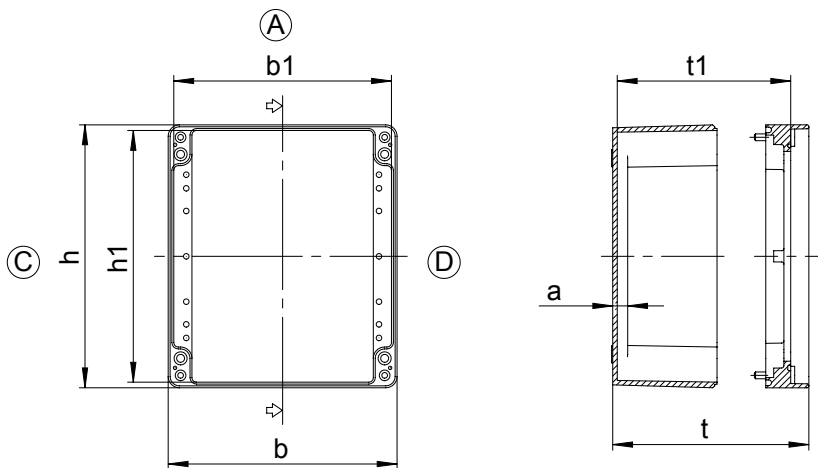
Front plate

Type	Order No.	A	B	C	D	E	F	G	Installation width	Installation height
13.09	10.01 30 09	551	151	505	140	540	-	175	516	120
13.22	10.01 30 22	590,5	300,5	450	287	577	150	150	554	264
13.23	10.01 30 22	590,5	300,5	450	287	577	150	150	554	264



Technical details

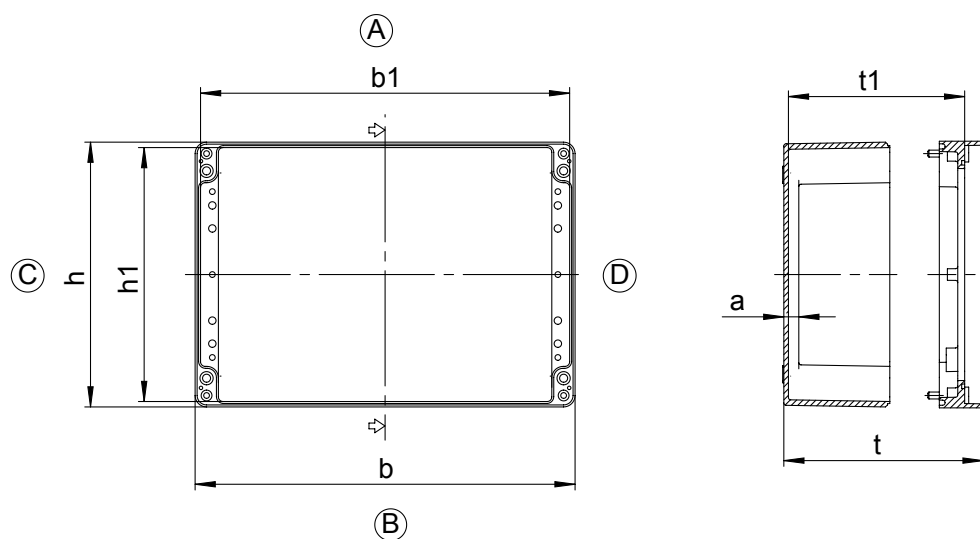
Order No.	b	h	t	b1	h1	t1	a
13.05 00 00	100	230	129	88	218	101	14
13.10 00 00	202	232	129	189	219	108	13
13.11 00 00	202	232	198	190	220	176	14



Commander 1

Technical details

Order No.	b	h	t	b1	h1	t1	a
13.07 00 00	260	160	109	248,5	149	88	13
13.08 00 00	360	160	109	348,5	149	88	13
13.09 00 00	560	160	109	548,5	149	88	13
13.12 00 00	330	230	129	316,5	216,5	112	13
13.13 00 00	330	230	199	316,5	216,5	176	15
13.14 00 00	400	230	129	387	217	108	13
13.15 00 00	400	230	243	384,5	214,5	220,5	14
13.17 00 00	280	230	129	387	217	108	13
13.20 00 00	404	313	129	391	301	107,5	13
13.21 00 00	404	313	199	358,5	299	176	14
13.22 00 00	600	310	129	586	296	106	14
13.23 00 00	600	310	199	584	294	176	14
13.24 00 00	404	313	245	360,5	297,5	222	14
13.25 00 00	403	312	159	391	296,5	136	14



Commander 1F



- + Small control enclosure in aluminium with front frame for front panels and keypads
- + Robust aluminium diecast enclosure body
- + Handle set (optional)

Included in delivery

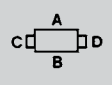
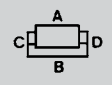
Enclosure body with two-part front frame, enclosure and fastening screws (2 or 4 pcs.).
Please order front panel separately

Technical data

Material	DIN EN 1706 EN AC-ALSi 12 (Fe)
Painting	Powder coating
Colour	Enclosure body: RAL 7038, agate grey Front frame: RAL 7043, traffic grey B Special colours on request
Ingress protection	IP65 to EN 60529

Commander 1F

Product range

Type	Dimensions H x W x D (mm)	Enclosure without front panel	Enclosure drilled for attachment of handle, without front panel	Weight (g)	1 set single handle for side A + B 	1set single handle for side C + D 	Handling frame for side A + B 	Handling frame for side A + B 
13.07	260 x 160 x 108	13.07 05 00		3000				
13.08	360 x 160 x 108	13.08 05 00		3581				
13.10	230 x 200 x 128	13.10 05 00	13.10 15 00	3900	13.34 00 01	13.34 00 01		13.34 10 01
13.10	230 x 200 x 153	13.10 05 10	13.10 15 10	3610	13.34 00 01	13.34 00 01		13.34 10 01
13.11	230 x 200 x 198	13.11 05 00	13.11 15 00	4470	13.34 00 01	13.34 00 01		13.34 10 01
13.12	230 x 330 x 128	13.12 05 00	13.12 15 00	4300	13.34 00 03	13.34 00 01	13.34 12 02	13.34 12 01
13.12	230 x 330 x 153	13.12 05 10	13.12 15 10	4685	13.34 00 03	13.34 00 01	13.34 12 02	13.34 12 01
13.13	230 x 330 x 198	13.13 05 00	13.13 15 00	7500	13.34 00 03	13.34 00 01	13.34 12 02	13.34 12 01
13.14	230 x 400 x 128	13.14 05 00	13.14 15 00	4580	13.34 00 04	13.34 00 01	13.34 14 02	13.34 14 01
13.15	230 x 400 x 242	13.15 05 00	13.15 15 00	7230	13.34 00 04	13.34 00 01	13.34 14 02	13.34 14 01
13.17	230 x 280 x 130	13.17 05 00	13.17 15 00	4200	13.34 00 02	13.34 00 01		
13.20	310 x 400 x 128	13.20 05 00	13.20 15 00	6700	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01
13.21	310 x 400 x 198	13.21 05 00	13.21 15 00	9280	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01
13.25	310 x 400 x 158	13.25 05 00	13.25 15 00	7085	13.34 00 04	13.34 00 02	13.34 20 02	13.34 20 01

Connection to suspension system

for type	GTK electronic GT 48/2	GTS	GT 50/2	GT 50/2	GT 60/2 GTN II	GT 80/2
13.07 05 00	•	•				
13.08 05 00	•	•				
13.10 05 00	•	•	•	•		
13.10 05 10	•	•	•	•		
13.11 05 00	•	•	•	•	•	•
13.12 05 00	•	•	•	•		
13.12 05 10	•	•	•	•		
13.13 05 00	•	•	•	•	•	•
13.14 05 00	•	•	•	•		
13.15 05 00	•	•	•	•	•	•
13.17 05 00	•	•	•	•		
13.20 05 00	•	•	•	•		
13.21 05 00	•	•	•	•	•	•
13.25 05 00	•	•	•	•	•	•



Commander 1F

Accessories

Type	Front plate	Mounting plate	DIN rail TS 35/7.5	Silicone seal
13.07	10.01 32 07	10.01 10 11	10.06 14 24	10.05 13 07
13.08	10.01 32 08	10.01 10 12	10.06 14 25	10.05 13 08
13.10	10.01 32 10	10.01 10 15	10.06 14 30	10.05 13 10
13.10	10.01 32 10	10.01 10 15	10.06 14 30	10.05 13 10
13.11	10.01 32 10	10.01 10 15	10.06 14 30	10.05 13 10
13.12	10.01 32 12	10.01 10 17	10.06 14 32	10.05 13 12
13.12	10.01 32 12	10.01 10 17	10.06 14 32	10.05 13 12
13.13	10.01 32 12	10.01 10 17	10.06 14 32	10.05 13 12
13.14	10.01 32 14	10.01 10 18	10.06 14 27	10.05 13 14
13.15	10.01 32 14	10.01 10 18	10.06 14 27	10.05 13 14
13.17	10.01 32 17	10.01 10 16	10.06 14 31	10.05 13 17
13.20	10.01 32 20	10.01 10 20	10.06 14 27	10.05 13 20
13.21	10.01 32 20	10.01 10 20	10.06 14 27	10.05 13 20
13.25	10.01 32 20	10.01 10 20	10.06 14 27	10.05 13 20

Internal hinge



Swivel range 95°
set = 2 pcs

Order No.

10.02 20 01

Execution

only for type 13.07 to 13.15

External hinge



Swivel range 150°
set = 2 pcs

Order No.

10.02 70 43

Lock



Order No.

Execution

10.12 04 07

Square 7 mm

10.12 04 08

Square 8 mm

10.12 04 09

Triangular 7 mm

10.12 04 10

Triangular 8 mm

10.12 04 11

Daimler Benz

10.12 04 12

Double ward

10.12 04 13

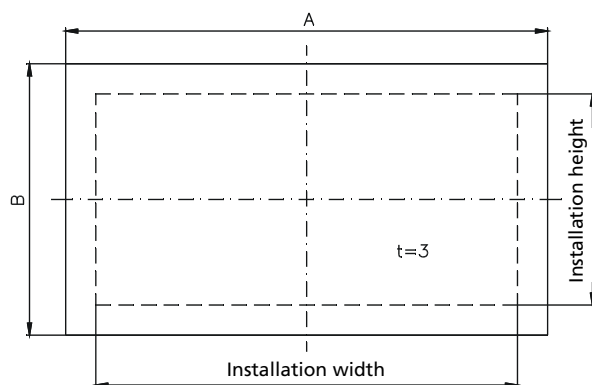
Knob with lock

Commander 1F

Accessories

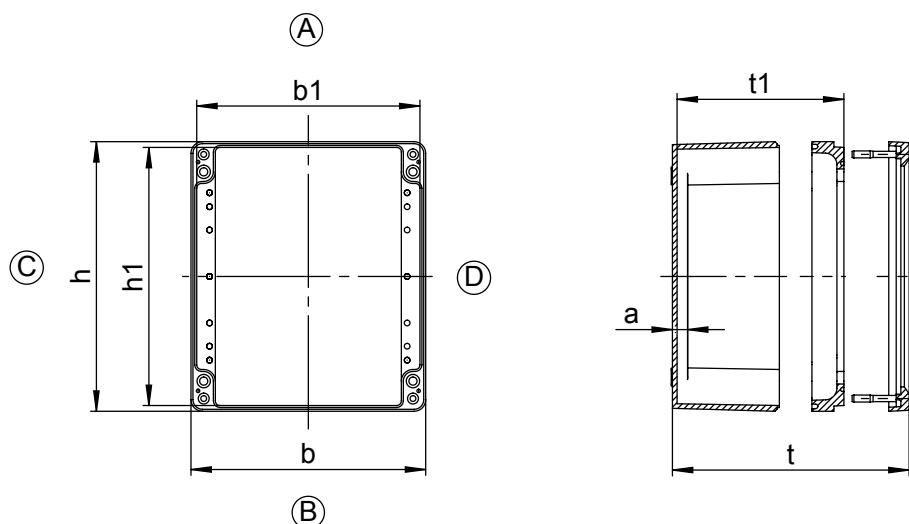
Front plate

Type	Order No.	A	B	Installation width	Installation height
13.07F	10.01 32 07	230	130	215	115
13.08F	10.01 32 08	330	130	315	115
13.10F	10.01 32 10	170	200	155	185
13.11F	10.01 32 10	170	200	155	185
13.12F	10.01 32 12	300	200	285	185
13.13F	10.01 32 12	300	200	285	185
13.14F	10.01 32 14	370	200	355	185
13.15F	10.01 32 14	370	200	355	185
13.17F	10.01 32 17	251	201	235	185
13.20F	10.01 32 20	375	284	359	268
13.21F	10.01 32 20	375	284	359	268
13.25F	10.01 32 20	375	284	359	268



Technical details

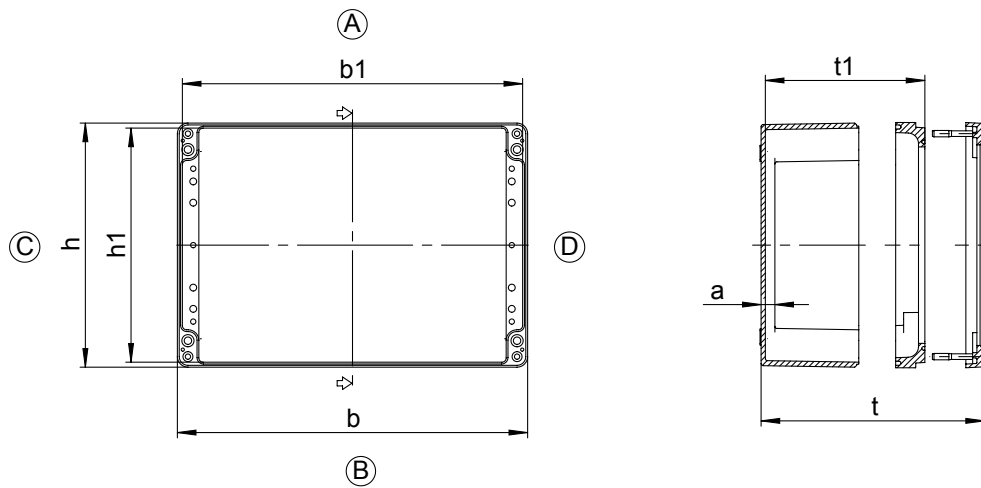
Order No.	b	h	t	b1	h1	t1	a
13.10 05 00	202	232	129,5	189	219	113,5	13
13.10 05 10	202	232	153	189	219	137	13
13.11 05 00	202	232	198,5	190	220	181,5	14



Commander 1F

Technical details

Order No.	b	h	t	b1	h1	t1	a
13.07 05 00	260	160	109,5	248,5	149	93,5	13
13.08 05 00	360	160	109,5	348,5	149	93,5	13
13.12 05 00	330	230	129,5	320,5	220,5	113,5	13
13.12 05 10	330	230	153	320,5	220,5	137	13
13.13 05 00	330	230	199,5	320,5	220,5	181,5	15
13.14 05 00	400	230	129,5	384,5	214,5	113,5	13
13.15 05 00	400	230	243,5	384,5	214,5	226	14
13.17 05 00	280	230	129,5	268	218	113,5	13
13.20 05 00	404	313	129,5	390	299	113	13
13.21 05 00	404	313	199,5	390	299	181,5	14
13.25 05 00	403	312	159,5	388,5	296,5	141,5	14



Commander KSSC



- + Stainless steel control enclosure based on switch gear cabinet KSS
- + Including reinforcement plate and drill hole for ROSE GTH suspension system
- + Optional individual sizes and Executions from 25 off

Included in delivery

Enclosure system including amplifier plate and GTH coupling hole with door, double ward lock.

Technical data

Material	Stainless steel 1.25 mm or 1.5 mm; 1.4301 / 304
Surface	grinded, grain 240
Seal	VMQ (silicone) EMC on request
Ingress protection	IP65 to EN 60529
Temperature range	-40 °C to +80 °C

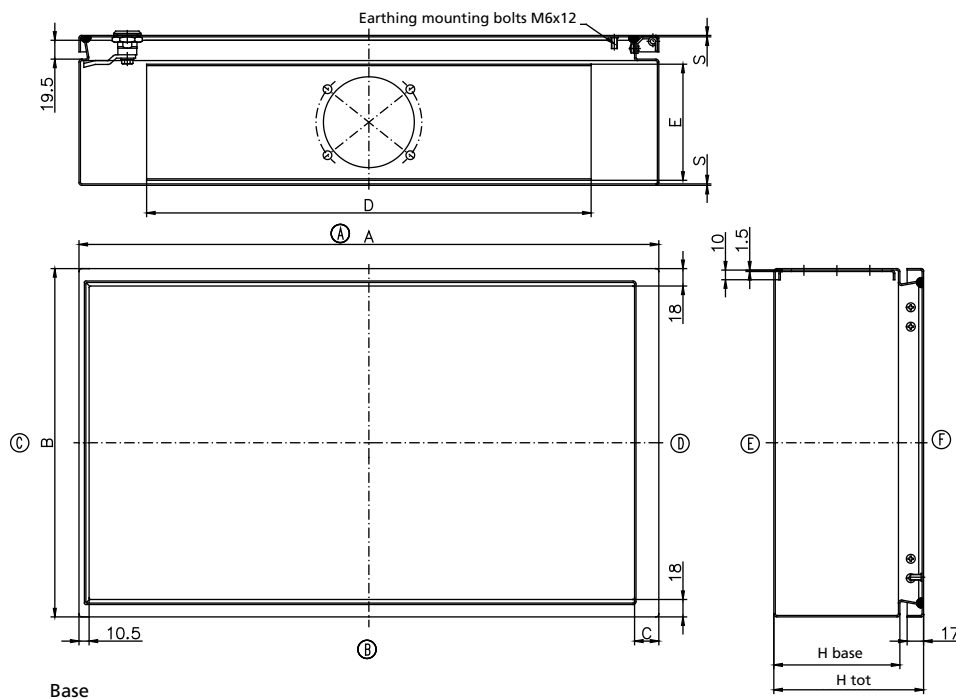


Commander KSSC

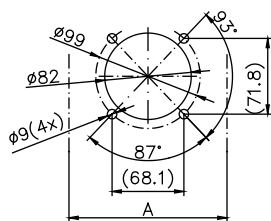
Product range

Order No.	Weight (g)	Dimensions (mm)								Drillings for suspension system (side A)
		A	B	C	D	E	S	H _U	H _{Ges}	
37.02 23 15	3500	200	300	24,6	160	100	1.25	130,7	155	GTH 48 (Bild 1)
37.02 34 21	6000	300	380	24,6	260	175	1.25	185,7	210	GTH 48 (Bild 1)
37.02 43 15	5500	400	300	24,6	360	100	1.25	130,7	155	GTH 48 (Bild 1)
37.02 46 21	11500	380	600	25,1	340	175	1.5	185,7	210	GTH 60 (Bild 2)
37.02 55 21	10500	500	500	24,6	460	175	1.25	185,7	210	GTH 60 (Bild 2)
37.02 64 15	10500	600	400	25,1	460	120	1.5	130,7	155	GTH 60 (Bild 2)
37.02 68 21	19500	600	760	25,1	560	175	1.5	185,7	210	GTH 60 (Bild 2)
37.02 99 00	special size (acc. specification)									

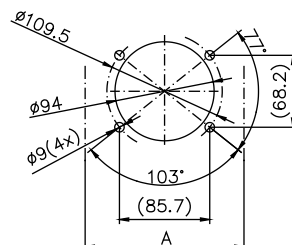
Cutout of size, state by order
Special size: from 25 pcs/order



Picture 1:
Coupling drilling hole (GTH 48)



Picture 2:
Coupling drilling hole (GTH 60)



Commander 410



- + Stainless steel Commander with screwed rear wall
- + Sloped top acc. to hygienic design regulations
- + High material quality

Included in delivery

Enclosure with screwed rear wall, silicone seal - depending on Execution with closed or individual manufactured front, internal fixing and coupling hole for suspension system GTH 48

Technical data

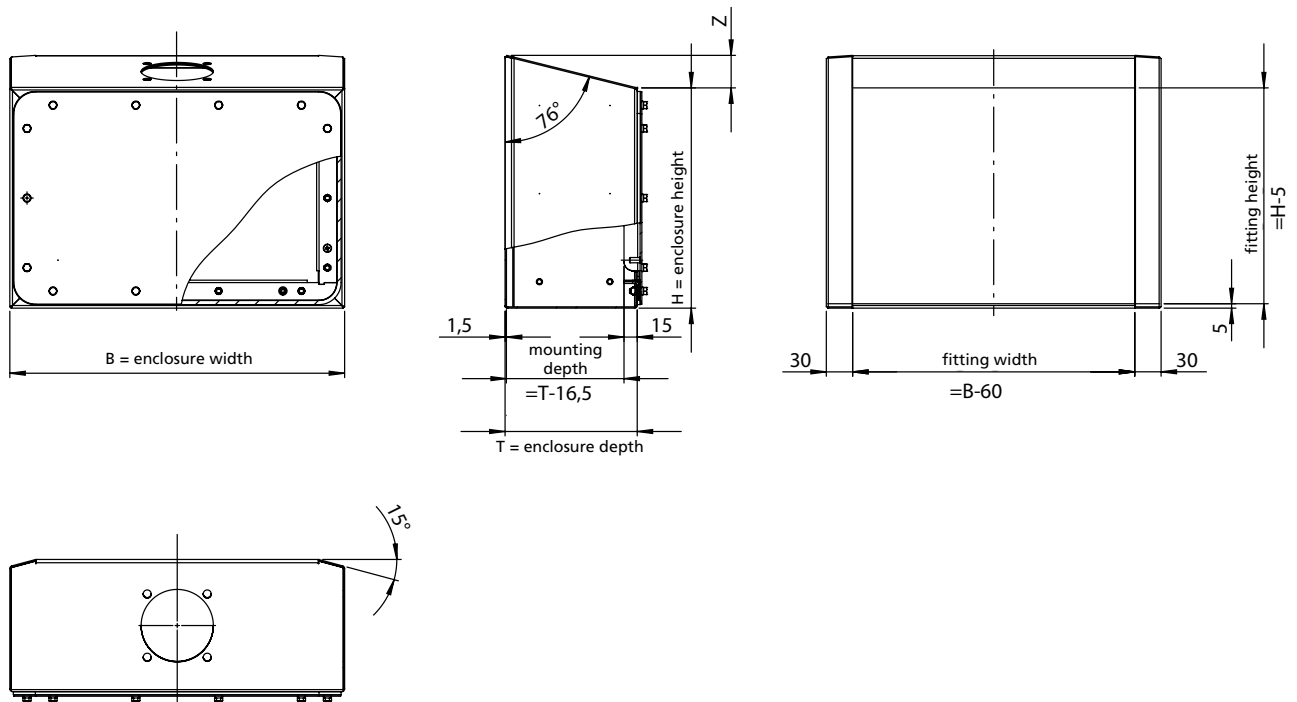
Material	Stainless steel 1.4404/316L
Surface	grinded, grain 240
Seal	Silicone
Ingress protection	IP66 / IP69K to EN 60529
Temperature range	-40 °C to +80 °C



Commander 410

Product range

Order No.	Dimensions (mm) W x H x D	Z	Fitting width	Fitting height	Drillings for suspension system (Side A)	Weight (g)
56.10 02 01	380 x 250 x 150	37	320	245	GTH 48	9000
56.10 02 02	380 x 250 x 220	55	320	245	GTH 48	9000
56.10 02 03	500 x 350 x 150	37	440	345	GTH 48	11000
56.10 02 04	500 x 350 x 220	55	440	345	GTH 48	11500
56.10 02 05	500 x 450 x 150	37	440	445	GTH 48	12000
56.10 02 06	500 x 450 x 220	55	440	445	GTH 48	12500



Accessories

Mounting angle set

Order No.	Execution
56.20 99 01	for internal fitting of components



Commander 420



- + Stainless steel Commander with door for industrial applications
- + High material quality
- + Handle set optional

Included in delivery

Enclosure with door, rect angle, silicone seal - depending on Execution with closed or individual manufactured front, internal fixing and coupling hole for suspension system GTH 48

Technical data

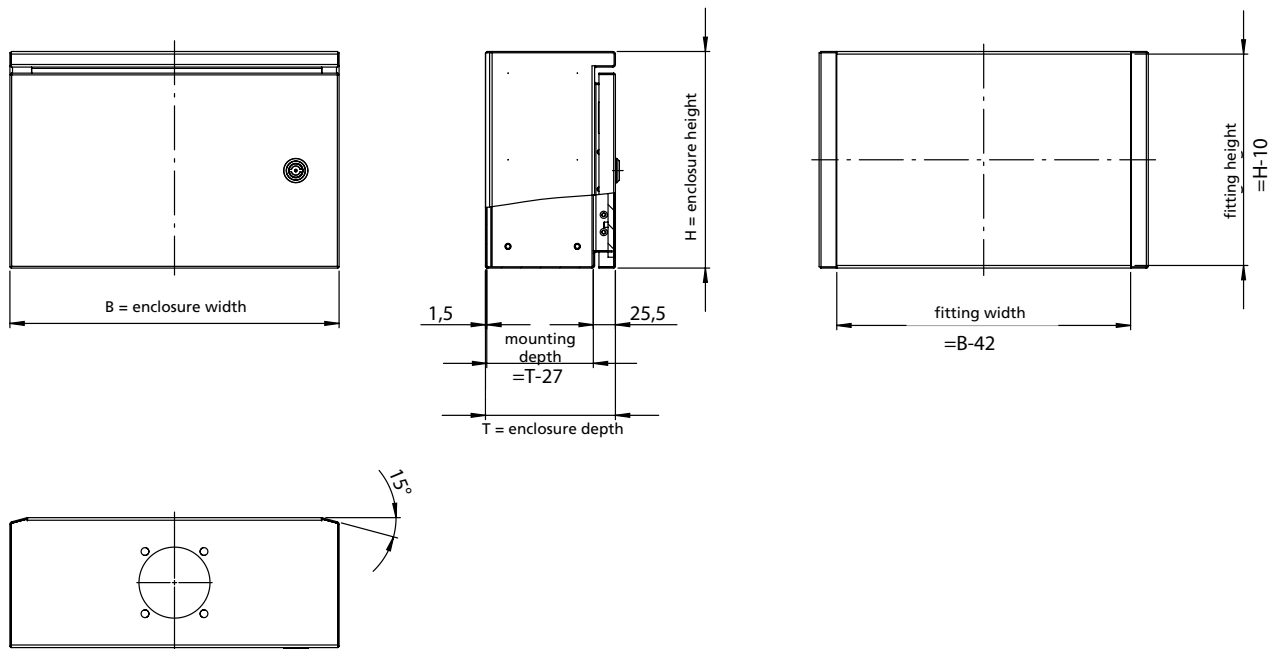
Material	Stainless steel 1.4301/304 other materials on request
Surface	grinded, grain 240
Seal	Silicone
Ingress protection	IP65 to EN 60529
Temperature range	-40 °C to +80 °C



Commander 420

Product range

Order No.	Dimensions (mm) W x H x D	Fitting width	Fitting height	Drillings for suspension system (Side A)	Weight (g)
56.20 01 01	380 x 250 x 150	338	240	GTH 48	9000
56.20 01 02	380 x 250 x 220	338	240	GTH 48	9000
56.20 01 03	500 x 350 x 150	458	340	GTH 48	11000
56.20 01 04	500 x 350 x 220	458	340	GTH 48	11500
56.20 01 05	500 x 450 x 150	458	440	GTH 48	12000
56.20 01 06	500 x 450 x 220	458	440	GTH 48	12500



Accessories

Mounting bracket set

Order No.	Execution
56.20 99 01	for internal fitting of components

Handle set

Order No.	Execution
56.20 01 93	Handle set ECO for Commander 420, L = 220 mm
56.20 01 94	Handle set ECO for Commander 420, L = 320 mm
56.20 01 95	Handle set ECO for Commander 420, L = 420 mm



Commander 450



- + Control enclosure in stainless steel 1.4301 (304)
- + Different handle design versions
- + High protection class IP66
- + Integrated grounding lugs
- + Customized laser processing possible
- + Optional further locking systems made of different materials available (e.g. plastic or zinc die-cast)

Included in delivery

Enclosure including reinforcing plate, couplings hole and handles.

Technical data

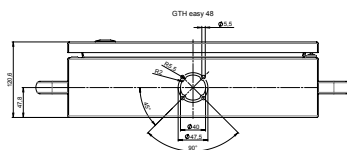
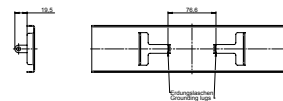
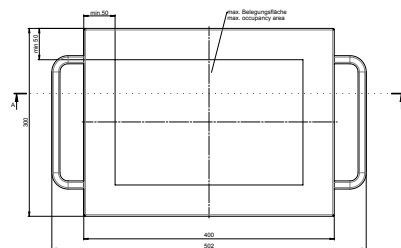
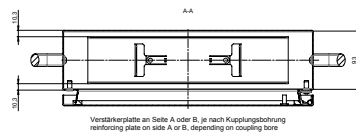
Material	Stainless steel 1.4301/304 other materials on request
Surface	grinded, grain 320
Seal	Silicone
Ingress protection	IP66
Temperature range	-20 °C to +80 °C



Commander 450

Product range

Order No.	Dimensions (mm) W x H x D	Fitting (mm) W x H	Variation	Drillings for suspension system (Side A)	Weight (kg)
56.45 01 01	400 x 300 x 120	300 x 200	with two edge handles (side C/D)		4.21
56.45 01 02	400 x 300 x 120	300 x 200	with two bow handles (side C/D)		5.68
56.45 01 03	400 x 300 x 120	300 x 200	with one bow handle (side B)		5.40
56.45 02 01	400 x 300 x 160	300 x 200	with two edge handles (side C/D)		4.90
56.45 02 02	400 x 300 x 160	300 x 200	with two bow handles (side C/D)		6.37
56.45 02 03	400 x 300 x 160	300 x 200	with one bow handle (side B)		6.09
56.45 03 01	400 x 400 x 160	300 x 300	with two edge handles (side C/D)		7.13
56.45 03 02	400 x 400 x 160	300 x 300	with two bow handles (side C/D)		7.84
56.45 03 03	400 x 400 x 160	300 x 300	with one bow handle (side B)		7.24
56.45 04 01	500 x 300 x 200	400 x 200	with two edge handles (side C/D)		7.49
56.45 04 02	500 x 300 x 200	400 x 200	with two bow handles (side C/D)		8.38
56.45 04 03	500 x 300 x 200	400 x 200	with one bow handle (side B)		8.26
56.45 05 01	500 x 500 x 200	400 x 400	with two edge handles (side C/D)		9.00
56.45 05 02	500 x 500 x 200	400 x 400	with two bow handles (side C/D)		12.00
56.45 05 03	500 x 500 x 200	400 x 400	with one bow handle (side B)		11.00



Commander system accessories



- + Keyboard drawer and keyboard tray
- + Keyboard holder
- + Single and multi interface flaps and flap inserts

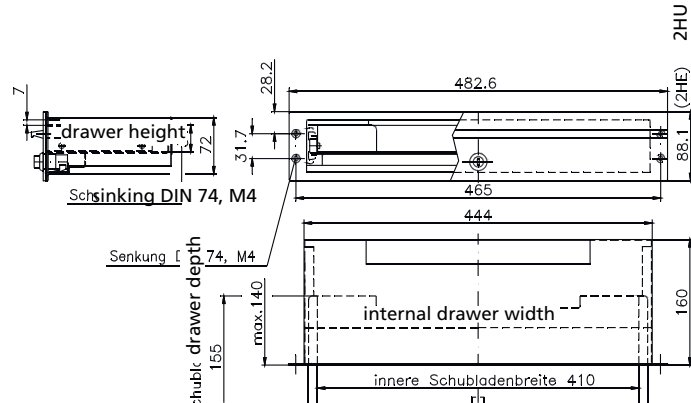
Commander system accessories

Keyboard drawer



Installation into command systems:
SL 2000, Profile 3
SL 3000, Profile 3 and 4
SL 4000 Profile 3
optional with keyboard

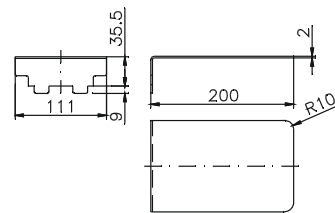
Order No.	Execution
10.99 20 01	Drawer for keyboards, IP 40 to front side



Mousepad rack



Order No.	Execution
10.99 20 02	for keyboard drawer 10.99 20 01

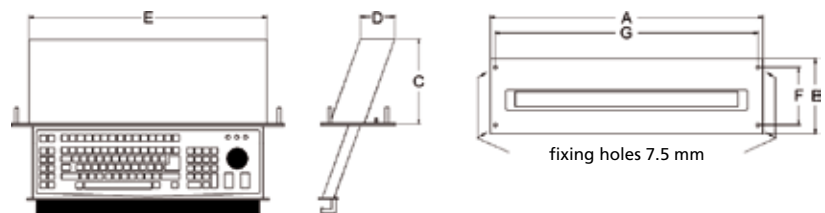


Keyboard drawer RTS3 with 20° inclination



Built-in drawer for keyboards,
IP65 for the front side
Dimensions: 483 x 132.5 x 150 mm
for keyboards with maximum dimensions
340 x 170 x 15 mm
Drawer with 20° slope with magnetic
latch for installing from the front with
front panel (RAL 9006, white aluminium)
or for installing from the inside of the
enclosure
Related keyboard on request

Order No.	Execution
10.99 20 03	Keyboard drawer RTS3-F (inclination 20° with front plate)
10.99 20 04	Keyboard drawer RTS3 (inclination 20° with front plate)



Dimensions (mm)

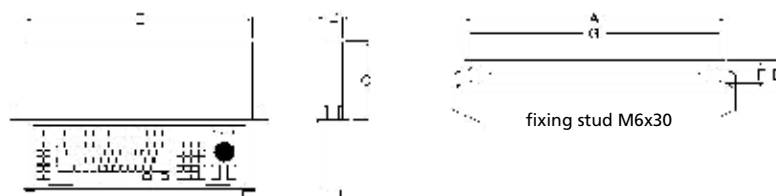
A	B	C	D	E	F	G
483	132,5	150	61	421	101,5	465

Commander system accessories



Built-in drawer for keyboards, IP65 for the front side
 Dimensions: 483 x 44 x 160 mm
 for keyboards with maximum dimensions 370 x 140 x 15 mm
 Drawer without slope with magnetic latch for installing from the front with front panel (RAL 9006, white aluminium) or for installing from the inside of the enclosure
 Related keyboard on request

Order No. Execution
10.99 20 11 with front plate



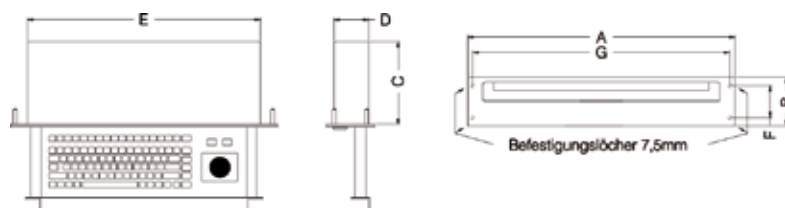
Dimensions (mm)

A	B	C	D	E	F	G
483	44	160	31	421	25	465



Built-in drawer for keyboards, IP65 for the front side
 Dimensions: 483 x 88 x 150 mm
 for keyboards with maximum dimensions 370 x 140 x 15 mm
 Drawer without slope with magnetic latch for installing from the front with front panel (RAL 9006, white aluminium) or for installing from the inside of the enclosure
 Related keyboard on request

Order No. Execution
10.99 20 13 with front plate



Dimensions (mm)

A	B	C	D	E	F	G
483	88	150	64	421	58	465

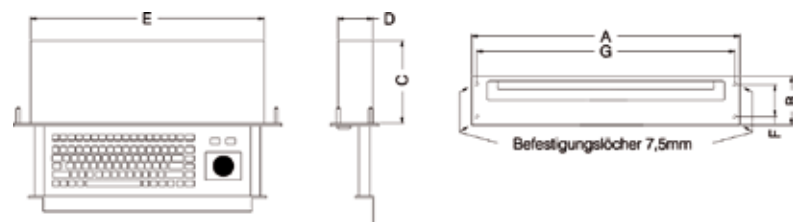
Keyboard drawer RTS4



Built-in drawer for keyboards, IP65 for the front side
 Dimensions: 560 x 123 x 203 mm
 for keyboards with maximum dimensions 465 x 170 x 19 mm
 Drawer with magnetic latch
 Mouse pad tray can be extended to the right or left
 for installing from the front with front panel (RAL 7035, light grey)
 incl. mouse Cherry M5450 and integrated USB port

suitable keyboard Cherry G-85-23100 DE-2 (German) or Cherry G-85-23100 EU (English) on request

Order No. Execution
45.80 10 00 with front plate



Dimensions (mm)

A	B	C	D	E	F	G
560	123	203	86	512	103	543

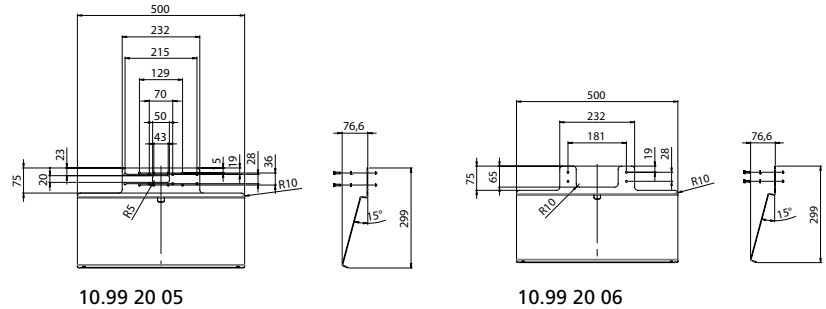


Commander system accessories

Keyboard tray, sheet steel, inclination 15°



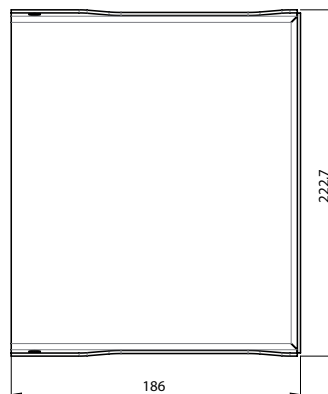
Order No.	Execution
10.99 20 05	For mounting between Moterm and Commander and mounting onto commander with suspension system connection from above (Side A)
10.99 20 06	For mounting between suspension system GTN II and GTS onto commander from bottom side (side B)



Mousepad rack, for keyboard tray 10.99 20 xx



Order No.	Execution
10.99 20 07	for side mounting onto keyboard tray (right side or left side)

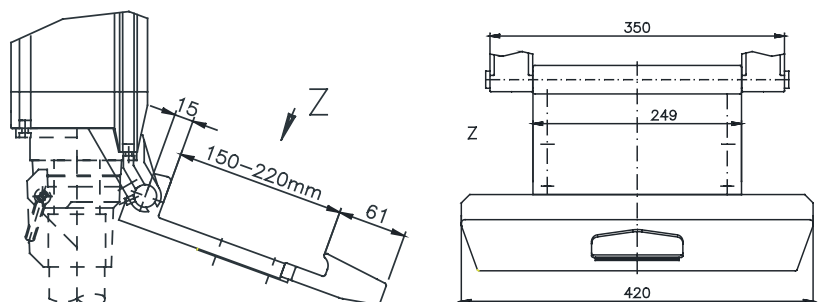


Keyboard holder for SL 2000



Mounting onto SL 2000 with front panel width ≥ 370 mm. With combination onto suspension system at Side B, please note profile depth and swivel range.

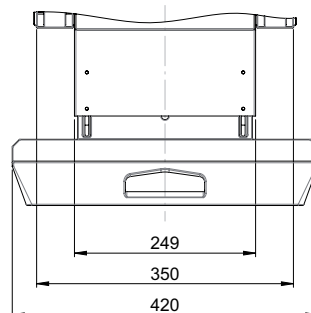
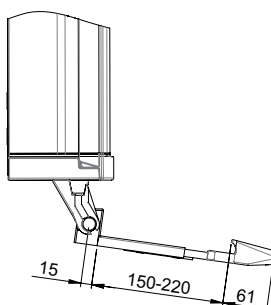
Order No.	Execution
19.60 10 04	For standard PC keyboards, consisting of mounting elements and keyboard holder



Commander system accessories

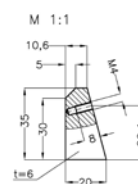
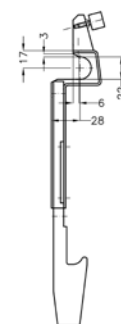
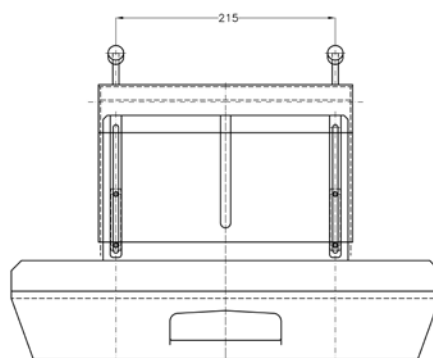


Mounting onto SL 4000 profile 2 and
profile 3; profile 1 only side A
(front plate width > 400 mm);
keyboard optionally

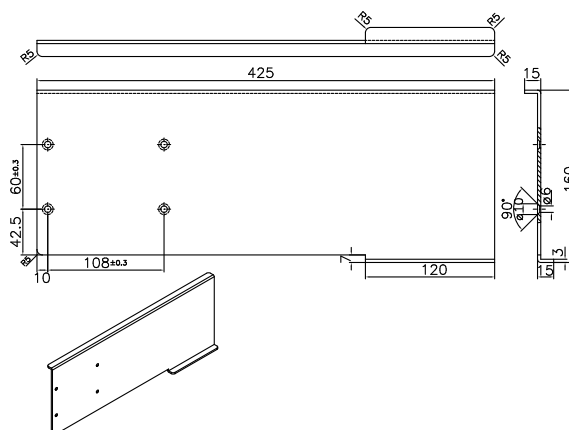


Mounting onto SL 3000;
Note: only possible with handle
mounting on side B

Order No. Execution
20.10 90 21 for standard PC keyboards



Order No. Execution
20.10 90 22 for side mounting onto keyboard holder 19.60 10 04,
20.10 90 20 and 20.10 90 21

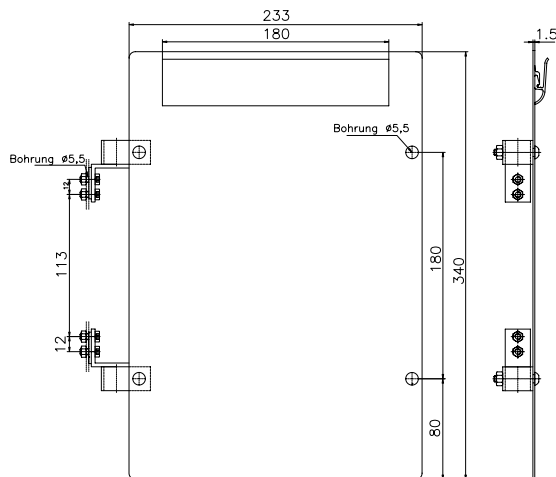


Commander system accessories

Document holder



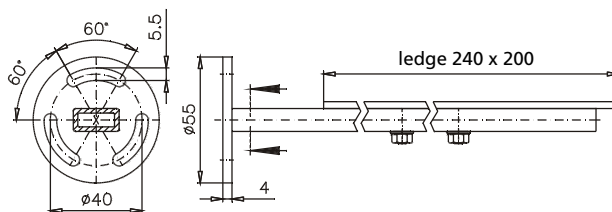
Order No.	Execution
20.60 10 05	for Commander systems SL 2000, SL 3000, SL 4000, Comtronic onto side
20.60 10 04	for fixing onto tube handle at Commander systems



Mousepad rack



Order No.
19.60 10 06



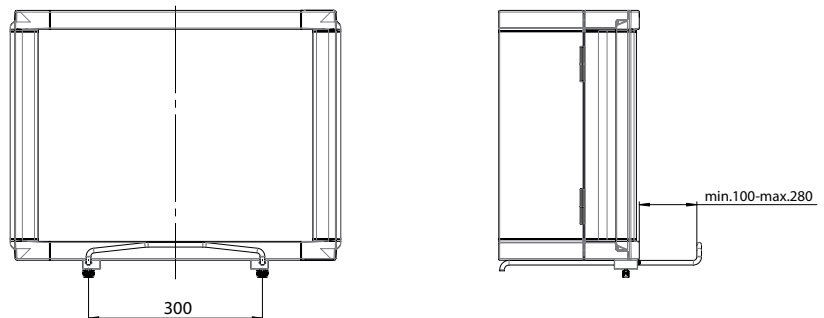
Laptop tray

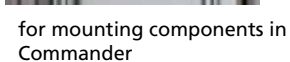


Retractable bracket with fastening elements

Surface width: 300 mm; maximum length when extended 280 mm

Order No.	Execution
20.99 00 10	for mounting to Commander systems SL 3000 and SL 4000





Commander system accessories

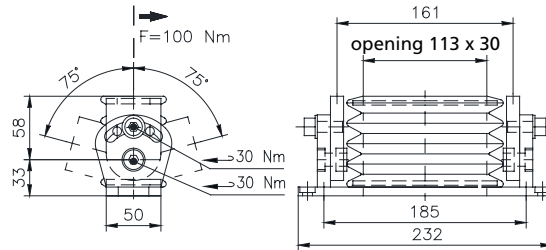
Inclining system



Continuously variable inclining system (+/- 75°) for Commander systems.
System consisting of aluminium elements with bellow.
Scope of supply: base unit without adaptation plate

Order No.

50.02 01 01



Adapter plate



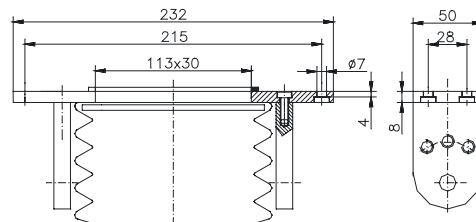
for connection of inclining system with Commander systems



Order No.

