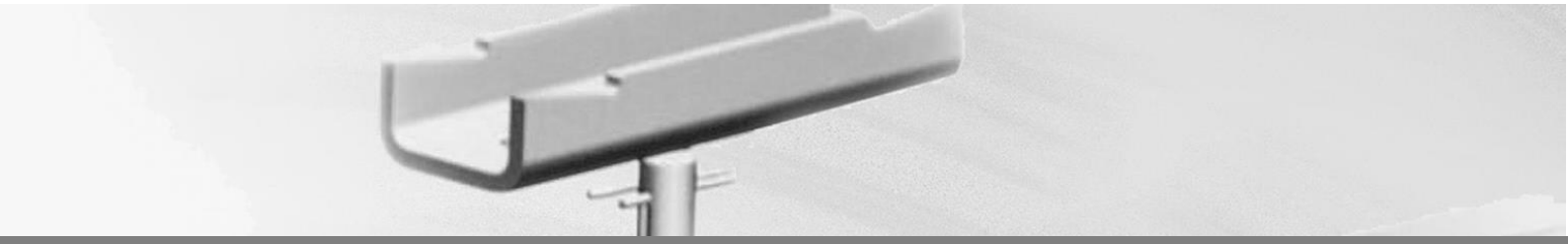
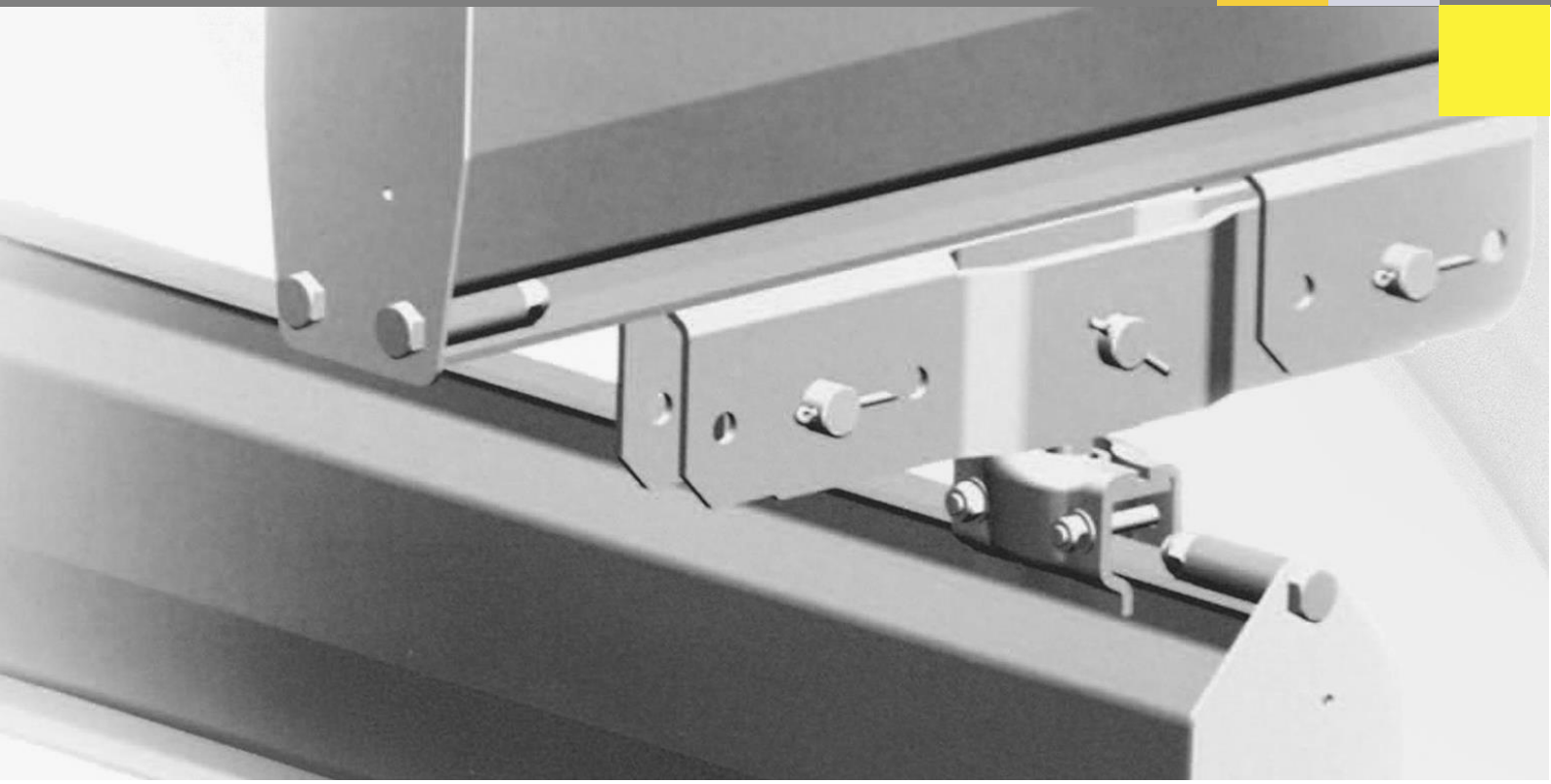
swiss lifting solutions



TECHNICAL DOCUMENTATION
CRANE SYSTEM GIS*KB* III | GIS*KB* IV



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12.17 Translation 9309.9810.1.docx

Table of contents

0 General instructions

This GIS documentation contains information about the lay-out and planning of GIS*KB* suspended crane and monorail up to 2000 kg lifting capacity.

1. The documents allow you a fast and efficient dimensioning of the crane equipments.

   Technical notes:
   - The documents for planning are based on the rules of the latest technology.
   - Only GIS originally manufactured parts shall be used.
   - The customer is responsible for the stability of the ceiling structure.
   - Painting: The crane equipment is delivered with a grey primer (RAL 7035).
     On request, a finished paint is possible according to your choice or galvanised version.

2. For the components used, the technical specifications, dimensions and the order numbers are given.

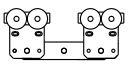
3. In the final pages of this document a questionnaire for the project of GIS light crane systems is added. It should help you to find the necessary data.

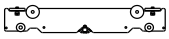
0.1 Explanation of signs

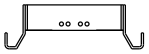

Crane bridge


Profile


Trolley


Traverse


Rolling apparatus


Saddle


Flange width [mm]


Lifting capacity [kg]

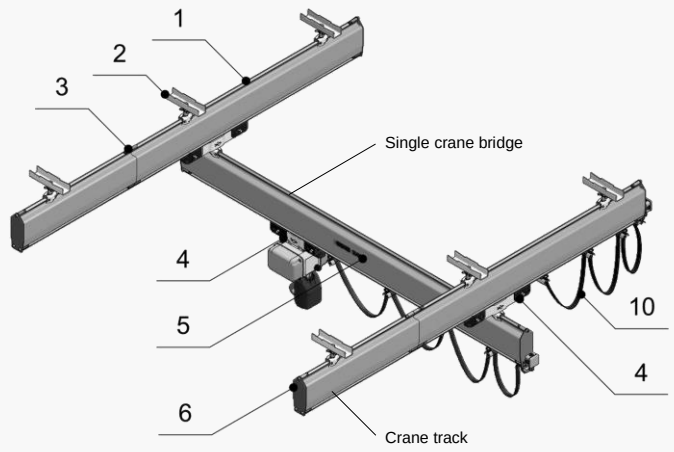
Dead weight [kg]


Electric mains for power supply

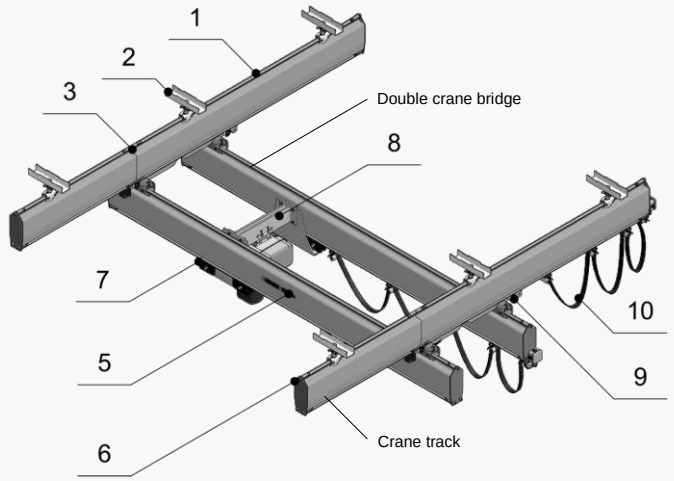
N° Ordering number

1 Overview

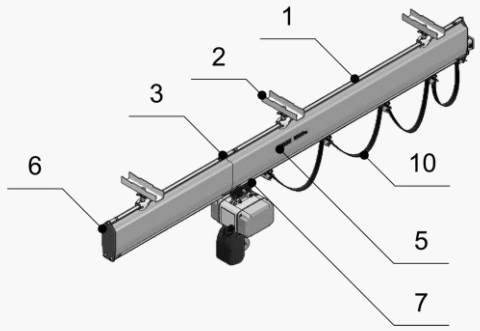
Single bridge suspension crane



Double bridge suspension crane

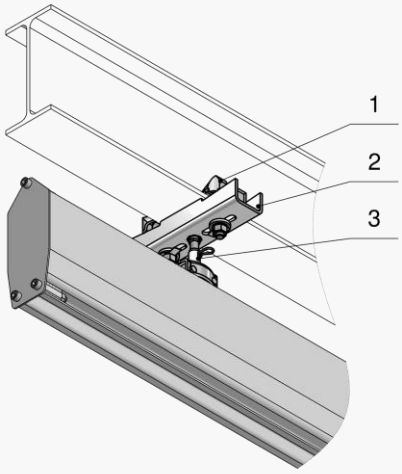


Monorail

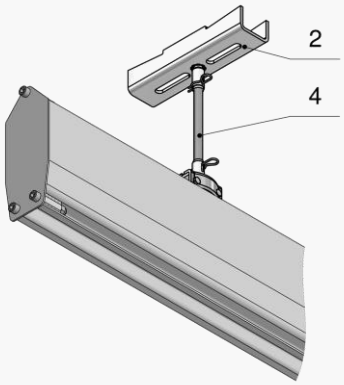


1.1 Overview suspensions

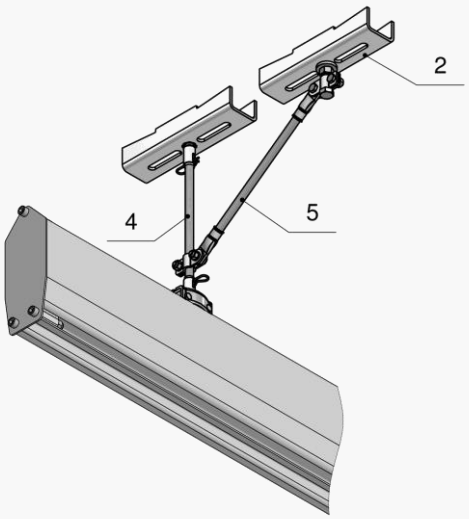
Pendulating short, adjustable



Pendulating from rod, adjustable



Pendulating from rod, braced, adjustable



2 Directives concerning the suspension points of GIS*KB* small crane systems

The distances between the suspension points depend on the profile size and the strain. This dimensioning is made according to the diagrams or the calculation program. At a load of more than 1600 kg a double suspension is to be provided.
The type of suspension depends on the constructional situation. All suspensions are available pendulating only. Pendulating suspensions are easier to assemble. Inaccurate alignment due to imprecise ceiling structures can be avoided. Care is to be taken that the angle of the suspension does not differ more than 5° from the vertical position.

2.1 Distanced monorails

Monorails suspended from rods must not be braced imperatively provided that no side dragging of hoist exists. Practice, however, shows that a side dragging cannot be excluded, wherefore bracings are to be provided.
For distanced suspensions greater than or equal to h_4 = 500 mm (see page 10) transverse and longitudinal bracings are provided. Longitudinal bracings are to be provided for both track ends and lateral bracings for every second suspension.

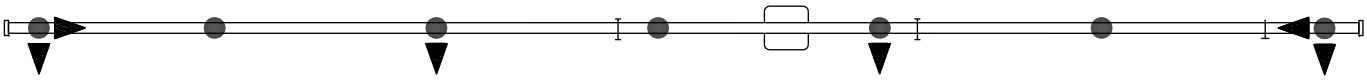
2.2 Suspended cranes

Combinations for pendulating suspensions:
If the crane track is suspended from the ceiling pendulating, the crane bridge can pendulating or is rigidly connected to the crane track (see page 15 - 16). Double crane bridges must always be rigidly suspended from the crane track (see page 17).

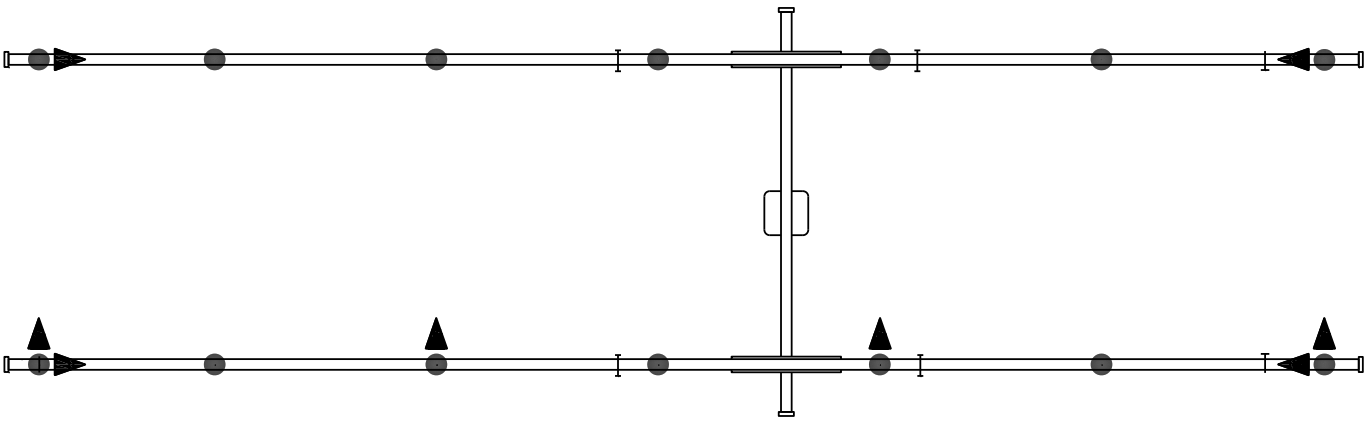
From the ceiling hung distanced crane tracks:
If the suspended cranes are greater than or equal to h_4 = 500 mm (see page 10) suspended from the ceiling, both crane tracks have to be braced longitudinally and a crane track lateral. Longitudinal bracings are to be provided for all track ends. Lateral bracings are to be provided for every second suspension only on one crane track.

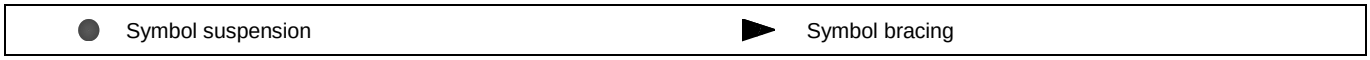
2.3 Examples of bracings

Monorail (distance greater than or equal to 500 mm)



Suspended crane (distance greater than or equal to 500 mm)





3 Dimensioning suspended crane

3.1 Crane bridge

The selection of the profile size depends on the strength (P) and the span (W) of the profile. In tables 3-1 (single crane bridge) and 3-2 (double crane bridge) the adequate profile size can be found.

Load ..... : The strength (P) does include the dead weight of the electric chain hoist and the trolley. The max. admissible load is as follows: GIS*KB* III and GIS*KB* IV = 2400 kg.
Length of span . : The admissible span is shown in the table, depending on the type of profile. Its maximum is 11800 mm.

The calculations in tables 3-1 and 3-2 are based on a permissible deflection of W / 400. The classification of cranes is according to EN 13001: HC4; U2-U3; Q0-Q4; S0-S2 and EN 15018: H2/H3; B3/B4. For other deflection factors there is a calculation program at your disposal.

Admissible load overhang (y): In crane bridges load overhang is permitted only when calculated with the calculation program.

▽———▽ without reinforcement

Table 3-1 Single crane bridge span W [m]

Lifting capacity	GIS*KB* III ▽———▽	GIS*KB* IV ▽———▽
80 kg	10.2	11.8
100 kg	9.8	11.8
125 kg	9.4	11.8
160 kg	9.0	11.8
200 kg	8.5	11.2
250 kg	8.0	10.7
320 kg	7.3	10.0
400 kg	6.8	9.4
500 kg	6.2	8.7
630 kg	5.6	7.9
800 kg	4.1	5.8
1000 kg	4.6	6.5
1250 kg	3.5	4.9
1600 kg	2.4	3.4
2000 kg	-	-

Table 3-2 Double crane bridge span W [m]

Lifting capacity	GIS*KB* III ▽———▽	GIS*KB* IV ▽———▽
80 kg	11.3	11.8
100 kg	11.1	11.8
125 kg	10.8	11.8
160 kg	10.5	11.8
200 kg	10.1	11.8
250 kg	9.7	11.8
320 kg	9.2	11.8
400 kg	8.6	11.4
500 kg	8.1	10.9
630 kg	7.4	10.1
800 kg	6.8	9.4
1000 kg	6.3	8.7
1250 kg	5.7	8.0
1600 kg	5.1	7.2
2000 kg	4.6	6.6

3.2 Crane track / Monorail

The span A is based on the diagrams 3-3 (GIS*KB* III) and 3-4 (GIS*KB* IV). The maximum spans are different in the end field (EF) or middle field (MF). The 1 field solution (1F) has only 2 suspension points and must be calculated separately. The max. admissible load is as follows: GIS*KB* III and GIS*KB* IV = 2400 kg. The load on the crane track or monorail is calculated using the following formulas:

Crane track:
$P_{KB} = 1.29 \times P_H + 1.1 \times (P_1 + 0.5 \times P_{KT})$

Monorail:
$P_{HB} = 1.29 \times P_H + 1.1 \times P_1$

P_{KB} = load crane track [kg]
P_{HB} = load monorail [kg]
P_H = permissible lifting capacity [kg]
P_1 = dead weight trolley and electric chain hoist [kg]
P_{KT} = dead weight crane bridge [kg]

The length ratio between two adjacent fields must not exceed a value of 1.5 and not fall below the value of 0.5.

Admissible distance of joints (x) : The junction of two track sections shall be at a distance of max. 0.2 x A and a min. of 100 mm from the nearest suspension point.
Admissible load overhang (y) .... : In case of crane tracks and monorails the load overhang can only be dimensioned with the calculation program.

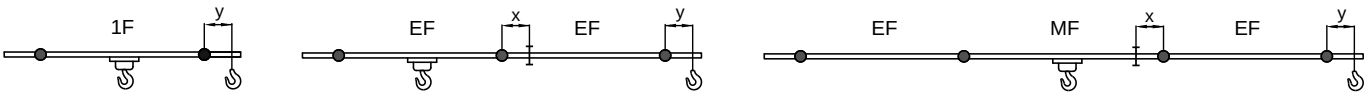


Diagram 3-3 GIS*KB* III

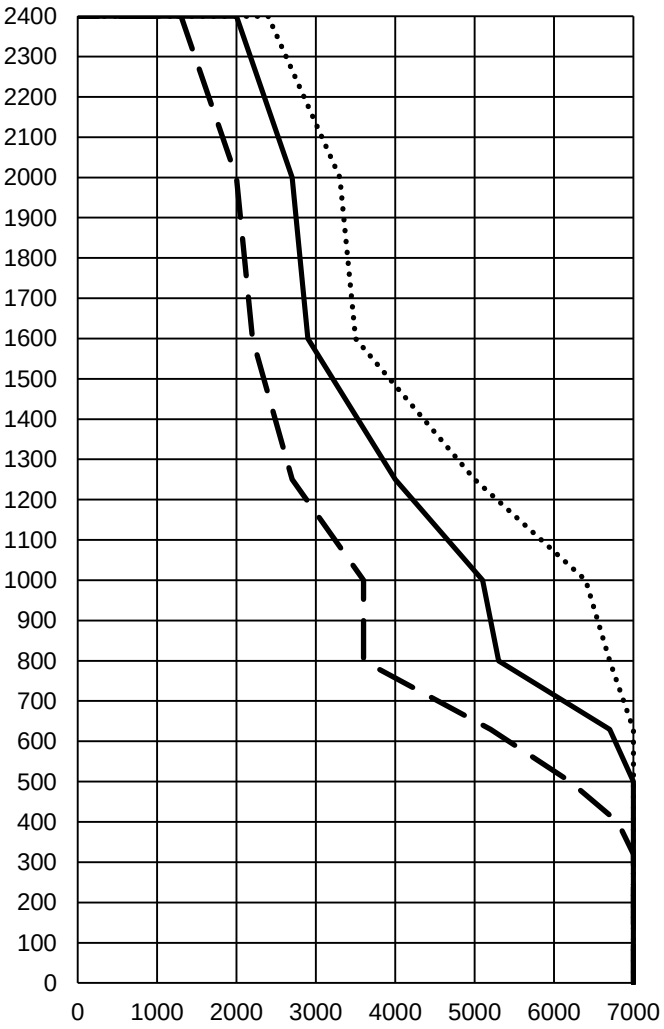
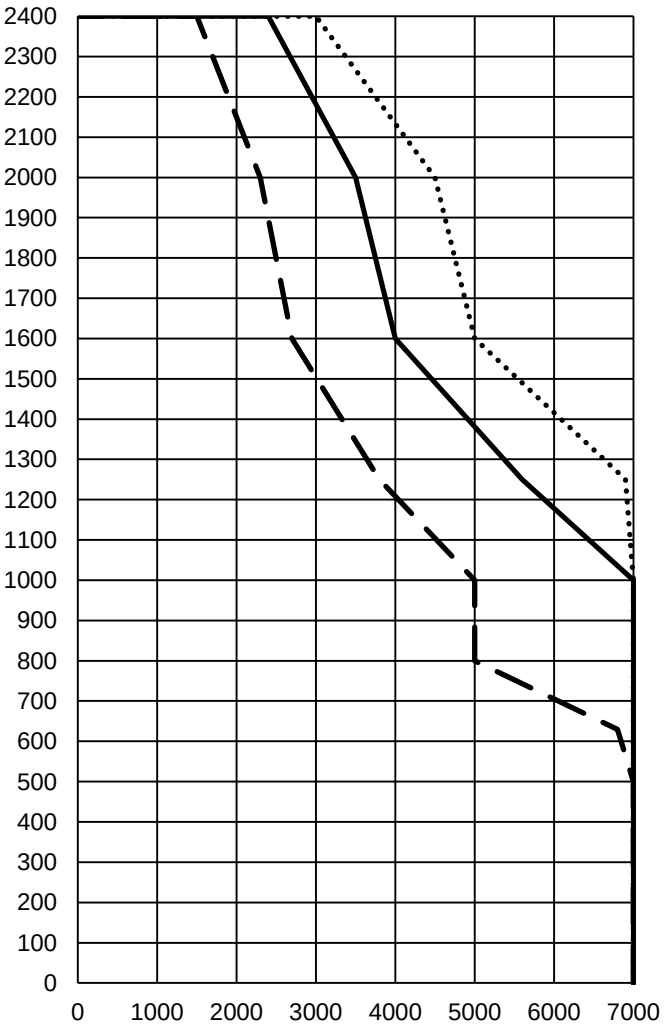
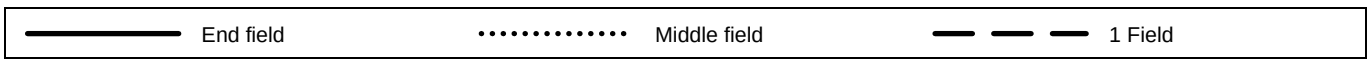
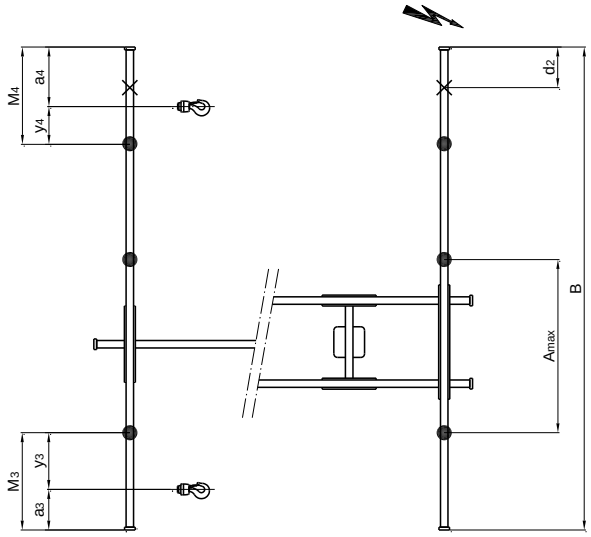


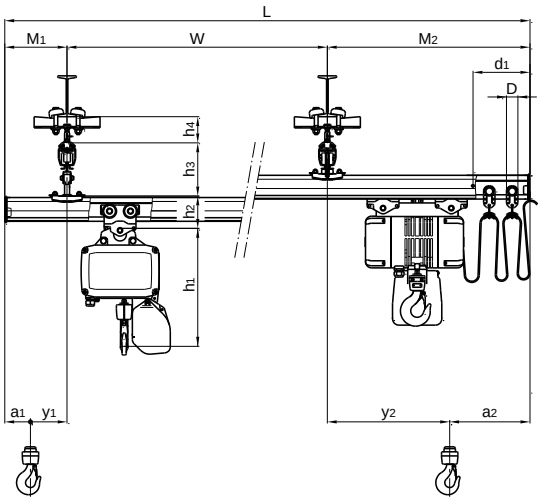
Diagram 3-4 GIS*KB* IV

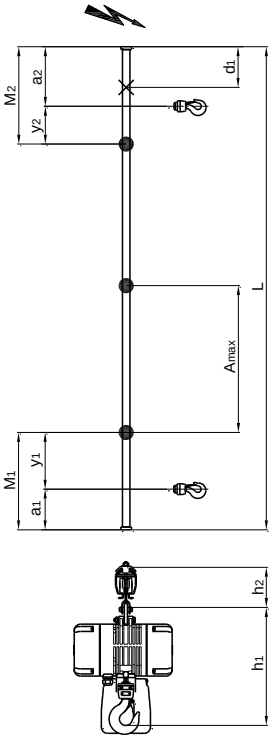


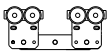
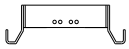
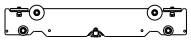
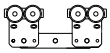
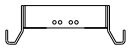


4 Dimensions and approach dimensions





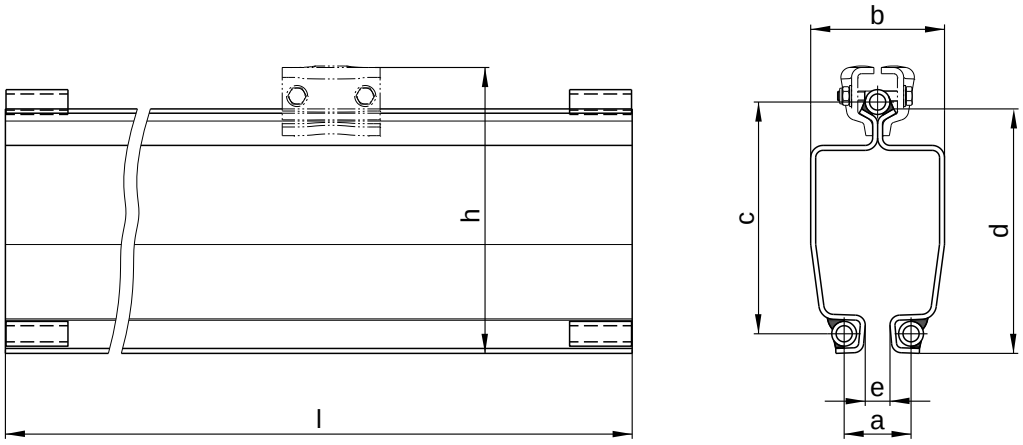


	GIS*KB* III	GIS*KB* IV
a_1 	93 mm	93 mm
a_1 a_3 	243 mm	243 mm
a_1 	243 mm	243 mm
a_3 	500 mm	500 mm
h_1 [mm]	see dimensions of electric chain hoist	
h_2 	277 mm	337 mm
h_2 	277 mm	337 mm
h_2 	128 mm	188 mm
h_3 pendulating	328 mm	388 mm
h_3 rigid	257 mm	317 mm
h_4 pendulating, short	120 $^{\pm 7.5}$ mm	120 $^{\pm 7.5}$ mm

a_2	[mm]	$a_1 + 15 + (x_1 \cdot D)$
a_4	[mm]	$a_3 + 15 + (x_2 \cdot D)$
M_1	[mm]	$a_1 + y_1$
M_2	[mm]	$a_2 + y_2$
M_3	[mm]	$a_3 + y_3$
M_4	[mm]	$a_4 + y_4$
d_1 / d_2	[mm]	$15 + (x_{1(2)} \cdot D)$
y_{max}	[mm]	see page 8 - 9
A_{max}	[mm]	see page 9
W	[mm]	see table 3-1 and table 3-2 page 8
x_1 x_2	[piece] [piece]	Cable carriages crane bridge (L:1250) - 1 Cable carriages crane track (W:1250) - 1
D	[mm]	Cable carriage = 100

5 Crane system components

5.1 Track section



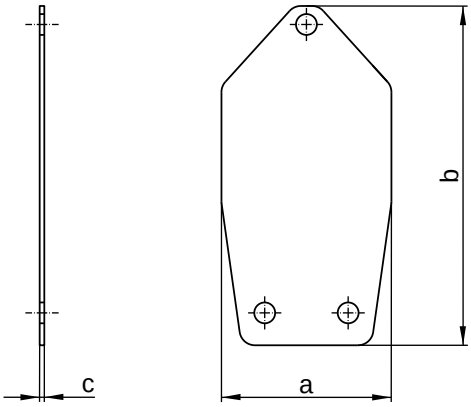
Version.....: GIS*KB* III + IV are cold rolled special track sections with a grey primer. Three tubes are welded to the ends. These tubes are used for the junction of two profiles or for the installation of the track section cover.