Execution

50.01 02 03	Adapter plate SL 2000 profile 1
50.01 02 04	Adapter plate SL 2000 profile 2
50.01 02 05	Adapter plate SL 2000 profile 3
50.01 02 06	Adapter plate SL 3000 profile 1
50.01 02 07	Adapter plate SL 3000 profile 2 to 4
50.01 02 08	Adapter plate SL 3000 console version
50.01 02 09	Adapter plate universal (s. drawing)
50.01 02 10	Beckhoff CP 7032 adapter plate
50.01 02 11	ComTronic adapter plate
50.01 02 12	Adapter plate SL 3000 profile 4 (direct mounting)
50.01 02 13	Flat panel adapter
50.01 02 14	Adapter plate SL 4000 profile 1 - 3
50.01 02 15	Adapter plate SL 4000 console version



Commander system accessories

Single interfaces (IP 65) incl. connection cable and plug



Mounting on profile, front plate
or rear wall

Order No.	Execution
20.90 10 01	USB-Interface with cable 0,6 m and 1 connector
20.90 10 02	RJ45-Interface with 1 connector
20.90 11 03	USB-Interface without cable
20.90 11 04	RJ45-Interface without cable

Single interface flaps, metal



For data interfaces and electrical socket.
Profile 1/2/3: Rear wall or frontplate
Profile 2/3/4: Sidewise onto profile (Side C/D)

Order No.	Execution
20.90 10 10	Version 1 Frame: Metal, dim nickel plated Lid: Plastic, transparent
20.90 10 11	Version 2 Frame: Metal, dim nickel plated Lid: Metal, dim nickel plated
20.90 10 12	Version 3 Frame: Metal, black Lid: Metal, black

Single interface flaps, plastic



For data interfaces and electrical socket.
Profile 1/2/3: Rear wall or frontplate
Profile 2/3/4: Sidewise onto profile (Side C/D)

Order No.	Execution
20.90 10 14	Version 7 Frame: Plastic, black Lid: Plastic, transparent Lock: 3 mm double ward
20.90 10 15	Version 4 Frame: Plastic, schwarz Lid: Plastic, transparent Lock: Knob
20.90 10 16	Version 8 Frame: Plastic, black Lid: Plastic, metallic silver Lock: 3 mm double ward
20.90 10 17	Version 5 Frame: Plastic, black Lid: Plastic, metallic silver Lock: Knob
20.90 10 18	Version 9 Frame: Plastic, black Lid: Plastic, light grey Lock: 3 mm double ward
20.90 10 19	Version 6 Frame: Plastic, black Lid: Plastic, light grey Lock: Knob

Commander system accessories

Double interface flaps, metal



For data interfaces and electrical socket.
 Profil 1/2/3: Rear wall or front panel
 Profil 2/3/4: sidewise onto profile (Side C/D)

Order No.	Execution
20.90 11 10	Version 11 Frame: Metal, dim nickel plated Lid: Plastic transparent
20.90 11 11	Version 12 Frame: Metal, dim nickel plated Lid: Metal, dim nickel plated
20.90 11 12	Version 13 Frame: Metal, black Lid: Metal, black

Double interface flaps, plastic



For data interfaces and electrical socket.
 Profil 1/2/3: Rear wall oder front panel
 Profil 2/3/4: Sidewise onto profile (Side C/D)

Order No.	Execution
20.90 11 14	Version 17 Frame: Plastic, black Lid: Plastic, transparent Lock: 3 mm double ward
20.90 11 15	Version 14 Frame: Plastic, black Lid: Plastic, transparent Lock: Knob
20.90 11 16	Version 18 Frame: Plastic, black Lid: Plastic, metallic silver Lock: 3 mm double ward
20.90 11 17	Version 15 Frame: Plastic, black Lid: Plastic, metallic silver Lock: Knob
20.90 11 18	Version 9 Frame: Plastic, black Lid: Plastic, light grey Lock: 3 mm double ward
20.90 11 19	Version 6 Frame: Plastic, black Lid: Plastic, light grey Lock: Knob

Installation components for interface flaps



Order No.	Execution
20.90 11 05	Schuko/FI Germany (VDE) with additional cut-out for earth leakage circuit breaker (can only be used onto double flaps)

Commander system accessories



SUB-D9; SUB-D9
2 x SUB-D9 (socket/pin)

Order No. 20.90 10 30



SUB-D9; SUB-D9
2 x SUB-D9
(solder connection/socket)

Order No. 20.90 10 31



SUB-D9; SUB-D9
1 x SUB-D9 (solder connection/
socket);
1 x SUB-D9 (solder connection/pin)

Order No. 20.90 10 32



SUB-D9
1 x SUB-D9 (solder connection/
socket);
1 x blank cover for SUB-D9

Order No. 20.90 10 33



SUB-D9
1 x SUB-D9 (socket/socket)

Order No. 20.90 10 34



SUB-D9; SUB-D9
1 x SUB-D9 (socket/socket)
1 x SUB-D9 (pin/pin)

Order No. 20.90 10 35



SUB-D9; SUB-D9
2 x SUB-D9 (socket/socket)

Order No. 20.90 10 36



SUB-D9; SUB-D15
1 x SUB-D9 (socket/pin)
1 x SUB-D15 (socket/pin)

Order No. 20.90 10 37



SUB-D9; SUB-D15
1 x SUB-D9 (solder connection/
socket);
1 x SUB-D15 (solder connection/
socket)

Order No. 20.90 10 38



SUB-D9; SUB-D15
1 x SUB-D9 (socket/socket);
1 x SUB-D15 (socket/socket)

Order No. 20.90 10 39



SUB-D9; SUB-D25
1 x SUB-D9 (socket/pin);
1 x SUB-D25 (socket/pin)

Order No. 20.90 10 40



SUB-D9; SUB-D25
1 x SUB-D9 (solder connection/
socket);
1 x SUB-D25 (solder connection/
socket)

Order No. 20.90 10 41

Commander system accessories

Data interfaces



SUB-D9; SUB-D25
1 × SUB-D9 (solder connectionpin)
1 × SUB-D25 (solder connection/
socket)
Order No. 20.90 10 42



SUB-D15; SUB-D15
2 × SUB-D15 (socket/pin)
Order No. 20.90 10 43



SUB-D15; SUB-D15
2 × SUB-D15 (solder connection/
socket)
Order No. 20.90 10 44



SUB-D15
1 × SUB-D15 (solder connection/
socket);
1 × blank cover for SUB-D9
Order No. 20.90 10 45



SUB-D15; SUB-D25
1 × SUB-D15 (socket/pin)
1 × SUB-D25 (socket/pin)
Order No. 20.90 10 46



SUB-D15; SUB-D25
1 × SUB-D15 (solder connection/socket)
1 × SUB-D25 (solder connection/socket)
Order No. 20.90 10 47



SUB-D25; SUB-D25
2 × SUB-D25 (socket/pin)
Order No. 20.90 10 48



SUB-D25; SUB-D25
2 × SUB-D25 (solder connection/
socket)
Order No. 20.90 10 49



SUB-D25
1 × SUB-D25 (solder connection/
socket)
1 × blank cover for SUB-D9
Order No. 20.90 10 50



SUB-D25
1 × SUB-D25 (socket/pin)
1 × blank cover for SUB-D9
Order No. 20.90 10 51



PS2; PS2; SUB-D15 HD
2 × PS2 (6-pole solder connection)
1 × SUB-D15 HD (socket/pin)
VGA
Order No. 20.90 10 52



PS2; SUB-D15 HD
1 × PS2 (6-pole. solder connection)
1 × SUB-D15 HD (solder connection/
socket)
VGA
Order No. 20.90 10 53

Commander system accessories

Data interfaces



SUB-D15 HD; RJ45; USB; USB
(type A)
1 × SUB-D15 HD (socket/pin)
1 × RJ45, 8-pole. Metal, CAT5e
(socket/socket); 2 × USB (socket/
socket) type A
Order No. **20.90 10 54**



RJ45; RJ12; USB; USB (type A)
1 × RJ45, 8-pole. Metal, CAT5e
(socket/socket)
1 × RJ12, 6-pole. Plastic
2 × USB (socket/socket) type A
Order No. **20.90 10 55**



RJ45; RJ45; USB; USB (type A)
2 × RJ45, 8-pole. Metal, CAT5e
(socket/socket)
2 × USB (socket/socket/0.7 m
cable) type A
Order No. **20.90 10 56**



RJ45; USB (type A) DVI
1 × RJ45, 8-pole. metal, CAT5e
(socket/socket)
1 × USB (socket/socket) Type A
1 × DVI (socket/socket)
Order No. **20.90 10 57**



RJ45; RJ45; USB (type A)
2 × RJ45, 8-pole. metal, CAT5e
(socket/socket)
1 × USB (socket/socket) Type A
Order No. **20.90 10 58**



RJ45; USB; USB (type A)
1 × RJ45, 8-pole. metal, CAT5e
(socket/socket)
2 × USB (socket/socket) Type A
Order No. **20.90 10 59**



RJ45; RJ45; USB; USB (type A)
2 × RJ45, 8-pole. metal, CAT5e
(socket/socket)
2 × USB (socket/socket) Type A
Order No. **20.90 10 60**



RJ45; RJ12; SUB-D25
1 × RJ45, 8-pole. metal,
CAT5e (socket/socket)
1 × RJ12, 6-pole. plastic
1 × SUBD25 (socket/pin)
Order No. **20.90 10 61**



RJ45; SUB-D9; SUB-D9
1 × RJ45, 8-pole. metal,
CAT5e (socket/socket)
1 × SUB-D9 (socket/socket)
1 × SUB-D9 (pin/pin)
Order No. **20.90 10 62**



RJ45; RJ12; SUB-D9
1 × RJ45, 8-pole. metal,
CAT5e (socket/socket)
1 × RJ12, 6-pole. plastic
1 × SUB-D9 (socket/socket)
Order No. **20.90 10 63**



RJ12; RJ12; SUB-D9
2 × RJ12, 6-pole. plastic
1 × SUB-D9 (socket/socket)
Order No. **20.90 10 64**



RJ45; SUB-D9; SUB-D9
1 × RJ45, 8-pole. metal,
CAT5e (socket/socket)
2 × SUB-D9 (socket/socket)
Order No. **20.90 10 65**



Commander system accessories

Data interfaces



RJ45; USB; SUB-D9; SUB-D9
1 × RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 × USB (socket/socket) Type A
2 × SUB-D9 (socket/socket)

Order No. 20.90 10 66



RJ45; USB; SUB-D9; SUB-D9
1 × RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 × USB (socket/socket) Type A
1 × SUB-D9 (socket/socket)
1 × SUB-D9 (pin/pin)

Order No. 20.90 10 67



RJ45; SUB-D9; PS2; PS2 (UL)
1 × RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 × SUB-D9 (pin/pin)
2 × PS2 (socket/socket)

Order No. 20.90 10 68



RJ45; RJ45
2 × RJ45, 8-pole. Metal, CAT5e (socket/socket)

Order No. 20.90 10 69



RJ45
1 × RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 × blank cover for SUB-D9

Order No. 20.90 10 70



RJ45; RJ45; RJ45; RJ45
4 × RJ45, 8-pole. Metal, CAT5e (socket/socket)

Order No. 20.90 10 71



USB (type A); RJ45
1 × USB (socket/socket) Type A
1 × RJ45, 8-pole. metal, CAT5e (socket/socket)

Order No. 20.90 10 72



RJ45; SUB-D9
1 × RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 × SUB-D9 (socket/socket)

Order No. 20.90 10 73



1 × RJ45
8-pole. metal, CAT5e (socket/socket)
1 × USB (socket/socket) Type A
1 × SUB-D9 (socket/pin)

Order No. 20.90 10 74



RJ45; USB (type A); SUB-D9
1 × RJ45, 8-pole. metal, CAT5e (socket/socket)
1 × USB (socket/socket) Type A
1 × SUB-D9 (socket/socket)

Order No. 20.90 10 75



RJ45; USB (type A); SUB-D9
1 × RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 × USB (socket/socket) Type A
1 × SUB-D9 (solder connection/socket)

Order No. 20.90 10 76



PS2; PS2; RJ45
2 × PS2 (6-pole. solder connection)
1 × RJ45, 8-pole. metal, CAT5e (socket/socket)

Order No. 20.90 10 77

Commander system accessories

Data interfaces



RJ45; SUB-D9; PS2; PS2
1 x RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 x SUB-D9 (pin/pin)
2 x PS2 (6-pole. solder connection)
Order No. 20.90 10 78



RJ45; RJ45; SUB-D25
2 x RJ45, 8-pole. Metal, CAT5e (socket/socket)
1 x SUB-D25 (socket/pin)
Order No. 20.90 10 79



RJ45; RJ45; SUB-D9
2 x RJ45, 8-pole. metal, CAT5e (socket/socket)
1 x SUB-D9 (socket/pin)
Order No. 20.90 10 80



SUB-D25; SUB-D9; RJ45
1 x RJ45, 8-pole. metal, CAT5e (socket/socket)
1 x SUB-D9 (socket/pin)
1 x SUB-D25 (socket/pin)
Order No. 20.90 10 81



BNC; SUB-D9; RJ45
1 x BNC (socket/socket)
1 x RJ45, 8-pole. metal, CAT5e (socket/socket)
1 x SUB-D9 (socket/pin)
Order No. 20.90 10 82



BNC; RJ45; SUB-D9
1 x BNC (socket/socket)
1 x RJ45, 8-pole. metal, CAT5e (socket/socket)
1 x SUB-D9 (socket/socket)
Order No. 20.90 10 83



USB (type A)
1 x USB (socket/socket) Type A
Order No. 20.90 10 85



USB (type A); USB (type A)
2 x USB (socket/socket) Type A
Order No. 20.90 10 86



USB; USB; USB; USB (type A)
4 x USB (socket/socket) Type A
Order No. 20.90 10 88



RJ45; USB; USB (type A)
1 x RJ45, 8-pole. Metal, CAT5e (socket/socket)
2 x USB (socket/socket/0.7 m Kabel) Type A
Order No. 20.90 10 89



USB (type A); SUB-D25
1 x USB (socket/socket/0.7 m Kabel) Type A
1 x SUB-D25 (socket/pin)
Order No. 20.90 10 91



USB (type A); SUB-D25
1 x USB (socket/socket) Type A
1 x SUB-D25 (socket/pin)
Order No. 20.90 10 92



Commander system accessories

Data interfaces



USB (type A); SUB-D9
1 x USB (socket/socket) Type A
1 x SUB-D9 (solder connection/
socket)

Order No. **20.90 10 93**



SUB-D15 HD; RJ45; USB; USB
(type A)
1 x SUB-D15 HD (socket/pin)
1 x RJ45, 8-pole. metal,
CAT5e (socket/socket)
2 x USB (socket/socket) Bauf. A
Order No. **20.90 10 94**



USB (type A); RJ45
1 x USB (Buchse/Buchse/0.7 m
Kabel) Type A
1 x RJ45, 8-pole. metal,
CAT5e (socket/socket)
Order No. **20.90 10 95**



USB (type A); SUB-D9; RJ45
1 x USB (socket/socket/
0.7 m cable) Type A
1 x SUB-D9 (socket/pin)
1 x RJ45, 8-pole. metal,
CAT5e (socket/socket)
Order No. **20.90 10 96**



USB (type A); SUB-D25; RJ45
1 x USB (socket/socket) Type A
1 x SUB-D25 (socket/pin)
1 x RJ45, 8-pole. metal,
CAT5e (socket/socket)

Order No. **20.90 11 00**



USB (type A); SUB-D25; RJ45
1 x USB (socket/socket) Type A
1 x SUB-D25
(socket/solder connection)
1 x RJ45, 8-pole. metal,
CAT5e (socket/socket)
Order No. **20.90 11 01**



USB (type A); SUB-D9; RJ12
1 x USB (socket/socket) Type A
1 x SUB-D9 (socket/socket)
1 x RJ12, 6-pole. plastic

Order No. **20.90 11 02**

Commander system accessories

Flap insert: Plug insert



Germany (VDE)
grey, screw clamps, LED (yellow)

Order No. 20.90 10 24



France (UTE)
screw clamps

Order No. 20.90 10 26



Italy (CEI 23-16)
with electric shock protection,
screw clamps

Order No. 20.90 10 28



USA (NEMA 5-15)
screw clamps

Order No. 20.90 10 20



UK (BS)
with electric shock protection,
screw clamps

Order No. 20.90 10 25



China (CCC)
with electric shock protection,
screw clamps

Order No. 20.90 10 22



Denmark
spring clamps

Order No. 20.90 10 23



Switzerland
spring clamps

Order No. 20.90 10 29



Australia
screw clamps

Order No. 20.90 10 21



India (IS 1293)
with electric shock protection,
screw clamps

Order No. 20.90 10 27



Germany (VDE)
yellow, spring clamps

Order No. 20.90 11 20



Germany (VDE)
orange, spring clamps

Order No. 20.90 11 21



Heat management



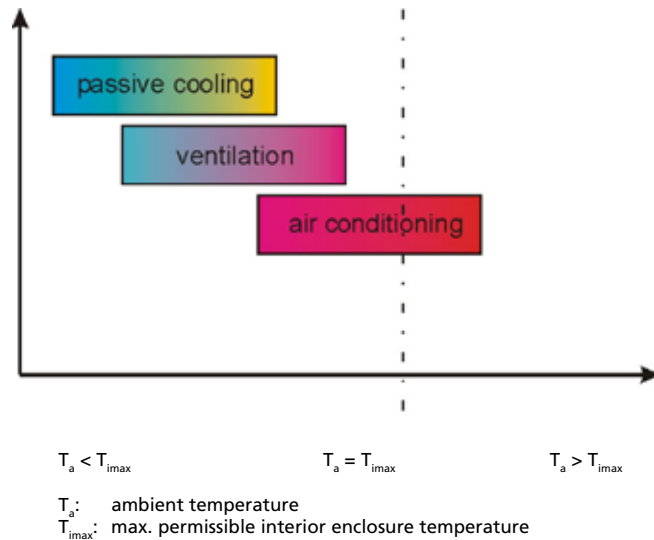
- + Climatic systems for ROSE Commander systems, co-ordinated with the application
- + Filter ventilators upto 25 m³/h discharge flow
- + Compressor cooling systems upto 430 W cooling capacity
- + Peltier cooling elements upto 150 W cooling capacity

Included in delivery

Climatic system depending upon execution completely Commander system

Heat management

Operating and control systems need an enclosure system, which makes an optimal handling possible for the accommodation at the machine in the production process. ROSE offers for this special commander systems. These operating and control systems, usually realized on PC basis, produce a thermal power loss. For the avoidance of the loss of the devices or components and for the securing of the production process air conditioning is necessary. Rose offers here a complete aligned cooling system. With additional heat sinks up to the modern Peltier cooling systems - all options are possible.



For all our Commander systems we offer particularly devised cooling systems to you:



Passive cooling
with heat sink rear walls



Active cooling
with filter ventilator systems



Active cooling
with compressor cooling systems



Active cooling
with peltier cooling elements

Heat management

Filter ventilators with snatching assembly



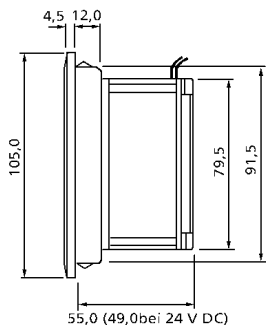
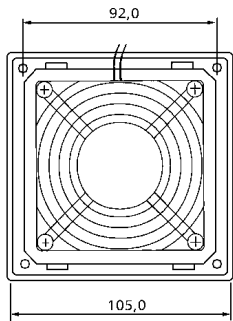
Order No.	Type	Name	Nominal voltage	Discharge flow
83.10 01 01	RLV 100 230 D	Filter ventilator	230 V AC	25 m³/h
83.10 01 02	RLV 100 24 D	Filter ventilator	24 V DC	25 m³/h
83.10 01 11	RGV 100 D	Exhaust filter		15 m³/h

Application and function
 for the ventilation of cabinets, operating and control enclosures.
 Two versions: for the electrical connection at 24 V DC and to 230 V AC.
 The simple assembly takes place by cutout in door, side wall, rear wall or roof of the enclosure.

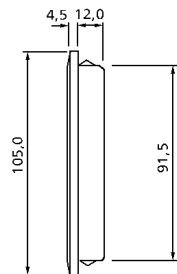
Advantages
 Generally high protection classification (IP 54) by fin mounting.
 Short assembly time by simple snatching assembly.
 The ventilator used has UL-, CSA-, VDE- and CE-approvals.

Technical data	
Material	Enclosure: Plastic
Ingress protection	IP54
Nominal voltage	24 V DC / 230 V AC

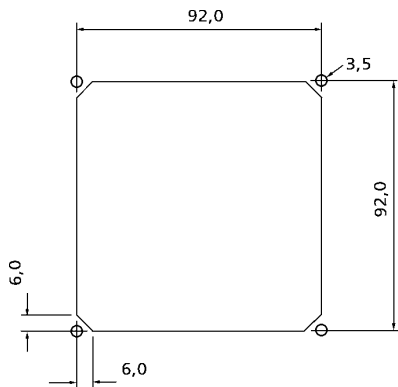
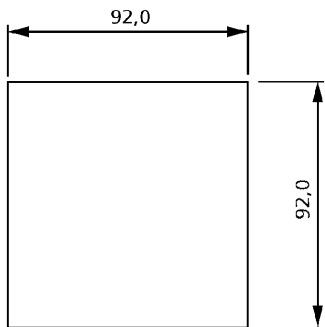
RLV 100 230 D / RLV 100 24 D



RGV 100 D



Mounting cutout



Octagonal cutout and drillings only by screw fastener

Heat management

Mini cooling systems in compressor technology



Order No.	Type	Cooling capacity	Dimensions H x B x T (mm)	Nominal voltage	Nominal current	Weight (g)
83.10 02 01	RKG-4266	320 W	520 x 270 x 110	230 V AC	1,4 A	13300
83.10 02 02	RKG-4267	400 W	340 x 520 x 110	230 V AC	1,5 A	14800
83.10 02 03	RKG-4268	400 W	520 x 320 x 110	230 V AC	1,5 A	14200
83.10 02 04	RKG-4269	430 W	600 x 320 x 110	230 V AC	1,5 A	16000

Application and function

for the active cooling of cabinets, operating and control enclosures.
The simple assembly takes place by cutout in rear wall of the enclosure.

Advantages

This new generation of mini cooling systems provides maximum cooling with minimal space requirements. The maintenance-free cooling systems with 200 to 450 W are designed to operate without filters.

The heat exchanger condenser profile has been optimized using wide aluminium fins and improved air in- and outlets. Collectively, they provide an increased cooling output of 20 %, thus guaranteeing performance for demanding industrial environments.

These mini cooling units can be operated through mini controllers according to operational requirements.

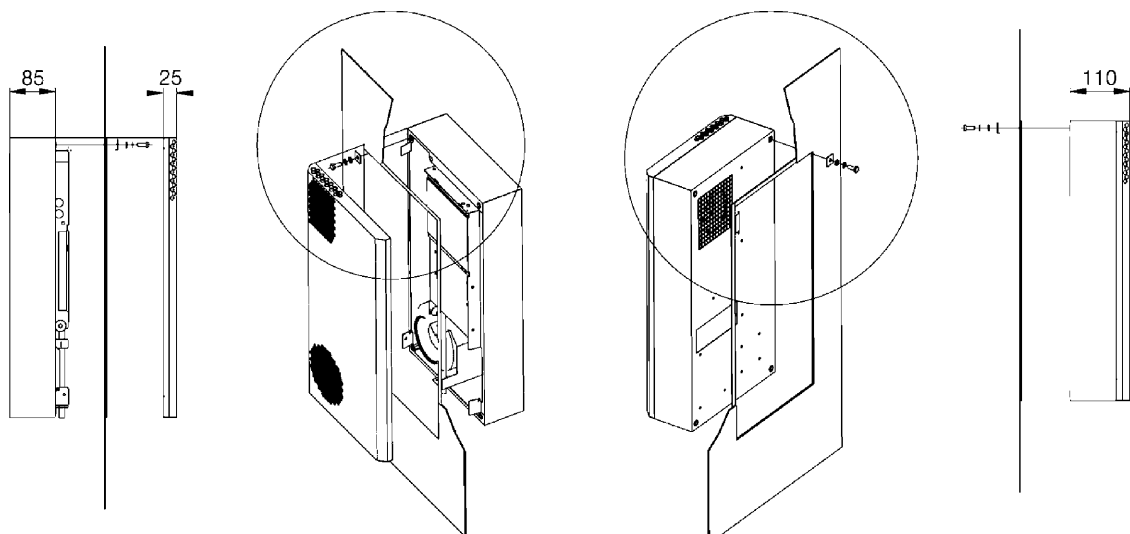
With a depth of only 110 mm the mini cooling units are currently the smallest and most compact built-in mount and side mount units on the market.

Due to the environment there is used the safe refrigerant R134a.

Technical data

Material	Enclosure: sheet steel powdered RAL 7035 optional stainless steel
Ingress protection inside / outside	IP54 / IP24
Operating temperature	+20 °C to +50 °C
Compressor	Cattail compressor
Nominal voltage	230 V AC 50/60 Hz

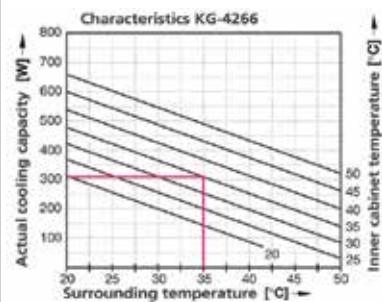
Kind of assembly



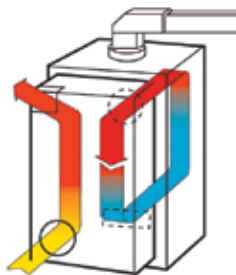
Heat management

Cooling system RKG-4266

Characteristics



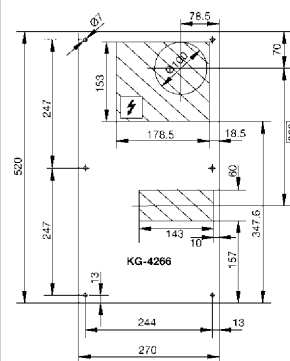
Cooling circuit



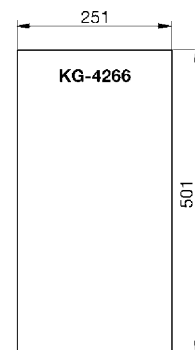
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	320 W
Cooling capacity L35L50	140 W
Max. air volume flow:	
Ambient air circuit	170 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	280 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Terminals

Dimensions

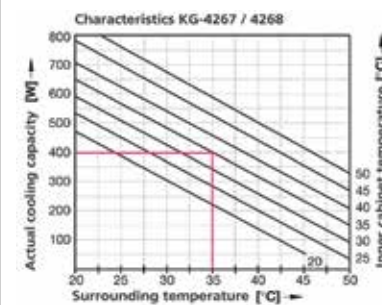


Mounting cutout

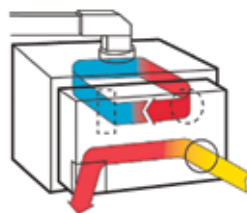


Cooling system RKG-4267

Characteristics



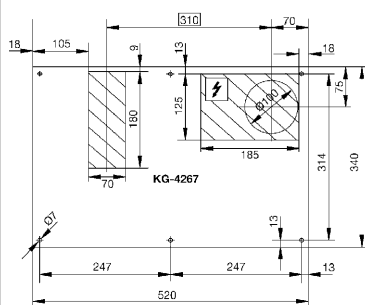
Cooling circuit



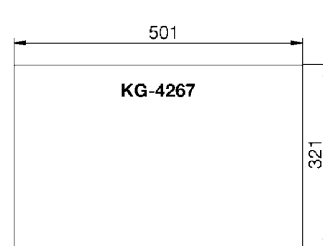
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	400 W
Cooling capacity L35L50	150 W
Max. air volume flow:	
Ambient air circuit	200 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	300 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Terminals

Dimensions



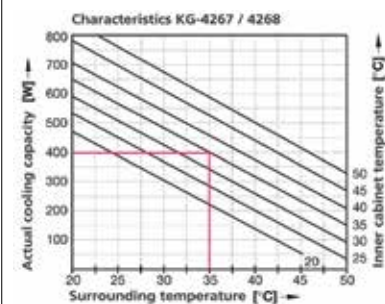
Mounting cutout



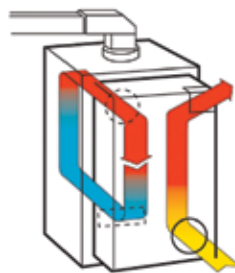
Heat management

Cooling system RKG-4268

Characteristics



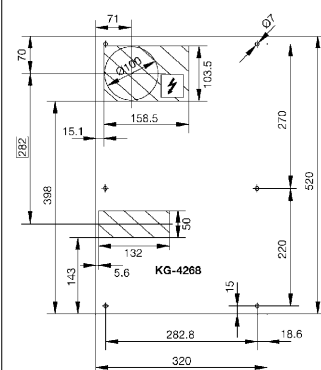
Cooling circuit



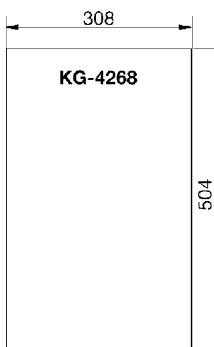
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	320 W
Cooling capacity L35L50	140 W
Max. air volume flow:	
Ambient air circuit	170 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	280 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Klemmen

Dimensions

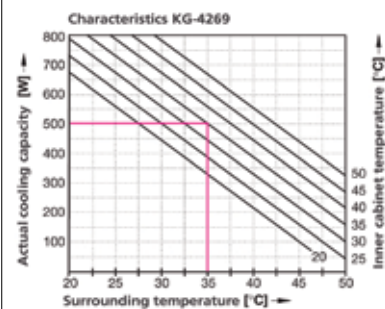


Mounting cutout



Cooling system RKG-4269

Characteristics



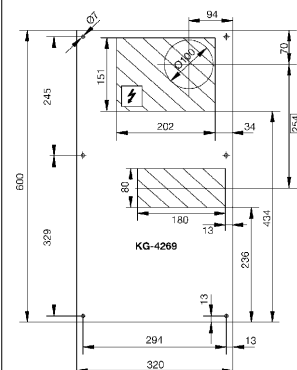
Cooling circuit



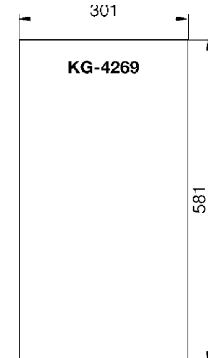
Technical data

Cooling capacity DIN 3168:	
Cooling capacity L35L35	430 W
Cooling capacity L35L50	160 W
Max. air volume flow:	
Ambient air circuit	200 m³/h
Cabinet air circuit	125 m³/h
Electrical data:	
Nominal voltage	230 V AC
Nominal power	280 W
Nominal current	1,4 A
Rated current	3,2 A
Fuse rating	6 A
Connection	Klemmen

Dimensions



Mounting cutout



Heat management

Mini cooling systems in Peltier technology



Order No.	Type	Cooling capacity	Nominal voltage	Nominal current	Weight (g)
83.10 03 01	RPK 50	50 W	24 V DC	2,5 A	3900
83.10 03 02	RPK 100	100 W	24 V DC	4,8 A	7200
83.10 03 03	RPK 150	150 W	24 V DC	6,5 A	7300

Application and function:

for the active cooling of cabinets, operating and control enclosures, industrial PC's, monitor and flat screen monitor.

3 types in 50, 100 and 150 W cooling capacity are available.

For the electrical connection at 24 V DC. The simple assembly takes place by cutout in door, side wall, rear wall or roof of the enclosure.

Advantages of

Peltier cooling units:

- compact design
- assembly in each position, because the units work without refrigerants
- high efficiency

The Peltier effect

The Peltier effect is a thermoelectrical procedure, where a semiconductor material is used which is caused with appropriate doping by current guidance the change of the energy state by charge carriers and thus used to the transport of heat.

Technical data

Operating temperature	-10 °C to +60 °C
Nominal current	24 V +6%/-10%
Ingress protection inside/outside	IP54

Computation of the necessary cooling performance:

$$P_k = P_v - k \times A \times \Delta T$$

P_k = Necessary cooling performance (W)

P_v = Dissipation loss of built in devices (W)

$k \times A \times \Delta T$ = Inner convection of device

k = Thermal transmission coefficient (eg: sheet metal = 5.5 W / m² K)

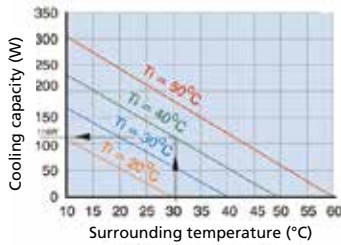
A = Usable enclosure area (m²)

$\Delta T = T_i - T_a$ = Temperature difference between inner and surrounding temperature

Heat management

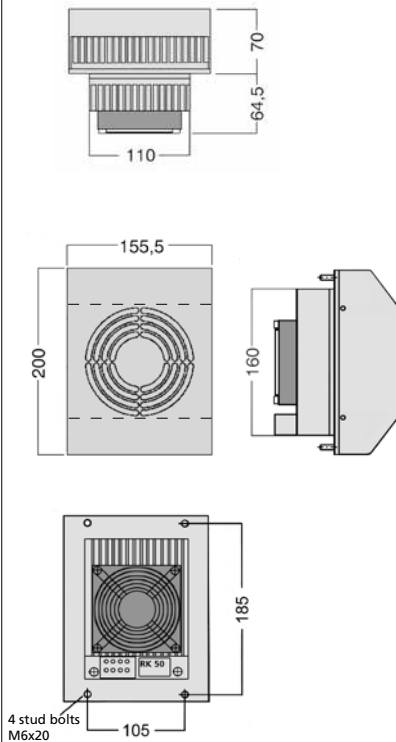
RPK 50

Diagram

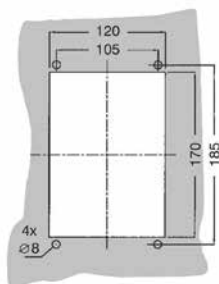


Chose: $P_K = 6 \text{ W/K} \times \Delta T + 50 \text{ W}$
 Example: $T_a = 30^\circ\text{C}$, $T_i = 40^\circ\text{C}$ d.h.: $P_K = 110 \text{ W}$

Dimensions

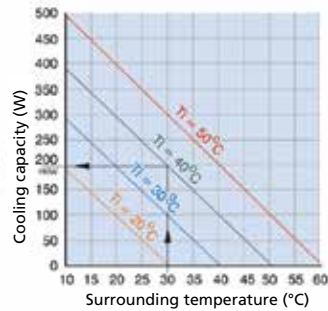


Mounting cutout



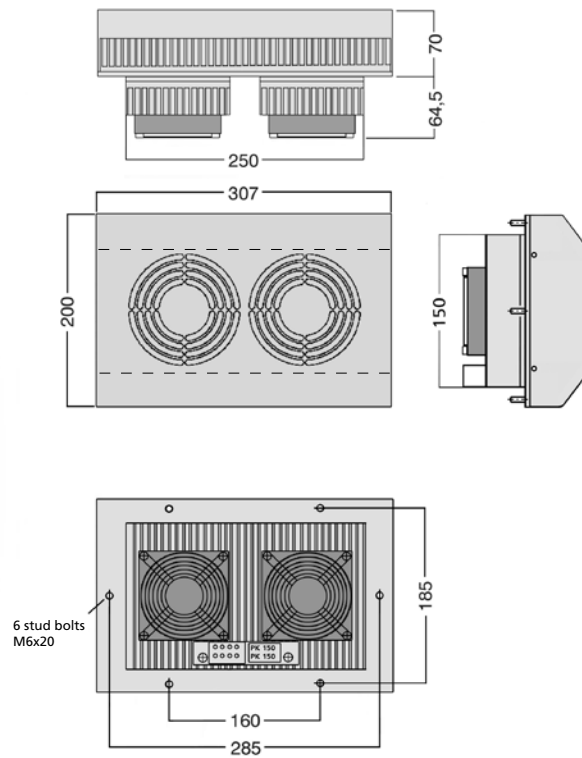
RPK 100

Diagram

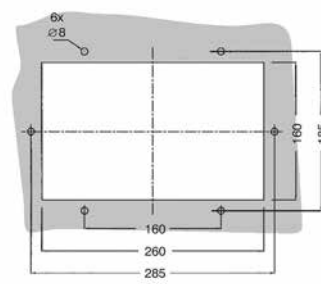


Chose: $P_K = 9,5 \text{ W/K} \times \Delta T + 100 \text{ W}$
 Example: $T_a = 30^\circ\text{C}$, $T_i = 40^\circ\text{C}$ d.h.: $P_K = 195 \text{ W}$

Dimensions

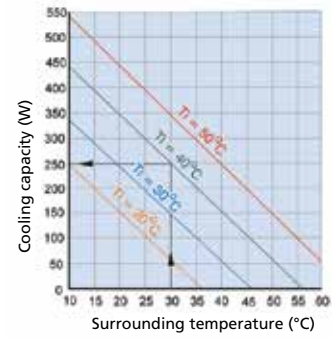


Mounting cutout



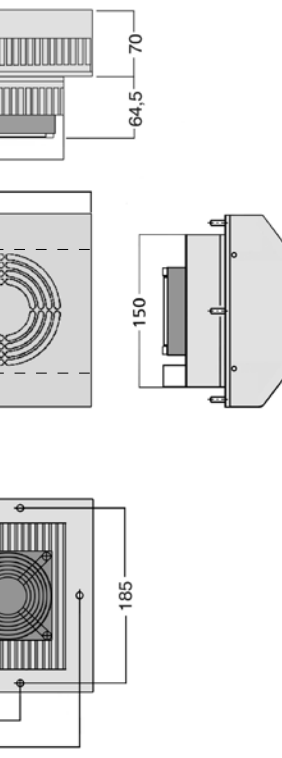
RPK 150

Diagram



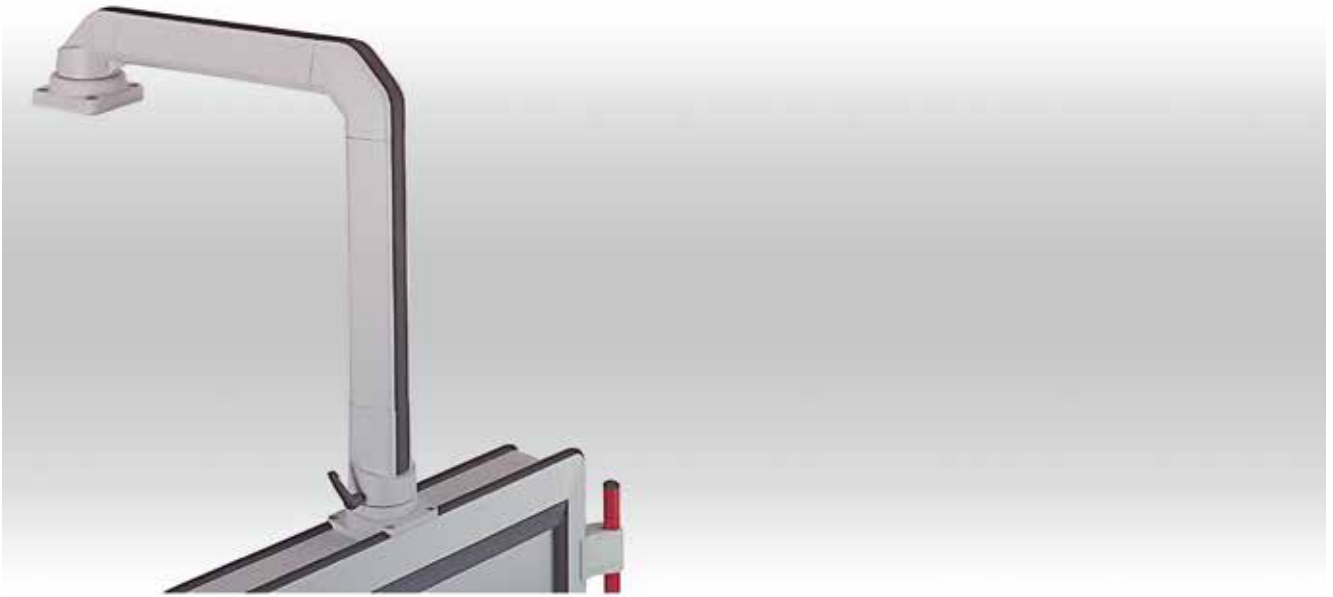
Chose: $P_K = 9,5 \text{ W/K} \times \Delta T + 150 \text{ W}$
 Example: $T_a = 30^\circ\text{C}$, $T_i = 40^\circ\text{C}$ d.h.: $P_K = 245 \text{ W}$

Dimensions



Mounting cutout





- + Industrial suspension system for control enclosures
- + Modular construction with free accessible cable channel
- + Wall, top-mounting or floor fixing

Included in delivery

Individual system components incl. cable channel covering and assembly materials

Technical data

Material	Connecting tube: DIN EN 573 EN AW-ALMgSi Components: DIN EN 1706 EN AC-ALSi 12 (Fe) Cover profile: TPE
Painting	Powder coating
Colour	Tube and components in RAL 7035, lightgrey Cover profile: RAL 9005, jet black
Ingress protection	IP54 to EN 60529

Product range

Type	Order No.	Weight (g)
Top-mounted joint	49.45 66 00	2350
Foot stand	49.45 72 00	800
Wall hinge W	49.45 70 00	3250
Angle	49.45 71 00	720
Coupling	49.45 73 00	1100
Coupling GTKe-PRO	49.45 73 02	1300
Flange coupling	49.45 77 00	1500
Angle coupling	49.45 75 00	1140
Angle coupling GTKe-PRO	49.45 75 02	1300
Flange angle coupling	49.45 78 00	1330
Spare cover profile 2.5 m	49.45 69 00	600
Adapter plate GTKe-PRO	49.45 00 01	200

Aluminium profile, max. outreach 1.5 m

Connecting tube	Order No.	Weight (g)
Standard length: 0,5 m	49.45 10 01	1650
Standard length: 1 m	49.45 10 02	3250
Standard length: 2 m*	49.45 10 03	7000
Variable length (please specify)		

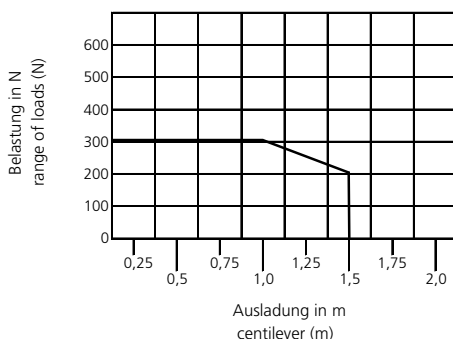
without threaded hole

Adaptation capability, using elements from GT 48/2 range*

	Order No.	Weight (g)
Console flange 30°	49.49 76 00	400
Adapter flange	49.49 79 00	1500
Inclination adapter	49.49 80 00	800

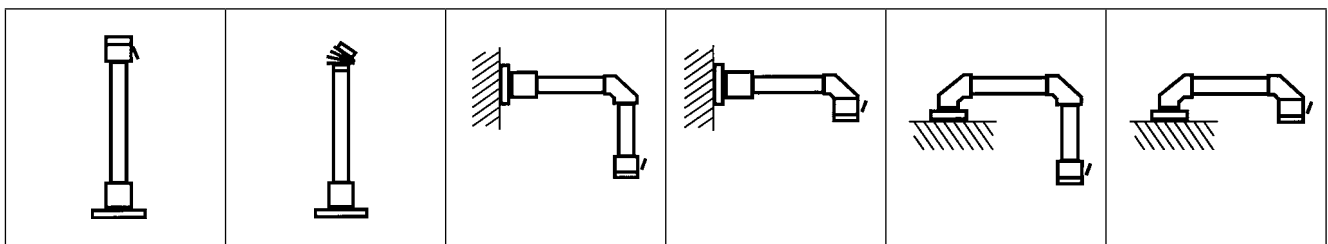
* Special colour RAL 7035 please specify when ordering.