Paint.....: RAL 7035 light grey.

Note .....: The dimensioning is made according to the appropriate documents (see page 8 - 9).

		GIS*KB* III	GIS*KB* IV
kg	[kg/m]	18.400	22.200
a	[mm]	54	54
b	[mm]	108	108
c	[mm]	187	247
d	[mm]	197	257
e	[mm]	20	20
h	[mm]	231	291
W_x	[mm^3 x 10^3]	93.18	148.48
I_x	[mm^4 x 10^6]	9.169	19.184
l = 1 m		9307.1010.4	9307.1030.4
l = 2 m		9307.1011.4	9307.1031.4
l = 3 m		9307.1012.4	9307.1032.4
l = 4 m		9307.1013.4	9307.1033.4
l = 5 m		9307.1014.4	9307.1034.4
l = 6 m		9307.1015.4	9307.1035.4
l = 7 m		9307.1016.4	9307.1036.4
l = 8 m		9307.1017.4	9307.1037.4
l = 0.001 - 0.999 m		9307.1020.4	9307.1040.4
l = 1.001 - 1.999 m		9307.1021.4	9307.1041.4
l = 2.001 - 2.999 m		9307.1022.4	9307.1042.4
l = 3.001 - 3.999 m		9307.1023.4	9307.1043.4
l = 4.001 - 4.999 m		9307.1024.4	9307.1044.4
l = 5.001 - 5.999 m		9307.1025.4	9307.1045.4
l = 6.001 - 6.999 m		9307.1026.4	9307.1046.4
l = 7.001 - 7.999 m		9307.1027.4	9307.1047.4
l = 8.001 - 12.000 m		9307.1028.4	9307.1048.4

5.2 Cover

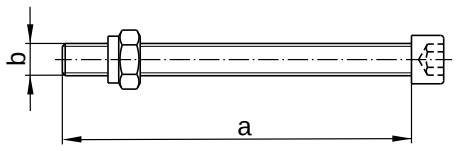


Version.....: Steel, galvanised.

Use.....: The cover serves as a track section closure.

Profile	[kg]	a [mm]	b [mm]	c [mm]		N°
GIS*KB* III	0.500	110	220	3		9307.1057.4
GIS*KB* IV	0.700	110	280	3		9307.1058.4

5.3 Profile junction

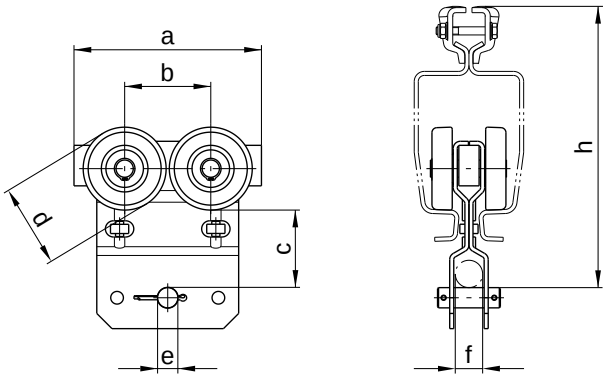


Version.....: Steel, galvanised.

Use.....: The junction of two section tracks is made by three high-tensile Allen screws.

Profile	[kg]	a [mm]	b		N°
GIS*KB* III + IV	0.600	130	M12		9307.1063.4

5.4 Trolley



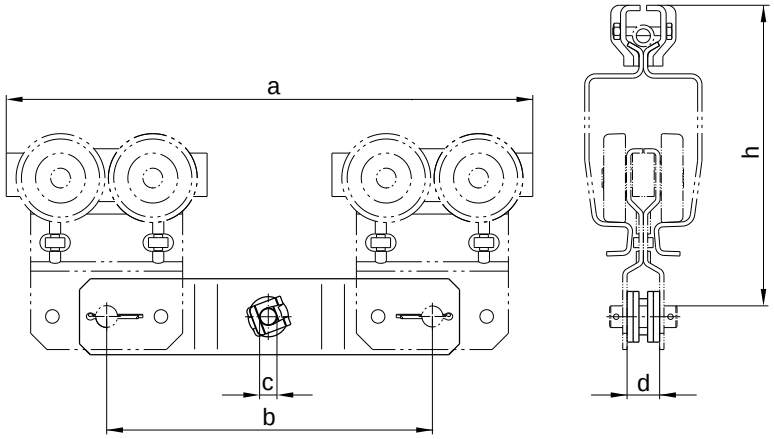
Version.....: Steel, galvanised. The trolley is made of steel and equipped with plastic rollers.

Use.....: The trolley is used as a trailer of the electric chain hoist and can also be used as a longitudinal trolley for the crane bridge.

Profile	[kg]	[kg]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	h [mm]		N°
GIS*KB* III	6.200	800	185	85	77	82	20	27	277		9307.1002.3
GIS*KB* IV	6.200	800	185	85	77	82	20	27	337		9307.1002.3

A traverse is coupled with two trolleys so as to favour the load partition. The traverse of the double crane bridge (see page 16) requires 4 trolleys.

5.5 Traverse

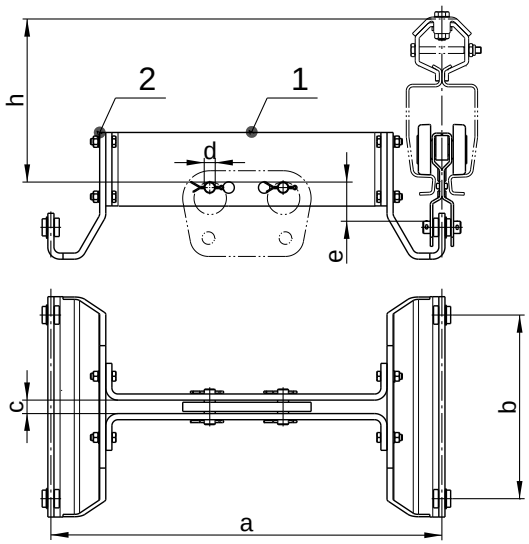


Version.....: Steel, galvanised.

Use.....: The traverse allows a coupling of two trolleys.

Profile	[kg]	[kg]	a [mm]	b [mm]	c [mm]	d [mm]	h [mm]		N°
GIS*KB* III	3.400	1600	440	300	20	30	341		9307.1006.3
GIS*KB* IV	3.400	1600	440	300	20	30	401		9307.1006.3

5.6 Saddle



Version.....: Steel, galvanised.

Use.....: The saddle allows the junction of four trolleys for the double crane bridge version.

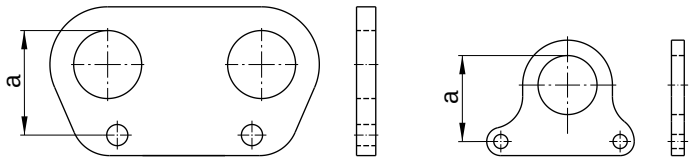
Traverse (Item 1)

Profile	kg [kg]	[kg]	a [mm]	b [mm]	c [mm]	d [mm]		**N°**
GIS*KB* III + IV	11.000	1600	640	300	22	18		9307.1104.3

Bracket (Item 2)

Profile	kg [kg]	[kg]	e [mm]	h [mm]	Designation	**N°**
GIS*KB* II	5.900	1600	65	116	Bracket saddle	9307.1100.3
GIS*KB* III	8.800	1600	184	123	Bracket saddle above	9307.1101.3
GIS*KB* IV	8.800	1600	184	183	Bracket saddle above	9307.1101.3

5.7 Suspension part



Version.....: Steel, galvanised.

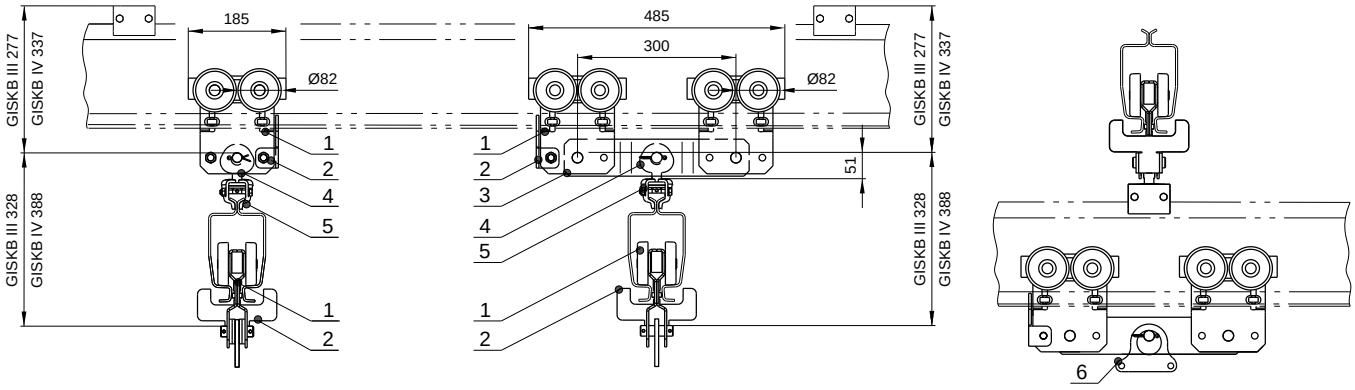
Use.....: Suspension of a GCH/GP chain hoist at a traverse or a saddle.

Item	Profile	kg [kg]	[kg]	a [mm]	Designation	**N°**
1	GIS*KB* III + IV	0.600	1000	67	Eyebolt suspension GCH/GP 250/500	9307.1052.4
	GIS*KB* III + IV	1.100	1600	72	Eyebolt suspension GCH/GP 1000	9307.1049.4
2	GIS*KB* III + IV	0.800	1000	63	Suspension part GCH/GP 250/500	9401.3046.4
	GIS*KB* III + IV	2.000	1600	82	Suspension part GCH/GP 1000	9307.1103.3
	GIS*KB* III + IV	2.800	1600	92	Suspension part GCH 1600/2000/2500	9408.3020.3

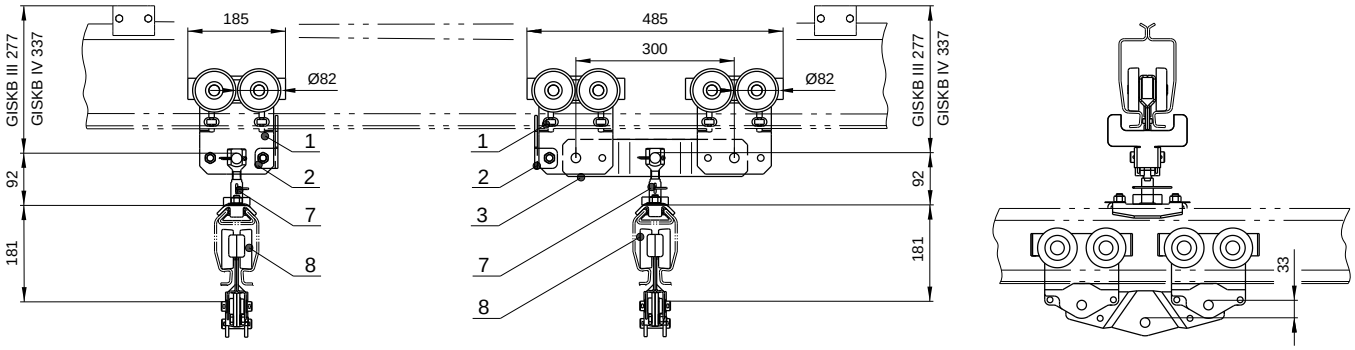
5.8 Overview crane bridge suspension

5.8.1 Single crane bridge pendulating

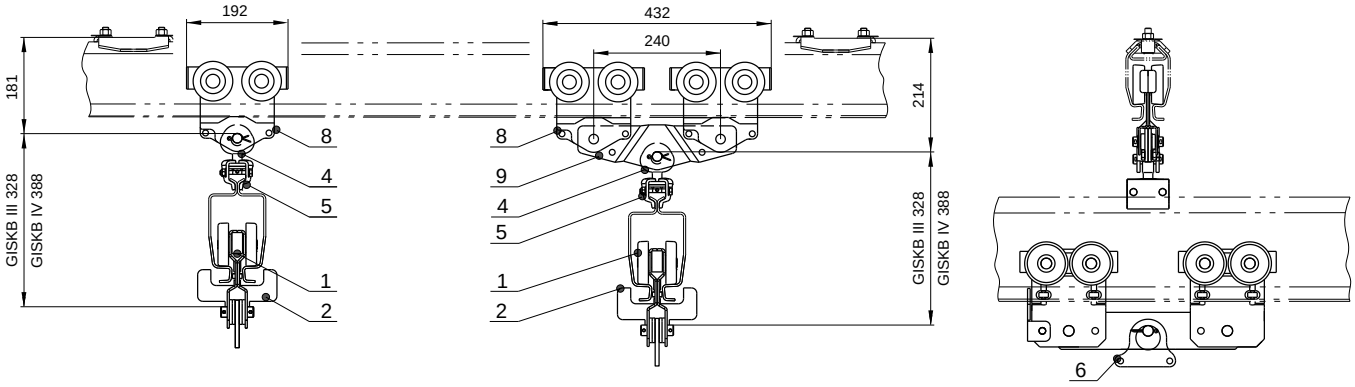
Crane track: GIS*KB* III / GIS*KB* IV, crane bridge: GIS*KB* III / GIS*KB* IV