Load diagram



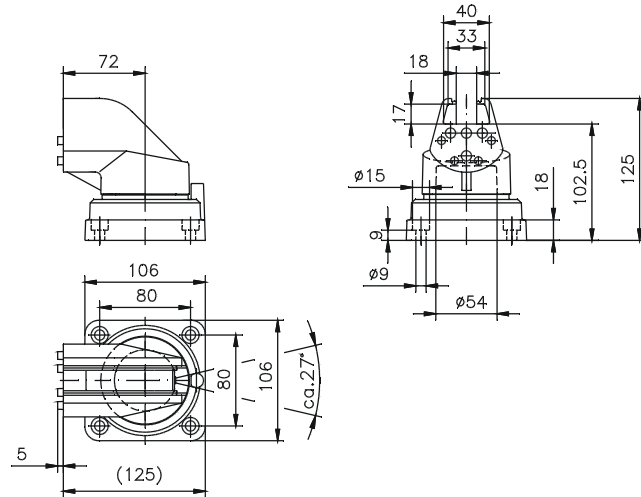
Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!). Further information for this on request. The values in the above load diagram are guilty to an execution hanging or standing. The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

System structure

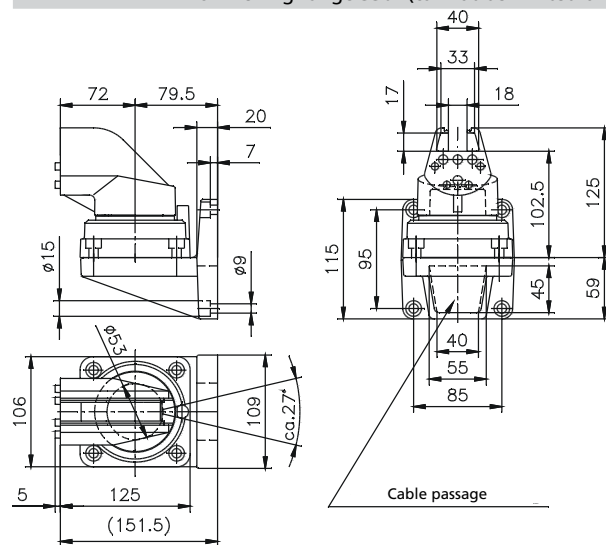




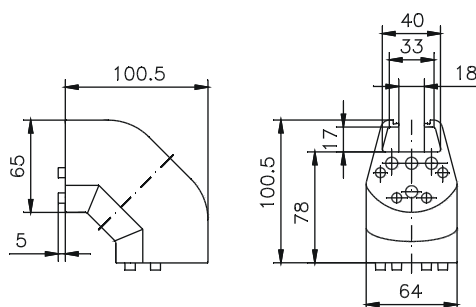
Order No.	Execution
49.45 66 00	Cast aluminium with steel inner tube and flange mounting. Swivelling range 330° (cannot be limited or stopped)



Order No.	Execution
49.45 70 00	Cast aluminium with steel inner tube and plain bearing Swivelling range 330° (cannot be limited or stopped)



Order No.	Execution
49.45 71 00	Cast aluminium, angle 90°, for GT system, can be used from above

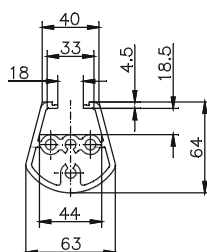


Components

Connecting tube



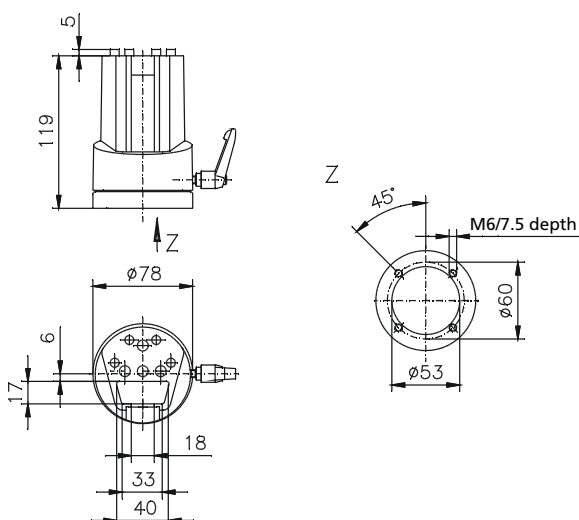
Order No.	Execution
49.45 10 01	0,5 m Aluminium extruded profile incl. plastic cover profile
49.45 10 02	1 m Aluminium extruded profile incl. plastic cover profile
49.45 10 03	2 m Aluminium extruded profile incl. plastic cover profile



Coupling



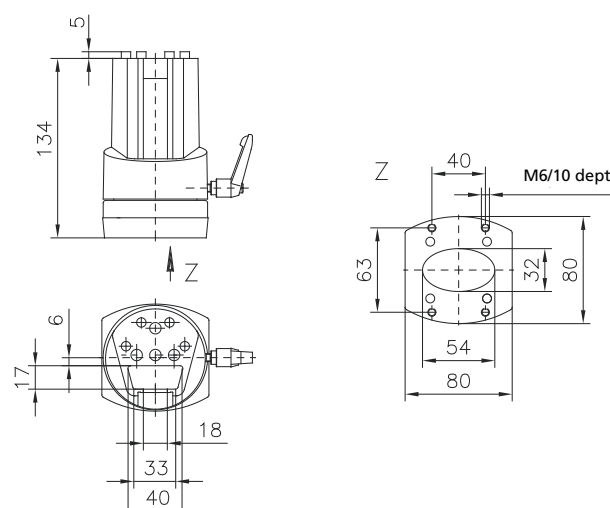
Order No.	Execution
49.45 73 00	Cast aluminium with internal steel tube. Swivelling range 290°



Coupling für Siemens Pro



Order No.	Execution
49.45 73 02	for direct connection to Siemens Pro devices. Swivelling range 290°

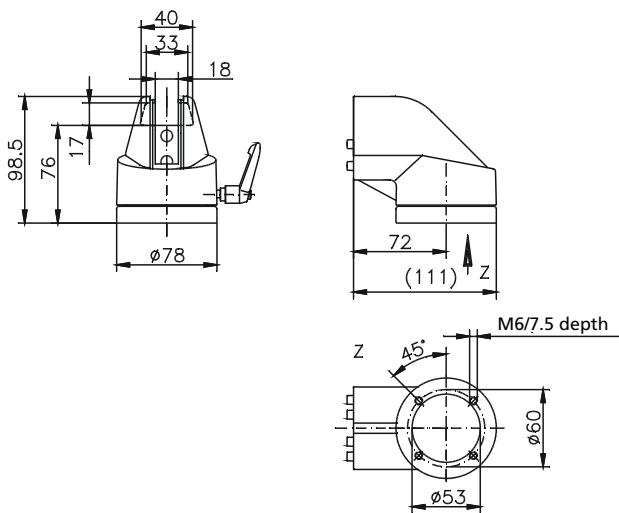


Components

Angle coupling



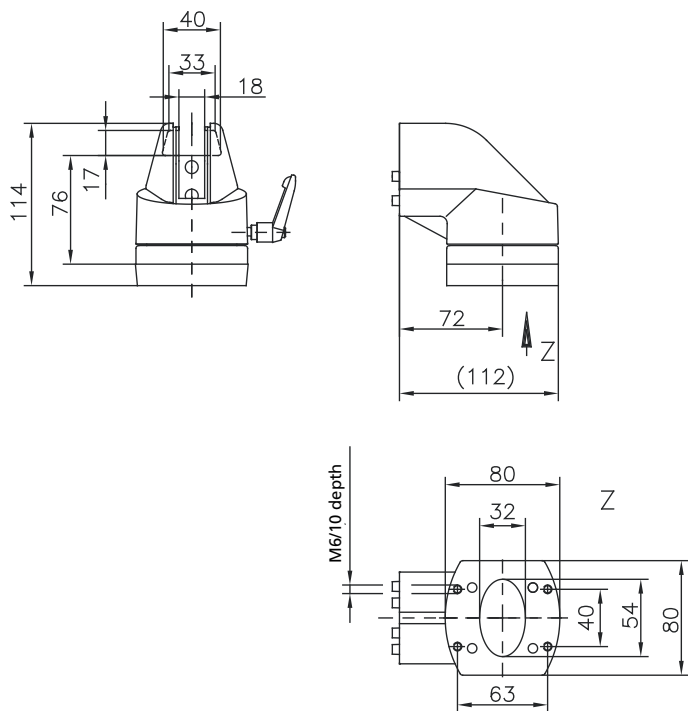
Order No.	Execution
49.45 75 00	Combination of angle and coupling for horizontal tube exit. Cast aluminium with steel inner tube. Swivelling range 290°



Angle coupling for Siemens Pro



Order No.	Execution
49.45 75 02	for direct connection to Siemens Pro commander units Combination of angle and coupling for horizontal tube exit. Cast aluminium with steel inner tube. Swivelling range 290°



Components

Flange coupling

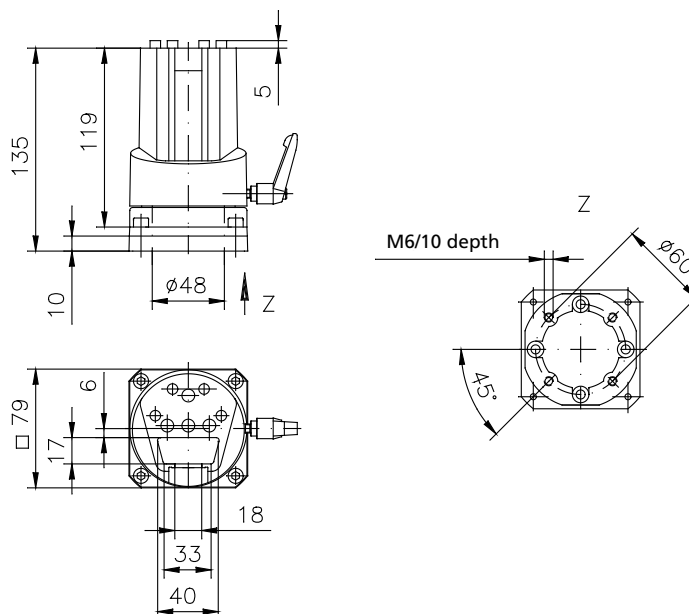


Order No.

Execution

49.45 77 00

Cast aluminium with internal steel tube. Swivelling range 290°



Flange angle coupling

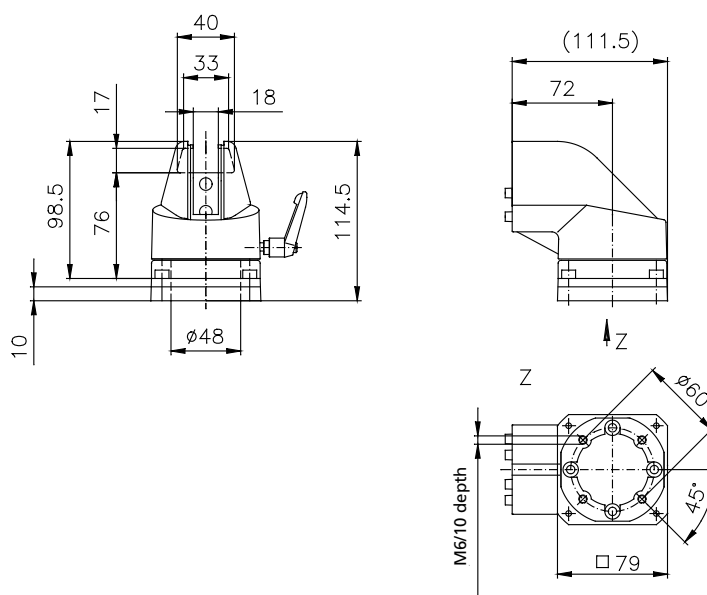


Order No.

Execution

49.45 78 00

Combination of angle and coupling for horizontal tube exit. Cast aluminium with internal steel tube. Swivelling range 290°

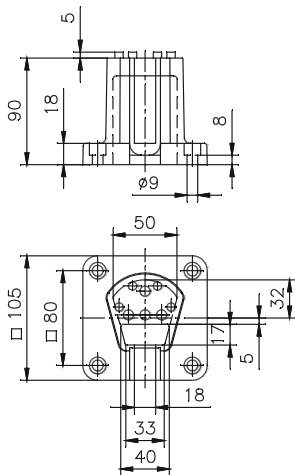


Components

Foot stand



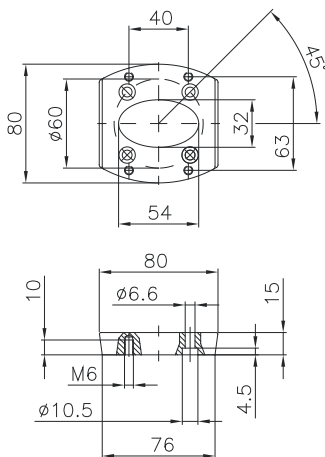
Order No.	Execution
49.45 72 00	Cast aluminium, fixed version



Adapter plate GTKe-Pro



Order No.	Execution
49.45 00 01	Adapter plate for connecting GTK electronic elements with Siemens Pro-command units (not necessary for coupling GTKe Pro and angle coupling GTKe Pro)



GTS



- + Aluminium profile suspension system for light/medium loads up to 30 kg
- + Product family GTS / GTN / GTL
- + Can be combined with all Commander systems
- + Standardly adjustable solution for individual loads

Included in delivery

System individual components incl. cable duct cover and assembly material.

Technical data

Material	Connecting tube: DIN EN 573 EN AW-ALMgSi Components: DIN EN 1706 EN AC-AISI 12 (Fe)
Painting	Powder coating
Colour	Tube, components: RAL 7035, light grey
Ingress protection	IP54 to EN 60529



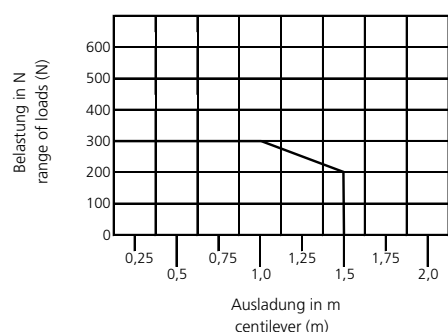
Product range

Type	Order No.	Weight (g)
Top-mounted joint	49.44 66 00	1600
Foot stand	49.44 72 00	300
Wall hinge W	49.44 70 00	2400
Wall hinge S	49.44 70 30	2400
Angle	49.44 71 00	800
Angle GTS / GT 48/2	49.44 71 49	1800
Coupling	49.44 73 00	600
Coupling 15°, combination of coupling and console flange 15°	49.44 73 76	800
Flange coupling	49.44 77 00	900
Angle coupling	49.44 75 00	1000
Angle coupling, combination of angle coupling and console flange 15°	49.44 75 73	1200
Foot stand drehbar	49.44 72 21	900
Inclining adapter	49.44 80 00	900
Coupling Siemens PRO	49.44 73 02	800
Angle coupling Siemens PRO	49.44 75 02	1500
Adapter plate Siemens Pro	49.44 00 01	200
Coupling DN, combination of coupling and inclining adapter	49.44 62 00	1500

Aluminium profile, max. outreach 1.5 m	Order No.	Weight (g)
GTS Profile, painted RAL 7035, 0.5 m	49.44 10 01	1550
GTS Profile, painted RAL 7035, 1 m	49.44 10 02	3100
GTS Profile, painted RAL 7035, 2 m*	49.44 10 03	6200
Variable length (please specify)	49.44 10 99	
Aluminium profile, max. outreach 1.5 m		
GTS Profile anodized 0,5 m	49.44 11 01	1550
GTS Profile anodized 1 m	49.44 11 02	3100
GTS Profile anodized 2 m*	49.44 11 03	6200
GTS Profile anodized, variable length (please specify)	49.44 99 99	

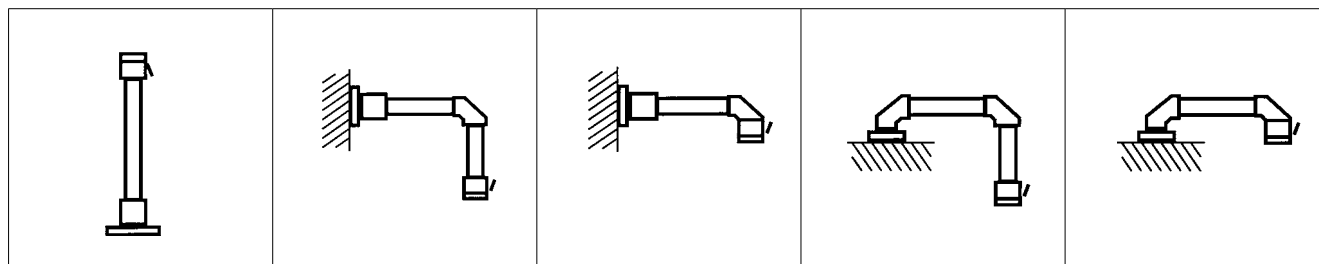
* without threaded hole

Load diagram



Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!).
Further information for this on request. The values in the above load diagram are guilty to an execution hanging or standing.
The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

System structure

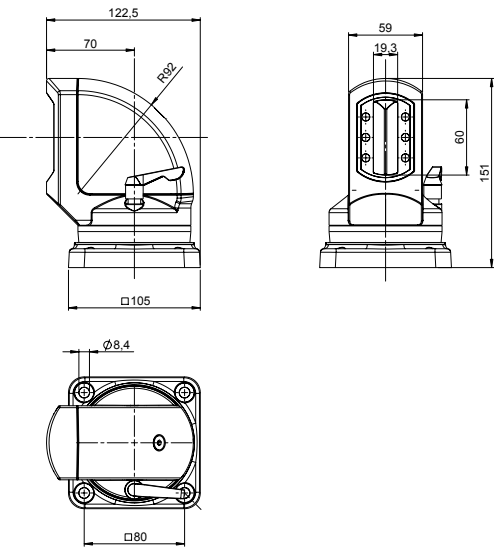


Components

Top-mounted joint



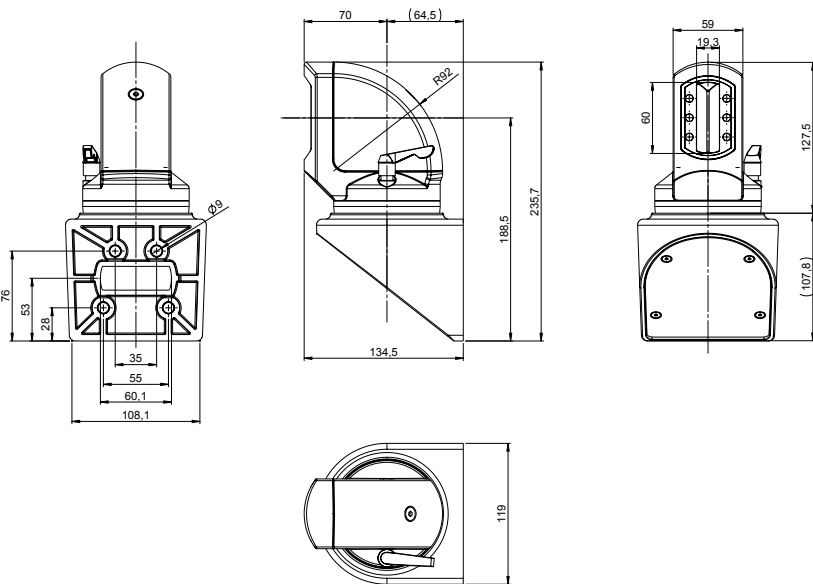
Order No.	Execution
49.44 66 00	Cast aluminium with flange mounting. Swivelling range to 330°



Wall hinge



Order No.	Execution
49.44 70 00	Cast aluminium with plain bearing. Swivelling range 330°



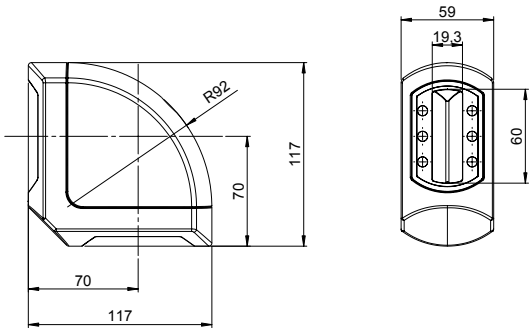
GTS

Components

Angle



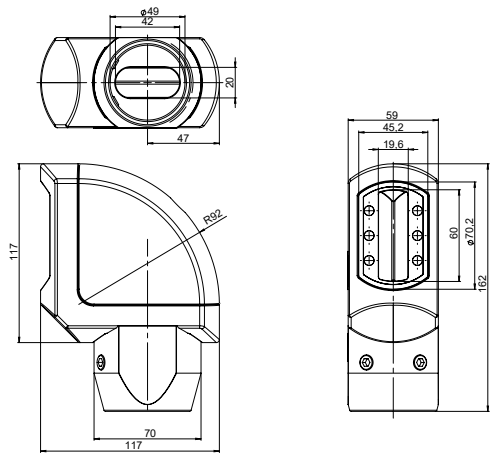
Order No.	Execution
49.44 71 00	Cast aluminium, angle 90°, incl. lid



Angle GTN II / GTS



Order No.	Execution
49.44 71 49	for combination GTS and GT 48/2



Components

Foot stand

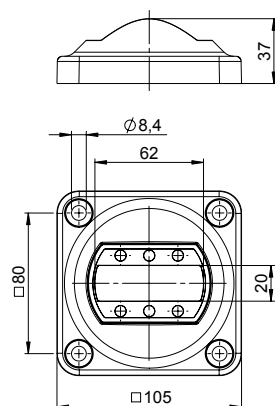


Order No.

Execution

49.44 72 00

Cast aluminium, fixed version, for floor mounting or wall mounting with rigid outlet



Foot stand turnable

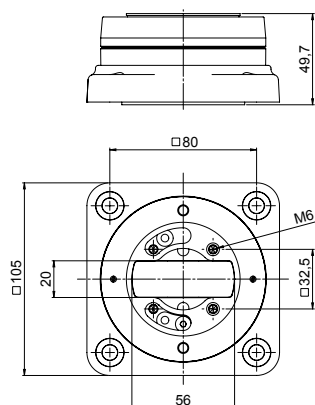


Order No.

Execution

49.44 72 21

Cast aluminium with adjustable stop for direct connection onto machine and command unit

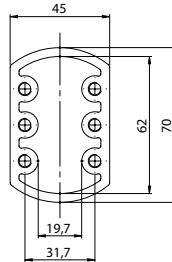


Components

Profile, RAL 7035



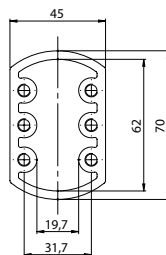
Order No.	Execution
49.44 10 01	0.5 m Aluminium extrusion profile
49.44 10 02	1 m Aluminium extrusion profile
49.44 10 03	2 m Aluminium extrusion profile
49.44 10 99	Aluminium extrusion profile, variable length (please specify)



Profile, anodized



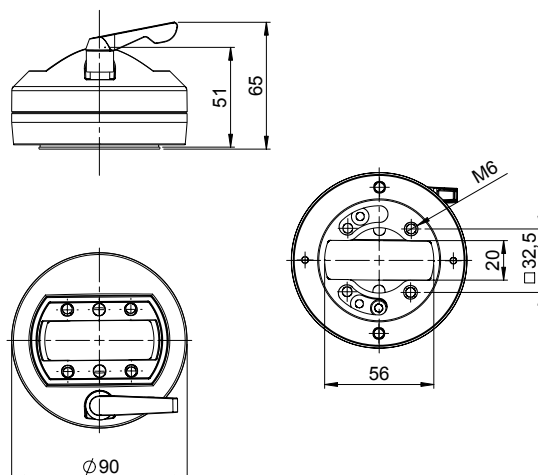
Order No.	Execution
49.44 11 01	0.5 m Cast aluminium extrusion profile
49.44 11 02	1 m Cast aluminium extrusion profile
49.44 11 03	2 m Cast aluminium extrusion profile
49.44 11 99	Cast aluminium extrusion profile, variable length (please specify)



Coupling



Order No.	Execution
49.44 73 00	Cast aluminium, Swivelling range 330°



Components

Coupling Siemens Pro

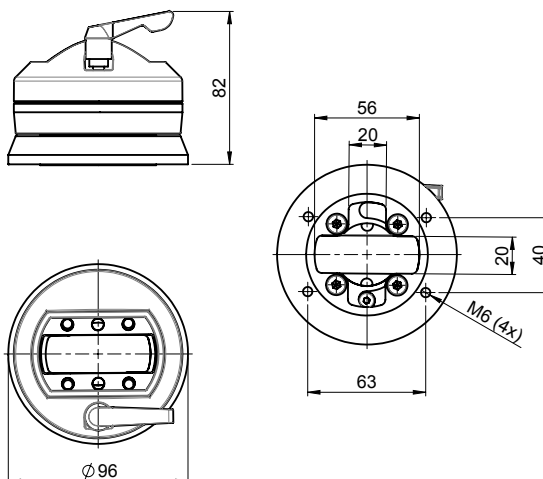


Order No.

49.44 73 02

Execution

for direct connecting of Siemens PRO command units. Diecast aluminium, coupling mounting onto Siemens base adaption; Swivelling range 330°



Flange coupling

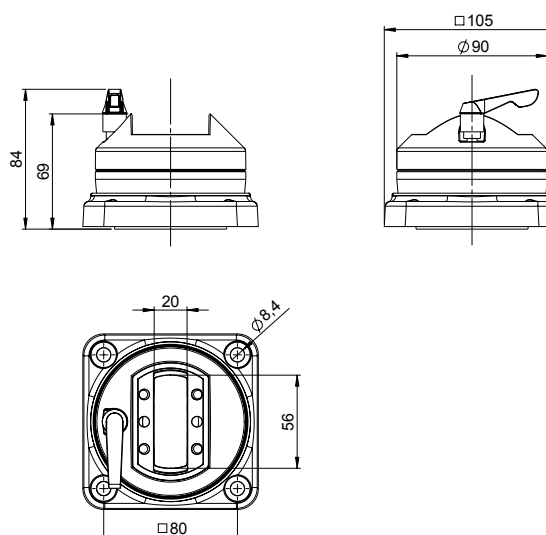


Order No.

49.44 72 00

Execution

Diecast aluminium with adjustable stop position between machine and control panel



Components

Angle coupling

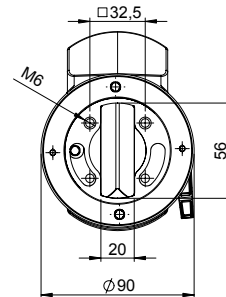
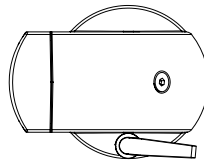
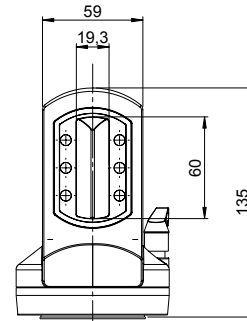
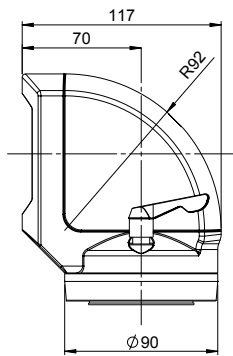


Order No.

Execution

49.44 75 00

Combination of angle und coupling for horizontal tube exit. Diecast aluminium, Swivelling range 330°



Angle coupling Siemens Pro

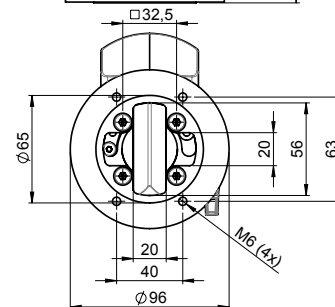
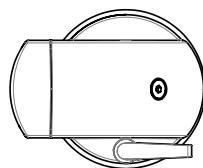
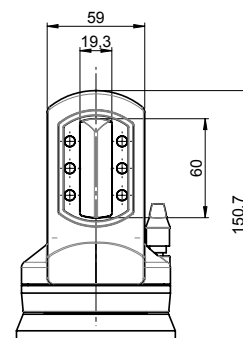
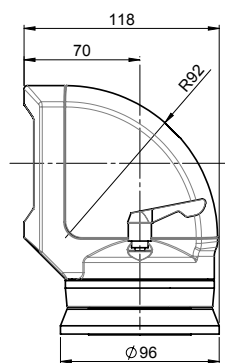


Order No.

Execution

49.44 75 02

for direct connecting of Siemens PRO command units. Diecast aluminium, coupling mounting onto Siemens baseadaption; Swivelling range 330°



Components

Adapter plate Siemens Pro



Order No.

49.44 00 01

Execution

For connecting GTS system components (e.g. inclining adapter) with Siemens PRO command units (with GTS coupling Siemens PRO and GTS angle coupling Siemens Pro not necessary)

Inclining adapter



Order No.

49.44 80 00

Execution

Diecast aluminium element with bellows and gasket. Inclining range from 0° to 45° continuously adjustable. Fixing with screws between enclosure and coupling.

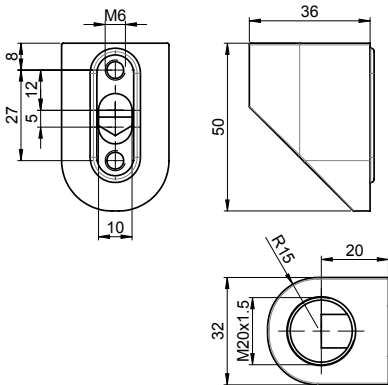
Signal light adaptation

Components

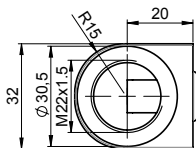
Base connection element for suspension systems, command units and cabinets



Order No.	Execution
49.00 01 01	Signal light adaptation with thread M20x1.5 mm
49.00 01 02	Signal light adaptation with thread M22x1.5 mm



49.00 01 01

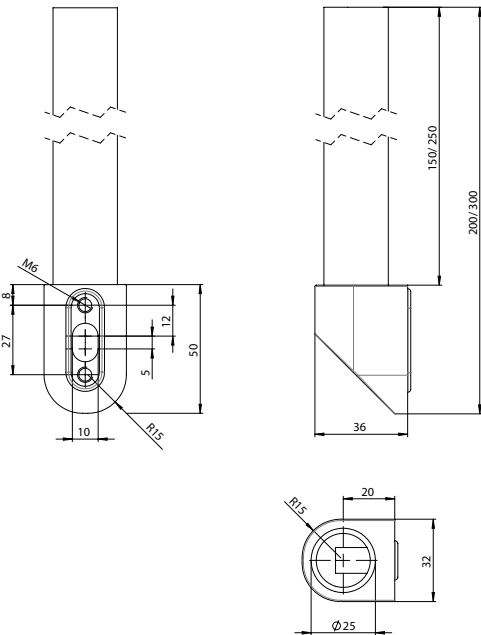


49.00 01 02

Base connection element for suspension systems, command units and cabinets



Order No.	Execution
49.00 01 03	Signal light adaption with tube Ø 25 mm, length = 250 mm
49.00 01 04	Signal light adaption with tube Ø 25 mm, length = 150 mm





- + Design aluminium suspension system
- + Closed profile system / profile with free accessible cable duct
- + Can be combined with all control enclosures

Included in delivery

System individual components incl. cable duct cover and assembly material.

Technical data

Material	Tube: DIN EN 573 EN AW-ALMgSi Components: DIN EN 1706 EN AC-ALSi 12 (Fe) Cover profile: TPE
Painting	Powder coating
Colour	Tube, components: RAL 7035, light grey Cover profile: RAL 9005, jet black
Ingress protection	IP54 to EN 60529

GTN II

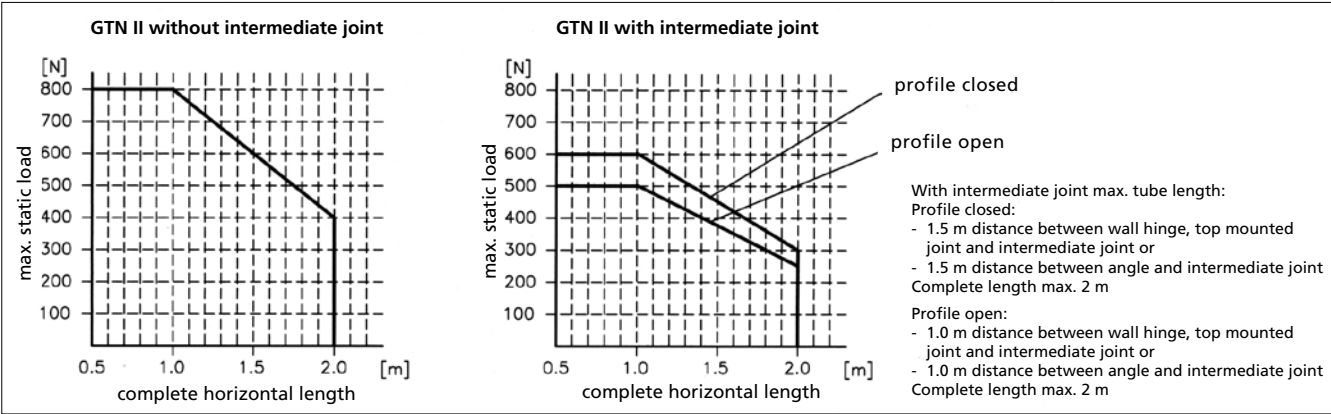
Product range

Type	Order No.	Weight (g)
Top-mounted joint	49.47 66 00	5200
Top-mounted joint light*	49.47 66 01	5200
Top-mounted joint (ceiling mounting)	49.47 66 20	5200
Wall hinge	49.47 70 00	6100
Wall hinge light*	49.47 70 01	6100
Wall hinge hanging	49.47 70 20	6100
Angle	49.47 71 00	1600
Angle GTN II / GTK electronic	49.47 71 45	1900
Angle GTN II / GTS	49.47 71 44	1900
Angle GTN II / GT 48/2	49.47 71 49	1900
Coupling	49.47 73 00	2400
Coupling GTN II-PRO	49.47 73 02	2800
Coupling fixed	49.47 73 03	1300
Angle coupling	49.47 75 00	2800
Angle coupling GTN II-PRO	49.47 75 02	3200
Intermediate joint "Z"	49.47 67 00	6600
Intermediate joint "Z" light*	49.47 67 01	6600
Intermediate joint "S"	49.47 67 02	6600
Intermediate joint "S" light*	49.47 67 03	6600
Foot stand fixed	49.47 72 00	1500
Foot stand turnable with adapter plate	49.47 72 20	3700
Foot stand turnable	49.47 72 21	2400
Foot stand turnable with adapter plate light*	49.47 72 22	3700
Console flange 15°	49.47 76 00	700
Column, length max. 2.0 m (please specify individual length)	49.47 00 04	special length
Spare cover profile 2,5 m	49.45 69 00	200
Adjustment set	49.47 00 06	-
Inclining adapter	49.47 80 00	2200
Adapter plate GTN II-PRO	49.47 00 01	400
Height adjustment slide hanging	49.47 30 02	13000
Height adjustment slide standing	49.47 30 03	13000

* light: can be used for control units with low load (up to 30 kg/2 m) with lower swivel force.

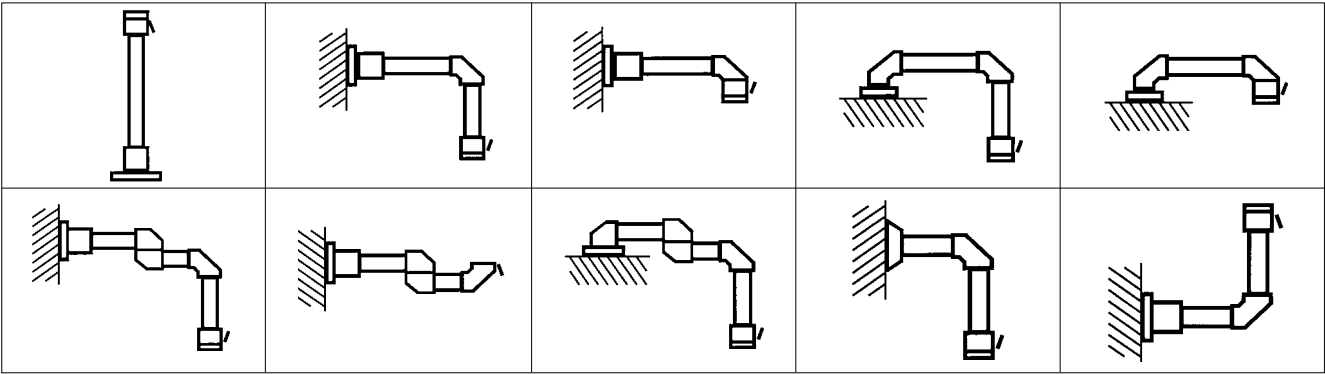
Aluminium profile	Profile open	Weight (g)	Profile closed	Weight (g)
Standard length: 0,5 m	49.47 10 01	3000	49.47 20 01	2850
Standard length: 1 m	49.47 10 02	6000	49.47 20 02	5700
Standard length: 2 m	49.47 10 03	12000	49.47 20 03	11400
Variable length (please specify)	49.47 10 99		49.47 20 99	
Profile anodized				
Standard length: 0,5 m	49.47 11 01	3000	49.47 21 01	2850
Standard length: 1 m	49.47 11 02	6000	49.47 21 02	5700
Standard length: 2 m	49.47 11 03	12000	49.47 21 03	11400
Variable length (please specify)	49.47 11 99		49.47 21 99	

Load diagram



Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!). Further information for this on request. The values in the above load diagram are guilty to an execution hanging or standing. The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

System structure



GTN II

Components

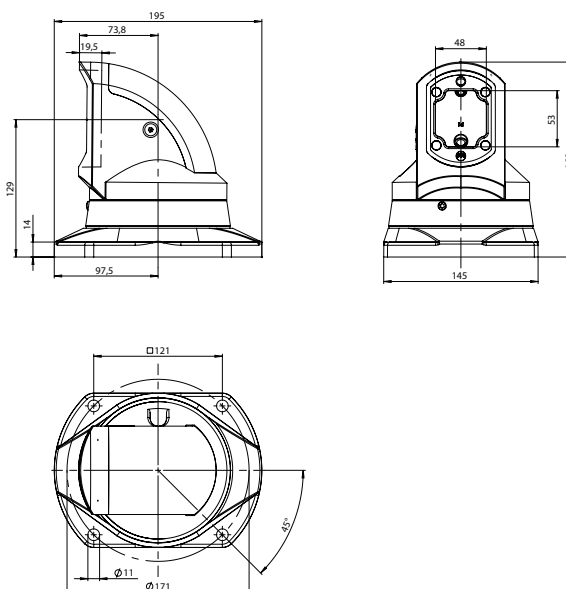
Top-mounted joint



Order No. Execution

49.47 66 00 GTN II, diecast aluminium, swivelling range 310°

49.47 66 01 GTN II light, diecast aluminium, swivelling range 310°



Wall hinge

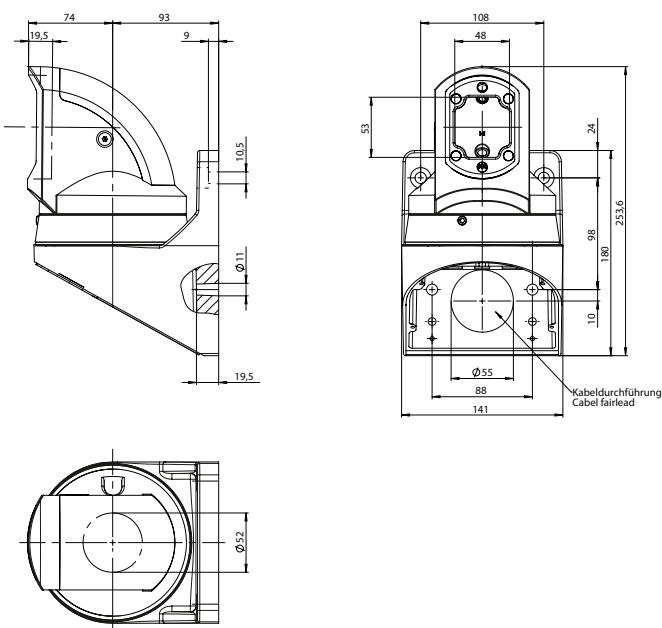


Order No. Execution

49.47 70 00 GTN II, diecast aluminium, swivelling range 230°

49.47 70 01 GTN II light, diecast aluminium, swivelling range 230°

49.47 70 20 GTN II hanging, diecast aluminium, swivelling range 230°



Components

Angle

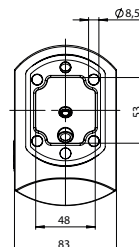
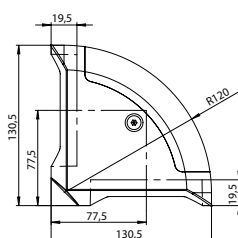


Order No.

Execution

49.47 71 00

Diecast aluminium, angle 90°



Angle GTN II / GTK electronic



GTN II

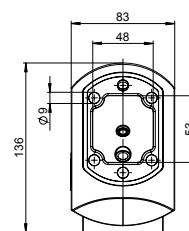
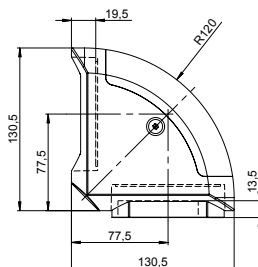
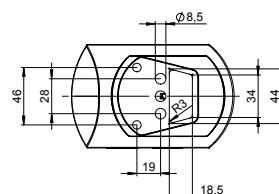
GTK electronic

Order No.

Execution

49.47 71 45

for combination GTN II and GTK electronic



Angle GTN II / GTS



GTS

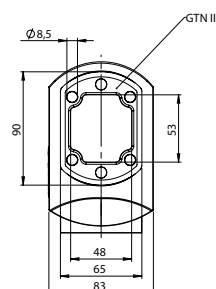
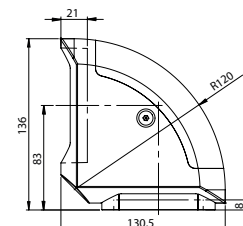
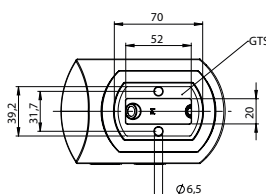
GTN II

Order No.

Execution

49.47 71 44

for combination GTN II and GTS



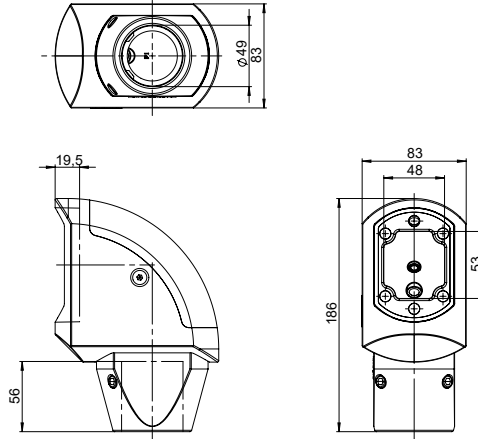
GTN II

Components

Angle GTN II / GT 48/2



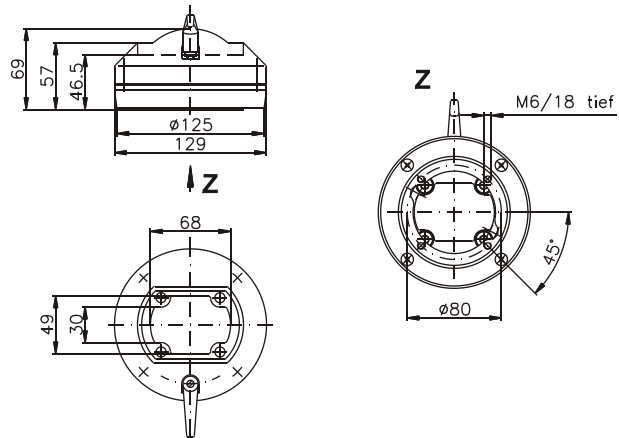
Order No.	Execution
49.47 71 49	for combination GTN II and GT 48/2



Coupling



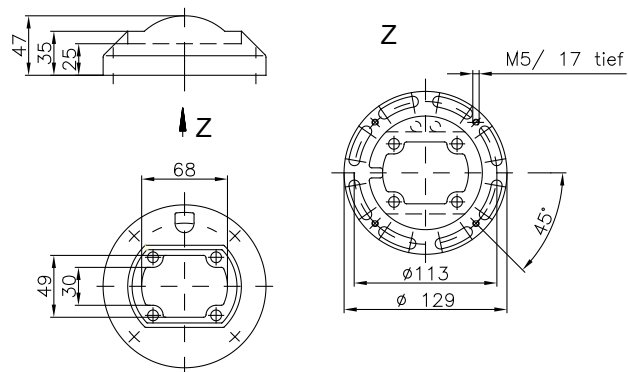
Order No.	Execution
49.47 73 00	Diecast aluminium, swivelling range 330°



Coupling fixed



Order No.
49.47 73 03

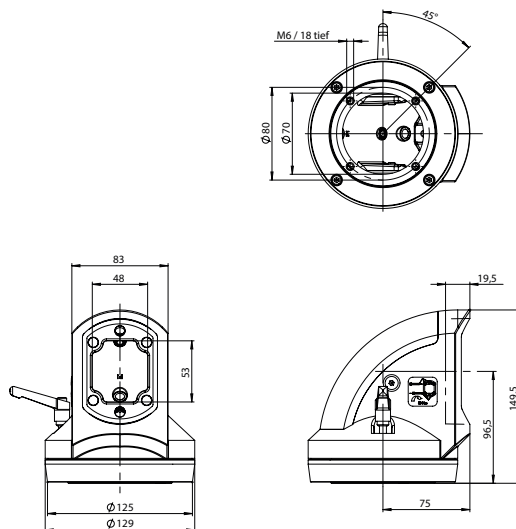


Components

Angle coupling



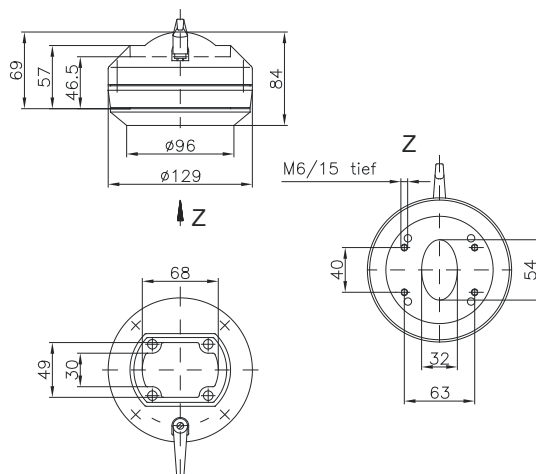
Order No.	Execution
49.47 75 00	Diecast aluminium, swivelling range 320°



Coupling GTN II-PRO



Order No.	Execution
49.47 73 02	for direct connecting of Siemens Pro command units diecast aluminium, swivelling range 330°

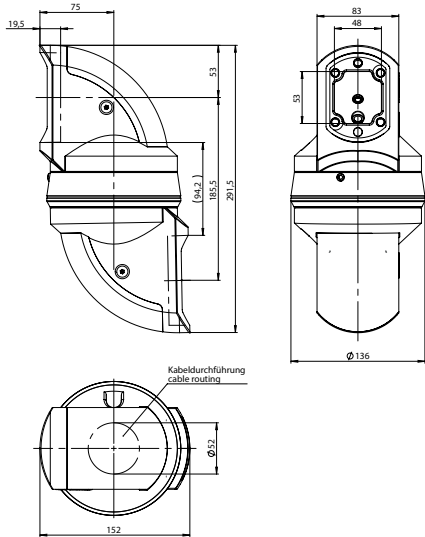


Components

Intermediate joint

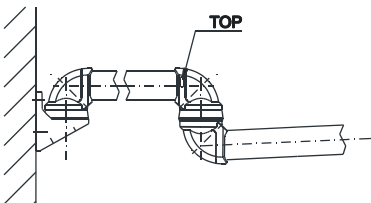
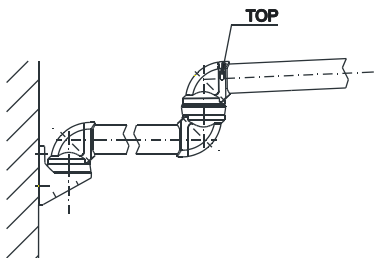


Order No.	Execution
49.47 67 00	GTN II „Z“, diecast aluminium, swivelling range 310°
49.47 67 01	GTN II „Z“ light, diecast aluminium, swivelling range 310°
49.47 67 02	GTN II „S“, diecast aluminium, swivelling range 310°
49.47 67 03	GTN II „S“ light, diecast aluminium, swivelling range 310°



Intermediate joint S-Type

Intermediate joint Z-Type

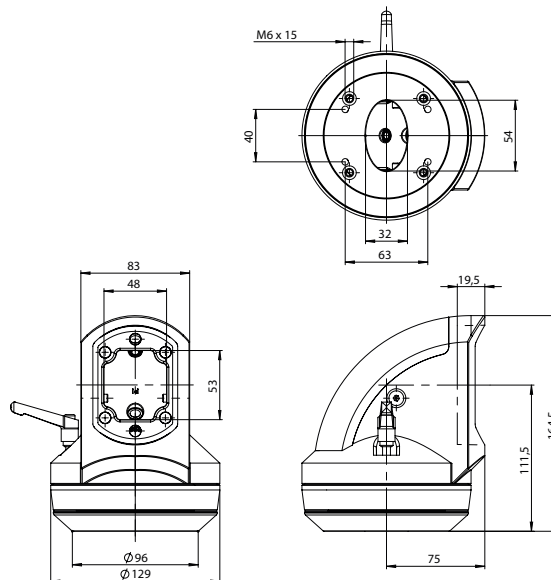


Components

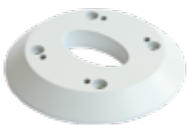
Angle coupling GTN II-PRO



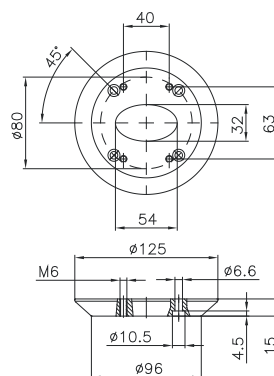
Order No.	Execution
49.47 75 02	for direct connecting of Siemens Pro command units Cast aluminium, Swivelling range 320°



Adapter plate GTN II-PRO



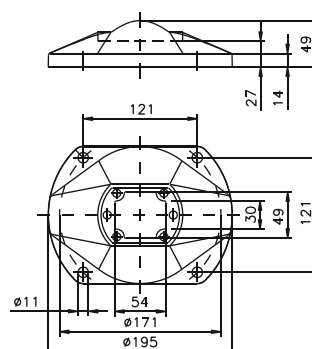
Order No.	Execution
49.47 00 01	for connecting GTN II elements with Siemens Pro command units (not relevant for coupling GTN II Pro and angle coupling GTN II Pro)



Foot stand fixed



Order No.	Execution
49.47 72 00	Diecast aluminium, fixed version, for ground mounting or wall mounting



Components

Foot stand turnable with adapter plate

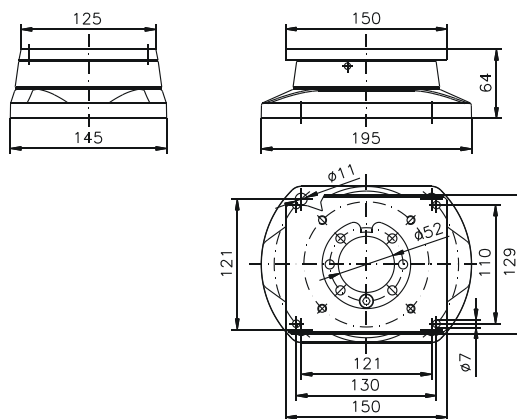


Order No.