Crane track: GIS*KB* III / GIS*KB* IV, crane bridge: GIS*KB* II



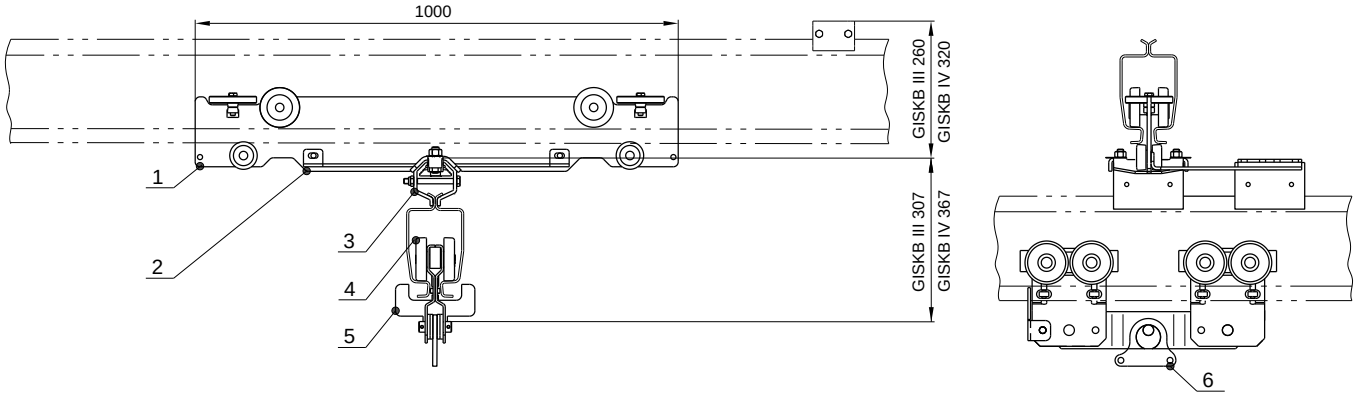
Crane track: GIS*KB* II, crane bridge: GIS*KB* III / GIS*KB* IV



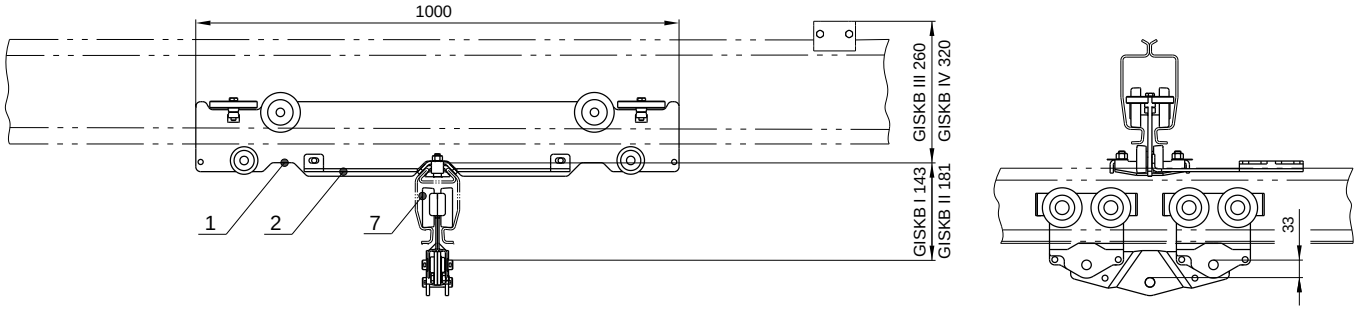
Item	Profile	[kg]	[kg]	Designation	N°
1	GIS*KB* III + IV	6.200	800	Trolley	9307.1002.3
2	GIS*KB* III + IV	0.500	1600	Overload protection	9307.1108.4
3	GIS*KB* III + IV	3.400	1600	Traverse	9307.1006.3
4	GIS*KB* III + IV	0.600	1600	Articulated suspension	9307.1003.4
5	GIS*KB* III + IV	0.400	1600	Profile retainer complete	9307.1004.4
6	GIS*KB* III + IV	0.600	1000	Eyebolt suspension GCH 250/500	9307.1052.4
	GIS*KB* III + IV	1.100	1600	Eyebolt suspension GCH 1000	9307.1049.4
7	GIS*KB* III + IV	1.200	1600	Crane bridge suspension	9307.1050.4
8	GIS*KB* II	2.000	800	Trolley	9306.1020.3
9	GIS*KB* I + II	2.000	1600	Traverse	9309.3020.3

5.8.2 Single crane bridge rigid

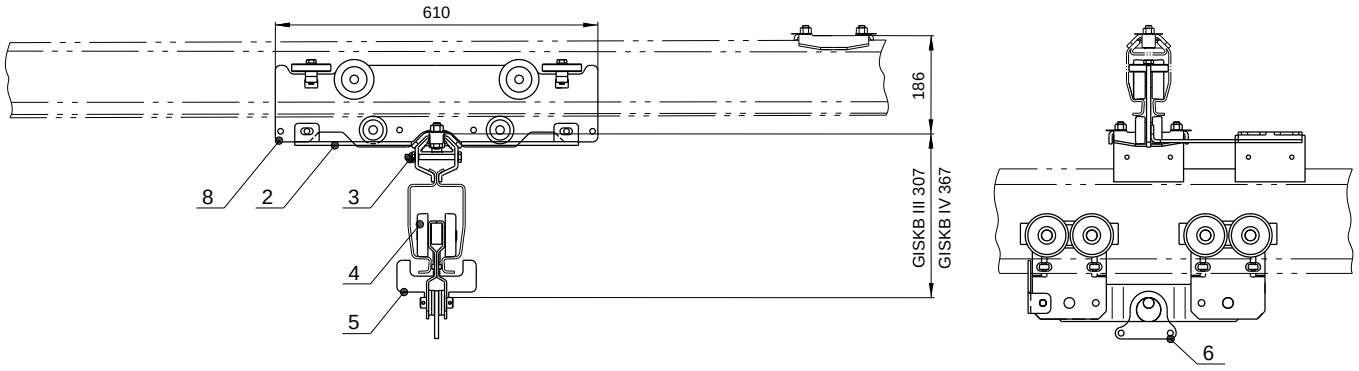
Crane track: GIS*KB* III / GIS*KB* IV, crane bridge: GIS*KB* III / GIS*KB* IV



Crane track: GIS*KB* III / GIS*KB* IV, crane bridge: GIS*KB* I / GIS*KB* II



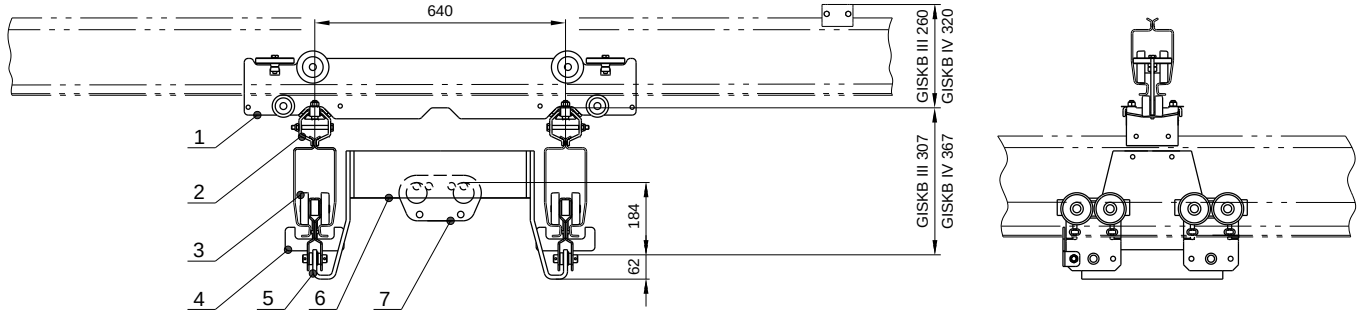
Crane track: GIS*KB* II, crane bridge: GIS*KB* III / GIS*KB* IV



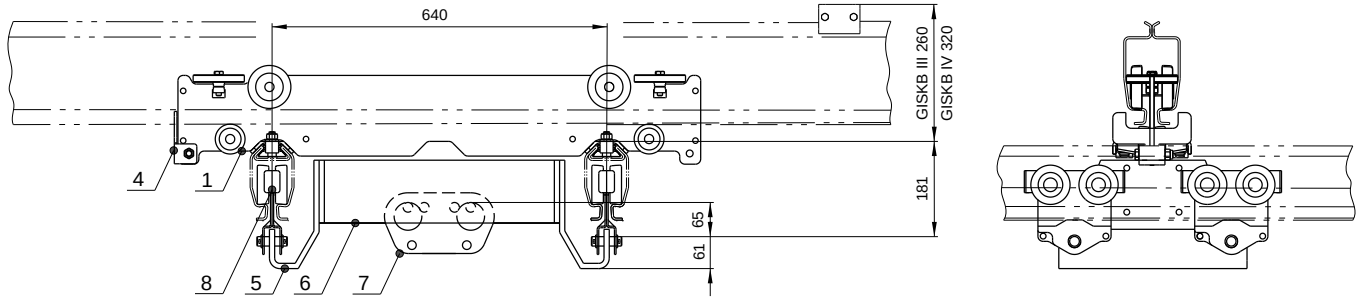
Item	Profile	kg [kg]	[kg]	Designation	N°
1	GIS*KB* III + IV	14.000	1600	Rolling apparatus EQB	9307.1118.3
2	GIS*KB* III + IV	3.000	1600	Reinforcement rolling apparatus	9309.3135.3
3	GIS*KB* III + IV	0.500	1600	Profile retainer complete	9307.1055.3
4	GIS*KB* III + IV	6.200	800	Trolley	9307.1002.3
5	GIS*KB* III + IV	0.500	1600	Overload protection	9307.1108.4
6	GIS*KB* III + IV	0.600	1000	Eyebolt suspension GCH 250/500	9307.1052.4
	GIS*KB* III + IV	1.100	1600	Eyebolt suspension GCH 1000	9307.1049.4
7	GIS*KB* I	1.500	400	Trolley	9305.1020.3
	GIS*KB* II	2.000	800	Trolley	9306.1020.3
8	GIS*KB* II	6.500	1600	Rolling apparatus EQB	9306.1022.3

5.8.3 Double crane bridge rigid

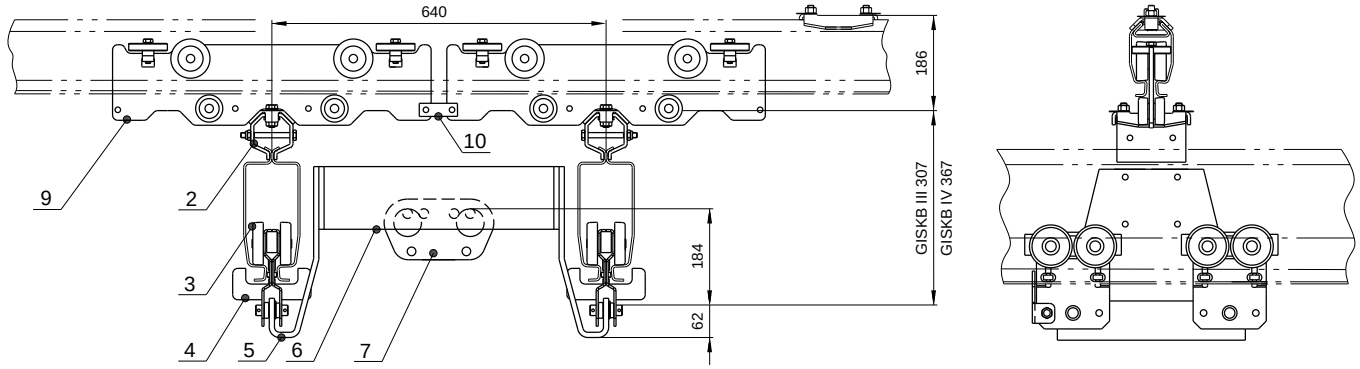
Crane track: GIS*KB* III / GIS*KB* IV, crane bridge: GIS*KB* III / GIS*KB* IV



Crane track: GIS*KB* III / GIS*KB* IV, crane bridge: GIS*KB* II



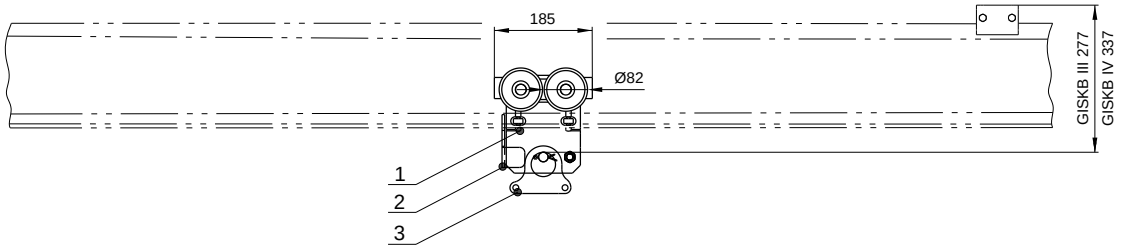
Crane track: GIS*KB* II, crane bridge: GIS*KB* III / GIS*KB* IV

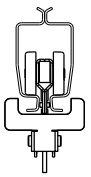


Item	Profile	[kg]	[kg]	Designation	N°
1	GIS*KB* III + IV	15.000	1600	Rolling apparatus DQB	9307.1119.3
2	GIS*KB* III + IV	0.500	1600	Profile retainer complete	9307.1055.3
3	GIS*KB* III + IV	6.200	800	Trolley	9307.1002.3
4	GIS*KB* III + IV	0.500	1600	Overload protection	9307.1108.4
5	GIS*KB* III + IV	5.900	1600	Bracket saddle	9307.1100.3
	GIS*KB* III + IV	8.800	1600	Bracket saddle above	9307.1101.3
6	GIS*KB* III + IV	11.000	1600	Traverse saddle	9307.1104.3
7	GIS*KB* III + IV	0.800	1000	Suspension part GCH 250/500	9401.3046.4
	GIS*KB* III + IV	2.000	1600	Suspension part GCH 1000	9307.1103.3
	GIS*KB* III + IV	2.800	1600	Suspension part GCH 1600/2000/2500	9408.3020.3
8	GIS*KB* II	2.000	800	Trolley	9306.1020.3
9	GIS*KB* II	6.500	1600	Rolling apparatus EQB	9306.1022.3
10	GIS*KB* I + II	0.200	1600	Connector rolling apparatus complete	9307.1107.4

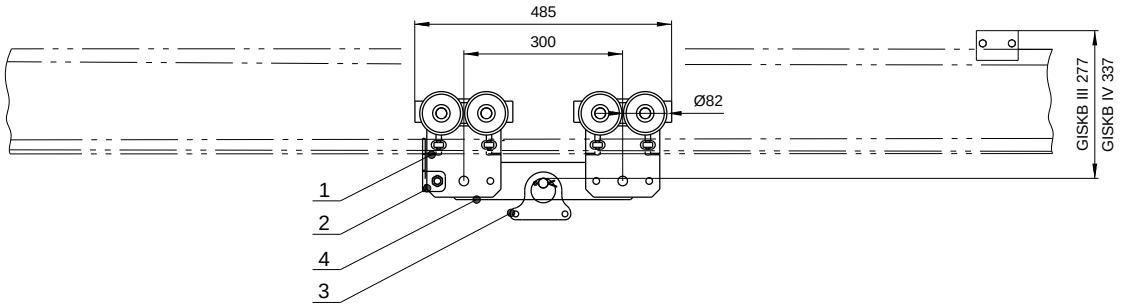
5.9 Overview monorail

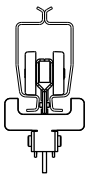
Monorail: GIS*KB* III / GIS*KB* IV





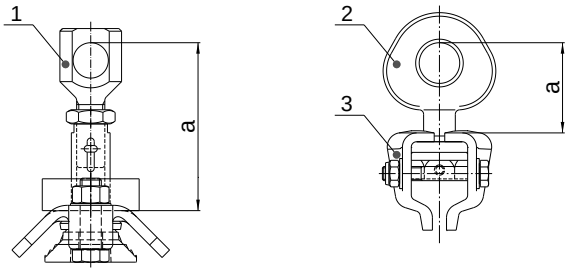
Monorail: GIS*KB* III / GIS*KB* IV





Item	Profile	[kg]	[kg]	Designation	**N°**
1	GIS*KB* III + IV	6.200	800	Trolley	9307.1002.3
2	GIS*KB* III + IV	0.500	1600	Overload protection	9307.1108.4
3	GIS*KB* III + IV	0.600	1000	Eyebolt suspension GCH 250/500	9307.1052.4
	GIS*KB* III + IV	1.100	1600	Eyebolt suspension GCH 1000	9307.1049.4
4	GIS*KB* III + IV	3.400	1600	Traverse	9307.1006.3

5.10 Crane-bridge suspension pendulating



Version.....: Steel, galvanised.

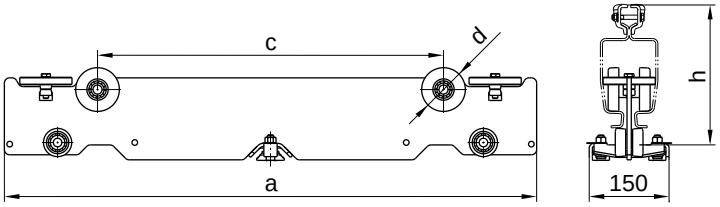
Use.....: For pendulating suspension of the crane bridge.

Note .....: The pendulating suspension of the crane bridge is possible only in connection with a pendulating crane track.

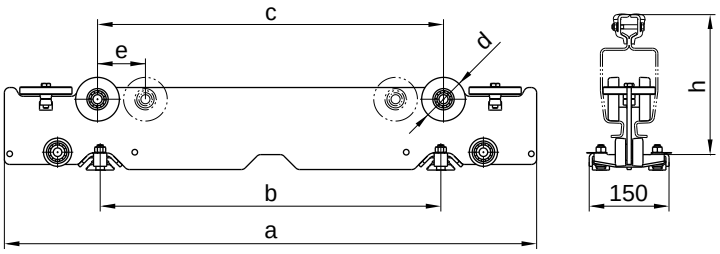
Item	kg [kg]	[kg]	a [mm]	Designation	N°
1	1.200	1600	92	Crane bridge suspension	9307.1050.4
2	0.600	1600	51	Articulated suspension	9307.1003.4
3	0.400	1600	51	Profile retainer complete	9307.1004.4

5.11 Rolling apparatus

EQB



DQB

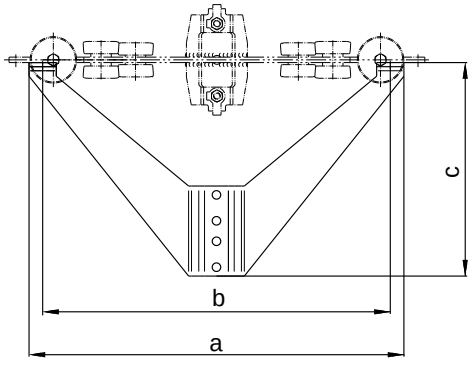


Version.....: Steel, galvanised. The rolling apparatus is equipped with steel rollers. Lateral guide rollers and counter-pressure rollers prevent tilting up or over within the track section.

Use.....: Version EQB is used for single crane bridges, version DQB for double crane bridges. In both versions the crane bridge is installed permanently.

Profile	kg [kg]	[kg]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	h [mm]		**N°**
GIS*KB* III EQB	14.000	1600	1000	-	650	82	-	260		9307.1118.3
GIS*KB* III DQB	15.000	1600	1000	640	650	82	-	260		9307.1119.3
GIS*KB* III DQB	18.500	2400	1000	640	650	82	90	260		9307.1127.4
GIS*KB* IV EQB	14.000	1600	1000	-	650	82	-	320		9307.1118.3
GIS*KB* IV DQB	15.000	1600	1000	640	650	82	-	320		9307.1119.3
GIS*KB* IV DQB	18.500	2400	1000	640	650	82	90	320		9307.1127.4

5.12 Reinforcement rolling apparatus

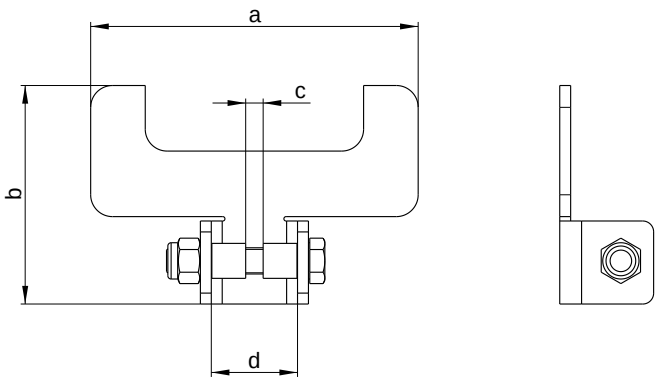


Version.....: Steel, galvanised. The reinforcement stabilises the connection from the crane bridge to the rolling apparatus and, thus, it improves the running property.

Use.....: The reinforcement is generally used for the rolling apparatus EQB.

Profile	kg [kg]	a [mm]	b [mm]	c [mm]		**N°**
GIS*KB* III + IV	3.000	550	510	313		9309.3135.3

5.13 Overload protection

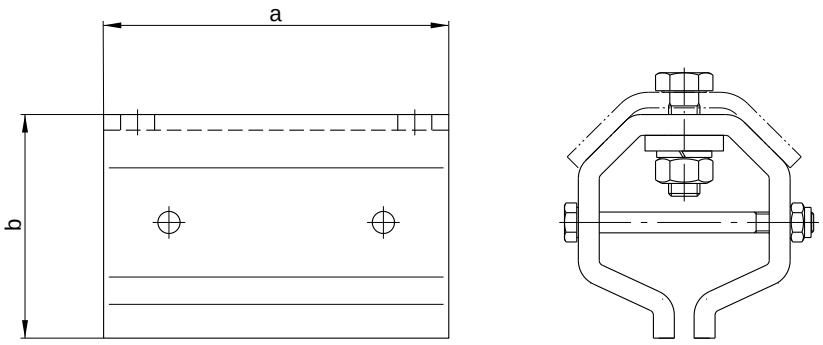


Version.....: Steel, galvanised.

Use.....: Prevents widening of the track section in case of overload of the trolley or rolling apparatus.

Profile	kg [kg]	a [mm]	b [mm]	c [mm]	d [mm]		**N°**
GIS*KB* III + IV	0.500	150	100	8	39.5		9307.1108.4

5.14 Profile retainer complete

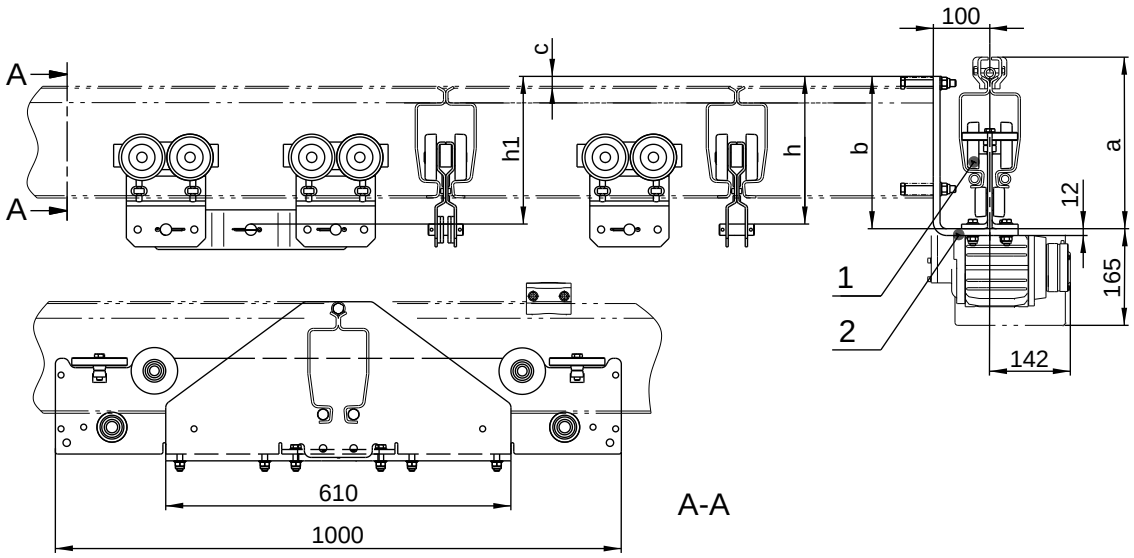


Version.....: Steel, galvanised.

Use.....: Installation of a track section to a rolling apparatus.

Profile	kg [kg]	[kg]	a [mm]	b [mm]		**N°**
GIS*KB* III + IV	0.500	1600	132	86		9307.1055.3

5.15 Breaker



Version.....: Steel, galvanised.

Use.....: Junction of rolling apparatus and crane bridge. The crane bridge is installed between the crane tracks. This reduces the construction height significantly.

Rolling apparatus (Item 1)

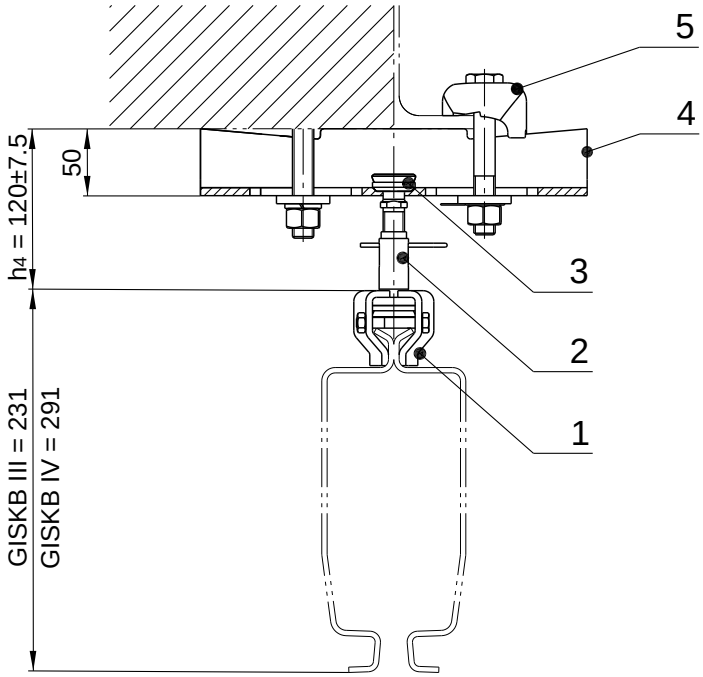
Profile	kg [kg]	[kg]		**N°**
GIS*KB* I	8.400	800		9309.3184.2
GIS*KB* II	9.800	1600		9309.3186.2
GIS*KB* III + IV	19.600	1600		9309.3188.2

Bracket (Item 2)