Execution

49.47 72 20

Diecast aluminium with adjustable stop position between machine and control panel
for the combination of directly with commander, **not with profile**



Foot stand turnable

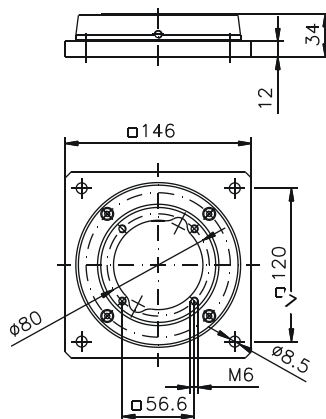


Order No.

Execution

49.47 72 21

Diecast aluminium with adjustable stop position between machine and control panel
for the combination of directly with commander, **not with profile**



Console flange 15°

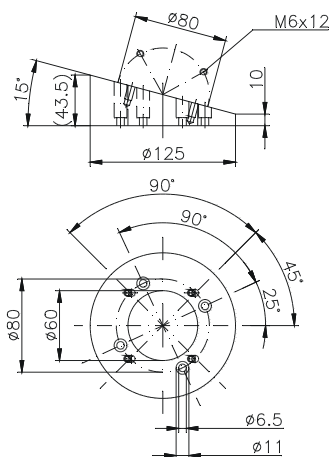


Order No.

Execution

49.47 76 00

Aluminium



GTN II

Components

Column

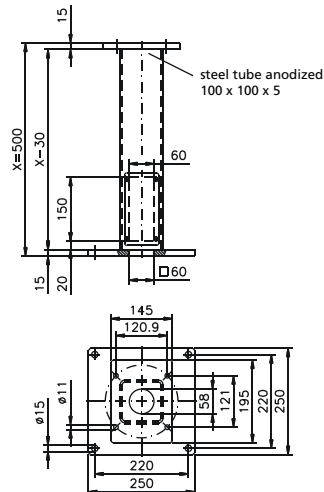


Order No.

Execution

49.47 00 04 8

Steel, painted, length individually up to 2 m, including adapter plate for GTN II top mounted joint, at bottom side flange outlet (specify total length)



Inclining adapter

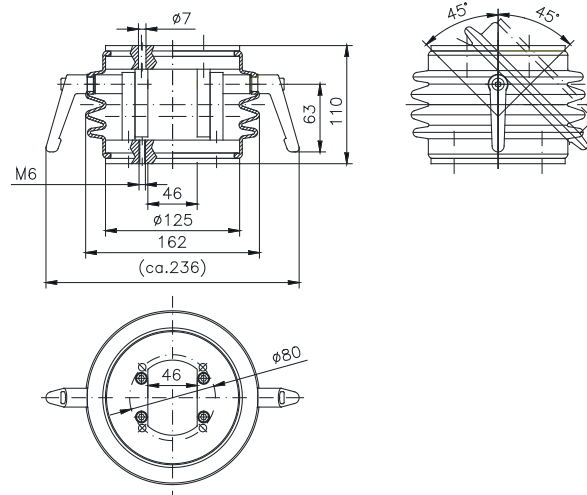


Order No.

Execution

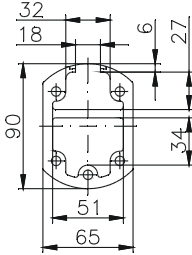
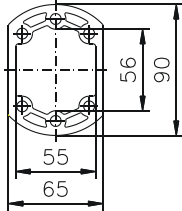
49.47 80 00

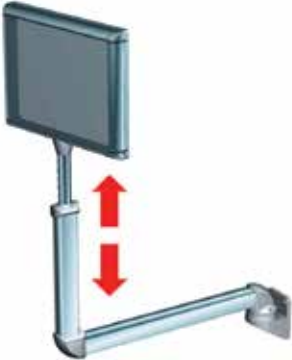
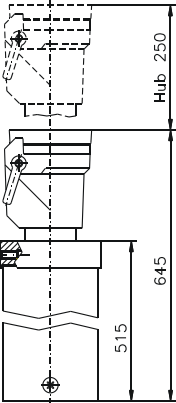
Diecast aluminium part with bellow and seal, inclination can be adjusted to any angle between 0° and 45°.



GTN II

Components

Profile	
	Order No.
	s. page 101
	Execution
	Extruded aluminium sheath, open version with integrated cable channel with black rubber cover
  Profile open Profile closed	

Height adjustment unit GTN II / GT 48/2	
	Order No.
	49.47 30 01
	Execution
	Height adjustment „tube in tube“ consisting of: combination GTN II / GT 48/2 tube incl. coupling GT 48/2 height adjustment area: 250 mm length of tube GTN II: 515 mm; total length 645 - 895 mm from lower edge GTN II-tube max. loading: 25 kg free cable entry: 40 mm other length GTN II-tube on request
	

Components

Height adjustment, slide hanging

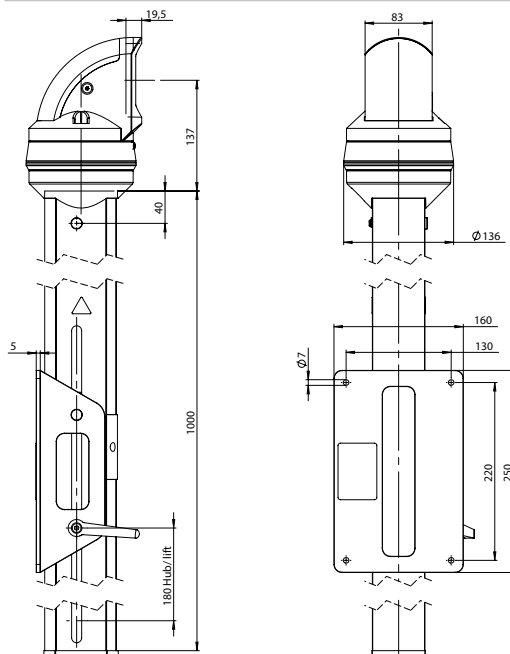


Order No.

Execution

49,47 30 02

Consisting of tube GTN II open, slide and swivel joint, slide fixing on rear side of the commander system, adjustment by knob
height adjustment area: 200 mm (damped by gas spring)
total length of tube: 730 mm
max. loading: 30 kg
swivel range: 330°



Height adjustment, slide standing

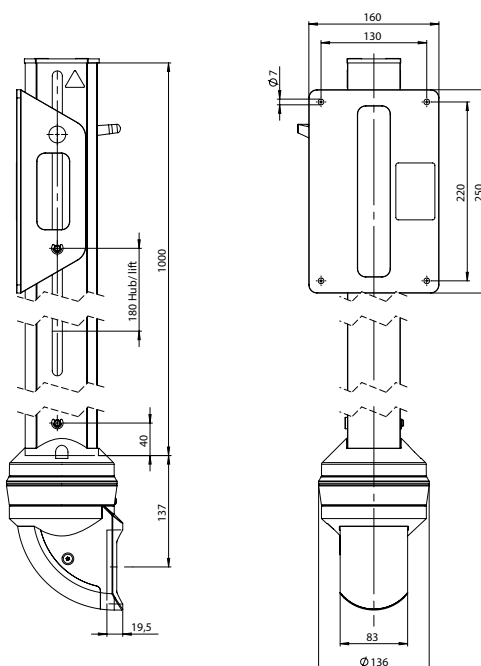


Order No.

Execution

49,47 30 03

Consisting of tube GTN II open, slide and swivel joint, slide fixing on rear side of the commander system, adjustment by knob
height adjustment area: 200 mm (damped by gas spring)
total length of tube: 730 mm
max. loading: 30 kg
swivel range: 330°



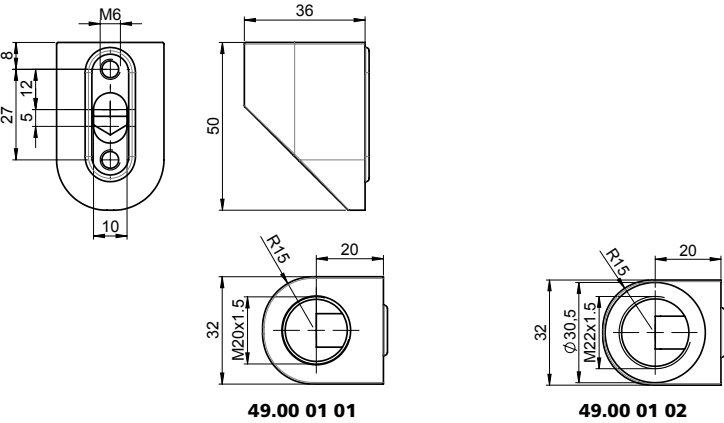
Signal light adaptation

Components

Base connection element for suspension systems, command units and cabinets



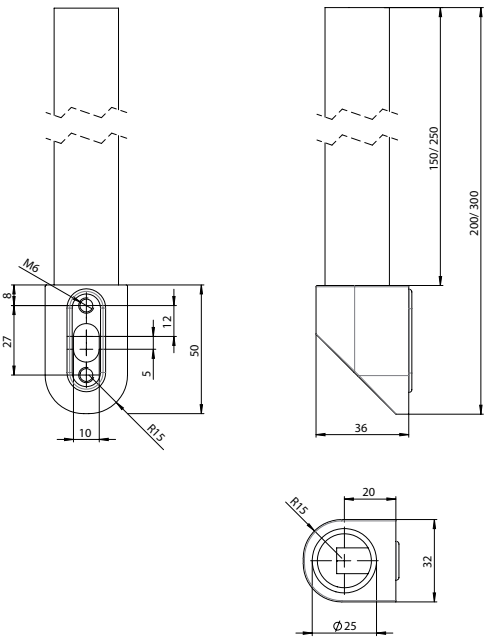
Order No.	Execution
49.00 01 01	Signal light adaptation with thread M20x1.5 mm
49.00 01 02	Signal light adaptation with thread M22x1.5 mm



Base connection element for suspension systems, command units and cabinets



Order No.	Execution
49.00 01 03	Signal light adaption with tube Ø 25 mm, length = 250 mm
49.00 01 04	Signal light adaption with tube Ø 25 mm, length = 150 mm





- + Aluminium profile suspension system for heavy loads
- + Complete product family GTS – GTN II – GTL product family
- + Can be combined with GTN II suspension system / height adjustment system GTV and control enclosures
- + Optional adjustment for horizontal alignment of the profile
- + Maximum static load 125 kg

Included in delivery

System components with fixing material and seals

Technical data

Material	Connecting tube: DIN EN 573, EN AW –ALMgSi Components: DIN EN 1706, EN AC-AISI 12 (Fe)
Painting	Powder coating
Colour	Tube and components in RAL 7035, light grey
Ingress protection	IP54 to EN 60529
Free cable passage	Tube and components Ø 70 mm



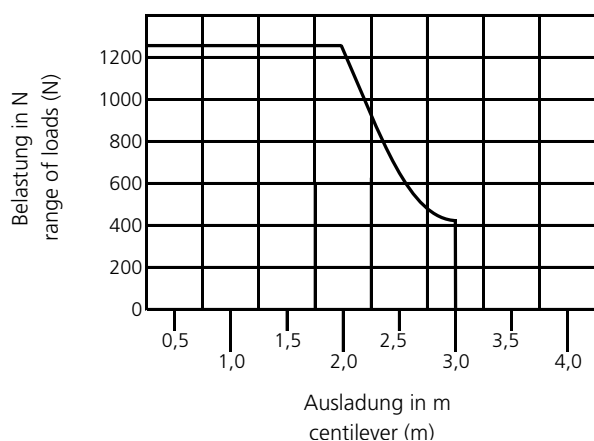
Product range

Type	Order No.	Weight (g)
Top-mounted joint	49.62 66 00	7600
Wall hinge	49.62 70 00	9500
Angle	49.62 71 00	3200
Angle GTL / GTN II	49.62 71 47	4100
Foot stand	49.62 72 00	2800
Coupling	49.62 73 00	4700
Angle coupling	49.62 75 00	5400
Intermediate joint	49.62 67 00	8400

Type	Order No.	Weight (g)
Aluminium profile closed RAL 7035		
Standard length 0,5 m	49.62 20 01	4500
Standard length 1 m	49.62 20 02	9000
Standard length 2 m	49.62 20 03	18000
Standard length 3 m	49.62 20 04	27000
Variable length (please specify)	49.62 20 99	
Aluminium profile closed anodized		
Standard length 0,5 m	49.62 21 01	4500
Standard length 1 m	49.62 21 02	9000
Standard length 2 m	49.62 21 03	18000
Standard length 3 m	49.62 21 04	27000
Variable length (please specify)	49.62 21 99	
Aluminium profile closed RAL 7035 for coupling GTL*		
Standard length 0,5 m	49.62 20 11	4500
Standard length 1 m	49.62 20 12	9000
Variable length (please specify)	49.62 20 98	
Aluminium profile closed anodized for coupling GTL*		
Standard length 0,5 m	49.62 21 11	4500
Standard length 1 m	49.62 21 12	9000
Variable length (please specify)	49.62 21 98	

* Note: In case of hanging version these types are to be selected in connection with the coupling.

Load diagram



Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!). Further information for this on request. The values in the above load diagram are guilty to an execution hanging or standing. The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

Components

Angle coupling

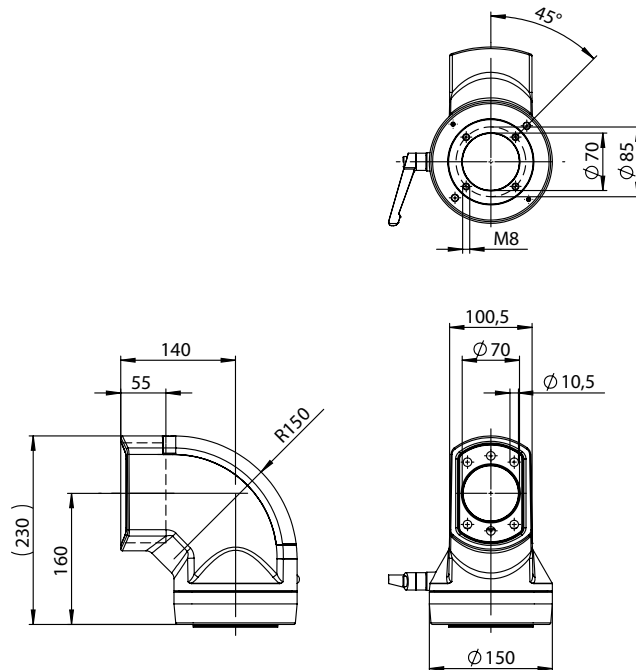


Order No.

Execution

49.62 75 00

Diecast aluminium with cover cap plastic
90° angle with swivelling range 310°



Intermediate joint

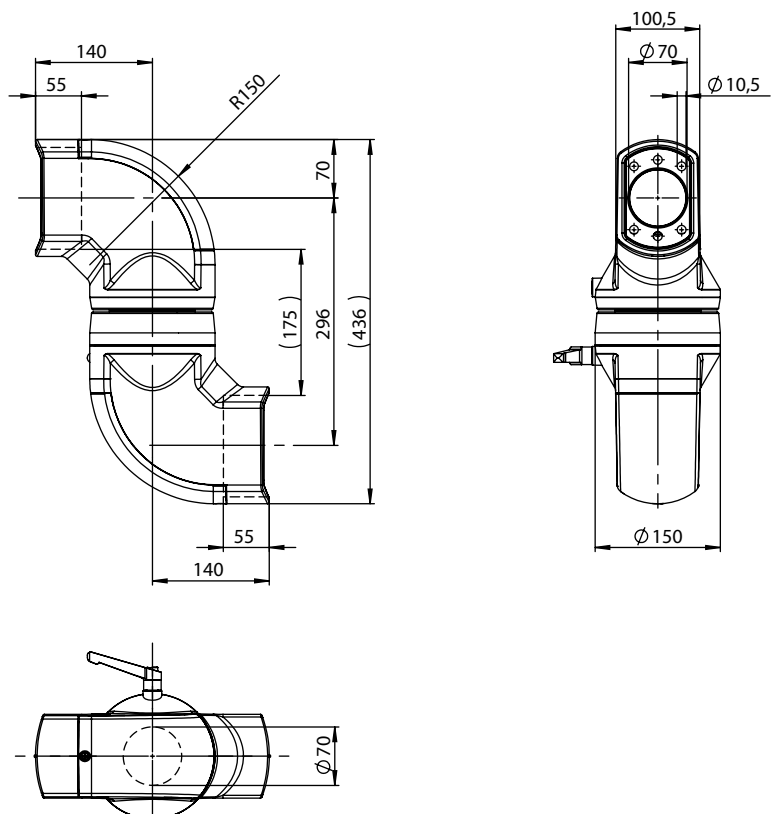


Order No.

Execution

49.62 67 00

Diecast aluminium with cover cap plastic
Swivelling range 310°



Components

Foot stand



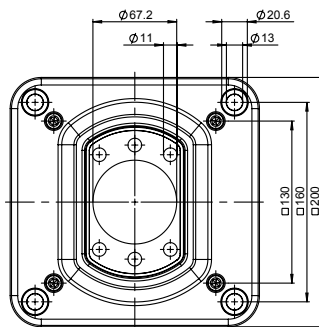
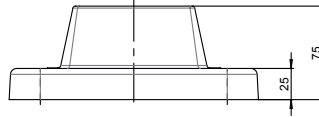
Order No.

Execution

49.62 72 00

Diecast aluminium

incl. 4 Einstellschrauben zur horizontalen Ausrichtung



Angle GTL / GTN II

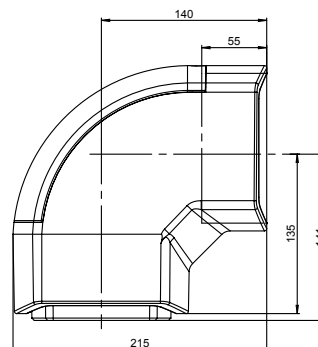
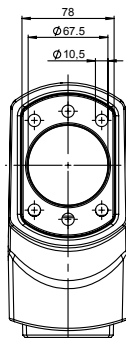
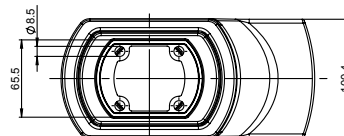


Order No.

Execution

49.62 71 47

for combination GTL and GTN II



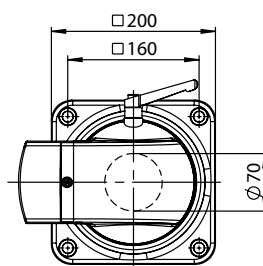
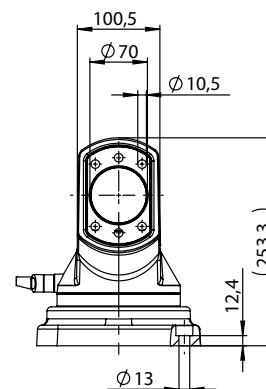
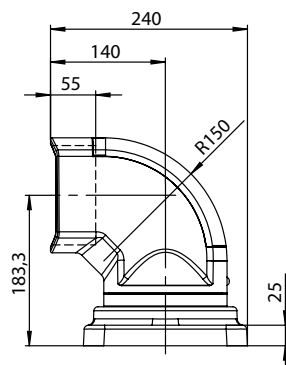
Components

Top-mounted joint



Order No. Execution

49.62 66 00 Diecast aluminium with cover cap plastic
Swivelling range 310°

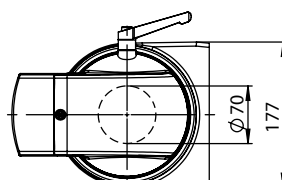
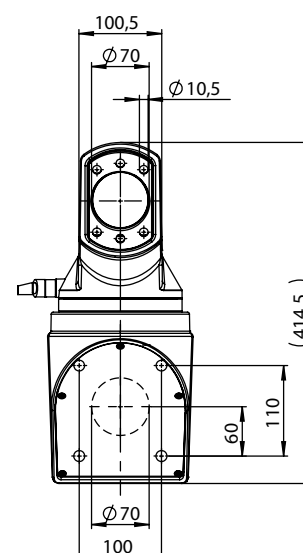
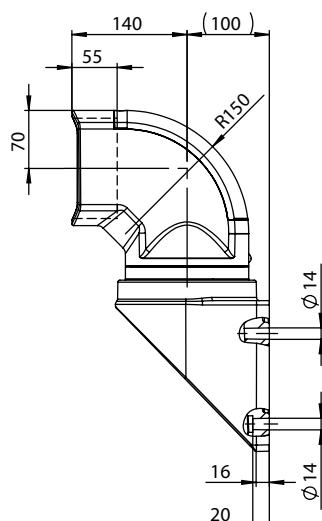


Wall hinge



Order No. Execution

49.62 70 00 Diecast aluminium with cover cap plastic
Swivelling range 310°

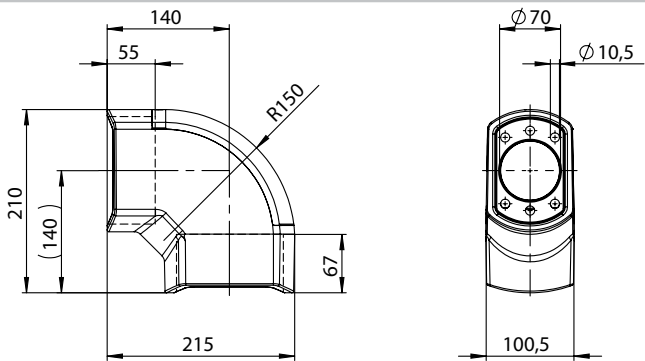


Components

Angle



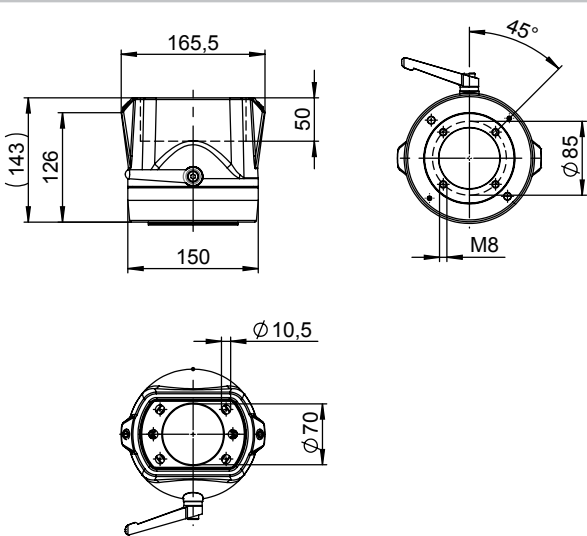
Order No.	Execution
49.62 71 00	Diecast aluminium with cover cap plastic 90° angle



Coupling



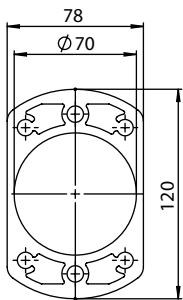
Order No.	Execution
49.62 73 00	Diecast aluminium Swivelling range 310°



Profile



Order No.	Execution
s. page 115	Extruded aluminium profile



Flat Panel Adapter



- + Connection for Panel PCs and flat control enclosures
- + Slim design
- + Protection class IP54
- + Comfortable access and generous assembly opening
- + Optional with angle adjustment $\pm 20^\circ$

Included in delivery

Connection compartment with lid and double ward 3mm lock. GTS or GTH coupling inclusive.

Optional with angle adjustment.

Technical data

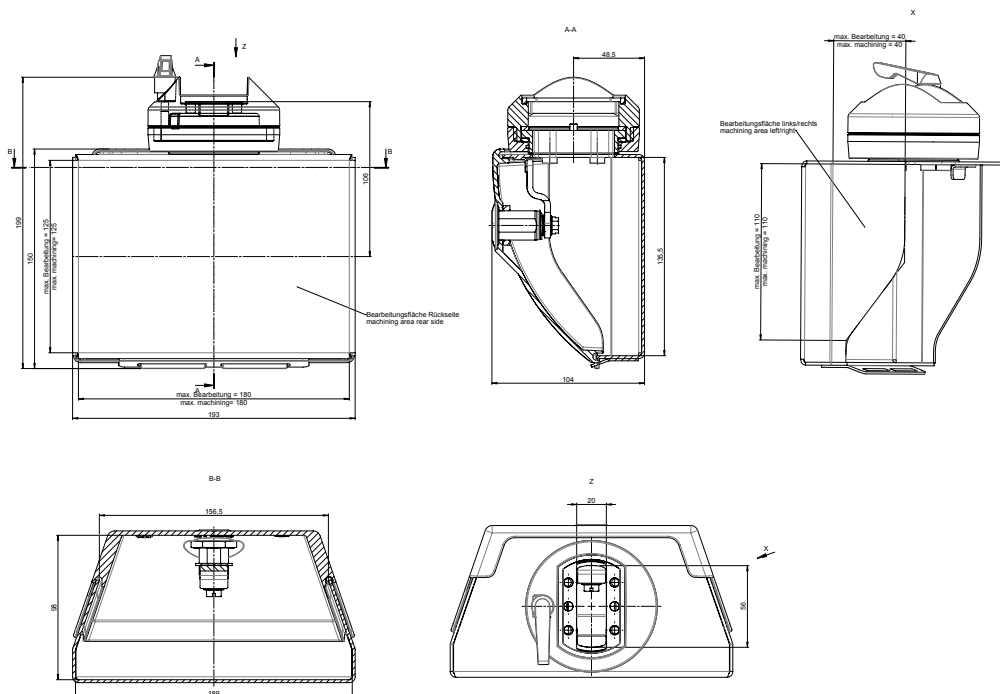
Material	Connection compartment: stainless steel 304 Angle adjustment: stainless steel 304 Lid: abs
Surface	Connection compartment: RAL 7035 Angle adjustment: RAL 7035 Lid: RAL 7021
Seal	CR and/or NBR
Ingress protection	With GTS coupling: IP 54 With GTH coupling: IP 65
Free cable passage	GTS: 53 x 19 mm GTH: $\varnothing$ 41 mm



Flat Panel Adapter

Product range

Order No.	Dimensions (mm) W x H x D	Variation	Drillings	Weight (kg)
50.10 20 10	193 x 199 x 104	Flat Panel Adapter GTS	VESA 75	1.89
50.10 20 20	193 x 199 x 104	Flat Panel Adapter GTS	VESA 100	1.81
50.10 20 99	193 x 199 x 104	Flat Panel Adapter GTS	special	o.req.
50.10 30 10	193 x 204 x 104	Flat Panel Adapter GTH 48 easy	VESA 75	2.39
50.10 30 20	193 x 204 x 104	Flat Panel Adapter GTH 48 easy	VESA 100	2.31
50.10 30 99	193 x 204 x 104	Flat Panel Adapter GTH 48 easy	special	o.req.
50.20 20 10	193 x 251 x 104	Flat Panel Adapter GTS	VESA 75 with angle adjustment	5.26
50.20 20 20	193 x 251 x 104	Flat Panel Adapter GTS	VESA 100 with angle adjustment	5.18
50.20 20 99	193 x 251 x 104	Flat Panel Adapter GTS	special with angle adjustment	o.req.
50.20 30 10	193 x 258 x 104	Flat Panel Adapter GTH 48 easy	VESA 75 with angle adjustment	5.76
50.20 30 20	193 x 258 x 104	Flat Panel Adapter GTH 48 easy	VESA 100 with angle adjustment	5.68
50.20 30 99	193 x 258 x 104	Flat Panel Adapter GTH 48 easy	special with angle adjustment	o.req.



GTV light



- + 3 strokes: 400 mm / 600 mm / 800 mm
- + Step less adjustment
- + Adjustable end stops
- + Adjustable load range
- + Fixable position
- + Possible subsequent integration into existing GTN II system
- + Spacious and easily accessible cable channel
- + Safe cable routing away from mechanical components

Included in delivery

Height adjustment incl. fixing material (assembly components for a connection to the machine and to the control enclosure are not included).



Technical data

Load range	5 – 25 kg
Ingress protection	IP54
Stroke	400 / 600 / 800 mm
Weight	3,5 kg (version with 400 mm)
Temperature range	up to appr. 80 °C
Life time	20.000 double strokes



GTV light

Product range

Stroke = 400 mm	Order No.
Load range 1 (5 - 10 kg)	49.84 20 01
Load range 2 (10 - 16 kg)	49.84 20 02
Load range 3 (16 - 25 kg)	49.84 20 04
Stroke = 600 mm	
Load range 1 (5 - 10 kg)	49.84 40 01
Load range 2 (10 - 16 kg)	49.84 40 02
Load range 3 (16 - 25 kg)	49.84 40 04
Stroke = 800 mm	
Load range 1 (5 - 7 kg)	49.84 60 01
Load range 2 (7 - 13 kg)	49.84 60 02
Load range 3 (13 - 21 kg)	49.84 60 04

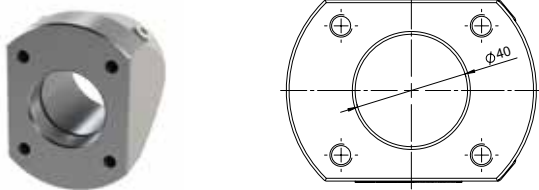
Accessories

Adapter GTS	49.84 10 01
Adapter GT 48/2	49.84 10 02
Adapter GTK electronic	49.84 10 03

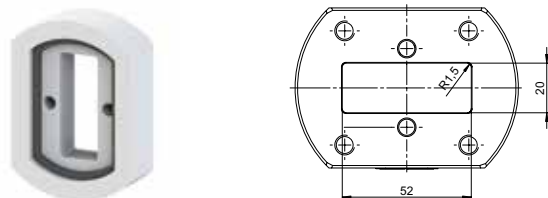
Note: encapsulated Panel PCs from Beckhoff and B & R (also adapter required) can be attached to 48 tube via the GT 48/2 adapter.

The adapters allow the attachments to be connected with other profile cross-section.

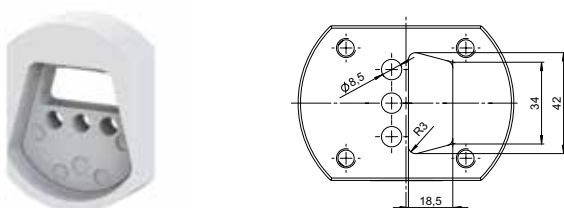
Adapter GT 48/2



Adapter GTS



Adapter GTK electronic

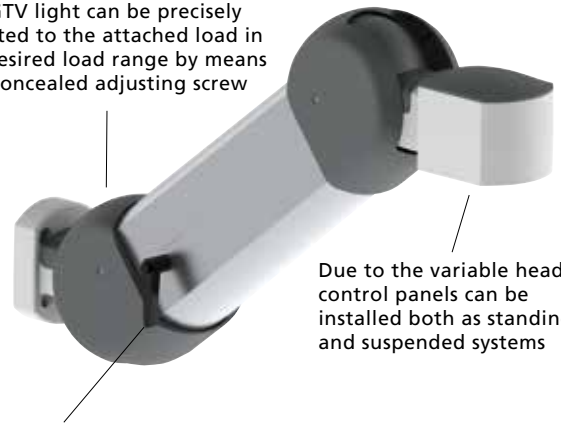


The load range is calculated by:

- weight of the command unit / command housing with installations
- possibly used coupling / inclination adapter, etc.
- vertical profile up to the head of the GTV light

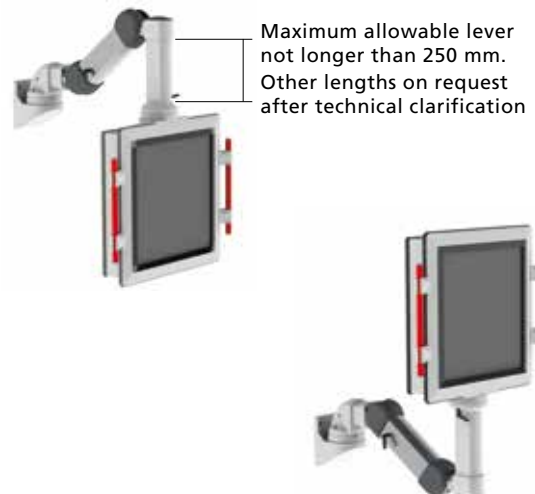
The load range is calculated for ambient temperature 20 °C. When using under strongly deviating temperature please contact us!

The GTV light can be precisely adjusted to the attached load in the desired load range by means of a concealed adjusting screw



Due to the variable head, control panels can be installed both as standing and suspended systems

Brake is used for additional locking in the desired position



GTV light

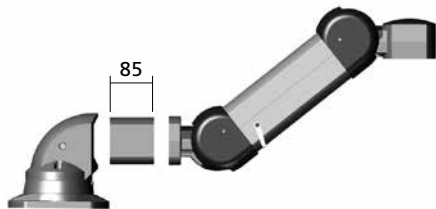
Technical details

Height adjustable suspension system, outlet hanging or upright

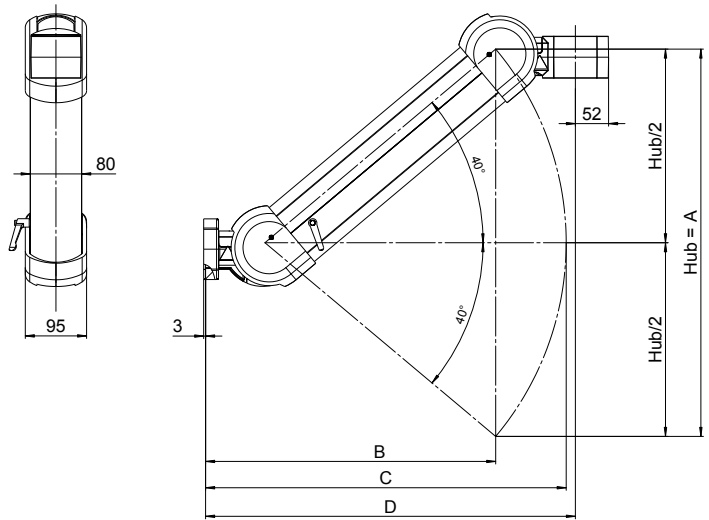


Note: The stroke of the GTV light can be steplessly limited both upwards and downwards in order to avoid collisions with possibly existing interference contours.

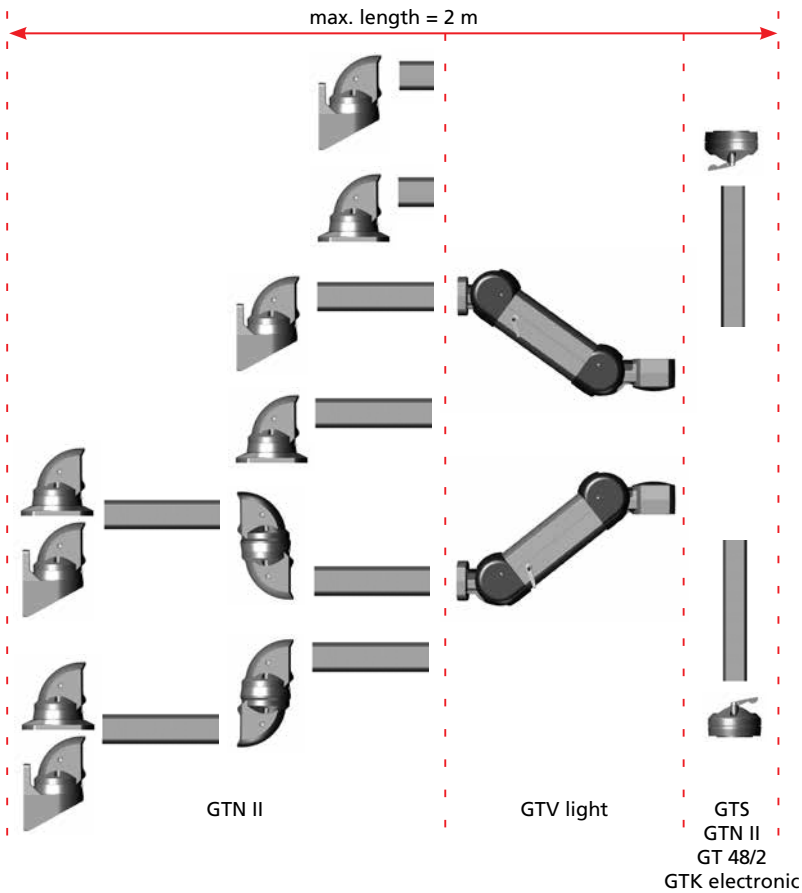
Minimum length between the joints (attachment joint, wall joint, intermediate joint) and GTV light = 85 mm



A (stroke in mm)	B (mm)	C (mm)	D (mm)
400	330	403	545
600	450	559	573
800	568	692	714



Possible combinations





- + Load range from 20 to 60 kg
- + For making the workplace ergonomic
- + Can be combined on the machine side with the GTL suspension system
- + Can be combined on the operator side with GTN II / GT 48/2 / GTS
- + Freely positionable version
- + Adjustable binding
- + High torsional stiffness
- + Continuous potential equalisation

Included in delivery

Height adjustment incl. fixing material (assembly components for a connection to the machine and to the control enclosure are not included).