Crane track	Crane bridge	kg [kg]	[kg]	a [mm]	b [mm]	c [mm]	h [mm]	h1 [mm]	**N°**
GIS*KB* I	GIS*KB* III EQB	15.900	800	190	190	18	260	260	9309.3158.2
	GIS*KB* III DQB	20.300	800	190	190	18	193	-	9309.3174.2
	GIS*KB* IV EQB	15.900	800	190	190	18	320	320	9309.3158.2
	GIS*KB* IV DQB	20.300	800	190	190	18	253	-	9309.3174.2
GIS*KB* II	GIS*KB* III EQB	16.800	800	229	229	18	260	260	9309.3160.2
	GIS*KB* III DQB	21.700	800	229	229	18	193	-	9309.3176.2
	GIS*KB* IV EQB	16.800	1600	229	229	18	320	320	9309.3160.2
	GIS*KB* IV DQB	21.700	1600	229	229	18	253	-	9309.3176.2
GIS*KB* III	GIS*KB* III EQB	17.700	800	303	269	18	297	297	9309.3162.2
	GIS*KB* III DQB	23.100	800	303	269	18	233	-	9309.3178.2
	GIS*KB* IV EQB	17.700	1600	303	269	18	357	357	9309.3162.2
	GIS*KB* IV DQB	23.100	1600	303	269	18	293	-	9309.3178.2
GIS*KB* IV	GIS*KB* III EQB	19.000	800	363	329	18	297	297	9309.3164.2
	GIS*KB* III DQB	25.600	800	363	329	18	233	-	9309.3180.2
	GIS*KB* IV EQB	19.000	1600	363	329	18	357	357	9309.3164.2
	GIS*KB* IV DQB	25.600	1600	363	329	18	293	-	9309.3180.2

5.16 Suspension pendulating short

adjustable



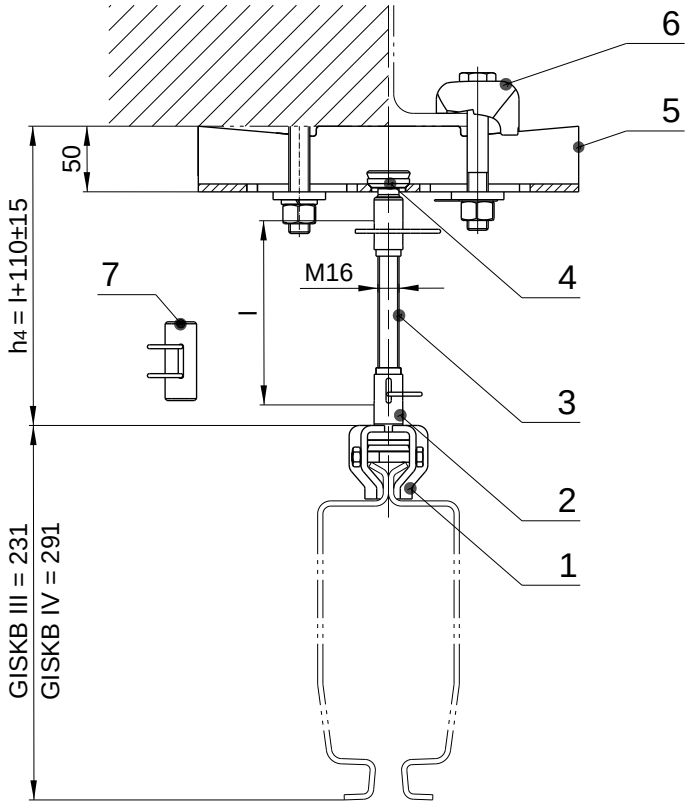
Version.....: Steel, galvanised. Ball pin (3) and ball nut (2) are screwed directly together to form the shortest pendulating suspension. Pendulating movements of max. 10° are permissible. The suspension can be adjusted by ± 7.5 mm.

Note .....: Please consider the guidelines for suspensions (see page 7).

Item	[kg]	[kg]	Designation	N°
1	0.400	1600	Profile retainer complete	9307.1004.4
2	0.200	1600	Ball nut complete	9307.1068.4
3	0.120	1600	Ball pin complete	9309.3010.4
4	2.000	1600	Ceiling clip, flange width: 65 - 200 mm	9309.3003.3
	4.000	1600	Ceiling clip, flange width: 200 - 300 mm	9309.3112.3
5	0.600	800	Binding clip complete, flange width: 65 - 200 mm	9309.3005.4
	0.650	800	Binding clip complete, flange width: 200 - 300 mm	9309.3113.4

5.17 Suspension pendulating distanced

adjustable



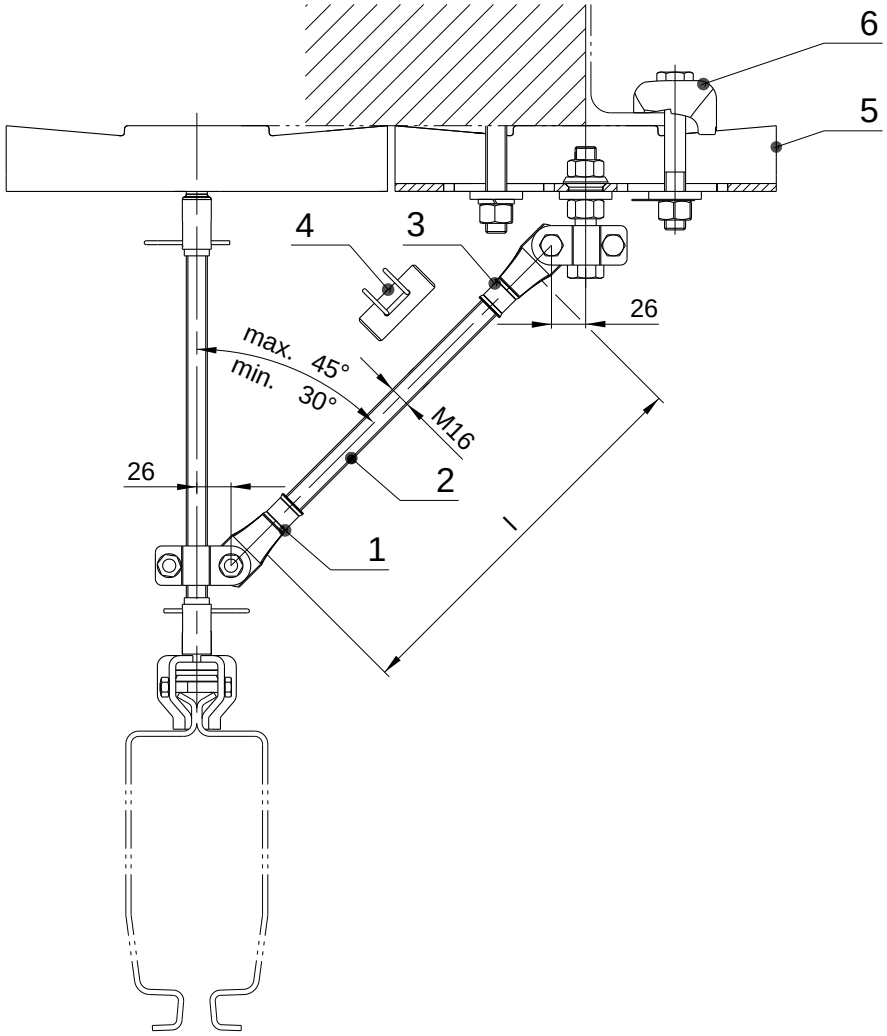
Version.....: Steel, galvanised. The threaded rod (3) which is variable in length forms with two screwed ball nuts (2, 4) the distanced suspension. With the suspension height differences of ± 15 mm can be adjusted. With the coupling (7), two threaded rods can be connected.

Note.....: For distanced suspensions greater than or equal to h_4 = 500 mm (see page 10) bracings are provided. Please consider the guidelines for suspensions (see page 7).

Item	[kg]	[kg]	Designation	**N°**
1	0.400	1600	Profile retainer complete	9307.1004.4
2	0.200	1600	Ball nut complete	9307.1068.4
3	0.100	1600	Threaded rod, l = 100 mm	9309.3024.4
	0.200	1600	Threaded rod, l = 200 mm	9309.3025.4
	0.400	1600	Threaded rod, l = 300 mm	9309.3026.4
	0.650	1600	Threaded rod, l = 500 mm	9309.3027.4
	1.200	1600	Threaded rod, l = 1000 mm	9309.3028.4
4	0.160	1600	Ball nut complete	9309.3011.4
5	2.000	1600	Ceiling clip, flange width: 65 - 200 mm	9309.3003.3
	4.000	1600	Ceiling clip, flange width: 200 - 300 mm	9309.3112.3
6	0.600	800	Binding clip complete, flange width: 65 - 200 mm	9309.3005.4
	0.650	800	Binding clip complete, flange width: 200 - 300 mm	9309.3113.4
7	0.150	1600	Coupling complete	9309.3033.4

5.18 Bracing pendulating distanced

adjustable

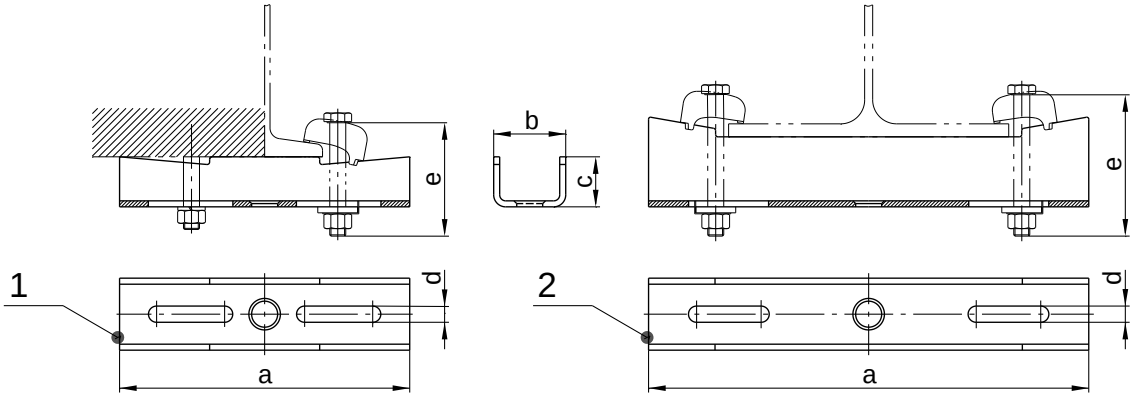


Version.....: Steel, galvanised. The bracing is composed of the knots below (1) and the knots above (3) connected to a threaded rod (2). The length of the threaded rod is the same as for the suspension.

Note .....: Please consider the guidelines for suspensions (see page 7).

Item	[kg]	[kg]	Designation	N°
1	0.300	1600	Lower knots	9309.3015.4
2	0.100	1600	Threaded rod, l = 100 mm	9309.3024.4
	0.200	1600	Threaded rod, l = 200 mm	9309.3025.4
	0.400	1600	Threaded rod, l = 300 mm	9309.3026.4
	0.650	1600	Threaded rod, l = 500 mm	9309.3027.4
	1.200	1600	Threaded rod, l = 1000 mm	9309.3028.4
3	0.600	1600	Upper knots	9309.3016.4
4	0.150	1600	Coupling complete	9309.3033.4
5	2.000	1600	Ceiling clip, flange width: 65 - 200 mm	9309.3003.3
	4.000	1600	Ceiling clip, flange width: 200 - 300 mm	9309.3112.3
6	0.600	800	Binding clip complete, flange width: 65 - 200 mm	9309.3005.4
	0.650	800	Binding clip complete, flange width: 200 - 300 mm	9309.3113.4

5.19 Ceiling clip



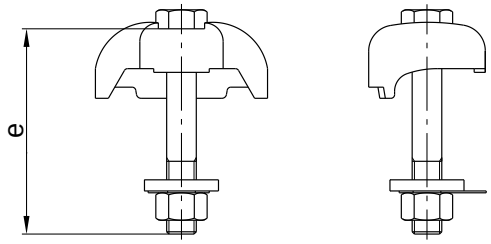
Version.....: Steel, galvanised.

Use.....: Suspension on steel construction (Item 1, Item 2) and flat concrete ceiling (Item 1).

Note.....: Fixing material for flat concrete ceilings is not delivered by us: Please contact specialised dealer. The ceiling clip (Item 2) is not suitable for assembly on to flat concrete ceilings.

Item	Profile	[kg]	[kg]	[mm]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	**N°**
1	GIS*KB* III + IV	2.000	1600	65 - 200	290	72	50	16.2	110	9309.3003.3
2	GIS*KB* III + IV	4.000	1600	200 - 300	440	72	70	16.2	150	9309.3112.3

5.20 Binding clip complete

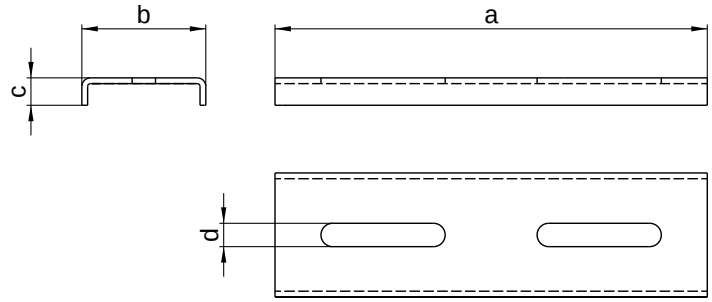


Version.....: Steel, galvanised.

Use.....: Suspension on steel structure.

Profile	[kg]	[kg]	e [mm]	Designation	**N°**
GIS*KB* III + IV	0.600	800	110	Binding clip compl. ceiling clip 65-200 mm	9309.3005.4
GIS*KB* III + IV	0.650	800	150	Binding clip compl. ceiling clip 200-300 mm	9309.3113.4

5.21 Support to ceiling clip

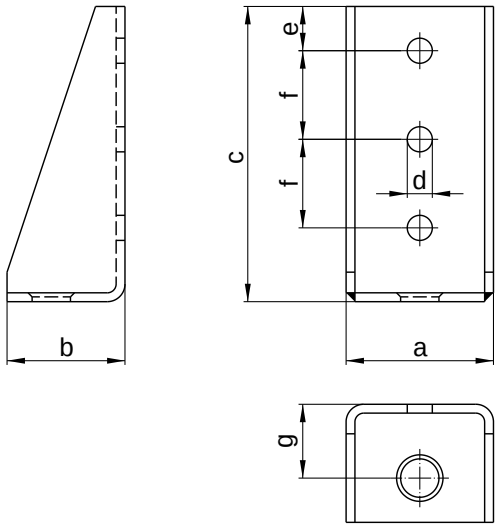


Version.....: Steel, galvanised.

Use.....: Suspension on flat concrete ceiling or on concrete ceiling with cast-in steel rails (Halfen, Jordal).