Technical data

Material	Connecting plates: S235 Components: EN 1706 AC-46000DF Cable channel cover sheet: EN 573-3 AW-5754 H22
Painting	Powder coating
Colour	Connecting plates: RAL 7016 Components: RAL 7035 Cable channel cover sheet: RAL 7035
Load range	20 - 60 kg
Life time	25.000 double strokes
Temperature range	up to appr. 45 °C

GTV 2.0

Product range

	Order No.	Weight (g)
Load range 1 / Outlet hanging	49.85 50 01	17000
Load range 2 / Outlet hanging	49.85 50 02	17000
Load range 3 / Outlet hanging	49.85 50 03	17000
Load range 1 / Outlet upright	49.85 51 01	17000
Load range 2 / Outlet upright	49.85 51 02	17000
Load range 3 / Outlet upright	49.85 51 03	17000

Load range	
Load range 1:	20 – 32 kg
Load range 2:	32 – 44 kg
Load range 3:	44 – 60 kg



GTV 2.0 outlet towards suspension system GTN II for connecting command system



Suspension system GTL outlet towards machinery



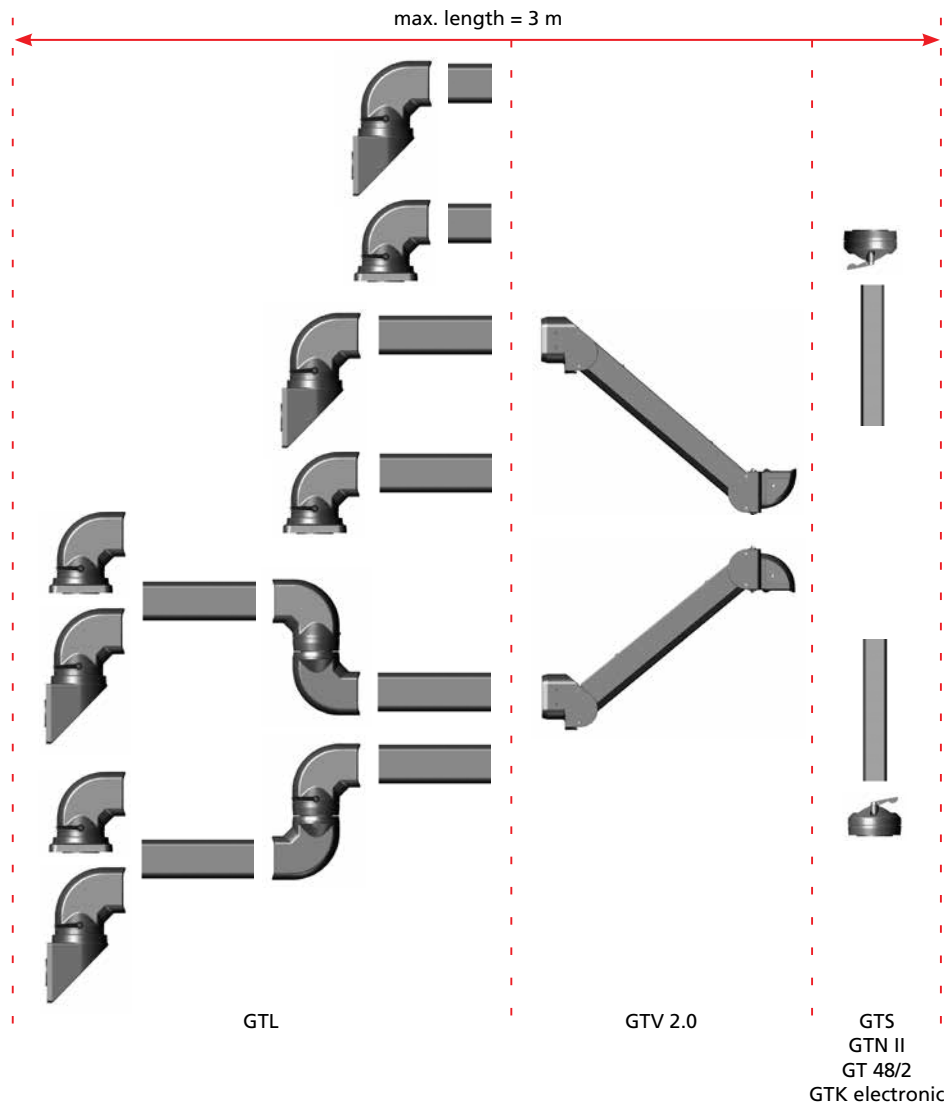
Outlet hanging



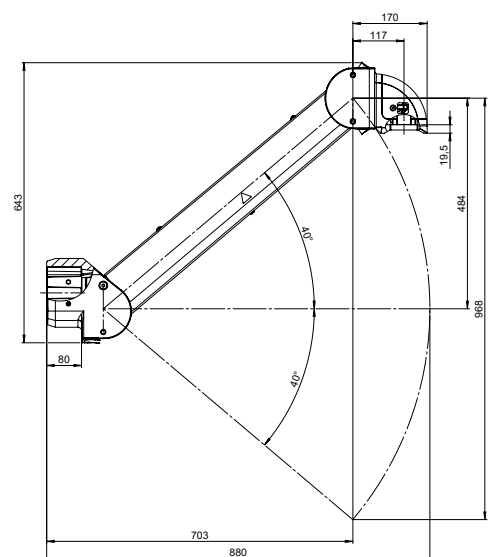
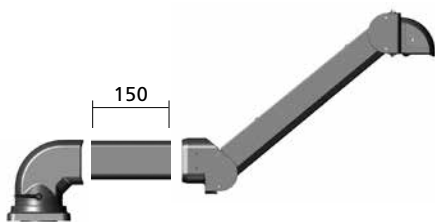
Outlet upright

GTV 2.0

Possible combinations

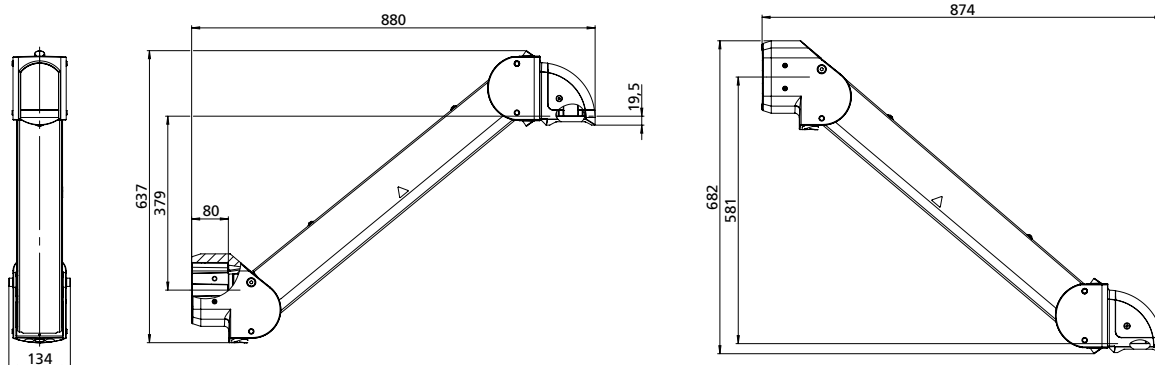


Minimum length between the joints (attachment joint, wall joint, intermediate joint) and GTV 2.0 = 150 mm

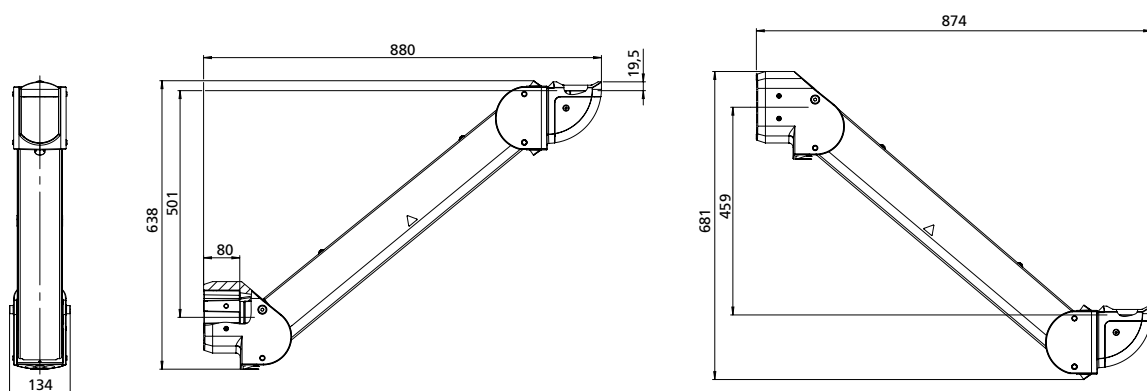


Technical details

Height adjustment system, outlet hanging



Height adjustment system, outlet upright



GTH 48 / GTH 60



- + Stainless steel round tube system with system components
- + Tube diameter 48 and 60 mm
- + Tube Execution S-, J- and I-shape
- + Components screwed to tube
- + EMC Execution optional
- + Easy to combine with GTH easy

Included in delivery
System components and tube
mounted if ordered

Technical data

Material	Tube: stainless steel 1.4301 System components: stainless steel 1.4305
Ingress protection	IP65 to EN 60529
Surface	Tube: grinded, grain 240
Free cable passage	GTH 48: 41 mm GTH 60: 53 mm
Temperature range	-25 °C to +60 °C

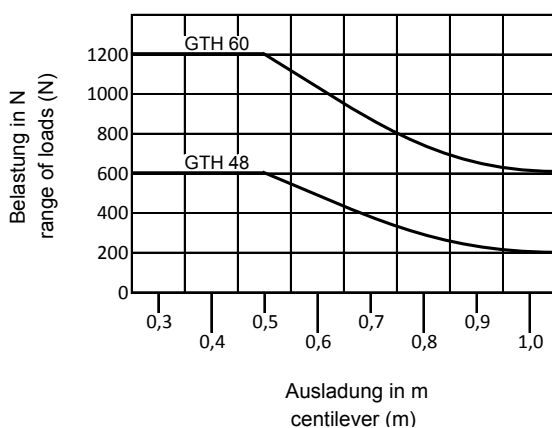
GTH 48 / GTH 60

Product range

	GTH 48		GTH 60	
	Order No.	Weight (g)	Order No.	Weight (g)
Coupling	57.01 73 00	2560	57.02 73 00	3440
Coupling EMC	57.01 73 01	2560	57.02 73 01	3440
Coupling for external tube fitting	57.01 73 02	2710	57.02 73 02	3600
Top-mounted joint	57.01 66 00	2450	57.02 66 00	3360
Top-mounted joint EMC	57.01 66 01	2450	57.02 66 01	3360
Top-mounted joint for external tube fitting	57.01 66 02	2700	57.02 66 02	3550
Foot stand (hanging / standing)	57.01 74 00	1390	57.02 74 00	2490
Foot stand with cable outlet (hanging / standing)	57.01 72 00	3080	57.02 72 00	3720
Console adapter	57.01 76 00	1120	57.02 76 00	1220
Console adapter hygiene	57.01 76 01	1120	57.02 76 01	1220
Wall console	57.01 79 00	2680	57.02 79 00	3190
Spare blind flange	57.01 99 00		57.02 99 00	
Tube I (500 mm)	57.01 00 05	1800	57.02 00 05	2500
Tube I (1000 mm)	57.01 00 10	3500	57.02 00 10	5000
Tube I (1500 mm)	57.01 00 15	5300	57.02 00 15	7500
Tube I special length	57.01 00 99		57.02 00 99	
Tube S (500 mm)	57.01 02 05	3500	57.02 02 05	4400
Tube S (1000 mm)	57.01 02 10	5300	57.02 02 10	6600
Tube S Sonderlänge	57.01 02 99		57.02 02 99	
Tube J (500 mm)	57.01 01 05	3500	57.02 01 05	4300
Tube J (750 mm)	57.01 01 07	6000	57.02 01 07	7500
Tube J (1000 mm)	57.01 01 10	6900	57.02 01 10	8600
Tube J special length	57.01 01 99		57.02 01 99	
System mounting	57.00 99 00		57.00 99 00	

Load diagram

Suspension system GTH



Accessories

Protective cap set

Order No.	Execution
57.00 99 01	for top-mounted joint und foot stand (4 caps)



GTH 48 / GTH 60

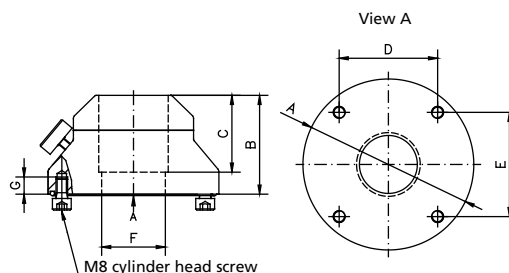
Components

Coupling



Pivot, can be locked at any point using clamping screw.
Swivel range: up to 350°, can be adjusted in 60° steps.

Order No.	Execution	for tube	A	B	C	D	E	F	G
GTH 48									
57.01 73 00	Standard	Ø 48	Ø 118	70	53	68	72	Ø 44	13
57.01 73 01	EMC	Ø 48	Ø 118	70	53	68	72	Ø 44	13
57.01 73 02	for external fitting	Ø 48	Ø 118	82	65	68	72	Ø 44	13
GTH 60									
57.02 73 00	Standard	Ø 60	Ø 130	81	64	85,8	68	Ø 53	13
57.02 73 01	EMC	Ø 60	Ø 130	81	64	85,8	68	Ø 53	13
57.02 73 02	for external fitting	Ø 60	Ø 130	92	75	85,8	68	Ø 53	13

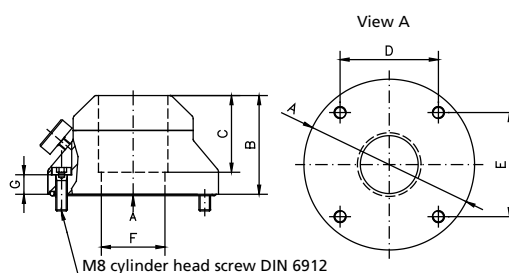


Top-mounted joint



Pivot, can be locked at any point using clamping screw.
Swivel range: up to 350°, can be adjusted in 60° steps.

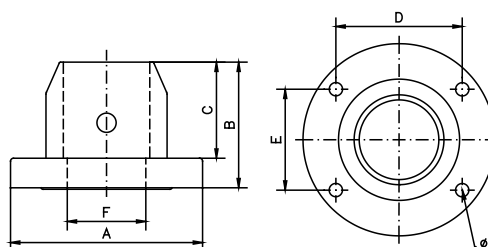
Order No.	Execution	for tube	A	B	C	D	E	F	G
GTH 48									
57.01 66 00	Standard	Ø 48	Ø 118	70	53	68	72	Ø 44	13
57.01 66 01	EMC	Ø 48	Ø 118	70	53	68	72	Ø 44	13
57.01 66 02	for external fitting	Ø 48	Ø 118	82	65	68	72	Ø 44	13
GTH 60									
57.02 66 00	Standard	Ø 60	Ø 130	81	64	85,8	68	Ø 53	14
57.02 66 01	EMC	Ø 60	Ø 130	81	64	85,8	68	Ø 53	14
57.02 66 02	for external fitting	Ø 60	Ø 130	92	75	85,8	68	Ø 53	14



Foot stand for base or ceiling mounting



Order No.	Execution	for tube	A	B	C	D	E	F
GTH 48								
57.01 74 00	Foot stand (hanging / standing)	Ø 48	Ø 118	80	60	68	72	Ø 41,9
GTH 60								
57.02 74 00	Foot stand (hanging / standing)	Ø 60	Ø 130	85	60	85,8	68	Ø 53,9



GTH 48 / GTH 60

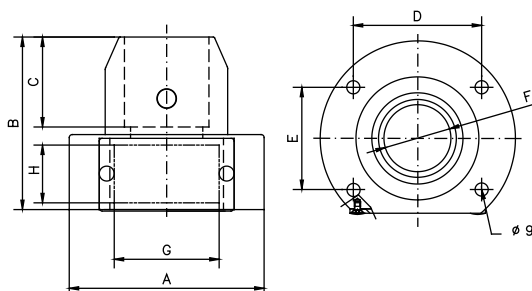
Components

Foot stand with cable outlet



for external cable outlet on side

Order No.	Execution	für Tube	A	B	C	D	E	F	G	H
GTH 48										
57.01 72 00	Foot stand (hanging / standing)	Ø 48	Ø 118	110	60	68	72	Ø 41,9	45	38,5
GTH 60										
57.02 72 00	Foot stand (hanging / standing)	Ø 60	Ø 130	115	60	85,8	68	Ø 53,9	70	38,5



Spare blind flange for foot stand with cable outlet

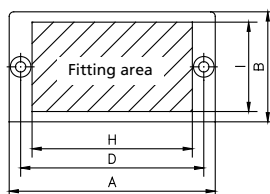
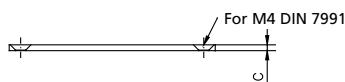


Order No.	A	B	C	D	H	I
GTH 48						
57.01 99 02	73	47,5	2,5	55	45	38,5
GTH 60						
57.02 99 00	90	48	2,5	80	70	38,5

Max. number of cable glands/ blind flange:

57.01 99 02: 1 x 25 or
1 x 20 or
4 x M12

57.02 99 00: 1 x 25 or
2 x 20 or
6 x M12

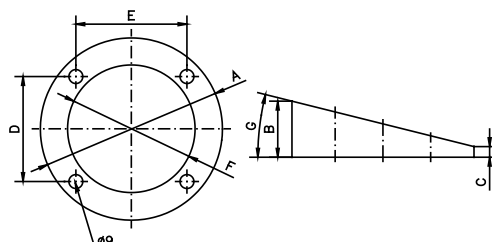


Console adapter



Angle of inclination 14°

Order No.	for tube	A	B	C	D	E	F	G
GTH 48								
57.01 76 00	Ø 48,3	Ø 118	40	10,6	68	72	Ø 79	14°
GTH 60								
57.02 76 00	Ø 60,3	Ø 130	40	7,6	85,8	68	Ø 91	14°



GTH 48 / GTH 60

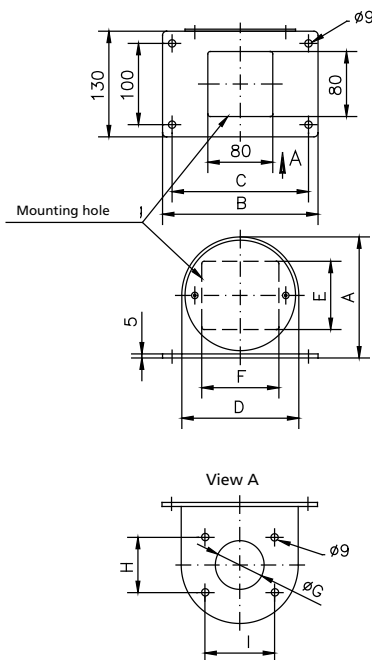
Components

Wall console



for adaption top-mounted joint or coupling

Order No.	für Tube	A	B	C	D	E	F	G	H	I
GTH 48										
57.01 79 00	Ø 48	138	178	155	132	88	84	50	72	68
GTH 60										
57.02 79 00	Ø 60	149	191,5	168	144	84	102	60	68	85,8

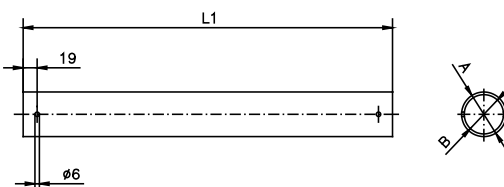


Connecting tube I



Order No.	L1 (mm)	A (outside Ø)	B (inside Ø)	Weight (g)
GTH 48				
57.01 00 05	500	48,3	41	1800
57.01 00 10	1000	48,3	41	3500
57.01 00 15	1500	48,3	41	5300
57.01 00 99	special length	48,3	41	-
GTH 60				
57.02 00 05	500	60,3	53	2500
57.02 00 10	1000	60,3	53	5000
57.02 00 15	1500	60,3	53	7500
57.02 00 99	special length	60,3	53	-

max. length L1 = 1000 mm



GTH 48 / GTH 60

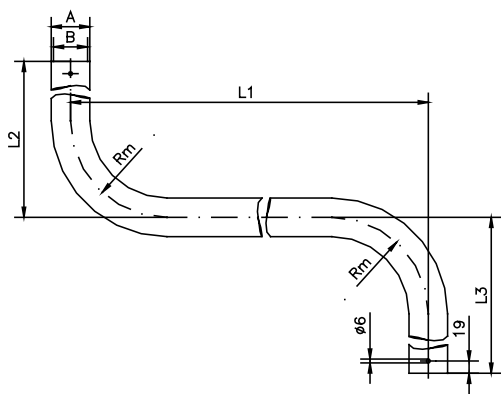
Components

Connecting tube S



Order No.	L1 (mm)	L2 (mm)	L3 (mm)	A (outside Ø)	B (inside Ø)	Weight (g)
GTH 48						
57.01 02 05	500	300	300	48,3	41	3500
57.01 02 10	1000	300	300	48,3	41	5300
57.01 02 99	special length			48,3	41	-
GTH 60						
57.02 02 05	500	300	300	60,3	53	4400
57.02 02 10	1000	300	300	60,3	53	6600
57.02 02 99	special length			60,3	53	-

max. length L1 = 1000 mm



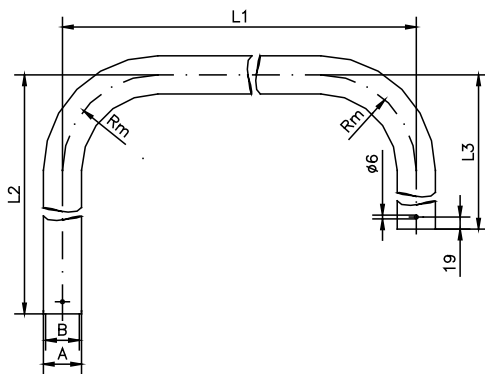
Connecting tube J



Product info:
Individual lengths and
executions on request.

Order No.	L1 (mm)	L2 (mm)	L3 (mm)	A (outside Ø)	B (inside Ø)	Weight (g)
GTH 48						
57.01 01 05	500	300	300	48,3	41	3500
57.01 01 07	750	750	300	48,3	41	6000
57.01 01 10	1000	750	300	48,3	41	6900
57.01 01 99	special length			48,3	41	-
GTH 60						
57.02 01 05	500	300	300	60,3	53	4300
57.02 01 07	750	750	300	60,3	53	7500
57.02 01 10	1000	750	300	60,3	53	86000
57.02 01 99	special length			60,3	53	-

max. length L1 = 1000 mm



GTH 48 / GTH 60

Enquiry ☐ Order ☐

Please copy, complete and send to: hmi@rose-pw.de

Company _____

Telephone _____

Contact _____

Fax _____

Address _____

E-Mail _____

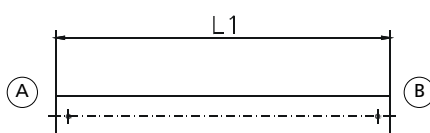
Suspension system ☐ GTH 48 ☐ GTH 60 Quantity _____

System consisting of the following components:

Components, side A

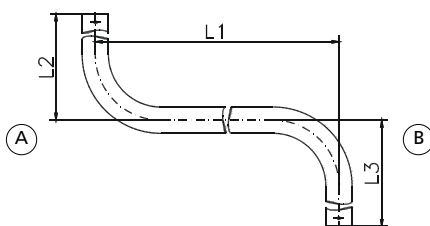
- ☐ Coupling
- ☐ EMC coupling
- ☐ Coupling for external tube fitting
- ☐ Top-mounted joint
- ☐ EMC top-mounted joint
- ☐ Top-mounted joint for external tube fitting
- ☐ Foot stand
- ☐ Foot stand for ceiling mounting
- ☐ Foot stand with cable outlet
- ☐ Foot stand (ceiling mounting) with cable outlet
- ☐ Console adapter
- ☐ Wall console

Connecting tube



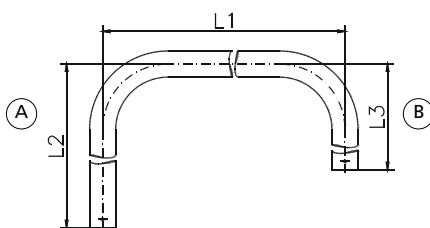
I-tube (L1)

- ☐ 500 mm
- ☐ 1000 mm
- ☐ 1500 mm
- ☐ Special length _____ mm



S-tube (L1/L2/L3)

- ☐ 500/300/300 mm
- ☐ 1000/300/300 mm
- ☐ Special length* ____ / ____ / ____ mm



J-tube (L1/L2/L3)

- ☐ 500/300/300 mm
- ☐ 750/750/300 mm
- ☐ 1000/750/300 mm
- ☐ Special length* ____ / ____ / ____ mm

* Attention: measure dimension tube center
min. lengths L2 and L3: 280 mm
max. lengths L1 = 1000 mm

Components, side B

- ☐ Coupling
- ☐ EMC coupling
- ☐ Coupling for external tube fitting
- ☐ Top-mounted joint
- ☐ EMC top-mounted joint
- ☐ Top-mounted joint for external tube fitting
- ☐ Foot stand
- ☐ Foot stand for ceiling mounting
- ☐ Foot stand with cable outlet
- ☐ Foot stand (ceiling mounting) with cable outlet
- ☐ Console adapter
- ☐ Wall console

Accessories

- ☐ Protective cap set
- ☐ Spare blind flange untreated
- ☐ Spare blind flange treated _____

GTH 48 easy / GTH 60 easy



- + Stainless steel round tube system with system components
- + Tube diameter 48 and 60 mm
- + Tube Execution S-, J- and I-shape
- + Very compact design
- + Little assembly effort
- + Up to IP rating: IP 69
- + Easy to combine with GTH

Included in delivery

System components and tube mounted if ordered

Technical data

Material	Tube: stainless steel 1.4301 Components: stainless steel 1.4301
Ingress protection	IP66 / 69 to EN 60529
Surface	Tube: grinded, grain 240
Free cable passage	GTH 48: 41 mm GTH 60: 53 mm
Temperature range	-25 °C to +60 °C

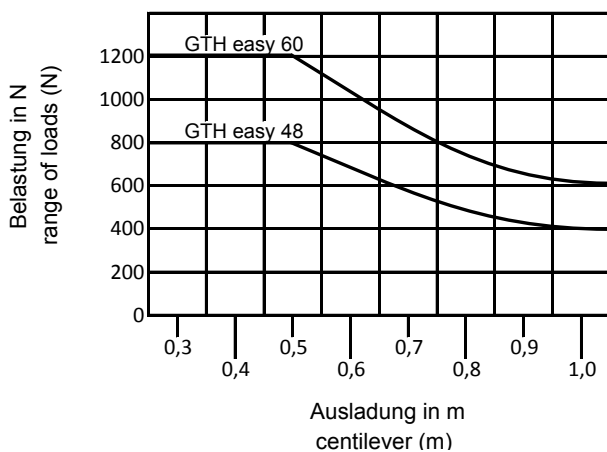


GTH 48 easy / GTH 60 easy

Product range

Type	GTH 48 easy		GTH 60 easy	
	Order No.	Weight (g)	Order No.	Weight (g)
Coupling	57.03 73 00	1100	57.04 73 00	2850
Top-mounted joint	57.03 66 00	3260	57.04 66 00	3910
Console adapter	57.03 76 00	775	57.04 76 00	1266
Wall console	57.03 79 00	2680	57.04 79 00	3190
Tube I (500 mm)	57.03 00 05	1760	57.04 00 05	2490
Tube I (1000 mm)	57.03 00 10	3450	57.04 00 10	4990
Tube I (1500 mm)	57.03 00 15	5300	57.04 00 15	7500
Tube I special length	57.03 00 99		57.04 00 99	
Tube S (500 mm)	57.03 02 05	3250	57.04 02 05	4300
Tube S (1000 mm)	57.03 02 10	4800	57.04 02 10	6850
Tube S special length	57.03 02 99		57.04 02 99	
Tube J (500 mm)	57.03 01 05	3300	57.04 01 05	4380
Tube J (750 mm)	57.03 01 07	5700	57.04 01 07	6350
Tube J (1000 mm)	57.03 01 10	9300	57.04 01 10	9500
Tube J special length	57.03 01 99		57.04 01 99	

Load diagram



GTH 48 easy / GTH 60 easy

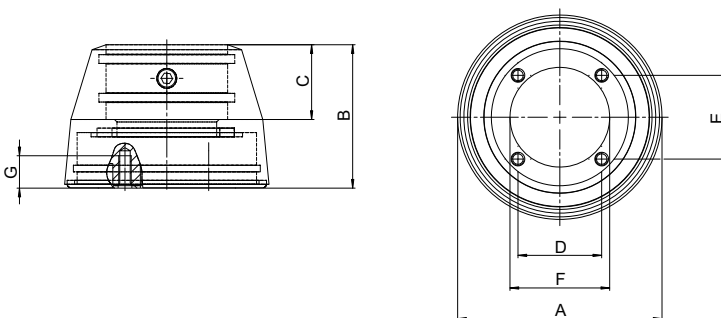
Components

Coupling



Swivelling range 330°

Order No.	for tube	A	B	C	D	E	F	G
GTH 48 easy								
57.03 73 00	Ø 48	82	57,6	30	33,6	33,6	40	13
GTH 60 easy								
57.04 73 00	Ø 60	112	76,2	40	46	46	50	13

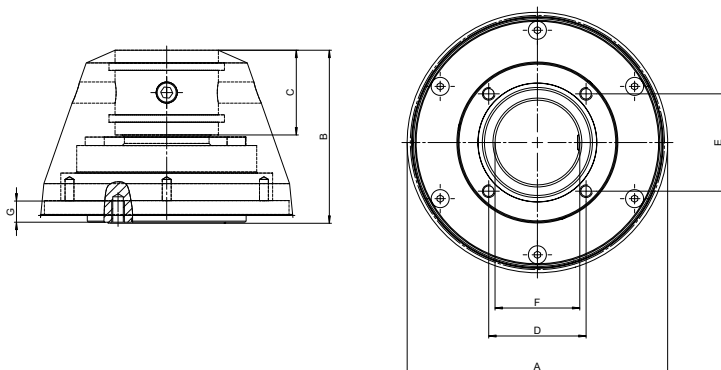


Top-mounted joint



Swivelling range 330°

Order No.	for tube	A	B	C	D	E	F	G
GTH 48 easy								
57.01 66 00	Ø 48	119	81,7	40	46	46	40	10
GTH 60 easy								
57.02 66 00	Ø 60	119	96,7	50	46	46	50	10



GTH 48 easy / GTH 60 easy

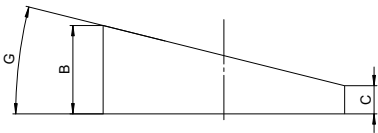
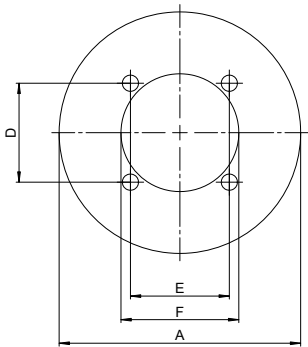
Components

Console adapter



Order No.	for tube	A	B	C	D	E	F	G
GTH 48 easy								
57.03 76 00	Ø 48,3	82	30	9,6	33,6	33,6	40	14°
GTH 60 easy								
57.04 76 00	Ø 60,3	112	33	5	46	46	50	14°

Angle of inclination 14°



GTH 48 easy / GTH 60 easy

Components

Wallconsole



for adaption top-mounted joint or coupling

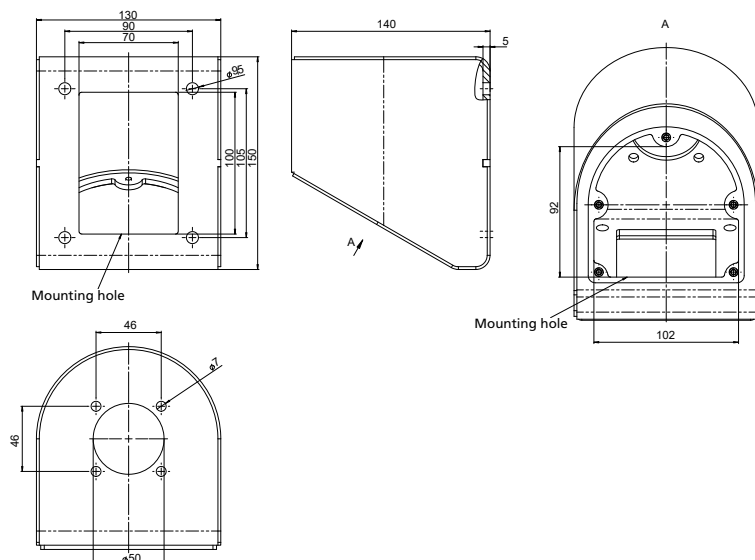
Order No. for tube

GTH 48 easy

57.03 79 00 Ø 48

GTH 60 easy

57.04 79 00 Ø 60

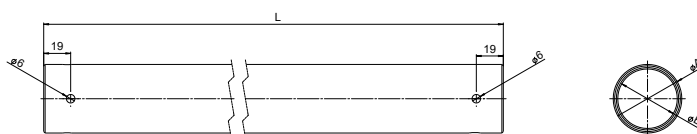


Connecting tube I



Order No.	L1 (mm)	A (außen Ø)	B (innen Ø)	Weight (g)
GTH 48 easy				
57.03 00 05	500	48,3	41,9	1760
57.03 00 10	1000	48,3	41,9	3520
57.03 00 15	1500	48,3	41,9	5280
57.03 00 99	special length	48,3	41,9	-
GTH 60 easy				
57.04 00 05	500	60,3	53,1	2490
57.04 00 10	1000	60,3	53,1	4980
57.04 00 15	1500	60,3	53,1	7470
57.04 00 99	special length	60,3	53,1	-

max. length L1 = 1000 mm



GTH 48 easy / GTH 60 easy

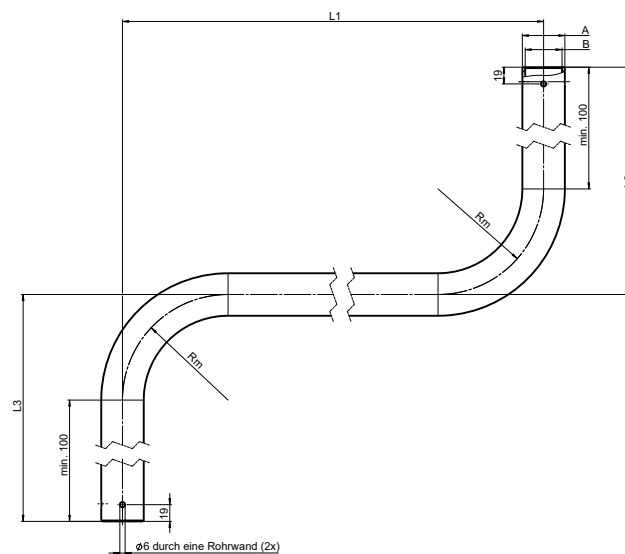
Components

Connecting tube S



Order No.	L1	L2	L3	A	B	Rm	Weight (g)
GTH 48 easy							
57.03 02 05	500	300	300	48,3	41,9	120	3520
57.03 02 10	1000	300	300	48,3	41,9	120	5290
57.03 02 99	special length			48,3	41,9	120	-
GTH 60 easy							
57.04 02 05	500	300	300	60,3	53,1	150	4340
57.04 02 10	1000	300	300	60,3	53,1	150	6580
57.04 02 99	special length			60,3	53,1	150	-

max. length L1 = 1000 mm



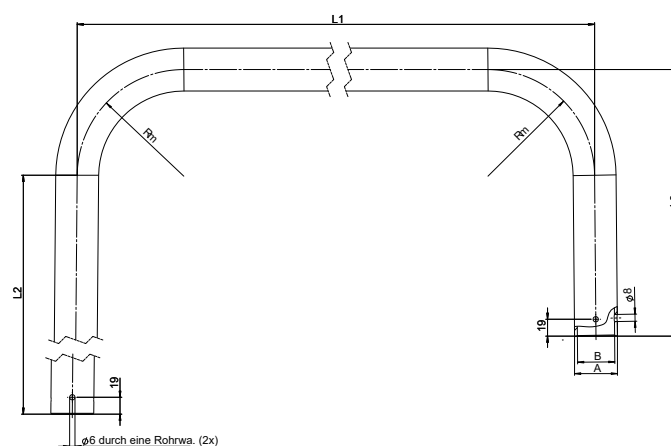
Connecting tube J



Product info:

Individual lengths and executions on request.

Order No.	L1	L2	L3	A	B	Rm	Weight (g)
GTH 48 easy							
57.03 01 05	500	300	300	48,3	41,9	120	3980
57.03 01 07	750	750	300	48,3	41,9	120	5970
57.03 01 10	1000	750	300	48,3	41,9	120	7960
57.03 01 99	special length			48,3	41,9	120	-
GTH 60 easy							
57.04 01 05	500	300	300	60,3	53,1	150	4330
57.04 01 07	750	750	300	60,3	53,1	150	6500
57.04 01 10	1000	750	300	60,3	53,1	150	8660
57.04 01 99	special length			60,3	53,1	150	-



GTH 48 easy / GTH 60 easy

Enquiry ☐ Order ☐

Please copy, complete and send to: hmi@rose-pw.de

Company _____

Telephone _____

Contact _____

Fax _____

Address _____

E-Mail _____

Suspension system

☐

GTH 48 easy

☐

GTH 60 easy

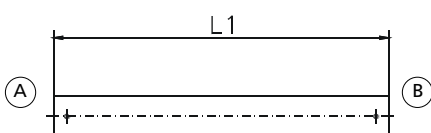
Quantity _____

System consisting of the following components:

Components, side A

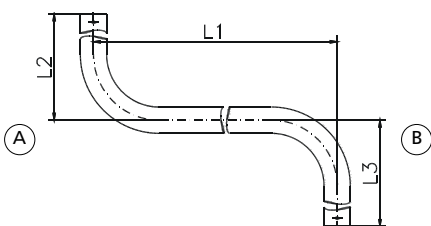
- ☐ Coupling
- ☐ EMC coupling
- ☐ Coupling for external tube fitting
- ☐ Top-mounted joint
- ☐ EMC top-mounted joint
- ☐ Top-mounted joint for external tube fitting
- ☐ Foot stand
- ☐ Foot stand for ceiling mounting
- ☐ Foot stand with cable outlet
- ☐ Foot stand (ceiling mounting) with cable outlet
- ☐ Console adapter
- ☐ Wall console

Connecting tube



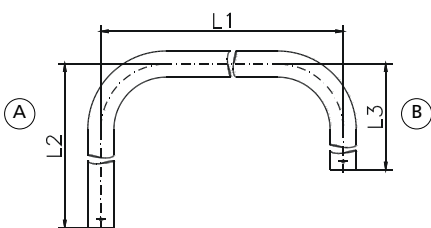
I-tube (L1)

- ☐ 500 mm
- ☐ 1000 mm
- ☐ 1500 mm
- ☐ Special length _____ mm



S-tube (L1/L2/L3)

- ☐ 500/300/300 mm
- ☐ 1000/300/300 mm
- ☐ Special length* _____ / _____ / _____ mm



J-tube (L1/L2/L3)

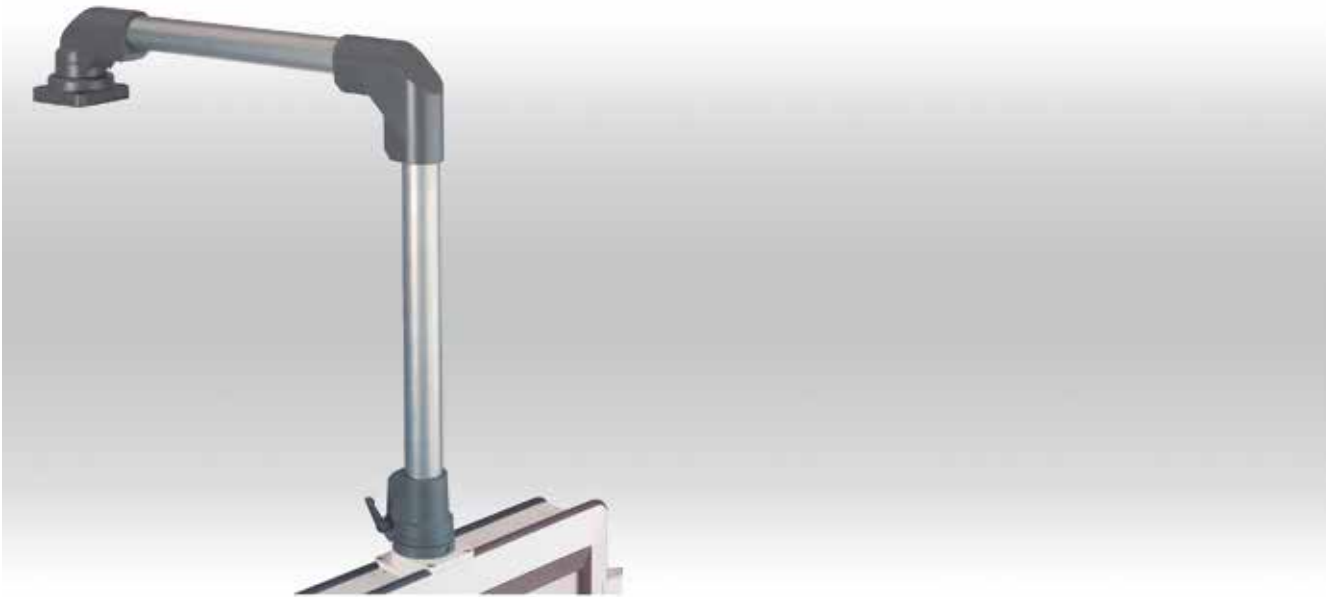
- ☐ 500/300/300 mm
- ☐ 750/750/300 mm
- ☐ 1000/750/300 mm
- ☐ Special length* _____ / _____ / _____ mm

* Attention: measure dimension tube center
min. lengths L2 and L3: 280 mm
max. lengths L1 = 1000 mm

Components, side B

- ☐ Coupling
- ☐ Top-mounted joint
- ☐ Console adapter
- ☐ Wall console





- + Industrial round tube system for commander systems
- + Modular construction for individual components
- + Protected internal cable routing

Included in delivery

Individual system components incl.
assembly materials

Technical data

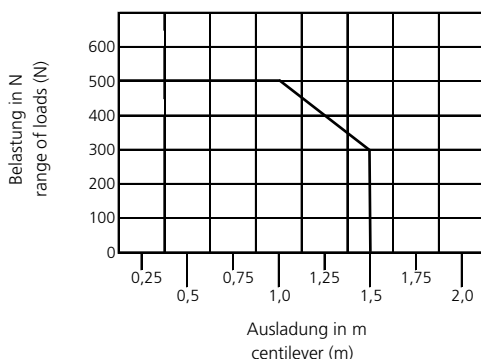
Material	Connecting tube: steel 48 x 4 mm DIN 2393-St. 37 Components: DIN EN 1706 EN AC-AISI 12 (Fe)
Painting	Powder coating
Colour	Tube: galvanized Components: RAL 7043, traffic grey B, Special colour on request
Ingress protection	IP54 to EN 60529

Product range

Type	Order No.	Weight (g)
Top-mounted joint	49.49 66 00	2000
Foot stand, fixed	49.49 72 00	1000
Foot stand, turnable	49.49 68 00	1800
Wall hinge W	49.49 70 00	3000
Wall hinge S	49.49 62 00	2700
Angle	49.49 71 00	1200
Coupling	49.49 73 00	1100
Flange coupling	49.49 77 00	1100
Flange coupling GT 48/2-PRO	49.49 77 02	1300
Angle coupling	49.49 75 00	1300
Flange angle coupling	49.49 78 00	1300
Flansch angle coupling GT 48/2-PRO	49.49 78 02	1500
Console flange 30°	49.49 76 00	400
Adapter flange	49.49 79 00	1500
Inclining adapter	49.49 80 00	800
Adapter plate GT 48/2-PRO	49.45 00 01	200

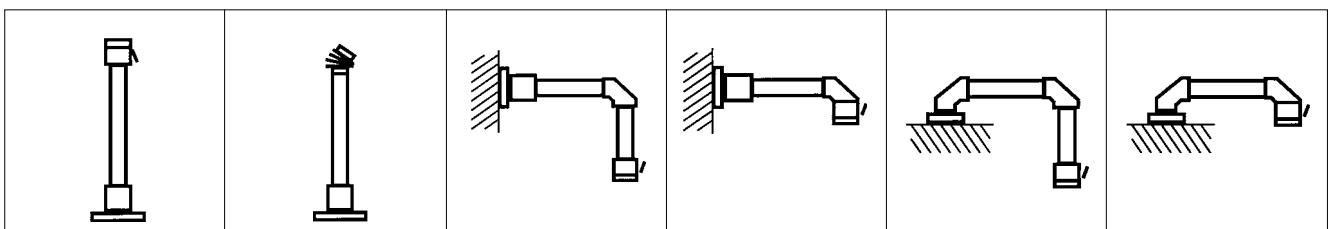
Connecting tube	Order No.	Weight (g)
Standard length: 0,5 m	10.09 42 16	2500
Standard length: 1 m	10.09 42 17	4500
Standard length: 2 m	10.09 42 18	9000
Standard length: 3 m	10.09 42 19	12900
Variable length (please specify)	10.09 41 58	

Load diagram



Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!). Further information for this on request. The values in the above load diagram are gulty to an execution hanging or standing. The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

System structure



Components

Top mounted joint

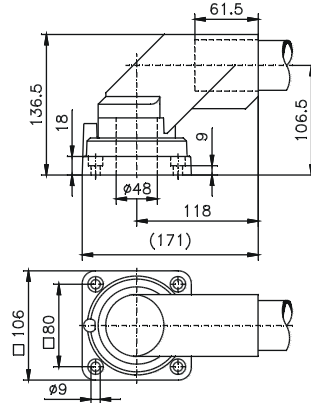


Order No.

Execution

49.49 66 00

Diecast aluminium with steel inner tube and flange mounting.
Swivelling range 250°



Adapter flange

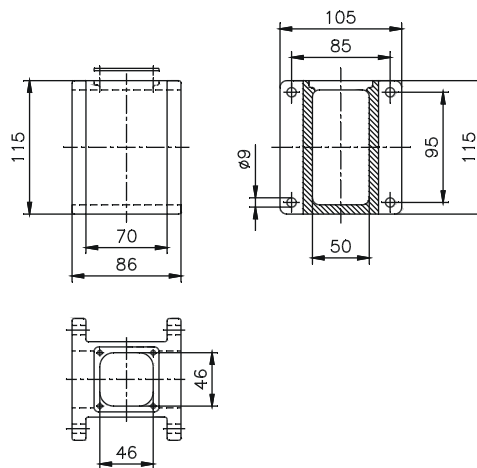


Order No.

Execution

49.49 79 00

Cast steel part for mounting between wall and wall hinge for free cable routing, cable opening top or bottom as required.



Wall hinge S (vertical)

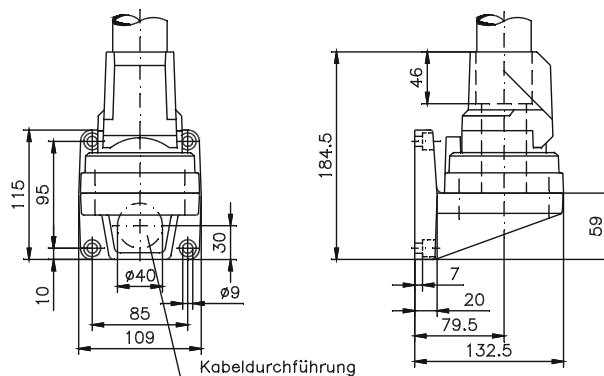


Order No.

Execution

49.49 62 00

Diecast aluminium with steel inner tube and flange mounting.
Swivelling range 250°



Components

Wall hinge W (horizontal)

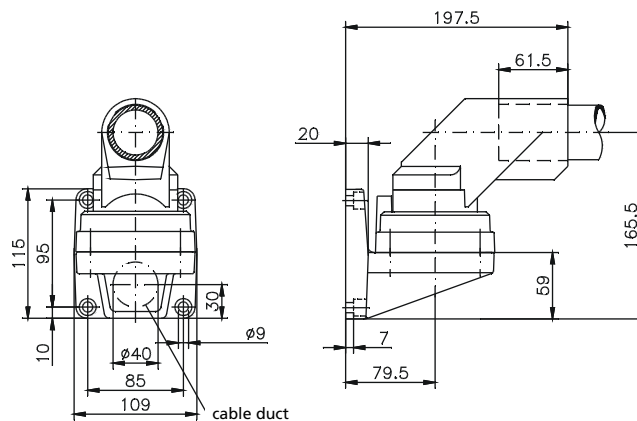


Order No.

Execution

49.49 70 00

Diecast aluminium with steel inner tube and flange mounting.
Swivelling range 250°



Angle

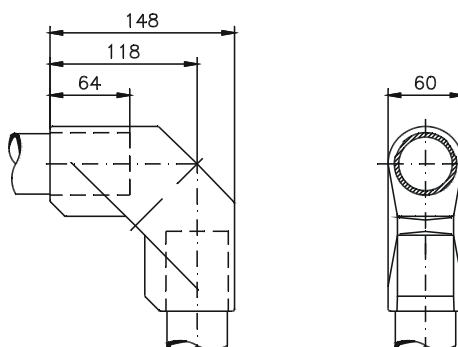


Order No.

Execution

49.49 71 00

Diecast aluminium. Angle 90°



Foot stand fixed

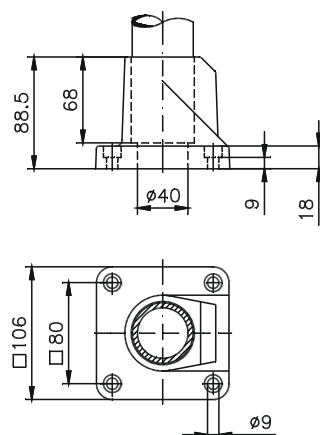


Order No.

Execution

49.49 72 00

Diecast aluminium



Components

Foot stand turnable

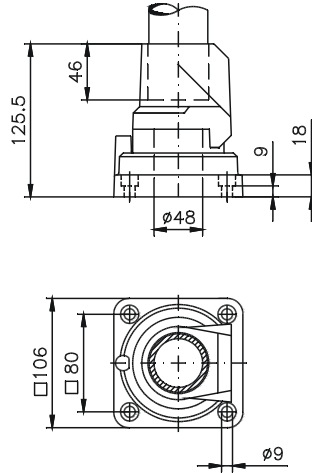


Order No.

Execution

49.49 68 00

Diecast aluminium with steel inner tube and flange mounting. Swivelling range 250°



Coupling

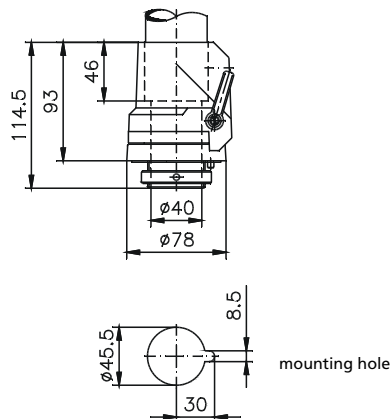


Order No.

Execution

49.49 73 00

Diecast aluminium with steel inner tube. Swivelling range 270°



Angle coupling

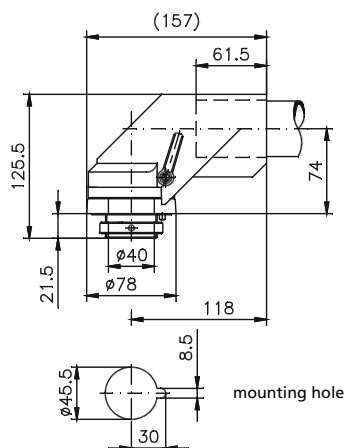


Order No.

Execution

49.49 75 00

Combination of angle and coupling for horizontal tube exit. Cast aluminium with steel inner tube. Swivelling range 270°



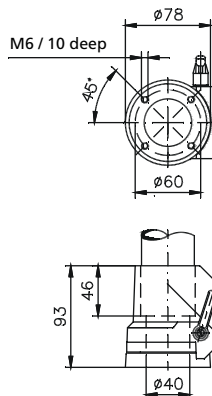
Components

Flange coupling



Order No. Execution

49.49 77 00 Diecast aluminium with steel inner tube. Swivelling range 270°

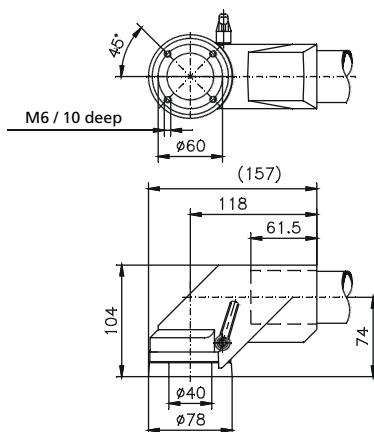


Flange angle coupling



Order No. Execution

49.49 78 00 Combination of angle and coupling for horizontal tube exit. Diecast aluminium with steel inner tube. Swivelling range 270°

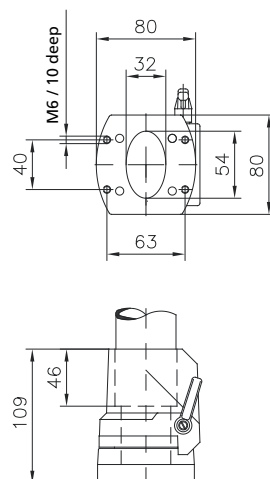


Flange coupling GT 48/2 Pro



Order No. Execution

49.49 77 02 for direct mounting of Siemens Pro command units. Diecast aluminium with steel inner tube. Swivelling range 270°



GT 48/2

Components

Flange angle coupling GT 48/2 Pro

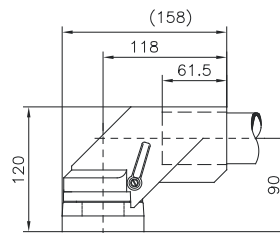
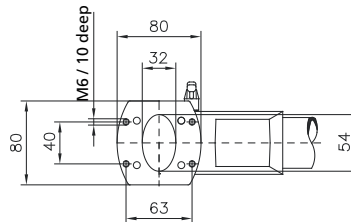


Order No.

Execution

49.49 78 02

for direct mounting of Siemens Pro command units
Combination of angle and coupling for horizontal tube exit. Cast aluminium with steel inner tube. Swivelling range 270°



Adapter plate GT 48/2 Pro

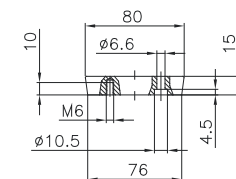
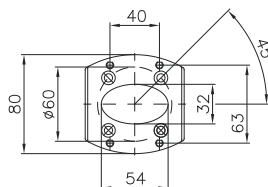


Order No.

Execution

49.44 00 01

for connecting GT 48/2 elements with Siemens Pro command units
(not relevant for flange coupling GT 48/2 Pro and flange angle coupling GT 48/2 Pro)



Console flange

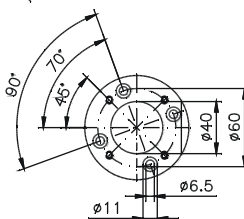
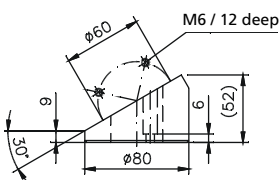


Order No.

Execution

49.49 76 00

Aluminium incl. screws and seal, fixed inclination 30°



Components

Inclining adapter

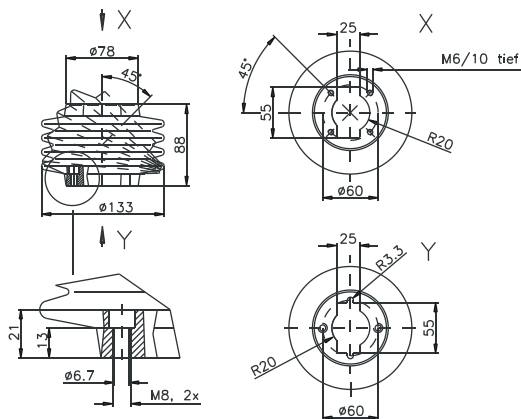


Order No.

Execution

49.49 80 00

Diecast aluminium part with bellow and seal, inclination can be adjusted to any angle between 0° and 45°.



GT50/2; GT 60/2; GT 80/2



- + Robust industrial square tube suspension system
- + Modular construction for individual components
- + High loading capacity, large extension

Included in delivery

Individual system components incl.
assembly material

Technical data

Material	Connecting tube: square steel tube similar DIN EN 10305-5 Wall thickness 5 mm Components: DIN EN 1706 EN AC-AISI 12 (Fe)
Painting	Powder coating
Colour	Tube: galvanized Components: RAL 7043, traffic grey B, Special colour on request
Ingress protection	IP65 to EN 60529

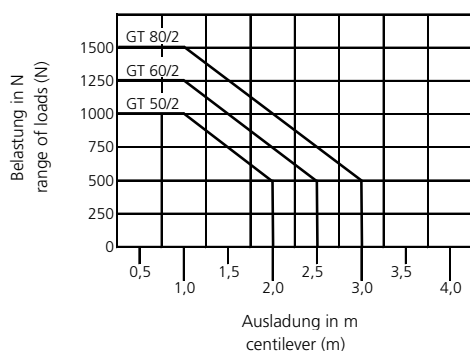
GT50/2; GT 60/2; GT 80/2

Product range

	GT 50/2		GT 60/2		GT 80/2	
Type	Order No.	Weight (g)	Order No.	Weight (g)	Order No.	Weight (g)
Top-mounted joint	49.51 66 00	13500	49.61 66 00	17300	49.81 66 00	23300
Foot stand, cast steel	49.51 74 00	3160	49.61 74 00	4300	49.81 74 00	6200
Wall hinge	49.51 70 00	6700	49.61 70 00	9100	49.81 70 00	12880
Adapter flange	49.51 79 00	3200	49.61 79 00	3660	49.81 79 00	5680
Intermediate joint	49.51 67 00	6900	49.61 67 00	9600	49.81 67 00	13000
Angle, cast steel	49.51 80 00	4720	49.61 80 00	6200	49.81 80 00	9000
Angle coupling	49.51 75 00	2200	49.61 75 00	3020	49.81 75 00	5360
Flange angle coupling	49.51 78 00	2800	49.61 78 00	3900	49.81 78 00	5600
Coupling	49.51 73 00	1450	49.61 73 00	2400	49.81 73 00	4100
Flange coupling	49.51 77 00	2170	49.61 77 00	3200	49.81 77 00	5200
Console adapter 30°	49.51 76 00	1160	49.61 76 00	1280	49.81 76 00	2120
Signal fitting	49.51 80 10	300	49.61 80 10	360	49.81 80 10	400
Adapter plate GTK on GT 80/2; GT 60/2					49.81 10 00	1100
Column	49.51 00 04		49.61 00 04		on request	

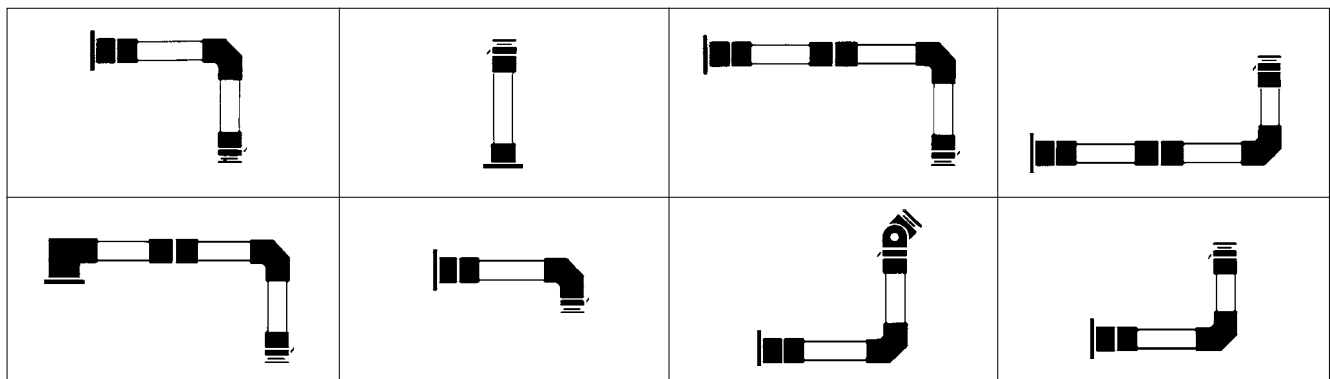
Connecting tube	GT 50/2		GT 60/2		GT 80/2	
	Order No.	Weight (g)	Order No.	Weight (g)	Order No.	Weight (g)
Standard length: 0,5 m	10.09 42 20	3320	10.09 42 23	4250	10.09 42 27	5800
Standard length: 1 m	10.09 42 21	6300	10.09 42 24	7800	10.09 42 28	11000
Standard length: 2 m	10.09 42 22	13000	10.09 42 25	17000	10.09 42 29	21000
Standard length: 3 m	10.09 42 42	20000	10.09 42 26	25000	10.09 42 30	34000
Variable length (please specify)	10.09 41 56		10.09 41 57		10.09 41 59	

Load diagram



Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!). Further information for this on request. The values in the above load diagram are guilty to an execution hanging or standing. The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

System structure



GT50/2; GT 60/2; GT 80/2

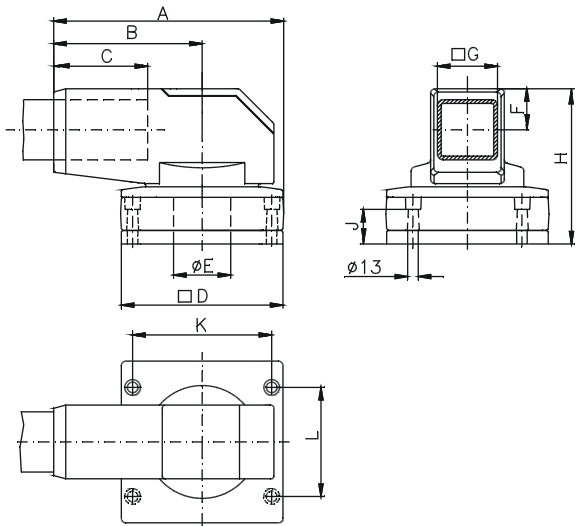
Components

Top-mounted joint



Swivelling range 310°,
can be limited from
between 0° to 270°, swivel
force can be adjusted via
bearing screw

Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	J	K	L
50/2	49.51 66 00	13500	251	160	95	180	50	39,5	50	151	35	150	116
60/2	49.61 66 00	17300	278	179,5	110	195	58	44,5	60	171	38	165	125
80/2	49.81 66 00	23300	306	197,5	125	215	76	54,5	80	206	46	185	145

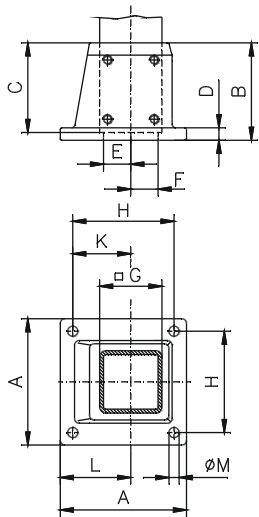


Foot stand



Cast steel element for floor
mounting or wall moun-
ting, can be adjusted

Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	K	L	M
50/2	49.51 74 00	3160	128	90	80	12	20,5	19,5	40	100	57	71	12
60/2	49.61 74 00	4300	138	100	90	14	25,5	24,5	50	110	63	77	12
80/2	49.81 74 00	6200	162	115	105	16	35,5	34,5	80	130	74,5	90,5	14



GT50/2; GT 60/2; GT 80/2

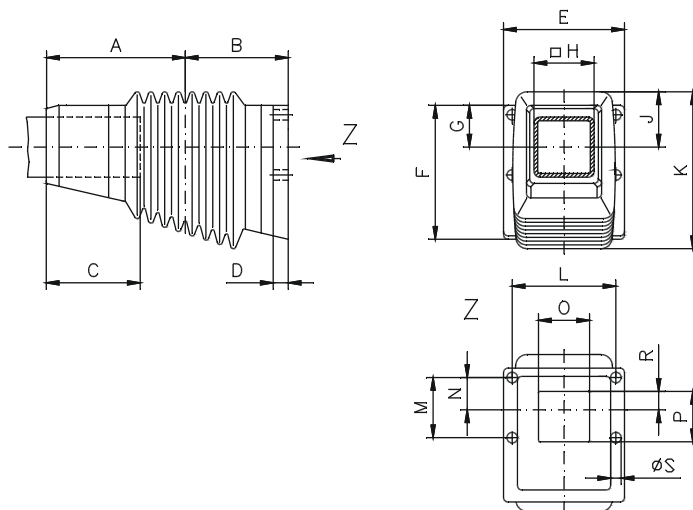
Components

Wall hinge



Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S
50/2	49.51 70 00	6700	140	90	95	12	132	125	40	50	58	164	107	50	27,5	48	35	11	12
60/2	49.61 70 00	9100	162	102	110	15	140	145	45	60	62	176	115	60	32,5	57	44,5	15	12
80/2	49.81 70 00	12880	185	137	125	20	161	178	56	80	75	210	138	80	43,5	68	67	25	14

Swivelling range 180°, can be limited to stepped degrees with stops, swivel force can be adjusted via bearing screw.

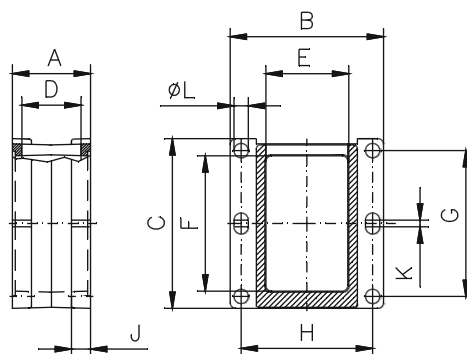


Adapter flange for wall hinge



Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	J	K	L
50/2	49.51 79 00	3200	66	132	125	46	57	89	100	107	12	0	12
60/2	49.61 79 00	3660	72	140	145	52	65	109	120	115	15	0	12
80/2	49.81 79 00	5680	82	161	178	62	86	142	153	138	20	7	15

Cast steel adapter for mounting between wall hinge and mounting surface

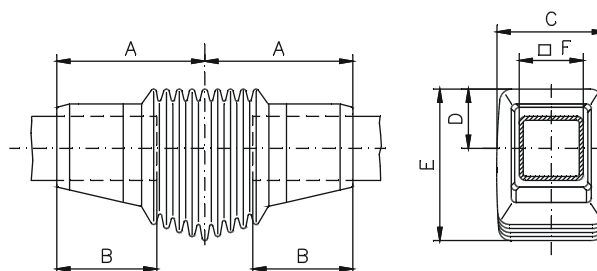


Intermediate joint



Type	Order No.	Weight (g)	A	B	C	D	E	F
50/2	49.51 67 00	6900	140	95	107	58	152	50
60/2	49.61 67 00	9600	162	110	114	62	162	60
80/2	49.81 67 00	13000	185	125	136	75	190	80

Swivelling range 180°, can be limited to stepped degrees with stops, swivel force can be adjusted via bearing screw.



GT50/2; GT 60/2; GT 80/2

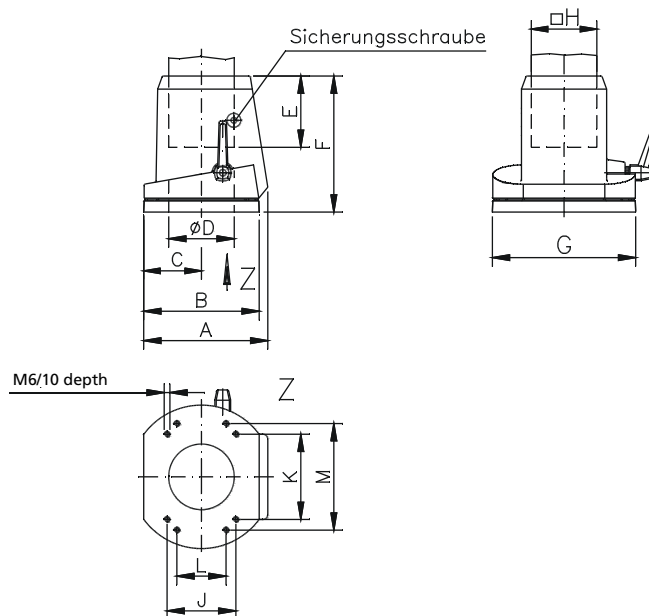
Components

Flange coupling



Swivelling range 325° can be stopped at any point with clamping lever, stops can limit movement in 25° steps

Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	J	K	L	M
50/2	49.51 77 00	2170	110	107	53,5	48	55	116	131	50	57	77	-	-
60/2	49.61 77 00	3200	124	117	59,5	58	65	136,5	141	60	57	77	-	-
80/2	49.81 77 00	5200	151	141	70,5	80	87	166	175	80	84	104	60	130

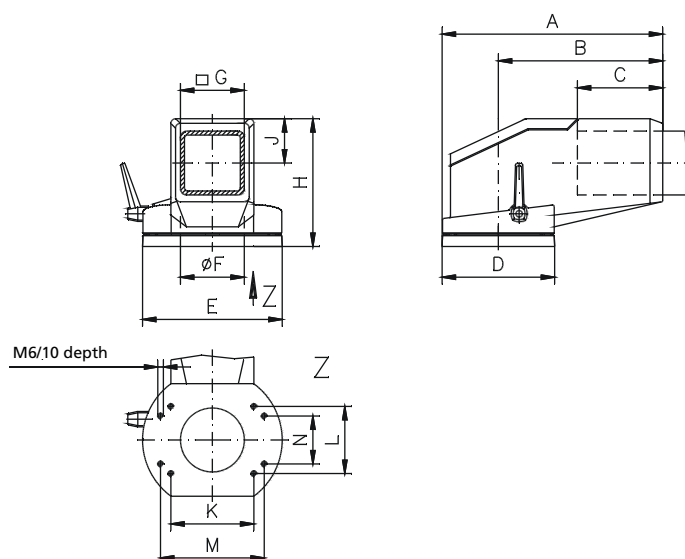


Flange angle coupling



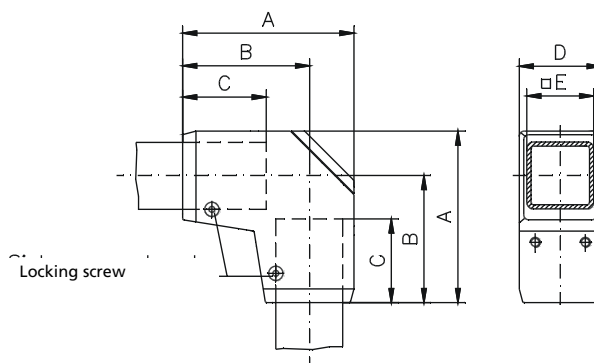
Swivelling range 325° can be stopped at any point with clamping lever, stops can limit movement in 25° steps. Angle flange coupling cannot be used as top-mounted joint!

Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	J	K	L	M	N
50/2	49.51 78 00	2800	187,5	134	80	107	131	48	50	117,5	39,5	77	57	-	-
60/2	49.61 78 00	3900	216,5	158	90	117	141	58	60	130,5	42,5	77	57	-	-
80/2	49.81 78 00	5600	276,5	206	107	141	175	80	80	160	55,5	104	84	130	60

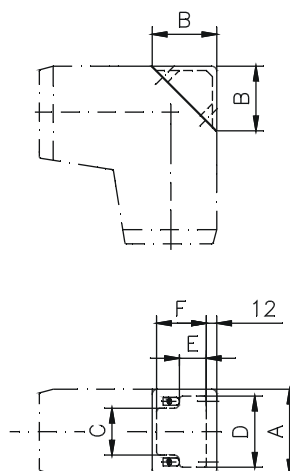


Components

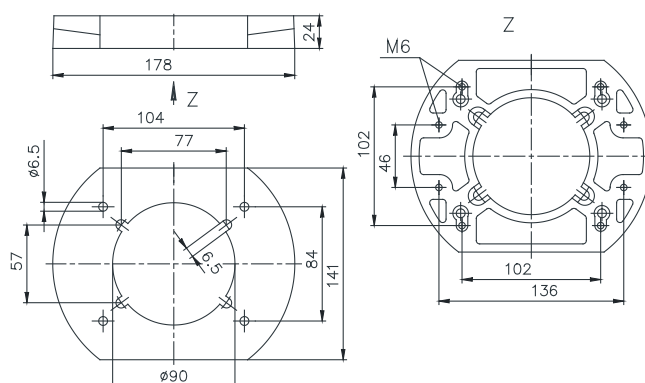
Type	Order No.	Weight (g)	A	B	C	D	E
50/2	49.51 80 00	4720	154	115	80	74	50
60/2	49.61 80 00	6200	172	128	90	84	60
80/2	49.81 80 00	9000	210	157	105	98	80



Type	Order No.	Weight (g)	A	B	C	D	E	F
50/2	49.51 80 10	300	74	60	36	54	29	38
60/2	49.61 80 10	360	84	65	40	62	32	43
80/2	49.81 80 10	400	98	76	54	82	42	54



49.81 10 00



GT50/2; GT 60/2; GT 80/2

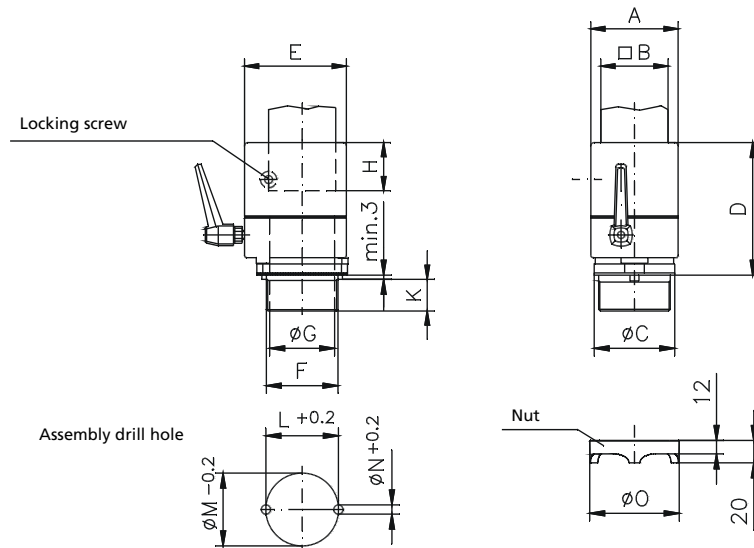
Components

Coupling



Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	K	L	M	N	O
50/2	49.51 73 00	1450	66	50	62	99,5	82	M50 x 2	44,5	32	31	50,8	51	8,2	65
60/2	49.61 73 00	2400	78	60	72	118,5	91	M64 x 2	56	45	31	64,8	65	8,2	80
80/2	49.81 73 00	4100	104	80	104	145,5	115	M90 x 2	80	49	34	90,8	91	10,2	111

Swivelling range 300° can be stopped at any point with clamping lever.

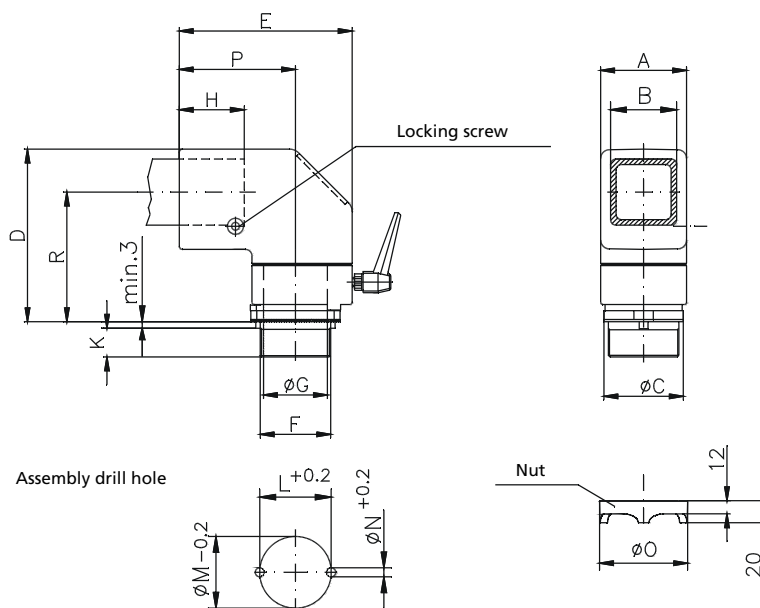


Angle coupling



Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	K	L	M	N	O	P	R
50/2	49.51 75 00	2200	66	50	62	140	140	M50 x 2	44,5	47	31	50,8	51	8,2	65	95	104
60/2	49.61 75 00	3020	78	60	72	157	157	M64 x 2	56	61	31	64,8	65	8,2	80	105,5	118
80/2	49.81 75 00	5360	104	80	104	199	200	M90 x 2	80	72	34	90,8	91	10,2	111	137	149

Swivelling range 300° can be stopped at any point with clamping lever



GT50/2; GT 60/2; GT 80/2

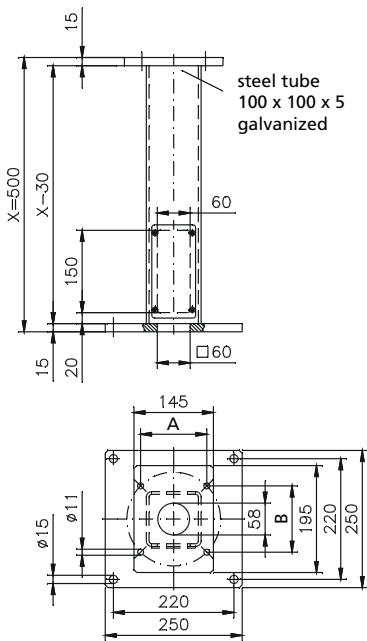
Components

Column



Sheet steel, painted, individual length including adapter plate for top mounted joint. At the base flange outlet max. length 2 m.

Order No.		A	B
49.51 00 04 8	GT 50/2 (please specify complete length)	116	150
49.61 00 04 8	GT 60/2 (please specify complete length)	125	165
auf Anfrage	GT 80/2		

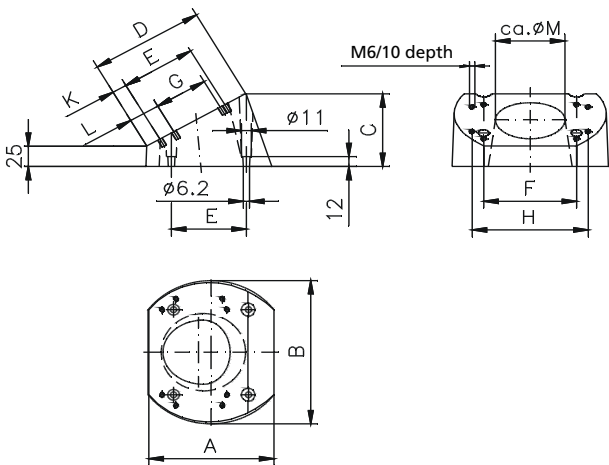


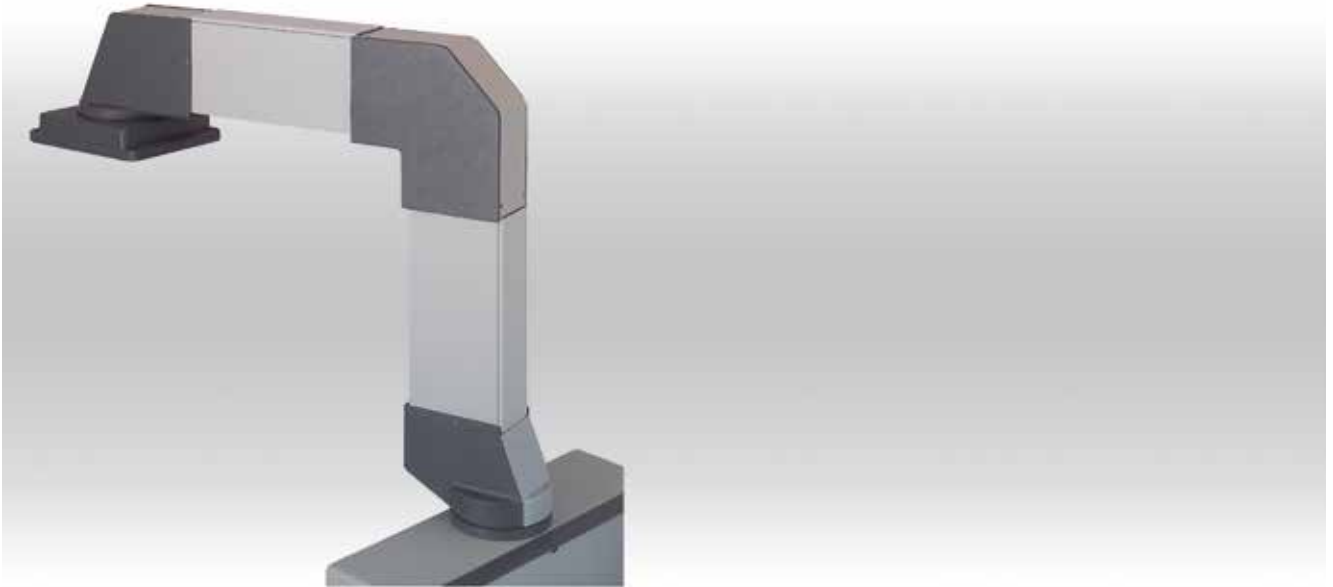
Console adapter



Cast aluminium part with fixed 30° inclination for assembly between enclosure and flange coupling GT 50/2, GT 60/2 and GT 80/2.

Type	Order No.	Weight (g)	A	B	C	D	E	F	G	H	K	L	M
50/2	49.51 76 00	1160	107	131	71	92	57	77	-	-	14	-	50
60/2	49.61 76 00	1280	117	141	76	102	57	77	-	-	18	-	60
80/2	49.81 76 00	2120	141	175	89	128	84	104	60	130	17	35	80





- + Industrial square suspension system with free accessible cable channel
- + Modular construction with free accessible cable duct
- + Floor, top-mounting or wall options

Included in delivery

Individual system components incl. cable duct covering and assembly materials

Technical data

Material	Connecting tube: Square ST 37 similar DIN EN 10305-5 wall thickness 5 mm or 8 mm Components: spheroidal graphite cast iron and/or cast aluminium Cable duct / cover: aluminium extruded profile Bearing: ball bearing Bellow: textile fabric
Painting	Powder coating
Colour	Cable duct / cover: RAL 7035, light grey Components: RAL 7043, traffic grey B, Special colour on request
Ingress protection	with top-mounted flange IP65 to EN 60529

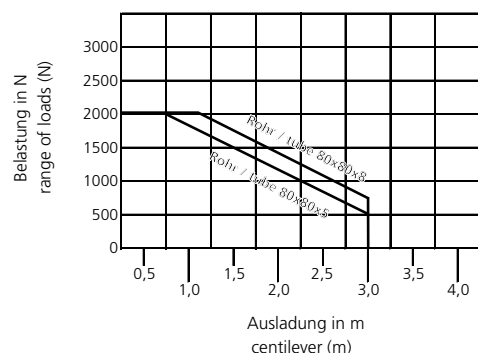
Product range

Type	Order No.	Weight (g)
Top-mounted joint	49.90 66 01	20000
Foot stand / wall flange	49.90 74 01	6755
Wall hinge	49.90 70 01	18900
Intermediate joint	49.90 67 01	15200
Angle (FH) cast steel	49.90 71 11	12020
Angle (AS) Aluminium	49.90 71 20	3600
Angle coupling	49.90 75 01	5521
Coupling	49.90 73 01	5290
Top-mounted flange type A	49.90 00 30	1100
Top-mounted flange type B	49.90 00 20	1100

	Cable duct (standard length to fit relevant suspension tube)	Weight (g)	Suspension tube 80 x 80 x 5 mm	Weight (g)	Suspension tube 80 x 80 x 8 mm	Weight (g)
Standard length: 0,5 m	10.09 42 35	1450	10.09 42 27	5800	10.09 42 31	9000
Standard length: 1 m	10.09 42 36	2900	10.09 42 28	11600	10.09 42 32	18000
Standard length: 2 m	10.09 42 37	5800	10.09 42 29	23200	10.09 42 33	36000
Standard length: 3 m	10.09 42 38	8700	10.09 42 30	34800	10.09 42 34	54000
Variable length (please specify)	10.09 41 65*		10.09 41 59		10.09 41 68	

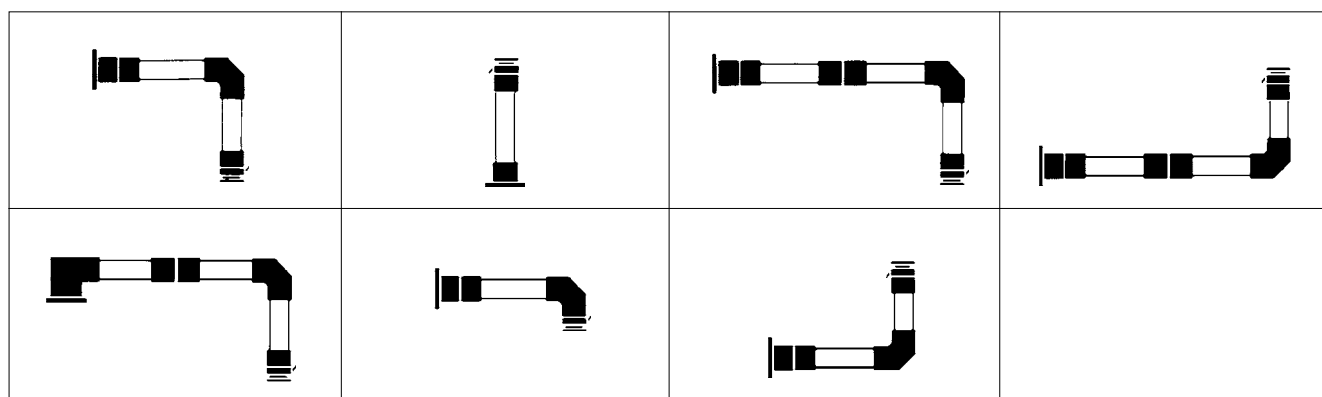
* The cable duct needs to be 175 mm shorter than the suspension tube length!

Load diagram



Note: the vertical length of the profile is responsible for the load of the complete suspension system (lever arm!). Further information for this on request. The values in the above load diagram are guilty to an execution hanging or standing. The declarations of weight are a summary from installation weight, Commander and all components and tubes between Commander and angle.

System structure



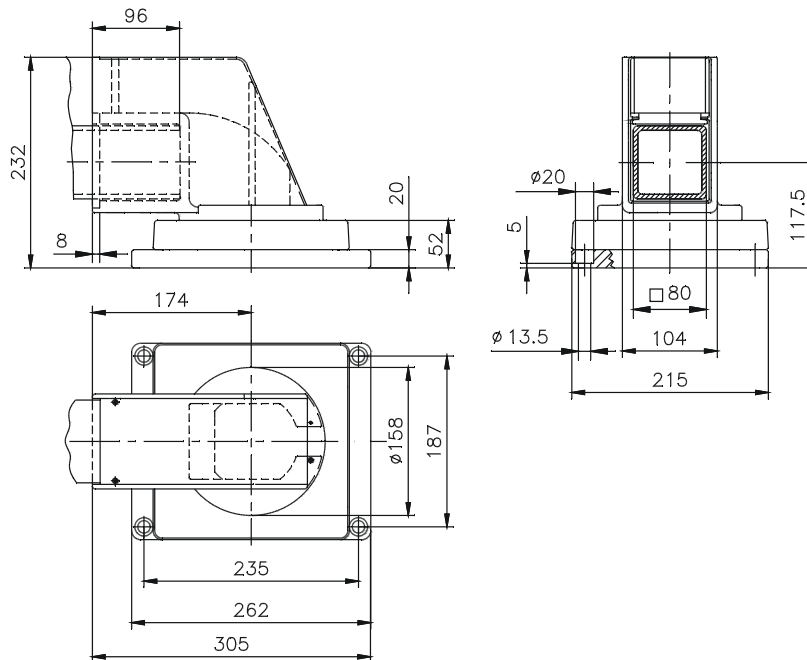
GTK 80

Components

Top-mounted joint



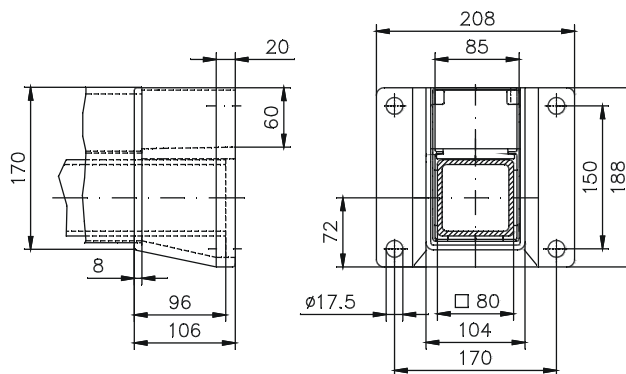
Order No.	Execution
49.90 66 01	Cast iron. Swivelling range 360°



Foot stand / wall flange



Order No.	Execution
49.90 74 01	Cast iron

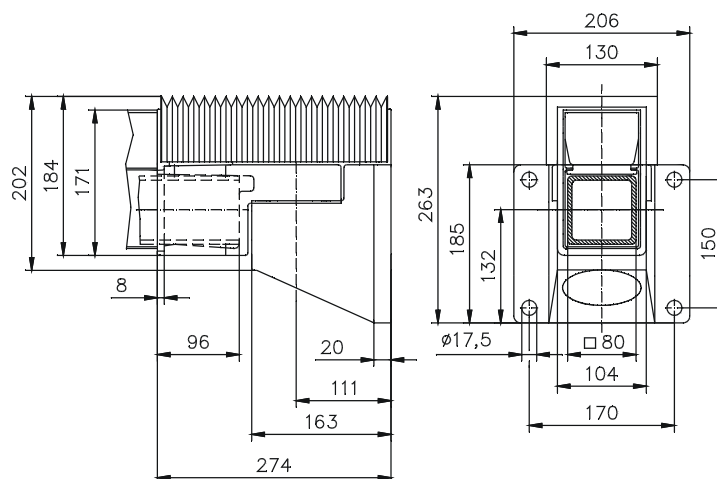


Components

Wall hinge



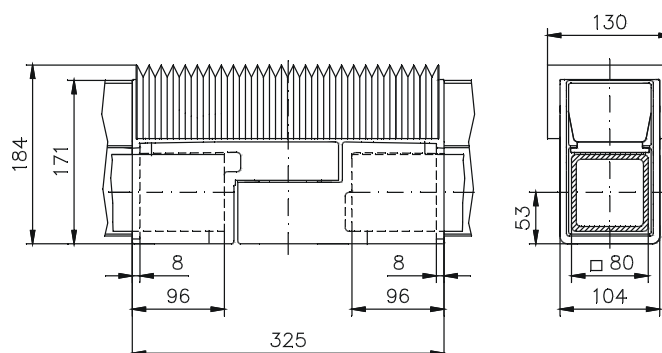
Order No.	Execution
49.44 70 01	Cast iron. Swivelling range 180°



Intermediate joint



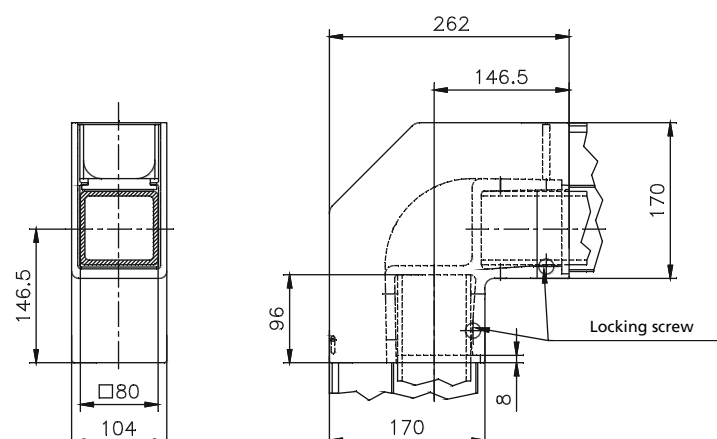
Order No.	Execution
49.90 67 01	Cast iron. Swivelling range 180°



Angle (FH)



Order No.	Execution
49.90 71 11	Cast iron. 90°-angle for use with high bending loads



Components

Angle (AS)

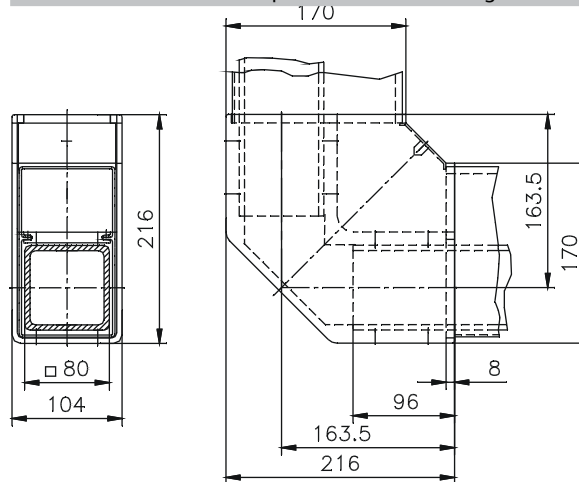


Order No.

Execution

49.90 71 20

Cast aluminium. 90°-angle for vertical construction from the bottom up with minimal bending load



Coupling

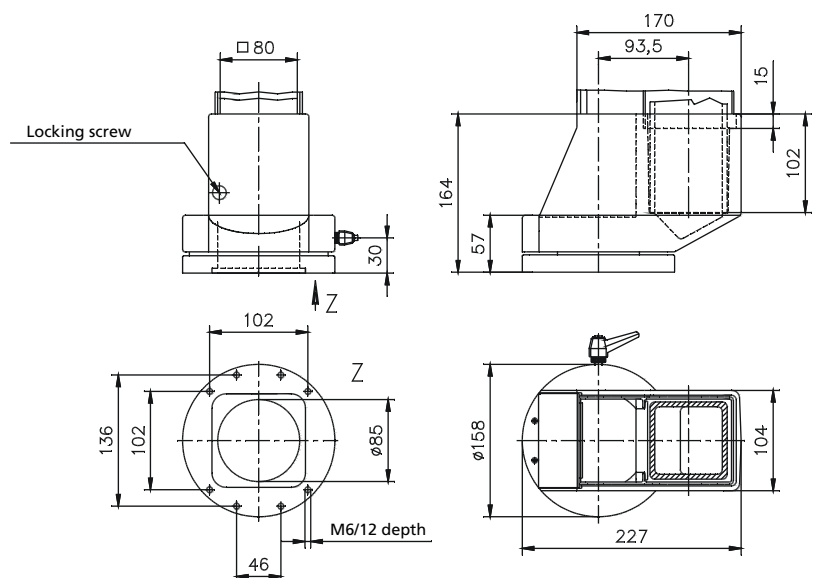


Order No.

Execution

49.90 73 01

Cast aluminium. Swivelling range 320°

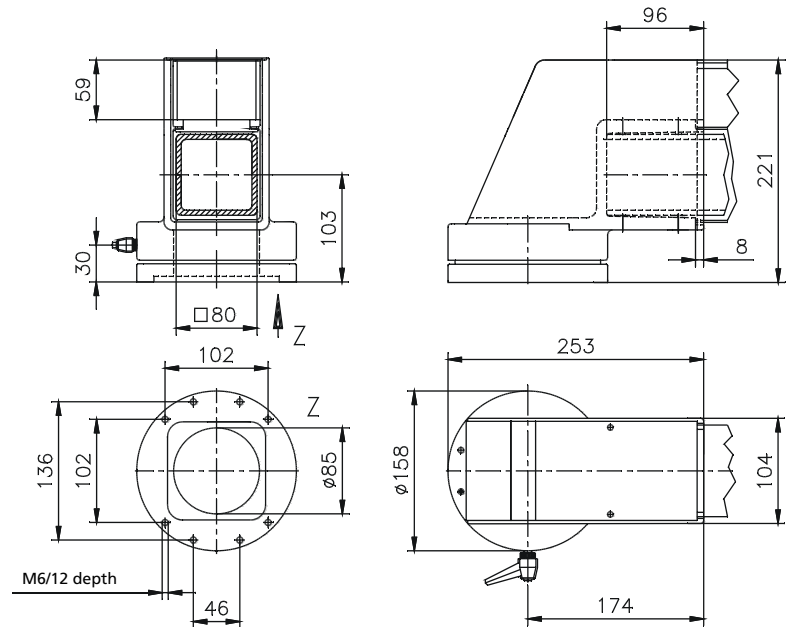


Components

Angle coupling



Order No.	Execution
49.90 75 01	Cast aluminium. Swivelling range 320°

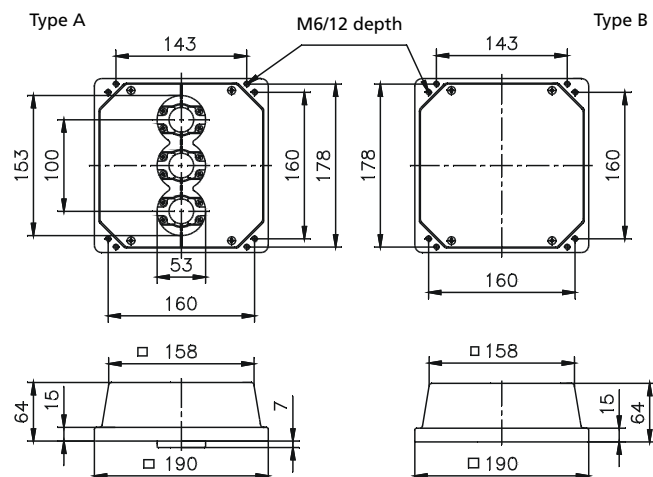


Top-mounted flange



Fitted in combination with coupling or angle coupling to maintain compliance with enclosure rating IP 65 at transition to control panel.