Profile	kg [kg]	a [mm]	b [mm]	c [mm]	d [mm]		**N°**
GIS*KB* III + IV	1.000	300	86	19	16.2		9309.3115.3

5.22 Lateral suspension



Version.....: Steel, galvanised.

Use.....: Lateral suspension to wooden truss or concrete applications.

Note .....: Fixing material is not delivered by us: Please contact specialised dealer.

Profile	kg [kg]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	g [mm]		**N°**
GIS*KB* III + IV	2.000	100	80	200	17	30	60	50		9309.3111.3

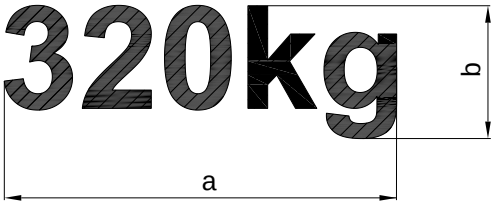
5.23 GIS adhesive

Version.....: Grey, self-adhesive.

Use.....: Crane bridge, monorail.

Type	Profile	a [mm]	b [mm]		N°
Middle	GIS*KB* III + IV	260	60		9309.5076.4

5.24 Lifting capacity adhesive

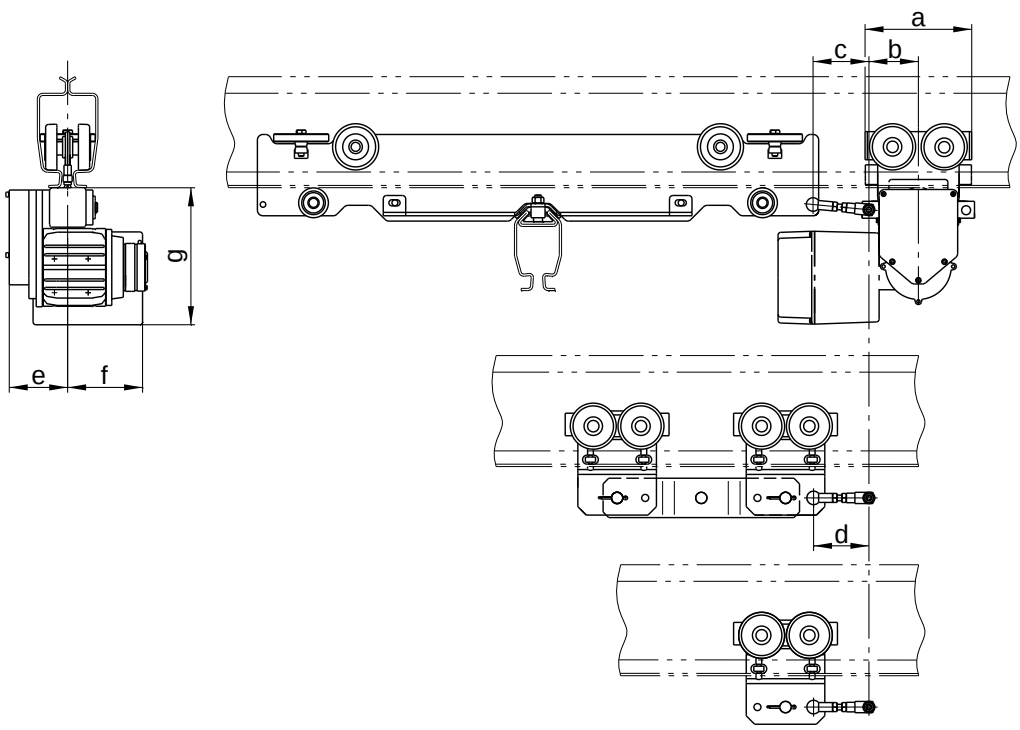


Version.....: Black, self-adhesive.

Use.....: Crane bridge, monorail.

Type	Profile	[kg]	a [mm]	b [mm]		N°
Middle	GIS*KB* III + IV	80	180	60		9309.5099.4
	GIS*KB* III + IV	100	180	60		9309.5100.4
	GIS*KB* III + IV	125	180	60		9309.5101.4
	GIS*KB* III + IV	160	180	60		9309.5102.4
	GIS*KB* III + IV	200	180	60		9309.5103.4
	GIS*KB* III + IV	250	180	60		9309.5104.4
	GIS*KB* III + IV	320	180	60		9309.5105.4
	GIS*KB* III + IV	400	180	60		9309.5106.4
	GIS*KB* III + IV	500	180	60		9309.5107.4
	GIS*KB* III + IV	630	180	60		9309.5108.4
	GIS*KB* III + IV	800	180	60		9309.5109.4
	GIS*KB* III + IV	1000	210	60		9309.5110.4
	GIS*KB* III + IV	1250	210	60		9309.5111.4
	GIS*KB* III + IV	1600	210	60		9309.5112.4
	GIS*KB* III + IV	2000	210	60		9309.5113.4

5.25 Electric tug



Version.....: Friction roller drive. Trolley galvanised and equipped with plastic rollers, gear housing and motor in black finish. Controlled by frequency converter (FU) and equipped with brake as standard.

Use.....: Electric drive for cross and long travel in GIS*KB* III + IV.

Note .....: Connector clamp to trolley and rolling apparatus have to be ordered separately. When the crane bridge is moved electrically, a rigid crane bridge suspension must always be selected (see page 16 - 17).

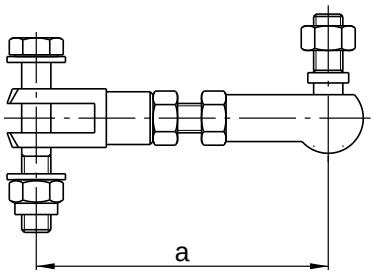
Profile	kg [kg]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	g [mm]	**N°**
GIS*KB* III + IV	15.100	190	90	100	100	104	134	244	SAKB3/4.BR/FU
GIS*KB* III + IV	14.600	190	90	100	100	104	134	244	SAKB3/4.BR

Type specification and technical data:

Type	Profile	[kg]	Speed [m/min]	Power [kW]	3 x 400 V 50 Hz [A]	%duty / S/h	Version
SAKB3/4.BR/FU	GIS*KB* III + IV	800	3-12 / 3-35	0.25	0.8	60 / 360	with control
SAKB3/4.BR	GIS*KB* III + IV	800	3-12 / 3-35	0.25	0.8	60 / 360	without control

A single electric tug can move loads up to 1600 kg if used for a monorail.
The ramps and speeds are factory-set (6/35 m/min). However, these can be customised by trained personnel. The adjustable frequency is min. 8 Hz (3 m/min) to max. 87 Hz (35 m/min).
The electric tug is available for the following operating voltages: 400-480 V 50/60 Hz, 208-240 V 50/60 Hz, 500-575 V 50/60 Hz.

5.26 Connector clamp



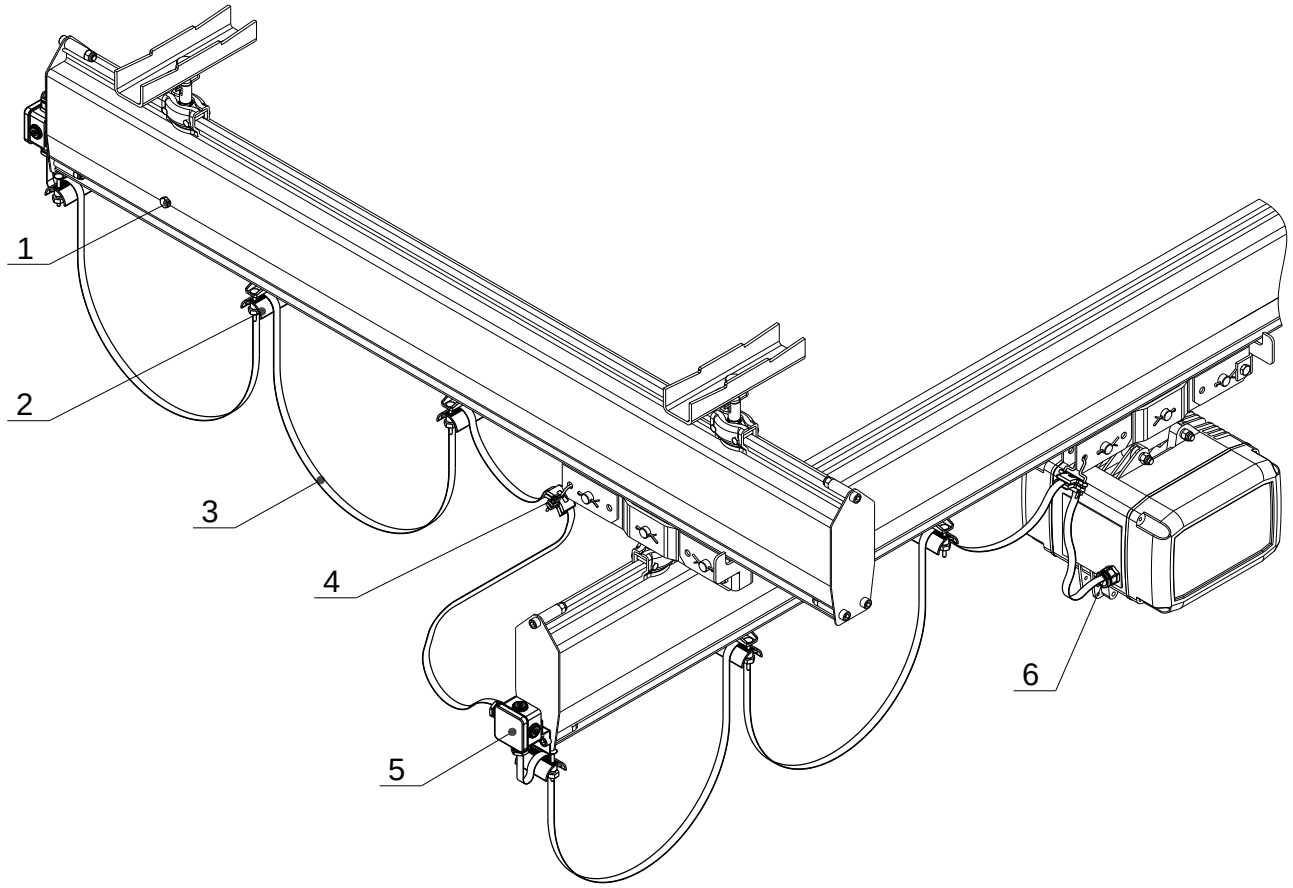
Version.....: Steel, galvanised.

Use.....: Connection of electric tug and trolley or rolling apparatus.

Profile	kg [kg]	a [mm]		**N°**
GIS*KB* III + IV	0.200	100		9307.1115.4

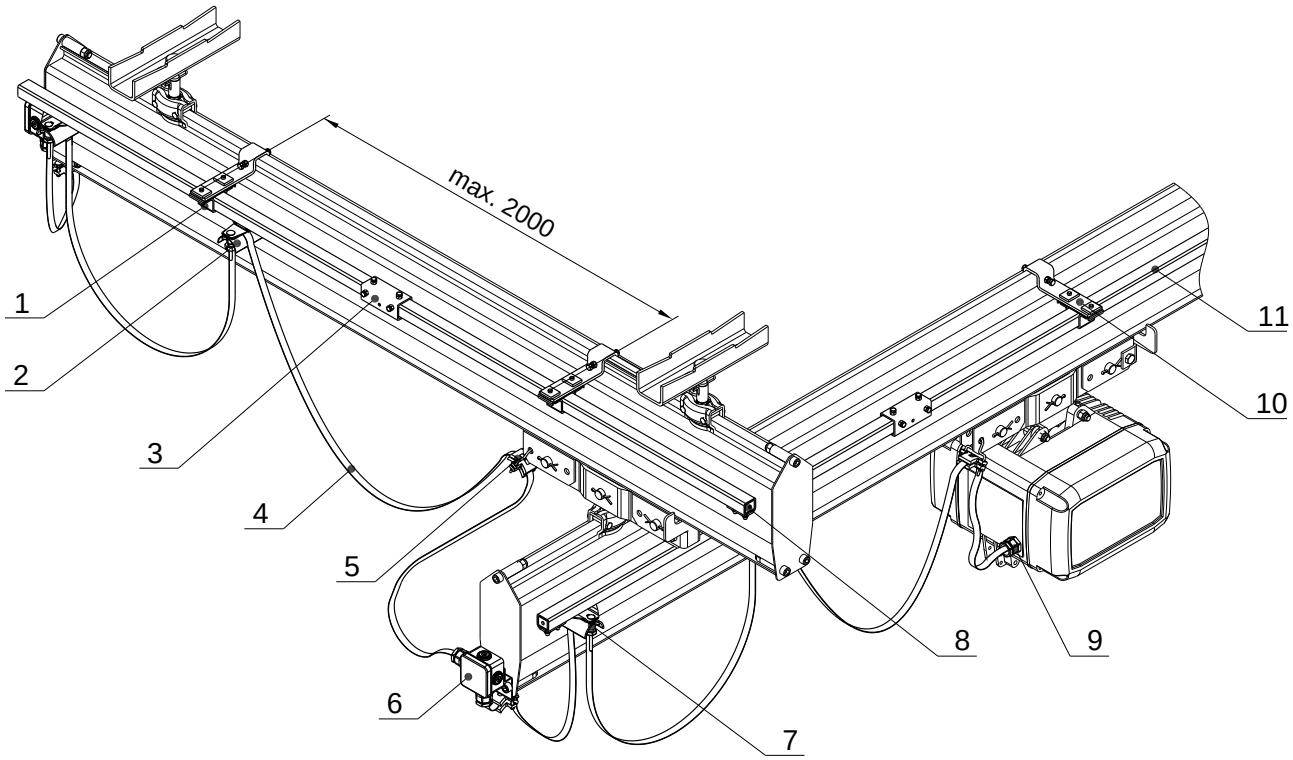
6 Power supply

6.1 Trailing cable



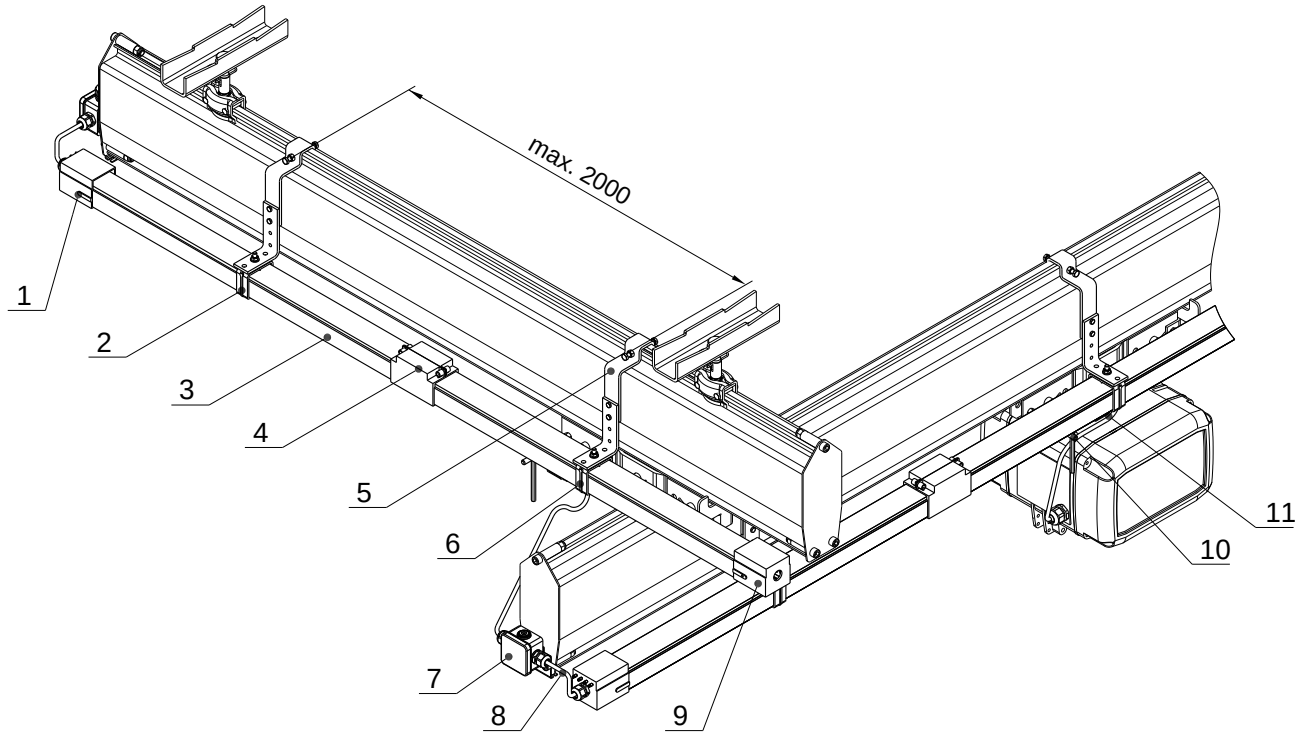
Item	kg [kg]	Designation	N°
1	0.100	Traction limit	9307.1060.4
2	0.150	Cable carriage	9307.1005.3
3	0.130	Flat cable, 4 x 1.5 mm^2	9055.0300
4	0.040	Cable fixing part	9309.3069.4
5	0.300	Terminal box complete	9307.1096.4
6	0.050	Cable gland, M25 x 1.5, FK, PVC	9055.3107

6.2 C rail



Item	kg [kg]	Designation	N°
1	0.250	Suspension	9057.4200
2	0.300	Cable carriage	9057.4250
3	0.300	Connector	9057.4150
4	0.130	Flat cable, 4 x 1.5 mm^2	9055.0300
5	0.040	Cable fixing part	9309.3069.4
6	0.300	Terminal box complete	9307.1096.4
7	0.200	Cable end clamp	9057.4100
8	0.150	C-rail stop	9057.4300
9	0.050	Cable gland, M25 x 1.5, FK, PVC	9055.3107
10	0.950	Clamping device complete, a = 300	9307.1009.4
11	1.500	C rail, 1 m	9309.3046.4
	3.000	C rail, 2 m	9309.3047.4
	4.500	C rail, 3 m	9309.3048.4
	6.000	C rail, 4 m	9309.3049.4
	7.500	C rail, 5 m	9309.3050.4
	9.000	C rail, 6 m	9309.3051.4

6.3 Conductor line



Item	[kg]	Designation	N°
1	0.100	Power feed, EVD4	9309.3127.4
2	0.050	Suspension, VA806	9057.0103
3	1.100	Conductor line VA24, 4-pin, 1 m	9309.3058.4
	2.200	Conductor line VA24, 4-pin, 2 m	9309.3059.4
	3.300	Conductor line VA24, 4-pin, 3 m	9309.3060.4
	4.400	Conductor line VA24, 4-pin, 4 m	9309.3061.4
	5.500	Conductor line VA24, 4-pin, 5 m	9309.3062.4
4	0.100	Connection cap, VA804	9057.0552
5	0.900	Holder conductor line	9307.1097.3
6	0.050	Fixed suspension, VA850	9057.0104
7	0.300	Terminal box complete	9307.1096.4
8	0.200	Connection cable	9309.3071.4
9	0.100	End cap, VA802	9057.0151
10	0.110	Driving pin	9309.3070.4
11	0.600	Current collector trolley, PM425C, Standard	9057.0400

swiss lifting solutions

QUESTION FORM GISKB

Customer data

Company _____ Date _____

Address _____ Customer number _____

Postal code _____ Phone number _____

City - Country _____ Fax number _____

Responsible person _____ Function _____

Crane system GISKB ☐ Single crane bridge ☐ Double crane bridge ☐ Suspended track

Load capacity _____ kg

Length of the girder L _____ mm Length of the track B _____ mm

Span W _____ mm Height of the room _____ mm

Required lifting height _____ mm Sketch see on back !

Suspension

Kind of suspension ☐ pendulating short ☐ pendulating from rod _____ mm ☐ rigid

Ceiling construction ☐ Concrete ceiling ☐ Steel girder _____ ☐ Wooden truss _____

Suspension distance ☐ variable ☐ given _____ mm

Travelling motions

Movement of the trolley ☐ push type ☐ electrical type

☐ 1 speed ☐ 2 speeds ☐ _____ m/min

Movement of the bridge ☐ push type ☐ electrical type

☐ 1 speed ☐ 2 speeds ☐ _____ m/min

Hoist

☐ GIS Electric chain hoist ☐ Hand lifting gear ☐ _____

Type _____ Lifting capacity _____ kg

Lifting speed ☐ 1 speed ☐ 2 speeds ☐ _____ m/min

Lifting height (standard 3 m) _____ m Operating time per day _____ hours

Control / Electricity

Control ☐ Operation from control switch of hoist

☐ Ideal control (control switch is movable independently)

Voltage ☐ 3 Ph 400V, 50Hz ☐ 1 Ph 230V, 50Hz ☐ _____ V _____ Hz

Longitudinal power supply ☐ without ☐ Trailing cable ☐ C-rail

☐ Contact line ☐ _____

Transversal power supply ☐ without ☐ Trailing cable ☐ C-rail

☐ Contact line ☐ _____

Location of the crane

☐ Workshop ☐ outdoor ☐ near acids/alkaline solutions

☐ _____

Installation

☐ by GIS ☐ by customers ☐ Stacker truck is available at building site

Additional technical data/Customer requirements

Required offer

☐ Short offer ☐ Approximate price ☐ Offer required by _____

☐ Detailed offer ☐ Date of realisation / desired delivery time _____

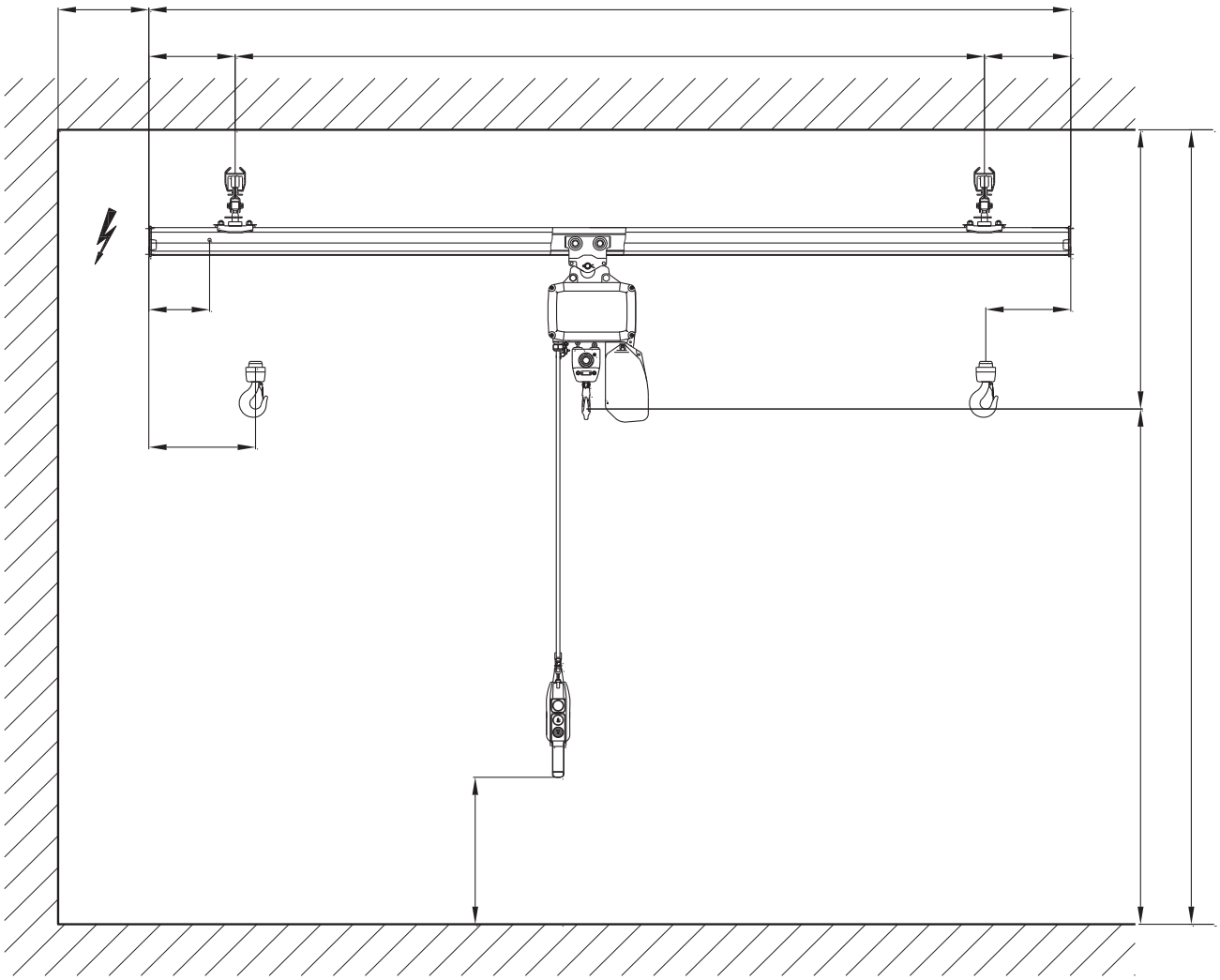
GIS AG
swiss lifting solutions
CH - 6247 Schötz
Phone +41 (0)41 984 11 33
E-mail tel@gis-ag.ch

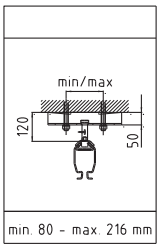
Enclosures

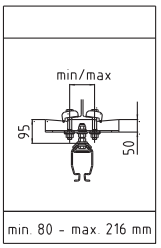
☐ Sketch _____

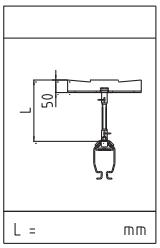
☐ Plan/Drawing _____

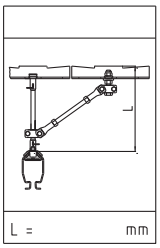
☐ _____

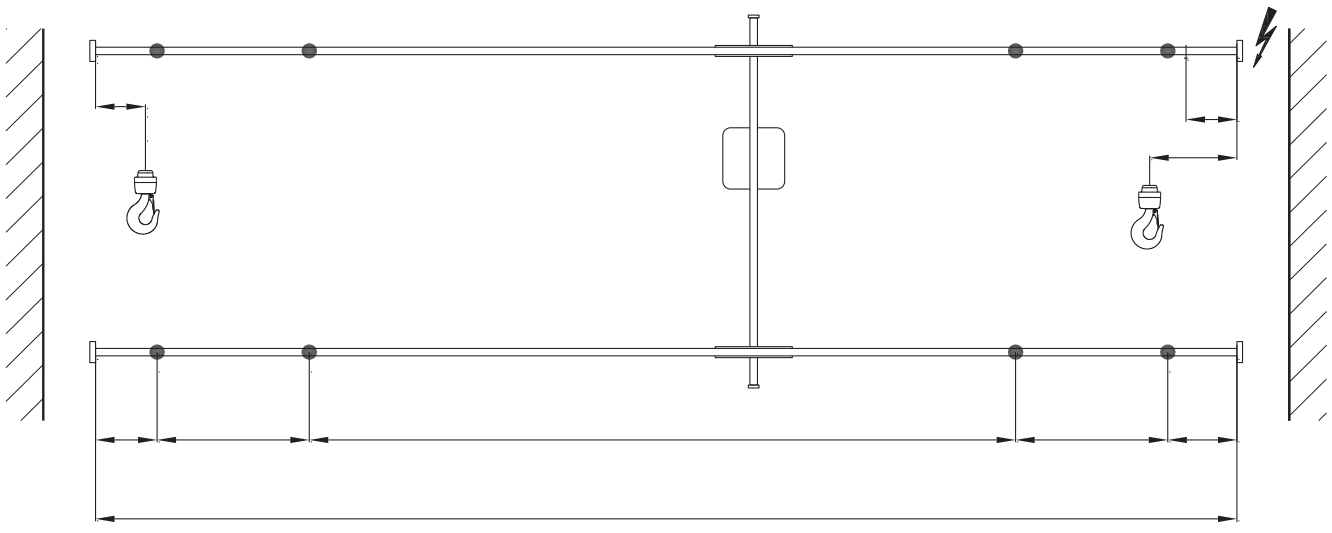



min/max
120
50
min. 80 - max. 216 mm


min/max
95
50
min. 80 - max. 216 mm


L
50
L =
mm


L
L =
mm



9309.9239.4