Order No.	Execution
49.90 00 30	Type A: Cast aluminium Large area mounting on enclosure for maximum 3 ready-made leads with diameters from 7 to 26 mm. Open cable entry.
49.90 00 20	Type B: Cast aluminium Large area mounting on enclosure for a large number of ready-made leads. Sealed with special cable glands or threaded cable connectors. Open cable entry.



Moterm



- + Mobile stand system for control components
- + Fixed or height-adjustable version with pneumatic spring
- + Version with 4 rollers or with foot stand
- + Optionally foot stand for anchoring

Included in delivery

Moterm with integrated tilt adjustment for adapter plate for control systems
(Please order adapter plate separately)

Technical data

Material	Base and stand profile: Aluminium profile system; DIN EN 573 EN AW-ALMgSi
Colour	Stand profile: plain anodized, optional powder-coated Base: RAL 9005, jet black
Maximum static load	80 kg

Moterm

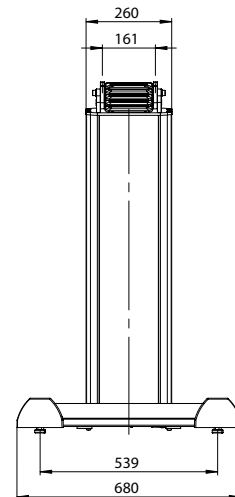
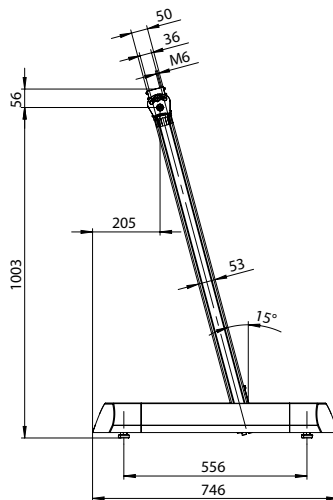
Product range

Moterm x11



Version with levelling feet to adjust for floor irregularities – as a stand system
Version with fixed height (966 mm), other height or base dimensions on request

Order No.	Type	Height	Execution	Load
50.01 03 11	Moterm 311	1059 mm	fixed height, with foot stand	8 - 80 kg
50.01 09 11	Moterm 911	customized	fixed height, with foot stand	customized

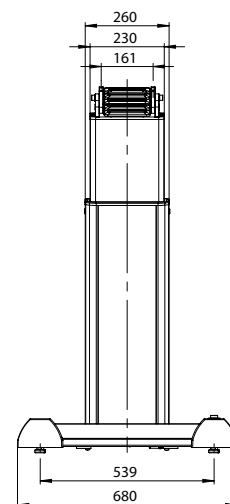
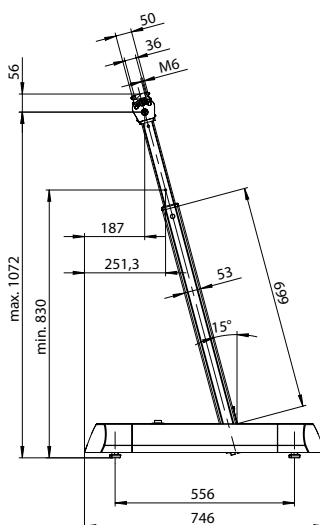


Moterm x12



Version with levelling feet to adjust for floor irregularities – as a stand system
Version with pneumatic spring and release mechanism
Height can be adjusted from 750 mm to 1000 mm
for load ranges from 8 to 50 kg; other load values on request

Order No.	Type	Height	Execution	Load
50.01 03 12	Moterm 312	886 mm to 1128 mm	manually adjustable, with food stand	8 - 15 kg
50.01 04 12	Moterm 412	886 mm to 1128 mm	manually adjustable, with food stand	16 - 22 kg
50.01 05 12	Moterm 512	886 mm to 1128 mm	manually adjustable, with food stand	23 - 30 kg
50.01 06 12	Moterm 612	886 mm to 1128 mm	manually adjustable, with food stand	31 - 40 kg
50.01 07 12	Moterm 712	886 mm to 1128 mm	manually adjustable, with food stand	41 - 50 kg
50.01 09 12	Moterm 912	886 mm to 1128 mm	manually adjustable, with food stand	customized



Moterm

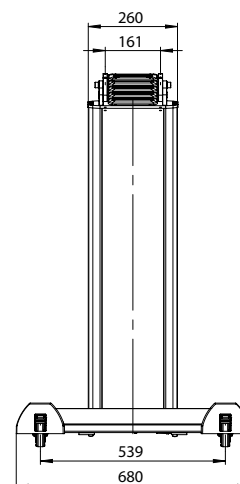
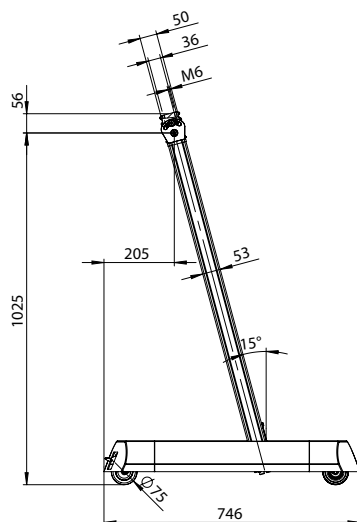
Technical details

Moterm x14



Version with 4 rollers, 2 movable and 2 locking rollers
Version with fixed height (984 mm), other height or base dimensions on request

Order No.	Type	Height	Execution	Load
50.01 03 14	Moterm 314	1081 mm	fixed height, 4 rollers	8 - 80 kg
50.01 09 14	Moterm 914	variable Execution	fixed height, 4 rollers	customized

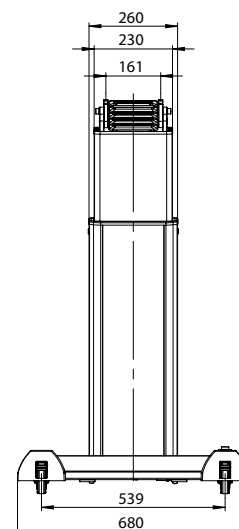
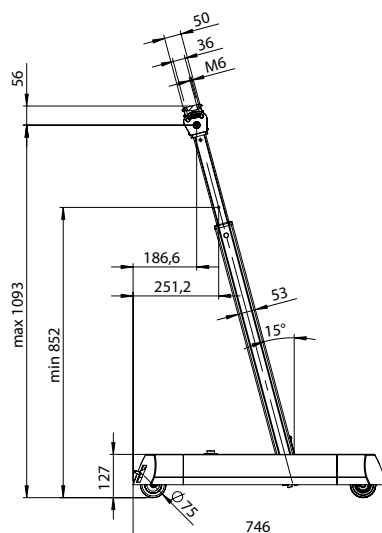


Moterm x15



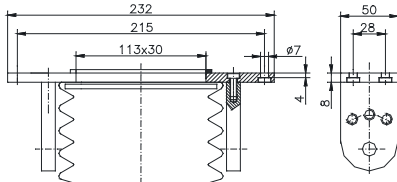
Version with 4 rollers, 2 movable and 2 locking rollers,
with pneumatic spring and release mechanism
Height can be adjusted from 750 mm to 1000 mm
for load ranges from 8 to 50 kg; other load values on request

Order No.	Type	Height	Execution	Load
50.01 03 15	Moterm 315	886 mm to 1128 mm	manually adjustable, 4 rollers	8 - 15 kg
50.01 04 15	Moterm 415	886 mm to 1128 mm	manually adjustable, 4 rollers	16 - 22 kg
50.01 05 15	Moterm 515	886 mm to 1128 mm	manually adjustable, 4 rollers	23 - 30 kg
50.01 06 15	Moterm 615	886 mm to 1128 mm	manually adjustable, 4 rollers	31 - 40 kg
50.01 07 15	Moterm 715	886 mm to 1128 mm	manually adjustable, 4 rollers	41 - 50 kg
50.01 09 15	Moterm 915	886 mm to 1128 mm	manually adjustable, 4 rollers	customized



Accessories

Adapter plate for connecting to the control enclosure



Order No.	Type
50.01 02 03	Adapter plate SL 2000 Profile 1
50.01 02 04	Adapter plate SL 2000 Profile 2
50.01 02 05	Adapter plate SL 2000 Profile 3
50.01 02 06	Adapter plate SL 3000 Profile 1
50.01 02 07	Adapter plate SL 3000 Profile 2 to 4
50.01 02 08	Adapter plate SL 3000 console version
50.01 02 09	Adapter plate universal (s. Zeichnung)
50.01 02 10	Adapter plate Beckhoff CP 7032
50.01 02 11	Adapter plate ComTronic
50.01 02 12	Adapter plate SL 3000 Profile 4 (direct installation)
50.01 02 13	Flat panel adapter
50.01 02 14	Adapter plate SL 4000 Profile 1 - 3
50.01 02 15	Adapter plate SL 4000 console version

Feet for anchoring



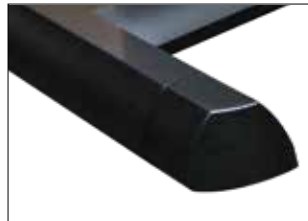
Order No.	Execution
50.00 01 01	Set = 2 pcs



Locking system for version with rollers



Simple adjustment option for height adjustment



Floor attachment with levelling unit
(optionally für anchoring)

Inclining adapter



- + Inclining adapter for individual connections between enclosure and ROSE suspension systems or for wall mounting
- + Simply handling by open design
- + Stepped adjuster allows inclination to suit your application

Included in delivery

Inclining adapter, pre-assembled flange plates, sealings and mounting material

Technical data

Material	Sheet steel 2,5 mm Bellow: PVC
Colour	Powder coating, RAL 9005, jet black Bellow: RAL 9005, jet black
Ingress protection	IP54

Inclining adapter

Product range

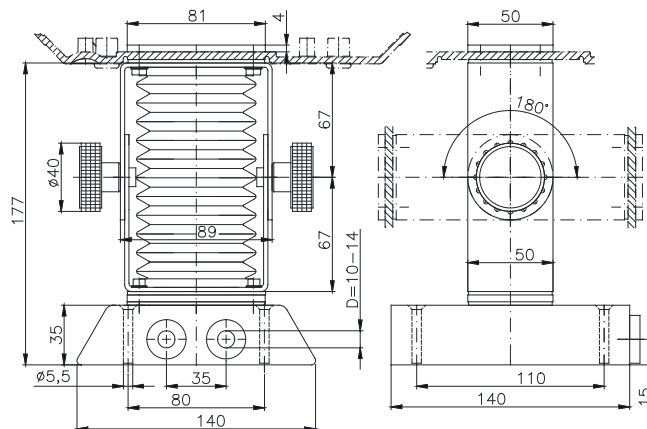
for Limanda and other small enclosures	Order No.	Weight (g)
Inclining adapter for mounting onto walls or machine	50.02 00 01	1286
Inclining adapter for suspension system GT 48/2 (tube)	50.02 00 02	986
Inclining adapter for suspension system GTK electronic	50.02 00 03	1004
Inclining adapter for suspension system GT 48/2 or GTK electronic	50.02 00 04	900
Inclining adjustment	50.02 01 01	1050
Inclining adapter stainless steel	50.02 10 01	1286

Technical details

Inclining adapter



Order No.	Execution
50.02 00 01	for mounting onto wall or machine Sheet steel parts for inclined mounting of a Limanda or other enclosure. Two cable exits optionally top or bottom with rubber nozzles. Dust and damp protection by bellow (black). Enclosure rating IP 54 up to fastening flange. Swivelling range 180° in 22.5° steps, adjusted with knurled screw.



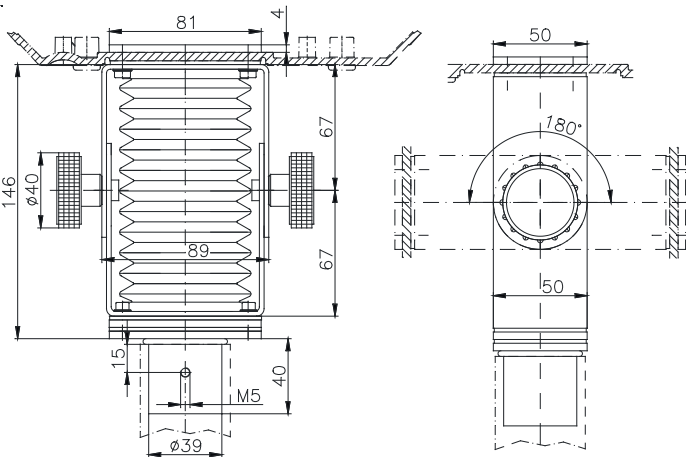
Inclining adapter

Technical details

Inclining adapter for GT 48/2 (tube)



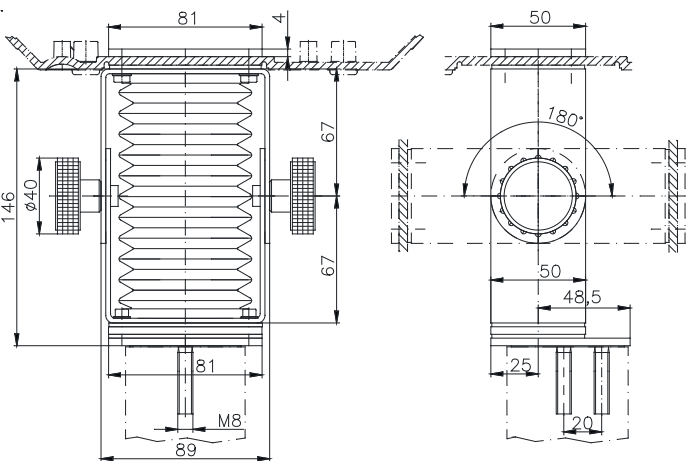
Order No.	Execution
50.02 00 02	Sheet steel parts for inclined mounting of a Limanda or other enclosure. Mounted directly onto the circular tube of the GT 48/2 rack system. Fastened to the tube via olive rings (the thread in the circular tube is attached afterwards). Enclosure rating IP 54 once assembled. Dust and damp protection by bellow (black). Swivelling range 180° in 22.5° steps, adjusted with knurled screw.



Inclining adapter for GTK electronic



Order No.	Execution
50.02 00 03	Sheet steel parts for inclined mounting of a Limanda or other enclosure. Mounted directly onto the connecting tube of the GTK electronic rack system. Flange mounted onto tube with self-tapping screws. Enclosure rating IP 54 once assembled. Dust and damp protection by bellow (black). Swivelling range 180° in 22.5° steps, adjusted with knurled screw.



Inclining adapter

Technical details

Inclining adapter for GT 48/2 or GTK electronic

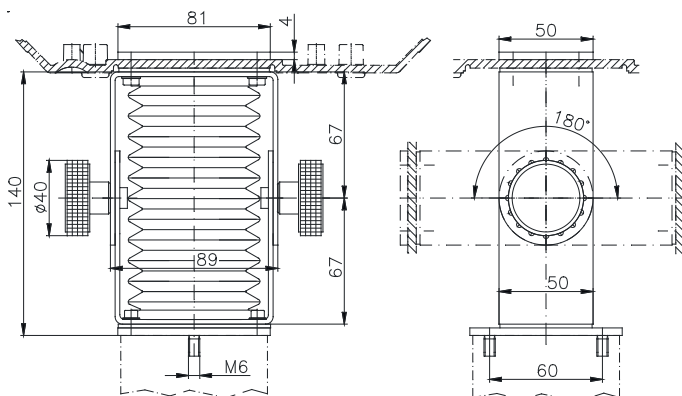


Order No.

Execution

50.02 00 04

Sheet steel parts for inclined mounting of a Limanda or other enclosure. Attached to the GT 48/2 or GTK electronic rack system flange coupling with flange plate. Enclosure rating IP 54 once assembled. Dust and damp protection by bellow (black). Swivelling range 180° in 22.5° steps, adjusted with knurled screw.



Inclining adapter stainless steel

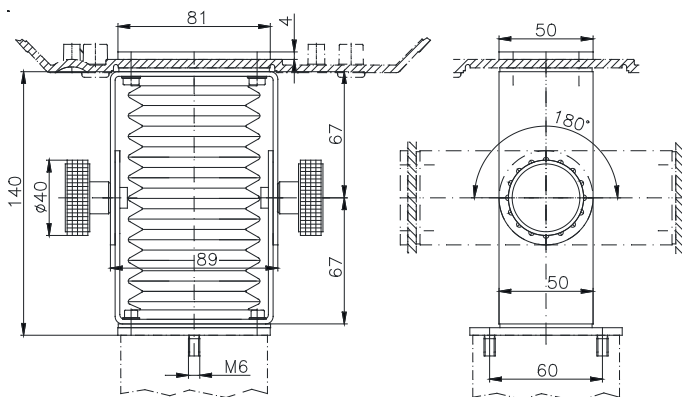


Order No.

Execution

50.02 10 01

parts for inclined mounting of a Limanda or other enclosure. Attached to the GT 48/2 or GTK electronic rack system flange coupling with flange plate. Enclosure rating IP 54 once assembled. Dust and damp protection by bellow (black). Swivelling range 180° in 22.5° steps, adjusted with knurled screw.



Inclining adjustment

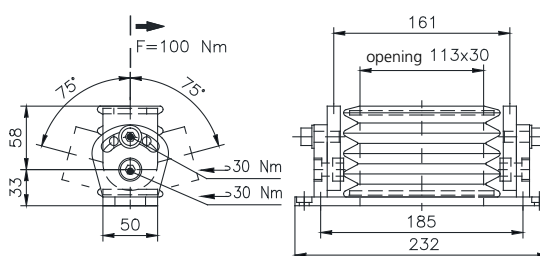


Order No.

Execution

50.02 01 01

Continuously variable inclining system (+/- 75°) for Commander systems. System consisting in aluminium elements with bellow. Scope of supply: base unit without adaptation plate





- + Polyamide hand held enclosures for data acquisition, MCR and automation engineering
- + For installations and command devices mobile and stationary applicable
- + Variable mounting depths

Included in delivery

Clam shell enclosure with top and base, each with fixing domes incl. seals and border profile, 3 cover flaps for interface garages, screws and fixing materials for front panel mounting.

Technical data

Material	Enclosure: Polyamide Border profile: NBR, black
Colour	RAL 7021, black grey
Ingress protection	IP 65 to EN 60529

Limanda

Product range

Order No.	Type	Dimensions (mm)	Weight (g)
		H x W x D	
27.03 03 00	Limanda I	311 x 281 x 72	1200
27.03 03 01	Limanda I EMC	311 x 281 x 72	1200
27.03 03 17	Limanda I for OP17	311 x 281 x 97	1500
27.03 02 00	Limanda II	270 x 248 x 64	800
27.03 02 01	Limanda II EMC	270 x 248 x 64	800



Limanda enclosure system for installation of different hand held operator panels.



Limanda I for OP17 -
Supplied ready for installation of the Siemens OP17 operator panel without additional fitting material.



Limanda II
with fitted command unit

Accessories

Quiver



Order No.	Execution
27.03 00 89	for Limanda II
27.03 00 91	for Limanda II with intermediate frame
27.03 00 86	for Limanda I
27.03 00 90	for Limanda I with intermediate frame

Front plate



Order No.	Execution
27.03 02 90	for Limanda II EMC
27.03 03 90	for Limanda I EMC
27.03 02 80	for Limanda II
27.03 03 80	for Limanda I

Handle set



Order No.	Execution
27.03 00 83	for Limanda I without push button
27.03 00 71	for Limanda I with 3-step enabling switch, right-hand version
27.03 00 72	for Limanda I with 3-step enabling switch, left-hand version



Limanda

Accessories

Mounting set

Order No.	Execution
27.03 02 82	for Siemens TP 170/ TP070

Inclining adapter for holder



Order No.	Execution	Weight (g)
50.02 00 05	Mounting directly onto tube GT 48/2	776
50.02 00 06	Mounting directly onto profile GTK electronic	804
50.02 00 07	Mounting directly on wall or machine	490

Table stand

Order No.	Execution
27.03 00 87	for Limanda II, set = 2 pcs

Carrying strap



Carrying strap in 2
Executions: Standard
execution and comfort
execution: strengthened
execution with shoulder
pad

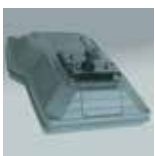
Order No.	Execution
27.03 00 85	for Limanda
27.03 00 92	for Limanda, Comfort

Intermediate frame



Order No.	Execution
27.03 02 88	for Limanda II EMC
27.03 00 88	for Limanda I EMC
27.03 02 81	for Limanda II
27.03 03 81	for Limanda I

Holder



Order No.	Execution
27.03 00 84	Enables rapid removal of the Limanda from the inclining adapter (for Limanda I and II). There is a gap of 19.5 mm between the Limanda and the holder for assembly purposes.

Cable connection with bending protection



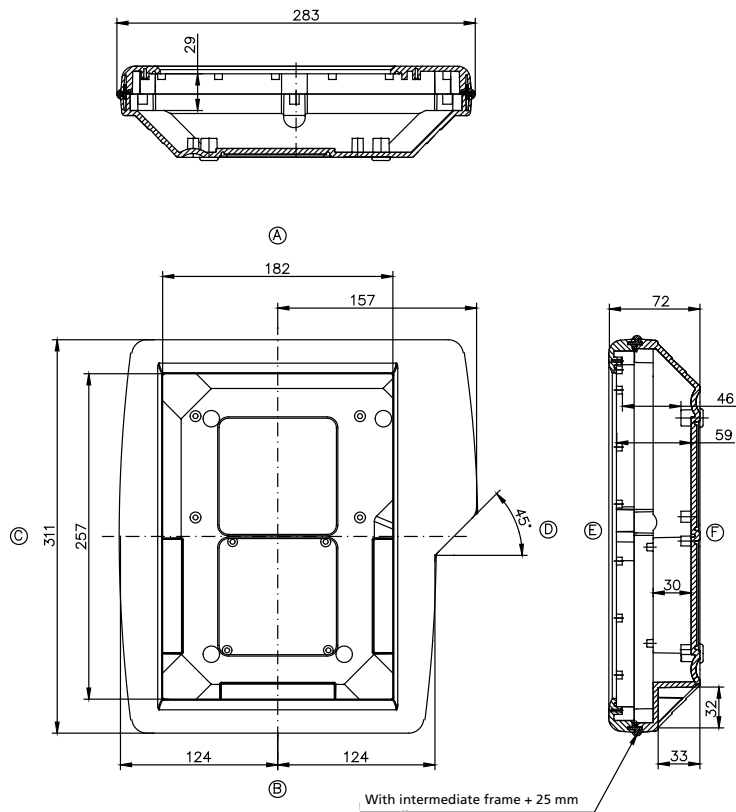
Order No.	Execution
08.10 01 16	M6
08.10 01 20	M20
08.10 01 25	M25

Further accessories see chapter „Electro-mechanical components“

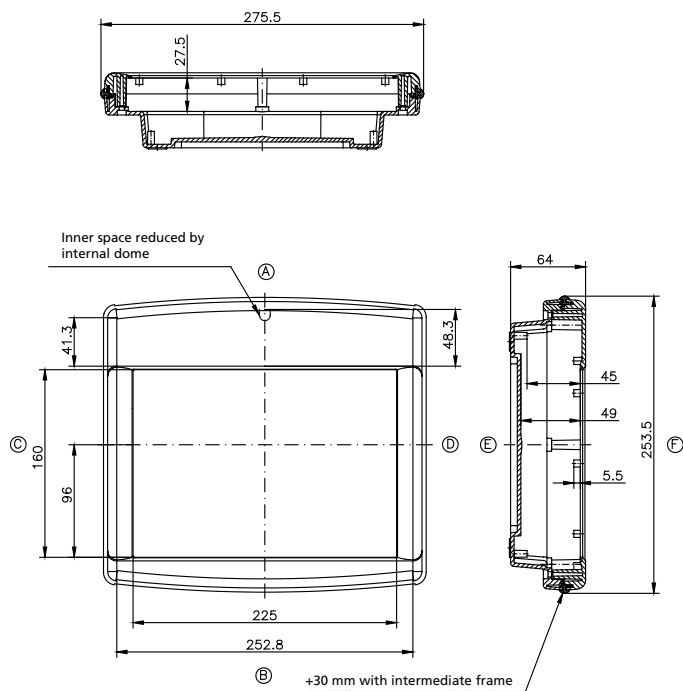
Technical details



Limanda I
Order No. 27.03 03 00



Limanda II
Order No. 27.03 02 00



Taguan 130



- + ABS hand held enclosure for data acquisition and measurement
- + With integrated battery compartment
- + Execution with or without display opening
- + Optional EMC Execution with internal coating

Included in delivery

5-part enclosure with top and base, battery compartment, battery compartment cover, head and shaft cover, fixing and enclosure screws. Open Execution incl. display screen and punched seal.

Technical data

Material	ABS
Ingress protection	IP40 to EN 60529
Surface resistance	4×10^{14} Ohm, IEC 60093
Flammability	UL 94 HB
Colour	top and base, battery compartment cover, head/shaft panel: RAL 5020, ocean blue keyboard cover, battery compartment/battery pack: RAL 7024, graphite grey
Temperature range	-40 °C to +80 °C

Taguan 130

Product range

Type	Order No.	Execution	Dimensions H x W x D (mm)	Weight (g)
Taguan 130 FO	27.01 02 00	flat, open	80/70 x 125 x 36,7 / 28,5	130
Taguan 130 FG	27.01 02 01	flat, closed	80/70 x 125 x 36,7 / 28,5	110
Taguan 130 TO	27.01 02 10	deep, open	80/70 x 125 x 46,7 / 28,5	123
Taguan 130 TG	27.01 02 11	deep, closed	80/70 x 125 x 46,7 / 28,5	140

Components mounting options

Component options	Type T130 FO	Type T130 FG	Type T130 TO	Type T130 TG
Display max. view area 45 x 17,4 mm max. mounting dimensions 65 x 29 mm	•		•	
Chipcard reader in head section	•	•	•	•
Scanner	•	•	•	•
PCMCIA slot	•	•	•	•
D-Sub interface 9-pin	•	•	•	•
D-Sub interface 15-pin	•	•	•	•
9 V monobloc	•	•	•	•
4 R3 micro-cells (AAA)	•	•	•	•
1. PCB (main board)	•	•	•	•
2. PCB (adapter board)			•	•
Membrane keypad	•	•	•	•



Taguan 130

Accessories

Battery holder



Order No.	Execution
27.01 02 80	for 4 micro-cells (AAA)
27.01 02 81	for 9 V monobloc

Shaft cover



Order No.	Execution
27.01 02 85	Shaft cover in enclosure colour
27.01 02 86	Shaft cover transparent
27.01 02 87	Shaft cover for infrared

Clip



Order No.
27.01 02 82

Spare screw set

Order No.
27.01 00 90

Spare display screen set

Order No.
27.01 02 88

Keypad



Order No.	Execution
82.10 00 01	FT 130b, 12 keys, printed, common connection
82.10 00 02	FT 130e, 12 keys, with insert, matrix

Connector

Order No.	Execution
82.20 00 13	13-pole

Further accessories see chapter „Electro-mechanical components“

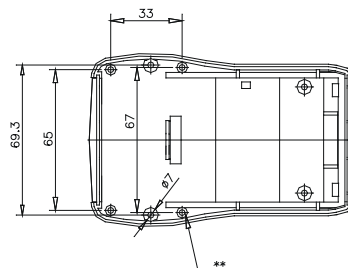
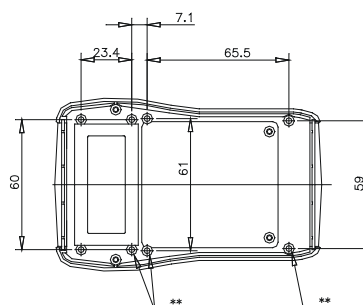
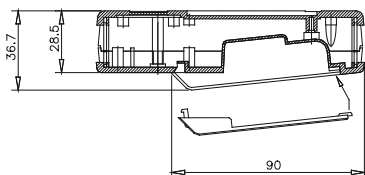
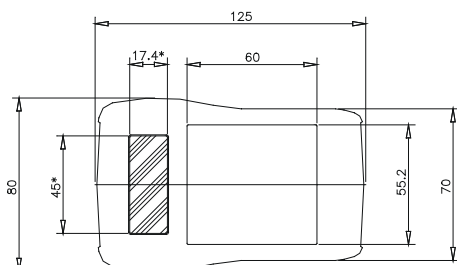
Taguan 130

Technical details



Type	Execution	Order No.
Taguan 130 FO	flat, open	27.01 02 00
Taguan 130 FG	flat, closed	27.01 02 01

(max. PCB size of displays ca. 65 x 29 mm)

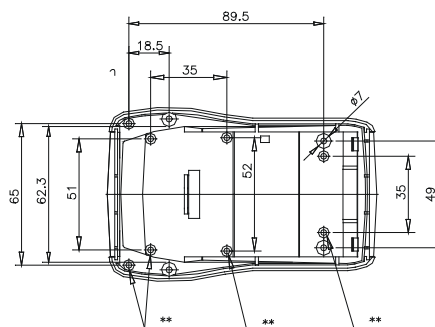
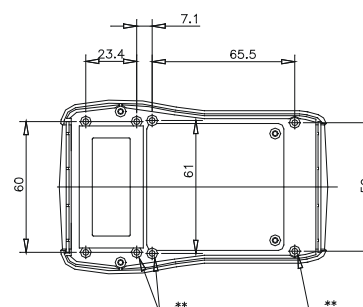
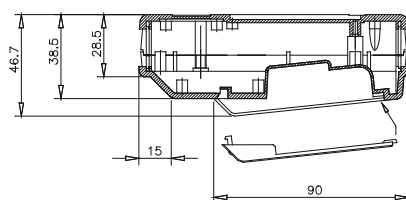
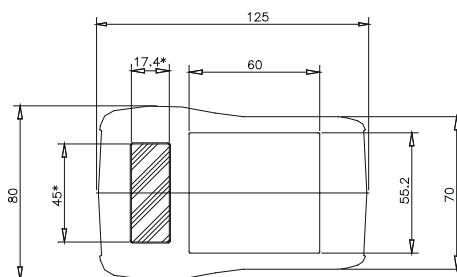


* = Open Execution
** = PCB mounting boss (screw 2.5 x 5)



Type	Execution	Order No.
Taguan 130 TO	deep, open	27.01 02 10
Taguan 130 TG	deep, closed	27.01 02 11

(max. PCB size of displays ca. 65 x 29 mm)



* = Open Execution
** = PCB mounting boss (screw 2.5 x 5)



Taguan 180/230



- + ABS hand held enclosure for data acquisition and measurement
- + With integrated battery compartment
- + Execution with or without display openings
- + Optional EMC Execution with internal coating

Included in delivery

Enclosure with top and base, keypad cover, head and shaft cover, fastening and enclosure screws. Open Execution incl. display screen and punched seal. Please order battery compartment separately.

Technical data

Material	ABS
Ingress protection	IP 40 to EN 60529
Surface resistance	4×10^{14} Ohm, IEC 60093
Flammability	UL 94 HB
Colour	top and base, battery compartment cover, head/shaft cover: RAL 5020, ocean blue keyboard cover, battery compartment/battery pack: RAL 7024, graphite grey
Temperature range	-40 °C to +80 °C

Taguan 180/230

Product range

Type	Order No.	Execution	Dimensions H x W x D (mm)	Weight (g)
Taguan 180 O	27.01 04 00	open	84/70 x 180 x 52,5/37,5	140
Taguan 180 G	27.01 04 01	closed	84/70 x 180 x 52,5/37,5	170
Taguan 230 O	27.01 06 00	open	97/70 x 229 x 52,5/37,5	230
Taguan 230 G	27.01 06 01	closed	97/70 x 229 x 52,5/37,5	400

Components mounting options

Component options	Type T180 O	Type T180 G	Type T230 O	Type T230 G
Display (max. view area 56 x 33 mm; max. mounting dimensions 66 x 46 mm)	•			
Display (max. view area 66 x 43 mm; max. mounting dimensions 78 x 56 mm)			•	
Chipcard reader in head section	•	•	•	•
Chipcard reader in shaft section	•	•	•	•
Magnetic card reader	•	•	•	•
Scanner	•	•	•	•
PCMCIA slot	•	•	•	•
D-Sub interface 9-pin	•	•	•	•
D-Sub interface 15-pin	•	•	•	•
D-Sub interface 25-pin	•	•	•	•
Battery pack	•	•	•	•
4 micro-cells R6 (AA)	•	•	•	•
9 V monobloc	•	•	•	•
1st board (main board)	•	•	•	•
2nd board (adapter board)	•	•	•	•
Membrane keypad	•	•	•	•
Switching mat, 12 keys, in combination with keypad plate	•	•	•	•
Switching mat, 24 keys	•	•		
Switching mat, 36 keys			•	•



Taguan 180/230

Accessories

Battery holder



Order No.

27.01 00 94

Battery compartment empty



Order No.

27.01 00 80

Execution

for 4 micro-cells (AA)

Battery charging station



Order No.

27.20 00 01

Rechargeable battery pack



Order No.

27.20 00 03

Execution

NiMH 4.8 V / 2100 mAh

Blende



Order No.

27.01 02 85

Execution

Shaft cover, in enclosure colour

27.01 02 86

Shaft cover, transparent

27.01 02 87

Shaft cover for infrared

27.01 00 85

Head cover, stepped in enclosure colour

27.01 00 87

Head cover, stepped for infrared

27.01 00 89

Head cover, stepped transparent

27.01 00 91

Head cover, straight in enclosure colour

27.01 00 92

Head cover, straight transparent

27.01 00 93

Head cover, straight for infrared

Display fixing set



Order No.

27.01 04 80

Execution

Taguan 180

27.01 06 80

Taguan 230

27.01 06 88

Taguan 230

Taguan 180/230

Accessories

Spare display screen

Order No.	Execution
27.01 04 88	Taguan 180
27.01 06 88	für Taguan 230

Spare screws set

Order No.
27.01 00 90

Spring contact



Contacts for the battery pack (Company Bourns, type 70ADJ002ML1), for mounting in enclosure bottom part

Order No.	Execution
27.01 00 82	2-pole

Wrist strap



Protection against falling down, or as carrying aid

Order No.
27.01 00 83

Hand strap



with Velcro fastener for adjustment, consisting of holding strap, adapter and screws

Order No.	Execution
27.01 04 84	for Taguan 180
27.01 06 84	for Taguan 230

Switch mat set



consisting of keypad plate, silicone switching mat and keypad circuit board with connecting cable

Order No.	Execution
27.01 00 95	12 keys, for Taguan 180 / 230
27.01 04 81	24 keys for Taguan 180
27.01 06 81	36 keys, for Taguan 230

Connector charger



Order No.	Execution
27.20 00 02	with primary adapter

Further accessories see chapter „Electro-mechanical components“



Taguan 180/230

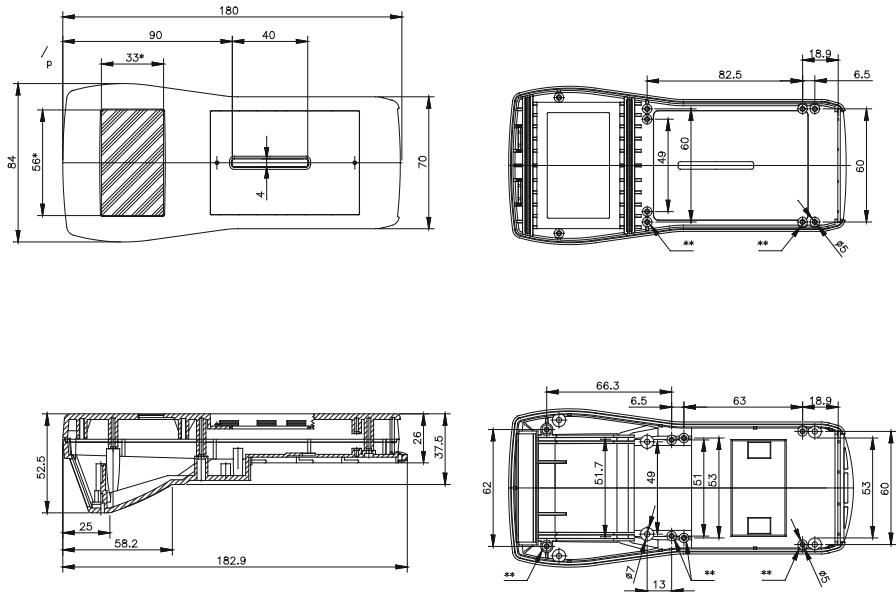
Technical details



Type	Execution	Order No.
Taguan 180 O	open	27.01 04 00
Taguan 180 G	closed	27.01 04 01

(max. PCB size of displays ca. 66 x 46 mm)

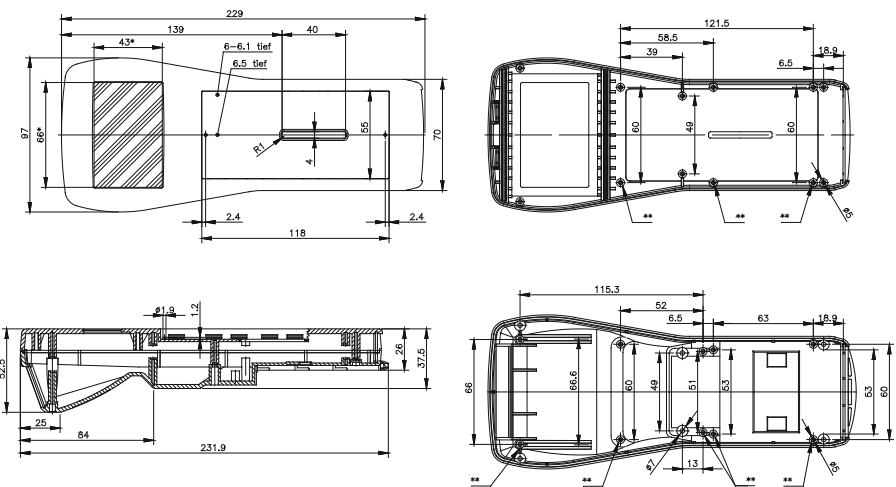
* = Open Execution
 ** = PCB mounting boss (screw 2.5 x 5)



Type	Execution	Order No.
Taguan 230 O	open	27.01 06 00
Taguan 230 G	closed	27.01 06 01

(max. PCB size of displays ca. 78 x 56 mm)

* = Open Execution
 ** = PCB mounting boss (screw 2.5 x 5)



Beluga 180/220



- + Polyamide hand held enclosure for MCR- and automation engineering
- + Execution with or without display opening
- + Prepared for acceptance of keypads/silicone switch mats
- + Optional EMC Execution with internal coating and EMC seal

Included in delivery

Double-leaf enclosure with top and base unit, each with fixing domes, fastening screws and enclosure screws.
Open Execution incl. display screen and punched seal.

Technical data

Material	Polyamide
Ingress protection	IP65 to EN 60529
Surface resistance	4×10^{14} Ohm, IEC 60093
Flammability	UL 94 V-2
Colour	RAL 7021, black grey
Temperature range	-40 °C to +60 °C



Beluga 180/220

Product range

Type	Order No.	Execution	Dimensions H x W x D (mm)	Weight (g)
Beluga 180 O	27.02 02 00	open	106/75 x 187 x 50	290
Beluga 180 G	27.02 02 01	closed	106/75 x 187 x 50	228
Beluga 220 O	27.02 04 00	open	116/85 x 220 x 51	262
Beluga 220 G	27.02 04 01	closed	116/85 x 220 x 51	254

Components mounting options

Component options	Type B180 O	Type B180 G	Type B220 O	Type B220 G
Display max. view area 42 x 65 mm max. mounting dimensions 56,4 x 74 mm or 54 x 80 mm	•			
Display max. view area 49 x 78 mm max. mounting dimensions 71,5 x 84 mm or 70,5 x 86 mm			•	
Emergency stop button	•	•	•	•
Push button	•	•	•	•
Hand wheel		•		•
Step switch		•		•
Joy stick	•		•	
Cable outlet up to M 16	•	•	•	•
Cable outlet up to M 20			•	•
1st board (main board)	•	•	•	•
Other boards	•	•	•	•

Accessories

Battery compartment empty



Order No.

27.02 00 85

Battery holder

Order No.

Execution

27.02 00 86

for 4 round cells for battery compartment

27.02 00 87

for 9 V monobloc for battery compartment

Display fixing set



Order No.

Execution

27.01 06 80

Beluga 180

27.02 04 82

Beluga 220

Beluga 180/220

Accessories

Spare display screen

Order No.	Execution
27.01 06 88	Beluga 180
27.02 04 83	Beluga 220

Spare screw set

Order No.
27.02 00 82

Keypads



Order No.	Execution
82.10 00 03	Keypad FT 180b, 15 keys, printed (Matrix)
82.10 00 04	Keypad FT 180e, 15 keys, with insert (Matrix)
82.10 00 07	Keypad FT 180ge, 12 keys, with insert (common connection)
82.10 00 05	Keypad FT 220b, 18 keys, printed
82.10 00 06	Keypad FT 220e, 18 keys, with insert (Matrix)

Hook set



Order No.	Execution
27.02 00 80	without magnet
27.02 00 81	with magnet

Hand strap

Order No.
27.02 00 83

Cable connection with bending protection



Order No.	Execution
08.10 01 16	M16x1.5
08.10 01 20	M20x1.5

Wall holder set

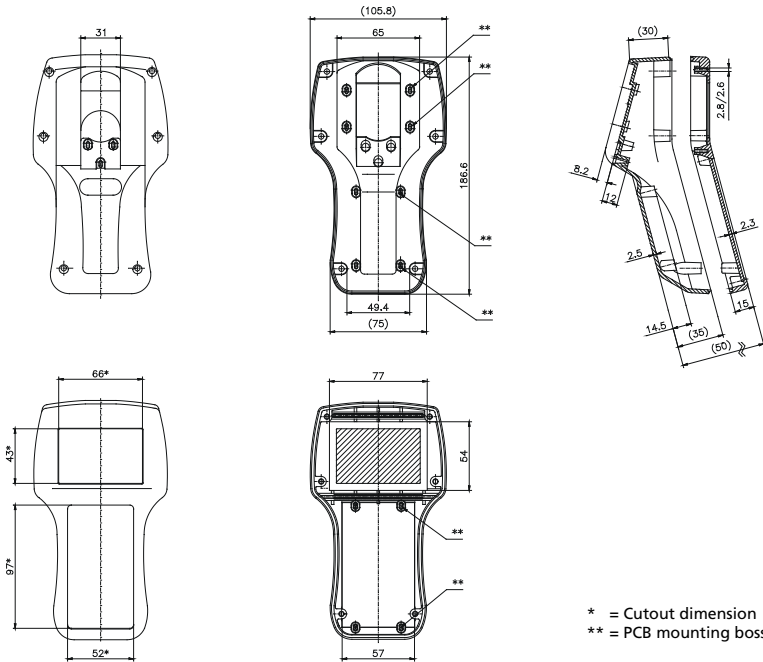
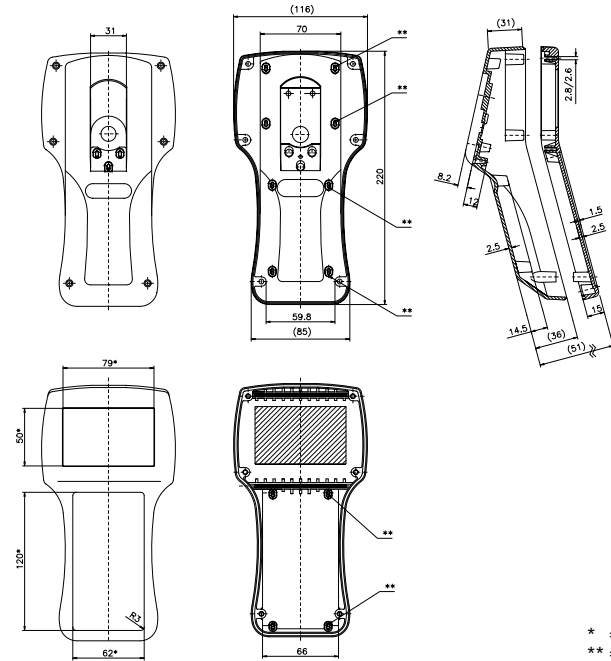
Order No.	Execution
27.02 00 84	for hook set

Further accessories see chapter „Electro-mechanical components“



Beluga 180/220

Technical details

	Type	Execution	Order No.
	Beluga 180 O	open	27.02 02 00
	Beluga 180 G	closed	27.02 02 01
(max. PCB size of displays ca. 74 x 56,4 mm or 80 x 54 mm)			
 * = Cutout dimension ** = PCB mounting boss (screw 3 x 8)			
	Type	Execution	Order No.
	Beluga 220 O	open	27.02 04 00
	Beluga 220 G	closed	27.02 04 01
(max. PCB size of displays ca. 84 x 71,5 mm or 86 x 70,5 mm)			
 * = Cutout dimension ** = PCB mounting boss (screw 3 x 8)			

Beluga 380



- + Polyamide hand held enclosure for MCR- and automation engineering
- + Execution with or without display opening
- + Prepared for keypads/silicone switch mats
- + Optional EMC Execution with internal coating and EMC seal

Included in delivery

Double-leaf enclosure with top and base unit, each with fixing domes, mounting / hook set, fastening and enclosure screws.

Technical data

Material	Polyamide
Ingress protection	IP65 to EN 60529
Surface resistance	10^{12} Ohm, IEC 60093
Flammability	UL 94 V-2
Colour	RAL 7021, black grey
Temperature range	-40 °C to +60 °C



Beluga 380

Product range

Type	Order No.	Execution	Dimensions H x W x D (mm)	Weight (g)
Beluga 380	27.02 05 01	closed	380 x 117 x 68	670

Components mounting options

Component options	Type B380
Display (max. view area / max. mounting dimensions see drawing on page 53 - 58)	•
Emergency stop button	•
Push button	•
Enabling switch	•
Hand wheel	•
Step switch	•
Joy stick	•
Cable outlet up to M 20	•
1st board (main board)	•
Other boards	•



Fitting possibility of large displays
(1/4 VGA)



Integrated hook set



Large installation space for electronic devices



Hook set, can be used as release lever

Accessories

Spare screws set

Order No.	Execution
27.02 05 83	Beluga 380

Hand strap

Order No.	Execution
27.02 05 81	for Beluga 380

Cable gland with bending protection



Order No.	Execution
08.10 01 16	M16x1.5
08.10 01 20	M20x1.5

Beluga 380

Accessories

Carrying strap	Order No.	Execution
	27.02 05 80	for Beluga 380

Wall holder set	Order No.
	27.02 05 82

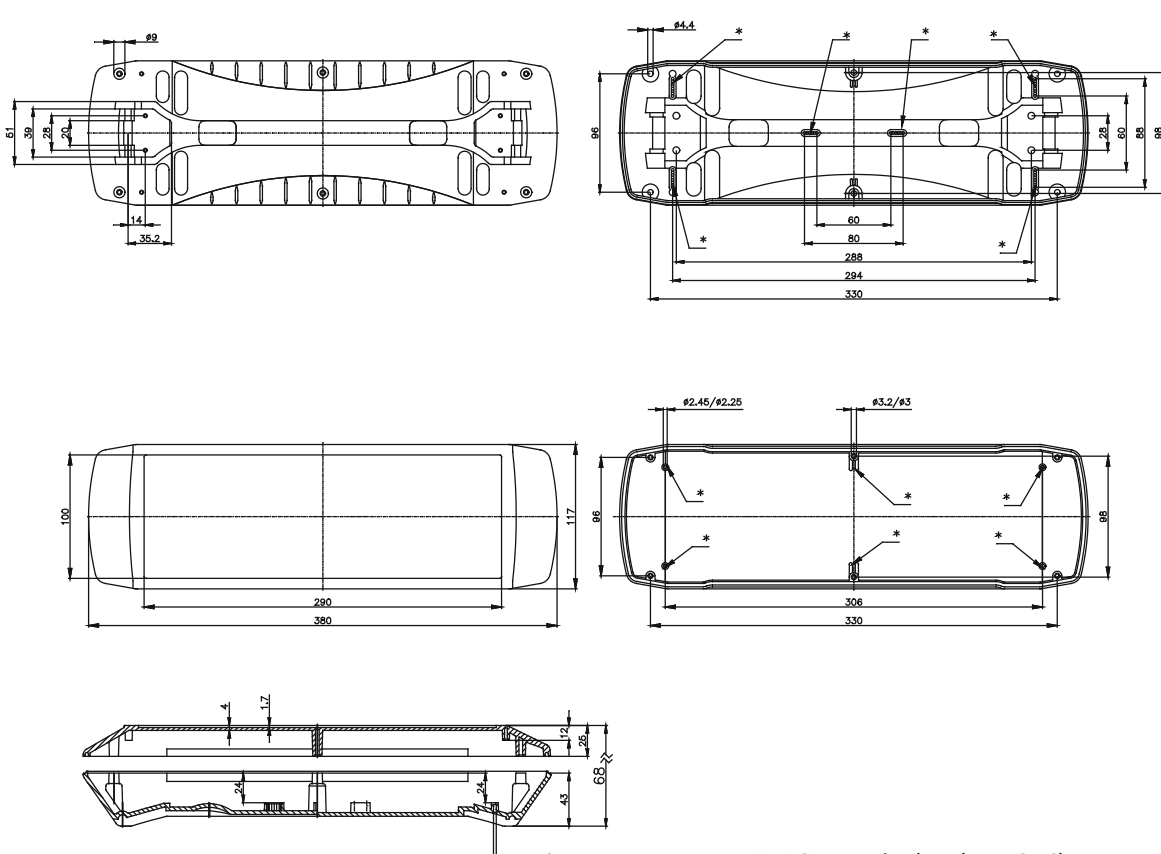


Further accessories see chapter „Electro-mechanical components“

Technical details



Type	Execution	Order No.
Beluga 380	closed	27.02 05 01



* = PCB mounting boss (screw 3 x 8)



Pilot 250



- + Polyamide hand held enclosure for MCR- and automation engineering
- + Execution with closed lid or front frame lid
- + Rear battery compartment
- + Optional EMC Execution with internal coating and EMC seal

Included in delivery

Double-leaf enclosure with top and base unit, each with fixing domes, battery compartment lid, fastening and enclosure screws

Technical data

Material	Polyamide
Ingress protection	IP65 to EN 60529
Impact resistance	7 Joule to EN 60529
Flammability	UL 94 HB
Colour	Base and lid: RAL 7021, black grey Rear cover: RAL 5003, sapphire blue
Temperature range	-40 °C to +60 °C

Pilot 250

Product range

Type	Order No.	Execution upper shell	Dimensions H x W x D (mm)	Weight (g)
Pilot 250/1	29.25 00 01	closed	140/120 x 280 x 86	700
Pilot 250/2	29.25 00 02	lid frame	140/120 x 280 x 86	460

Accessories

Battery holder



Order No.	Execution
29.25 01 03	for 4 micro-cells
29.25 01 04	for 9V monobloc

Front plate

Order No.	Execution
29.25 01 01	for Pilot 250/2

Cable gland with bending protection



Order No.	Execution
08.10 01 16	M16x1.5
08.10 01 20	M20x1.5

Magnet holder



Order No.
29.25 01 02

Wall holder



Order No.
29.25 01 05

Further accessories see chapter „Electro-mechanical components“

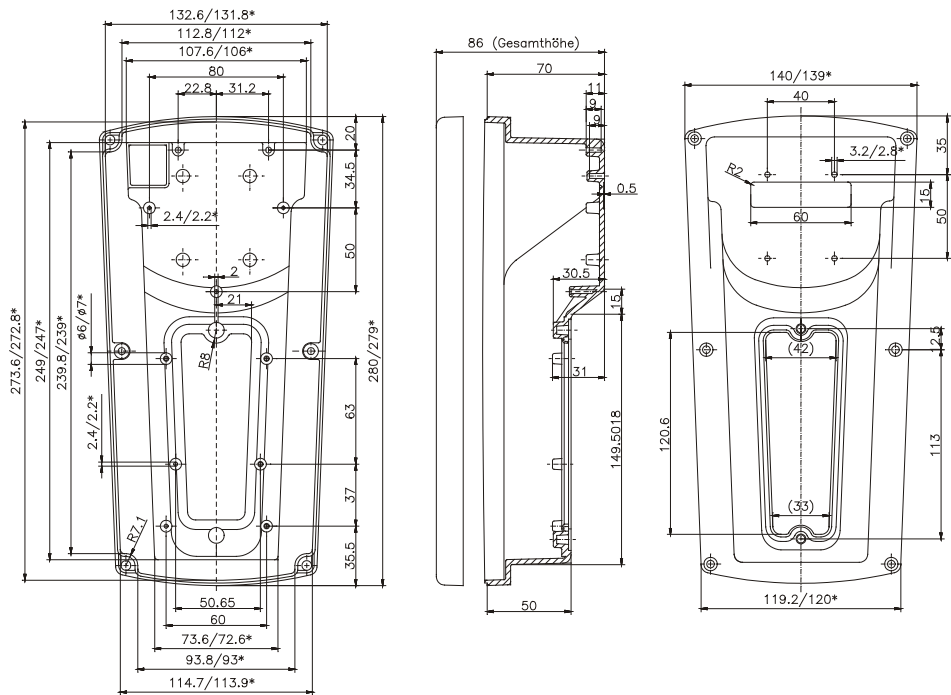


Pilot 250

Technical details

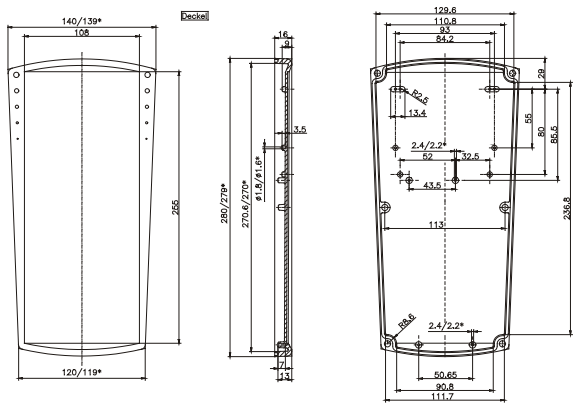


Type	Execution	Order No.
Pilot 250/1	closed	29.25 00 01
Pilot 250/2	lid frame	29.25 00 02

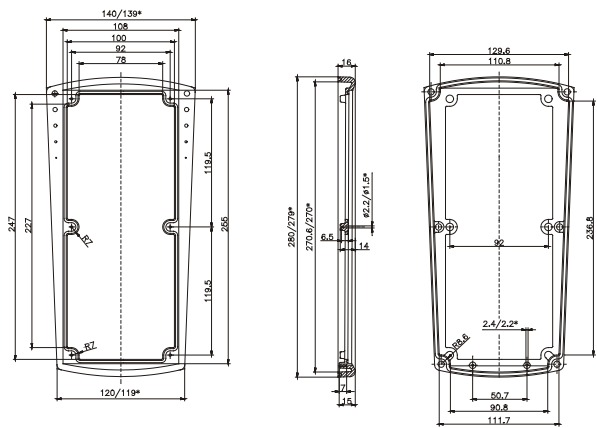


* = Concial form tapering downwards

Closed lid



Lid frame



Pilot 50



- + Polyamide / PVC hand held enclosure for MCR and automation engineering
- + Large installation space
- + Variable length by using profile technology

Included in delivery

Enclosure system consisting of internal polyamide enclosure with end covers, two lateral PVC cover profiles, Alucobond composite front plate, rear wall, 2 external end covers, with M 25 x 1.5 threaded hole for cable gland

Technical data

Material	Polyamide 6 PVC
Ingress protection	IP 65 to EN 60529
Impact resistance	5 Joule, EN 60079-0
Flammability	End covers: UL 94 HB
Colour	End covers: RAL 1003, rape yellow PVC-profile: RAL 9005, jet black



Pilot 50

Product range

External enclosure dimensions H x W x D (mm)	Order No. Standard complete	Standard enclosure body without front plate/ without rear wall	Standard rear wall seperate	Standard front plate seperate
280 x 191 x 76	29.11 10 00	29.11 00 00	29.11 00 01	29.11 00 02
330 x 191 x 76	29.12 10 00	29.12 00 00	29.12 00 01	29.12 00 02
440 x 191 x 76	29.13 10 00	29.13 00 00	29.13 00 01	29.13 00 02
Special length	29.19 10 00	29.19 00 00	29.19 00 01	29.19 00 02



Pilot with small control device



Inner T-slots offer mounting facilities on all sides

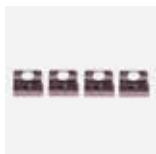


Variable fittings

Pilot 50

Accessories

Mounting set



Order No.	Execution
29.00 00 50	M4, set = 4 pcs

Front plate

Order No.	Execution
29.11 00 02	for 29.11
29.12 00 02	for 29.12
29.13 00 02	for 29.13
29.19 00 02	Special length

Cable gland with bending protection



Order No.	Execution
08.10 01 25	M25x1.5

PCB fixing set



Order No.	Execution
29.00 00 60	Set of 4 pcs incl. spring nuts

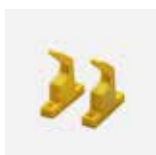
Rear wall

Order No.	Execution
29.11 00 01	for 29.11
29.12 00 01	for 29.12
29.13 00 01	for 29.13
29.19 00 01	Special length

Cable gland reduction

Order No.	Execution
08.01 25 12	M25 / M12
08.01 25 16	M25 / M16
08.01 25 20	M25 / M20

Wall holder

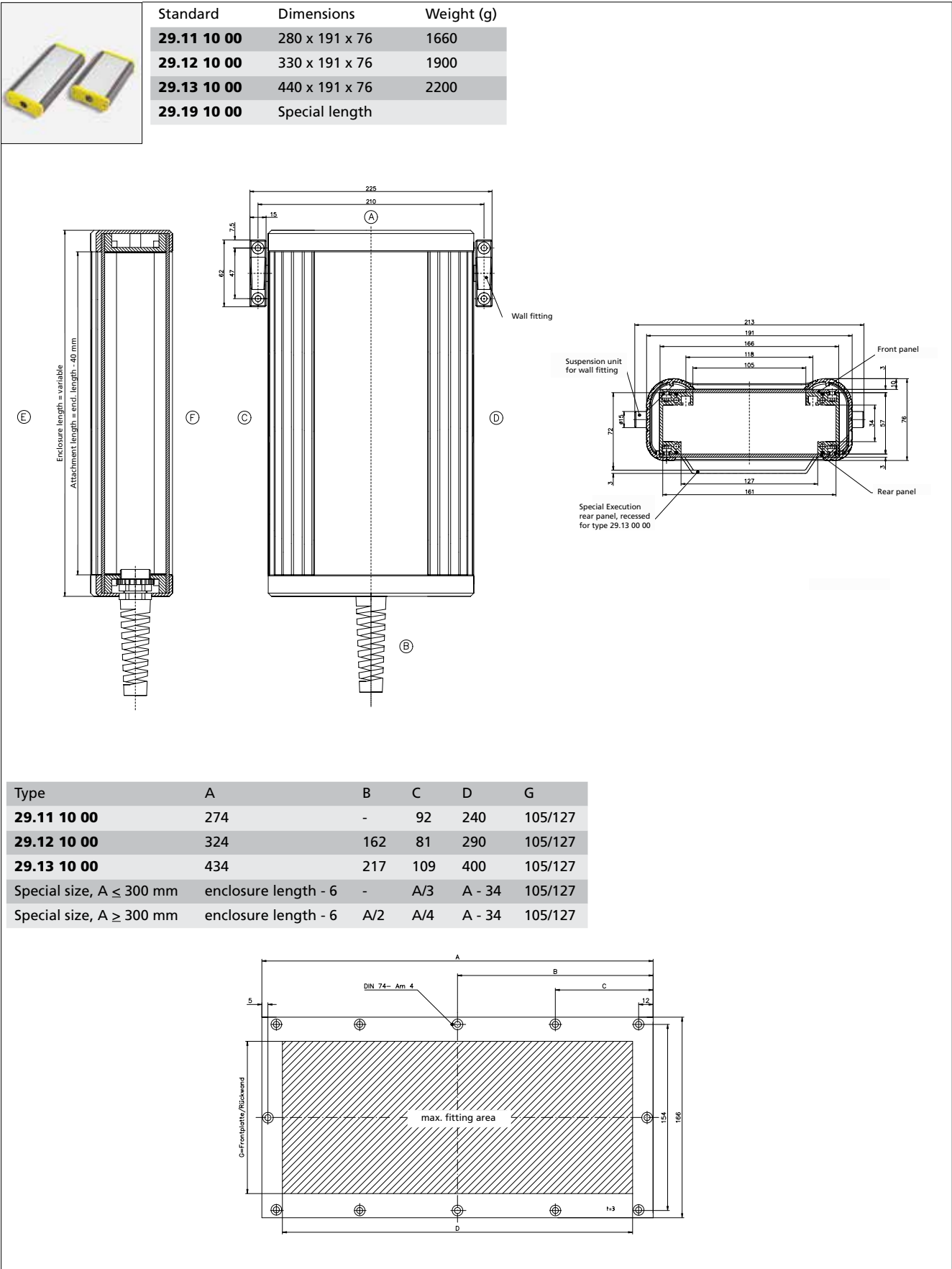


Order No.	Execution
29.00 00 70	for Pilot 50 (single)
29.00 00 80	Magnetic wall holder
29.00 10 00	incl. enclosure machining

Further accessories see chapter „Electro-mechanical components“



Technical details



Pilot 10/20/30



- + Hand held enclosure for MCR and automation engineering
- + Robust design (Polyamide or Polyester)
- + Execution with handle and integrating cable outlet (Pilot 10, 20 standard)

Included in delivery

Pilot 10/20: enclosure with handle, including cable gland M 20 x 1,5, front plate with fastening screw and wall holder

Pilot 30: two-part Polyester enclosure with self-adhesive aluminium front plate, enclosure screws and wall holder

Technical data

Material	Pilot 10 and Pilot 20: Polyamide; Pilot 30: Polyester
Ingress protection	IP65 to EN 60529
Impact resistance	7 Joule, EN 60079-0
Flammability	Pilot 10 and Pilot 20: UL 94 HB Pilot 30: self-extinguishing UL 94 V-0
Colour	RAL 1003, signal yellow Pilot 30: RAL 1021, rape yellow
Temperature range	-40 °C to +60 °C



Pilot 10/20/30

Product range

Type	Order No.	Enclosure dimensions incl. handle H x W x D (mm)	Front plate dimensions W x H (mm)	Mounting depth (mm)
Pilot 10	29.40 02 00	70 x 93 x 190	61 x 59	67
Pilot 20	29.30 01 00	115 x 93 x 200	106 x 69	67
Pilot 30	29.50 01 00	164 x 116 x 295	70 x 280	71



One button and two button enclosure Pilot 10 / Pilot 20



Integrated handles on Pilot 10 and Pilot 20



Switch enclosure Pilot 30

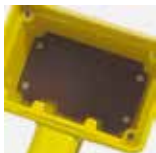
Accessories

Cable gland with bending protection



Order No.	Execution
08.10 01 20	for Pilot 30

Mounting plate



Order No.	Execution
29.31 00 00	for Pilot 20

Wall holder



Order No.	Execution
29.60 01 00	for Pilot 10/20/30

Further accessories see chapter „Electro-mechanical components“

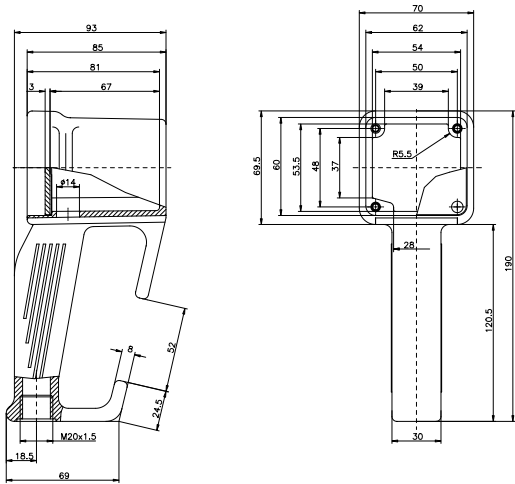
Pilot 10/20/30

Technical details

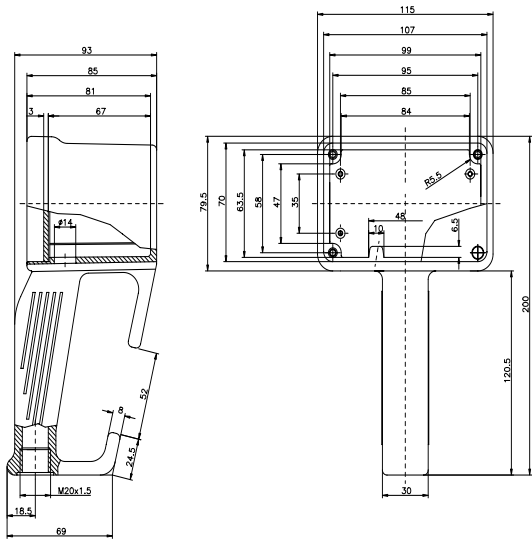


Type	Order No.	Weight (g)
Pilot 10	29.40 02 00	380
Pilot 20	29.30 01 00	440

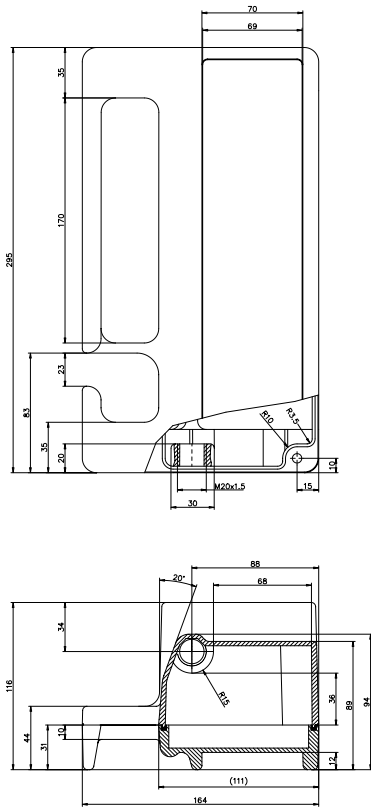
Pilot 10



Pilot 20



Type	Order No.	Weight (g)
Pilot 30	29.50 01 00	1700



Pilot 110 - 150



- + Polyamide hand enclosure for automation and control engineering
- + Execution with handle and integrated cable entry
- + Large installation space

Included in delivery

Enclosure with handle, including cable gland M 20 x 1.5, front plate, enclosure and front panel screws, and wall holder

Technical data

Material	Polyamide; front plate: Polystyrene
Ingress protection	IP65 to EN 60529
Impact resistance	7 Joule, EN 60079-0
Flammability	UL 94 HB
Colour	RAL 1003, signal yellow Pilot 30: RAL 1021, rape yellow
Temperature range	-40 °C to +60 °C

Pilot 110 - 150

Product range

Type	Order No.	Enclosure dimensions incl. handle H x W x D (mm)	Front plate dimensions H x W (mm)	Mounting depth (mm)
Pilot 110	29.21 10 00	85 x 85 x 191	77 x 77	63,5
Pilot 120	29.21 20 00	115 x 85 x 191	107 x 77	63,5
Pilot 130	29.21 30 00	85 x 85 x 221	77 x 107	63,5
Pilot 140	29.21 40 00	160 x 85 x 211	152 x 97	63,5
Pilot 150	29.21 50 00	105 x 85 x 266	97 x 152	63,5

Accessories

Wall holder



Order No.	Execution
29.00 00 80	Magnetic wall holder for Pilot 120 - 150

Further accessories see chapter „Electro-mechanical components“

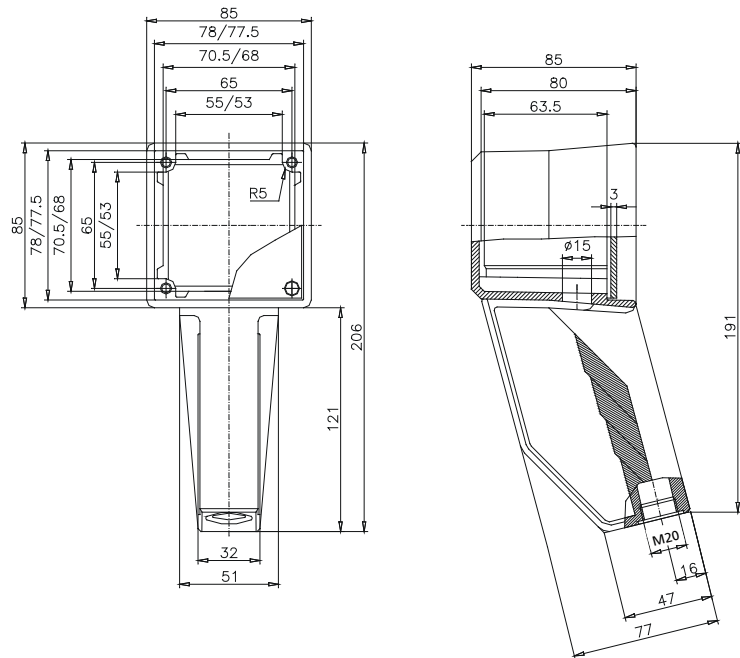


Pilot 110 - 150

Technical details

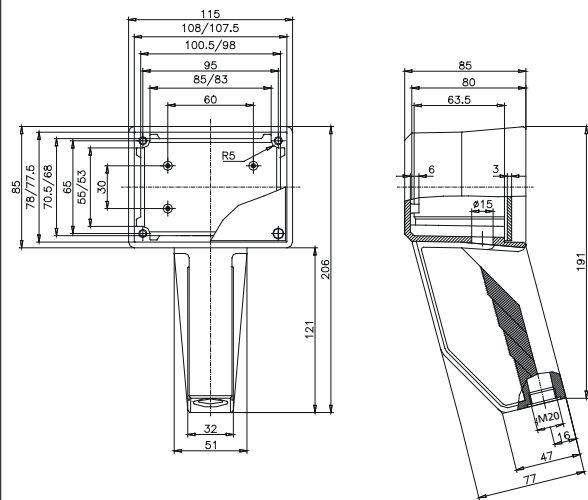


Type	Order No.	Weight (g)
Pilot 110	29.21 10 00	500

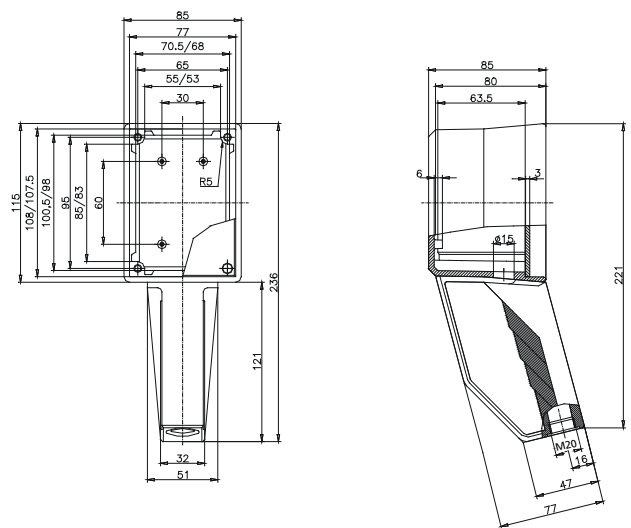


Type	Order No.	Weight (g)
Pilot 120	29.21 20 00	341
Pilot 130	29.21 30 00	341

Pilot 120



Pilot 130



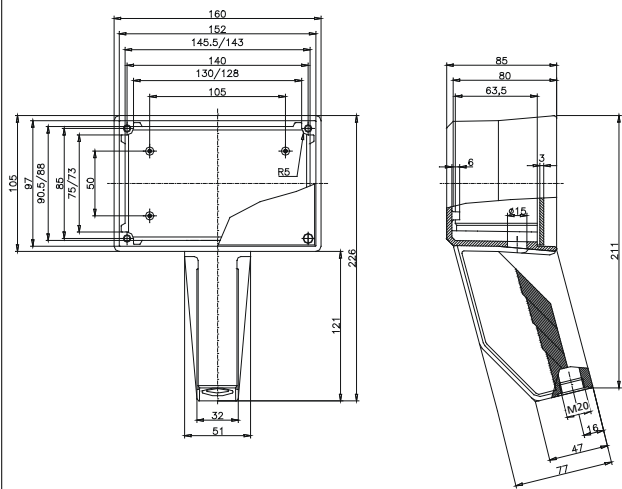
Pilot 110 - 150

Technical details

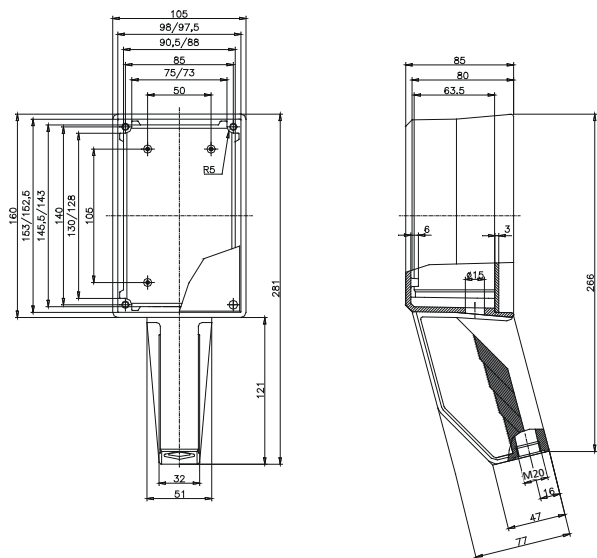


Type	Order No.	Weight (g)
Pilot 140	29.21 40 00	780
Pilot 150	29.21 50 00	780

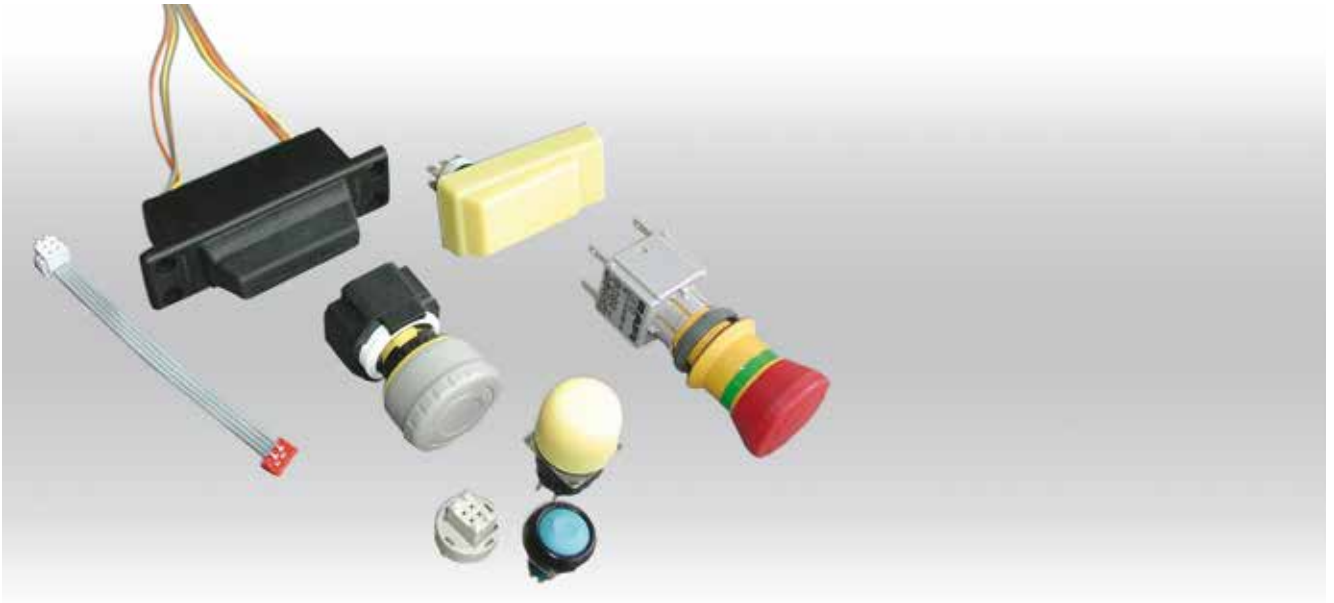
Pilot 140



Pilot 150



Electro-mechanical components



For assembling of enclosures there is available a huge range of switches / push buttons:

- enabling switches
- emergency stop button
- accessories

Electro-mechanical components

Components

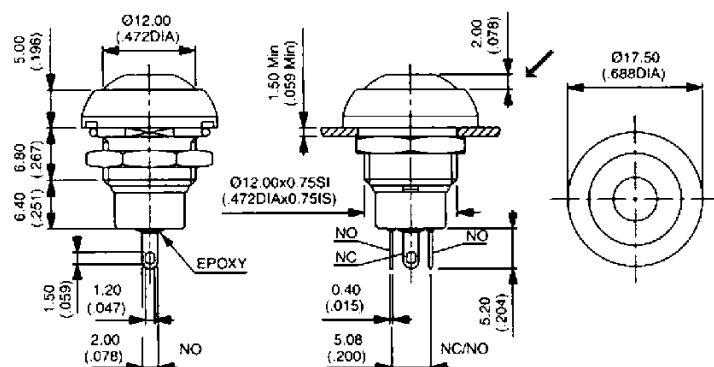
Enabling switch



Order No.	Execution
83.50 00 10	2-step enabling switch (1 NO), blue
83.50 00 09	2-step enabling switch (1 NC/1NO), blue

Technical data

Contact loading	48 V (AC), 500 mA 250 V (AC), 200 mA 50 V (DC), 200 mA
Ingress protection	IP67 front side
Temperature range	-40°C to +125°C (no condensation)
Volume resistance	max. 50 mW (initial value)
Service life	≥ 5 x 10 ⁵ switchings



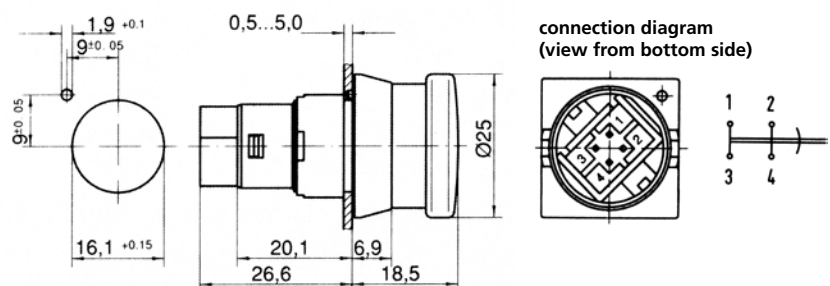
Emergency stop button



Order No.	Execution
83.50 00 02	Emergency stop button (2NC), Ø 25 mm, red

Technical data

Contact system and fitting	2 NC
Ingress protection	IP65 front side
Temperature range	-25 °C to +70 °C (no condensation)
Connections	galvanized, suitable to 4-pole multi-point socket connector
Switching voltage	0,02 to 25 V AC/DC
Switching current	0,1 to 1 A
Volumne resistance	< 100 mW
Duration of bounce	< 10 ms
Service life	> 1,5 x 10 ⁴ switchings



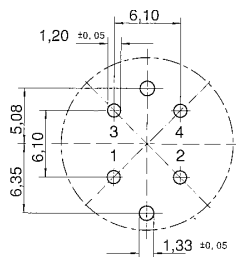
Electro-mechanical components

Components

PCB plug-socket



Order No.	Execution
83.90 00 01	PCB plug-socket for emergency stop button, Ø 25 mm



Contact fitting area

NC 1:	Pin 1 - blue Pin 2 - black
NC 2:	Pin 3 - blue Pin 4 - black

Ribbon cable



Order No.	Execution
83.90 00 02	10 cm with multipoint socket connector and strip, AMP 4-pole for emergency stop button Ø 25 mm

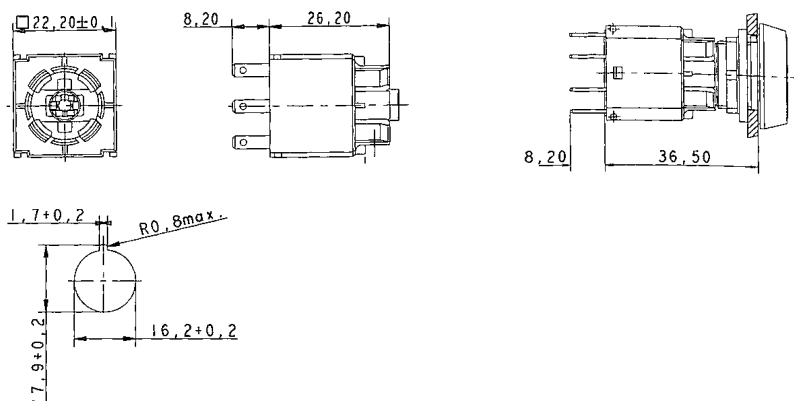
Emergency stop button



Order No.	Execution
83.50 00 03	Emergency stop button with switch unit (2NC), Ø 28 mm, red

Technical data

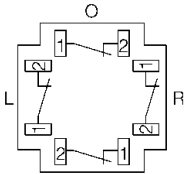
Contact system and fitting	self cleaning bridge forming contact (Ag), 2 NC
Ingress protection	IP65 front side
Temperature range	-25°C to +70°C (no condensation)
Connections	Flachstecker 2.8 x 0.8
Switching voltage	AC: 250 V / DC: 24 V (further voltage on request)
Switching current	AC: 1,5 A / DC: 2,0 A
Volumne resistance	max. 20 mW (initial value)
Service life	≥ 3 x 10 ⁴ switchings



Electro-mechanical components

Components

Button



Direct contact

1 NC: connections right

2 NC: connections right and left

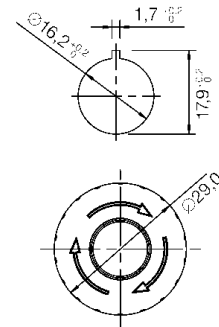
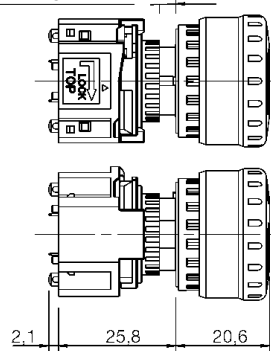
3 NC: connections right, left and above

Order No.	Execution
83.50 00 04	Emergency stop button (3NC/1NO), Ø 29 mm, red
83.50 00 05	Stop push button (3NC/1NO), Ø 29 mm, grey
83.90 00 07	Emergency stop label for command element, 16 mm, yellow, 4 speeches, 40 x 40 mm

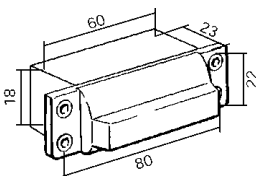
Technical data

Contact system and fitting	obligation-led contacts (3 NC / 1 NO)
Ingress protection	IP65 front side
Temperature range	-25°C to +60°C (no condensation)
Connections	soldered connection
Switching voltage (direct contact)	AC(12): 250 V / DC(12): 30 V
Switching current (direct contact)	AC(12): 3,0 A / DC(12): 2,0 A
Switching voltage (indirect contact)	AC(12): 250 V / DC(12): 30 V
Switching current (indirect contact)	AC(12): 0,6 A / DC(12): 2,0 A
Volume resistance	max. 50 mW (initial value)
Service life	≥ 1 x 10 ⁵ switchings

front panel strength 0.5 to 3.7



Enabling switches

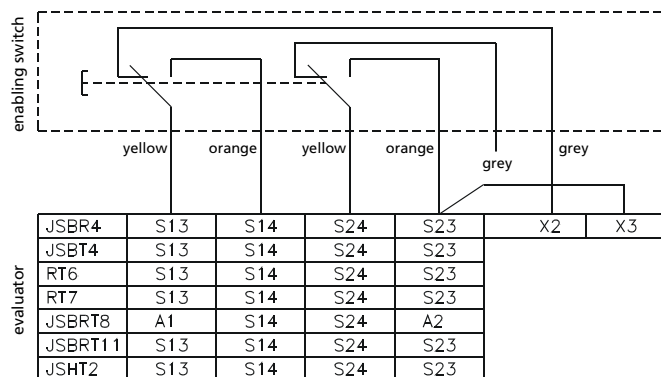


Order No.	Execution
83.50 00 06	3-steps enabling switches (2 changer), 80 x 22, black

Technical data

Contact system and fitting	2 main switches (changer)
Contact rating	30 V DC, max. 0,5 A
Ingress protection	IP 65
Temperature range	0°C to +50°C
Fullfilled standards	89/392/EWG; IEC 204-1: EN 60204/DIN VDE 0113; DIN VDE 0110: EN292

Connection diagram



Electro-mechanical components

Components

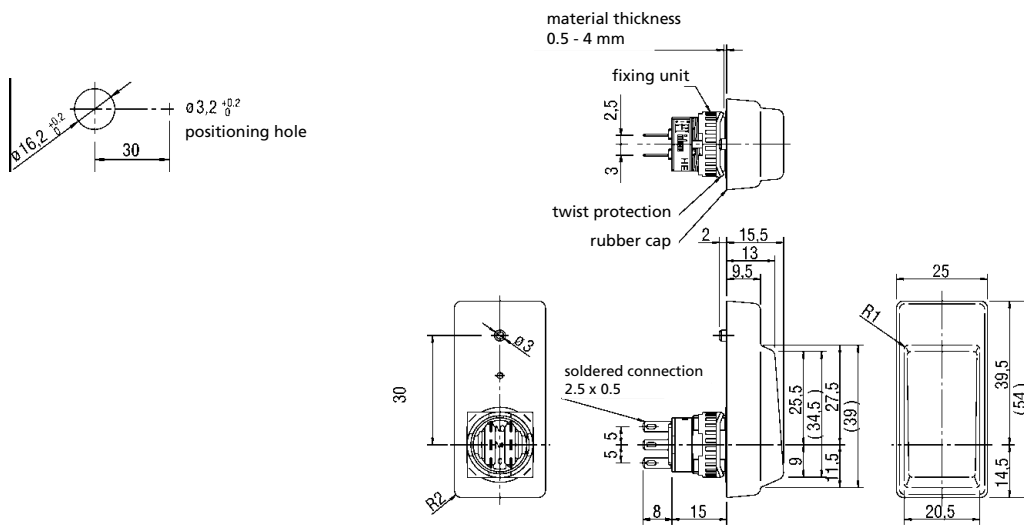
Enabling switches



Order No.	Execution
83.50 00 07	3-step enabling switches (2 changers), 55 x 25, yellow

Technical data

Contact system and fitting	2 main switches (changer)
Ingress protection	IP65 (with rubber cap)
Temperature range	-25°C to +60°C (no condensation)
Connections	soldered condensation
Switching voltage	AC(12): 125 V / DC(12): 30 V
Switching current	AC(12): 1,0 A / DC(12): 1,0 A
Volume resistance	max. 50 mW (initial value)
Service life	≥ 1 x 10 ⁵ switchings



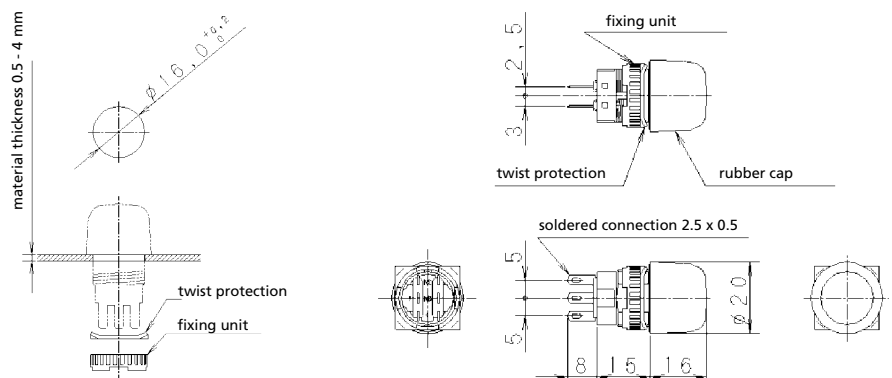
Enabling switches



Order No.	Execution
83.50 00 08	3-steps enabling switches (2 changer), Ø 20 mm, yellow

Technical data

Contact system and fitting	2 main switches (changer)
Ingress protection	IP65 (with rubber cap)
Temperature range	-10°C to +60°C (no condensation)
Connections	soldered connection
Switch voltage	AC(12): 125 V / DC(12): 30 V
Switch current	AC(12): 0,5 A / DC(12): 1,0 A
Volume resistance	max. 50 mW (initial value)
Service life	≥ 1 x 10 ⁵ switchings



Electro-mechanical components

Product allocation

Products	2-step enabling switches (1NO), blue	2-step enabling switches (1NC/1NO), blue	Emergency stop button (2NC), Ø 25 mm, red	PCB-plug-socket for emergency stop button Ø 25 mm	Ribbon cable 10 cm with multipoint socket connector and strip, AMP 4-pole for emergency stop button Ø 25 mm	Emergency stop button with contact block (2NC), Ø 28 mm, red
Order No.	83.50 00 10	83.50 00 09	83.50 00 02	83.90 00 01	83.90 00 02	83.50 00 03
Taguan 130			•	•	•	
Taguan 180			•	•	•	
Taguan 230			•	•	•	
Beluga 180	•	•	•	•	•	•
Beluga 220	•	•	•	•	•	•
Beluga 380	•	•	•	•	•	•
Pilot 250	•	•	•	•	•	•
Pilot 50			•	•	•	•
Pilot 10			•	•	•	•
Pilot 20			•	•	•	•
Pilot 30			•	•	•	•
Pilot 110			•	•	•	•
Pilot 120			•	•	•	•
Pilot 130			•	•	•	•
Pilot 140			•	•	•	•
Limanda I Handle set	•	•				
Limanda I	•	•	•	•	•	•
Limanda II	•	•	•	•	•	•
Norvent	•	•	•	•	•	•

Products	Emergency stop button (3NC/1NO), Ø 29 mm, red	Stop button (3NC/1NO), Ø 29 mm, grey	3-steps enabling switches (2 changer), 80 x 22, black	3-steps enabling switches (2 changer), 55 x 25, yellow	3-steps enabling switches (2 changer), Ø 20 mm, yellow
Order No.	83.50 00 04	83.50 00 05	83.50 00 06	83.50 00 07	83.50 00 08
Taguan 130					
Taguan 180					
Taguan 230					
Beluga 180	•	•			
Beluga 220	•	•			•
Beluga 380	•	•			
Pilot 250	•	•	•	•	•
Pilot 50	•	•			
Pilot 10	•	•			•
Pilot 20	•	•			
Pilot 30	•	•			
Pilot 110	•	•			•
Pilot 120	•	•			
Pilot 130	•	•			
Pilot 140	•	•			
Limanda I Handle set			•		•
Limanda I	•	•	•		•
Limanda II	•	•	•	•	•
Norvent	•	•	•	•	•



Kompaktgehäuse ECO 03-8
Bestell-Nr. 60.090921
Kompaktgehäuse ECO 03-8-t
Bestell-Nr. 60.090922

* = Mass durch Formtoleranz — Formtoleranz nach DIN 1375 DIN 1380 unter verringert.

für Schneid-
schraube M4

Zylinderschraube
M4 x 20/7 ähnl. DIN 84

KAT 04.121208

Kompaktgehäuse ECO 03-8
Bestell-Nr. 60.090921
Kompaktgehäuse ECO 03-8-t
Bestell-Nr. 60.090922

Formanzität nach unten verringert
Toleranz nach GfA 13.5 DIN 1088

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